Effective 1st August 2020

HIGH PERFORMANCE CATALOGUE 2020

suttontools

suttontools
world class cutting tools

Adding Value to Industry

> We continue to expand our business and produce ever higher levels of specifications that exceed market expectations.

World Class Cutting Tools

Founded in 1917, Sutton Tools began as a family enterprise, manufacturing threads and gauges, and over time has expanded its expertise into a broader portfolio of cutting tools. Today, Sutton Tools remains an Australian family business that is renowned for its high-quality cutting tools and power tool accessories for a wide range of specialised industrial applications.

Sutton Tools manufactures cutting tools at three sites across Victoria, both for the domestic market and for export. The bulk of general production occurs at our head office site at Thomastown, in Melbourne's northern suburbs, with more specialised operations centred at our Maryborough facility. We also have overseas production plants in Auckland, New Zealand, and in the Netherlands.

While Sutton Tools supplies tools to a broad spectrum of industries - including general manufacturing, electronic manufacturing, automotive, medical, mining and power generation - most advancement in material technology it experiences are occurring in the aerospace, defence and oil/gas industries. The development of so-called 'super alloys' for these sectors is constantly pushing material performance boundaries.

Sutton Tools has a long standing commitment to our employees and partners. We have a highly focused team who are dedicated to produce and deliver our globally competitive program of high value products. We continue to expand our business and produce ever higher levels of specifications that exceed market expectations.

Our aggressive investment policy compliments our product offer with globally integrated logistics, research and development and value added services at world best practice.

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We've made it easier to find the right tool fast...

For easy tool reference, you will find an extensive application based index at the start of each section.

These icons below can be found on the product pages throughout the catalogue, and at a glance the characteristic features of the tool can be identified.

Standard

Sutton Standard	German Standard	International Standard	American Standard	British Standard	Japanese Standard

Length

Stub	Regular	Long	Extra Long

Shank

Plain	Form B	Form HE	Threaded	Stepped	Reduced	Tanged	Morse Taper	Square Drive

Depth

3 x diameter	4 x diameter	5 x diameter	6 x diameter	8 x diameter	10 x diameter	12 x diameter	14 x diameter

Drill Application

	(DIN 1412)					Carbide	
	Normal	Form A	Form B	Form C	Special	Normal	IK
Standard							
Facet							
Radius Lips							

Tap Application

Blind Hole Straight Flute	Through Hole Straight Flute	Through Hole Gun	Blind Hole Spiral Flute	Thread Forming	
High Speed Cutting	Z-Axis Control	Deep Hole	Single Coolant Groove	Multi Coolant Groove	

Countersink Geometry: Crosshole, Single Flute, 3 Flutes

Internal Coolant: Internal Coolant (Helical), Internal Coolant (Axial), Internal Coolant (Radial)

Thread Forms

Metric Coarse	Metric Fine	Unified Coarse	Unified Fine	Unified Series	Unified Extra Fine	(BSPF)	Whitworth Coarse	Whitworth Fine
British Association	British Standard Brass	Steel Conduit	(BSPPL) Sealing Pipe	(BSPT)	Dryseal Straight	National Pipe Taper	Dryseal Taper	

Endmill Application

Cutting Directions: Slotting, Profiling, Finishing, Universal, Roughing

Geometry: Unequal, Radius, Chamfer, Reduced Neck

Cutting Edge Forms: HR, HRS, NF, NR, STF, Ti, VA, WR, Micro Geometry, Rake Correction

“We have been manufacturing quality cutting tools in Australia since 1917 and the fact that we are manufacturing in Australia is becoming an important part of our message.”

Third-generation family member Jim Sutton

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AUSTRALIAN MADE
AND OWNED SINCE 1917

Made in Australia, exported to the world.

Proud supporter of the Australian Made Campaign

Sutton Tools is the only production manufacturer of cutting tools in Australia. Promoting Australian Made tools is about more than raising awareness of quality products — it's about encouraging growth in the Australian Manufacturing Industry.

Sutton Tools supports and promotes Australian made products, with the aim of creating more opportunities for all Australians. Every dollar invested in products made here benefits our country in terms of jobs created, goods and services purchased, taxes paid and welfare payments reduced. When buying Sutton Tools products that carry the Australian Made logo, you can buy with confidence, knowing they are made to Australian standards, exceeding expectations.

Sutton Tools growth into the global market began over 20 years ago. About 40% of Sutton Tools products are sold overseas, with integrated logistics and warehousing in Europe. Sutton Tools export strategy further proves the quality of Australian Made product and strengthens local jobs and manufacturing in Australia into the future.

View our video on the history of Sutton Tools

www.suttontools.com

1917 - the start to an iconic Australian family brand, manufacturing cutting tools for distribution throughout Australia...

William Henry Sutton

1917 - Westgarth factory

1933 - Northcote factory

1936 - Thread tooling

William Henry Sutton Arrived In Australia

William Henry Sutton, a British Immigrant, opened a tool room at Thompson's Foundry at Castlemaine. He was recognised as one of the leading tool engineers in England before his departure to Australia.

Business Quadrupled

It soon became evident to local manufacturers' they could now buy domestically produced tools of equal or better quality than those from overseas! With the original factory 'bursting at the seams', Sutton Tool & Gauge moved to a 13,000 square foot factory in Northcote, Melbourne.

A Broader Market Goal

Sutton Tool & Gauge first export was to New Zealand, a consignment of reamers.

1912 | **1917** | 1933 | 1936 | 1939 | 1940

Start To An Iconic Australian Family Brand

Nearing the end of World War 1 in 1917 after been seconded back to the UK to help with the war effort, W. Henry Sutton at the age of 54, established the Sutton Tool & Gauge Manufacturing Co. at Plant Street Westgarth, Victoria.

Thread Production

Sutton Tool & Gauge commenced the manufacture of Thread Tooling, expanding its product portfolio.

The Next Generation

Both sons of W. Henry, Henry George Sutton and Leslie Sutton became managing directors of the business whilst William Henry at age 77 continued to take an active interest.

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Our History.
Our Tradition.

1959 - Thomastown factory opens

1960 - Ground-from-Solid

1970 - Third Generation

1989 - Surface Technology Coatings

From left to right:
Bill Sutton, picture of William Henry Sutton,
Henry George Sutton, Jim Sutton, Leslie Sutton

1950

Industry Legend

William Henry Sutton, born 1863 - died 1950, a highly regarded tool and gauge engineer prior to the founding business owner of Sutton Tool & Gauge. William was a pioneer of the Australian Engineering Industry.

1959

Increasing Demand

The demand for high quality tools made by Sutton's continued, and to meet with increasing sales the firm opened another 45,000 square foot factory in Thomastown.

1960

Ground-From-Solid

A team of engineers were sent across the globe to investigate the best method of producing the finest drill in the world. They came back with the "Ground-from-Solid" process. All endmills, slot drills and taps up to ½" diameter were produced by this method. Sutton Tools purchased and installed specialised equipment and was considered to have one of the most modern facilities in the world.

1961

Manufacturing of Jobber Drills

Sutton Tool & Gauge commenced manufacturing Jobber Drills in Thomastown.

1970

Third Generation

Sutton Tool & Gauge acquired an adjoining factory in Thomastown. The third generation Suttons, Bill and Jim, consolidated and extended Sutton Tools' position in the market, through their absolute commitment to quality, innovation and persistence.

1971

Company Name Changed To Sutton Tools

With the expansion into a greater range of products the company officially changed its name from 'Sutton Tool & Gauge' to 'Sutton Tools'.

1989

Surface Technology Coatings

Sutton Tools established Surface Technology Coatings and for the first time could offer physical vapour deposition (PVD) coatings on their products. Previously any coated tools sold in Australia were imported.

...of course, after a proud history spanning over 100 years it's always tempting to keep looking to the past. However, it is just as important, if not more so, to look to the future.

1993 - ISO 9001 Accreditation

1994 – New Zealand Manufacturing

2008 – The Tech Centre

1990

4th Generation

During the 1990's Peter and Robert Sutton joined the family business. Their combined experience and passion in cutting tools has positioned Sutton Tools as an Australian champion in manufacturing.

1993

Achievement of ISO 9001 Accreditation

Sutton Tools achieved quality accreditation ISO 9001. The structure of controls and checks throughout the manufacturing process ensures that we continually manufacture products that will exceed customer expectations.

1994

Manufacturing and Distribution Centre in New Zealand

Sutton Tools purchased Patience & Nicholson New Zealand (Evacut) to increase manufacturing capacity.

1995

A Global Vision

Robert Sutton was appointed Sutton Tools first Export Manager. His vision leads to rapid expansion into the 'high performance' product category to compete in the global market.

2000

Asia Distribution Centre

To provide a greater level of service to the company's South East Asian customers, an office and distribution centre was established in Singapore.

2006

Export Milestone

Sutton Tools sold the 5 millionth drill bit to Germany.

2008

Australian Made License

Sutton Tools becomes licensee of the Australian Made campaign, reaffirming our commitment to Australian Manufacturing.

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Jim Sutton's acceptance speech at the Victorian Manufacturing Hall of Fame induction

From left to right:
Robert Sutton and Peter Sutton

BEYOND 100 YEARS SINCE 1917

2008 — The Tech Centre

Facilities for specials and regrinding services were established to support the market in high performance cutting tools, with a specific focus on carbide.

2009 — Sutton Tools Europe

Sutton Tools Europe was established with an office and warehouse based in the Netherlands.

2009 — Partnership with DMTC

Sutton Tools becomes a member of Defence Materials Technology Centre (DMTC) a collaborative venture between industry, universities and government research agencies. Sutton Tools invests in state-of-the-art equipment, bolstering its R&D capability to produce new advancements in cutting tools at the highest level.

2010 — Victorian Manufacturing Hall of Fame

The Victorian Government, in partnership with the Victorian Industry Manufacturing Council, inducted Bill and Jim Sutton into the Victorian Manufacturing Hall of Fame Honour Roll for their outstanding contributions to manufacturing excellence.

2012 — USA Warehouse and Distribution Centre

Sutton Tools USA was established. With a Warehouse and Distribution Centre in North America, Sutton Tools can now be recognised as a global company providing world class cutting tools.

2016 — 4th Generation Suttons took the helm

Peter and Robert Sutton took the helm to move Sutton Tools into the next century.

2017 — Sutton Tools Celebrate 100 Years

Awarded Manufacturer of the year at 2017 Victorian Manufacturing Hall of Fame.

2018 — Purchase of Carbitool Pty Ltd

Sutton Tools acquired Australian manufacturer Carbitool Pty Ltd to expand the carbide tools and wood working range.

FANUC Robot
LR Mate 200iC
5L

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Certified System
Quality
ISO 9001
SAI GLOBAL

Manufacturing Without Compromise.

> Sutton Tools endeavours to minimise impacting factors that will reduce its carbon footprint and environmental impact.

Commitment to Quality

A well-managed structured system embracing all manufacturing processes from the floor up, driven with a continuous improvement policy ensures that our customers can be completely satisfied with the quality of our products. This includes all aspects of the purchasing process, with full traceability from the moment customers place the order to delivery.

Sutton Tools is a leader in the field of the conventional grinding and advanced super abrasive grinding. This Grinding Technology ensures that our cutting tools are of the highest accuracy and performance. Modern CNC machines give pick-and-place robot handling functions, that not only give repeatable quality operations but a safer work place environment.

The structure of controls and checks throughout the manufacturing process, backed by documented procedures and support personnel ensures that we continually manufacture products that will exceed customer expectations.

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Research & Development.

> Through formal cooperation with industry, leading Universities, research organisations and government, we continually seek technological advancements to better serve industry.

Today's metal working industry faces the relentless challenges of producing product faster, better and cheaper than before. Such challenges require innovative technology to world standards. Sutton Tools meets this challenge, through its commitment to research and development.

Sutton Tools R&D includes all aspects of manufacturing and development. We simulate actual production conditions to optimise tool design, and benchmark tool performance to exceed market standards.

Sutton Tools Engineering Department has state of the art technology in measuring and design equipment which has been critical in our continual development of machine tools.

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12×D DRILLS
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Reliable Customer Service.

We are here to help you

Stock requirements and needs can vary from customer to customer and Sutton Tools has implemented varied ordering systems to receive orders and seamlessly process them.

We combine the latest logistic technology (freight management systems) with personalised customer service to ensure that you get the products you order, when you need them on time, every time.

Our comprehensive customer service comprises:

- EDI and internet ordering
- Fully integrated ERP system
- Automatic delivery and order confirmation
- Quick backorder response

Sutton Tools Online Tool Shop

Sutton Tools e-Sales helps to increase service levels through real-time availability of information. Tool Shop will extend our customer service by offering online access to our products 24 hours a day, 7 days a week. Tool shop gives you the ability to:

- Check stock availability
- Place orders online
- Track the progress of your order
- Check your order History

To apply for a Tool Shop account please contact toolshop@sutton.com.au

“We have over 20,000 SKUs and our stock availability consistently averages in the high 90%.”

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Distribution and Logistics.

Global Distribution Network

Our International Distribution Centre uses modern radio frequency scanning technology coupled with the latest carousel and stock replenishment systems which allows accurate stock control and efficient warehouse operation. We have over 20,000 SKUs and our stock availability consistently averages in the high 90%. From a customer perspective, this provides confidence in breadth and depth of stock cover and reliable delivery service.

Our Distribution Centre comprises:

- Modern radio frequency scanning technology and latest carousel and stock replenishment systems
- Computerised dispatch system
- Warehousing over 20,000 SKUs
- Picking over 10,000 items daily
- Dispatch of over 1,000 consignments daily
- Order and dispatch within one hour turnaround
- Global Storage Area in excess of 5,000m²

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Meeting Your Exact Requirements.

Special Tools

Sutton Tools use state-of-art CNC tool grinding equipment, and manufacturing processes to produce specialised cutting tools, distribute to industries such as plumbing, electrical, automotive, aerospace, marine, transport, construction, surgical, manufacturing and agriculture.

We use only the very best European grades of materials including powder metallurgy, HSS cobalt and ultra-fine grain carbide. Materials are complimented by the latest generation of thin film PVD coatings, providing many advantages in tool life, component surface finishes and the ability for the tools to operate in low or minimum coolant environments, making them more environmentally friendly.

All tools are subject to stringent quality and performance checking and testing to ensure best results. Our customers can benefit from the advantages of our reliable cost effective world's-best practice manufacture, supply and support capabilities, now and well into the foreseeable future. Our Special Tools division offers express service on non-standard taps and other cutting tools.

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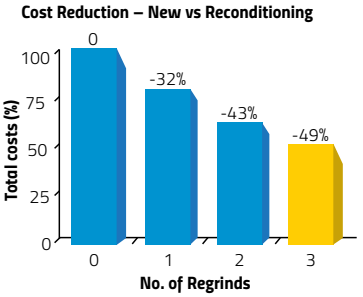
One-Stop-Shop Regrinding and Coating.

> Australia's only company to provide regrinding, coating and heat treatment on the one site.

Regrinding Service

The regrinding service significantly reduces tooling costs over buying new tools. Our customers benefit from Sutton Tools advanced super abrasive grinding expertise providing high accuracy and quality. All tools are subject to stringent quality and performance checking and testing to ensure best results.

Cost benefits of regrinding your tools



Example: D332 10mm 5xD IK R30N Carbide Drill, AlCrN coated.

Surface Technology Coatings Service

Complementing our regrind facility, Surface Technology Coating (STC) provides a Physical Vapour Deposition (PVD) coating service, and is at the forefront of heat treatment and surface engineering technology.

In addition to providing PVD coating, STC provides plasma nitriding and vacuum heat treatment for various tools and components. Our unique position enables us to provide tailored solutions to a wide range of friction and wear problems.

WARNING
POWER ON
POWER OFF
EMERGENCY STOP
HANDLE JOG
RESET
DISPLAY
CYCLE START
FEED HOLD

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Sutton Tools Expert Tool Selector.

www.suttontools.com/expert-tool-selector

Advice at your fingertips

Sutton Tools Expert Tool Selector enables easy tool selection for your machining task. The Expert Tool Selector will recommend the right tool for your application, with advice on suitable cutting parameters.

Simply select your work piece material, and enter your machining operation and setup to get the best advice in 5 easy steps.

Choose:

Step 1 - Workpiece material classification
Workpiece material groups

Step 2 - Machining Task

Step 3 - Machine Setup

Step 4 - Tool recommendations

Step 5 - View Technical Report
Recommended cutting conditions
Tool specifications
Stock availability

Drills Carbide 3 x D

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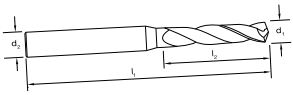
D323/D329 - Suitable for materials up to 1400N/mm²
- Micro geometry & surface conditioning for optimal chip control
- AlCrN for maximum tool life

D356
- Excellent solution for stainless steels & difficult super alloy type materials
- Optimised geometry ensures no work hardening and high productivity
- HELICA for outstanding oxidation resistance and hot hardness

DIN 6537 | 3xd1 | DIN 6535-HA



Catalogue Code	D323	D329	D356
Product Group	A0210	A0210	A0210
Material	VHM	VHM	VHM
Surface Finish	AlCrN	AlCrN	HELICA
Application	N	N	VA
Geometry	R30	R30 - IK	R30 - IK
Point Type	140° Form C	140° Form C	140° 4 Facet Form C
Shank Form (DIN 6535)	HA	HA	HA

Size Ref.	d_1 (m7)		l_1	l_2	d_2 (h6)	Item #	Item #	Item #
1191	11.91	15/32	102	55	12	D323 1191	D329 1191	D356 1191
1200	12.0		102	55	12	D323 1200	D329 1200	D356 1200
1231	12.30	31/64	107	60	14			D356 1231
1250	12.5		107	60	14	D323 1250	D329 1250	D356 1250
1269	12.69	1/2	107	60	14	D323 1269	D329 1269	D356 1269
1280	12.8		107	60	14	D323 1280	D329 1280	D356 1280
1300	13.0		107	60	14	D323 1300	D329 1300	D356 1300
1310	13.10	33/64	107	60	14			D356 1310
1349	13.49	17/32	107	60	14	D323 1349	D329 1349	D356 1349
1350	13.5		107	60	14	D323 1350	D329 1350	D356 1350
1380	13.8		107	60	14	D323 1380	•	
1389	13.89	35/64	107	60	14			D356 1389
1400	14.0		107	60	14	D323 1400	D329 1400	D356 1400
1429	14.29	9/16	115	65	16	D323 1429	D329 1429	D356 1429
1450	14.5		115	65	16	D323 1450	D329 1450	D356 1450
1468	14.68	37/64	115	65	16			D356 1468
1480	14.8		115	65	16	D323 1480	•	
1500	15.0		115	65	16	D323 1500	D329 1500	D356 1500
1508	15.08	19/32	115	65	16			D356 1508
1548	15.48	39/64	115	65	16			D356 1548
1550	15.5		115	65	16	D323 1550	D329 1550	D356 1550
1580	15.8		115	65	16	D323 1580	•	
1588	15.88	5/8	115	65	16	D323 1588	D329 1588	D356 1588
1600	16.0		115	65	16	D323 1600	D329 1600	D356 1600
1650	16.5		123	73	18	D323 1650	D329 1650	D356 1650
1667	16.67	21/32	123	73	18			D356 1667
1680	16.8		123	73	18	D323 1680		
1700	17.0		123	73	18	D323 1700	D329 1700	D356 1700
1746	17.46	11/16	123	73	18	D323 1746	D329 1746	D356 1746
1750	17.5		123	73	18	D323 1750	D329 1750	D356 1750
1780	17.8		123	73	18	D323 1780		
1800	18.0		123	73	18	D323 1800	D329 1800	D356 1800
1826	18.26	23/32	131	79	20			D356 1826
1850	18.5		131	79	20	D323 1850	D329 1850	D356 1850
1900	19.0		131	79	20	D323 1900	D329 1900	D356 1900
1905	19.05	3/4	131	79	20	D323 1905	D329 1905	D356 1905
1950	19.5		131	79	20	D323 1950	D329 1950	D356 1950
2000	20.0		131	79	20	D323 2000	D329 2000	D356 2000

ISO	P												M			K					N								S												H				
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
D323	●	●	●	●	●	●	●	●	●	●	○	●	○	○	●	●	●	●	●	●	●	●																										
D329	●	●	●	●	●	●	●	●	●	●	○	●	○	●	●	●											○	○	○	○			○	○	○	○	○	○	○	○	○	○	○	●				●	
D356	●	●	●	○	○	●	○	○		○		●	○	●	●	●							●	●	●	●	●						●	○	●	○	○	●	●	●	●	●	●					●	

P Steel | M Stainless Steel | K Cast Iron | N Non-Ferrous Metals | S Titanium & Super Alloys | H Hard Materials

● Optimal ○ Effective

* HB & HE Shank styles available •Available on request as special manufacture. Subject to lead time.

Refer to our complete catalogue online for entire range

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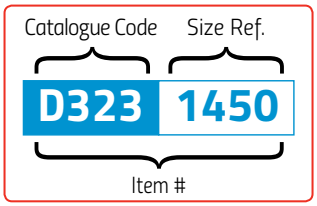
Sutton Tools Code System – explained

Sutton Tools item # system makes it easier to identify a product.
The codes are based on a universal prefix and suffix system.

Prefix (Catalogue Code) – is alpha numeric, and is unique to a specific product range.
The letter is relevant to the type of tool, and the number refers to a product range.

- **C** - Countersinks
- **D** - Drills
- **E** - Endmills
- **T** - Taps
- **Z** - Tool Holders / Chucks



D3231450 = D(Drill) **323**(Carbide 3xd) **1450**(14.5mm)

Suffix (Size Ref.) – in most cases is relevant to the diameter or size reference of an item and is based on a metric value.

For example 5mm = 0500, and 1/4" = 0635 (inch converted to decimal).

Suffix can also refer to set code or number of pieces in a set.

Benefits of the coding system
- Range identification simplified.
- Search online 'Expert Tool Selector' by range.

Understanding your Sutton Tools Catalogue

Product Group (A0202 – Z1108)
These codes enable our distributor partners to identify their pricing structure on any particular product.

Material
This highlights what the product is made of. (e.g. VHM = Carbide, HSS = High Speed Steel)
For the full list of explanation, refer to **page 308** of the technical information section.

Surface Finish
Many of our products have various surface coatings to improve the performance. Surface coatings improve productivity by increasing speeds and feeds and reducing friction related problems.

Symbols
For all of our product pages you will find symbols which depict what specifications these products were made to. Symbols have been used to simplify product identification. A full list of symbols can be found at the start of this catalogue.

Some common examples are:

Standard

Regular length

5 x D max. working depth

60° Metric thread form

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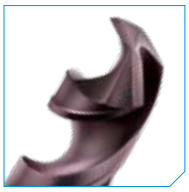
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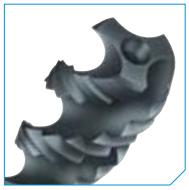
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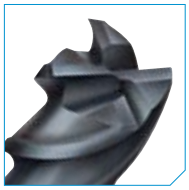
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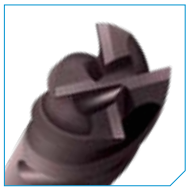
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Catalogue Code	Page No.	Product Group	Description	Point Type	Tool Material	Surface Finish	Standard
Countersinks							
C107	67	A1106	Countersink, Three Flute, N	90°	HSS Co	Brt	DIN335
C108	67	A1108	Countersink, Three Flute, UNI	90°	HSS Co	TiAlN	DIN335
C110	68	A1402	Countersink, Indexable with Carbide Insert	90°	VHM	TiCN	-
Drills							
D135	65	A0302	Drill, Centre, A-Type	60° Stepped	HSS	Brt	DIN333
D136	65	A0302	Drill, Centre, Plain	60° Stepped	HSS	Brt	ANSI B94-11
D151	40	A1006	Drill, Stub, CNC	130° Form B	HSS Co	TiAlN	DIN1897
D153	46	A1502	Drill, Stub, R40 VA, *Black Magic*	4 Facet	HSS Co	TiAlN	DIN1897
D155	44	A1502	Drill, Stub, R40 UNI	130° 4 Facet Form B	SPM	TiAlN	DIN1897
D163	50	A0418	Drill, Jobber, DHJ	130° Form B	HSS Co	TiAlN	DIN338
D165	52	A0418	Drill, Jobber, DXJ	130° Form A	HSS Co	TiAlN	DIN338
D168	54	A1502	Drill, Jobber, R40 UNI	130° 4 Facet Form B	SPM	TiAlN	DIN338
D169	57	A1502	Drill, Jobber, R40 VA, *Black Magic*	4 Facet Form C	HSS Co	TiAlN	DIN338
D171	59	A0508	Drill, Long Series, DHL	130° Form B	HSS Co	TiAlN	DIN340
D175	66	A1124	Drill, NC Spotting	90°	HSS Co	TiN	DIN1897
D176	66	A1124	Drill, NC Spotting	120°	HSS Co	TiN	DIN1897
D177	42	A1006	Drill, Stub, DXS	130° Form A	HSS Co	TiAlN	DIN1897
D182	56	A1502	Drill, Jobber, R40 UNI, IK, HE Shank	130° 4 Facet Form B	HSS Co	TiAlN	-
D194	62	A0508	Drill, Extra Long, DHXL-1	130° Form B	HSS Co	TiAlN	DIN1869-1
D195	63	A0508	Drill, Extra Long, DHXL-2	130° Form B	HSS Co	TiAlN	DIN1869-2
D196	64	A0508	Drill, Extra Long, DHXL-3	130° Form B	HSS Co	TiAlN	DIN1869-3
D197*	61	A0502	Drill, Extra Long, 8" Overall Length	130° Form B	HSS	Brt	-
D198*	61	A0502	Drill, Extra Long, 10" Overall Length	130° Form B	HSS	Brt	-
D199*	61	A0502	Drill, Extra Long, 12" Overall Length	130° Form B	HSS	Brt	-
D300	34	A0202	Drill, 3xD, Straight Flute GG	140° Form C	VHM	Brt	-
D304	33	A0202	Drill, 3xD, R15 NH	135° 4 Facet Form C	VHM	Brt	-
D306	34	A0206	Drill, 3xD, Straight Flute GG	140° Form C	VHM	TiCN	-
D310	33	A0206	Drill, 3xD, R15 NH	135° 4 Facet Form C	VHM	TiCN	-
D318	35	A0202	Drill, Centre	60° Stepped	VHM	Brt	ANSI B94-11
D319	35	A0206	Drill, Centre	60° Stepped	VHM	TiCN	ANSI B94-11
D323	18	A0210	Drill, 3xD, Shank Form HA	140° Form C	VHM	AlCrN	DIN6537
D326	22	A0210	Drill, 5xD, Shank Form HA	140° Form C	VHM	AlCrN	DIN6537
D329	18	A0210	Drill, 3xD, Shank Form HA, IK	140° Form C	VHM	AlCrN	DIN6537
D332	22	A0210	Drill, 5xD, Shank Form HA, IK	140° Form C	VHM	AlCrN	DIN6537
D335	26	A0210	Drill, 8xD, Shank Form HA, IK	140° Form C	VHM	AlCrN	DIN6537
D355	36	A0208	Drill, Spotting	90°	VHM	Brt	~DIN1897
D356	18	A0210	Drill, 3xD, HA Shank, VA *Black Magic*	140° 4 Facet Form C	VHM	HELICA	DIN6537
D358	22	A0210	Drill, 5xD, HA Shank, VA *Black Magic*	140° 4 Facet Form C	VHM	HELICA	DIN6537
D364	36	A0210	Drill, NC Spotting	90°	VHM	AlCrN	~DIN1897
D365	36	A0208	Drill, Spotting	142° Form A	VHM	Brt	~DIN1897
D366	36	A0210	Drill, NC Spotting	142°	VHM	AlCrN	~DIN1897
D368	30	A0208	Drills, 5xD, R25 N, Tecline	118° Form C	VHM	Brt	DIN338
D371	28	A0210	Drill, 12xD, Shank Form HA, IK	135° Form C	VHM	AlCrN Tip	-

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Endmills

Catalogue Code	Page No.	Product Group	Description	Shank	Tool Material	Surface Finish	Standard
E121	275	B0610	Endmill, 3 Flute, R45 W, Regular	DIN 1835-A	SPM	Brt	DIN844K
E122	275	B0612	Endmill, 3 Flute, R45 W, Regular	DIN 1835-A	SPM	TiAlN	DIN844K
E123	276	B0610	Endmill, 3 Flute, R40 W, Long	DIN 1835-A	SPM	Brt	DIN844L
E124	276	B0612	Endmill, 3 Flute, R40 W, Long	DIN 1835-A	SPM	TiAlN	DIN844L
E126*	267	B0516	Endmill, 4 Flute, R30 N, Regular	DIN 1835-A	HSS Co.8	TiCN	JIS
E128	268	B0516	Endmill, 4 Flute, R30 N, Long	DIN 1835-A	HSS Co.8	TiCN	JIS
E136	274	B0612	Endmill, 4 Flute, R30/32 UNI, Long, *Harmony*	DIN 1835-A	SPM	TiAlN	DIN844L
E145	271	B0404	Rougher, NR (normal), R30 WN, Regular	DIN 1835-B	HSS Co.8	TiCN	JIS
E147	272	B0404	Rougher, NR (normal), R30 WN, Long	DIN 1835-A	HSS Co.8	TiCN	DIN844L
E151	273	B0408	Rougher, HRS (fine), R45 UNI, Regular	DIN 1835-A	SPM	TiAlN	DIN844K
E171	277	B0404	Rougher, HR (fine) R30 NH, Regular	DIN 1835-B	HSS Co.8	TiCN	JIS
E173	277	B0404	Rougher, HR (fine) R30 NH, Long	DIN 1835-A	HSS Co.8	TiCN	DIN844L
E177	278	B0408	Rougher, HR (fine) R30 H, Long	DIN 1835-B	SPM	TiAlN	DIN844L
E187	266	B0606	Endmill, 3 Flute, R30 N, Stub	DIN 1835-A	HSS Co.8	Brt	DIN327
E188	266	B0608	Endmill, 3 Flute, R30 N, Stub	DIN 1835-A	HSS Co.8	TiAlN	DIN327
E202	269	B0404	Rougher, NF (semi), R30, N, Regular	DIN 1835-B	HSS Co.8	TiAlN	DIN844K
E206	270	B0404	Rougher, NF (semi), R30, N, Long	DIN 1835-B	HSS Co.8	TiAlN	DIN844L
E251	279	B0408	Rougher, HR (fine) R30 VA-R, Regular	DIN 1835-B	SPM	AlCrN	DIN844K
E252	279	B0408	Rougher, HR (fine) R30 VA-R, Long	DIN 1835-B	SPM	AlCrN	DIN844L
E255	279	B0408	Rougher, HR (fine) R30 VA-R, Regular, Corner Rad	DIN 1835-B	SPM	AlCrN	DIN844K
E304	195	B0208	Slot Drill, 2 Flute, R30 N, Long (imperial)	DIN 6535-HA	VHM	Brt	-
E307	195	B0210	Slot Drill, 2 Flute, R30 N, Long (imperial)	DIN 6535-HA	VHM	TiAlN	-
E308	196	B0208	Slot Drill, 2 Flute, R30 N, Long	DIN 6535-HA	VHM	Brt	-
E309	197	B0208	Slot Drill, 2 Flute, R30 N, Extra Long	DIN 6535-HA	VHM	Brt	-
E310	239	B0208	Slot Drill, 2 Flute, R40, *AlCarb,* Long	DIN 6535-HA	VHM	Brt	DIN6527L
E311	207	B0208	Slot Drill, Ballnose, 2 Flute, R30, Regular (Imperial)	DIN 6535-HA	VHM	Brt	-
E314	207	B0210	Slot Drill, Ballnose, 2 Flute, R30 N, Regular	DIN 6535-HA	VHM	TiAlN	-
E315	209	B0208	Slot Drill, Ballnose, 2 Flute, R30 N, Extra Long	DIN 6535-HA	VHM	Brt	-
E316	210	B0208	Endmill, Ballnose, 4 Flute, R30 N, Regular	DIN 6535-HA	VHM	Brt	-
E319	210	B0210	Endmill, Ballnose, 4 Flute, R30 N, Regular	DIN 6535-HA	VHM	TiAlN	-
E320	212	B0208	Endmill, Ballnose, 4 Flute, R30 N, Extra Long	DIN 6535-HA	VHM	Brt	-
E333	200	B0208	Endmill, 4 Flute, R30 N, Regular (Imperial)	DIN 6535-HA	VHM	Brt	-
E336	200	B0210	Endmill, 4 Flute, R30 N, Regular (Imperial)	DIN 6535-HA	VHM	TiAlN	-
E337	202	B0202	Endmill, 4 Flute, R30 N, Long	DIN 6535-HA	VHM	Brt	-
E340	202	B0204	Endmill, 4 Flute, R30 N, Long	DIN 6535-HA	VHM	TiAlN	-
E344	203	B0210	Endmill, 4 Flute, R30 N, Extra Long	DIN 6535-HA	VHM	TiAlN	-
E348*	249	B0210	Endmill, 4 Flute, R40 NH, Corner Radius	DIN 6535-HA	VHM	TiAlN	-
E400	240	B0210	Endmill, 3 Flute, R45/46/44-Al, Long, *Harmony*	DIN 6535-HA	VHM Ultra	CrN	DIN6527L
E401	240	B0210	Endmill, 3 Flute, R45/46/44-Al, Long, *Harmony*	DIN 6535-HB	VHM Ultra	CrN	DIN6527L
E402	241	B0210	Endmill, 3 Flute, R45/46/44-Al, Long Reach, *Harmony*	DIN 6535-HA	VHM Ultra	CrN	-
E403	241	B0210	Endmill, 3 Flute, R45/46/44-Al, Long Reach, *Harmony*	DIN 6535-HB	VHM Ultra	CrN	-
E408	245	B0210	Endmill, Ballnose, 3 Flute, R45/46/44-Al, Long Reach, *Harmony*	DIN 6535-HA	VHM Ultra	CrN	-
E409	245	B0210	Endmill, Ballnose, 3 Flute, R45/46/44-Al, Long Reach, *Harmony*	DIN 6535-HB	VHM Ultra	CrN	-
E410	246	B0210	Endmill, 3 Flute, R55/54/56-VA, Long, *Harmony*	DIN 6535-HA	VHM Ultra	Helica	DIN6527L
E411	246	B0210	Endmill, 3 Flute, R55/54/56-VA, Long, *Harmony*	DIN 6535-HB	VHM Ultra	Helica	DIN6527L
E422	226	B0210	Endmill, 3 Flute, R38/37/39 UNI, Short, *Harmony*	DIN 6535-HA	VHM Ultra	AlCrN	DIN6527K
E423	226	B0210	Endmill, 3 Flute, R38/37/39 UNI, Short, *Harmony*	DIN 6535-HB	VHM Ultra	AlCrN	DIN6527K
E424	227	B0210	Endmill, 3 Flute, R38/37/39 UNI, Long, *Harmony*	DIN 6535-HA	VHM Ultra	AlCrN	DIN6527L
E425	227	B0210	Endmill, 3 Flute, R38/37/39 UNI, Long, *Harmony*	DIN 6535-HB	VHM Ultra	AlCrN	DIN6527L
E426	232	B0210	Endmill, 4 Flute, R45/44 UNI, Long, *Harmony*	DIN 6535-HA	VHM Ultra	AlCrN	DIN6527L
E427	232	B0210	Endmill, 4 Flute, R45/44 UNI, Long, *Harmony*	DIN 6535-HB	VHM Ultra	AlCrN	DIN6527L
E430	233	B0210	Endmill, 4 Flute, R45/44 UNI, Long Reach, *Harmony*	DIN 6535-HA	VHM Ultra	AlCrN	-
E431	233	B0210	Endmill, 4 Flute, R45/44 UNI, Long Reach, *Harmony*	DIN 6535-HB	VHM Ultra	AlCrN	-
E432	250	B0210	Endmill, 6-8 Flute, R50/35-NH, Long, *Harmony*	DIN 6535-HA	VHM Ultra	AlCrN	DIN6527L
E433	250	B0210	Endmill, 6-8 Flute, R50/35-NH, Long, *Harmony*	DIN 6535-HB	VHM Ultra	AlCrN	DIN6527L
E434	251	B0210	Endmill, 6-8 Flute, R50/35-NH, Extra Long, *Harmony*	DIN 6535-HA	VHM Ultra	AlCrN	-

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Endmills

Catalogue Code	Page No.	Product Group	Description	Shank	Tool Material	Surface Finish	Standard
E435	251	B0210	Endmill, 6-8 Flute, R50/35-NH, Extra Long, *Harmony*	DIN 6535-HB	VHM Ultra	AlCrN	-
E436	252	B0210	Endmill, 6-8 Flute, R50/35-NH, Long Reach, *Harmony*	DIN 6535-HA	VHM Ultra	AlCrN	-
E437	252	B0210	Endmill, 6-8 Flute, R50/35-NH, Long Reach, *Harmony*	DIN 6535-HB	VHM Ultra	AlCrN	-
E440	235	B0210	Slot Drill, Ballnose, 2 Flute, R30 UNI, Long Reach	DIN 6535-HA	VHM Ultra	AlCrN	-
E441	235	B0210	Slot Drill, Ballnose, 2 Flute, R30 UNI, Long Reach	DIN 6535-HB	VHM Ultra	AlCrN	-
E442	236	B0210	Endmill, Ballnose, 4 Flute, R30 UNI, Long Reach	DIN 6535-HA	VHM Ultra	AlCrN	-
E443	236	B0210	Endmill, Ballnose, 4 Flute, R30 UNI, Long Reach	DIN 6535-HB	VHM Ultra	AlCrN	-
E444	238	B0208	Endmill, 1 Flute, R30 Al, Short	DIN 6535-HA	VHM	Brt	-
E446	244	B0208	Rougher, NR (normal), R25 Al	DIN 6535-HA	VHM	Brt	DIN6527L
E447	244	B0208	Rougher, NR (normal), R25 Al	DIN 6535-HB	VHM	Brt	DIN6527L
E450	206	B0210	Rougher, HR (fine), R20 WN, Long	DIN 6535-HA	VHM	TiAlN	DIN6527L
E451	206	B0210	Rougher, HR (fine), R20 WN, Long	DIN 6535-HB	VHM	TiAlN	DIN6527L
E456	224	B0210	Endmill, Chamfer, 4 Flute, 90°	DIN 6535-HA	VHM	TiAlN	-
E457	224	B0210	Endmill, Chamfer, 4 Flute, 60°	DIN 6535-HA	VHM	TiAlN	-
E458	225	B0210	Endmill, Chamfer, 4 Flute, Corner Rad	DIN 6535-HA	VHM	TiAlN	-
E459	247	B0210	Endmill, 4 Flute, R40/42-VA, Long, *Harmony*	DIN 6535-HA	VHM Ultra	Helica	DIN6527L
E460	247	B0210	Endmill, 4 Flute, R40/42-VA, Long, *Harmony*	DIN 6535-HB	VHM Ultra	Helica	DIN6527L
E462	248	B0210	Endmill, 4 Flute, R40/42-VA, Cnr Rad, Long, *Harmony*	DIN 6535-HA	VHM Ultra	Helica	DIN6527L
E463	248	B0210	Endmill, 4 Flute, R40/42-VA, Cnr Rad, Long, *Harmony*	DIN 6535-HB	VHM Ultra	Helica	DIN6527L
E464	257	B0210	Endmill, 5 Flute, R40/42-Ti, DIN6527L, *Harmony*	DIN 6535-HA	VHM Ultra	AlNova	DIN6527L
E465	257	B0210	Endmill, 5 Flute, R40/42-Ti, DIN6527L, *Harmony*	DIN 6535-HB	VHM Ultra	AlNova	DIN6527L
E466	258	B0210	Endmill, 5 Flute, R40/42-Ti, Cnr Rad, DIN6527L, *Harmony*	DIN 6535-HA	VHM Ultra	AlNova	DIN6527L
E467	258	B0210	Endmill, 5 Flute, R40/42-Ti, Cnr Rad, DIN6527L, *Harmony*	DIN 6535-HB	VHM Ultra	AlNova	DIN6527L
E468	259	B0210	Endmill, 6 Flute, R40/42-Ti, DIN6527L, *Harmony*	DIN 6535-HA	VHM Ultra	AlNova	DIN6527L
E469	259	B0210	Endmill, 6 Flute, R40/42-Ti, DIN6527L, *Harmony*	DIN 6535-HB	VHM Ultra	AlNova	DIN6527L
E470	259	B0210	Endmill, 6 Flute, R40/42-Ti, Cnr Rad, DIN6527L, *Harmony*	DIN 6535-HA	VHM Ultra	AlNova	DIN6527L
E471	259	B0210	Endmill, 6 Flute, R40/42-Ti, Cnr Rad, DIN6527L, *Harmony*	DIN 6535-HB	VHM Ultra	AlNova	DIN6527L
E472	261	B0210	Endmill, 5 Flute, R40/42 Ni, DIN6527L, Harmony	DIN 6535-HA	VHM Ultra	Xceed	DIN6527L
E473	261	B0210	Endmill, 5 Flute, R40/42 Ni, DIN6527L, Harmony	DIN 6535-HB	VHM Ultra	Xceed	DIN6527L
E474	262	B0210	Endmill, 5 Flute, R40/42 Ni, Cnr Rad, DIN6527L, Harmony	DIN 6535-HA	VHM Ultra	Xceed	DIN6527L
E475	262	B0210	Endmill, 5 Flute, R40/42 Ni, Cnr Rad, DIN6527L, Harmony	DIN 6535-HB	VHM Ultra	Xceed	DIN6527L
E476	260	B0210	Endmill, 5 Flute, R40/42 Ti-3XL, Cnr Rad, DIN6527L, Harmony	DIN 6535-HA	VHM Ultra	AlNova	DIN6527L
E477	260	B0210	Endmill, 5 Flute, R40/42 Ti-4XL, Cnr Rad, DIN6527L, Harmony	DIN 6535-HA	VHM Ultra	AlNova	DIN6527L
E478	242	B0210	Endmills Carbide, 3 Flute, R45/46/44 Al, Rad, DIN6527L, Harmony	DIN 6535-HA	VHM Ultra	Brt	DIN6527L
E480	243	B0210	Endmills Carbide, 3 Flute, R45/46/44 Al, DIN6527L, Harmony	DIN 6535-HA	VHM Ultra	Brt	DIN6527L
E533	228	B0210	Endmill, 4 Flute, R35/38 UNI, Short, *Harmony*	DIN 6535-HA	VHM Ultra	AlCrN	DIN6527K
E534	228	B0210	Endmill, 4 Flute, R35/38 UNI, Short, *Harmony*	DIN 6535-HB	VHM Ultra	AlCrN	DIN6527K
E535	229	B0210	Endmill, 4 Flute, R35/38 UNI, Long, *Harmony*	DIN 6535-HA	VHM Ultra	AlCrN	DIN6527L
E536	229	B0210	Endmill, 4 Flute, R35/38 UNI, Long, *Harmony*	DIN 6535-HB	VHM Ultra	AlCrN	DIN6527L
E543	253	B0210	Endmill, 6-8 Flute, R45 VH, Long *Harmony*	DIN 6535-HA	VHM Ultra	AlCrN	DIN6527L
E544	253	B0210	Endmill, 6-8 Flute, R45 VH, Long *Harmony*	DIN 6535-HB	VHM Ultra	AlCrN	DIN6527L
E547	205	B0210	Rougher, NR (normal), R30 N, Long	DIN 6535-HA	VHM	TiAlN	DIN6527L
E548	205	B0210	Rougher, NR (normal), R30 N, Long	DIN 6535-HB	VHM	TiAlN	DIN6527L
E549	234	B0210	Rougher, HRS (fine), R45 UNI, Long, *Harmony*	DIN 6535-HA	VHM Ultra	AlCrN	DIN6527L
E550	234	B0210	Rougher, HRS (fine), R45 UNI, Long, *Harmony*	DIN 6535-HB	VHM Ultra	AlCrN	DIN6527L
E551	237	B0208	Slot Drills, Ballnose, 2 Flute, R30 N	DIN 6535-HA	VHM	Brt	DIN6527L
E553	237	B0210	Slot Drills, Ballnose, 2 Flute, R30 N	DIN 6535-HA	VHM	TiAlN	DIN6527L
E555	208	B0210	Slot Drill, Ballnose, 2 Flute, R30 N, Long Reach	DIN 6535-HA	VHM Ultra	AlCrN	-
E556	208	B0210	Slot Drill, Ballnose, 2 Flute, R30 N, Long Reach	DIN 6535-HB	VHM Ultra	AlCrN	-
E557	211	B0210	Endmill, Ballnose, 4 Flute, R30 N, Long Reach	DIN 6535-HA	VHM Ultra	AlCrN	-
E558	211	B0210	Endmill, Ballnose, 4 Flute, R30 N, Long Reach	DIN 6535-HB	VHM Ultra	AlCrN	-
E559	230	B0210	Endmill, 4 Flute, R35/38 UNI Corner Rad, *Harmony*	DIN 6535-HA	VHM Ultra	AlCrN	DIN6527L
E560	230	B0210	Endmill, 4 Flute, R35/38 UNI Corner Rad, *Harmony*	DIN 6535-HB	VHM Ultra	AlCrN	DIN6527L
E562	254	B0210	Endmill, 4 Flute, R50-NH, Long, *Harmony DUO*	DIN 6535-HA	VHM Ultra	AlCrN	DIN6527L
E563	254	B0210	Endmill, 4 Flute, R50-NH, Long, *Harmony DUO*	DIN 6535-HB	VHM Ultra	AlCrN	DIN6527L
E564	255	B0210	Endmill, 4 Flute, R50-NH, Cnr Rad, *Harmony DUO*	DIN 6535-HA	VHM Ultra	AlCrN	DIN6527L

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Endmills

Catalogue Code	Page No.	Product Group	Description	Shank	Tool Material	Surface Finish	Standard
E565	255	B0210	Endmill, 4 Flute, R50-NH, Cnr Rad, *Harmony DUO*	DIN 6535-HB	VHM Ultra	AlCrN	DIN6527L
E566	256	B0210	Endmill, 4 Flute, R50-VH, Long, *Harmony DUO*	DIN 6535-HA	VHM Ultra	Aldura	DIN6527L
E567	256	B0210	Endmill, 4 Flute, R50-VH, Long, *Harmony DUO*	DIN 6535-HB	VHM Ultra	Aldura	DIN6527L
E568	256	B0210	Endmill, 4 Flute, R50-VH, Cnr Rad, *Harmony DUO*	DIN 6535-HA	VHM Ultra	Aldura	DIN6527L
E569	256	B0210	Endmill, 4 Flute, R50-VH, Cnr Rad, *Harmony DUO*	DIN 6535-HB	VHM Ultra	Aldura	DIN6527L
E572	229	B0210	Endmill, Harmony Series, Inch	DIN 6535-HA	VHM Ultra	AlCrN	DIN6527L
E576	231	B0210	Endmill, Harmony Series, Corner Radius, Inch	DIN 6535-HA	VHM Ultra	AlCrN	DIN6527L
E580	213	B0218	Endmill, Micro, 2 Flute, Long Reach	DIN 6535-HA	VHM	TiSiN	-
E581	216	B0218	Endmill, Micro, 2 Flute, Long Reach, Corner Radius	DIN 6535-HA	VHM	TiSiN	-
E582	217	B0218	Endmill, Micro, Ballnose, 2 Flute, Long Reach	DIN 6535-HA	VHM	TiSiN	-
E598	219	B0218	Endmill, Micro, 4 Flute, Corner Rad, Long Reach	DIN 6535-HA	VHM	TiSiN	-
E600	195	B0212	Slot Drill, 2 Flute, R30 N, Regular	DIN 6535-HA	VHM	Brt	-
E601	200	B0212	Endmill, 4 Flute, R30 N, Regular	DIN 6535-HA	VHM	Brt	-
E602	207	B0212	Slot Drill, Ballnose, 2 Flute, R30 N, Regular	DIN 6535-HA	VHM	Brt	-
E603	195	B0214	Slot Drill, 2 Flute, R30 N, Regular	DIN 6535-HA	VHM	TiAlN	-
E604	200	B0214	Endmill, 4 Flute, R30 N, Regular	DIN 6535-HA	VHM	TiAlN	-
E605	207	B0214	Slot Drill, Ballnose, 2 Flute, R30 N, Regular	DIN 6535-HA	VHM	TiAlN	-
E606	210	B0212	Endmill, Ballnose, 4 Flute, R30 N, Regular	DIN 6535-HA	VHM	Brt	-
E607	210	B0214	Endmill, Ballnose, 4 Flute, R30 N, Regular	DIN 6535-HA	VHM	TiAlN	-
E608	198	B0212	Endmill, 2 Flute, R30 N, Extra Long	DIN 6535-HA	VHM	Brt	-
E609	204	B0212	Endmill, 4 Flute, R30 N, Extra Long	DIN 6535-HA	VHM	Brt	-
E610	199	B0212	Endmill, 3 Flute, R30 N, Regular	DIN 6535-HA	VHM	Brt	-
E611	199	B0214	Endmill, 3 Flute, R30 N, Regular	DIN 6535-HA	VHM	TiAlN	-
E635	201	B0214	Endmills Carbide, 4 Flute, R35/38, Regular	DIN 6535-HA	VHM Ultra	TiAlN	DIN6527L
E636	201	B0214	Endmills Carbide, 4 Flute, R35/38, Regular	DIN 6535-HB	VHM Ultra	TiAlN	DIN6527L
E650	222	B0218	Endmill, Micro, 4/6 Flute, Corner Rad	DIN 6535-HA	VHM	TiSiN	-

Taps

Catalogue Code	Page No.	Product Group	Description	Thread	Geometry Type	Tool Material	Surface Finish	Standard
T100	88	D0402	Tap, Gun, N	M	N	HSSE	Brt	DIN371
T101	89	D0402	Tap, Gun, N	M	N	HSSE	Brt	DIN376
T102	88	D0402	Tap, Gun, N	M	N	HSSE	Blu	DIN371
T103	89	D0402	Tap, Gun, N	M	N	HSSE	Blu	DIN376
T104	88	D0406	Tap, Gun, N	M	N	HSSE	TiN	DIN371
T105	89	D0406	Tap, Gun, N	M	N	HSSE	TiN	DIN376
T106	90	D0402	Tap, Gun, N - 6G	M	N	HSSE	Brt	DIN371
T107	90	D0402	Tap, Gun, N - 6G	M	N	HSSE	Brt	DIN376
T110	95	D0402	Tap, Gun, VA	M	VA	HSSE	Blu	DIN371
T111	95	D0402	Tap, Gun, VA	M	VA	HSSE	Blu	DIN376
T112	95	D0408	Tap, Gun, VA	M	VA	HSSE	TiCN	DIN371
T113	95	D0408	Tap, Gun, VA	M	VA	HSSE	TiCN	DIN376
T114	96	D0402	Tap, Gun, VA PM	M	VA PM	PM-HSSE V3	Blu	DIN371
T115	96	D0402	Tap, Gun, VA PM	M	VA PM	PM-HSSE V3	Blu	DIN376
T116	96	D0408	Tap, Gun, VA PM	M	VA PM	PM-HSSE V3	TiCN	DIN371
T117	96	D0408	Tap, Gun, VA PM	M	VA PM	PM-HSSE V3	TiCN	DIN376
T118	96	D0408	Tap, Gun, VA PM, IK	M	VA PM - IK	PM-HSSE V3	TiCN	DIN371
T119	96	D0408	Tap, Gun, VA PM, IK	M	VA PM - IK	PM-HSSE V3	TiCN	DIN376
T120	97	D0408	Tap, Gun, VA DH	M	VA DH	PM-HSSE V3	TiCN	DIN371
T121	97	D0408	Tap, Gun, VA DH	M	VA DH	PM-HSSE V3	TiCN	DIN376
T122	93	D0402	Tap, Gun, W	M	W	HSSE	Ni	DIN371
T123	93	D0402	Tap, Gun, W	M	W	HSSE	Ni	DIN376
T124	93	D0402	Tap, Gun, W	M	W	HSSE	Blu	DIN371
T125	93	D0402	Tap, Gun, W	M	W	HSSE	Blu	DIN376
T126	93	D0404	Tap, Gun, Cu	M	Cu	HSSE	CrN	DIN371
T127	93	D0404	Tap, Gun, Cu	M	Cu	HSSE	CrN	DIN376

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Taps

Catalogue Code	Page No.	Product Group	Description	Thread	Geometry Type	Tool Material	Surface Finish	Standard
T128	94	D0402	Tap, Gun, W-AZ	M	W - AZ	HSSE	Brt	DIN371
T129	94	D0402	Tap, Gun, W-AZ	M	W - AZ	HSSE	Brt	DIN376
T130	94	D0406	Tap, Gun, W-AZ	M	W - AZ	HSSE	TiN	DIN371
T131	94	D0406	Tap, Gun, W-AZ	M	W - AZ	HSSE	TiN	DIN376
T134	98	D0402	Tap, Gun, NH	M	NH	PM-HSSE V3	Blu	DIN371
T135	98	D0402	Tap, Gun, NH	M	NH	PM-HSSE V3	Blu	DIN376
T140	98	D0410	Tap, Gun, NH	M	NH	PM-HSSE V3	TiAlN	DIN371
T141	98	D0410	Tap, Gun, NH	M	NH	PM-HSSE V3	TiAlN	DIN376
T142	98	D0410	Tap, Gun, NH, IK	M	NH - IK	PM-HSSE V3	TiAlN	DIN371
T143	98	D0410	Tap, Gun, NH, IK	M	NH - IK	PM-HSSE V3	TiAlN	DIN376
T144	99	D0402	Tap, Gun, H	M	H	PM-HSS Co	Blu	DIN371
T145	99	D0402	Tap, Gun, H	M	H	PM-HSS Co	Blu	DIN376
T146	99	D0408	Tap, Gun, H	M	H	PM-HSS Co	TiCN	DIN371
T147	99	D0408	Tap, Gun, H	M	H	PM-HSS Co	TiCN	DIN376
T148	99	D0408	Tap, Gun, H, IK	M	H - IK	PM-HSS Co	TiCN	DIN371
T149	99	D0408	Tap, Gun, H, IK	M	H - IK	PM-HSS Co	TiCN	DIN376
T152	114	D0408	Tap, Spiral Flute, L12 Ti	M	Ti	PM-HSS Co	TiCN	DIN371
T153	114	D0408	Tap, Spiral Flute, L12 Ti	M	Ti	PM-HSS Co	TiCN	DIN376
T154	127	D0402	Tap, Gun, N	MF	N	HSSE	Brt	DIN374
T155	127	D0402	Tap, Gun, N	MF	N	HSSE	Brt	DIN374
T156	127	D0402	Tap, Gun, N	MF	N	HSSE	Blu	DIN374
T157	127	D0406	Tap, Gun, N	MF	N	HSSE	TiN	DIN374
T158	130	D0402	Tap, Gun, VA	MF	VA	HSSE	Blu	DIN374
T159	131	D0402	Tap, Gun, VA PM	MF	VA PM	PM-HSSE V3	Blu	DIN374
T160	131	D0408	Tap, Gun, VA PM	MF	VA PM	PM-HSSE V3	TiCN	DIN374
T161*	130	D0408	Tap, Gun, VA	MF	VA	HSSE	TiCN	DIN374
T163	132	D0410	Tap, Gun, NH	MF	NH	PM-HSSE V3	TiAlN	DIN374
T164	144	D0402	Tap, Gun, N	UNC	N	HSSE	Brt	DIN2184-1
T165	144	D0402	Tap, Gun, N	UNC	N	HSSE	Brt	DIN2184-1
T166	144	D0402	Tap, Gun, N	UNC	N	HSSE	Blu	DIN2184-1
T167	144	D0406	Tap, Gun, N	UNC	N	HSSE	TiN	DIN2184-1
T168	148	D0402	Tap, Gun, NH	UNC	NH	PM-HSSE V3	Blu	DIN2184-1
T169	148	D0410	Tap, Gun, NH	UNC	NH	PM-HSSE V3	TiAlN	DIN2184-1
T170	146	D0402	Tap, Gun, VA	UNC	VA	HSSE	Blu	DIN2184-1
T171	146	D0408	Tap, Gun, VA	UNC	VA	HSSE	TiCN	DIN2184-1
T172	149	D0402	Tap, Gun, H	UNC	H	PM-HSS Co	Blu	DIN2184-1
T173	161	D0402	Tap, Gun, N	UNF	N	HSSE	Brt	DIN2184-1
T174	161	D0402	Tap, Gun, N	UNF	N	HSSE	Brt	DIN2184-1
T175	161	D0406	Tap, Gun, N	UNF	N	HSSE	TiN	DIN2184-1
T176	163	D0402	Tap, Gun, VA	UNF	VA	HSSE	Blu	DIN2184-1
T177	163	D0408	Tap, Gun, VA	UNF	VA	HSSE	TiCN	DIN2184-1
T178	172	D0402	Tap, Gun, N	G (BSPF)	N	HSSE	Brt	DIN5156
T179	172	D0402	Tap, Gun, N	G (BSPF)	N	HSSE	Blu	DIN5156
T180	172	D0406	Tap, Gun, N	G (BSPF)	N	HSSE	TiN	DIN5156
T181	174	D0402	Tap, Gun, VA	G (BSPF)	VA	HSSE	Blu	DIN5156
T183	100	D0402	Tap, Spiral Flute, R15 N	M	N	HSSE	Brt	DIN371
T184	100	D0402	Tap, Spiral Flute, R15 N	M	N	HSSE	Brt	DIN376
T185	100	D0406	Tap, Spiral Flute, R15 N	M	N	HSSE	TiN	DIN371
T186	100	D0406	Tap, Spiral Flute, R15 N	M	N	HSSE	TiN	DIN376
T187	101	D0402	Tap, Spiral Flute, R40 N	M	N	HSSE	Brt	DIN371
T188	102	D0402	Tap, Spiral Flute, R40 N	M	N	HSSE	Brt	DIN376
T189	101	D0402	Tap, Spiral Flute, R40 N	M	N	HSSE	Blu	DIN371
T190	102	D0402	Tap, Spiral Flute, R40 N	M	N	HSSE	Blu	DIN376
T191	103	D0402	Tap, Spiral Flute, R40 N	M	N	HSSE	Brt	DIN371
T192	103	D0402	Tap, Spiral Flute, R40 N	M	N	HSSE	Brt	DIN376
T193	103	D0402	Tap, Spiral Flute, R40 N	M	N	HSSE	Brt	DIN371

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Taps

Catalogue Code	Page No.	Product Group	Description	Thread	Geometry Type	Tool Material	Surface Finish	Standard
T194	103	D0402	Tap, Spiral Flute, R40 N	M	N	HSSE	Brt	DIN376
T195	103	D0402	Tap, Spiral Flute, L40 N	M	N	HSSE	Brt	DIN371
T196	103	D0402	Tap, Spiral Flute, L40 N	M	N	HSSE	Brt	DIN376
T197	108	D0402	Tap, Spiral Flute, R45 VA DH	M	VA DH	HSSE	Blu	DIN371
T198	108	D0402	Tap, Spiral Flute, R45 VA DH	M	VA DH	HSSE	Blu	DIN371
T199	108	D0402	Tap, Spiral Flute, R45 VA DH	M	VA DH	HSSE	Blu	DIN376
T200	108	D0402	Tap, Spiral Flute, R45 VA DH	M	VA DH	HSSE	Blu	DIN376
T201	108	D0408	Tap, Spiral Flute, R45 VA DH	M	VA DH	HSSE	TiCN	DIN371
T202	108	D0408	Tap, Spiral Flute, R45 VA DH	M	VA DH	HSSE	TiCN	DIN376
T205	109	D0408	Tap, Spiral Flute, R50 VA PM	M	VA PM	PM-HSSE V3	TiCN	DIN371
T206	109	D0408	Tap, Spiral Flute, R50 VA PM	M	VA PM	PM-HSSE V3	TiCN	DIN376
T207	110	D0408	Tap, Spiral Flute, R50 VA PM, IK	M	VA PM - IK	PM-HSSE V3	TiCN	DIN371
T208	110	D0408	Tap, Spiral Flute, R50 VA PM, IK	M	VA PM - IK	PM-HSSE V3	TiCN	DIN376
T209	112	D0402	Tap, Spiral Flute, R15 H	M	H	PM-HSS Co	Blu	DIN371
T210	112	D0402	Tap, Spiral Flute, R15 H	M	H	PM-HSS Co	Blu	DIN376
T211	112	D0408	Tap, Spiral Flute, R15 H	M	H	PM-HSS Co	TiCN	DIN371
T212	112	D0408	Tap, Spiral Flute, R15 H	M	H	PM-HSS Co	TiCN	DIN376
T213	112	D0408	Tap, Spiral Flute, R15 H, IK	M	H - IK	PM-HSS Co	TiCN	DIN371
T214	112	D0408	Tap, Spiral Flute, R15 H, IK	M	H - IK	PM-HSS Co	TiCN	DIN376
T215	113	D0408	Tap, Spiral Flute, R15 Ti	M	Ti	PM-HSS Co	TiCN	DIN371
T216	113	D0408	Tap, Spiral Flute, R15 Ti	M	Ti	PM-HSS Co	TiCN	DIN376
T217	115	D0408	Tap, Spiral Flute, R10 Ni	M	Ni	PM-HSS Co	TiCN	DIN371
T218	115	D0408	Tap, Spiral Flute, R10 Ni	M	Ni	PM-HSS Co	TiCN	DIN376
T221	111	D0402	Tap, Spiral Flute, R40 NH	M	NH	PM-HSSE V3	Blu	DIN371
T222	111	D0402	Tap, Spiral Flute, R40 NH	M	NH	PM-HSSE V3	Blu	DIN376
T227	111	D0410	Tap, Spiral Flute, R40 NH	M	NH	PM-HSSE V3	TiAlN	DIN371
T228	111	D0410	Tap, Spiral Flute, R40 NH	M	NH	PM-HSSE V3	TiAlN	DIN376
T229	111	D0410	Tap, Spiral Flute, R40 NH, IK	M	NH - IK	PM-HSSE V3	TiAlN	DIN371
T230	111	D0410	Tap, Spiral Flute, R40 NH, IK	M	NH - IK	PM-HSSE V3	TiAlN	DIN376
T231	106	D0402	Tap, Spiral Flute, R45 Al	M	Al	HSSE	Brt	DIN371
T233	106	D0404	Tap, Spiral Flute, R45 Al	M	Al	HSSE	CrN	DIN371
T234	106	D0404	Tap, Spiral Flute, R45 Al	M	Al	HSSE	CrN	DIN376
T235	107	D0402	Tap, Spiral Flute, R45 W	M	W	HSSE	Ni	DIN371
T236	107	D0402	Tap, Spiral Flute, R45 W	M	W	HSSE	Ni	DIN376
T237	107	D0402	Tap, Spiral Flute, R45 W	M	W	HSSE	Blu	DIN371
T238	107	D0402	Tap, Spiral Flute, R45 W	M	W	HSSE	Blu	DIN376
T239	107	D0404	Tap, Spiral Flute, R45 Cu	M	Cu	HSSE	CrN	DIN371
T240	107	D0404	Tap, Spiral Flute, R45 Cu	M	Cu	HSSE	CrN	DIN376
T241	107	D0406	Tap, Spiral Flute, R45 W	M	W	HSSE	TiN	DIN371
T242	107	D0406	Tap, Spiral Flute, R45 W	M	W	HSSE	TiN	DIN376
T243*	134	D0402	Tap, Spiral Flute, R15 N	MF	N	HSSE	Brt	DIN374
T244*	134	D0406	Tap, Spiral Flute, R15 N	MF	N	HSSE	TiN	DIN374
T245	135	D0402	Tap, Spiral Flute, R40 N	MF	N	HSSE	Brt	DIN374
T247	135	D0402	Tap, Spiral Flute, R40 N	MF	N	HSSE	Blu	DIN374
T248*	135	D0406	Tap, Spiral Flute, R40 N	MF	N	HSSE	TiN	DIN374
T249	138	D0402	Tap, Spiral Flute, R45 VA DH	MF	VA DH	HSSE	Blu	DIN374
T250*	139	D0402	Tap, Spiral Flute, R50 VA PM	MF	VA PM	PM-HSSE V3	Blu	DIN374
T251	138	D0408	Tap, Spiral Flute, R45 VA DH	MF	VA DH	HSSE	TiCN	DIN374
T252	139	D0408	Tap, Spiral Flute, R50 VA PM	MF	VA PM	PM-HSSE V3	TiCN	DIN374
T254*	140	D0410	Tap, Spiral Flute, R40 NH	MF	NH	PM-HSSE V3	TiAlN	DIN374
T255	150	D0402	Tap, Spiral Flute, R15 N	UNC	N	HSSE	Brt	DIN2184-1
T256	150	D0406	Tap, Spiral Flute, R15 N	UNC	N	HSSE	TiN	DIN2184-1
T257	150	D0402	Tap, Spiral Flute, R15 N	UNC	N	HSSE	Brt	DIN2184-1
T258	151	D0402	Tap, Spiral Flute, R40 N	UNC	N	HSSE	Brt	DIN2184-1
T259	151	D0402	Tap, Spiral Flute, R40 N	UNC	N	HSSE	Brt	DIN2184-1
T260	151	D0402	Tap, Spiral Flute, R40 N	UNC	N	HSSE	Blu	DIN2184-1

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Taps

Catalogue Code	Page No.	Product Group	Description	Thread	Geometry Type	Tool Material	Surface Finish	Standard
T261	153	D0402	Tap, Spiral Flute, R45 VA DH	UNC	VA DH	HSSE	Blu	DIN2184-1
T262	153	D0408	Tap, Spiral Flute, R45 VA DH	UNC	VA DH	HSSE	TiCN	DIN2184-1
T263	155	D0402	Tap, Spiral Flute, R40 VA	8UN	VA	HSSE	Brt	DIN2184-1
T264	155	D0408	Tap, Spiral Flute, R40 VA	8UN	VA	HSSE	TiCN	DIN2184-1
T265*	157	D0402	Tap, Spiral Flute, R15 H	UNC	H	PM-HSS Co	Blu	DIN2184-1
T266	156	D0402	Tap, Spiral Flute, R40 NH	UNC	NH	PM-HSSE V3	Blu	DIN2184-1
T267	156	D0410	Tap, Spiral Flute, R40 NH	UNC	NH	PM-HSSE V3	TiAlN	DIN2184-1
T273*	151	D0406	Tap, Spiral Flute, R40 N	UNC	N	HSSE	TiN	DIN2184-1
T274	165	D0402	Tap, Spiral Flute, R15 N	UNF	N	HSSE	Brt	DIN2184-1
T275	166	D0402	Tap, Spiral Flute, R40 N	UNF	N	HSSE	Brt	DIN2184-1
T276	168	D0402	Tap, Spiral Flute, R45 VA DH	UNF	VA DH	HSSE	Blu	DIN2184-1
T277	168	D0408	Tap, Spiral Flute, R45 VA DH	UNF	VA DH	HSSE	TiCN	DIN2184-1
T278	176	D0402	Tap, Spiral Flute, R15 N	G (BSPF)	N	HSSE	Brt	DIN5156
T279	176	D0406	Tap, Spiral Flute, R15 N	G (BSPF)	N	HSSE	TiN	DIN5156
T281	177	D0402	Tap, Spiral Flute, R40 N	G (BSPF)	N	HSSE	Brt	DIN5156
T282	177	D0402	Tap, Spiral Flute, R40 N	G (BSPF)	N	HSSE	Blu	DIN5156
T283*	177	D0406	Tap, Spiral Flute, R40 N	G (BSPF)	N	HSSE	TiN	DIN5156
T284	178	D0402	Tap, Spiral Flute, R45 VA	G (BSPF)	VA	HSSE	Blu	DIN5156
T285	178	D0408	Tap, Spiral Flute, R45 VA	G (BSPF)	VA	HSSE	TiCN	DIN5156
T286	82	D0402	Tap, Straight Flute, N	M	N	HSSE	Brt	DIN371
T287	82	D0402	Tap, Straight Flute, N	M	N	HSSE	Brt	DIN376
T288*	82	D0406	Tap, Straight Flute, N	M	N	HSSE	TiN	DIN371
T289*	82	D0406	Tap, Straight Flute, N	M	N	HSSE	TiN	DIN376
T290	83	D0402	Tap, Straight Flute, GG	M	GG	HSSE	Ni + Blu	DIN371
T291	83	D0402	Tap, Straight Flute, GG	M	GG	HSSE	Ni + Blu	DIN376
T292	83	D0408	Tap, Straight Flute, GG	M	GG	HSSE	TiCN	DIN371
T293	83	D0408	Tap, Straight Flute, GG	M	GG	HSSE	TiCN	DIN376
T294	86	D0408	Tap, Straight Flute, XH	M	XH	SPM	TiCN	-
T295	86	D0408	Tap, Straight Flute, XH	M	XH	SPM	TiCN	-
T296	87	D0414	Tap, Straight Flute, VH	M	VH	VHM	TiCN	DIN371/376
T297	87	D0414	Tap, Straight Flute, VH	M	VH	VHM	TiCN	DIN371/376
T298	122	D0402	Tap, Straight Flute, N	MF	N	HSSE	Brt	DIN374
T299	122	D0406	Tap, Straight Flute, N	MF	N	HSSE	TiN	DIN374
T300	123	D0402	Tap, Straight Flute, GG	MF	GG	HSSE	Ni + Blu	DIN374
T301	123	D0408	Tap, Straight Flute, GG	MF	GG	HSSE	TiCN	DIN374
T302	143	D0402	Tap, Straight Flute, GG	UNC	GG	HSSE	Ni + Blu	DIN2184-1
T303	143	D0408	Tap, Straight Flute, GG	UNC	GG	HSSE	TiCN	DIN2184-1
T304	170	D0402	Tap, Straight Flute, N	G (BSPF)	N	HSSE	Brt	DIN5156
T305	170	D0406	Tap, Straight Flute, N	G (BSPF)	N	HSSE	TiN	DIN5156
T306	171	D0402	Tap, Straight Flute, GG	G (BSPF)	GG	HSSE	Ni + Blu	DIN5156
T307	171	D0408	Tap, Straight Flute, GG	G (BSPF)	GG	HSSE	TiCN	DIN5156
T308	181	D0402	Tap, Straight Flute, UNI	NPT	UNI	HSSE	Brt	DIN2184-1
T309	119	D0402	Tap, Forming, with no groove	M	N	HSSE	Brt	DIN2174
T311	119	D0402	Tap, Forming, with no groove	M	N	HSSE	Brt	DIN2174
T313	119	D0406	Tap, Forming, with no groove	M	N	HSSE	TiN	DIN2174
T315	119	D0406	Tap, Forming, with no groove	M	N	HSSE	TiN	DIN2174
T319	120	D0408	Tap, Forming, with multi coolant groove	M	N	HSSE	TiCN	DIN2174
T320	120	D0408	Tap, Forming, with multi coolant groove	M	N	HSSE	TiCN	DIN2174
T321	120	D0408	Tap, Forming, with multi coolant groove	M	N	HSSE	TiCN	DIN2174
T322	120	D0408	Tap, Forming, with multi coolant groove	M	N	HSSE	TiCN	DIN2174
T323	120	D0408	Tap, Forming, with multi coolant groove	M	N	HSSE	TiCN	DIN2174
T324	120	D0408	Tap, Forming, with multi coolant groove	M	N	HSSE	TiCN	DIN2174
T325	121	D0410	Tap, Forming, with multi coolant groove, UNI	M	UNI	SPM	TiAlN	DIN2174
T326	121	D0410	Tap, Forming, with multi coolant groove, UNI	M	UNI	SPM	TiAlN	DIN2174
T327	121	D0410	Tap, Forming, with multi coolant groove, UNI, IK	M	UNI - IK	SPM	TiAlN	DIN2174
T328	121	D0410	Tap, Forming, with multi coolant groove, UNI, IK	M	UNI - IK	SPM	TiAlN	DIN2174

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Taps

Catalogue Code	Page No.	Product Group	Description	Thread	Geometry Type	Tool Material	Surface Finish	Standard
T329	120	D0404	Tap, Forming, with multi coolant groove, Cu	M	Cu	HSSE	CrN	DIN2174
T330	120	D0404	Tap, Forming, with multi coolant groove, Cu	M	Cu	HSSE	CrN	DIN2174
T335	85	D0408	Tap, Straight Flute, DC	M	DC	PM-HSS Co	TiCN	DIN371
T336	85	D0408	Tap, Straight Flute, DC	M	DC	PM-HSS Co	TiCN	DIN376
T337	91	D0402	Tap, Gun, Extra Length, N	M	N	HSSE	Brt	-
T338	91	D0402	Tap, Gun, Extra Length, N	M	N	HSSE	Brt	-
T339	104	D0402	Tap, Spiral Flute, Extra Length, R40 N	M	N	HSSE	Brt	-
T340	104	D0402	Tap, Spiral Flute, Extra Length, R40 N	M	N	HSSE	Brt	-
T343	125	D0408	Tap, Straight Flute, XH	MF	XH	SPM	TiCN	-
T344	125	D0408	Tap, Straight Flute, XH	MF	XH	SPM	TiCN	-
T345	126	D0414	Tap, Straight Flute, VH	MF	VH	VHM	TiCN	DIN371/376
T346	126	D0414	Tap, Straight Flute, VH	MF	VH	VHM	TiCN	DIN371/376
T349	175	D0402	Tap, Gun, VA PM	G (BSPF)	VA PM	PM-HSSE V3	Blu	DIN5156
T350	175	D0408	Tap, Gun, VA PM	G (BSPF)	VA PM	PM-HSSE V3	TiCN	DIN5156
T351	179	D0402	Tap, Spiral Flute, R50 VA PM	G (BSPF)	VA PM	PM-HSSE V3	Blu	DIN5156
T352	179	D0408	Tap, Spiral Flute, R50 VA PM	G (BSPF)	VA PM	PM-HSSE V3	TiCN	DIN5156
T357	85	D0408	Tap, Straight Flute, DC, IK	M	DC - IK	PM-HSS Co	TiCN	DIN371
T358	85	D0408	Tap, Straight Flute, DC, IK	M	DC - IK	PM-HSS Co	TiCN	DIN376
T359	95	D0402	Tap, Gun, VA	M	VA - 6G	HSSE	Blu	DIN371
T360	95	D0402	Tap, Gun, VA	M	VA - 6G	HSSE	Blu	DIN376
T361	180	D0402	Tap, Forming, with multi coolant groove	G (BSPF)	N	HSSE	Brt	DIN5156
T363	180	D0408	Tap, Forming, with multi coolant groove	G (BSPF)	N	HSSE	TiCN	DIN5156
T365	79	D0412	Tap, Spiral Flute, Synchro, L20	M	~DIN1835-B /HSC	PM-HSSE V3	TiCN	-
T367	79	D0412	Tap, Spiral Flute, Synchro, L20, IK	M	~DIN1835-B /HSC	PM-HSSE V3	TiCN	-
T369	80	D0412	Tap, Spiral Flute, Synchro, R45 Al	M	~DIN1835-B /HSC	PM-HSSE V3	CrN	-
T371	80	D0412	Tap, Spiral Flute, Synchro, R45 Al, IK	M	~DIN1835-B /HSC	PM-HSSE V3	CrN	-
T373	78	D0412	Tap, Spiral Flute, Synchro, R50	M	~DIN1835-B /HSC	PM-HSSE V3	TiCN	-
T375	78	D0412	Tap, Spiral Flute, Synchro, R50, IK	M	~DIN1835-B /HSC	PM-HSSE V3	TiCN	-
T377	77	D0412	Tap, Gun, Synchro	M	~DIN1835-B /HSC	PM-HSSE V3	TiCN	-
T379	77	D0412	Tap, Gun, Synchro, IK	M	~DIN1835-B /HSC	PM-HSSE V3	TiCN	-
T381	81	D0412	Tap, Forming, Synchro	M	~DIN1835-B /HSC	PM-HSSE V3	TiN	-
T383	81	D0412	Tap, Forming, Synchro, IK	M	~DIN1835-B /HSC	PM-HSSE V3	TiN	-
T648	90	D0402	Tap, Gun, N, Left Hand	M	N - LH	HSSE	Brt	DIN371
T649	90	D0402	Tap, Gun, N, Left Hand	M	N - LH	HSSE	Brt	DIN376
T654	132	D0402	Tap, Gun, NH	MF	NH UNI	PM-HSSE V3	Blu	DIN374
T655	140	D0402	Tap, Spiral Flute, R40 NH	MF	NH UNI	PM-HSSE V3	Blu	DIN374
T666	149	D0408	Tap, Gun, H	UNC	H	PM-HSS Co	TiCN	DIN2184-1
T667	157	D0408	Tap, Spiral Flute, R15 H	UNC	H	PM-HSS Co	TiCN	DIN2184-1
T668	124	D0408	Tap, Straight Flute, DC	MF	DC	PM-HSS Co	TiCN	DIN374
T669	124	D0408	Tap, Straight Flute, DC, IK	MF	DC	PM-HSS Co	TiCN	DIN374
T670	84	D0414	Tap, Straight Flute, GG	M	GG	VHM	TiCN	DIN371
T671	84	D0414	Tap, Straight Flute, GG	M	GG	VHM	TiCN	DIN376
T676	109	D0408	Tap, Spiral Flute, R50 VA PM	M	VA PM	PM-HSSE V3	TiCN	DIN371
T677	109	D0408	Tap, Spiral Flute, R50 VA PM	M	VA PM	PM-HSSE V3	TiCN	DIN376
T678	109	D0408	Tap, Spiral Flute, R50 VA PM	M	VA PM	PM-HSSE V3	TiCN	DIN371
T679	109	D0408	Tap, Spiral Flute, R50 VA PM	M	VA PM	PM-HSSE V3	TiCN	DIN376
T680	96	D0408	Tap, Gun, VA PM	M	VA PM	PM-HSSE V3	TiCN	DIN371
T681	96	D0408	Tap, Gun, VA PM	M	VA PM	PM-HSSE V3	TiCN	DIN376
T684	105	D0410	Tap, Spiral Flute, R50 *Black Magic*	M	UNI	PM-HSSE V3	Hardlube	DIN371
T685	105	D0410	Tap, Spiral Flute, R50 *Black Magic*	M	UNI	PM-HSSE V3	Hardlube	DIN376
T686	136	D0410	Tap, Spiral Flute, R50 *Black Magic*	MF	UNI	PM-HSSE V3	Hardlube	DIN374
T687	92	D0410	Tap, Gun, *Black Magic*	M	UNI	PM-HSSE V3	Hardlube	DIN371
T688	92	D0410	Tap, Gun, *Black Magic*	M	UNI	PM-HSSE V3	Hardlube	DIN376
T689	129	D0410	Tap, Gun, *Black Magic*	MF	UNI	PM-HSSE V3	Hardlube	DIN374
T691	152	D0410	Tap, Spiral Flute, R50 *Black Magic*	UNC	UNI	PM-HSSE V3	Hardlube	DIN2184-1
T692	167	D0410	Tap, Spiral Flute, R50 *Black Magic*	UNF	UNI	PM-HSSE V3	Hardlube	DIN2184-1

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Taps

Catalogue Code	Page No.	Product Group	Description	Thread	Geometry Type	Tool Material	Surface Finish	Standard
T693	145	D0410	Tap, Gun, *Black Magic*	UNC	UNI	PM-HSSE V3	Hardlube	DIN2184-1
T694	162	D0410	Tap, Gun, *Black Magic*	UNF	UNI	PM-HSSE V3	Hardlube	DIN2184-1
T695	154	D0408	Tap, Spiral Flute, R50 VA PM	UNC	VA PM	PM-HSSE V3	TiCN	DIN2184-1
T696	169	D0408	Tap, Spiral Flute, R50 VA PM	UNF	VA PM	PM-HSSE V3	TiCN	DIN2184-1
T697	147	D0408	Tap, Gun, VA PM	UNC	VA PM	PM-HSSE V3	TiCN	DIN2184-1
T698	164	D0408	Tap, Gun, VA PM	UNF	VA PM	PM-HSSE V3	TiCN	DIN2184-1
T700	173	D0410	Tap, Gun, *Black Magic*	G (BSPF)	UNI	PM-HSSE V3	Hardlube	DIN5156
T701	166	D0402	Tap, Spiral Flute, R40 N	UNF	N	PM-HSSE V3	Blu	DIN2184-1
T702	161	D0402	Tap, Gun, N	UNF	N	PM-HSSE V3	Blu	DIN2184-1
T703	137	D0404	Tap, Spiral Flute, R45 Al	MF	Al	HSSE	CrN	DIN374
T707	141	D0408	Tap, Spiral Flute, R15 H	MF	H	PM-HSS Co	TiCN	DIN374
T710	133	D0408	Tap, Gun, H	MF	H	PM-HSS Co	TiCN	DIN374
T741	84	D0414	Tap, Straight Flute, GG, IK	M	GG	VHM	TiCN	DIN371
T742	84	D0414	Tap, Straight Flute, GG, IK	M	GG	VHM	TiCN	DIN376
T743	123	D0414	Tap, Straight Flute, GG	MF	GG	VHM	TiCN	DIN374
T744	123	D0414	Tap, Straight Flute, GG, IK	MF	GG	VHM	TiCN	DIN374
T751	121	D0410	Tap, Forming, with multi coolant groove, UNI	M	UNI	SPM	TiAlN	DIN2174
T752	121	D0410	Tap, Forming, with multi coolant groove, UNI	M	UNI	SPM	TiAlN	DIN2174
T754	79	D0412	Tap, Spiral Flute, Synchro, L20	MF	~DIN1835-B /HSC	PM-HSSE V3	TiCN	-
T756	79	D0412	Tap, Spiral Flute, Synchro, L20, IK	MF	~DIN1835-B /HSC	PM-HSSE V3	TiCN	-
T758	80	D0412	Tap, Spiral Flute, Synchro, R45 Al	MF	~DIN1835-B /HSC	PM-HSSE V3	CrN	-
T760	80	D0412	Tap, Spiral Flute, Synchro, R45 Al, IK	MF	~DIN1835-B /HSC	PM-HSSE V3	CrN	-
T762	78	D0412	Tap, Spiral Flute, Synchro, R50	MF	~DIN1835-B /HSC	PM-HSSE V3	TiCN	-
T764	78	D0412	Tap, Spiral Flute, Synchro, R50, IK	MF	~DIN1835-B /HSC	PM-HSSE V3	TiCN	-
T766	77	D0412	Tap, Gun, Synchro	MF	~DIN1835-B /HSC	PM-HSSE V3	TiCN	-
T768	77	D0412	Tap, Gun, Synchro, IK	MF	~DIN1835-B /HSC	PM-HSSE V3	TiCN	-
T770	81	D0412	Tap, Forming, Synchro	MF	~DIN1835-B /HSC	PM-HSSE V3	TiN	-
T772	81	D0412	Tap, Forming, Synchro, IK	MF	~DIN1835-B /HSC	PM-HSSE V3	TiN	-
T773	142	D0408	Tap, Forming, N	MF	~DIN1835-B /HSC	HSSE	TiCN	DIN2174
T784	117	D0408	Tap, Spiral Flute, L12 Ti	MJ	Ti	PM-HSS Co	TiCN	DIN371
T785	117	D0408	Tap, Spiral Flute, L12 Ti	MJ	Ti	PM-HSS Co	TiCN	DIN376
T786	159	D0408	Tap, Spiral Flute, L12 Ti	UNJC	Ti	PM-HSS Co	TiCN	DIN2184-1
T787	159	D0408	Tap, Spiral Flute, L12 Ti	UNJF	Ti	PM-HSS Co	TiCN	DIN2184-1
T788	116	D0408	Tap, Spiral Flute, R15 Ti	MJ	Ti	PM-HSS Co	TiCN	DIN371
T789	116	D0408	Tap, Spiral Flute, R15 Ti	MJ	Ti	PM-HSS Co	TiCN	DIN376
T790	158	D0408	Tap, Spiral Flute, R15 Ti	UNJC	Ti	PM-HSS Co	TiCN	DIN2184-1
T791	158	D0408	Tap, Spiral Flute, R15 Ti	UNJF	Ti	PM-HSS Co	TiCN	DIN2184-1
T792	118	D0408	Tap, Spiral Flute, R10 Ni	MJ	Ni	PM-HSS Co	TiCN	DIN371
T793	118	D0408	Tap, Spiral Flute, R10 Ni	MJ	Ni	PM-HSS Co	TiCN	DIN376
T794	160	D0408	Tap, Spiral Flute, R10 Ni	UNJC	Ni	PM-HSS Co	TiCN	DIN2184-1
T795	160	D0408	Tap, Spiral Flute, R10 Ni	UNJF	Ni	PM-HSS Co	TiCN	DIN2184-1
T808	182	D0402	Tap, RC (BSPT), Straight Flute, UNI	NPT	UNI	HSSE	Brt	DIN2184-1

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Tool holding

Catalogue Code	Page No.	Product Group	Description
Z100	185	Z1104	Holder - SynchroFlex SFT Attachment
Z102	186	Z1104	Holder - NSM6 Attachment
Z103	187	Z1102	Holder - CNC High production Self Reversing
Z104	188	Z1106	Holder - Manual Machine Self Reversing
Z105	188	Z1106	Holder - Drill and Tap DNT50 Self Reversing
Z110	185	Z1110	Accessory - Collet, Round Drive ER11
Z111	185	Z1110	Accessory - Collet, Square Drive ER20
Z112	185	Z1110	Accessory - Collet, Square Drive ER25
Z113	185	Z1110	Accessory – Collet, Square Drive ER40
Z114	187	Z1110	Accessory - Collet, Square Drive ER16
Z115	188	Z1108	Tool Holding - Collet Rx30
Z116	188	Z1108	Tool Holding - Collet Rx50
Z117	186	Z1108	Tool Holding - Collet Rx70
Z119	188	Z1108	ER20 QC Adaptor for DNT50
Z130	185	Z1108	Accessory - BT Arbor, 25mm bore
Z131	188	Z1108	Tool Holding - Accessories Arbor
Z132	187	Z1102	Tool Holding CNC - Accessories Stop Arm RDT25
Z133	187	Z1102	Tool Holding CNC - Accessories Stop Arm RDT50
Z134	188	Z1108	Quill Clamp
Z135	185	Z1108	Accessory - BT Pull Stud

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CARBIDE DRILLS

▪ 3xd_1 to 12xd_1 hole depths ▪ Ultra fine grain type carbide
▪ With and without internal coolant ▪ Advanced multi-layer coatings

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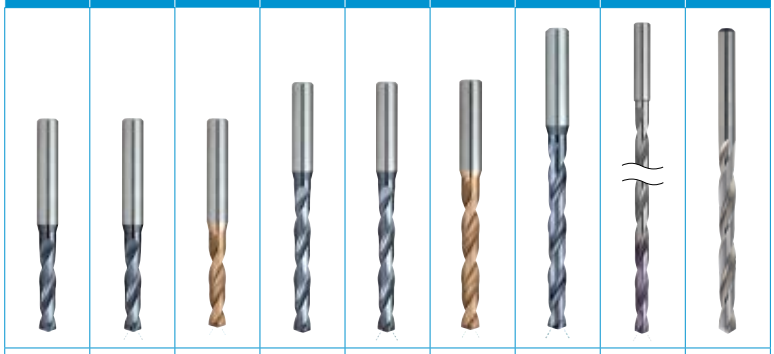
ISO	VDI	Material Group	Sutton	
P	A	Steel	N	UNI
M	R	Stainless Steel	VA	
K	F	Cast Iron	GG	
N	N	Non-Ferrous Metals, Aluminiums & Coppers	Al / W	
S	S	Titaniums & Super Alloys	Ti	Ni
H	H	Hard Materials (≥ 45 HRC)	H	

^ VDI 3323 material groups can also be determined by referring to the material cross reference listing in the application guide at the back of this Catalogue.



Page	18	18	18	22	22	22	26	28	30
Catalogue Code	D323	D329	D356	D326	D332	D358	D335	D371	D368
Material	VHM		VHM	VHM		VHM	VHM	VHM	VHM
Surface Finish	*AlCrN*		*Helica*	*AlCrN*		*Helica*	*AlCrN*	*Pertura Tip*	*Brt*
Sutton Designation	N		VA	N		VA	N		N
Standard	DIN 6537		DIN 6537	DIN 6537		DIN 6537	-	-	-
Depth of Cut	3 x D		3 x D	5 x D		5 x D	8 x D	12 x D	5 x D
Shank Tolerance	HA		HA	HA		HA	HA	HA	HA

ISO	VDI^ 3323	Material		Condition	HB	N/mm²									
P	1	Steel - Non-alloy, cast & free cutting	~ 0.15 %C	A	125	440	●	●	●	●	●	●	●	●	●
	2		~ 0.45 %C	A	190	640	●	●	●	●	●	●	●	●	●
	3			QT	250	840	●	●	●	●	●	●	●	●	○
	4		~ 0.75 %C	A	270	910	●	●	●	●	●	●	●	●	○
	5			QT	300	1010	●	●	○	●	●	○	●	●	○
	6	Steel - Low alloy & cast < 5% of alloying elements		A	180	610	●	●	●	●	●	●	●	●	○
	7			QT	275	930	●	●	○	●	●	○	●	●	○
	8			QT	300	1010	●	●	○	●	●	○	●	●	○
	9			QT	350	1180	●	●		●	●		●		
	10	Steel - High alloy, cast & tool		A	200	680	●	●	○	●	●	○	●	●	
	11			HT	325	1100	●	●		●	●		●		
	12	Steel - Corrosion resistant & cast	Ferritic / Martensitic	A	200	680		○	●		○	●			
	13		Martensitic	QT	240	810	●	●	○	●	●	○	●		
M	14.1	Stainless Steel	Austenitic	AH	180	610		○	●		○	●	○	○	
	14.2		Duplex		250	840		○	●		○	●		○	
	14.3		Precipitation Hardening		250	840	○	●	●	○	●	●			
K	15	Cast Iron - Grey (GG)	Ferritic / Pearlitic		180	610	●	●		●	●		●	●	●
	16		Pearlitic		260	880	●	●		●	●		●	○	○
	17	Cast Iron - Nodular (GGG)	Ferritic		160	570	●	●		●	●		●	●	○
	18		Pearlitic		250	840	●	●		●	●		●	○	○
	19	Cast Iron - Malleable	Ferritic		130	460	●	●		●	●		●	○	
	20		Pearlitic		230	780	●	●		●	●		●	○	
N	21	Aluminum & Magnesium - wrought alloy	Non Heat Treatable		60	210			●			●			●
	22		Heat Treatable	AH	100	360			●			●			●
	23	Aluminum & Magnesium - cast alloy ≤12% Si	Non Heat Treatable		75	270			●			●			●
	24		Heat Treatable	AH	90	320			●			●			●
	25	Al & Mg - cast alloy >12% Si	Non Heat Treatable		130	460		○	●		○	●			●
	26	Copper & Cu alloys (Brass/Bronze)	Free cutting, Pb > 1%		110	390		○			○				
	27		Brass (CuZn, CuSnZn)		90	320		○			○				
	28		Bronze (CuSn)		100	360		○			○				
	29	Non-metallic - Thermosetting & fiber-reinforced plastics													○
	30	Non-metallic - Hard rubber, wood etc.													
S	31	High temp. alloys	Fe based	A	200	680		○	●		○	●			
	32			AH	280	950		○	○		○	○			
	33		Ni / Co based	A	250	840		○	●		○	●			
	34			AH	350	1180		○	○		○	○			
	35			C	320	1080		○	○		○	○			
	36	Titanium & Ti alloys	CP Titanium		400 MPa		○	○	●	○	○	●			
	37.1		Alpha alloys		860 MPa		○	○	●	○	○	●			
	37.2		Alpha / Beta alloys	A	960 MPa		○	○	●	○	○	●			
	37.3			AH	1170 MPa			○	●		○	●			
	37.4		Beta alloys	A	830 MPa		○	○	●	○	○	●			
	37.5			AH	1400 MPa			○	●		○	●			
H	38.1	Hardened steel		HT	45 HRC		○	●		○	●				
	38.2			HT	55 HRC										
	39.1			HT	58 HRC										
	39.2			HT	62 HRC										
	40	Cast Iron	Chilled	C	400	1350	●	●		●	●			○	
	41			HT	55 HRC										

Condition: **A** (Annealed), **AH** (Age Hardened), **C** (Cast), **HT** (Hardened & Tempered), **QT** (Quenched & Tempered)

● Optimal ○ Effective

33	33	34	34	35	35	36	36	36	36		
D304	D310	D300	D306	D318	D319	D355	D364	D365	D366		
VHM		VHM		VHM		VHM					
Brt	*TiCN*	*Brt*	*TiCN*	*Brt*	*TiCN*	*Brt*	*AlCrN*	*Brt*	*AlCrN*		
NH		GG		N		NC					
-		-		ANSI B94-11		DIN 1897					
3 x D		3 x D		-		-					
HA		HA		-		-					
										VDI^ 3323	ISO
					●		●		●	1	P
					●		●		●	2	
●	●			○	●	○	●	○	●	3	
●	●			○	●	○	●	○	●	4	
●	●			○	●	○	●	○	●	5	
					●		●		●	6	
●	●			○	●	○	●	○	●	7	
●	●			○	●	○	●	○	●	8	
●	●	○	○		●		●		●	9	
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●	●				○		●		●	12	
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				○	●	○	●	○	●	14.1	M
○	○			○	●	○	●	○	●	14.2	
●	●			○	●	○	●	○	●	14.3	
●	●	●	●	○	●	○	●	○	●	15	K
●	●	●	●	○	○	○	○	○	○	16	
●	●	●	●	○	●	○	●	○	●	17	
●	●	●	●	○	○	○	○	○	○	18	
●	●	●	●	○	●	○	●	○	●	19	
●	●	●	●	○	○	○	○	○	○	20	
○	○			●		●		●		21	N
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○	○	○	○	●		●		●		23	
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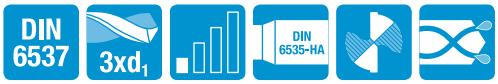
●	●	●	●	●		●		●		25	
○	○	○	○	●		●		●		26	
●	●	○	○	●		●		●		27	
○	○			●		●		●		28	
○	○					●		●		29	
										30	
					○		○		○	31	S
					○		○		○	32	
					○		○		○	33	
					○		○		○	34	
					○		○		○	35	
					○		○		○	36	
				○	○	○	○	○	○	37.1	
				○	○	○	○	○	○	37.2	
				○	○	○	○	○	○	37.3	
				○	○	○	○	○	○	37.4	
				○	○	○	○	○	○	37.5	
○	●	○	○	●	●		●		●	38.1	H
○	○			○	○	○	○	○	○	38.2	
				○	○	○	○	○	○	39.1	
				○	○	○	○	○	○	39.2	
●	●	●	●	○	○	○	○	○	○	40	
				○	○	○	○	○	○	41	

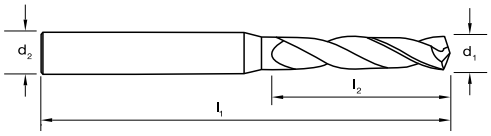
Drills Carbide 3 x D

suttontools

D323/D329 - Suitable for materials up to 1400N/mm²
- Micro geometry & surface conditioning for optimal chip control
- AlCrN for maximum tool life

D356 - Excellent solution for stainless steels & difficult super alloy type materials
- Optimised geometry ensures no work hardening and high productivity
- HELICA for outstanding oxidation resistance and hot hardness





Catalogue Code	D323	D329	D356
Product Group	A0210	A0210	A0210
Material	VHM	VHM	VHM
Surface Finish	AlCrN	AlCrN	HELICA
Application	N	N	VA
Geometry	R30	R30 - IK	R30 - IK
Point Type	140° Form C	140° Form C	140° 4 Facet Form C
Shank Form (DIN 6535)	HA	HA	HA

Size Ref.	d_1 (m7)		l_1	l_2	d_2 (h6)	Item #	Item #	Item #
0100	1.0		55	7	4	D323 0100	•	•
0110	1.1		55	7	4	D323 0110	•	•
0120	1.2		55	7	4	D323 0120	•	•
0130	1.3		55	7	4	D323 0130	•	•
0140	1.4		55	7	4	D323 0140	•	•
0150	1.5		55	14	4	D323 0150	•	•
0160	1.6		55	14	4	D323 0160	•	•
0170	1.7		55	14	4	D323 0170	•	•
0180	1.8		55	14	4	D323 0180	•	•
0190	1.9		55	14	4	D323 0190	•	•
0200	2.0		55	20	4	D323 0200	•	•
0210	2.1		55	20	4	D323 0210	•	•
0220	2.2		55	20	4	D323 0220	•	•
0230	2.3		55	20	4	D323 0230	•	•
0240	2.4		55	20	4	D323 0240	•	•
0250	2.5		55	20	4	D323 0250	•	•
0260	2.6		55	20	4	D323 0260	•	•
0270	2.7		55	20	4	D323 0270	•	•
0280	2.8		55	20	4	D323 0280	•	•
0290	2.9		55	20	4	D323 0290	•	•
0300	3.0		62	20	6	D323 0300	D329 0300	D356 0300
0310	3.1		62	20	6	D323 0310	D329 0310	D356 0310
0318	3.18	1/8	62	20	6	D323 0318	D329 0318	D356 0318
0320	3.2		62	20	6	D323 0320	D329 0320	D356 0320
0330	3.3		62	20	6	D323 0330	D329 0330	D356 0330
0340	3.4		62	20	6	D323 0340	D329 0340	D356 0340
0350	3.5		62	20	6	D323 0350	D329 0350	D356 0350
0357	3.57	9/64	62	20	6	D323 0357	D329 0357	D356 0357
0360	3.6		62	20	6	D323 0360	D329 0360	D356 0360
0370	3.7		62	20	6	D323 0370	D329 0370	D356 0370
0380	3.8		66	24	6	D323 0380	D329 0380	D356 0380
0390	3.9		66	24	6	D323 0390	D329 0390	D356 0390
0397	3.97	5/32	66	24	6	D323 0397	D329 0397	D356 0397
0400	4.0		66	24	6	D323 0400	D329 0400	D356 0400
0410	4.1		66	24	6	D323 0410	D329 0410	D356 0410
0420	4.2		66	24	6	D323 0420	D329 0420	D356 0420
0430	4.3		66	24	6	D323 0430	D329 0430	D356 0430
0437	4.37	11/64	66	24	6	D323 0437	D329 0437	D356 0437
0440	4.4		66	24	6	D323 0440	D329 0440	D356 0440
0450	4.5		66	24	6	D323 0450	D329 0450	D356 0450
0460	4.6		66	24	6	D323 0460	D329 0460	D356 0460
0470	4.7		66	24	6	D323 0470	D329 0470	D356 0470
0476	4.76	3/16	66	24	6	D323 0476	D329 0476	D356 0476
0480	4.8		66	28	6	D323 0480	D329 0480	D356 0480

ISO	P													M			K						N										S										H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
D323	●	●	●	●	●	●	●	●	●	●	●		●			○	●	●	●	●	●	●																○	○	○		○		○				●	
D329	●	●	●	●	●	●	●	●	●	●	●	○	●	○	○	●	●	●	●	●	●	●					○	○	○	○			○	○	○	○	○	○	○	○	○	○	○	●				●	
D356	●	●	●	●	○	●	○		○		●	○	●	●	●	●							●	●	●	●	●						●	○	●	○	○	●	●	●	●	●	●						

P Steel M Stainless Steel K Cast Iron N Non-Ferrous Metals S Titanium & Super Alloys H Hard Materials

● Optimal ○ Effective

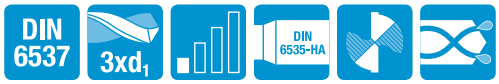
* HB & HE Shank styles available •Available on request as special manufacture. Subject to lead time.

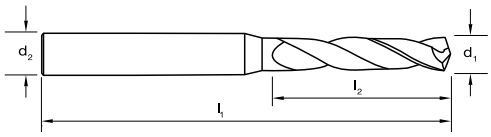
Drills Carbide 3 x D

suttontools

D323/D329 - Suitable for materials up to 1400N/mm²
- Micro geometry & surface conditioning for optimal chip control
- AlCrN for maximum tool life

D356 - Excellent solution for stainless steels & difficult super alloy type materials
- Optimised geometry ensures no work hardening and high productivity
- HELICA for outstanding oxidation resistance and hot hardness





Catalogue Code	D323	D329	D356
Product Group	A0210	A0210	A0210
Material	VHM	VHM	VHM
Surface Finish	*AlCrN*	*AlCrN*	*HELICA*
Application	N	N	VA
Geometry	R30	R30 - IK	R30 - IK
Point Type	140° Form C	140° Form C	140° 4 Facet Form C
Shank Form (DIN 6535)	HA	HA	HA

Size Ref.	d_1 (m7)		l_1	l_2	d_2 (h6)	Item #	Item #	Item #
0490	4.9		66	28	6	D323 0490	D329 0490	D356 0490
0500	5.0		66	28	6	D323 0500	D329 0500	D356 0500
0510	5.1		66	28	6	D323 0510	D329 0510	D356 0510
0516	5.16	13/64	66	28	6	D323 0516	D329 0516	D356 0516
0520	5.2		66	28	6	D323 0520	D329 0520	D356 0520
0530	5.3		66	28	6	D323 0530	D329 0530	D356 0530
0540	5.4		66	28	6	D323 0540	D329 0540	D356 0540
0550	5.5		66	28	6	D323 0550	D329 0550	D356 0550
0556	5.56	7/32	66	28	6	D323 0556	D329 0556	D356 0556
0560	5.6		66	28	6	D323 0560	D329 0560	D356 0560
0570	5.7		66	28	6	D323 0570	D329 0570	D356 0570
0580	5.8		66	28	6	D323 0580	D329 0580	D356 0580
0590	5.9		66	28	6	D323 0590	D329 0590	D356 0590
0595	5.95	15/64	66	28	6	D323 0595	D329 0595	D356 0595
0600	6.0		66	28	6	D323 0600	D329 0600	D356 0600
0610	6.1		79	34	8	D323 0610	D329 0610	D356 0610
0620	6.2		79	34	8	D323 0620	D329 0620	D356 0620
0630	6.3		79	34	8	D323 0630	D329 0630	D356 0630
0635	6.35	1/4	79	34	8	D323 0635	D329 0635	D356 0635
0640	6.4		79	34	8	D323 0640	D329 0640	D356 0640
0650	6.5		79	34	8	D323 0650	D329 0650	D356 0650
0660	6.6		79	34	8	D323 0660	D329 0660	D356 0660
0670	6.7		79	34	8	D323 0670	D329 0670	D356 0670
0676	6.76	17/64	79	34	8	D323 0676	D329 0676	D356 0676
0680	6.8		79	34	8	D323 0680	D329 0680	D356 0680
0690	6.9		79	34	8	D323 0690	D329 0690	D356 0690
0700	7.0		79	34	8	D323 0700	D329 0700	D356 0700
0710	7.1		79	41	8	D323 0710	D329 0710	D356 0710
0714	7.14	9/32	79	41	8	D323 0714	D329 0714	D356 0714
0720	7.2		79	41	8	D323 0720	D329 0720	D356 0720
0730	7.3		79	41	8	D323 0730	D329 0730	D356 0730
0740	7.4		79	41	8	D323 0740	D329 0740	D356 0740
0750	7.5		79	41	8	D323 0750	D329 0750	D356 0750
0754	7.54	19/64	79	41	8	D323 0754	D329 0754	D356 0754
0760	7.6		79	41	8	D323 0760	D329 0760	D356 0760
0770	7.7		79	41	8	D323 0770	D329 0770	D356 0770
0780	7.8		79	41	8	D323 0780	D329 0780	D356 0780
0790	7.9		79	41	8	D323 0790	D329 0790	D356 0790
0794	7.94	5/16	79	41	8	D323 0794	D329 0794	D356 0794
0800	8.0		79	41	8	D323 0800	D329 0800	D356 0800
0810	8.1		89	47	10	D323 0810	D329 0810	D356 0810
0820	8.2		89	47	10	D323 0820	D329 0820	D356 0820
0830	8.3		89	47	10	D323 0830	D329 0830	D356 0830
0833	8.33	21/64	89	47	10	D323 0833	D329 0833	D356 0833

ISO	P													M			K						N									S										H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
D323	●	●	●	●	●	●	●	●	●	●	●		●			○	●	●	●	●	●	●																○	○	○		○		○				●	
D329	●	●	●	●	●	●	●	●	●	●	●	○	●	○	○	●	●	●	●	●	●	●					○	○	○	○			○	○	○	○	○	○	○	○	○	○	○	●				●	
D356	●	●	●	●	○	●	○	○		○		●	○	●	●	●							●	●	●	●	●						●	○	●	○	○	●	●	●	●	●	●	●						

P Steel M Stainless Steel K Cast Iron N Non-Ferrous Metals S Titanium & Super Alloys H Hard Materials

● Optimal ○ Effective

* HB & HE Shank styles available

Drills Carbide 3 x D

suttontools

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- Micro geometry & surface conditioning for optimal chip control
- AlCrN for maximum tool life

D356
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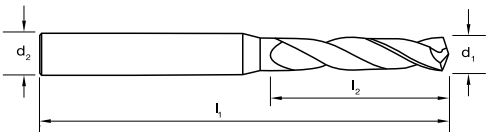
- HELICA for outstanding oxidation resistance and hot hardness



Catalogue Code	D323	D329	D356
Product Group	A0210	A0210	A0210
Material	VHM	VHM	VHM
Surface Finish	*AlCrN*	*AlCrN*	*HELICA*
Application	N	N	VA
Geometry	R30	R30 - IK	R30 - IK
Point Type	140° Form C	140° Form C	140° 4 Facet Form C
Shank Form (DIN 6535)	HA	HA	HA

Size Ref.	d_1 (m7)		l_1	l_2	d_2 (h6)	Item #	Item #	Item #
0840	8.4		89	47	10	D323 0840	D329 0840	D356 0840
0850	8.5		89	47	10	D323 0850	D329 0850	D356 0850
0860	8.6		89	47	10	D323 0860	D329 0860	D356 0860
0870	8.7		89	47	10	D323 0870	D329 0870	D356 0870
0873	8.73	11/32	89	47	10	D323 0873	D329 0873	D356 0873
0880	8.8		89	47	10	D323 0880	D329 0880	D356 0880
0890	8.9		89	47	10	D323 0890	D329 0890	D356 0890
0900	9.0		89	47	10	D323 0900	D329 0900	D356 0900
0910	9.1		89	47	10	D323 0910	D329 0910	D356 0910
0913	9.13	23/64	89	47	10	D323 0913	D329 0913	D356 0913
0920	9.2		89	47	10	D323 0920	D329 0920	D356 0920
0930	9.3		89	47	10	D323 0930	D329 0930	D356 0930
0940	9.4		89	47	10	D323 0940	D329 0940	D356 0940
0950	9.5		89	47	10	D323 0950	D329 0950	D356 0950
0953	9.53	3/8	89	47	10	D323 0953	D329 0953	D356 0953
0960	9.6		89	47	10	D323 0960	D329 0960	D356 0960
0970	9.7		89	47	10	D323 0970	D329 0970	D356 0970
0980	9.8		89	47	10	D323 0980	D329 0980	D356 0980
0990	9.9		89	47	10	D323 0990	D329 0990	D356 0990
0992	9.92	25/64	89	47	10	D323 0992	D329 0992	D356 0992
1000	10.0		89	47	10	D323 1000	D329 1000	D356 1000
1010	10.1		102	55	12	D323 1010	D329 1010	D356 1010
1020	10.2		102	55	12	D323 1020	D329 1020	D356 1020
1030	10.3		102	55	12	D323 1030	D329 1030	D356 1030
1032	10.32	13/32	102	55	12	D323 1032	D329 1032	D356 1032
1040	10.4		102	55	12	D323 1040	D329 1040	D356 1040
1050	10.5		102	55	12	D323 1050	D329 1050	D356 1050
1060	10.6		102	55	12	D323 1060	D329 1060	D356 1060
1070	10.7		102	55	12	D323 1070	D329 1070	D356 1070
1072	10.72	27/64	102	55	12	•	•	D356 1072
1080	10.8		102	55	12	D323 1080	D329 1080	D356 1080
1090	10.9		102	55	12	D323 1090	D329 1090	D356 1090
1100	11.0		102	55	12	D323 1100	D329 1100	D356 1100
1110	11.1		102	55	12	D323 1110	D329 1110	D356 1110
1111	11.11	7/16	102	55	12	D323 1111	D329 1111	D356 1111
1120	11.2		102	55	12	D323 1120	D329 1120	D356 1120
1130	11.3		102	55	12	D323 1130	D329 1130	D356 1130
1140	11.4		102	55	12	D323 1140	D329 1140	D356 1140
1150	11.5		102	55	12	D323 1150	D329 1150	D356 1150
1151	11.51	29/64	102	55	12	•	•	D356 1151
1160	11.6		102	55	12	D323 1160	D329 1160	D356 1160
1170	11.7		102	55	12	D323 1170	D329 1170	D356 1170
1180	11.8		102	55	12	D323 1180	D329 1180	D356 1180
1190	11.9		102	55	12	D323 1190	D329 1190	D356 1190

ISO	P													M			K						N										S										H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
D323	●	●	●	●	●	●	●	●	●	●	●		●			○	●	●	●	●	●	●																○	○	○		○		○			●	
D329	●	●	●	●	●	●	●	●	●	●	●	○	●	○	○	●	●	●	●	●	●	●					○	○	○	○			○	○	○	○	○	○	○	○	○	○	○	●				●	
D356	●	●	●	●	○	●	○		○		●	○	●	●	●	●							●	●	●	●	●						●	○	●	○	○	●	●	●	●	●	●						

P Steel **M** Stainless Steel **K** Cast Iron **N** Non-Ferrous Metals **S** Titanium & Super Alloys **H** Hard Materials

● Optimal ○ Effective

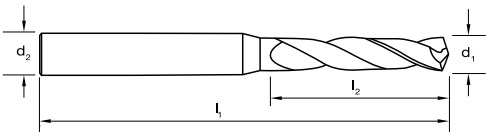
* HB & HE Shank styles available •**Available on request as special manufacture. Subject to lead time.**

Drills Carbide 3 x D

suttontools

D323/D329 - Suitable for materials up to 1400N/mm²
- Micro geometry & surface conditioning for optimal chip control
- AlCrN for maximum tool life

D356
- Excellent solution for stainless steels & difficult super alloy type materials
- Optimised geometry ensures no work hardening and high productivity
- HELICA for outstanding oxidation resistance and hot hardness



Catalogue Code	D323	D329	D356
Product Group	A0210	A0210	A0210
Material	VHM	VHM	VHM
Surface Finish	*AlCrN*	*AlCrN*	*HELICA*
Application	N	N	VA
Geometry	R30	R30 - IK	R30 - IK
Point Type	140° Form C	140° Form C	140° 4 Facet Form C
Shank Form (DIN 6535)	HA	HA	HA

Size Ref.	d_1 (m7)		l_1	l_2	d_2 (h6)	Item #	Item #	Item #
1191	11.91	15/32	102	55	12	D323 1191	D329 1191	D356 1191
1200	12.0		102	55	12	D323 1200	D329 1200	D356 1200
1231	12.30	31/64	107	60	14	•	•	D356 1231
1250	12.5		107	60	14	D323 1250	D329 1250	D356 1250
1269	12.69	1/2	107	60	14	D323 1269	D329 1269	D356 1269
1280	12.8		107	60	14	D323 1280	D329 1280	D356 1280
1300	13.0		107	60	14	D323 1300	D329 1300	D356 1300
1310	13.10	33/64	107	60	14	•	•	D356 1310
1349	13.49	17/32	107	60	14	D323 1349	D329 1349	D356 1349
1350	13.5		107	60	14	D323 1350	D329 1350	D356 1350
1380	13.8		107	60	14	D323 1380	•	•
1389	13.89	35/64	107	60	14	•	•	D356 1389
1400	14.0		107	60	14	D323 1400	D329 1400	D356 1400
1429	14.29	9/16	115	65	16	D323 1429	D329 1429	D356 1429
1450	14.5		115	65	16	D323 1450	D329 1450	D356 1450
1468	14.68	37/64	115	65	16	•	•	D356 1468
1480	14.8		115	65	16	D323 1480	•	•
1500	15.0		115	65	16	D323 1500	D329 1500	D356 1500
1508	15.08	19/32	115	65	16	•	•	D356 1508
1548	15.48	39/64	115	65	16	•	•	D356 1548
1550	15.5		115	65	16	D323 1550	D329 1550	D356 1550
1580	15.8		115	65	16	D323 1580	•	•
1588	15.88	5/8	115	65	16	D323 1588	D329 1588	D356 1588
1600	16.0		115	65	16	D323 1600	D329 1600	D356 1600
1650	16.5		123	73	18	D323 1650	D329 1650	D356 1650
1667	16.67	21/32	123	73	18	•	•	D356 1667
1680	16.8		123	73	18	D323 1680	•	•
1700	17.0		123	73	18	D323 1700	D329 1700	D356 1700
1746	17.46	11/16	123	73	18	D323 1746	D329 1746	D356 1746
1750	17.5		123	73	18	D323 1750	D329 1750	D356 1750
1780	17.8		123	73	18	D323 1780	•	•
1800	18.0		123	73	18	D323 1800	D329 1800	D356 1800
1826	18.26	23/32	131	79	20	•	•	D356 1826
1850	18.5		131	79	20	D323 1850	D329 1850	D356 1850
1900	19.0		131	79	20	D323 1900	D329 1900	D356 1900
1905	19.05	3/4	131	79	20	D323 1905	D329 1905	D356 1905
1950	19.5		131	79	20	D323 1950	D329 1950	D356 1950
2000	20.0		131	79	20	D323 2000	D329 2000	D356 2000

ISO	P													M			K						N									S										H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
D323	●	●	●	●	●	●	●	●	●	●	●		●			○	●	●	●	●	●	●																○	○	○		○		○				●	
D329	●	●	●	●	●	●	●	●	●	●	●	○	●	○	○	●	●	●	●	●	●	●					○	○	○	○			○	○	○	○	○	○	○	○	○	○	○	●				●	
D356	●	●	●	●	○	●	○	○		○		●	○	●	●	●							●	●	●	●	●						●	○	●	○	○	●	●	●	●	●	●						

P Steel M Stainless Steel K Cast Iron N Non-Ferrous Metals S Titanium & Super Alloys H Hard Materials

● Optimal ○ Effective

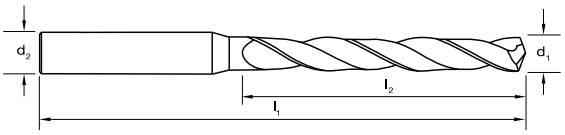
* HB & HE Shank styles available •**Available on request as special manufacture. Subject to lead time.**

Drills Carbide 5 x D

suttontools

D326/D332 - Suitable for materials up to 1400N/mm²
- Micro geometry & surface conditioning for optimal chip control
- AlCrN for maximum tool life

D358 - Excellent solution for stainless steels & difficult super alloy type materials
- Optimised geometry ensures no work hardening and high productivity
- HELICA for outstanding oxidation resistance and hot hardness



Catalogue Code	D326	D332	D358
Product Group	A0210	A0210	A0210
Material	VHM	VHM	VHM
Surface Finish	AlCrN	AlCrN	HELICA
Application	N	N	VA
Geometry	R30	R30 - IK	R30 - IK
Point Type	140° Form C	140° Form C	140° 4 Facet Form C
Shank Form (DIN 6535)	HA	HA	HA

Size Ref.	d_1 (m7)		l_1	l_2	d_2 (h6)	Item #	Item #	Item #
0300	3.0		66	28	6	D326 0300	D332 0300	D358 0300
0310	3.1		66	28	6	D326 0310	D332 0310	D358 0310
0318	3.18	1/8	66	28	6	D326 0318	D332 0318	D358 0318
0320	3.2		66	28	6	D326 0320	D332 0320	D358 0320
0330	3.3		66	28	6	D326 0330	D332 0330	D358 0330
0340	3.4		66	28	6	D326 0340	D332 0340	D358 0340
0350	3.5		66	28	6	D326 0350	D332 0350	D358 0350
0357	3.57	9/64	66	28	6	D326 0357	D332 0357	D358 0357
0360	3.6		66	28	6	D326 0360	D332 0360	D358 0360
0370	3.7		66	28	6	D326 0370	D332 0370	D358 0370
0380	3.8		74	36	6	D326 0380	D332 0380	D358 0380
0390	3.9		74	36	6	D326 0390	D332 0390	D358 0390
0397	3.97	5/32	74	36	6	D326 0397	D332 0397	D358 0397
0400	4.0		74	36	6	D326 0400	D332 0400	D358 0400
0410	4.1		74	36	6	D326 0410	D332 0410	D358 0410
0420	4.2		74	36	6	D326 0420	D332 0420	D358 0420
0430	4.3		74	36	6	D326 0430	D332 0430	D358 0430
0437	4.37	11/64	74	36	6	D326 0437	D332 0437	D358 0437
0440	4.4		74	36	6	D326 0440	D332 0440	D358 0440
0450	4.5		74	36	6	D326 0450	D332 0450	D358 0450
0460	4.6		74	36	6	D326 0460	D332 0460	D358 0460
0470	4.7		74	36	6	D326 0470	D332 0470	D358 0470
0476	4.76	3/16	74	36	6	D326 0476	D332 0476	D358 0476
0480	4.8		82	44	6	D326 0480	D332 0480	D358 0480
0490	4.9		82	44	6	D326 0490	D332 0490	D358 0490
0500	5.0		82	44	6	D326 0500	D332 0500	D358 0500
0510	5.1		82	44	6	D326 0510	D332 0510	D358 0510
0516	5.16	13/64	82	44	6	D326 0516	D332 0516	D358 0516
0520	5.2		82	44	6	D326 0520	D332 0520	D358 0520
0530	5.3		82	44	6	D326 0530	D332 0530	D358 0530
0540	5.4		82	44	6	D326 0540	D332 0540	D358 0540
0550	5.5		82	44	6	D326 0550	D332 0550	D358 0550
0556	5.56	7/32	82	44	6	D326 0556	D332 0556	D358 0556
0560	5.6		82	44	6	D326 0560	D332 0560	D358 0560
0570	5.7		82	44	6	D326 0570	D332 0570	D358 0570
0580	5.8		82	44	6	D326 0580	D332 0580	D358 0580
0590	5.9		82	44	6	D326 0590	D332 0590	D358 0590
0595	5.95	15/64	82	44	6	D326 0595	D332 0595	D358 0595
0600	6.0		82	44	6	D326 0600	D332 0600	D358 0600
0610	6.1		91	53	8	D326 0610	D332 0610	D358 0610

ISO	P												M			K						N										S										H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
D326	●	●	●	●	●	●	●	●	●	●	●		●			○	●	●	●	●	●	●																○	○	○		○		○			●	
D332	●	●	●	●	●	●	●	●	●	●	●	○	●	○	○	●	●	●	●	●	●	●					○	○	○	○			○	○	○	○	○	○	○	○	○	○	○	●				●	
D358	●	●	●	●	○	●	○		○		●	○	●	●	●	●							●	●	●	●	●						●	○	●	○	○	●	●	●	●	●	●						

P Steel M Stainless Steel K Cast Iron N Non-Ferrous Metals S Titanium & Super Alloys H Hard Materials

● Optimal ○ Effective

* HB & HE Shank styles available

Drills Carbide 5 x D

suttontools

D326/D332 - Suitable for materials up to 1400N/mm²
- Micro geometry & surface conditioning for optimal chip control
- AlCrN for maximum tool life

D358 - Excellent solution for stainless steels & difficult super alloy type materials
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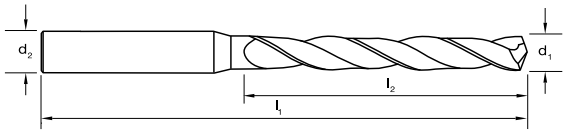
- HELICA for outstanding oxidation resistance and hot hardness



Catalogue Code	D326	D332	D358
Product Group	A0210	A0210	A0210
Material	VHM	VHM	VHM
Surface Finish	*AlCrN*	*AlCrN*	*HELICA*
Application	N	N	VA
Geometry	R30	R30 - IK	R30 - IK
Point Type	140° Form C	140° Form C	140° 4 Facet Form C
Shank Form (DIN 6535)	HA	HA	HA

Size Ref.	d_1 (m7)		l_1	l_2	d_2 (h6)	Item #	Item #	Item #
0620	6.2		91	53	8	D326 0620	D332 0620	D358 0620
0630	6.3		91	53	8	D326 0630	D332 0630	D358 0630
0635	6.35	1/4	91	53	8	D326 0635	D332 0635	D358 0635
0640	6.4		91	53	8	D326 0640	D332 0640	D358 0640
0650	6.5		91	53	8	D326 0650	D332 0650	D358 0650
0660	6.6		91	53	8	D326 0660	D332 0660	D358 0660
0670	6.7		91	53	8	D326 0670	D332 0670	D358 0670
0676	6.76	17/64	91	53	8	D326 0676	D332 0676	D358 0676
0680	6.8		91	53	8	D326 0680	D332 0680	D358 0680
0690	6.9		91	53	8	D326 0690	D332 0690	D358 0690
0700	7.0		91	53	8	D326 0700	D332 0700	D358 0700
0710	7.1		91	53	8	D326 0710	D332 0710	D358 0710
0714	7.14	9/32	91	53	8	D326 0714	D332 0714	D358 0714
0720	7.2		91	53	8	D326 0720	D332 0720	D358 0720
0730	7.3		91	53	8	D326 0730	D332 0730	D358 0730
0740	7.4		91	53	8	D326 0740	D332 0740	D358 0740
0750	7.5		91	53	8	D326 0750	D332 0750	D358 0750
0754	7.54	19/64	91	53	8	D326 0754	D332 0754	D358 0754
0760	7.6		91	53	8	D326 0760	D332 0760	D358 0760
0770	7.7		91	53	8	D326 0770	D332 0770	D358 0770
0780	7.8		91	53	8	D326 0780	D332 0780	D358 0780
0790	7.9		91	53	8	D326 0790	D332 0790	D358 0790
0794	7.94	5/16	91	53	8	D326 0794	D332 0794	D358 0794
0800	8.0		91	53	8	D326 0800	D332 0800	D358 0800
0810	8.1		103	61	10	D326 0810	D332 0810	D358 0810
0820	8.2		103	61	10	D326 0820	D332 0820	D358 0820
0830	8.3		103	61	10	D326 0830	D332 0830	D358 0830
0833	8.33	21/64	103	61	10	D326 0833	D332 0833	D358 0833
0840	8.4		103	61	10	D326 0840	D332 0840	D358 0840
0850	8.5		103	61	10	D326 0850	D332 0850	D358 0850
0860	8.6		103	61	10	D326 0860	D332 0860	D358 0860
0870	8.7		103	61	10	D326 0870	D332 0870	D358 0870
0873	8.73	11/32	103	61	10	D326 0873	D332 0873	D358 0873
0880	8.8		103	61	10	D326 0880	D332 0880	D358 0880
0890	8.9		103	61	10	D326 0890	D332 0890	D358 0890
0900	9.0		103	61	10	D326 0900	D332 0900	D358 0900
0910	9.1		103	61	10	D326 0910	D332 0910	D358 0910
0913	9.13	23/64	103	61	10	D326 0913	D332 0913	D358 0913
0920	9.2		103	61	10	D326 0920	D332 0920	D358 0920
0930	9.3		103	61	10	D326 0930	D332 0930	D358 0930

ISO	P													M			K						N									S										H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
D326	●	●	●	●	●	●	●	●	●	●	●		●			○	●	●	●	●	●	●																○	○	○		○		○				●	
D332	●	●	●	●	●	●	●	●	●	●	●	○	●	○	○	●	●	●	●	●	●	●					○	○	○	○			○	○	○	○	○	○	○	○	○	○	○	●				●	
D358	●	●	●	●	○	●	○	○		○		●	○	●	●	●							●	●	●	●	●						●	○	●	○	○	●	●	●	●	●	●						

P Steel | M Stainless Steel | K Cast Iron | N Non-Ferrous Metals | S Titanium & Super Alloys | H Hard Materials

● Optimal ○ Effective

* HB & HE Shank styles available

Drills Carbide 5 x D

suttontools

D326/D332 - Suitable for materials up to 1400N/mm²
- Micro geometry & surface conditioning for optimal chip control
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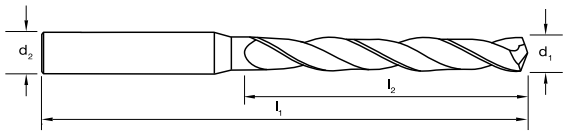
- Optimised geometry ensures no work hardening and high productivity
- HELICA for outstanding oxidation resistance and hot hardness



Catalogue Code	D326	D332	D358
Product Group	A0210	A0210	A0210
Material	VHM	VHM	VHM
Surface Finish	AlCrN	AlCrN	HELICA
Application	N	N	VA
Geometry	R30	R30 - IK	R30 - IK
Point Type	140° Form C	140° Form C	140° 4 Facet Form C
Shank Form (DIN 6535)	HA	HA	HA

Size Ref.	d_1 (m7)		l_1	l_2	d_2 (h6)	Item #	Item #	Item #
0940	9.4		103	61	10	D326 0940	D332 0940	D358 0940
0950	9.5		103	61	10	D326 0950	D332 0950	D358 0950
0953	9.53	3/8	103	61	10	D326 0953	D332 0953	D358 0953
0960	9.6		103	61	10	D326 0960	D332 0960	D358 0960
0970	9.7		103	61	10	D326 0970	D332 0970	D358 0970
0980	9.8		103	61	10	D326 0980	D332 0980	D358 0980
0990	9.9		103	61	10	D326 0990	D332 0990	D358 0990
0992	9.92	25/64	103	61	10	D326 0992	D332 0992	D358 0992
1000	10.0		103	61	10	D326 1000	D332 1000	D358 1000
1010	10.1		118	71	12	D326 1010	D332 1010	D358 1010
1020	10.2		118	71	12	D326 1020	D332 1020	D358 1020
1030	10.3		118	71	12	D326 1030	D332 1030	D358 1030
1032	10.32	13/32	118	71	12	D326 1032	D332 1032	D358 1032
1040	10.4		118	71	12	D326 1040	D332 1040	D358 1040
1050	10.5		118	71	12	D326 1050	D332 1050	D358 1050
1060	10.6		118	71	12	D326 1060	D332 1060	D358 1060
1070	10.7		118	71	12	D326 1070	D332 1070	D358 1070
1072	10.72	27/64	118	71	12	•	•	D358 1072
1080	10.8		118	71	12	D326 1080	D332 1080	D358 1080
1090	10.9		118	71	12	D326 1090	D332 1090	D358 1090
1100	11.0		118	71	12	D326 1100	D332 1100	D358 1100
1110	11.1		118	71	12	D326 1110	D332 1110	D358 1110
1111	11.11	7/16	118	71	12	D326 1111	D332 1111	D358 1111
1120	11.2		118	71	12	D326 1120	D332 1120	D358 1120
1130	11.3		118	71	12	D326 1130	D332 1130	D358 1130
1140	11.4		118	71	12	D326 1140	D332 1140	D358 1140
1150	11.5		118	71	12	D326 1150	D332 1150	D358 1150
1151	11.51	29/64	118	71	12	•	•	D358 1151
1160	11.6		118	71	12	D326 1160	D332 1160	D358 1160
1170	11.7		118	71	12	D326 1170	D332 1170	D358 1170
1180	11.8		118	71	12	D326 1180	D332 1180	D358 1180
1190	11.9		118	71	12	D326 1190	D332 1190	D358 1190
1191	11.91	15/32	118	71	12	D326 1191	D332 1191	D358 1191
1200	12.0		118	71	12	D326 1200	D332 1200	D358 1200
1231	12.31	31/64	124	77	14	•	•	D358 1231
1250	12.5		124	77	14	D326 1250	D332 1250	D358 1250
1269	12.69	1/2	124	77	14	D326 1269	D332 1269	D358 1269
1280	12.8		124	77	14	D326 1280	D332 1280	D358 1280
1300	13.0		124	77	14	D326 1300	D332 1300	D358 1300
1310	13.10	33/64	124	77	14	•	•	D358 1310

ISO	P													M			K						N										S										H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
D326	●	●	●	●	●	●	●	●	●	●	●		●			○	●	●	●	●	●	●																○	○	○		○		○			●	
D332	●	●	●	●	●	●	●	●	●	●	●	○	●	○	○	●	●	●	●	●	●	●					○	○	○	○			○	○	○	○	○	○	○	○	○	○	○	●				●	
D358	●	●	●	●	○	●	○		○		●	○	●	●	●	●							●	●	●	●	●						●	○	●	○	○	●	●	●	●	●	●						

P Steel M Stainless Steel K Cast Iron N Non-Ferrous Metals S Titanium & Super Alloys H Hard Materials

● Optimal ○ Effective

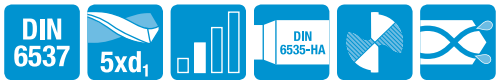
* HB & HE Shank styles available •Available on request as special manufacture. Subject to lead time.

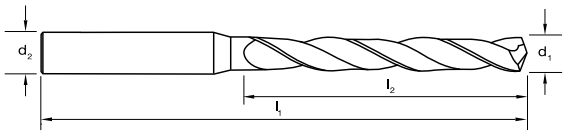
Drills Carbide 5 x D

suttontools

D326/D332 - Suitable for materials up to 1400N/mm²
- Micro geometry & surface conditioning for optimal chip control
- AlCrN for maximum tool life

D358 - Excellent solution for stainless steels & difficult super alloy type materials
- Optimised geometry ensures no work hardening and high productivity
- HELICA for outstanding oxidation resistance and hot hardness





Catalogue Code	D326	D332	D358
Product Group	A0210	A0210	A0210
Material	VHM	VHM	VHM
Surface Finish	*AlCrN*	*AlCrN*	*HELICA*
Application	N	N	VA
Geometry	R30	R30 - IK	R30 - IK
Point Type	140° Form C	140° Form C	140° 4 Facet Form C
Shank Form (DIN 6535)	HA	HA	HA

Size Ref.	d_1 (m7)		l_1	l_2	d_2 (h6)	Item #	Item #	Item #
1349	13.49	17/32	124	77	14	D326 1349	D332 1349	D358 1349
1350	13.5		124	77	14	D326 1350	D332 1350	D358 1350
1380	13.8		124	77	14	D326 1380	•	•
1389	13.89	35/64	124	77	14	•	•	D358 1389
1400	14.0		124	77	14	D326 1400	D332 1400	D358 1400
1429	14.29	9/16	133	83	16	D326 1429	D332 1429	D358 1429
1450	14.5		133	83	16	D326 1450	D332 1450	D358 1450
1468	14.68	37/64	133	83	16	•	•	D358 1468
1480	14.8		133	83	16	D326 1480	•	•
1500	15.0		133	83	16	D326 1500	D332 1500	D358 1500
1508	15.08	19/32	133	83	16	•	•	D358 1508
1548	15.48	39/64	133	83	16	•	•	D358 1548
1550	15.5		133	83	16	D326 1550	D332 1550	D358 1550
1580	15.8		133	83	16	D326 1580	•	•
1588	15.88	5/8	133	83	16	D326 1588	D332 1588	D358 1588
1600	16.0		133	83	16	D326 1600	D332 1600	D358 1600
1650	16.5		143	93	18	D326 1650	D332 1650	D358 1650
1667	16.67	21/32	143	93	18	•	•	D358 1667
1680	16.8		143	93	18	D326 1680	•	•
1700	17.0		143	93	18	D326 1700	D332 1700	D358 1700
1746	17.46	11/16	143	93	18	D326 1746	D332 1746	D358 1746
1750	17.5		143	93	18	D326 1750	D332 1750	D358 1750
1780	17.8		143	93	18	D326 1780	•	•
1800	18.0		143	93	18	D326 1800	D332 1800	D358 1800
1826	18.26	23/32	153	101	20	•	•	D358 1826
1850	18.5		153	101	20	D326 1850	D332 1850	D358 1850
1900	19.0		153	101	20	D326 1900	D332 1900	D358 1900
1905	19.05	3/4	153	101	20	D326 1905	D332 1905	D358 1905
1950	19.5		153	101	20	D326 1950	D332 1950	D358 1950
1980	19.8		153	101	20	•	•	•
2000	20.0		153	101	20	D326 2000	D332 2000	D358 2000

ISO	P													M			K						N									S											H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
D326	●	●	●	●	●	●	●	●	●	●	●		●			○	●	●	●	●	●	●																○	○	○		○		○			●	
D332	●	●	●	●	●	●	●	●	●	●	●	○	●	○	○	●	●	●	●	●	●	●					○	○	○	○			○	○	○	○	○	○	○	○	○	○	○	●				●	
D358	●	●	●	●	○	●	○	○		○		●	○	●	●	●							●	●	●	●	●						●	○	●	○	○	●	●	●	●	●	●						

P Steel M Stainless Steel K Cast Iron N Non-Ferrous Metals S Titanium & Super Alloys H Hard Materials

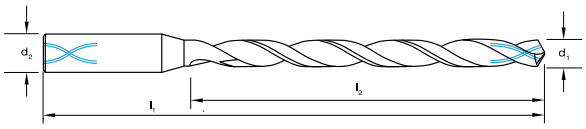
● Optimal ○ Effective

* HB & HE Shank styles available •**Available on request as special manufacture. Subject to lead time.**

Drills Carbide 8 x D

suttontools

- Suitable for materials up to 1400N/mm²
- Strong core with internal coolant supply
- Micro geometry & surface conditioning for optimal chip control
- AlCrN for maximum tool life



Catalogue Code	**D335**
Product Group	A0210
Material	**VHM**
Surface Finish	***AlCrN***
Application	**N**
Geometry	R30 - IK
Point Type	140° Form C
Shank Form (DIN 6535)	HA

Size Ref.	d_1 (m7)		l_1	l_2	d_2 (h6)	Item #
0300	**3.0**		72	34	6	D335 0300
0350	**3.5**		72	34	6	D335 0350
0420	**4.2**		81	43	6	D335 0420
0430	**4.3**		81	43	6	D335 0430
0460	**4.6**		81	43	6	D335 0460
0500	**5.0**		95	57	6	D335 0500
0510	**5.1**		95	57	6	D335 0510
0516	5.16	**13/64**	95	57	6	D335 0516
0520	**5.2**		95	57	6	D335 0520
0530	**5.3**		95	57	6	D335 0530
0540	**5.4**		95	57	6	D335 0540
0550	**5.5**		95	57	6	D335 0550
0556	5.56	**7/32**	95	57	6	D335 0556
0560	**5.6**		95	57	6	D335 0560
0570	**5.7**		95	57	6	D335 0570
0580	**5.8**		95	57	6	D335 0580
0590	**5.9**		95	57	6	D335 0590
0595	5.95	**15/64**	95	57	6	D335 0595
0600	**6.0**		95	57	6	D335 0600
0610	**6.1**		114	76	8	D335 0610
0620	**6.2**		114	76	8	D335 0620
0630	**6.3**		114	76	8	D335 0630
0635	6.35	**1/4**	114	76	8	D335 0635
0640	**6.4**		114	76	8	D335 0640
0650	**6.5**		114	76	8	D335 0650
0660	**6.6**		114	76	8	D335 0660
0670	**6.7**		114	76	8	D335 0670
0676	6.76	**17/64**	114	76	8	D335 0676
0680	**6.8**		114	76	8	D335 0680
0690	**6.9**		114	76	8	D335 0690
0700	**7.0**		114	76	8	D335 0700
0710	**7.1**		114	76	8	D335 0710
0714	7.14	**9/32**	114	76	8	D335 0714
0720	**7.2**		114	76	8	D335 0720
0730	**7.3**		114	76	8	D335 0730
0740	**7.4**		114	76	8	D335 0740
0750	**7.5**		114	76	8	D335 0750
0754	7.54	**19/64**	114	76	8	D335 0754
0760	**7.6**		114	76	8	D335 0760
0770	**7.7**		114	76	8	D335 0770
0780	**7.8**		114	76	8	D335 0780
0790	**7.9**		114	76	8	D335 0790
0794	7.94	**5/16**	114	76	8	D335 0794
0800	**8.0**		114	76	8	D335 0800
0810	**8.1**		142	95	10	D335 0810
0820	**8.2**		142	95	10	D335 0820

ISO	P												M			K						N									S									H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
D335	●	●	●	●	●	●	●	●	●	●	●		●	○			●	●	●	●	●	●																										

P Steel **M** Stainless Steel **K** Cast Iron **N** Non-Ferrous Metals **S** Titanium & Super Alloys **H** Hard Materials

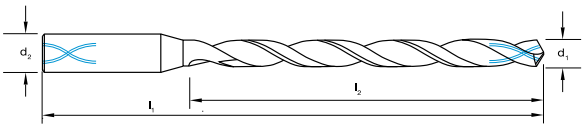
● Optimal ○ Effective

* HB & HE Shank styles available

Drills Carbide 8 x D

suttontools

- Suitable for materials up to 1400N/mm²
- Strong core with internal coolant supply
- Micro geometry & surface conditioning for optimal chip control
- AlCrN for maximum tool life



Catalogue Code	**D335**
Product Group	A0210
Material	**VHM**
Surface Finish	***AlCrN***
Application	**N**
Geometry	R30 - IK
Point Type	140° Form C
Shank Form (DIN 6535)	HA

Size Ref.	d_1 (m7)		l_1	l_2	d_2 (h6)	Item #
0830	**8.3**		142	95	10	D335 0830
0833	8.33	**21/64**	142	95	10	D335 0833
0840	**8.4**		142	95	10	D335 0840
0850	**8.5**		142	95	10	D335 0850
0860	**8.6**		142	95	10	D335 0860
0870	**8.7**		142	95	10	D335 0870
0873	8.73	**11/32**	142	95	10	D335 0873
0880	**8.8**		142	95	10	D335 0880
0890	**8.9**		142	95	10	D335 0890
0900	**9.0**		142	95	10	D335 0900
0910	**9.1**		142	95	10	D335 0910
0913	9.13	**23/64**	142	95	10	D335 0913
0920	**9.2**		142	95	10	D335 0920
0930	**9.3**		142	95	10	D335 0930
0940	**9.4**		142	95	10	D335 0940
0950	**9.5**		142	95	10	D335 0950
0953	9.53	**3/8**	142	95	10	D335 0953
0960	**9.6**		142	95	10	D335 0960
0970	**9.7**		142	95	10	D335 0970
0980	**9.8**		142	95	10	D335 0980
0990	**9.9**		142	95	10	D335 0990
0992	9.92	**25/64**	142	95	10	D335 0992
1000	**10.0**		142	95	10	D335 1000
1010	**10.1**		162	114	12	D335 1010
1020	**10.2**		162	114	12	D335 1020
1030	**10.3**		162	114	12	D335 1030
1032	10.32	**13/32**	162	114	12	D335 1032
1040	**10.4**		162	114	12	D335 1040
1050	**10.5**		162	114	12	D335 1050
1060	**10.6**		162	114	12	D335 1060
1070	**10.7**		162	114	12	D335 1070
1080	**10.8**		162	114	12	D335 1080
1090	**10.9**		162	114	12	D335 1090
1100	**11.0**		162	114	12	D335 1100
1110	**11.1**		162	114	12	D335 1110
1111	11.11	**7/16**	162	114	12	D335 1111
1120	**11.2**		162	114	12	D335 1120
1130	**11.3**		162	114	12	D335 1130
1140	**11.4**		162	114	12	D335 1140
1150	**11.5**		162	114	12	D335 1150
1160	**11.6**		162	114	12	D335 1160
1170	**11.7**		162	114	12	D335 1170
1180	**11.8**		162	114	12	D335 1180
1190	**11.9**		162	114	12	D335 1190
1191	11.91	**15/32**	162	114	12	D335 1191
1200	**12.0**		162	114	12	D335 1200

ISO	P												M			K						N									S										H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
D335	●	●	●	●	●	●	●	●	●	●	●		●	○			●	●	●	●	●	●																										

P Steel **M** Stainless Steel **K** Cast Iron **N** Non-Ferrous Metals **S** Titanium & Super Alloys **H** Hard Materials

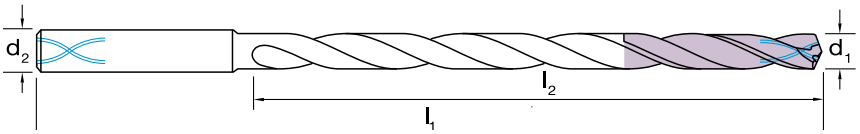
● Optimal ○ Effective

* HB & HE Shank styles available

Drills Carbide 12 x D

suttontools

- Suitable for materials up to 1200N/mm²
- Strong core with internal coolant supply
- Micro geometry and surface conditioning for optimal chip control
- AlCrN for maximum tool life



Catalogue Code	**D371**
Product Group	A0210
Material	**VHM**
Surface Finish	***Pertura Tip***
Application	**Up to 1200N/mm²**
Geometry	R30 - IK
Point Type	135° Form C
Shank Form (DIN 6535)	HA

Size Ref.	d_1 (m7)	l_1	l_2	d_2 (h6)	Item #
0300	3.0	90	50	6	D371 0300
0310	3.1	90	50	6	D371 0310
0320	3.2	90	50	6	D371 0320
0330	3.3	90	50	6	D371 0330
0340	3.4	90	50	6	D371 0340
0350	3.5	90	50	6	D371 0350
0360	3.6	90	50	6	D371 0360
0370	3.7	90	50	6	D371 0370
0380	3.8	102	64	6	D371 0380
0390	3.9	102	64	6	D371 0390
0400	4.0	102	64	6	D371 0400
0410	4.1	102	64	6	D371 0410
0420	4.2	102	64	6	D371 0420
0430	4.3	102	64	6	D371 0430
0440	4.4	102	64	6	D371 0440
0450	4.5	102	64	6	D371 0450
0460	4.6	102	64	6	D371 0460
0470	4.7	102	64	6	D371 0470
0480	4.8	116	78	6	D371 0480
0490	4.9	116	78	6	D371 0490
0500	5.0	116	78	6	D371 0500
0510	5.1	116	78	6	D371 0510
0520	5.2	116	78	6	D371 0520
0530	5.3	116	78	6	D371 0530
0540	5.4	116	78	6	D371 0540
0550	5.5	116	78	6	D371 0550
0560	5.6	116	78	6	D371 0560
0570	5.7	116	78	6	D371 0570
0580	5.8	116	78	6	D371 0580
0590	5.9	116	78	6	D371 0590
0600	6.0	116	78	6	D371 0600
0610	6.1	146	108	8	D371 0610
0620	6.2	146	108	8	D371 0620
0630	6.3	146	108	8	D371 0630
0640	6.4	146	108	8	D371 0640
0650	6.5	146	108	8	D371 0650
0660	6.6	146	108	8	D371 0660
0670	6.7	146	108	8	D371 0670
0680	6.8	146	108	8	D371 0680
0690	6.9	146	108	8	D371 0690
0700	7.0	146	108	8	D371 0700
0710	7.1	146	108	8	D371 0710
0720	7.2	146	108	8	D371 0720
0730	7.3	146	108	8	D371 0730
0740	7.4	146	108	8	D371 0740
0750	7.5	146	108	8	D371 0750

ISO	P													M			K						N										S											H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
D371	●	●	●	●	●	●	●	●		●				○	○		●	○	●	○	○	○																									○	

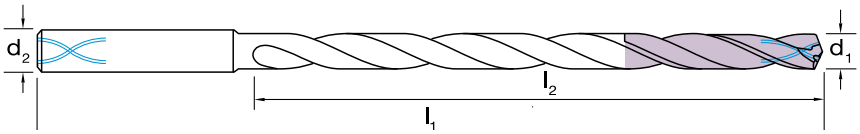
P Steel | M Stainless Steel | K Cast Iron | N Non-Ferrous Metals | S Titanium & Super Alloys | H Hard Materials

● Optimal ○ Effective

Drills Carbide 12 x D

suttontools

- Suitable for materials up to 1200N/mm²
- Strong core with internal coolant supply
- Micro geometry and surface conditioning for optimal chip control
- AlCrN for maximum tool life



Catalogue Code	**D371**
Product Group	A0210
Material	**VHM**
Surface Finish	***Pertura Tip***
Application	**Up to 1200N/mm²**
Geometry	R30 - IK
Point Type	135° Form C
Shank Form (DIN 6535)	HA

Size Ref.	d_1 (m7)	l_1	l_2	d_2 (h6)	Item #
0760	7.6	146	108	8	D371 0760
0770	7.7	146	108	8	D371 0770
0780	7.8	146	108	8	D371 0780
0790	7.9	146	108	8	D371 0790
0800	8.0	146	108	8	D371 0800
0810	8.1	162	120	10	D371 0810
0820	8.2	162	120	10	D371 0820
0830	8.3	162	120	10	D371 0830
0840	8.4	162	120	10	D371 0840
0850	8.5	162	120	10	D371 0850
0860	8.6	162	120	10	D371 0860
0870	8.7	162	120	10	D371 0870
0880	8.8	162	120	10	D371 0880
0890	8.9	162	120	10	D371 0890
0900	9.0	162	120	10	D371 0900
0910	9.1	162	120	10	D371 0910
0920	9.2	162	120	10	D371 0920
0930	9.3	162	120	10	D371 0930
0940	9.4	162	120	10	D371 0940
0950	9.5	162	120	10	D371 0950
0960	9.6	162	120	10	D371 0960
0970	9.7	162	120	10	D371 0970
0980	9.8	162	120	10	D371 0980
0990	9.9	162	120	10	D371 0990
1000	10.0	162	120	10	D371 1000
1010	10.1	204	156	12	D371 1010
1020	10.2	204	156	12	D371 1020
1030	10.3	204	156	12	D371 1030
1040	10.4	204	156	12	D371 1040
1050	10.5	204	156	12	D371 1050
1060	10.6	204	156	12	D371 1060
1070	10.7	204	156	12	D371 1070
1080	10.8	204	156	12	D371 1080
1090	10.9	204	156	12	D371 1090
1100	11.0	204	156	12	D371 1100
1110	11.1	204	156	12	D371 1110
1120	11.2	204	156	12	D371 1120
1130	11.3	204	156	12	D371 1130
1140	11.4	204	156	12	D371 1140
1150	11.5	204	156	12	D371 1150
1160	11.6	204	156	12	D371 1160
1170	11.7	204	156	12	D371 1170
1180	11.8	204	156	12	D371 1180
1190	11.9	204	156	12	D371 1190
1200	12.0	204	156	12	D371 1200

ISO	P												M			K						N									S										H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
D371	●	●	●	●	●	●	●	●		●				○	○		●	○	●	○	○	○																									○	

P Steel | M Stainless Steel | K Cast Iron | N Non-Ferrous Metals | S Titanium & Super Alloys | H Hard Materials

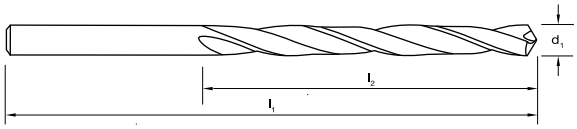
● Optimal ○ Effective

Drills Carbide, 5 x D, R25 N

suttontools TECLINE

- Suitable for steels and abrasive applications
- Designed to allow high feed rates with good chip flow
- Four facet point ensures accurate holes

DIN 338 | 5xd1



Catalogue Code	D368
Product Group	A0208
Material	VHM
Surface Finish	*Brt*
Application	N
Geometry	R25
Point Type	118° Form C
Shank Form (DIN 6535)	HA

Size Ref.	d_1 (m7)	l_1	l_2	Item #
0100	1.0	34	13	D368 0100
0110	1.1	36	15	D368 0110
0120	1.2	38	17	D368 0120
0130	1.3	38	17	D368 0130
0140	1.4	40	19	D368 0140
0150	1.5	40	19	D368 0150
0160	1.6	43	21	D368 0160
0170	1.7	43	21	D368 0170
0180	1.8	46	23	D368 0180
0190	1.9	46	23	D368 0190
0200	2.0	49	24	D368 0200
0210	2.1	49	24	D368 0210
0220	2.2	53	28	D368 0220
0230	2.3	53	28	D368 0230
0240	2.4	57	31	D368 0240
0250	2.5	57	31	D368 0250
0260	2.6	57	31	D368 0260
0270	2.7	61	34	D368 0270
0280	2.8	61	34	D368 0280
0290	2.9	61	34	D368 0290
0300	3.0	61	33	D368 0300
0310	3.1	65	36	D368 0310
0320	3.2	65	36	D368 0320
0330	3.3	65	36	D368 0330
0340	3.4	70	39	D368 0340
0350	3.5	70	39	D368 0350
0360	3.6	70	39	D368 0360
0370	3.7	70	39	D368 0370
0380	3.8	75	43	D368 0380
0390	3.9	75	43	D368 0390
0400	4.0	75	43	D368 0400
0410	4.1	75	43	D368 0410
0420	4.2	75	43	D368 0420
0430	4.3	80	47	D368 0430
0440	4.4	80	47	D368 0440
0450	4.5	80	47	D368 0450
0460	4.6	80	47	D368 0460
0470	4.7	80	47	D368 0470
0480	4.8	86	52	D368 0480
0490	4.9	86	52	D368 0490
0500	5.0	86	52	D368 0500
0510	5.1	86	52	D368 0510
0520	5.2	86	52	D368 0520
0530	5.3	86	52	D368 0530
0540	5.4	93	57	D368 0540
0550	5.5	93	57	D368 0550

ISO	P													M			K						N										S											H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
D368	●	●	○	○	○	○	○	○									●	○	○	○			●	●	●	●	●				○																	

P Steel | M Stainless Steel | K Cast Iron | N Non-Ferrous Metals | S Titanium & Super Alloys | H Hard Materials

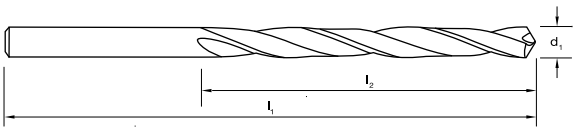
● Optimal ○ Effective

Drills Carbide, 5 x D, R25 N

suttontools TECLINE

- Suitable for steels and abrasive applications
- Designed to allow high feed rates with good chip flow
- Four facet point ensures accurate holes

DIN 338 | 5xd$_1$



Catalogue Code	D368
Product Group	A0208
Material	VHM
Surface Finish	*Brt*
Application	N
Geometry	R25
Point Type	118° Form C
Shank Form (DIN 6535)	HA

Size Ref.	d$_1$ (m7)	l$_1$	l$_2$	Item #
0560	5.6	93	57	D368 0560
0570	5.7	93	57	D368 0570
0580	5.8	93	57	D368 0580
0590	5.9	93	57	D368 0590
0600	6.0	93	57	D368 0600
0610	6.1	101	63	D368 0610
0620	6.2	101	63	D368 0620
0630	6.3	101	63	D368 0630
0640	6.4	101	63	D368 0640
0650	6.5	101	63	D368 0650
0660	6.6	101	63	D368 0660
0670	6.7	101	63	D368 0670
0680	6.8	109	69	D368 0680
0690	6.9	109	69	D368 0690
0700	7.0	109	69	D368 0700
0710	7.1	109	69	D368 0710
0720	7.2	109	69	D368 0720
0730	7.3	109	69	D368 0730
0740	7.4	109	69	D368 0740
0750	7.5	109	69	D368 0750
0760	7.6	117	75	D368 0760
0770	7.7	117	75	D368 0770
0780	7.8	117	75	D368 0780
0790	7.9	117	75	D368 0790
0800	8.0	117	75	D368 0800
0810	8.1	117	75	D368 0810
0820	8.2	117	75	D368 0820
0830	8.3	117	75	D368 0830
0840	8.4	117	75	D368 0840
0850	8.5	117	75	D368 0850
0860	8.6	125	81	D368 0860
0870	8.7	125	81	D368 0870
0880	8.8	125	81	D368 0880
0890	8.9	125	81	D368 0890
0900	9.0	125	81	D368 0900
0910	9.1	125	81	D368 0910
0920	9.2	125	81	D368 0920
0930	9.3	125	81	D368 0930
0940	9.4	125	81	D368 0940
0950	9.5	125	81	D368 0950
0960	9.6	133	87	D368 0960
0970	9.7	133	87	D368 0970
0980	9.8	133	87	D368 0980
0990	9.9	133	87	D368 0990
1000	10.0	133	87	D368 1000
1010	10.1	133	87	D368 1010

ISO	P												M			K						N									S												H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
D368	●	●	○	○	○	○	○	○									●	○	○	○			●	●	●	●	●				○																	

P Steel | M Stainless Steel | K Cast Iron | N Non-Ferrous Metals | S Titanium & Super Alloys | H Hard Materials

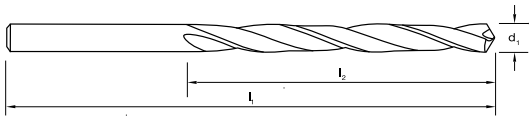
● Optimal ○ Effective

Drills Carbide, 5 x D, R25 N

suttontools TECLINE

- Suitable for steels and abrasive applications
- Designed to allow high feed rates with good chip flow
- Four facet point ensures accurate holes

DIN 338 | 5xd$_1$



Catalogue Code	**D368**
Product Group	A0208
Material	**VHM**
Surface Finish	***Brt***
Application	**N**
Geometry	R25
Point Type	118° Form C
Shank Form (DIN 6535)	HA

Size Ref.	d$_1$ (m7)	l$_1$	l$_2$	Item #
1020	10.2	133	87	D368 1020
1030	10.3	133	87	D368 1030
1040	10.4	133	87	D368 1040
1050	10.5	133	87	D368 1050
1060	10.6	133	87	D368 1060
1070	10.7	142	94	D368 1070
1080	10.8	142	94	D368 1080
1090	10.9	142	94	D368 1090
1100	11.0	142	94	D368 1100
1110	11.1	142	94	D368 1110
1120	11.2	142	94	D368 1120
1130	11.3	142	94	D368 1130
1140	11.4	142	94	D368 1140
1150	11.5	142	94	D368 1150
1160	11.6	142	94	D368 1160
1170	11.7	142	94	D368 1170
1180	11.8	142	94	D368 1180
1190	11.9	151	101	D368 1190
1200	12.0	151	101	D368 1200
1210	12.1	151	101	D368 1210
1220	12.2	151	101	D368 1220
1230	12.3	151	101	D368 1230
1240	12.4	151	101	D368 1240
1250	12.5	151	101	D368 1250
1260	12.6	151	101	D368 1260
1270	12.7	151	101	D368 1270
1280	12.8	151	101	D368 1280
1290	12.9	151	101	D368 1290
1300	13.0	151	101	D368 1300

ISO	P													M			K						N										S											H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
D368	●	●	○	○	○	○	○	○									●	○	○	○			●	●	●	●	●				○																	

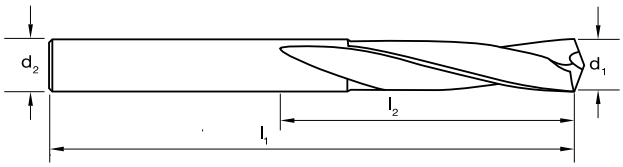
P Steel **M** Stainless Steel **K** Cast Iron **N** Non-Ferrous Metals **S** Titanium & Super Alloys **H** Hard Materials

● Optimal ○ Effective

Drills Carbide, 3 x D, R15 NH

suttontools

- Rigid twist drill with slow spiral 15 degree flutes
- Suitable for harder steel, tool steel and cast iron



Catalogue Code	D304	D310
Product Group	A0202	A0206
Material	VHM	VHM
Surface Finish	*Brt*	*TiCN*
Sutton Designation	NH	NH
Geometry	R15	R15
Point Type	135° 4 Facet Form C	135° 4 Facet Form C
Shank Tolerance	-0.025	-0.025

Size Ref.	d_1 (m7)		l_1	l_2	d_2	Item #	Item #
0100	**1.0**		38	13	1.0	D304 0100	D310 0100
0150	**1.5**		38	13	1.5	D304 0150	D310 0150
0159	1.59	**1/16**	1-5/8	5/8	1/16	•	D310 0159
0160	**1.6**		43	18	1.6	•	D310 0160
0200	**2.0**		44	19	2.0	D304 0200	D310 0200
0238	2.38	**3/32**	1-3/4	3/4	3/32	•	D310 0238
0250	**2.5**		46	21	2.5	D304 0250	D310 0250
0300	**3.0**		48	22	3.0	D304 0300	D310 0300
0318	3.18	**1/8**	1-7/8	7/8	1/8	•	D310 0318
0330	**3.3**		52	24	3.3	D304 0330	D310 0330
0350	**3.5**		52	24	3.5	D304 0350	D310 0350
0397	3.97	**5/32**	2-1/16	1-1/16	5/32	•	D310 0397
0400	**4.0**		53	27	4.0	D304 0400	D310 0400
0420	**4.2**		53	27	4.2	D304 0420	D310 0420
0450	**4.5**		56	29	4.5	D304 0450	D310 0450
0476	4.76	**3/16**	2-3/16	1-1/8	3/16	•	D310 0476
0500	**5.0**		57	30	5.0	D304 0500	D310 0500
0550	**5.5**		60	32	5.5	D304 0550	D310 0550
0556	5.56	**7/32**	2-3/8	1-1/4	7/32	•	D310 0556
0600	**6.0**		62	33	6.0	D304 0600	D310 0600
0635*	6.35	**1/4**	2-1/2	1-3/8	1/4	•	D310 0635
0650	**6.5**		64	35	6.5	D304 0650	D310 0650
0680	**6.8**		68	38	6.8	D304 0680	D310 0680
0700	**7.0**		68	38	7.0	D304 0700	D310 0700
0714	7.14	**9/32**	2-11/16	1-1/2	9/32	•	D310 0714
0750	**7.5**		70	40	7.5	D304 0750	D310 0750
0794	7.94	**5/16**	2-13/16	1-5/8	5/16	•	D310 0794
0800	**8.0**		71	41	8.0	D304 0800	D310 0800
0850	**8.5**		76	43	8.5	D304 0850	D310 0850
0873	8.73	**11/32**	3	1-11/16	11/32	•	D310 0873
0900	**9.0**		78	44	9.0	D304 0900	D310 0900
0950	**9.5**		79	46	9.5	D304 0950	D310 0950
0953	9.53	**3/8**	3-1/8	1-13/16	3/8	•	D310 0953
1000	**10.0**		83	48	10.0	D304 1000	D310 1000
1032	10.32	**13/32**	3-5/16	1-15/16	13/32	•	D310 1032
1050	**10.5**		86	51	10.5	D304 1050	D310 1050
1100	**11.0**		87	52	11.0	D304 1100	D310 1100
1111	11.11	**7/16**	3-7/16	2-1/16	7/16	•	D310 1111
1150	**11.5**		90	54	11.5	D304 1150	D310 1150
1191	11.91	**15/32**	3-5/8	2-1/8	15/32	•	D310 1191
1200	**12.0**		92	54	12.0	D304 1200	D310 1200
1269	12.7	**1/2**	3-3/4	2-1/4	1/2	•	D310 1269

ISO	P													M			K						N								S										H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
D304			●	●	●		●	●	●	●	●	●	●		○	●	●	●	●	●	●	●	○	○	○	○	●	○	●	○	○														○	○			●	
D310			●	●	●		●	●	●	●	●	●	●		○	●	●	●	●	●	●	●	○	○	○	○	●	○	●	○	○														●	○			●	

P Steel M Stainless Steel K Cast Iron N Non-Ferrous Metals S Titanium & Super Alloys H Hard Materials

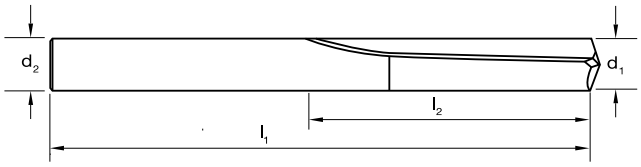
● Optimal ○ Effective

•Available on request as special manufacture. Subject to lead time.

Drills Carbide, 3 x D, Straight Flute, GG

suttontools

- Rigid twist drill with straight flutes
- Straight flutes for increased strength and chip control
- Suitable for cast irons
- TiCN coated for longer tool life



Catalogue Code	D300	D306
Product Group	A0202	A0206
Material	VHM	VHM
Surface Finish	*Brt*	*TiCN*
Sutton Designation	GG	GG
Geometry	Straight Flute	Straight Flute
Point Type	140° Form C (Facet)	140° Form C (Facet)
Shank Tolerance	-0.025	-0.025

Size Ref.	d_1 (m7)		l_1	l_2	d_2	Item #	Item #
0150	**1.5**		38	12.7	1.5	D300 0150	D306 0150
0159	1.59	**1/16**	1-5/8	5/8	1/16	D300 0159	D306 0159
0200	**2.0**		44	19	2.0	D300 0200	D306 0200
0250	**2.5**		46	21	2.5	D300 0250	D306 0250
0300	**3.0**		48	22	3.0	D300 0300	D306 0300
0318	3.18	**1/8**	1-7/8	7/8	1/8	D300 0318	D306 0318
0350	**3.5**		49	24	3.5	D300 0350	D306 0350
0400	**4.0**		54	27	4.0	D300 0400	D306 0400
0450	**4.5**		56	29	4.5	D300 0450	D306 0450
0476	4.76	**3/16**	2-3/16	1-1/8	3/16	D300 0476	D306 0476
0500	**5.0**		57	30	5.0	D300 0500	D306 0500
0550	**5.5**		60	32	5.5	D300 0550	D306 0550
0600	**6.0**		62	33	6.0	D300 0600	D306 0600
0635	6.35	**1/4**	2-1/2	1-3/8	1/4	D300 0635	D306 0635
0650	**6.5**		64	35	6.5	D300 0650	D306 0650
0700	**7.0**		68	38	7.0	D300 0700	D306 0700
0750	**7.5**		70	40	7.5	D300 0750	D306 0750
0794	7.94	**5/16**	2-13/16	1-5/8	5/16	D300 0794	D306 0794
0800	**8.0**		71	41	8.0	D300 0800	D306 0800
0850	**8.5**		76	43	8.5	D300 0850	D306 0850
0900	**9.0**		78	44	9.0	D300 0900	D306 0900
0953	9.53	**3/8**	3-1/8	1-13/16	3/8	D300 0953	D306 0953
1000	**10.0**		83	48	10.0	D300 1000	D306 1000
1100	**11.0**		87	52	11.0	D300 1100	D306 1100
1111	11.11	**7/16**	3-7/16	2-1/16	7/16	D300 1111	D306 1111
1200	**12.0**		92	54	12.0	D300 1200	D306 1200
1269	12.7	**1/2**	3-3/4	2-1/4	1/2	D300 1269	D306 1269

ISO	P												M			K						N									S										H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
D300									○		○		○				●	●	●	●	●	●			○	○	●	○	○																○				●	
D306									○		○		○				●	●	●	●	●	●			○	○	●	○	○																○				●	

P Steel | M Stainless Steel | K Cast Iron | N Non-Ferrous Metals | S Titanium & Super Alloys | H Hard Materials

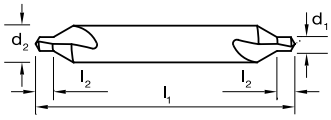
● Optimal ○ Effective

Drills Carbide, Centre

suttontools

- Used to drill female 60° centre holes in the end of shafts and components, which will later revolve between centres
- Designed to maintain accurate centre holes on long production runs
- Also used to ensure accurate starting and centring when precision drilling is required
- Suitable for materials up to 1600N/mm²

ANSI B94-11



Catalogue Code	D318	D319
Product Group	A0202	A0206
Material	VHM	VHM
Surface Finish	*Brt*	*TiCN*
Sutton Designation	N	N
Geometry	Plain Type	Plain Type
Point Type	60° Stepped	60° Stepped
Shank Tolerance	-0.025	-0.025

Size Ref.	Size	d_1	l_1	l_2	d_2 (h6)	Item #	Item #
0001	1	3/64	1-1/4	3/64	1/8	D318 0001	D319 0001
0002	2	5/64	1-7/8	5/64	3/16	D318 0002	D319 0002
0003	3	7/64	2	7/64	1/4	D318 0003	D319 0003
0004	4	1/8	2-1/8	1/8	5/16	D318 0004	D319 0004
0005	5	3/16	2-3/4	3/16	7/16	D318 0005	D319 0005
0006	6	7/32	3	7/32	1/2	D318 0006	D319 0006

ISO	P												M			K					N									S									H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
D318			○	○	○		○	○		○				○	○	○	○	○	○	○	○	○	●	●	●	●	●	●	●	●										○	○	○	○	○	●	○	○	○	○	○
D319	●	●	●	●	●	●	●	●	●	●	●	○	●	●	●	●	●	○	●	○	●	○											○	○	○	○	○	○	○	○	○	○	○	●	○	○	○	○	○

P Steel M Stainless Steel K Cast Iron N Non-Ferrous Metals S Titanium & Super Alloys H Hard Materials

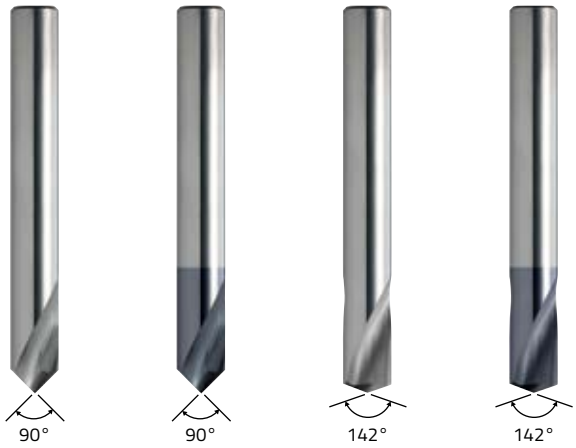
● Optimal ○ Effective

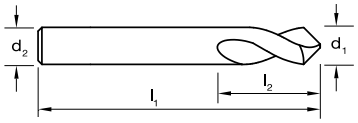
Drills Carbide, Spotting

suttontools

- Precision drill for machine use
- Rigid design for "seat" position accuracy
- 90° offers hole chamfering & spotting with the one tool
- 142° for spotting, matching a typical carbide drill point
- Only drill to the depth of the point
- Refer to HSS Drill section for HSS Spotting Drills.

DIN 1897





Catalogue Code	D355	D364	D365	D366
Product Group	A0208	A0210	A0208	A0210
Material	VHM	VHM	VHM	VHM
Surface Finish	*Brt*	*AlCrN*	*Brt*	*AlCrN*
Sutton Designation	NC	NC	NC	NC
Geometry	-	-	-	-
Point Type	90°	90° Form A	142° Form A	142° Form A
Shank Tolerance	h9	h9	h9	h9

Size Ref.	d_1 (h6)	l_1	l_2	d_2	Item #	Item #	Item #	Item #
0300	3.0	46	9	3.0	D355 0300	D364 0300	D365 0300	D366 0300
0400	4.0	55	12	4.0	D355 0400	D364 0400	D365 0400	D366 0400
0500	5.0	62	15	5.0	D355 0500	D364 0500	D365 0500	D366 0500
0600	6.0	66	18	6.0	D355 0600	D364 0600	D365 0600	D366 0600
0800	8.0	79	23	8.0	D355 0800	D364 0800	D365 0800	D366 0800
1000	10.0	89	24	10.0	D355 1000	D364 1000	D365 1000	D366 1000
1200	12.0	102	24	12.0	D355 1200	D364 1200	D365 1200	D366 1200
1600	16.0	115	26	16.0	D355 1600	D364 1600	D365 1600	D366 1600
2000	20.0	131	35	20.0	D355 2000	D364 2000	D365 2000	D366 2000

ISO	P													M			K						N										S														H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
D355			○	○	○		○	○		○				○	○	○	○	○	○	○	○	○	●	●	●	●	●	●	●	●	●								○	○	○	○	○		○	○	○	○	○
D364	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	○	●	○	●	○											○	○	○	○	○	○	○	○	○	○	○	●	○	○	○	○	○
D365			○	○	○		○	○		○				○	○	○	○	○	○	○	○	○	●	●	●	●	●	●	●	●	●								○	○	○	○	○		○	○	○	○	○
D366	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	○	●	○	●	○											○	○	○	○	○	○	○	○	○	○	○	●	○	○	○	○	○

P Steel M Stainless Steel K Cast Iron N Non-Ferrous Metals S Titanium & Super Alloys H Hard Materials

● Optimal ○ Effective

suttontools

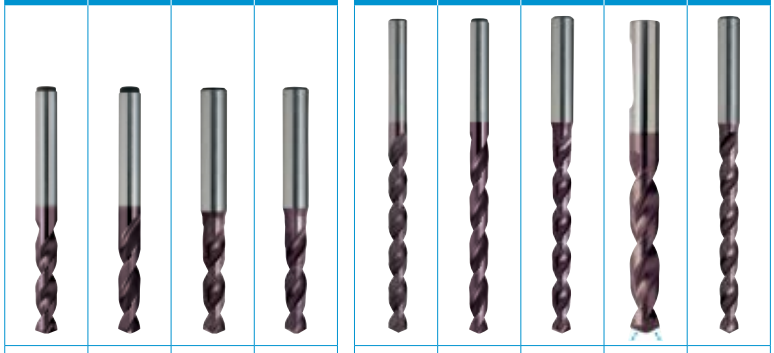
HSS DRILLS

▪ Stub Series ▪ Jobber Series ▪ Long Series
▪ Extra Long Series ▪ Spotting

suttontools

ISO	VDI	Material Group	Sutton	
P	A	Steel	N	UNI
M	R	Stainless Steel	VA	
K	F	Cast Iron	GG	
N	N	Non-Ferrous Metals, Aluminiums & Coppers	Al / W	
S	S	Titaniums & Super Alloys	Ti	Ni
H	H	Hard Materials (≥ 45 HRC)	H	

^ VDI 3323 material groups can also be determined by referring to the material cross reference listing in the application guide at the back of this catalogue.



Page	40	42	44	46	50	52	54	56	57
Catalogue Code	D151	D177	D155	D153	D163	D165	D168	D182	D169
Material	HSS Co	HSS Co	SPM	HSS Co	HSS Co	HSS Co	SPM	HSS Co	HSS Co
Surface Finish	*TiAlN*	*TiAlN*	*TiAlN*	*TiAlN*	*TiAlN*	*TiAlN*	*TiAlN*	*TiAlN*	*TiAlN*
Sutton Designation	NH	WN	UNI	VA	NH	WN	UNI	NH	VA
Standard	DIN 1897	DIN 1897	~ DIN 1897		DIN 338	DIN 338	~ DIN 338	-	
Depth of Cut	≤ 3xØ	≤ 3xØ	≤ 3xØ	≤ 3xØ	≤ 5xØ	≤ 5xØ	≤ 5xØ	≤ 5xØ	≤ 5xØ
Shank Form	h9	h9	h7	h7	h8	h8	h7	-	h7

ISO	VDI^ 3323	Material		Condition	HB	N/mm²	40	42	44	46	50	52	54	56	57
P	1	Steel - Non-alloy, cast & free cutting	~ 0.15 %C	A	125	440	●	●	●	●	●	●	●	●	●
	2		~ 0.45 %C	A	190	640	●	●	●	○	●	●	●	●	○
	3			QT	250	840	●	●	●	○	●	●	●	●	○
	4		~ 0.75 %C	A	270	910	●	●	●	○	●	●	●	●	○
	5			QT	300	1010	●	○	●		●	○	●	○	
	6	Steel - Low alloy & cast < 5% of alloying elements		A	180	610	●	●	●	○	●	●	●	●	○
	7			QT	275	930	●	○	●	○	●	○	●	●	○
	8			QT	300	1010	●	○	●		●	○	●	○	
	9			QT	350	1180	○		○		○		○	○	
	10	Steel - High alloy, cast & tool		A	200	680	●	○	●		●	○	●	○	
	11			HT	325	1100	○		○		○		○	○	
	12	Steel - Corrosion resistant & cast	Ferritic / Martensitic	A	200	680	○		●	●	○		●	●	●
	13		Martensitic	QT	240	810	○		○	○	○		●	○	○
M	14.1	Stainless Steel	Austenitic	AH	180	610	○	○	○	●	○	○	○	○	●
	14.2		Duplex		250	840	○	○	○	●		○	○	○	●
	14.3		Precipitation Hardening		250	840	●	○	●	●	○		●	●	●
K	15	Cast Iron - Grey (GG)	Ferritic / Pearlitic		180	610	●		●		●		●	●	
	16		Pearlitic		260	880	●		●		●		●	●	
	17	Cast Iron - Nodular (GGG)	Ferritic		160	570	●		●		●		●	●	
	18		Pearlitic		250	840	●		●		●		●	●	
	19	Cast Iron - Malleable	Ferritic		130	460	●		●		●		●	●	
	20		Pearlitic		230	780	●		●		●		●	●	
N	21	Aluminum & Magnesium - wrought alloy	Non Heat Treatable		60	210		●	○	●		●	○	○	○
	22		Heat Treatable	AH	100	360		●	○	●		●	○	○	○
	23	Aluminum & Magnesium - cast alloy ≤12% Si	Non Heat Treatable		75	270	●	●	●	●	○	●	●	●	○
	24		Heat Treatable	AH	90	320	●	●	●	●	●	●	●	●	○
	25	Al & Mg - cast alloy >12% Si	Non Heat Treatable		130	460	●	○			●	○	●	○	
	26	Copper & Cu alloys (Brass/Bronze)	Free cutting, Pb > 1%		110	390	○	●	○	●	○	●	○	○	○
	27		Brass (CuZn, CuSnZn)		90	320	○	○	●		○	○	●	●	
	28		Bronze (CuSn)		100	360	○	●	○	●		●	●	●	○
	29	Non-metallic - Thermosetting & fiber-reinforced plastics					○	○	○	○	○	○	○	○	
	30	Non-metallic - Hard rubber, wood etc.													
S	31	High temp. alloys	Fe based	A	200	680								○	
	32			AH	280	950								○	
	33		Ni / Co based	A	250	840			○				○	○	
	34			AH	350	1180								○	
	35			C	320	1080								○	
	36	Titanium & Ti alloys	CP Titanium		400 MPa									○	
	37.1		Alpha alloys		860 MPa				○	○			○	○	○
	37.2		Alpha / Beta alloys	A	960 MPa					○				○	○
	37.3			AH	1170 MPa									○	
	37.4		Beta alloys	A	830 MPa					○				○	○
	37.5			AH	1400 MPa									○	
H	38.1	Hardened steel		HT	45 HRC				○				○	○	
	38.2			HT	55 HRC										
	39.1			HT	58 HRC										
	39.2			HT	62 HRC										
	40	Cast Iron	Chilled	C	400	1350	●		●		●		●	●	
	41			HT	55 HRC										

Condition: A (Annealed), **AH** (Age Hardened), **C** (Cast), **HT** (Hardened & Tempered), **QT** (Quenched & Tempered)

● Optimal ○ Effective

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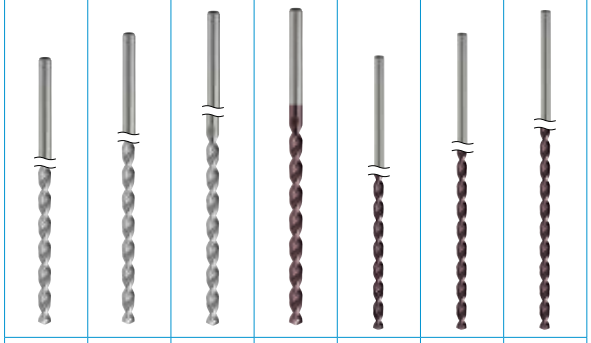
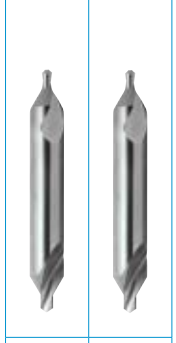
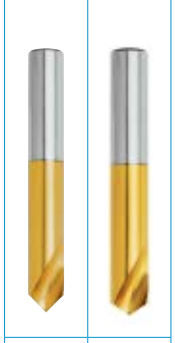






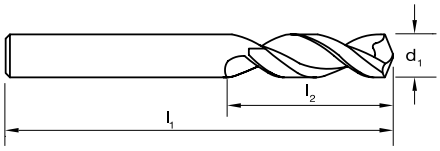
61	61	61	59	62	63	64	65	65	66	66	67	67		
D197	D198	D199	D171	D194	D195	D196	D135	D136	D175	D176	C107	C108		
HSS			HSS Co				HSS		HSS Co		HSS Co			
Brt			*TiAlN*				*Brt*		*TiN*		*Brt*	*TiAlN*		
N			NH				N		NC		N	UNI		
-			DIN 340	DIN 1869-1	DIN 1869-2	DIN 1869-3	DIN 333	ANSI B94-11	DIN 1897		DIN 335			
≤ 10xØ	≤ 12xØ	≤ 14xØ	8xØ	≤ 10xØ	≤ 12xØ	≤ 14xØ	-		-		-			
h9			h8				-		h9		h9			
													VDI^ 3323	ISO
●	●	●	●	●	●	●	●	●	●	●	●	●	1	P
●	●	●	●	●	●	●	●	●	●	●	●	●	2	P
○	○	○	●	●	●	●	○	○	●	●	●	●	3	P
○	○	○	●	●	●	●	○	○	●	●	●	●	4	P
			●	●	●	●			○	○	○	●	5	P
●	●	●	●	●	●	●	●	●	●	●	●	●	6	P
○	○	○	●	●	●	●			●	●	●	●	7	P
			●	●	●	●			○	○	○	●	8	P
			○	○	○	○						○	9	P
			●	●	●	●			○	○	○	●	10	P
			○	○	○	○						○	11	P
			○	○	○	○			○	○	○	●	12	P
			○	○	○	○			○	○		●	13	P
○	○	○	○	○	○	○	○	○	●	●	●	●	14.1	M
							○	○	●	●	●	●	14.2	M
○	○	○	○	○	○	○			○	○	○	●	14.3	M
○	○	○	●	●	●	●	○	○	●	●	●	●	15	K
			●	●	●	●			○	○	○	●	16	K
○	○	○	●	●	●	●	○	○	●	●	●	●	17	K
			●	●	●	●			○	○	●	●	18	K
○	○	○	●	●	●	●			○	○	○	●	19	K
			●	●	●	●			○	○		●	20	K
○	○	○					○	○	●	●	●	○	21	N
○	○	○					○	○	●	●	●	○	22	N
○	○	○	○	○	○	○	○	○	●	●	●	●	23	N
○	○	○	●	●	●	●	○	○	●	●	●	●	24	N
			●	●	●	●			○	○	○	●	25	N
○	○	○	○	○	○	○	○	○	●	●	●	●	26	N
○	○	○	○	○	○	○			○	○	○	●	27	N
							○	○	●	●	○	●	28	N
			○	○	○	○	○	○	○	○	○	○	29	N
													30	N
									○	○	○	○	31	S
									○	○	○	○	32	S
									○	○	○	○	33	S
									○	○		○	34	S
												○	35	S
											○	○	36	S
									○	○	○	○	37.1	S
									○	○	○	○	37.2	S
												○	37.3	S
									○	○	○	○	37.4	S
												○	37.5	S
									○	○			38.1	H
													38.2	H
													39.1	H
													39.2	H
			●	●	●	●			○	○	●	●	40	H
													41	H

Condition: **A** (Annealed), **AH** (Age Hardened), **C** (Cast), **HT** (Hardened & Tempered), **QT** (Quenched & Tempered)

● Optimal ○ Effective

suttontools

- High performance drill
- Suitable for materials up to 1200N/mm²
- Point geometry ensures high strength
- Parabolic flute design for optimal chip transportation
- TiAlN for longer tool life



Catalogue Code	D151
Product Group	A1006
Material	HSS Co
Surface Finish	*TiAlN*
Sutton Designation	NH
Geometry	R40
Point Type	130°
Shank Tolerance	h8

Size Ref.	d_1 (h8)	l_1	l_2	Point	Item #
0100	1.0	26	6	A	D151 0100
0110	1.1	28	7	A	D151 0110
0120	1.2	30	8	A	D151 0120
0130	1.3	30	8	A	D151 0130
0140	1.4	32	9	A	D151 0140
0150	1.5	32	9	A	D151 0150
0160	1.6	34	10	A	D151 0160
0170	1.7	34	10	A	D151 0170
0180	1.8	36	11	A	D151 0180
0190	1.9	36	11	A	D151 0190
0200	2.0	38	12	B	D151 0200
0210	2.1	40	13	B	D151 0210
0220	2.2	40	13	B	D151 0220
0230	2.3	40	13	B	D151 0230
0240	2.4	43	14	B	D151 0240
0250	2.5	43	14	B	D151 0250
0260	2.6	43	14	B	D151 0260
0270	2.7	46	16	B	D151 0270
0280	2.8	46	16	B	D151 0280
0290	2.9	46	16	B	D151 0290
0300	3.0	46	16		D151 0300
0310	3.1	49	18		D151 0310
0320	3.2	49	18		D151 0320
0330	3.3	49	18		D151 0330
0340	3.4	52	20		D151 0340
0350	3.5	52	20		D151 0350
0360	3.6	52	20		D151 0360
0370	3.7	52	20		D151 0370
0380	3.8	55	22		D151 0380
0390	3.9	55	22		D151 0390
0400	4.0	55	22		D151 0400
0410	4.1	55	22		D151 0410
0420	4.2	55	22		D151 0420
0430	4.3	58	24		D151 0430
0440	4.4	58	24		D151 0440
0450	4.5	58	24		D151 0450
0460	4.6	58	24		D151 0460
0470	4.7	58	24		D151 0470
0480	4.8	62	26		D151 0480
0490	4.9	62	26		D151 0490

Size Ref.	d_1 (h8)	l_1	l_2	Item #
0500	5.0	62	26	D151 0500
0510	5.1	62	26	D151 0510
0520	5.2	62	26	D151 0520
0530	5.3	62	26	D151 0530
0540	5.4	66	28	D151 0540
0550	5.5	66	28	D151 0550
0560	5.6	66	28	D151 0560
0570	5.7	66	28	D151 0570
0580	5.8	66	28	D151 0580
0590	5.9	66	28	D151 0590
0600	6.0	66	28	D151 0600
0610	6.1	70	31	D151 0610
0620	6.2	70	31	D151 0620
0630	6.3	70	31	D151 0630
0640	6.4	70	31	D151 0640
0650	6.5	70	31	D151 0650
0660	6.6	70	31	D151 0660
0670	6.7	70	31	D151 0670
0680	6.8	74	34	D151 0680
0690	6.9	74	34	D151 0690
0700	7.0	74	34	D151 0700
0710	7.1	74	34	D151 0710
0720	7.2	74	34	D151 0720
0730	7.3	74	34	D151 0730
0740	7.4	74	34	D151 0740
0750	7.5	74	34	D151 0750
0760	7.6	79	37	D151 0760
0770	7.7	79	37	D151 0770
0780	7.8	79	37	D151 0780
0790	7.9	79	37	D151 0790
0800	8.0	79	37	D151 0800
0810	8.1	79	37	D151 0810
0820	8.2	79	37	D151 0820
0830	8.3	79	37	D151 0830
0840	8.4	79	37	D151 0840
0850	8.5	79	37	D151 0850
0860	8.6	84	40	D151 0860
0870	8.7	84	40	D151 0870
0880	8.8	84	40	D151 0880
0890	8.9	84	40	D151 0890

ISO	P													M			K						N									S										H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
D151	●	●	●	●	●	●	●	●	○	●	○	○	○	○	○	●	●	●	●	●	●	●			●	●	●	○	○	○	○																●	

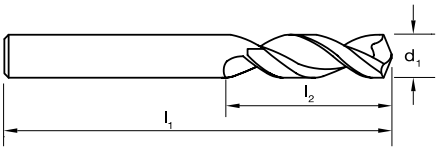
P Steel M Stainless Steel K Cast Iron N Non-Ferrous Metals S Titanium & Super Alloys H Hard Materials

● Optimal ○ Effective

suttontools

- High performance drill
- Suitable for materials up to 1200N/mm²
- Point geometry ensures high strength
- Parabolic flute design for optimal chip transportation
- TiAlN for longer tool life

DIN 1897 | 3xd1



Catalogue Code	D151
Product Group	A1006
Material	HSS Co
Surface Finish	TiAlN
Sutton Designation	NH
Geometry	R40
Point Type	130°
Shank Tolerance	h8

Size Ref.	d_1 (h8)	l_1	l_2	Item #
0900	9.0	84	40	D151 0900
0910	9.1	84	40	D151 0910
0920	9.2	84	40	D151 0920
0930	9.3	84	40	D151 0930
0940	9.4	84	40	D151 0940
0950	9.5	84	40	D151 0950
0960	9.6	89	43	D151 0960
0970	9.7	89	43	D151 0970
0980	9.8	89	43	D151 0980
0990	9.9	89	43	D151 0990
1000	10.0	89	43	D151 1000
1010	10.1	89	43	•
1020	10.2	89	43	D151 1020
1030	10.3	89	43	D151 1030
1040	10.4	89	43	D151 1040
1050	10.5	89	43	D151 1050
1060	10.6	95	47	D151 1060
1070	10.7	95	47	D151 1070
1080	10.8	95	47	D151 1080
1090	10.9	95	47	D151 1090
1100	11.0	95	47	D151 1100
1110	11.1	95	47	D151 1110
1120	11.2	95	47	•
1130	11.3	95	47	D151 1130
1140	11.4	95	47	D151 1140
1150	11.5	95	47	D151 1150
1160	11.6	95	47	•
1170	11.7	95	47	•
1180	11.8	95	47	D151 1180
1190	11.9	102	51	•
1200	12.0	102	51	D151 1200
1210	12.1	102	51	•
1220	12.2	102	51	D151 1220
1230	12.3	102	51	•
1240	12.4	102	51	•
1250	12.5	102	51	D151 1250
1260	12.6	102	51	•
1270	12.7	102	51	D151 1270
1280	12.8	102	51	D151 1280
1290	12.9	102	51	D151 1290

Size Ref.	d_1 (h8)	l_1	l_2	Item #
1300	13.0	102	51	D151 1300
1350	13.5	107	54	D151 1350
1400	14.0	107	54	D151 1400
1450	14.5	111	56	D151 1450
1500	15.0	111	56	D151 1500
1550	15.5	115	58	D151 1550
1600	16.0	115	58	D151 1600
1650	16.5	119	60	D151 1650
1700	17.0	119	60	D151 1700
1750	17.5	123	62	D151 1750
1800	18.0	123	62	D151 1800
1850	18.5	127	64	D151 1850
1900	19.0	127	64	D151 1900
1950	19.5	131	66	D151 1950
2000	20.0	131	66	D151 2000

ISO	P												M			K						N								S										H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
D151	●	●	●	●	●	●	●	●	○	●	○	○	○	○	○	●	●	●	●	●	●	●			●	●	●	○	○	○	○																	●	

P Steel | M Stainless Steel | K Cast Iron | N Non-Ferrous Metals | S Titanium & Super Alloys | H Hard Materials

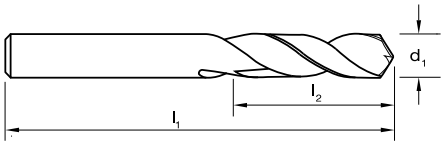
● Optimal ○ Effective

• Available on request as special manufacture. Subject to lead time.

suttontools

- High performance drill
- Suitable for materials up to 850N/mm²
- Special point geometry with radius cutting lips
- Produces short chips
- TiAlN for longer tool life

DIN 1897 | 3xd1



Catalogue Code	D177
Product Group	A1006
Material	HSS Co
Surface Finish	*TiAlN*
Sutton Designation	WN
Geometry	R35
Point Type	130° Form A
Shank Tolerance	h8

Size Ref.	d_1 (h8)	l_1	l_2	Item #
0100	1.0	26	6	D177 0100
0110	1.1	28	7	D177 0110
0120	1.2	30	8	D177 0120
0130	1.3	30	8	D177 0130
0140	1.4	32	9	D177 0140
0150	1.5	32	9	D177 0150
0160	1.6	34	10	D177 0160
0170	1.7	34	10	D177 0170
0180	1.8	36	11	D177 0180
0190	1.9	36	11	D177 0190
0200	2.0	38	12	D177 0200
0210	2.1	40	13	D177 0210
0220	2.2	40	13	D177 0220
0230	2.3	40	13	D177 0230
0240	2.4	43	14	D177 0240
0250	2.5	43	14	D177 0250
0260	2.6	43	14	D177 0260
0270	2.7	46	16	D177 0270
0280	2.8	46	16	D177 0280
0290	2.9	46	16	D177 0290
0300	3.0	46	16	D177 0300
0310	3.1	49	18	D177 0310
0320	3.2	49	18	D177 0320
0330	3.3	49	18	D177 0330
0340	3.4	52	20	D177 0340
0350	3.5	52	20	D177 0350
0360	3.6	52	20	D177 0360
0370	3.7	52	20	D177 0370
0380	3.8	55	22	D177 0380
0390	3.9	55	22	D177 0390
0400	4.0	55	22	D177 0400
0410	4.1	55	22	D177 0410
0420	4.2	55	22	D177 0420
0430	4.3	58	24	D177 0430
0440	4.4	58	24	D177 0440
0450	4.5	58	24	D177 0450
0460	4.6	58	24	D177 0460
0470	4.7	58	24	D177 0470
0480	4.8	62	26	D177 0480
0490	4.9	62	26	D177 0490

Size Ref.	d_1 (h8)	l_1	l_2	Item #
0500	5.0	62	26	D177 0500
0510	5.1	62	26	D177 0510
0520	5.2	62	26	D177 0520
0530	5.3	62	26	D177 0530
0540	5.4	66	28	D177 0540
0550	5.5	66	28	D177 0550
0560	5.6	66	28	D177 0560
0570	5.7	66	28	D177 0570
0580	5.8	66	28	D177 0580
0590	5.9	66	28	D177 0590
0600	6.0	66	28	D177 0600
0610	6.1	70	31	D177 0610
0620	6.2	70	31	D177 0620
0630	6.3	70	31	D177 0630
0640	6.4	70	31	D177 0640
0650	6.5	70	31	D177 0650
0660	6.6	70	31	D177 0660
0670	6.7	70	31	D177 0670
0680	6.8	74	34	D177 0680
0690	6.9	74	34	D177 0690
0700	7.0	74	34	D177 0700
0710	7.1	74	34	D177 0710
0720	7.2	74	34	D177 0720
0730	7.3	74	34	D177 0730
0740	7.4	74	34	D177 0740
0750	7.5	74	34	D177 0750
0760	7.6	79	37	D177 0760
0770	7.7	79	37	D177 0770
0780	7.8	79	37	D177 0780
0790	7.9	79	37	D177 0790
0800	8.0	79	37	D177 0800
0810	8.1	79	37	D177 0810
0820	8.2	79	37	D177 0820
0830	8.3	79	37	D177 0830
0840	8.4	79	37	D177 0840
0850	8.5	79	37	D177 0850
0860	8.6	84	40	D177 0860
0870	8.7	84	40	D177 0870
0880	8.8	84	40	D177 0880
0890	8.9	84	40	D177 0890

ISO	P													M			K						N										S											H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
D177	●	●	●	●	○	●	○	○		○				○	○	○							●	●	●	●	○	●	○	●	○																		

P Steel | M Stainless Steel | K Cast Iron | N Non-Ferrous Metals | S Titanium & Super Alloys | H Hard Materials

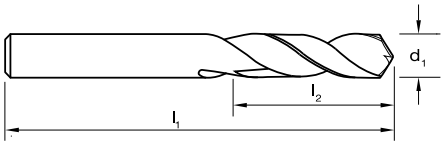
● Optimal ○ Effective

Drills Stub, DXS

suttontools

- High performance drill
- Suitable for materials up to 850N/mm²
- Special point geometry with radius cutting lips
- Produces short chips
- TiAlN for longer tool life

DIN 1897 | 3xd1



Catalogue Code	D177
Product Group	A1006
Material	HSS Co
Surface Finish	TiAlN
Sutton Designation	WN
Geometry	R35
Point Type	130° Form A
Shank Tolerance	h8

Size Ref.	d_1 (m7)	l_1	l_2	Item #
0900	9.0	84	40	D177 0900
0910	9.1	84	40	D177 0910
0920	9.2	84	40	D177 0920
0930	9.3	84	40	D177 0930
0940	9.4	84	40	D177 0940
0950	9.5	84	40	D177 0950
0960	9.6	89	43	D177 0960
0970	9.7	89	43	D177 0970
0980	9.8	89	43	D177 0980
0990	9.9	89	43	D177 0990
1000	10.0	89	43	D177 1000
1010	10.1	89	43	D177 1010
1020	10.2	89	43	D177 1020
1050	10.5	89	43	D177 1050
1080	10.8	95	47	D177 1080
1100	11.0	95	47	D177 1100
1120	11.2	95	47	D177 1120
1150	11.5	95	47	D177 1150
1180	11.8	95	47	D177 1180
1200	12.0	102	51	D177 1200
1220	12.2	102	51	D177 1220
1250	12.5	102	51	D177 1250
1280	12.8	102	51	D177 1280
1300	13.0	102	51	D177 1300

Size Ref.	Range	l_1	l_2	Pieces	Item #
1350	13.5	107	54		D177 1350
1400	14.0	107	54		D177 1400
1450	14.5	111	56		D177 1450
1500	15.0	111	56		D177 1500
1550	15.5	115	58		D177 1550
1600	16.0	115	58		D177 1600
1650	16.5	119	60		D177 1650
1700	17.0	119	60		D177 1700
1750	17.5	123	62		D177 1750
1800	18.0	123	62		D177 1800
1850	18.5	127	64		D177 1850
1900	19.0	127	64		D177 1900
1950	19.5	131	66		D177 1950
2000	20.0	131	66		D177 2000
Set					
SM2	1.0 - 10.0 x 0.5			19	D177 SM2

D177 SM2

ISO	P												M			K						N									S												H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
D177	●	●	●	●	○	●	○	○		○				○	○	○							●	●	●	●	○	●	○	●	○																		

P Steel | M Stainless Steel | K Cast Iron | N Non-Ferrous Metals | S Titanium & Super Alloys | H Hard Materials

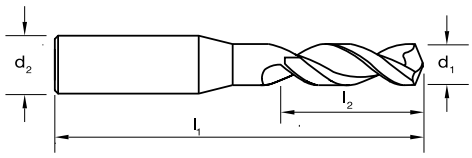
● Optimal ○ Effective

Drills Stub, R40 UNI

suttontools

- SPM offers superior performance
- Suitable for production drilling as an alternative to carbide drills
- Suitable for materials up to 1500N/mm²
- Point geometry ensures high strength & short chips
- Endmill shank for greater accuracy
- TiAlN for longer tool life

DIN ~1897 | 3xd1 | h7



Catalogue Code	D155
Product Group	A1502
Material	SPM
Surface Finish	*TiAlN*
Sutton Designation	UNI
Geometry	R40
Point Type	130° 4 Facet Form B
Shank Tolerance	h7

Size Ref.	d_1 (h8)	l_1	l_2	d_2	Item #
0100	1.0	38	6	3	D155 0100
0110	1.1	39	7	3	D155 0110
0120	1.2	40	8	3	D155 0120
0130	1.3	40	8	3	D155 0130
0140	1.4	41	9	3	D155 0140
0150	1.5	41	9	3	D155 0150
0160	1.6	42	10	3	D155 0160
0170	1.7	42	10	3	D155 0170
0180	1.8	43	11	3	D155 0180
0190	1.9	43	11	3	D155 0190
0200	2.0	44	12	3	D155 0200
0210	2.1	44	12	3	D155 0210
0220	2.2	45	13	3	D155 0220
0230	2.3	45	13	3	D155 0230
0240	2.4	46	14	3	D155 0240
0250	2.5	46	14	3	D155 0250
0260	2.6	46	14	3	D155 0260
0270	2.7	46	16	3	D155 0270
0280	2.8	46	16	3	D155 0280
0290	2.9	46	16	3	D155 0290
0300	3.0	46	16	3	D155 0300
0310	3.1	49	18	4	D155 0310
0320	3.2	49	18	4	D155 0320
0330	3.3	49	18	4	D155 0330
0340	3.4	52	20	4	D155 0340
0350	3.5	52	20	4	D155 0350
0360	3.6	52	20	4	D155 0360
0370	3.7	52	20	4	D155 0370
0380	3.8	55	22	4	D155 0380
0390	3.9	55	22	4	D155 0390
0400	4.0	55	22	4	D155 0400
0410	4.1	55	22	6	D155 0410
0420	4.2	55	22	6	D155 0420
0430	4.3	58	24	6	D155 0430
0440	4.4	58	24	6	D155 0440
0450	4.5	58	24	6	D155 0450
0460	4.6	58	24	6	D155 0460
0470	4.7	58	24	6	D155 0470
0480	4.8	62	26	6	D155 0480
0490	4.9	62	26	6	D155 0490

Size Ref.	d_1 (h8)	l_1	l_2	d_2	Item #
0500	5.0	62	26	6	D155 0500
0510	5.1	62	26	6	D155 0510
0520	5.2	62	26	6	D155 0520
0530	5.3	62	26	6	D155 0530
0540	5.4	66	28	6	D155 0540
0550	5.5	66	28	6	D155 0550
0560	5.6	66	28	6	D155 0560
0570	5.7	66	28	6	D155 0570
0580	5.8	66	28	6	D155 0580
0590	5.9	66	28	6	D155 0590
0600	6.0	66	28	6	D155 0600
0610	6.1	70	31	8	D155 0610
0620	6.2	70	31	8	D155 0620
0630	6.3	70	31	8	D155 0630
0640	6.4	70	31	8	D155 0640
0650	6.5	70	31	8	D155 0650
0660	6.6	70	31	8	D155 0660
0670	6.7	70	31	8	D155 0670
0680	6.8	74	34	8	D155 0680
0690	6.9	74	34	8	D155 0690
0700	7.0	74	34	8	D155 0700
0710	7.1	74	34	8	D155 0710
0720	7.2	74	34	8	D155 0720
0730	7.3	74	34	8	D155 0730
0740	7.4	74	34	8	D155 0740
0750	7.5	74	34	8	D155 0750
0760	7.6	79	37	8	D155 0760
0770	7.7	79	37	8	D155 0770
0780	7.8	79	37	8	D155 0780
0790	7.9	79	37	8	D155 0790
0800	8.0	79	37	8	D155 0800
0810	8.1	79	37	10	D155 0810
0820	8.2	79	37	10	D155 0820
0830	8.3	79	37	10	D155 0830
0840	8.4	79	37	10	D155 0840
0850	8.5	79	37	10	D155 0850
0860	8.6	84	40	10	D155 0860
0870	8.7	84	40	10	D155 0870
0880	8.8	84	40	10	D155 0880
0890	8.9	84	40	10	D155 0890

ISO	P													M			K						N										S											H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
D155	●	●	●	●	●	●	●	●	○	●	○	●	○	○	○	●	●	●	●	●	●	●	○	○	●	●		○	●	○	○				○				○					○				●	

P Steel | M Stainless Steel | K Cast Iron | N Non-Ferrous Metals | S Titanium & Super Alloys | H Hard Materials

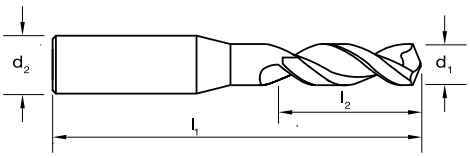
● Optimal ○ Effective

Drills Stub, R40 UNI

suttontools

- SPM offers superior performance
- Suitable for production drilling as an alternative to carbide drills
- Suitable for materials up to 1500N/mm²
- Point geometry ensures high strength & short chips
- Endmill shank for greater accuracy
- TiAlN for longer tool life

DIN ~1897 | 3xd1 | h7



Catalogue Code	D155
Product Group	A1502
Material	SPM
Surface Finish	TiAlN
Sutton Designation	UNI
Geometry	R40
Point Type	130° 4 Facet Form B
Shank Tolerance	h7

Size Ref.	d_1 (m7)	l_1	l_2	d_2	Item #
0900	9.0	84	40	10	D155 0900
0910	9.1	84	40	10	D155 0910
0920	9.2	84	40	10	D155 0920
0930	9.3	84	40	10	D155 0930
0940	9.4	84	40	10	D155 0940
0950	9.5	84	40	10	D155 0950
0960	9.6	89	43	10	D155 0960
0970	9.7	89	43	10	D155 0970
0980	9.8	89	43	10	D155 0980
0990	9.9	89	43	10	D155 0990
1000	10.0	89	43	10	D155 1000
1010	10.1	89	43	10	D155 1010
1020	10.2	89	43	10	D155 1020
1030	10.3	89	43	10	D155 1030
1040	10.4	89	43	10	D155 1040
1050	10.5	89	43	10	D155 1050
1060	10.6	95	47	12	D155 1060
1070	10.7	95	47	12	D155 1070
1080	10.8	95	47	12	D155 1080
1090	10.9	95	47	12	D155 1090
1100	11.0	95	47	12	D155 1100
1110	11.1	95	47	12	D155 1110
1120	11.2	95	47	12	D155 1120
1130	11.3	95	47	12	D155 1130
1140	11.4	95	47	12	D155 1140
1150	11.5	95	47	12	D155 1150
1160	11.6	95	47	12	D155 1160
1170	11.7	95	47	12	D155 1170
1180	11.8	95	47	12	D155 1180
1190	11.9	102	51	12	D155 1190
1200	12.0	102	51	12	D155 1200
1210	12.1	102	51	12	D155 1210
1220	12.2	102	51	12	D155 1220
1230	12.3	102	51	12	D155 1230
1240	12.4	102	51	12	D155 1240
1250	12.5	102	51	12	D155 1250
1260	12.6	102	51	12	D155 1260
1270	12.7	102	51	12	D155 1270
1280	12.8	102	51	12	D155 1280
1290	12.9	102	51	12	D155 1290

Size Ref.	d_1 (m7)	l_1	l_2	d_2	Item #
1300	13.0	102	51	12	D155 1300
1350	13.5	107	54	16	D155 1350
1400	14.0	107	54	16	D155 1400
1450	14.5	111	56	16	D155 1450
1500	15.0	111	56	16	D155 1500
1550	15.5	115	58	16	D155 1550
1600	16.0	115	58	16	D155 1600
1650	16.5	119	60	20	D155 1650
1700	17.0	119	60	20	D155 1700
1750	17.5	123	62	20	D155 1750
1800	18.0	123	62	20	D155 1800
1850	18.5	127	64	20	D155 1850
1900	19.0	127	64	20	D155 1900
1950	19.5	131	66	20	D155 1950
2000	20.0	131	66	20	D155 2000

ISO	P												M			K						N								S										H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
D155	●	●	●	●	●	●	●	●	○	●	○	●	○	○	○	●	●	●	●	●	●	●	○	○	●	●		○	●	○	○				○				○					○				●	

P Steel | M Stainless Steel | K Cast Iron | N Non-Ferrous Metals | S Titanium & Super Alloys | H Hard Materials

● Optimal ○ Effective

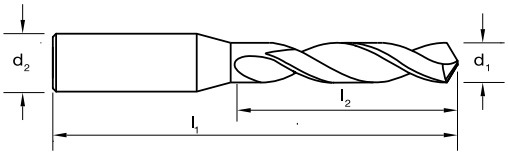
Drills Stub, R40 VA *Black Magic*

suttontools BLACKMAGIC

watch the video

- High performance drill
- Excellent solution for austenitic stainless steels and most long chipping materials
- Optimised geometry ensures no work hardening and high productivity
- Endmill shank for greater accuracy
- TiAlN for longer tool life

DIN ~1897 | 3xd1 | h7



Catalogue Code	D153
Product Group	A1502
Material	HSS Co
Surface Finish	*TiAlN*
Sutton Designation	VA
Geometry	R40
Point Type	4 Facet
Shank Tolerance	h7

Size Ref.	d_1 (h8)	l_1	l_2	d_2	Point Angle	Item #
0050	0.5	38	3	3	140°	D153 0050
0060	0.6	38	3.5	3	140°	D153 0060
0070	0.7	38	4.5	3	140°	D153 0070
0080	0.8	38	5	3	140°	D153 0080
0085	0.85	38	5.5	3	140°	D153 0085
0086	0.86	38	5.5	3	140°	•
0090	0.9	38	5.5	3	140°	D153 0090
0095	0.95	38	5.5	3	140°	D153 0095
0098	0.98	38	6	3	140°	D153 0098
0100	1.0	38	6	3	140°	D153 0100
0105	1.05	38	6	3	140°	D153 0105
0106	1.06	38	7	3	140°	•
0110	1.1	39	7	3	140°	D153 0110
0120	1.2	40	8	3	140°	D153 0120
0126	1.26	40	8	3	140°	•
0130	1.3	40	8	3	140°	D153 0130
0135	1.35	41	8	3	140°	•
0138	1.38	41	9	3	140°	•
0140	1.4	41	9	3	140°	D153 0140
0142	1.42	41	9	3	140°	•
0145	1.45	41	9	3	140°	D153 0145
0146	1.46	41	9	3	140°	•
0148	1.48	41	9	3	140°	•
0150	1.5	41	9	3	140°	D153 0150
0153	1.53	42	10	3	140°	•
0160	1.6	42	10	3	140°	D153 0160
0170	1.7	42	10	3	140°	D153 0170
0180	1.8	43	11	3	140°	D153 0180
0183	1.83	43	11	3	140°	•
0190	1.9	43	11	3	140°	D153 0190
0195	1.95	44	12	3	140°	D153 0195
0200	2.0	44	12	3	130°	D153 0200
0209	2.09	44	12	3	130°	•
0210	2.1	44	12	3	130°	D153 0210
0220	2.2	45	13	3	130°	D153 0220
0226	2.26	45	13	3	130°	•
0230	2.3	45	13	3	130°	D153 0230
0240	2.4	46	14	3	130°	D153 0240
0250	2.5	46	14	3	130°	D153 0250
0260	2.6	46	14	3	130°	D153 0260

Size Ref.	d_1 (h8)	l_1	l_2	d_2	Point Angle	Item #
0270	2.7	46	16	3	130°	D153 0270
0276	2.76	46	16	3	130°	•
0280	2.8	46	16	3	130°	D153 0280
0285	2.85	46	16		130°	D153 0285
0290	2.9	46	16	3	130°	D153 0290
0300	3.0	46	16	3	130°	D153 0300
0310	3.1	49	18	4	130°	D153 0310
0318	3.18 1/8	49	18	4	130°	D153 0318
0320	3.2	49	18	4	130°	D153 0320
0330	3.3	49	18	4	130°	D153 0330
0340	3.4	52	20	4	130°	D153 0340
0350	3.5	52	20	4	130°	D153 0350
0357	3.57 9/64	52	20	4	130°	D153 0357
0360	3.6	52	20	4	130°	D153 0360
0370	3.7	52	20	4	130°	D153 0370
0378	3.78	52	20	4	130°	D153 0378
0380	3.8	55	22	4	130°	D153 0380
0390	3.9	55	22	4	130°	D153 0390
0397	3.97 5/32	55	22	4	130°	D153 0397
0400	4.0	55	22	4	130°	D153 0400
0410	4.1	55	22	6	120°	D153 0410
0420	4.2	55	22	6	120°	D153 0420
0430	4.3	58	24	6	120°	D153 0430
0437	4.37 11/64	58	24	6	120°	D153 0437
0440	4.4	58	24	6	120°	D153 0440
0450	4.5	58	24	6	120°	D153 0450
0460	4.6	58	24	6	120°	D153 0460
0465	4.65	58	24	6	120°	D153 0465
0470	4.7	58	24	6	120°	D153 0470
0476	4.76 3/16	62	26	6	120°	D153 0476
0478	4.78	62	26	6	120°	D153 0478
0480	4.8	62	26	6	120°	D153 0480
0490	4.9	62	26	6	120°	D153 0490
0500	5.0	62	26	6	120°	D153 0500
0505	5.05	62	26	6	120°	D153 0505
0510	5.1	62	26	6	120°	D153 0510
0516	5.16 13/64	62	26	6	120°	D153 0516
0520	5.2	62	26	6	120°	D153 0520
0530	5.3	62	26	6	120°	D153 0530
0540	5.4	66	28	6	120°	D153 0540

ISO	P													M			K						N										S												H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
D153	●	○	○	○		○	○					●	○	●	●	●							●	●	●	●		●		●	○								○	○		○						

P Steel | M Stainless Steel | K Cast Iron | N Non-Ferrous Metals | S Titanium & Super Alloys | H Hard Materials

● Optimal ○ Effective

Available in 0.01mm sizes up to 6.0mm on request • Available on request as special manufacture. Subject to lead time.

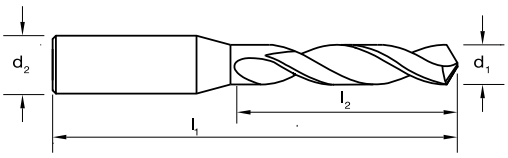
Drills Stub, R40 VA *Black Magic*

suttontools BLACKMAGIC

watch the video

- High performance drill
- Excellent solution for austenitic stainless steels and most long chipping materials
- Optimised geometry ensures no work hardening and high productivity
- Endmill shank for greater accuracy
- TiAlN for longer tool life

DIN ~1897 | 3xd1 | h7



Catalogue Code	D153
Product Group	A1502
Material	HSS Co
Surface Finish	*TiAlN*
Sutton Designation	VA
Geometry	R40
Point Type	4 Facet
Shank Tolerance	h7

Size Ref.	d_1 (h8)	l_1	l_2	d_2	Point Angle	Item #
0550	5.5	66	28	6	120°	D153 0550
0555	5.55	66	28	6	120°	D153 0555
0556	5.56 7/32	66	28	6	120°	D153 0556
0560	5.6	66	28	6	120°	D153 0560
0565	5.65	66	28	6	120°	D153 0565
0570	5.7	66	28	6	120°	D153 0570
0580	5.8	66	28	6	120°	D153 0580
0590	5.9	66	28	6	120°	D153 0590
0595	5.95 15/64	66	28	6	120°	D153 0595
0600	6.0	66	28	6	120°	D153 0600
0610	6.1	70	31	8	120°	D153 0610
0620	6.2	70	31	8	120°	D153 0620
0630	6.3	70	31	8	120°	D153 0630
0635	6.35 1/4	70	31	8	120°	D153 0635
0640	6.4	70	31	8	120°	D153 0640
0650	6.5	70	31	8	120°	D153 0650
0660	6.6	70	31	8	120°	D153 0660
0670	6.7	70	31	8	120°	D153 0670
0676	6.76 17/64	74	34	8	120°	D153 0676
0680	6.8	74	34	8	120°	D153 0680
0690	6.9	74	34	8	120°	D153 0690
0700	7.0	74	34	8	120°	D153 0700
0710	7.1	74	34	8	120°	D153 0710
0714	7.14 9/32	74	34	8	120°	D153 0714
0720	7.2	74	34	8	120°	D153 0720
0730	7.3	74	34	8	120°	D153 0730
0740	7.4	74	34	8	120°	D153 0740
0750	7.5	74	34	8	120°	D153 0750
0754	7.54 19/64	79	37	8	120°	D153 0754
0755	7.55	79	37	8	120°	D153 0755
0760	7.6	79	37	8	120°	D153 0760
0770	7.7	79	37	8	120°	D153 0770
0780	7.8	79	37	8	120°	D153 0780
0790	7.9	79	37	8	120°	D153 0790
0794	7.94 5/16	79	37	8	120°	D153 0794
0800	8.0	79	37	8	120°	D153 0800
0810	8.1	79	37	10	120°	D153 0810
0820	8.2	79	37	10	120°	D153 0820
0830	8.3	79	37	10	120°	D153 0830
0833	8.33 21/64	79	37	10	120°	D153 0833

Size Ref.	d_1 (h8)	l_1	l_2	d_2	Point Angle	Item #
0840	8.4	79	37	10	120°	D153 0840
0850	8.5	79	37	10	120°	D153 0850
0860	8.6	84	40	10	120°	D153 0860
0870	8.7	84	40	10	120°	D153 0870
0873	8.73 11/32	84	40	10	120°	D153 0873
0880	8.8	84	40	10	120°	D153 0880
0890	8.9	84	40	10	120°	D153 0890
0900	9.0	84	40	10	120°	D153 0900
0910	9.1	84	40	10	120°	D153 0910
0913	9.13 23/64	84	40	10	120°	D153 0913
0920	9.2	84	40	10	120°	D153 0920
0930	9.3	84	40	10	120°	D153 0930
0940	9.4	84	40	10	120°	D153 0940
0950	9.5	84	40	10	120°	D153 0950
0953	9.53 3/8	89	43	10	120°	D153 0953
0955	9.55	89	43	10	120°	D153 0955
0960	9.6	89	43	10	120°	D153 0960
0970	9.7	89	43	10	120°	D153 0970
0980	9.8	89	43	10	120°	D153 0980
0990	9.9	89	43	10	120°	D153 0990
0992	9.92 25/64	89	43	10	120°	D153 0992
1000	10.0	89	43	10	120°	D153 1000
1010	10.1	89	43	10	120°	D153 1010
1020	10.2	89	43	10	120°	D153 1020
1030	10.3	89	43	10	120°	D153 1030
1032	10.32 13/32	89	43	10	120°	D153 1032
1040	10.4	89	43	10	120°	D153 1040
1050	10.5	89	43	10	120°	D153 1050
1060	10.6	89	43	12	120°	D153 1060
1070	10.7	95	47	12	120°	D153 1070
1072	10.72 27/64	95	47	12	120°	D153 1072
1080	10.8	95	47	12	120°	D153 1080
1090	10.9	95	47	12	120°	D153 1090
1100	11.0	95	47	12	120°	D153 1100
1110	11.1	95	47	12	120°	D153 1110
1111	11.11 7/16	95	47	12	120°	D153 1111
1120	11.2	95	47	12	120°	D153 1120
1130	11.3	95	47	12	120°	D153 1130
1140	11.4	95	47	12	120°	D153 1140
1150	11.5	95	47	12	120°	D153 1150

ISO	P												M			K						N									S										H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
D153	●	○	○	○		○	○					●	○	●	●	●							●	●	●	●		●		●	○									○	○		○						

P Steel | M Stainless Steel | K Cast Iron | N Non-Ferrous Metals | S Titanium & Super Alloys | H Hard Materials

● Optimal ○ Effective

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Drills Stub, R40 VA *Black Magic*

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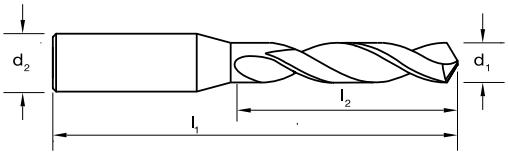


Catalogue Code	D153
Product Group	A1502
Material	HSS Co
Surface Finish	*TiAlN*
Sutton Designation	**VA**
Geometry	R40
Point Type	4 Facet
Shank Tolerance	h7

Size Ref.	d_1 (h8)	l_1	l_2	d_2	Point Angle	Form	Item #
1151	11.51 **29/64**	95	47	12	120°		D153 1151
1160	**11.6**	95	47	12	120°		D153 1160
1170	**11.7**	95	47	12	120°		D153 1170
1180	**11.8**	95	47	12	120°		D153 1180
1190	**11.9**	102	51	12	120°		D153 1190
1191	11.91 **15/32**	102	51	12	120°		D153 1191
1200	**12.0**	102	51	12	120°		D153 1200
1210	**12.1**	102	51	12	120°		D153 1210
1220	**12.2**	102	51	12	120°		D153 1220
1230	**12.3**	102	51	12	120°		D153 1230
1231	12.3 **31/64**	102	51	12	120°		D153 1231
1240	**12.4**	102	51	12	120°		D153 1240
1250	**12.5**	102	51	12	120°		D153 1250
1260	**12.6**	102	51	12	120°		D153 1260
1270	**12.7**	102	51	12	120°		D153 1270
1269	12.7 **1/2**	102	51	12	120°		D153 1269
1280	**12.8**	102	51	12	120°		D153 1280

Size Ref.	d_1 (h8)	l_1	l_2	d_2	Point Angle	Form	Item #
1290	**12.9**	102	51	12	120°		D153 1290
1300	**13.0**	102	51	12	120°		D153 1300
1350	**13.5**	107	54	16	120°	A	D153 1350
1400	**14.0**	107	54	16	120°	A	D153 1400
1450	**14.5**	111	56	16	120°	A	D153 1450
1500	**15.0**	111	56	16	120°	A	D153 1500
1550	**15.5**	115	58	16	120°	A	D153 1550
1600	**16.0**	115	58	16	120°	A	D153 1600
1650	**16.5**	119	60	20	120°	A	D153 1650
1700	**17.0**	119	60	20	120°	A	D153 1700
1750	**17.5**	123	62	20	120°	A	D153 1750
1800	**18.0**	123	62	20	120°	A	D153 1800
1850	**18.5**	127	64	20	120°	A	D153 1850
1900	**19.0**	127	64	20	120°	A	D153 1900
1950	**19.5**	131	66	20	120°	A	D153 1950
2000	**20.0**	131	66	20	120°	A	D153 2000

ISO	P												M			K						N									S										H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
D153	●	○	○	○		○	○					●	○	●	●	●							●	●	●	●		●		●	○									○	○		○						

P Steel **M** Stainless Steel **K** Cast Iron **N** Non-Ferrous Metals **S** Titanium & Super Alloys **H** Hard Materials

● Optimal ○ Effective

VA Black Magic Carbide Drills Stainless Steel Drilling...

Scan to watch the video

Newly developed hardwearing super alloy materials call for innovative tools for effective and efficient machining. Sutton Tools' latest product release, the Black Magic Carbide Drill ranges, provides the ideal solution for high-quality drilling of the latest materials found in the aerospace and oil & gas industries.

Sutton Tools has launched its new range of Black Magic Carbide Drills, aimed specifically at stainless steels and super alloys such as austenitic stainless steels 304 and 316, duplex grades, and inconels 718 and 725, in the aerospace and oil & gas industries.

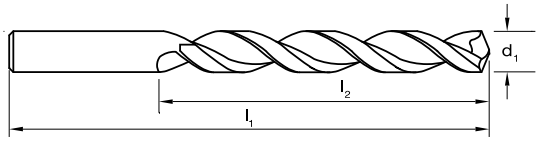
Sutton Tools is excited by the impact its Black Magic Carbide Drills line-up will have on the aerospace and oil & gas industries. The technology of its design ensures that Black Magic drills offer a winning combination of quality performance and longer tool life.

Features:

- Helica Coating – The extra-smooth surfaces of BALINIT® HELICA-coated drills mean smooth, reliable chip evacuation from the entire hole – a must if you want to exploit the full potential of your drills.
- Internal coolant ensures sufficient coolant supply to the cutting edge and optimises chip evacuation from the hole.
- Specially developed edge profile for stainless steel with post grind treatment of cutting edges
- 30° Helix with special optimised flute core and 'S' type point gash
- VHM Solid Carbide Material Ultra Micro Grain
- Available in two drill lengths with common shank sizes

suttontools

- High performance drill
- Suitable for materials up to 1200N/mm²
- Point geometry ensures high strength
- Parabolic flute design for optimal chip transportation
- TiAlN for longer tool life



Catalogue Code	D163
Product Group	A0418
Material	HSS Co
Surface Finish	*TiAlN*
Sutton Designation	NH
Geometry	R40
Point Type	130° Form B
Shank Tolerance	h8

Size Ref.	d_1 (h8)	l_1	l_2	Point Form	Item #
0100†	1.0	34	13	A	D163 0100
0110†	1.1	36	15	A	D163 0110
0120†	1.2	38	17	A	D163 0120
0130†	1.3	38	17	A	D163 0130
0140†	1.4	40	19	A	D163 0140
0150†	1.5	40	19	A	D163 0150
0160†	1.6	43	21	A	D163 0160
0170†	1.7	43	21	A	D163 0170
0180†	1.8	46	23	A	D163 0180
0190†	1.9	46	23	A	D163 0190
0200†	2.0	49	24	B	D163 0200
0210†	2.1	49	24	B	D163 0210
0220†	2.2	53	28	B	D163 0220
0230†	2.3	53	28	B	D163 0230
0240†	2.4	57	31	B	D163 0240
0250†	2.5	57	31	B	D163 0250
0260†	2.6	57	31	B	D163 0260
0270†	2.7	61	34	B	D163 0270
0280†	2.8	61	34	B	D163 0280
0290†	2.9	61	34	B	D163 0290
0300	3.0	61	33		D163 0300
0310	3.1	65	36		D163 0310
0320	3.2	65	36		D163 0320
0330	3.3	65	36		D163 0330
0340	3.4	70	39		D163 0340
0350	3.5	70	39		D163 0350
0360	3.6	70	39		D163 0360
0370	3.7	70	39		D163 0370
0380	3.8	75	43		D163 0380
0390	3.9	75	43		D163 0390
0400	4.0	75	43		D163 0400
0410	4.1	75	43		D163 0410

Size Ref.	d_1 (h8)	l_1	l_2	Item #
0420	4.2	75	43	D163 0420
0430	4.3	80	47	D163 0430
0440	4.4	80	47	D163 0440
0450	4.5	80	47	D163 0450
0460	4.6	80	47	D163 0460
0470	4.7	80	47	D163 0470
0480	4.8	86	52	D163 0480
0490	4.9	86	52	D163 0490
0500	5.0	86	52	D163 0500
0510	5.1	86	52	D163 0510
0520	5.2	86	52	D163 0520
0530	5.3	86	52	D163 0530
0540	5.4	93	57	D163 0540
0550	5.5	93	57	D163 0550
0560	5.6	93	57	D163 0560
0570	5.7	93	57	D163 0570
0580	5.8	93	57	D163 0580
0590	5.9	93	57	D163 0590
0600	6.0	93	57	D163 0600
0610	6.1	101	63	D163 0610
0620	6.2	101	63	D163 0620
0630	6.3	101	63	D163 0630
0640	6.4	101	63	D163 0640
0650	6.5	101	63	D163 0650
0660	6.6	101	63	D163 0660
0670	6.7	101	63	D163 0670
0680	6.8	109	69	D163 0680
0690	6.9	109	69	D163 0690
0700	7.0	109	69	D163 0700
0710	7.1	109	69	D163 0710
0720	7.2	109	69	D163 0720
0730	7.3	109	69	D163 0730

ISO	P													M			K						N									S											H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
D163	●	●	●	●	●	●	●	●	○	●	○	○	○	○		○	●	●	●	●	●	●			○	●	●	○	○		○																●	

P Steel M Stainless Steel K Cast Iron N Non-Ferrous Metals S Titanium & Super Alloys H Hard Materials

● Optimal ○ Effective

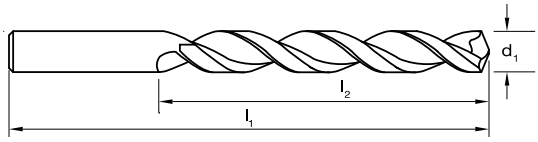
† Sizes <3.0 point type: 130° 4 Facet

Drills Jobber, DHJ

suttontools

- High performance drill
- Suitable for materials up to 1200N/mm²
- Point geometry ensures high strength
- Parabolic flute design for optimal chip transportation
- TiAlN for longer tool life

DIN 338 | 5xd1



Catalogue Code	D163
Product Group	A0418
Material	HSS Co
Surface Finish	TiAlN
Sutton Designation	NH
Geometry	R40
Point Type	130° Form B
Shank Tolerance	h8

Size Ref.	d_1 (h8)	l_1	l_2	Item #
0740	7.4	109	69	D163 0740
0750	7.5	109	69	D163 0750
0760	7.6	117	75	D163 0760
0770	7.7	117	75	D163 0770
0780	7.8	117	75	D163 0780
0790	7.9	117	75	D163 0790
0800	8.0	117	75	D163 0800
0810	8.1	117	75	D163 0810
0820	8.2	117	75	D163 0820
0830	8.3	117	75	D163 0830
0840	8.4	117	75	D163 0840
0850	8.5	117	75	D163 0850
0860	8.6	125	81	D163 0860
0870	8.7	125	81	D163 0870
0880	8.8	125	81	D163 0880
0890	8.9	125	81	D163 0890
0900	9.0	125	81	D163 0900
0910	9.1	125	81	D163 0910
0920	9.2	125	81	D163 0920
0930	9.3	125	81	D163 0930
0940	9.4	125	81	D163 0940
0950	9.5	125	81	D163 0950
0960	9.6	133	87	D163 0960
0970	9.7	133	87	D163 0970
0980	9.8	133	87	D163 0980
0990	9.9	133	87	D163 0990
1000	10.0	133	87	D163 1000
1010	10.1	133	87	•
1020	10.2	133	87	D163 1020
1030	10.3	133	87	•
1040	10.4	133	87	•
1050	10.5	133	87	D163 1050

Size Ref.	d_1 (h8)	l_1	l_2	Item #
1060	10.6	133	87	•
1070	10.7	142	94	•
1080	10.8	142	94	D163 1080
1090	10.9	142	94	•
1100	11.0	142	94	D163 1100
1110	11.1	142	94	D163 1110
1120	11.2	142	94	•
1130	11.3	142	94	•
1140	11.4	142	94	•
1150	11.5	142	94	D163 1150
1160	11.6	142	94	•
1170	11.7	142	94	•
1180	11.8	142	94	D163 1180
1190	11.9	151	101	•
1200	12.0	151	101	D163 1200
1210	12.1	151	101	•
1220	12.2	151	101	D163 1220
1230	12.3	151	101	•
1240	12.4	151	101	•
1250	12.5	151	101	D163 1250
1260	12.6	151	101	•
1270	12.7	151	101	D163 1270
1280	12.8	151	101	•
1290	12.9	151	101	•
1300	13.0	151	101	D163 1300
1350	13.5	160	108	D163 1350
1400	14.0	160	108	D163 1400
1450	14.5	169	114	D163 1450
1500	15.0	169	114	D163 1500
1550	15.5	178	120	D163 1550
1600	16.0	178	120	D163 1600

ISO	P												M			K						N								S										H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
D163	●	●	●	●	●	●	●	●	○	●	○	○	○	○		○	●	●	●	●	●	●			○	●	●	○	○		○																●	

P Steel | M Stainless Steel | K Cast Iron | N Non-Ferrous Metals | S Titanium & Super Alloys | H Hard Materials

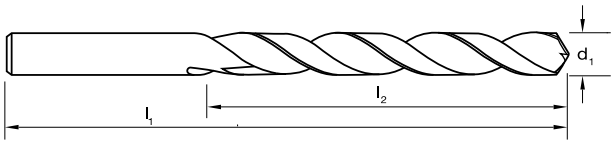
● Optimal ○ Effective

• Available on request as special manufacture. Subject to lead time.

suttontools

- High performance drill
- Suitable for materials up to 850N/mm²
- Special point geometry with radius cutting lips
- Produces short chips
- TiAlN for longer tool life

DIN 338 | 5xd1



Catalogue Code	D165
Product Group	A0418
Material	HSS Co
Surface Finish	*TiAlN*
Sutton Designation	WN
Geometry	R35
Point Type	130° Form A
Shank Tolerance	h8

Size Ref.	d_1 (h8)	l_1	l_2	Item #
0100	1.0	34	13	•
0150	1.5	40	19	•
0200	2.0	49	25	•
0250	2.5	57	31	•
0300	3.0	61	33	D165 0300
0310	3.1	65	36	D165 0310
0320	3.2	65	36	D165 0320
0330	3.3	65	36	D165 0330
0340	3.4	70	39	D165 0340
0350	3.5	70	39	D165 0350
0360	3.6	70	39	D165 0360
0370	3.7	70	39	D165 0370
0380	3.8	75	43	D165 0380
0390	3.9	75	43	D165 0390
0400	4.0	75	43	D165 0400
0410	4.1	75	43	D165 0410
0420	4.2	75	43	D165 0420
0430	4.3	80	47	D165 0430
0440	4.4	80	47	D165 0440
0450	4.5	80	47	D165 0450
0460	4.6	80	47	D165 0460
0470	4.7	80	47	D165 0470
0480	4.8	86	52	D165 0480

Size Ref.	d_1 (h8)	l_1	l_2	Item #
0490	4.9	86	52	D165 0490
0500	5.0	86	52	D165 0500
0510	5.1	86	52	D165 0510
0520	5.2	86	52	D165 0520
0530	5.3	86	52	D165 0530
0540	5.4	93	57	D165 0540
0550	5.5	93	57	D165 0550
0560	5.6	93	57	D165 0560
0570	5.7	93	57	D165 0570
0580	5.8	93	57	D165 0580
0590	5.9	93	57	D165 0590
0600	6.0	93	57	D165 0600
0610	6.1	101	63	D165 0610
0620	6.2	101	63	D165 0620
0630	6.3	101	63	D165 0630
0640	6.4	101	63	D165 0640
0650	6.5	101	63	D165 0650
0660	6.6	101	63	D165 0660
0670	6.7	101	63	D165 0670
0680	6.8	109	69	D165 0680
0690	6.9	109	69	D165 0690
0700	7.0	109	69	D165 0700
0710	7.1	109	69	D165 0710

ISO	P													M			K						N										S											H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
D165	●	●	●	●	○	●	○	○		○				○	○								●	●	●	●	○	●	○	●	○																		

P Steel | M Stainless Steel | K Cast Iron | N Non-Ferrous Metals | S Titanium & Super Alloys | H Hard Materials

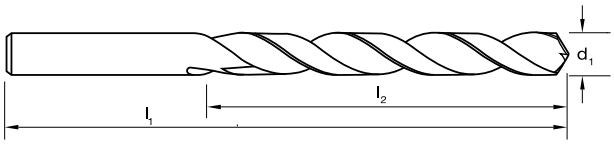
● Optimal ○ Effective

• Available on request as special manufacture. Subject to lead time.

suttontools

- High performance drill
- Suitable for materials up to 850N/mm²
- Special point geometry with radius cutting lips
- Produces short chips
- TiAlN for longer tool life

DIN 338 | 5xd1



Catalogue Code	D165
Product Group	A0418
Material	HSS Co
Surface Finish	TiAlN
Sutton Designation	WN
Geometry	R35
Point Type	130° Form A
Shank Tolerance	h8

Size Ref.	d_1 (h8)	l_1	l_2	Item #
0720	7.2	109	69	D165 0720
0730	7.3	109	69	D165 0730
0740	7.4	109	69	D165 0740
0750	7.5	109	69	D165 0750
0760	7.6	117	75	D165 0760
0770	7.7	117	75	D165 0770
0780	7.8	117	75	D165 0780
0790	7.9	117	75	D165 0790
0800	8.0	117	75	D165 0800
0810	8.1	117	75	D165 0810
0820	8.2	117	75	D165 0820
0830	8.3	117	75	D165 0830
0840	8.4	117	75	D165 0840
0850	8.5	117	75	D165 0850
0860	8.6	125	81	D165 0860
0870	8.7	125	81	D165 0870
0880	8.8	125	81	D165 0880
0890	8.9	125	81	D165 0890
0900	9.0	125	81	D165 0900
0910	9.1	125	81	D165 0910
0920	9.2	125	81	D165 0920
0930	9.3	125	81	D165 0930
0940	9.4	125	81	D165 0940

Size Ref.	d_1 (h8)	l_1	l_2	Item #
0950	9.5	125	81	D165 0950
0960	9.6	133	87	D165 0960
0970	9.7	133	87	D165 0970
0980	9.8	133	87	D165 0980
0990	9.9	133	87	D165 0990
1000	10.0	133	87	D165 1000
1010	10.1	133	87	D165 1010
1020	10.2	133	87	D165 1020
1050	10.5	133	87	D165 1050
1080	10.8	133	87	D165 1080
1100	11.0	142	94	D165 1100
1110	11.1	142	94	D165 1110
1120	11.2	142	94	D165 1120
1150	11.5	142	94	D165 1150
1180	11.8	142	94	D165 1180
1200	12.0	151	101	D165 1200
1220	12.2	151	101	D165 1220
1250	12.5	151	101	D165 1250
1280	12.8	151	101	D165 1280
1300	13.0	151	101	D165 1300

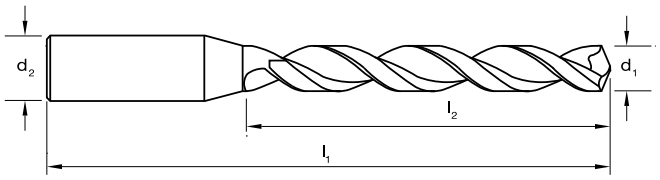
ISO	P												M			K						N									S													H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
D165	●	●	●	●	○	●	○	○		○				○	○								●	●	●	●	○	●	○	●	○																		

P Steel | M Stainless Steel | K Cast Iron | N Non-Ferrous Metals | S Titanium & Super Alloys | H Hard Materials

● Optimal ○ Effective

suttontools

- SPM offers superior performance
- Suitable for production drilling as an alternative to carbide drills
- Suitable for materials up to 1500N/mm²
- Point geometry ensures high strength & short chips
- Endmill shank for greater accuracy
- TiAlN for longer tool life



Catalogue Code	D168
Product Group	A1502
Material	SPM
Surface Finish	*TiAlN*
Sutton Designation	UNI
Geometry	R40
Point Type	130° 4 Facet Form B
Shank Tolerance	h7

Size Ref.	d_1 (h8)	l_1	l_2	d_2	Item #
0100	1.0	41	12	3	D168 0100
0110	1.1	43	14	3	D168 0110
0120	1.2	44	16	3	D168 0120
0130	1.3	44	16	3	D168 0130
0140	1.4	46	18	3	D168 0140
0150	1.5	46	18	3	D168 0150
0160	1.6	47	20	3	D168 0160
0170	1.7	47	20	3	D168 0170
0180	1.8	49	22	3	D168 0180
0190	1.9	49	22	3	D168 0190
0200	2.0	49	24	3	D168 0200
0210	2.1	49	24	3	D168 0210
0220	2.2	53	28	3	D168 0220
0230	2.3	53	28	3	D168 0230
0240	2.4	57	31	3	D168 0240
0250	2.5	57	31	3	D168 0250
0260	2.6	57	31	3	D168 0260
0270	2.7	61	34	3	D168 0270
0280	2.8	61	34	3	D168 0280
0290	2.9	61	34	3	D168 0290
0300	3.0	61	33	3	D168 0300
0310	3.1	65	36	4	D168 0310
0320	3.2	65	36	4	D168 0320
0330	3.3	65	36	4	D168 0330
0340	3.4	70	39	4	D168 0340
0350	3.5	70	39	4	D168 0350
0360	3.6	70	39	4	D168 0360
0370	3.7	70	39	4	D168 0370
0380	3.8	75	43	4	D168 0380
0390	3.9	75	43	4	D168 0390
0400	4.0	75	43	4	D168 0400
0410	4.1	75	43	6	D168 0410
0420	4.2	75	43	6	D168 0420
0430	4.3	80	47	6	D168 0430
0440	4.4	80	47	6	D168 0440
0450	4.5	80	47	6	D168 0450
0460	4.6	80	47	6	D168 0460
0465	4.65	80	47	6	D168 0465
0470	4.7	80	47	6	D168 0470
0480	4.8	86	52	6	D168 0480

Size Ref.	d_1 (h8)	l_1	l_2	d_2	Item #
0490	4.9	86	52	6	D168 0490
0500	5.0	86	52	6	D168 0500
0510	5.1	86	52	6	D168 0510
0520	5.2	86	52	6	D168 0520
0530	5.3	86	52	6	D168 0530
0540	5.4	93	57	6	D168 0540
0550	5.5	93	57	6	D168 0550
0555	5.55	93	57	6	D168 0555
0560	5.6	93	57	6	D168 0560
0570	5.7	93	57	6	D168 0570
0580	5.8	93	57	6	D168 0580
0590	5.9	93	57	6	D168 0590
0600	6.0	93	57	6	D168 0600
0610	6.1	101	63	8	D168 0610
0620	6.2	101	63	8	D168 0620
0630	6.3	101	63	8	D168 0630
0640	6.4	101	63	8	D168 0640
0650	6.5	101	63	8	D168 0650
0660	6.6	101	63	8	D168 0660
0670	6.7	101	63	8	D168 0670
0680	6.8	109	69	8	D168 0680
0690	6.9	109	69	8	D168 0690
0700	7.0	109	69	8	D168 0700
0710	7.1	109	69	8	D168 0710
0720	7.2	109	69	8	D168 0720
0730	7.3	109	69	8	D168 0730
0740	7.4	109	69	8	D168 0740
0750	7.5	109	69	8	D168 0750
0760	7.6	117	75	8	D168 0760
0770	7.7	117	75	8	D168 0770
0780	7.8	117	75	8	D168 0780
0790	7.9	117	75	8	D168 0790
0800	8.0	117	75	8	D168 0800
0810	8.1	117	75	10	D168 0810
0820	8.2	117	75	10	D168 0820
0830	8.3	117	75	10	D168 0830
0840	8.4	117	75	10	D168 0840
0850	8.5	117	75	10	D168 0850
0860	8.6	125	81	10	D168 0860
0870	8.7	125	81	10	D168 0870

ISO	P													M			K						N										S											H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
D168	●	●	●	●	●	●	●	●	○	●	○	●	●	○	○	●	●	●	●	●	●	●	○	○	●	●	●	○	●	●	○				○				○					○				●	

P Steel | M Stainless Steel | K Cast Iron | N Non-Ferrous Metals | S Titanium & Super Alloys | H Hard Materials

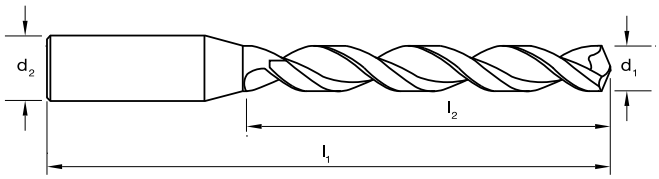
● Optimal ○ Effective

Drills Jobber, R40 UNI

suttontools

- SPM offers superior performance
- Suitable for production drilling as an alternative to carbide drills
- Suitable for materials up to 1500N/mm²
- Point geometry ensures high strength & short chips
- Endmill shank for greater accuracy
- TiAlN for longer tool life

~DIN 338 | 5xd1 | h7



Catalogue Code	D168
Product Group	A1502
Material	SPM
Surface Finish	TiAlN
Sutton Designation	UNI
Geometry	R40
Point Type	130° 4 Facet Form B
Shank Tolerance	h7

Size Ref.	d_1 (h8)	l_1	l_2	d_2	Item #
0880	8.8	125	81	10	D168 0880
0890	8.9	125	81	10	D168 0890
0900	9.0	125	81	10	D168 0900
0910	9.1	125	81	10	D168 0910
0920	9.2	125	81	10	D168 0920
0930	9.3	125	81	10	D168 0930
0940	9.4	125	81	10	D168 0940
0950	9.5	125	81	10	D168 0950
0955	9.55	133	87	10	D168 0955
0960	9.6	133	87	10	D168 0960
0970	9.7	133	87	10	D168 0970
0980	9.8	133	87	10	D168 0980
0990	9.9	133	87	10	D168 0990
1000	10.0	133	87	10	D168 1000
1010	10.1	133	87	10	D168 1010
1020	10.2	133	87	10	D168 1020
1030	10.3	133	87	10	D168 1030
1040	10.4	133	87	10	D168 1040
1050	10.5	133	87	10	D168 1050
1060	10.6	133	87	12	D168 1060
1070	10.7	142	94	12	D168 1070
1080	10.8	142	94	12	D168 1080
1090	10.9	142	94	12	D168 1090
1100	11.0	142	94	12	D168 1100
1110	11.1	142	94	12	D168 1110
1120	11.2	142	94	12	D168 1120
1130	11.3	142	94	12	D168 1130
1140	11.4	142	94	12	D168 1140
1150	11.5	142	94	12	D168 1150
1160	11.6	142	94	12	D168 1160
1170	11.7	142	94	12	D168 1170
1180	11.8	142	94	12	D168 1180
1190	11.9	151	101	12	D168 1190
1200	12.0	151	101	12	D168 1200
1210	12.1	151	101	12	D168 1210
1220	12.2	151	101	12	D168 1220
1230	12.3	151	101	12	D168 1230
1240	12.4	151	101	12	D168 1240
1250	12.5	151	101	12	D168 1250
1260	12.6	151	101	12	D168 1260

Size Ref.	d_1 (h8)	l_1	l_2	d_2	Item #
1270	12.7	151	101	12	D168 1270
1280	12.8	151	101	12	D168 1280
1290	12.9	151	101	12	D168 1290
1300	13.0	151	101	12	D168 1300
1350	13.5	160	108	16	D168 1350
1400	14.0	160	108	16	D168 1400
1450	14.5	169	114	16	D168 1450
1500	15.0	169	114	16	D168 1500
1550	15.5	178	120	16	D168 1550
1600	16.0	178	120	16	D168 1600
1650	16.5	184	125	20	D168 1650
1700	17.0	184	125	20	D168 1700
1750	17.5	191	130	20	D168 1750
1800	18.0	191	130	20	D168 1800
1850	18.5	198	135	20	D168 1850
1900	19.0	198	135	20	D168 1900
1950	19.5	205	140	20	D168 1950
2000	20.0	205	140	20	D168 2000

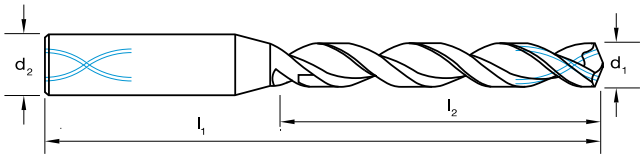
ISO	P												M			K						N								S										H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
D168	●	●	●	●	●	●	●	●	○	●	○	●	●	○	○	●	●	●	●	●	●	●	○	○	●	●	●	○	●	●	○				○				○					○				●	

P Steel | M Stainless Steel | K Cast Iron | N Non-Ferrous Metals | S Titanium & Super Alloys | H Hard Materials

● Optimal ○ Effective

suttontools

- Alternative to carbide where application lacks rigidity
- Coolant fed directly to the cutting edges to help evacuate the swarf from the hole
- For use in CNC machines with through spindle coolant supply
- Endmill shank for greater accuracy
- TiAlN for longer tool life



Catalogue Code	D182
Product Group	A1502
Material	HSS Co
Surface Finish	*TiAlN*
Sutton Designation	NH
Geometry	R40 IK
Point Type	130° 4 Facet Form B
Shank Form (DIN 1835)	Form E

Size Ref.	d_1 (h8)	l_1	l_2	d_2	Item #
0500	5.0	82	44	6	D182 0500
0510	5.1	82	44	6	•
0520	5.2	82	44	6	D182 0520
0530	5.3	82	44	6	•
0540	5.4	82	44	6	•
0550	5.5	82	44	6	D182 0550
0560	5.6	82	44	6	•
0570	5.7	82	44	6	•
0580	5.8	82	44	6	D182 0580
0590	5.9	82	44	6	D182 0590
0600	6.0	82	44	6	D182 0600
0610	6.1	91	53	8	•
0620	6.2	91	53	8	•
0630	6.3	91	53	8	•
0640	6.4	91	53	8	•
0650	6.5	91	53	8	D182 0650
0660	6.6	91	53	8	•
0670	6.7	91	53	8	D182 0670
0680	6.8	91	53	8	D182 0680
0690	6.9	91	53	8	•
0700	7.0	91	53	8	D182 0700
0710	7.1	91	53	8	•
0720	7.2	91	53	8	D182 0720
0730	7.3	91	53	8	•
0740	7.4	91	53	8	•
0750	7.5	91	53	8	D182 0750
0760	7.6	91	53	8	•
0770	7.7	91	53	8	•
0780	7.8	91	53	8	D182 0780
0790	7.9	91	53	8	•
0800	8.0	91	53	8	D182 0800
0810	8.1	103	61	10	D182 0810
0820	8.2	103	61	10	D182 0820
0830	8.3	103	61	10	•
0840	8.4	103	61	10	•
0850	8.5	103	61	10	D182 0850
0860	8.6	103	61	10	D182 0860
0870	8.7	103	61	10	D182 0870
0880	8.8	103	61	10	D182 0880
0890	8.9	103	61	10	•

Size Ref.	d_1 (h8)	l_1	l_2	d_2	Item #
0900	9.0	103	61	10	D182 0900
0910	9.1	103	61	10	•
0920	9.2	103	61	10	•
0930	9.3	103	61	10	D182 0930
0940	9.4	103	61	10	•
0950	9.5	103	61	10	D182 0950
0960	9.6	103	61	10	D182 0960
0970	9.7	103	61	10	•
0980	9.8	103	61	10	•
0990	9.9	103	61	10	D182 0990
1000	10.0	103	61	10	D182 1000
1020	10.2	122	75	12	D182 1020
1050	10.5	122	75	12	D182 1050
1100	11.0	122	75	12	D182 1100
1150	11.5	122	75	12	D182 1150
1200	12.0	122	75	12	D182 1200
1250	12.5	134	87	14	D182 1250
1300	13.0	134	87	14	D182 1300
1350	13.5	134	87	14	D182 1350
1400	14.0	134	87	14	D182 1400
1450	14.5	150	100	16	D182 1450
1500	15.0	150	100	16	D182 1500
1550	15.5	150	100	16	D182 1550
1600	16.0	150	100	16	D182 1600
1650	16.5	162	122	18	D182 1650
1700	17.0	162	122	18	D182 1700
1750	17.5	162	122	18	D182 1750
1800	18.0	162	122	18	D182 1800
1850	18.5	176	124	20	D182 1850
1900	19.0	176	124	20	D182 1900
1950	19.5	176	124	20	D182 1950
2000	20.0	176	124	20	D182 2000
2050	20.5	207	145	25	D182 2050
2100	21.0	207	145	25	D182 2100
2150	21.5	207	145	25	D182 2150
2200	22.0	207	145	25	D182 2200
2250	22.5	207	145	25	D182 2250
2300	23.0	207	145	25	D182 2300
2350	23.5	207	145	25	D182 2350
2400	24.0	207	145	25	D182 2400

ISO	P													M			K						N										S											H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
D182	●	●	●	●	○	●	●	○	○	○	○	●	○	○	○	●	●	●	●	●	●	●	○	○	●	●	○	○	●	●	○		○	○	○	○	○	○	○	○	○	○	○	○				●	

P Steel M Stainless Steel K Cast Iron N Non-Ferrous Metals S Titanium & Super Alloys H Hard Materials

● Optimal ○ Effective

• Available on request as special manufacture. Subject to lead time.

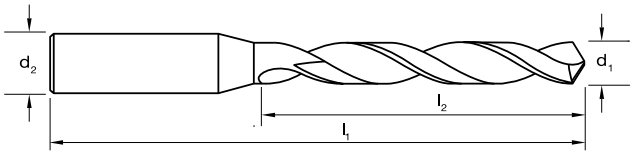
Drills Jobber, R40 VA, *Black Magic*

suttontools BLACKMAGIC

watch the video

- High performance drill
- Excellent solution for austenitic stainless steels and most long chipping materials
- Optimised geometry ensures no work hardening and high productivity
- Endmill shank for greater accuracy
- TiAlN for longer tool life

~DIN 338 | 5xd1 | h7



Catalogue Code	D169
Product Group	A1502
Material	HSS Co
Surface Finish	*TiAlN*
Sutton Designation	VA
Geometry	R40
Point Type	4 Facet Form C
Shank Tolerance	h7

Size Ref.	d_1 (h8)	l_1	l_2	d_2	Point Angle	Item #
0200	2.0	49	24	3	130°	D169 0200
0210	2.1	49	24	3	130°	D169 0210
0220	2.2	53	28	3	130°	D169 0220
0230	2.3	53	28	3	130°	D169 0230
0240	2.4	57	31	3	130°	D169 0240
0250	2.5	57	31	3	130°	D169 0250
0260	2.6	57	31	3	130°	D169 0260
0270	2.7	61	34	3	130°	D169 0270
0280	2.8	61	34	3	130°	D169 0280
0290	2.9	61	34	3	130°	D169 0290
0300	3.0	61	33	3	130°	D169 0300
0310	3.1	65	36	4	130°	D169 0310
0318	3.18 1/8	65	36	4	130°	D169 0318
0320	3.2	65	36	4	130°	D169 0320
0330	3.3	65	36	4	130°	D169 0330
0340	3.4	70	39	4	130°	D169 0340
0350	3.5	70	39	4	130°	D169 0350
0357	3.57 9/64	70	39	4	130°	D169 0357
0360	3.6	70	39	4	130°	D169 0360
0370	3.7	70	39	4	130°	D169 0370
0380	3.8	75	43	4	130°	D169 0380
0390	3.9	75	43	4	130°	D169 0390
0397	3.97 5/32	75	43	4	130°	D169 0397
0400	4.0	75	43	4	130°	D169 0400
0410	4.1	75	43	6	120°	D169 0410
0420	4.2	75	43	6	120°	D169 0420
0430	4.3	80	47	6	120°	D169 0430
0437	4.37 11/64	80	47	6	120°	D169 0437
0440	4.4	80	47	6	120°	D169 0440
0450	4.5	80	47	6	120°	D169 0450
0460	4.6	80	47	6	120°	D169 0460
0465	4.65	80	47	6	120°	D169 0465
0470	4.7	80	47	6	120°	D169 0470
0476	4.76 3/16	86	52	6	120°	D169 0476
0480	4.8	86	52	6	120°	D169 0480
0490	4.9	86	52	6	120°	D169 0490
0500	5.0	86	52	6	120°	D169 0500
0510	5.1	86	52	6	120°	D169 0510
0516	5.16 13/64	86	52	6	120°	D169 0516
0520	5.2	86	52	6	120°	D169 0520

Size Ref.	d_1 (h8)	l_1	l_2	d_2	Point Angle	Item #
0530	5.3	86	52	6	120°	D169 0530
0540	5.4	93	57	6	120°	D169 0540
0550	5.5	93	57	6	120°	D169 0550
0555	5.55	93	57	6	120°	D169 0555
0556	5.56 7/32	93	57	6	120°	D169 0556
0560	5.6	93	57	6	120°	D169 0560
0570	5.7	93	57	6	120°	D169 0570
0580	5.8	93	57	6	120°	D169 0580
0590	5.9	93	57	6	120°	D169 0590
0595	5.95 15/64	93	57	6	120°	D169 0595
0600	6.0	93	57	6	120°	D169 0600
0610	6.1	101	63	8	120°	D169 0610
0620	6.2	101	63	8	120°	D169 0620
0630	6.3	101	63	8	120°	D169 0630
0635	6.35 1/4	101	63	8	120°	D169 0635
0640	6.4	101	63	8	120°	D169 0640
0650	6.5	101	63	8	120°	D169 0650
0660	6.6	101	63	8	120°	D169 0660
0670	6.7	101	63	8	120°	D169 0670
0676	6.75 17/64	109	69	8	120°	D169 0676
0680	6.8	109	69	8	120°	D169 0680
0690	6.9	109	69	8	120°	D169 0690
0700	7.0	109	69	8	120°	D169 0700
0710	7.1	109	69	8	120°	D169 0710
0714	7.14 9/32	109	69	8	120°	D169 0714
0720	7.2	109	69	8	120°	D169 0720
0730	7.3	109	69	8	120°	D169 0730
0740	7.4	109	69	8	120°	D169 0740
0750	7.5	109	69	8	120°	D169 0750
0754	7.54 19/64	117	75	8	120°	D169 0754
0755	7.55	117	75	8	120°	D169 0755
0760	7.6	117	75	8	120°	D169 0760
0770	7.7	117	75	8	120°	D169 0770
0780	7.8	117	75	8	120°	D169 0780
0790	7.9	117	75	8	120°	D169 0790
0794	7.94 5/16	117	75	8	120°	D169 0794
0800	8.0	117	75	8	120°	D169 0800
0810	8.1	117	75	10	120°	D169 0810
0820	8.2	117	75	10	120°	D169 0820
0830	8.3	117	75	10	120°	D169 0830

ISO	P												M			K						N								S									H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
D169	●	○	○	○		○	○					●	○	●	●	●							○	○	○	○		○		○										○	○		○						

P Steel | M Stainless Steel | K Cast Iron | N Non-Ferrous Metals | S Titanium & Super Alloys | H Hard Materials

● Optimal ○ Effective

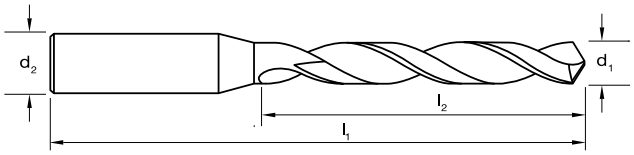
Drills Jobber, R40 VA, *Black Magic*

suttontools BLACKMAGIC

watch the video

- High performance drill
- Excellent solution for austenitic stainless steels and most long chipping materials
- Optimised geometry ensures no work hardening and high productivity
- Endmill shank for greater accuracy
- TiAlN for longer tool life

~DIN 338 | 5xd1 | h7 | C | A



Catalogue Code	D169
Product Group	A1502
Material	HSS Co
Surface Finish	*TiAlN*
Sutton Designation	VA
Geometry	R40
Point Type	4 Facet Form C
Shank Tolerance	h7

Size Ref.	d_1 (h8)	l_1	l_2	d_2	Point Angle	Form	Item #
0833	8.33 **21/64**	117	75	10	120°		D169 0833
0840	**8.4**	117	75	10	120°		D169 0840
0850	**8.5**	117	75	10	120°		D169 0850
0860	**8.6**	125	81	10	120°		D169 0860
0870	**8.7**	125	81	10	120°		D169 0870
0873	8.73 **11/32**	125	81	10	120°		D169 0873
0880	**8.8**	125	81	10	120°		D169 0880
0890	**8.9**	125	81	10	120°		D169 0890
0900	**9.0**	125	81	10	120°		D169 0900
0910	**9.1**	125	81	10	120°		D169 0910
0913	9.13 **23/64**	125	81	10	120°		D169 0913
0920	**9.2**	125	81	10	120°		D169 0920
0930	**9.3**	125	81	10	120°		D169 0930
0940	**9.4**	125	81	10	120°		D169 0940
0950	**9.5**	125	81	10	120°		D169 0950
0953	9.52 **3/8**	133	87	10	120°		D169 0953
0955	**9.55**	133	87	10	120°		D169 0955
0960	**9.6**	133	87	10	120°		D169 0960
0970	**9.7**	133	87	10	120°		D169 0970
0980	**9.8**	133	87	10	120°		D169 0980
0990	**9.9**	133	87	10	120°		D169 0990
0992	9.92 **25/64**	133	87	10	120°		D169 0992
1000	**10.0**	133	87	10	120°		D169 1000
1010	**10.1**	133	87	10	120°		D169 1010
1020	**10.2**	133	87	10	120°		D169 1020
1030	**10.3**	133	87	10	120°		D169 1030
1032	10.32 **13/32**	133	87	10	120°		D169 1032
1040	**10.4**	133	87	10	120°		D169 1040
1050	**10.5**	133	87	10	120°		D169 1050
1060	**10.6**	133	87	12	120°		D169 1060
1070	**10.7**	142	94	12	120°		D169 1070
1072	10.72 **27/64**	142	94	12	120°		D169 1072
1080	**10.8**	142	94	12	120°		D169 1080
1090	**10.9**	142	94	12	120°		D169 1090
1100	**11.0**	142	94	12	120°		D169 1100
1110	**11.1**	142	94	12	120°		D169 1110
1111	11.11 **7/16**	142	94	12	120°		D169 1111
1120	**11.2**	142	94	12	120°		D169 1120
1130	**11.3**	142	94	12	120°		D169 1130
1140	**11.4**	142	94	12	120°		D169 1140

Size Ref.	d_1 (h8)	l_1	l_2	d_2	Point Angle	Form	Item #
1150	**11.5**	142	94	12	120°		D169 1150
1151	11.51 **29/64**	142	94	12	120°		D169 1151
1160	**11.6**	142	94	12	120°		D169 1160
1170	**11.7**	142	94	12	120°		D169 1170
1180	**11.8**	142	94	12	120°		D169 1180
1190	**11.9**	151	94	12	120°		D169 1190
1191	11.91 **15/32**	151	101	12	120°		D169 1191
1200	**12.0**	151	101	12	120°		D169 1200
1210	**12.1**	151	101	12	120°		D169 1210
1220	**12.2**	151	101	12	120°		D169 1220
1230	**12.3**	151	101	12	120°		D169 1230
1231	12.3 **31/64**	151	101	12	120°		D169 1231
1240	**12.4**	151	101	12	120°	C	D169 1240
1250	**12.5**	151	101	12	120°	C	D169 1250
1260	**12.6**	151	101	12	120°	C	D169 1260
1270	**12.7**	151	101	12	120°	C	D169 1270
1269	12.7 **1/2**	151	101	12	120°	C	D169 1269
1280	**12.8**	151	101	12	120°	C	D169 1280
1290	**12.9**	151	101	12	120°	C	D169 1290
1300	**13.0**	151	101	12	120°	C	D169 1300
1350	**13.5**	160	108	16	120°	A	D169 1350
1400	**14.0**	160	108	16	120°	A	D169 1400
1450	**14.5**	169	114	16	120°	A	D169 1450
1500	**15.0**	169	114	16	120°	A	D169 1500
1550	**15.5**	178	120	16	120°	A	D169 1550
1600	**16.0**	178	120	16	120°	A	D169 1600
1650	**16.5**	184	125	20	120°	A	D169 1650
1700	**17.0**	184	125	20	120°	A	D169 1700
1750	**17.5**	191	130	20	120°	A	D169 1750
1800	**18.0**	191	130	20	120°	A	D169 1800
1850	**18.5**	198	135	20	120°	A	D169 1850
1900	**19.0**	198	135	20	120°	A	D169 1900
1950	**19.5**	205	140	20	120°	A	D169 1950
2000	**20.0**	205	140	20	120°	A	D169 2000

ISO	P													M			K						N										S												H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
D169	●	○	○	○		○	○					●	○	●	●	●							○	○	○	○		○		○									○	○		○						

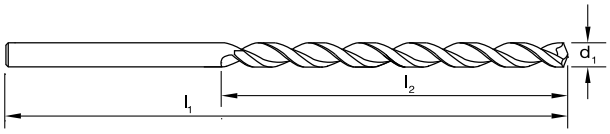
P Steel | M Stainless Steel | K Cast Iron | N Non-Ferrous Metals | S Titanium & Super Alloys | H Hard Materials

● Optimal ○ Effective

Drills Long Series, DHL

suttontools

- High performance drill
- Suitable for materials up to 1200N/mm²
- Point geometry ensures high strength
- Parabolic flute design for optimal chip transportation
- Less pecking required over standard drills
- TiAlN for longer tool life



Catalogue Code	D171
Product Group	A0508
Material	HSS Co
Surface Finish	*TiAlN*
Application	NH
Geometry	R40
Point Type	130° Form B
Shank Tolerance	h8

Size Ref.	d_1 (h8)	l_1	l_2	Point Form	Item #
0100†	1.0	56	33	A	D171 0100
0110†	1.1	60	37	A	D171 0110
0120†	1.2	65	41	A	D171 0120
0130†	1.3	65	41	A	D171 0130
0140†	1.4	70	45	A	D171 0140
0150†	1.5	70	45	A	D171 0150
0160†	1.6	76	50	A	D171 0160
0170†	1.7	76	50	A	D171 0170
0180†	1.8	80	53	A	D171 0180
0190†	1.9	80	53	A	D171 0190
0200†	2.0	85	56	B	D171 0200
0210†	2.1	85	56	B	D171 0210
0220†	2.2	90	59	B	D171 0220
0230†	2.3	90	59	B	D171 0230
0240†	2.4	95	62	B	D171 0240
0250†	2.5	95	62	B	D171 0250
0260†	2.6	95	62	B	D171 0260
0270†	2.7	100	66	B	D171 0270
0280†	2.8	100	66	B	D171 0280
0290†	2.9	100	66	B	D171 0290
0300	3.0	100	66		D171 0300
0310	3.1	106	69		D171 0310
0320	3.2	106	69		D171 0320
0330	3.3	106	69		D171 0330
0340	3.4	112	73		D171 0340
0350	3.5	112	73		D171 0350

Size Ref.	d_1 (h8)	l_1	l_2	Item #
0360	3.6	112	73	D171 0360
0370	3.7	112	73	D171 0370
0380	3.8	119	78	D171 0380
0390	3.9	119	78	D171 0390
0400	4.0	119	78	D171 0400
0410	4.1	119	78	D171 0410
0420	4.2	119	78	D171 0420
0430	4.3	126	82	D171 0430
0440	4.4	126	82	D171 0440
0450	4.5	126	82	D171 0450
0460	4.6	126	82	D171 0460
0470	4.7	126	82	D171 0470
0480	4.8	132	87	D171 0480
0490	4.9	132	87	D171 0490
0500	5.0	132	87	D171 0500
0510	5.1	132	87	D171 0510
0520	5.2	132	87	D171 0520
0530	5.3	132	87	D171 0530
0540	5.4	139	91	D171 0540
0550	5.5	139	91	D171 0550
0560	5.6	139	91	D171 0560
0570	5.7	139	91	D171 0570
0580	5.8	139	91	D171 0580
0590	5.9	139	91	D171 0590
0600	6.0	139	91	D171 0600
0610	6.1	148	97	D171 0610

ISO	P												M			K						N								S										H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
D171	●	●	●	●	●	●	●	●	○	●	○	○	○	○		○	●	●	●	●	●	●			○	●	●	○	○		○																●	

P Steel M Stainless Steel K Cast Iron N Non-Ferrous Metals S Titanium & Super Alloys H Hard Materials

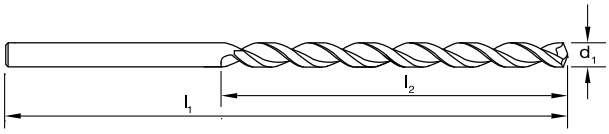
● Optimal ○ Effective

† Sizes <3.0 point type: 130° 4 Facet

suttontools

- High performance drill
- Suitable for materials up to 1200N/mm²
- Point geometry ensures high strength
- Parabolic flute design for optimal chip transportation
- Less pecking required over standard drills
- TiAlN for longer tool life

DIN 340 | 8xd1



Catalogue Code	D171
Product Group	A0508
Material	HSS Co
Surface Finish	*TiAlN*
Application	NH
Geometry	R40
Point Type	130° Form B
Shank Tolerance	h8

Size Ref.	d_1 (h8)	l_1	l_2	Item #
0620	6.2	148	97	D171 0620
0630	6.3	148	97	D171 0630
0640	6.4	148	97	D171 0640
0650	6.5	148	97	D171 0650
0660	6.6	148	97	D171 0660
0670	6.7	148	97	D171 0670
0680	6.8	156	102	D171 0680
0690	6.9	156	102	D171 0690
0700	7.0	156	102	D171 0700
0710	7.1	156	102	D171 0710
0720	7.2	156	102	D171 0720
0730	7.3	156	102	D171 0730
0740	7.4	156	102	D171 0740
0750	7.5	156	102	D171 0750
0760	7.6	165	109	D171 0760
0770	7.7	165	109	D171 0770
0780	7.8	165	109	D171 0780
0790	7.9	165	109	D171 0790
0800	8.0	165	109	D171 0800
0810	8.1	165	109	D171 0810
0820	8.2	165	109	D171 0820
0830	8.3	165	109	D171 0830

Size Ref.	d_1 (h8)	l_1	l_2	Item #
0840	8.4	165	109	D171 0840
0850	8.5	165	109	D171 0850
0860	8.6	175	115	D171 0860
0870	8.7	175	115	D171 0870
0880	8.8	175	115	D171 0880
0890	8.9	175	115	D171 0890
0900	9.0	175	115	D171 0900
0910	9.1	175	115	D171 0910
0920	9.2	175	115	D171 0920
0930	9.3	175	115	D171 0930
0940	9.4	175	115	D171 0940
0950	9.5	175	115	D171 0950
0980	9.8	184	121	D171 0980
1000	10.0	184	121	D171 1000
1020	10.2	184	121	D171 1020
1050	10.5	184	121	D171 1050
1100	11.0	195	128	D171 1100
1150	11.5	195	128	D171 1150
1200	12.0	205	134	D171 1200
1250	12.5	205	134	D171 1250
1300	13.0	205	134	D171 1300

ISO	P													M			K						N									S										H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
D171	●	●	●	●	●	●	●	●	○	●	○	○	○	○		○	●	●	●	●	●	●			○	●	●	○	○		○																●	

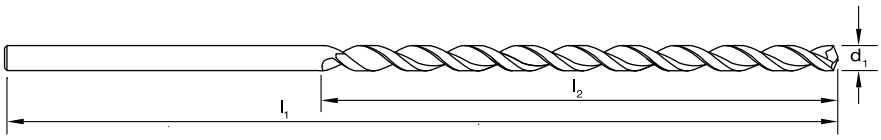
P Steel | M Stainless Steel | K Cast Iron | N Non-Ferrous Metals | S Titanium & Super Alloys | H Hard Materials

● Optimal ○ Effective

Drills Extra Long

suttontools

- Suitable for materials up to 700N/mm²
- Point geometry ensures high strength
- Parabolic flute design for optimal chip transportation
- Less pecking required over standard drills



Product Group	A0502
Material	HSS
Surface Finish	*Brt*
Sutton Designation	N
Geometry	R40
Point Type	130° Form B
Shank Tolerance	h9

Size Ref.	d_1 (h8)		l_1	l_2	Item #
	8" Overall Length				**D197***
0318	3.18	**1/8**	200	140	D197 0318
0476	4.76	**3/16**	200	140	D197 0476
0635	6.35	**1/4**	200	140	D197 0635
0794	7.94	**5/16**	200	140	D197 0794
0953	9.53	**3/8**	200	140	D197 0953
	10" Overall Length				**D198***
0635	6.35	**1/4**	250	190	D198 0635
0794	7.94	**5/16**	250	190	D198 0794
0953	9.53	**3/8**	250	190	D198 0953
1270	12.70	**1/2**	250	190	D198 1270
	12" Overall Length				**D199***
0635	6.35	**1/4**	300	230	D199 0635
0794	7.94	**5/16**	300	230	D199 0794
0953	9.53	**3/8**	300	230	D199 0953
1111	11.11	**7/16**	300	230	D199 1111
1270	12.70	**1/2**	300	230	D199 1270

ISO	P													M			K						N									S												H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
D197	●	●	○	○		●	○							○		○	○		○		○		○	○	○	○		○	○																				
D198	●	●	○	○		●	○							○		○	○		○		○		○	○	○	○		○	○																				
D199	●	●	○	○		●	○							○		○	○		○		○		○	○	○	○		○	○																				

P Steel M Stainless Steel K Cast Iron N Non-Ferrous Metals S Titanium & Super Alloys H Hard Materials

● Optimal ○ Effective

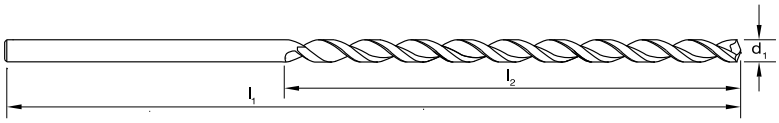
* Not available once stocks are depleted

Drills Extra Long, DHXL-1

suttontools

- High performance drill
- Suitable for materials up to 1200N/mm²
- Point geometry ensures high strength
- Parabolic flute design for optimal chip transportation
- Less pecking required over standard drills
- TiAlN for longer tool life

DIN 1869-1 | 10xd1



Catalogue Code	D194
Product Group	A0508
Material	HSS Co
Surface Finish	*TiAlN*
Sutton Designation	NH
Geometry	R40
Point Type	130° Form B
Shank Tolerance	h8

Size Ref.	d_1 (h8)	l_1	l_2	Item #
0200	2.0	125	85	D194 0200
0250	2.5	135	90	D194 0250
0300	3.0	155	105	D194 0300
0350	3.5	165	115	D194 0350
0400	4.0	175	120	D194 0400
0450	4.5	185	125	D194 0450
0500	5.0	195	135	D194 0500
0550	5.5	205	140	D194 0550
0600	6.0	205	140	D194 0600
0650	6.5	215	150	D194 0650
0700	7.0	225	155	D194 0700
0750	7.5	225	155	D194 0750
0800	8.0	240	165	D194 0800
0850	8.5	240	165	D194 0850
0900	9.0	250	175	D194 0900
0950	9.5	250	175	D194 0950
1000	10.0	265	185	D194 1000

ISO	P													M			K						N									S											H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
D194	●	●	●	●	●	●	●	●	○	●	○	○	○	○		○	●	●	●	●	●	●			○	●	●	○	○		○																●	

P Steel | M Stainless Steel | K Cast Iron | N Non-Ferrous Metals | S Titanium & Super Alloys | H Hard Materials

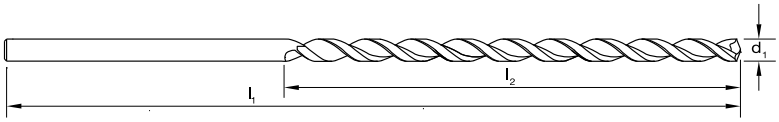
● Optimal ○ Effective

Drills Extra Long, DHXL-2

suttontools

- High performance drill
- Suitable for materials up to 1200N/mm²
- Point geometry ensures high strength
- Parabolic flute design for optimal chip transportation
- Less pecking required over standard drills
- TiAlN for longer tool life

DIN 1869-2 | 12xd1



Catalogue Code	D195
Product Group	A0508
Material	HSS Co
Surface Finish	*TiAlN*
Sutton Designation	NH
Geometry	R40
Point Type	130° Form B
Shank Tolerance	h8

Size Ref.	d_1 (h8)	l_1	l_2	Item #
0300	3.0	200	135	D195 0300
0350	3.5	210	145	D195 0350
0400	4.0	220	150	D195 0400
0450	4.5	235	160	D195 0450
0500	5.0	245	170	D195 0500
0550	5.5	260	180	D195 0550
0600	6.0	260	180	D195 0600
0650	6.5	275	190	D195 0650
0700	7.0	290	200	D195 0700
0750	7.5	290	200	D195 0750
0800	8.0	305	210	D195 0800
0850	8.5	305	210	D195 0850
0900	9.0	320	220	D195 0900
0950	9.5	320	220	D195 0950
1000	10.0	340	235	D195 1000

ISO	P												M			K						N								S										H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
D195	●	●	●	●	●	●	●	●	○	●	○	○	○	○		○	●	●	●	●	●	●			○	●	●	○	○		○																●	

P Steel | M Stainless Steel | K Cast Iron | N Non-Ferrous Metals | S Titanium & Super Alloys | H Hard Materials

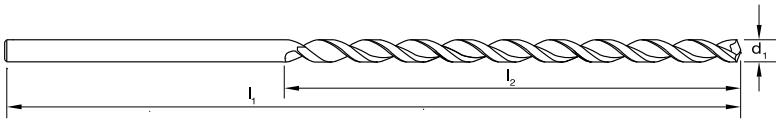
● Optimal ○ Effective

Drills Extra Long, DHXL-3

suttontools

- High performance drill
- Suitable for materials up to 1200N/mm²
- Point geometry ensures high strength
- Parabolic flute design for optimal chip transportation
- Less pecking required over standard drills
- TiAlN for longer tool life

DIN 1869-3 | 14xd1



Catalogue Code	D196
Product Group	A0508
Material	HSS Co
Surface Finish	*TiAlN*
Sutton Designation	NH
Geometry	R40
Point Type	130° Form B
Shank Tolerance	h8

Size Ref.	d_1 (h8)	l_1	l_2	Item #
0350	3.5	265	180	D196 0350
0400	4.0	280	190	D196 0400
0450	4.5	295	200	D196 0450
0500	5.0	315	210	D196 0500
0550	5.5	330	225	D196 0550
0600	6.0	330	225	D196 0600
0650	6.5	350	235	D196 0650
0700	7.0	370	250	D196 0700
0750	7.5	370	250	D196 0750
0800	8.0	390	265	D196 0800
0850	8.5	390	265	D196 0850
0900	9.0	410	280	D196 0900
0950	9.5	410	280	D196 0950
1000	10.0	430	295	D196 1000

ISO	P													M			K						N									S												H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
D196	●	●	●	●	●	●	●	●	○	●	○	○	○	○		○	●	●	●	●	●	●			○	●	●	○	○		○																●	

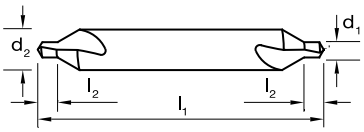
P Steel | M Stainless Steel | K Cast Iron | N Non-Ferrous Metals | S Titanium & Super Alloys | H Hard Materials

● Optimal ○ Effective

suttontools

- For drilling 60° centre holes in the end of shafts
- Ensures accurate starting and centring for precision
- Refer to Carbide Drill section for VHM Centre Drills

DIN 333 | ANSI B94-11



Catalogue Code	D135	D136
Product Group	A0302	A0302
Material	HSS	HSS
Surface Finish	*Brt*	*Brt*
Sutton Designation	N	N
Geometry	A Type	Plain Type
Point Type	60°	60°
Standard	DIN 333	ANSI B94-11

Size Ref.	Type	d_1	l_1	l_2	d_2	Item #	Item #
	Type A						
0080	**0.80**	0.80	25.00	1.10	3.15	D135 0080	
0100	**1.00**	1.00	31.50	1.30	3.15	D135 0100	
0125	**1.25**	1.25	31.50	1.60	3.15	D135 0125	
0160	**1.60**	1.60	35.50	2.00	4.00	D135 0160	
0200	**2.00**	2.00	40.00	2.50	5.00	D135 0200	
0250	**2.50**	2.50	45.00	3.10	6.30	D135 0250	
0315	**3.15**	3.15	50.00	3.90	8.00	D135 0315	
0400	**4.00**	4.00	56.00	5.00	10.00	D135 0400	
0500	**5.00**	5.00	63.00	6.30	12.50	D135 0500	
0630	**6.30**	6.30	71.00	8.00	16.00	D135 0630	
0800	**8.00**	8.00	80.00	10.10	20.00	D135 0800	
1000	**10.00**	10.00	100.00	12.80	25.00	D135 1000	
	Plain Type						
0001	**# 1**	3/64	1-1/4	3/64	1/8		D136 0001
0002	**# 2**	5/64	1-7/8	5/64	3/16		D136 0002
0003	**# 3**	7/64	2	7/64	1/4		D136 0003
0004	**# 4**	1/8	2-1/8	1/8	5/16		D136 0004
0005	**# 5**	3/16	2-3/4	3/16	7/16		D136 0005
0006	**# 6**	7/32	3	7/32	1/2		D136 0006
0007	**# 7**	1/4	3-1/4	1/4	5/8		D136 0007
0008	**# 8**	5/16	3-1/2	5/16	3/4		D136 0008

	Set	Pieces	
SCD1	#1, #2, #3, #4 & #5	5	D136 SCD1

D136 SCD1

ISO	P												M			K						N									S											H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
D135	●	●	○	○		●								○	○		○		○				○	○	○	○		○		○	○																			
D136	●	●	○	○		●								○	○		○		○				○	○	○	○		○		○	○																			

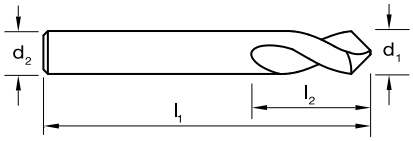
P Steel | M Stainless Steel | K Cast Iron | N Non-Ferrous Metals | S Titanium & Super Alloys | H Hard Materials

● Optimal ○ Effective

suttontools

- Precision drill for machine use
- Rigid design for "seat" position accuracy
- 90° offers hole chamfering and spotting with the one tool
- 120° designed to match drill point

DIN 335 | DIN 1897



Catalogue Code	D175	D176
Product Group	A1124	A1124
Material	HSS Co	HSS Co
Surface Finish	*TiN*	*TiN*
Colour Ring & Application	NC	NC
Geometry	-	-
Point Type	90°	120°
Shank Tolerance	h9	h9

Size Ref.	d_1	l_1	l_2	d_2	Item #	Item #
0300	**3.0**	49	16	3.0	D175 0300	D176 0300
0400	**4.0**	55	22	4.0	D175 0400	D176 0400
0500	**5.0**	62	25	5.0	D175 0500	D176 0500
0600	**6.0**	66	25	6.0	D175 0600	D176 0600
0800	**8.0**	79	29	8.0	D175 0800	D176 0800
1000	**10.0**	89	32	10.0	D175 1000	D176 1000
1200	**12.0**	102	32	12.0	D175 1200	D176 1200
1600	**16.0**	115	35	16.0	D175 1600	D176 1600
2000	**20.0**	131	37	20.0	D175 2000	D176 2000
2500	**25.0**	151	37	25.0	D175 2500	D176 2500

	Set	Pieces		
0004	6.0, 8.0, 10.0 & 12.0	4	D175 0004	D176 0004
SDT5	6.0, 8.0, 10.0, 12.0 & 16.0mm	5	D175 SDT5	

D175 0004

D176 0004

D175 SDT5

ISO	P													M			K						N										S													H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
D175	●	●	●	●	○	●	●	○		○		○	○	●	●	○	●	○	●	○	○	○	●	●	●	●	○	●	○	●	○		○	○	○	○			○	○		○		○			○	
D176	●	●	●	●	○	●	●	○		○		○	○	●	●	○	●	○	●	○	○	○	●	●	●	●	○	●	○	●	○		○	○	○	○			○	○		○		○			○	

P Steel | M Stainless Steel | K Cast Iron | N Non-Ferrous Metals | S Titanium & Super Alloys | H Hard Materials

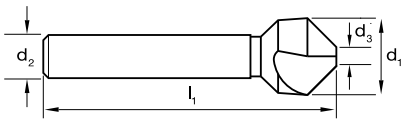
● Optimal ○ Effective

Countersinks Three Flute, 90°, DIN 335

suttontools

- De-burring
- Countersinking / Counterboring screw holes
- For Countersunk screws acc. to DIN 963, 964, 965, 966, 7513, 7516
- For Countersunk screws acc. to ISO 2009, 2010, 7046-1, 7046-2, 7047
- Chamfering of tapping holes
- For use in machine applications. Type N - For non-ferrous, Type UNI - For difficult to machine materials

DIN 335



Catalogue Code	C107	C108
Product Group	A1106	A1108
Material	HSS Co	HSS Co
Surface Finish	*Brt*	*TiAlN*
Sutton Designation	N	UNI
Geometry	-	-
Point Type	90°	90°
Shank Tolerance	h9	h9

Size Ref.	d_1	Screw Head	l_1	d_2	Item #	Item #
0430	4.3	M2	40	4	C107 0430	C108 0430
0530	5.3	M2.5	40	4	C107 0530	C108 0530
0630	6.3	M3	45	5	C107 0630	C108 0630
0730	7.3	M3.5	50	6	C107 0730	C108 0730
0800	8.0		50	6	C107 0800	C108 0800
0840	8.4	M4	50	6	C107 0840	C108 0840
0940	9.4	M5	50	6	C107 0940	C108 0940
1000	10.0		50	6	C107 1000	C108 1000
1040	10.4		50	6	C107 1040	C108 1040
1150	11.5	M6	56	8	C107 1150	C108 1150
1240	12.4		56	8	C107 1240	C108 1240
1340	13.4		56	8	C107 1340	C108 1340
1500	15.0		60	10	C107 1500	C108 1500
1650	16.5	M8	60	10	C107 1650	C108 1650
1900	19.0	M10	63	10	C107 1900	C108 1900
2050	20.5		63	10	C107 2050	C108 2050
2300	23.0		67	10	C107 2300	C108 2300
2500	25.0		67	10	C107 2500	C108 2500
3000	30.0		71	12	C107 3000	C108 3000
3100	31.0		71	12	C107 3100	C108 3100

	Set	Pieces		
0004	6.3, 10.4, 16.5, 20.5	4	C107 0004	C108 0004

C107 0004

C108 0004

ISO	P												M			K						N									S										H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
C107	●	●	●	●	○	●	●	○		○		○		●	●	○	●	○	●	●	○		●	●	●	●	○	●	○	○	○		○	○	○			○	○	○		○					●	
C108	●	●	●	●	●	●	●	●	○	●	○	●	●	●	●	●	●	●	●	●	●	●	○	○	●	●	●	●	●	●	○		○	○	○	○	○	○	○	○	○	○	○					●	

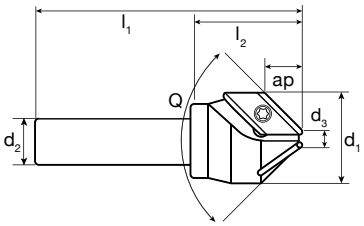
P Steel M Stainless Steel K Cast Iron N Non-Ferrous Metals S Titanium & Super Alloys H Hard Materials

● Optimal ○ Effective

Countersinks Indexable with Carbide Insert

suttontools

- For hand and machine operations
- 90° Standard Chamfer
- Chatter-free countersinking and de-burring
- Suitable for unstable machining at lower RPMs
- Carbide strip design provides excellent chamfering surface and better tool life



Catalogue Code	C110
Discount Group	A1402
Material	VHM
Surface Finish	TiCN
Sutton Designation	UNI
Geometry	-
Point Type	-
Shank Tolerance	h9

Size Ref.	d_1	d_2	d_3	l_1	l_2	ap	Q (Angle)	Item #
	Countersink Holder + Carbide Insert SMALL - 22mm							
2290	22	10	5.5	65	27	8	90°	C110 2290
	Countersink Holder + Carbide Insert LARGE - 36mm							
3690	36	12	15	78	38	10	90°	C110 3690
2210	**Countersink Carbide Inserts SMALL**							C110 2210
3610	**Countersink Carbide Inserts LARGE**							C110 3610

ISO	P												M			K						N									S										H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
C110	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	○	○	○	○	○

P Steel M Stainless Steel K Cast Iron N Non-Ferrous Metals S Titanium & Super Alloys H Hard Materials

● Optimal ○ Effective

suttontools

DIN TAPS

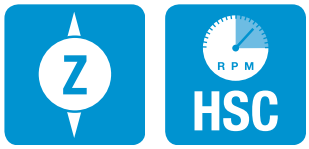
▪ M, MF ▪ UNC, UNF, UN ▪ G (BSPF) ▪ NPT

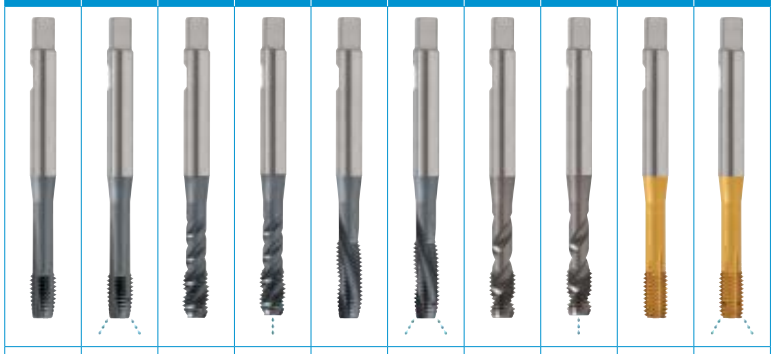
suttontools

ISO	VDI	Material Group	Sutton		
P	A	Steel	N		UNI
M	R	Stainless Steel	VA		
K	F	Cast Iron	GG		
N	N	Non-Ferrous Metals, Aluminiums & Coppers	Al	W	
S	S	Titaniums & Super Alloys	Ti		Ni
H	H	Hard Materials (≥ 45 HRC)	H		

^ VDI 3323 material groups can also be determined by referring to the material cross reference listing in the application guide at the back of this catalogue.

For Synchro Tapping





Page	77	77	78	78	79	79	80	80	81	81
Catalogue Code M	T377	T379	T373	T375	T365	T367	T369	T371	T381	T383
MF	T766	T768	T762	T764	T754	T756	T758	T760	T770	T772
Material	PM-HSSE V3		PM-HSSE V3		PM-HSSE V3		PM-HSSE V3		PM-HSSE V3	
Surface Finish	*TiCN*		*TiCN*		*TiCN*		*CrN*		*TiN*	
Sutton Designation	High Speed Cutting		High Speed Cutting		High Speed Cutting		High Speed Cutting		High Speed Cutting	
Tapping Depth	2xØ		2xØ		2xØ		2xØ		2xØ	

ISO	VDI^ 3323	Material		Condition	HB	N/mm²										
P	1	Steel - Non-alloy, cast & free cutting	~ 0.15 %C	A	125	440	●	●	●	●	●	●			●	●
	2		~ 0.45 %C	A	190	640	●	●	●	●	●	●			●	●
	3			QT	250	840	●	●	●	●	●	●			○	○
	4		~ 0.75 %C	A	270	910	●	●	●	●	●	●			●	●
	5			QT	300	1010	○	○	○	○	○	○				
	6	Steel - Low alloy & cast < 5% of alloying elements		A	180	610	●	●	●	●	●	●			○	○
	7			QT	275	930	●	●	●	●	●	●			○	○
	8			QT	300	1010	○	○	○	○	○	○				
	9			QT	350	1180										
	10	Steel - High alloy, cast & tool		A	200	680	●	●	●	●	●	●			○	○
	11			HT	325	1100										
	12	Steel - Corrosion resistant & cast	Ferritic / Martensitic	A	200	680	●	●	●	●	●	●				
	13		Martensitic	QT	240	810	○	○	○	○	○	○				
M	14.1	Stainless Steel	Austenitic	AH	180	610	●	●	●	●	●	●			●	●
	14.2		Duplex		250	840	●	●	●	●	●	●			○	○
	14.3		Precipitation Hardening		250	840	○	○	○	○	○	○				
K	15	Cast Iron - Grey (GG)	Ferritic / Pearlitic		180	610	●	●	●	●	●	●				
	16		Pearlitic		260	880	○	○	○	○	○	○				
	17	Cast Iron - Nodular (GGG)	Ferritic		160	570	●	●	●	●	●	●				
	18		Pearlitic		250	840	○	○	○	○	○	○				
	19	Cast Iron - Malleable	Ferritic		130	460	●	●	●	●	●	●				
	20		Pearlitic		230	780	○	○	○	○	○	○				
N	21	Aluminum & Magnesium - wrought alloy	Non Heat Treatable		60	210	●	●	●	●	●	●	●	●	●	●
	22		Heat Treatable	AH	100	360	●	●	●	●	●	●	●	●	●	●
	23	Aluminum & Magnesium - cast alloy ≤12% Si	Non Heat Treatable		75	270	●	●	○	○	●	●	●	●	●	●
	24		Heat Treatable	AH	90	320	●	●	○	○	●	●	●	●	○	○
	25	Al & Mg - cast alloy >12% Si	Non Heat Treatable		130	460	○	○	●	●	○	○				
	26	Copper & Cu alloys (Brass/Bronze)	Free cutting, Pb > 1%		110	390	●	●	○	○	●	●	●	●		
	27		Brass (CuZn, CuSnZn)		90	320	○	○	○	○	○	○	●	●		
	28		Bronze (CuSn)		100	360	●	●	○	○	●	●	●	●	●	●
	29	Non-metallic - Thermosetting & fiber-reinforced plastics														
	30	Non-metallic - Hard rubber, wood etc.														
S	31	High temp. alloys	Fe based	A	200	680	●	●	●	●						
	32			AH	280	950										
	33		Ni / Co based	A	250	840	●	●	●	●						
	34			AH	350	1180										
	35			C	320	1080										
	36	Titanium & Ti alloys	CP Titanium		400 MPa											
	37.1		Alpha alloys		860 MPa						●	●				
	37.2		Alpha / Beta alloys	A	960 MPa						●	●				
	37.3			AH	1170 MPa											
	37.4		Beta alloys	A	830 MPa						●	●				
	37.5			AH	1400 MPa											
H	38.1	Hardened steel		HT	45 HRC											
	38.2			HT	55 HRC											
	39.1			HT	58 HRC											
	39.2			HT	62 HRC											
	40	Cast Iron	Chilled	C	400	1350										
	41			HT	55 HRC											

Condition: A (Annealed), **AH** (Age Hardened), **C** (Cast), **HT** (Hardened & Tempered), **QT** (Quenched & Tempered)

● Optimal ○ Effective

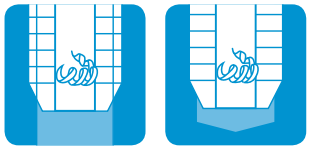
DIN Taps Finder

suttontools

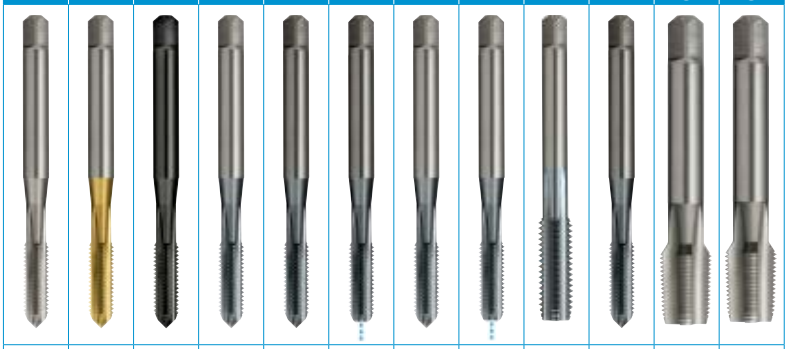
ISO	VDI	Material Group	Sutton	
P	A	Steel	N	UNI
M	R	Stainless Steel	VA	
K	F	Cast Iron	GG	
N	N	Non-Ferrous Metals, Aluminiums & Coppers	Al W	
S	S	Titaniums & Super Alloys	Ti	Ni
H	H	Hard Materials (≥ 45 HRC)	H	

^ VDI 3323 material groups can also be determined by referring to the material cross reference listing in the application guide at the back of this catalogue.

For Tapping Through & Blind Holes



Page M	82	82	83	83	84	84	85	85	86	87		
MF	122	122	123	123	123	123	124	124	125	126		
UNC			143	143								
UNF												
G (BSPF)	170	170	171	171								
NPT											181	182



Catalogue Code M	T286 / T287	T288 / T289	T290 / T291	T292 / T293	T670 / T671	T741 / T742	T335 / T336	T357 / T358	T294 / T295	T296 / T297		
MF	T298	T299	T300	T301	T743	T744	T668	T669	T343/T344	T345/346		
UNC			T302	T303								
UNF												
G (BSPF)	T304	T305	T306	T307								
NPT											T308	T808
Material	HSSE		HSSE		VHM		PM-HSS Co		SPM	VHM	HSSE	
Surface Finish	*Brt*	*TiN*	*Ni+Blu*	*TiCN*	*TiCN*		*TiCN*		*TiCN*		*Brt*	
Sutton Designation	N		GG		GGG		DC		XH	VH	UNI	N
Tapping Depth	≤ 1.5xØ		≤ 3xØ		≤ 3xØ		≤ 1.5xØ		≤ 1.5xØ		-	

ISO	VDI^ 3323	Material		Condition	HB	N/mm²												
P	1	Steel - Non-alloy, cast & free cutting	~ 0.15 %C	A	125	440	●	●									●	●
	2		~ 0.45 %C	A	190	640	●	●									●	●
	3			QT	250	840	●	●									●	●
	4		~ 0.75 %C	A	270	910	●	●									●	●
	5			QT	300	1010	○	○							○		○	○
	6	Steel - Low alloy & cast < 5% of alloying elements		A	180	610	●	●									●	●
	7			QT	275	930	○	○									●	●
	8			QT	300	1010	○	○							○		○	○
	9			QT	350	1180									●	○		
	10	Steel - High alloy, cast & tool		A	200	680	○	○									○	○
	11			HT	325	1100									●	○		
	12	Steel - Corrosion resistant & cast	Ferritic / Martensitic	A	200	680											○	○
	13		Martensitic	QT	240	810									●	○	○	○
M	14.1	Stainless Steel	Austenitic	AH	180	610											○	○
	14.2		Duplex		250	840											○	○
	14.3		Precipitation Hardening		250	840											○	○
K	15	Cast Iron - Grey (GG)	Ferritic / Pearlitic		180	610			●	●	●	●	○	○			○	○
	16		Pearlitic		260	880			●	●	●	●	○	○	●			
	17	Cast Iron - Nodular (GGG)	Ferritic		160	570			●	●	●	●	○	○			○	○
	18		Pearlitic		250	840			●	●	●	●	○	○	●			
	19	Cast Iron - Malleable	Ferritic		130	460			○	○	○	○	○	○			○	○
	20		Pearlitic		230	780			○	○	○	○	○	○			○	○
N	21	Aluminum & Magnesium - wrought alloy	Non Heat Treatable		60	210	○	○									●	●
	22		Heat Treatable	AH	100	360	○	○									●	●
	23	Aluminum & Magnesium - cast alloy ≤12% Si	Non Heat Treatable		75	270	○	○					●	●			○	○
	24		Heat Treatable	AH	90	320	○	○					●	●			○	○
	25	Al & Mg - cast alloy >12% Si	Non Heat Treatable		130	460				○	●	●	●	●				
	26	Copper & Cu alloys (Brass/Bronze)	Free cutting, Pb > 1%		110	390	○	○									●	●
	27		Brass (CuZn, CuSnZn)		90	320	○	○			●	●	○	○	○	○	○	○
	28		Bronze (CuSn)		100	360	○	○									○	○
	29	Non-metallic - Thermosetting & fiber-reinforced plastics																
	30	Non-metallic - Hard rubber, wood etc.																
S	31	High temp. alloys	Fe based	A	200	680												
	32			AH	280	950												
	33		Ni / Co based	A	250	840												
	34			AH	350	1180												
	35			C	320	1080												
	36	Titanium & Ti alloys	CP Titanium		400 MPa													
	37.1		Alpha alloys		860 MPa													
	37.2		Alpha / Beta alloys	A	960 MPa													
	37.3			AH	1170 MPa													
	37.4		Beta alloys	A	830 MPa													
	37.5			AH	1400 MPa													
H	38.1	Hardened steel		HT	45 HRC										●	●		
	38.2			HT	55 HRC											●		
	39.1			HT	58 HRC											●		
	39.2			HT	62 HRC											●		
	40	Cast Iron	Chilled	C	400	1350					●	●	○	○	●	○		
	41			HT	55 HRC											●		

Condition: **A** (Annealed), **AH** (Age Hardened), **C** (Cast), **HT** (Hardened & Tempered), **QT** (Quenched & Tempered)

● Optimal ○ Effective

M

DIN Taps Finder

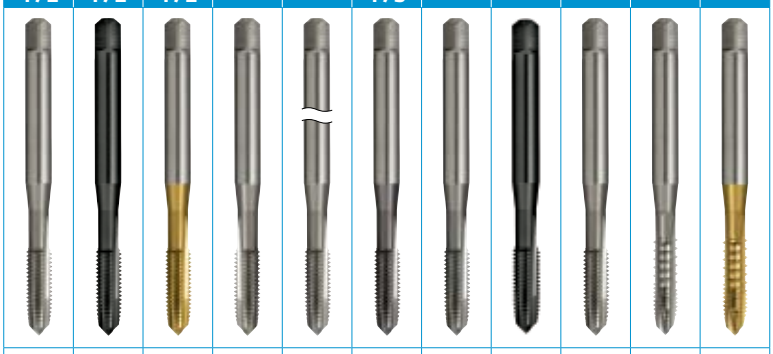
suttontools

ISO	VDI	Material Group	Sutton	
P	A	Steel	N	UNI
M	R	Stainless Steel	VA	
K	F	Cast Iron	GG	
N	N	Non-Ferrous Metals, Aluminiums & Coppers	Al W	
S	S	Titaniums & Super Alloys	Ti	Ni
H	H	Hard Materials (≥ 45 HRC)	H	

^ VDI 3323 material groups can also be determined by referring to the material cross reference listing in the application guide at the back of this catalogue.

For Tapping Through Holes

Page M	88	88	88	90	91	92	93	93	93	94	94
MF	127	127	127			129					
UNC	144	144	144			145					
UNF	161	161	161			162					
G (BSPF)	172	172	172			173					



Catalogue Code M	T100 / T101	T102 / T103	T104 / T105	T648 / T649	T337 / T338	T687 / T688	T122 / T123	T124 / T125	T126 / T127	T128 / T129	T130 / T131
MF	T154 / T155	T156	T157			T689					
UNC	T164 / T165	T166	T167			T693					
UNF	T173 / T174	T702	T175			T694					
G (BSPF)	T178	T179	T180			T700					
Material	HSSE			HSSE	HSSE	PM-HSSE V3	HSSE		HSSE	HSSE	
Surface Finish	*Brt*	*Blu*	*TiN*	*Brt*	*Brt*	*Hardlube*	*Ni*	*Blu*	*CrN*	*Brt*	*TiN*
Sutton Designation	N			N - LH	N - XL	UNI	W		Cu	Sticky Material	
Tapping Depth	≤ 3xØ			≤ 3xØ	≤ 3xØ	≤ 3xØ	≤ 3xØ		≤ 3xØ	≤ 3xØ	

ISO	VDI^ 3323	Material		Condition	HB	N/mm²											
P	1	Steel - Non-alloy, cast & free cutting	~ 0.15 %C	A	125	440	●	●	●	●	●	●	●	●		○	●
	2		~ 0.45 %C	A	190	640	●	●	●	●	●	●	●	●		○	○
	3			QT	250	840	○	●	●	○	○	●	○	○		○	○
	4		~ 0.75 %C	A	270	910	○	●	●	○	○	○	○	○		○	○
	5			QT	300	1010			○								
	6	Steel - Low alloy & cast < 5% of alloying elements		A	180	610	●	●	●	●	●	●	●	●		○	○
	7			QT	275	930	○	●	●	○	○	○	○	○		○	○
	8			QT	300	1010			○								
	9			QT	350	1180											
	10	Steel - High alloy, cast & tool		A	200	680	○	●	●	○	○	●					○
	11			HT	325	1100											
	12	Steel - Corrosion resistant & cast	Ferritic / Martensitic	A	200	680		○	○			●				○	○
	13		Martensitic	QT	240	810						○					
M	14.1	Stainless Steel	Austenitic	AH	180	610		○	○			●				○	○
	14.2		Duplex		250	840		○	○			●				○	○
	14.3		Precipitation Hardening		250	840		○	○								
K	15	Cast Iron - Grey (GG)	Ferritic / Pearlitic		180	610	○	○	○	○	○	○					
	16		Pearlitic		260	880			○			○					
	17	Cast Iron - Nodular (GGG)	Ferritic		160	570	○	○	○	○	○	○					
	18		Pearlitic		250	840			○			○					
	19	Cast Iron - Malleable	Ferritic		130	460	○	○	○	○	○	○					
	20		Pearlitic		230	780	○	○	○	○	○	○					
N	21	Aluminum & Magnesium - wrought alloy	Non Heat Treatable		60	210	●		●	●	●	●	●	●	●	●	○
	22		Heat Treatable	AH	100	360	●		●	●	●	●	●	●	●	○	○
	23	Aluminum & Magnesium - cast alloy ≤12% Si	Non Heat Treatable		75	270	○		○	○	○	●	○	○	●		
	24		Heat Treatable	AH	90	320	○		○	○	○	○	○	○	●		
	25	Al & Mg - cast alloy >12% Si	Non Heat Treatable		130	460						○		○	○		
	26	Copper & Cu alloys (Brass/Bronze)	Free cutting, Pb > 1%		110	390	○		●	○	○	○	○		●	●	●
	27		Brass (CuZn, CuSnZn)		90	320	○		○	○	○	○	○		○	●	●
	28		Bronze (CuSn)		100	360						○	○		●	●	●
	29	Non-metallic - Thermosetting & fiber-reinforced plastics															
	30	Non-metallic - Hard rubber, wood etc.															
S	31	High temp. alloys	Fe based	A	200	680											
	32			AH	280	950											
	33		Ni / Co based	A	250	840											
	34			AH	350	1180											
	35			C	320	1080											
	36	Titanium & Ti alloys	CP Titanium		400 MPa												
	37.1		Alpha alloys		860 MPa												
	37.2		Alpha / Beta alloys	A	960 MPa												
	37.3			AH	1170 MPa												
	37.4		Beta alloys	A	830 MPa												
	37.5			AH	1400 MPa												
H	38.1	Hardened steel		HT	45 HRC												
	38.2			HT	55 HRC												
	39.1			HT	58 HRC												
	39.2			HT	62 HRC												
	40	Cast Iron	Chilled	C	400	1350											
	41			HT	55 HRC												

Condition: A (Annealed), **AH** (Age Hardened), **C** (Cast), **HT** (Hardened & Tempered), **QT** (Quenched & Tempered)

● Optimal ○ Effective

95	95	95	96	96	96	96	97	98	98	98	99	99	99	114	115
130		130	131	131				132	132			133		117	118
146		146		147				148	148		149	149		159	160
163		163		164										159	160
174			175	175											

T110 / T111	T359 / T360	T112 / T113	T114 / T115	T116 / T117	T680 / T681	T118 / T119	T120 / T121	T134 / T135	T140 / T141	T142 / T143	T144 / T145	T146 / T147	T148 / T149	T152 / T153	T217 / T218
T158		T161	T159	T160				T654	T163			T710		T784 / T785	T792
T170		T171		T697				T168	T169		T172	T666		T786	T794
T176		T177		T698										T787	T795
T181			T349	T350											
HSSE		HSSE	PM-HSSE V3	PM-HSSE V3			PM-HSSE V3	PM-HSSE V3	PM-HSSE V3		PM-HSS Co	PM-HSS Co		PM-HSS Co	
Blu		*TiCN*	*Blu*	*TiCN*			*TiCN*	*Blu*	*TiAlN*		*Blu*	*TiCN*		*TiCN*	
VA		VA	VA PM	VA PM			VA DH	NH	NH		H	H		Ti	Ni
≤ 3xØ		≤ 3xØ	≤ 3xØ	≤ 3xØ			≤ 3xØ	≤ 3xØ	≤ 3xØ		≤ 3xØ	≤ 3xØ		≤ 1.5xØ	

																VDI^ 3323	ISO
●	●	●	●	●	●	●	●									1	P
●	●	●	●	●	●	●	●									2	
○	○	○	○	○	○	○	○	●	●	●						3	
○	○	○	○	○	○	○	○	●	●	●						4	
								○	●	●	●	●	●	○		5	
●	●	●	●	●	●	●	●									6	
○	○	○	○	○	○	○	○	●	●	●						7	
								○	●	●	●	●	●	○		8	
								○	○	○	●	●	●	○		9	
		○	○	○	○	○	○	○	●	●				○		10	
								○	○	○	●	●	●	○		11	
○	○	●	○	●	●	●	●	○	○	○	○	○	○			12	
		○		○	○	○	○	○	○	○	●	●	●	○		13	
●	●	●	●	●	●	●	●	○	○	○						14.1	M
●	●	●	●	●	●	●	●	○	○	○						14.2	
○	○	●	○	●	●	●	●	○	●	●	○	○	○			14.3	
								○	○	○	○	●	●			15	K
								○	○	○	○	●	●			16	
								○	○	○	○	●	●			17	
								○	○	○	○	●	●			18	
								○	●	●	○	●	●			19	
								○	○	○	○	●	●			20	
		○		○	○	○	○									21	N
		○		○	○	○	○									22	
		○		○	○	○	○		○	○						23	
		○		○	○	○	○		○	○						24	
		○		○	○	○	○		○	○		○	○			25	
		○		○	○	○	○		●	●						26	
									○	○	○	●	●			27	
		○		○	○	○	○		○	○						28	
																30	
		●		●	●	●										31	S
		○		●	●	●								○		32	
		○		●	●	●										33	
															●	34	
														○		35	
											○	○	○			36	
											○	●	●	●		37.1	
											○	●	●	●		37.2	
											○	●	●	○		37.3	
											○	●	●	●		37.4	
											○	●	●	○		37.5	
									○	○	○	●	●			38.1	H
																38.2	
																39.1	
																39.2	
								○	○	○	○	●	●			40	
																41	

M

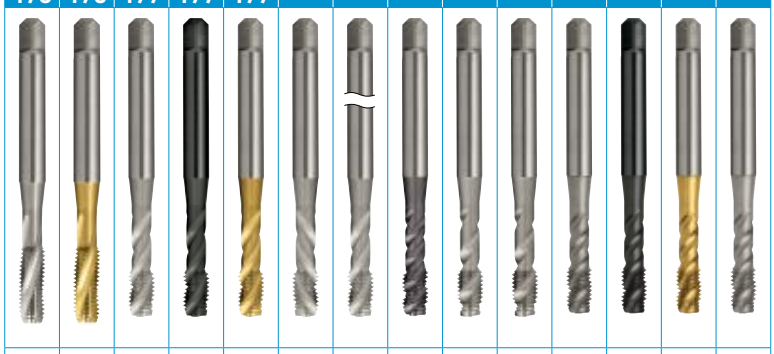
DIN Taps Finder

suttontools

ISO	VDI	Material Group	Sutton		
P	A	Steel	N		UNI
M	R	Stainless Steel	VA		
K	F	Cast Iron	GG		
N	N	Non-Ferrous Metals, Aluminiums & Coppers	Al	W	
S	S	Titaniums & Super Alloys	Ti		Ni
H	H	Hard Materials (≥ 45 HRC)	H		

^ VDI 3323 material groups can also be determined by referring to the material cross reference listing in the application guide at the back of this catalogue.

For Tapping Blind Holes



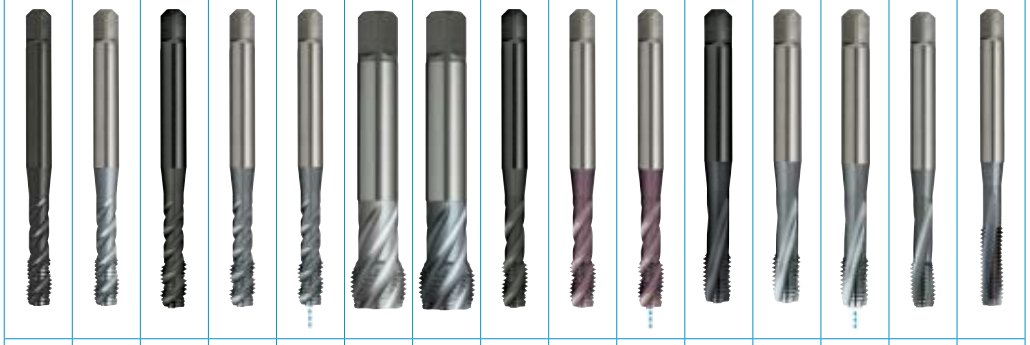
Page M	100	100	101	101		103	104	105	106	106	107	107	107	107
MF	134	134	135	135	135			136		137				
UNC	150	150	151	151	151			152						
UNF	165		166	166				167						
G (BSPF)	176	176	177	177	177									
Catalogue Code M	T183 / T184	T185 / T186	T187 / T188	T189 / T190		T195 / T196	T339 / T340	T684 / T685	T231 / T232	T233 / T234	T235 / T236	T237 / T238	T241 / T242	T239 / T240
MF	T243	T244	T245	T247	T248			T686		T703				
UNC	T255 / T257	T256	T258 / T259	T260	T273			T691						
UNF	T274		T275	T701				T692						
G (BSPF)	T278	T279	T281	T282	T283									
Material	HSSE		HSSE			HSSE		PM-HSSE V3	HSSE		HSSE			HSSE
Surface Finish	*Brt*	*TiN*	*Brt*	*Blu*	*TiN*	*Brt*		*Hardlube*	*Brt*	*CrN*	*Ni*	*Blu*	*TiN*	*CrN*
Sutton Designation	N		N			N - LH	N - Long	UNI	Al		W			Cu
Tapping Depth	≤ 1.5xØ		≤ 3xØ			≤ 3xØ		≤ 3xØ	≤ 3xØ		≤ 3xØ			≤ 3xØ

ISO	VDI^ 3323	Material		Condition	HB	N/mm²														
P	1	Steel - Non-alloy, cast & free cutting	~ 0.15 %C	A	125	440	●	●	●	●	●	●	●	●			●	●	●	
	2		~ 0.45 %C	A	190	640	●	●	●	●	●	●	●	●			●	●	●	
	3			QT	250	840	○	●	○	●	●	○	○	●			○	○	○	
	4		~ 0.75 %C	A	270	910	○	●	○	●	●	○	○	○			○	○	●	
	5			QT	300	1010		○			○									
	6	Steel - Low alloy & cast < 5% of alloying elements		A	180	610	●	●	●	●	●	●	●	●			●	●	●	
	7			QT	275	930	○	●	○	●	●	○	○	○			○	○	○	
	8			QT	300	1010		○			○									
	9			QT	350	1180														
	10	Steel - High alloy, cast & tool		A	200	680	○	●	○	●	●	○	○	●						
	11			HT	325	1100														
	12	Steel - Corrosion resistant & cast	Ferritic / Martensitic	A	200	680		○		○	○			●						
	13		Martensitic	QT	240	810								○						
M	14.1	Stainless Steel	Austenitic	AH	180	610		○		○	○			●						
	14.2		Duplex		250	840		○		○	○			●						
	14.3		Precipitation Hardening		250	840		○		○	○									
K	15	Cast Iron - Grey (GG)	Ferritic / Pearlitic		180	610	○	○	○	○	○	○	○	○						
	16		Pearlitic		260	880		○			○			○						
	17	Cast Iron - Nodular (GGG)	Ferritic		160	570	○	○	○	○	○	○	○	○						
	18		Pearlitic		250	840		○			○			○						
	19	Cast Iron - Malleable	Ferritic		130	460	○	○	○	○	○	○	○	○						
	20		Pearlitic		230	780	○	○	○	○	○	○	○	○						
N	21	Aluminum & Magnesium - wrought alloy	Non Heat Treatable		60	210	●	●	●		●	●	●	●	●	●	●	○	○	○
	22		Heat Treatable	AH	100	360	●	●	●		●	●	●	●	●	●	○	○	○	○
	23	Aluminum & Magnesium - cast alloy ≤12% Si	Non Heat Treatable		75	270	○	○	○		○	○	○	●	●	●				
	24		Heat Treatable	AH	90	320	○	○	○		○	○	○	○	●	●				
	25	Al & Mg - cast alloy >12% Si	Non Heat Treatable		130	460								○						
	26	Copper & Cu alloys (Brass/Bronze)	Free cutting, Pb > 1%		110	390	○	○	○		●	○	○	○	○	●	○		○	●
	27		Brass (CuZn, CuSnZn)		90	320	○	○	○		○	○	○	○						
	28		Bronze (CuSn)		100	360									○	●	○		●	●
	29	Non-metallic - Thermosetting & fiber-reinforced plastics																		
	30	Non-metallic - Hard rubber, wood etc.																		
S	31	High temp. alloys	Fe based	A	200	680														
	32			AH	280	950														
	33		Ni / Co based	A	250	840														
	34			AH	350	1180														
	35			C	320	1080														
	36	Titanium & Ti alloys	CP Titanium		400 MPa															
	37.1		Alpha alloys		860 MPa															
	37.2		Alpha / Beta alloys	A	960 MPa															
	37.3			AH	1170 MPa															
	37.4		Beta alloys	A	830 MPa															
	37.5			AH	1400 MPa															
H	38.1	Hardened steel		HT	45 HRC															
	38.2			HT	55 HRC															
	39.1			HT	58 HRC															
	39.2			HT	62 HRC															
	40	Cast Iron	Chilled	C	400	1350														
	41			HT	55 HRC															

Condition: A (Annealed), **AH** (Age Hardened), **C** (Cast), **HT** (Hardened & Tempered), **QT** (Quenched & Tempered)

● Optimal ○ Effective

108	108		109	110			111	111	111	112	112	112	113	115
138	138	139	139				140	140			141		116	118
153	153		154		155	155	156	156		157	157		158	160
168	168		169										158	160
178	178	179	179											



T197 / T199	T201 / T202		T205 / T206	T207 / T208			T221 / T222	T227 / T228	T229 / T230	T209 / T210	T211 / T212	T213 / T214	T215 / T216	T217 / T218
T249	T251	T250	T252				T655	T254			T707		T788 / T789	T792 / T793
T261	T262		T695		T263	T264	T266	T267		T265	T667		T790	T794
T276	T277		T696										T791	T795
T284	T285	T351	T352											
HSSE		PM-HSSE V3			HSSE		PM-HSSE V3			PM-HSS Co			PM-HSS Co	
Blu	*TiCN*	*Blu*	*TiCN*		*Brt*	*TiCN*	*Blu*	*TiAlN*		*Blu*	*TiCN*		*TiCN*	
VA DH		VA PM			VA		NH			H			Ti	Ni
≤ 3xØ		≤ 3xØ			≤ 2.5xØ		≤ 2.5xØ			≤ 1.5xØ			≤ 1.5xØ	

															VDI^ 3323	ISO
●	●	●	●	●	●	●									1	P
●	●	●	●	●	●	●									2	
○	○	●	●	●	●	●	●	●	●						3	
	○		○	○	○	○	●	●	●						4	
							○	●	●	●	●	●	○		5	
○	○	●	●	●	●	●									6	
○	○	○	○	○	○	○	●	●	●						7	
	○		○	○	○	○	○	●	●	●	●	●	○		8	
								○	○	●	●	●	○		9	
	○		○	○	○	○	○	●	●				○		10	
								○	○	●	●	●	○		11	
○	●	○	●	●	●	●	○	○	○	○	○	○			12	
								○	○		●	●	○		13	
●	●	●	●	●	●	●	○	○	○						14.1	M
●	●	●	●	●	●	●	○	○	○						14.2	
○	●	○	●	●	●	●	○	●	●	○	○	○			14.3	
							○	○	○	○	●	●			15	K
							○	○	○	○	●	●			16	
							○	○	○	○	●	●			17	
							○	○	○	○	●	●			18	
							○	○	○	○	●	●			19	
							○	○	○	○	●	●			20	
	○		○	○	○	○		○	○						21	N
	○		○	○	○	○		○	○						22	
	○		○	○	○	○		○	○						23	
	○		○	○	○	○		○	○						24	
			○					●	●		○	○			25	
	○		○	○	○	○		○	○						26	
								○	○	○	●	●			27	
	○		○	○	○	○		○	○						28	
															29	
															30	
	●		●	●											31	S
													○		32	
	○		●	○											33	
														●	34	
													○		35	
										○	○	○			36	
										○	●	●	●		37.1	
										○	●	●	●		37.2	
										○	●	●	○		37.3	
										○	●	●	●		37.4	
										○	●	●	○		37.5	
															38.1	H
															38.2	
															39.1	
															39.2	
							○	○	○	○	●	●			40	
															41	

M

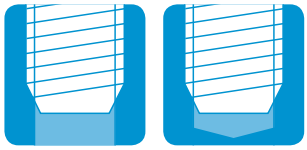
DIN Taps Finder

suttontools

ISO	VDI	Material Group	Sutton	
P	A	Steel	N	UNI
M	R	Stainless Steel	VA	
K	F	Cast Iron	GG	
N	N	Non-Ferrous Metals, Aluminiums & Coppers	Al / W	
S	S	Titaniums & Super Alloys	Ti	Ni
H	H	Hard Materials (≥ 45 HRC)	H	

^ VDI 3323 material groups can also be determined by referring to the material cross reference listing in the application guide at the back of this catalogue.

For Thread Forming



Page M	119	119		120	120	120	121	121
MF				142				
UNC								
UNF								
G (BSPF)			180	180				
Catalogue Code M	T309	T313		T319 / T320	T323 / T324	T329 / T330	T325 / T326	T327 / T328
MF				T773				
UNC								
UNF								
G (BSPF)			T361	T363				
Material	HSSE		HSSE	HSSE	HSSE	HSSE	SPM	
Surface Finish	*Brt*	*TiN*	*Brt*	*TiCN*	*TiCN*	*CrN*	*TiAlN*	
Sutton Designation	N		N	N	N	Cu	UNI	
Tapping Depth	≤ 1.5xØ		≤ 3xØ	≤ 3xØ	≤ 3xØ	≤ 3xØ	≤ 3xØ	
Limit & Nut Tolerance	6HX		6GX	6HX	6GX	6HX	6HX	

ISO	VDI^ 3323	Material		Condition	HB	N/mm²								
P	1	Steel - Non-alloy, cast & free cutting	~ 0.15 %C	A	125	440	○	●	●	●	●		●	●
	2		~ 0.45 %C	A	190	640	○	●	●	●	●		●	●
	3			QT	250	840		○	○	●	●		●	●
	4		~ 0.75 %C	A	270	910		●	●	●	●		●	●
	5			QT	300	1010								
	6	Steel - Low alloy & cast < 5% of alloying elements		A	180	610		○	○	●	●		●	●
	7			QT	275	930							○	○
	8			QT	300	1010								
	9			QT	350	1180								
	10	Steel - High alloy, cast & tool		A	200	680							●	●
	11			HT	325	1100								
	12	Steel - Corrosion resistant & cast	Ferritic / Martensitic	A	200	680								
	13		Martensitic	QT	240	810								
M	14.1	Stainless Steel	Austenitic	AH	180	610		●	●	●	●		○	●
	14.2		Duplex		250	840							○	●
	14.3		Precipitation Hardening		250	840								
K	15	Cast Iron - Grey (GG)	Ferritic / Pearlitic		180	610								
	16		Pearlitic		260	880								
	17	Cast Iron - Nodular (GGG)	Ferritic		160	570								
	18		Pearlitic		250	840								
	19	Cast Iron - Malleable	Ferritic		130	460								
	20		Pearlitic		230	780								
N	21	Aluminum & Magnesium - wrought alloy	Non Heat Treatable		60	210	●	●	●	●	●	●	●	●
	22		Heat Treatable	AH	100	360	●	●	●	●	●	●	●	●
	23	Aluminum & Magnesium - cast alloy ≤12% Si	Non Heat Treatable		75	270	○	○	○	○	○	●	●	●
	24		Heat Treatable	AH	90	320	○	○	○	○	○	●	●	●
	25	Al & Mg - cast alloy >12% Si	Non Heat Treatable		130	460								
	26	Copper & Cu alloys (Brass/Bronze)	Free cutting, Pb > 1%		110	390	●	●	○	●	●	●	●	●
	27		Brass (CuZn, CuSnZn)		90	320								
	28		Bronze (CuSn)		100	360	○	○	○	○	○	●	○	○
	29	Non-metallic - Thermosetting & fiber-reinforced plastics												
	30	Non-metallic - Hard rubber, wood etc.												
S	31	High temp. alloys	Fe based	A	200	680								
	32			AH	280	950								
	33		Ni / Co based	A	250	840								
	34			AH	350	1180								
	35			C	320	1080								
	36	Titanium & Ti alloys	CP Titanium		400 MPa									
	37.1		Alpha alloys		860 MPa									
	37.2		Alpha / Beta alloys	A	960 MPa									
	37.3			AH	1170 MPa									
	37.4		Beta alloys	A	830 MPa									
	37.5			AH	1400 MPa									
H	38.1	Hardened steel		HT	45 HRC									
	38.2			HT	55 HRC									
	39.1			HT	58 HRC									
	39.2			HT	62 HRC									
	40	Cast Iron	Chilled	C	400	1350								
	41			HT	55 HRC									

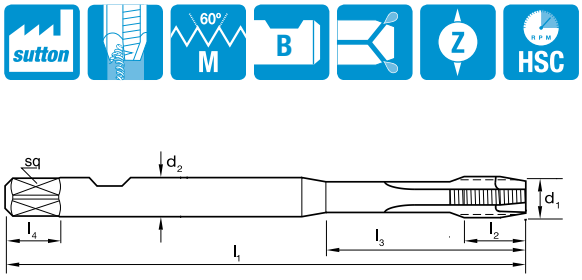
Condition: A (Annealed), **AH** (Age Hardened), **C** (Cast), **HT** (Hardened & Tempered), **QT** (Quenched & Tempered)

● Optimal ○ Effective

DIN Taps Metric, Synchro, Gun

suttontools

- For high speed and precision tapping
- For rigid tapping in CNC machines with synchronised feed
- Suitable for materials up to 850N/mm²
- Through holes up to 2 x d_1
- h6 endmill shank



Catalogue Code	T377	T379
Product Group	D0412	D0412
Material	PM-HSSE V3	PM-HSSE V3
Surface Finish	*TiCN*	*TiCN*
Geometry		IK
Chamfer	Form B / 4.5 x P	Form B / 4.5 x P
Shank Form (~DIN 1835)	B	B
Limit & Nut Tolerance	6HX	6HX

Size Ref.	d_1	Pitch	l_1	l_2	l_3	d_2	sq	l_4	z	drill Ø	Item #	Item #
0200	M 2	x 0.4	70	4	13	6.0	4.9	8.0	3	1.6	T377 0200	•
0250	M 2.5	x 0.45	70	4.5	14	6.0	4.9	8.0	3	2.1	T377 0250	•
0300	M 3	x 0.5	70	5	18	6.0	4.9	8.0	3	2.5	T377 0300	•
0400	M 4	x 0.7	70	7	21	6.0	4.9	8.0	3	3.3	T377 0400	•
0500	M 5	x 0.8	70	8	25	6.0	4.9	8.0	3	4.2	T377 0500	T379 0500
0600	M 6	x 1	80	10	30	6.0	4.9	8.0	3	5.0	T377 0600	T379 0600
0800	M 8	x 1.25	90	13	35	8.0	6.2	9.0	3	6.8	T377 0800	T379 0800
1000	M 10	x 1.5	100	15	39	10.0	8.0	11.0	3	8.5	T377 1000	T379 1000
1200	M 12	x 1.75	110	18	42	12.0	9.0	12.0	3	10.3	T377 1200	T379 1200
1400	M 14	x 2	110	20	49	14.0	11.0	14.0	3	12.0	T377 1400	T379 1400
1600	M 16	x 2	110	20	55	16.0	12.0	15.0	4	14.0	T377 1600	T379 1600
1800	M 18	x 2.5	125	25	-	16.0	12.0	15.0	4	15.5	T377 1800	T379 1800
2000	M 20	x 2.5	140	25	-	16.0	12.0	15.0	4	17.5	T377 2000	T379 2000
											T766	**T768**
0805	MF 8	x 1	90	13	30	8.0	6.2	9.0	3	7.0	•	•
1005	MF 10	x 1	100	15	39	10.0	8.0	11.0	3	9.0	•	•
1006	MF 10	x 1.25	100	15	39	10.0	8.0	11.0	3	8.8	•	•
1205	MF 12	x 1	110	18	42	12.0	9.0	12.0	3	11.0	•	•
1206	MF 12	x 1.25	110	18	42	12.0	9.0	12.0	3	10.8	•	•
1207	MF 12	x 1.5	110	18	42	12.0	9.0	12.0	3	10.5	•	•

ISO	P												M			K						N									S										H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
T377	●	●	●	●	○	●	●	○		●		●	○	●	●	○	●	○	●	○	●	○	●	●	●	●	○	●	○	●			●		●														
T766	●	●	●	●	○	●	●	○		●		●	○	●	●	○	●	○	●	○	●	○	●	●	●	●	○	●	○	●			●		●														
T379	●	●	●	●	○	●	●	○		●		●	○	●	●	○	●	○	●	○	●	○	●	●	●	●	○	●	○	●			●		●														
T768	●	●	●	●	○	●	●	○		●		●	○	●	●	○	●	○	●	○	●	○	●	●	●	●	○	●	○	●			●		●														

P Steel M Stainless Steel K Cast Iron N Non-Ferrous Metals S Titanium & Super Alloys H Hard Materials

● Optimal ○ Effective

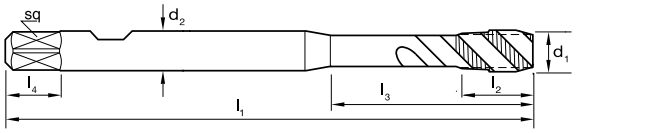
• Available on request as special manufacture. Subject to lead time.

M

DIN Taps Metric, Synchro, Spiral Flute, R50

suttontools

- For high speed and precision tapping
- For rigid tapping in CNC machines with synchronised feed
- Suitable for materials up to 850N/mm²
- Blind holes up to 2 x d_1
- h6 endmill shank



Catalogue Code	T373	T375
Product Group	D0412	D0412
Material	PM-HSSE V3	PM-HSSE V3
Surface Finish	*TiCN*	*TiCN*
Geometry	R50	R50 IK
Chamfer	Form C / 2.5 x P	Form C / 2.5 x P
Shank Form (~DIN 1835)	B	B
Limit & Nut Tolerance	6HX	6HX

Size Ref.	d_1	Pitch	l_1	l_2	l_3	d_2	sq	l_4	z	drill Ø	Item #	Item #
0200	M 2	x 0.4	70	4	13	6.0	4.9	8.0	3	1.6	T373 0200	•
0250	M 2.5	x 0.45	70	4.5	14	6.0	4.9	8.0	3	2.1	T373 0250	•
0300	M 3	x 0.5	70	5	18	6.0	4.9	8.0	3	2.5	T373 0300	•
0400	M 4	x 0.7	70	7	21	6.0	4.9	8.0	3	3.3	T373 0400	•
0500	M 5	x 0.8	70	8	25	6.0	4.9	8.0	3	4.2	T373 0500	T375 0500
0600	M 6	x 1	80	10	30	6.0	4.9	8.0	3	5.0	T373 0600	T375 0600
0800	M 8	x 1.25	90	13	35	8.0	6.2	9.0	3	6.8	T373 0800	T375 0800
1000	M 10	x 1.5	100	15	39	10.0	8.0	11.0	3	8.5	T373 1000	T375 1000
1200	M 12	x 1.75	110	18	42	12.0	9.0	12.0	4	10.3	T373 1200	T375 1200
1400	M 14	x 2	110	20	49	14.0	11.0	14.0	4	12.0	T373 1400	T375 1400
1600	M 16	x 2	110	20	55	16.0	12.0	15.0	4	14.0	T373 1600	T375 1600
1800	M 18	x 2.5	125	25	-	16.0	12.0	15.0	4	15.5	T373 1800	T375 1800
2000	M 20	x 2.5	140	25	-	16.0	12.0	15.0	4	17.5	T373 2000	T375 2000
											T762	T764
0805	MF 8	x 1	90	13	30	8.0	6.2	9.0	3	7.0	•	•
1005	MF 10	x 1	100	15	39	10.0	8.0	11.0	3	9.0	•	•
1006	MF 10	x 1.25	100	15	39	10.0	8.0	11.0	3	8.8	•	•
1205	MF 12	x 1	110	18	42	12.0	9.0	12.0	3	11.0	•	•
1206	MF 12	x 1.25	110	18	42	12.0	9.0	12.0	3	10.8	•	•
1207	MF 12	x 1.5	110	18	42	12.0	9.0	12.0	3	10.5	•	•

ISO	P													M			K						N									S										H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
T373	●	●	●	●	○	●	●	○		●		●	○	●	●	○	●	○	●	○	●	○	●	●	○	○	●	○	○	○			●		●														
T762	●	●	●	●	○	●	●	○		●		●	○	●	●	○	●	○	●	○	●	○	●	●	○	○	●	○	○	○			●		●														
T375	●	●	●	●	○	●	●	○		●		●	○	●	●	○	●	○	●	○	●	○	●	●	○	○	●	○	○	○			●		●														
T764	●	●	●	●	○	●	●	○		●		●	○	●	●	○	●	○	●	○	●	○	●	●	○	○	●	○	○	○			●		●														

P Steel M Stainless Steel K Cast Iron N Non-Ferrous Metals S Titanium & Super Alloys H Hard Materials

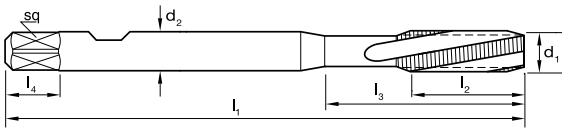
● Optimal ○ Effective

• Available on request as special manufacture. Subject to lead time.

DIN Taps Metric, Synchro, Spiral Flute, L20

suttontools

- Right hand cutting / Left hand helix
- For high speed and precision tapping
- For rigid tapping in CNC machines with synchronised feed
- Suitable for materials up to 850N/mm²
- Ideal for through holes with angular exit or interrupted hole



Catalogue Code	T365	T367
Product Group	D0412	D0412
Material	PM-HSSE V3	PM-HSSE V3
Surface Finish	*TiCN*	*TiCN*
Geometry	L20	L20 IK
Chamfer	Form D / 4 x P	Form D / 4 x P
Shank Form (~DIN 1835)	B	B
Limit & Nut Tolerance	6HX	6HX

Size Ref.	d_1	Pitch	l_1	l_2	l_3	d_2	sq	l_4	z	drill Ø	Item #	Item #
0200	M 2	x 0.4	70	8	13	6.0	4.9	8.0	3	1.6	T365 0200	•
0250	M 2.5	x 0.45	70	9	14	6.0	4.9	8.0	3	2.1	T365 0250	•
0300	M 3	x 0.5	70	11	18	6.0	4.9	8.0	3	2.5	T365 0300	•
0400	M 4	x 0.7	70	13	21	6.0	4.9	8.0	3	3.3	T365 0400	•
0500	M 5	x 0.8	70	16	25	6.0	4.9	8.0	3	4.2	T365 0500	T367 0500
0600	M 6	x 1	80	19	30	6.0	4.9	8.0	3	5.0	T365 0600	T367 0600
0800	M 8	x 1.25	90	22	35	8.0	6.2	9.0	3	6.8	T365 0800	T367 0800
1000	M 10	x 1.5	100	24	39	10.0	8.0	11.0	3	8.5	T365 1000	T367 1000
1200	M 12	x 1.75	110	29	42	12.0	9.0	12.0	3	10.3	T365 1200	T367 1200
1400	M 14	x 2	110	30	49	14.0	11.0	14.0	4	12.0	T365 1400	T367 1400
1600	M 16	x 2	110	32	55	16.0	12.0	15.0	4	14.0	T365 1600	T367 1600
1800	M 18	x 2.5	125	34	-	16.0	12.0	15.0	4	15.5	T365 1800	T367 1800
2000	M 20	x 2.5	140	34	-	16.0	12.0	15.0	4	17.5	T365 2000	T367 2000
											T754	**T756**
0805	MF 8	x 1	90	13	30	8.0	6.2	9.0	3	7.0	•	•
1005	MF 10	x 1	100	15	39	10.0	8.0	11.0	3	9.0	•	•
1006	MF 10	x 1.25	100	15	39	10.0	8.0	11.0	3	8.8	•	•
1205	MF 12	x 1	110	18	42	12.0	9.0	12.0	3	11.0	•	•
1206	MF 12	x 1.25	110	18	42	12.0	9.0	12.0	3	10.8	•	•
1207	MF 12	x 1.5	110	18	42	12.0	9.0	12.0	3	10.5	•	•

ISO	P												M			K						N									S										H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
T365	●	●	●	●	○	●	●	○		●		●	○	●	●	○	●	○	●	○	●	○	●	●	●	●	○	●	○	●										●	●		●						
T754	●	●	●	●	○	●	●	○		●		●	○	●	●	○	●	○	●	○	●	○	●	●	●	●	○	●	○	●										●	●		●						
T367	●	●	●	●	○	●	●	○		●		●	○	●	●	○	●	○	●	○	●	○	●	●	●	●	○	●	○	●										●	●		●						
T756	●	●	●	●	○	●	●	○		●		●	○	●	●	○	●	○	●	○	●	○	●	●	●	●	○	●	○	●										●	●		●						

P Steel M Stainless Steel K Cast Iron N Non-Ferrous Metals S Titanium & Super Alloys H Hard Materials

● Optimal ○ Effective

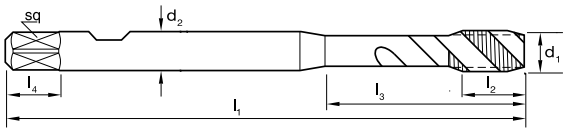
• Available on request as special manufacture. Subject to lead time.

M

DIN Taps Metric, Synchro, Spiral Flute, R45 Al

suttontools

- For high speed and precision tapping
- For rigid tapping in CNC machines with synchronised feed
- For aluminium & aluminium alloys
- Blind holes up to 2 x d_1
- h6 endmill shank



Catalogue Code	T369	T371
Product Group	D0412	D0412
Material	PM-HSSE V3	PM-HSSE V3
Surface Finish	*CrN*	*CrN*
Geometry	R45	R45 IK
Chamfer	Form C / 2.5 x P	Form C / 2.5 x P
Shank Form (~DIN 1835)	B	B
Limit & Nut Tolerance	6HX	6HX

Size Ref.	d_1	Pitch	l_1	l_2	l_3	d_2	sq	l_4	z	drill Ø	Item #	Item #
0200	M 2	x 0.4	70	4	13	6.0	4.9	8.0	2	1.6	T369 0200	•
0250	M 2.5	x 0.45	70	4.5	14	6.0	4.9	8.0	2	2.1	T369 0250	•
0300	M 3	x 0.5	70	5	18	6.0	4.9	8.0	2	2.5	T369 0300	•
0400	M 4	x 0.7	70	7	21	6.0	4.9	8.0	2	3.3	T369 0400	•
0500	M 5	x 0.8	70	8	25	6.0	4.9	8.0	2	4.2	T369 0500	T371 0500
0600	M 6	x 1	80	10	30	6.0	4.9	8.0	2	5.0	T369 0600	T371 0600
0800	M 8	x 1.25	90	13	35	8.0	6.2	9.0	2	6.8	T369 0800	T371 0800
1000	M 10	x 1.5	100	15	39	10.0	8.0	11.0	2	8.5	T369 1000	T371 1000
1200	M 12	x 1.75	110	18	42	12.0	9.0	12.0	2	10.3	T369 1200	T371 1200
1400	M 14	x 2	110	20	49	14.0	11.0	14.0	2	12.0	T369 1400	T371 1400
1600	M 16	x 2	110	20	55	16.0	12.0	15.0	2	14.0	T369 1600	T371 1600
1800	M 18	x 2.5	125	25	-	16.0	12.0	15.0	2	15.5	T369 1800	T371 1800
2000	M 20	x 2.5	140	25	-	16.0	12.0	15.0	2	17.5	T369 2000	T371 2000
											T758	**T760**
0805	MF 8	x 1	90	13	30	8.0	6.2	9.0	2	7.0	•	•
1005	MF 10	x 1	100	15	39	10.0	8.0	11.0	2	9.0	•	•
1006	MF 10	x 1.25	100	15	39	10.0	8.0	11.0	2	8.8	•	•
1205	MF 12	x 1	110	18	42	12.0	9.0	12.0	2	11.0	•	•
1206	MF 12	x 1.25	110	18	42	12.0	9.0	12.0	2	10.8	•	•
1207	MF 12	x 1.5	110	18	42	12.0	9.0	12.0	2	10.5	•	•

ISO	P													M			K						N										S													H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
T369																							●	●	●	●		●	●	●																				
T758																							●	●	●	●		●	●	●																				
T371																							●	●	●	●		●	●	●																				
T760																							●	●	●	●		●	●	●																				

P Steel M Stainless Steel K Cast Iron N Non-Ferrous Metals S Titanium & Super Alloys H Hard Materials

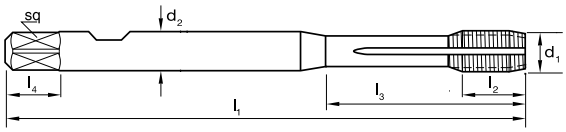
● Optimal ○ Effective

• Available on request as special manufacture. Subject to lead time.

DIN Taps Metric, Synchro, Forming

suttontools

- For high speed and precision tapping
- For rigid tapping in CNC machines with synchronised feed
- For aluminium and aluminium alloys
- Process of plastic deformation to imprint thread on material
- Blind and through holes up to 2 x d_1
- h6 endmill shank



Catalogue Code	T381	T383
Product Group	D0412	D0412
Material	PM-HSSE V3	PM-HSSE V3
Surface Finish	*TiN*	*TiN*
Geometry	Multi-Coolant Groove	Multi-Coolant Groove IK
Chamfer	Form C / 2.5 x P	Form C / 2.5 x P
Shank Form (~DIN 1835)	B	B
Limit & Nut Tolerance	6HX	6HX

Size Ref.	d_1	Pitch	l_1	l_2	l_3	d_2	sq	l_4	z	drill Ø	Item #	Item #
0200	M 2	x 0.4	70	4	13	6.0	4.9	8.0	-	1.8	T381 0200	•
0250	M 2.5	x 0.45	70	4.5	14	6.0	4.9	8.0	-	2.3	T381 0250	•
0300	M 3	x 0.5	70	5	18	6.0	4.9	8.0	-	2.8	T381 0300	•
0400	M 4	x 0.7	70	7	21	6.0	4.9	8.0	-	3.7	T381 0400	•
0500	M 5	x 0.8	70	8	25	6.0	4.9	8.0	-	4.6	T381 0500	T383 0500
0600	M 6	x 1	80	10	30	6.0	4.9	8.0	-	5.5	T381 0600	T383 0600
0800	M 8	x 1.25	90	13	35	8.0	6.2	9.0	-	7.4	T381 0800	T383 0800
1000	M 10	x 1.5	100	15	39	10.0	8.0	11.0	-	9.3	T381 1000	T383 1000
1200	M 12	x 1.75	110	18	42	12.0	9.0	12.0	-	11.2	T381 1200	T383 1200
1400	M 14	x 2	110	20	49	14.0	11.0	14.0	-	13.1	T381 1400	T383 1400
1600	M 16	x 2	110	20	55	16.0	12.0	15.0	-	15.1	T381 1600	T383 1600
1800	M 18	x 2.5	125	25	-	16.0	12.0	15.0	-	16.9	T381 1800	T383 1800
2000	M 20	x 2.5	140	25	-	16.0	12.0	15.0	-	18.9	T381 2000	T383 2000
											T770	T772
0800	MF 8	x 1	90	13	30	8.0	6.2	9.0	-	7.5	•	•
1005	MF 10	x 1	100	15	39	10.0	8.0	11.0	-	9.5	•	•
1006	MF 10	x 1.25	100	15	39	10.0	8.0	11.0	-	9.4	•	•
1205	MF 12	x 1	110	18	42	12.0	9.0	12.0	-	11.5	•	•
1206	MF 12	x 1.25	110	18	42	12.0	9.0	12.0	-	11.4	•	•
1207	MF 12	x 1.5	110	18	42	12.0	9.0	12.0	-	11.3	•	•

ISO	P												M			K						N									S													H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
T381	●	●	○	●		○	○			○				●	○								●	●	●	○				●																			
T770	●	●	○	●		○	○			○				●	○								●	●	●	○				●																			
T383	●	●	○	●		○	○			○				●	○								●	●	●	○				●																			
T772	●	●	○	●		○	○			○				●	○								●	●	●	○				●																			

P Steel M Stainless Steel K Cast Iron N Non-Ferrous Metals S Titanium & Super Alloys H Hard Materials

● Optimal ○ Effective

• Available on request as special manufacture. Subject to lead time.

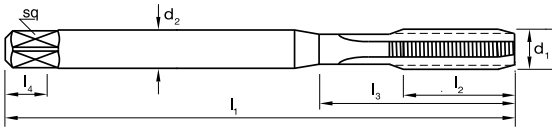
M

DIN Taps Metric, Straight Flute, N

suttontools

- General purpose use
- Suitable for materials up to 1000N/mm²
- Through & blind holes
- Depths up to 1.5 x d_1

DIN 371 | 60° M

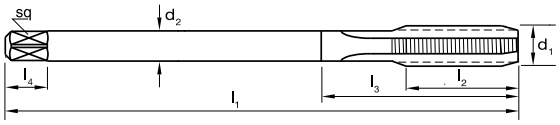


Catalogue Code	T286	T288*
Product Group	D0402	D0406
Material	HSSE	HSSE
Surface Finish	*Brt*	*TiN*
Sutton Designation	N	N
Geometry		
Chamfer	Form C / 2.5 x P	Form C / 2.5 x P
Limit & Nut Tolerance	ISO 2 / 6H	ISO 2 / 6H

Size Ref.	d_1	Pitch	l_1	l_2	l_3	d_2	sq	l_4	z	drill Ø	Item #	Item #
0200	M 2	x 0.4	45	8	-	2.8	2.1	5	3	1.6	T286 0200	T288 0200
0220	M 2.2	x 0.45	45	9	-	2.8	2.1	5	3	1.75	T286 0220	T288 0220
0230	M 2.3	x 0.4	45	9	-	2.8	2.1	5	3	1.9	T286 0230	T288 0230
0250	M 2.5	x 0.45	50	9	-	2.8	2.1	5	3	2.05	T286 0250	T288 0250
0260	M 2.6	x 0.45	50	9	-	2.8	2.1	5	3	2.15	T286 0260	T288 0260
0300	M 3	x 0.5	56	11	18	3.5	2.7	6	3	2.5	T286 0300	T288 0300
0350	M 3.5	x 0.6	56	13	20	4.0	3.0	6	3	2.9	T286 0350	T288 0350
0400	M 4	x 0.7	63	13	21	4.5	3.4	6	3	3.3	T286 0400	T288 0400
0500	M 5	x 0.8	70	16	25	6.0	4.9	8	3	4.2	T286 0500	T288 0500
0600	M 6	x 1	80	19	30	6.0	4.9	8	3	5.0	T286 0600	T288 0600
0700	M 7	x 1	80	19	30	7.0	5.5	8	3	6.0	•	•
0800	M 8	x 1.25	90	22	35	8.0	6.2	9	3	6.8	T286 0800	•
1000	M 10	x 1.5	100	24	39	10.0	8.0	11	3	8.5	T286 1000	T288 1000

M

DIN 376 | 60° M



Size Ref.	d_1	Pitch	l_1	l_2	l_3	d_2	sq	l_4	z	drill Ø	Item #	Item #
											T287	T289*
0600	M 6	x 1	80	19	-	4.5	3.4	6	3	5.0	T287 0600	T289 0600
0800	M 8	x 1.25	90	22	-	6.0	4.9	8	3	6.8	T287 0800	T289 0800
1000	M 10	x 1.5	100	24	-	7.0	5.5	8	3	8.5	T287 1000	T289 1000
1200	M 12	x 1.75	110	28	-	9.0	7.0	10	3	10.2	T287 1200	T289 1200
1400	M 14	x 2	110	30	-	11.0	9.0	12	3	12.0	T287 1400	T289 1400
1600	M 16	x 2	110	32	-	12.0	9.0	12	4	14.0	T287 1600	•
1800	M 18	x 2.5	125	34	-	14.0	11.0	14	4	15.5	T287 1800	T289 1800
2000	M 20	x 2.5	140	34	-	16.0	12.0	15	4	17.5	T287 2000	T289 2000
2200	M 22	x 2.5	140	34	-	18.0	14.5	17	4	19.5	T287 2200	T289 2200
2400	M 24	x 3	160	38	-	18.0	14.5	17	4	21.0	T287 2400	T289 2400
2700	M 27	x 3	160	38	-	20.0	16.0	19	4	24.0	T287 2700	T289 2700
3000	M 30	x 3.5	180	45	-	22.0	18.0	21	4	26.5	T287 3000	T289 3000

ISO	P												M			K						N									S										H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
T286 / T287	●	●	●	●	○	●	○	○		○													○	○	○	○		○	○	○																		
T288 / T289	●	●	●	●	○	●	○	○		○													○	○	○	○		○	○	○																		

P Steel | M Stainless Steel | K Cast Iron | N Non-Ferrous Metals | S Titanium & Super Alloys | H Hard Materials

● Optimal ○ Effective

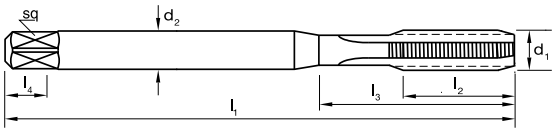
*Not available once current stock is depleted • Available on request as special manufacture. Subject to lead time.

DIN Taps Metric, Straight Flute, GG

suttontools

- For use in grey cast iron (GG)
- Through & blind holes
- Depths up to 3 x d_1

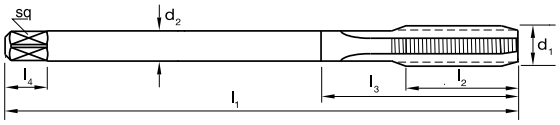
DIN 371 | 60° M



Catalogue Code	T290	T292
Product Group	D0402	D0408
Material	HSSE	HSSE
Surface Finish	*Ni + Blu*	*TiCN*
Sutton Designation	GG	GG
Geometry	Low Relief	Low Relief
Chamfer	Form C / 2.5 x P	Form C / 2.5 x P
Limit & Nut Tolerance	6HX	6HX

Size Ref.	d_1	Pitch	l_1	l_2	l_3	d_2	sq	l_4	z	drill Ø	Item #	Item #
0200	M 2	x 0.40	45	8	-	2.8	2.1	5	4	1.6	•	•
0220	M 2.2	x 0.45	45	9	-	2.8	2.1	5	4	1.75	•	•
0230	M 2.3	x 0.4	45	9	-	2.8	2.1	5	4	1.9	•	•
0250	M 2.5	x 0.45	50	9	-	2.8	2.1	5	4	2.05	•	•
0260	M 2.6	x 0.45	50	9	-	2.8	2.1	5	4	2.15	•	•
0300	M 3	x 0.5	56	11	18	3.5	2.7	6	4	2.5	T290 0300	T292 0300
0350	M 3.5	x 0.6	56	13	20	4.0	3.0	6	4	2.9	•	•
0400	M 4	x 0.7	63	13	21	4.5	3.4	6	4	3.3	T290 0400	T292 0400
0500	M 5	x 0.8	70	16	25	6.0	4.9	8	4	4.2	T290 0500	T292 0500
0600	M 6	x 1	80	19	30	6.0	4.9	8	4	5.0	T290 0600	T292 0600
0800	M 8	x 1.25	90	22	35	8.0	6.2	9	4	6.8	T290 0800	T292 0800
1000	M 10	x 1.5	100	24	39	10.0	8.0	11	4	8.5	T290 1000	T292 1000

DIN 376 | 60° M



Size Ref.	d_1	Pitch	l_1	l_2	l_3	d_2	sq	l_4	z	drill Ø	Item #	Item #
											T291	T293
0600	M 6	x 1	80	19	-	4.5	3.4	6	4	5.0	T291 0600	T293 0600
0800	M 8	x 1.25	90	22	-	6.0	4.9	8	4	6.8	T291 0800	T293 0800
1000	M 10	x 1.5	100	24	-	7.0	5.5	8	4	8.5	T291 1000	T293 1000
1200	M 12	x 1.75	110	28	-	9.0	7.0	10	4	10.2	T291 1200	T293 1200
1400	M 14	x 2	110	30	-	11.0	9.0	12	4	12.0	T291 1400	T293 1400
1600	M 16	x 2	110	32	-	12.0	9.0	12	4	14.0	T291 1600	T293 1600
1800	M 18	x 2.5	125	34	-	14.0	11.0	14	4	15.5	•	•
2000	M 20	x 2.5	140	34	-	16.0	12.0	15	4	17.5	T291 2000	T293 2000

ISO	P													M			K						N									S										H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
T290																	●	●	●	●	○	○																										
T291																	●	●	●	●	○	○																										
T292																	●	●	●	●	○	○					○																					
T293																	●	●	●	●	○	○					○																					

P Steel | M Stainless Steel | K Cast Iron | N Non-Ferrous Metals | S Titanium & Super Alloys | H Hard Materials

● Optimal ○ Effective

• Available on request as special manufacture. Subject to lead time.

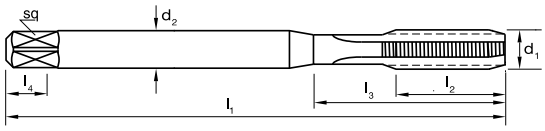
M

DIN Taps Metric, Straight Flute, GG

suttontools

- VHM, for use in Al >10% Si & cast iron (GG)
- Through & blind holes
- Depths up to 3 x d_1

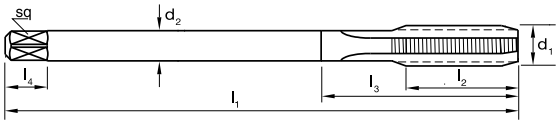
DIN 371 | 60° M



Catalogue Code	T670	T741
Product Group	D0414	D0414
Material	VHM	VHM
Surface Finish	TiCN	TiCN
Sutton Designation	GG	GG
Geometry	Low Relief	IK
Chamfer	Form C / 2.5 x P	Form C / 2.5 x P
Limit & Nut Tolerance	6H	6H

Size Ref.	d_1	Pitch	l_1	l_2	l_3	d_2	sq	l_4	z	drill Ø	Item #	Item #
0200	M 2	x 0.40	45	8	-	2.8	2.1	5	4	1.6	•	•
0220	M 2.2	x 0.45	45	9	-	2.8	2.1	5	4	1.75	•	•
0230	M 2.3	x 0.4	45	9	-	2.8	2.1	5	4	1.9	•	•
0250	M 2.5	x 0.45	50	9	-	2.8	2.1	5	4	2.05	•	•
0260	M 2.6	x 0.45	50	9	-	2.8	2.1	5	4	2.15	•	•
0300	M 3	x 0.5	56	11	18	3.5	2.7	6	4	2.5	•	•
0350	M 3.5	x 0.6	56	13	20	4.0	3.0	6	4	2.9	•	•
0400	M 4	x 0.7	63	13	21	4.5	3.4	6	4	3.3	•	•
0500	M 5	x 0.8	70	16	25	6.0	4.9	8	4	4.2	•	•
0600	M 6	x 1	80	19	30	6.0	4.9	8	4	5.1	T670 0600	•
0800	M 8	x 1.25	90	22	35	8.0	6.2	9	4	6.9	T670 0800	•
1000	M 10	x 1.5	100	24	39	10.0	8.0	11	4	8.6	T670 1000	•

DIN 376 | 60° M



Size Ref.	d_1	Pitch	l_1	l_2	l_3	d_2	sq	l_4	z	drill Ø	Item #	Item #
											T671	T742
0600	M 6	x 1	80	19	-	4.5	3.4	6	4	5.1	•	•
0800	M 8	x 1.25	90	22	-	6.0	4.9	8	4	6.9	•	•
1000	M 10	x 1.5	100	24	-	7.0	5.5	8	4	8.6	•	•
1200	M 12	x 1.75	110	28	-	9.0	7.0	10	4	10.3	T671 1200	•
1400	M 14	x 2	110	30	-	11.0	9.0	12	4	12.1	•	•
1600	M 16	x 2	110	32	-	12.0	9.0	12	4	14.1	T671 1600	•
1800	M 18	x 2.5	125	34	-	14.0	11.0	14	4	15.7	•	•
2000	M 20	x 2.5	140	34	-	16.0	12.0	15	4	17.7	•	•

ISO	P												M			K						N									S										H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
T670																	●	●	●	●	○	○					●		●																			
T671																	●	●	●	●	○	○					●		●																			
T741																	●	●	●	●	○	○					●		●																			
T742																	●	●	●	●	○	○					●		●																			

P Steel | M Stainless Steel | K Cast Iron | N Non-Ferrous Metals | S Titanium & Super Alloys | H Hard Materials

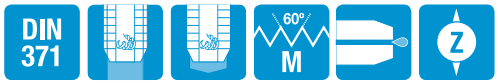
● Optimal ○ Effective

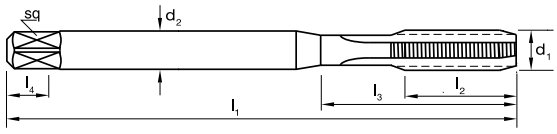
• Available on request as special manufacture. Subject to lead time.

DIN Taps Metric, Straight Flute, DC

suttontools

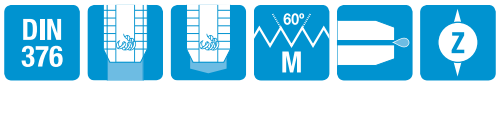
- For production tapping in die cast materials
- PM-HSS Co for superior tool life
- Form E for maximum thread depth in blind holes
- Depths up to 1.5 x d_1

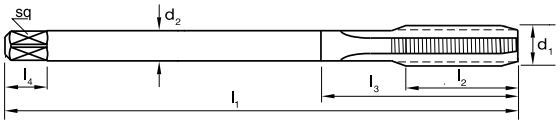




Catalogue Code	T335	T357
Product Group	D0408	D0408
Material	PM-HSS Co	PM-HSS Co
Surface Finish	*TiCN*	*TiCN*
Sutton Designation	**Die Cast**	**Die Cast**
Geometry		IK
Chamfer	Form E / 1.5 x P	Form E / 1.5 x P
Limit & Nut Tolerance	6HX	6HX

Size Ref.	d_1	Pitch	l_1	l_2	l_3	d_2	sq	l_4	z	drill Ø	Item #	Item #
0600	M 6	x 1	80	19	30	6.0	4.9	8	4	5.0	T335 0600	T357 0600
0800	M 8	x 1.25	90	22	35	8.0	6.2	9	4	6.8	T335 0800	T357 0800
1000	M 10	x 1.5	100	24	39	10.0	8.0	11	4	8.5	T335 1000	T357 1000





Size Ref.	d_1	Pitch	l_1	l_2	l_3	d_2	sq	l_4	z	drill Ø	Item #	Item #
											T336	T358
1200	M 12	x 1.75	110	28	-	9.0	7.0	10	4	10.2	T336 1200	T358 1200
1400	M 14	x 2	110	30	-	11.0	9.0	12	4	12.0	T336 1400	T358 1400
1600	M 16	x 2	110	32	-	12.0	9.0	12	4	14.0	T336 1600	T358 1600
2000	M 20	x 2.5	140	34	-	16.0	12.0	15	4	17.5	T336 2000	T358 2000

ISO	P													M			K						N									S												H				
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
T335																	○	○	○	○	○	○			●	●	●		○																			○	
T336																	○	○	○	○	○	○			●	●	●		○																			○	
T357																	○	○	○	○	○	○			●	●	●		○																			○	
T358																	○	○	○	○	○	○			●	●	●		○																			○	

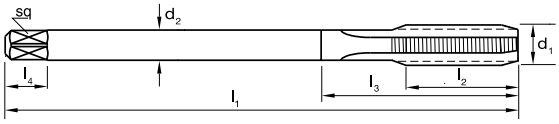
P Steel M Stainless Steel K Cast Iron N Non-Ferrous Metals S Titanium & Super Alloys H Hard Materials

● Optimal ○ Effective

DIN Taps Metric, Straight Flute, XH

suttontools

- Use in hardened steels 42-52 HRC
- Through & blind holes
- Depths up to 1.5 x d_1



Catalogue Code	**T294**	**T295**
Product Group	D0408	D0408
Material	**SPM**	**SPM**
Surface Finish	***TiCN***	***TiCN***
Sutton Designation	**XH**	**XH**
Geometry	Special Relief	Special Relief
Chamfer	Form C / 3 x P	Form D / 5 x P
Limit & Nut Tolerance	6HX	6HX

Size Ref.	d_1	Pitch	l_1	l_2	l_3	d_2	sq	l_4	z	drill Ø	Item #	Item #
0300	M 3	x 0.5	46	11	18	3.5	2.7	6	4	2.55	T294 0300	T295 0300
0400	M 4	x 0.7	52	13	21	4.5	3.4	6	4	3.4	T294 0400	T295 0400
0500	M 5	x 0.8	60	16	25	6.0	4.9	8	4	4.3	T294 0500	T295 0500
0600	M 6	x 1	62	19	30	6.0	4.9	8	4	5.1	T294 0600	T295 0600
0800	M 8	x 1.25	70	22	-	6.0	4.9	9	5	6.9	T294 0800	T295 0800
1000	M 10	x 1.5	75	24	-	7.0	5.5	11	5	8.6	T294 1000	T295 1000
1200	M 12	x 1.75	82	29	-	9.0	7.0	10	5	10.3	T294 1200	T295 1200
1600	M 16	x 2	95	32	-	12.0	9.0	12	5	14.1	T294 1600	T295 1600
2000	M 20	x 2.5	105	37	-	16.0	12.0	15	5	17.7	T294 2000	T295 2000

ISO	P													M			K						N										S											H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
T294					○			○	●		●		●					●		●									○															●				●	
T295					○			○	●		●		●					●		●									○															●				●	

P Steel **M** Stainless Steel **K** Cast Iron **N** Non-Ferrous Metals **S** Titanium & Super Alloys **H** Hard Materials

● Optimal ○ Effective

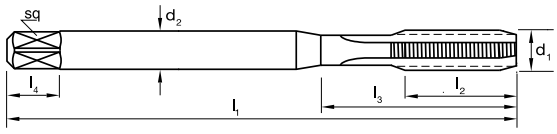
M

DIN Taps Metric, Straight Flute, VH

suttontools

- Use in hardened steels 50-60 HRC
- Through & blind holes
- Depths up to 1.5 x d_1

DIN 371 | DIN 376 | 60° M



Catalogue Code	T296	T297
Product Group	D0414	D0414
Material	VHM	VHM
Surface Finish	*TiCN*	*TiCN*
Sutton Designation	VH	VH
Geometry	Special Relief	Special Relief
Chamfer	Form C / 3 x P	Form D / 5 x P
Limit & Nut Tolerance	6HX	6HX

Size Ref.	d_1	Pitch	l_1	l_2	l_3	d_2	sq	l_4	z	drill Ø	Item #	Item #
	DIN 371											
0300	M 3	x 0.5	56	11	18	3.5	2.7	6	4	2.55	T296 0300	T297 0300
0400	M 4	x 0.7	63	13	21	4.5	3.4	6	4	3.4	T296 0400	T297 0400
0500	M 5	x 0.8	70	16	25	6.0	4.9	8	4	4.3	T296 0500	T297 0500
0600	M 6	x 1	80	19	30	6.0	4.9	8	5	5.1	T296 0600	T297 0600
0800	M 8	x 1.25	90	22	35	8.0	6.2	9	5	6.9	T296 0800	T297 0800
1000	M 10	x 1.5	100	24	39	10.0	8.0	11	5	8.6	T296 1000	T297 1000
	DIN 376											
1200	M 12	x 1.75	110	28	-	9.0	7.0	10	5	10.3	T296 1200	T297 1200
1600	M 16	x 2	110	32	-	12.0	9.0	12	6	14.1	T296 1600	T297 1600
2000	M 20	x 2.5	140	34	-	16.0	12.0	15	6	17.7	T296 2000	T297 2000

ISO	P												M			K						N									S											H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
T296									○		○		○																○																●	●	●	●	○	●
T297									○		○		○																○																●	●	●	●	○	●

P Steel | M Stainless Steel | K Cast Iron | N Non-Ferrous Metals | S Titanium & Super Alloys | H Hard Materials

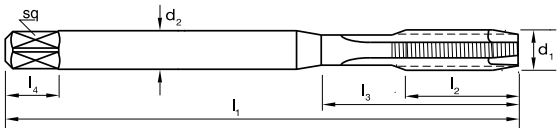
● Optimal ○ Effective

M

DIN Taps Metric, Gun, N

suttontools

- General purpose use
- Suitable for materials up to 1000N/mm²
- Through holes
- Depths up to 3 x d_1



Catalogue Code	T100	T102	T104
Product Group	D0402	D0402	D0406
Material	HSSE	HSSE	HSSE
Surface Finish	*Brt*	*Blu*	*TiN*
Sutton Designation	N	N	N
Geometry			
Chamfer	Form B / 4.5 x P	Form B / 4.5 x P	Form B / 4.5 x P
Limit & Nut Tolerance	ISO 2 / 6H	ISO 2 / 6H	ISO 2 / 6H

Size Ref.	d_1	Pitch	l_1	l_2	l_3	d_2	sq	l_4	z	drill Ø	Item #	Item #	Item #
0100	M 1	x 0.25	40	6	-	2.5	2.1	5	2	0.75	T100 0100	•	•
0110	M 1.1	x 0.25	40	6	-	2.5	2.1	5	2	0.85	•	•	•
0120	M 1.2	x 0.25	40	6	-	2.5	2.1	5	2	0.95	T100 0120	•	•
0140	M 1.4	x 0.3	40	7	-	2.5	2.1	5	2	1.1	T100 0140	•	•
0160	M 1.6	x 0.35	40	8	-	2.5	2.1	5	2	1.25	T100 0160	•	•
0170	M 1.7	x 0.35	40	8	-	2.5	2.1	5	2	1.35	•	•	•
0180	M 1.8	x 0.35	40	8	-	2.5	2.1	5	2	1.45	T100 0180	•	•
0200	M 2	x 0.4	45	8	-	2.8	2.1	5	2	1.6	T100 0200	T102 0200	•
0220	M 2.2	x 0.45	45	9	-	2.8	2.1	5	2	1.75	T100 0220	T102 0220	•
0230	M 2.3	x 0.4	45	9	-	2.8	2.1	5	2	1.9	T100 0230	T102 0230	•
0250	M 2.5	x 0.45	50	9	-	2.8	2.1	5	2	2.05	T100 0250	T102 0250	•
0260	M 2.6	x 0.45	50	9	-	2.8	2.1	5	2	2.15	T100 0260	T102 0260	•
0300	M 3	x 0.5	56	11	18	3.5	2.7	6	3	2.5	T100 0300	T102 0300	T104 0300
0350	M 3.5	x 0.6	56	13	20	4.0	3.0	6	3	2.9	T100 0350	T102 0350	T104 0350
0400	M 4	x 0.7	63	13	21	4.5	3.4	6	3	3.3	T100 0400	T102 0400	T104 0400
0500	M 5	x 0.8	70	16	25	6.0	4.9	8	3	4.2	T100 0500	T102 0500	T104 0500
0600	M 6	x 1	80	19	30	6.0	4.9	8	3	5.0	T100 0600	T102 0600	T104 0600
0700	M 7	x 1	80	19	30	7.0	5.5	8	3	6.0	T100 0700	T102 0700	•
0800	M 8	x 1.25	90	22	35	8.0	6.2	9	3	6.8	T100 0800	T102 0800	T104 0800
1000	M 10	x 1.5	100	24	39	10.0	8.0	11	3	8.5	T100 1000	T102 1000	T104 1000

ISO	P													M			K						N									S											H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
T100	●	●	○	○		●	○			○							○		○		○	○	●	●	○	○		○	○																				
T102	●	●	●	●		●	●			●		○		○	○	○	○		○		○	○																										
T104	●	●	●	●	○	●	●	○		●		○		○	○	○	○	○	○	○	○	○	●	●	○	○		●	○																				

P Steel M Stainless Steel K Cast Iron N Non-Ferrous Metals S Titanium & Super Alloys H Hard Materials

● Optimal ○ Effective

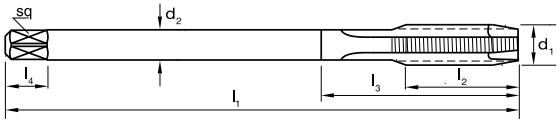
• Available on request as special manufacture. Subject to lead time.

DIN Taps Metric, Gun, N

suttontools

- General purpose use
- Suitable for materials up to 1000N/mm^2
- Through holes
- Depths up to 3 x d_1

DIN 376 | 60° M



Catalogue Code	T101	T103	T105
Product Group	D0402	D0402	D0406
Material	HSSE	HSSE	HSSE
Surface Finish	*Brt*	*Blu*	*TiN*
Sutton Designation	N	N	N
Geometry			
Chamfer	Form B / 4.5 x P	Form B / 4.5 x P	Form B / 4.5 x P
Limit & Nut Tolerance	ISO 2 / 6H	ISO 2 / 6H	ISO 2 / 6H

Size Ref.	d_1	Pitch	l_1	l_2	l_3	d_2	sq	l_4	z	drill Ø	Item #	Item #	Item #
0300	M 3	x 0.5	56	11	-	2.2	-	-	3	2.5	T101 0300	•	•
0400	M 4	x 0.7	63	13	-	2.8	2.1	5	3	3.3	T101 0400	•	•
0500	M 5	x 0.8	70	16	-	3.5	2.7	6	3	4.2	T101 0500	•	•
0600	M 6	x 1	80	19	-	4.5	3.4	6	3	5.0	T101 0600	T103 0600	T105 0600
0800	M 8	x 1.25	90	22	-	6.0	4.9	8	3	6.8	T101 0800	T103 0800	T105 0800
1000	M 10	x 1.5	100	24	-	7.0	5.5	8	3	8.5	T101 1000	T103 1000	T105 1000
1200	M 12	x 1.75	110	28	-	9.0	7.0	10	3	10.2	T101 1200	T103 1200	T105 1200
1400	M 14	x 2	110	30	-	11.0	9.0	12	3	12.0	T101 1400	T103 1400	T105 1400
1600	M 16	x 2	110	32	-	12.0	9.0	12	3	14.0	T101 1600	T103 1600	T105 1600
1800	M 18	x 2.5	125	34	-	14.0	11.0	14	4	15.5	T101 1800	T103 1800	T105 1800
2000	M 20	x 2.5	140	34	-	16.0	12.0	15	4	17.5	T101 2000	T103 2000	T105 2000
2200	M 22	x 2.5	140	34	-	18.0	14.5	17	4	19.5	T101 2200	T103 2200	T105 2200
2400	M 24	x 3	160	38	-	18.0	14.5	17	4	21.0	T101 2400	T103 2400	T105 2400
2700	M 27	x 3	160	38	-	20.0	16.0	19	4	24.0	T101 2700	•	T105 2700
3000	M 30	x 3.5	180	45	-	22.0	18.0	21	4	26.5	T101 3000	T103 3000	T105 3000
3300	M 33	x 3.5	180	50	-	25.0	20.0	23	4	29.5	T101 3300	•	•
3600	M 36	x 4	200	56	-	28.0	22.0	25	4	32.0	T101 3600	T103 3600	•
3900	M 39	x 4	200	60	-	32.0	24.0	27	4	35.0	T101 3900	•	•
4200	M 42	x 4.5	200	60	-	32.0	24.0	27	4	37.5	T101 4200	T103 4200	•
4500	M 45	x 4.5	220	65	-	36.0	29.0	32	4	40.5	T101 4500	•	•
4800	M 48	x 5	250	70	-	36.0	29.0	32	4	43.0	T101 4800	T103 4800	•
5200	M 52	x 5	250	70	-	40.0	32.0	35	4	47.0	T101 5200	T103 5200	•

ISO	P													M			K						N										S												H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
T101	●	●	○	○		●	○			○							○		○		○	○	●	●	○	○		○	○																				
T103	●	●	●	●		●	●			●		○		○	○	○	○		○		○	○																										
T105	●	●	●	●	○	●	●	○		●		○		○	○	○	○	○	○	○	○	○	●	●	○	○		●	○																				

P Steel | M Stainless Steel | K Cast Iron | N Non-Ferrous Metals | S Titanium & Super Alloys | H Hard Materials

● Optimal ○ Effective

• Available on request as special manufacture. Subject to lead time.

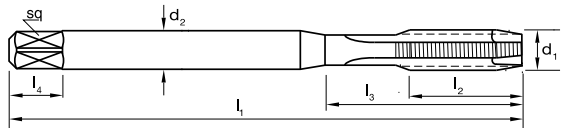
M

DIN Taps Metric, Gun, N - 6G, 4H, LH

suttontools

- General purpose use
- Suitable for materials up to 1000N/mm²
- Through holes
- Depths up to 3 x d_1

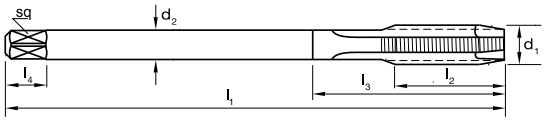
DIN 371 | 60° M



Catalogue Code	T106	T648
Product Group	D0402	D0402
Material	HSSE	HSSE
Surface Finish	*Brt*	*Brt*
Sutton Designation	N	N
Geometry	6G	Left Hand
Chamfer	Form B / 4.5 x P	Form B / 4.5 x P
Limit & Nut Tolerance	ISO 3 / 6G	ISO 2 / 6H LH

Size Ref.	d_1	Pitch	l_1	l_2	l_3	d_2	sq	l_4	z	drill Ø	Item #	Item #
0200	M 2	x 0.4	45	8	-	2.8	2.1	5	2	1.6	•	•
0220	M 2.2	x 0.45	45	9	-	2.8	2.1	5	2	1.75	•	•
0230	M 2.3	x 0.4	45	9	-	2.8	2.1	5	2	1.9	•	•
0250	M 2.5	x 0.45	50	9	-	2.8	2.1	5	2	2.05	•	•
0260	M 2.6	x 0.45	50	9	-	2.8	2.1	5	2	2.15	•	•
0300	M 3	x 0.5	56	11	18	3.5	2.7	6	3	2.5	T106 0300	T648 0300
0350	M 3.5	x 0.6	56	13	20	4.0	3.0	6	3	2.9	T106 0350	•
0400	M 4	x 0.7	63	13	21	4.5	3.4	6	3	3.3	T106 0400	T648 0400
0500	M 5	x 0.8	70	16	25	6.0	4.9	8	3	4.2	T106 0500	T648 0500
0600	M 6	x 1	80	19	30	6.0	4.9	8	3	5.0	T106 0600	T648 0600
0800	M 8	x 1.25	90	22	35	8.0	6.2	9	3	6.8	T106 0800	T648 0800
1000	M 10	x 1.5	100	24	39	10.0	8.0	11	3	8.5	T106 1000	T648 1000

DIN 376 | 60° M



Size Ref.	d_1	Pitch	l_1	l_2	l_3	d_2	sq	l_4	z	drill Ø	Item #	Item #
											T107	T649
0600	M 6	x 1	80	19	-	4.5	3.4	6	3	5.0	•	•
0800	M 8	x 1.25	90	22	-	6.0	4.9	8	3	6.8	•	•
1000	M 10	x 1.5	100	24	-	7.0	5.5	8	3	8.5	•	•
1200	M 12	x 1.75	110	28	-	9.0	7.0	10	3	10.2	T107 1200	T649 1200
1400	M 14	x 2	110	30	-	11.0	9.0	12	3	12.0	T107 1400	T649 1400
1600	M 16	x 2	110	32	-	12.0	9.0	12	3	14.0	T107 1600	T649 1600
1800	M 18	x 2.5	125	34	-	14.0	11.0	14	4	15.5	T107 1800	T649 1800
2000	M 20	x 2.5	140	34	-	16.0	12.0	15	4	17.5	T107 2000	T649 2000

ISO	P													M			K						N										S														H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
T106	●	●	○	○		●	○			○							○		○		○	○	●	●	○	○		○	○																					
T107	●	●	○	○		●	○			○							○		○		○	○	●	●	○	○		○	○																					
T648	●	●	○	○		●	○			○							○		○		○	○	●	●	○	○		○	○																					
T649	●	●	○	○		●	○			○							○		○		○	○	●	●	○	○		○	○																					

P Steel | M Stainless Steel | K Cast Iron | N Non-Ferrous Metals | S Titanium & Super Alloys | H Hard Materials

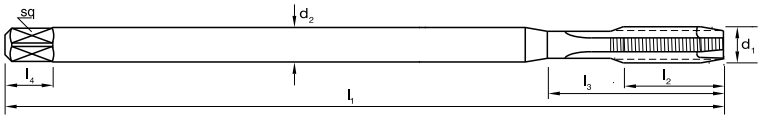
● Optimal ○ Effective

• Available on request as special manufacture. Subject to lead time.

DIN Taps Metric, Gun, N, Extra Length

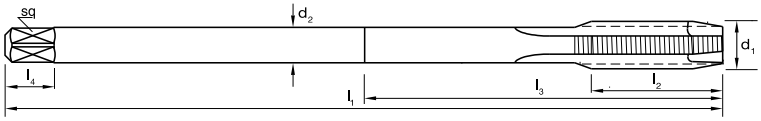
suttontools

- For long reach applications
- Suitable for materials up to 1000N/mm^2
- Depths up to 3 x d_1
- d_2 and sq in accordance to DIN371



Catalogue Code	**T337**
Product Group	D0402
Material	**HSSE**
Surface Finish	***Brt***
Sutton Designation	**N**
Geometry	Extra Length
Chamfer	Form B / 4.5 x P
Limit & Nut Tolerance	ISO 2 / 6H

Size Ref.	d_1	Pitch	l_1	l_2	l_3	d_2	sq	l_4	z	drill Ø	Item #
0300	M 3	x 0.5	112	11	18	3.5	2.7	6	3	2.5	T337 0300
0400	M 4	x 0.7	126	13	21	4.5	3.4	6	3	3.3	T337 0400
0500	M 5	x 0.8	140	15	25	6.0	4.9	8	3	4.2	T337 0500
0600	M 6	x 1	160	17	30	6.0	4.9	8	3	5.0	T337 0600
0800	M 8	x 1.25	180	20	35	8.0	6.2	10	3	6.8	T337 0800



Size Ref.	d_1	Pitch	l_1	l_2	l_3	d_2	sq	l_4	z	drill Ø	Item #
											T338
1000	M 10	x 1.5	200	24	100	7.0	5.5	8	3	8.5	T338 1000
1200	M 12	x 1.75	220	28	110	9.0	7.0	10	3	10.2	T338 1200
1400	M 14	x 2	220	30	110	11.0	9.0	12	3	12.0	T338 1400
1600	M 16	x 2	220	32	110	12.0	9.0	12	3	14.0	T338 1600
2000	M 20	x 2.5	280	34	110	16.0	12.0	15	4	17.5	T338 2000
2400	M 24	x 3	320	38	120	18.0	14.5	17	4	21.0	T338 2400

ISO	P													M			K						N									S											H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
T337	●	●	○	○		●	○			○							○		○		○	○	●	●	○	○		○	○																				
T338	●	●	○	○		●	○			○							○		○		○	○	●	●	○	○		○	○																				

P Steel | M Stainless Steel | K Cast Iron | N Non-Ferrous Metals | S Titanium & Super Alloys | H Hard Materials

● Optimal ○ Effective

M

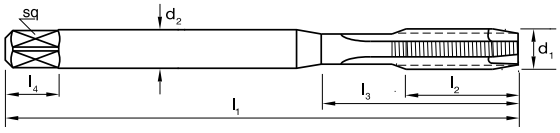
DIN Taps Metric, Gun, *Black Magic*

suttontools BLACKMAGIC

watch the video

- Universal high performance tapping
- PM-HSSE V3 offers superior tool life
- Use in stainless steels and high strength steels up to 850N/mm²
- Through holes up to 3 x d_1
- Suitable for synchronous tapping in machine operations

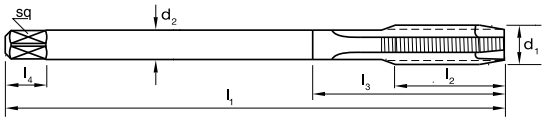
DIN 371 | 60° M | Z



Catalogue Code	T687
Product Group	D0410
Material	PM-HSSE V3
Surface Finish	*HARDLUBE*
Sutton Designation	UNI
Geometry	Special Relief
Chamfer	Form B / 4.5 x P
Limit & Nut Tolerance	6HX

Size Ref.	d_1	Pitch	l_1	l_2	l_3	d_2	sq	l_4	z	drill Ø	Item #
0200	M 2	x 0.4	45	8	-	2.8	2.1	5	3	1.6	•
0220	M 2.2	x 0.45	45	9	-	2.8	2.1	5	3	1.75	•
0230	M 2.3	x 0.4	45	9	-	2.8	2.1	5	3	1.9	•
0250	M 2.5	x 0.45	50	9	-	2.8	2.1	5	3	2.05	•
0260	M 2.6	x 0.45	50	9	-	2.8	2.1	5	3	2.15	•
0300	M 3	x 0.5	56	11	18	3.5	2.7	6	3	2.5	T687 0300
0350	M 3.5	x 0.6	56	13	20	4.0	3.0	6	3	2.9	•
0400	M 4	x 0.7	63	13	21	4.5	3.4	6	3	3.3	T687 0400
0500	M 5	x 0.8	70	16	25	6.0	4.9	8	3	4.2	T687 0500
0600	M 6	x 1	80	19	30	6.0	4.9	8	3	5.0	T687 0600
0800	M 8	x 1.25	90	22	35	8.0	6.2	9	3	6.8	T687 0800
1000	M 10	x 1.5	100	24	39	10.0	8.0	11	3	8.5	T687 1000

DIN 376 | 60° M | Z



Size Ref.	d_1	Pitch	l_1	l_2	l_3	d_2	sq	l_4	z	drill Ø	Item #
											T688
1200	M 12	x 1.75	110	17.5	-	9.0	7.0	10	3	10.2	T688 1200
1400	M 14	x 2	110	20	-	11.0	9.0	12	3	12.0	T688 1400
1600	M 16	x 2	110	20	-	12.0	9.0	12	4	14.0	T688 1600
1800	M 18	x 2.5	125	25	-	14.0	11.0	14	4	15.5	T688 1800
2000	M 20	x 2.5	140	25	-	16.0	12.0	15	4	17.5	T688 2000
2200	M 22	x 2.5	140	25	-	18.0	14.5	17	4	19.5	•
2400	M 24	x 3	160	30	-	18.0	14.5	17	4	21.0	•
2700	M 27	x 3	160	30	-	20.0	16.0	19	4	24.0	•
3000	M 30	x 3.5	180	35	-	22.0	18.0	21	4	26.5	•

ISO	P													M			K						N									S											H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
T687	●	●	●	○		●	○			●		●	○	●	●		○	○	○	○	○	○	●	●	●	○	○	○	○	○																		
T688	●	●	●	○		●	○			●		●	○	●	●		○	○	○	○	○	○	●	●	●	○	○	○	○	○																		

P Steel | M Stainless Steel | K Cast Iron | N Non-Ferrous Metals | S Titanium & Super Alloys | H Hard Materials

● Optimal ○ Effective

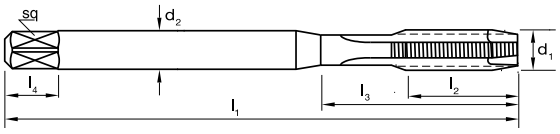
• Available on request as special manufacture. Subject to lead time.

DIN Taps Metric, Gun, W & Cu

suttontools

- Suitable for use in soft materials
- CrN for copper and non-ferrous materials
- Through holes
- Depths up to 3 x d_1

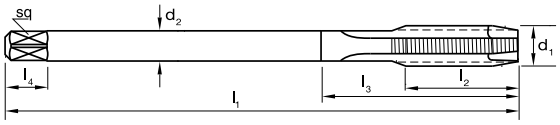
DIN 371 | 60° M



Catalogue Code	T122	T124	T126
Product Group	D0402	D0402	D0404
Material	HSSE	HSSE	HSSE
Surface Finish	*Ni*	*Blu*	*CrN*
Sutton Designation	W	W	Cu
Geometry			
Chamfer	Form B / 4.5 x P	Form B / 4.5 x P	Form B / 4.5 x P
Limit & Nut Tolerance	ISO 2 / 6H	ISO 2 / 6H	ISO 2 / 6H

Size Ref.	d_1	Pitch	l_1	l_2	l_3	d_2	sq	l_4	z	drill Ø	Item #	Item #	Item #
0200	M 2	x 0.4	45	8	-	2.8	2.1	5	2	1.6	T122 0200	•	•
0220	M 2.2	x 0.45	45	9	-	2.8	2.1	5	2	1.75	•	•	•
0230	M 2.3	x 0.4	45	9	-	2.8	2.1	5	2	1.9	•	•	•
0250	M 2.5	x 0.45	50	9	-	2.8	2.1	5	2	2.05	T122 0250	•	•
0260	M 2.6	x 0.45	50	9	-	2.8	2.1	5	2	2.15	•	•	•
0300	M 3	x 0.5	56	11	18	3.5	2.7	6	3	2.5	T122 0300	T124 0300	T126 0300
0350	M 3.5	x 0.6	56	13	20	4.0	3.0	6	3	2.9	T122 0350	•	•
0400	M 4	x 0.7	63	13	21	4.5	3.4	6	3	3.3	T122 0400	T124 0400	T126 0400
0500	M 5	x 0.8	70	16	25	6.0	4.9	8	3	4.2	T122 0500	T124 0500	T126 0500
0600	M 6	x 1	80	19	30	6.0	4.9	8	3	5.0	T122 0600	T124 0600	T126 0600
0800	M 8	x 1.25	90	22	35	8.0	6.2	9	3	6.8	T122 0800	T124 0800	T126 0800
1000	M 10	x 1.5	100	24	39	10.0	8.0	11	3	8.5	T122 1000	T124 1000	T126 1000

DIN 376 | 60° M



Size Ref.	d_1	Pitch	l_1	l_2	l_3	d_2	sq	l_4	z	drill Ø	Item #	Item #	Item #
											T123	T125	T127
0600	M 6	x 1	80	19	-	4.5	3.4	6	3	5.0	•	•	•
0800	M 8	x 1.25	90	22	-	6.0	4.9	8	3	6.8	•	•	•
1000	M 10	x 1.5	100	24	-	7.0	5.5	8	3	8.5	•	•	•
1200	M 12	x 1.75	110	28	-	9.0	7.0	10	3	10.2	T123 1200	T125 1200	T127 1200
1400	M 14	x 2	110	30	-	11.0	9.0	12	3	12.0	T123 1400	•	•
1600	M 16	x 2	110	32	-	12.0	9.0	12	4	14.0	T123 1600	T125 1600	T127 1600
1800	M 18	x 2.5	125	34	-	14.0	11.0	14	4	15.5	T123 1800	•	•
2000	M 20	x 2.5	140	34	-	16.0	12.0	15	4	17.5	T123 2000	T125 2000	T127 2000

ISO	P													M			K						N										S												H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
T122 / T123	●	●	○	○		●	○																●	●	○	○		○	○	○																			
T124 / T125	●	●	○	○		●	○																●	●	○	○	○																						
T126 / T127																							●	●	●	●	○	●	○	●																			

P Steel | M Stainless Steel | K Cast Iron | N Non-Ferrous Metals | S Titanium & Super Alloys | H Hard Materials

● Optimal ○ Effective

• Available on request as special manufacture. Subject to lead time.

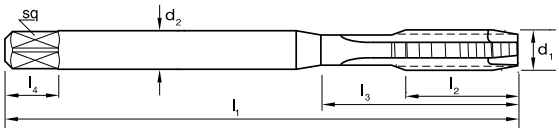
M

DIN Taps Metric, Gun, W-AZ

suttontools

- Interrupted threads allow greater lubricant flow and reduce friction
- Use in soft elastic materials
- For long-chipping materials
- Through holes up to 3 x d_1

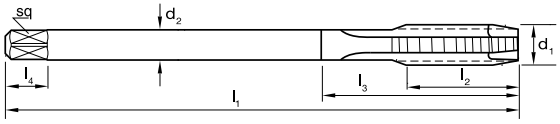
DIN 371 | 60° M



	T128	T130
Catalogue Code	T128	T130
Product Group	D0402	D0406
Material	HSSE	HSSE
Surface Finish	*Brt*	*TiN*
Sutton Designation	**Sticky Material**	**Sticky Material**
Geometry	Interrupted Threads	Interrupted Threads
Chamfer	Form B / 4.5 x P	Form B / 4.5 x P
Limit & Nut Tolerance	ISO 2 / 6H	ISO 2 / 6H

Size Ref.	d_1	Pitch	l_1	l_2	l_3	d_2	sq	l_4	z	drill Ø	Item #	Item #
0200	M 2	x 0.4	45	8	-	2.8	2.1	5	3	1.6	•	•
0220	M 2.2	x 0.45	45	9	-	2.8	2.1	5	3	1.75	•	•
0230	M 2.3	x 0.4	45	9	-	2.8	2.1	5	3	1.9	•	•
0250	M 2.5	x 0.45	50	9	-	2.8	2.1	5	3	2.05	•	•
0260	M 2.6	x 0.45	50	9	-	2.8	2.1	5	3	2.15	•	•
0300	M 3	x 0.5	56	11	18	3.5	2.7	6	3	2.5	T128 0300	T130 0300
0350	M 3.5	x 0.6	56	13	20	4.0	3.0	6	3	2.9	•	•
0400	M 4	x 0.7	63	13	21	4.5	3.4	6	3	3.3	T128 0400	T130 0400
0500	M 5	x 0.8	70	16	25	6.0	4.9	8	3	4.2	T128 0500	T130 0500
0600	M 6	x 1	80	19	30	6.0	4.9	8	3	5.0	T128 0600	T130 0600
0800	M 8	x 1.25	90	22	35	8.0	6.2	9	3	6.8	T128 0800	T130 0800
1000	M 10	x 1.5	100	24	39	10.0	8.0	11	3	8.5	T128 1000	T130 1000

DIN 376 | 60° M



Size Ref.	d_1	Pitch	l_1	l_2	l_3	d_2	sq	l_4	z	drill Ø	Item #	Item #
											T129	T131
0600	M 6	x 1	80	19	-	4.5	3.4	6	3	5.0	•	•
0800	M 8	x 1.25	90	22	-	6.0	4.9	8	3	6.8	•	•
1000	M 10	x 1.5	100	24	-	7.0	5.5	8	3	8.5	•	•
1200	M 12	x 1.75	110	28	-	9.0	7.0	10	3	10.2	T129 1200	T131 1200
1400	M 14	x 2	110	30	-	11.0	9.0	12	3	12.0	T129 1400	T131 1400
1600	M 16	x 2	110	32	-	12.0	9.0	12	3	14.0	T129 1600	T131 1600

ISO	P												M			K						N									S														H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
T128	○	○	○	○		○	○					○		○	○								●	○				●	●	●																			
T129	○	○	○	○		○	○					○		○	○								●	○				●	●	●																			
T130	●	○	○	○		○	○			○		○		○	○								○	○				●	●	●																			
T131	●	○	○	○		○	○			○		○		○	○								○	○				●	●	●																			

P Steel | M Stainless Steel | K Cast Iron | N Non-Ferrous Metals | S Titanium & Super Alloys | H Hard Materials

● Optimal ○ Effective

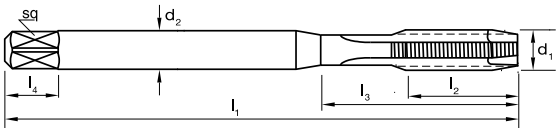
• Available on request as special manufacture. Subject to lead time.

DIN Taps Metric, Gun, VA

suttontools

- Use in stainless steels and high strength steels
- Suitable for materials up to 850N/mm²
- Through holes
- Depths up to 3 x d_1

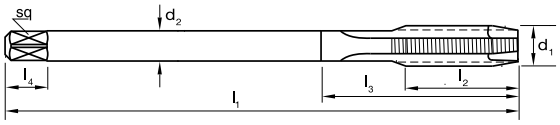
DIN 371 | 60° M



Catalogue Code	T110	T359	T112
Product Group	D0402	D0402	D0408
Material	HSSE	HSSE	HSSE
Surface Finish	*Blu*	*Blu*	*TiCN*
Sutton Designation	VA	VA	VA
Geometry	Special Relief	Special Relief	Special Relief
Chamfer	Form B / 4.5 x P	Form B / 4.5 x P	Form B / 4.5 x P
Limit & Nut Tolerance	ISO 2 / 6H	ISO 3 / 6G	ISO 2 / 6H

Size Ref.	d_1	Pitch	l_1	l_2	l_3	d_2	sq	l_4	z	drill Ø	Item #	Item #	Item #
0200	M 2	x 0.4	45	8	-	2.8	2.1	5	3	1.6	•	•	•
0220	M 2.2	x 0.45	45	9	-	2.8	2.1	5	3	1.75	•	•	•
0230	M 2.3	x 0.4	45	9	-	2.8	2.1	5	3	1.9	•	•	•
0250	M 2.5	x 0.45	50	9	-	2.8	2.1	5	3	2.05	•	•	•
0260	M 2.6	x 0.45	50	9	-	2.8	2.1	5	3	2.15	•	•	•
0300	M 3	x 0.5	56	11	18	3.5	2.7	6	3	2.5	T110 0300	•	T112 0300
0350	M 3.5	x 0.6	56	13	20	4.0	3.0	6	3	2.9	T110 0350	•	T112 0350
0400	M 4	x 0.7	63	13	21	4.5	3.4	6	3	3.3	T110 0400	•	T112 0400
0500	M 5	x 0.8	70	16	25	6.0	4.9	8	3	4.2	T110 0500	•	T112 0500
0600	M 6	x 1	80	19	30	6.0	4.9	8	3	5.0	T110 0600	•	T112 0600
0800	M 8	x 1.25	90	22	35	8.0	6.2	9	3	6.8	T110 0800	•	T112 0800
1000	M 10	x 1.5	100	24	39	10.0	8.0	11	3	8.5	T110 1000	•	T112 1000

DIN 376 | 60° M



Size Ref.	d_1	Pitch	l_1	l_2	l_3	d_2	sq	l_4	z	drill Ø	Item #	Item #	Item #
											T111	T360	T113
0600	M 6	x 1	80	19	-	4.5	3.4	6	3	5.0	T111 0600	•	T113 0600
0800	M 8	x 1.25	90	22	-	6.0	4.9	8	3	6.8	T111 0800	•	T113 0800
1000	M 10	x 1.5	100	24	-	7.0	5.5	8	3	8.5	T111 1000	•	T113 1000
1200	M 12	x 1.75	110	28	-	9.0	7.0	10	3	10.2	T111 1200	•	T113 1200
1400	M 14	x 2	110	30	-	11.0	9.0	12	3	12.0	T111 1400	•	T113 1400
1600	M 16	x 2	110	32	-	12.0	9.0	12	4	14.0	T111 1600	•	T113 1600
1800	M 18	x 2.5	125	34	-	14.0	11.0	14	4	15.5	T111 1800	•	T113 1800
2000	M 20	x 2.5	140	34	-	16.0	12.0	15	4	17.5	T111 2000	•	T113 2000
2200	M 22	x 2.5	140	34	-	18.0	14.5	17	4	19.5	T111 2200	•	T113 2200
2400	M 24	x 3	160	38	-	18.0	14.5	17	4	21.0	T111 2400	•	T113 2400
2700	M 27	x 3	160	38	-	20.0	16.0	19	4	24.0	T111 2700	•	T113 2700
3000	M 30	x 3.5	180	45	-	22.0	18.0	21	4	26.5	T111 3000	•	T113 3000

ISO	P												M			K						N									S											H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
T110 / T111	●	●	○	○		●	○					○		●	●	○																																	
T359 / T360	●	●	○	○		●	○					○		●	●	○																																	
T112 / T113	●	●	○	○		●	○			○		●	○	●	●	●							○	○	○	○	○	○		○			●	○	○														

P Steel | M Stainless Steel | K Cast Iron | N Non-Ferrous Metals | S Titanium & Super Alloys | H Hard Materials

● Optimal ○ Effective

• Available on request as special manufacture. Subject to lead time.

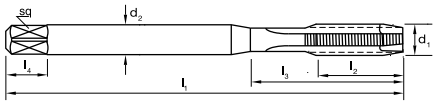
M

DIN Taps Metric, Gun, VA PM

suttontools

- PM-HSSE V3 offers superior performance
- Use in stainless steels and high strength steels
- Suitable for materials up to 850N/mm²
- Through holes
- Depths up to 3 x d_1

DIN 371 | 60° M

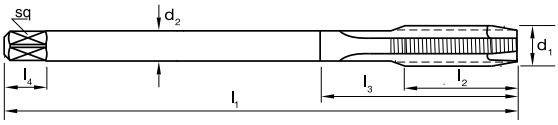


Catalogue Code	T114	T116	T680	T118
Product Group	D0402	D0408	D0408	D0408
Material	PM-HSSE V3	PM-HSSE V3	PM-HSSE V3	PM-HSSE V3
Surface Finish	*Blu*	*TiCN*	*TiCN*	*TiCN*
Sutton Designation	**VA PM**	**VA PM**	**VA PM**	**VA PM**
Geometry	Special Relief	Special Relief	Special Relief	Internal Coolant
Chamfer	Form B / 4.5 x P	Form B / 4.5 x P	Form B / 4.5 x P	Form B / 4.5 x P
Limit & Nut Tolerance	6HX	6HX	6GX	6HX

Size Ref.	d_1	Pitch	l_1	l_2	l_3	d_2	sq	l_4	z	drill Ø	Item #	Item #	Item #	Item #
0160	M 1.6	x 0.35	40	8	-	2.5	2.1	5	3	1.25	•	T116 0160	•	•
0200	M 2	x 0.4	45	8	-	2.8	2.1	5	3	1.6	•	T116 0200	T680 0200	•
0220	M 2.2	x 0.45	45	9	-	2.8	2.1	5	3	1.75	•	•	•	•
0230	M 2.3	x 0.4	45	9	-	2.8	2.1	5	3	1.9	•	•	•	•
0250	M 2.5	x 0.45	50	9	-	2.8	2.1	5	3	2.05	•	T116 0250	T680 0250	•
0300	M 3	x 0.5	56	11	18	3.5	2.7	6	3	2.5	T114 0300	T116 0300	T680 0300	•
0350	M 3.5	x 0.6	56	13	20	4.0	3.0	6	3	2.9	•	T116 0350	T680 0350	•
0400	M 4	x 0.7	63	13	21	4.5	3.4	6	3	3.3	T114 0400	T116 0400	T680 0400	•
0500	M 5	x 0.8	70	16	25	6.0	4.9	8	3	4.2	T114 0500	T116 0500	T680 0500	T118 0500
0600	M 6	x 1	80	19	30	6.0	4.9	8	3	5.0	T114 0600	T116 0600	T680 0600	T118 0600
0800	M 8	x 1.25	90	22	35	8.0	6.2	9	3	6.8	T114 0800	T116 0800	T680 0800	T118 0800
1000	M 10	x 1.5	100	24	39	10.0	8.0	11	3	8.5	T114 1000	T116 1000	T680 1000	T118 1000

M

DIN 376 | 60° M



Size Ref.	d_1	Pitch	l_1	l_2	l_3	d_2	sq	l_4	z	drill Ø	Item #	Item #	Item #	Item #
											T115	T117	T681	T119
1200	M 12	x 1.75	110	28	-	9.0	7.0	10	3	10.2	T115 1200	T117 1200	T681 1200	T119 1200
1400	M 14	x 2	110	30	-	11.0	9.0	12	3	12.0	T115 1400	T117 1400	T681 1400	T119 1400
1600	M 16	x 2	110	32	-	12.0	9.0	12	4	14.0	T115 1600	T117 1600	T681 1600	T119 1600
1800	M 18	x 2.5	125	34	-	14.0	11.0	14	4	15.5	T115 1800	T117 1800	T681 1800	T119 1800
2000	M 20	x 2.5	140	34	-	16.0	12.0	15	4	17.5	T115 2000	T117 2000	T681 2000	T119 2000
2200	M 22†	x 2.5	140	34	-	18.0	14.5	17	4	19.5	•	•	•	•
2400	M 24†	x 3	160	38	-	18.0	14.5	17	4	21.0	•	•	•	•
2700	M 27†	x 3	160	38	-	20.0	16.0	19	4	24.0	•	•	•	•
3000	M 30†	x 3.5	180	45	-	22.0	18.0	21	4	26.5	•	•	•	•

ISO	P													M			K						N										S													H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
T114 / T115	●	●	○	○		●	○			○		○		●	●	○																																			
T116 / T117	●	●	○	○		●	○			○		●	○	●	●	●							○	○	○	○	○	○		○			●	●	●															
T680 / T681	●	●	○	○		●	○			○		●	○	●	●	●							○	○	○	○	○	○		○			●	●	●															
T118 / T119	●	●	○	○		●	○			○		●	○	●	●	●							○	○	○	○	○	○		○			●	●	●															

P Steel | M Stainless Steel | K Cast Iron | N Non-Ferrous Metals | S Titanium & Super Alloys | H Hard Materials

● Optimal ○ Effective

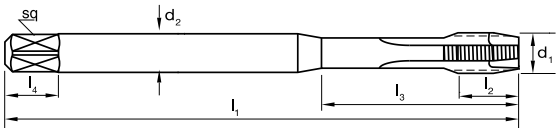
†HSSE >20mm • Available on request as special manufacture. Subject to lead time.

DIN Taps Metric, Gun, VA DH

suttontools

- Suitable for synchronous tapping in deep holes
- PM-HSSE V3 offers superior performance
- Use in stainless steels and high strength steels up to 850N/mm²
- Through holes
- Depths up to 3,5 x d_1

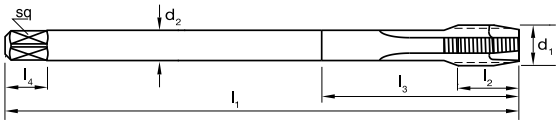
DIN 371 | 60° M | Z



Catalogue Code	**T120**
Product Group	D0408
Material	**PM-HSSE V3**
Surface Finish	***TiCN***
Sutton Designation	**VA DH**
Geometry	Short Pod
Chamfer	Form B / 4.5 x P
Limit & Nut Tolerance	6HX

Size Ref.	d_1	Pitch	l_1	l_2	l_3	d_2	sq	l_4	z	drill Ø	Item #
0200	M 2	x 0.4	45	8	-	2.8	2.1	5	2	1.6	•
0220	M 2.2	x 0.45	45	9	-	2.8	2.1	5	2	1.75	•
0230	M 2.3	x 0.4	45	9	-	2.8	2.1	5	2	1.9	•
0250	M 2.5	x 0.45	50	9	-	2.8	2.1	5	2	2.05	•
0260	M 2.6	x 0.45	50	9	-	2.8	2.1	5	2	2.15	•
0300	M 3	x 0.5	56	5	18	3.5	2.7	6	3	2.5	T120 0300
0350	M 3.5	x 0.6	56	6	20	4.0	3.0	6	3	2.9	•
0400	M 4	x 0.7	63	7	21	4.5	3.4	6	3	3.3	T120 0400
0500	M 5	x 0.8	70	8	25	6.0	4.9	8	3	4.2	T120 0500
0600	M 6	x 1	80	10	30	6.0	4.9	8	3	5.0	T120 0600
0800	M 8	x 1.25	90	12.5	35	8.0	6.2	9	3	6.8	T120 0800
1000	M 10	x 1.5	100	15	39	10.0	8.0	11	3	8.5	T120 1000

DIN 376 | 60° M | Z



Size Ref.	d_1	Pitch	l_1	l_2	l_3	d_2	sq	l_4	z	drill Ø	Item #
											T121
0600	M 6	x 1	80	10	-	4.5	3.4	6	3	5.0	•
0800	M 8	x 1.25	90	12.5	-	6.0	4.9	8	3	6.8	•
1000	M 10	x 1.5	100	15	-	7.0	5.5	8	3	8.5	•
1200	M 12	x 1.75	110	17.5	-	9.0	7.0	10	3	10.2	T121 1200
1400	M 14	x 2	110	20	-	11.0	9.0	12	3	12.0	T121 1400
1600	M 16	x 2	110	20	-	12.0	9.0	12	4	14.0	T121 1600
1800	M 18	x 2.5	125	25	-	14.0	11.0	14	4	15.5	T121 1800
2000	M 20	x 2.5	140	25	-	16.0	12.0	15	4	17.5	T121 2000

ISO	P													M			K						N									S												H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
T120	●	●	○	○		●	○			○		●	○	●	●	●							○	○	○	○	○	○		○																			
T121	●	●	○	○		●	○			○		●	○	●	●	●							○	○	○	○	○	○		○																			

P Steel | M Stainless Steel | K Cast Iron | N Non-Ferrous Metals | S Titanium & Super Alloys | H Hard Materials

● Optimal ○ Effective

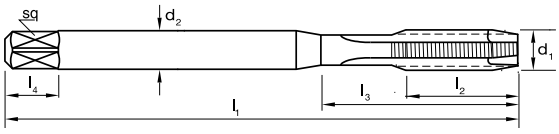
• Available on request as special manufacture. Subject to lead time.

DIN Taps Metric, Gun, NH

suttontools

- Suitable for harder short chipping materials up to 42 HRC
- Through holes
- Depths up to 3 x d_1

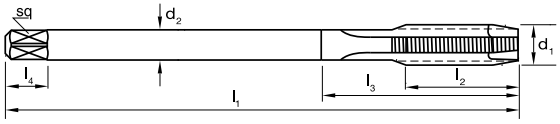
DIN 371 | 60° M



Catalogue Code	T134	T140	T142
Product Group	D0402	D0410	D0410
Material	PM-HSSE V3	PM-HSSE V3	PM-HSSE V3
Surface Finish	*Blu*	*TiAlN*	*TiAlN*
Sutton Designation	NH	NH	NH
Geometry			IK
Chamfer	Form B / 4.5 x P	Form B / 4.5 x P	Form B / 4.5 x P
Limit & Nut Tolerance	ISO 2 / 6H	ISO 2 / 6H	ISO 2 / 6H

Size Ref.	d_1	Pitch	l_1	l_2	l_3	d_2	sq	l_4	z	drill Ø	Item #	Item #	Item #
0200	M 2	x 0.4	45	8	-	2.8	2.1	5	3	1.6	•	•	•
0220	M 2.2	x 0.45	45	9	-	2.8	2.1	5	3	1.75	•	•	•
0230	M 2.3	x 0.4	45	9	-	2.8	2.1	5	3	1.9	•	•	•
0250	M 2.5	x 0.45	50	9	-	2.8	2.1	5	3	2.05	•	•	•
0260	M 2.6	x 0.45	50	9	-	2.8	2.1	5	3	2.15	•	•	•
0300	M 3	x 0.5	56	11	18	3.5	2.7	6	3	2.5	T134 0300	T140 0300	•
0350	M 3.5	x 0.6	56	13	20	4.0	3.0	6	3	2.9	•	•	•
0400	M 4	x 0.7	63	13	21	4.5	3.4	6	3	3.3	T134 0400	T140 0400	•
0500	M 5	x 0.8	70	16	25	6.0	4.9	8	3	4.2	T134 0500	T140 0500	•
0600	M 6	x 1	80	19	30	6.0	4.9	8	3	5.0	T134 0600	T140 0600	T142 0600
0800	M 8	x 1.25	90	22	35	8.0	6.2	9	3	6.8	T134 0800	T140 0800	T142 0800
1000	M 10	x 1.5	100	24	39	10.0	8.0	11	3	8.5	T134 1000	T140 1000	T142 1000

DIN 376 | 60° M



Size Ref.	d_1	Pitch	l_1	l_2	l_3	d_2	sq	l_4	z	drill Ø	Item #	Item #	Item #
											T135	T141	T143
1200	M 12	x 1.75	110	28	-	9.0	7.0	10	3	10.2	T135 1200	T141 1200	T143 1200
1400	M 14	x 2	110	30	-	11.0	9.0	12	3	12.0	T135 1400	T141 1400	T143 1400
1600	M 16	x 2	110	32	-	12.0	9.0	12	4	14.0	T135 1600	T141 1600	T143 1600
1800	M 18	x 2.5	125	34	-	14.0	11.0	14	4	15.5	T135 1800	T141 1800	T143 1800
2000	M 20	x 2.5	140	34	-	16.0	12.0	15	4	17.5	T135 2000	T141 2000	T143 2000
2200	M 22	x 2.5	140	34	-	18.0	14.5	17	4	19.5	•	•	•
2400	M 24	x 3	160	38	-	18.0	14.5	17	4	21.0	•	T141 2400	•
2700	M 27	x 3	160	38	-	20.0	16.0	19	4	24.0	•	•	•
3000	M 30	x 3.5	180	45	-	22.0	18.0	21	4	26.5	•	•	•

ISO	P													M			K						N										S													H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
T134 / T135			●	●	○		●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○																										○	
T140 / T141			●	●	●		●	●	○	●	○	○	○	○	○	●	○	○	○	○	●	○			○	○	○	●	○	○														○				○	
T142 / T143			●	●	●		●	●	○	●	○	○	○	○	○	●	○	○	○	○	●	○			○	○	○	●	○	○														○				○	

P Steel | M Stainless Steel | K Cast Iron | N Non-Ferrous Metals | S Titanium & Super Alloys | H Hard Materials

● Optimal ○ Effective

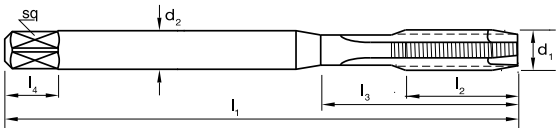
• Available on request as special manufacture. Subject to lead time.

DIN Taps Metric, Gun, H

suttontools

- Suitable for harder short chipping materials up to 45 HRC
- Through holes
- Depths up to 3 x d_1

DIN 371 | 60° M

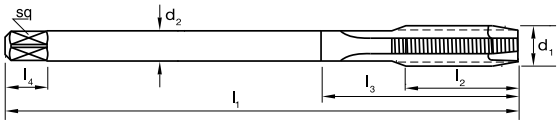


Catalogue Code	T144	T146	T148
Product Group	D0402	D0408	D0408
Material	PM-HSS Co	PM-HSS Co	PM-HSS Co
Surface Finish	*Blu*	*TiCN*	*TiCN*
Sutton Designation	H	H	H
Geometry	Low Relief	Low Relief	Low Relief - IK
Chamfer	Form B / 4.5 x P	Form B / 4.5 x P	Form B / 4.5 x P
Limit & Nut Tolerance	6HX	6HX	6HX

Size Ref.	d_1	Pitch	l_1	l_2	l_3	d_2	sq	l_4	z	drill Ø	Item #	Item #	Item #
0200	M 2	x 0.4	45	8	-	2.8	2.1	5	3	1.6	•	•	•
0220	M 2.2	x 0.45	45	9	-	2.8	2.1	5	3	1.75	•	•	•
0230	M 2.3	x 0.4	45	9	-	2.8	2.1	5	3	1.9	•	•	•
0250	M 2.5	x 0.45	50	9	-	2.8	2.1	5	3	2.05	•	•	•
0260	M 2.6	x 0.45	50	9	-	2.8	2.1	5	3	2.15	•	•	•
0300	M 3	x 0.5	56	11	18	3.5	2.7	6	3	2.5	T144 0300	T146 0300	•
0350	M 3.5	x 0.6	56	13	20	4.0	3.0	6	3	2.9	•	•	•
0400	M 4	x 0.7	63	13	21	4.5	3.4	6	3	3.3	T144 0400	T146 0400	•
0500	M 5	x 0.8	70	16	25	6.0	4.9	8	3	4.2	T144 0500	T146 0500	•
0600	M 6	x 1	80	19	30	6.0	4.9	8	3	5.0	T144 0600	T146 0600	T148 0600
0800	M 8	x 1.25	90	22	35	8.0	6.2	9	3	6.8	T144 0800	T146 0800	T148 0800
1000	M 10	x 1.5	100	24	39	10.0	8.0	11	3	8.5	T144 1000	T146 1000	T148 1000

M

DIN 376 | 60° M



Size Ref.	d_1	Pitch	l_1	l_2	l_3	d_2	sq	l_4	z	drill Ø	Item #	Item #	Item #
											T145	T147	T149
1200	M 12	x 1.75	110	28	-	9.0	7.0	10	3	10.2	T145 1200	T147 1200	T149 1200
1400	M 14	x 2	110	30	-	11.0	9.0	12	3	12.0	T145 1400	T147 1400	T149 1400
1600	M 16	x 2	110	32	-	12.0	9.0	12	4	14.0	T145 1600	T147 1600	T149 1600
1800	M 18	x 2.5	125	34	-	14.0	11.0	14	4	15.5	T145 1800	T147 1800	T149 1800
2000	M 20	x 2.5	140	34	-	16.0	12.0	15	4	17.5	T145 2000	T147 2000	T149 2000
2200	M 22	x 2.5	140	34	-	18.0	14.5	17	4	19.5	•	•	•
2400	M 24	x 3	160	38	-	18.0	14.5	17	4	21.0	•	•	•
2700	M 27	x 3	160	38	-	20.0	16.0	19	4	24.0	•	•	•
3000	M 30	x 3.5	180	45	-	22.0	18.0	21	4	26.5	•	•	•

ISO	P													M			K						N										S										H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
T144 / T145					●			●	●		●	○	●			○	○	○	○	○	○	○							○									○	○	○	○	○	○	○				○	
T146 / T147					●			●	●		●	○	●			○	●	●	●	●	●	●					○		●									○	●	●	●	●	●	●				●	
T148 / T149					●			●	●		●	○	●			○	●	●	●	●	●	●					○		●									○	●	●	●	●	●	●				●	

P Steel | M Stainless Steel | K Cast Iron | N Non-Ferrous Metals | S Titanium & Super Alloys | H Hard Materials

● Optimal ○ Effective

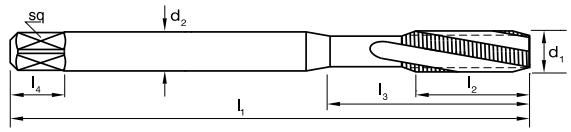
• Available on request as special manufacture. Subject to lead time.

DIN Taps Metric, Spiral Flute, R15 N

suttontools

- General purpose use
- Suitable for materials up to 1000N/mm^2
- Blind holes
- Depths up to 1.5 x d_1

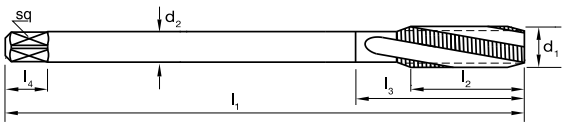
DIN 371 | 60° M



Catalogue Code	T183	T185
Product Group	D0402	D0406
Material	HSSE	HSSE
Surface Finish	*Brt*	*TiN*
Sutton Designation	N	N
Geometry	R15	R15
Chamfer	Form C / 2.5 x P	Form C / 2.5 x P
Limit & Nut Tolerance	ISO 2 / 6H	ISO 2 / 6H

Size Ref.	d_1	Pitch	l_1	l_2	l_3	d_2	sq	l_4	z	drill Ø	Item #	Item #
0200	M 2	x 0.4	45	8	-	2.8	2.1	5	3	1.6	T183 0200	•
0220	M 2.2	x 0.45	45	9	-	2.8	2.1	5	3	1.75	•	•
0230	M 2.3	x 0.4	45	9	-	2.8	2.1	5	3	1.9	•	•
0250	M 2.5	x 0.45	50	9	-	2.8	2.1	5	3	2.05	T183 0250	•
0260	M 2.6	x 0.45	50	9	-	2.8	2.1	5	3	2.15	•	•
0300	M 3	x 0.5	56	11	18	3.5	2.7	6	3	2.5	T183 0300	•
0350	M 3.5	x 0.6	56	13	20	4.0	3.0	6	3	2.9	T183 0350	•
0400	M 4	x 0.7	63	13	21	4.5	3.4	6	3	3.3	T183 0400	•
0500	M 5	x 0.8	70	16	25	6.0	4.9	8	3	4.2	T183 0500	•
0600	M 6	x 1	80	19	30	6.0	4.9	8	3	5.0	T183 0600	•
0800	M 8	x 1.25	90	22	35	8.0	6.2	9	3	6.8	T183 0800	•
1000	M 10	x 1.5	100	24	39	10.0	8.0	11	3	8.5	T183 1000	•

DIN 376 | 60° M



Size Ref.	d_1	Pitch	l_1	l_2	l_3	d_2	sq	l_4	z	drill Ø	Item #	Item #
											T184	T186
1200	M 12	x 1.75	110	28	-	9.0	7.0	10	3	10.2	T184 1200	•
1400	M 14	x 2	110	30	-	11.0	9.0	12	3	12.0	T184 1400	•
1600	M 16	x 2	110	32	-	12.0	9.0	12	4	14.0	T184 1600	•
1800	M 18	x 2.5	125	34	-	14.0	11.0	14	4	15.5	T184 1800	•
2000	M 20	x 2.5	140	34	-	16.0	12.0	15	4	17.5	T184 2000	•
2200	M 22	x 2.5	140	34	-	18.0	14.5	17	4	19.5	•	•
2400	M 24	x 3	160	38	-	18.0	14.5	17	4	21.0	•	•
2700	M 27	x 3	160	38	-	20.0	16.0	19	4	24.0	•	•
3000	M 30	x 3.5	180	45	-	22.0	18.0	21	4	26.5	•	•

ISO	P													M			K						N									S											H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
T183	●	●	○	○		●	○			○							○		○		○	○	●	●	○	○		○	○																				
T184	●	●	○	○		●	○			○							○		○		○	○	●	●	○	○		○	○																				
T185	●	●	●	●	○	●	●	○		●		○		○	○	○	○	○	○	○	○	○	●	●	○	○		○	○																				
T186	●	●	●	●	○	●	●	○		●		○		○	○	○	○	○	○	○	○	○	●	●	○	○		○	○																				

P Steel **M** Stainless Steel **K** Cast Iron **N** Non-Ferrous Metals **S** Titanium & Super Alloys **H** Hard Materials

● Optimal ○ Effective

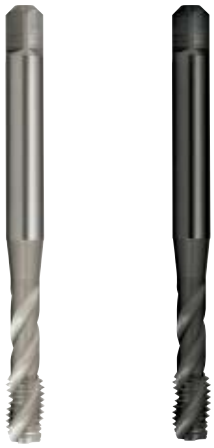
• Available on request as special manufacture. Subject to lead time.

M

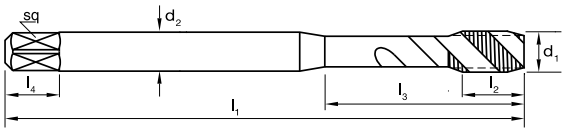
DIN Taps Metric, Spiral Flute, R40 N

suttontools

- General purpose use
- Suitable for materials up to 1000N/mm^2
- Blind holes
- Depths up to 2.5 x d_1



DIN 371 | 60° M



Catalogue Code	T187	T189
Product Group	D0402	D0402
Material	HSSE	HSSE
Surface Finish	*Brt*	*Blu*
Sutton Designation	N	N
Geometry	R40	R40
Chamfer	Form C / 2.5 x P	Form C / 2.5 x P
Limit & Nut Tolerance	ISO 2 / 6H	ISO 2 / 6H

Size Ref.	d_1	Pitch	l_1	l_2	l_3	d_2	sq	l_4	z	drill Ø	Item #	Item #
0100	M 1	x 0.25	40	5.5	-	2.5	2.1	5	2	0.75	T187 0100	•
0110	M 1.1	x 0.25	40	5.5	-	2.5	2.1	5	2	0.85	•	•
0120	M 1.2	x 0.25	40	5.5	-	2.5	2.1	5	2	0.95	T187 0120	•
0140	M 1.4	x 0.3	40	7	-	2.5	2.1	5	2	1.1	T187 0140	•
0160	M 1.6	x 0.35	40	8	-	2.5	2.1	5	2	1.25	T187 0160	•
0170	M 1.7	x 0.35	40	8	-	2.5	2.1	5	2	1.35	•	•
0180	M 1.8	x 0.35	40	8	-	2.5	2.1	5	2	1.45	T187 0180	•
0200	M 2	x 0.4	45	8	-	2.8	2.1	5	2	1.6	T187 0200	T189 0200
0220	M 2.2	x 0.45	45	9	-	2.8	2.1	5	2	1.75	•	•
0230	M 2.3	x 0.4	45	9	-	2.8	2.1	5	2	1.9	•	•
0250	M 2.5	x 0.45	50	9	-	2.8	2.1	5	2	2.05	T187 0250	T189 0250
0260	M 2.6	x 0.45	50	9	-	2.8	2.1	5	2	2.15	•	•
0300	M 3	x 0.5	56	5	18	3.5	2.7	6	3	2.5	T187 0300	T189 0300
0350	M 3.5	x 0.6	56	6	20	4.0	3.0	6	3	2.9	T187 0350	•
0400	M 4	x 0.7	63	7	21	4.5	3.4	6	3	3.3	T187 0400	T189 0400
0500	M 5	x 0.8	70	8	25	6.0	4.9	8	3	4.2	T187 0500	T189 0500
0600	M 6	x 1	80	10	30	6.0	4.9	8	3	5.0	T187 0600	T189 0600
0700	M 7	x 1	80	10	30	7.0	5.5	8	3	6.0	•	•
0800	M 8	x 1.25	90	12.5	35	8.0	6.2	9	3	6.8	T187 0800	T189 0800
1000	M 10	x 1.5	100	15	39	10.0	8.0	11	3	8.5	T187 1000	T189 1000

ISO	P													M			K						N									S												H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
T187	●	●	○	○		●	○			○							○		○		○	○	●	●	○	○		○	○																				
T189	●	●	●	●		●	●			●		○		○	○	○	○		○		○	○																										

P Steel | M Stainless Steel | K Cast Iron | N Non-Ferrous Metals | S Titanium & Super Alloys | H Hard Materials

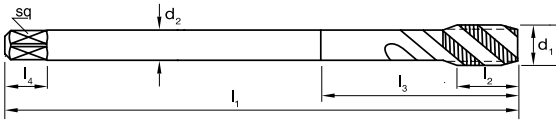
● Optimal ○ Effective

• Available on request as special manufacture. Subject to lead time.

DIN Taps Metric, Spiral Flute, R40 N

suttontools

- General purpose use
- Suitable for materials up to 1000N/mm^2
- Blind holes
- Depths up to 2.5 x d_1



Catalogue Code	**T188**	**T190**
Product Group	D0402	D0402
Material	**HSSE**	**HSSE**
Surface Finish	***Brt***	***Blu***
Sutton Designation	**N**	**N**
Geometry	R40	R40
Chamfer	Form C / 2.5 x P	Form C / 2.5 x P
Limit & Nut Tolerance	ISO 2 / 6H	ISO 2 / 6H

Size Ref.	d_1	Pitch	l_1	l_2	l_3	d_2	sq	l_4	z	drill Ø	Item #	Item #
0300	M 3	x 0.5	56	5	-	2.2	-	-	3	2.5	•	•
0350	M 3.5	x 0.6	56	6	-	2.5	2.1	5	3	2.9	T188 0350	•
0400	M 4	x 0.7	63	7	-	2.8	2.1	5	3	3.3	T188 0400	•
0500	M 5	x 0.8	70	8	-	3.5	2.7	6	3	4.2	T188 0500	T190 0500
0600	M 6	x 1	80	10	-	4.5	3.4	6	3	5.0	T188 0600	T190 0600
0800	M 8	x 1.25	90	13	-	6.0	4.9	8	3	6.8	T188 0800	T190 0800
0900	M 9	x 1.25	90	13	-	9.0	7.0	10	3	7.8	•	•
1000	M 10	x 1.5	100	15	-	7.0	5.5	8	3	8.5	T188 1000	T190 1000
1200	M 12	x 1.75	110	18	-	9.0	7.0	10	3	10.2	T188 1200	T190 1200
1400	M 14	x 2	110	20	-	11.0	9.0	12	3	12.0	T188 1400	T190 1400
1600	M 16	x 2	110	20	-	12.0	9.0	12	3	14.0	T188 1600	T190 1600
1800	M 18	x 2.5	125	25	-	14.0	11.0	14	4	15.5	T188 1800	T190 1800
2000	M 20	x 2.5	140	25	-	16.0	12.0	15	4	17.5	T188 2000	T190 2000
2200	M 22	x 2.5	140	25	-	18.0	14.5	17	4	19.5	T188 2200	T190 2200
2400	M 24	x 3	160	30	-	18.0	14.5	17	4	21.0	T188 2400	T190 2400
2700	M 27	x 3	160	30	-	20.0	16.0	19	4	24.0	T188 2700	T190 2700
3000	M 30	x 3.5	180	45	-	22.0	18.0	21	4	26.5	T188 3000	T190 3000
3300	M 33	x 3.5	180	35	-	25.0	20.0	23	4	29.5	T188 3300	T190 3300
3600	M 36	x 4	200	40	-	28.0	22.0	25	4	32.0	T188 3600	T190 3600
3900	M 39	x 4	200	40	-	32.0	24.0	27	4	35.0	T188 3900	T190 3900
4200	M 42	x 4.5	200	45	-	32.0	24.0	27	4	37.5	T188 4200	T190 4200
4500	M 45	x 4.5	220	45	-	36.0	29.0	32	4	40.5	T188 4500	T190 4500
4800	M 48	x 5	250	50	-	36.0	29.0	32	4	43.0	T188 4800	T190 4800
5200	M 52	x 5	250	50	-	40.0	32.0	35	4	47.0	T188 5200	T190 5200

ISO	P													M			K						N										S												H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
T188	●	●	○	○		●	○			○							○		○		○	○	●	●	○	○		○	○																				
T190	●	●	●	●		●	●			●		○		○	○	○	○		○		○	○																										

P Steel M Stainless Steel K Cast Iron N Non-Ferrous Metals S Titanium & Super Alloys H Hard Materials

● Optimal ○ Effective

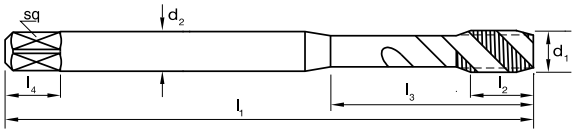
• Available on request as special manufacture. Subject to lead time.

DIN Taps Metric, Spiral Flute, R40 N - 6G, 4H, LH

suttontools

- General purpose use
- Suitable for materials up to 1000N/mm²
- Blind holes
- Depths up to 2.5 x d_1

DIN 371 | 60° M

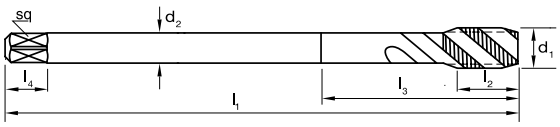


Catalogue Code	T191	T193	T195
Product Group	D0402	D0402	D0402
Material	HSSE	HSSE	HSSE
Surface Finish	*Brt*	*Brt*	*Brt*
Sutton Designation	N	N	N
Geometry	R40 - 6G	R40 - 4H	L40
Chamfer	Form C / 2.5 x P	Form C / 2.5 x P	Form C / 2.5 x P
Limit & Nut Tolerance	ISO 3 / 6G	ISO 1 / 4H	ISO 2 / 6H

Size Ref.	d_1	Pitch	l_1	l_2	l_3	d_2	sq	l_4	z	drill Ø	Item #	Item #	Item #
0200	M 2	x 0.4	45	8	-	2.8	2.1	5	2	1.6	T191 0200	T193 0200	•
0220	M 2.2	x 0.45	45	9	-	2.8	2.1	5	2	1.75	•	•	•
0230	M 2.3	x 0.4	45	9	-	2.8	2.1	5	2	1.9	•	•	•
0250	M 2.5	x 0.45	50	9	-	2.8	2.1	5	2	2.05	T191 0250	T193 0250	•
0260	M 2.6	x 0.45	50	9	-	2.8	2.1	5	2	2.15	•	•	•
0300	M 3	x 0.5	56	5	18	3.5	2.7	6	3	2.5	T191 0300	T193 0300	T195 0300
0350	M 3.5	x 0.6	56	6	20	4.0	3.0	6	3	2.9	•	•	•
0400	M 4	x 0.7	63	7	21	4.5	3.4	6	3	3.3	T191 0400	T193 0400	T195 0400
0500	M 5	x 0.8	70	8	25	6.0	4.9	8	3	4.2	T191 0500	T193 0500	T195 0500
0600	M 6	x 1	80	10	30	6.0	4.9	8	3	5.0	T191 0600	T193 0600	T195 0600
0800	M 8	x 1.25	90	13	35	8.0	6.2	9	3	6.8	T191 0800	T193 0800	T195 0800
1000	M 10	x 1.5	100	15	39	10.0	8.0	11	3	8.5	T191 1000	T193 1000	T195 1000

M

DIN 376 | 60° M



Size Ref.	d_1	Pitch	l_1	l_2	l_3	d_2	sq	l_4	z	drill Ø	Item #	Item #	Item #
											T192	T194	T196
0600	M 6	x 1	80	10	-	4.5	3.4	6	3	5.0	•	•	•
0800	M 8	x 1.25	90	13	-	6.0	4.9	8	3	6.8	•	•	•
1000	M 10	x 1.5	100	15	-	7.0	5.5	8	3	8.5	•	•	•
1200	M 12	x 1.75	110	18	-	9.0	7.0	10	3	10.2	T192 1200	•	T196 1200
1400	M 14	x 2	110	20	-	11.0	9.0	12	3	12.0	T192 1400	•	T196 1400
1600	M 16	x 2	110	20	-	12.0	9.0	12	3	14.0	T192 1600	•	T196 1600
1800	M 18	x 2.5	125	25	-	14.0	11.0	14	4	15.5	T192 1800	•	T196 1800
2000	M 20	x 2.5	140	25	-	16.0	12.0	15	4	17.5	T192 2000	•	T196 2000

ISO	P													M			K						N									S												H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
T191 / T192	●	●	○	○		●	○			○							○		○		○	○	●	●	○	○		○	○																				
T193 / T194	●	●	○	○		●	○			○							○		○		○	○	●	●	○	○		○	○																				
T195 / T196	●	●	○	○		●	○			○							○		○		○	○	●	●	○	○		○	○																				

P Steel | M Stainless Steel | K Cast Iron | N Non-Ferrous Metals | S Titanium & Super Alloys | H Hard Materials

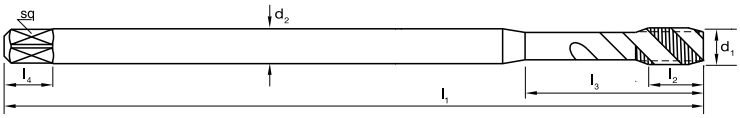
● Optimal ○ Effective

• Available on request as special manufacture. Subject to lead time.

DIN Taps Metric, Spiral Flute, R40 N, Extra Length

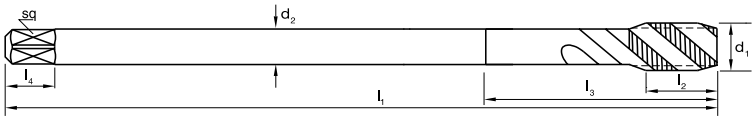
suttontools

- For long reach applications
- Suitable for materials up to 1000N/mm^2
- Depths up to 2.5 x d_1
- d_2 and sq in accordance to DIN376



Catalogue Code	**T339**
Product Group	D0402
Material	**HSSE**
Surface Finish	***Brt***
Sutton Designation	**N**
Geometry	R40 - Extra Length
Chamfer	Form C / 2.5 x P
Limit & Nut Tolerance	ISO 2 / 6H

Size Ref.	d_1	Pitch	l_1	l_2	l_3	d_2	sq	l_4	z	drill Ø	Item #
0300	M 3	x 0.5	112	5		3.5	2.7	6	3	2.5	T339 0300
0400	M 4	x 0.7	126	7		4.5	3.4	6	3	3.3	T339 0400
0500	M 5	x 0.8	140	8		6.0	4.9	8	3	4.2	T339 0500
0600	M 6	x 1	160	10		6.0	4.9	8	3	5.0	T339 0600
0800	M 8	x 1.25	180	13		8.0	6.2	10	3	6.8	T339 0800



Size Ref.	d_1	Pitch	l_1	l_2	l_3	d_2	sq	l_4	z	drill Ø	Item #
											T340
1000	M 10	x 1.5	200	15	100	7.0	5.5	8	3	8.5	T340 1000
1200	M 12	x 1.75	220	18	110	9.0	7.0	10	3	10.2	T340 1200
1400	M 14	x 2	220	20	110	11.0	9.0	12	3	12.0	T340 1400
1600	M 16	x 2	220	20	110	12.0	9.0	12	3	14.0	T340 1600
2000	M 20	x 2.5	280	34	110	16.0	12.0	15	4	17.5	T340 2000
2400	M 24	x 3	320	38	120	18.0	14.5	17	4	21.0	•

ISO	P													M			K						N										S												H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
T339	●	●	○	○		●	○			○							○		○		○	○	●	●	○	○		○	○																				
T340	●	●	○	○		●	○			○							○		○		○	○	●	●	○	○		○	○																				

P Steel **M** Stainless Steel **K** Cast Iron **N** Non-Ferrous Metals **S** Titanium & Super Alloys **H** Hard Materials

● Optimal ○ Effective

• Available on request as special manufacture. Subject to lead time.

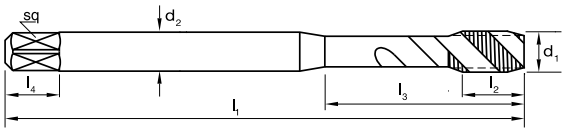
DIN Taps Metric, Spiral Flute, R50 *Black Magic*

suttontools BLACKMAGIC

watch the video

- Universal high performance tapping
- PM-HSSE V3 offers superior tool life
- Use in stainless steels and high strength steels up to 850N/mm^2
- Blind holes up to 3 x d_1
- Suitable for synchronous tapping in machine operations

DIN 371 | 60° M | Z | HSC

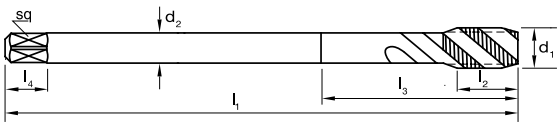


Catalogue Code	**T684**
Product Group	D0410
Material	**PM-HSSE V3**
Surface Finish	***HARDLUBE***
Sutton Designation	**UNI**
Geometry	R50
Chamfer	Form C / 2.5 x P
Limit & Nut Tolerance	6HX

Size Ref.	d_1	Pitch	l_1	l_2	l_3	d_2	sq	l_4	z	drill Ø	Item #
0200	M 2	x 0.4	45	8	-	2.8	2.1	5	3	1.6	•
0220	M 2.2	x 0.45	45	9	-	2.8	2.1	5	3	1.75	•
0230	M 2.3	x 0.4	45	9	-	2.8	2.1	5	3	1.9	•
0250	M 2.5	x 0.45	50	9	-	2.8	2.1	5	3	2.05	•
0260	M 2.6	x 0.45	50	9	-	2.8	2.1	5	3	2.15	•
0300	M 3	x 0.5	56	5	18	3.5	2.7	6	3	2.5	T684 0300
0350	M 3.5	x 0.6	56	6	20	4.0	3.0	6	3	2.9	•
0400	M 4	x 0.7	63	7	21	4.5	3.4	6	3	3.3	T684 0400
0500	M 5	x 0.8	70	8	25	6.0	4.9	8	3	4.2	T684 0500
0600	M 6	x 1	80	10	30	6.0	4.9	8	3	5.0	T684 0600
0800	M 8	x 1.25	90	12.5	35	8.0	6.2	9	3	6.8	T684 0800
1000	M 10	x 1.5	100	15	39	10.0	8.0	11	3	8.5	T684 1000

M

DIN 376 | 60° M | Z | HSC



Size Ref.	d_1	Pitch	l_1	l_2	l_3	d_2	sq	l_4	z	drill Ø	Item #
											T685
1200	M 12	x 1.75	110	17.5	-	9.0	7.0	10	3	10.2	T685 1200
1400	M 14	x 2	110	20	-	11.0	9.0	12	3	12.0	T685 1400
1600	M 16	x 2	110	20	-	12.0	9.0	12	4	14.0	T685 1600
1800	M 18	x 2.5	125	25	-	14.0	11.0	14	4	15.5	T685 1800
2000	M 20	x 2.5	140	25	-	16.0	12.0	15	4	17.5	T685 2000
2200	M 22	x 2.5	140	25	-	18.0	14.5	17	4	19.5	•
2400	M 24	x 3	160	30	-	18.0	14.5	17	4	21.0	•
2700	M 27	x 3	160	30	-	20.0	16.0	19	4	24.0	•
3000	M 30	x 3.5	180	35	-	22.0	18.0	21	4	26.5	•

ISO	P													M			K						N									S												H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
T684	●	●	●	○		●	○			●		●	○	●	●		○	○	○	○	○	○	●	●	●	○	○	○	○																				
T685	●	●	●	○		●	○			●		●	○	●	●		○	○	○	○	○	○	●	●	●	○	○	○	○																				

P Steel | M Stainless Steel | K Cast Iron | N Non-Ferrous Metals | S Titanium & Super Alloys | H Hard Materials

● Optimal ○ Effective

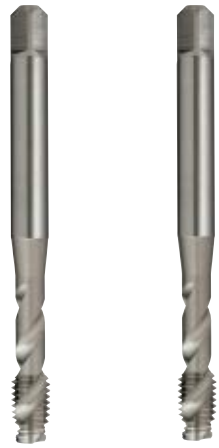
• Available on request as special manufacture. Subject to lead time.

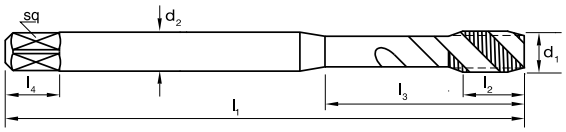
DIN Taps Metric, Spiral Flute, R45 Al

suttontools

- Suitable for use in wrought aluminium and low silicon aluminium
- Blind holes
- Depths up to 3 x d_1
- CrN for longer tool life

DIN 371 | 60° M | HSC

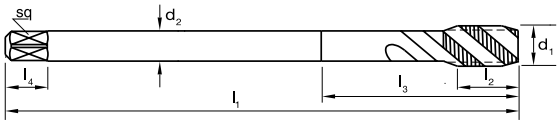




Catalogue Code	T231	T233
Product Group	D0402	D0404
Material	HSSE	HSSE
Surface Finish	*Brt*	*CrN*
Sutton Designation	Al	Al
Geometry	R45 2 Flute	R45 2 Flute
Chamfer	Form C / 2.5 x P	Form C / 2.5 x P
Limit & Nut Tolerance	ISO 2 / 6H	ISO 2 / 6H

Size Ref.	d_1	Pitch	l_1	l_2	l_3	d_2	sq	l_4	z	drill Ø	Item #	Item #
0200	M 2	x 0.4	45	8	-	2.8	2.1	5	2	1.6	T231 0200	•
0200	M 2.2	x 0.45	45	9	-	2.8	2.1	5	2	1.75	•	•
0230	M 2.3	x 0.4	45	9	-	2.8	2.1	5	2	1.9	•	•
0250	M 2.5	x 0.45	50	9	-	2.8	2.1	5	2	2.05	T231 0250	•
0260	M 2.6	x 0.45	50	9	-	2.8	2.1	5	2	2.15	•	•
0300	M 3	x 0.5	56	5	18	3.5	2.7	6	2	2.5	T231 0300	T233 0300
0350	M 3.5	x 0.6	56	6	20	4.0	3.0	6	2	2.9	T231 0350	•
0400	M 4	x 0.7	63	7	21	4.5	3.4	6	2	3.3	T231 0400	T233 0400
0500	M 5	x 0.8	70	8	25	6.0	4.9	8	2	4.2	T231 0500	T233 0500
0600	M 6	x 1	80	10	30	6.0	4.9	8	2	5.0	T231 0600	T233 0600
0800	M 8	x 1.25	90	12.5	35	8.0	6.2	9	2	6.8	T231 0800	T233 0800
1000	M 10	x 1.5	100	15	39	10.0	8.0	11	2	8.5	T231 1000	T233 1000

DIN 376 | 60° M | HSC



Size Ref.	d_1	Pitch	l_1	l_2	l_3	d_2	sq	l_4	z	drill Ø	Item #
											T234
0600	M 6	x 1	80	10	-	4.5	3.4	6	2	5.0	•
0800	M 8	x 1.25	90	12.5	-	6.0	4.9	8	2	6.8	•
1000	M 10	x 1.5	100	15	-	7.0	5.5	8	2	8.5	•
1200	M 12	x 1.75	110	17.5	-	9.0	7.0	10	2	10.2	T234 1200
1400	M 14	x 2	110	20	-	11.0	9.0	12	2	12.0	T234 1400
1600	M 16	x 2	110	20	-	12.0	9.0	12	2	14.0	T234 1600
1800	M 18	x 2.5	125	25	-	14.0	11.0	14	2	15.5	T234 1800
2000	M 20	x 2.5	140	25	-	16.0	12.0	15	2	17.5	T234 2000

ISO	P												M			K						N									S												H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
T231																							●	●	●	●		○		○																				
T232																							●	●	●	●		○		○																				
T233																							●	●	●	●		●		●																				
T234																							●	●	●	●		●		●																				

P Steel | M Stainless Steel | K Cast Iron | N Non-Ferrous Metals | S Titanium & Super Alloys | H Hard Materials

● Optimal ○ Effective

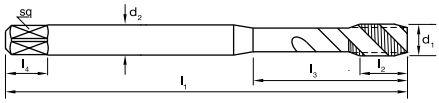
• Available on request as special manufacture. Subject to lead time.

DIN Taps Metric, Spiral Flute, R45 W & Cu

suttontools

- Suitable for use in soft materials
- CrN for copper and non-ferrous materials
- Blind holes
- Depths up to 3 x d_1

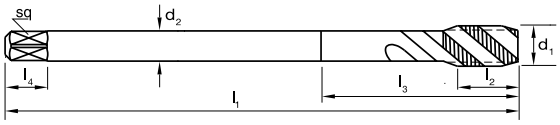
DIN 371 | 60° M



Catalogue Code	T235	T237	T241	T239
Product Group	D0402	D0402	D0406	D0404
Material	HSSE	HSSE	HSSE	HSSE
Surface Finish	*Ni*	*Blu*	*TiN*	*CrN*
Sutton Designation	W	W	W	Cu
Geometry	R45	R45	R45	R45
Chamfer	Form C / 2.5 x P	Form C / 2.5 x P	Form C / 2.5 x P	Form C / 2.5 x P
Limit & Nut Tolerance	ISO 2 / 6H	ISO 2 / 6H	ISO 2 / 6H	ISO 2 / 6H

Size Ref.	d_1	Pitch	l_1	l_2	l_3	d_2	sq	l_4	z	drill Ø	Item #	Item #	Item #	Item #
0200	M 2	x 0.4	45	8	-	2.8	2.1	5	2	1.6	T235 0200	•	•	•
0220	M 2.2	x 0.45	45	9	-	2.8	2.1	5	2	1.75	•	•	•	•
0230	M 2.3	x 0.4	45	9	-	2.8	2.1	5	2	1.9	•	•	•	•
0250	M 2.5	x 0.45	50	9	-	2.8	2.1	5	2	2.05	T235 0250	•	•	•
0260	M 2.6	x 0.45	50	9	-	2.8	2.1	5	2	2.15	•	•	•	•
0300	M 3	x 0.5	56	5	18	3.5	2.7	6	3	2.5	T235 0300	T237 0300	T241 0300	T239 0300
0350	M 3.5	x 0.6	56	6	20	4.0	3.0	6	3	2.9	T235 0350	•	T241 0350	•
0400	M 4	x 0.7	63	7	21	4.5	3.4	6	3	3.3	T235 0400	T237 0400	T241 0400	T239 0400
0500	M 5	x 0.8	70	8	25	6.0	4.9	8	3	4.2	T235 0500	T237 0500	T241 0500	T239 0500
0600	M 6	x 1	80	10	30	6.0	4.9	8	3	5.0	T235 0600	T237 0600	T241 0600	T239 0600
0800	M 8	x 1.25	90	12.5	35	8.0	6.2	9	3	6.8	T235 0800	T237 0800	T241 0800	T239 0800
1000	M 10	x 1.5	100	15	39	10.0	8.0	11	3	8.5	T235 1000	T237 1000	T241 1000	T239 1000

DIN 376 | 60° M



Size Ref.	d_1	Pitch	l_1	l_2	l_3	d_2	sq	l_4	z	drill Ø	Item #	Item #	Item #	Item #
											T236	T238	T242	T240
0600	M 6	x 1	80	10	-	4.5	3.4	6	3	5.0	T236 0600	•	T242 0600	T240 0600
0800	M 8	x 1.25	90	12.5	-	6.0	4.9	8	3	6.8	T236 0800	•	T242 0800	•
1000	M 10	x 1.5	100	15	-	7.0	5.5	8	3	8.5	T236 1000	•	T242 1000	•
1200	M 12	x 1.75	110	17.5	-	9.0	7.0	10	3	10.2	T236 1200	T238 1200	T242 1200	T240 1200
1400	M 14	x 2	110	20	-	11.0	9.0	12	3	12.0	T236 1400	T238 1400	T242 1400	T240 1400
1600	M 16	x 2	110	20	-	12.0	9.0	12	4	14.0	T236 1600	T238 1600	T242 1600	T240 1600
1800	M 18	x 2.5	125	25	-	14.0	11.0	14	4	15.5	T236 1800	T238 1800	T242 1800	T240 1800
2000	M 20	x 2.5	140	25	-	16.0	12.0	15	4	17.5	T236 2000	T238 2000	T242 2000	T240 2000

ISO	P													M			K						N									S										H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
T235 / T236	●	●	○	○		●	○																●	○				○		○																			
T237 / T238	●	●	○	○		●	○																○	○																									
T241 / T242	●	●	○	●		●	○																○	○				○		●																			
T239 / T240																							○	○				●		●																			

P Steel | M Stainless Steel | K Cast Iron | N Non-Ferrous Metals | S Titanium & Super Alloys | H Hard Materials

● Optimal ○ Effective

• Available on request as special manufacture. Subject to lead time.

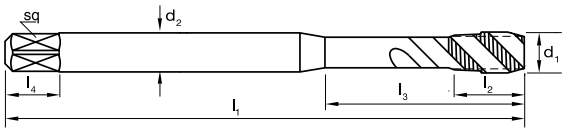
M

DIN Taps Metric, Spiral Flute, R45 VA DH

suttontools

- Suitable for controlled tapping in deep holes
- Use in stainless steels and high strength steels up to 850N/mm²
- Blind holes
- Depths up to 3 x d_1

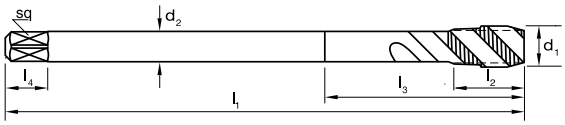
DIN 371 | 60° M | Z | DH



Catalogue Code	T197	T198	T201
Product Group	D0402	D0402	D0408
Material	HSSE	HSSE	HSSE
Surface Finish	*Blu*	*Blu*	*TiCN*
Sutton Designation	VA DH	VA DH	VA DH
Geometry	R45 Back Champ.	R45 Back Champ.	R45 Back Champ.
Chamfer	Form C / 2.5 x P	Form C / 2.5 x P	Form C / 2.5 x P
Limit & Nut Tolerance	ISO 2 / 6H	ISO 3 / 6G	ISO 2 / 6H

Size Ref.	d_1	Pitch	l_1	l_2	l_3	d_2	sq	l_4	z	drill Ø	Item #	Item #	Item #
0200	M 2	x 0.4	45	8	-	2.8	2.1	5	3	1.6	•	•	•
0220	M 2.2	x 0.45	45	9	-	2.8	2.1	5	3	1.75	•	•	•
0230	M 2.3	x 0.4	45	9	-	2.8	2.1	5	3	1.9	•	•	•
0250	M 2.5	x 0.45	50	9	-	2.8	2.1	5	3	2.05	•	•	•
0260	M 2.6	x 0.45	50	9	-	2.8	2.1	5	3	2.15	•	•	•
0300	M 3	x 0.5	56	5	18	3.5	2.7	6	3	2.5	T197 0300	•	T201 0300
0350	M 3.5	x 0.6	56	6	20	4.0	3.0	6	3	2.9	•	•	•
0400	M 4	x 0.7	63	7	21	4.5	3.4	6	3	3.3	T197 0400	•	T201 0400
0500	M 5	x 0.8	70	8	25	6.0	4.9	8	3	4.2	T197 0500	•	T201 0500
0600	M 6	x 1	80	10	30	6.0	4.9	8	3	5.0	T197 0600	•	T201 0600
0800	M 8	x 1.25	90	12.5	35	8.0	6.2	9	3	6.8	T197 0800	•	T201 0800
1000	M 10	x 1.5	100	15	39	10.0	8.0	11	3	8.5	T197 1000	•	T201 1000

DIN 376 | 60° M | Z | DH



Size Ref.	d_1	Pitch	l_1	l_2	l_3	d_2	sq	l_4	z	drill Ø	Item #	Item #	Item #
											T199	T200	T202
0600	M 6	x 1	80	10	-	4.5	3.4	6	3	5.0	T199 0600	•	T202 0600
0800	M 8	x 1.25	90	12.5	-	6.0	4.9	8	3	6.8	T199 0800	•	T202 0800
1000	M 10	x 1.5	100	15	-	7.0	5.5	8	3	8.5	T199 1000	•	T202 1000
1200	M 12	x 1.75	110	17.5	-	9.0	7.0	10	3	10.2	T199 1200	•	T202 1200
1400	M 14	x 2	110	20	-	11.0	9.0	12	3	12.0	T199 1400	•	T202 1400
1600	M 16	x 2	110	20	-	12.0	9.0	12	4	14.0	T199 1600	•	T202 1600
1800	M 18	x 2.5	125	25	-	14.0	11.0	14	4	15.5	T199 1800	•	T202 1800
2000	M 20	x 2.5	140	25	-	16.0	12.0	15	4	17.5	T199 2000	•	T202 2000
2200	M 22	x 2.5	140	25	-	18.0	14.5	17	4	19.5	T199 2200	•	T202 2200
2400	M 24	x 3	160	30	-	18.0	14.5	17	4	21.0	T199 2400	•	T202 2400
2700	M 27	x 3	160	30	-	20.0	16.0	19	4	24.0	T199 2700	•	T202 2700
3000	M 30	x 3.5	180	35	-	22.0	18.0	21	4	26.5	T199 3000	•	T202 3000
3600	M 36	x 4	200	40	-	28.0	22.0	25	4	32.0	T199 3600	•	T202 3600
4200	M 42	x 4.5	200	45	-	32.0	24.0	27	4	37.5	T199 4200	•	•

ISO	P												M			K						N										S										H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
T197 / T199	●	●	○			○	○					○		●	●	○																																
T198 / T200	●	●	○			○	○					○		●	●	○																																
T201 / T202	●	●	○	○		○	○	○		○		●		●	●	●							○	○	○	○		○		○			○		○													

P Steel | M Stainless Steel | K Cast Iron | N Non-Ferrous Metals | S Titanium & Super Alloys | H Hard Materials

● Optimal ○ Effective

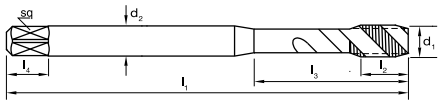
• Available on request as special manufacture. Subject to lead time.

DIN Taps Metric, Spiral Flute, R50 VA PM

suttontools

- Universal high performance tapping
- PM-HSSE V3 offers superior tool life
- Use in stainless steels and high strength steels up to 850N/mm²
- Deep blind holes
- Depths up to 3 x d_1

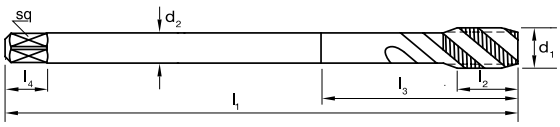
DIN 371 | 60° M | Z | HSC



Catalogue Code	T205	T678	T676
Product Group	D0408	D0408	D0408
Material	PM-HSSE V3	PM-HSSE V3	PM-HSSE V3
Surface Finish	*TiCN*	*TiCN*	*TiCN*
Sutton Designation	VA PM	VA PM	VA PM
Geometry	R50	R50	R50
Chamfer	Form C / 2.5 x P	Form C / 2.5 x P	Form E / 1.5 x P
Limit & Nut Tolerance	6HX	6GX	6HX

Size Ref.	d_1	Pitch	l_1	l_2	l_3	d_2	sq	l_4	z	drill Ø	Item #	Item #	Item #
0160	M 1.6	x 0.35	40	8	-	2.5	2.1	5	3	1.25	T205 0160	•	•
0200	M 2	x 0.4	45	8	-	2.8	2.1	5	3	1.6	T205 0200	T678 0200	•
0220	M 2.2	x 0.45	45	9	-	2.8	2.1	5	3	1.75	•	•	•
0230	M 2.3	x 0.4	45	9	-	2.8	2.1	5	3	1.9	•	•	•
0250	M 2.5	x 0.45	50	9	-	2.8	2.1	5	3	2.05	T205 0250	T678 0250	•
0300	M 3	x 0.5	56	5	18	3.5	2.7	6	3	2.5	T205 0300	T678 0300	T676 0300
0350	M 3.5	x 0.6	56	6	20	4.0	3.0	6	3	2.9	T205 0350	T678 0350	T676 0350
0400	M 4	x 0.7	63	7	21	4.5	3.4	6	3	3.3	T205 0400	T678 0400	T676 0400
0500	M 5	x 0.8	70	8	25	6.0	4.9	8	3	4.2	T205 0500	T678 0500	T676 0500
0600	M 6	x 1	80	10	30	6.0	4.9	8	3	5.0	T205 0600	T678 0600	T676 0600
0800	M 8	x 1.25	90	12.5	35	8.0	6.2	9	3	6.8	T205 0800	T678 0800	T676 0800
1000	M 10	x 1.5	100	15	39	10.0	8.0	11	3	8.5	T205 1000	T678 1000	T676 1000

DIN 376 | 60° M | Z | HSC



Size Ref.	d_1	Pitch	l_1	l_2	l_3	d_2	sq	l_4	z	drill Ø	Item #	Item #	Item #
											T206	T679	T677
1200	M 12	x 1.75	110	17.5	-	9.0	7.0	10	3	10.2	T206 1200	T679 1200	T677 1200
1400	M 14	x 2	110	20	-	11.0	9.0	12	3	12.0	T206 1400	T679 1400	T677 1400
1600	M 16	x 2	110	20	-	12.0	9.0	12	4	14.0	T206 1600	T679 1600	T677 1600
1800	M 18	x 2.5	125	25	-	14.0	11.0	14	4	15.5	T206 1800	T679 1800	T677 1800
2000	M 20	x 2.5	140	25	-	16.0	12.0	15	4	17.5	T206 2000	T679 2000	T677 2000
2200	M 22*	x 2.5	140	25	-	18.0	14.5	17	4	19.5	T206 2200	T679 2200	T677 2200
2400	M 24*	x 3	160	30	-	18.0	14.5	17	4	21.0	T206 2400	T679 2400	T677 2400
2700	M 27*	x 3	160	30	-	20.0	16.0	19	4	24.0	T206 2700	•	•
3000	M 30*	x 3.5	180	35	-	22.0	18.0	21	4	26.5	T206 3000	•	•

ISO	P												M			K						N									S									H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
T205 / T206	●	●	○	○		○	○	○		○		●		●	●	●							○	○	○	○		○		○			●		○													
T678 / T679	●	●	○	○		○	○	○		○		●		●	●	●							○	○	○	○		○		○			●		○													
T676 / T677	●	●	○	○		○	○	○		○		●		●	●	●							○	○	○	○		○		○			●		○													

P Steel | M Stainless Steel | K Cast Iron | N Non-Ferrous Metals | S Titanium & Super Alloys | H Hard Materials

● Optimal ○ Effective

* HSSE >20mm • Available on request as special manufacture. Subject to lead time.

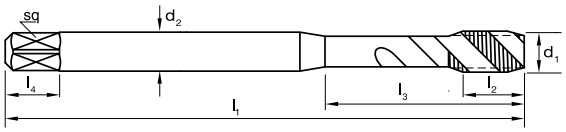
M

DIN Taps Metric, Spiral Flute, R50 VA PM, IK

suttontools

- Universal high performance tapping
- PM-HSSE V3 offers superior tool life
- Use in stainless steels and high strength steels up to 850N/mm^2
- Deep blind holes
- Depths up to 3 x d_1

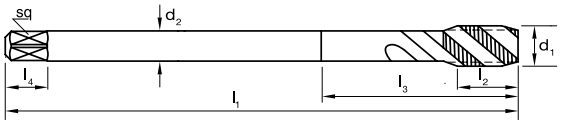
DIN 371 | 60° M | Z | HSC



Catalogue Code	**T207**
Product Group	D0408
Material	**PM-HSSE V3**
Surface Finish	***TiCN***
Sutton Designation	**VA PM**
Geometry	R50 IK
Chamfer	Form C / 2.5 x P
Limit & Nut Tolerance	6HX

Size Ref.	d_1	Pitch	l_1	l_2	l_3	d_2	sq	l_4	z	drill Ø	Item #
0160	M 1.6	x 0.35	40	8	-	2.5	2.1	5	4	1.25	•
0200	M 2	x 0.4	45	8	-	2.8	2.1	5	4	1.6	•
0220	M 2.2	x 0.45	45	9	-	2.8	2.1	5	4	1.75	•
0230	M 2.3	x 0.4	45	9	-	2.8	2.1	5	4	1.9	•
0250	M 2.5	x 0.45	50	9	-	2.8	2.1	5	4	2.05	•
0300	M 3	x 0.5	56	5	18	3.5	2.7	6	4	2.5	•
0350	M 3.5	x 0.6	56	6	20	4.0	3.0	6	4	2.9	•
0400	M 4	x 0.7	63	7	21	4.5	3.4	6	4	3.3	•
0500	M 5	x 0.8	70	8	25	6.0	4.9	8	4	4.2	T207 0500
0600	M 6	x 1	80	10	30	6.0	4.9	8	4	5.0	T207 0600
0800	M 8	x 1.25	90	12.5	35	8.0	6.2	9	4	6.8	T207 0800
1000	M 10	x 1.5	100	15	39	10.0	8.0	11	4	8.5	T207 1000

DIN 376 | 60° M | Z | HSC



Size Ref.	d_1	Pitch	l_1	l_2	l_3	d_2	sq	l_4	z	drill Ø	Item #
											T208
1200	M 12	x 1.75	110	17.5	-	9.0	7.0	10	4	10.2	T208 1200
1400	M 14	x 2	110	20	-	11.0	9.0	12	4	12.0	T208 1400
1600	M 16	x 2	110	20	-	12.0	9.0	12	4	14.0	T208 1600
1800	M 18	x 2.5	125	25	-	14.0	11.0	14	4	15.5	T208 1800
2000	M 20	x 2.5	140	25	-	16.0	12.0	15	4	17.5	T208 2000
2200	M 22*	x 2.5	140	25	-	18.0	14.5	17	4	19.5	•
2400	M 24*	x 3	160	30	-	18.0	14.5	17	4	21.0	•
2700	M 27*	x 3	160	30	-	20.0	16.0	19	4	24.0	•
3000	M 30*	x 3.5	180	35	-	22.0	18.0	21	4	26.5	•

ISO	P												M			K						N										S										H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
T207	●	●	●	○		●	○	○		○		●		●	●	●							○	○	○	○		○		○			●		○													
T208	●	●	●	○		●	○	○		○		●		●	●	●							○	○	○	○		○		○			●		○													

P Steel **M** Stainless Steel **K** Cast Iron **N** Non-Ferrous Metals **S** Titanium & Super Alloys **H** Hard Materials

● Optimal ○ Effective

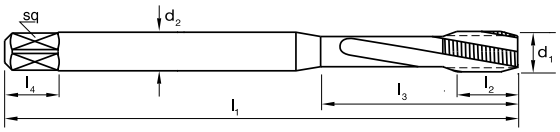
* HSSE >20mm • Available on request as special manufacture. Subject to lead time.

DIN Taps Metric, Spiral Flute, R40 NH

suttontools

- Suitable for harder short chipping materials up to 42 HRC
- Blind holes
- Depths up to 2.5 x d_1

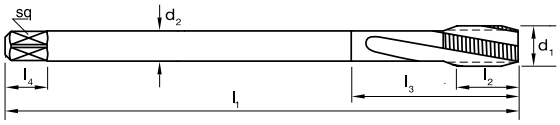
DIN 371 | 60° M



Catalogue Code	T221	T227	T229
Product Group	D0402	D0410	D0410
Material	PM-HSSE V3	PM-HSSE V3	PM-HSSE V3
Surface Finish	*Blu*	*TiAlN*	*TiAlN*
Sutton Designation	NH	NH	NH
Geometry	R40	R40	R40 IK
Chamfer	Form C / 2.5 x P	Form C / 2.5 x P	Form C / 2.5 x P
Limit & Nut Tolerance	ISO 2 / 6H	ISO 2 / 6H	ISO 2 / 6H

Size Ref.	d_1	Pitch	l_1	l_2	l_3	d_2	sq	l_4	z	drill Ø	Item #	Item #	Item #
0200	M 2	x 0.4	45	8	-	2.8	2.1	5	3	1.6	•	•	•
0220	M 2.2	x 0.45	45	9	-	2.8	2.1	5	3	1.75	•	•	•
0230	M 2.3	x 0.4	45	9	-	2.8	2.1	5	3	1.9	•	•	•
0250	M 2.5	x 0.45	50	9	-	2.8	2.1	5	3	2.05	•	•	•
0260	M 2.6	x 0.45	50	9	-	2.8	2.1	5	3	2.15	•	•	•
0300	M 3	x 0.5	56	5	18	3.5	2.7	6	3	2.5	T221 0300	T227 0300	•
0350	M 3.5	x 0.6	56	6	20	4.0	3.0	6	3	2.9	•	•	•
0400	M 4	x 0.7	63	7	21	4.5	3.4	6	3	3.3	T221 0400	T227 0400	•
0500	M 5	x 0.8	70	8	25	6.0	4.9	8	3	4.2	T221 0500	T227 0500	T229 0500
0600	M 6	x 1	80	10	30	6.0	4.9	8	3	5.0	T221 0600	T227 0600	T229 0600
0800	M 8	x 1.25	90	12.5	35	8.0	6.2	9	3	6.8	T221 0800	T227 0800	T229 0800
1000	M 10	x 1.5	100	15	39	10.0	8.0	11	3	8.5	T221 1000	T227 1000	T229 1000

DIN 376 | 60° M



Size Ref.	d_1	Pitch	l_1	l_2	l_3	d_2	sq	l_4	z	drill Ø	Item #	Item #	Item #
											T222	T228	T230
1200	M 12	x 1.75	110	17.5	-	9.0	7.0	10	3	10.2	T222 1200	T228 1200	T230 1200
1400	M 14	x 2	110	20	-	11.0	9.0	12	3	12.0	T222 1400	T228 1400	T230 1400
1600	M 16	x 2	110	20	-	12.0	9.0	12	3	14.0	T222 1600	T228 1600	T230 1600
1800	M 18	x 2.5	125	25	-	14.0	11.0	14	4	15.5	T222 1800	T228 1800	T230 1800
2000	M 20	x 2.5	140	25	-	16.0	12.0	15	4	17.5	T222 2000	T228 2000	T230 2000
2200	M 22	x 2.5	140	25	-	18.0	14.5	17	4	19.5	•	•	•
2400	M 24	x 3	160	30	-	18.0	14.5	17	4	21.0	•	•	•
2700	M 27	x 3	160	30	-	20.0	16.0	19	4	24.0	•	•	•
3000	M 30	x 3.5	180	35	-	22.0	18.0	21	4	26.5	•	•	•

ISO	P												M			K						N									S											H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
T221 / T222			●	●	○		●	○		○		○		○	○	○	○	○	○	○	○	○																										○	
T227 / T228			●	●	●		●	●	○	●	○	○	○	○	○	●	○	○	○	○	○	○	○	○	○	○	●	○	○	○																		○	
T229 / T230			●	●	●		●	●	○	●	○	○	○	○	○	●	○	○	○	○	○	○	○	○	○	○	●	○	○	○																		○	

P Steel | M Stainless Steel | K Cast Iron | N Non-Ferrous Metals | S Titanium & Super Alloys | H Hard Materials

● Optimal ○ Effective

• Available on request as special manufacture. Subject to lead time.

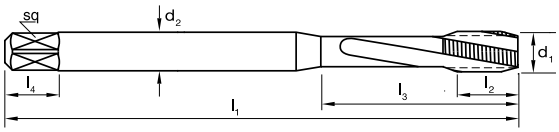
M

DIN Taps Metric, Spiral Flute, R15 H

suttontools

- Suitable for harder short chipping materials up to 45 HRC
- Blind holes
- Depths up to 1.5 x d_1

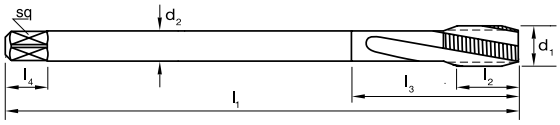
DIN 371 | 60° M



Catalogue Code	T209	T211	T213
Product Group	D0402	D0408	D0408
Material	PM-HSS Co	PM-HSS Co	PM-HSS Co
Surface Finish	*Blu*	*TiCN*	*TiCN*
Sutton Designation	H	H	H
Geometry	R15	R15	R15 IK
Chamfer	Form C / 3 x P	Form C / 3 x P	Form C / 3 x P
Limit & Nut Tolerance	ISO 2 / 6HX	ISO 2 / 6HX	ISO 2 / 6HX

Size Ref.	d_1	Pitch	l_1	l_2	l_3	d_2	sq	l_4	z	drill Ø	Item #	Item #	Item #
0200	M 2	x 0.4	45	4	-	2.8	2.1	5	3	1.6	•	•	•
0220	M 2.2	x 0.45	45	4.5	-	2.8	2.1	5	3	1.75	•	•	•
0230	M 2.3	x 0.4	45	4	-	2.8	2.1	5	3	1.9	•	•	•
0250	M 2.5	x 0.45	50	4	-	2.8	2.1	5	3	2.05	•	•	•
0260	M 2.6	x 0.45	50	4	-	2.8	2.1	5	3	2.15	•	•	•
0300	M 3	x 0.5	56	6	18	3.5	2.7	6	3	2.5	T209 0300	T211 0300	•
0350	M 3.5	x 0.6	56	6	20	4.0	3.0	6	3	2.9	•	•	•
0400	M 4	x 0.7	63	7	21	4.5	3.4	6	3	3.3	T209 0400	T211 0400	•
0500	M 5	x 0.8	70	8	25	6.0	4.9	8	3	4.2	T209 0500	T211 0500	T213 0500
0600	M 6	x 1	80	10	30	6.0	4.9	8	3	5.0	T209 0600	T211 0600	T213 0600
0800	M 8	x 1.25	90	12.5	35	8.0	6.2	9	3	6.8	T209 0800	T211 0800	T213 0800
1000	M 10	x 1.5	100	15	39	10.0	8.0	11	3	8.5	T209 1000	T211 1000	T213 1000

DIN 376 | 60° M



Size Ref.	d_1	Pitch	l_1	l_2	l_3	d_2	sq	l_4	z	drill Ø	Item #	Item #	Item #
											T210	T212	T214
1200	M 12	x 1.75	110	17.5	-	9.0	7.0	10	4	10.2	T210 1200	T212 1200	T214 1200
1400	M 14	x 2	110	20	-	11.0	9.0	12	4	12.0	T210 1400	T212 1400	T214 1400
1600	M 16	x 2	110	20	-	12.0	9.0	12	4	14.0	T210 1600	T212 1600	T214 1600
1800	M 18	x 2.5	125	25	-	14.0	11.0	14	4	15.5	T210 1800	T212 1800	T214 1800
2000	M 20	x 2.5	140	25	-	16.0	12.0	15	4	17.5	T210 2000	T212 2000	T214 2000
2200	M 22	x 2.5	140	25	-	18.0	14.5	17	4	19.5	•	•	•
2400	M 24	x 3	160	30	-	18.0	14.5	17	4	21.0	•	•	•
2700	M 27	x 3	160	30	-	20.0	16.0	19	4	24.0	•	•	•
3000	M 30	x 3.5	180	35	-	22.0	18.0	21	4	26.5	•	•	•

ISO	P													M			K						N											S											H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
T209 / T210					●			●	●		●	○				○	○	○	○	○	○	○							○										○	○	○	○	○	○					○	
T211 / T212					●			●	●		●	○	●			○	●	●	●	●	●	●					○		●										○	●	●	●	●	●					●	
T213 / T214					●			●	●		●	○	●			○	●	●	●	●	●	●					○		●										○	●	●	●	●	●					●	

P Steel | M Stainless Steel | K Cast Iron | N Non-Ferrous Metals | S Titanium & Super Alloys | H Hard Materials

● Optimal ○ Effective

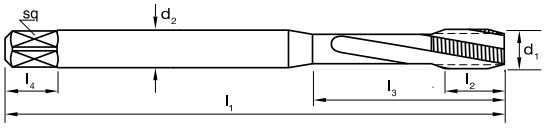
• Available on request as special manufacture. Subject to lead time.

DIN Taps Metric, Spiral Flute, R15 Ti

suttontools

- For Titanium based alloys
- For duplex and super duplex stainless steels
- For Nickel based alloys >850N/mm² <1150N/mm²
- Tight tolerances and optimised micro finish for optimal process reliability and excellent thread quality
- Blind holes up to approximately 1.5 x d_1

DIN 371 | DIN 376 | 60° M | μ MICRO



Catalogue Code	**T215**
Product Group	D0408
Material	**PM-HSS Co**
Surface Finish	***TiCN***
Sutton Designation	**Ti**
Geometry	R15
Chamfer	Form C / 3 x P
Limit & Nut Tolerance	6HX

Size Ref.	d_1	Pitch	l_1	l_2	l_3	d_2	sq	l_4	z	drill Ø	Item #
	DIN 371										
0200	M 2	x 0.4	45	4	-	2.8	2.1	5	3	1.6	•
0250	M 2.5	x 0.45	50	4	-	2.8	2.1	5	3	2.05	•
0300	M 3	x 0.5	56	6	18	3.5	2.7	6	3	2.5	T215 0300
0350	M 3.5	x 0.6	56	6	20	4.0	3.0	6	3	2.9	•
0400	M 4	x 0.7	63	7	21	4.5	3.4	6	3	3.3	T215 0400
0500	M 5	x 0.8	70	8	25	6.0	4.9	8	3	4.2	T215 0500
0600	M 6	x 1	80	10	30	6.0	4.9	8	3	5.0	T215 0600
0805	M 8	x 1	90	12.5	35	8.0	6.2	9	3	7.0	•
0800	M 8	x 1.25	90	12.5	35	8.0	6.2	9	3	6.8	T215 0800
1006	M 10	x 1.25	100	15	39	10.0	8.0	11	3	8.8	•
1000	M 10	x 1.5	100	15	39	10.0	8.0	11	3	8.5	T215 1000
	DIN 376										**T216**
1200	M 12	x 1.75	110	17.5	-	9.0	7.0	10	3	10.2	T216 1200
1400	M 14	x 2	110	20	-	11.0	9.0	12	3	12.0	T216 1400
1600	M 16	x 2	110	20	-	12.0	9.0	12	3	14.0	T216 1600
1800	M 18	x 2.5	125	25	-	14.0	11.0	14	4	15.5	T216 1800
2000	M 20	x 2.5	140	25	-	16.0	12.0	15	4	17.5	T216 2000
2200	M 22	x 2.5	140	25	-	18.0	14.5	17	4	19.5	•
2400	M 24	x 3	160	30	-	18.0	14.5	17	4	21.0	•
2700	M 27	x 3	160	30	-	20.0	16.0	19	4	24.0	•
3000	M 30	x 3.5	180	35	-	22.0	18.0	21	4	26.5	•

ISO	P													M			K						N									S												H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
T215					○			○	○	○	○		○																					○			○		●	●	○	●	○						
T216					○			○	○	○	○		○																					○			○		●	●	○	●	○						

P Steel | M Stainless Steel | K Cast Iron | N Non-Ferrous Metals | S Titanium & Super Alloys | H Hard Materials

● Optimal ○ Effective

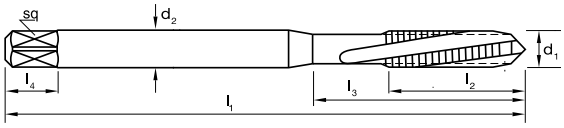
• Available on request as special manufacture. Subject to lead time.

DIN Taps Metric, Spiral Flute, L12 Ti

suttontools

- For Titanium based alloys
- For duplex and super duplex stainless steels
- For Nickel based alloys >850N/mm² <1150N/mm²
- Tight tolerances and optimised micro finish for optimal process reliability and excellent thread quality
- Through holes up to approximately 1.5 x d_1

DIN 371 | DIN 376 | 60° M | µ MICRO



Catalogue Code	**T152**
Product Group	D0408
Material	**PM-HSS Co**
Surface Finish	***TiCN***
Sutton Designation	**Ti**
Geometry	L12
Chamfer	Form B / 4.5 x P
Limit & Nut Tolerance	6HX

Size Ref.	d_1	Pitch	l_1	l_2	l_3	d_2	sq	l_4	z	drill Ø	Item #
	DIN 371										
0200	M 2	x 0.4	45	8	-	2.8	2.1	5	3	1.6	•
0250	M 2.5	x 0.45	50	9	-	2.8	2.1	5	3	2.05	•
0300	M 3	x 0.5	56	11	18	3.5	2.7	6	3	2.5	T152 0300
0350	M 3.5	x 0.6	56	13	20	4.0	3.0	6	3	2.9	•
0400	M 4	x 0.7	63	13	21	4.5	3.4	6	3	3.3	T152 0400
0500	M 5	x 0.8	70	16	25	6.0	4.9	8	3	4.2	T152 0500
0600	M 6	x 1	80	19	30	6.0	4.9	8	3	5.0	T152 0600
0800	M 8	x 1.25	90	22	35	8.0	6.2	9	3	6.8	T152 0800
1000	M 10	x 1.5	100	24	39	10.0	8.0	11	3	8.5	T152 1000
	DIN 376										**T153**
1200	M 12	x 1.75	110	29	-	9.0	7.0	10	3	10.2	T153 1200
1400	M 14	x 2	110	30	-	11.0	9.0	12	3	12.0	T153 1400
1600	M 16	x 2	110	32	-	12.0	9.0	12	3	14.0	T153 1600
1800	M 18	x 2.5	125	34	-	14.0	11.0	14	4	15.5	T153 1800
2000	M 20	x 2.5	140	34	-	16.0	12.0	15	4	17.5	T153 2000
2200	M 22	x 2.5	140	34	-	18.0	14.5	17	4	19.5	•
2400	M 24	x 3	160	38	-	18.0	14.5	17	4	21.0	•
2700	M 27	x 3	160	38	-	20.0	16.0	19	4	24.0	•
3000	M 30	x 3.5	180	45	-	22.0	18.0	21	4	26.5	•

ISO	P												M			K						N									S												H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
T152					○			○	○	○	○		○																					○			○		●	●	○	●	○						
T153					○			○	○	○	○		○																					○			○		●	●	○	●	○						

P Steel | M Stainless Steel | K Cast Iron | N Non-Ferrous Metals | S Titanium & Super Alloys | H Hard Materials

● Optimal ○ Effective

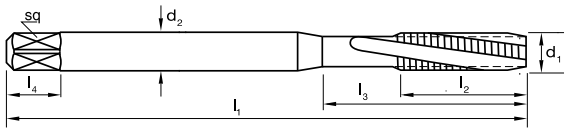
• Available on request as special manufacture. Subject to lead time.

DIN Taps Metric, Spiral Flute, R10 Ni

suttontools

- For Nickel alloys / age-hardened super alloys >1150N/mm²
- Tight tolerances and optimised micro finish for optimal process reliability and excellent thread quality
- Blind or through holes
- Depths up to approximately 1.5 x d_1

DIN 371 | DIN 376 | 60° M | µ MICRO



Catalogue Code	**T217**
Product Group	D0408
Material	**PM-HSS Co**
Surface Finish	***TiCN***
Sutton Designation	**Ni**
Geometry	R10
Chamfer	Form C / 3 x P
Limit & Nut Tolerance	6HX

Size Ref.	d_1	Pitch	l_1	l_2	l_3	d_2	sq	l_4	z	drill Ø	Item #
	DIN 371										
0200	M 2	x 0.4	45	8	-	2.8	2.1	5	3	1.6	•
0250	M 2.5	x 0.45	50	9	-	2.8	2.1	5	3	2.05	•
0300	M 3	x 0.5	56	11	18	3.5	2.7	6	3	2.5	T217 0300
0350	M 3.5	x 0.6	56	13	20	4.0	3.0	6	3	2.9	•
0400	M 4	x 0.7	63	13	21	4.5	3.4	6	3	3.3	T217 0400
0500	M 5	x 0.8	70	16	25	6.0	4.9	8	3	4.2	T217 0500
0600	M 6	x 1	80	19	30	6.0	4.9	8	3	5.0	T217 0600
0800	M 8	x 1.25	90	22	35	8.0	6.2	9	3	6.8	T217 0800
1000	M 10	x 1.5	100	24	39	10.0	8.0	11	3	8.5	T217 1000
	DIN 376										**T218**
1200	M 12	x 1.75	110	29	-	9.0	7.0	10	3	10.2	T218 1200
1400	M 14	x 2	110	30	-	11.0	9.0	12	3	12.0	T218 1400
1600	M 16	x 2	110	32	-	12.0	9.0	12	3	14.0	T218 1600
1800	M 18	x 2.5	125	34	-	14.0	11.0	14	4	15.5	•
2000	M 20	x 2.5	140	34	-	16.0	12.0	15	4	17.5	T218 2000
2200	M 22	x 2.5	140	34	-	18.0	14.5	17	4	19.5	•
2400	M 24	x 3	160	38	-	18.0	14.5	17	4	21.0	•
2700	M 27	x 3	160	38	-	20.0	16.0	19	4	24.0	•
3000	M 30	x 3.5	180	45	-	22.0	18.0	21	4	26.5	•

ISO	P												M			K						N									S										H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
T217																																				●													
T218																																				●													

P Steel | M Stainless Steel | K Cast Iron | N Non-Ferrous Metals | S Titanium & Super Alloys | H Hard Materials

● Optimal ○ Effective

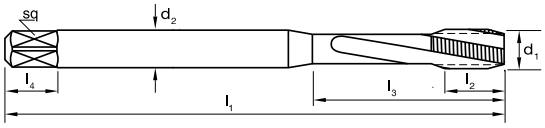
• Available on request as special manufacture. Subject to lead time.

DIN Taps MJ, Spiral Flute, R15 Ti

suttontools

- For Titanium based alloys
- For duplex and super duplex stainless steels
- For Nickel based alloys >850N/mm² <1150N/mm²
- Tight tolerances and optimised micro finish for optimal process reliability and excellent thread quality
- Blind holes up to approximately 1.5 x d_1

DIN 371 | DIN 376 | 60° MJ | μ MICRO



Catalogue Code	**T788**
Product Group	D0408
Material	**PM-HSS Co**
Surface Finish	***TiCN***
Sutton Designation	**Ti**
Geometry	R15
Chamfer	Form C / 3 x P
Limit & Nut Tolerance	4HX

Size Ref.	d_1	Pitch	l_1	l_2	l_3	d_2	sq	l_4	z	drill Ø	Item #
	DIN 371										
0300	MJ 3	x 0.5	56	6	18	3.5	2.7	6	3	2.6	•
0400	MJ 4	x 0.7	63	7	21	4.5	3.4	6	3	3.4	•
0500	MJ 5	x 0.8	70	8	25	6.0	4.9	8	3	4.3	•
0600	MJ 6	x 1	80	10	30	6.0	4.9	8	3	5.1	•
0805	MJ 8	x 1	90	12.5	35	8.0	6.2	9	3	7.1	•
0800	MJ 8	x 1.25	90	12.5	35	8.0	6.2	9	3	6.9	•
1006	MJ 10	x 1.25	100	15	39	10.0	8.0	11	3	8.9	•
1000	MJ 10	x 1.5	100	15	39	10.0	8.0	11	3	8.7	•
	DIN 376										**T789**
1200	MJ 12	x 1.75	110	17.5	-	9.0	7.0	10	3	10.5	•
1400	MJ 14	x 2	110	20	-	11.0	9.0	12	3	12.3	•
1600	MJ 16	x 2	110	20	-	12.0	9.0	12	3	14.3	•

ISO	P												M			K						N									S										H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
T788					○			○	○	○	○		○																					○			○		●	●	○	●	○						
T789					○			○	○	○	○		○																					○			○		●	●	○	●	○						

P Steel | M Stainless Steel | K Cast Iron | N Non-Ferrous Metals | S Titanium & Super Alloys | H Hard Materials

● Optimal ○ Effective

MJ

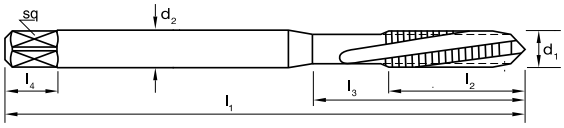
• Available on request as special manufacture. Subject to lead time.

DIN Taps MJ, Spiral Flute, L12 Ti

suttontools

- For Titanium based alloys
- For duplex and super duplex stainless steels
- For Nickel based alloys >850N/mm² <1150N/mm²
- Tight tolerances and optimised micro finish for optimal process reliability and excellent thread quality
- Through holes up to approximately 1.5 x d_1

DIN 371 | DIN 376 | 60° MJ | µ MICRO



Catalogue Code	**T784**
Product Group	D0408
Material	**PM-HSS Co**
Surface Finish	***TiCN***
Sutton Designation	**Ti**
Geometry	L12
Chamfer	Form B / 4.5 x P
Limit & Nut Tolerance	4HX

Size Ref.	d_1	Pitch	l_1	l_2	l_3	d_2	sq	l_4	z	drill Ø	Item #
	DIN 371										
0300	MJ 3	x 0.5	56	11	18	3.5	2.7	6	3	2.6	•
0400	MJ 4	x 0.7	63	13	21	4.5	3.4	6	3	3.4	•
0500	MJ 5	x 0.8	70	16	25	6.0	4.9	8	3	4.3	•
0600	MJ 6	x 1	80	19	30	6.0	4.9	8	3	5.1	•
0805	MJ 8	x 1	90	22	35	8.0	6.2	9	3	7.1	•
0800	MJ 8	x 1.25	90	22	35	8.0	6.2	9	3	6.9	•
1006	MJ 10	x 1.25	100	24	39	10.0	8.0	11	3	8.9	•
1000	MJ 10	x 1.5	100	24	39	10.0	8.0	11	3	8.7	•
	DIN 376										**T785**
1200	MJ 12	x 1.75	110	29	-	9.0	7.0	10	3	10.5	•
1400	MJ 14	x 2	110	30	-	11.0	9.0	12	3	12.3	•
1600	MJ 16	x 2	110	32	-	12.0	9.0	12	3	14.3	•

ISO	P												M			K						N									S												H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
T784					○			○	○	○	○		○																					○			○		●	●	○	●	○						
T785					○			○	○	○	○		○																					○			○		●	●	○	●	○						

P Steel | M Stainless Steel | K Cast Iron | N Non-Ferrous Metals | S Titanium & Super Alloys | H Hard Materials

● Optimal ○ Effective

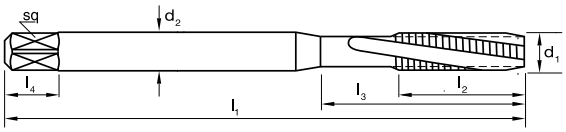
• Available on request as special manufacture. Subject to lead time.

DIN Taps MJ, Spiral Flute, R10 Ni

suttontools

- For Nickel alloys / age-hardened super alloys >1150N/mm²
- Blind or through holes
- Tight tolerances and optimised micro finish for optimal process reliability and excellent thread quality
- Depths up to approximately 1.5 x d_1

DIN 371 | DIN 376 | 60° MJ | μ MICRO



Catalogue Code	**T792**
Product Group	D0408
Material	**PM-HSS Co**
Surface Finish	***TiCN***
Sutton Designation	**Ni**
Geometry	R10
Chamfer	Form C / 3 x P
Limit & Nut Tolerance	4HX

Size Ref.	d_1	Pitch	l_1	l_2	l_3	d_2	sq	l_4	z	drill Ø	Item #
	DIN 371										
0300	MJ 3	x 0.5	56	11	18	3.5	2.7	6	3	2.6	•
0400	MJ 4	x 0.7	63	13	21	4.5	3.4	6	3	3.4	•
0500	MJ 5	x 0.8	70	16	25	6.0	4.9	8	3	4.3	•
0600	MJ 6	x 1	80	19	30	6.0	4.9	8	3	5.1	•
0805	MJ 8	x 1	90	22	35	8.0	6.2	9	3	7.1	•
0800	MJ 8	x 1.25	90	22	35	8.0	6.2	9	3	6.9	•
1006	MJ 10	x 1.25	100	24	39	10.0	8.0	11	3	8.9	•
1000	MJ 10	x 1.5	100	24	39	10.0	8.0	11	3	8.7	•
	DIN 376										**T793**
1200	MJ 12	x 1.75	110	29	-	9.0	7.0	10	3	10.2	•
1400	MJ 14	x 2	110	30	-	11.0	9.0	12	3	12.0	•
1600	MJ 16	x 2	110	32	-	12.0	9.0	12	3	14.0	•
1800	MJ 18	x 2.5	125	34	-	14.0	11.0	14	4	15.5	•
2000	MJ 20	x 2.5	140	34	-	16.0	12.0	15	4	17.5	•
2200	MJ 22	x 2.5	140	34	-	18.0	14.5	17	4	19.5	•
2400	MJ 24	x 3	160	38	-	18.0	14.5	17	4	21.0	•
2700	MJ 27	x 3	160	38	-	20.0	16.0	19	4	24.0	•
3000	MJ 30	x 3.5	180	45	-	22.0	18.0	21	4	26.5	•

ISO	P												M			K						N									S									H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
T792																																				●													
T793																																				●													

P Steel | M Stainless Steel | K Cast Iron | N Non-Ferrous Metals | S Titanium & Super Alloys | H Hard Materials

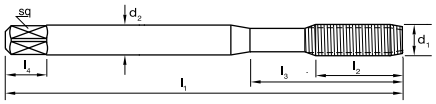
● Optimal ○ Effective

• Available on request as special manufacture. Subject to lead time.

DIN Taps Metric, Forming

suttontools

- Suitable for materials with >10% elongation
- Through or blind holes
- Depths up to 3 x d_1



Catalogue Code	T309	T313	T311	T315
Product Group	D0402	D0406	D0402	D0406
Material	HSSE	HSSE	HSSE	HSSE
Surface Finish	*Brt*	*TiN*	*Brt*	*TiN*
Sutton Designation	N	N	N	N
Geometry	No Groove	No Groove	No Groove	No Groove
Chamfer	Form C / 2.5 x P	Form C / 2.5 x P	Form D / 4 x P	Form D / 4 x P
Limit & Nut Tolerance	6HX	6HX	6HX	6HX

Size Ref.	d_1	Pitch	l_1	l_2	l_3	d_2	sq	l_4	z	drill Ø	Item #	Item #	Item #	Item #
0100	M 1	x 0.25	40	6	-	2.5	2.1	3		0.9	T309 0100	T313 0100	T311 0100	T315 0100
0120	M 1.2	x 0.25	40	6	-	2.5	2.1	3		1.1	T309 0120	T313 0120	T311 0120	T315 0120
0140	M 1.4	x 0.3	40	6	-	2.5	2.1	3		1.28	T309 0140	T313 0140	T311 0140	T315 0140
0160	M 1.6	x 0.35	40	7	-	2.5	2.1	3		1.45	T309 0160	T313 0160	T311 0160	T315 0160
0170	M 1.7	x 0.35	40	8	-	2.5	2.1	3		1.55	T309 0170	T313 0170	T311 0170	T315 0170
0180	M 1.8	x 0.35	40	8	-	2.5	2.1	3		1.65	T309 0180	T313 0180	T311 0180	T315 0180
0200	M 2	x 0.4	45	8	-	2.8	2.1	5		1.8	T309 0200	T313 0200	T311 0200	T315 0200
0220	M 2.2	x 0.45	45	8	-	2.8	2.1	5		2.0	T309 0220	T313 0220	T311 0220	T315 0220
0230	M 2.3	x 0.4	45	9	-	2.8	2.1	5		2.1	T309 0230	T313 0230	T311 0230	T315 0230
0250	M 2.5	x 0.45	50	9	-	2.8	2.1	5		2.3	T309 0250	T313 0250	T311 0250	T315 0250
0260	M 2.6	x 0.45	50	9	-	2.8	2.1	5		2.4	T309 0260	T313 0260	T311 0260	T315 0260
0300	M 3	x 0.5	56	11	18	3.5	2.7	6		2.8	T309 0300	T313 0300	T311 0300	T315 0300
0350	M 3.5	x 0.6	56	13	20	4.0	3.0	6		3.2	T309 0350	T313 0350	T311 0350	T315 0350
0400	M 4	x 0.7	63	13	21	4.5	3.4	6		3.7	T309 0400	T313 0400	T311 0400	T315 0400
0500	M 5	x 0.8	70	16	25	6.0	4.9	8		4.6	T309 0500	T313 0500	T311 0500	T315 0500
0600	M 6	x 1	80	19	30	6.0	4.9	8		5.5	T309 0600	T313 0600	T311 0600	T315 0600
0800	M 8	x 1.25	90	22	35	8.0	6.2	9		7.4	T309 0800	T313 0800	T311 0800	T315 0800
1000	M 10	x 1.5	100	24	39	10.0	8.0	11		9.3	T309 1000	T313 1000	T311 1000	T315 1000

ISO	P												M			K						N									S											H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
T309	○	○																					●	●	○	○		●		○																			
T313	●	●	○	●		○								●									●	●	○	○		●		○																			
T311	○	○																					●	●	○	○		●		○																			
T315	●	●	○	●		○								●									●	●	○	○		●		○																			

P Steel | M Stainless Steel | K Cast Iron | N Non-Ferrous Metals | S Titanium & Super Alloys | H Hard Materials

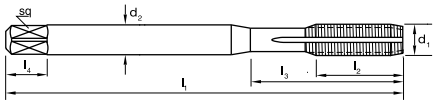
● Optimal ○ Effective

M

DIN Taps Metric, Forming, Multi Coolant Groove

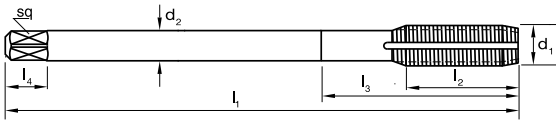
suttontools

- Suitable for materials with >10% elongation
- Through or blind holes
- Depths up to 3 x d_1



Catalogue Code	T319	T321	T323	T329
Product Group	D0408	D0408	D0408	D0404
Material	HSSE	HSSE	HSSE	HSSE
Surface Finish	*TiCN*	*TiCN*	*TiCN*	*CrN*
Sutton Designation	N	N	N	Cu
Geometry	Multi Coolant Groove	Multi Coolant Groove	Multi Coolant Groove	Single-Coolant Groove
Chamfer	Form C / 2.5 x P	Form D / 4 x P	Form C / 2.5 x P	Form C / 2.5 x P
Limit & Nut Tolerance	6HX	6HX	6GX	6HX

Size Ref.	d_1	Pitch	l_1	l_2	l_3	d_2	sq	l_4	z	drill Ø	Item #	Item #	Item #	Item #
0140	M 1.4	x 0.3	40	6	-	2.5	2.1	3		1.28	T319 0140	•	•	•
0160	M 1.6	x 0.35	40	7	-	2.5	2.1	3		1.45	T319 0160	•	•	•
0200	M 2	x 0.4	45	8	-	2.8	2.1	5		1.8	T319 0200	•	•	•
0250	M 2.5	x 0.45	50	9	-	2.8	2.1	5		2.3	T319 0250	•	•	•
0300	M 3	x 0.5	56	11	18	3.5	2.7	6		2.8	T319 0300	T321 0300	T323 0300	T329 0300
0350	M 3.5	x 0.6	56	13	20	4.0	3.0	6		3.2	T319 0350	T321 0350	T323 0350	T329 0350
0400	M 4	x 0.7	63	13	21	4.5	3.4	6		3.7	T319 0400	T321 0400	T323 0400	T329 0400
0500	M 5	x 0.8	70	16	25	6.0	4.9	8		4.6	T319 0500	T321 0500	T323 0500	T329 0500
0600	M 6	x 1	80	19	30	6.0	4.9	8		5.5	T319 0600	T321 0600	T323 0600	T329 0600
0800	M 8	x 1.25	90	22	35	8.0	6.2	9		7.4	T319 0800	T321 0800	T323 0800	T329 0800
1000	M 10	x 1.5	100	24	39	10.0	8.0	11		9.3	T319 1000	T321 1000	T323 1000	T329 1000



Size Ref.	d_1	Pitch	l_1	l_2	l_3	d_2	sq	l_4	z	drill Ø	Item #	Item #	Item #	Item #
											T320	T322	T324	T330
0600	M 6†	x 1	80	19	-	4.5	3.4	6		5.5	T320 0600	•	•	•
0800	M 8†	x 1.25	90	22	-	6.0	4.9	8		7.4	T320 0800	•	•	•
1000	M 10†	x 1.5	100	24	-	7.0	5.5	8		9.3	T320 1000	•	•	•
1200	M 12	x 1.75	110	29	-	9.0	7.0	10		11.2	T320 1200	T322 1200	T324 1200	T330 1200
1400	M 14	x 2	110	30	-	11.0	9.0	12		13.1	T320 1400	T322 1400	T324 1400	•
1600	M 16	x 2	110	32	-	12.0	9.0	12		15.1	T320 1600	T322 1600	T324 1600	•
1800	M 18	x 2.5	125	34	-	14.0	11.0	14		16.9	•	•	•	•
2000	M 20	x 2.5	140	34	-	16.0	12.0	15		18.9	T320 2000	•	•	•

ISO	P												M			K						N									S											H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
T319 / T320	●	●	●	●		●								●									●	●	○	○		●		○																		
T321 / T322	●	●	●	●		●								●									●	●	○	○		●		○																		
T323 / T324	●	●	●	●		●								●									●	●	○	○		●		○																		
T329 / T330																							●	●	●	●		●		●																		

P Steel M Stainless Steel K Cast Iron N Non-Ferrous Metals S Titanium & Super Alloys H Hard Materials

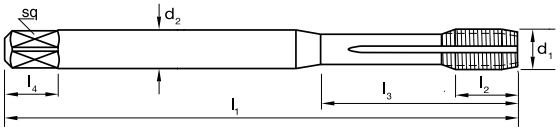
● Optimal ○ Effective

† Made to ~DIN 376 standard. • Available on request as special manufacture. Subject to lead time.

DIN Taps Metric, Forming, UNI

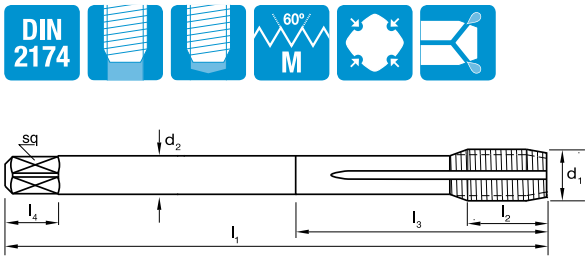
suttontools

- SPM for superior performance
- Application specific geometry
- Suitable for materials with >10% elongation
- Through or blind holes
- Depths up to 3 x d_1



Catalogue Code	T325	T751	T327
Product Group	D0410	D0410	D0410
Material	SPM	SPM	SPM
Surface Finish	*TiAlN*	*TiAlN*	*TiAlN*
Sutton Designation	UNI	UNI	UNI
Geometry	Multi-Coolant Groove	Multi-Coolant Groove	IK
Chamfer	Form C / 2.5 x P	Form E / 1.5 x P	Form C / 2.5 x P
Limit & Nut Tolerance	6HX	6HX	6HX

Size Ref.	d_1	Pitch	l_1	l_2	l_3	d_2	sq	l_4	z	drill Ø	Item #	Item #	Item #
0200	M 2	x 0.4	45	6	-	2.8	2.1	5		1.8	T325 0200	•	•
0220	M 2.2	x 0.45	45	7	-	2.8	2.1	5		2.0	•	•	•
0230	M 2.3	x 0.4	45	7	-	2.8	2.1	5		2.1	•	•	•
0250	M 2.5	x 0.45	50	8	-	2.8	2.1	5		2.3	T325 0250	•	•
0260	M 2.6	x 0.45	50	8	-	2.8	2.1	5		2.4	•	•	•
0300	M 3	x 0.5	56	9	18	3.5	2.7	6		2.8	T325 0300	•	•
0350	M 3.5	x 0.6	56	11	20	4.0	3.0	6		3.2	•	•	•
0400	M 4	x 0.7	63	12	21	4.5	3.4	6		3.7	T325 0400	•	•
0500	M 5	x 0.8	70	13	25	6.0	4.9	8		4.6	T325 0500	•	T327 0500
0600	M 6	x 1	80	15	30	6.0	4.9	8		5.5	T325 0600	•	T327 0600
0800	M 8	x 1.25	90	18	35	8.0	6.2	9		7.4	T325 0800	•	T327 0800
1000	M 10	x 1.5	100	20	39	10.0	8.0	11		9.3	T325 1000	•	T327 1000



Size Ref.	d_1	Pitch	l_1	l_2	l_3	d_2	sq	l_4	z	drill Ø	Item #	Item #	Item #
											T326	T752	T328
1200	M 12	x 1.75	110	23	-	9.0	7.0	10		11.2	T326 1200	•	T328 1200
1400	M 14	x 2	110	25	-	11.0	9.0	12		13.1	T326 1400	•	T328 1400
1600	M 16	x 2	110	25	-	12.0	9.0	12		15.1	T326 1600	•	T328 1600
1800	M 18	x 2.5	125	30	-	14.0	11.0	14		16.9	•	•	•
2000	M 20	x 2.5	140	30	-	16.0	12.0	15		18.9	•	•	•

ISO	P													M		K						N									S												H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
T325 / T326	●	●	●	●		●	○			●				○	○								●	●	●	●		●		○																		
T751 / T752	●	●	●	●		●	○			●				○	○								●	●	●	●		●		○																		
T327 / T328	●	●	●	●		●	○			●				●	●								●	●	●	●		●		○																		

P Steel M Stainless Steel K Cast Iron N Non-Ferrous Metals S Titanium & Super Alloys H Hard Materials

● Optimal ○ Effective

• Available on request as special manufacture. Subject to lead time.

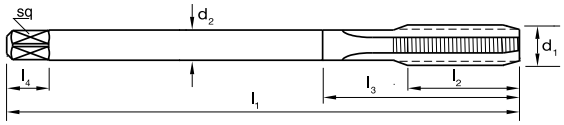
M

DIN Taps Metric Fine, Straight Flute, N

suttontools

- General purpose use, materials up to approximately 1000 N/mm²
- Through & blind holes
- Suitable for machine operations
- Depths up to approximately 1 x d_1

DIN 374 | 60° MF



Catalogue Code	T298	T299
Product Group	D0402	D0406
Material	HSSE	HSSE
Surface Finish	*Brt*	*TIN*
Sutton Designation	N	N
Geometry		
Chamfer	Form C / 2.5 x P	Form C / 2.5 x P
Limit & Nut Tolerance	ISO 2 / 6H	ISO 2 / 6H

Size Ref.	d_1	Pitch	l_1	l_2	l_3	d_2	sq	l_4	z	drill Ø	Item #	Item #
0302	MF 3	x 0.35	56	8	-	2.2	-	-	3	2.65	T298 0302	•
0403	MF 4	x 0.5	63	10	-	2.8	2.1	5	3	3.5	T298 0403	•
0503	MF 5	x 0.5	70	12	-	3.5	2.7	6	3	4.5	T298 0503	•
0603	MF 6	x 0.5	80	14	-	4.5	3.4	6	3	5.5	T298 0603	T299 0603
0604	MF 6	x 0.75	80	14	-	4.5	3.4	6	3	5.3	T298 0604	•
0803	MF 8	x 0.5	80	18	-	6.0	4.9	8	3	7.5	T298 0803	•
0804	MF 8	x 0.75	80	18	-	6.0	4.9	8	3	7.3	T298 0804	•
0805	MF 8	x 1	90	22	-	6.0	4.9	8	3	7.0	T298 0805	T299 0805
1004	MF 10	x 0.75	90	20	-	7.0	5.5	8	3	9.3	T298 1004	•
1005	MF 10	x 1	90	20	-	7.0	5.5	8	3	9.0	T298 1005	T299 1005
1006	MF 10	x 1.25	100	24	-	7.0	5.5	8	3	8.8	T298 1006	T299 1006
1205	MF 12	x 1	100	22	-	9.0	7.0	10	3	11.0	T298 1205	T299 1205
1206	MF 12	x 1.25	100	22	-	9.0	7.0	10	3	10.8	T298 1206	T299 1206
1207	MF 12	x 1.5	100	22	-	9.0	7.0	10	3	10.5	T298 1207	T299 1207
1405	MF 14	x 1	100	22	-	11.0	9.0	12	3	13.0	T298 1405	T299 1405
1406	MF 14	x 1.25	100	22	-	11.0	9.0	12	3	12.8	T298 1406	T299 1406
1407	MF 14	x 1.5	100	22	-	11.0	9.0	12	3	12.5	T298 1407	T299 1407
1605	MF 16	x 1	100	22	-	12.0	9.0	12	3	15.0	T298 1605	T299 1605
1607	MF 16	x 1.5	100	22	-	12.0	9.0	12	3	14.5	T298 1607	T299 1607
1805	MF 18	x 1	110	25	-	14.0	11.0	14	4	17.0	T298 1805	•
1807	MF 18	x 1.5	110	25	-	14.0	11.0	14	4	16.5	T298 1807	T299 1807
1808	MF 18	x 2	125	34	-	14.0	11.0	14	4	16.0	T298 1808	•
2005	MF 20	x 1	125	25	-	16.0	12.0	15	4	19.0	T298 2005	T299 2005
2007	MF 20	x 1.5	125	25	-	16.0	12.0	15	4	18.5	T298 2007	T299 2007
2008	MF 20	x 2	140	34	-	16.0	12.0	15	4	18.0	T298 2008	•

ISO	P													M			K						N										S												H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
T298	●	●	●	●	○	●	○	○		○													○	○	○	○		○	○	○																			
T299	●	●	●	●	○	●	○	○		○													○	○	○	○		○	○	○																			

P Steel | M Stainless Steel | K Cast Iron | N Non-Ferrous Metals | S Titanium & Super Alloys | H Hard Materials

● Optimal ○ Effective

MF

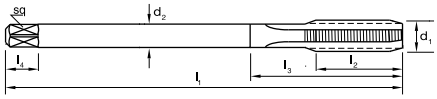
• Available on request as special manufacture. Subject to lead time.

DIN Taps Metric Fine, Straight Flute, GG

suttontools

- HSSE, for use in grey cast iron (GG)
- VHM, for use in Al >10% Si & cast iron (GGG)
- Through & blind holes
- Depths up to 3 x d_1

DIN 374 | DIN 371 | DIN 376 | 60° MF



Catalogue Code	T300	T301	T743	T744
Product Group	D0402	D0408	D0414	D0414
Material	HSSE	HSSE	VHM	VHM
Surface Finish	*Ni + Blu*	*TiCN*	*TiCN*	*TiCN*
Sutton Designation	GG	GG	GG	GG
Geometry	Low Relief	Low Relief	Low Relief	IK
Chamfer	Form C / 2.5 x P	Form C / 2.5 x P	Form C / 2.5 x P	Form C / 2.5 x P
Limit & Nut Tolerance	6HX	6HX	6HX	6HX

Size Ref.	d_1	Pitch	l_1	l_2	l_3	d_2	sq	l_4	z	drill Ø	Item #	Item #	Item #	Item #
	DIN 374													
0302	MF 3	x 0.35	56	8	-	2.2	-	-	4	2.65	•	•	•	•
0403	MF 4	x 0.5	63	10	-	2.8	2.1	5	4	3.5	T300 0403	T301 0403	•	•
0503	MF 5	x 0.5	70	12	-	3.5	2.7	6	4	4.5	T300 0503	T301 0503	•	•
0604	MF 6	x 0.75	80	14	-	4.5	3.4	6	4	5.3	T300 0604	T301 0604	•	•
0803	MF 8	x 0.5	80	18	-	6.0	4.9	8	4	7.5	•	•	•	•
0804	MF 8	x 0.75	80	18	-	6.0	4.9	8	4	7.3	•	•	•	•
0805	MF 8	x 1	90	22	-	6.0	4.9	8	4	7.0	T300 0805	T301 0805	•	•
1004	MF 10	x 0.75	90	20	-	7.0	5.5	8	4	9.3	•	•	•	•
1005	MF 10	x 1	90	20	-	7.0	5.5	8	4	9.0	T300 1005	T301 1005	•	•
1006	MF 10	x 1.25	100	24	-	7.0	5.5	8	4	8.8	T300 1006	T301 1006	•	•
1205	MF 12	x 1	100	22	-	9.0	7.0	10	4	11.0	•	•	•	•
1206	MF 12	x 1.25	100	22	-	9.0	7.0	10	4	10.8	T300 1206	T301 1206	•	•
1207	MF 12	x 1.5	100	22	-	9.0	7.0	10	4	10.5	T300 1207	T301 1207	•	•
1405	MF 14	x 1	100	22	-	11.0	9.0	12	4	13.0	•	•	•	•
1406	MF 14	x 1.25	100	22	-	11.0	9.0	12	4	12.8	T300 1406	T301 1406	•	•
1407	MF 14	x 1.5	100	22	-	11.0	9.0	12	4	12.5	T300 1407	T301 1407	•	•
1605	MF 16	x 1	100	22	-	12.0	9.0	12	4	15.0	•	•	•	•
1607	MF 16	x 1.5	100	22	-	12.0	9.0	12	4	14.5	T300 1607	T301 1607	•	•
1805	MF 18	x 1	110	25	-	14.0	11.0	14	4	17.0	•	•	•	•
1807	MF 18	x 1.5	110	25	-	14.0	11.0	14	4	16.5	T300 1807	T301 1807	•	•
1808	MF 18	x 2	125	34	-	14.0	11.0	14	4	16.0	•	•	•	•
2005	MF 20	x 1	125	25	-	16.0	12.0	15	4	19.0	•	•	•	•
2007	MF 20	x 1.5	125	25	-	16.0	12.0	15	4	18.5	T300 2007	T301 2007	•	•
2008	MF 20	x 2	140	34	-	16.0	12.0	15	4	18.0	•	•	•	•
	DIN 371													
0805	MF 8	x 1	90	22	35	8.0	6.2	9	4	7.0	•	•	•	•
1005	MF 10	x 1	100	24	39	10.0	8.0	11	4	9.0	•	•	•	•
	DIN 376													
1207	MF 12	x 1.5	110	28	-	9.0	7.0	10	4	10.5	•	•	•	•
1407	MF 14	x 1.5	110	30	-	11.0	9.0	12	4	12.5	•	•	•	•

ISO	P													M			K						N										S												H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
T300																	●	●	●	●	○	○																												
T301																	●	●	●	●	○	○					○																							
T743																	●	●	●	●	○	○					●		●																				●	
T744																	●	●	●	●	○	○					●		●																				●	

P Steel | M Stainless Steel | K Cast Iron | N Non-Ferrous Metals | S Titanium & Super Alloys | H Hard Materials

● Optimal ○ Effective

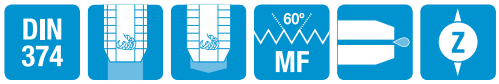
• Available on request as special manufacture. Subject to lead time.

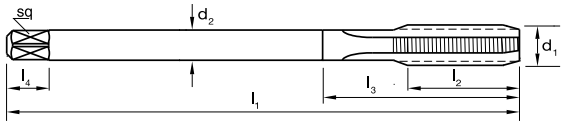
MF

DIN Taps Metric Fine, Straight Flute, DC

suttontools

- Premium design for cast aluminium and cast iron (Short Chipping)
- Through & blind holes
- Depths up to approximately 1.5 x d_1
- Axial coolant duct available





Catalogue Code	T668	T669
Product Group	D0408	D0408
Material	PM-HSS Co	PM-HSS Co
Surface Finish	*TiCN*	*TiCN*
Sutton Designation	**Die Cast**	**Die Cast**
Geometry		IK
Chamfer	Form E / 1.5 x P	Form E / 1.5 x P
Limit & Nut Tolerance	6HX	6HX

Size Ref.	d_1	Pitch	l_1	l_2	l_3	d_2	sq	l_4	z	drill Ø	Item #	Item #
1006	MF 10	x 1.25	100	24	-	7.0	5.5	8	4	8.8	T668 1006	T669 1006
1207	MF 12	x 1.5	100	22	-	9.0	7.0	10	4	10.5	T668 1207	T669 1207
1407	MF 14	x 1.5	100	22	-	11.0	9.0	12	4	12.5	T668 1407	T669 1407
1607	MF 16	x 1.5	100	22	-	12.0	9.0	12	4	14.5	T668 1607	T669 1607

MF

ISO	P												M			K						N									S									H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
T668																	○	○	○	○	○	○			●	●	●		○																		○	
T669																	○	○	○	○	○	○			●	●	●		○																		○	

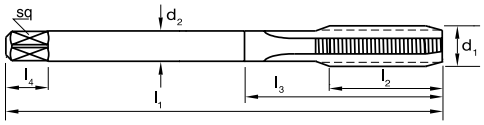
P Steel M Stainless Steel K Cast Iron N Non-Ferrous Metals S Titanium & Super Alloys H Hard Materials

● Optimal ○ Effective

DIN Taps Metric Fine, Straight Flute, XH

suttontools

- Use in hardened steels 42-52 HRC
- Through & blind holes
- Suitable for machine operations
- Depths up to approximately 1.5 x d_1



Catalogue Code	T343	T344
Product Group	D0408	D0408
Material	SPM	SPM
Surface Finish	*TiCN*	*TiCN*
Sutton Designation	XH	XH
Geometry	Special Relief	Special Relief
Chamfer	Form C / 3 x P	Form D / 5 x P
Limit & Nut Tolerance	6HX	6HX

Size Ref.	d_1	Pitch	l_1	l_2	l_3	d_2	sq	l_4	z	drill Ø	Item #	Item #
0805	MF 8	x 1	70	22	-	6.0	4.9	8	5	7.1	•	•
1005	MF 10	x 1	75	24	-	7.0	5.5	8	5	9.1	•	•
1006	MF 10	x 1.25	75	24	-	7.0	5.5	8	5	8.9	•	•
1205	MF 12	x 1	82	29	-	9.0	7.0	10	5	11.1	•	•
1206	MF 12	x 1.25	82	29	-	9.0	7.0	10	5	10.9	•	•
1207	MF 12	x 1.5	82	29	-	9.0	7.0	10	5	10.6	•	•

MF

ISO	P													M			K						N									S												H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
T343					○			○	●		●		●					●		●									○															●				●	
T344					○			○	●		●		●					●		●									○															●				●	

P Steel M Stainless Steel K Cast Iron N Non-Ferrous Metals S Titanium & Super Alloys H Hard Materials

● Optimal ○ Effective

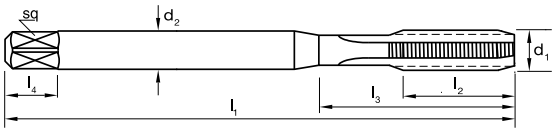
• Available on request as special manufacture. Subject to lead time.

DIN Taps Metric Fine, Straight Flute, VH

suttontools

- Use in hardened steels 50-60 HRC
- Through & blind holes
- Suitable for machine operations
- Depths up to approximately 1.5 x d_1

DIN 371 | DIN 376 | 60° MF



Catalogue Code	T345	T346
Product Group	D0414	D0414
Material	VHM	VHM
Surface Finish	TiCN	TiCN
Sutton Designation	VH	VH
Geometry	Special Relief	Special Relief
Chamfer	Form C / 3 x P	Form D / 5 x P
Limit & Nut Tolerance	6HX	6HX

Size Ref.	d_1	Pitch	l_1	l_2	l_3	d_2	sq	l_4	z	drill Ø	Item #	Item #
	DIN 371											
0805	MF 8	x 1	90	22	35	8.0	6.2	9	4	7.0	T345 0805	T346 0805
1005	MF 10	x 1	100	24	39	10.0	8.0	11	4	9.0	T345 1005	T346 1005
1006	MF 10	x 1.25	100	24	39	10.0	8.0	11	4	9.0	T345 1006	T346 1006
	DIN 376											
1206	MF 12	x 1.25	110	28	-	9.0	7.0	10	4	10.5	T345 1206	T346 1206
1207	MF 12	x 1.5	110	28	-	9.0	7.0	10	4	10.5	T345 1207	T346 1207
1407	MF 14	x 1.5	110	30	-	11.0	9.0	12	4	12.5	•	•
1607	MF 16	x 1.5	110	32	-	12.0	9.0	12	6	14.1	•	•
2007	MF 20	x 1.5	140	34	-	16.0	12.0	15	6	17.7	•	•

ISO	P												M			K						N										S										H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
T345									○		○		○																○															●	●	●	○	●
T346									○		○		○																○															●	●	●	●	○	●

P Steel | M Stainless Steel | K Cast Iron | N Non-Ferrous Metals | S Titanium & Super Alloys | H Hard Materials

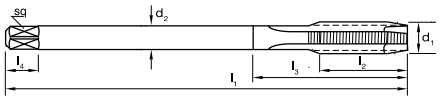
● Optimal ○ Effective

• Available on request as special manufacture. Subject to lead time.

DIN Taps Metric Fine, Gun, N

suttontools

- General purpose use, materials up to approximately 1000 N/mm²
- Through holes
- Suitable for machine operations
- Depths up to approximately 3 x d_1



Catalogue Code	T154	T155	T156	T157
Product Group	D0402	D0402	D0402	D0406
Material	HSSE	HSSE	HSSE	HSSE
Surface Finish	*Brt*	*Brt*	*Blu*	*TiN*
Sutton Designation	N	N	N	N
Geometry		6G		
Chamfer	Form B / 4.5 x P	Form B / 4.5 x P	Form B / 4.5 x P	Form B / 4.5 x P
Limit & Nut Tolerance	ISO 2 / 6H	ISO 3 / 6G	ISO 2 / 6H	ISO 2 / 6H

Size Ref.	d_1	Pitch	l_1	l_2	l_3	d_2	sq	l_4	z	drill Ø	Item #	Item #	Item #	Item #
0302	MF 3	x 0.35	56	8	-	2.2	-	-	3	2.65	T154 0302	•	•	•
0403	MF 4	x 0.5	63	10	-	2.8	2.1	5	3	3.5	T154 0403	•	T156 0403	•
0503	MF 5	x 0.5	70	12	-	3.5	2.7	6	3	4.5	T154 0503	•	T156 0503	•
0604	MF 6	x 0.75	80	14	-	4.5	3.4	6	3	5.3	T154 0604	T155 0604	T156 0604	T157 0604
0803	MF 8	x 0.5	80	18	-	6.0	4.9	8	3	7.5	T154 0803	T155 0803	•	T157 0803
0804	MF 8	x 0.75	80	18	-	6.0	4.9	8	3	7.3	T154 0804	T155 0804	T156 0804	T157 0804
0805	MF 8	x 1	90	22	-	6.0	4.9	8	3	7.0	T154 0805	T155 0805	T156 0805	T157 0805
1004	MF 10	x 0.75	90	20	-	7.0	5.5	8	3	9.3	T154 1004	•	T156 1004	•
1005	MF 10	x 1	90	20	-	7.0	5.5	8	3	9.0	T154 1005	T155 1005	T156 1005	T157 1005
1006	MF 10	x 1.25	100	24	-	7.0	5.5	8	3	8.8	T154 1006	T155 1006	T156 1006	T157 1006
1205	MF 12	x 1	100	22	-	9.0	7.0	10	3	11.0	T154 1205	T155 1205	T156 1205	T157 1205
1206	MF 12	x 1.25	100	22	-	9.0	7.0	10	3	10.8	T154 1206	T155 1206	T156 1206	T157 1206
1207	MF 12	x 1.5	100	22	-	9.0	7.0	10	3	10.5	T154 1207	T155 1207	T156 1207	T157 1207
1405	MF 14	x 1	100	22	-	11.0	9.0	12	3	13.0	T154 1405	•	•	•
1406	MF 14	x 1.25	100	22	-	11.0	9.0	12	3	12.8	T154 1406	T155 1406	T156 1406	T157 1406
1407	MF 14	x 1.5	100	22	-	11.0	9.0	12	3	12.5	T154 1407	T155 1407	T156 1407	T157 1407
1605	MF 16	x 1	100	22	-	12.0	9.0	12	3	14.5	T154 1605	•	•	•
1607	MF 16	x 1.5	100	22	-	12.0	9.0	12	3	14.5	T154 1607	•	T156 1607	T157 1607
1805	MF 18	x 1	110	25	-	14.0	11.0	14	4	17.0	T154 1805	•	•	•
1807	MF 18	x 1.5	110	25	-	14.0	11.0	14	4	16.5	T154 1807	•	T156 1807	T157 1807
1808	MF 18	x 2	125	34	-	14.0	11.0	14	4	16.0	T154 1808	•	•	•
2005	MF 20	x 1	125	25	-	16.0	12.0	15	4	19.0	T154 2005	•	•	•
2007	MF 20	x 1.5	125	25	-	16.0	12.0	15	4	18.5	T154 2007	•	T156 2007	T157 2007
2008	MF 20	x 2	140	34	-	16.0	12.0	15	4	18.0	T154 2008	•	•	•
2205	MF 22	x 1	125	25	-	18.0	14.5	17	4	18.5	T154 2205	•	•	•
2207	MF 22	x 1.5	125	25	-	18.0	14.5	17	4	20.5	T154 2207	•	•	•
2208	MF 22	x 2	140	28	-	18.0	14.5	17	4	20.0	T154 2208	•	•	•
2405	MF 24	x 1	140	28	-	18.0	14.5	17	4	23.0	T154 2405	•	•	•
2407	MF 24	x 1.5	140	28	-	18.0	14.5	17	4	22.5	T154 2407	•	•	•
2408	MF 24	x 2	140	28	-	18.0	14.5	17	4	22.0	T154 2408	•	•	•
2505	MF 25	x 1	140	28	-	18.0	14.5	17	4	24.0	•	•	•	•
2507	MF 25	x 1.5	140	28	-	18.0	14.5	17	4	23.5	T154 2507	•	•	•
2508	MF 25	x 2	140	28	-	18.0	14.5	17	4	23.0	•	•	•	•
2605	MF 26	x 1	140	28	-	18.0	14.5	17	4	25.0	•	•	•	•
2607	MF 26	x 1.5	140	28	-	18.0	14.5	17	4	24.5	T154 2607	•	•	•
2608	MF 26	x 2	140	28	-	18.0	14.5	17	4	24.0	•	•	•	•
2707	MF 27	x 1.5	140	28	-	20.0	16.0	19	4	25.5	T154 2707	•	•	•
2708	MF 27	x 2	140	28	-	20.0	16.0	19	4	25.0	T154 2708	•	•	•
2807	MF 28	x 1.5	140	28	-	20.0	16.0	19	4	26.5	T154 2807	•	•	•
2808	MF 28	x 2	140	28	-	20.0	16.0	19	4	26.0	•	•	•	•

ISO	P												M			K						N									S											H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
T154	●	●	○	○		●	○			○							○		○		○	○	●	●	○	○		○	○																				
T155	●	●	○	○		●	○			○							○		○		○	○	●	●	○	○		○	○																				
T156	●	●	●	●		●	●			●		○		○	○	○	○		○		○	○																										
T157	●	●	●	●	○	●	●	○		●		○		○	○	○	○	○	○	○	○	○	●	●	○	○		●	○																				

P Steel | M Stainless Steel | K Cast Iron | N Non-Ferrous Metals | S Titanium & Super Alloys | H Hard Materials

● Optimal ○ Effective

• Available on request as special manufacture. Subject to lead time.

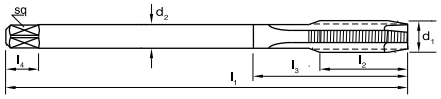
MF

DIN Taps Metric Fine, Gun, N

suttontools

- General purpose use, materials up to approximately 1000 N/mm²
- Through holes
- Suitable for machine operations
- Depths up to approximately 3 x d_1

DIN 374 | 60° MF



Catalogue Code	T154	T155	T156	T157
Product Group	D0402	D0402	D0402	D0406
Material	HSSE	HSSE	HSSE	HSSE
Surface Finish	*Brt*	*Brt*	*Blu*	*TiN*
Sutton Designation	N	N	N	N
Geometry		6G		
Chamfer	Form B / 4.5 x P	Form B / 4.5 x P	Form B / 4.5 x P	Form B / 4.5 x P
Limit & Nut Tolerance	ISO 2 / 6H	ISO 3 / 6G	ISO 2 / 6H	ISO 2 / 6H

Size Ref.	d_1	Pitch	l_1	l_2	l_3	d_2	sq	l_4	z	drill Ø	Item #	Item #	Item #	Item #
3005	MF 30	x 1	150	28	-	22.0	18.0	21	4	29.0	T154 3005	•	•	•
3007	MF 30	x 1.5	150	28	-	22.0	18.0	21	4	28.5	T154 3007	•	•	•
3008	MF 30	x 2	150	28	-	22.0	18.0	21	4	28.0	T154 3008	•	•	•
3207	MF 32	x 1.5	150	28	-	22	18	21	4	30.5	T154 3207	•	•	•
3307	MF 33	x 1.5	160	30	-	25	20	23	4	31.5	T154 3307	•	•	•
3308	MF 33	x 2	160	30	-	25	20	23	4	31	T154 3308	•	•	•
3407	MF 34	x 1.5	170	30	-	28	22	25	4	32.5	T154 3407	•	•	•
3507	MF 35	x 1.5	170	30	-	28	22	25	4	33.5	T154 3507	•	•	•
3607	MF 36	x 1.5	170	30	-	28	22	25	4	34.5	T154 3607	•	•	•
3608	MF 36	x 2	170	30	-	28	22	25	4	34	T154 3608	•	•	•
3609	MF 36	x 3	200	56	-	28	22	25	4	33	T154 3609	•	•	•
3807	MF 38	x 1.5	170	30	-	28	22	25	4	36.5	T154 3807	•	•	•
4007	MF 40	x 1.5	170	30	-	32	24	27	4	38.5	T154 4007	•	•	•
4207	MF 42	x 1.5	170	30	-	32	24	27	4	40.5	T154 4207	•	•	•
4208	MF 42	x 2	170	30	-	32	24	27	4	40	T154 4208	•	•	•
4209	MF 42	x 3	200	30	-	32	24	27	4	39	T154 4209	•	•	•
4507	MF 45	x 1.5	180	32	-	36	29	32	4	43.5	T154 4507	•	•	•
4508	MF 45	x 2	180	32	-	36	29	32	4	43	T154 4508	•	•	•
4807	MF 48	x 1.5	190	32	-	36	29	32	4	46.5	T154 4807	•	•	•
5007	MF 50	x 1.5	190	32	-	36	29	32	4	48.5	T154 5007	•	•	•
5207	MF 52	x 1.5	190	32	-	40	32	35	4	50.5	T154 5207	•	•	•

ISO	P													M			K						N										S													H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
T154	●	●	○	○		●	○			○							○		○		○	○	●	●	○	○		○	○																					
T155	●	●	○	○		●	○			○							○		○		○	○	●	●	○	○		○	○																					
T156	●	●	●	●		●	●			●		○		○	○	○	○		○		○	○																												
T157	●	●	●	●	○	●	●	○		●		○		○	○	○	○	○	○	○	○	○	●	●	○	○		●	○																					

P Steel | M Stainless Steel | K Cast Iron | N Non-Ferrous Metals | S Titanium & Super Alloys | H Hard Materials

● Optimal ○ Effective

• Available on request as special manufacture. Subject to lead time.

MF

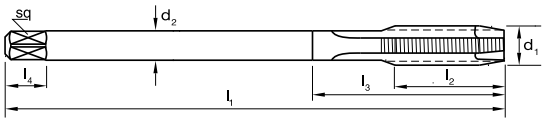
DIN Taps Metric Fine, Gun, *Black Magic*

suttontools BLACKMAGIC

watch the video

- Universal high performance tapping
- PM-HSSE V3 offers superior tool life
- Use in stainless steels and high strength steels up to 850N/mm^2
- Through holes up to 3 x d_1
- Suitable for synchronous tapping in machine operations

DIN 374 | 60° MF | Z



Product Name	**T689**
Product Group	D0410
Material	**PM-HSSE V3**
Surface Finish	***HARDLUBE***
Sutton Designation	**UNI**
Geometry	Special Relief
Chamfer	Form B / 4.5 x P
Limit & Nut Tolerance	6HX

Size Ref.	d_1	Pitch	l_1	l_2	l_3	d_2	sq	l_4	z	drill Ø	Item #
0302	MF 3	x 0.35	56	8	-	2.2	-	-	3	2.65	•
0403	MF 4	x 0.5	63	10	-	2.8	2.1	5	3	3.5	•
0503	MF 5	x 0.5	70	12	-	3.5	2.7	6	3	4.5	•
0604	MF 6	x 0.75	80	14	-	4.5	3.4	6	3	5.3	T689 0604
0803	MF 8	x 0.5	80	18	-	6.0	4.9	8	3	7.5	T689 0803
0804	MF 8	x 0.75	80	18	-	6.0	4.9	8	3	7.3	•
0805	MF 8	x 1	90	22	-	6.0	4.9	8	3	7.0	T689 0805
1004	MF 10	x 0.75	90	20	-	7.0	5.5	8	3	9.3	•
1005	MF 10	x 1	90	20	-	7.0	5.5	8	3	9.0	T689 1005
1006	MF 10	x 1.25	100	24	-	7.0	5.5	8	3	8.8	T689 1006
1205	MF 12	x 1	100	22	-	9.0	7.0	10	3	11.0	T689 1205
1206	MF 12	x 1.25	100	22	-	9.0	7.0	10	3	10.8	T689 1206
1207	MF 12	x 1.5	100	22	-	9.0	7.0	10	3	10.5	T689 1207
1405	MF 14	x 1	100	22	-	11.0	9.0	12	3	13.0	T689 1405
1406	MF 14	x 1.25	100	22	-	11.0	9.0	12	3	12.8	T689 1406
1407	MF 14	x 1.5	100	22	-	11.0	9.0	12	3	12.5	T689 1407
1605	MF 16	x 1	100	22	-	12.0	9.0	12	3	15.0	T689 1605
1607	MF 16	x 1.5	100	22	-	12.0	9.0	12	3	14.5	T689 1607
1805	MF 18	x 1	110	25	-	14.0	11.0	14	4	17.0	T689 1805
1807	MF 18	x 1.5	110	25	-	14.0	11.0	14	4	16.5	T689 1807
1808	MF 18	x 2	125	34	-	14.0	11.0	14	4	16.0	•
2005	MF 20	x 1	125	25	-	16.0	12.0	15	4	19.0	T689 2005
2007	MF 20	x 1.5	125	25	-	16.0	12.0	15	4	18.5	T689 2007
2008	MF 20	x 2	140	34	-	16.0	12.0	15	4	18.0	•

ISO	P												M			K						N									S											H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
T689	●	●	●	○		●	○			●		●	○	●	●		○	○	○	○	○	○	●	●	●	○	○	○	○	○																		

P Steel | M Stainless Steel | K Cast Iron | N Non-Ferrous Metals | S Titanium & Super Alloys | H Hard Materials

● Optimal ○ Effective

• Available on request as special manufacture. Subject to lead time.

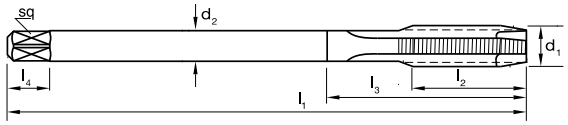
MF

DIN Taps Metric Fine, Gun, VA

suttontools

- Use in stainless steels and high strength steels up to 1000N/mm²
- PM-HSSE V3 offers higher edge hardness than standard VA series
- Through holes
- Suitable for machine operations
- Depths up to approximately 3 x d_1

DIN 374 | 60° MF



Catalogue Code	T158	T161*
Product Group	D0402	D0408
Material	HSSE	HSSE
Surface Finish	*Blu*	*TiCN*
Sutton Designation	VA	VA
Geometry	Special Relief	Special Relief
Chamfer	Form B / 4.5 x P	Form B / 4.5 x P
Limit & Nut Tolerance	ISO 2 / 6H	ISO 2 / 6H

Size Ref.	d_1	Pitch	l_1	l_2	l_3	d_2	sq	l_4	z	drill Ø	Item #	Item #
0302	MF 3	x 0.35	56	8	-	2.2	-	-	3	2.65	•	•
0403	MF 4	x 0.5	63	10	-	2.8	2.1	5	3	3.5	•	•
0503	MF 5	x 0.5	70	12	-	3.5	2.7	6	3	4.5	•	•
0604	MF 6	x 0.75	80	14	-	4.5	3.4	6	3	5.3	T158 0604	T161 0604
0803	MF 8	x 0.5	80	18	-	6.0	4.9	8	3	7.5	T158 0803	T161 0803
0804	MF 8	x 0.75	80	18	-	6.0	4.9	8	3	7.3	T158 0804	T161 0804
0805	MF 8	x 1	90	22	-	6.0	4.9	8	3	7.0	T158 0805	T161 0805
1004	MF 10	x 0.75	90	20	-	7.0	5.5	8	3	9.3	T158 1004	•
1005	MF 10	x 1	90	20	-	7.0	5.5	8	3	9.0	T158 1005	T161 1005
1006	MF 10	x 1.25	100	24	-	7.0	5.5	8	3	8.8	T158 1006	T161 1006
1205	MF 12	x 1	100	22	-	9.0	7.0	10	3	11.0	T158 1205	T161 1205
1206	MF 12	x 1.25	100	22	-	9.0	7.0	10	3	10.8	T158 1206	T161 1206
1207	MF 12	x 1.5	100	22	-	9.0	7.0	10	3	10.5	T158 1207	T161 1207
1405	MF 14	x 1	100	22	-	11.0	9.0	12	3	13.0	T158 1405	•
1406	MF 14	x 1.25	100	22	-	11.0	9.0	12	3	12.8	T158 1406	T161 1406
1407	MF 14	x 1.5	100	22	-	11.0	9.0	12	3	12.5	T158 1407	T161 1407
1605	MF 16	x 1	100	22	-	12.0	9.0	12	3	15.0	T158 1605	•
1607	MF 16	x 1.5	100	22	-	12.0	9.0	12	3	14.5	•	•
1805	MF 18	x 1	110	25	-	14.0	11.0	14	4	17.0	T158 1805	•
1807	MF 18	x 1.5	110	25	-	14.0	11.0	14	4	16.5	T158 1807	•
1808	MF 18	x 2	125	34	-	14.0	11.0	14	4	16.0	•	•
2005	MF 20	x 1	125	25	-	16.0	12.0	15	4	19.0	T158 2005	•
2007	MF 20	x 1.5	125	25	-	16.0	12.0	15	4	18.5	T158 2007	•
2008	MF 20	x 2	140	34	-	16.0	12.0	15	4	18.0	•	•

ISO	P													M			K						N										S										H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
T158	●	●	○	○		●	○					○		●	●	○																																	
T161	●	●	○	○		●	○			○		●	○	●	●	●							○	○	○	○	○	○		○			●	○	○													

P Steel | M Stainless Steel | K Cast Iron | N Non-Ferrous Metals | S Titanium & Super Alloys | H Hard Materials

● Optimal ○ Effective

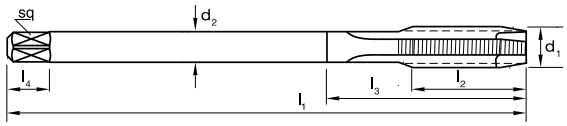
*Not available once current stock is depleted • Available on request as special manufacture. Subject to lead time.

DIN Taps Metric Fine, Gun, VA PM

suttontools

- Use in stainless steels and high strength steels up to 1000N/mm²
- PM-HSSE V3 offers higher edge hardness than standard VA series
- Through holes
- Suitable for synchronous tapping in machine operations
- Depths up to approximately 3 x d_1

DIN 374 | 60° MF | Z



	T159	T160
Catalogue Code	T159	T160
Product Group	D0402	D0408
Material	PM-HSSE V3	PM-HSSE V3
Surface Finish	*Blu*	*TiCN*
Sutton Designation	VA PM	VA PM
Geometry	Special Relief	Special Relief
Chamfer	Form B / 4.5 x P	Form B / 4.5 x P
Limit & Nut Tolerance	6HX	6HX

Size Ref.	d_1	Pitch	l_1	l_2	l_3	d_2	sq	l_4	z	drill Ø	Item #	Item #
0302	MF 3	x 0.35	56	8	-	2.2	-	-	3	2.65	•	•
0403	MF 4	x 0.5	63	10	-	2.8	2.1	5	3	3.5	•	•
0503	MF 5	x 0.5	70	12	-	3.5	2.7	6	3	4.5	•	•
0604	MF 6	x 0.75	80	14	-	4.5	3.4	6	3	5.3	•	T160 0604
0803	MF 8	x 0.5	80	18	-	6.0	4.9	8	3	7.5	•	T160 0803
0804	MF 8	x 0.75	80	18	-	6.0	4.9	8	3	7.3	•	•
0805	MF 8	x 1	90	22	-	6.0	4.9	8	3	7.0	•	•
1004	MF 10	x 0.75	90	20	-	7.0	5.5	8	3	9.3	•	T160 1004
1005	MF 10	x 1	90	20	-	7.0	5.5	8	3	9.0	•	T160 1005
1006	MF 10	x 1.25	100	24	-	7.0	5.5	8	3	8.8	•	•
1205	MF 12	x 1	100	22	-	9.0	7.0	10	3	11.0	•	T160 1205
1206	MF 12	x 1.25	100	22	-	9.0	7.0	10	3	10.8	•	T160 1206
1207	MF 12	x 1.5	100	22	-	9.0	7.0	10	3	10.5	•	T160 1207
1405	MF 14	x 1	100	22	-	11.0	9.0	12	3	13.0	•	T160 1405
1406	MF 14	x 1.25	100	22	-	11.0	9.0	12	3	12.8	•	T160 1406
1407	MF 14	x 1.5	100	22	-	11.0	9.0	12	3	12.5	•	•
1605	MF 16	x 1	100	22	-	12.0	9.0	12	3	15.0	•	T160 1605
1607	MF 16	x 1.5	100	22	-	12.0	9.0	12	3	14.5	•	•
1805	MF 18	x 1	110	25	-	14.0	11.0	14	4	17.0	•	•
1807	MF 18	x 1.5	110	25	-	14.0	11.0	14	4	16.5	•	T160 1807
1808	MF 18	x 2	125	34	-	14.0	11.0	14	4	16.0	•	•
2005	MF 20	x 1	125	25	-	16.0	12.0	15	4	19.0	•	T160 2005
2007	MF 20	x 1.5	125	25	-	16.0	12.0	15	4	18.5	•	•
2008	MF 20	x 2	140	34	-	16.0	12.0	15	4	18.0	•	•

ISO	P													M			K						N										S											H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
T159	●	●	○	○		●	○			○		○		●	●	○																																	
T160	●	●	○	○		●	○			○		●	○	●	●	●							○	○	○	○	○	○		○			●	●	●														

P Steel | M Stainless Steel | K Cast Iron | N Non-Ferrous Metals | S Titanium & Super Alloys | H Hard Materials

● Optimal ○ Effective

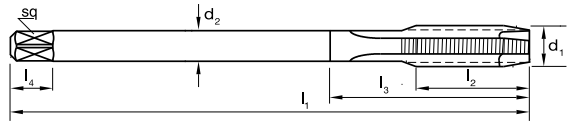
• Available on request as special manufacture. Subject to lead time.

DIN Taps Metric Fine, Gun, NH

suttontools

- Suitable for harder short chipping materials up to 42 HRC
- Through holes
- Suitable for machine operations
- Depths up to approximately 3 x d_1

DIN 374 | 60° MF



	T654	T163
Catalogue Code	T654	T163
Product Group	D0402	D0410
Material	PM-HSSE V3	PM-HSSE V3
Surface Finish	*Blu*	*TiAlN*
Sutton Designation	NH	NH
Geometry		
Chamfer	Form B / 4.5 x P	Form B / 4.5 x P
Limit & Nut Tolerance	ISO2 / 6H	ISO2 / 6H

Size Ref.	d_1	Pitch	l_1	l_2	l_3	d_2	sq	l_4	z	drill Ø	Item #	Item #
0302	MF 3	x 0.35	56	8	-	2.2	-	-	3	2.65	•	T163 0302
0403	MF 4	x 0.5	63	10	-	2.8	2.1	5	3	3.5	•	T163 0403
0503	MF 5	x 0.5	70	12	-	3.5	2.7	6	3	4.5	•	T163 0503
0604	MF 6	x 0.75	80	14	-	4.5	3.4	6	3	5.3	•	T163 0604
0803	MF 8	x 0.5	80	18	-	6.0	4.9	8	3	7.5	•	T163 0803
0804	MF 8	x 0.75	80	18	-	6.0	4.9	8	3	7.3	•	T163 0804
0805	MF 8	x 1	90	22	-	6.0	4.9	8	3	7.0	•	T163 0805
1004	MF 10	x 0.75	90	20	-	7.0	5.5	8	3	9.3	•	T163 1004
1005	MF 10	x 1	90	20	-	7.0	5.5	8	3	9.0	T654 1005	T163 1005
1006	MF 10	x 1.25	100	24	-	7.0	5.5	8	3	8.8	•	T163 1006
1205	MF 12	x 1	100	22	-	9.0	7.0	10	3	11.0	•	T163 1205
1206	MF 12	x 1.25	100	22	-	9.0	7.0	10	3	10.8	T654 1206	T163 1206
1207	MF 12	x 1.5	100	22	-	9.0	7.0	10	3	10.5	•	T163 1207
1405	MF 14	x 1	100	22	-	11.0	9.0	12	3	13.0	•	T163 1405
1406	MF 14	x 1.25	100	22	-	11.0	9.0	12	3	12.8	•	T163 1406
1407	MF 14	x 1.5	100	22	-	11.0	9.0	12	3	12.5	•	T163 1407
1605	MF 16	x 1	100	22	-	12.0	9.0	12	3	15.0	•	T163 1605
1607	MF 16	x 1.5	100	22	-	12.0	9.0	12	3	14.5	•	T163 1607
1805	MF 18	x 1	110	25	-	14.0	11.0	14	4	17.0	•	T163 1805
1807	MF 18	x 1.5	110	25	-	14.0	11.0	14	4	16.5	•	T163 1807
1808	MF 18	x 2	125	34	-	14.0	11.0	14	4	16.0	•	T163 1808
2005	MF 20	x 1	125	25	-	16.0	12.0	15	4	19.0	•	T163 2005
2007	MF 20	x 1.5	125	25	-	16.0	12.0	15	4	18.5	•	T163 2007
2008	MF 20	x 2	140	34	-	16.0	12.0	15	4	18.0	•	T163 2008

ISO	P													M			K						N									S											H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
T654			●	●	○		●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○																										○	
T163			●	●	●		●	●	○	●	○	○	○	○	○	●	○	○	○	○	●	○			○	○	○	●	○	○															○				○	

P Steel | M Stainless Steel | K Cast Iron | N Non-Ferrous Metals | S Titanium & Super Alloys | H Hard Materials

● Optimal ○ Effective

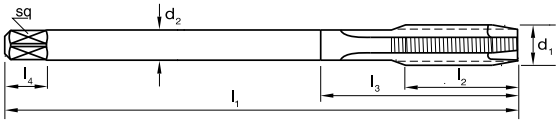
• Available on request as special manufacture. Subject to lead time.

DIN Taps Metric Fine, Gun, H

suttontools

- Suitable for harder short chipping materials up to 45 HRC
- Through holes
- Depths up to 1.5 x d_1

DIN 374 | 60° MF



Catalogue Code	**T710**
Product Group	D0408
Material	**PM-HSS Co**
Surface Finish	***TiCN***
Sutton Designation	**H**
Geometry	Low Relief
Chamfer	Form B / 4.5 x P
Limit & Nut Tolerance	6HX

Size Ref.	d_1	Pitch	l_1	l_2	l_3	d_2	sq	l_4	z	drill Ø	Item #
0604	MF 6	x 0.75	80	14	-	4.5	3.4	6	3	5.3	•
0805	MF 8	x 1	90	22	-	6.0	4.9	8	3	7.0	•
1005	MF 10	x 1	90	20	-	7.0	5.5	8	3	9.0	•
1006	MF 10	x 1.25	100	24	-	7.0	5.5	8	3	8.8	•
1206	MF 12	x 1.25	100	22	-	9.0	7.0	10	3	10.8	•
1207	MF 12	x 1.5	100	22	-	9.0	7.0	10	3	10.5	•
1407	MF 14	x 1.5	100	22	-	11.0	9.0	12	3	12.5	•
1607	MF 16	x 1.5	100	22	-	12.0	9.0	12	3	14.5	•
1807	MF 18	x 1.5	110	25	-	14.0	11.0	14	4	16.5	•
2007	MF 20	x 1.5	125	25	-	16.0	12.0	15	4	18.5	•

ISO	P													M			K						N									S											H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
T710					●			●	●		●	○	●			○	●	●	●	●	●	●					○		●									○	●	●	●	●	●	●				●	

P Steel | M Stainless Steel | K Cast Iron | N Non-Ferrous Metals | S Titanium & Super Alloys | H Hard Materials

● Optimal ○ Effective

• Available on request as special manufacture. Subject to lead time.

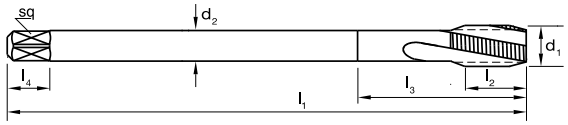
MF

DIN Taps Metric Fine, Spiral Flute, R15 N

suttontools

- General purpose use, materials up to approximately 1000 N/mm²
- Blind holes
- Suitable for machine operations
- Depths up to approximately 1.5 x d_1

DIN 374 | 60° MF



Catalogue Code	T243*	T244*
Product Group	D0402	D0406
Material	HSSE	HSSE
Surface Finish	*Brt*	*TiN*
Sutton Designation	N	N
Geometry	R15	R15
Chamfer	Form C / 2.5 x P	Form C / 2.5 x P
Limit & Nut Tolerance	ISO 2 / 6H	ISO 2 / 6H

Size Ref.	d_1	Pitch	l_1	l_2	l_3	d_2	sq	l_4	z	drill Ø	Item #	Item #
0302	MF 3	x 0.35	56	8	-	2.2	-	-	3	2.65	T243 0302	•
0403	MF 4	x 0.5	63	10	-	2.8	2.1	5	3	3.5	T243 0403	T244 0403
0503	MF 5	x 0.5	70	12	-	3.5	2.7	6	3	4.5	T243 0503	T244 0503
0604	MF 6	x 0.75	80	14	-	4.5	3.4	6	3	5.3	T243 0604	T244 0604
0803	MF 8	x 0.5	80	18	-	6.0	4.9	8	3	7.5	T243 0803	T244 0803
0804	MF 8	x 0.75	80	18	-	7.0	4.9	8	3	7.3	T243 0804	•
0805	MF 8	x 1	90	22	-	6.0	4.9	8	3	7.0	T243 0805	T244 0805
1004	MF 10	x 0.75	90	20	-	7.0	5.5	8	3	9.3	T243 1004	T244 1004
1006	MF 10	x 1.25	100	24	-	7.0	5.5	8	3	8.8	•	T244 1006
1205	MF 12	x 1	100	22	-	9.0	7.0	10	3	11.0	T243 1205	T244 1205
1207	MF 12	x 1.5	100	22	-	9.0	7.0	10	3	10.5	T243 1207	T244 1207
1405	MF 14	x 1	100	22	-	11.0	9.0	12	3	13.0	T243 1405	T244 1405
1406	MF 14	x 1.25	100	22	-	11.0	9.0	12	3	12.8	T243 1406	T244 1406
1407	MF 14	x 1.5	100	22	-	11.0	9.0	12	3	12.5	T243 1407	T244 1407
1605	MF 16	x 1	100	22	-	12.0	9.0	12	3	15.0	T243 1605	T244 1605
1607	MF 16	x 1.5	100	22	-	12.0	9.0	12	3	14.5	T243 1607	T244 1607
1805	MF 18	x 1	110	25	-	14.0	11.0	14	4	17.0	T243 1805	•
1807	MF 18	x 1.5	110	25	-	14.0	11.0	14	4	16.5	T243 1807	T244 1807
1808	MF 18	x 2	125	34	-	14.0	11.0	14	4	16.0	T243 1808	T244 1808
2005	MF 20	x 1	125	25	-	16.0	12.0	15	4	19.0	•	T244 2005
2007	MF 20	x 1.5	125	25	-	16.0	12.0	15	4	18.5	T243 2007	T244 2007
2008	MF 20	x 2	140	34	-	16.0	12.0	15	4	18.0	T243 2008	•

ISO	P													M			K						N										S											H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
T243	●	●	○	○		●	○			○							○		○		○	○	●	●	○	○		○	○																				
T244	●	●	●	●	○	●	●	○		●		○		○	○	○	○	○	○	○	○	○	●	●	○	○		○	○																				

P Steel | M Stainless Steel | K Cast Iron | N Non-Ferrous Metals | S Titanium & Super Alloys | H Hard Materials

● Optimal ○ Effective

MF

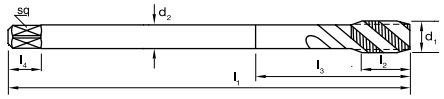
*Not available once current stock is depleted • Available on request as special manufacture. Subject to lead time.

DIN Taps Metric Fine, Spiral Flute, R40 N

suttontools

- General purpose use, materials up to approximately 1000 N/mm²
- Blind holes
- Suitable for machine operations
- Depths up to approximately 2.5 x d_1

DIN 374 | 60° MF



Catalogue Code	T245	T247	T248*
Product Group	D0402	D0402	D0406
Material	HSSE	HSSE	HSSE
Surface Finish	*Brt*	*Blu*	*TiN*
Sutton Designation	N	N	N
Geometry	R40	R40	R40
Chamfer	Form C / 2.5 x P	Form C / 2.5 x P	Form C / 2.5 x P
Limit & Nut Tolerance	ISO 2 / 6H	ISO 2 / 6H	ISO 2 / 6H

Size Ref.	d_1	Pitch	l_1	l_2	l_3	d_2	sq	l_4	z	drill Ø	Item #	Item #	Item #
0302	MF 3	x 0.35	56	4	-	2.2	-	-	3	2.65	•	•	•
0403	MF 4	x 0.5	63	6	-	2.8	2.1	5	3	3.5	•	•	•
0503	MF 5	x 0.5	70	7	-	3.5	2.7	6	3	4.5	•	•	•
0604	MF 6	x 0.75	80	8	-	4.5	3.4	6	3	5.3	T245 0604	T247 0604	T248 0604
0803	MF 8	x 0.5	80	10	-	6.0	4.9	8	3	7.5	•	•	•
0804	MF 8	x 0.75	80	10	-	6.0	4.9	8	3	7.3	•	•	•
0805	MF 8	x 1	90	8	-	6.0	4.9	8	3	7.0	T245 0805	T247 0805	T248 0805
1004	MF 10	x 0.75	90	10	-	7.0	5.5	8	3	9.3	•	•	•
1005	MF 10	x 1	90	10	-	7.0	5.5	8	3	9.0	T245 1005	T247 1005	T248 1005
1006	MF 10	x 1.25	100	13	-	7.0	5.5	8	3	8.8	T245 1006	T247 1006	T248 1006
1205	MF 12	x 1	100	14	-	9.0	7.0	10	3	11.0	•	•	•
1206	MF 12	x 1.25	100	14	-	9.0	7.0	10	3	10.8	T245 1206	T247 1206	•
1207	MF 12	x 1.5	100	14	-	9.0	7.0	10	3	10.5	T245 1207	T247 1207	T248 1207
1405	MF 14	x 1	100	16	-	11.0	9.0	12	3	13.0	•	•	•
1406	MF 14	x 1.25	100	16	-	11.0	9.0	12	3	12.8	•	•	•
1407	MF 14	x 1.5	100	16	-	11.0	9.0	12	3	12.5	T245 1407	T247 1407	•
1605	MF 16	x 1	100	16	-	12.0	9.0	12	3	14.5	•	•	•
1607	MF 16	x 1.5	100	16	-	12.0	9.0	12	3	14.5	T245 1607	T247 1607	T248 1607
1805	MF 18	x 1	110	20	-	14.0	11.0	14	4	17.0	•	•	•
1807	MF 18	x 1.5	110	20	-	14.0	11.0	14	4	16.5	T245 1807	T247 1807	T248 1807
1808	MF 18	x 2	125	20	-	14.0	11.0	14	4	16.0	•	•	•
2005	MF 20	x 1	125	20	-	16.0	12.0	15	4	19.0	•	•	•
2007	MF 20	x 1.5	125	20	-	16.0	12.0	15	4	18.5	T245 2007	T247 2007	T248 2007
2008	MF 20	x 2	140	20	-	16.0	12.0	15	4	18.0	•	•	•
2205	MF 22	x 1	125	15	-	18.0	14.5	17	4	18.5	T245 2205	•	•
2207	MF 22	x 1.5	125	15	-	18.0	14.5	17	4	20.5	T245 2207	•	•
2208	MF 22	x 2	140	20	-	18.0	14.5	17	4	20.0	T245 2208	•	•
2405	MF 24	x 1	140	20	-	18.0	14.5	17	4	23.0	T245 2405	•	•
2407	MF 24	x 1.5	140	20	-	18.0	14.5	17	4	22.5	T245 2407	•	•
2408	MF 24	x 2	140	20	-	18.0	14.5	17	4	22.0	T245 2408	•	•
2505	MF 25	x 1	140	15	-	18.0	14.5	17	4	24.0	•	•	•
2507	MF 25	x 1.5	140	15	-	18.0	14.5	17	4	23.5	•	•	•
2508	MF 25	x 2	140	15	-	18.0	14.5	17	4	23.0	•	•	•
2605	MF 26	x 1	140	15	-	18.0	14.5	17	4	25.0	•	•	•
2607	MF 26	x 1.5	140	15	-	18.0	14.5	17	4	24.5	T245 2607	•	•
2608	MF 26	x 2	140	15	-	18.0	14.5	17	4	24.0	•	•	•
2707	MF 27	x 1.5	140	20	-	20.0	16.0	19	4	25.5	T245 2707	•	•
2708	MF 27	x 2	140	20	-	20.0	16.0	19	4	25.0	T245 2708	•	•
2807	MF 28	x 1.5	140	15	-	20.0	16.0	19	4	26.5	T245 2807	•	•
2808	MF 28	x 2	140	15	-	20.0	16.0	19	4	26.0	•	•	•
3005	MF 30	x 1	150	20	-	22.0	18.0	21	4	29.0	T245 3005	•	•
3007	MF 30	x 1.5	150	20	-	22.0	18.0	21	4	28.5	T245 3007	•	•
3008	MF 30	x 2	150	20	-	22.0	18.0	21	4	28.0	T245 3008	•	•

ISO	P													M			K						N										S													H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
T245	●	●	○	○		●	○			○							○		○		○	○	●	●	○	○		○	○																					
T247	●	●	●	●		●	●			●		○		○	○	○	○		○		○	○																												
T248	●	●	●	●	○	●	●	○		●		○		○	○	○	○	○	○	○	○	○	●	●	○	○		●	○																					

P Steel | M Stainless Steel | K Cast Iron | N Non-Ferrous Metals | S Titanium & Super Alloys | H Hard Materials

● Optimal ○ Effective

*Not available once current stock is depleted • Available on request as special manufacture. Subject to lead time.

MF

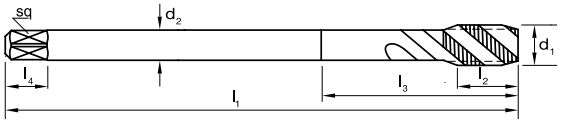
DIN Taps Metric Fine, Spiral Flute, R50 *Black Magic*

suttontools BLACKMAGIC

watch the video

- Universal high performance tapping
- PM-HSSE V3 offers superior tool life
- Use in stainless steels and high strength steels up to 850N/mm^2
- Blind holes up to 3 x d_1
- Suitable for synchronous tapping in machine operations

DIN 374 | 60° MF | Z | HSC



Product Name	**T686**
Product Group	D0410
Material	**PM-HSSE V3**
Surface Finish	***HARDLUBE***
Sutton Designation	**UNI**
Geometry	R50
Chamfer	Form C / 2.5 x P
Limit & Nut Tolerance	6HX

Size Ref.	d_1	Pitch	l_1	l_2	l_3	d_2	sq	l_4	z	drill Ø	Item #
0302	MF 3	x 0.35	56	4	-	2.2	-	-	3	2.65	•
0403	MF 4	x 0.5	63	6	-	2.8	2.1	5	3	3.5	•
0503	MF 5	x 0.5	70	7	-	3.5	2.7	6	3	4.5	•
0604	MF 6	x 0.75	80	8	-	4.5	3.4	6	3	5.3	T686 0604
0803	MF 8	x 0.5	80	10	-	6.0	4.9	8	3	7.5	T686 0803
0804	MF 8	x 0.75	80	10	-	7.0	4.9	8	3	7.3	•
0805	MF 8	x 1	90	8	-	6.0	4.9	8	3	7.0	T686 0805
1004	MF 10	x 0.75	90	10	-	7.0	5.5	8	3	9.3	T686 1004
1005	MF 10	x 1	90	10	-	7.0	5.5	8	3	9.0	T686 1005
1006	MF 10	x 1.25	100	13	-	7.0	5.5	8	3	8.8	T686 1006
1205	MF 12	x 1	100	14	-	9.0	7.0	10	3	11.0	T686 1205
1206	MF 12	x 1.25	100	14	-	9.0	7.0	10	3	10.8	T686 1206
1207	MF 12	x 1.5	100	14	-	9.0	7.0	10	3	10.5	T686 1207
1405	MF 14	x 1	100	16	-	11.0	9.0	12	3	13.0	T686 1405
1406	MF 14	x 1.25	100	16	-	11.0	9.0	12	3	12.8	T686 1406
1407	MF 14	x 1.5	100	16	-	11.0	9.0	12	3	12.5	T686 1407
1605	MF 16	x 1	100	16	-	12.0	9.0	12	3	15.0	T686 1605
1607	MF 16	x 1.5	100	16	-	12.0	9.0	12	3	14.5	T686 1607
1805	MF 18	x 1	110	20	-	14.0	11.0	14	4	17.0	T686 1805
1807	MF 18	x 1.5	110	20	-	14.0	11.0	14	4	16.5	•
1808	MF 18	x 2	125	20	-	14.0	11.0	14	4	16.0	•
2005	MF 20	x 1	125	20	-	16.0	12.0	15	4	19.0	T686 2005
2007	MF 20	x 1.5	125	20	-	16.0	12.0	15	4	18.5	T686 2007
2008	MF 20	x 2	140	20	-	16.0	12.0	15	4	18.0	•

ISO	P													M			K						N										S											H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
T686	●	●	●	○		●	○			●		●	○	●	●		○	○	○	○	○	○	●	●	●	○	○	○	○																				

P Steel | M Stainless Steel | K Cast Iron | N Non-Ferrous Metals | S Titanium & Super Alloys | H Hard Materials

● Optimal ○ Effective

MF

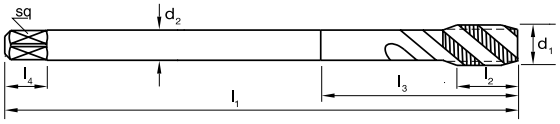
• Available on request as special manufacture. Subject to lead time.

DIN Taps Metric Fine, Spiral Flute, R45 Al

suttontools

- Suitable for use in wrought aluminium and low silicon aluminium
- Blind holes
- Depths up to approximately 3 x d_1
- CrN for longer tool life

DIN 374 | 60° MF



Catalogue Code	**T703**
Product Group	D0404
Material	**HSSE**
Surface Finish	***CrN***
Sutton Designation	**Al**
Geometry	R45 2 Flute
Chamfer	Form C / 2.5 x P
Limit & Nut Tolerance	ISO 2 / 6H

Size Ref.	d_1	Pitch	l_1	l_2	l_3	d_2	sq	l_4	z	drill Ø	Item #
0805	MF 8	x 1	90	8	-	6.0	4.9	8	2	7.0	•
1005	MF 10	x 1	90	10	-	7.0	5.5	8	2	9.0	•
1006	MF 10	x 1.25	100	13	-	7.0	5.5	8	2	8.8	•
1205	MF 12	x 1	100	14	-	9.0	7.0	10	2	11.0	•
1206	MF 12	x 1.25	100	14	-	9.0	7.0	10	2	10.8	•
1207	MF 12	x 1.5	100	14	-	9.0	7.0	10	2	10.5	•

MF

ISO	P													M			K						N									S													H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
T703																							●	●	●	●		●		●																				

P Steel | M Stainless Steel | K Cast Iron | N Non-Ferrous Metals | S Titanium & Super Alloys | H Hard Materials

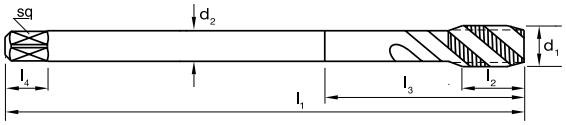
● Optimal ○ Effective

• Available on request as special manufacture. Subject to lead time.

DIN Taps Metric Fine, Spiral Flute, R45 VA DH

suttontools

- Use in stainless steels and high strength steels up to 1000N/mm²
- Blind holes
- Suitable for synchronous tapping in machine operations
- Depths up to approximately 3 x d_1



Catalogue Code	T249	T251
Product Group	D0402	D0408
Material	HSSE	HSSE
Surface Finish	*Blu*	*TiCN*
Sutton Designation	**VA DH**	**VA DH**
Geometry	R45	R45
Chamfer	Form C / 2.5 x P	Form C / 2.5 x P
Limit & Nut Tolerance	ISO 2 / 6H	ISO 2 / 6H

Size Ref.	d_1	Pitch	l_1	l_2	l_3	d_2	sq	l_4	z	drill Ø	Item #	Item #
0302	MF 3	x 0.35	56	4	-	2.2	-	-	3	2.65	•	•
0403	MF 4	x 0.5	63	6	-	2.8	2.1	5	3	3.5	•	•
0503	MF 5	x 0.5	70	7	-	3.5	2.7	6	3	4.5	•	•
0604	MF 6	x 0.75	80	8	-	4.5	3.4	6	3	5.3	T249 0604	T251 0604
0803	MF 8	x 0.5	80	10	-	6.0	4.9	8	3	7.5	•	•
0804	MF 8	x 0.75	80	10	-	7.0	4.9	8	3	7.3	•	•
0805	MF 8	x 1	90	8	-	6.0	4.9	8	3	7.0	T249 0805	T251 0805
1004	MF 10	x 0.75	90	10	-	7.0	5.5	8	3	9.3	•	•
1005	MF 10	x 1	90	10	-	7.0	5.5	8	3	9.0	T249 1005	T251 1005
1006	MF 10	x 1.25	100	13	-	7.0	5.5	8	3	8.8	T249 1006	T251 1006
1205	MF 12	x 1	100	14	-	9.0	7.0	10	3	11.0	T249 1205	T251 1205
1206	MF 12	x 1.25	100	14	-	9.0	7.0	10	3	10.8	T249 1206	T251 1206
1207	MF 12	x 1.5	100	14	-	9.0	7.0	10	3	10.5	•	•
1405	MF 14	x 1	100	16	-	11.0	9.0	12	3	13.0	•	•
1406	MF 14	x 1.25	100	16	-	11.0	9.0	12	3	12.8	•	•
1407	MF 14	x 1.5	100	16	-	11.0	9.0	12	3	12.5	T249 1407	T251 1407
1605	MF 16	x 1	100	16	-	12.0	9.0	12	3	15.0	•	•
1607	MF 16	x 1.5	100	16	-	12.0	9.0	12	3	14.5	•	•
1805	MF 18	x 1	110	20	-	14.0	11.0	14	4	17.0	•	•
1807	MF 18	x 1.5	110	20	-	14.0	11.0	14	4	16.5	•	•
1808	MF 18	x 2	125	20	-	14.0	11.0	14	4	16.0	•	•
2005	MF 20	x 1	125	20	-	16.0	12.0	15	4	19.0	•	•
2007	MF 20	x 1.5	125	20	-	16.0	12.0	15	4	18.5	•	•
2008	MF 20	x 2	140	20	-	16.0	12.0	15	4	18.0	•	•

ISO	P													M			K						N										S											H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
T249	●	●	○			○	○					○		●	●	○																																	
T251	●	●	○	○		○	○	○		○		●		●	●	●							○	○	○	○		○		○			●		○														

P Steel M Stainless Steel K Cast Iron N Non-Ferrous Metals S Titanium & Super Alloys H Hard Materials

● Optimal ○ Effective

MF

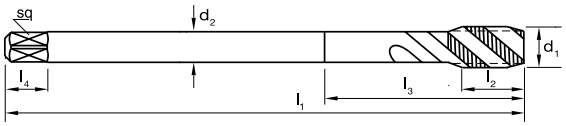
• Available on request as special manufacture. Subject to lead time.

DIN Taps Metric Fine, Spiral Flute, R50 VA PM

suttontools

- Use in stainless steels and high strength steels up to 1000N/mm²
- PM-HSSE V3 offers higher edge hardness than standard VA series
- Blind holes
- Suitable for synchronous tapping in machine operations
- Depths up to approximately 3 x d_1

DIN 374 | 60° MF | Z | HSC



Catalogue Code	T250*	T252
Product Group	D0402	D0408
Material	PM-HSSE V3	PM-HSSE V3
Surface Finish	*Blu*	*TiCN*
Sutton Designation	VA PM	VA PM
Geometry	R50	R50
Chamfer	Form C / 2.5 x P	Form C / 2.5 x P
Limit & Nut Tolerance	6HX	6HX

Size Ref.	d_1	Pitch	l_1	l_2	l_3	d_2	sq	l_4	z	drill Ø	Item #	Item #
0604	MF 6	x 0.75	80	8	-	4.5	3.4	6	3	5.3	T250 0604	T252 0604
0803	MF 8	x 0.5	80	10	-	6.0	4.9	8	3	7.5	•	T252 0803
0804	MF 8	x 0.75	80	10	-	7.0	4.9	8	3	7.3	•	•
0805	MF 8	x 1	90	8	-	6.0	4.9	8	3	7.0	T250 0805	T252 0805
1004	MF 10	x 0.75	90	10	-	7.0	5.5	8	3	9.3	•	T252 1004
1005	MF 10	x 1	90	10	-	7.0	5.5	8	3	9.0	T250 1005	T252 1005
1006	MF 10	x 1.25	100	13	-	7.0	5.5	8	3	8.8	T250 1006	T252 1006
1205	MF 12	x 1	100	14	-	9.0	7.0	10	3	11.0	T250 1205	T252 1205
1206	MF 12	x 1.25	100	14	-	9.0	7.0	10	3	10.8	T250 1206	T252 1206
1207	MF 12	x 1.5	100	14	-	9.0	7.0	10	3	10.5	T250 1207	T252 1207
1405	MF 14	x 1	100	16	-	11.0	9.0	12	3	13.0	•	T252 1405
1406	MF 14	x 1.25	100	16	-	11.0	9.0	12	3	12.8	•	T252 1406
1407	MF 14	x 1.5	100	16	-	11.0	9.0	12	3	12.5	T250 1407	T252 1407
1605	MF 16	x 1	100	16	-	12.0	9.0	12	3	15.0	•	T252 1605
1607	MF 16	x 1.5	100	16	-	12.0	9.0	12	3	14.5	T250 1607	T252 1607
1805	MF 18	x 1	110	20	-	14.0	11.0	14	4	17.0	•	T252 1805
1807	MF 18	x 1.5	110	20	-	14.0	11.0	14	4	16.5	T250 1807	T252 1807
1808	MF 18	x 2	125	20	-	14.0	11.0	14	4	16.0	•	•
2005	MF 20	x 1	125	20	-	16.0	12.0	15	4	19.0	•	T252 2005
2007	MF 20	x 1.5	125	20	-	16.0	12.0	15	4	18.5	T250 2007	T252 2007
2008	MF 20	x 2	140	20	-	16.0	12.0	15	4	18.0	•	•

MF

ISO	P													M			K						N										S											H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
T250	●	●	●			●	○					○		●	●	○																																		
T252	●	●	●	○		●	○	○		○		●		●	●	●							○	○	○	○	○	○		○			●		●														

P Steel | M Stainless Steel | K Cast Iron | N Non-Ferrous Metals | S Titanium & Super Alloys | H Hard Materials

● Optimal ○ Effective

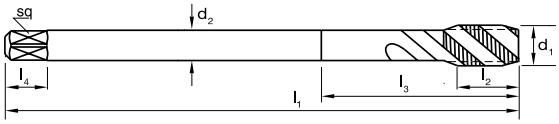
*Not available once current stock is depleted • Available on request as special manufacture. Subject to lead time.

DIN Taps Metric Fine, Spiral Flute, R40 NH

suttontools

- Suitable for harder short chipping materials up to 42 HRC
- Blind holes
- Suitable for machine operations
- Depths up to approximately 2.5 x d_1

DIN 374 | 60° MF



Catalogue Code	T655	T254*
Product Group	D0402	D0410
Material	PM-HSSE V3	PM-HSSE V3
Surface Finish	*Blu*	*TiAlN*
Sutton Designation	NH	NH
Geometry	R40	R40
Chamfer	Form C / 2.5 x P	Form C / 2.5 x P
Limit & Nut Tolerance	ISO 2 / 6H	ISO 2 / 6H

Size Ref.	d_1	Pitch	l_1	l_2	l_3	d_2	sq	l_4	z	drill Ø	Item #	Item #
0403	MF 4	x 0.5	63	6	-	2.8	2.1	5	3	3.5	•	T254 0403
0604	MF 6	x 0.75	80	8	-	4.5	3.4	6	3	5.3	T655 0604	T254 0604
0803	MF 8	x 0.5	80	10	-	6.0	4.9	8	3	7.5	•	T254 0803
0804	MF 8	x 0.75	80	10	-	7.0	4.9	8	3	7.3	•	T254 0804
0805	MF 8	x 1	90	8	-	6.0	4.9	8	3	7.0	•	T254 0805
1004	MF 10	x 0.75	90	10	-	7.0	5.5	8	3	9.3	T655 1004	T254 1004
1005	MF 10	x 1	90	10	-	7.0	5.5	8	3	9.0	•	•
1006	MF 10	x 1.25	100	13	-	7.0	5.5	8	3	8.8	•	•
1205	MF 12	x 1	100	14	-	9.0	7.0	10	3	11.0	•	T254 1205
1206	MF 12	x 1.25	100	14	-	9.0	7.0	10	3	10.8	•	T254 1206
1207	MF 12	x 1.5	100	14	-	9.0	7.0	10	3	10.5	•	T254 1207
1406	MF 14	x 1.25	100	16	-	11.0	9.0	12	3	12.8	•	T254 1406
1407	MF 14	x 1.5	100	16	-	11.0	9.0	12	3	12.5	•	T254 1407
1605	MF 16	x 1	100	16	-	12.0	9.0	12	3	15.0	•	T254 1605
1807	MF 18	x 1.5	110	20	-	14.0	11.0	14	4	16.5	•	T254 1807
1808	MF 18	x 2	125	20	-	14.0	11.0	14	4	16.0	•	T254 1808
2005	MF 20	x 1	125	20	-	16.0	12.0	15	4	19.0	•	T254 2005
2008	MF 20	x 2	140	20	-	16.0	12.0	15	4	18.0	•	T254 2008

ISO	P													M			K						N										S											H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
T655			●	●	○		●	○		○		○		○	○	○	○	○	○	○	○	○																										○	
T254			●	●	●		●	●	○	●	○	○	○	○	○	●	○	○	○	○	○	○	○	○	○	○	●	○	○	○																		○	

P Steel | M Stainless Steel | K Cast Iron | N Non-Ferrous Metals | S Titanium & Super Alloys | H Hard Materials

● Optimal ○ Effective

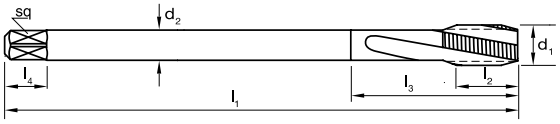
*Not available once current stock is depleted • Available on request as special manufacture. Subject to lead time.

DIN Taps Metric Fine, Spiral Flute, R15 H

suttontools

- Suitable for harder short chipping materials up to 45 HRC
- Blind holes
- Depths up to 1.5 x d_1

DIN 374 | 60° MF



Catalogue Code	**T707**
Product Group	D0408
Material	**PM-HSS Co**
Surface Finish	***TiCN***
Sutton Designation	**H**
Geometry	R15
Chamfer	Form C / 3 x P
Limit & Nut Tolerance	ISO 2 / 6HX

Size Ref.	d_1	Pitch	l_1	l_2	l_3	d_2	sq	l_4	z	drill Ø	Item #
0604	MF 6	x 0.75	80	8	-	4.5	3.4	6	3	5.3	•
0805	MF 8	x 1	90	8	-	6.0	4.9	8	3	7.0	•
1005	MF 10	x 1	90	10	-	7.0	5.5	8	3	9.0	•
1006	MF 10	x 1.25	100	13	-	7.0	5.5	8	3	8.8	•
1205	MF 12	x 1	100	14	-	9.0	7.0	10	3	11.0	•
1206	MF 12	x 1.25	100	14	-	9.0	7.0	10	3	10.8	•
1207	MF 12	x 1.5	100	14	-	9.0	7.0	10	3	10.5	•
1407	MF 14	x 1.5	100	16	-	11.0	9.0	12	3	12.5	•
1607	MF 16	x 1.5	100	16	-	12.0	9.0	12	3	14.5	•
1807	MF 18	x 1.5	110	20	-	14.0	11.0	14	4	16.5	•
2007	MF 20	x 1.5	125	20	-	16.0	12.0	15	4	18.5	•

ISO	P													M			K						N									S											H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
T707					●			●	●		●	○	●			○	●	●	●	●	●	●					○		●									○	●	●	●	●	●					●	

P Steel | M Stainless Steel | K Cast Iron | N Non-Ferrous Metals | S Titanium & Super Alloys | H Hard Materials

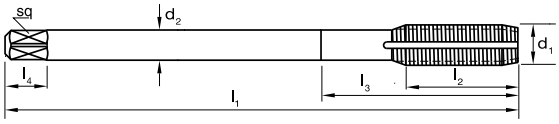
● Optimal ○ Effective

• Available on request as special manufacture. Subject to lead time.

DIN Taps Metric Fine, Forming, N

suttontools

- Suitable for materials with >10% elongation
- Through or blind holes
- Depths up to 3 x d_1



Catalogue Code	**T773**
Product Group	D0408
Material	**HSSE**
Surface Finish	***TiCN***
Sutton Designation	**N**
Geometry	Multi Coolant Groove
Chamfer	Form C / 2.5 x P
Limit & Nut Tolerance	6HX

Size Ref.	d_1	Pitch	l_1	l_2	l_3	d_2	sq	l_4	z	drill Ø	Item #
0503	MF 5	x 0.5	70	12	-	3.5	2.7	6		4.75	T773 0503
0604	MF 6	x 0.75	80	14	-	4.5	3.4	6		5.65	T773 0604
0804	MF 8	x 0.75	80	18	-	6.0	4.9	8		7.65	T773 0804
0805	MF 8	x 1	90	22	-	6.0	4.9	8		7.55	T773 0805
1005	MF 10	x 1	90	20	-	7.0	5.5	8		9.55	T773 1005
1006	MF 10	x 1.25	100	24	-	7.0	5.5	8		9.40	T773 1006
1205	MF 12	x 1	100	22	-	9.0	7.0	10		11.55	T773 1205
1206	MF 12	x 1.25	100	22	-	9.0	7.0	10		11.40	T773 1206
1207	MF 12	x 1.5	100	22	-	9.0	7.0	10		11.30	T773 1207
1405	MF 14	x 1	100	22	-	11.0	9.0	12		13.55	T773 1405
1406	MF 14	x 1.25	100	22	-	11.0	9.0	12		13.40	T773 1406
1407	MF 14	x 1.5	100	22	-	11.0	9.0	12		13.30	T773 1407
1605	MF 16	x 1	100	22	-	12.0	9.0	12		15.55	T773 1605
1607	MF 16	x 1.5	100	22	-	12.0	9.0	12		15.30	T773 1607
1807	MF 18	x 1.5	110	25	-	14.0	11.0	14		17.30	T773 1807
2007	MF 20	x 1.5	125	25	-	16.0	12.0	15		19.30	T773 2007

ISO	P												M			K						N									S											H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
T773	●	●	●	●		●								●									●	●	○	○		●		○																			

P Steel **M** Stainless Steel **K** Cast Iron **N** Non-Ferrous Metals **S** Titanium & Super Alloys **H** Hard Materials

● Optimal ○ Effective

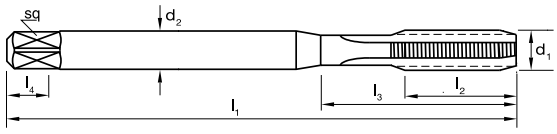
MF

DIN Taps UNC, Straight Flute, GG

suttontools

- Use in grey cast iron (GG), brittle plastics, hard bronzes to a hardness of 850 N/mm²
- Through & blind holes
- Suitable for machine operations
- Depths up to approximately 3 x d_1

DIN 2184-1 | 60° UNC

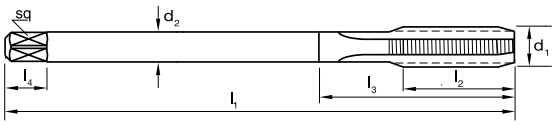


Catalogue Code	T302	T303
Product Group	D0402	D0408
Material	HSSE	HSSE
Surface Finish	*Ni + Blu*	*TiCN*
Sutton Designation	GG	GG
Geometry	Low Relief	Low Relief
Chamfer	Form C / 2.5 x P	Form C / 2.5 x P
Limit & Nut Tolerance	2BX	2BX

Size Ref.	d_1	TPI	l_1	l_2	l_3	d_2	sq	l_4	z	drill Ø	Item #	Item #
0218	#2	56	45	9	10	2.8	2.1	5	4	1.85	•	•
0251	#3	48	50	9	10	2.8	2.1	5	4	2.1	•	•
0284	# 4	40	56	11	18	3.5	2.7	6	4	2.3	•	•
0318	# 5	40	56	11	18	3.5	2.7	6	4	2.6	•	•
0351	# 6	32	56	13	19	4.0	3.0	6	4	2.8	•	•
0417	# 8	32	63	13	19	4.5	3.4	6	4	3.4	•	•
0483	# 10	24	70	16	20	6.0	4.9	8	4	3.8	•	•
0549	# 12	24	80	19	29	6.0	4.9	8	4	4.5	•	•
0635	1/4	20	80	19	30	7.0	5.5	8	4	5.1	T302 0635	•
0794	5/16	18	90	22	34	8.0	6.2	9	4	6.6	T302 0794	•
0953	3/8	16	100	22	35	10.0	7.0	10	4	8.0	T302 0953	•

UNC

DIN 2184-1 | 60° UNC



Size Ref.	d_1	TPI	l_1	l_2	l_3	d_2	sq	l_4	z	drill Ø	Item #	Item #
1111	7/16	14	100	24	-	8.0	6.2	8	4	9.4	•	•
1270	1/2	13	110	28	-	9.0	7.0	10	4	10.8	T302 1270	•
1429	9/16	12	110	30	-	11.0	9.0	12	4	12.2	•	•
1588	5/8	11	110	32	-	12.0	9.0	12	4	13.5	T302 1588	•
1905	3/4	10	125	34	-	14.0	11.0	14	4	16.5	T302 1905	•
2223	7/8	9	140	34	-	18.0	14.5	17	4	19.5	•	•
2540	1	8	160	38	-	18.0	14.5	17	4	22.2	T302 2540	•

ISO	P													M			K						N									S											H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
T302																	●	●	●	●	○	○																											
T303																	●	●	●	●	○	○					○																						

P Steel | M Stainless Steel | K Cast Iron | N Non-Ferrous Metals | S Titanium & Super Alloys | H Hard Materials

● Optimal ○ Effective

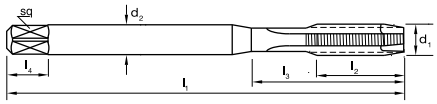
• Available on request as special manufacture. Subject to lead time.

DIN Taps UNC, Gun, N

suttontools

- General purpose use, materials up to approximately 1000 N/mm²
- Through holes
- Suitable for machine operations
- Depths up to approximately 3 x d_1

DIN 2184-1 | 60° UNC

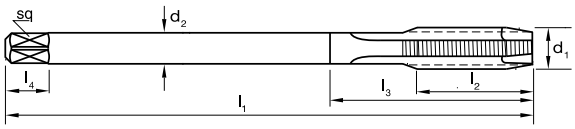


Catalogue Code	T164	T165	T166	T167
Product Group	D0402	D0402	D0402	D0406
Material	HSSE	HSSE	HSSE	HSSE
Surface Finish	*Brt*	*Brt*	*Blu*	*TiN*
Sutton Designation	N	N	N	N
Geometry				
Chamfer	Form B / 4.5 x P	Form B / 4.5 x P	Form B / 4.5 x P	Form B / 4.5 x P
Limit & Nut Tolerance	2B	3B	2B	2B

Size Ref.	d_1	TPI	l_1	l_2	l_3	d_2	sq	l_4	z	drill Ø	Item #	Item #	Item #	Item #
0218	# 2	56	45	9	10	2.8	2.1	5	2	1.85	T164 0218	•	T166 0218	T167 0218
0251	# 3	48	50	9	10	2.8	2.1	5	2	2.1	T164 0251	•	T166 0251	T167 0251
0284	# 4	40	56	11	18	3.5	2.7	6	2	2.3	T164 0284	•	T166 0284	T167 0284
0318	# 5	40	56	11	18	3.5	2.7	6	3	2.6	T164 0318	•	T166 0318	T167 0318
0351	# 6	32	56	13	19	4.0	3.0	6	3	2.8	T164 0351	•	T166 0351	T167 0351
0417	# 8	32	63	13	19	4.5	3.4	6	3	3.4	T164 0417	•	T166 0417	T167 0417
0483	# 10	24	70	16	20	6.0	4.9	8	3	3.8	T164 0483	•	T166 0483	T167 0483
0549	# 12	24	80	19	29	6.0	4.9	8	3	4.5	T164 0549	•	T166 0549	T167 0549
0635	1/4	20	80	19	30	7.0	5.5	8	3	5.1	T164 0635	•	T166 0635	T167 0635
0794	5/16	18	90	22	34	8.0	6.2	9	3	6.6	T164 0794	•	T166 0794	T167 0794
0953	3/8	16	100	22	35	10.0	7.0	10	3	8.0	T164 0953	•	T166 0953	T167 0953

UNC

DIN 2184-1 | 60° UNC



Size Ref.	d_1	TPI	l_1	l_2	l_3	d_2	sq	l_4	z	drill Ø	Item #	Item #	Item #	Item #
1111	7/16	14	100	24	-	8.0	6.2	8	3	9.4	T164 1111	•	T166 1111	T167 1111
1270	1/2	13	110	28	-	9.0	7.0	10	3	10.8	T164 1270	•	T166 1270	T167 1270
1429	9/16	12	110	30	-	11.0	9.0	12	3	12.2	T164 1429	•	T166 1429	T167 1429
1588	5/8	11	110	32	-	12.0	9.0	12	3	13.5	T164 1588	•	T166 1588	T167 1588
1905	3/4	10	125	34	-	14.0	11.0	14	4	16.5	T164 1905	•	T166 1905	T167 1905
2223	7/8	9	140	34	-	18.0	14.5	17	4	19.5	T164 2223	•	T166 2223	T167 2223
2540	1	8	160	38	-	18.0	14.5	17	4	22.2	T164 2540	•	T166 2540	T167 2540

ISO	P													M			K						N										S													H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
T164	●	●	○	○		●	○			○							○		○		○	○	●	●	○	○		○	○																					
T165	●	●	○	○		●	○			○							○		○		○	○	●	●	○	○		○	○																					
T166	●	●	●	●		●	●			●		○		○	○	○	○		○		○	○																												
T167	●	●	●	●	○	●	●	○		●		○		○	○	○	○	○	○	○	○	○	●	●	○	○		●	○																					

P Steel | M Stainless Steel | K Cast Iron | N Non-Ferrous Metals | S Titanium & Super Alloys | H Hard Materials

● Optimal ○ Effective

• Available on request as special manufacture. Subject to lead time.

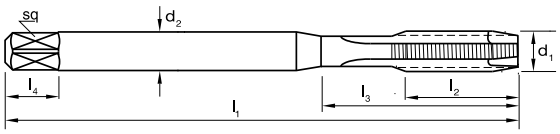
DIN Taps UNC, Gun, *Black Magic*

suttontools BLACKMAGIC

watch the video

- Universal high performance tapping
- PM-HSSE V3 offers superior tool life
- Use in stainless steels and high strength steels up to 850N/mm^2
- Through holes up to 3 x d_1
- Suitable for synchronous tapping in machine operations

DIN 2184-1 | 60° UNC | Z

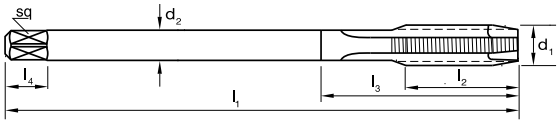


Catalogue Code	**T693**
Product Group	D0410
Material	**PM-HSSE V3**
Surface Finish	***HARDLUBE***
Sutton Designation	**UNI**
Geometry	Special Relief
Chamfer	Form B / 4.5 x P
Limit & Nut Tolerance	2BX

Size Ref.	d_1	TPI	l_1	l_2	l_3	d_2	sq	l_4	z	drill Ø	Item #
0218	# 2	56	45	9	12	2.8	2.1	5	3	1.85	T693 0218
0284	# 4	40	56	11	18	3.5	2.1	5	3	2.35	T693 0284
0351	# 6	32	56	12	20	4	2.7	6	3	2.85	T693 0351
0417	# 8	32	63	13	21	4.5	2.7	6	3	3.50	T693 0417
0483	# 10	24	70	16	25	6	3.0	6	3	3.90	T693 0483
0635	1/4	20	80	19	30	7	5.5	8	3	5.10	T693 0635

UNC

DIN 2184-1 | 60° UNC | Z



Size Ref.	d_1	TPI	l_1	l_2	l_3	d_2	sq	l_4	z	drill Ø	Item #
0794	5/16	18	90	22	35	6	4.9	8	3	6.60	T693 0794
0953	3/8	16	100	24	39	7	5.5	8	3	8.00	T693 0953
1270	1/2	13	110	28	-	9	7	10	4	10.80	T693 1270
1588	5/8	11	110	32	-	12	9	12	4	13.50	T693 1588

ISO	P												M			K						N									S											H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
T693	●	●	●	○		●	○			●		●	○	●	●		○	○	○	○	○	○	●	●	●	○	○	○	○	○																		

P Steel | M Stainless Steel | K Cast Iron | N Non-Ferrous Metals | S Titanium & Super Alloys | H Hard Materials

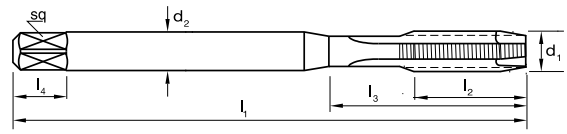
● Optimal ○ Effective

DIN Taps UNC, Gun, VA

suttontools

- Use in stainless steels and high strength steels up to 1000N/mm²
- Through holes
- Suitable for machine operations
- Depths up to approximately 3 x d_1

DIN 2184-1 | 60° UNC

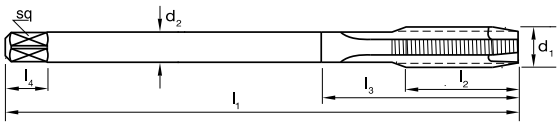


Catalogue Code	T170	T171
Product Group	D0402	D0408
Material	HSSE	HSSE
Surface Finish	*Blu*	*TiCN*
Sutton Designation	VA	VA
Geometry	Special Relief	Special Relief
Chamfer	Form B / 4.5 x P	Form B / 4.5 x P
Limit & Nut Tolerance	2B	2B

Size Ref.	d_1	TPI	l_1	l_2	l_3	d_2	sq	l_4	z	drill Ø	Item #	Item #
0218	# 2	56	45	9	10	2.8	2.1	5	2	1.85	•	•
0251	# 3	48	50	9	10	2.8	2.1	5	2	2.1	•	•
0284	# 4	40	56	11	18	3.5	2.7	6	2	2.3	•	•
0318	# 5	40	56	11	18	3.5	2.7	6	3	2.6	•	•
0351	# 6	32	56	13	19	4.0	3.0	6	3	2.8	T170 0351	T171 0351
0417	# 8	32	63	13	19	4.5	3.4	6	3	3.4	T170 0417	T171 0417
0483	# 10	24	70	16	20	6.0	4.9	8	3	3.8	T170 0483	T171 0483
0549	# 12	24	80	19	29	6.0	4.9	8	3	4.5	•	•
0635	1/4	20	80	19	30	7.0	5.5	8	3	5.1	T170 0635	T171 0635
0794	5/16	18	90	22	34	8.0	6.2	9	3	6.6	T170 0794	T171 0794
0953	3/8	16	100	22	35	10.0	7.0	10	3	8.0	T170 0953	T171 0953

UNC

DIN 2184-1 | 60° UNC



Size Ref.	d_1	TPI	l_1	l_2	l_3	d_2	sq	l_4	z	drill Ø	Item #	Item #
1111	7/16	14	100	24	-	8.0	6.2	8	3	9.4	T170 1111	T171 1111
1270	1/2	13	110	28	-	9.0	7.0	10	3	10.8	T170 1270	T171 1270
1429	9/16	12	110	30	-	11.0	9.0	12	3	12.2	T170 1429	•
1588	5/8	11	110	32	-	12.0	9.0	12	3	13.5	T170 1588	T171 1588
1905	3/4	10	125	34	-	14.0.	11.0	14	4	16.5	T170 1905	T171 1905
2223	7/8	9	140	34	-	18.0	14.5	17	4	19.5	T170 2223	T171 2223
2540	1	8	160	38	-	18.0	14.5	17	4	22.2	T170 2540	T171 2540

ISO	P													M			K						N										S												H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
T170	●	●	○	○		●	○					○		●	●	○																																	
T171	●	●	○	○		●	○			○		●	○	●	●	●							○	○	○	○	○	○		○			●	○	○														

P Steel | M Stainless Steel | K Cast Iron | N Non-Ferrous Metals | S Titanium & Super Alloys | H Hard Materials

● Optimal ○ Effective

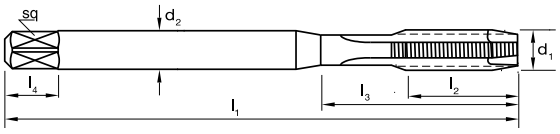
• Available on request as special manufacture. Subject to lead time.

DIN Taps UNC, Gun, VA PM

suttontools

- PM-HSSE V3 offers superior tool life
- Use in stainless steels and high strength steels up to 850N/mm²
- Through holes up to 3 x d_1

DIN 2184-1 | 60° UNC

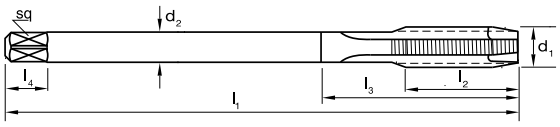


Catalogue Code	**T697**
Product Group	D0408
Material	**PM-HSSE V3**
Surface Finish	***TiCN***
Sutton Designation	**VA PM**
Geometry	Special Relief
Chamfer	Form B / 4.5 x P
Limit & Nut Tolerance	2BX

Size Ref.	d_1	TPI	l_1	l_2	l_3	d_2	sq	l_4	z	drill Ø	Item #
0218	# 2	56	45	9	12	2.8	2.1	5	3	1.85	T697 0218
0284	# 4	40	56	11	18	3.5	2.7	6	3	2.35	T697 0284
0351	# 6	32	56	12	20	4	3.0	6	3	2.85	T697 0351
0417	# 8	32	63	13	21	4.5	3.4	6	3	3.50	T697 0417
0483	# 10	24	70	16	25	6	4.9	8	3	3.90	T697 0483
0635	1/4	20	80	19	30	7	5.5	8	3	5.10	T697 0635

UNC

DIN 2184-1 | 60° UNC



Size Ref.	d_1	TPI	l_1	l_2	l_3	d_2	sq	l_4	z	drill Ø	Item #
0794	5/16	18	90	22	-	6	4.9	8	3	6.60	T697 0794
0953	3/8	16	100	24	-	7	5.5	8	3	8.00	T697 0953
1270	1/2	13	110	28	-	9	7	10	4	10.80	T697 1270
1588	5/8	11	110	32	-	12	9	12	4	13.50	T697 1588

ISO	P												M			K						N									S									H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
T697	●	●	○	○		●	○			○		●	○	●	●	●							○	○	○	○	○	○		○			●	●	●													

P Steel | M Stainless Steel | K Cast Iron | N Non-Ferrous Metals | S Titanium & Super Alloys | H Hard Materials

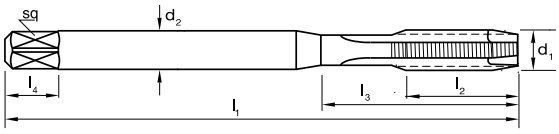
● Optimal ○ Effective

DIN Taps UNC, Gun, NH

suttontools

- Use in harder short chipping materials up to 42 HRC
- Through holes
- Suitable for machine operations
- Depths up to approximately 3 x d_1

DIN 2184-1 | 60° UNC

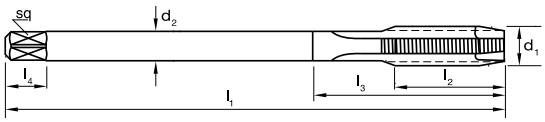


Catalogue Code	T168	T169
Product Group	D0402	D0410
Material	PM-HSSE V3	PM-HSSE V3
Surface Finish	*Blu*	*TiAlN*
Sutton Designation	NH	NH
Geometry		
Chamfer	Form B / 4.5 x P	Form B / 4.5 x P
Limit & Nut Tolerance	2B	2B

Size Ref.	d_1	TPI	l_1	l_2	l_3	d_2	sq	l_4	z	drill Ø	Item #	Item #
0218	# 2	56	45	9	10	2.8	2.1	5	2	1.85	•	•
0251	# 3	48	50	9	10	2.8	2.1	5	2	2.1	•	•
0284	# 4	40	56	11	18	3.5	2.7	6	2	2.3	•	•
0318	# 5	40	56	11	18	3.5	2.7	6	3	2.6	•	•
0351	# 6	32	56	13	19	4.0	3.0	6	3	2.8	•	•
0417	# 8	32	63	13	19	4.5	3.4	6	3	3.4	•	•
0483	# 10	24	70	16	20	6.0	4.9	8	3	3.8	•	•
0549	# 12	24	80	19	29	6.0	4.9	8	3	4.5	•	•
0635	1/4	20	80	19	30	7.0	5.5	8	3	5.1	T168 0635	T169 0635
0794	5/16	18	90	22	34	8.0	6.2	9	3	6.6	T168 0794	T169 0794
0953	3/8	16	100	22	35	10.0	7.0	10	3	8.0	T168 0953	T169 0953

UNC

DIN 2184-1 | 60° UNC



Size Ref.	d_1	TPI	l_1	l_2	l_3	d_2	sq	l_4	z	drill Ø	Item #	Item #
1111	7/16	14	100	24	-	8.0	6.2	8	3	9.4	•	•
1270	1/2	13	110	28	-	9.0	7.0	10	3	10.8	T168 1270	T169 1270
1429	9/16	12	110	30	-	11.0	9.0	12	3	12.2	•	•
1588	5/8	11	110	32	-	12.0	9.0	12	3	13.5	T168 1588	T169 1588
1905	3/4	10	125	34	-	14.0	11.0	14	4	16.5	T168 1905	T169 1905
2223	7/8*	9	140	34	-	18.0	14.5	17	4	19.5	•	•
2540	1*	8	160	38	-	18.0	14.5	17	4	22.2	T168 2540	T169 2540

ISO	P													M			K						N									S											H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
T168			●	●	○		●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○																										○	
T169			●	●	●		●	●	○	●	○	○	○	○	○	●	○	○	○	○	●	○			○	○	○	●	○	○															○				○	

P Steel | M Stainless Steel | K Cast Iron | N Non-Ferrous Metals | S Titanium & Super Alloys | H Hard Materials

● Optimal ○ Effective

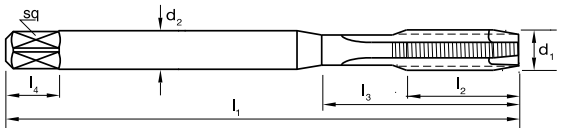
* HSSE > 3/4 • Available on request as special manufacture. Subject to lead time.

DIN Taps UNC, Gun, H

suttontools

- Use in harder short chipping materials up to 45 HRC
- Through holes
- Suitable for machine operations
- Depths up to approximately 3 x d_1

DIN 2184-1 | 60° UNC

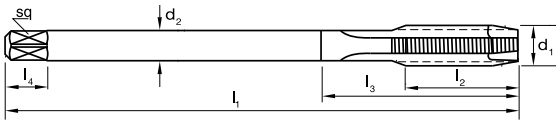


	T172	T666
Catalogue Code	T172	T666
Product Group	D0402	D0408
Material	PM-HSS Co	PM-HSS Co
Surface Finish	*Blu*	*TiCN*
Sutton Designation	H	H
Geometry	Low Relief	Low Relief
Chamfer	Form C / 3 x P	Form C / 3 x P
Limit & Nut Tolerance	2BX	2BX

Size Ref.	d_1	TPI	l_1	l_2	l_3	d_2	sq	l_4	z	drill Ø	Item #	Item #
0218	# 2	56	45	9	10	2.8	2.1	5	2	1.85	•	•
0251	# 3	48	50	9	10	2.8	2.1	5	2	2.1	•	•
0284	# 4	40	56	11	18	3.5	2.7	6	2	2.3	•	•
0318	# 5	40	56	11	18	3.5	2.7	6	3	2.6	•	•
0351	# 6	32	56	13	19	4.0	3.0	6	3	2.8	•	•
0417	# 8	32	63	13	19	4.5	3.4	6	3	3.4	•	•
0483	# 10	24	70	16	20	6.0	4.9	8	3	3.8	•	•
0549	# 12	24	80	19	29	6.0	4.9	8	3	4.5	•	•
0635	1/4	20	80	19	30	7.0	5.5	8	3	5.1	T172 0635	T666 0635
0794	5/16	18	90	22	34	8.0	6.2	9	3	6.6	T172 0794	T666 0794
0953	3/8	16	100	22	35	10.0	7.0	10	3	8.0	T172 0953	T666 0953

UNC

DIN 2184-1 | 60° UNC



Size Ref.	d_1	TPI	l_1	l_2	l_3	d_2	sq	l_4	z	drill Ø	Item #	Item #
1111	7/16	14	100	24	-	8.0	6.2	8	3	9.4	T172 1111	T666 1111
1270	1/2	13	110	28	-	9.0	7.0	10	3	10.8	T172 1270	T666 1270
1429	9/16	12	110	30	-	11.0	9.0	12	3	12.2	T172 1429	T666 1429
1588	5/8	11	110	32	-	12.0	9.0	12	3	13.5	T172 1588	T666 1588
1905	3/4	10	125	34	-	14.0	11.0	14	4	16.5	T172 1905	T666 1905
2223	7/8*	9	140	34	-	18.0	14.5	17	4	19.5	T172 2223	T666 2223
2540	1*	8	160	38	-	18.0	14.5	17	4	22.2	T172 2540	T666 2540
2858	1.1/8*	7	180	45	-	22.0	18.0	21	4	25.0	T172 2858	T666 2858

ISO	P													M			K						N										S													H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
T172					●			●	●		●	○	●			○	○	○	○	○	○	○							○										○	○	○	○	○	○	○					○	
T666					●			●	●		●	○	●			○	●	●	●	●	●	●					○		●										○	●	●	●	●	●	●					●	

P Steel | M Stainless Steel | K Cast Iron | N Non-Ferrous Metals | S Titanium & Super Alloys | H Hard Materials

● Optimal ○ Effective

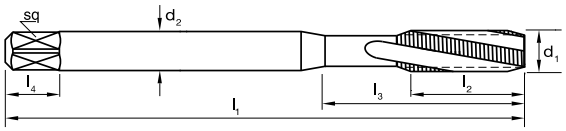
* HSSE > 3/4 • Available on request as special manufacture. Subject to lead time.

DIN Taps UNC, Spiral Flute, R15 N

suttontools

- General purpose use, materials up to approximately 1000 N/mm²
- Blind holes
- Suitable for machine operations
- Depths up to approximately 1.5 x d_1

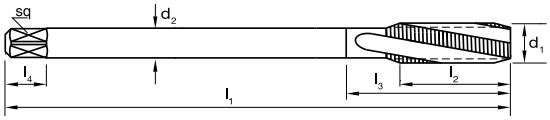
DIN 2184-1 | 60° UNC



Catalogue Code	T255	T256	T257
Product Group	D0402	D0406	D0402
Material	HSSE	HSSE	HSSE
Surface Finish	*Brt*	*TiN*	*Brt*
Sutton Designation	N	N	N
Geometry	R15	R15	R15
Chamfer	Form C / 2.5 x P	Form C / 2.5 x P	Form C / 2.5 x P
Limit & Nut Tolerance	2B	2B	3B

Size Ref.	d_1	TPI	l_1	l_2	l_3	d_2	sq	l_4	z	drill Ø	Item #	Item #	Item #
0218	# 2	56	45	9	10	2.8	2.1	5	2	1.85	•	•	•
0251	# 3	48	50	9	10	2.8	2.1	5	2	2.1	•	•	•
0284	# 4	40	56	5	18	3.5	2.7	6	2	2.3	•	•	•
0318	# 5	40	56	6	18	3.5	2.7	6	3	2.6	•	•	•
0351	# 6	32	56	6	19	4.0	3.0	6	3	2.8	•	•	•
0417	# 8	32	63	7	19	4.5	3.4	6	3	3.4	•	•	•
0483	# 10	24	70	8	20	6.0	4.9	8	3	3.8	•	•	•
0549	# 12	24	80	10	29	6.0	4.9	8	3	4.5	•	•	•
0635	1/4	20	80	10	30	7.0	5.5	8	3	5.1	•	•	•
0794	5/16	18	90	13	34	8.0	6.2	9	3	6.6	•	•	•
0953	3/8	16	100	15	35	10.0	7.0	10	3	8.0	•	•	•

DIN 2184-1 | 60° UNC



Size Ref.	d_1	TPI	l_1	l_2	l_3	d_2	sq	l_4	z	drill Ø	Item #	Item #	Item #
1111	7/16	14	100	15	-	8.0	6.2	8	3	9.4	•	•	•
1270	1/2	13	110	18	-	9.0	7.0	10	3	10.8	•	•	•
1429	9/16	12	110	20	-	11.0	9.0	12	3	12.2	•	•	•
1588	5/8	11	110	20	-	12.0	9.0	12	3	13.5	•	•	•
1905	3/4	10	125	25	-	14.0	11.0	14	4	16.5	•	•	•
2223	7/8	9	140	28	-	18.0	14.5	17	4	19.5	•	•	•
2540	1	8	160	32	-	18.0	14.5	17	4	22.2	•	•	•

ISO	P													M			K						N										S											H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
T255	●	●	○	○		●	○			○							○		○		○	○	●	●	○	○		○	○																				
T256	●	●	●	●	○	●	●	○		●		○		○	○	○	○	○	○	○	○	○	●	●	○	○		○	○																				
T257	●	●	○	○		●	○			○							○		○		○	○	●	●	○	○		○	○																				

P Steel | M Stainless Steel | K Cast Iron | N Non-Ferrous Metals | S Titanium & Super Alloys | H Hard Materials

● Optimal ○ Effective

• Available on request as special manufacture. Subject to lead time.

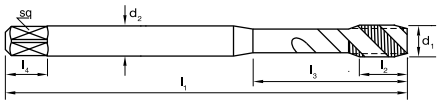
UNC

DIN Taps UNC, Spiral Flute, R40 N

suttontools

- General purpose use, materials up to approximately 1000 N/mm²
- Blind holes
- Suitable for machine operations
- Depths up to approximately 2.5 x d_1

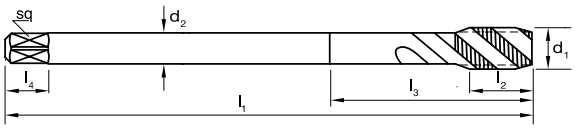
DIN 2184-1 | 60° UNC



Catalogue Code	T258	T259	T260	T273*
Product Group	D0402	D0402	D0402	D0406
Material	HSSE	HSSE	HSSE	HSSE
Surface Finish	*Brt*	*Brt*	*Blu*	*TiN*
Sutton Designation	N	N	N	N
Geometry	R40	R40	R40	R40
Chamfer	Form C / 2.5 x P	Form C / 2.5 x P	Form C / 2.5 x P	Form C / 2.5 x P
Limit & Nut Tolerance	2B	3B	2B	2B

Size Ref.	d_1	TPI	l_1	l_2	l_3	d_2	sq	l_4	z	drill Ø	Item #	Item #	Item #	Item #
0218	# 2	56	45	9	10	2.8	2.1	5	2	1.85	T258 0218	•	T260 0218	•
0251	# 3	48	50	9	10	2.8	2.1	5	2	2.1	•	•	•	•
0284	# 4	40	56	5	18	3.5	2.7	6	2	2.3	T258 0284	•	T260 0284	T273 0284
0318	# 5	40	56	6	18	3.5	2.7	6	3	2.6	T258 0318	•	T260 0318	T273 0318
0351	# 6	32	56	6	19	4.0	3.0	6	3	2.8	T258 0351	•	T260 0351	•
0417	# 8	32	63	7	19	4.5	3.4	6	3	3.4	T258 0417	•	T260 0417	•
0483	# 10	24	70	8	20	6.0	4.9	8	3	3.8	T258 0483	•	T260 0483	T273 0483
0549	# 12	24	80	10	29	6.0	4.9	8	3	4.5	T258 0549	•	T260 0549	•
0635	1/4	20	80	10	30	7.0	5.5	8	3	5.1	T258 0635	•	T260 0635	T273 0635
0794	5/16	18	90	13	34	8.0	6.2	9	3	6.6	T258 0794	•	T260 0794	•
0953	3/8	16	100	15	35	10.0	7.0	10	3	8.0	T258 0953	•	T260 0953	T273 0953

DIN 2184-1 | 60° UNC



Size Ref.	d_1	TPI	l_1	l_2	l_3	d_2	sq	l_4	z	drill Ø	Item #	Item #	Item #	Item #
1111	7/16	14	100	15	-	8.0	6.2	8	3	9.4	T258 1111	•	T260 1111	T273 1111
1270	1/2	13	110	18	-	9.0	7.0	10	3	10.8	T258 1270	•	T260 1270	•
1429	9/16	12	110	20	-	11.0	9.0	12	3	12.2	T258 1429	•	T260 1429	•
1588	5/8	11	110	20	-	12.0	9.0	12	3	13.5	T258 1588	•	T260 1588	•
1905	3/4	10	125	25	-	14.0	11.0	14	4	16.5	T258 1905	•	T260 1905	T273 1905
2223	7/8	9	140	28	-	18.0	14.5	17	4	19.5	T258 2223	•	T260 2223	•
2540	1	8	160	32	-	18.0	14.5	17	4	22.2	T258 2540	•	T260 2540	•

ISO	P												M			K						N									S										H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
T258	●	●	○	○		●	○			○							○		○		○	○	●	●	○	○		○	○																				
T259	●	●	○	○		●	○			○							○		○		○	○	●	●	○	○		○	○																				
T260	●	●	●	●		●	●			●		○		○	○	○	○		○		○	○																											
T273	●	●	●	●	○	●	●	○		●		○		○	○	○	○	○	○	○	○	○	●	●	○	○		●	○																				

P Steel | M Stainless Steel | K Cast Iron | N Non-Ferrous Metals | S Titanium & Super Alloys | H Hard Materials

● Optimal ○ Effective

*Not available once current stock is depleted • Available on request as special manufacture. Subject to lead time.

UNC

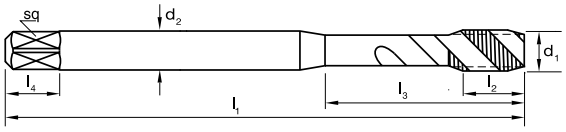
DIN Taps UNC, Spiral Flute, R50 *Black Magic*

suttontools BLACKMAGIC

watch the video

- Universal high performance tapping
- PM-HSSE V3 offers superior tool life
- Use in stainless steels and high strength steels up to 850N/mm²
- Blind holes up to 3 x d_1
- Suitable for synchronous tapping in machine operations

DIN 2184-1 | 60° UNC | Z | HSC

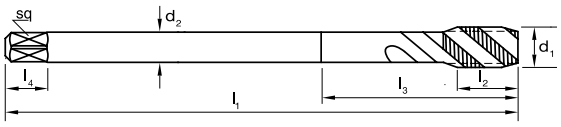


Catalogue Code	**T691**
Product Group	D0410
Material	**PM-HSSE V3**
Surface Finish	***HARDLUBE***
Sutton Designation	**UNI**
Geometry	R50
Chamfer	Form C / 2.5 x P
Limit & Nut Tolerance	2BX

Size Ref.	d_1	TPI	l_1	l_2	l_3	d_2	sq	l_4	z	drill Ø	Item #
0218	# 2	56	45	9	12	2.8	2.1	5	3	1.85	T691 0218
0284	# 4	40	56	5	18	3.5	2.7	6	3	2.35	T691 0284
0351	# 6	32	56	6	20	4	3	6	3	2.85	T691 0351
0417	# 8	32	63	7	21	4.5	3.4	6	3	3.50	T691 0417
0483	# 10	24	70	9	25	6	4.9	8	3	3.90	T691 0483
0635	1/4	20	80	10	30	7	5.5	8	3	5.10	T691 0635

UNC

DIN 2184-1 | 60° UNC | Z | HSC



Size Ref.	d_1	TPI	l_1	l_2	l_3	d_2	sq	l_4	z	drill Ø	Item #
0794	5/16	18	90	13	35	6	4.9	8	3	6.60	T691 0794
0953	3/8	16	100	15	39	7	5.5	8	3	8.00	T691 0953
1270	1/2	13	110	18	-	9	7	10	4	10.80	T691 1270
1588	5/8	11	110	20	-	12	9	12	4	13.50	T691 1588

ISO	P													M			K						N										S										H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
T691	●	●	●	○		●	○			●		●	○	●	●		○	○	○	○	○	○	●	●	●	○	○	○	○																			

P Steel | M Stainless Steel | K Cast Iron | N Non-Ferrous Metals | S Titanium & Super Alloys | H Hard Materials

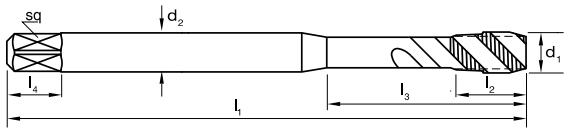
● Optimal ○ Effective

DIN Taps UNC, Spiral Flute, R45 VA DH

suttontools

- Use in stainless steels and high strength steels up to 1000N/mm²
- Blind holes
- Suitable for synchronous tapping in machine operations
- Depths up to approximately 3 x d_1

DIN 2184-1 | 60° UNC | Z | DH

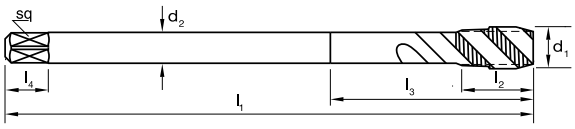


Catalogue Code	T261	T262
Product Group	D0402	D0408
Material	HSSE	HSSE
Surface Finish	*Blu*	*TiCN*
Sutton Designation	VA DH	VA DH
Geometry	R45	R45
Chamfer	Form C / 2.5 x P	Form C / 2.5 x P
Limit & Nut Tolerance	2B	2B

Size Ref.	d_1	TPI	l_1	l_2	l_3	d_2	sq	l_4	z	drill Ø	Item #	Item #
0218	# 2	56	45	9	10	2.8	2.1	5	2	1.85	•	T262 0218
0251	# 3	48	50	9	10	2.8	2.1	5	2	2.1	•	•
0284	# 4	40	56	5	18	3.5	2.7	6	2	2.3	T261 0284	T262 0284
0318	# 5	40	56	6	18	3.5	2.7	6	3	2.6	•	•
0351	# 6	32	56	6	19	4.0	3.0	6	3	2.8	T261 0351	T262 0351
0417	# 8	32	63	7	19	4.5	3.4	6	3	3.4	T261 0417	T262 0417
0483	# 10	24	70	8	20	6.0	4.9	8	3	3.8	T261 0483	T262 0483
0549	# 12	24	80	10	29	6.0	4.9	8	3	4.5	•	•
0635	1/4	20	80	10	30	7.0	5.5	8	3	5.1	T261 0635	T262 0635
0794	5/16	18	90	13	34	8.0	6.2	9	3	6.6	T261 0794	T262 0794
0953	3/8	16	100	15	35	10.0	7.0	10	3	8.0	T261 0953	T262 0953

UNC

DIN 2184-1 | 60° UNC | Z | DH



Size Ref.	d_1	TPI	l_1	l_2	l_3	d_2	sq	l_4	z	drill Ø	Item #	Item #
1111	7/16	14	100	15	-	8.0	6.2	8	3	9.4	T261 1111	T262 1111
1270	1/2	13	110	18	-	9.0	7.0	10	3	10.8	T261 1270	T262 1270
1429	9/16	12	110	20	-	11.0	9.0	12	3	12.2	•	•
1588	5/8	11	110	20	-	12.0	9.0	12	3	13.5	T261 1588	T262 1588
1905	3/4	10	125	25	-	14.0	11.0	14	4	16.5	T261 1905	T262 1905
2223	7/8	9	140	28	-	18.0	14.5	17	4	19.5	T261 2223	T262 2223
2540	1	8	160	32	-	18.0	14.5	17	4	22.2	T261 2540	T262 2540

ISO	P												M			K						N									S											H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
T261	●	●	○			○	○					○		●	●	○																																	
T262	●	●	○	○		○	○	○		○		●		●	●	●							○	○	○	○		○		○			●		○														

P Steel | M Stainless Steel | K Cast Iron | N Non-Ferrous Metals | S Titanium & Super Alloys | H Hard Materials

● Optimal ○ Effective

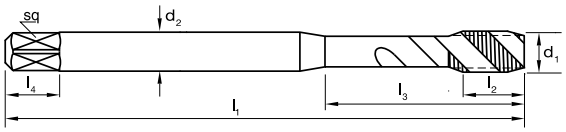
• Available on request as special manufacture. Subject to lead time.

DIN Taps UNC, Spiral Flute, R50 VA PM

suttontools

- PM-HSSE V3 offers superior tool life
- Use in stainless steels and high strength steels up to 850N/mm²
- Blind holes up to 3 x d_1
- Suitable for synchronous tapping in machine operations

DIN 2184-1 | 60° UNC | Z

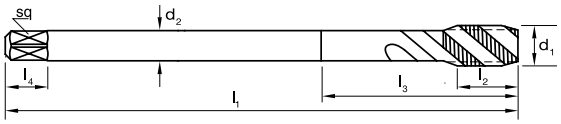


Catalogue Code	**T695**
Product Group	D0408
Material	**PM-HSSE V3**
Surface Finish	***TiCN***
Sutton Designation	**VA PM**
Geometry	R50
Chamfer	Form C / 2.5 x P
Limit & Nut Tolerance	2BX

Size Ref.	d_1	TPI	l_1	l_2	l_3	d_2	sq	l_4	z	drill Ø	Item #
0218	# 2	56	45	9	12	2.8	2.1	5	3	1.85	T695 0218
0284	# 4	40	56	5	18	3.5	2.7	6	3	2.35	T695 0284
0351	# 6	32	56	6	20	4	3.0	6	3	2.85	T695 0351
0417	# 8	32	63	7	21	4.5	4.3	6	3	3.50	T695 0417
0483	# 10	24	70	9	25	6	4.9	8	3	3.90	T695 0483
0635	1/4	20	80	10	30	7	5.5	8	3	5.10	T695 0635

UNC

DIN 2184-1 | 60° UNC | Z



Size Ref.	d_1	TPI	l_1	l_2	l_3	d_2	sq	l_4	z	drill Ø	Item #
0794	5/16	18	90	13	-	6	4.9	8	3	6.60	T695 0794
0953	3/8	16	100	15	-	7	5.5	8	3	8.00	T695 0953
1270	1/2	13	110	18	-	9	7	10	4	10.80	T695 1270
1588	5/8	11	110	20	-	12	9	12	4	13.50	T695 1588

ISO	P													M			K						N										S											H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
T695	●	●	●	○		●	○	○		○		●		●	●	●							○	○	○	○	○	○		○			●		●													

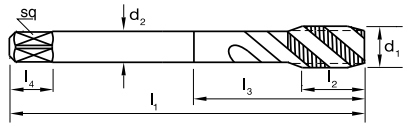
P Steel | M Stainless Steel | K Cast Iron | N Non-Ferrous Metals | S Titanium & Super Alloys | H Hard Materials

● Optimal ○ Effective

DIN Taps 8UN, Spiral Flute, R40 VA

suttontools

- Use in stainless steels and high strength steels up to 1000N/mm²
- Blind holes
- Suitable for synchronous tapping in machine operations
- Depths up to approximately 2.5 x d_1



Catalogue Code	**T263**	**T264**
Product Group	D0402	D0408
Material	**HSSE**	**HSSE**
Surface Finish	***Brt***	***TiCN***
Sutton Designation	**VA**	**VA**
Geometry	R40	R40
Chamfer	Form C / 2.5 x P	Form C / 2.5 x P
Limit & Nut Tolerance	2B	2B

Size Ref.	d_1	TPI	l_1	l_2	l_3	d_2	sq	l_4	z	drill Ø	Item #	Item #
2858	1-1/8	8	180	30	-	22.0	18.0	21	4	25.5	T263 2858	T264 2858
3175	1-1/4	8	180	30	-	22.0	18.0	21	4	28.5	T263 3175	T264 3175
3493	1-3/8	8	200	30	-	28.0	22.0	25	4	31.75	T263 3493	T264 3493
3810	1-1/2	8	200	30	-	28.0	22.0	25	6	35.0	T263 3810	T264 3810
4128	1-5/8	8	200	30	-	32.0	24.0	27	6	38.0	T263 4128	T264 4128
4445	1-3/4	8	220	30	-	36.0	29.0	3	6	41.5	T263 4445	T264 4445
4763	1-7/8	8	250	30	-	40.0	32.0	35	6	44.5	T263 4763	T264 4763
5080	2	8	250	33	-	40.0	32.0	35	6	47.5	T263 5080	T264 5080

ISO	P												M			K						N									S											H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
T263	●	●	●	○		●	○	○		○		●		●	●	●							○	○	○	○		○		○																			
T264	●	●	●	○		●	○	○		○		●		●	●	●							○	○	○	○		○		○																			

P Steel M Stainless Steel K Cast Iron N Non-Ferrous Metals S Titanium & Super Alloys H Hard Materials

● Optimal ○ Effective

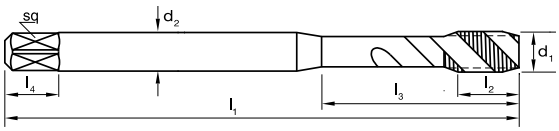
UN

DIN Taps UNC, Spiral Flute, R40 NH

suttontools

- Use in harder short chipping materials up to 42 HRC
- Blind holes
- Suitable for machine operations
- Depths up to approximately 2.5 x d_1

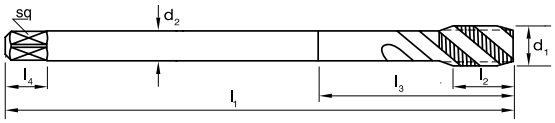
DIN 2184-1 | 60° UNC



Catalogue Code	T266	T267
Product Group	D0402	D0410
Material	PM-HSSE V3	PM-HSSE V3
Surface Finish	*Blu*	*TiAlN*
Sutton Designation	NH	NH
Geometry	R40	R40
Chamfer	Form C / 2.5 x P	Form C / 2.5 x P
Limit & Nut Tolerance	2B	2B

Size Ref.	d_1	TPI	l_1	l_2	l_3	d_2	sq	l_4	z	drill Ø	Item #	Item #
0218	# 2	56	45	9	10	2.8	2.1	5	2	1.85	•	•
0251	# 3	48	50	9	10	2.8	2.1	5	2	2.1	•	•
0284	# 4	40	56	5	18	3.5	2.7	6	2	2.3	•	•
0318	# 5	40	56	6	18	3.5	2.7	6	3	2.6	•	•
0351	# 6	32	56	6	19	4.0	3.0	6	3	2.8	•	•
0417	# 8	32	63	7	19	4.5	3.4	6	3	3.4	•	•
0483	# 10	24	70	8	20	6.0	4.9	8	3	3.8	•	•
0549	# 12	24	80	10	29	6.0	4.9	8	3	4.5	•	•
0635	1/4	20	80	10	30	7.0	5.5	8	3	5.1	T266 0635	T267 0635
0794	5/16	18	90	13	34	8.0	6.2	9	3	6.6	T266 0794	T267 0794
0953	3/8	16	100	15	35	10.0	7.0	10	3	8.0	T266 0953	T267 0953

DIN 2184-1 | 60° UNC



Size Ref.	d_1	TPI	l_1	l_2	l_3	d_2	sq	l_4	z	drill Ø	Item #	Item #
1111	7/16	14	100	15	-	8.0	6.2	8	3	9.4	•	•
1270	1/2	13	110	18	-	9.0	7.0	10	3	10.8	T266 1270	T267 1270
1429	9/16	12	110	20	-	11.0	9.0	12	3	12.2	•	•
1588	5/8	11	110	20	-	12.0	9.0	12	3	13.5	T266 1588	T267 1588
1905	3/4	10	125	25	-	14.0	11.0	14	4	16.5	T266 1905	T267 1905
2223	7/8*	9	140	28	-	18.0	14.5	17	4	19.5	•	•
2540	1*	8	160	32	-	18.0	14.5	17	4	22.2	T266 2540	T267 2540

ISO	P													M			K						N										S											H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
T266			●	●	○		●	○		○		○		○	○	○	○	○	○	○	○	○																										○	
T267			●	●	●		●	●	○	●	○	○	○	○	○	●	○	○	○	○	○	○	○	○	○	○	●	○	○	○																		○	

P Steel | M Stainless Steel | K Cast Iron | N Non-Ferrous Metals | S Titanium & Super Alloys | H Hard Materials

● Optimal ○ Effective

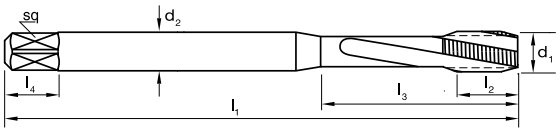
* HSSE > 3/4 • Available on request as special manufacture. Subject to lead time.

DIN Taps UNC, Spiral Flute, R15 H

suttontools

- Use in harder short chipping materials up to 45 HRC
- Blind holes
- Suitable for machine operations
- Depths up to approximately 1.5 x d_1

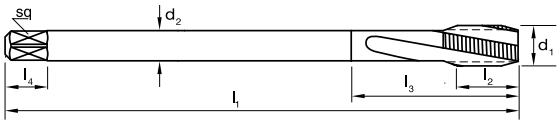
DIN 2184-1 | 60° UNC



Catalogue Code	T265*	T667
Product Group	D0402	D0408
Material	PM-HSS Co	PM-HSS Co
Surface Finish	*Blu*	*TiCN*
Sutton Designation	H	H
Geometry	R15	R15
Chamfer	Form C / 3 x P	Form C / 3 x P
Limit & Nut Tolerance	2BX	2BX

Size Ref.	d_1	TPI	l_1	l_2	l_3	d_2	sq	l_4	z	drill Ø	Item #	Item #
0218	#2	56	45	9	10	2.8	2.1	5	2	1.85	•	•
0251	#3	48	50	9	10	2.8	2.1	5	2	2.1	•	•
0284	#4	40	56	5	18	3.5	2.7	6	2	2.3	•	•
0318	#5	40	56	6	18	3.5	2.7	6	3	2.6	•	•
0351	#6	32	56	6	19	4.0	3.0	6	3	2.8	•	•
0417	#8	32	63	7	19	4.5	3.4	6	3	3.4	•	•
0483	#10	24	70	8	20	6.0	4.9	8	3	3.8	•	•
0549	#12	24	80	10	29	6.0	4.9	8	3	4.5	•	•
0635	1/4	20	80	10	30	7.0	5.5	8	3	5.1	T265 0635	T667 0635
0794	5/16	18	90	13	34	8.0	6.2	9	3	6.6	T265 0794	T667 0794
0953	3/8	16	100	15	35	10.0	7.0	10	3	8.0	T265 0953	T667 0953

DIN 2184-1 | 60° UNC



Size Ref.	d_1	TPI	l_1	l_2	l_3	d_2	sq	l_4	z	drill Ø	Item #	Item #
1111	7/16	14	100	15	-	8.0	6.2	8	3	9.4	T265 1111	T667 1111
1270	1/2	13	110	18	-	9.0	7.0	10	4	10.8	T265 1270	T667 1270
1429	9/16	12	110	20	-	11.0	9.0	12	4	12.2	T265 1429	T667 1429
1588	5/8	11	110	20	-	12.0	9.0	12	4	13.5	T265 1588	T667 1588
1905	3/4	10	125	25	-	14.0	11.0	14	4	16.5	T265 1905	T667 1905
2223	7/8†	9	140	28	-	18.0	14.5	17	4	19.5	T265 2223	T667 2223
2540	1†	8	160	32	-	18.0	14.5	17	4	22.2	T265 2540	T667 2540
2858	1.1/8†	7	180	45	-	22.0	18.0	21	4	25.0	T265 2858	T667 2858

ISO	P													M			K						N										S											H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
T265					●			●	●		●	○				○	○	○	○	○	○	○							○										○	○	○	○	○	○					○	
T667					●			●	●		●	○	●			○	●	●	●	●	●	●					○		●										○	●	●	●	●	●					●	

P Steel | M Stainless Steel | K Cast Iron | N Non-Ferrous Metals | S Titanium & Super Alloys | H Hard Materials

● Optimal ○ Effective

† HSSE > 3/4 *Not available once current stock is depleted • Available on request as special manufacture. Subject to lead time.

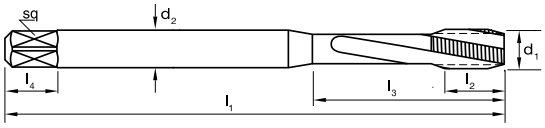
UNC

DIN Taps UNJ, Spiral Flute, R15 Ti

suttontools

- For Titanium based alloys
- For duplex and super duplex stainless steels
- For Nickel based alloys >850N/mm^2 <1150N/mm^2
- Tight tolerances and optimised micro finish for optimal process reliability and excellent thread quality
- Blind holes up to approximately 1.5 x d_1

DIN 2184-1 | 60° UNJC | 60° UNJF | µ MICRO



Catalogue Code	**T790**
Product Group	D0408
Material	**PM-HSS Co**
Surface Finish	***TiCN***
Sutton Designation	**Ti**
Geometry	R15
Chamfer	Form C / 3 x P
Limit & Nut Tolerance	3BX

Size Ref.	d_1	TPI	l_1	l_2	l_3	d_2	sq	l_4	z	drill Ø	Item #
	UNJC										
0284	#4	40	56	5	18	3.5	2.7	6	3	2.3	T790 0284
0351	#6	32	56	6	19	4.0	3.0	6	3	2.8	T790 0351
0483	#10	24	70	8	20	6.0	4.9	8	3	3.8	T790 0483
0635	1/4	20	80	10	30	7.0	5.5	8	3	5.2	T790 0635
0794	5/16	18	90	13	34	8.0	6.2	9	3	6.7	T790 0794
0953	3/8	16	100	15	35	10.0	7.0	10	3	8.1	T790 0953
1270	1/2	13	110	28	-	9.0	7.0	10	3	10.9	T790 1270
	UNJF										**T791**
0635	1/4	28	80	10	30	7.0	5.5	8	3	5.6	T791 0635
0794	5/16	24	90	13	34	8.0	6.2	9	3	7.0	T791 0794
0953	3/8	24	100	15	35	10.0	7.0	10	3	8.6	T791 0953
1270	1/2	13	110	18	-	9.0	7.0	10	3	10.8	T791 1270

UNJ

*Other sizes available to order on request

Special Taps Service

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Our Special Tool Service enables us to meet your requirements and deliver superior performance in Titanium & high temperature alloys.

With our state of the art CNC grinding equipment almost any profile can be achieved. Feel free to discuss these with our Tech team.

All Thread Forms
M, MJ, UNJC, UNJF, Screw Thread Insert (STI)

Sizes
M2-M30, #2-1"

ISO	P												M			K						N										S												H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
T790					○			○	○	○	○		○																					○			○		●	●	○	●	○						
T791					○			○	○	○	○		○																					○			○		●	●	○	●	○						

P Steel **M** Stainless Steel **K** Cast Iron **N** Non-Ferrous Metals **S** Titanium & Super Alloys **H** Hard Materials

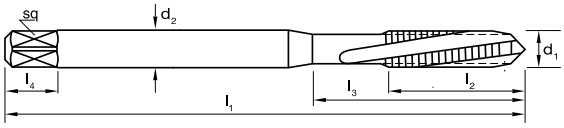
● Optimal ○ Effective

DIN Taps UNJ, Spiral Flute, L12 Ti

suttontools

- For Titanium based alloys
- For duplex and super duplex stainless steels
- For Nickel based alloys >850N/mm^2 <1150N/mm^2
- Tight tolerances and optimised micro finish for optimal process reliability and excellent thread quality
- Through holes up to approximately 1.5 x d_1

DIN 2184-1 | 60° UNJC | 60° UNJF | μ MICRO



Catalogue Code	**T786**
Product Group	D0408
Material	**PM-HSS Co**
Surface Finish	***TiCN***
Sutton Designation	**Ti**
Geometry	L12
Chamfer	Form B / 4.5 x P
Limit & Nut Tolerance	3BX

Size Ref.	d_1	TPI	l_1	l_2	l_3	d_2	sq	l_4	z	drill Ø	Item #
	UNJC										
0635	1/4	20	80	19	30	7.0	5.5	8	3	5.2	T786 0635
0794	5/16	18	90	22	34	8.0	6.2	9	3	6.7	T786 0794
0953	3/8	16	100	24	35	10.0	7.0	10	3	8.1	T786 0953
	UNJF										**T787**
0635	1/4	28	80	19	30	7.0	5.5	8	3	5.6	T787 0635
0794	5/16	24	90	22	34	8.0	6.2	9	3	7.0	T787 0794
0953	3/8	24	100	24	35	10.0	7.0	10	3	8.6	T787 0953

UNJ

Special Taps Service

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With our state of the art CNC grinding equipment almost any profile can be achieved. Feel free to discuss these with our Tech team.

All Thread Forms
M, MJ, UNJC, UNJF, Screw Thread Insert (STI)

Sizes
M2-M30, #2-1"

ISO	P												M			K						N									S											H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
T786					○			○	○	○	○		○																					○			○		●	●	○	●	○						
T787					○			○	○	○	○		○																					○			○		●	●	○	●	○						

P Steel | M Stainless Steel | K Cast Iron | N Non-Ferrous Metals | S Titanium & Super Alloys | H Hard Materials

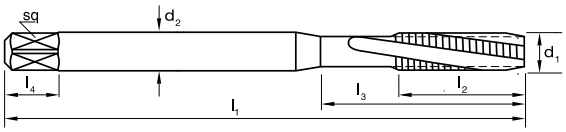
● Optimal ○ Effective

DIN Taps UNJ, Spiral Flute, R10 Ni

suttontools

- For Nickel alloys / age-hardened super alloys >1150N/mm²
- Tight tolerances and optimised micro finish for optimal process reliability and excellent thread quality
- Blind or through holes
- Depths up to approximately 1.5 x d_1

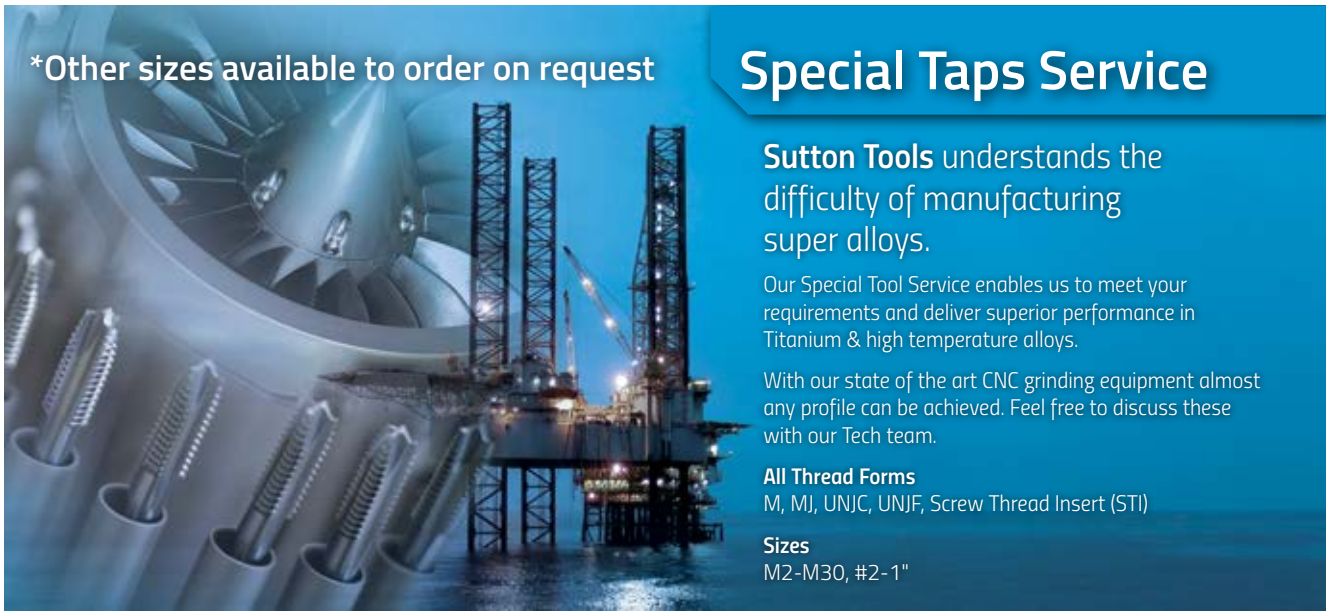
DIN 2184-1 | UNJC | UNJF | MICRO



Catalogue Code	**T794**
Product Group	D0408
Material	**PM-HSS Co**
Surface Finish	***TiCN***
Sutton Designation	**Ni**
Geometry	R10
Chamfer	Form C / 3 x P
Limit & Nut Tolerance	3BX

Size Ref.	d_1	TPI	l_1	l_2	l_3	d_2	sq	l_4	z	drill Ø	Item #
	UNJC										
0635	1/4	20	80	19	30	7.0	5.5	8	3	5.2	T794 0635
0794	5/16	18	90	22	34	8.0	6.2	9	3	6.7	T794 0794
0953	3/8	16	100	22	35	10.0	7.0	10	3	8.1	T794 0953
1270	1/2	13	110	28	-	9.0	7.0	10	3	10.9	T794 1270
	UNJF										**T795**
0635	1/4	28	80	19	30	7.0	5.5	8	3	5.6	T795 0635
0794	5/16	24	90	22	34	8.0	6.2	9	3	7.0	T795 0794
0953	3/8	24	100	22	35	10.0	7.0	10	3	8.6	T795 0953

UNJ



Special Taps Service

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All Thread Forms
M, MJ, UNJC, UNJF, Screw Thread Insert (STI)

Sizes
M2-M30, #2-1"

ISO	P												M			K						N										S									H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
T794																																				●												
T795																																				●												

P Steel | M Stainless Steel | K Cast Iron | N Non-Ferrous Metals | S Titanium & Super Alloys | H Hard Materials

● Optimal ○ Effective

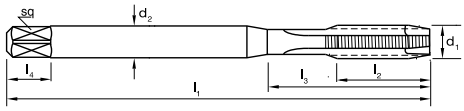
*Available on request as special manufacture. Subject to lead time & MOQ.

DIN Taps UNF, Gun, N

suttontools

- General purpose use, materials up to approximately 1000 N/mm²
- Through holes
- Suitable for machine operations
- Depths up to approximately 3 x d_1

DIN 2184-1 | 60° UNF

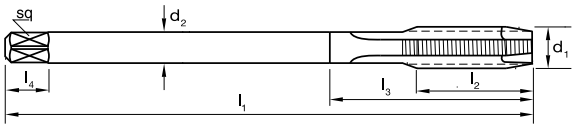


Catalogue Code	T173	T174	T702	T175
Product Group	D0402	D0402	D0402	D0406
Material	HSSE	HSSE	HSSE	HSSE
Surface Finish	*Brt*	*Brt*	*Blue*	*TiN*
Application	N	N	N	N
Geometry				
Chamfer	Form B / 4.5 x P	Form C / 2.5 x P	Form B / 4.5 x P	Form B / 4.5 x P
Limit & Nut Tolerance	2B	3B	2B	2B

Size Ref.	d_1	TPI	l_1	l_2	l_3	d_2	sq	l_4	z	drill Ø	Item #	Item #	Item #	Item #
0218	#2	64	45	9	-	2.8	2.1	5	2	1.9	T173 0218	•	T702 0218	T175 0218
0251	#3	56	50	9	-	2.8	2.1	5	2	2.1	•	•	•	•
0284	#4	48	56	11	18	3.5	2.7	6	2	2.35	T173 0284	•	T702 0284	T175 0284
0318	#5	44	56	11	18	3.5	2.7	6	3	2.65	•	•	•	T175 0318
0351	#6	40	56	13	20	4.0	3.0	6	3	2.9	T173 0351	•	•	T175 0351
0417	#8	36	63	13	21	4.5	3.4	6	3	3.5	T173 0417	•	T702 0417	T175 0417
0483	#10	32	70	16	25	6.0	4.9	8	3	4.1	T173 0483	•	T702 0483	T175 0483
0549	#12	28	80	19	30	6.0	4.9	8	3	4.6	•	•	•	•
0635	1/4	28	80	19	30	7.0	5.5	8	3	5.5	T173 0635	•	T702 0635	T175 0635
0794	5/16	24	90	22	35	8.0	6.2	9	3	6.9	T173 0794	•	T702 0794	T175 0794
0953	3/8	24	100	20	35	10.0	8.0	11	3	8.5	T173 0953	•	T702 0953	T175 0953

UNF

DIN 2184-1 | 60° UNF



Size Ref.	d_1	TPI	l_1	l_2	l_3	d_2	sq	l_4	z	drill Ø	Item #	Item #	Item #	Item #
1111	7/16	20	100	24	-	8.0	6.2	8	3	9.8	T173 1111	•	T702 1111	T175 1111
1270	1/2	20	110	28	-	9.0	7.0	10	3	11.5	T173 1270	•	T702 1270	T175 1270
1429	9/16	18	110	32	-	11.0	9.0	12	3	12.8	T173 1429	•	T702 1429	T175 1429
1588	5/8	18	110	32	-	12.0	9.0	12	3	14.5	T173 1588	•	T702 1588	T175 1588
1905	3/4	16	125	34	-	14.0	11.0	14	4	17.5	T173 1905	•	T702 1905	T175 1905
2223	7/8	14	140	34	-	18.0	14.5	17	4	20.5	T173 2223	•	T702 2223	T175 2223
2540	1	12	160	38	-	18.0	14.5	17	4	23.5	T173 2540	•	T702 2540	T175 2540

ISO	P												M			K						N									S											H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
T173	●	●	○	○		●	○			○							○		○		○	○	●	●	○	○		○	○																				
T174	●	●	○	○		●	○			○							○		○		○	○	●	●	○	○		○	○																				
T702	●	●	●	●		●	●			●		○		○	○	○	○		○		○	○																										
T175	●	●	●	●	○	●	●	○		●		○		○	○	○	○	○	○	○	○	○	●	●	○	○		●	○																				

P Steel | M Stainless Steel | K Cast Iron | N Non-Ferrous Metals | S Titanium & Super Alloys | H Hard Materials

● Optimal ○ Effective

• Available on request as special manufacture. Subject to lead time.

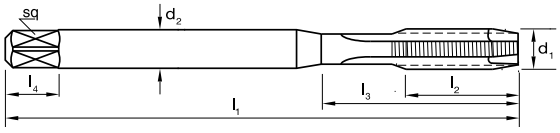
DIN Taps UNF, Gun, *Black Magic*

suttontools BLACKMAGIC

watch the video

- Universal high performance tapping
- PM-HSSE V3 offers superior tool life
- Use in stainless steels and high strength steels up to 850N/mm^2
- Through holes up to 3 x d_1
- Suitable for synchronous tapping in machine operations

DIN 2184-1 | 60° UNF | Z

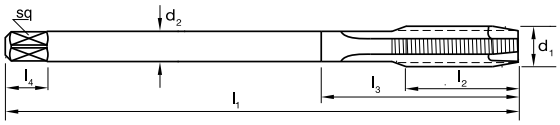


Catalogue Code	**T694**
Product Group	D0410
Material	**PM-HSSE V3**
Surface Finish	***HARDLUBE***
Sutton Designation	**UNI**
Geometry	Special Relief
Chamfer	Form B / 4.5 x P
Limit & Nut Tolerance	2BX

Size Ref.	d_1	TPI	l_1	l_2	l_3	d_2	sq	l_4	z	drill Ø	Item #
0284	# 4	48	56	11	18	3.5	2.7	6	2	2.35	T694 0284
0318	# 5	44	56	11	18	3.5	2.7	6	3	2.65	•
0351	# 6	40	56	13	20	4.0	3.0	6	3	2.9	T694 0351
0417	# 8	36	63	13	21	4.5	3.4	6	3	3.5	T694 0417
0483	# 10	32	70	16	25	6.0	4.9	8	3	4.1	T694 0483
0635	1/4	28	80	19	30	7.0	5.5	8	3	5.5	T694 0635

UNF

DIN 2184-1 | 60° UNF | Z



Size Ref.	d_1	TPI	l_1	l_2	l_3	d_2	sq	l_4	z	drill Ø	Item #
0794	5/16	24	90	22	35	6	4.9	8	3	6.90	T694 0794
0953	3/8	24	90	20	39	7	5.5	8	3	8.50	T694 0953
1270	1/2	20	100	22	-	9	7	10	4	11.50	T694 1270
1588	5/8	18	100	22	-	12	9	12	4	14.50	T694 1588

ISO	P													M			K						N									S											H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
T694	●	●	●	○		●	○			●		●	○	●	●		○	○	○	○	○	○	●	●	●	○	○	○	○	○																		

P Steel | M Stainless Steel | K Cast Iron | N Non-Ferrous Metals | S Titanium & Super Alloys | H Hard Materials

● Optimal ○ Effective

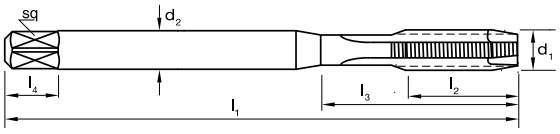
• Available on request as special manufacture. Subject to lead time.

DIN Taps UNF, Gun, VA

suttontools

- Use in stainless steels and high strength steels up to 1000N/mm²
- Through holes
- Suitable for machine operations
- Depths up to approximately 3 x d_1

DIN 2184-1 | 60° UNF

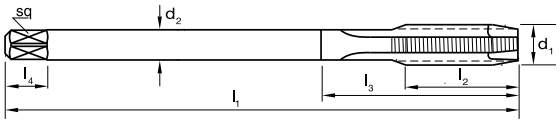


Catalogue Code	T176	T177
Product Group	D0402	D0408
Material	HSSE	HSSE
Surface Finish	*Blu*	*TiCN*
Sutton Designation	VA	VA
Geometry	Special Relief	Special Relief
Chamfer	Form B / 4.5 x P	Form B / 4.5 x P
Limit & Nut Tolerance	2B	2B

Size Ref.	d_1	TPI	l_1	l_2	l_3	d_2	sq	l_4	z	drill Ø	Item #	Item #
0218	# 2	64	45	9	-	2.8	2.1	5	2	1.9	•	•
0251	# 3	56	50	9	-	2.8	2.1	5	2	2.1	•	•
0284	# 4	48	56	11	18	3.5	2.7	6	2	2.35	T176 0284	•
0318	# 5	44	56	11	18	3.5	2.7	6	3	2.65	•	•
0351	# 6	40	56	13	20	4.0	3.0	6	3	2.9	T176 0351	•
0417	# 8	36	63	13	21	4.5	3.4	6	3	3.5	T176 0417	•
0483	# 10	32	70	16	25	6.0	4.9	8	3	4.1	T176 0483	T177 0483
0549	# 12	28	80	19	30	6.0	4.9	8	3	4.6	•	•
0635	1/4	28	80	19	30	7.0	5.5	8	3	5.5	T176 0635	T177 0635
0794	5/16	24	90	22	35	8.0	6.2	9	3	6.9	T176 0794	T177 0794
0953	3/8	24	100	20	35	10.0	8.0	11	3	8.5	T176 0953	T177 0953

UNF

DIN 2184-1 | 60° UNF



Size Ref.	d_1	TPI	l_1	l_2	l_3	d_2	sq	l_4	z	drill Ø	Item #	Item #
1111	7/16	20	100	24	-	8.0	6.2	8	3	9.8	T176 1111	T177 1111
1270	1/2	20	110	28	-	9.0	7.0	10	3	11.5	T176 1270	T177 1270
1429	9/16	18	110	32	-	11.0	9.0	12	3	12.8	T176 1429	T177 1429
1588	5/8	18	110	32	-	12.0	9.0	12	3	14.5	T176 1588	T177 1588
1905	3/4	16	125	34	-	14.0	11.0	14	4	17.5	T176 1905	T177 1905
2223	7/8	14	140	34	-	18.0	14.5	17	4	20.5	T176 2223	T177 2223
2540	1	12	160	38	-	18.0	14.5	17	4	23.5	T176 2540	T177 2540

ISO	P												M			K						N									S										H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
T176	●	●	○	○		●	○					○		●	●	○																																
T177	●	●	○	○		●	○			○		●	○	●	●	●							○	○	○	○	○	○		○			●	○	○													

P Steel | M Stainless Steel | K Cast Iron | N Non-Ferrous Metals | S Titanium & Super Alloys | H Hard Materials

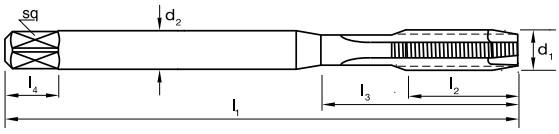
● Optimal ○ Effective

• Available on request as special manufacture. Subject to lead time.

suttontools

- PM-HSSE V3 offers superior tool life
- Use in stainless steels and high strength steels up to 850N/mm²
- Through holes up to 3 x d_1

DIN 2184-1 | 60° UNF

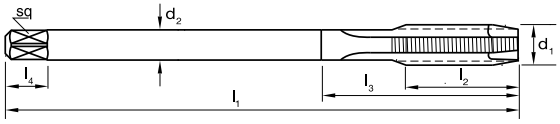


Catalogue Code	**T698**
Product Group	D0408
Material	**PM-HSSE V3**
Surface Finish	***TiCN***
Sutton Designation	**VA PM**
Geometry	Special Relief
Chamfer	Form B / 4.5 x P
Limit & Nut Tolerance	2BX

Size Ref.	d_1	TPI	l_1	l_2	l_3	d_2	sq	l_4	z	drill Ø	Item #
0284	# 4	48	56	11	18	3.5	2.7	6	2	2.35	T698 0284
0351	# 6	40	56	12	20	4.0	3.0	6	3	2.9	T698 0351
0417	# 8	36	63	13	21	4.5	3.4	6	3	3.5	T698 0417
0483	# 10	32	70	16	25	6.0	4.9	8	3	4.1	T698 0483
0635	1/4	28	80	19	30	7.0	5.5	8	3	5.5	T698 0635

UNF

DIN 2184-1 | 60° UNF



Size Ref.	d_1	TPI	l_1	l_2	l_3	d_2	sq	l_4	z	drill Ø	Item #
0794	5/16	24	90	22	-	6	4.9	8	3	6.90	T698 0794
0953	3/8	24	90	20	-	7	5.5	8	3	8.50	T698 0953
1270	1/2	20	100	22	-	9	7	10	4	11.50	T698 1270
1588	5/8	18	100	22	-	12	9	12	4	14.50	T698 1588

ISO	P													M			K						N										S											H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
T698	●	●	○	○		●	○			○		●	○	●	●	●							○	○	○	○	○	○		○			●	●	●													

P Steel | M Stainless Steel | K Cast Iron | N Non-Ferrous Metals | S Titanium & Super Alloys | H Hard Materials

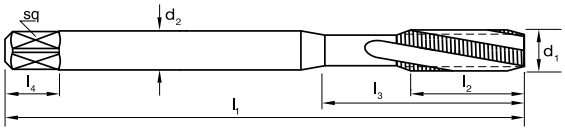
● Optimal ○ Effective

DIN Taps UNF, Spiral Flute, R15 N

suttontools

- General purpose use, materials up to approximately 1000 N/mm²
- Blind holes
- Suitable for machine operations
- Depths up to approximately 1.5 x d_1

DIN 2184-1 | 60° UNF

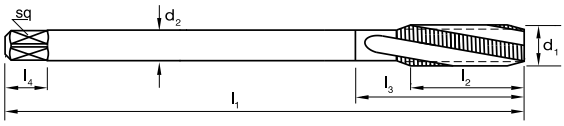


Catalogue Code	**T274**
Product Group	D0402
Material	**HSSE**
Surface Finish	***Brt***
Sutton Designation	**N**
Geometry	R15
Chamfer	Form C / 2.5 x P
Limit & Nut Tolerance	2B

Size Ref.	d_1	TPI	l_1	l_2	l_3	d_2	sq	l_4	z	drill Ø	Item #
0218	# 2	64	45	9	-	2.8	2.1	5	2	1.9	•
0251	# 3	56	50	9	-	2.8	2.1	5	2	2.1	•
0284	# 4	48	56	5	18	3.5	2.7	6	2	2.35	•
0318	# 5	44	56	6	18	3.5	2.7	6	3	2.65	•
0351	# 6	40	56	6	20	4.0	3.0	6	3	2.9	•
0417	# 8	36	63	7	21	4.5	3.4	6	3	3.5	•
0483	# 10	32	70	8	25	6.0	4.9	8	3	4.1	•
0549	# 12	28	80	10	30	6.0	4.9	8	3	4.6	•
0635	1/4	28	80	10	30	7.0	5.5	8	3	5.5	•
0794	5/16	24	90	13	35	8.0	6.2	9	3	6.9	•
0953	3/8	24	100	15	35	10.0	8.0	11	3	8.5	•

UNF

DIN 2184-1 | 60° UNF



Size Ref.	d_1	TPI	l_1	l_2	l_3	d_2	sq	l_4	z	drill Ø	Item #
1111	7/16	20	100	15	-	8.0	6.2	8	3	9.8	•
1270	1/2	20	110	18	-	9.0	7.0	10	3	11.5	•
1429	9/16	18	110	20	-	11.0	9.0	12	3	12.8	•
1588	5/8	18	110	20	-	12.0	9.0	12	3	14.5	•
1905	3/4	16	125	25	-	14.0	11.0	14	4	17.5	•
2223	7/8	14	140	28	-	18.0	14.5	17	4	20.5	•
2540	1	12	160	32	-	18.0	14.5	17	4	23.5	•

ISO	P												M			K						N									S											H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
T274	●	●	○	○		●	○			○							○		○		○	○	●	●	○	○		○	○																				

P Steel | M Stainless Steel | K Cast Iron | N Non-Ferrous Metals | S Titanium & Super Alloys | H Hard Materials

● Optimal ○ Effective

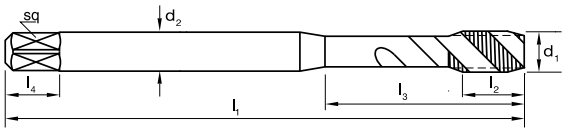
• Available on request as special manufacture. Subject to lead time.

DIN Taps UNF, Spiral Flute, R40 N

suttontools

- General purpose use, materials up to approximately 1000 N/mm²
- Blind holes
- Suitable for machine operations
- Depths up to approximately 2.5 x d_1

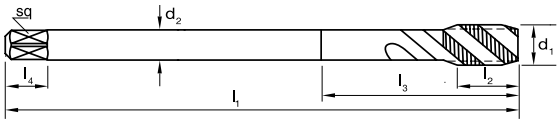
DIN 2184-1 | 60° UNF



Catalogue Code	T275	T701
Product Group	D0402	D0402
Material	HSSE	HSSE
Surface Finish	*Brt*	*Blu*
Sutton Designation	N	N
Geometry	R40	R40
Chamfer	Form C / 2.5 x P	Form C / 2.5 x P
Limit & Nut Tolerance	2B	2B

Size Ref.	d_1	TPI	l_1	l_2	l_3	d_2	sq	l_4	z	drill Ø	Item #	Item #
0218	# 2	64	45	9	-	2.8	2.1	5	2	1.9	•	•
0251	# 3	56	50	9	-	2.8	2.1	5	2	2.1	•	•
0284	# 4	48	56	5	18	3.5	2.7	6	2	2.35	T275 0284	•
0318	# 5	44	56	6	18	3.5	2.7	6	3	2.65	T275 0318	•
0351	# 6	40	56	6	20	4.0	3.0	6	3	2.9	T275 0351	T701 0351
0417	# 8	36	63	7	21	4.5	3.4	6	3	3.5	T275 0417	T701 0417
0483	# 10	32	70	8	25	6.0	4.9	8	3	4.1	T275 0483	T701 0483
0549	# 12	28	80	10	30	6.0	4.9	8	3	4.6	T275 0549	•
0635	1/4	28	80	10	30	7.0	5.5	8	3	5.5	T275 0635	T701 0635
0794	5/16	24	90	13	35	8.0	6.2	9	3	6.9	T275 0794	T701 0794
0953	3/8	24	100	15	35	10.0	8.0	11	3	8.5	T275 0953	T701 0953

DIN 2184-1 | 60° UNF



Size Ref.	d_1	TPI	l_1	l_2	l_3	d_2	sq	l_4	z	drill Ø	Item #	Item #
1111	7/16	20	100	15	-	8.0	6.2	8	3	9.8	T275 1111	T701 1111
1270	1/2	20	110	18	-	9.0	7.0	10	3	11.5	T275 1270	•
1429	9/16	18	110	20	-	11.0	9.0	12	3	12.8	T275 1429	•
1588	5/8	18	110	20	-	12.0	9.0	12	3	14.5	T275 1588	•
1905	3/4	16	125	25	-	14.0	11.0	14	4	17.5	T275 1905	•
2223	7/8	14	140	28	-	18.0	14.5	17	4	20.5	T275 2223	•
2540	1	12	160	32	-	18.0	14.5	17	4	23.5	T275 2540	•

ISO	P													M			K						N										S												H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
T275	●	●	○	○		●	○			○							○		○		○	○	●	●	○	○		○	○																				
T701	●	●	●	●		●	●			●		○		○	○	○	○		○		○	○																										

P Steel | M Stainless Steel | K Cast Iron | N Non-Ferrous Metals | S Titanium & Super Alloys | H Hard Materials

● Optimal ○ Effective

• Available on request as special manufacture. Subject to lead time.

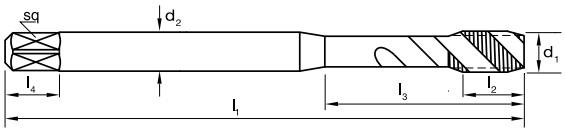
DIN Taps UNF, Spiral Flute, R50 *Black Magic*

suttontools BLACKMAGIC

watch the video

- Universal high performance tapping
- PM-HSSE V3 offers superior tool life
- Use in stainless steels and high strength steels up to 850N/mm^2
- Blind holes up to 3 x d_1
- Suitable for synchronous tapping in machine operations

DIN 2184-1 | 60° UNF | Z | HSC

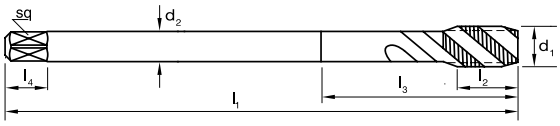


Catalogue Code	**T692**
Product Group	D0410
Material	**PM-HSSE V3**
Surface Finish	***HARDLUBE***
Sutton Designation	**UNI**
Geometry	R50
Chamfer	Form B / 4.5 x P
Limit & Nut Tolerance	2BX

Size Ref.	d_1	TPI	l_1	l_2	l_3	d_2	sq	l_4	z	drill Ø	Item #
0284	# 4	48	56	5	18	3.5	2.7	6	3	2.40	T692 0284
0351	# 6	40	56	6	20	4	3	6	3	2.95	T692 0351
0417	# 8	36	63	7	21	4.5	3.4	6	3	3.50	T692 0417
0483	# 10	32	70	8	25	6	4.9	8	3	4.10	T692 0483
0635	1/4	28	80	10	30	7	5.5	8	3	5.50	T692 0635

UNF

DIN 2184-1 | 60° UNF | Z | HSC



Size Ref.	d_1	TPI	l_1	l_2	l_3	d_2	sq	l_4	z	drill Ø	Item #
0794	5/16	24	90	13	35	6	4.9	8	3	6.90	T692 0794
0953	3/8	24	90	15	39	7	5.5	8	3	8.50	T692 0953
1270	1/2	20	100	18	-	9	7	10	4	11.50	T692 1270
1588	5/8	18	100	20	-	12	9	12	4	14.50	T692 1588

ISO	P												M			K						N									S											H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
T692	●	●	●	○		●	○			●		●	○	●	●		○	○	○	○	○	○	●	●	●	○	○	○	○																				

P Steel | M Stainless Steel | K Cast Iron | N Non-Ferrous Metals | S Titanium & Super Alloys | H Hard Materials

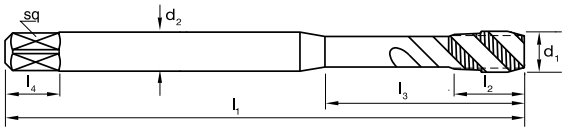
● Optimal ○ Effective

DIN Taps UNF, Spiral Flute, R45 VA DH

suttontools

- Use in stainless steels and high strength steels up to 1000N/mm²
- Blind holes
- Suitable for synchronous tapping in machine operations
- Depths up to approximately 3 x d_1

DIN 2184-1 | 60° UNF | Z | DH

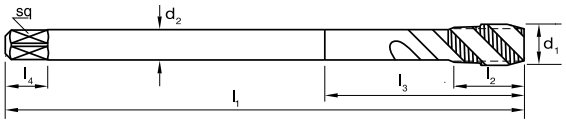


Catalogue Code	T276	T277
Product Group	D0402	D0408
Material	HSSE	HSSE
Surface Finish	*Blu*	*TiCN*
Sutton Designation	**VA DH**	**VA DH**
Geometry	R45	R45
Chamfer	Form C / 2.5 x P	Form C / 2.5 x P
Limit & Nut Tolerance	2B	2B

Size Ref.	d_1	TPI	l_1	l_2	l_3	d_2	sq	l_4	z	drill Ø	Item #	Item #
0218	# 2	64	45	9	-	2.8	2.1	5	2	1.9	•	•
0251	# 3	56	50	9	-	2.8	2.1	5	2	2.1	•	•
0284	# 4	48	56	5	18	3.5	2.7	6	2	2.35	•	•
0318	# 5	44	56	6	18	3.5	2.7	6	3	2.65	•	•
0351	# 6	40	56	6	20	4.0	3.0	6	3	2.9	T276 0351	•
0417	# 8	36	63	7	21	4.5	3.4	6	3	3.5	T276 0417	•
0483	# 10	32	70	8	25	6.0	4.9	8	3	4.1	T276 0483	•
0549	# 12	28	80	10	30	6.0	4.9	8	3	4.6	•	•
0635	1/4	28	80	10	30	7.0	5.5	8	3	5.5	T276 0635	T277 0635
0794	5/16	24	90	13	35	8.0	6.2	9	3	6.9	T276 0794	T277 0794
0953	3/8	24	100	15	35	10.0	8.0	11	3	8.5	T276 0953	T277 0953

UNF

DIN 2184-1 | 60° UNF | Z | DH



Size Ref.	d_1	TPI	l_1	l_2	l_3	d_2	sq	l_4	z	drill Ø	Item #	Item #
1429	7/16	20	100	15	-	8.0	6.2	8	3	9.8	T276 1111	T277 1111
1270	1/2	20	110	18	-	9.0	7.0	10	3	11.5	T276 1270	T277 1270
1429	9/16	18	110	20	-	11.0	9.0	12	3	12.8	•	•
1588	5/8	18	110	20	-	12.0	9.0	12	3	14.5	T276 1588	T277 1588
1905	3/4	16	125	25	-	14.0	11.0	14	4	17.5	T276 1905	T277 1905
2223	7/8	14	140	28	-	18.0	14.5	17	4	20.5	T276 2223	T277 2223
2540	1	12	160	32	-	18.0	14.5	17	4	23.5	T276 2540	T277 2540

ISO	P													M			K						N										S											H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
T276	●	●	○			○	○					○		●	●	○																																	
T277	●	●	○	○		○	○	○		○		●		●	●	●							○	○	○	○		○		○			●		○														

P Steel | M Stainless Steel | K Cast Iron | N Non-Ferrous Metals | S Titanium & Super Alloys | H Hard Materials

● Optimal ○ Effective

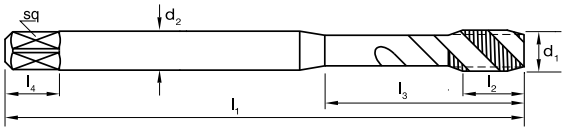
• Available on request as special manufacture. Subject to lead time.

DIN Taps UNF, Spiral, R50 VA PM

suttontools

- PM-HSSE V3 offers superior tool life
- Use in stainless steels and high strength steels up to 850N/mm²
- Blind holes up to 3 x d_1
- Suitable for synchronous tapping in machine operations

DIN 2184-1 | 60° UNF | Z

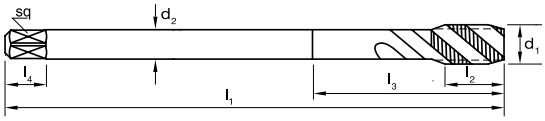


Catalogue Code	**T696**
Product Group	D0408
Material	**PM-HSSE V3**
Surface Finish	***TiCN***
Sutton Designation	**VA PM**
Geometry	R50
Chamfer	Form C / 2.5 x P
Limit & Nut Tolerance	2BX

Size Ref.	d_1	TPI	l_1	l_2	l_3	d_2	sq	l_4	z	drill Ø	Item #
0284	# 4	48	56	5	18	3.5	2.7	6	2	2.35	T696 0284
0351	# 6	40	56	6	20	4.0	3.0	6	3	2.9	T696 0351
0417	# 8	36	63	7	21	4.5	3.4	6	3	3.5	T696 0417
0483	# 10	32	70	8	25	6.0	4.9	8	3	4.1	T696 0483
0635	1/4	28	80	10	30	7.0	5.5	8	3	5.5	T696 0635

UNF

DIN 2184-1 | 60° UNF | Z



Size Ref.	d_1	TPI	l_1	l_2	l_3	d_2	sq	l_4	z	drill Ø	Item #
0794	5/16	24	90	13	-	6	4.9	8	3	6.90	T696 0794
0953	3/8	24	90	15	-	7	5.5	8	3	8.50	T696 0953
1270	1/2	20	100	18	-	9	7	10	4	11.50	T696 1270
1588	5/8	18	100	20	-	12	9	12	4	14.50	T696 1588

ISO	P												M			K						N									S										H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
T696	●	●	●	○		●	○	○		○		●		●	●	●							○	○	○	○	○	○		○			●		●													

P Steel | M Stainless Steel | K Cast Iron | N Non-Ferrous Metals | S Titanium & Super Alloys | H Hard Materials

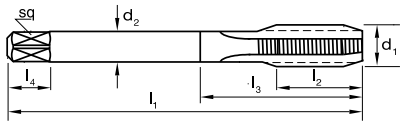
● Optimal ○ Effective

DIN Taps G (BSPF), Straight Flute, N

suttontools

- General Purpose use in materials up to approximately 1000 N/mm²
- Through & blind holes
- Suitable machine operations
- Depths up to approximately 1 x d_1

DIN 5156 | 55° G



Catalogue Code	T304	T305
Product Group	D0402	D0406
Material	HSSE	HSSE
Surface Finish	*Brt*	*TiN*
Sutton Designation	N	N
Geometry		
Chamfer	Form C / 2.5 x P	Form C / 2.5 x P
Limit & Nut Tolerance	ISO 228	ISO 228

Size Ref.	d_1	TPI	l_1	l_2	l_3	d_2	sq	l_4	z	drill Ø	Item #	Item #
0973	G 1/8	28	90	20	-	7.0	5.5	8	4	8.8	T304 0973	T305 0973
1316	G 1/4	19	100	22	-	11.0	9.0	12	4	11.8	T304 1316	T305 1316
1666	G 3/8	19	100	22	-	12.0	9.0	12	4	15.3	T304 1666	T305 1666
2096	G 1/2	14	125	25	-	16.0	12.0	15	4	19.0	T304 2096	T305 2096
2291	G 5/8	14	125	25	-	18.0	14.5	17	4	21.0	T304 2291	T305 2291
2644	G 3/4	14	140	28	-	20.0	16.0	19	4	24.5	T304 2644	T305 2644
3020	G 7/8	14	150	28	-	22.0	18.0	21	4	28.5	T304 3020	T305 3020
3325	G 1	11	160	30	-	25.0	20.0	23	4	31.0	T304 3325	T305 3325
3790	G 1-1/8	11	170	30	-	28.0	22.0	25	4	35.5	T304 3790	•
4191	G 1-1/4	11	170	30	-	32.0	24.0	27	6	39.5	T304 4191	•
4432	G 1-3/8	11	180	32	-	36.0	29.0	32	6	42.0	•	•
4780	G 1-1/2	11	190	32	-	36.0	29.0	32	6	45.5	T304 4780	•
5375	G 1-3/4	11	190	32	-	40.0	32.0	35	6	51.0	•	•
5961	G 2	11	220	40	-	45.0	35.0	38	6	57.0	•	•

ISO	P													M			K						N										S											H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
T304	●	●	●	●	○	●	○	○		○													○	○	○	○		○	○	○																			
T305	●	●	●	●	○	●	○	○		○													○	○	○	○		○	○	○																			

P Steel | M Stainless Steel | K Cast Iron | N Non-Ferrous Metals | S Titanium & Super Alloys | H Hard Materials

● Optimal ○ Effective

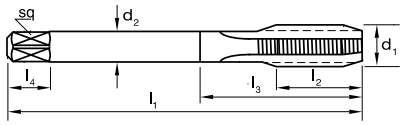
• Available on request as special manufacture. Subject to lead time.

DIN Taps G (BSPF), Straight Flute, GG

suttontools

- Use in grey cast iron (GG), brittle plastics, hard bronzes to a hardness of 850 N/mm^2
- Through & blind holes
- Suitable machine operations
- Depths up to approximately 3 x d_1

DIN 5156 | 55° G



	T306	T307
Catalogue Code	T306	T307
Product Group	D0402	D0408
Material	HSSE	HSSE
Surface Finish	*Ni + Blu*	*TiCN*
Sutton Designation	GG	GG
Geometry	Low Relief	Low Relief
Chamfer	Form C / 2.5 x P	Form C / 2.5 x P
Limit & Nut Tolerance	ISO 228	ISO 228

Size Ref.	d_1	TPI	l_1	l_2	l_3	d_2	sq	l_4	z	drill Ø	Item #	Item #
0973	G 1/8	28	90	20	-	7.0	5.5	8	4	8.8	T306 0973	T307 0973
1316	G 1/4	19	100	22	-	11.0	9.0	12	4	11.8	T306 1316	T307 1316
1666	G 3/8	19	100	22	-	12.0	9.0	12	5	15.3	T306 1666	T307 1666
2096	G 1/2	14	125	25	-	16.0	12.0	15	5	19.0	T306 2096	T307 2096
2291	G 5/8	14	125	25	-	18.0	14.5	17	5	21.0	T306 2291	T307 2291
2644	G 3/4	14	140	28	-	20.0	16.0	19	6	24.5	T306 2644	T307 2644
3020	G 7/8	14	150	28	-	22.0	18.0	21	6	28.5	T306 3020	T307 3020
3325	G 1	11	160	30	-	25.0	20.0	23	6	31.0	T306 3325	T307 3325

ISO	P												M			K						N									S										H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
T306																	●	●	●	●	○	○																										
T307																	●	●	●	●	○	○					○																					

P Steel | M Stainless Steel | K Cast Iron | N Non-Ferrous Metals | S Titanium & Super Alloys | H Hard Materials

● Optimal ○ Effective

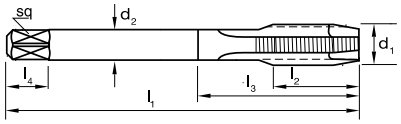
G

DIN Taps G (BSPF), Gun, N

suttontools

- General Purpose use in materials up to approximately 1000 N/mm²
- Through holes
- Suitable machine operations
- Depths up to approximately 3 x d_1

DIN 5156 | 55° G



Catalogue Code	T178	T179	T180
Product Group	D0402	D0402	D0406
Material	HSSE	HSSE	HSSE
Surface Finish	*Brt*	*Blu*	*TiN*
Sutton Designation	N	N	N
Geometry			
Chamfer	Form B / 4.5 x P	Form B / 4.5 x P	Form B / 4.5 x P
Limit & Nut Tolerance	ISO 228	ISO 228	ISO 228

Size Ref.	d_1	TPI	l_1	l_2	l_3	d_2	sq	l_4	z	drill Ø	Item #	Item #	Item #
0973	G 1/8	28	90	20	-	7.0	5.5	8	3	8.8	T178 0973	T179 0973	T180 0973
1316	G 1/4	19	100	22	-	11.0	9.0	12	3	11.8	T178 1316	•	T180 1316
1666	G 3/8	19	100	22	-	12.0	9.0	12	3	15.3	T178 1666	T179 1666*	T180 1666
2096	G 1/2	14	125	25	-	16.0	12.0	15	3	19.0	T178 2096	T179 2096	T180 2096
2291	G 5/8	14	125	25	-	18.0	14.5	17	4	21.0	T178 2291	•	T180 2291
2644	G 3/4	14	140	28	-	20.0	16.0	19	4	24.5	T178 2644	•	T180 2644
3020	G 7/8	14	150	28	-	22.0	18.0	21	4	28.5	T178 3020	•	T180 3020
3325	G 1	11	160	30	-	25.0	20.0	23	4	31.0	T178 3325	•	T180 3325

ISO	P													M			K						N										S											H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
T178	●	●	○	○		●	○			○							○		○		○	○	●	●	○	○		○	○																				
T179	●	●	●	●		●	●			●		○		○	○	○	○		○		○	○																										
T180	●	●	●	●	○	●	●	○		●		○		○	○	○	○	○	○	○	○	○	●	●	○	○		●	○																				

P Steel | M Stainless Steel | K Cast Iron | N Non-Ferrous Metals | S Titanium & Super Alloys | H Hard Materials

● Optimal ○ Effective

*Not available once current stock is depleted • Available on request as special manufacture. Subject to lead time.

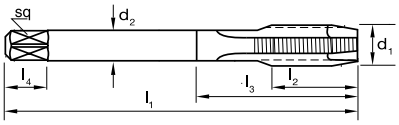
DIN Taps G (BSPF), Gun, *Black Magic*

suttontools BLACKMAGIC

watch the video

- Universal high performance tapping
- PM-HSSE V3 offers superior tool life
- Use in stainless steels and high strength steels up to 850N/mm^2
- Through holes up to 3 x d_1
- Suitable for synchronous tapping in machine operations

DIN 5156 | 55° G | Z



Catalogue Code	**T700**
Product Group	D0410
Material	**PM-HSSE V3**
Surface Finish	***HARDLUBE***
Sutton Designation	**UNI**
Geometry	Special Relief
Chamfer	Form B / 4.5 x P
Limit & Nut Tolerance	ISO 228

Size Ref.	d_1	TPI	l_1	l_2	l_3	d_2	sq	l_4	z	drill Ø	Item #
0973	G 1/8	28	90	20	-	7.0	5.5	8	3	8.8	T700 0973
1316	G 1/4	19	100	22	-	11.0	9.0	12	3	11.8	T700 1316
1666	G 3/8	19	100	22	-	12.0	9.0	12	3	15.3	T700 1666
2096	G 1/2	14	125	25	-	16.0	12.0	15	3	19.0	T700 2096
2291	G 5/8	14	125	25	-	18.0	14.5	17	4	21.0	T700 2291
2644	G 3/4	14	140	28	-	20.0	16.0	19	5	24.5	T700 2644
3020	G 7/8	14	150	28	-	22.0	18.0	21	5	28.5	T700 3020
3325	G 1	11	160	30	-	25.0	20.0	23	5	31.0	T700 3325

G

ISO	P												M			K						N									S											H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
T700	●	●	●	○		●	○			●		●	○	●	●		○	○	○	○	○	○	●	●	●	○	○	○	○	○																		

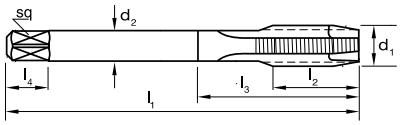
P Steel | M Stainless Steel | K Cast Iron | N Non-Ferrous Metals | S Titanium & Super Alloys | H Hard Materials

● Optimal ○ Effective

DIN Taps G (BSPF), Gun, VA

suttontools

- Use in stainless steels and high strength steels up to 1000N/mm²
- Through holes
- Suitable machine operations
- Depths up to approximately 3 x d_1



Catalogue Code	**T181**
Product Group	D0402
Material	**HSSE**
Surface Finish	***Blu***
Sutton Designation	**VA**
Geometry	Special Relief
Chamfer	Form B / 4.5 x P
Limit & Nut Tolerance	ISO 228

Size Ref.	d_1	TPI	l_1	l_2	l_3	d_2	sq	l_4	z	drill Ø	Item #
0973	G 1/8	28	90	20	-	7.0	5.5	8	3	8.8	T181 0973
1316	G 1/4	19	100	22	-	11.0	9.0	12	3	11.8	T181 1316
1666	G 3/8	19	100	22	-	12.0	9.0	12	3	15.3	T181 1666
2096	G 1/2	14	125	25	-	16.0	12.0	15	3	19.0	T181 2096
2291	G 5/8	14	125	25	-	18.0	14.5	17	4	21.0	T181 2291
2644	G 3/4	14	140	28	-	20.0	16.0	19	4	24.5	T181 2644
3020	G 7/8	14	150	28	-	22.0	18.0	21	4	28.5	T181 3020
3325	G 1	11	160	30	-	25.0	20.0	23	4	31.0	T181 3325

ISO	P												M			K						N										S										H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
T181	●	●	○	○		●	○					○		●	●	○																																

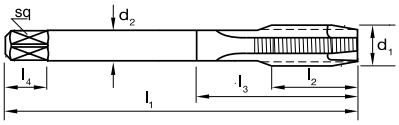
P Steel **M** Stainless Steel **K** Cast Iron **N** Non-Ferrous Metals **S** Titanium & Super Alloys **H** Hard Materials

● Optimal ○ Effective

DIN Taps G (BSPF), Gun, VA PM

suttontools

- Use in stainless steels and high strength steels up to 1000N/mm²
- PM-HSSE V3 offers higher edge hardness than standard VA series
- Through holes
- Suitable for synchronous tapping in machine operations
- Depths up to approximately 3 x d_1



Catalogue Code	T349	T350
Product Group	D0402	D0408
Material	PM-HSSE V3	PM-HSSE V3
Surface Finish	*Blu*	*TiCN*
Sutton Designation	VA PM	VA PM
Geometry	Special Relief	Special Relief
Chamfer	Form B / 4.5 x P	Form B / 4.5 x P
Limit & Nut Tolerance	ISO 228	ISO 228

Size Ref.	d_1	TPI	l_1	l_2	l_3	d_2	sq	l_4	z	drill Ø	Item #	Item #
0973	G 1/8	28	90	20	-	7.0	5.5	8	3	8.8	T349 0973	T350 0973
1316	G 1/4	19	100	22	-	11.0	9.0	12	3	11.8	T349 1316	T350 1316
1666	G 3/8	19	100	22	-	12.0	9.0	12	3	15.3	T349 1666	T350 1666
2096	G 1/2	14	125	25	-	16.0	12.0	15	3	19.0	T349 2096	T350 2096
2291	G 5/8	14	125	25	-	18.0	14.5	17	4	21.0	T349 2291	T350 2291
2644	G 3/4	14	140	28	-	20.0	16.0	19	5	24.5	T349 2644	T350 2644
3020	G 7/8	14	150	28	-	22.0	18.0	21	5	28.5	T349 3020	T350 3020
3325	G 1	11	160	30	-	25.0	20.0	23	5	31.0	T349 3325	T350 3325

ISO	P												M			K						N									S										H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
T349	●	●	○	○		●	○			○		○		●	●	○																																
T350	●	●	○	○		●	○			○		●	○	●	●	●							○	○	○	○	○	○		○			●	●	●													

P Steel M Stainless Steel K Cast Iron N Non-Ferrous Metals S Titanium & Super Alloys H Hard Materials

● Optimal ○ Effective

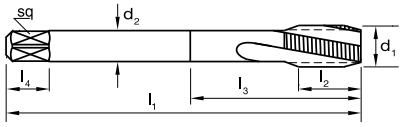
G

DIN Taps G (BSPF), Spiral Flute, R15 N

suttontools

- General purpose use, materials up to approximately 1000 N/mm²
- Blind holes
- Suitable for machine operations
- Depths up to approximately 1.5 x d_1

DIN 5156 | 55° G



	T278	T279
Catalogue Code	T278	T279
Product Group	D0402	D0406
Material	HSSE	HSSE
Surface Finish	*Brt*	*TiN*
Sutton Designation	N	N
Geometry	R15	R15
Chamfer	Form C / 2.5 x P	Form C / 2.5 x P
Limit & Nut Tolerance	ISO 228	ISO 228

Size Ref.	d_1	TPI	l_1	l_2	l_3	d_2	sq	l_4	z	drill Ø	Item #	Item #
0973	G 1/8	28	90	20	-	7.0	5.5	8	3	8.8	T278 0973	T279 0973
1316	G 1/4	19	100	22	-	11.0	9.0	12	3	11.8	T278 1316	T279 1316
1666	G 3/8	19	100	22	-	12.0	9.0	12	3	15.3	T278 1666	T279 1666
2096	G 1/2	14	125	25	-	16.0	12.0	15	4	19.0	T278 2096	T279 2096
2291	G 5/8	14	125	25	-	18.0	14.5	17	4	21.0	T278 2291	T279 2291
2644	G 3/4	14	140	28	-	20.0	16.0	19	5	24.5	T278 2644	T279 2644
3020	G 7/8	14	150	28	-	22.0	18.0	21	5	28.5	T278 3020	T279 3020
3325	G 1	11	160	30	-	25.0	20.0	23	5	31.0	T278 3325	T279 3325

ISO	P													M			K						N									S										H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
T278	●	●	○	○		●	○			○							○		○		○	○	●	●	○	○		○	○																			
T279	●	●	●	●	○	●	●	○		●		○		○	○	○	○	○	○	○	○	○	●	●	○	○		○	○																			

P Steel | M Stainless Steel | K Cast Iron | N Non-Ferrous Metals | S Titanium & Super Alloys | H Hard Materials

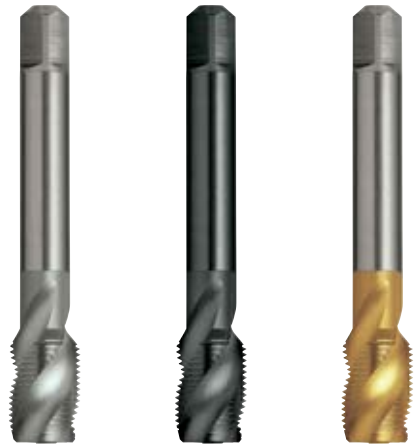
● Optimal ○ Effective

G

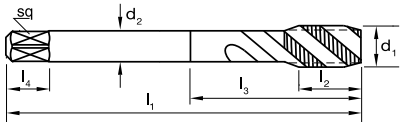
DIN Taps G (BSPF), Spiral Flute, R40 N

suttontools

- General purpose use, materials up to approximately 1000 N/mm²
- Blind holes
- Suitable for machine operations
- Depths up to approximately 2.5 x d_1



DIN 5156 | 55° G



Catalogue Code	T281	T282	T283*
Product Group	D0402	D0402	D0406
Material	HSSE	HSSE	HSSE
Surface Finish	*Brt*	*Blu*	*TiN*
Sutton Designation	N	N	N
Geometry	R40	R40	R40
Chamfer	Form C / 2.5 x P	Form C / 2.5 x P	Form C / 2.5 x P
Limit & Nut Tolerance	ISO 228	ISO 228	ISO 228

Size Ref.	d_1	TPI	l_1	l_2	l_3	d_2	sq	l_4	z	drill Ø	Item #	Item #	Item #
0973	G 1/8	28	90	20	-	7.0	5.5	8	3	8.8	T281 0973	T282 0973	T283 0973
1316	G 1/4	19	100	22	-	11.0	9.0	12	3	11.8	T281 1316	T282 1316	•
1666	G 3/8	19	100	22	-	12.0	9.0	12	3	15.3	T281 1666	T282 1666	•
2096	G 1/2	14	125	25	-	16.0	12.0	15	4	19.0	T281 2096	T282 2096	•
2291	G 5/8	14	125	25	-	18.0	14.5	17	4	21.0	T281 2291	T282 2291	T283 2291
2644	G 3/4	14	140	28	-	20.0	16.0	19	4	24.5	T281 2644	T282 2644	•
3020	G 7/8	14	150	28	-	22.0	18.0	21	4	28.5	T281 3020	T282 3020	T283 3020
3325	G 1	11	160	30	-	25.0	20.0	23	4	31.0	T281 3325	T282 3325	•
3790	G 1-1/8	11	170	30	-	28.0	22.0	25	4	35.5	•	•	•
4191	G 1-1/4	11	170	30	-	32.0	24.0	27	6	39.5	•	•	•
4432	G 1-3/8	11	180	32	-	36.0	29.0	32	6	42.0	•	•	•
4780	G 1-1/2	11	190	32	-	36.0	29.0	32	6	45.5	•	•	•

ISO	P													M			K						N									S												H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
T281	●	●	○	○		●	○			○							○		○		○	○	●	●	○	○		○	○																				
T282	●	●	●	●		●	●			●		○		○	○	○	○		○		○	○																										
T283	●	●	●	●	○	●	●	○		●		○		○	○	○	○	○	○	○	○	○	●	●	○	○		●	○																				

P Steel | M Stainless Steel | K Cast Iron | N Non-Ferrous Metals | S Titanium & Super Alloys | H Hard Materials

● Optimal ○ Effective

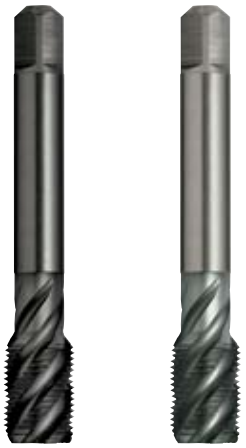
*Not available once current stock is depleted • Available on request as special manufacture. Subject to lead time.

G

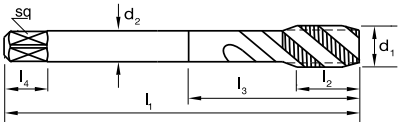
DIN Taps G (BSPF), Spiral Flute, R45 VA

suttontools

- Use in stainless steels and high strength steels up to 1000N/mm²
- Blind holes
- Suitable for synchronous tapping in machine operations
- Depths up to approximately 3 x d_1



DIN 5156 | 55° G



	T284	T285
Catalogue Code	T284	T285
Product Group	D0402	D0408
Material	HSSE	HSSE
Surface Finish	*Blu*	*TiCN*
Sutton Designation	VA	VA
Geometry	R45	R45
Chamfer	Form C / 2.5 x P	Form C / 2.5 x P
Limit & Nut Tolerance	ISO 228	ISO 228

Size Ref.	d_1	TPI	l_1	l_2	l_3	d_2	sq	l_4	z	drill Ø	Item #	Item #
0973	G 1/8	28	90	20	-	7.0	5.5	8	4	8.8	T284 0973	T285 0973
1316	G 1/4	19	100	22	-	11.0	9.0	12	4	11.8	T284 1316	T285 1316
1666	G 3/8	19	100	22	-	12.0	9.0	12	5	15.3	T284 1666	T285 1666
2096	G 1/2	14	125	25	-	16.0	12.0	15	5	19.0	T284 2096	T285 2096
2291	G 5/8	14	125	25	-	18.0	14.5	17	5	21.0	T284 2291	T285 2291
2644	G 3/4	14	140	28	-	20.0	16.0	19	5	24.5	T284 2644	T285 2644
3020	G 7/8	14	150	28	-	22.0	18.0	21	5	28.5	T284 3020	T285 3020
3325	G 1	11	160	30	-	25.0	20.0	23	5	31.0	T284 3325	T285 3325

ISO	P												M			K						N										S										H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
T284	●	●	○			○	○					○		●	●	○																																
T285	●	●	○	○		○	○	○		○		●		●	●	●							○	○	○	○		○		○			●		○													

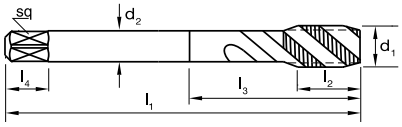
P Steel | M Stainless Steel | K Cast Iron | N Non-Ferrous Metals | S Titanium & Super Alloys | H Hard Materials

● Optimal ○ Effective

DIN Taps G (BSPF), Spiral Flute, R50 VA PM

suttontools

- Use in stainless steels and high strength steels up to 1000N/mm²
- PM-HSSE V3 offers higher edge hardness than standard VA series
- Blind holes
- Suitable for machine operations
- Depths up to approximately 3 x d_1



	T351	T352
Catalogue Code	T351	T352
Product Group	D0402	D0408
Material	PM-HSSE V3	PM-HSSE V3
Surface Finish	*Blu*	*TiCN*
Sutton Designation	VA PM	VA PM
Geometry	R50	R50
Chamfer	Form C / 2.5 x P	Form C / 2.5 x P
Limit & Nut Tolerance	ISO 228	ISO 228

Size Ref.	d_1	TPI	l_1	l_2	l_3	d_2	sq	l_4	z	drill Ø	Item #	Item #
0973	G 1/8	28	90	20	-	7.0	5.5	8	4	8.8	T351 0973	T352 0973
1316	G 1/4	19	100	22	-	11.0	9.0	12	4	11.8	T351 1316	T352 1316
1666	G 3/8	19	100	22	-	12.0	9.0	12	5	15.3	T351 1666	T352 1666
2096	G 1/2	14	125	25	-	16.0	12.0	15	5	19.0	T351 2096	T352 2096
2291	G 5/8	14	125	25	-	18.0	14.5	17	5	21.0	T351 2291	T352 2291
2644	G 3/4	14	140	28	-	20.0	16.0	19	5	24.5	T351 2644	T352 2644
3020	G 7/8	14	150	28	-	22.0	18.0	21	5	28.5	T351 3020	T352 3020
3325	G 1	11	160	30	-	25.0	20.0	23	5	31.0	T351 3325	T352 3325

ISO	P												M			K						N									S										H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
T351	●	●	●			●	○					○		●	●	○																																
T352	●	●	●	○		●	○	○		○		●		●	●	●							○	○	○	○	○	○		○			●		●													

P Steel M Stainless Steel K Cast Iron N Non-Ferrous Metals S Titanium & Super Alloys H Hard Materials

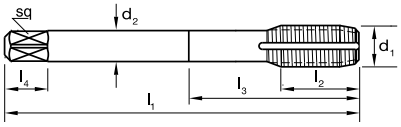
● Optimal ○ Effective

G

DIN Taps G (BSPF), Forming, Multi Coolant Groove

suttontools

- For cold forming of threads in materials with good flow characteristics
  Brt - For non-ferrous materials
  TiCN - Suitable for abrasive and difficult materials
- Through or blind holes
- Suitable for machine operations
- Depths up to approximately 3 x d_1



Catalogue Code	T361	T363
Product Group	D0402	D0408
Material	HSSE	HSSE
Surface Finish	*Brt*	*TiCN*
Sutton Designation	N	N
Geometry	Multi Groove	Multi Groove
Chamfer	Form C / 2.5 x P	Form C / 2.5 x P
Limit & Nut Tolerance	ISO 228 X	ISO 228 X

Size Ref.	d_1	TPI	l_1	l_2	l_3	d_2	sq	l_4	z	drill Ø	Item #	Item #
0973	G 1/8	28	90	20	-	7.0	5.5	8		9.25	T361 0973	T363 0973
1316	G 1/4	19	100	22	-	11.0	9.0	12		12.5	T361 1316	T363 1316
1666	G 3/8	19	100	22	-	12.0	9.0	12		16.0	T361 1666	T363 1666
2096	G 1/2	14	125	25	-	16.0	12.0	15		20.0	T361 2096	T363 2096
2291	G 5/8	14	125	25	-	18.0	14.5	17		22.0	T361 2291	T363 2291
2644	G 3/4	14	140	28	-	20.0	16.0	19		25.5	T361 2644	T363 2644
3020	G 7/8	14	150	28	-	22.0	18.0	21		29.25	•	•
3325	G 1	11	160	30	-	25.0	20.0	23		32.0	•	•

ISO	P												M			K						N									S									H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
T361	●	●	○	●		○								●									●	●	○	○		○		○																			
T363	●	●	●	●		●								●									●	●	○	○		●		○																			

P Steel **M** Stainless Steel **K** Cast Iron **N** Non-Ferrous Metals **S** Titanium & Super Alloys **H** Hard Materials

● Optimal ○ Effective

G

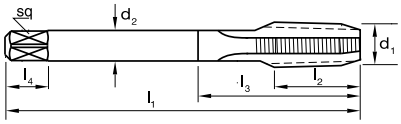
• Available on request as special manufacture. Subject to lead time.

DIN Taps NPT, Straight Flute, UNI

suttontools

- Universal use.
- Suitable for materials up to 1000N/mm^2
- Through & blind holes

~DIN 2184-1 | 60° NPT



Catalogue Code	**T308**
Product Group	D0402
Material	**HSSE**
Surface Finish	***Brt***
Sutton Designation	**UNI**
Geometry	1:16 Taper
Chamfer	Form C / 2.5 x P
Limit & Nut Tolerance	ANSI B1.20.1

Size Ref.	d_1	TPI	l_1	l_2	l_3	d_2	sq	l_4	z	drill Ø	Item #
1029	1/8	27	90	20	-	7.0	5.5	8	4	8.2	T308 1029
1372	1/4	18	100	22	-	11.0	9.0	12	4	10.8	T308 1372
1716	3/8	18	100	22	-	12.0	9.0	12	4	14.0	T308 1716
2134	1/2	14	125	25	-	16.0	12.0	15	4	17.5	T308 2134
2667	3/4	14	140	28	-	20.0	16.0	19	4	23.0	T308 2667
3340	1	11.5	160	30	-	25.0	20.0	23	5	28.5	T308 3340
4216	1-1/4	11.5	170	30	-	32.0	24.0	27	5	37.0	T308 4216

NPT

ISO	P												M			K						N									S											H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
T308	●	●	●	●	○	●	●	○		○		○	○	○	○	○	○		○		○	○	●	●	○	○		●	○	○																		

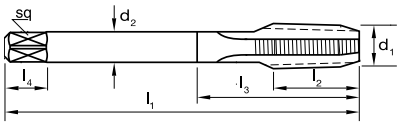
P Steel | M Stainless Steel | K Cast Iron | N Non-Ferrous Metals | S Titanium & Super Alloys | H Hard Materials

● Optimal ○ Effective

DIN Taps RC (BSPT), Straight Flute, UNI

suttontools

- Universal use
- Suitable for materials up to 1000N/mm²
- Through or blind holes



Catalogue Code	**T808**
Discount Group	D0408
Material	**HSSE**
Surface Finish	***TiCN***
Sutton Designation	**UNI**
Geometry	1:16 Taper
Chamfer	Form C / 2.5 x P
Limit & Nut Tolerance	ANSI B1.20.1

Size Ref.	d_1	TPI	l_1	l_2	l_3	d_2	sq	l_4	z	drill Ø	Item #
0973	1/8	28	90	15	-	7.0	5.5	8	4	8.4	T808 0973
1316	1/4	19	100	22	-	11.0	9.0	12	4	10.8	T808 1316
1666	3/8	19	100	22	-	12.0	9.0	12	4	14.5	T808 1666
2096	1/2	14	125	28	-	16.0	12.0	15	4	18.0	T808 2096
2644	3/4	14	140	28	-	20.0	16.0	19	4	23.0	T808 2644
3325	1	11	160	32	-	25.0	20.0	23	5	29.0	T808 3325

NPT

ISO	P													M			K						N										S												H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
T808	●	●	●	●	○	●	●	○		○		○	○	○	○	○	○		○		○	○	●	●	○	○		●	○	○																			

P Steel M Stainless Steel K Cast Iron N Non-Ferrous Metals S Titanium & Super Alloys H Hard Materials

● Optimal ○ Effective

• Available on request as special manufacture. Subject to lead time.

suttontools

TOOL HOLDING

▪ For improved thread quality ▪ CNC rigid tapping

SynchroFlex Tapping Attachment with unique Double Flexure

Unlike other "synchronous" tap drivers that use soft plastic components or belleville washers similar as above, to cushion the taps' entry into the hole, SynchroFlex utilises a patented (computer generated, precisely machined, special steel alloy) Double Flexure between the mount and the chuck.

It compensates both axially for the unavoidable discrepancies between the machine's programmed RPM, feed and traverse and the exact thread pitch and precise hole location.

The SynchroFlex is dependable and predictable. You can expect long life performance under all working conditions. What's more, you'll make significant savings when it comes to tap costs.

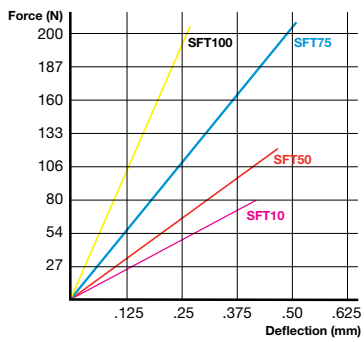
SynchroFlex Proven Results

Independent tests in real world applications confirm SynchroFlex is unmatched in performance

- Tap life increased by 100% or more
- Thread quality improved
- Increased production due to less tap breakage
- Less down time
- Reduced costs

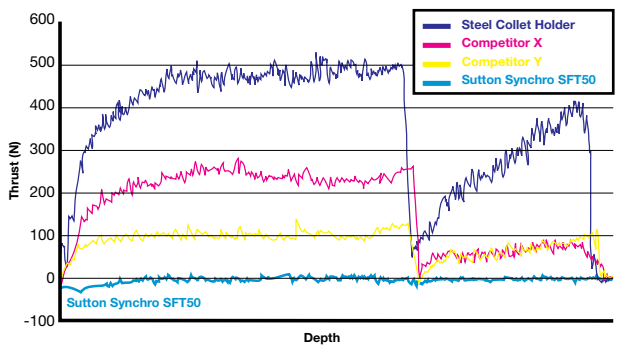
The most economical rigid tapping

SynchroFlex exerts lower thrust and torque forces than any other tap holder on the market. In any given material the lower the thrust and torque forces on the tap, the longer the tap life.



Consistent and predictable tap starting force

Deflection Rates
Only SynchroFlex's computer generated flexure technology produces a progressively higher tap starting force for each 0.025mm of deflection. It's predictable and consistent throughout the life of the tool.



Graph illustrates the final hole tapped by each tap driver.

Test One (Thrust): 10 holes, M6 R45Al, 2 flute tap, 3x Dia deep in AL7075 at 1000 RPM

Holder Type	Average Thrust (N)	Average Down Cut Thrust (N) Entering Hole	Average Reverse Thrust (N) Exiting Hole
Steel Collet Holder (Rigid)	1008	1379	930
Competitor X	681	879	445
Competitor Y	320	425	266
SynchroFlex	-12	-29	-31

Test Two (Torque): 10 holes, M6 R45Al, 2 flute tap, 3x Dia deep in AL7075 at 2000 RPM

Holder Type	Average Torque (Ncm)	Average Down Cut Torque (Ncm) Entering Hole	Average Reverse Torque (Ncm) Exiting Hole
Steel Collet Holder (Rigid)	481	631	-387
Competitor X	593	639	-354
Competitor Y	542	730	-392
SynchroFlex	268	371	-190

TAPMATIC

- For the best rigid tapping results
- Holder designed for machines with rigid tapping
- Machine reversal required
- Increases tap life by 100% or more
- Improve thread quality
- Flexure design, acts like shock absorber

BT-40 Arbor

ER25 Collet (Sq. Drive)

Patented Flexure Design

Patented Flexure Design

Size Ref.	Description	Size Capacity	Mount	Collet Series	Ref. Code	Item #
	Tapping Attachments (Product Group Z1104)					**Z100**
SFT10	SynchroFlex SFT10	M1-M6 (#2 - #10)	25mm SS	ER11	43102511	Z100 SFT10
SFT50	SynchroFlex SFT50	M4-M12 (#8 - 1/2)	25mm SS	ER20	43502520	Z100 SFT50
SFT75	SynchroFlex SFT75	M4-M16 (3/8 - 3/4)	25mm SS	ER20	43752525	Z100 SFT75
	Collets - SFT10 (Round Drive) (Product Group Z1110)					**Z110**
0025	2-2.5mm	M1-1.8		ER11		Z110 0025
0030	2.5-3mm	M2-2.6		ER11		Z110 0030
0035	3-3.5mm	M3		ER11		Z110 0035
0040	3.5-4mm	M3.5		ER11		Z110 0040
0045	4-4.5mm	M4		ER11		Z110 0045
0050	4.5-5mm	M4 JIS		ER11		Z110 0050
0055	5-5.5mm	M5 JIS		ER11		Z110 0055
0060	5.5-6mm	M5 / M6 / M2-M6 Synchro				Z110 0060
	Collets - SFT50 (Square Drive) (Product Group Z1110)					**Z111**
0045	Ø 4.5mm	M4 DIN371		ER20		Z111 0045
0050	Ø 5mm	ISO		ER20		Z111 0050
0060	Ø 6mm	M5 / M6 DIN371 / M2-M6 Synchro		ER20		Z111 0060
0070	Ø 7mm	M10 DIN376		ER20		Z111 0070
0080	Ø 8mm	M8 DIN371 / M8 Synchro		ER20		Z111 0080
0090	Ø 9mm	M12 DIN376		ER20		Z111 0090
0100	Ø 10mm	M10 DIN371 / M10 Synchro		ER20		Z111 0100
	Collets - SFT75 (Square Drive) (Product Group Z1110)					**Z112**
0045	Ø 4.5mm	M4 DIN371		ER25		Z112 0045
0060	Ø 6mm	M5 / M6 DIN371 / M2-M6 Synchro		ER25		Z112 0060
0070	Ø 7mm	M10 DIN371		ER25		Z112 0070
0080	Ø 8mm	M8 DIN371 / M8 Synchro		ER25		Z112 0080
0090	Ø 9mm	M12 DIN376		ER25		Z112 0090
0100	Ø 10mm	M10 DIN371 / M10 Synchro		ER25		Z112 0100
0110	Ø 11mm	M14 DIN376		ER25		Z112 0110
0120	Ø 12mm	M16 DIN376 / M12 Synchro		ER25		Z112 0120
	Collets - SFT100 (Square Drive) (Product Group Z1110)					**Z113**
0080	Ø 8mm	M8 DIN371 / M8 Synchro		ER40		Z113 0080
0100	Ø 10mm	M10 DIN371 / M10 Synchro		ER40		Z113 0100
0120	Ø 12mm	M16 DIN376 / M12 Synchro		ER40		Z113 0120
0140	Ø 14mm	M18 DIN376 / M14 Synchro		ER40		Z113 0140
0160	Ø 16mm	M20 DIN376 / M16 Synchro		ER40		Z113 0160
	Accessories (Product Group Z1108)					**Z130**
3943	BT-40 Arbor W/25mm Bore				23943	Z130 3943
3945	BT-50 Arbor W/25mm Bore				23945	Z130 3945
						Z135
BT40	Pull stud BT40					Z135 BT40
BT50	Pull stud BT50					Z135 BT50

TAPMATIC

- Tension/compression tapping units for NC machining and turning centres
- Uses Rubberflex collets (only two required)
- ER Collect Chuck available on special request
- Provides greater thread accuracy and higher production rates
- Compact Design for application where space is limited
- Releasable Hard Start for accurate depth control

BT-40 Arbor

Rubberflex Collet

Tension & Compression Holder NSM6

Size Ref.	Description	Size Capacity	Mount	Collet Series	Ref. Code	Item #
	Tapping Attachments (Product Group Z1104)					**Z102**
NSM6	Tension & Compression Holder NSM6	M5-M18 #10-3/4	25mm SS	Rubberflex	35887	Z102 NSM6
	Collets - NSM6 (Product Group Z1108)					**Z117**
0443	Rubberflex	3-7mm		J443	24300	Z117 0443
0440	Rubberflex	5-12mm		J440	24100	Z117 0440
0441	Rubberflex	8-16mm		J441	24000	Z117 0441
0445	Rubberflex	10-14mm		J445	24500	Z117 0445
	Accessories (Product Group Z1108)					**Z130**
3943	BT-40 Arbor W/25mm Bore				23943	Z130 3943
3945	BT-50 Arbor W/25mm Bore				23945	Z130 3945
						Z135
BT40	Pull stud BT40					Z135 BT40
BT50	Pull stud BT50					Z135 BT50

TAPMATIC

- Self-Reversing Holder for CNC machines
- Machine reversal NOT required, less wear and tear on machine spindle
- Designed for applications where high volume of threads are required
- Constant speed tapping
- Bore cycle (G85) used in CNC program instead of Tapping cycle (G84)
- Please note: 2 different size stop arms available for RDT50, must check for machine centre distance & order best suited.

BT-40 Arbor

ER25 Collet (Sq. Drive)

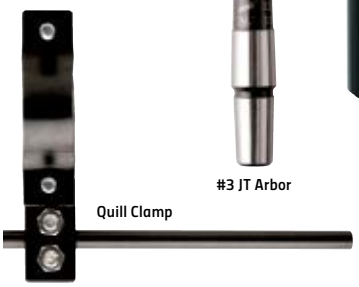
Self-Reversing RDT50

Size Ref.	Description	Size Capacity	Mount	Collet Series	Ref. Code	Item #
	Tapping Attachments (Product Group Z1102)					**Z103**
RDT25	Self-Reversing RDT25	M2.5 - M6 (#4-1/4)	25mm SS	ER11	39252511	Z103 RDT25
	Self-Reversing RDT50	M4 - M12 (#10-1/2)	25mm SS	ER16	39502516	Z103 RDT50
	Collets - RDT25 (Round Drive) (Product Group Z1110)					**Z110**
0025	2-2.5mm	M1-1.8		ER11		Z110 0025
0030	2.5-3mm	M2-2.6		ER11		Z110 0030
0035	3-3.5mm	M3		ER11		Z110 0035
0040	3.5-4mm	M3.5		ER11		Z110 0040
0045	4-4.5mm	M4		ER11		Z110 0045
0050	4.5-5mm	M4 JIS		ER11		Z110 0050
0055	5-5.5mm	M5 JIS		ER11		Z110 0055
0060	5.5-6mm	M5/M6		ER11		Z110 0060
	Collets - RDT50 (Square Drive) (Product Group Z1110)					**Z114**
0045	Ø 4.5mm	M4 DIN371		ER16		Z114 0045
0050	Ø 5mm	ISO		ER16		Z114 0050
0060	Ø 6mm	M5 / M6 DIN371		ER16		Z114 0060
0070	Ø 7mm	M10 DIN376		ER16		Z114 0070
	Accessories (Product Group Z1108)					**Z130**
3943	BT-40 Arbor W/25mm Bore				23943	Z130 3943
3945	BT-50 Arbor W/25mm Bore				23945	Z130 3945
						Z135
BT40	Pull stud BT40					Z135 BT40
BT50	Pull stud BT50					Z135 BT50
	Stop Arms (Product Group Z1102)					**Z132**
2565	65mm Stop Arm RDT25			ER11	392565	Z132 2565
						Z133
5065	65mm Stop Arm RDT50			ER16	395065	Z133 5065
5080	80mm Stop Arm RDT50			ER16	395080	Z133 5080

TAPMATIC

- For manually operated drilling and milling machines
- Increased production
- 1.75 x 1 increased reverse speed
- New durable, rugged design
- Self-feed ensures gauge perfect threads
- New heavy duty ball clutch
- Re-entry cushion eliminates cross threading
- Pre-selective torque drive prevents tap breakage

Rubberflex Collet



Quill Clamp

#3 JT Arbor

Self-Reversing Rx50

Z105 Drill and Tap

Z119 ER20 QC Adaptor for DNT50

Size Ref.	Description	Size Capacity	Mount	Ref. Code	Item #
	Tapping Attachments (Product Group Z1106)				**Z104**
RX30	Self-Reversing Rx30	M1.4-M6 (#0-1/4)	W#6 JT	013006	Z104 RX30
RX50	Self-Reversing Rx50	M3-M12 (#6-1/2)	W#6 JT	015006	Z104 RX50
RX70	Self-Reversing Rx70	M5-M18 (#10-3/4)	W#3 JT	017003	Z104 RX70
					Z105
DNT50	Self-Reversing Drill and Tap	M3-M12 (#6-1/2)	JT6, B16, JT33	016006	Z105 DNT50
	Collets - Rx30 (Product Group Z1108)				**Z115**
0116	Rubberflex	3-5mm	J116	21600	Z115 0116
0117	Rubberflex	5-6.5mm	J117	21700	Z115 0117
	Collets - Rx50				**Z116**
0421	Rubberflex	3.5-6.5mm	J421	22100	Z116 0421
0420	Rubberflex	5-8mm	J420	22000	Z116 0420
	Collets - Rx70				**Z117**
0443	Rubberflex	3-7mm	J443	24300	Z117 0443
0440	Rubberflex	5-12mm	J440	24100	Z117 0440
0441	Rubberflex	8-16mm	J441	24000	Z117 0441
0445	Rubberflex	10-14mm	J445	24500	Z117 0445
	Accessories (Product Group Z1108)				**Z131**
0203	#2MT X Arbor		#3 JT	20203	Z131 0203
0206	#2MT X Arbor		#6 JT	20206	Z131 0206
0303	#3MT X Arbor		#3 JT	20303	Z131 0303
0306	#3MT X Arbor		#6 JT	20306	Z131 0306
0403	#4MT X Arbor		#3 JT	20403	Z131 0403
					Z134
0099	Quill Clamp	1-1/2 to 2-3/8		29099	Z134 0099
0991	Quill Clamp	2-3/8 to 4-1/2		290991	Z134 0991
					Z119
†ER20	ER20 QC Adaptor for DNT50			8218220	Z119 ER20

†Refer to page 185 for collet sizes to match your tools

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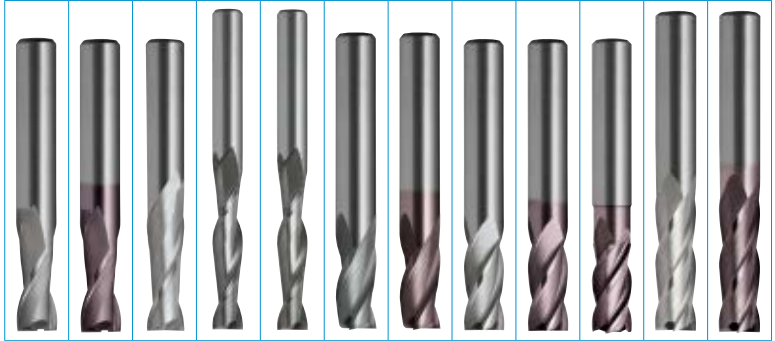
CARBIDE ENDMILLS

- High performance solutions for slotting, finishing, roughing and profiling
- Micro and ultra fine grain type carbides
- General purpose and application specific geometries

suttontools

ISO	VDI	Material Group	Sutton	
P	A	Steel	N	UNI
M	R	Stainless Steel	VA	
K	F	Cast Iron	GG	
N	N	Non-Ferrous Metals, Aluminiums & Coppers	Al / W	
S	S	Titaniums & Super Alloys	Ti	Ni
H	H	Hard Materials (≥ 45 HRC)	H	

^ VDI 3323 material groups can also be determined by referring to the material cross reference listing in the application guide at the back of this catalogue.

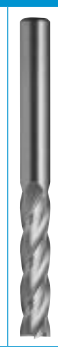
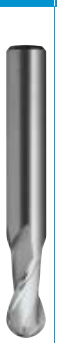
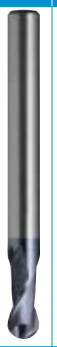
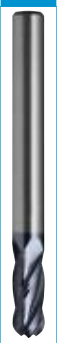
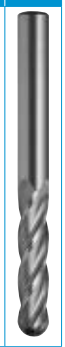
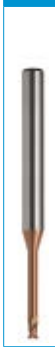
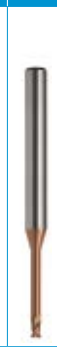
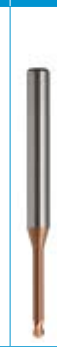
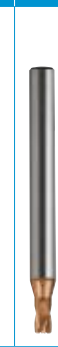
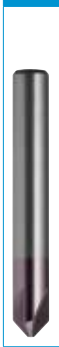
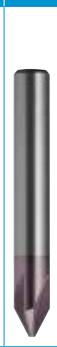
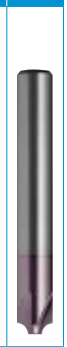


Page	195	195	196	197	198	199	199	200	200	201	202	202
Catalogue Code	E600 E304	E603 E307	E308	E309	E608	E610	E611	E601 E333	E604 E336	E635 E636	E337	E340
Type of Cut: *Slotting*	●	●	●	●	●							
Finishing										●		
Universal						●	●	●	●	●	●	●
Roughing						●		●				
Profiling												
Material	VHM		VHM			VHM		VHM		VHM-ULTRA	VHM	
Surface Finish	*Brt*	*TiAlN*	*Brt*			*Brt*	*TiAlN*	*Brt*	*TiAlN*	*TiAlN*	*Brt*	*TiAlN*
Sutton Designation	N		N			N		N		N	N	
Standard	-		-			-		-		-	-	
Shank Tolerance	h6		h6			h6		h6		h6	h6	

ISO	VDI^ 3323	Material		Condition	HB	N/mm²												
P	1	Steel - Non-alloy, cast & free cutting	~ 0.15 %C	A	125	440	●	●	●	●	●	●	●	●	●	●	●	●
	2		~ 0.45 %C	A	190	640	●	●	●	●	●	●	●	●	●	●	●	●
	3			QT	250	840	●	●	●	○	○	●	●	●	●	●	●	●
	4		~ 0.75 %C	A	270	910	●	●	●	○	○	●	●	●	●	●	●	●
	5			QT	300	1010		○	○				○		○	○	○	●
	6	Steel - Low alloy & cast < 5% of alloying elements		A	180	610	●	●	●	●	●	●	●	●	●	●	●	●
	7			QT	275	930	○	●	●	○	○	○	●	○	●	●	●	●
	8			QT	300	1010		○	○				○		○	○	○	●
	9			QT	350	1180		○	○				○		○	○	○	○
	10	Steel - High alloy, cast & tool		A	200	680	○	●	●	○	○	○	●	○	●	●	●	●
	11			HT	325	1100		○	○				○		○	○	○	○
	12	Steel - Corrosion resistant & cast	Ferritic / Martensitic	A	200	680			○	○	○						○	●
	13		Martensitic	QT	240	810			○								○	○
M	14.1	Stainless Steel	Austenitic	AH	180	610	○	○	●	○	○	○	○	○	○	○	●	●
	14.2		Duplex		250	840	○	○	○	○	○	○	○	○	○	○		○
	14.3		Precipitation Hardening		250	840			○									
K	15	Cast Iron - Grey (GG)	Ferritic / Pearlitic		180	610	○	○	●	○	○	○	○	○	○	○	●	●
	16		Pearlitic		260	880	○	○	○			○	○	○	○	○	○	●
	17	Cast Iron - Nodular (GGG)	Ferritic		160	570	○	○	●	○	○	○	○	○	○	○	●	●
	18		Pearlitic		250	840	○	○	○			○	○	○	○	○	○	●
	19	Cast Iron - Malleable	Ferritic		130	460	○	○	○	○	○	○	○	○	○	○	○	●
	20		Pearlitic		230	780	○	○	○	○	○	○	○	○	○	○	○	●
N	21	Aluminum & Magnesium - wrought alloy	Non Heat Treatable		60	210	○	○	●	○	○	○	○	○	○	○	●	●
	22		Heat Treatable	AH	100	360	○	○	●	○	○	○	○	○	○	○	●	●
	23	Aluminum & Magnesium - cast alloy ≤12% Si	Non Heat Treatable		75	270	○	○	○	○	○	○	○	○	○	○	○	○
	24		Heat Treatable	AH	90	320	○	○	○	○	○	○	○	○	○	○	○	○
	25	Al & Mg - cast alloy >12% Si	Non Heat Treatable		130	460	○	○	○	○	○	○	○	○	○	○	○	○
	26	Copper & Cu alloys (Brass/Bronze)	Free cutting, Pb > 1%		110	390	○	○	○	○	○	○	○	○	○	○	○	○
	27		Brass (CuZn, CuSnZn)		90	320	○	○	○	○	○	○	○	○	○	○	○	○
	28		Bronze (CuSn)		100	360	○	○	○	○	○	○	○	○	○	○	○	○
	29	Non-metallic - Thermosetting & fiber-reinforced plastics					○	○	○	○	○	○	○	○	○	○	○	○
	30	Non-metallic - Hard rubber, wood etc.					○	○	○	○	○	○	○	○	○	○	○	○
S	31	High temp. alloys	Fe based	A	200	680												
	32			AH	280	950												
	33		Ni / Co based	A	250	840												
	34			AH	350	1180												
	35			C	320	1080												
	36	Titanium & Ti alloys	CP Titanium		400 MPa													
	37.1		Alpha alloys		860 MPa													
	37.2		Alpha / Beta alloys	A	960 MPa													
	37.3			AH	1170 MPa													
	37.4		Beta alloys	A	830 MPa													
	37.5			AH	1400 MPa													
H	38.1	Hardened steel		HT	45 HRC													
	38.2			HT	55 HRC													
	39.1			HT	58 HRC													
	39.2			HT	62 HRC													
	40	Cast Iron	Chilled	C	400	1350												
	41			HT	55 HRC													

Condition: A (Annealed), **AH** (Age Hardened), **C** (Cast), **HT** (Hardened & Tempered), **QT** (Quenched & Tempered)

● Optimal ○ Effective

203	204	205	206	207	207	208	209	210	210	211	212	213	216	217	219	222	224	224	225	VDI^ 3323	ISO
																					
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VHM	VHM	VHM		VHM		VHM-ULTRA	VHM	VHM		VHM-ULTRA	VHM	VHM					VHM				
TiAlN	*Brt*	*TiAlN*		*Brt*	*TiAlN*	*AlCrN*	*Brt*	*Brt*	*TiAlN*	*AlCrN*	*Brt*	*TiSiN*					*TiAlN*				
N		N	WN	N				N				NH			N		N				
-		DIN 6527L		-				-				-					-				
h6		h6		h6				h6				h6					h6				
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●	●	○	●	●	●	●	○	●	●	●	●						●	●	●	6	
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			●			○				○							●	●	●	37.1	
			●			○				○							●	●	●	37.2	
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			●			○				○							●	●	●	37.4	
			●			○				○		●	●	●	●		●	●	●	37.5	
												●	●	●	●	●	●	●	●	38.1	H
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																				41	

suttontools

ISO	VDI	Material Group	Sutton	
P	A	Steel	N	UNI
M	R	Stainless Steel	VA	
K	F	Cast Iron	GG	
N	N	Non-Ferrous Metals, Aluminiums & Coppers	Al W	
S	S	Titaniums & Super Alloys	Ti	Ni
H	H	Hard Materials (≥ 45 HRC)	H	

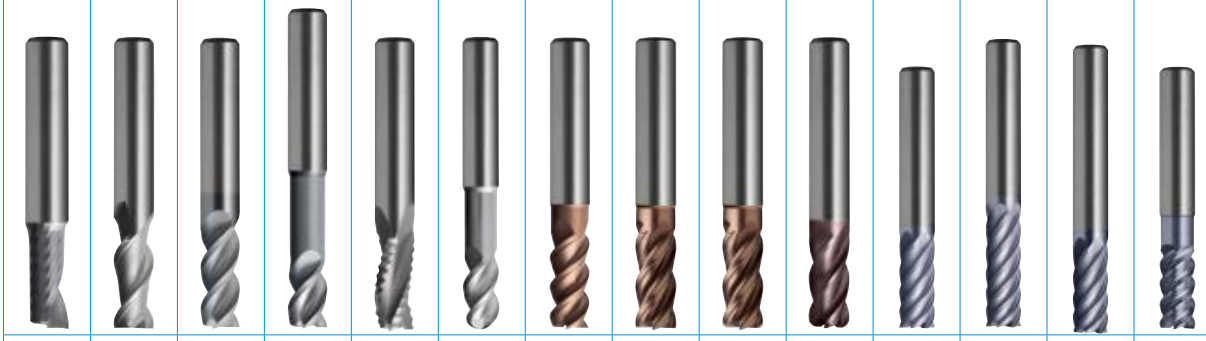
^ VDI 3323 material groups can also be determined by referring to the material cross reference listing in the application guide at the back of this catalogue.

Page	226	227	228	229	230	231	232	233	234	235	236
Catalogue Code	E422	E424	E533	E535 E572	E559 E560	E576	E426	E430	E549	E440	E442
Type of Cut: *Slotting*	●	●					●	●	●		
Finishing			●	●	●	●					
Universal	●	●	●	●	●	●	●	●	●		
Roughing	●	●					●	●	●		
Profiling										●	●
Material	VHM-ULTRA	VHM-ULTRA		VHM-ULTRA			VHM-ULTRA	VHM-ULTRA	VHM-ULTRA	VHM-ULTRA	
Surface Finish	*AlCrN*	*AlCrN*		*AlCrN*			*AlCrN*	*AlCrN*	*AlCrN*	*AlCrN*	
Sutton Designation	UNI	UNI	UNI	UNI			UNI	UNI	UNI	UNI	
Standard	DIN 6527K	DIN 6527L	DIN 6527K	DIN 6527L			DIN 6527L	-	DIN 6527L	-	
Shank Tolerance	h5	h5		h5			h5	h5	h6	h5	

ISO	VDI^ 3323	Material		Condition	HB	N/mm²	226	227	228	229	230	231	232	233	234	235	236
P	1	Steel - Non-alloy, cast & free cutting	~ 0.15 %C	A	125	440	●	●	●	●	●	●	●	●	●		
	2		~ 0.45 %C	A	190	640	●	●	●	●	●	●	●	●	●		
	3			QT	250	840	●	●	●	●	●	●	●	●	●	○	○
	4		~ 0.75 %C	A	270	910	●	●	●	●	●	●	●	●	●	○	○
	5			QT	300	1010	●	●	●	●	●	●	●	●	●	●	●
	6	Steel - Low alloy & cast < 5% of alloying elements		A	180	610	●	●	●	●	●	●	●	●	●		
	7			QT	275	930	●	●	●	●	●	●	●	●	●	○	○
	8			QT	300	1010	●	●	●	●	●	●	●	●	●	●	●
	9			QT	350	1180	●	●	○	○	○	○	●	●	○	●	●
	10	Steel - High alloy, cast & tool		A	200	680	●	●	●	●	●	●	●	●	●	○	○
	11			HT	325	1100	●	●	○	○	○	○	●	●	○	●	●
	12	Steel - Corrosion resistant & cast	Ferritic / Martensitic	A	200	680			○	○	○	○			●		
	13		Martensitic	QT	240	810			○	○	○	○			○		
M	14.1	Stainless Steel	Austenitic	AH	180	610			○	○	○	○			●		
	14.2		Duplex		250	840			○	○	○	○			○		
	14.3		Precipitation Hardening		250	840									○		
K	15	Cast Iron - Grey (GG)	Ferritic / Pearlitic		180	610	●	●	●	●	●	●	●	●	●	●	●
	16		Pearlitic		260	880	●	●	○	○	○	○	●	●	○	●	●
	17	Cast Iron - Nodular (GGG)	Ferritic		160	570	●	●	●	●	●	●	●	●	●	●	●
	18		Pearlitic		250	840	●	●	○	○	○	○	●	●	○	●	●
	19	Cast Iron - Malleable	Ferritic		130	460	●	●	●	●	●	●	●	●	●	●	●
	20		Pearlitic		230	780	●	●	●	●	●	●	●	●	●	●	●
N	21	Aluminum & Magnesium - wrought alloy	Non Heat Treatable		60	210			○	○	○	○					
	22		Heat Treatable	AH	100	360			○	○	○	○					
	23	Aluminum & Magnesium - cast alloy ≤12% Si	Non Heat Treatable		75	270			○	○	○	○					
	24		Heat Treatable	AH	90	320			○	○	○	○					
	25	Al & Mg - cast alloy >12% Si	Non Heat Treatable		130	460											
	26	Copper & Cu alloys (Brass/Bronze)	Free cutting, Pb > 1%		110	390											
	27		Brass (CuZn, CuSnZn)		90	320											
	28		Bronze (CuSn)		100	360											
	29	Non-metallic - Thermosetting & fiber-reinforced plastics															
	30	Non-metallic - Hard rubber, wood etc.															
S	31	High temp. alloys	Fe based	A	200	680	○	○	○	○	○	○	○	○	○	○	○
	32			AH	280	950	○	○	○	○	○	○	○	○	○	●	●
	33		Ni / Co based	A	250	840	○	○	○	○	○	○	○	○	○	○	○
	34			AH	350	1180	○	○					○	○		●	●
	35			C	320	1080	○	○	○	○	○	○	○	○	○	●	●
	36	Titanium & Ti alloys	CP Titanium		400 MPa		●	●	○	○	○	○	●	●	○	○	○
	37.1		Alpha alloys		860 MPa		●	●	○	○	○	○	●	●	○	○	○
	37.2		Alpha / Beta alloys	A	960 MPa		●	●	○	○	○	○	●	●	○	○	○
	37.3			AH	1170 MPa		●	●	○	○	○	○	●	●	○	●	●
	37.4		Beta alloys	A	830 MPa		●	●	○	○	○	○	●	●	○	○	○
	37.5			AH	1400 MPa		●	●					●	●		●	●
H	38.1	Hardened steel		HT	45 HRC		●	●	○	○	○	○	●	●		●	●
	38.2			HT	55 HRC		●	●					●	●		●	●
	39.1			HT	58 HRC		●	●					●	●		●	●
	39.2			HT	62 HRC												
	40	Cast Iron	Chilled	C	400	1350	●	●	●	●	●	●	●	●			
	41			HT	55 HRC		●	●	○	○	○	○	●	●		●	●

Condition: A (Annealed), **AH** (Age Hardened), **C** (Cast), **HT** (Hardened & Tempered), **QT** (Quenched & Tempered)

● Optimal ○ Effective



238	239	240	241	244	245	246	247	248	249	250	251	252	253		
E444	E310	E400	E402	E446	E408	E410	E459	E462	E348	E432	E434	E436	E543		
●	●	●	●	●		●	●	●							
									●	●	●	●	●		
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					●				●						
VHM	VHM	VHM-ULTRA		VHM	VHM-ULTRA	VHM-ULTRA		VHM-ULTRA	VHM	VHM-ULTRA			VHM-ULTRA		
Brt	*Brt*	*CrN*		*Brt*	*CrN*	*HELICA*		*HELICA*	*TiAlN*	*AlCrN*			*AlCrN*		
Al	Al	Al		Al	Al	VA		VA	NH	NH			NH		
-	DIN 6527L	DIN 6527L	-	DIN 6527L	-	DIN 6527L		DIN 6527L	-	DIN 6527L	-		DIN 6527L		
h6	h6	h5		h5	h5	h5	h6	h6	h6	h5			h6		
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										●	●	●		3	
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										●	●	●	●	7	
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						●	●	●	●				●	14.3	
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										●	●	●	●	17	
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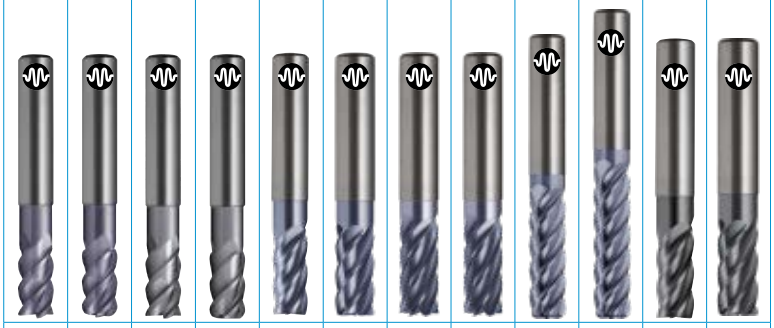
										○	○	○		41	

suttontools

ISO	VDI	Material Group	Sutton	
P	A	Steel	N	UNI
M	R	Stainless Steel	VA	
K	F	Cast Iron	GG	
N	N	Non-Ferrous Metals, Aluminiums & Coppers	Al / W	
S	S	Titaniums & Super Alloys	Ti	Ni
H	H	Hard Materials (≥ 45 HRC)	H	

^ VDI 3323 material groups can also be determined by referring to the material cross reference listing in the application guide at the back of this catalogue.



Page	254	255	256	256	257	258	259	259	260	260	261	262
Catalogue Code	E562	E564	E566	E568	E464	E466	E468	E470	E476	E477	E472	E474
Type of Cut: *Slotting*	●	●									●	●
Finishing									●	●		
Universal	●	●	●	●	●	●	●	●			●	●
Roughing									●	●		
Profiling												
Material	VHM-ULTRA	VHM-ULTRA	VHM-ULTRA		VHM-ULTRA		VHM-ULTRA		VHM-ULTRA		VHM-ULTRA	
Surface Finish	*AlCrN*	*Aldura*	*AlNova*		*AlNova*		*AlNova*		*AlNova*		*Xceed*	
Sutton Designation	NH	VH	Ti		Ti		Ti		Ti-3XL	Ti-4XL	Ni	
Standard	DIN 6527L	DIN 6527L	DIN 6527L		DIN 6527L		DIN 6527L		-		DIN 6527L	
Shank Tolerance	h6	h6	h6		h6		h6		h6		h6	

ISO	VDI^ 3323	Material		Condition	HB	N/mm²											
P	1	Steel - Non-alloy, cast & free cutting	~ 0.15 %C	A	125	440											
	2		~ 0.45 %C	A	190	640											
	3			QT	250	840											
	4		~ 0.75 %C	A	270	910											
	5			QT	300	1010	●	●									
	6	Steel - Low alloy & cast < 5% of alloying elements		A	180	610											
	7			QT	275	930											
	8			QT	300	1010	●	●									
	9			QT	350	1180	●	●									
	10	Steel - High alloy, cast & tool		A	200	680											
	11			HT	325	1100	●	●									
	12	Steel - Corrosion resistant & cast	Ferritic / Martensitic	A	200	680											
	13		Martensitic	QT	240	810	●	●									
M	14.1	Stainless Steel	Austenitic	AH	180	610										●	●
	14.2		Duplex		250	840	●	●								●	●
	14.3		Precipitation Hardening		250	840	●	●							○	○	●	●
K	15	Cast Iron - Grey (GG)	Ferritic / Pearlitic		180	610											
	16		Pearlitic		260	880	●	●									
	17	Cast Iron - Nodular (GGG)	Ferritic		160	570											
	18		Pearlitic		250	840	●	●									
	19	Cast Iron - Malleable	Ferritic		130	460											
	20		Pearlitic		230	780											
N	21	Aluminum & Magnesium - wrought alloy	Non Heat Treatable		60	210											
	22		Heat Treatable	AH	100	360											
	23	Aluminum & Magnesium - cast alloy ≤12% Si	Non Heat Treatable		75	270											
	24		Heat Treatable	AH	90	320											
	25	Al & Mg - cast alloy >12% Si	Non Heat Treatable		130	460											
	26	Copper & Cu alloys (Brass/Bronze)	Free cutting, Pb > 1%		110	390											
	27		Brass (CuZn, CuSnZn)		90	320											
	28		Bronze (CuSn)		100	360											
	29	Non-metallic - Thermosetting & fiber-reinforced plastics															
	30	Non-metallic - Hard rubber, wood etc.															
S	31	High temp. alloys	Fe based	A	200	680										●	●
	32			AH	280	950	●	●								●	●
	33		Ni / Co based	A	250	840										●	●
	34			AH	350	1180	●	●								●	●
	35			C	320	1080	●	●								●	●
	36	Titanium & Ti alloys	CP Titanium		400 MPa						●	●	●	●	●	●	
	37.1		Alpha alloys		860 MPa		●	●			●	●	●	●	●	●	
	37.2		Alpha / Beta alloys	A	960 MPa		●	●			●	●	●	●	●	●	
	37.3			AH	1170 MPa						●	●	●	●	●	●	
	37.4		Beta alloys	A	830 MPa		●	●			●	●	●	●	●	●	
	37.5			AH	1400 MPa						●	●	●	●	●	●	
H	38.1	Hardened steel		HT	45 HRC		○	○									
	38.2			HT	55 HRC				●	●							
	39.1			HT	58 HRC				●	●							
	39.2			HT	62 HRC				●	●							
	40	Cast Iron	Chilled	C	400	1350	●	●									
	41			HT	55 HRC				●	●							

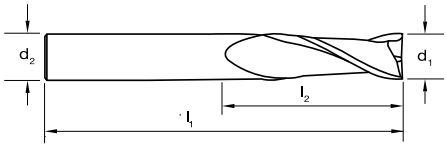
Condition: A (Annealed), **AH** (Age Hardened), **C** (Cast), **HT** (Hardened & Tempered), **QT** (Quenched & Tempered)

● Optimal ○ Effective

Slot Drills Carbide, 2 Flute, R30 N, Regular

suttontools TECLINE

- For precision milling of slots & cavities
- Suitable for materials up to 1600 N/mm²
- TiAlN longer tool life



Catalogue Code	E600	E603
Product Group	B0212	B0214
Material	VHM	VHM
Surface Finish	*Brt*	*TiAlN*
Sutton Designation	N	N
Geometry	R30	R30
Shank Form (DIN 6535)	HA	HA
Shank Tolerance	h6	h6

Size Ref.	d_1	l_1	l_2	d_2	z	Item #	Item #
0100	1.0	38	4	3	2	E600 0100	E603 0100
0150	1.5	38	4.5	3	2	E600 0150	E603 0150
0200	2.0	38	6	3	2	E600 0200	E603 0200
0250	2.5	38	9.5	3	2	E600 0250	E603 0250
0300	3.0	38	12	3	2	E600 0300	E603 0300
0350	3.5	50	12	4	2	E600 0350	E603 0350
0400	4.0	50	14	4	2	E600 0400	E603 0400
0450	4.5	50	16	6	2	E600 0450	E603 0450
0500	5.0	50	16	6	2	E600 0500	E603 0500
0600	6.0	50	19	6	2	E600 0600	E603 0600
0700	7.0	63	19	8	2	E600 0700	E603 0700
0800	8.0	63	20	8	2	E600 0800	E603 0800
0900	9.0	75	22	10	2	E600 0900	E603 0900
1000	10.0	75	22	10	2	E600 1000	E603 1000
1100	11.0	75	25	12	2	E600 1100	E603 1100
1200	12.0	75	25	12	2	E600 1200	E603 1200
1400	14.0	89	32	14	2	E600 1400	E603 1400
1600	16.0	89	32	16	2	E600 1600	E603 1600
1800	18.0	100	38	18	2	E600 1800	E603 1800
2000	20.0	100	38	20	2	E600 2000	E603 2000
2500	25.0	100	38	25	2	E600 2500	E603 2500
					Product Group	B0208	B0210
						E304	E307
0159	1/16	1-1/2	3/16	1/8	2	E304 0159	E307 0159
0238	3/32	1-1/2	5/16	1/8	2	E304 0238	E307 0238
0318	1/8	1-1/2	1/2	1/8	2	E304 0318	E307 0318
0397	5/32	2	9/16	3/16	2	E304 0397	E307 0397
0476	3/16	2	5/8	3/16	2	E304 0476	E307 0476
0556	7/32	2-1/2	5/8	1/4	2	E304 0556	E307 0556
0635	1/4	2-1/2	3/4	1/4	2	E304 0635	E307 0635
0794	5/16	2-1/2	13/16	5/16	2	E304 0794	E307 0794
0953	3/8	2-1/2	7/8	3/8	2	E304 0953	E307 0953
1111	7/16	2-3/4	1	7/16	2	E304 1111	E307 1111
1270	1/2	3	1	1/2	2	E304 1270	E307 1270
1588	5/8	3-1/2	1 -1/4	5/8	2	E304 1588	E307 1588
1905	3/4	4	1 -1/2	3/4	2	E304 1905	E307 1905
2223	7/8	4	1 -1/2	7/8	2	E304 2223	E307 2223
2540	1	4	1 -1/2	1	2	E304 2540	E307 2540

ISO	P													M			K						N										S														H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
E600	●	●	●	●		●	○			○				○	○		○	○	○	○	○	○																														
E603	●	●	●	●	○	●	●	○	○	●	○			○	○		○	○	○	○	○	○																														
E304	●	●	●	●		●	○			○				○	○		○	○	○	○	○	○																														
E307	●	●	●	●	○	●	●	○	○	●	○			○	○		○	○	○	○	○	○																														

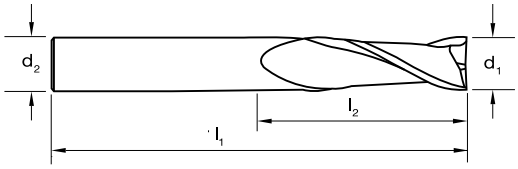
P Steel M Stainless Steel K Cast Iron N Non-Ferrous Metals S Titanium & Super Alloys H Hard Materials

● Optimal ○ Effective

Slot Drills Carbide, 2 Flute, R30 N, Long

suttontools

- For long reach milling of slots & cavities
- Suitable for materials up to 1300 N/mm²



Catalogue Code	E308
Product Group	B0208
Material	VHM
Surface Finish	*Brt*
Sutton Designation	N
Geometry	R30
Shank Form (DIN 6535)	HA
Shank Tolerance	h6

Size Ref.	d_1	l_1	l_2	d_2	z	Item #
0300	3.0	60	19	3	2	E308 0300
0400	4.0	60	19	4	2	E308 0400
1000	10.0	75	31	10	2	E308 1000
1200	12.0	100	50	12	2	E308 1200
2000	20.0	125	57	20	2	E308 2000

ISO	P													M			K						N									S												H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
E308	●	●	●	●	○	●	●	○	○	●	○	○	○	●	○	○	●	○	●	○	○	○	●	●	○	○	○	○	○	○																				

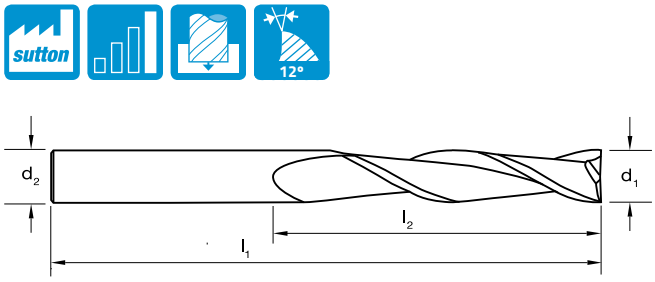
P Steel M Stainless Steel K Cast Iron N Non-Ferrous Metals S Titanium & Super Alloys H Hard Materials

● Optimal ○ Effective

Slot Drills Carbide, 2 Flute, R30 N, Extra Long

suttontools

- For extra long reach milling of slots & cavities
- Suitable for materials up to 1300 N/mm²



Catalogue Code	E309
Product Group	B0208
Material	VHM
Surface Finish	*Brt*
Sutton Designation	N
Geometry	R30
Shank Form (DIN 6535)	HA
Shank Tolerance	h6

Size Ref.	d_1	l_1	l_2	d_2	z	Item #
0300	3.0	76	25	3	2	E309 0300
0400	4.0	76	28	4	2	E309 0400
0500	5.0	76	32	5	2	E309 0500
0600	6.0	102	38	6	2	E309 0600
0800	8.0	102	42	8	2	E309 0800
1000	10.0	102	45	10	2	E309 1000
1200	12.0	153	76	12	2	E309 1200
1400	14.0	153	76	14	2	E309 1400
1600	16.0	153	76	16	2	E309 1600
1800	18.0	153	76	18	2	E309 1800
2000	20.0	153	76	20	2	E309 2000

ISO	P												M			K						N									S											H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
E309	●	●	○	○		●	○			○		○		○	○		○		○		○	○	○	○	○	○	○	○	○	○																			

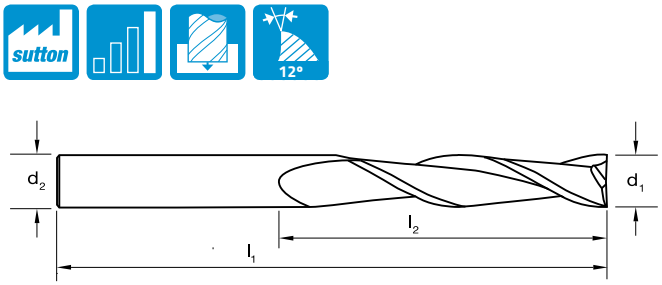
P Steel M Stainless Steel K Cast Iron N Non-Ferrous Metals S Titanium & Super Alloys H Hard Materials

● Optimal ○ Effective

Endmills Carbide, 2 Flute, R30 N, Extra Long

suttontools TECLINE

- For precision milling of slots & cavities
- Suitable for materials up to 1600 N/mm²



Catalogue Code	E608
Product Group	B0212
Material	VHM
Surface Finish	*Brt*
Sutton Designation	N
Geometry	R30
Shank Form (DIN 6535)	HA
Shank Tolerance	h6

Size Ref.	d_1	l_1	l_2	d_2	z	Item #
0300	3.0	100	40	3	2	E608 0300
0400	4.0	100	40	4	2	E608 0400
0500	5.0	100	40	5	2	E608 0500
0600	6.0	100	50	6	2	E608 0600
0800	8.0	100	50	8	2	E608 0800
1000	10.0	150	75	10	2	E608 1000
1200	12.0	150	75	12	2	E608 1200
1600	16.0	150	75	16	2	E608 1600
2000	20.0	150	75	20	2	E608 2000

ISO	P													M			K						N									S												H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
E608	●	●	○	○		●	○			○		○		○	○		○		○		○	○	○	○	○	○	○	○	○	○																				

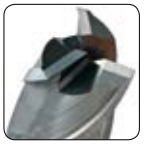
P Steel M Stainless Steel K Cast Iron N Non-Ferrous Metals S Titanium & Super Alloys H Hard Materials

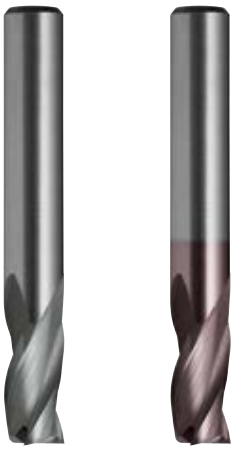
● Optimal ○ Effective

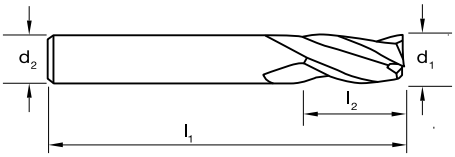
Endmills Carbide, 3 Flute, R30 N, Regular

suttontools TECLINE

- For precision milling of slots & cavities
- For precision universal milling application
- Suitable for materials up to 1600 N/mm²
- TiAlN for longer tool life







Catalogue Code	E610	E611
Product Group	B0212	B0214
Material	VHM	VHM
Surface Finish	*Brt*	*TiAlN*
Sutton Designation	N	N
Geometry	R30	R30
Shank Form (DIN 6535)	HA	HA
Shank Tolerance	h6	h6

Size Ref.	d_1	l_1	l_2	d_2	z	Item #	Item #
0100	1.0	38	4	3	2	E610 0100	E611 0100
0150	1.5	38	4.5	3	2	E610 0150	E611 0150
0200	2.0	38	6	3	2	E610 0200	E611 0200
0250	2.5	38	9.5	3	2	E610 0250	E611 0250
0300	3.0	38	12	3	2	E610 0300	E611 0300
0350	3.5	50	12	4	2	E610 0350	E611 0350
0400	4.0	50	14	4	2	E610 0400	E611 0400
0450	4.5	50	16	6	2	E610 0450	E611 0450
0500	5.0	50	16	6	2	E610 0500	E611 0500
0600	6.0	50	19	6	2	E610 0600	E611 0600
0700	7.0	63	19	8	2	E610 0700	E611 0700
0800	8.0	63	20	8	2	E610 0800	E611 0800
0900	9.0	75	22	10	2	E610 0900	E611 0900
1000	10.0	75	22	10	2	E610 1000	E611 1000
1100	11.0	75	25	12	2	E610 1100	E611 1100
1200	12.0	75	25	12	2	E610 1200	E611 1200
1400	14.0	89	32	14	2	E610 1400	E611 1400
1600	16.0	89	32	16	2	E610 1600	E611 1600
1800	18.0	100	38	18	2	E610 1800	E611 1800
2000	20.0	100	38	20	2	E610 2000	E611 2000
2500	25.0	100	38	25	2	E610 2500	E611 2500

ISO	P													M			K						N									S												H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
E610	●	●	●	●		●	○			○				○	○		○	○	○	○	○	○																												
E611	●	●	●	●	○	●	●	○	○	●	○			○	○		○	○	○	○	○	○																												

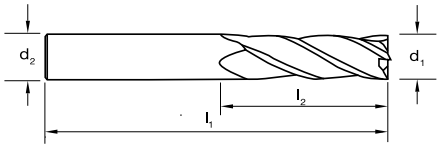
P Steel M Stainless Steel K Cast Iron N Non-Ferrous Metals S Titanium & Super Alloys H Hard Materials

● Optimal ○ Effective

Endmills Carbide, 4 Flute, R30 N, Regular

suttontools TECLINE

- For precision finish milling applications
- Suitable for materials up to 1600 N/mm²
- TiAlN for longer tool life



Catalogue Code	E601	E604
Product Group	B0212	B0214
Material	VHM	VHM
Surface Finish	*Brt*	*TiAlN*
Sutton Designation	N	N
Geometry	R30	R30
Shank Form (DIN 6535)	HA	HA
Shank Tolerance	h6	h6

Size Ref.	d_1 (h10)	l_1	l_2	d_2	z	Item #	Item #
0100	1.0	38	4	3	4	E601 0100	E604 0100
0150	1.5	38	4.5	3	4	E601 0150	E604 0150
0200	2.0	38	6	3	4	E601 0200	E604 0200
0250	2.5	38	9.5	3	4	E601 0250	E604 0250
0300	3.0	38	12	3	4	E601 0300	E604 0300
0350	3.5	50	12	4	4	E601 0350	E604 0350
0400	4.0	50	14	4	4	E601 0400	E604 0400
0450	4.5	50	16	6	4	E601 0450	E604 0450
0500	5.0	50	16	6	4	E601 0500	E604 0500
0600	6.0	50	19	6	4	E601 0600	E604 0600
0700	7.0	63	19	8	4	E601 0700	E604 0700
0800	8.0	63	20	8	4	E601 0800	E604 0800
0900	9.0	75	22	10	4	E601 0900	E604 0900
1000	10.0	75	22	10	4	E601 1000	E604 1000
1100	11.0	75	25	12	4	E601 1100	E604 1100
1200	12.0	75	25	12	4	E601 1200	E604 1200
1400	14.0	89	32	14	4	E601 1400	E604 1400
1600	16.0	89	32	16	4	E601 1600	E604 1600
1800	18.0	100	38	18	4	E601 1800	E604 1800
2000	20.0	100	38	20	4	E601 2000	E604 2000
2500	25.0	100	38	25	4	E601 2500	E604 2500
					Product Group	B0208	B0210
						E333	E336
0159	1/16	1-1/2	3/16	1/8	4	E333 0159	E336 0159
0238	3/32	1-1/2	5/16	1/8	4	E333 0238	E336 0238
0318	1/8	1-1/2	1/2	1/8	4	E333 0318	E336 0318
0397	5/32	2	9/16	5/32	4	E333 0397	E336 0397
0476	3/16	2	5/8	3/16	4	E333 0476	E336 0476
0556	7/32	2-1/2	5/8	7/32	4	E333 0556	E336 0556
0635	1/4	2-1/2	3/4	1/4	4	E333 0635	E336 0635
0794	5/16	2-1/2	13/16	5/16	4	E333 0794	E336 0794
0953	3/8	2-1/2	7/8	3/8	4	E333 0953	E336 0953
1270	1/2	3	1	1/2	4	E333 1270	E336 1270
1588	5/8	3-1/2	1-1/4	5/8	4	E333 1588	E336 1588
1905	3/4	4	1-1/2	3/4	4	E333 1905	E336 1905

ISO	P													M			K						N											S														H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
E601	●	●	●	●		●	○			○				○	○		○	○	○	○	○	○																														
E604	●	●	●	●	○	●	●	○	○	●	○			○	○		○	○	○	○	○	○																														
E333	●	●	●	●		●	○			○				○	○		○	○	○	○	○	○																														
E336	●	●	●	●	○	●	●	○	○	●	○			○	○		○	○	○	○	○	○																														

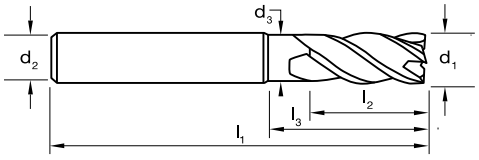
P Steel M Stainless Steel K Cast Iron N Non-Ferrous Metals S Titanium & Super Alloys H Hard Materials

● Optimal ○ Effective

Endmills Carbide, 4 Flute, R35/38, Regular

suttontools TECLINE

- VHM-ULTRA grade of carbide for high performance
- 35/38° variable flute helix for chatter free milling
- Suitable for materials up to 1600 N/mm²
- TiAlN for longer tool life



Catalogue Code	E635	E636
Product Group	B0214	B0214
Material	VHM-ULTRA	VHM-ULTRA
Surface Finish	*TiAlN*	*TiAlN*
Sutton Designation	N	N
Geometry	R35/38	R35/38
Shank Form (DIN 6535)	HA	HB
Shank Tolerance	h6	h6

Size Ref.	d_1	l_1	l_2	l_3	d_2	d_3	z	Item #	Item #
0300	**3.0**	57	8	19	6	2.8	4	E635 0300	E636 0300
0400	**4.0**	57	11	19	6	3.7	4	E635 0400	E636 0400
0500	**5.0**	57	13	20	6	4.6	4	E635 0500	E636 0500
0600	**6.0**	57	13	21	6	5.5	4	E635 0600	E636 0600
0800	**8.0**	63	19	27	8	7.5	4	E635 0800	E636 0800
1000	**10.0**	72	22	32	10	9.5	4	E635 1000	E636 1000
1200	**12.0**	83	26	38	12	11.2	4	E635 1200	E636 1200
1400	**14.0**	83	26	38	14	13.0	4	•	E636 1400
1600	**16.0**	92	32	44	16	15.0	4	E635 1600	E636 1600
1800	**18.0**	92	32	44	18	17.0	4	•	E636 1800
2000	**20.0**	104	38	54	20	19.0	4	E635 2000	E636 2000

ISO	P												M			K						N									S										H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
E635	●	●	●	●	○	●	○	○	○	○	○	○	○				○	○	○	○	○	○	○	○	○	○	○		○				○	○	○		○	○	○	○	○	○		○				○	○
E636	●	●	●	●	○	●	○	○	○	○	○	○	○				○	○	○	○	○	○	○	○	○	○	○		○				○	○	○		○	○	○	○	○	○		○				○	○

P Steel M Stainless Steel K Cast Iron N Non-Ferrous Metals S Titanium & Super Alloys H Hard Materials

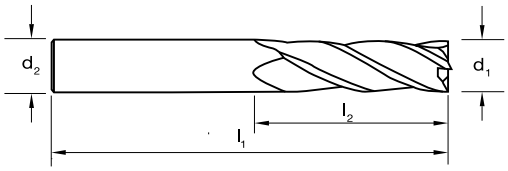
● Optimal ○ Effective

• Available on request as special manufacture. Subject to lead time.

Endmills Carbide, 4 Flute, R30 N, Long

suttontools

- For long-reach finish milling applications
- Suitable for materials up to 1300 N/mm²
- TiAlN for longer tool life



Catalogue Code	E337	E340
Product Group	B0202	B0204
Material	VHM	VHM
Surface Finish	*Brt*	*TiAlN*
Sutton Designation	N	N
Geometry	R30	R30
Shank Form (DIN 6535)	HA	HA
Shank Tolerance	h6	h6

Size Ref.	d_1 (h10)	l_1	l_2	d_2	z	Item #	Item #
0300	3.0	60	19	3	4	•	E340 0300
0400	4.0	60	19	4	4	•	E340 0400
0500	5.0	60	19	5	4	•	E340 0500
0600	6.0	75	31	6	4	•	E340 0600
0800	8.0	75	31	8	4	•	E340 0800
1000	10.0	75	31	10	4	•	E340 1000
1200	12.0	100	50	12	4	•	E340 1200
1400	14.0	125	57	14	4	•	E340 1400
1600	16.0	125	57	16	4	•	E340 1600
1800	18.0	125	57	18	4	•	E340 1800
2000	20.0	125	57	20	4	•	E340 2000
0318	1/8	2-1/4	3/4	1/8	4	E337 0318	E340 0318
0635	1/4	3	1-1/8	1/4	4	E337 0635	E340 0635
0794	5/16	3	1-1/8	5/16	4	E337 0794	E340 0794
0953	3/8	3	1-1/8	3/8	4	E337 0953	E340 0953
1270	1/2	4	2	1/2	4	E337 1270	E340 1270
1588	5/8	5	2-1/4	5/8	4	E337 1588	E340 1588
1905	3/4	5	2-1/4	3/4	4	E337 1905	E340 1905

ISO	P													M			K						N									S											H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
E337	●	●	●	●	○	●	●	○	○	●	○	○	○	●			●	○	●	○	○	○	●	●	○	○	○	○	○	○																			
E340	●	●	●	●	●	●	●	●	○	●	○	●	○	●	○		●	●	●	●	●	●	●	●	○	○	○	○	○	○																			

P Steel M Stainless Steel K Cast Iron N Non-Ferrous Metals S Titanium & Super Alloys H Hard Materials

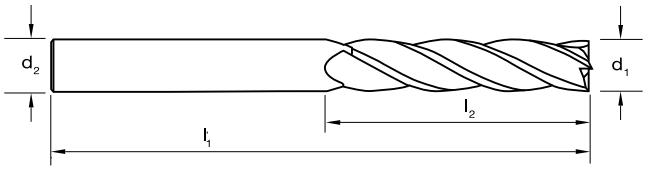
● Optimal ○ Effective

• Available on request as special manufacture. Subject to lead time.

Endmills Carbide, 4 Flute, R30 N, Extra Long

suttontools

- For extra long-reach finish milling applications
- Suitable for materials up to 1300 N/mm²



Catalogue Code	E344
Product Group	B0210
Material	VHM
Surface Finish	*TiAlN*
Sutton Designation	N
Geometry	R30
Shank Form (DIN 6535)	HA
Shank Tolerance	h6

Size Ref.	d_1 (h10)	l_1	l_2	d_2	z	Item #
0300	**3.0**	75	25	3	4	E344 0300
0400	**4.0**	75	28	4	4	E344 0400
0500	**5.0**	75	32	5	4	E344 0500
0600	**6.0**	100	38	6	4	E344 0600
0800	**8.0**	100	41	8	4	E344 0800
1000	**10.0**	100	44	10	4	E344 1000
1200	**12.0**	150	75	12	4	E344 1200
1400	**14.0**	150	75	14	4	E344 1400
1600	**16.0**	150	75	16	4	E344 1600
1800	**18.0**	150	75	18	4	E344 1800
2000	**20.0**	150	75	20	4	E344 2000

ISO	P												M			K						N								S										H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
E344	●	●	●	●	●	●	●	●	○	●	○	●	○	●	○		●	●	●	●	●	●	●	●	○	○	○	○	○	○																		

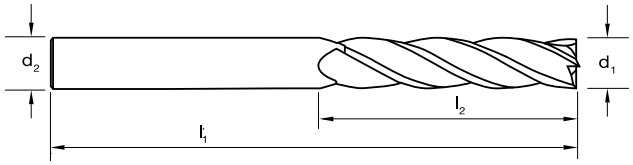
P Steel M Stainless Steel K Cast Iron N Non-Ferrous Metals S Titanium & Super Alloys H Hard Materials

● Optimal ○ Effective

Endmills Carbide, 4 Flute, R30 N, Extra Long

suttontools TECLINE

- For precision finish milling applications
- Suitable for materials up to 1600 N/mm²



Catalogue Code	E609
Product Group	B0212
Material	VHM
Surface Finish	*Brt*
Sutton Designation	N
Geometry	R30
Shank Form (DIN 6535)	HA
Shank Tolerance	h6

Size Ref.	d_1 (h10)	l_1	l_2	d_2	z	Item #
0300	3.0	100	40	3	4	E609 0300
0400	4.0	100	40	4	4	E609 0400
0500	5.0	100	40	5	4	E609 0500
0600	6.0	100	50	6	4	E609 0600
0800	8.0	100	50	8	4	E609 0800
1000	10.0	150	75	10	4	E609 1000
1200	12.0	150	75	12	4	E609 1200
1600	16.0	150	75	16	4	E609 1600
2000	20.0	150	75	20	4	E609 2000

ISO	P													M			K						N									S												H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
E609	●	●	○	○		●	○			○				●	○		○	○	○	○	○	○	○	○	○	○	○	○	○	○																				

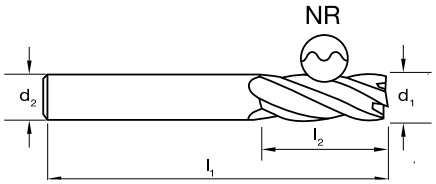
P Steel M Stainless Steel K Cast Iron N Non-Ferrous Metals S Titanium & Super Alloys H Hard Materials

● Optimal ○ Effective

Roughers Carbide, NR (normal), R30 N, DIN6527L

suttontools

- For roughing applications
- NR geometry allows for heavy cuts
- Suitable for materials up to 1600 N/mm²
- TiAlN for longer tool life



Catalogue Code	E547	E548
Product Group	B0210	B0210
Material	VHM	VHM
Surface Finish	TiAlN	TiAlN
Sutton Designation	N	N
Geometry	R30 NR	R30 NR
Shank Form (DIN 6535)	HA	HB
Shank Tolerance	h6	h6

Size Ref.	d_1 (js14)	l_1	l_2	d_2	z	Item #	Item #
0400	4.0	57	11	6	3	E547 0400	E548 0400
0500	5.0	57	13	6	3	E547 0500	E548 0500
0600	6.0	57	13	6	3	E547 0600	E548 0600
0800	8.0	63	19	8	3	E547 0800	E548 0800
1000	10.0	72	22	10	4	E547 1000	E548 1000
1200	12.0	83	26	12	4	E547 1200	E548 1200
1600	16.0	92	32	16	4	E547 1600	E548 1600
2000	20.0	104	38	20	4	E547 2000	E548 2000

ISO	P												M			K						N									S											H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
E547	●	●	○	○	○	○	○	○		○							○	○	○	○	○	○	●	●	○	○	○																					
E548	●	●	○	○	○	○	○	○		○							○	○	○	○	○	○	●	●	○	○	○																					

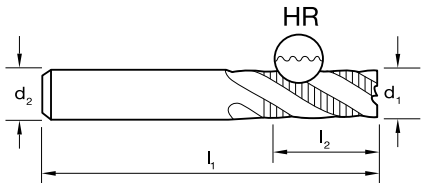
P Steel M Stainless Steel K Cast Iron N Non-Ferrous Metals S Titanium & Super Alloys H Hard Materials

● Optimal ○ Effective

Roughers Carbide, HR (fine), R20 WN, DIN6527L

suttontools

- For roughing applications
- HR geometry allows for heavier cuts in harder materials
- Suitable for materials up to 1200 N/mm²
- TiAlN for longer tool life



Catalogue Code	E450	E451
Product Group	B0210	B0210
Material	VHM	VHM
Surface Finish	TiAlN	TiAlN
Sutton Designation	WN	WN
Geometry	R20 HR	R20 HR
Shank Form (DIN 6535)	HA	HB
Shank Tolerance	h6	h6

Size Ref.	d_1 (h10)	l_1	l_2	d_2	z	Item #	Item #
0600	6.0	57	13	6	3	E450 0600	E451 0600
0800	8.0	63	19	8	3	E450 0800	E451 0800
1000	10.0	72	22	10	4	E450 1000	E451 1000
1200	12.0	83	26	12	4	E450 1200	E451 1200
1400	14.0	83	26	14	4	•	•
1600	16.0	92	32	16	4	E450 1600	E451 1600
1800	18.0	92	32	18	4	•	•
2000	20.0	104	38	20	4	E450 2000	E451 2000

ISO	P													M			K						N									S											H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
E450	●	●	●	●	○	●	●	○		○							●	●	●	●	●	●											●	●	●	●	●	●	●	●	●	●	●					●	
E451	●	●	●	●	○	●	●	○		○							●	●	●	●	●	●											●	●	●	●	●	●	●	●	●	●	●					●	

P Steel M Stainless Steel K Cast Iron N Non-Ferrous Metals S Titanium & Super Alloys H Hard Materials

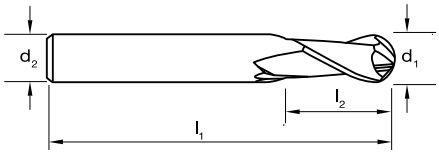
● Optimal ○ Effective

• Available on request as special manufacture. Subject to lead time.

Slot Drills Carbide, Ballnose, 2 Flute, R30 N, Regular

suttontools TECLINE

- For profile & contour milling applications
- Suitable for materials up to 1600 N/mm²
- TiAlN for longer tool life



Catalogue Code	E602	E605
Product Group	B0212	B0214
Material	VHM	VHM
Surface Finish	*Brt*	*TiAlN*
Sutton Designation	N	N
Geometry	R30	R30
Shank Form (DIN 6535)	HA	HA
Shank Tolerance	h6	h6

Size Ref.	d_1	l_1	l_2	d_2	z	Item #	Item #
0100	1.0	38	4	3	2	E602 0100	E605 0100
0150	1.5	38	4.5	3	2	E602 0150	E605 0150
0200	2.0	38	6	3	2	E602 0200	E605 0200
0250	2.5	38	9.5	3	2	E602 0250	E605 0250
0300	3.0	38	12	3	2	E602 0300	E605 0300
0350	3.5	50	12	4	2	•	E605 0350
0400	4.0	50	14	4	2	E602 0400	E605 0400
0500	5.0	50	16	6	2	E602 0500	E605 0500
0600	6.0	50	19	6	2	E602 0600	E605 0600
0700	7.0	63	19	8	2	E602 0700	E605 0700
0800	8.0	63	20	8	2	E602 0800	E605 0800
0900	9.0	75	20	10	2	E602 0900	E605 0900
1000	10.0	75	22	10	2	E602 1000	E605 1000
1100	11.0	75	25	12	2	E602 1100	E605 1100
1200	12.0	75	25	12	2	E602 1200	E605 1200
1400	14.0	89	32	14	2	E602 1400	E605 1400
1600	16.0	89	32	16	2	E602 1600	E605 1600
1800	18.0	100	38	18	2	•	E605 1800
2000	20.0	100	38	20	2	E602 2000	E605 2000
2500	25.0	100	38	25	2	E602 2500	E605 2500

						Product Group	B0208	B0210
							E311	E314
0159	1/16	1-1/2	3/16	1/8	2		E311 0159	E314 0159
0238	3/32	1-1/2	5/16	1/8	2		E311 0238	E314 0238
0318	1/8	1-1/2	1/2	1/8	2		E311 0318	E314 0318
0397	5/32	2	9/16	3/16	2		E311 0397	E314 0397
0476	3/16	2	5/8	3/16	2		E311 0476	E314 0476
0635	1/4	2-1/2	3/4	1/4	2		E311 0635	E314 0635
0794	5/16	2-1/2	13/16	5/16	2		E311 0794	E314 0794
0953	3/8	2-1/2	7/8	3/8	2		E311 0953	E314 0953
1111	7/16	2-3/4	1	7/16	2		E311 1111	E314 1111
1270	1/2	3	1	1/2	2		E311 1270	E314 1270
1588	5/8	3-1/2	1-1/4	5/8	2		E311 1588	E314 1588
1905	3/4	4	1-1/2	3/4	2		E311 1905	E314 1905

ISO	P												M			K						N									S															H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
E602	●	●	●	●		●	○			○				○	○		○	○	○	○	○	○																													
E605	●	●	●	●	○	●	●	○	○	●	○			○	○		○	○	○	○	○	○																													
E311	●	●	●	●		●	○			○				○	○		○	○	○	○	○	○																													
E314	●	●	●	●	○	●	●	○	○	●	○			○	○		○	○	○	○	○	○																													

P Steel M Stainless Steel K Cast Iron N Non-Ferrous Metals S Titanium & Super Alloys H Hard Materials

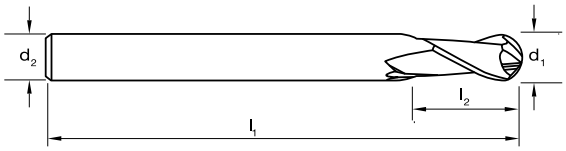
● Optimal ○ Effective

• Available on request as special manufacture. Subject to lead time.

Slot Drills Carbide, Ballnose, 2 Flute, R30 N, Long Reach

suttontools

- VHM-ULTRA grade of carbide for high performance
- For profile & contour milling in long reach applications
- Suitable for materials up to 1600 N/mm²
- AlCrN for longer tool life



Catalogue Code	E555	E556
Product Group	B0210	B0210
Material	VHM-ULTRA	VHM-ULTRA
Surface Finish	*AlCrN*	*AlCrN*
Sutton Designation	N	N
Geometry	R30	R30
Shank Form (DIN 6535)	HA	HB
Shank Tolerance	h6	h6

Size Ref.	d_1 (h10)	l_1	l_2	d_2	z	Item #	Item #
0200	2.0	50	5	6	2	E555 0200	E556 0200
0300	3.0	60	8	6	2	E555 0300	E556 0300
0400	4.0	70	8	6	2	E555 0400	E556 0400
0500	5.0	80	10	6	2	E555 0500	E556 0500
0600	6.0	90	12	6	2	E555 0600	E556 0600
0800	8.0	100	14	8	2	E555 0800	E556 0800
1000	10.0	100	18	10	2	E555 1000	E556 1000
1200	12.0	110	22	12	2	E555 1200	E556 1200

ISO	P												M			K						N									S										H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
E555	●	●	●	●	●	●	●	●	○	●	○	○	○	●	○	○	●	●	●	●	●	●	○	○	○	○	○	○	○	○			○		○			○	○	○	○	○	○					●	
E556	●	●	●	●	●	●	●	●	○	●	○	○	○	●	○	○	●	●	●	●	●	●	○	○	○	○	○	○	○	○			○		○			○	○	○	○	○	○					●	

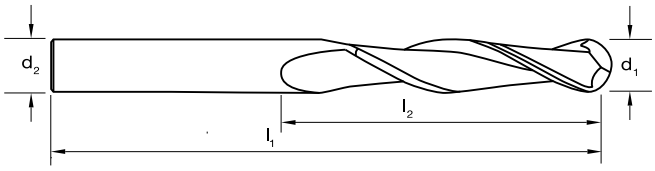
P Steel **M** Stainless Steel **K** Cast Iron **N** Non-Ferrous Metals **S** Titanium & Super Alloys **H** Hard Materials

● Optimal ○ Effective

Slot Drills Carbide, Ballnose, 2 Flute, R30 N, Extra Long

suttontools

- For profile & contour milling in extra long reach applications
- Suitable for materials up to 1300 N/mm²



Catalogue Code	E315
Product Group	B0208
Material	VHM
Surface Finish	*Brt*
Sutton Designation	N
Geometry	R30
Shank Form (DIN 6535)	HA
Shank Tolerance	h6

Size Ref.	d_1 (h10)	l_1	l_2	d_2	z	Item #
0300	3.0	76	25	3	2	E315 0300
0400	4.0	76	28	4	2	E315 0400
0500	5.0	76	32	5	2	E315 0500
0600	6.0	102	38	6	2	E315 0600
0800	8.0	102	42	8	2	E315 0800
1000	10.0	102	45	10	2	E315 1000
1200	12.0	153	76	12	2	E315 1200
1400	14.0	153	76	14	2	E315 1400
1600	16.0	153	76	16	2	E315 1600
1800	18.0	153	76	18	2	E315 1800
2000	20.0	153	76	20	2	E315 2000

ISO	P												M			K						N									S												H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
E315	●	●	○	○		○	○			○				○	○		○	○	○	○	○	○																												

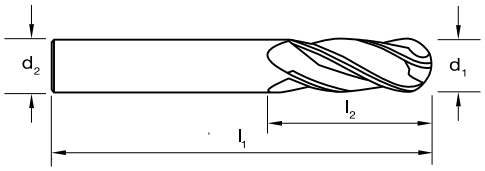
P Steel M Stainless Steel K Cast Iron N Non-Ferrous Metals S Titanium & Super Alloys H Hard Materials

● Optimal ○ Effective

Endmills Carbide, Ballnose, 4 Flute, R30 N, Regular

suttontools TECLINE

- For profile & contour milling applications
- Suitable for materials up to 1600 N/mm²
- TiAlN for longer tool life



Catalogue Code	E606	E607
Product Group	B0212	B0214
Material	VHM	VHM
Surface Finish	*Brt*	*TiAlN*
Sutton Designation	N	N
Geometry	R30	R30
Shank Form (DIN 6535)	HA	HA
Shank Tolerance	h6	h6

Size Ref.	d_1 (h10)	l_1	l_2	d_2	z	Item #	Item #
0100	1.0	38	4	3	4	E606 0100	E607 0100
0150	1.5	38	4.5	3	4	E606 0150	E607 0150
0200	2.0	38	6	3	4	E606 0200	E607 0200
0250	2.5	38	9.5	3	4	E606 0250	E607 0250
0300	3.0	38	12	3	4	E606 0300	E607 0300
0350	3.5	50	12	4	4	•	E607 0350
0400	4.0	50	14	4	4	E606 0400	E607 0400
0450	4.5	50	16	6	4	•	E607 0450
0500	5.0	50	16	6	4	E606 0500	E607 0500
0600	6.0	50	19	6	4	E606 0600	E607 0600
0700	7.0	63	19	8	4	•	E607 0700
0800	8.0	63	20	8	4	E606 0800	E607 0800
0900	9.0	75	22	10	4	•	E607 0900
1000	10.0	75	22	10	4	E606 1000	E607 1000
1100	11.0	75	25	12	4	•	E607 1100
1200	12.0	75	25	12	4	E606 1200	E607 1200
1400	14.0	89	32	14	4	•	E607 1400
1600	16.0	89	32	16	4	E606 1600	E607 1600
1800	18.0	100	38	18	4	•	E607 1800
2000	20.0	100	38	20	4	E606 2000	E607 2000
2500	25.0	100	38	25	4	•	E607 2500
					Product Group	B0208	B0210
						E316	E319
0159	1/16	1-1/2	3/16	1/8	4	E316 0159	E319 0159
0318	1/8	1-1/2	1/2	1/8	4	E316 0318	E319 0318
0476	3/16	2	5/8	3/16	4	E316 0476	E319 0476
0635	1/4	2-1/2	3/4	1/4	4	E316 0635	E319 0635
0794	5/16	2-1/2	13/16	5/16	4	E316 0794	E319 0794
0953	3/8	2-1/2	7/8	3/8	4	E316 0953	E319 0953
1270	1/2	3	1	1/2	4	E316 1270	E319 1270

ISO	P												M			K						N								S										H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
E606	●	●	●	●		●	○			○				●	○		○	○	○	○	○	○	○	○	○	○	○	○	○	○																				
E607	●	●	●	●	○	●	●	○	○	●	○			●	○		○	○	○	○	○	○	○	○	○	○	○	○	○	○																				
E316	●	●	●	●		●	○			○				●	○		○	○	○	○	○	○	○	○	○	○	○	○	○	○																				
E319	●	●	●	●	○	●	●	○	○	●	○			●	○		○	○	○	○	○	○	○	○	○	○	○	○	○	○																				

P Steel M Stainless Steel K Cast Iron N Non-Ferrous Metals S Titanium & Super Alloys H Hard Materials

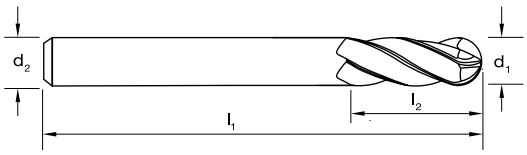
● Optimal ○ Effective

• Available on request as special manufacture. Subject to lead time.

Endmills Carbide, Ballnose, 4 Flute, R30 N, Long Reach

suttontools

- VHM-ULTRA grade of carbide for high performance
- For profile & contour milling in long reach applications
- Suitable for materials up to 1600 N/mm²
- AlCrN for longer tool life



Catalogue Code	E557	E558
Product Group	B0210	B0210
Material	VHM-ULTRA	VHM-ULTRA
Surface Finish	AlCrN	AlCrN
Sutton Designation	N	N
Geometry	R30	R30
Shank Form (DIN 6535)	HA	HB
Shank Tolerance	h6	h6

Size Ref.	d_1 (h10)	l_1	l_2	d_2	z	Item #	Item #
0200	2.0	50	5	6	4	E557 0200	E558 0200
0300	3.0	60	8	6	4	E557 0300	E558 0300
0400	4.0	70	8	6	4	E557 0400	E558 0400
0500	5.0	80	10	6	4	E557 0500	E558 0500
0600	6.0	90	12	6	4	E557 0600	E558 0600
0800	8.0	100	14	8	4	E557 0800	E558 0800
1000	10.0	100	18	10	4	E557 1000	E558 1000
1200	12.0	110	22	12	4	E557 1200	E558 1200
1400	14.0	110	26	14	4	E557 1400	E558 1400
1600	16.0	140	30	16	4	E557 1600	E558 1600
1800	18.0	140	34	16	4	E557 1800	E558 1800
2000	20.0	160	38	20	4	E557 2000	E558 2000
2500	25.0	182	61	25	4	E557 2500	E558 2500

ISO	P												M			K						N								S									H				
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
E557	●	●	●	●	●	●	●	○	●	○	○	○	●	○	○	●	●	●	●	●	●	○	○	○	○	○	○	○	○			○		○			○	○	○	○	○	○					●	
E558	●	●	●	●	●	●	●	○	●	○	○	○	●	○	○	●	●	●	●	●	●	○	○	○	○	○	○	○	○			○		○			○	○	○	○	○	○					●	

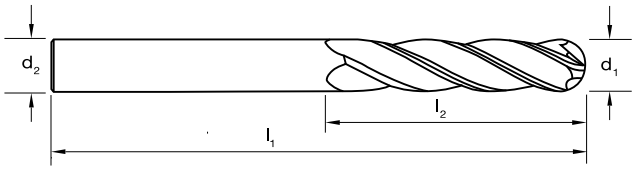
P Steel M Stainless Steel K Cast Iron N Non-Ferrous Metals S Titanium & Super Alloys H Hard Materials

● Optimal ○ Effective

Endmills Carbide, Ballnose, 4 Flute, R30 N, Extra Long

suttontools

- For profile & contour milling in extra long reach applications
- Suitable for materials up to 1300 N/mm²
- Minimal deflection due to strong/larger core



Catalogue Code	E320
Product Group	B0208
Material	VHM
Surface Finish	*Brt*
Sutton Designation	N
Geometry	R30
Shank Form (DIN 6535)	HA
Shank Tolerance	h6

Size Ref.	d_1 (h10)	l_1	l_2	d_2	z	Item #
0300	3.0	76	25	3	4	E320 0300
0400	4.0	76	28	4	4	E320 0400
0500	5.0	76	32	5	4	E320 0500
0600	6.0	102	38	6	4	E320 0600
0800	8.0	102	42	8	4	E320 0800
1000	10.0	102	45	10	4	E320 1000
1200	12.0	153	76	12	4	E320 1200
1400	14.0	153	76	14	4	E320 1400
1600	16.0	153	76	16	4	E320 1600
1800	18.0	153	76	18	4	E320 1800
2000	20.0	153	76	20	4	E320 2000

ISO	P													M			K						N									S												H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
E320	●	●	○	○		●	○			○				○	○		○	○	○	○	○	○	○	○	○	○	○	○	○	○																				

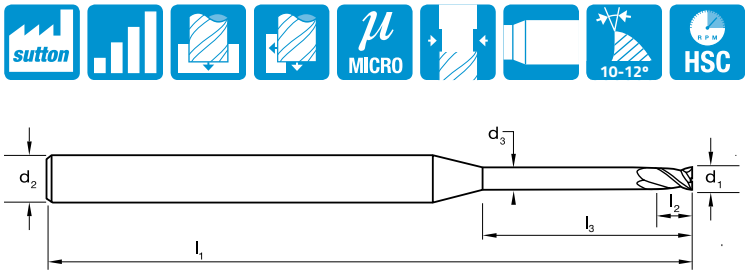
P Steel M Stainless Steel K Cast Iron N Non-Ferrous Metals S Titanium & Super Alloys H Hard Materials

● Optimal ○ Effective

Endmills Carbide, Micro, 2 Flute, Long Reach

suttontools

- For precision milling of cavities
- Suitable for materials up to 35-52 HRC
- TiSiN for high speed machining



Catalogue Code	E580
Product Group	B0218
Material	VHM
Surface Finish	*TiSiN*
Application	NH
Geometry	R40
Shank Form (DIN 6535)	HA
Shank Tolerance	h6

Size Ref.	d_1 *	l_1	l_2	l_3	d_2	d_3	z	Item #
0021	0.2	50	0.2	0.5	4	0.16	2	E580 0021
0022		50	0.2	1	4	0.16	2	E580 0022
0023		50	0.2	1.5	4	0.16	2	E580 0023
0031	0.3	50	0.4	1	4	0.26	2	E580 0031
0032		50	0.4	2	4	0.26	2	E580 0032
0033		50	0.4	3	4	0.26	2	E580 0033
0041	0.4	50	0.4	2	4	0.37	2	E580 0041
0042		50	0.4	4	4	0.37	2	E580 0042
0043		50	0.6	3	4	0.37	2	E580 0043
0044		50	0.6	5	4	0.37	2	E580 0044
0051	0.5	50	0.7	2	4	0.45	2	E580 0051
0052		50	0.7	4	4	0.45	2	E580 0052
0053		50	0.7	6	4	0.45	2	E580 0053
0054		50	0.7	8	4	0.45	2	E580 0054
0060	0.6	50	0.9	2	4	0.55	2	E580 0060
0061		50	0.9	4	4	0.55	2	E580 0061
0062		50	0.9	8	4	0.55	2	E580 0062
0063		50	0.9	8	4	0.55	2	E580 0063
0064		50	0.9	10	4	0.55	2	E580 0064
0070	0.7	50	1	2	4	0.65	2	E580 0070
0071		50	1	4	4	0.65	2	E580 0071
0072		50	1	6	4	0.65	2	E580 0072
0073		50	1	8	4	0.65	2	E580 0073
0074		50	1	10	4	0.65	2	E580 0074
0081	0.8	50	1.2	4	4	0.75	2	E580 0081
0082		50	1.2	6	4	0.75	2	E580 0082
0083		50	1.2	8	4	0.75	2	E580 0083
0084		50	1.2	10	4	0.75	2	E580 0084
0085		50	1.2	12	4	0.75	2	E580 0085
0092		50	1.4	6	4	0.75	2	E580 0092
0093		50	1.4	8	4	0.75	2	E580 0093
0094	0.9	50	1.4	10	4	0.85	2	E580 0094
0096		50	1.4	15	4	0.85	2	E580 0096
0101	1	50	1.5	6	4	0.95	2	E580 0101
0102		50	1.5	8	4	0.95	2	E580 0102
0103		50	1.5	10	4	0.95	2	E580 0103
0104		50	1.5	12	4	0.95	2	E580 0104
0105		50	1.5	16	4	0.95	2	E580 0105
0106		50	1.5	14	4	0.95	2	E580 0106
0121	1.2	50	1.8	6	4	1.15	2	E580 0121

ISO	P													M			K						N									S										H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
E580									●		●		○		○	●																				●	●				●		●	●					

P Steel M Stainless Steel K Cast Iron N Non-Ferrous Metals S Titanium & Super Alloys H Hard Materials

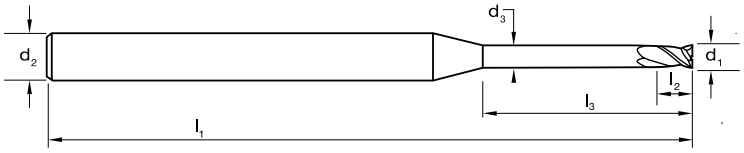
● Optimal ○ Effective

*Cutting Ø tolerance: d_1 < 0.7 = 0 / -0.012 d_1 > 0.7 = 0 / -0.020

Endmills Carbide, Micro, 2 Flute, Long Reach

suttontools

- For precision milling of cavities
- Suitable for materials up to 35-52 HRC
- TiSiN for high speed machining



Catalogue Code	E580
Product Group	B0218
Material	VHM
Surface Finish	*TiSiN*
Application	NH
Geometry	R40
Shank Form (DIN 6535)	HA
Shank Tolerance	h6

Size Ref.	d_1*	l_1	l_2	l_3	d_2	d_3	z	Item #
0122		50	1.8	10	4	1.15	2	E580 0122
0123		50	1.8	12	4	1.15	2	E580 0123
0124		50	1.8	8	4	1.15	2	E580 0124
0141	1.4	50	2.1	6	4	1.35	2	E580 0141
0142		50	2.1	8	4	1.35	2	E580 0142
0143		50	2.1	10	4	1.35	2	E580 0143
0144		50	2.1	12	4	1.35	2	E580 0144
0145		50	2.1	14	4	1.35	2	E580 0145
0146		50	2.1	16	4	1.35	2	E580 0146
0151	1.5	50	2.3	6	4	1.45	2	E580 0151
0152		50	2.3	8	4	1.45	2	E580 0152
0153		50	2.3	12	4	1.45	2	E580 0153
0154		50	2.3	16	4	1.45	2	E580 0154
0155		60	2.3	20	4	1.45	2	E580 0155
0156		50	2.3	10	4	1.45	2	E580 0156
0157		50	2.3	14	4	1.45	2	E580 0157
0158		60	2.3	18	4	1.45	2	E580 0158
0161	1.6	50	2.4	6	4	1.55	2	E580 0161
0162		50	2.4	8	4	1.55	2	E580 0162
0163		50	2.4	10	4	1.55	2	E580 0163
0164		50	2.4	12	4	1.55	2	E580 0164
0165		50	2.4	14	4	1.55	2	E580 0165
0166		50	2.4	16	4	1.55	2	E580 0166
0167		60	2.4	18	4	1.55	2	E580 0167
0168		60	2.4	20	4	1.55	2	E580 0168
0181	1.8	50	2.7	6	4	1.75	2	E580 0181
0182		50	2.7	8	4	1.75	2	E580 0182
0183		50	2.7	10	4	1.75	2	E580 0183
0184		50	2.7	12	4	1.75	2	E580 0184
0185		50	2.7	14	4	1.75	2	E580 0185
0186		50	2.7	16	4	1.75	2	E580 0186
0187		60	2.7	18	4	1.75	2	E580 0187
0188		60	2.7	20	4	1.75	2	E580 0188
0201	2	50	3.0	6	4	1.95	2	E580 0201
0202		50	3.0	8	4	1.95	2	E580 0202
0203		50	3.0	10	4	1.95	2	E580 0203
0204		50	3.0	12	4	1.95	2	E580 0204
0205		50	3.0	16	4	1.95	2	E580 0205
0206		60	3.0	20	4	1.95	2	E580 0206
0207		75	3.0	25	4	1.95	2	E580 0207

ISO	P												M			K						N									S									H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
E580									●		●		○		○	●																					●	●				●		●	●					

P Steel M Stainless Steel K Cast Iron N Non-Ferrous Metals S Titanium & Super Alloys H Hard Materials

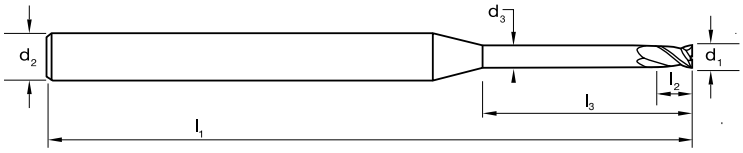
● Optimal ○ Effective

*Cutting Ø tolerance: d_1 < 0.7 = 0 / -0.012 d_1 > 0.7 = 0 / -0.020

Endmills Carbide, Micro, 2 Flute, Long Reach

suttontools

- For precision milling of cavities
- Suitable for materials up to 35-52 HRC
- TiSiN for high speed machining



Catalogue Code	E580
Product Group	B0218
Material	VHM
Surface Finish	*TiSiN*
Application	NH
Geometry	R40
Shank Form (DIN 6535)	HA
Shank Tolerance	h6

Size Ref.	d_1 *	l_1	l_2	l_3	d_2	d_3	z	Item #
0208	2	50	3	14	4	1.95	2	E580 0208
0209		60	3	18	4	1.95	2	E580 0209
0210		75	3	30	4	1.95	2	E580 0210
0251	2.5	50	3.7	8	4	2.40	2	E580 0251
0252		50	3.7	12	4	2.40	2	E580 0252
0253		50	3.7	10	4	2.40	2	E580 0253
0254		50	3.7	14	4	2.40	2	E580 0254
0255		50	3.7	16	4	2.40	2	E580 0255
0256		60	3.7	18	4	2.40	2	E580 0256
0257		60	3.7	20	4	2.40	2	E580 0257
0258		60	3.7	25	4	2.40	2	E580 0258
0259		75	3.7	30	4	2.40	2	E580 0259
0301	3	60	4.5	16	6	2.85	2	E580 0301
0302		60	4.5	20	6	2.85	2	E580 0302
0303		75	4.5	25	6	2.85	2	E580 0303
0304		50	4.5	8	6	2.85	2	E580 0304
0305		50	4.5	10	6	2.85	2	E580 0305
0306		50	4.5	12	6	2.85	2	E580 0306
0307		50	4.5	14	6	2.85	2	E580 0307
0308		60	4.5	18	6	2.85	2	E580 0308
0401	4	60	4.5	10	6	3.85	2	E580 0401
0402		60	4.5	15	6	3.85	2	E580 0402
0403		60	4.5	20	6	3.85	2	E580 0403
0404		75	4.5	25	6	3.85	2	E580 0404
0405		75	4.5	30	6	3.85	2	E580 0405
0406		75	4.5	40	6	3.85	2	E580 0406

ISO	P												M			K						N									S									H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
E580									●		●		○		○	●																				●	●				●		●	●					

P Steel M Stainless Steel K Cast Iron N Non-Ferrous Metals S Titanium & Super Alloys H Hard Materials

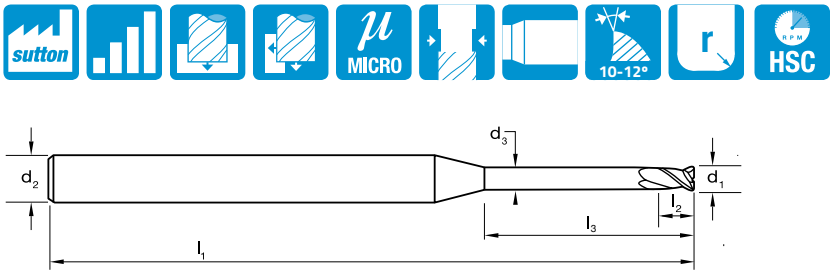
● Optimal ○ Effective

*Cutting Ø tolerance: d_1 < 0.7 = 0 / -0.012 d_1 > 0.7 = 0 / -0.020

Endmills Carbide, Micro, 2 Flute, Corner Rad

suttontools

- For precision milling of cavities
- Suitable for materials up to 35-52 HRC
- TiSiN for high speed machining



Catalogue Code	E581
Product Group	B0218
Material	VHM
Surface Finish	TiSiN
Application	NH
Geometry	R40
Shank Form (DIN 6535)	HA
Shank Tolerance	h6

Size Ref.	d_1*	l_1	l_2	l_3	d_2	d_3	z	rad†	Item #
0021	0.2	50	0.3	0.5	4	0.16	2	0.02	E581 0021
0022		50	0.3	1	4	0.16	2	0.02	E581 0022
0023		50	0.3	1.5	4	0.16	2	0.02	E581 0023
0041	0.4	50	0.6	2	4	0.37	2	0.03	E581 0041
0042		50	0.6	4	4	0.37	2	0.03	E581 0042
0051	0.5	50	0.7	2	4	0.45	2	0.05	E581 0051
0052		50	0.7	4	4	0.45	2	0.05	E581 0052
0053		50	0.7	6	4	0.45	2	0.05	E581 0053
0061	0.6	50	0.9	4	4	0.55	2	0.05	E581 0061
0062		50	0.9	8	4	0.55	2	0.05	E581 0062
0081	0.8	50	1.2	4	4	0.75	2	0.08	E581 0081
0082		50	1.2	6	4	0.75	2	0.08	E581 0082
0083		50	1.2	8	4	0.75	2	0.08	E581 0083
0101	1	50	1.5	6	4	0.95	2	0.1	E581 0101
0102		50	1.5	8	4	0.95	2	0.1	E581 0102
0103		50	1.5	10	4	0.95	2	0.1	E581 0103
0104		50	1.5	12	4	0.95	2	0.1	E581 0104
0105		50	1.5	16	4	0.95	2	0.1	E581 0105
0121	1.2	50	1.8	6	4	1.15	2	0.1	E581 0121
0122		50	1.8	10	4	1.15	2	0.1	E581 0122
0123		50	1.8	12	4	1.15	2	0.1	E581 0123
0151	1.5	50	2.3	6	4	1.45	2	0.15	E581 0151
0152		50	2.3	8	4	1.45	2	0.15	E581 0152
0153		50	2.3	12	4	1.45	2	0.15	E581 0153
0154		50	2.3	16	4	1.45	2	0.15	E581 0154
0155		60	2.3	20	4	1.45	2	0.15	E581 0155
0201	2	50	3.0	6	4	1.95	2	0.2	E581 0201
0202		50	3.0	8	4	1.95	2	0.2	E581 0202
0203		50	3.0	10	4	1.95	2	0.2	E581 0203
0204		50	3.0	12	4	1.95	2	0.2	E581 0204
0205		50	3.0	16	4	1.95	2	0.2	E581 0205
0206		60	3.0	20	4	1.95	2	0.2	E581 0206
0207		75	3.0	25	4	1.95	2	0.2	E581 0207
0251	2.5	50	3.7	8	4	2.40	2	0.3	E581 0251
0252		50	3.7	12	4	2.40	2	0.3	E581 0252
0301	3	60	4.5	16	6	2.95	2	0.3	E581 0301
0302		60	4.5	20	6	2.95	2	0.3	E581 0302
0303		75	4.5	25	6	2.95	2	0.3	E581 0303

ISO	P													M			K						N										S												H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
E581									●		●		○		○	●																				●	●				●		●	●					

P Steel M Stainless Steel K Cast Iron N Non-Ferrous Metals S Titanium & Super Alloys H Hard Materials

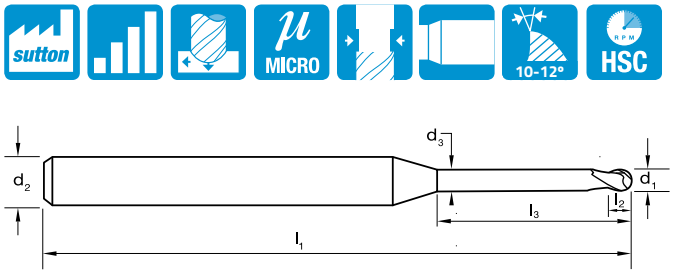
● Optimal ○ Effective

*Cutting Ø tolerance: d_1 < 0.7 = 0 / -0.012 d_1 > 0.7 = 0 / -0.020 †Radius tolerance: Rad = +-0.01

Endmills Carbide, Micro, Ballnose, 2 Flute, Long Reach

suttontools

- For profile & contour milling in long reach applications
- Suitable for materials up to 35-52 HRC
- TiSiN for high speed machining



Catalogue Code	E582
Product Group	B0218
Material	VHM
Surface Finish	TiSiN
Application	NH
Geometry	R30
Shank Form (DIN 6535)	HA
Shank Tolerance	h6

Size Ref.	d_1 *	l_1	l_2	l_3	d_2	d_3	z	rad†	Item #
0021	0.2	50	0.2	0.5	4	0.15	2	0.1	E582 0021
0022		50	0.2	1	4	0.15	2	0.1	E582 0022
0023		50	0.2	1.5	4	0.15	2	0.1	E582 0023
0031	0.3	50	0.3	1	4	0.25	2	0.15	E582 0031
0032		50	0.3	2	4	0.25	2	0.15	E582 0032
0033		50	0.3	3	4	0.25	2	0.15	E582 0033
0040	0.4	50	0.4	1	4	0.35	2	0.2	E582 0040
0041		50	0.4	2	4	0.35	2	0.2	E582 0041
0042		50	0.4	4	4	0.35	2	0.2	E582 0042
0043		50	0.4	3	4	0.35	2	0.2	E582 0043
0044		50	0.4	5	4	0.35	2	0.2	E582 0044
0051	0.5	50	0.4	2	4	0.45	2	0.25	E582 0051
0052		50	0.4	6	4	0.45	2	0.25	E582 0052
0053		50	0.4	3	4	0.45	2	0.25	E582 0053
0054		50	0.4	4	4	0.45	2	0.25	E582 0054
0055		50	0.4	5	4	0.45	2	0.25	E582 0055
0056		50	0.4	8	4	0.45	2	0.25	E582 0056
0061	0.6	50	0.5	2	4	0.55	2	0.3	E582 0061
0062		50	0.5	4	4	0.55	2	0.3	E582 0062
0063		50	0.5	6	4	0.55	2	0.3	E582 0063
0064		50	0.5	8	4	0.55	2	0.3	E582 0064
0065		50	0.5	3	4	0.55	2	0.3	E582 0065
0066		50	0.5	5	4	0.55	2	0.3	E582 0066
0081	0.8	50	0.6	4	4	0.75	2	0.4	E582 0081
0082		50	0.6	8	4	0.75	2	0.4	E582 0082
0083		50	0.6	10	4	0.75	2	0.4	E582 0083
0101	1	50	0.8	4	4	0.95	2	0.5	E582 0101
0102		50	0.8	6	4	0.95	2	0.5	E582 0102
0103		50	0.8	8	4	0.95	2	0.5	E582 0103
0104		50	0.8	10	4	0.95	2	0.5	E582 0104
0105		50	0.8	12	4	0.95	2	0.5	E582 0105
0106		50	0.8	14	4	0.95	2	0.5	E582 0106
0107		60	0.8	20	4	0.95	2	0.5	E582 0107
0121	1.2	50	1.0	8	4	1.15	2	0.6	E582 0121
0123		50	1.0	10	4	1.15	2	0.6	E582 0123
0122		50	1.0	12	4	1.15	2	0.6	E582 0122
0151	1.5	50	1.2	8	4	1.45	2	0.75	E582 0151
0152		50	1.2	12	4	1.45	2	0.75	E582 0152
0153		50	1.2	16	4	1.45	2	0.75	E582 0153
0154		50	1.2	18	4	1.45	2	0.75	E582 0154

ISO	P												M			K						N									S										H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
E582									●		●		○		○	●																				●	●				●		●	●						

P Steel | M Stainless Steel | K Cast Iron | N Non-Ferrous Metals | S Titanium & Super Alloys | H Hard Materials

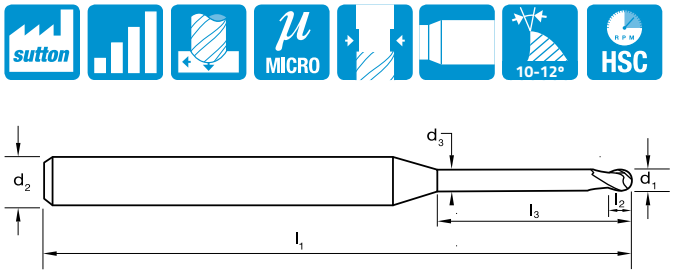
● Optimal ○ Effective

*Cutting Ø tolerance: d_1 < 0.7 = 0 / -0.012 d_1 > 0.7 = 0 / -0.020 †Radius tolerance: Rad = +-0.01

Endmills Carbide, Micro, Ballnose, 2 Flute, Long Reach

suttontools

- For profile & contour milling in long reach applications
- Suitable for materials up to 35-52 HRC
- TiSiN for high speed machining



Catalogue Code	E582
Product Group	B0218
Material	VHM
Surface Finish	TiSiN
Application	NH
Geometry	R30
Shank Form (DIN 6535)	HA
Shank Tolerance	h6

Size Ref.	d_1*	l_1	l_2	l_3	d_2	d_3	z	rad†	Item #
0201	2	50	1.6	6	4	1.95	2	1.0	E582 0201
0202		50	1.6	8	4	1.95	2	1.0	E582 0202
0203		50	1.6	12	4	1.95	2	1.0	E582 0203
0204		50	1.6	16	4	1.95	2	1.0	E582 0204
0205		60	1.6	20	4	1.95	2	1.0	E582 0205
0206		75	1.6	30	4	1.95	2	1.0	E582 0206
0301	3	50	2.4	10	6	2.85	2	1.5	E582 0301
0302		60	2.4	16	6	2.85	2	1.5	E582 0302
0303		75	2.4	25	6	2.85	2	1.5	E582 0303
0304		75	2.4	30	6	2.85	2	1.5	E582 0304

ISO	P												M			K						N									S										H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
E582									●		●		○		○	●																				●	●				●		●	●					

P Steel | M Stainless Steel | K Cast Iron | N Non-Ferrous Metals | S Titanium & Super Alloys | H Hard Materials

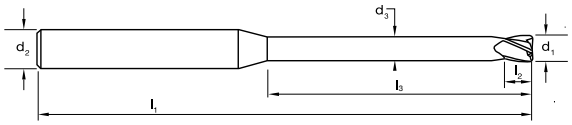
● Optimal ○ Effective

*Cutting Ø tolerance: d_1 < 0.7 = 0 / -0.012 d_1 > 0.7 = 0 / -0.020 †Radius tolerance: Rad = +-0.01

Endmills Carbide, Hi-Feed Micro, 4 Flute, Corner Rad

suttontools

- Increased feedrates
- Tough coating for long tool life
- Variable helix design for chatter-free machining
- Machine Material 35 to 68HRC



Catalogue Code	E598
Product Group	B0218
Material	VHM
Surface Finish	*TiSiN*
Application	N
Geometry	R40
Shank Form (DIN 6535)	HA
Shank Tolerance	h6

Size Ref.	d_1 *	l_1	l_2	l_3	d_2	d_3	z	rad†	Item #
0102	1	50	1	4	4	-	4	0.1	E598 0102
0103	1	50	1	6	4	-	4	0.1	E598 0103
0104	1	50	1	8	4	-	4	0.1	E598 0104
0105	1	50	1	10	4	-	4	0.1	E598 0105
0106	1	50	1	12	4	-	4	0.1	E598 0106
0107	1	50	1	14	4	-	4	0.1	E598 0107
0108	1	50	1	16	4	-	4	0.1	E598 0108
0110	1	75	1	20	4	-	4	0.1	E598 0110
0112	1	50	1	4	4	-	4	0.2	E598 0112
0113	1	50	1	6	4	-	4	0.2	E598 0113
0114	1	50	1	8	4	-	4	0.2	E598 0114
0115	1	50	1	10	4	-	4	0.2	E598 0115
0116	1	50	1	12	4	-	4	0.2	E598 0116
0117	1	50	1	14	4	-	4	0.2	E598 0117
0118	1	50	1	16	4	-	4	0.2	E598 0118
0120	1	60	1	20	4	-	4	0.2	E598 0120
0122	1	50	1	6	4	-	4	0.3	E598 0122
0123	1	50	1	10	4	-	4	0.3	E598 0123
0124	1	50	1	16	4	-	4	0.3	E598 0124
0126	1	60	1	20	4	-	4	0.3	E598 0126
0152	1.5	50	1.5	6	4	-	4	0.1	E598 0152
0153	1.5	50	1.5	8	4	-	4	0.1	E598 0153
0154	1.5	50	1.5	12	4	-	4	0.1	E598 0154
0155	1.5	50	1.5	16	4	-	4	0.1	E598 0155
0157	1.5	60	1.5	20	4	-	4	0.1	E598 0157
0159	1.5	50	1.5	6	4	-	4	0.2	E598 0159
0160	1.5	50	1.5	8	4	-	4	0.2	E598 0160
0161	1.5	50	1.5	10	4	-	4	0.2	E598 0161
0162	1.5	50	1.5	12	4	-	4	0.2	E598 0162
0163	1.5	50	1.5	14	4	-	4	0.2	E598 0163
0164	1.5	50	1.5	16	4	-	4	0.2	E598 0164
0166	1.5	60	1.5	18	4	-	4	0.2	E598 0166
0167	1.5	60	1.5	20	4	-	4	0.2	E598 0167
0169	1.5	50	1.5	8	4	-	4	0.3	E598 0169
0170	1.5	50	1.5	16	4	-	4	0.3	E598 0170
0172	1.5	60	1.5	20	4	-	4	0.3	E598 0172
0202	2	50	2	6	4	-	4	0.2	E598 0202
0203	2	50	2	8	4	-	4	0.2	E598 0203
0204	2	50	2	10	4	-	4	0.2	E598 0204
0205	2	50	2	12	4	-	4	0.2	E598 0205

ISO	P												M			K						N									S										H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
E598				○	●			●	●	●	●	○	○		●	●																	○	○	○	●	●				●		●	●	○	○	○		

P Steel M Stainless Steel K Cast Iron N Non-Ferrous Metals S Titanium & Super Alloys H Hard Materials

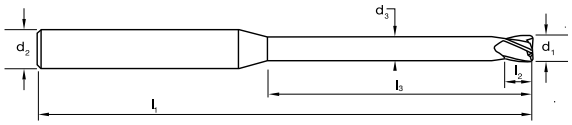
● Optimal ○ Effective

*Cutting Ø tolerance: d_1 < 0.7 = 0 / -0.012 d_1 > 0.7 = 0 / -0.020

Endmills Carbide, Hi-Feed Micro, 4 Flute, Corner Rad

suttontools

- Increased feedrates
- Tough coating for long tool life
- Variable helix design for chatter-free machining
- Machine Material 35 to 68HRC



Catalogue Code	E598
Product Group	B0218
Material	VHM
Surface Finish	TiSiN
Application	N
Geometry	R40
Shank Form (DIN 6535)	HA
Shank Tolerance	h6

Size Ref.	d_1*	l_1	l_2	l_3	d_2	d_3	z	rad†	Item #
0206	2	50	2	14	4	-	4	0.2	E598 0206
0207	2	50	2	16	4	-	4	0.2	E598 0207
0209	2	60	2	18	4	-	4	0.2	E598 0209
0210	2	60	2	20	4	-	4	0.2	E598 0210
0212	2	75	2	25	4	-	4	0.2	E598 0212
0213	2	75	2	30	4	-	4	0.2	E598 0213
0215	2	50	2	8	4	-	4	0.3	E598 0215
0216	2	50	2	16	4	-	4	0.3	E598 0216
0218	2	60	2	20	4	-	4	0.3	E598 0218
0220	2	50	2	6	4	-	4	0.5	E598 0220
0221	2	50	2	8	4	-	4	0.5	E598 0221
0222	2	50	2	12	4	-	4	0.5	E598 0222
0223	2	50	2	16	4	-	4	0.5	E598 0223
0225	2	60	2	20	4	-	4	0.5	E598 0225
0227	2	75	2	25	4	-	4	0.5	E598 0227
0228	2	75	2	30	4	-	4	0.5	E598 0228
0252	2.5	50	2.5	8	4	-	4	0.3	E598 0252
0253	2.5	50	2.5	10	4	-	4	0.3	E598 0253
0254	2.5	50	2.5	12	4	-	4	0.3	E598 0254
0255	2.5	50	2.5	14	4	-	4	0.3	E598 0255
0256	2.5	50	2.5	16	4	-	4	0.3	E598 0256
0258	2.5	60	2.5	18	4	-	4	0.3	E598 0258
0259	2.5	60	2.5	20	4	-	4	0.3	E598 0259
0260	2.5	60	2.5	25	4	-	4	0.3	E598 0260
0262	2.5	75	2.5	30	4	-	4	0.3	E598 0262
0264	2.5	50	2.5	8	4	-	4	0.5	E598 0264
0265	2.5	50	2.5	12	4	-	4	0.5	E598 0265
0266	2.5	50	2.5	16	4	-	4	0.5	E598 0266
0268	2.5	60	2.5	20	4	-	4	0.5	E598 0268
0269	2.5	60	2.5	25	4	-	4	0.5	E598 0269
0271	2.5	75	2.5	30	4	-	4	0.5	E598 0271
0303	3	50	3	8	6	-	4	0.2	E598 0303
0304	3	50	3	10	6	-	4	0.2	E598 0304
0305	3	50	3	12	6	-	4	0.2	E598 0305
0306	3	50	3	14	6	-	4	0.2	E598 0306
0308	3	60	3	16	6	-	4	0.2	E598 0308
0309	3	60	3	18	6	-	4	0.2	E598 0309
0310	3	60	3	20	6	-	4	0.2	E598 0310
0312	3	75	3	25	6	-	4	0.2	E598 0312
0314	3	50	3	8	6	-	4	0.3	E598 0314

ISO	P													M			K						N										S												H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
E598				○	●			●	●	●	●	○	○		●	●																	○	○	○	●	●				●		●	●	○	○	○		

P Steel M Stainless Steel K Cast Iron N Non-Ferrous Metals S Titanium & Super Alloys H Hard Materials

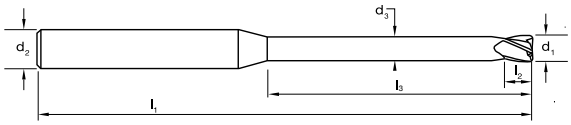
● Optimal ○ Effective

*Cutting Ø tolerance: d_1 < 0.7 = 0 / -0.012 d_1 > 0.7 = 0 / -0.020

Endmills Carbide, Hi-Feed Micro, 4 Flute, Corner Rad

suttontools

- Increased feedrates
- Tough coating for long tool life
- Variable helix design for chatter-free machining
- Machine Material 35 to 68HRC



Catalogue Code	E598
Product Group	B0218
Material	VHM
Surface Finish	TiSiN
Application	N
Geometry	R40
Shank Form (DIN 6535)	HA
Shank Tolerance	h6

Size Ref.	d_1 *	l_1	l_2	l_3	d_2	d_3	z	rad†	Item #
0315	3	60	3	10	6	-	4	0.3	E598 0315
0316	3	50	3	12	6	-	4	0.3	E598 0316
0317	3	50	3	14	6	-	4	0.3	E598 0317
0319	3	60	3	16	6	-	4	0.3	E598 0319
0320	3	60	3	18	6	-	4	0.3	E598 0320
0321	3	60	3	20	6	-	4	0.3	E598 0321
0323	3	75	3	30	6	-	4	0.3	E598 0323
0325	3	50	3	8	6	-	4	0.5	E598 0325
0326	3	50	3	10	6	-	4	0.5	E598 0326
0327	3	50	3	12	6	-	4	0.5	E598 0327
0328	3	50	3	14	6	-	4	0.5	E598 0328
0330	3	60	3	16	6	-	4	0.5	E598 0330
0331	3	60	3	18	6	-	4	0.5	E598 0331
0332	3	60	3	20	6	-	4	0.5	E598 0332
0334	3	75	3	30	6	-	4	0.5	E598 0334
0402	4	60	4	10	6	-	4	0.3	E598 0402
0403	4	60	4	15	6	-	4	0.3	E598 0403
0404	4	60	4	20	6	-	4	0.3	E598 0404
0406	4	75	4	25	6	-	4	0.3	E598 0406
0407	4	75	4	32	6	-	4	0.3	E598 0407
0408	4	75	4	40	6	-	4	0.3	E598 0408
0410	4	60	4	10	6	-	4	0.5	E598 0410
0411	4	60	4	15	6	-	4	0.5	E598 0411
0412	4	60	4	20	6	-	4	0.5	E598 0412
0414	4	75	4	25	6	-	4	0.5	E598 0414
0415	4	75	4	32	6	-	4	0.5	E598 0415
0416	4	75	4	40	6	-	4	0.5	E598 0416

ISO	P												M			K						N									S										H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
E598				○	●			●	●	●	●	○	○		●	●																	○	○	○	●	●				●		●	●	○	○	○		

P Steel M Stainless Steel K Cast Iron N Non-Ferrous Metals S Titanium & Super Alloys H Hard Materials

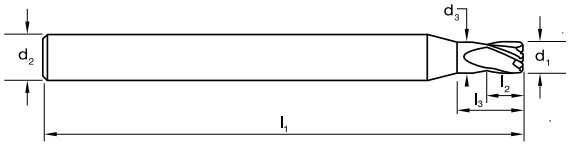
● Optimal ○ Effective

*Cutting Ø tolerance: d_1 < 0.7 = 0 / -0.012 d_1 > 0.7 = 0 / -0.020

Endmills Carbide, Hi-Feed, 4 Flute, Corner Rad

suttontools

- Increased feedrates
- Tough coating for long tool life
- Variable helix design for chatter-free machining
- Machine Material 35 to 68HRC



Catalogue Code	E650
Product Group	B0218
Material	VHM
Surface Finish	*TiSiN*
Application	N
Geometry	R40
Shank Form (DIN 6535)	HA
Shank Tolerance	h6

Size Ref.	d_1*	l_1	l_2	l_3	d_2	d_3	z	rad†	Item #
0201	2	60	2	6	6	-	4	0.3	E650 0201
0202	2	60	2	6	6	-	4	0.5	E650 0202
0301	3	60	3	7	6	-	4	0.3	E650 0301
0302	3	60	3	7	6	-	4	0.5	E650 0302
0401	4	60	4	8	6	-	4	0.3	E650 0401
0402	4	60	4	8	6	-	4	0.5	E650 0402
0601	6	60	6	-	6	-	4	0.3	E650 0601
0602	6	60	6	-	6	-	4	0.5	E650 0602
0603	6	60	6	-	6	-	4	1.0	E650 0603

ISO	P												M			K						N									S									H				
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
E650				○	●			●	●	●	●	○	○																				○	○	○	●	●							●	●	●	○		

P Steel | M Stainless Steel | K Cast Iron | N Non-Ferrous Metals | S Titanium & Super Alloys | H Hard Materials

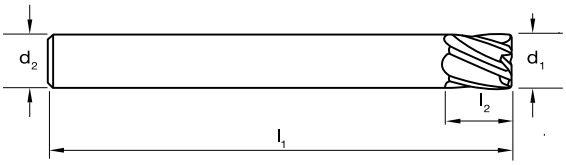
● Optimal ○ Effective

*Cutting Ø tolerance: d_1 < 0.7 = 0 / -0.012 d_1 > 0.7 = 0 / -0.020

Endmills Carbide, 6 Flute, Corner Rad

suttontools

- Increased feedrates
- Tough coating for long tool life
- Variable helix design for chatter-free machining
- Machine Material 35 to 68HRC



Catalogue Code	E650
Product Group	B0218
Material	VHM
Surface Finish	*TiSiN*
Application	N
Geometry	R40
Shank Form (DIN 6535)	HA
Shank Tolerance	h6

Size Ref.	d_1 *	l_1	l_2	l_3	d_2	d_3	z	rad†	Item #
0801	8	64	8	-	8	-	6	0.3	E650 0801
0802	8	64	8	-	8	-	6	0.5	E650 0802
0803	8	64	8	-	8	-	6	1.0	E650 0803
0804	8	64	8	-	8	-	6	2.0	E650 0804
1001	10	75	10	-	10	-	6	0.3	E650 1001
1002	10	75	10	-	10	-	6	0.5	E650 1002
1003	10	75	10	-	10	-	6	1.0	E650 1003
1004	10	75	10	-	10	-	6	2.0	E650 1004
1201	12	75	12	-	12	-	6	0.3	E650 1201
1202	12	75	12	-	12	-	6	0.5	E650 1202
1203	12	75	12	-	12	-	6	1.0	E650 1203
1204	12	75	12	-	12	-	6	2.0	E650 1204

ISO	P												M			K						N									S										H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
E650				○	●			●	●	●	●	○	○																				○	○	○	●	●							●	●	●	○		

P Steel M Stainless Steel K Cast Iron N Non-Ferrous Metals S Titanium & Super Alloys H Hard Materials

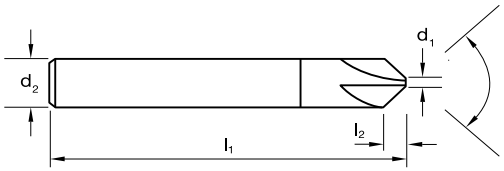
● Optimal ○ Effective

*Cutting Ø tolerance: d_1 < 0.7 = 0 / -0.012 d_1 > 0.7 = 0 / -0.020

Endmills Carbide, Chamfer, 4 Flute 90°

suttontools

- For chamfering & deburring component edges
- Straight flute for smooth cutting
- 90° form
- TiAlN for longer tool life



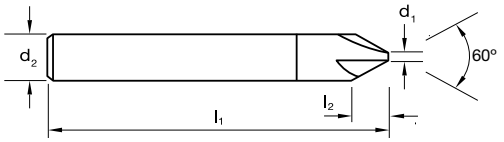
Catalogue Code	E456
Product Group	B0210
Material	VHM
Surface Finish	TiAlN
Sutton Designation	N
Geometry	90°
Shank Form (DIN 6535)	HA
Shank Tolerance	h6

Size Ref.	l_2	l_1	d_1	d_2	z	Item #
0600	**2.4**	57	1.2	6	4	E456 0600
0800	**3.2**	63	1.6	8	4	E456 0800
1000	**4.0**	72	2.0	10	4	E456 1000
1200	**4.8**	83	2.4	12	4	E456 1200

Endmills Carbide, Chamfer, 4 Flute 60°

suttontools

- For chamfering & deburring component edges
- Straight flute for smooth cutting
- 60° form
- TiAlN for longer tool life



Catalogue Code	E457
Product Group	B0210
Material	VHM
Surface Finish	TiAlN
Sutton Designation	N
Geometry	60°
Shank Form (DIN 6535)	HA
Shank Tolerance	h6

Size Ref.	l_2	l_1	d_1	d_2	z	Item #
0600	**3.8**	57	1.2	6	4	E457 0600
0800	**5.5**	63	1.6	8	4	E457 0800
1000	**6.9**	72	2.0	10	4	E457 1000
1200	**8.3**	83	2.4	12	4	E457 1200

ISO	P													M			K						N										S												H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
E456	●	●	●	●	●	●	●	●	○	●	○	●	○	●	●	●	●	●	●	●	●	●											●	●	●	●	●	●	●	●	●	●	●	●	○			●	
E457	●	●	●	●	●	●	●	●	○	●	○	●	○	●	●	●	●	●	●	●	●	●											●	●	●	●	●	●	●	●	●	●	●	●	○			●	

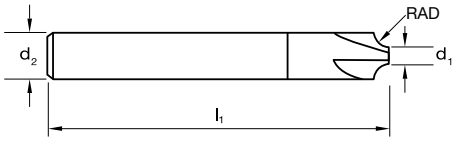
P Steel | M Stainless Steel | K Cast Iron | N Non-Ferrous Metals | S Titanium & Super Alloys | H Hard Materials

● Optimal ○ Effective

Endmills Carbide, 4 Flute, Rounding

suttontools

- For chamfering & deburring component edges
- Straight flute for smooth cutting
- Radius for corner rounding
- TiAlN for longer tool life



Catalogue Code	E458
Product Group	B0210
Material	VHM
Surface Finish	TiAlN
Sutton Designation	N
Geometry	Rad
Shank Form (DIN 6535)	HA
Shank Tolerance	h6

Size Ref.	rad	d_1	l_1	d_2	z	Item #
0605	0.5	5.0	57	6	4	E458 0605
0610	1	4.0	57	6	4	E458 0610
0815	1.5	5.0	63	8	4	E458 0815
0820	2	4.0	63	8	4	E458 0820
1025	2.5	5.0	72	10	4	E458 1025
1030	3	4.0	72	10	4	E458 1030
1235	3.5	5.0	83	12	4	E458 1235
1240	4	4.0	83	12	4	E458 1240

ISO	P												M			K						N								S										H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
E458	●	●	●	●	●	●	●	●	○	●	○	●	○	●	●	●	●	●	●	●	●	●											●	●	●	●	●	●	●	●	●	●	●	●	○			●	

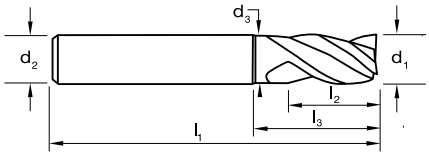
P Steel M Stainless Steel K Cast Iron N Non-Ferrous Metals S Titanium & Super Alloys H Hard Materials

● Optimal ○ Effective

Endmills Carbide, 3 Flute, R38/37/39 UNI, DIN 6527K, *Harmony*

suttontools HARMONY

- VHM-ULTRA grade of carbide for high performance
- Universal use for slotting & finishing with the one tool
- 38/37/39° variable flute helix for chatter free milling
- Suitable for materials up to 1600 N/mm²
- AlCrN for longer tool life



Catalogue Code	E422	E423
Product Group	B0210	B0210
Material	VHM-ULTRA	VHM-ULTRA
Surface Finish	*AlCrN*	*AlCrN*
Sutton Designation	UNI	UNI
Geometry	R38/37/39	R38/37/39
Shank Form (DIN 6535)	HA	HB
Shank Tolerance	h5	h5

Size Ref.	d_1 (e8)	l_1	l_2	l_3	d_2	d_3	z	Item #	Item #
0300	**3.0**	50	5	-	6	-	3	E422 0300	E423 0300
0350	**3.5**	50	6	-	6	-	3	E422 0350	E423 0350
0400	**4.0**	54	8	13	6	3.8	3	E422 0400	E423 0400
0450	**4.5**	54	8	13	6	4.3	3	E422 0450	E423 0450
0500	**5.0**	54	9	15	6	4.8	3	E422 0500	E423 0500
0550	**5.5**	54	9	15	6	5.3	3	E422 0550	E423 0550
0600	**6.0**	54	10	16	6	5.7	3	E422 0600	E423 0600
0800	**8.0**	58	12	20	8	7.6	3	E422 0800	E423 0800
1000	**10.0**	66	14	24	10	9.5	3	E422 1000	E423 1000
1200	**12.0**	73	16	26	12	11.5	3	E422 1200	E423 1200
1400	**14.0**	73	16	26	14	13.5	3	E422 1400	E423 1400
1600	**16.0**	82	22	32	16	15.5	3	E422 1600	E423 1600
1800	**18.0**	82	22	32	18	17.5	3	E422 1800	E423 1800
2000	**20.0**	92	26	40	20	19.5	3	E422 2000	E423 2000

ISO	P												M			K						N										S										H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
E422	●	●	●	●	●	●	●	●	●	●	●						●	●	●	●	●	●											○	○	○	○	○	●	●	●	●	●	●	●	●	●		●	●
E423	●	●	●	●	●	●	●	●	●	●	●						●	●	●	●	●	●											○	○	○	○	○	●	●	●	●	●	●	●	●	●		●	●

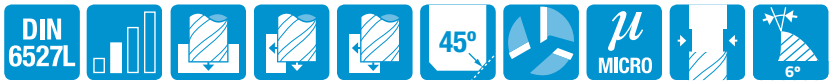
P Steel **M** Stainless Steel **K** Cast Iron **N** Non-Ferrous Metals **S** Titanium & Super Alloys **H** Hard Materials

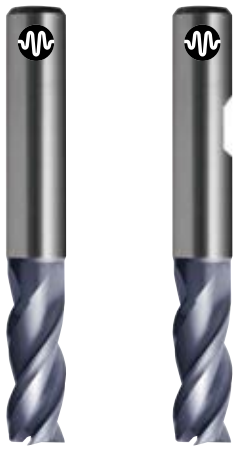
● Optimal ○ Effective

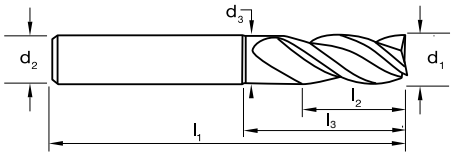
Endmills Carbide, 3 Flute, R38/37/39 UNI, DIN6527L, *Harmony*

suttontools HARMONY

- VHM-ULTRA grade of carbide for high performance
- Universal use for slotting & finishing with the one tool
- 38/37/39° variable flute helix for chatter free milling
- Suitable for materials up to 1600 N/mm²
- AlCrN for longer tool life







Catalogue Code	E424	E425
Product Group	B0210	B0210
Material	VHM-ULTRA	VHM-ULTRA
Surface Finish	*AlCrN*	*AlCrN*
Sutton Designation	UNI	UNI
Geometry	R38/37/39	R38/37/39
Shank Form (DIN 6535)	HA	HB
Shank Tolerance	h5	h5

Size Ref.	d_1 (e8)	l_1	l_2	l_3	d_2	d_3	z	Item #	Item #
0300	**3.0**	57	8	14	6	2.8	3	E424 0300	E425 0300
0350	**3.5**	57	8	14	6	3.3	3	E424 0350	E425 0350
0400	**4.0**	57	11	16	6	3.8	3	E424 0400	E425 0400
0450	**4.5**	57	11	16	6	4.3	3	E424 0450	E425 0450
0500	**5.0**	57	13	18	6	4.8	3	E424 0500	E425 0500
0550	**5.5**	57	13	18	6	5.3	3	E424 0550	E425 0550
0600	**6.0**	57	13	19	6	5.7	3	E424 0600	E425 0600
0800	**8.0**	63	19	25	8	7.6	3	E424 0800	E425 0800
1000	**10.0**	72	22	30	10	9.5	3	E424 1000	E425 1000
1200	**12.0**	83	26	36	12	11.5	3	E424 1200	E425 1200
1400	**14.0**	83	26	36	14	13.5	3	E424 1400	E425 1400
1600	**16.0**	92	32	42	16	15.5	3	E424 1600	E425 1600
1800	**18.0**	92	32	42	18	17.5	3	E424 1800	E425 1800
2000	**20.0**	104	38	52	20	19.5	3	E424 2000	E425 2000

ISO	P												M			K						N									S										H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
E424	●	●	●	●	●	●	●	●	●	●							●	●	●	●	●	●											○	○	○	○	○	●	●	●	●	●	●	●	●	●		●	●
E425	●	●	●	●	●	●	●	●	●	●							●	●	●	●	●	●											○	○	○	○	○	●	●	●	●	●	●	●	●	●		●	●

P Steel M Stainless Steel K Cast Iron N Non-Ferrous Metals S Titanium & Super Alloys H Hard Materials

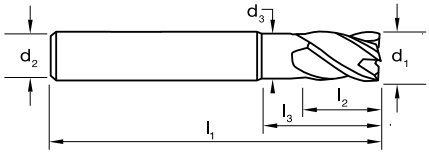
● Optimal ○ Effective

Endmills Carbide, 4 Flute, R35/38 UNI, DIN6527K, *Harmony*

suttontools HARMONY

- VHM-ULTRA grade of carbide for high performance
- 35/38° variable flute helix for chatter free milling
- Suitable for materials up to 1600 N/mm²
- AlCrN for longer tool life

DIN 6527K | 45° | MICRO | 6°



Catalogue Code	E533	E534
Product Group	B0210	B0210
Material	VHM-ULTRA	VHM-ULTRA
Surface Finish	*AlCrN*	*AlCrN*
Sutton Designation	UNI	UNI
Geometry	R35/38	R35/38
Shank Form (DIN 6535)	HA	HB
Shank Tolerance	h6	h6

Size Ref.	d_1 (h9)	l_1	l_2	l_3	d_2	d_3	z	Item #	Item #
0600	6.0	54	10	18	6	5.5	4	E533 0600	E534 0600
0800	8.0	58	12	22	8	7.5	4	E533 0800	E534 0800
1000	10.0	66	14	24	10	9.5	4	E533 1000	E534 1000
1200	12.0	73	16	28	12	11.2	4	E533 1200	E534 1200
1600	16.0	82	22	34	16	15.0	4	E533 1600	E534 1600
2000	20.0	92	26	42	20	19.0	4	E533 2000	E534 2000

ISO	P													M			K						N									S											H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
E533	●	●	●	●	●	●	●	●	○	●	○	○	○	○	○		●	○	●	○	●	●	○	○	○	○							○	○	○		○	○	○	○	○	○		○				●	○
E534	●	●	●	●	●	●	●	●	○	●	○	○	○	○	○		●	○	●	○	●	●	○	○	○	○							○	○	○		○	○	○	○	○	○		○				●	○

P Steel | M Stainless Steel | K Cast Iron | N Non-Ferrous Metals | S Titanium & Super Alloys | H Hard Materials

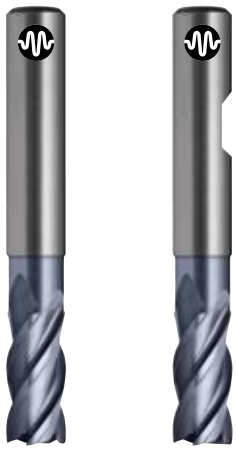
● Optimal ○ Effective

Endmills Carbide, 4 Flute, R35/38 UNI, DIN6527L, *Harmony*

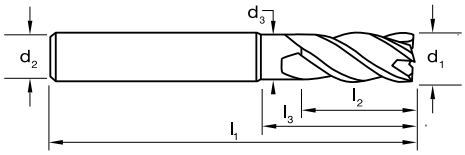
suttontools HARMONY

- VHM-ULTRA grade of carbide for high performance
- 35/38° variable flute helix for chatter free milling
- Suitable for materials up to 1600 N/mm²
- AlCrN for longer tool life

watch the video



DIN 6527L | 45° | MICRO | 6°



Catalogue Code	E535	E536
Product Group	B0210	B0210
Material	VHM-ULTRA	VHM-ULTRA
Surface Finish	*AlCrN*	*AlCrN*
Sutton Designation	UNI	UNI
Geometry	R35/38	R35/38
Shank Form (DIN 6535)	HA	HB
Shank Tolerance	h6	h6

Size Ref.	d_1 (e8)	l_1	l_2	l_3	d_2	d_3	z	Cnr Chamf	Item #	Item #
0300	**3.0**	57	8	19	6	2.8	4		E535 0300	E536 0300
0400	**4.0**	57	11	19	6	3.7	4		E535 0400	E536 0400
0500	**5.0**	57	13	20	6	4.6	4		E535 0500	E536 0500
0600	**6.0**	57	13	21	6	5.5	4		E535 0600	E536 0600
0800	**8.0**	63	19	27	8	7.5	4		E535 0800	E536 0800
1000	**10.0**	72	22	32	10	9.5	4		E535 1000	E536 1000
1200	**12.0**	83	26	38	12	11.2	4		E535 1200	E536 1200
1400	**14.0**	83	26	38	14	13.0	4		E535 1400	E536 1400
1600	**16.0**	92	32	44	16	15.0	4		E535 1600	E536 1600
1800	**18.0**	92	32	44	18	17.0	4		E535 1800	E536 1800
2000	**20.0**	104	38	54	20	19.0	4		E535 2000	E536 2000
2500	**25.0**	120	45	64	25	24.0	4		E535 2500	E536 2500

									E572	
0318	**1/8**	1-1/2	3/8		1/8		4	0.002"	E572 0318	
0476	**3/16**	2	7/16		3/16		4	0.002"	E572 0476	
0635	**1/4**	2-1/2	1/2		1/4		4	0.004"	E572 0635	
0794	**5/16**	2-1/2	13/16		5/16		4	0.008"	E572 0794	
0953	**3/8**	2-1/2	7/8		3/8		4	0.008"	E572 0953	
1111	**7/16**	3	1		7/16		4	0.008"	E572 1111	
1270	**1/2**	3	1		1/2		4	0.008"	E572 1270	
1429	**9/16**	3	1		9/16		4	0.011"	•	
1588	**5/8**	3-1/2	1-1/4		5/8		4	0.011"	E572 1588	
1905	**3/4**	4	1-1/2		3/4		4	0.011"	E572 1905	
2540	**1"**	4	1-1/2		1		4	0.011"	E572 2540	

ISO	P													M			K						N									S										H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
E535	●	●	●	●	●	●	●	●	○	●	○	○	○	○	○		●	○	●	○	●	●	○	○	○	○							○	○	○		○	○	○	○	○	○		○				●	○
E536	●	●	●	●	●	●	●	●	○	●	○	○	○	○	○		●	○	●	○	●	●	○	○	○	○							○	○	○		○	○	○	○	○	○		○				●	○
E572	●	●	●	●	●	●	●	●	○	●	○	○	○	○	○		●	○	●	○	●	●	○	○	○	○							○	○	○		○	○	○	○	○	○		○				●	○

P Steel | M Stainless Steel | K Cast Iron | N Non-Ferrous Metals | S Titanium & Super Alloys | H Hard Materials

● Optimal ○ Effective

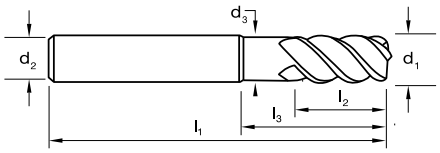
• Available on request as special manufacture. Subject to lead time.

Endmills Carbide, 4 Flute, R35/38 UNI, Cnr Rad, DIN6527L, *Harmony*

suttontools HARMONY

- For precision finishing applications
- Ideally suited to materials up to 1300 N/mm²
- AlCrN for longer tool life

DIN 6527L | MICRO | 6°



Catalogue Code	E559	E560
Product Group	B0210	B0210
Material	VHM-ULTRA	VHM-ULTRA
Surface Finish	*AlCrN*	*AlCrN*
Sutton Designation	UNI	UNI
Geometry	R35/38	R35/38
Shank Form (DIN 6535)	HA	HB
Shank Tolerance	h6	h6

Size Ref.	d_1 (h10)	l_1	l_2	l_3	d_2	d_3	z	rad	Item #	Item #
0303	3.0	57	8	19	6	3.7	4	0.3	E559 0303	E560 0303
0305		57	8	19	6	3.7	4	0.5	E559 0305	E560 0305
0403	4.0	57	11	19	6	3.7	4	0.3	E559 0403	E560 0403
0405		57	11	19	6	3.7	4	0.5	E559 0405	E560 0405
0410		57	11	19	6	3.7	4	1.0	E559 0410	E560 0410
0503	5.0	57	13	20	6	4.6	4	0.3	E559 0503	E560 0503
0505		57	13	20	6	4.6	4	0.5	E559 0505	E560 0505
0510		57	13	20	6	4.6	4	1.0	E559 0510	E560 0510
0603	6.0	57	13	21	6	5.5	4	0.3	E559 0603	E560 0603
0605		57	13	21	6	5.5	4	0.5	E559 0605	E560 0605
0610		57	13	21	6	5.5	4	1.0	E559 0610	E560 0610
0803	8.0	63	19	27	8	7.5	4	0.3	E559 0803	E560 0803
0805		63	19	27	8	7.5	4	0.5	E559 0805	E560 0805
0810		63	19	27	8	7.5	4	1.0	E559 0810	E560 0810
0815		63	19	27	8	7.5	4	1.5	E559 0815	E560 0815
0820		63	19	27	8	7.5	4	2.0	E559 0820	E560 0820
1003	10.0	72	22	32	10	9.5	4	0.3	E559 1003	E560 1003
1005		72	22	32	10	9.5	4	0.5	E559 1005	E560 1005
1010		72	22	32	10	9.5	4	1.0	E559 1010	E560 1010
1015		72	22	32	10	9.5	4	1.5	E559 1015	E560 1015
1020		72	22	32	10	9.5	4	2.0	E559 1020	E560 1020
1203	12.0	83	26	38	12	11.2	4	0.3	E559 1203	E560 1203
1205		83	26	38	12	11.2	4	0.5	E559 1205	E560 1205
1210		83	26	38	12	11.2	4	1.0	E559 1210	E560 1210
1215		83	26	38	12	11.2	4	1.5	E559 1215	E560 1215
1220		83	26	38	12	11.2	4	2.0	E559 1220	E560 1220
1230		83	26	38	12	11.2	4	3.0	E559 1230	E560 1230
1605	16.0	92	32	44	16	15.0	4	0.5	E559 1605	E560 1605
1610		92	32	44	16	15.0	4	1.0	E559 1610	E560 1610
1615		92	32	44	16	15.0	4	1.5	E559 1615	E560 1615
1620		92	32	44	16	15.0	4	2.0	E559 1620	E560 1620
1630		92	32	44	16	15.0	4	3.0	E559 1630	E560 1630
2005	20.0	104	38	54	20	19.0	4	0.5	E559 2005	E560 2005
2010		104	38	54	20	19.0	4	1.0	E559 2010	E560 2010
2015		104	38	54	20	19.0	4	1.5	E559 2015	E560 2015
2020		104	38	54	20	19.0	4	2.0	E559 2020	E560 2020
2030		104	38	54	20	19.0	4	3.0	E559 2030	E560 2030

ISO	P													M			K						N									S										H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
E559	●	●	●	●	●	●	●	●	○	●	○	○	○	○	○		●	○	●	○	●	●	○	○	○	○							○	○	○		○	○	○	○	○	○		○				●	○
E560	●	●	●	●	●	●	●	●	○	●	○	○	○	○	○		●	○	●	○	●	●	○	○	○	○							○	○	○		○	○	○	○	○	○		○				●	○

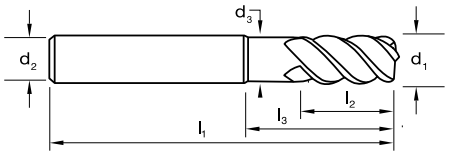
P Steel | M Stainless Steel | K Cast Iron | N Non-Ferrous Metals | S Titanium & Super Alloys | H Hard Materials

● Optimal ○ Effective

Endmills Carbide, 4 Flute, R35/38 UNI, Cnr Rad, DIN6527L, *Harmony*

suttontools HARMONY

- For precision finishing applications
- Ideally suited to materials up to 1300 N/mm²
- AlCrN for longer tool life



Catalogue Code	E576
Product Group	B0210
Material	VHM-ULTRA
Surface Finish	*AlCrN*
Sutton Designation	UNI
Geometry	R35 / 38
Shank Form (DIN 6535)	HA
Shank Tolerance	h6

Size Ref.	d_1	l_1	l_2	l_3	d_2	d_3	z	rad	Item #
0318	1/8	1-1/2	3/8		1/8		4	0.015	E576 0318
0476	3/16	2	7/16		3/16		4	0.015	E576 0476
0635	1/4	2-1/2	1/2		1/4		4	0.015	E576 0635
0636		2-1/2	1/2		1/4		4	0.020	E576 0636
0637		2-1/2	1/2		1/4		4	0.030	E576 0637
0638		2-1/2	1/2		1/4		4	0.045	E576 0638
0794	5/16	2-1/2	13/16		5/16		4	0.015	E576 0794
0795		2-1/2	13/16		5/16		4	0.020	E576 0795
0796		2-1/2	13/16		5/16		4	0.030	E576 0796
0797		2-1/2	13/16		5/16		4	0.045	E576 0797
0953	3/8	2-1/2	7/8		3/8		4	0.015	E576 0953
0956		2-1/2	7/8		3/8		4	0.020	E576 0956
0957		2-1/2	7/8		3/8		4	0.030	E576 0957
0958		2-1/2	7/8		3/8		4	0.045	E576 0958
1111	7/16	3	1		7/16		4	0.015	E576 1111
1112		3	1		7/16		4	0.020	E576 1112
1113		3	1		7/16		4	0.030	E576 1113
1114		3	1		7/16		4	0.045	E576 1114
1270	1/2	3	1		1/2		4	0.015	E576 1270
1271		3	1		1/2		4	0.020	E576 1271
1272		3	1		1/2		4	0.030	E576 1272
1273		3	1		1/2		4	0.045	E576 1273
1274		3	1		1/2		4	0.060	E576 1274
1429	9/16	3-1/2	1		9/16		4	0.030	•
1588	5/8	3-1/2	1-1/4		5/8		4	0.015	E576 1588
1589		3-1/2	1-1/4		5/8		4	0.020	E576 1589
1590		3-1/2	1-1/4		5/8		4	0.030	E576 1590
1591		3-1/2	1-1/4		5/8		4	0.045	E576 1591
1592		3-1/2	1-1/4		5/8		4	0.060	E576 1592
1593		3-1/2	1-1/4		5/8		4	0.090	E576 1593
1905	3/4	4	1-1/2		3/4		4	0.015	E576 1905
1906		4	1-1/2		3/4		4	0.020	E576 1906
1907		4	1-1/2		3/4		4	0.030	E576 1907
1908		4	1-1/2		3/4		4	0.045	E576 1908
1909		4	1-1/2		3/4		4	0.060	E576 1909
1910		4	1-1/2		3/4		4	0.090	E576 1910
1911		4	1-1/2		3/4		4	0.125	E576 1911
2540	1	4	1-1/2		1		4	0.015	E576 2540
2541		4	1-1/2		1		4	0.020	E576 2541
2542		4	1-1/2		1		4	0.030	E576 2542
2543		4	1-1/2		1		4	0.045	E576 2543
2544		4	1-1/2		1		4	0.060	E576 2544
2545		4	1-1/2		1		4	0.090	E576 2545
2546		4	1-1/2		1		4	0.125	E576 2546

ISO	P													M			K						N									S													H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
E576	●	●	●	●	●	●	●	●	○	●	○	○	○	○	○		●	○	●	○	●	●	○	○	○	○							○	○	○		○	○	○	○	○	○		○				●	○

P Steel M Stainless Steel K Cast Iron N Non-Ferrous Metals S Titanium & Super Alloys H Hard Materials

● Optimal ○ Effective

• Available on request as special manufacture. Subject to lead time.

Endmills Carbide, 4 Flute, R45/44 UNI, DIN6527L, *Harmony*

suttontools HARMONY

- VHM-ULTRA grade of carbide for high performance
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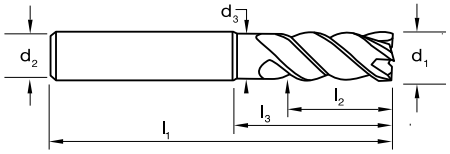
- Suitable for materials up to 1600 N/mm²
- AlCrN for longer tool life



Catalogue Code	E426	E427
Product Group	B0210	B0210
Material	VHM-ULTRA	VHM-ULTRA
Surface Finish	*AlCrN*	*AlCrN*
Sutton Designation	UNI	UNI
Geometry	R45/44	R45/44
Shank Form (DIN 6535)	HA	HB
Shank Tolerance	h5	h5

Size Ref.	d_1 (e8)	l_1	l_2	l_3	d_2	d_3	z	Item #	Item #
0300	3.0	57	8	14	6	2.8	4	E426 0300	E427 0300
0350	3.5	57	11	16	6	3.3	4	E426 0350	E427 0350
0400	4.0	57	11	16	6	3.8	4	E426 0400	E427 0400
0450	4.5	57	13	18	6	4.3	4	E426 0450	E427 0450
0500	5.0	57	13	18	6	4.8	4	E426 0500	E427 0500
0550	5.5	57	13	18	6	5.3	4	E426 0550	E427 0550
0600	6.0	57	13	19	6	5.7	4	E426 0600	E427 0600
0800	8.0	63	19	25	8	7.6	4	E426 0800	E427 0800
1000	10.0	72	22	30	10	9.5	4	E426 1000	E427 1000
1200	12.0	83	26	36	12	11.5	4	E426 1200	E427 1200
1400	14.0	83	26	36	14	13.5	4	E426 1400	E427 1400
1600	16.0	92	32	42	16	15.5	4	E426 1600	E427 1600
1800	18.0	92	32	42	18	17.5	4	E426 1800	E427 1800
2000	20.0	104	38	52	20	19.5	4	E426 2000	E427 2000
2500	25.0	120	45	62	25	24.0	4	E426 2500	E427 2500

ISO	P												M			K						N									S										H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
E426	●	●	●	●	●	●	●	●	●	●	●						●	●	●	●	●	●											○	○	○	○	○	●	●	●	●	●	●	●	●	●		●	●
E427	●	●	●	●	●	●	●	●	●	●	●						●	●	●	●	●	●											○	○	○	○	○	●	●	●	●	●	●	●	●	●		●	●

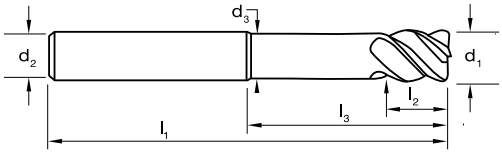
P Steel M Stainless Steel K Cast Iron N Non-Ferrous Metals S Titanium & Super Alloys H Hard Materials

● Optimal ○ Effective

Endmills Carbide, 4 Flute, R45/44 UNI, Cnr Rad, Long Reach, *Harmony*

suttontools HARMONY

- VHM-ULTRA grade of carbide for high performance
- 45/44° variable flute helix for chatter free milling
- Suitable for materials up to 1300 N/mm²
- AlCrN for longer tool life



Catalogue Code	E430	E431
Product Group	B0210	B0210
Material	VHM-ULTRA	VHM-ULTRA
Surface Finish	*AlCrN*	*AlCrN*
Sutton Designation	UNI	UNI
Geometry	R45/44	R45/44
Shank Form (DIN 6535)	HA	HB
Shank Tolerance	h5	h5

Size Ref.	d_1 (e8)	l_1	l_2	l_3	d_2	d_3	z	rad	Item #	Item #
0403	4.0	57	5	16	6	3.6	4	0.3	E430 0403	E431 0403
0405		57	5	16	6	3.6	4	0.5	E430 0405	E431 0405
0603	6.0	62	7	24	6	5.4	4	0.3	E430 0603	E431 0603
0605		62	7	24	6	5.4	4	0.5	E430 0605	E431 0605
0610		62	7	24	6	5.4	4	1.0	E430 0610	E431 0610
0615		62	7	24	6	5.4	4	1.5	E430 0615	E431 0615
0803	8.0	68	9	30	8	7.2	4	0.3	E430 0803	E431 0803
0805		68	9	30	8	7.2	4	0.5	E430 0805	E431 0805
0810		68	9	30	8	7.2	4	1.0	E430 0810	E431 0810
0815		68	9	30	8	7.2	4	1.5	E430 0815	E431 0815
1005	10.0	80	11	38	10	9.0	4	0.5	E430 1005	E431 1005
1010		80	11	38	10	9.0	4	1.0	E430 1010	E431 1010
1015		80	11	38	10	9.0	4	1.5	E430 1015	E431 1015
1020		80	11	38	10	9.0	4	2.0	E430 1020	E431 1020
1205	12.0	93	13	46	12	11.0	4	0.5	E430 1205	E431 1205
1210		93	13	46	12	11.0	4	1.0	E430 1210	E431 1210
1215		93	13	46	12	11.0	4	1.5	E430 1215	E431 1215
1220		93	13	46	12	11.0	4	2.0	E430 1220	E431 1220
1610	16.0	108	17	58	16	15.0	4	1.0	E430 1610	E431 1610
1620		108	17	58	16	15.0	4	2.0	E430 1620	E431 1620
1630		108	17	58	16	15.0	4	3.0	E430 1630	E431 1630
1640		108	17	58	16	15.0	4	4.0	E430 1640	E431 1640

ISO	P												M			K						N									S										H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
E430	●	●	●	●	●	●	●	●	●	●	●						●	●	●	●	●	●											○	○	○	○	○	●	●	●	●	●	●	●	●	●		●	●
E431	●	●	●	●	●	●	●	●	●	●	●						●	●	●	●	●	●											○	○	○	○	○	●	●	●	●	●	●	●	●	●		●	●

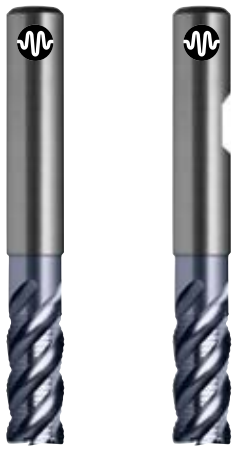
P Steel M Stainless Steel K Cast Iron N Non-Ferrous Metals S Titanium & Super Alloys H Hard Materials

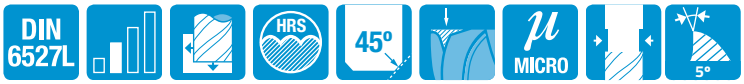
● Optimal ○ Effective

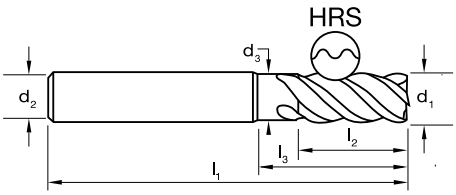
Roughers Carbide, HRS, R45 UNI, DIN6527L *Harmony*

suttontools HARMONY

- VHM-ULTRA grade of carbide for high performance
- For roughing applications
- HRS geometry allows for heavy cuts in short & long chipping materials
- Suitable for materials up to 1600 N/mm²
- AlCrN for longer tool life







Catalogue Code	E549	E550
Product Group	B0210	B0210
Material	VHM-ULTRA	VHM-ULTRA
Surface Finish	*AlCrN*	*AlCrN*
Sutton Designation	UNI	UNI
Geometry	R45 HRS	R45 HRS
Shank Form (DIN 6535)	HA	HB
Shank Tolerance	h6	h6

Size Ref.	d_1 (h10)	l_1	l_2	l_3	d_2	d_3	z	Item #	Item #
0400	4.0	57	11	19	6	3.7	3	E549 0400	E550 0400
0500	5.0	57	13	20	6	4.6	4	E549 0500	E550 0500
0600	6.0	57	13	21	6	5.5	4	E549 0600	E550 0600
0800	8.0	63	19	27	8	7.5	4	E549 0800	E550 0800
1000	10.0	72	22	32	10	9.5	4	E549 1000	E550 1000
1200	12.0	83	26	38	12	11.2	4	E549 1200	E550 1200
1400	14.0	83	26	38	14	13.5	4	E549 1400	E550 1400
1600	16.0	92	32	44	16	15.5	5	E549 1600	E550 1600
1800	18.0	92	32	44	16	17.5	5	E549 1800	E550 1800
2000	20.0	104	38	54	20	19.0	6	E549 2000	E550 2000
2500	25.0	120	45	60	25	24.5	6	E549 2500	E550 2500

ISO	P													M			K						N										S										H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
E549	●	●	●	●	●	●	●	●	○	●	○	●	○	●	○	○	●	○	●	○	●	●											○	○	○		○	○	○	○	○	○							
E550	●	●	●	●	●	●	●	●	○	●	○	●	○	●	○	○	●	○	●	○	●	●											○	○	○		○	○	○	○	○	○							

P Steel **M** Stainless Steel **K** Cast Iron **N** Non-Ferrous Metals **S** Titanium & Super Alloys **H** Hard Materials

● Optimal ○ Effective

Slot Drills Carbide, Ballnose, 2 Flute, R30 UNI, Long Reach

suttontools

- VHM-ULTRA grade of carbide for high performance
- For profile & contour milling in long reach applications
- Suitable for materials up to 1600 N/mm²
- AlCrN for longer tool life

Catalogue Code	E440	E441
Product Group	B0210	B0210
Material	VHM-ULTRA	VHM-ULTRA
Surface Finish	AlCrN	AlCrN
Sutton Designation	UNI	UNI
Geometry	R30	R30
Shank Form (DIN 6535)	HA	HB
Shank Tolerance	h5	h5

Size Ref.	d_1(e8)	l_1	l_2	l_3	d_2	d_3	z	Item #	Item #
0200	2.0	62	3	7.0	6	1.9	2	E440 0200	E441 0200
0300	3.0	62	4	9.5	6	2.8	2	E440 0300	E441 0300
0400	4.0	62	5	12.0	6	4.8	2	E440 0400	E441 0400
0500	5.0	80	6	14.5	6	4.8	2	E440 0500	E441 0500
0600	6.0	80	7	17.0	6	5.7	2	E440 0600	E441 0600
0800	8.0	90	9	22.0	8	7.6	2	E440 0800	E441 0800
1000	10.0	100	11	27.0	10	9.5	2	E440 1000	E441 1000
1200	12.0	120	13	32.0	12	11.5	2	E440 1200	E441 1200
1400	14.0	120	15	37.0	14	13.5	2	E440 1400	E441 1400
1600	16.0	140	17	42.0	16	15.5	2	E440 1600	E441 1600
1800	18.0	140	19	47.0	18	17.5	2	E440 1800	E441 1800
2000	20.0	160	21	52.0	20	19.5	2	E440 2000	E441 2000

ISO	P												M			K						N									S										H				
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
E440			○	○	●		○	●	●	○	●						●	●	●	●	●	●											○	●	○	●	●	○	○	○	●	○	●	●	●	●			●
E441			○	○	●		○	●	●	○	●						●	●	●	●	●	●											○	●	○	●	●	○	○	○	●	○	●	●	●	●			●

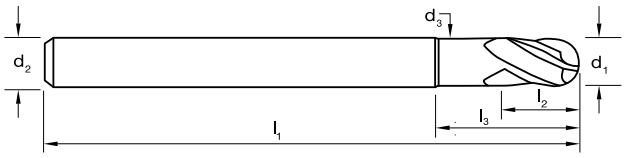
P Steel M Stainless Steel K Cast Iron N Non-Ferrous Metals S Titanium & Super Alloys H Hard Materials

● Optimal ○ Effective

Endmills Carbide, Ballnose, 4 Flute, R30 UNI, Long Reach

suttontools

- VHM-ULTRA grade of carbide for high performance
- For profile & contour milling in long reach applications
- Suitable for materials up to 1600 N/mm²
- AlCrN for longer tool life



	E442	E443
Catalogue Code	E442	E443
Product Group	B0210	B0210
Material	VHM-ULTRA	VHM-ULTRA
Surface Finish	*AlCrN*	*AlCrN*
Sutton Designation	**UNI**	**UNI**
Geometry	R30	R30
Shank Form (DIN 6535)	HA	HB
Shank Tolerance	h5	h5

Size Ref.	d_1 (e8)	l_1	l_2	l_3	d_2	d_3	z	Item #	Item #
0200	**2.0**	62	3	7.0	6	1.9	4	E442 0200	E443 0200
0300	**3.0**	62	4	9.5	6	2.8	4	E442 0300	E443 0300
0400	**4.0**	62	5	12.0	6	4.8	4	E442 0400	E443 0400
0500	**5.0**	80	6	14.5	6	4.8	4	E442 0500	E443 0500
0600	**6.0**	80	7	17.0	6	5.7	4	E442 0600	E443 0600
0800	**8.0**	90	9	22.0	8	7.6	4	E442 0800	E443 0800
1000	**10.0**	100	11	27.0	10	9.5	4	E442 1000	E443 1000
1200	**12.0**	120	13	32.0	12	11.5	4	E442 1200	E443 1200
1400	**14.0**	120	15	37.0	14	13.5	4	E442 1400	E443 1400
1600	**16.0**	140	17	42.0	16	15.5	4	E442 1600	E443 1600
1800	**18.0**	140	19	47.0	18	17.5	4	E442 1800	•
2000	**20.0**	160	21	52.0	20	19.5	4	E442 2000	•

ISO	P												M			K						N									S											H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
E442			○	○	●		○	●	●	○	●						●	●	●	●	●	●											○	●	○	●	●	○	○	○	●	○	●	●	●	●			●
E443			○	○	●		○	●	●	○	●						●	●	●	●	●	●											○	●	○	●	●	○	○	○	●	○	●	●	●	●			●

P Steel **M** Stainless Steel **K** Cast Iron **N** Non-Ferrous Metals **S** Titanium & Super Alloys **H** Hard Materials

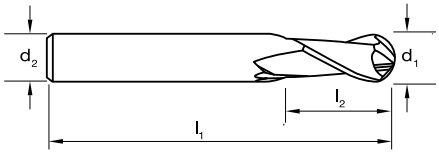
● Optimal ○ Effective

• Available on request as special manufacture. Subject to lead time.

Slot Drills Carbide, Ballnose, 2 Flute, R30 N, DIN6527L

suttontools

- For profile & contour milling applications
- Suitable for materials up to 1600 N/mm²
- TiAlN for longer tool life



Catalogue Code	E551	E553
Product Group	B0208	B0210
Material	VHM	VHM
Surface Finish	*Brt*	*TiAlN*
Sutton Designation	N	N
Geometry	R30	R30
Shank Form (DIN 6535)	HA	HA
Shank Tolerance	h6	h6

Size Ref.	d_1 (h10)	l_1	l_2	d_2	z	Item #	Item #
0200	2.0	57	6	6	2	E551 0200	E553 0200
0300	3.0	57	7	6	2	E551 0300	E553 0300
0400	4.0	57	8	6	2	E551 0400	E553 0400
0500	5.0	57	10	6	2	E551 0500	E553 0500
0600	6.0	57	10	6	2	E551 0600	E553 0600
0800	8.0	63	16	8	2	E551 0800	E553 0800
1000	10.0	72	19	10	2	E551 1000	E553 1000
1200	12.0	83	22	12	2	E551 1200	E553 1200

ISO	P												M			K						N									S											H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
E551	●	●	●	●	○	●	○	○	○	○	○	○	○	●	○	○	○	○	○	○	○	○																											
E553	●	●	●	●	●	●	●	●	○	●	○	○	○	●	●	○	●	●	●	●	●	●	●	●	●	●	○	●	●	●															●				●	

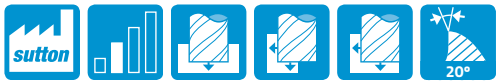
P Steel M Stainless Steel K Cast Iron N Non-Ferrous Metals S Titanium & Super Alloys Hard Materials

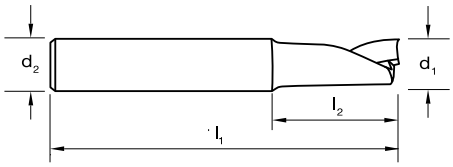
● Optimal ○ Effective

Endmills Carbide, 1 Flute, R30 Al, Short

suttontools

- For non ferrous aluminium alloys such as aluminium sheet & extrusions, brass & bronze
- Large single flute provides maximum chip evacuation when ran at high RPM & feed rates
- Centre cutting for straight plunging or ramping
- Suitable for use in hi speed routers & air tools for trimming plastics and similar materials





Catalogue Code	E444
Product Group	B0208
Material	VHM
Surface Finish	*Brt*
Sutton Designation	**Al**
Geometry	R30
Shank Form (DIN 6535)	HA
Shank Tolerance	h6

Size Ref.	d_1(h10)	l_1	l_2	d_2	z	Item #
0300	**3.0**	50	8	6	1	E444 0300
0400	**4.0**	54	11	6	1	E444 0400
0500	**5.0**	54	13	6	1	E444 0500
0600	**6.0**	54	13	6	1	E444 0600
0800	**8.0**	58	19	8	1	E444 0800
1000	**10.0**	66	22	10	1	E444 1000
1200	**12.0**	73	26	12	1	E444 1200

ISO	P												M			K						N									S											H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
E444																							●	●	●	●	○	○		○																			

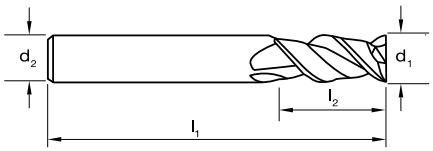
P Steel M Stainless Steel K Cast Iron N Non-Ferrous Metals S Titanium & Super Alloys H Hard Materials

● Optimal ○ Effective

Slot Drills Carbide, 2 Flute, R40 *AlCarb*, DIN6527L

suttontools

- For precision milling of slots & cavities
- Optimised geometry for aluminiums & non-ferrous materials
- High speed & high feed rates can be achieved
- Highly efficient chip disposal



Catalogue Code	E310
Product Group	B0208
Material	VHM
Surface Finish	*Brt*
Sutton Designation	**Al**
Geometry	R40
Shank Form (DIN 6535)	HA
Shank Tolerance	h6

Size Ref.	d_1 (h10)	l_1	l_2	l_3	d_2	z	Item #
0200	**2.0**	57	7	10	6	2	E310 0200
0300	**3.0**	57	8	10	6	2	E310 0300
0350	**3.5**	57	10	10	6	2	•
0400	**4.0**	57	11	10	6	2	E310 0400
0450	**4.5**	57	11	10	6	2	•
0500	**5.0**	57	13	8	6	2	E310 0500
0600	**6.0**	57	13		6	2	E310 0600
0700	**7.0**	63	16		8	2	•
0800	**8.0**	63	19		8	2	E310 0800
0900	**9.0**	72	19		10	2	•
1000	**10.0**	72	22		10	2	E310 1000
1200	**12.0**	83	26		12	2	E310 1200
1400	**14.0**	83	26		14	2	•
1600	**16.0**	92	32		16	2	E310 1600
1800	**18.0**	92	32		18	2	•
2000	**20.0**	104	38		20	2	E310 2000

ISO	P												M			K						N								S												H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
E310																							●	●	●	●	●	●	●	●																				

P Steel M Stainless Steel K Cast Iron N Non-Ferrous Metals S Titanium & Super Alloys H Hard Materials

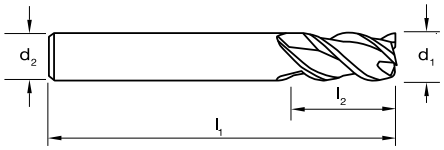
● Optimal ○ Effective

• Available on request as special manufacture. Subject to lead time.

Endmills Carbide, 3 Flute, R45/46/44 Al, DIN6527L, *Harmony*

suttontools HARMONY

- VHM-ULTRA grade of carbide for high performance
- 45/46/44° variable flute helix for chatter free milling
- Optimised geometry for soft materials
- CrN for copper and non-ferrous materials



Catalogue Code	E400	E401
Product Group	B0210	B0210
Material	VHM-ULTRA	VHM-ULTRA
Surface Finish	*CrN*	*CrN*
Sutton Designation	**Al**	**Al**
Geometry	R45/46/44	R45/46/44
Shank Form (DIN 6535)	HA	HB
Shank Tolerance	h5	h5

Size Ref.	d_1 (e8)	l_1	l_2	d_2	z	rad	Item #	Item #
0600	**6.0**	57	13	6	3	0.2	E400 0600	E401 0600
0800	**8.0**	63	19	8	3	0.2	E400 0800	E401 0800
1000	**10.0**	72	24	10	3	0.3	E400 1000	E401 1000
1200	**12.0**	83	28	12	3	0.4	E400 1200	E401 1200
1400	**14.0**	83	30	14	3	0.4	E400 1400	E401 1400
1600	**16.0**	92	35	16	3	0.5	E400 1600	E401 1600
1800	**18.0**	92	38	18	3	0.5	E400 1800	E401 1800
2000	**20.0**	104	42	20	3	0.6	E400 2000	E401 2000
2500	**25.0**	120	50	25	3	0.6	E400 2500	E401 2500

ISO	P												M			K						N									S										H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
E400																							●	●	●	●	●	●	●	●																			
E401																							●	●	●	●	●	●	●	●																			

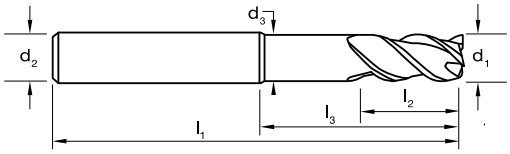
P Steel M Stainless Steel K Cast Iron N Non-Ferrous Metals S Titanium & Super Alloys H Hard Materials

● Optimal ○ Effective

Endmills Carbide, 3 Flute, R45/46/44 Al, Long Reach, *Harmony*

suttontools HARMONY

- VHM-ULTRA grade of carbide for high performance
- 45/46/44° variable flute helix for chatter free milling
- Optimised geometry for soft materials
- CrN for copper and non-ferrous materials



Catalogue Code	E402	E403
Product Group	B0210	B0210
Material	VHM-ULTRA	VHM-ULTRA
Surface Finish	*CrN*	*CrN*
Sutton Designation	**Al**	**Al**
Geometry	R45/46/44	R45/46/44
Shank Form (DIN 6535)	HA	HB
Shank Tolerance	h5	h5

Size Ref.	d_1 (k10)	l_1	l_2	l_3	d_2	d_3	z	rad	Item #	Item #
0600	**6.0**	62	7	24	6	5.0	3	0.2	E402 0600	•
0800	**8.0**	68	9	30	8	7.0	3	0.2	E402 0800	•
1000	**10.0**	80	12	38	10	9.0	3	0.3	E402 1000	E403 1000
1200	**12.0**	93	14	46	12	11.0	3	0.4	E402 1200	E403 1200
1400	**14.0**	93	16	46	14	13.0	3	0.4	E402 1400	E403 1400
1600	**16.0**	108	18	58	16	15.0	3	0.5	E402 1600	E403 1600
1800	**18.0**	108	20	58	18	17.0	3	0.5	E402 1800	E403 1800
2000	**20.0**	126	22	74	20	19.0	3	0.6	E402 2000	E403 2000
2500	**25.0**	150	27	92	25	24.0	3	0.6	E402 2500	E403 2500

ISO	P												M			K						N									S										H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
E402																							●	●	●	●	●	●	●	●																				
E403																							●	●	●	●	●	●	●	●																				

P Steel M Stainless Steel K Cast Iron N Non-Ferrous Metals S Titanium & Super Alloys H Hard Materials

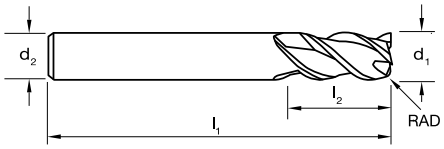
● Optimal ○ Effective

• Available on request as special manufacture. Subject to lead time.

Endmills Carbide, 3 Flute, R45/46/44 Al, Rad, DIN6527L, *Harmony*

suttontools HARMONY

- VHM-ULTRA grade of carbide for high performance
- 45/46/44° variable flute helix for chatter free milling
- Optimised geometry for soft materials



Catalogue Code	E478
Discount Group	B0210
Material	VHM-ULTRA
Surface Finish	*Brt*
Sutton Designation	Al
Geometry	R45/46/44
Shank Form (DIN 6535)	HA
Shank Tolerance	h5

Size Ref.	d_1 (e8)	l_1	l_2	d_2	rad	Item #
1210	12.0	83	26	12	1	E478 1210
1225	12.0	83	26	12	2.5	E478 1225
1230	12.0	83	26	12	3	E478 1230
1240	12.0	83	26	12	4	E478 1240
1610	16.0	92	32	16	1	E478 1610
1625	16.0	92	32	16	2.5	E478 1625
1630	16.0	92	32	16	3	E478 1630
1640	16.0	92	32	16	4	E478 1640
2010	20.0	104	38	20	1	E478 2010
2025	20.0	104	38	20	2.5	E478 2025
2030	20.0	104	38	20	3	E478 2030
2040	20.0	104	38	20	4	E478 2040

ISO	P												M			K						N									S										H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
E478																							●	●	●	●	●	●	●	●																				

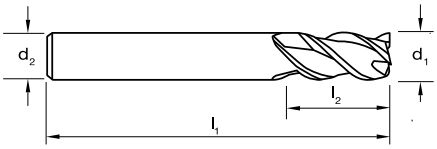
P Steel M Stainless Steel K Cast Iron N Non-Ferrous Metals S Titanium & Super Alloys H Hard Materials

● Optimal ○ Effective

Endmills Carbide, 3 Flute, R45/46/44 Al, DIN6527L, *Harmony*

suttontools HARMONY

- VHM-ULTRA grade of carbide for high performance
- 45/46/44° variable flute helix for chatter free milling
- Optimised geometry for soft materials



Catalogue Code	E480
Discount Group	B0210
Material	VHM-ULTRA
Surface Finish	*Brt*
Sutton Designation	Al
Geometry	R45/46/44
Shank Form (DIN 6535)	HA
Shank Tolerance	h5

Size Ref.	d_1 (e8)	l_1	l_2	l_3	d_2	d_3	Chamfer	Item #
0300	**3.0**	57	8	19	6	2.8	0.08/0.12 x 45°	E480 0300
0400	**4.0**	57	11	19	6	3.7	0.08/0.12 x 45°	E480 0400
0500	**5.0**	57	13	20	6	4.6	0.08/0.12 x 45°	E480 0500
0600	**6.0**	57	13	21	6	5.1	0.08/0.12 x 45°	E480 0600
0800	**8.0**	63	19	27	8	7.1	0.08/0.12 x 45°	E480 0800
1000	**10.0**	72	22	32	10	9.1	0.15/0.25 x 45°	E480 1000
1200	**12.0**	83	26	40	12	11.1	0.15/0.25 x 45°	E480 1200
1600	**16.0**	92	32	50	16	14.8	0.25/0.35 x 45°	E480 1600
2000	**20.0**	104	38	60	20	18.5	0.25/0.35 x 45°	E480 2000

ISO	P												M			K						N									S											H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
E480																							●	●	●	●	●	●	●	●																				

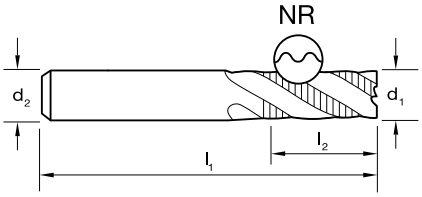
P Steel M Stainless Steel K Cast Iron N Non-Ferrous Metals S Titanium & Super Alloys H Hard Materials

● Optimal ○ Effective

Roughers Carbide, NR (normal), R25 Al, DIN 6527L

suttontools

- For roughing applications
- NR geometry allows for heavy cuts
- For soft non ferrous aluminium alloys
- High rake angle for long chipping materials



Catalogue Code	E446	E447
Product Group	B0208	B0208
Material	VHM	VHM
Surface Finish	*Brt*	*Brt*
Sutton Designation	**Al**	**Al**
Geometry	R25 NR	R25 NR
Shank Form (DIN 6535)	HA	HB
Shank Tolerance	h5	h5

Size Ref.	d_1 (h10)	l_1	l_2	d_2	z	Item #	Item #
0600	**6.0**	57	13	6	3	E446 0600	E447 0600
0800	**8.0**	63	19	8	3	E446 0800	E447 0800
1000	**10.0**	72	22	10	3	E446 1000	E447 1000
1200	**12.0**	83	26	12	3	E446 1200	E447 1200
1400	**14.0**	83	26	14	3	•	•
1600	**16.0**	92	32	16	3	E446 1600	E447 1600
1800	**18.0**	92	32	18	3	•	•
2000	**20.0**	104	38	20	3	E446 2000	E447 2000

ISO	P												M			K						N									S										H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
E446																							●	●	●	●	○	○		○																			
E447																							●	●	●	●	○	○		○																			

P Steel **M** Stainless Steel **K** Cast Iron **N** Non-Ferrous Metals **S** Titanium & Super Alloys **H** Hard Materials

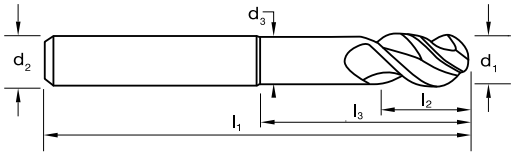
● Optimal ○ Effective

• Available on request as special manufacture. Subject to lead time.

Endmills Carbide, Ballnose, 3 Flute, R45/46/44 Al, Long Reach, *Harmony*

suttontools HARMONY

- VHM-ULTRA grade of carbide for high performance
- 45/46/44° variable flute helix for chatter free milling
- Optimised geometry for soft materials
- CrN for copper and non-ferrous materials



Catalogue Code	E408	E409
Product Group	B0210	B0210
Material	VHM-ULTRA	VHM-ULTRA
Surface Finish	*CrN*	*CrN*
Sutton Designation	**Al**	**Al**
Geometry	R45/46/44	R45/46/44
Shank Form (DIN 6535)	HA	HB
Shank Tolerance	h5	h5

Size Ref.	d_1 (e8)	l_1	l_2	l_3	d_2	z	Item #	Item #
0600	**6.0**	62	9	24	6	3	E408 0600	E409 0600
0800	**8.0**	68	12	30	8	3	E408 0800	E409 0800
1000	**10.0**	80	15	38	10	3	E408 1000	E409 1000
1200	**12.0**	93	18	46	12	3	E408 1200	E409 1200
1400	**14.0**	93	21	46	14	3	E408 1400	E409 1400
1600	**16.0**	108	24	58	16	3	E408 1600	E409 1600
1800	**18.0**	108	27	58	18	3	E408 1800	E409 1800
2000	**20.0**	126	30	74	20	3	E408 2000	E409 2000
2500	**25.0**	150	38	92	25	3	E408 2500	E409 2500

ISO	P												M			K						N									S										H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
E408																							●	●	●	●	●	●	●	●																				
E409																							●	●	●	●	●	●	●	●																				

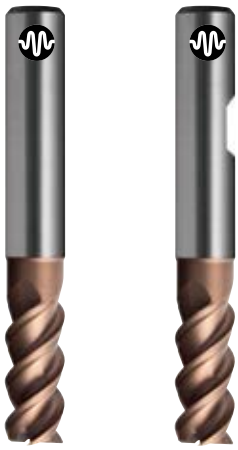
P Steel M Stainless Steel K Cast Iron N Non-Ferrous Metals S Titanium & Super Alloys H Hard Materials

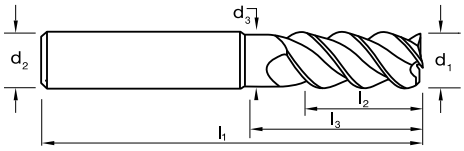
● Optimal ○ Effective

Endmills Carbide, 3 Flute, R55/54/56 VA, DIN6527L, *Harmony*

suttontools HARMONY

- VHM-ULTRA grade of carbide for high performance
- Optimised geometry for stainless steels
- 55/54/56° variable flute helix for chatter free milling
- Universal use for slotting and finishing with the one tool
- HELICA for superior wear resistance in stainless steel





Catalogue Code	E410	E411
Product Group	B0210	B0210
Material	VHM-ULTRA	VHM-ULTRA
Surface Finish	*HELICA*	*HELICA*
Sutton Designation	VA	VA
Geometry	R55/54/56	R55/54/56
Shank Form (DIN 6535)	HA	HB
Shank Tolerance	h5	h5

Size Ref.	d_1 (e8)	l_1	l_2	l_3	d_2	d_3	z	Item #	Item #
0300	3.0	57	8	14	6	2.8	3	E410 0300	E411 0300
0400	4.0	57	11	16	6	3.8	3	E410 0400	E411 0400
0500	5.0	57	13	18	6	4.8	3	E410 0500	E411 0500
0600	6.0	57	13	19	6	5.7	3	E410 0600	E411 0600
0800	8.0	63	19	25	8	7.6	3	E410 0800	E411 0800
1000	10.0	72	22	30	10	9.5	3	E410 1000	E411 1000
1200	12.0	83	26	36	12	11.5	3	E410 1200	E411 1200
1400	14.0	83	26	36	14	13.5	3	E410 1400	E411 1400
1600	16.0	92	32	42	16	15.5	3	E410 1600	E411 1600
1800	18.0	92	32	42	18	17.5	3	E410 1800	E411 1800
2000	20.0	104	38	52	20	19.5	3	E410 2000	E411 2000

ISO	P												M			K						N									S									H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
E410												○	○	●	●	●																	○	●		●	●	○	●	●		●	○						
E411												○	○	●	●	●																	○	●		●	●	○	●	●		●	○						

P Steel M Stainless Steel K Cast Iron N Non-Ferrous Metals S Titanium & Super Alloys H Hard Materials

● Optimal ○ Effective

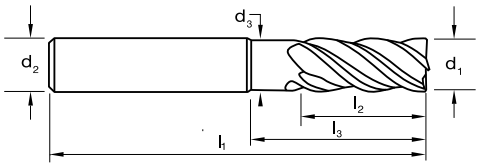
Endmills Carbide, 4 Flute, R40/42 VA, DIN6527L, *Harmony*

suttontools HARMONY

- Excellent solution for stainless steels & difficult super alloy type materials
- Optimised geometry with variable helix design ensures high productivity
- Suitable for slotting, side cutting and finishing applications with the one tool
- HELICA for outstanding oxidation resistance and hot hardness
- VHM-ULTRA grade of carbide for high performance

watch the video

DIN 6527L | 45° | MICRO | 12°



Catalogue Code	E459	E460
Product Group	B0210	B0210
Material	VHM-ULTRA	VHM-ULTRA
Surface Finish	*HELICA*	*HELICA*
Sutton Designation	VA	VA
Geometry	R40/42	R40/42
Shank Form (DIN 6535)	HA	HB
Shank Tolerance	h6	h6

Size Ref.	d_1 (e8)	l_1	l_2	l_3	d_2	d_3	z	Item #	Item #
0300	**3.0**	57	8	14	6	2.8	4	E459 0300	E460 0300
0400	**4.0**	57	11	16	6	3.8	4	E459 0400	E460 0400
0500	**5.0**	57	13	18	6	4.8	4	E459 0500	E460 0500
0600	**6.0**	57	13	19	6	5.7	4	E459 0600	E460 0600
0800	**8.0**	63	19	25	8	7.6	4	E459 0800	E460 0800
1000	**10.0**	72	22	30	10	9.5	4	E459 1000	E460 1000
1200	**12.0**	83	26	36	12	11.5	4	E459 1200	E460 1200
1400	**14.0**	83	26	36	14	13.5	4	E459 1400	E460 1400
1600	**16.0**	92	32	42	16	15.5	4	E459 1600	E460 1600
1800	**18.0**	92	32	42	18	17.5	4	E459 1800	E460 1800
2000	**20.0**	104	38	52	20	19.5	4	E459 2000	E460 2000

ISO	P												M			K						N									S										H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
E459												○	○	●	●	●																	○	●	○	●	●	○	●	●		○	○						
E460												○	○	●	●	●																	○	●	○	●	●	○	●	●		○	○						

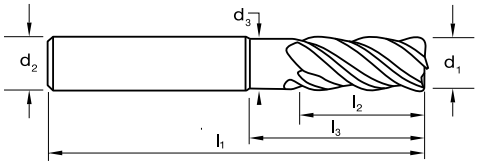
P Steel | M Stainless Steel | K Cast Iron | N Non-Ferrous Metals | S Titanium & Super Alloys | H Hard Materials

● Optimal ○ Effective

Endmills Carbide, 4 Flute, R40/42 VA, Cnr Rad, DIN6527L, *Harmony*

suttontools HARMONY

- Excellent solution for stainless steels & difficult super alloy type materials
- Optimised geometry with variable helix design ensures high productivity
- Suitable for slotting, side cutting and finishing applications with the one tool
- HELICA for outstanding oxidation resistance and hot hardness
- VHM-ULTRA grade of carbide for high performance



Catalogue Code	E462	E463
Product Group	B0210	B0210
Material	VHM-ULTRA	VHM-ULTRA
Surface Finish	*HELICA*	*HELICA*
Sutton Designation	VA	VA
Geometry	R40/42	R40/42
Shank Form (DIN 6535)	HA	HB
Shank Tolerance	h6	h6

Size Ref.	d_1 (e8)	l_1	l_2	l_3	d_2	d_3	z	rad	Item #	Item #
0603	6.0	57	13	21	6	5.5	4	0.3	E462 0603	E463 0603
0605		57	13	21	6	5.5	4	0.5	E462 0605	E463 0605
0610		57	13	21	6	5.5	4	1.0	E462 0610	E463 0610
0803	8.0	63	19	27	8	7.5	4	0.3	E462 0803	E463 0803
0805		63	19	27	8	7.5	4	0.5	E462 0805	E463 0805
0810		63	19	27	8	7.5	4	1.0	E462 0810	E463 0810
0815		63	19	27	8	7.5	4	1.5	E462 0815	E463 0815
0820		63	19	27	8	7.5	4	2.0	E462 0820	E463 0820
1003	10.0	72	22	32	10	9.5	4	0.3	E462 1003	E463 1003
1005		72	22	32	10	9.5	4	0.5	E462 1005	E463 1005
1010		72	22	32	10	9.5	4	1.0	E462 1010	E463 1010
1015		72	22	32	10	9.5	4	1.5	E462 1015	E463 1015
1020		72	22	32	10	9.5	4	2.0	E462 1020	E463 1020
1203	12.0	83	26	38	12	11.2	4	0.3	E462 1203	E463 1203
1205		83	26	38	12	11.2	4	0.5	E462 1205	E463 1205
1210		83	26	38	12	11.2	4	1.0	E462 1210	E463 1210
1215		83	26	38	12	11.2	4	1.5	E462 1215	E463 1215
1220		83	26	38	12	11.2	4	2.0	E462 1220	E463 1220
1230		83	26	38	12	11.2	4	3.0	E462 1230	E463 1230
1605	16.0	92	32	44	16	15.0	4	0.5	E462 1605	E463 1605
1610		92	32	44	16	15.0	4	1.0	E462 1610	E463 1610
1615		92	32	44	16	15.0	4	1.5	E462 1615	E463 1615
1620		92	32	44	16	15.0	4	2.0	E462 1620	E463 1620
1630		92	32	44	16	15.0	4	3.0	E462 1630	E463 1630
2005	20.0	104	38	54	20	19.0	4	0.5	E462 2005	E463 2005
2010		104	38	54	20	19.0	4	1.0	E462 2010	E463 2010
2015		104	38	54	20	19.0	4	1.5	E462 2015	E463 2015
2020		104	38	54	20	19.0	4	2.0	E462 2020	E463 2020
2030		104	38	54	20	19.0	4	3.0	E462 2030	E463 2030

ISO	P												M			K						N									S										H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
E462												○	○	●	●	●																	○	●	○	●	●	○	●	●		○	○						
E463												○	○	●	●	●																	○	●	○	●	●	○	●	●		○	○						

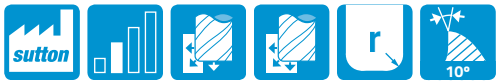
P Steel **M** Stainless Steel **K** Cast Iron **N** Non-Ferrous Metals **S** Titanium & Super Alloys **H** Hard Materials

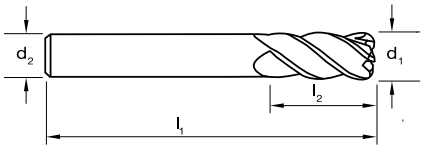
● Optimal ○ Effective

Endmills Carbide, 4 Flute, R40 NH, Cnr Rad, Regular

suttontools

- For precision finishing applications
- Ideally suited to materials up to 1300 N/mm²
- TiAlN for longer tool life





Catalogue Code	E348*
Product Group	B0210
Material	VHM
Surface Finish	TiAlN
Sutton Designation	
Geometry	R40
Shank Form (DIN 6535)	HA
Shank Tolerance	h6

Size Ref.	d_1 (e8)	l_1	l_2	d_2	z	rad	Item #
0303	3.0	40	9	3	4	0.3	E348 0303
0305		40	9	3	4	0.5	E348 0305
0403	4.0	50	12	4	4	0.3	E348 0403
0405		50	12	4	4	0.5	E348 0405
0410		50	12	4	4	1.0	E348 0410
0503	5.0	50	15	5	4	0.3	E348 0503
0505		50	15	5	4	0.5	E348 0505
0510		50	15	5	4	1.0	E348 0510
0603	6.0	60	20	6	4	0.3	E348 0603
0605		60	20	6	4	0.5	E348 0605
0610		60	20	6	4	1.0	E348 0610
0803	8.0	64	20	8	4	0.3	E348 0803
0805		64	20	8	4	0.5	E348 0805
0810		64	20	8	4	1.0	E348 0810
0815		64	20	8	4	1.5	E348 0815
0820		64	20	8	4	2.0	E348 0820
1003	10.0	70	22	10	4	0.3	E348 1003
1005		70	22	10	4	0.5	E348 1005
1010		70	22	10	4	1.0	E348 1010
1015		70	22	10	4	1.5	E348 1015
1020		70	22	10	4	2.0	E348 1020
1203	12.0	75	25	12	4	0.3	E348 1203
1205		75	25	12	4	0.5	E348 1205
1210		75	25	12	4	1.0	E348 1210
1215		75	25	12	4	1.5	E348 1215
1220		75	25	12	4	2.0	E348 1220
1230		75	25	12	4	3.0	E348 1230
1605	16.0	90	32	16	4	0.5	E348 1605
1610		90	32	16	4	1.0	E348 1610
1615		90	32	16	4	1.5	E348 1615
1620		90	32	16	4	2.0	E348 1620
1630		90	32	16	4	3.0	E348 1630
2005	20.0	100	38	20	4	0.5	E348 2005
2010		100	38	20	4	1.0	E348 2010
2015		100	38	20	4	1.5	E348 2015
2020		100	38	20	4	2.0	E348 2020
2030		100	38	20	4	3.0	E348 2030

ISO	P												M			K					N									S									H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
E348					●			●	●		●		●			●		●		●																	●	○					●		●	●					

P Steel M Stainless Steel K Cast Iron N Non-Ferrous Metals S Titanium & Super Alloys H Hard Materials

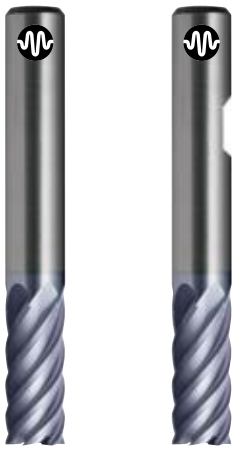
● Optimal ○ Effective

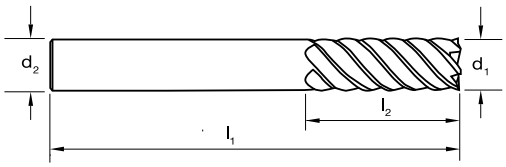
* Not available once current stock is depleted.

Endmills Carbide, 6-8 Flute, R50/35 NH, DIN6527L, *Harmony*

suttontools HARMONY

- VHM-ULTRA grade of carbide for high performance
- For SUPER FINE finishing applications
- 50/35° variable flute helix for chatter free milling
- Suitable for hard, short chipping materials up to 48 HRC
- AlCrN for longer tool life





Catalogue Code	E432	E433
Product Group	B0210	B0210
Material	VHM-ULTRA	VHM-ULTRA
Surface Finish	*AlCrN*	*AlCrN*
Sutton Designation	NH	NH
Geometry	R50/35	R50/35
Shank Form (DIN 6535)	HA	HB
Shank Tolerance	h5	h5

Size Ref.	d_1 (e8)	l_1	l_2	d_2	z	Item #	Item #
0600	6.0	57	13	6	6	E432 0600	E433 0600
0800	8.0	63	19	8	6	E432 0800	E433 0800
1000	10.0	72	22	10	6	E432 1000	E433 1000
1200	12.0	83	26	12	6	E432 1200	E433 1200
1400	14.0	83	26	14	6	E432 1400	E433 1400
1600	16.0	92	32	16	6	E432 1600	E433 1600
1800	18.0	92	32	18	8	E432 1800	E433 1800
2000	20.0	104	38	20	8	E432 2000	E433 2000
2500	25.0	120	45	25	8	E432 2500	E433 2500

ISO	P												M			K						N									S											H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
E432	○	○	●	●	●	○	●	●	●	●	●	○	●				●	●	●	●	●	●												○		●	○			○	●	○	●	●	●	○		●	○
E433	○	○	●	●	●	○	●	●	●	●	●	○	●				●	●	●	●	●	●												○		●	○			○	●	○	●	●	●	○		●	○

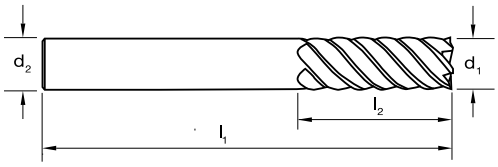
P Steel **M** Stainless Steel **K** Cast Iron **N** Non-Ferrous Metals **S** Titanium & Super Alloys **H** Hard Materials

● Optimal ○ Effective

Endmills Carbide, 6-8 Flute, R50/35 NH, Extra Long, *Harmony*

suttontools HARMONY

- VHM-ULTRA grade of carbide for high performance
- For super fine finishing applications
- 50/35° variable flute helix for chatter free milling
- Suitable for hard, short chipping materials up to 48 HRC
- AlCrN for longer tool life



Catalogue Code	E434	E435
Product Group	B0210	B0210
Material	VHM-ULTRA	VHM-ULTRA
Surface Finish	*AlCrN*	*AlCrN*
Sutton Designation	NH	NH
Geometry	R50/35	R50/35
Shank Form (DIN 6535)	HA	HB
Shank Tolerance	h5	h5

Size Ref.	d_1 (e8)	l_1	l_2	d_2	z	Item #	Item #
0600	**6.0**	62	18	6	6	E434 0600	E435 0600
0800	**8.0**	68	24	8	6	E434 0800	E435 0800
1000	**10.0**	80	30	10	6	E434 1000	E435 1000
1200	**12.0**	93	36	12	6	E434 1200	E435 1200
1600	**16.0**	108	48	16	6	E434 1600	E435 1600
2000	**20.0**	126	60	20	8	E434 2000	E435 2000
2500	**25.0**	150	85	25	8	E434 2500	E435 2500

ISO	P												M			K						N									S												H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
E434	○	○	●	●	●	○	●	●	●	●	●	○	●				●	●	●	●	●	●												○		●	○			○	●	○	●	●	●	○		●	○
E435	○	○	●	●	●	○	●	●	●	●	●	○	●				●	●	●	●	●	●												○		●	○			○	●	○	●	●	●	○		●	○

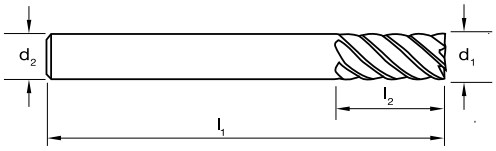
P Steel M Stainless Steel K Cast Iron N Non-Ferrous Metals S Titanium & Super Alloys H Hard Materials

● Optimal ○ Effective

Endmills Carbide, 6-8 Flute, R50/35 NH, Cnr Rad, Long Reach, *Harmony*

suttontools HARMONY

- VHM-ULTRA grade of carbide for high performance
- For super fine finishing applications
- 50/35° variable flute helix for chatter free milling
- Suitable for hard, short chipping materials up to 48 HRC
- AlCrN for longer tool life



Catalogue Code	E436	E437
Product Group	B0210	B0210
Material	VHM-ULTRA	VHM-ULTRA
Surface Finish	*AlCrN*	*AlCrN*
Sutton Designation	NH	NH
Geometry	R50/35	R50/35
Shank Form (DIN 6535)	HA	HB
Shank Tolerance	h5	h5

Size Ref.	d_1 (e8)	l_1	l_2	d_2	z	rad	Item #	Item #
0605	6.0	62	13	6	6	0.5	E436 0605	E437 0605
0610		62	13	6	6	1.0	E436 0610	E437 0610
0805	8.0	68	19	8	6	0.5	E436 0805	E437 0805
0810		68	19	8	6	1.0	E436 0810	E437 0810
1005	10.0	80	22	10	6	0.5	E436 1005	E437 1005
1010		80	22	10	6	1.0	E436 1010	E437 1010
1015		80	22	10	6	1.5	E436 1015	E437 1015
1020		80	22	10	6	2.0	E436 1020	E437 1020
1205	12.0	93	26	12	6	0.5	E436 1205	E437 1205
1210		93	26	12	6	1.0	E436 1210	E437 1210
1215		93	26	12	6	1.5	E436 1215	E437 1215
1220		93	26	12	6	2.0	E436 1220	E437 1220
1605	16.0	108	32	16	6	0.5	E436 1605	E437 1605
1610		108	32	16	6	1.0	E436 1610	E437 1610
1615		108	32	16	6	1.5	E436 1615	E437 1615
1620		108	32	16	6	2.0	E436 1620	E437 1620
2005	20.0	126	38	20	8	0.5	E436 2005	E437 2005
2010		126	38	20	8	1.0	E436 2010	E437 2010
2015		126	38	20	8	1.5	E436 2015	E437 2015
2020		126	38	20	8	2.0	E436 2020	E437 2020

ISO	P													M			K						N										S												H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
E436	○	○	●	●	●	○	●	●	●	●	●	○	●				●	●	●	●	●	●												○		●	○			○	●	○	●	●	●	●		●	○
E437	○	○	●	●	●	○	●	●	●	●	●	○	●				●	●	●	●	●	●												○		●	○			○	●	○	●	●	●	●		●	○

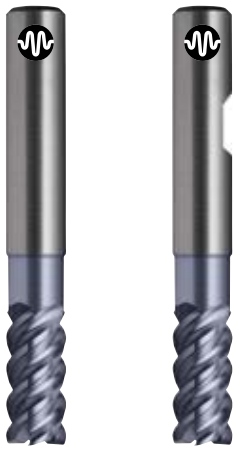
P Steel **M** Stainless Steel **K** Cast Iron **N** Non-Ferrous Metals **S** Titanium & Super Alloys **H** Hard Materials

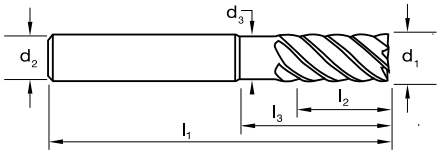
● Optimal ○ Effective

Endmills Carbide, 6-8 Flute, R45 NH, DIN6527L, *Harmony*

suttontools HARMONY

- VHM-ULTRA grade of carbide for high performance
- For SUPER FINE finishing applications
- Suitable for various materials up to 56 HRC
- Multi-flute & heavy core design enable high feed rates
- AlCrN for longer tool life





Catalogue Code	E543	E544
Product Group	B0210	B0210
Material	VHM-ULTRA	VHM-ULTRA
Surface Finish	*AlCrN*	*AlCrN*
Sutton Designation	**NH**	**NH**
Geometry	R45	R45
Shank Form (DIN 6535)	HA	HB
Shank Tolerance	h6	h6

Size Ref.	d_1 (h10)	l_1	l_2	l_3	d_2	d_3	z	Item #	Item #
0600	**6.0**	57	13	21	6	5.5	6	E543 0600	E544 0600
0800	**8.0**	63	19	27	8	7.5	6	E543 0800	E544 0800
1000	**10.0**	72	22	32	10	9.5	6	E543 1000	E544 1000
1200	**12.0**	83	26	38	12	11.2	6	E543 1200	E544 1200
1600	**16.0**	92	32	44	16	15.0	8	E543 1600	E544 1600
2000	**20.0**	104	38	54	20	19.0	8	E543 2000	E544 2000

ISO	P												M			K						N									S										H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
E543					●		●	●	●	●	●	○	●	○	●	●	●	●	●	●	●	●											●	●	●	●			●	●	●	●		○				●	
E544					●		●	●	●	●	●	○	●	○	●	●	●	●	●	●	●	●											●	●	●	●			●	●	●	●		○				●	

P Steel M Stainless Steel K Cast Iron N Non-Ferrous Metals S Titanium & Super Alloys H Hard Materials

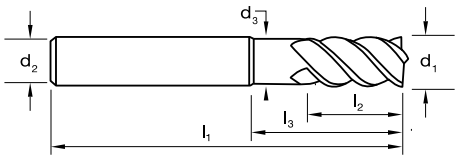
● Optimal ○ Effective

Endmills Carbide, 4 Flute, R50 NH, DIN6527L, *Harmony DUO*

suttontools HARMONY

- VHM-ULTRA grade of carbide for high performance
- Dual stepped core for optimal stability
- Ideal design for pocket milling in MQL & HSC
- Suitable for materials up to 48 HRC
- AlCrN for longer tool life

watch the video



Catalogue Code	E562	E563
Product Group	B0210	B0210
Material	VHM-ULTRA	VHM-ULTRA
Surface Finish	*AlCrN*	*AlCrN*
Sutton Designation	NH	NH
Geometry	R50	R50
Shank Form (DIN 6535)	HA	HB
Shank Tolerance	h6	h6

Size Ref.	d_1 (h10)	l_1	l_2	l_3	d_2	d_3	z	Item #	Item #
0600	6.0	57	13	21	6	5.5	4	E562 0600	E563 0600
0800	8.0	63	19	27	8	7.5	4	E562 0800	E563 0800
1000	10.0	72	22	32	10	9.5	4	E562 1000	E563 1000
1200	12.0	83	26	38	12	11.2	4	E562 1200	E563 1200
1400	14.0	83	26	38	14	13.0	4	E562 1400	E563 1400
1600	16.0	92	32	44	16	15.0	4	E562 1600	E563 1600
2000	20.0	104	38	54	20	19.0	4	E562 2000	E563 2000

ISO	P												M			K						N									S										H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
E562					●			●	●		●		●		●	●		●		●														●		●	●		●	●		●		○				●	
E563					●			●	●		●		●		●	●		●		●														●		●	●		●	●		●		○				●	

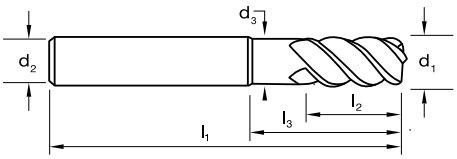
P Steel M Stainless Steel K Cast Iron N Non-Ferrous Metals S Titanium & Super Alloys H Hard Materials

● Optimal ○ Effective

Endmills Carbide, 4 Flute, R50 NH, Cnr Rad, DIN6527L, *Harmony DUO*

suttontools HARMONY

- VHM-ULTRA grade of carbide for high performance
- Dual stepped core for optimal stability
- Ideal design for pocket milling in MQL & HSC
- Suitable for materials up to 48 HRC
- AlCrN for longer tool life



Catalogue Code	E564	E565
Product Group	B0210	B0210
Material	VHM-ULTRA	VHM-ULTRA
Surface Finish	*AlCrN*	*AlCrN*
Sutton Designation	NH	NH
Geometry	R50	R50
Shank Form (DIN 6535)	HA	HB
Shank Tolerance	h6	h6

Size Ref.	d_1 (h10)	l_1	l_2	l_3	d_2	d_3	z	rad	Item #	Item #
0603	6.0	57	13	21	6	5.5	4	0.3	E564 0603	E565 0603
0605		57	13	21	6	5.5	4	0.5	E564 0605	E565 0605
0610		57	13	21	6	5.5	4	1.0	E564 0610	E565 0610
0803	8.0	63	19	27	8	7.5	4	0.3	E564 0803	E565 0803
0805		63	19	27	8	7.5	4	0.5	E564 0805	E565 0805
0810		63	19	27	8	7.5	4	1.0	E564 0810	E565 0810
0815		63	19	27	8	7.5	4	1.5	E564 0815	E565 0815
0820		63	19	27	8	7.5	4	2.0	E564 0820	E565 0820
1003	10.0	72	22	32	10	9.5	4	0.3	E564 1003	E565 1003
1005		72	22	32	10	9.5	4	0.5	E564 1005	E565 1005
1010		72	22	32	10	9.5	4	1.0	E564 1010	E565 1010
1015		72	22	32	10	9.5	4	1.5	E564 1015	E565 1015
1020		72	22	32	10	9.5	4	2.0	E564 1020	E565 1020
1203	12.0	83	26	38	12	11.2	4	0.3	E564 1203	E565 1203
1205		83	26	38	12	11.2	4	0.5	E564 1205	E565 1205
1210		83	26	38	12	11.2	4	1.0	E564 1210	E565 1210
1215		83	26	38	12	11.2	4	1.5	E564 1215	E565 1215
1220		83	26	38	12	11.2	4	2.0	E564 1220	E565 1220
1225		83	26	38	12	11.2	4	2.5	E564 1225	•
1230		83	26	38	12	11.2	4	3.0	E564 1230	E565 1230
1240		83	26	38	12	11.2	4	4.0	E564 1240	•
1403	14.0	83	26	38	14	13.0	4	0.3	E564 1403	E565 1403
1405		83	26	38	14	13.0	4	0.5	E564 1405	E565 1405
1410		83	26	38	14	13.0	4	1.0	E564 1410	E565 1410
1415		83	26	38	14	13.0	4	1.5	E564 1415	E565 1415
1420		83	26	38	14	13.0	4	2.0	E564 1420	E565 1420
1430		83	26	38	14	13.0	4	3.0	E564 1430	E565 1430
1605	16.0	92	32	44	16	15.0	4	0.5	E564 1605	E565 1605
1610		92	32	44	16	15.0	4	1.0	E564 1610	E565 1610
1615		92	32	44	16	15.0	4	1.5	E564 1615	E565 1615
1620		92	32	44	16	15.0	4	2.0	E564 1620	E565 1620
1625		92	32	44	16	15.0	4	2.5	E564 1625	•
1630		92	32	44	16	15.0	4	3.0	E564 1630	E565 1630
1640		92	32	44	16	15.0	4	4.0	E564 1640	E565 1640
2005	20.0	104	38	54	20	19.0	4	0.5	E564 2005	E565 2005
2010		104	38	54	20	19.0	4	1.0	E564 2010	E565 2010
2015		104	38	54	20	19.0	4	1.5	E564 2015	E565 2015
2020		104	38	54	20	19.0	4	2.0	E564 2020	E565 2020
2025		104	38	54	20	19.0	4	2.5	E564 2025	•
2030		104	38	54	20	19.0	4	3.0	E564 2030	E565 2030
2040		104	38	54	20	19.0	4	4.0	E564 2040	E565 2040

ISO	P													M			K						N									S												H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
E564					●			●	●		●		●		●	●		●		●														●		●	●		●	●		●		○				●	
E565					●			●	●		●		●		●	●		●		●														●		●	●		●	●		●		○				●	

P Steel M Stainless Steel K Cast Iron N Non-Ferrous Metals S Titanium & Super Alloys H Hard Materials

● Optimal ○ Effective

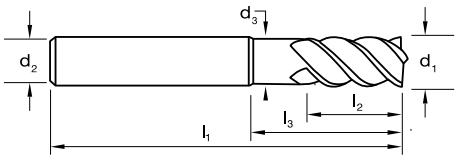
• Available on request as special manufacture. Subject to lead time.

Endmills Carbide, 4 Flute, R50 VH, DIN6527L, *Harmony DUO*

suttontools HARMONY

watch the video

- VHM-ULTRA grade of carbide for high performance
- Dual stepped core for optimal strength
- Ideal design for hard machining
- Suitable for materials up to 63 HRC
- Aldura for longer tool life



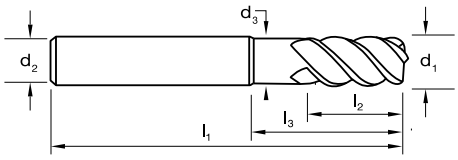
Catalogue Code	E566	E567
Product Group	B0210	B0210
Material	VHM-ULTRA	VHM-ULTRA
Surface Finish	*Aldura*	*Aldura*
Sutton Designation	VH	VH
Geometry	R50	R50
Shank Form (DIN 6535)	HA	HB
Shank Tolerance	h6	h6

Size Ref.	d_1 (h10)	l_1	l_2	l_3	d_2	d_3	z	Item #	Item #
0600	6.0	57	13	21	6	5.5	4	E566 0600	E567 0600
0800	8.0	63	19	27	8	7.5	4	E566 0800	E567 0800
1000	10.0	72	22	32	10	9.5	4	E566 1000	E567 1000
1200	12.0	83	26	38	12	11.2	4	E566 1200	E567 1200
1400	14.0	83	26	38	14	13.0	4	E566 1400	E567 1400
1600	16.0	92	32	44	16	15.0	4	E566 1600	E567 1600
2000	20.0	104	38	54	20	19.0	4	E566 2000	E567 2000

Endmills Carbide, 4 Flute, R50 VH, Cnr Rad, DIN6527L, *Harmony DUO*

suttontools HARMONY

- VHM-ULTRA grade of carbide for high performance
- Dual stepped core for optimal strength
- Ideal design for hard machining
- Suitable for materials up to 63 HRC
- Aldura for longer tool life



Catalogue Code	E568	E569
Product Group	B0210	B0210
Material	VHM-ULTRA	VHM-ULTRA
Surface Finish	*Aldura*	*Aldura*
Sutton Designation	VH	VH
Geometry	R50	R50
Shank Form (DIN 6535)	HA	HB
Shank Tolerance	h6	h6

Size Ref.	d_1 (h10)	l_1	l_2	l_3	d_2	d_3	z	rad	Item #	Item #
0610	6.0	57	13	21	6	5.5	4	1.0	E568 0610	E569 0610
0820	8.0	63	19	27	8	7.5	4	2.0	E568 0820	E569 0820
1020	10.0	72	22	32	10	9.5	4	2.0	E568 1020	E569 1020
1230	12.0	83	26	38	12	11.2	4	3.0	E568 1230	E569 1230
1430	14.0	83	26	38	14	13.0	4	3.0	E568 1430	E569 1430
1640	16.0	92	32	44	16	15.0	4	4.0	E568 1640	E569 1640
2040	20.0	104	38	54	20	19.0	4	4.0	E568 2040	E569 2040

ISO	P												M			K						N										S										H				
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
E566																																													●	●	●		●
E567																																													●	●	●		●
E568																																													●	●	●		●
E569																																													●	●	●		●

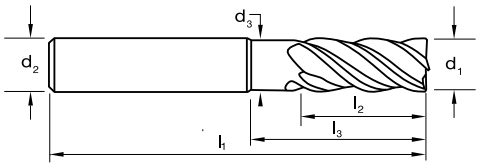
P Steel M Stainless Steel K Cast Iron N Non-Ferrous Metals S Titanium & Super Alloys H Hard Materials

● Optimal ○ Effective

Endmills Carbide, 5 Flute, R40/42Ti, DIN6527L, *Harmony*

suttontools HARMONY

- Square end for finishing applications
- Optimised for longer tool life in Titanium Alloys
- Variable helix design to suppress vibration
- Web taper to increase rigidity
- AlNova for outstanding oxidation resistance and hot hardness
- VHM-ULTRA grade of carbide for high performance



Catalogue Code	E464	E465
Product Group	B0210	B0210
Material	VHM-ULTRA	VHM-ULTRA
Surface Finish	*AlNova*	*AlNova*
Sutton Designation	Ti	Ti
Geometry	R40/42	R40/42
Shank Form (DIN 6535)	HA	HB
Shank Tolerance	h6	h6

Size Ref.	d_1 (e8)	l_1	l_2	l_3	d_2	d_3	z	Item #	Item #
0600	**6.0**	57	13	21	6	5.7	5	E464 0600	•
0800	**8.0**	63	19	27	8	7.6	5	E464 0800	•
1000	**10.0**	72	22	32	10	9.5	5	E464 1000	•
1200	**12.0**	83	26	38	12	11.5	5	E464 1200	E465 1200
1600	**16.0**	92	32	44	16	15.5	5	E464 1600	E465 1600
2000	**20.0**	104	38	54	20	19.5	5	E464 2000	E465 2000

ISO	P													M			K						N									S												H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
E464																																						●	●	●	●	●	●						
E465																																						●	●	●	●	●	●						

P Steel M Stainless Steel K Cast Iron N Non-Ferrous Metals S Titanium & Super Alloys H Hard Materials

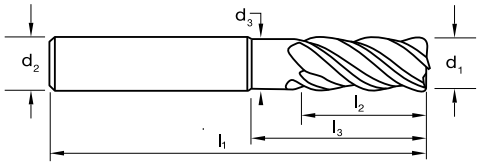
● Optimal ○ Effective

• Available on request as special manufacture. Subject to lead time.

Endmills Carbide, 5 Flute, R40/42Ti, Cnr Rad, DIN6527L, *Harmony*

suttontools HARMONY

- Unique corner radius grind for added strength
- Optimised for longer tool life in Titanium Alloys
- Variable helix design to suppress vibration
- Web taper to increase rigidity
- AlNova for outstanding oxidation resistance and hot hardness
- VHM-ULTRA grade of carbide for high performance



Catalogue Code	E466	E467
Product Group	B0210	B0210
Material	VHM-ULTRA	VHM-ULTRA
Surface Finish	*AlNova*	*AlNova*
Sutton Designation	Ti	Ti
Geometry	R40/42	R40/42
Shank Form (DIN 6535)	HA	HB
Shank Tolerance	h6	h6

Size Ref.	d_1 (e8)	l_1	l_2	l_3	d_2	d_3	z	rad	Item #	Item #
0605	6.0	57	13	21	6	5.5	5	0.5	E466 0605	•
0610		57	13	21	6	5.5	5	1.0	E466 0610	•
0805	8.0	63	19	27	8	7.5	5	0.5	E466 0805	•
0810		63	19	27	8	7.5	5	1.0	E466 0810	•
1005	10.0	72	22	32	10	9.5	5	0.5	E466 1005	•
1010		72	22	32	10	9.5	5	1.0	E466 1010	•
1210	12.0	83	26	38	12	11.5	5	1.0	E466 1210	E467 1210
1225		83	26	38	12	11.5	5	2.5	E466 1225	E467 1225
1240		83	26	38	12	11.5	5	4.0	E466 1240	E467 1240
1610	16.0	92	32	44	16	15.5	5	1.0	E466 1610	E467 1610
1625		92	32	44	16	15.5	5	2.5	E466 1625	E467 1625
1630		92	32	44	16	15.5	5	3.0	E466 1630	E467 1630
1640		92	32	44	16	15.5	5	4.0	E466 1640	E467 1640
2010	20.0	104	38	54	20	19.5	5	1.0	E466 2010	E467 2010
2025		104	38	54	20	19.5	5	2.5	E466 2025	E467 2025
2030		104	38	54	20	19.5	5	3.0	E466 2030	•
2040		104	38	54	20	19.5	5	4.0	E466 2040	E467 2040
2050		104	38	54	20	19.5	5	5.0	E466 2050	E467 2050
2060		104	38	54	20	19.5	5	6.0	E466 2060	E467 2060

ISO	P												M			K						N									S											H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
E466																																						●	●	●	●	●	●						
E467																																						●	●	●	●	●	●						

P Steel M Stainless Steel K Cast Iron N Non-Ferrous Metals S Titanium & Super Alloys H Hard Materials

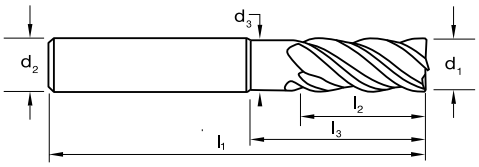
● Optimal ○ Effective

• Available on request as special manufacture. Subject to lead time.

Endmills Carbide, 6 Flute, R40/42Ti, DIN6527L, *Harmony*

suttontools HARMONY

- Square end for finishing applications
- Optimised for longer tool life in Titanium Alloys
- Variable helix design to suppress vibration
- Web taper to increase rigidity
- AlNova for outstanding oxidation resistance and hot hardness
- VHM-ULTRA grade of carbide for high performance



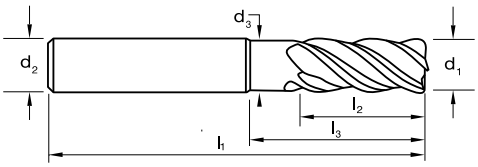
Catalogue Code	E468	E469
Product Group	B0210	B0210
Material	VHM-ULTRA	VHM-ULTRA
Surface Finish	*AlNova*	*AlNova*
Sutton Designation	Ti	Ti
Geometry	R40/42	R40/42
Shank Form (DIN 6535)	HA	HB
Shank Tolerance	h6	h6

Size Ref.	d_1 (e8)	l_1	l_2	l_3	d_2	d_3	z	Item #	Item #
1200	12.0	83	26	38	12	11.5	6	E468 1200	E469 1200
1600	16.0	92	32	44	16	15.5	6	E468 1600	E469 1600
2000	20.0	104	38	54	20	19.5	6	E468 2000	E469 2000

Endmills Carbide, 6 Flute, R40/42Ti, Cnr Rad, DIN6527L, *Harmony*

suttontools HARMONY

- Unique corner radius grind for added strength
- Optimised for longer tool life in Titanium Alloys
- Variable helix design to suppress vibration
- Web taper to increase rigidity
- AlNova for outstanding oxidation resistance and hot hardness
- VHM-ULTRA grade of carbide for high performance



Catalogue Code	E470	E471
Product Group	B0210	B0210
Material	VHM-ULTRA	VHM-ULTRA
Surface Finish	*AlNova*	*AlNova*
Sutton Designation	Ti	Ti
Geometry	R40/42	R40/42
Shank Form (DIN 6535)	HA	HB
Shank Tolerance	h6	h6

Size Ref.	d_1 (e8)	l_1	l_2	l_3	d_2	d_3	z	rad	Item #	Item #
1210	12.0	83	26	38	12	11.5	6	1.0	E470 1210	E471 1210
1225		83	26	38	12	11.5	6	2.5	E470 1225	E471 1225
1240		83	26	38	12	11.5	6	4.0	E470 1240	E471 1240
1610	16.0	92	32	44	16	15.5	6	1.0	E470 1610	E471 1610
1625		92	32	44	16	15.5	6	2.5	E470 1625	E471 1625
1630		92	32	44	16	15.5	6	3.0	E470 1630	•
1640		92	32	44	16	15.5	6	4.0	E470 1640	E471 1640
2010	20.0	104	38	54	20	19.5	6	1.0	E470 2010	E471 2010
2025		104	38	54	20	19.5	6	2.5	E470 2025	E471 2025
2030		104	38	54	20	19.5	6	3.0	E470 2030	•
2040		104	38	54	20	19.5	6	4.0	E470 2040	E471 2040
2050		104	38	54	20	19.5	6	5.0	E470 2050	E471 2050
2060		104	38	54	20	19.5	6	6.0	E470 2060	E471 2060

ISO	P													M			K						N										S										H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
E468																																						●	●	●	●	●	●						
E469																																						●	●	●	●	●	●						
E470																																						●	●	●	●	●	●						
E471																																						●	●	●	●	●	●						

P Steel M Stainless Steel K Cast Iron N Non-Ferrous Metals S Titanium & Super Alloys H Hard Materials

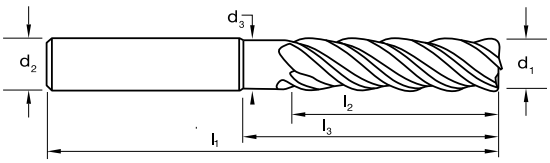
● Optimal ○ Effective

• Available on request as special manufacture. Subject to lead time.

Endmills Carbide, 5 Flute, R40/42 Ti, Extra Long

suttontools HARMONY

- Optimised design for trochoidal and HSM milling strategies in titanium alloys
- For extra deep pocket milling in typically thin wall components
- Variable helix design to suppress vibration
- AlNova for outstanding oxidation resistance and hot hardness



Catalogue Code	E476	E477
Product Group	B0210	B0210
Material	VHM-ULTRA	VHM-ULTRA
Surface Finish	*AlNova*	*AlNova*
Sutton Designation	Ti-3XL	Ti-4XL
Geometry	R40/42	R40/42
Shank Form (DIN 6535)	HA	HA
Shank Tolerance	h6	h6

Size Ref.	d_1 (e8)	l_1	l_2	l_3	d_2	d_3	z	rad	Item #	Item #
SUTTON STD - 3XL										
1200	12	96	40	51	12	11.5	5	-	E476 1200	
1210	12	96	40	51	12	11.5	5	1	E476 1210	
1215	12	96	40	51	12	11.5	5	1.5	E476 1215	
1220	12	96	40	51	12	11.5	5	2	E476 1220	
1225	12	96	40	51	12	11.5	5	2.5	E476 1225	
1230	12	96	40	51	12	11.5	5	3	E476 1230	
1240	12	96	40	51	12	11.5	5	4	E476 1240	
1600	16	105	52	57	16	15.5	5	-	E476 1600	
1610	16	105	52	57	16	15.5	5	1	E476 1610	
1615	16	105	52	57	16	15.5	5	1.5	E476 1615	
1620	16	105	52	57	16	15.5	5	2	E476 1620	
1625	16	105	52	57	16	15.5	5	2.5	E476 1625	
1630	16	105	52	57	16	15.5	5	3	E476 1630	
1640	16	105	52	57	16	15.5	5	4	E476 1640	
2000	20	140	64	80	20	19.5	5	-	E476 2000	
2010	20	140	64	80	20	19.5	5	1	E476 2010	
2015	20	140	64	80	20	19.5	5	1.5	E476 2015	
2020	20	140	64	80	20	19.5	5	2	E476 2020	
2025	20	140	64	80	20	19.5	5	2.5	E476 2025	
2030	20	140	64	80	20	19.5	5	3	E476 2030	
2040	20	140	64	80	20	19.5	5	4	E476 2040	
2050	20	140	64	80	20	19.5	5	5	E476 2050	
SUTTON STD - 4XL										
1200	12	110	50	65	12	11.5	5	-		E477 1200
1210	12	110	50	65	12	11.5	5	1		E477 1210
1215	12	110	50	65	12	11.5	5	1.5		E477 1215
1220	12	110	50	65	12	11.5	5	2		E477 1220
1225	12	110	50	65	12	11.5	5	2.5		E477 1225
1230	12	110	50	65	12	11.5	5	3		E477 1230
1240	12	110	50	65	12	11.5	5	4		E477 1240
1600	16	130	66	82	16	15.5	5	-		E477 1600
1610	16	130	66	82	16	15.5	5	1		E477 1610
1615	16	130	66	82	16	15.5	5	1.5		E477 1615
1620	16	130	66	82	16	15.5	5	2		E477 1620
1625	16	130	66	82	16	15.5	5	2.5		E477 1625
1630	16	130	66	82	16	15.5	5	3		E477 1630
1640	16	130	66	82	16	15.5	5	4		E477 1640
2000	20	160	82	100	20	19.5	5	-		E477 2000
2010	20	160	82	100	20	19.5	5	1		E477 2010
2015	20	160	82	100	20	19.5	5	1.5		E477 2015
2020	20	160	82	100	20	19.5	5	2		E477 2020
2025	20	160	82	100	20	19.5	5	2.5		E477 2025
2030	20	160	82	100	20	19.5	5	3		E477 2030
2040	20	160	82	100	20	19.5	5	4		E477 2040
2050	20	160	82	100	20	19.5	5	5		E477 2050

ISO	P												M			K						N									S											H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
E476																○																						●	●	●	●	●	●						
E477																○																						●	●	●	●	●	●						

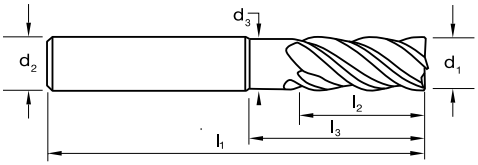
P Steel M Stainless Steel K Cast Iron N Non-Ferrous Metals S Titanium & Super Alloys H Hard Materials

● Optimal ○ Effective

Endmills Carbide, 5 Flute, R40/42 Ni, DIN6527L, *Harmony*

suttontools HARMONY

- Excellent solution for stainless steels and super alloy type materials
- Optimised geometry with variable helix design ensures high productivity
- Suitable for slotting, side cutting and finishing applications with the one tool
- XCeed for outstanding oxidation resistance and hot hardness
- VHM-ULTRA grade of carbide for high performance



Catalogue Code	E472	E473
Product Group	B0210	B0210
Material	VHM-ULTRA	VHM-ULTRA
Surface Finish	*Xceed*	*Xceed*
Sutton Designation	**Ni**	**Ni**
Geometry	R40/42 Ni	R40/42 Ni
Shank Form (DIN 6535)	HA	HB
Shank Tolerance	h6	h6

Size Ref.	d_1 (e8)	l_1	l_2	l_3	d_2	d_3	z	chf	rad	Item #	Item #
0600	**6.0**	57	13	21	6	5.7	5	0.20	-	E472 0600	E473 0600
0800	**8.0**	63	19	27	8	7.6	5	0.20	-	E472 0800	E473 0800
1000	**10.0**	72	22	32	10	9.5	5	0.25	-	E472 1000	E473 1000
1200	**12.0**	83	26	38	12	11.5	5	0.25	-	E472 1200	E473 1200
1600	**16.0**	92	32	44	16	15.5	5	0.35	-	E472 1600	E473 1600
2000	**20.0**	104	38	54	20	19.5	5	0.35	-	E472 2000	E473 2000

ISO	P													M			K						N									S										H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
E472														●	●	●																	●	●	●	●	●												
E473														●	●	●																	●	●	●	●	●												

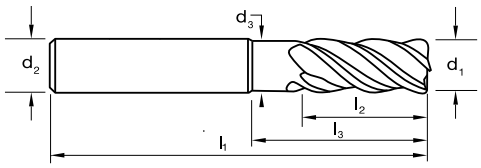
P Steel M Stainless Steel K Cast Iron N Non-Ferrous Metals S Titanium & Super Alloys H Hard Materials

● Optimal ○ Effective

Endmills Carbide, 5 Flute, R40/42 Ni, Cnr Rad, DIN6527L, *Harmony*

suttontools HARMONY

- Excellent solution for stainless steels and super alloy type materials
- Optimised geometry with variable helix design ensures high productivity
- Suitable for slotting, side cutting and finishing applications with the one tool
- XCeed for outstanding oxidation resistance and hot hardness
- VHM-ULTRA grade of carbide for high performance



Catalogue Code	E474	E475
Product Group	B0210	B0210
Material	VHM-ULTRA	VHM-ULTRA
Surface Finish	*Xceed*	*Xceed*
Sutton Designation	**Ni**	**Ni**
Geometry	R40/42 Ni	R40/42 Ni
Shank Form (DIN 6535)	HA	HB
Shank Tolerance	h6	h6

Size Ref.	d_1 (e8)	l_1	l_2	l_3	d_2	d_3	z	chf	rad	Item #	Item #
0605	**6.0**	57	13	21	6	5.7	5	-	0.5	E474 0605	E475 0605
0610		57	13	21	6	5.7	5	-	1.0	E474 0610	E475 0610
0805	**8.0**	63	19	27	8	7.6	5	-	0.5	E474 0805	E475 0805
0810		63	19	27	8	7.6	5	-	1.0	E474 0810	E475 0810
1005	**10.0**	72	22	32	10	9.5	5	-	0.5	E474 1005	E475 1005
1010		72	22	32	10	9.5	5	-	1.0	E474 1010	E475 1010
1210	**12.0**	83	26	38	12	11.5	5	-	1.0	E474 1210	E475 1210
1215		83	26	38	12	11.5	5	-	1.5	E474 1215	E475 1215
1225		83	26	38	12	11.5	5	-	2.5	E474 1225	E475 1225
1240		83	26	38	12	11.5	5	-	4.0	E474 1240	E475 1240
1610	**16.0**	92	32	44	16	15.5	5	-	1.0	E474 1610	E475 1610
1615		92	32	44	16	15.5	5	-	1.5	E474 1615	E475 1615
1625		92	32	44	16	15.5	5	-	2.5	E474 1625	E475 1625
1640		92	32	44	16	15.5	5	-	4.0	E474 1640	E475 1640
2010	**20.0**	104	38	54	20	19.5	5	-	1.0	E474 2010	E475 2010
2015		104	38	54	20	19.5	5	-	1.5	E474 2015	E475 2015
2025		104	38	54	20	19.5	5	-	2.5	E474 2025	E475 2025
2040		104	38	54	20	19.5	5	-	4.0	E474 2040	E475 2040

ISO	P												M			K						N									S									H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
E474														●	●	●																	●	●	●	●	●												
E475														●	●	●																	●	●	●	●	●												

P Steel M Stainless Steel K Cast Iron N Non-Ferrous Metals S Titanium & Super Alloys H Hard Materials

● Optimal ○ Effective

suttontools

HSS ENDMILLS

- Solutions for slotting, finishing, roughing and profiling
- 8% Co & PM grades of HSS
- Short and long series
- General purpose and application specific geometries

suttontools

ISO	VDI	Material Group	Sutton	
P	A	Steel	N	UNI
M	R	Stainless Steel	VA	
K	F	Cast Iron	GG	
N	N	Non-Ferrous Metals, Aluminiums & Coppers	Al / W	
S	S	Titaniums & Super Alloys	Ti	Ni
H	H	Hard Materials (≥ 45 HRC)	H	

^ VDI 3323 material groups can also be determined by referring to the material cross reference listing in the application guide at the back of this catalogue.

Page	266	266	267	268	269	270	271	272	273
Catalogue Code	E187	E188	E126	E128	E202	E206	E145	E147	E151
Type of Cut: *Slotting*	●	●							
Finishing	●	●	●	●					
Universal	●	●	●	●	●	●			
Roughing					●	●	●	●	●
Profiling									
Material	HSS Co.8		HSS Co.8		HSS Co.8		HSS Co.8	HSS Co.8	SPM
Surface Finish	*Brt*	*TiAlN*	*TiCN*		*TiAlN*		*TiCN*	*TiCN*	*TiAlN*
Sutton Designation	N		N		N		WN	WN	UNI
Standard	DIN 327D		JIS		DIN 844K	DIN 844L	JIS	DIN 844L	DIN 844K
Shank Tolerance	h6		h6		h6		h6	h6	h6

ISO	VDI^ 3323	Material		Condition	HB	N/mm²									
P	1	Steel - Non-alloy, cast & free cutting	~ 0.15 %C	A	125	440	●	●	●	●	●	●	●	●	○
	2		~ 0.45 %C	A	190	640	●	●	●	●	●	●	●	●	○
	3			QT	250	840	○	●	●	●	●	●	○	○	○
	4		~ 0.75 %C	A	270	910	○	●	●	●	●	●	○	○	○
	5			QT	300	1010	○	○	○	○	●	●	○	○	●
	6	Steel - Low alloy & cast < 5% of alloying elements		A	180	610	●	●	●	●	●	●	●	●	○
	7			QT	275	930	○	○	○	○	●	●	○	○	○
	8			QT	300	1010	○	○	○	○	●	●	○	○	●
	9			QT	350	1180		○	○	○	○	○			●
	10	Steel - High alloy, cast & tool		A	200	680	○	●	●	●	●	●			○
	11			HT	325	1100		○	○	○	○	○			●
	12	Steel - Corrosion resistant & cast	Ferritic / Martensitic	A	200	680		○	○	○	○	○			○
	13		Martensitic	QT	240	810	○	○	○	○	○	○			●
M	14.1	Stainless Steel	Austenitic	AH	180	610		○	○	○	●	●			○
	14.2		Duplex		250	840		○	○	○	●	●			○
	14.3		Precipitation Hardening		250	840		○	○	○	○	○			○
K	15	Cast Iron - Grey (GG)	Ferritic / Pearlitic		180	610	○	●	●	●	●	●	○	○	●
	16		Pearlitic		260	880	○	○	○	○	○	○			○
	17	Cast Iron - Nodular (GGG)	Ferritic		160	570	○	●	●	●	●	●	○	○	●
	18		Pearlitic		250	840	○	○	○	○	○	○			○
	19	Cast Iron - Malleable	Ferritic		130	460	○	●	●	●	○	○	○	○	●
	20		Pearlitic		230	780	○	○	○	○	○	○			○
N	21	Aluminum & Magnesium - wrought alloy	Non Heat Treatable		60	210	●	○	○	○	○	○	○	○	
	22		Heat Treatable	AH	100	360	●	○	○	○	○	○	○	○	
	23	Aluminum & Magnesium - cast alloy ≤12% Si	Non Heat Treatable		75	270	○	○	○	○	○	○	○	○	○
	24		Heat Treatable	AH	90	320	○	○	○	○	○	○	○	○	○
	25	Al & Mg - cast alloy >12% Si	Non Heat Treatable		130	460	○	○	○	○					
	26	Copper & Cu alloys (Brass/Bronze)	Free cutting, Pb > 1%		110	390	○	○	○	○	●	●	○	○	
	27		Brass (CuZn, CuSnZn)		90	320					○	○			
	28		Bronze (CuSn)		100	360	○	○	○	○	●	●	○	○	
	29	Non-metallic - Thermosetting & fiber-reinforced plastics													
	30	Non-metallic - Hard rubber, wood etc.													
S	31	High temp. alloys	Fe based	A	200	680					○	○			
	32			AH	280	950					○	○			
	33		Ni / Co based	A	250	840					○	○			
	34			AH	350	1180					○	○			
	35			C	320	1080					○	○			
	36	Titanium & Ti alloys	CP Titanium		400 MPa						○	○			
	37.1		Alpha alloys		860 MPa						○	○			
	37.2		Alpha / Beta alloys	A	960 MPa						○	○			
	37.3			AH	1170 MPa						○	○			
	37.4		Beta alloys	A	830 MPa						○	○			
	37.5			AH	1400 MPa						○	○			
H	38.1	Hardened steel		HT	45 HRC										
	38.2			HT	55 HRC										
	39.1			HT	58 HRC										
	39.2			HT	62 HRC										
	40	Cast Iron	Chilled	C	400	1350		●	●	●	○	○			○
	41			HT	55 HRC										

Condition: A (Annealed), **AH** (Age Hardened), **C** (Cast), **HT** (Hardened & Tempered), **QT** (Quenched & Tempered)

 ● Optimal ○ Effective

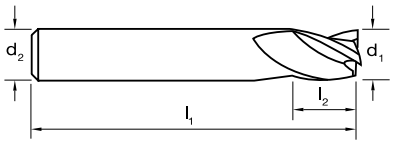
274	275	275	276	276	277	277	278	279	279	279		
E136	E121	E122	E123	E124	E171	E173	E177	E251	E255	E252		
	●	●	●	●								
●	●	●	●	●								
●	●	●	●	●								
					●	●	●	●	●	●		
SPM	SPM		SPM		HSS Co.8		SPM	SPM	SPM	SPM		
TiAlN	*Brt*	*TiAlN*	*Brt*	*TiAlN*	*TiCN*		*TiAlN*	*AlCrN*	*AlCrN*	*AlCrN*		
UNI	W		W		NH		H	VA	VA	VA		
DIN 844L	DIN 844K		DIN 844L		JIS	DIN 844L	DIN 844L	DIN 844K	DIN 844K	DIN 844L		
h6	h6		h6		h6		h6	h6	h6	h6		
											VDI^ 3323	ISO
●								○	○	○	1	P
●								○	○	○	2	
●							○	○	○	○	3	
●							○	○	○	○	4	
●					●	●	●	●	●	●	5	
●								○	○	○	6	
●					●	●	○	●	●	●	7	
●					●	●	●	●	●	●	8	
○					●	○	●				9	
●					●	●	○	●	●	●	10	
○					●	○	●				11	
○					○	○	○	○	○	○	12	
○					○	○	●	●	●	●	13	
○					○	○		●	●	●	14.1	M
○					○	○		●	●	●	14.2	
○					○	○	○	○	○	○	14.3	
○					●	○	○				15	K
○					○	○	○				16	
●					●	○	●				17	
●					○	○	●				18	
○					●	○	●				19	
○					○	○	●				20	
○	●	●	●	●							21	N
○	●	●	●	●							22	
○	●	●	●	●							23	
○	●	●	●	●							24	
○	○	○	○	○			○				25	
○	○	●	○	●							26	
	○		○		●	●	●				27	
○	●	●	●	●							28	
											29	
											30	
							○	○	○	○	31	S
							○	○	○	○	32	
							○	○	○	○	33	
							○	○	○	○	34	
							○	○	○	○	35	
							○	○	○	○	36	
							○	●	●	●	37.1	
							○	●	●	●	37.2	
							○	●	●	●	37.3	
							○	●	●	●	37.4	
							○	○	○	○	37.5	
							○	○	○	○	38.1	H
											38.2	
											39.1	
											39.2	
●					○	○	●				40	
											41	

Endmills 3 Flute, R30 N, Stub

suttontools

- Universal use for slotting and finishing with the one tool
- Suitable for materials up to 1000 N/mm²
- TiAlN for longer tool life

DIN 327



Catalogue Code	E187	E188
Product Group	B0606	B0608
Material	HSS Co.8	HSS Co.8
Surface Finish	*Brt*	*TiAlN*
Sutton Designation	N	N
Geometry	R30	R30
Shank Form (DIN 1835)	A	A
Shank Tolerance	h6	h6

Size Ref.	d_1 (k9)	l_1	l_2	d_2	z	Item #	Item #
0200	2	48	4	6	3	E187 0200	E188 0200
0250	2.5	49	5	6	3	E187 0250	E188 0250
0300	3	49	5	6	3	E187 0300	E188 0300
0350	3.5	50	6	6	3	E187 0350	E188 0350
0400	4	51	7	6	3	E187 0400	E188 0400
0500	5	52	8	6	3	E187 0500	E188 0500
0600	6	52	8	6	3	E187 0600	E188 0600
0700	7	60	10	10	3	E187 0700	E188 0700
0800	8	61	11	10	3	E187 0800	E188 0800
0900	9	61	11	10	3	E187 0900	•
1000	10	63	13	10	3	E187 1000	E188 1000
1200	12	73	16	12	3	E187 1200	E188 1200
1400	14	73	16	12	3	E187 1400	E188 1400
1500	15	73	16	12	3	E187 1500	E188 1500
1600	16	79	19	16	3	E187 1600	E188 1600
1800	18	79	19	16	3	E187 1800	E188 1800
2000	20	88	22	20	3	E187 2000	E188 2000
2200	22	88	22	20	3	E187 2200	E188 2200

ISO	P													M			K						N									S										H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
E187	●	●	○	○	○	●	○	○		○			○				○	○	○	○	○	○	●	●	○	○	○	○		○																		
E188	●	●	●	●	○	●	○	○	○	●	○	○	○	○	○	○	●	○	●	○	●	○	○	○	○	○	○	○		○																		●	

P Steel M Stainless Steel K Cast Iron N Non-Ferrous Metals S Titanium & Super Alloys H Hard Materials

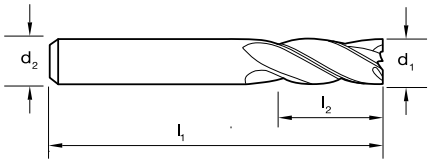
● Optimal ○ Effective

• Available on request as special manufacture. Subject to lead time.

Endmills 4 Flute, R30 N, Regular

suttontools

- For precision finish milling applications
- Suitable for materials up to 1000 N/mm²
- TiCN for longer tool life



Catalogue Code	**E126***
Product Group	B0516
Material	**HSS Co.8**
Surface Finish	***TiCN***
Sutton Designation	**N**
Geometry	R30
Shank Form (DIN 1835)	A
Shank Tolerance	h6

Size Ref.	d_1 (k9)	l_1	l_2	d_2	z	Item #
0200	**2.0**	50	6	6	4	E126 0200
0300	**3.0**	50	9	6	4	E126 0300
0400	**4.0**	60	12	8	4	E126 0400
0500	**5.0**	60	15	8	4	E126 0500
0600	**6.0**	60	15	8	4	E126 0600
0900	**9.0**	75	25	10	4	E126 0900
1000	**10.0**	75	25	10	4	E126 1000
1100	**11.0**	80	30	12	4	E126 1100
1400	**14.0**	90	35	16	4	E126 1400
2400	**24.0**	120	50	25	4	E126 2400
2600	**26.0**	120	50	25	4	E126 2600

ISO	P												M			K						N								S											H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
E126	●	●	●	●	○	●	○	○	○	●	○	○	○	○	○	○	●	○	●	○	●	○	○	○	○	○	○	○		○																		●	

P Steel M Stainless Steel K Cast Iron N Non-Ferrous Metals S Titanium & Super Alloys H Hard Materials

● Optimal ○ Effective

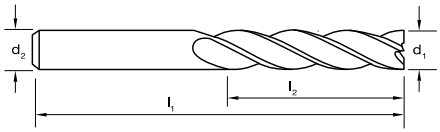
* Not available once current stock is depleted.

Endmills 4 Flute, R30 N, Long

suttontools

- For precision finish milling applications
- Suitable for materials up to 1000 N/mm²
- TiCN for longer tool life

JIS



Catalogue Code	**E128**
Product Group	B0516
Material	**HSS Co.8**
Surface Finish	***TiCN***
Sutton Designation	**N**
Geometry	R30
Shank Form (DIN 1835)	A
Shank Tolerance	h6

Size Ref.	d_1 (k10)	l_1	l_2	d_2	z	Item #
0200	**2.0**	60	10	6	4	E128 0200
0250	**2.5**	60	15	6	4	E128 0250
0300	**3.0**	60	15	6	4	E128 0300
0400	**4.0**	60	20	8	4	E128 0400
0450	**4.5**	65	25	8	4	•
0500	**5.0**	65	25	8	4	E128 0500
0550	**5.5**	65	25	8	4	•
0600	**6.0**	65	25	8	4	E128 0600
0800	**8.0**	80	35	10	4	E128 0800
0900	**9.0**	95	45	10	4	E128 0900
1000	**10.0**	95	45	10	4	E128 1000
1200	**12.0**	105	55	12	4	E128 1200
1600	**16.0**	120	65	16	4	E128 1600
2000	**20.0**	140	75	20	4	E128 2000
2500	**25.0**	160	90	25	4	E128 2500
3200	**32.0**	190	105	32	6	E128 3200

ISO	P													M			K						N									S													H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
E128	●	●	●	●	○	●	○	○	○	●	○	○	○	○	○	○	●	○	●	○	●	○	○	○	○	○	○	○		○																			●	

P Steel M Stainless Steel K Cast Iron N Non-Ferrous Metals S Titanium & Super Alloys H Hard Materials

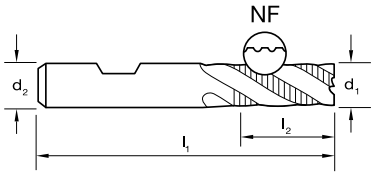
● Optimal ○ Effective

* Not available once current stock is depleted. • Available on request as special manufacture. Subject to lead time.

Roughers NF (semi roughing), R30 N, Regular

suttontools

- For roughing applications
- NF geometry allows for heavy cuts, with a good surface finish
- Suitable for materials up to 1100 N/mm^2
- TiAlN for longer tool life



Catalogue Code	**E202**
Product Group	B0404
Material	**HSS Co.8**
Surface Finish	***TiAlN***
Sutton Designation	**N**
Geometry	R30 NF (semi roughing)
Shank Form (DIN 1835)	B
Shank Tolerance	h6

Size Ref.	d_1 (js14)	l_1	l_2	d_2	z	Item #
0600	**6**	57	13	6	3	E202 0600
0800	**8**	69	19	10	3	E202 0800
1000	**10**	72	22	10	4	E202 1000
1200	**12**	83	26	12	4	E202 1200
1400	**14**	83	26	12	4	E202 1400
1600	**16**	92	32	16	4	E202 1600
1800	**18**	92	32	16	4	E202 1800
2000	**20**	104	38	20	4	E202 2000
2200	**22**	104	38	20	5	E202 2200
2500	**25**	121	45	25	5	E202 2500
3000	**30**	121	45	25	6	E202 3000
3200	**32**	133	53	32	6	•
3600	**36**	133	53	32	6	•
4000	**40**	155	63	40	6	•

ISO	P												M			K						N								S									H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
E202	●	●	●	●	●	●	●	●	○	●	○	○	○	●	●	○	●	○	●	○	○	○	○	○	○	○		●	○	●			○	○	○	○	○	○	○	○	○	○	○					○	

P Steel **M** Stainless Steel **K** Cast Iron **N** Non-Ferrous Metals **S** Titanium & Super Alloys **H** Hard Materials

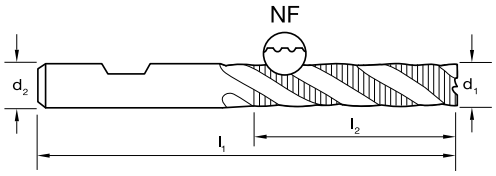
● Optimal ○ Effective

• Available on request as special manufacture. Subject to lead time.

Roughers NF (semi roughing), R30 N, Long

suttontools

- For roughing applications
- NF geometry allows for heavy cuts, with a good surface finish
- Suitable for materials up to 1100 N/mm^2
- TiAlN for longer tool life



Catalogue Code	**E206**
Product Group	B0404
Material	**HSS Co.8**
Surface Finish	***TiAlN***
Sutton Designation	**N**
Geometry	R30 NF (semi roughing)
Shank Form (DIN 1835)	B
Shank Tolerance	h6

Size Ref.	d_1 (js14)	l_1	l_2	d_2	z	Item #
0600	**6**	68	24	6	3	•
0800	**8**	88	38	10	3	•
1000	**10**	95	45	10	4	E206 1000
1200	**12**	110	53	12	4	E206 1200
1400	**14**	110	53	12	4	E206 1400
1600	**16**	123	63	16	4	E206 1600
1800	**18**	123	63	16	4	E206 1800
2000	**20**	141	75	20	4	E206 2000
2200	**22**	141	75	20	5	E206 2200
2500	**25**	166	90	25	5	E206 2500
3000	**30**	166	90	25	6	E206 3000
3200	**32**	186	106	32	6	•
3600	**36**	186	106	32	6	•
4000	**40**	217	125	40	6	•

ISO	P													M			K						N									S												H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
E206	●	●	●	●	●	●	●	●	○	●	○	○	○	●	●	○	●	○	●	○	○	○	○	○	○	○		●	○	●			○	○	○	○	○	○	○	○	○	○	○					○	

P Steel **M** Stainless Steel **K** Cast Iron **N** Non-Ferrous Metals **S** Titanium & Super Alloys **H** Hard Materials

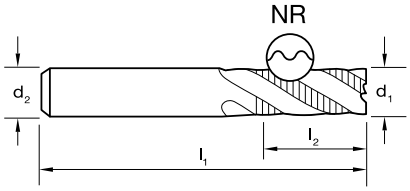
● Optimal ○ Effective

• Available on request as special manufacture. Subject to lead time.

Roughers NR (normal), R30 WN, Regular

suttontools

- For roughing applications
- NR geometry allows for heavy cuts
- Suitable for materials up to 1000 N/mm²
- TiCN for longer tool life



Catalogue Code	**E145**
Product Group	B0404
Material	**HSS Co.8**
Surface Finish	***TiCN***
Sutton Designation	**WN**
Geometry	R30 NR
Shank Form (DIN 1835)	B
Shank Tolerance	h6

Size Ref.	d_1 (js14)	l_1	l_2	d_2	z	Item #
1600	**16.0**	95	40	16	4	E145 1600
1800	**18.0**	105	40	20	4	E145 1800
2000	**20.0**	110	45	20	4	E145 2000
2200	**22.0**	110	45	20	4	E145 2200
2500	**25.0**	120	50	25	5	E145 2500

ISO	P												M			K						N									S												H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
E145	●	●	○	○	○	●	○	○									○		○		○		○	○	○	○		○		○																			

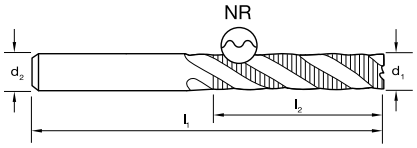
P Steel **M** Stainless Steel **K** Cast Iron **N** Non-Ferrous Metals **S** Titanium & Super Alloys **H** Hard Materials

● Optimal ○ Effective

Roughers NR (normal), R30 WN, Long

suttontools

- For roughing applications
- NR geometry allows for heavy cuts
- Suitable for materials up to 1000 N/mm²
- TiCN for longer tool life



Catalogue Code	**E147**
Product Group	B0404
Material	**HSS Co.8**
Surface Finish	***TiCN***
Sutton Designation	**WN**
Geometry	R30 NR (coarse pitch)
Shank Form (DIN 1835)	A
Shank Tolerance	h6

Size Ref.	d_1 (js14)	l_1	l_2	d_2	z	Item #
0600	**6**	68	24	6	3	E147 0600
0800	**8**	88	38	10	3	E147 0800
1000	**10**	95	45	10	4	E147 1000
1200	**12**	110	53	12	4	E147 1200
1600	**16**	123	63	16	4	E147 1600
1800	**18**	123	63	16	4	E147 1800
2000	**20**	141	75	20	4	E147 2000
2200	**22**	141	75	20	5	E147 2200
2500	**25**	166	90	25	5	E147 2500
3000	**30**	166	90	25	6	E147 3000
3200	**32**	186	106	32	6	•
1270	**1/2**	4-5/16	2-1/16	1/2	4	E147 1270
1588	**5/8**	4-27/32	2-1/2	5/8	4	E147 1588
1905	**3/4**	5-9/16	2-15/16	3/4	4	E147 1905
2540	**1**	6-9/16	3-9/16	1	5	E147 2540
3175	**1-1/4**	7-5/16	4-3/16	1-1/4	6	E147 3175
3810	**1-1/2**	8-17/32	4-29/32	1-1/4	6	E147 3810

ISO	P												M			K						N									S										H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
E147	●	●	○	○	○	●	○	○									○		○		○		○	○	○	○		○		○																		

P Steel **M** Stainless Steel **K** Cast Iron **N** Non-Ferrous Metals **S** Titanium & Super Alloys **H** Hard Materials

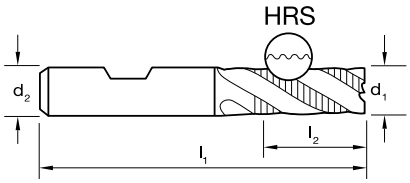
● Optimal ○ Effective

• Available on request as special manufacture. Subject to lead time.

Roughers HRS (fine), R45 UNI, Regular

suttontools

- SPM offers superior performance
- For roughing applications
- HRS geometry allows for heavy cuts in short & long chipping materials
- TiAlN for longer tool life



Catalogue Code	**E151**
Product Group	B0408
Material	**SPM**
Surface Finish	***TiAlN***
Sutton Designation	**UNI**
Geometry	R45 HRS
Shank Form (DIN 1835)	B
Shank Tolerance	h6

Size Ref.	d_1 (js14)	l_1	l_2	d_2	z	Item #
0400	**4.0**	55	11	6	3	E151 0400
0500	**5.0**	57	13	6	4	E151 0500
0600	**6.0**	57	13	6	4	E151 0600
0700	**7.0**	66	16	10	4	E151 0700
0800	**8.0**	69	19	10	4	E151 0800
0900	**9.0**	69	19	10	4	E151 0900
1000	**10.0**	72	22	10	4	E151 1000
1200	**12.0**	83	26	12	4	E151 1200
1400	**14.0**	83	26	12	5	E151 1400
1600	**16.0**	92	32	16	5	E151 1600
1800	**18.0**	92	32	16	6	E151 1800
2000	**20.0**	104	38	20	6	E151 2000
2500	**25.0**	121	45	25	6	E151 2500

ISO	P												M			K						N								S												H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
E151	○	○	○	○	●	○	○	●	●	○	●	○	●	○	○	○	●	○	●	○	●	○			○	○																					○	

P Steel M Stainless Steel K Cast Iron N Non-Ferrous Metals S Titanium & Super Alloys H Hard Materials

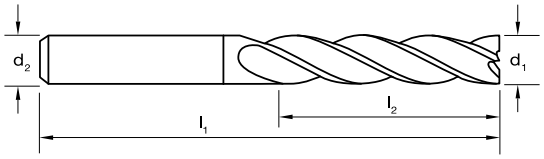
● Optimal ○ Effective

Endmills 4 Flute, R30/32 UNI, Long, *Harmony*

suttontools HARMONY

- SPM offers superior performance
- 30/32° variable flute helix for chatter free milling
- Suitable for materials up to 1400 N/mm²
- TiAlN for longer tool life

DIN 844L



Catalogue Code	**E136**
Product Group	B0612
Material	**SPM**
Surface Finish	***TiAlN***
Sutton Designation	**UNI**
Geometry	R30 / 32
Shank Form (DIN 1835)	A
Shank Tolerance	h6

Size Ref.	d_1 (k10)	l_1	l_2	d_2	z	Item #
0300	**3**	56	12	6	4	E136 0300
0400	**4**	63	19	6	4	E136 0400
0500	**5**	68	24	6	4	E136 0500
0600	**6**	68	24	6	4	E136 0600
0800	**8**	88	38	10	4	E136 0800
1000	**10**	95	45	10	4	E136 1000
1200	**12**	110	53	12	4	E136 1200
1400	**14**	110	53	12	4	E136 1400
1600	**16**	123	63	16	4	E136 1600
1800	**18**	123	63	16	4	E136 1800
2000	**20**	141	75	20	4	E136 2000

ISO	P													M			K						N									S												H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
E136	●	●	●	●	●	●	●	●	○	●	○	○	○	○	○	○	○	○	●	●	○	○	○	○	○	○		○		○																		●	

P Steel M Stainless Steel K Cast Iron N Non-Ferrous Metals S Titanium & Super Alloys H Hard Materials

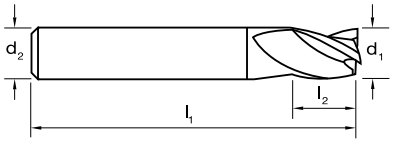
● Optimal ○ Effective

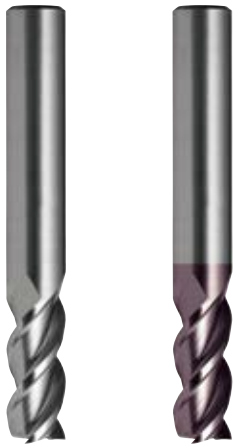
Endmills 3 Flute, R45 W, Regular

suttontools

- SPM offers superior performance
- Universal use for slotting & finishing applications, with one tool
- Optimised geometry for soft materials
- Brt for non ferrous materials
- TiAlN for longer tool life

DIN 844K





	E121	E122
Catalogue Code	E121	E122
Product Group	B0610	B0612
Material	SPM	SPM
Surface Finish	*Brt*	*TiAlN*
Sutton Designation	W	W
Geometry	R45	R45
Shank Form (DIN 1835)	A	A
Shank Tolerance	h6	h6

Size Ref.	d_1 (e8)	l_1	l_2	d_2	z	Item #	Item #
0300	**3**	52	8	6	3	E121 0300	E122 0300
0400	**4**	55	11	6	3	E121 0400	E122 0400
0500	**5**	57	13	6	3	E121 0500	E122 0500
0600	**6**	57	13	6	3	E121 0600	E122 0600
0800	**8**	69	19	10	3	E121 0800	E122 0800
1000	**10**	72	22	10	3	E121 1000	E122 1000
1200	**12**	83	26	12	3	E121 1200	E122 1200
1600	**16**	92	32	16	3	E121 1600	E122 1600
2000	**20**	104	38	20	3	E121 2000	E122 2000

ISO	P												M			K						N									S											H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
E121																							●	●	●	●	○	○	○	●																				
E122																							●	●	●	●	○	●		●																				

P Steel M Stainless Steel K Cast Iron N Non-Ferrous Metals S Titanium & Super Alloys H Hard Materials

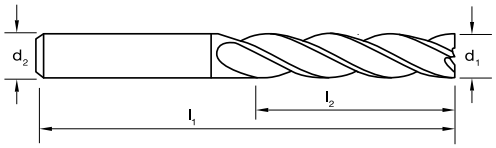
● Optimal ○ Effective

Endmills 3 Flute, R40 W, Long

suttontools

- SPM offers superior performance
- Universal use for slotting & finishing applications, with one tool
- Optimised geometry for soft materials
- Brt for non ferrous materials
- TiAlN for longer tool life

DIN 844L



Catalogue Code	E123	E124
Product Group	B0610	B0612
Material	SPM	SPM
Surface Finish	*Brt*	*TiAlN*
Sutton Designation	**W**	**W**
Geometry	R40	R40
Shank Form (DIN 1835)	A	A
Shank Tolerance	h6	h6

Size Ref.	d_1 (e8)	l_1	l_2	d_2	z	Item #	Item #
0300	**3**	56	12	6	3	E123 0300	E124 0300
0400	**4**	63	19	6	3	E123 0400	E124 0400
0500	**5**	68	24	6	3	E123 0500	E124 0500
0600	**6**	68	24	6	3	E123 0600	E124 0600
0800	**8**	88	38	10	3	E123 0800	E124 0800
1000	**10**	95	45	10	3	E123 1000	E124 1000
1200	**12**	110	53	12	3	E123 1200	E124 1200
1400	**14**	110	53	12	3	E123 1400	E124 1400
1600	**16**	123	63	16	3	E123 1600	E124 1600
1800	**18**	123	63	16	3	E123 1800	E124 1800
2000	**20**	141	75	20	3	E123 2000	E124 2000

ISO	P												M			K						N									S									H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
E123																							●	●	●	●	○	○	○	●																			
E124																							●	●	●	●	○	●		●																			

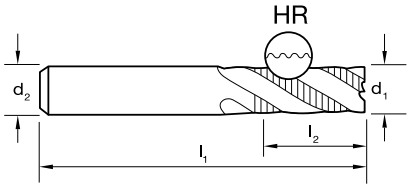
P Steel M Stainless Steel K Cast Iron N Non-Ferrous Metals S Titanium & Super Alloys H Hard Materials

● Optimal ○ Effective

Roughers HR (fine), R30 NH, Regular

suttontools

- For roughing applications
- HR geometry allows for heavy cuts, in harder materials
- Suitable for materials up to 1300 N/mm²
- TiCN for longer tool life



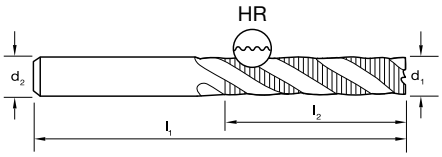
Catalogue Code	**E171**
Product Group	B0404
Material	**HSS Co.8**
Surface Finish	***TiCN***
Sutton Designation	**NH**
Geometry	R30 HR
Shank Form (DIN 1835)	B
Shank Tolerance	h6

Size Ref.	d_1 (js14)	l_1	l_2	d_2	z	Item #
1600	**16.0**	95	40	16	4	E171 1600

Roughers HR (fine), R30 NH, Long

suttontools

- For roughing applications
- HR geometry allows for heavy cuts, in harder materials
- Suitable for materials up to 1300 N/mm²
- TiCN for longer tool life



Catalogue Code	**E173**
Product Group	B0404
Material	**HSS Co.8**
Surface Finish	***TiCN***
Sutton Designation	**NH**
Geometry	R30 HR (fine pitch)
Shank Form (DIN 1835)	A
Shank Tolerance	h6

Size Ref.	d_1 (js14)	l_1	l_2	d_2	z	Item #
1200	**12**	110	53	12	4	E173 1200
1600	**16**	123	63	16	4	E173 1600
1800	**18**	123	63	16	4	E173 1800
2000	**20**	141	75	20	4	E173 2000
2200	**22**	141	75	20	5	E173 2200
2500	**25**	166	90	25	5	E173 2500
3000	**30**	166	90	25	6	E173 3000

ISO	P												M			K						N								S									H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
E171					●		●	●	●	●	●	○	○	○	○	○	●	○	●	○	●	○							●																			○	
E173					●		●	●	○	●	○	○	○	○	○	○	○	○	○	○	○	○							●																			○	

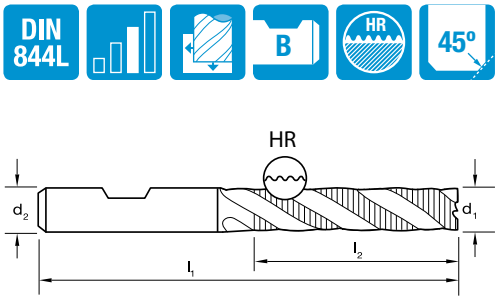
P Steel M Stainless Steel K Cast Iron N Non-Ferrous Metals S Titanium & Super Alloys H Hard Materials

● Optimal ○ Effective

Roughers HR (fine), R30 H, Long

suttontools

- SPM offers superior performance
- For roughing applications
- HR geometry allows for heavy cuts, in harder materials
- Suitable for materials up to 1400 N/mm²
- TiAlN for longer tool life



Catalogue Code	**E177**
Product Group	B0408
Material	**SPM**
Surface Finish	***TiAlN***
Sutton Designation	**H**
Geometry	R30 HR (fine pitch)
Shank Form (DIN 1835)	B
Shank Tolerance	h6

Size Ref.	d_1 (js14)	l_1	l_2	d_2	z	Item #
0600	**6**	68	24	6	3	E177 0600
0800	**8**	88	38	10	3	E177 0800
1000	**10**	95	45	10	4	E177 1000
1200	**12**	110	53	12	4	E177 1200
1600	**16**	123	63	16	4	E177 1600
2000	**20**	141	75	20	4	E177 2000
2500	**25**	166	90	25	5	E177 2500

ISO	P													M			K						N									S												H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
E177			○	○	●		○	●	●	○	●	○	●			○	○	○	●	●	●	●					○		●				○	○	○	○	○	○	○	○	○	○	○	○				●	

P Steel **M** Stainless Steel **K** Cast Iron **N** Non-Ferrous Metals **S** Titanium & Super Alloys **H** Hard Materials

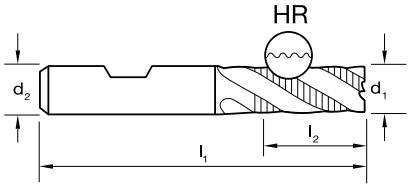
● Optimal ○ Effective

Roughers SPM, R30 VA-R, Regular

suttontools

- HSS-SPM
- Unique HR geometry offers stable performance in difficult to machine materials for roughing applications
- Ideal for large volume metal removal

DIN 844L | DIN 844K | B | HR | 45° | r



Catalogue Code	E251	E255	E252
Product Group	B0408	B0408	B0408
Material	SPM	SPM	SPM
Surface Finish	AlCrN	AlCrN	AlCrN
Sutton Designation	VA	VA	VA
Geometry	R30 VA-R	R30 VA-R Corner Rad	R30 VA-R
Shank Form (DIN 1835)	B	B	B
Shank Tolerance	h6	h6	h6

Size Ref.	d_1 (js14)	l_1	l_2	d_2	z	rad	Item #	Item #	Item #
	DIN 844K								
0600	6.0	57	13	6	4		E251 0600	•	•
0800	8.0	69	19	10	4		E251 0800	•	•
1000	10.0	72	22	10	4		E251 1000	•	•
1025	10.0	72	22	10	4	2.5	•	E255 1025	•
1040	10.0	72	22	10	4	4	•	E255 1040	•
1200	12.0	83	26	12	4		E251 1200	•	•
1225		83	26	12	4	2.5	•	E255 1225	•
1240		83	26	12	4	4	•	E255 1240	•
1600	16.0	92	32	16	4		E251 1600	•	•
1605		92	32	16	5		E251 1605	•	•
1625		92	32	16	5	2.5	•	E255 1625	•
1640		92	32	16	5	4	•	E255 1640	•
2000	20.0	104	38	20	4		E251 2000	•	•
2005		104	38	20	5		E251 2005	•	•
2025		104	38	20	5	2.5	•	E255 2025	•
2040		104	38	20	5	4	•	E255 2040	•
2050		104	38	20	5	5	•	E255 2050	•
2060		104	38	20	5	6	•	E255 2060	•
2500	25.0	121	45	25	5		E251 2500	•	•
2525		121	45	25	5	2.5	•	E255 2525	•
2540		121	45	25	5	4	•	E255 2540	•
2550		121	45	25	5	5	•	E255 2550	•
2560		121	45	25	5	6	•	E255 2560	•
3040	30.0	121	45	25	6	4	•	E255 3040	•
3200	32.0	133	53	32	6		E251 3200	•	•
3240	32.0	133	53	32	6	4	•	E255 3240	•
	DIN 844L								
0600	6.0	68	24	6	3		•	•	E252 0600
0800	8.0	88	38	10	3		•	•	E252 0800
1000	10.0	95	45	10	4		•	•	E252 1000
1200	12.0	110	53	12	4		•	•	E252 1200
1600	16.0	123	63	16	4		•	•	E252 1600
2000	20.0	141	75	20	4		•	•	E252 2000
2500	25.0	166	90	25	5		•	•	E252 2500

ISO	P													M			K						N									S											H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
E251	○	○	○	○	●	○	●	●		●		○	●	●	●	○																	○	○	○	○	○	○	●	●	●	●	○	○					
E255	○	○	○	○	●	○	●	●		●		○	●	●	●	○																	○	○	○	○	○	○	●	●	●	●	○	○					
E252	○	○	○	○	●	○	●	●		●		○	●	●	●	○																	○	○	○	○	○	○	●	●	●	●	○	○					

P Steel | M Stainless Steel | K Cast Iron | N Non-Ferrous Metals | S Titanium & Super Alloys | H Hard Materials

● Optimal ○ Effective

• Available on request as special manufacture. Subject to lead time.

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TECHNICAL INFO

▪ Speeds & feeds charts for drills, taps and endmills ▪ Troubleshooting

suttontools

Material Group		WKR	DIN	BS	EN	AFNOR	UNI	UNE	SS	JIS	AISI / SAE / UNS
ISO	VDI^ 3323	Germany	Germany	U.K.	U.K.	France	Italy	Spain	Sweden	Japan	USA
P	1	1.0402	C 22	050 A 20	2C	CC20	C 20 , C 21	F.112	1450		1020, G 10200
	1	1.0715	9 SMn 28	230 M 07		S250	CF 9 SMn 28	11SMn28	1912	SUM 22	1213, G 12130
	1	1.0722	10 SPb 20			10PbF2	CF 10 SPb 20	10SPb20			11 L 08
	1	1.0736	9 SMn 36	240 M 07	1B	S300	CF 9 SMn 36	12SMN35			1215, G 12150
	1	1.0737	9 SMnPb 36			S300Pb	CF 9 SMnPb 36	12SMnP35	1926		12 L 14, G 12144
	1	1.0401	C 15	080 M 15	CS	CC12	C16	F.111	1350	S 15 CK	1015, G 10170
	1	1.0718	9 SMnPb 28			S250Pb	CF 9 SMnPb 28	11SMnPb28	1914	SUM 22 L	12 L 13, G 12134
	1	1.1141	Ck 15	080 M 15	32C	XC12 , XC15 , XC18	C15		1370	S15C	1015, G 10170
	2	1.1170	28 Mn 6	150 M 28	14A	20M5	C 28 Mn			SCMn 1	1330
	2 / 3	1.0501	C 35	060 A 35		CC35	C 35	F.113	1550	S 35 C	1035, G 10350
	2 / 3	1.0503	C 45	080 M 46		CC45	C 45	F.114	1650	S45C	1045, G 10430
	2 / 3	1.1191	Ck 45	080 M 46			C 45	F.1140	1672	S48C	1045, G 10420
	2 / 3	1.0726	35 S 20	212 M 36	8M	35 MF 4		F.210.G	1957		1140, G 11400
	2 / 3	1.1157	40 Mn 4	150 M 36	15	35 M 5					1039, G10390
	2 / 3	1.1167	36 Mn 5	150 M 36		40 M 5		F.411	2120	SMn438(H)	1335, G 13350
	4 / 5	1.0535	C 55	070 M 55			C 55	F.1150	1655	S 55 C	1055
	4 / 5	1.0601	C 60	080 A 62	43D	CC 55	C 60			S 58 C	1060, G 10600
	4 / 5	1.1203	Ck 55	070 M 55		XC 55	C 50		1655	S 55 C	1055
	4 / 5	1.1221	Ck 60	080 A 62	43D	XC 60	C 60	F.1150	1665; 1678	S 58 C	1060, G 10640
	4 / 5	1.1545	C 105 W1	BW 1A			C 100 KU	F.5118	1880	SK 3	W 110, T 72301
	4 / 5	1.1274	Ck 101	060 A 96				F.5117	1870	SUP 4	1095, G 10950
	5 / 9	1.5120	38 MnSi 4								
	6 / 7	1.6657	10 NiCrMo 13-4	832 M 13	36C		15 NiCrMo 13	14NiCrMo131			
	6 / 7	1.5423	16 Mo 5	1503-245-420			16 Mo 5	16Mo5		SB 450 M	4520, G 45200
	6 / 7	1.7131	16 MnCr 5	527 M 17		16 MC 5	16 MnCr 5	F.1516	2511	SCR 415	5115, G 51170
	6 / 7	1.5622	14 Ni 6			16 N 6	14 Ni 6	15Ni6			A350LF5
	6 / 7	1.5415	15 Mo 3	1501-240		15 D 3	16 Mo 3	16Mo3	2912		A204GrA
	6 / 7	1.5752	14 NiCr 14	655 M 13	36A	12 NC 15				SNC 815 (H)	3310, 3415, 9314, G 33106
	6 / 7	1.6587	17 CrNiMo 6	820 A 16		18 NCD 6	18 NiCrMo 7				
	6 / 7	1.7262	15 CrMo 5			12 CD 4	12 CrMo 4	12CrMo4	2216		
	6 / 7	1.7335	13 CrMo 4-4	1501-620 Gr. 27		15 CD 3.5	14 CrMo 4 5	14CrMo45	2216		A 182-F11, F12
	6 / 7	1.7380	10 CrMo 9-10	1501-622 Gr. 31, 45		10 CD 9.10	12 CrMo 9 10	F.155	2218		A 182-F22, J 21890
	6 / 7	1.7715	14 MoV 6-3	1503-660-440							
	6 / 7	1.7015	10 Cr 3	523 M 15		12 C 3				SCr 415 (H)	5015, G 50150
	6 / 8	1.7033	34 Cr 4	530 A 32	18B	32 C 4	34 Cr 4 (KB)			SCr 430 (H)	5132, G 51320
	6 / 8	1.7218	25 CrMo 4	1717 CDS 110		25 CD 4 S	25 CrMo 4 (KB)	F.1251	2225	SCM 420, SCM 430	4130, G 41300
	6 / 8	1.6523	21 NiCrMo 2	805 M 20	362	20 NCD 2	20 NiCrMo 2	F.1522	2506	SNCM 220 (H)	8620, G 86170
	6 / 9	1.7220	34 CrMo 4	708 A 37		35 CD 4	35 CrMo 4		2234	SCM 432, SCCrM 3	4135, 4137, G 41350
	6 / 9	1.7225	42 CrMo 4	708 M 40		42 CD 4	42 CrMo 4		2244	SCM 440 (H)	4140, 4142, G 41400
	6 / 9	1.8509	41 CrAlMo 7	905 M 39	41B	40 CAD 6.12	41 CrAlMo 7			SACM 645	A355GrA, K 24065
	6 / 9	1.0961	60 SiCr 7			60 SC 7	60 SiCr 8				9262
	6 / 9	1.2067	100 Cr 6	BL 3							L 3, T 61203
	6 / 9	1.2419	105 WCr 6			105 WC 13	107 WCr 5 KU		2140	SKS 31	
	6 / 9	1.2542	45 WCrV 7	BS 1			45 WCrV 8 KU		2710		S 1, T 41901
	6 / 9	1.2713	55 NiCrMoV 6			55 NCDV 7		F.520.S		SKT 4	L 6, T 61206
	6 / 9	1.7035	41 Cr 4	530 M 40	18	42 C 4	41 Cr 4			SCr 440 (H)	5140, G 51400
	6 / 9	1.7176	55 Cr 3	527 A 60	48	55 C 3	55 Cr 3		2253	SUP 9 (A)	5155, G 51550
	6 / 9	1.6546	40 NiCrMo 2-2	311-Type 7		40 NCD 2	40 NiCrMo 2 (KB)			SNCM 240	8740, G 87400
	6 / 9	1.6511	36 CrNiMo 4	816 M 40	110	40 NCD 3	38 NiCrMo 4 (KB)				9840, G 98400
	6 / 9	1.6582	34 CrNiMo 6	817 M 40	24	35 NCD 6	35 NiCrMo 6 (KW)		2541	SNCM 447	4340
	6 / 9	1.7361	32 CrMo 12	722 M 24	40B	30 CD 12	32 CrMo 12		2240		
	6 / 9	1.8159	50 CrV 4	735 A 50	47	50 CV 4	51 CrV 4	51CrV4	2230	SUP 10	6145, 6150
	6 / 9	1.8523	39 CrMoV 13-9	897 M 39	40C		36 CrMoV 13 9				
	6 / 9	1.8161	58 CrV 4								
	10 /11	1.5680	12 Ni 19			Z 18 N 5					2515
	10 /11	1.2363	X100 CrMoV 5-1	BA 2		Z 100 CDV 5	X 100 CrMoV 5 1 KU	F.5227	2260	SKD 12	A 2, T 30102
	10 /11	1.2436	X210 CrW 12				X 215 CrW 12 1 KU	F.5213	2312	SKD 2	D 4
	10 /11	1.2601	X165 CrMoV 12				X 165 CrMoW 12 KU		2310		
	10 /11	1.3343	S 6-5-2	BM 2		Z 85 WDCV 06.05.04.02	HS 6-5-2		2722	SKH 51	M 2, T 11302
	10 /11	1.2344	X40 CrMoV 5-1	BH 13		Z 40 CDV 5	X 40 CrMo 5 1 1 KU	F.5318	2242	SKD 61	H 13, T 20813

suttontools

Material Group		WKR	DIN	BS	EN	AFNOR	UNI	UNE	SS	JIS	AISI / SAE / UNS
ISO	VDI^ 3323	Germany	Germany	U.K.	U.K.	France	Italy	Spain	Sweden	Japan	USA
P	10 /11	1.2581	X30 WCrV 9-3	BH 21		Z 30 WCV 9	X 30 WCrV 9 3 KU			SKD 5	H 21, T 20821
	10 /11	1.2080	X210 Cr 12	BD 3		Z 200 C 12	X 210 Cr 13 KU			SKD 1	D 3, T 30403
	10 /11	1.3243	S 6-5-2-5	BM 35		Z 85 WDKCV 06.05.05.04.02	HS 6-5-2-5	HS 6-5-2-5	2723	SKH 55	M35
	10 /11	1.3348	S 2-9-2			Z 100 DCWV 09.04.02.02	HS 2-9-2	HS 2-9-2	2782		M 7, T 11307
	10 /11	1.3255	S 18-1-2-5	BT 4		Z 80 WKCV 18.05.04.0	HS 18-1-1-5	HS 18-1-1-5		SKH 3	T 4, T 12004
	10 /11	1.3355	S 18-0-1	BT 1		Z 80 WCV 18.04.01	HS 18-0-1	HS 18-0-1		SKH 2	T 1, T 12001
	10 /11	1.4718	X45 CrSi 9-3	401 S 45	52	Z 45 CS 9	X 45 CrSi 8			SUH 1	HNV 3, S 65007
	12 /13	1.4104	X12 CrMoS 17	420 S 37		Z 10 CF 17	X 10 CrS 17	F.3117	2383	SUS 430 F	430 F, S 43020
	12 /13	1.4000	X6 Cr 13	403 S 17		Z 6 C 13	X 6 Cr 13	F.3110	2301	SUS 403	403, S 40300
	12 /13	1.4016	X6 Cr 17	430 S 15	60	Z 8 C 17	X 8 Cr 17	F.3113	2320	SUS 430	430, S 43000
	12 /13	1.4113	X6 CrMo 17	434 S 17		Z 8 CD 17.01	X 8 CrMo 17			SUS 434	434, S 43400
	12 /13	1.4006	X12 Cr 13	410 S 21	56A	Z10 C 13	X 12 Cr 13	F.3401	2302	SUS 410	410 S, S 41000
	12 /13	1.4001	X7 Cr 14					F.8401		SUS 429	429
	12 /13	1.4871	X53 CrMnNiN 21-9	349 S 52		Z 52 CMN 21.09	X 53 CrMnNiN 21 9			SUH 35	EV 8, S 63008
	12 /13	1.4034	X46 Cr 13	420 S 45	56D	Z 40 C 14	X 40 Cr 14	F.3405	2304	SUS 420J2	
	12 /13	1.4057	X19 CrNi 17-2	431 S 29	57	Z 15 CN 16.02	X 16 CrNi 16	F.3427	2321	SUS 431	431, S 43100
	12 /13	1.4313	X3 CrNi 13-4	425 C 11		Z 5 CN 13.4	X 6 CrNi 13 04		2385	SCS 5	CA 6-NM, J 91540
	12 /13	1.4027	G-X20Cr14	420 C 24	56B	Z 20 C 13 M				SCS 2	
M	14.1	1.4436	X3 CrNiMo 17-13-3	316 S 33		Z 6 CND 18.12.03	X 5 CrNiMo 17 13 2		2343	SUS 316	316, S 31600
	14.1	1.4310	X10 CrNi 18-8	301 S 21		Z 12 CN 17.07	X2CrNi18 07	F.3517	2331	SUS 301	301, S 30100
	14.1	1.4401	X5 CrNiMo 17-12-2	316 S 31	58J	Z 6 CND 17.11	X 5 CrNiMo 17 12	F.3543	2347	SUS 316	316, S 31600
	14.1	1.4429	X2CrNiMoN 17-13-3	316 S 62		Z 2 CND 17.13 Az	X 2 CrNiMoN 17 13 3		2375	SUS 316 LN	316 LN, S 31653
	14.1	1.4583	X6 CrNiMoNb 18-12				X 6 CrNiMoNb 17 13				318
	14.1	1.4305	X10 CrNiS 18-10	303 S 21	58M	Z 10 CNF 18.09	X 10 CrNi 18 09	F.3508	2346	SUS 303	303, S 30300
	14.1	1.4301	X5 CrNi 18-10	304 S 15	58E	Z 6 CN 18.09	X 5 CrNi 18 11	F.3504	2332 , 2333	SUS 304	304 , 304 H, S 30400
	14.1	1.4571	X6 CrNiMoTi17-12-2	320 S 31	58J	Z 6 CNT 17.12	X 6 CrNiMoTi 17 12	F.3535	2350	SUS 316 Ti	316 Ti, S 31635
	14.1	1.4311	X2 CrNiN 18 10	304 S 62		Z 2 CN 18 .10	X2CrNiN18 10	F.3541	2371	SUS 304 LN	304 LN, S 30453
	14.1	1.4308	G-X6CrNi 18-9	304 C 15	58E	Z 6 CN 18.10 M			2333	SCS 13	CF-8, J 92590
	14.1	1.4408	G-X6CrNiMo 18-10	316 C 16					2343	SCS 14	CF-8M, J 92900
	14.1	1.4581	G-X5CrNiMoNb 18	318 C 17		Z 4 CNDNb 18.12	GX5CrNiMoNb19 11 2			SCS 22	
	14.2	1.4845	X12 CrNi 25-21	310 S 24		Z 12 CN 25.20	X 6 CrNi 25 20	F.331	2361	SUH 310; SUS 310 S	310 S
	14.2	1.4878	X12 CrNiTi 18-9	321 S 51	58B	Z6CNT18.12B		F.3523	2337	SUS 321	321
	14.2	1.4541	X14 CrNiTi 18-10	321 S 12		Z 6 CNT 18.10	X 6 CrNiTi 18 11	F.3523	2337	SUS 321	321 H, S 32100
	14.2	1.4550	X6 CrNiNb 18-10	347 S 17	58F	Z 6 CNNb 18.10	X 6 CrNiNb 18 11	F.3524	2338	SUS 347	347, S 34700
	14.3	1.4545	X5CrNiCuNb15-5-4			EZ5CNU15-05					S15500, 15-5 PH
	14.3	1.4542	X5CrNiCuNb16-4			Z6CNU17-04					S17400, 17-4 PH; 630
K	15 /16	0.6020	GG 20	180, 200/220, 220, Grade180, Grade260		FGL200, Ft20D	G 20	FG20	120	FC200	200/225, 25B, 30, 30B
	15	0.6010	GG-10		100	FT 10 D	G10		0110-00	FC100	
	15	0.6015	GG 15	Grade 150		FT 15 D	G 15	FG 15	0115-00	FC150	NO 25 B
	15	0.6660	GGL-NiCr202	L-NiCuCr202		L-NC 202			0523-00		A436 Type 2
	15	0.7040	GGG 40	SNG 420/12		FCS 400-12	GS400-12	FGE 38-17	0717-02	FCD400	60-40-18
	16	0.6030	GG30	Grade 300		Ft 30 D	G30	FG30	01 30-00	FC300	300/325, 40B, 45/50, 45B
	16	0.6035	GG-35	GRADE 350		Ft35D	G 35	FG 35	135	FC350	A48-50
	16	0.6040	GG40	GRADE400		Ft 40 D			140		A48-60 B
	16	0.7070	GGG-70	SNG700/2	EN-JS1070	FGS 700-2	GGG 70	GGG 70	07 37-01	FCD700, FCD700-2	100-70-03
	17	0.7033	GGG35.3						07 17-15		Ni-ResistD-5B, S-NiCr35-3
	17	0.7043	GGG-40.3	370/7	EN-JS1025	FGS 370/17			0717-15	FCD400-18L	60/40/18
	17	0.7050	GGG50	SNG500/7	EN-JS1050	FGS 500/7	GGG 50	FGE50-7	0727-02	FCD500, FCD500-7	65-45-12, 70-50-05, 80-55-06
	17	0.7652	GGG-NiMn 13 7	S-NiMn 137		S-Mn 137					
	17	0.7660	GGG-NiCr 20 2	Grade S6		S-NC 202			0772-00		A43D2, Ni-ResistD-2, S-NiCr20-2
	18	0.6025	GG25	Grade260		Ft 25 D	G25	FG25	0717-12		250/275, 35, 35B, 40
	18	0.7060	GGG60	SNG600/3	EN-JS1060	FGS600-3	G 25	FG 25	07 32-03	FC250	100-70-03, 80-55-06, 80-60-03
	18								0727-03	FCD600	A48 40 B
	19	0.8055	GTW55								
	19	0.8135	GTS-35-10	B 340/2		Mn 35-10		GTS 35	810		
	19	0.8145	GTS-45-06	P 440/7		Mn 450-6			0815-00		A220-40010
	19		GTS-35	B 340/12			0852-00	GMN 45			
	19			8 290/6		MN 32-8					
	19		GTS-35	B340/12		MN 35-10			0810-00		32510

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Material Group		WKR	DIN	BS	EN	AFNOR	UNI	UNE	SS	JIS	AISI / SAE / UNS
ISO	VDI^ 3323	Germany	Germany	U.K.	U.K.	France	Italy	Spain	Sweden	Japan	USA
K	20	0.8035	GTM-35	W340/3		MB35-7			814	AC4A	
	20	0.8040	GTW-40	W410/4		MB40-10			08 15	FCMW330	
	20	0.8045						GTM 35	852		
	20	0.8065	GTMW-65				GMB40	GTM 40			
	20	0.8155	GTS-55-04	P 510/4		Mn 550-4	GMB45	GTM 45			A220-50005
	20	0.8165	GTS-65-02	P 570/3		Mn 650-3			0854-00		70003
	20	0.8170	GTS-70-02	P 690/2		Mn 700-2	GMN 55, 65		0854-00	FCMP490	90001
	20		GTS-45	P440/7			20 Mn 7	F.1515-20 Mn 6		SMnC 420	400 10
	20		GTS-65	P 570/3		MP 60-3	C 36; C 38		1572	S 35 C	70003
N	21	3.0205							08 52		Al99
	21	3.0255	Al99.5	L31/34/36		A59050C	P-Al99.5		Al99.5	FCMP540	1000
	21	3.3315	AlMg1								
	21	3.0505	AlMn0.5Mg0.5								
	21	3.0275	Al99.7	4508, 9001-3, P-Al99.7		1070A	Al99.7			1070, A1070	1070A
	21	3.0285	Al99.8	1080A		1080A	4590, 9001-4, P-Al99.8			1080A, 1080A	1080A, 1080A
	22	3.1325	AlCuMg 1			2017A	P-AlCu4MgMnSi			2017	A92017
	22	3.1655	AlCuSiPb								
	22	3.2315	AlMgSi1								
	22	3.4345	AlZnMgCu0,5	L 86		AZ 4 GU/9051					7050
	22	3.1305	AlCuMg0.5	L86		A-U2G2117	P-AlCu2.5MgSi			2117	2117
	22	3.0517	AlMnCu								
	23	3.2381	G-AlSi 10 Mg	G-AlSi9Mg		A-S10G			AlSi10Mg	AC4A, ADC3	A03590
	23	3.2382	GD-AlSi10Mg						811-04	ADC3	
	23	3.2581	G-AlSi12	LM20		A-S12U	G-AlSi13CuMn		AlSi12Cu	AC3A	A04130
	23	3.3561	G-AlMg 5							AC7A, ADC5, Al-Mg6	
	23	3.5101	G-MgZn4sE1Zr1	MAG 5							ZE 41
	23	3.5103	MgSE3Zn27r1	MAG 6		G-TR3Z2					EZ 33
	23	3.5812	G-MgAl8Zn1	NMAG 1							AZ 81
	23	3.5912	G-MgAl9Zn1	MAG 7							AZ 91
	23	3.3549	AlMg5Mn								
	23	3.3555	AlMg5								
	23	3.3547	AlMg4.5, AlMg4.5Mn	5083		5183	P-AlMg4.4		AlMg4.5Mn	5082	A95083
	23-24	3.2383	G-AlSi0Mg(Cu)	LM9					4253		A360.2
	23-24			2789;1973		NF A32-201					A356-72
	23-24			LM25					4244	A5052	356.1
	23-24		G-AlSi12	LM 6					4261		A413.2
	23-24		G-AlSi 12 (Cu)	LM 20					4260	ADC12	A413.1
	23-24		GD-AlSi12						4247	A6061	A413.0
	23-24		GD-AlSi8Cu3	LM24					4250	A7075	A380.1
	24	2.1871	G-AlCu 4 TiMg								
	24	3.1754	G-AlCu5Ni1,5								
	24	3.2163	G-AlSi9Cu3							ADC10	
	24	3.2371	G-AlSi 7 Mg							AC4CH	4218 B
	24	3.2373	G-AlSI9MGWA			A-S7G			4251	C4BS	SC64D
	24	3.5106	G-MgAg3SE2Zr1	mag 12							QE 22
	24		G-ALMG5	LM5		A-SU12			4252		GD-AlSI12
	26	2.1090	G-CuSn 7 5 pb			U-E 7 Z 5 pb 4					C93200
	26	2.1096	G-CuSn5ZnPb	LG 2							c 83600
	26	2.1098	G-CuSn 2 Znpb								C 83600
	26	2.1182	G-CuPb15Sn	LB1		U-pb 15 E 8					C23000
	27	2.0240	CuZn 15								
	27	2.0321	CuZn 37	cz 108		CuZn 36, CuZn 37	C 2700				C27200
	27	2.0590	G-CuZn40Fe								
	27	2.0592	G-CuZn 35 Al 1	U-Z 36 N 3		HTB 1					C 86500
	27	2.1293	CuCrZr	CC 102		U-Cr 0.8 Zr					C 18200
	28	2.0060	E-Cu57								
	28	2.0375	CuZn36Pb3								
	28	2.0966	CuAl 10 Ni 5 Fe 4	Ca 104		U-A 10 N					C 63000
	28	2.0975	G-CuAl 10 Ni								B-148-52
	28	2.1050	G-CuSn 10	CT1							c 90700
	28	2.1052	G-CuSn 12	pb 2		UE 12 P					C 90800
	28	2.1292	G-CuCrF 35	CC1-FF							C 81500
	28	2.4764	CoCr20W15Ni								

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Material Group		WKR	DIN	BS	EN	AFNOR	UNI	UNE	SS	JIS	AISI / SAE / UNS
ISO	VDI^ 3323	Germany	Germany	U.K.	U.K.	France	Italy	Spain	Sweden	Japan	USA
	31	1.4558	X 2 NiCrAlTi 32 20	NA 15							N 08800
	31	1.4562	X 1 NiCrMoCu 32 28 7								N 08031
	31	1.4563	X 1 NiCrMoCuN 31 27 4						2584		N 08028
	31	1.4864	X 12 NiCrSi 36 16	NA 17		Z 12 NCS 35.16				SUH 330	INCOLOY DS,, N08330
	31	1.4865	G-X40NiCrSi38 18	330 C 40			XG50NiCr39 19			SCH15	N 08004
	31	1.4958	X 5 NiCrAlTi 31 20								
	31	2.4668	NiCr19NbMo			NC20K14					AMS 5544
	32	1.4977	X 40 CoCrNi 20 20			Z 42 CNKDWNb					
	33	2.4360	NiCu30Fe	NA 13		NU 30					Monel 400
	33	2.4603				NC22FeD					5390A
	33	2.4610	NiMo16cR16Ti								Hastelloy C-4
	33	2.4630	NiCr20Ti	HR 5,203-4		NC 20 T					Nimonic 75
	33	2.4642	NiC29Fe			Nnc 30 Fe					Inconel 690
	33	2.4856	NiCr22Mo9Nb	NA 21		NC 22 FeDNb					INCONEL 625, N 26625
	33	2.4858	NiCr21Mo	NA 16		NC 21 Fe DU					Incoloy 825
	34	2.4375	NiCu30 Al	NA 18		NU 30 AT					Monel k-500
	34	2.4631	NiCr20TiAl	Hr40;601, NA 20		NC20TA					N 07080
	34	2.4668	NiCr19FeNbMo			NC 19 Fe Nb					Inconel 718
	34	2.4694	NiCr16fE7TiAl								Inconel
	34	2.4955	NiFe25Cr20NbTi								
	34	2.4668	NiCr19Fe19NbMo	HR8		NC19eNB					5383
S	34	2 4670	S-NiCr13A16MoNb	3146-3		NC12AD					5391
	34	2.4662	NiFe35Cr14MoTi			ZSNCDT42					5660
	34	2.4964	CoCr20W15Ni			KC20WN					5537C
	34		COCr22W14Ni			KC22WN					AMS 5772
	34										N07725, Inconel 725
	35	2.4669	NiCr15Fe7TiAl			NC 15 TNb A					Inconel X-750
	35	2.4685	G-NiMo28								Hastelloy B
	35	2.4810	G-NiMo30								Hastelloy C
	35	2.4973	NiCr19Co11MoTi			NC19KDT					AMS 5399
	35	3.7115	TiAl5Sn2								
	36	3.7025	Ti 1	2 TA 1							R 50250
	36	3.7225	Ti 1 pd	TP 1							R 52250
	36	2 4674	NiCo15Cr10MoAlTi								AMS 5397
	37	3.7124	TiCu2	2 TA 21-24							
	37	3.7145	TiAl6Sn2Zr4Mo2Si								R 54620
	37	3.7165	TiAl6V4	TA 10-13;TA 28		T-A 6 V					
	37	3.7185	TiAl4Mo4Sn2	TA 45-51; TA 57							
	37	3.7195	TiAl 3 V 2.5								
	37		TiAl4Mo4Sn4Si0.5								
	37		TiAl5Sn2.5	TA14/17		T-A5E					AMS R54520
	37		TiAl6V4	TA10-13/TA28		T-A6V					AMS R56400
	37		TiAl6V4ELI	TA11							AMS R56401
	38	1.1545	C 105 W1	BW 1A		Y1 105	C 100 KU	F-5118	1880	SK 3	W 1
	38	1.2762	75 CrMoNiW 6 7								
	38	1.4125	X105 CrMo 17			Z 100 CD 17					440C
	38	1.6746	32 nIcRmO 14 5	832 M 31		35 NCD 14					
	40	0.9620	G-X 260 NiCr 4 2	Grade 2 A			0512-00				Ni- Hard 2
	40	0.9625	G-X 330 Ni Cr 4 2	Grade 2 B							Ni- Hard 1
H	40	0.9630	G-X 300 CrNiSi 9 5 2				0513-00				Ni-Hard 4
	40	0.9640	G-X 300 CrMoNi 15 2 1								
	40	0.9650	G-X 260 Cr 27	Grade 3 D							A 532 III A 25% Cr
	40	0.9655	G-X 300 CrNMo 27 1	Grade 3 E							A 532 III A 25% Cr
	40	1.2419	105 WCr 6	105WC 13			0466-00				
	40	1.4841	X15 CrNiSi 25 20	314 S31		Z 15 CNS 25-20					310
	41	0.9635	G-X 300 CrMo 15 3								
	41	0.9645	G-X 260 CrMoNi 20 2 1					107 WCr 5 KU			

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ISO	VDI	Material Group	Sutton		
P	A	Steel	N		UNI
M	R	Stainless Steel	VA		
K	F	Cast Iron	GG		
N	N	Non-Ferrous Metals, Aluminiums & Coppers	Al	W	
S	S	Titaniums & Super Alloys	Ti		Ni
H	H	Hard Materials (≥ 45 HRC)	H		

^ VDI 3323 material groups can also be determined by referring to the workpiece material cross reference listing. Refer to main index of this section.

For expert tooling recommendations, go to:
www.suttontools.com/expert-tool-selector

STUB

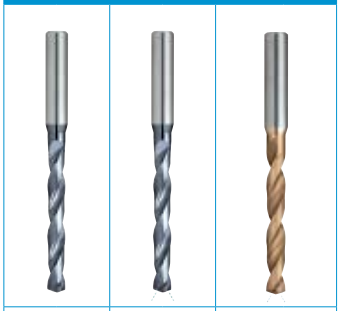
Catalogue Code	D323	D329	D356	D300	D306	D304	D310
Material	VHM		VHM	VHM		VHM	
Surface Finish	*AlCrN*		*HELICA*	*Brt*	*TiCN*	*Brt*	*TiCN*
Sutton Designation	N		VA	GG		NH	
Geometry	R30	R30 - IK	R30 - IK	Straight Flute		R15	
Drilling Depth	≤ 3xØ		≤ 3xØ	≤ 3xØ		≤ 3xØ	

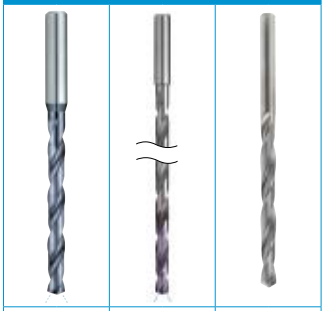
ISO	VDI^ 3323	Material		Condition	HB	N/mm²	Vc	Feed #	Vc	Feed #	Vc	Feed #	Vc	Feed #	Vc	Feed #	Vc	Feed #	Vc	Feed #
P	1	Steel - Non-alloy, cast & free cutting	~ 0.15 %C	A	125	440	**90**	**8**	**130**	**8**	**130-180**	**7**	-	-	-	-	-	-	-	-
	2		~ 0.45 %C	A	190	640	**90**	**8**	**130**	**8**	**110-160**	**7**	-	-	-	-	-	-	-	-
	3			QT	250	840	**85**	**8**	**110**	**8**	**110-160**	**7**	-	-	-	-	**80**	**4**	**100**	**4**
	4		~ 0.75 %C	A	270	910	**85**	**8**	**110**	**8**	**110-160**	**7**	-	-	-	-	**80**	**4**	**100**	**4**
	5			QT	300	1010	**50**	**6**	**70**	**6**	**70-100**	**7**	-	-	-	-	**55**	**3**	**70**	**3**
	6	Steel - Low alloy & cast < 5% of alloying elements		A	180	610	**85**	**8**	**110**	**8**	**110-160**	**7**	-	-	-	-	-	-	-	-
	7			QT	275	930	**65**	**7**	**80**	**7**	110-160	7	-	-	-	-	**70**	**3**	**85**	**3**
	8			QT	300	1010	**50**	**6**	**70**	**6**	70-100	7	-	-	-	-	**55**	**3**	**70**	**3**
	9			QT	350	1180	**30**	**5**	**35**	**5**	-	-	40	2	60	2	**40**	**3**	**60**	**3**
	10	Steel - High alloy, cast & tool		A	200	680	**50**	**6**	**70**	**6**	90-120	7	-	-	-	-	**55**	**3**	**70**	**3**
	11			HT	325	1100	**30**	**5**	**35**	**5**	-	-	40	2	60	2	**40**	**3**	**60**	**3**
	12	Steel - Corrosion resistant & cast	Ferritic / Martensitic	A	200	680	-	-	30	4	**40-50**	**5**	-	-	-	-	**40**	**3**	**60**	**3**
	13		Martensitic	QT	240	810	**30**	**5**	**35**	**5**	40-50	5	40	2	60	2	**40**	**3**	**60**	**3**
M	14.1	Stainless Steel	Austenitic	AH	180	610	-	-	50	5	**50-70**	**5**	-	-	-	-	-	-	-	-
	14.2		Duplex		250	840	-	-	40	4	**40-60**	**5**	-	-	-	-	25	3	30	3
	14.3		Precipitation Hardening		250	840	20	4	**30**	**4**	**40-50**	**5**	-	-	-	-	**25**	**3**	**30**	**3**
K	15	Cast Iron - Grey (GG)	Ferritic / Pearlitic		180	610	**75**	**6**	**150**	**9**	-	-	**90**	**3**	**100**	**3**	**90**	**3**	**100**	**3**
	16		Pearlitic		260	880	**65**	**6**	**120**	**8**	-	-	**80**	**3**	**85**	**3**	**80**	**3**	**85**	**3**
	17	Cast Iron - Nodular (GGG)	Ferritic		160	570	**65**	**5**	**100**	**8**	-	-	**80**	**3**	**85**	**3**	**80**	**3**	**85**	**3**
	18		Pearlitic		250	840	**65**	**5**	**100**	**8**	-	-	**80**	**3**	**85**	**3**	**80**	**3**	**85**	**3**
	19	Cast Iron - Malleable	Ferritic		130	460	**65**	**5**	**100**	**8**	-	-	**80**	**3**	**85**	**3**	**80**	**3**	**85**	**3**
	20		Pearlitic		230	780	**65**	**5**	**100**	**8**	-	-	**80**	**3**	**85**	**3**	**80**	**3**	**85**	**3**
N	21	Aluminum & Magnesium - wrought alloy	Non Heat Treatable		60	210	-	-	-	-	**300-400**	**8**	-	-	-	-	100-160	4	140-200	4
	22		Heat Treatable	AH	100	360	-	-	-	-	**300-400**	**8**	-	-	-	-	100-160	4	140-200	4
	23	Aluminum & Magnesium - cast alloy ≤12% Si	Non Heat Treatable		75	270	-	-	-	-	**220-320**	**8**	80	5	100	6	100-160	4	140-200	4
	24		Heat Treatable	AH	90	320	-	-	-	-	**220-320**	**8**	80	5	100	6	100-160	4	140-200	4
	25	Al & Mg - cast alloy >12% Si	Non Heat Treatable		130	460	-	-	200	7	**200-280**	**7**	**80**	**5**	**100**	**6**	**100-160**	**4**	**140-200**	**4**
	26	Copper & Cu alloys (Brass/Bronze)	Free cutting, Pb > 1%		110	390	-	-	200	7	-	-	80	5	100	6	100-160	4	140-200	4
	27		Brass (CuZn, CuSnZn)		90	320	-	-	200	7	-	-	80	4	100	5	**100-160**	**4**	**140-200**	**4**
	28		Bronze (CuSn)		100	360	-	-	200	7	-	-	-	-	-	-	100-160	4	140-200	4
	29	Non-metallic - Thermosetting & fiber-reinforced plastics					-	-	-	-	-	-	-	-	-	-	50-280	6	50-280	6
	30	Non-metallic - Hard rubber, wood etc.					-	-	-	-	-	-	-	-	-	-	-	-	-	-
S	31	High temp. alloys	Fe based	A	200	680	-	-	35	4	**30-40**	**4**	-	-	-	-	-	-	-	-
	32			AH	280	950	-	-	30	4	30-40	4	-	-	-	-	-	-	-	-
	33		Ni / Co based	A	250	840	-	-	35	4	**30-40**	**4**	-	-	-	-	-	-	-	-
	34			AH	350	1180	-	-	30	4	25	3	-	-	-	-	-	-	-	-
	35			C	320	1080	-	-	30	4	30-40	4	-	-	-	-	-	-	-	-
	36	Titanium & Ti alloys	CP Titanium		400 MPa		40	4	45	5	**50-70**	**4**	-	-	-	-	-	-	-	-
	37.1		Alpha alloys		860 MPa		35	3	40	4	**40-60**	**4**	-	-	-	-	-	-	-	-
	37.2		Alpha / Beta alloys	A	960 MPa		35	3	40	4	**40-60**	**4**	-	-	-	-	-	-	-	-
	37.3			AH	1170 MPa		-	-	35	4	**30-50**	**4**	-	-	-	-	-	-	-	-
	37.4		Beta alloys	A	830 MPa		35	3	40	4	**40-60**	**4**	-	-	-	-	-	-	-	-
	37.5			AH	1400 MPa		-	-	35	4	**30-50**	**4**	-	-	-	-	-	-	-	-
H	38.1	Hardened steel		HT	45 HRC		20	4	**25**	**4**	-	-	40	2	60	2	**40**	**2**	**60**	**2**
	38.2			HT	55 HRC		-	-	-	-	-	-	-	-	-	-	30	2	40	2
	39.1			HT	58 HRC		-	-	-	-	-	-	-	-	-	-	-	-	-	-
	39.2			HT	62 HRC		-	-	-	-	-	-	-	-	-	-	-	-	-	-
	40	Cast Iron	Chilled	C	400	1350	**65**	**6**	**120**	**8**	-	-	**80**	**3**	**85**	**3**	**80**	**3**	**85**	**3**
	41			HT	55 HRC		-	-	-	-	-	-	-	-	-	-	-	-	-	-

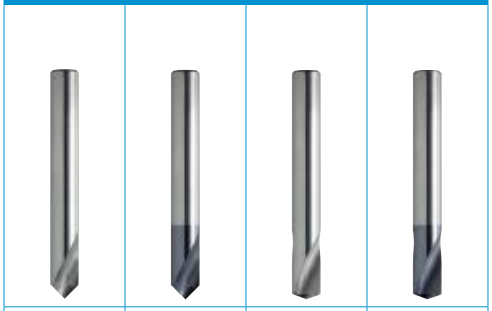
Condition: A (Annealed), **AH** (Age Hardened), **C** (Cast), **HT** (Hardened & Tempered), **QT** (Quenched & Tempered)
Bold = Optimal | Regular = Effective

Notes on Drilling

1. Step feeding or pecking is required for drilling greater than 3 x Ø.
2. When drilling cast surface & black (ie: not machined surface), reduce drilling speed by 20%.
3. For optimal positional accuracy and hole size, the use of spot drills is recommended prior to drilling desired hole, refer to our standard range (D175).
4. For hole depths greater than 7 x Ø, pre-drill initially to pilot start for more accurate hole position and eliminate drill wandering. The pilot can be drilled with short rigid drill, approximately 3 x Ø in depth and reduced feed to ensure accurate pilot hole.

JOBBER					
					
D326		D332		D358	
VHM				VHM	
AlCrN				*HELICA*	
N				VA	
R30		R30 - IK		R30 - IK	
≤ 5xØ				≤ 5xØ	
Vc	Feed #	Vc	Feed #	Vc	Feed #
90	**8**	**130**	**8**	**130-180**	**7**
90	**8**	**130**	**8**	**110-160**	**7**
85	**8**	**110**	**8**	**110-160**	**7**
85	**8**	**110**	**8**	**110-160**	**7**
50	**6**	**70**	**6**	70-100	7
85	**8**	**110**	**8**	**110-160**	**7**
65	**7**	**80**	**7**	110-160	7
50	**6**	**70**	**6**	110-160	7
30	**5**	**35**	**5**	-	-
50	**6**	**70**	**6**	90-120	7
30	**5**	**35**	**5**	-	-
-	-	25	4	**30-50**	**5**
30	**5**	**35**	**5**	40-50	5
-	-	40	5	**50-70**	**5**
-	-	35	4	**40-60**	**5**
20	4	**25**	**4**	**30-50**	**5**
75	**6**	**150**	**9**	-	-
65	**6**	**120**	**8**	-	-
65	**5**	**100**	**8**	-	-
65	**5**	**100**	**8**	-	-
65	**5**	**100**	**8**	-	-
65	**5**	**100**	**8**	-	-
-	-	-	-	**300-400**	**8**
-	-	-	-	**300-400**	**8**
-	-	-	-	**220-320**	**8**
-	-	-	-	**220-320**	**8**
-	-	250	7	**200-280**	**7**
-	-	250	7	-	-
-	-	250	7	-	-
-	-	250	7	-	-
-	-	-	-	-	-
-	-	-	-	-	-
-	-	35	4	**30-40**	**4**
-	-	30	4	30-40	4
-	-	35	4	**30-40**	**4**
-	-	30	4	**25-35**	3
-	-	30	4	30-40	4
40	4	45	5	**50-70**	**4**
35	3	40	4	**40-60**	**4**
35	3	40	4	**40-60**	**4**
-	-	35	4	**30-50**	**4**
35	3	40	4	**40-60**	**4**
-	-	35	4	**30-50**	**4**
20	4	**25**	**4**	-	-
-	-	-	-	-	-
-	-	-	-	-	-
-	-	-	-	-	-
65	**6**	**120**	**8**	-	-
-	-	-	-	-	-

LONG		X-LONG		LONG	
					
D335		D371		D368	
VHM		VHM		VHM	
AlCrN		*Pertura Tip*		*Brt*	
N		N		N	
R30 - IK		R30 - IK		R25	
≤ 8xØ		≤ 12xØ		≤ 5xØ	
Vc	Feed #	Vc	Feed #	Vc	Feed #
100	**8**	**80**	**8**	**55**	**6**
100	**8**	**80**	**8**	**55**	**6**
80	**7**	**60**	**7**	50	**6**
80	**7**	**60**	**7**	50	**6**
60	**6**	**50**	**6**	40	**6**
80	**7**	**60**	**7**	55	**6**
80	**7**	**60**	**7**	50	**6**
60	**6**	**50**	**6**	40	**6**
30	**5**	-	-	-	-
60	**6**	**50**	**6**	-	-
30	**5**	-	-	-	-
-	-	-	-	-	-
30	**5**	-	-	-	-
45	5	40	5	-	-
-	-	30	4	-	-
-	-	-	-	-	-
90	**8**	**80**	**8**	**85**	**3**
80	**8**	70	8	55	**3**
70	**7**	**60**	**7**	85	**3**
70	**7**	60	7	55	**3**
70	**7**	60	7	-	-
70	**7**	60	7	-	-
-	-	-	-	**100**	**4**
-	-	-	-	**100**	**4**
-	-	-	-	**100**	**4**
-	-	-	-	**80**	**4**
-	-	-	-	**80**	**4**
-	-	-	-	-	-
-	-	-	-	-	-
-	-	-	-	-	-
-	-	-	-	120	3
-	-	-	-	-	-
-	-	-	-	-	-
-	-	-	-	-	-
-	-	-	-	-	-
-	-	-	-	-	-
-	-	-	-	-	-
-	-	-	-	-	-
-	-	-	-	-	-
-	-	-	-	-	-
-	-	-	-	-	-
-	-	-	-	-	-
-	-	-	-	-	-
-	-	-	-	-	-
-	-	-	-	-	-
-	-	70	8	-	-
-	-	-	-	-	-

SPOTTING									
									
D355		D364		D365		D366			
VHM				VHM					
Brt		*AlCrN*		*Brt*		*AlCrN*			
NC				NC					
90°				142°					
-				-					
Vc	Feed #	Vc	Feed #	Vc	Feed #	Vc	Feed #	VDI^ 3323	ISO
-	-	**96**	**6**	-	-	**96**	**6**	1	P
-	-	**96**	**6**	-	-	**96**	**6**	2	
65	5	**78**	**6**	65	5	**78**	**6**	3	
65	5	**78**	**6**	65	5	**78**	**6**	4	
50	4	**60**	**5**	50	4	**60**	**5**	5	
-	-	**78**	**6**	-	-	**78**	**6**	6	
60	5	**72**	**6**	60	5	**72**	**6**	7	
50	4	**60**	**5**	50	4	**60**	**5**	8	
-	-	**60**	**5**	-	-	**60**	**5**	9	
50	4	**60**	**5**	50	4	**60**	**5**	10	
-	-	**60**	**5**	-	-	**60**	**5**	11	
-	-	**35**	**3**	-	-	**35**	**3**	12	
-	-	**60**	**5**	-	-	**60**	**5**	13	
40	3	**50**	**4**	40	3	**50**	**4**	14.1	M
35	3	**40**	**3**	35	3	**40**	**3**	14.2	
30	3	**35**	**3**	30	3	**35**	**3**	14.3	
70	5	**84**	**6**	70	5	**84**	**6**	15	K
70	4	84	5	70	4	84	5	16	
70	4	**84**	**5**	70	4	**84**	**5**	17	
70	4	84	5	70	4	84	5	18	
70	4	**84**	**5**	70	4	**84**	**5**	19	
70	4	84	5	70	4	84	5	20	
200	**5**	-	-	**200**	**5**	-	-	21	N
200	**5**	-	-	**200**	**5**	-	-	22	
180	**4**	-	-	**180**	**4**	-	-	23	
180	**4**	-	-	**180**	**4**	-	-	24	
180	**4**	-	-	**180**	**4**	-	-	25	
130	**4**	-	-	**130**	**4**	-	-	26	
150	**4**	-	-	**150**	**4**	-	-	27	
200	**4**	-	-	**200**	**4**	-	-	28	
60	4	-	-	60	4	-	-	29	
-	-	-	-	-	-	-	-	30	
-	-	40	5	-	-	40	3	31	S
-	-	35	5	-	-	35	3	32	
-	-	40	5	-	-	40	3	33	
-	-	30	4	-	-	30	3	34	
-	-	35	5	-	-	35	3	35	
40	3	50	3	40	3	50	3	36	
40	3	50	3	40	3	50	3	37.1	
40	3	50	3	40	3	50	3	37.2	
35	3	45	3	35	3	45	3	37.3	
40	3	50	3	40	3	50	3	37.4	
35	3	45	3	35	3	45	3	37.5	
40	3	**48**	**3**	40	3	**48**	**3**	38.1	H
30	3	36	3	30	3	36	3	38.2	
30	3	36	3	30	3	36	3	39.1	
30	3	36	3	30	3	36	3	39.2	
70	3	84	3	70	3	84	3	40	
30	3	36	3	30	3	36	3	41	

Feed Table (f) (mm/rev)

Ø	Feed #									
	1	2	3	4	5	6	7	8	9	10
2.0	0.020	0.025	0.030	0.040	0.050	0.060	0.075	0.095	0.120	0.15
3.0	0.030	0.035	0.045	0.055	0.070	0.090	0.110	0.135	0.17	0.21
4.0	0.040	0.045	0.060	0.075	0.090	0.115	0.140	0.18	0.22	0.27
5.0	0.045	0.055	0.070	0.090	0.110	0.135	0.17	0.21	0.26	0.32
6.0	0.055	0.065	0.080	0.100	0.125	0.16	0.19	0.24	0.30	0.37
8.0	0.070	0.085	0.105	0.130	0.16	0.20	0.25	0.31	0.38	0.47
10.0	0.085	0.105	0.125	0.16	0.19	0.24	0.30	0.37	0.46	0.56
12.0	0.095	0.120	0.15	0.18	0.23	0.28	0.34	0.42	0.52	0.64
16.0	0.125	0.15	0.19	0.23	0.29	0.36	0.44	0.54	0.66	0.82
20.0	0.15	0.18	0.23	0.28	0.34	0.42	0.52	0.64	0.80	0.98
25.0	0.18	0.22	0.27	0.33	0.41	0.50	0.60	0.74	0.90	1.10

METRIC DRILLS (mm size)

Ø = nominal tap size (mm)
n = spindle speed (RPM)
Vc = cutting speed (m/min)
f = feed (mm/rev)
Vf = feed rate (mm/min)

$$n = \frac{V_c \times 1000}{Ø \times \pi} \simeq \frac{V_c}{Ø} \times 318$$

$$V_c = \frac{n \times Ø \times \pi}{1000} \simeq \frac{n \times Ø}{318}$$

$$V_f = f \times n$$

suttontools

ISO	VDI	Material Group	Sutton		
P	A	Steel	N		UNI
M	R	Stainless Steel	VA		
K	F	Cast Iron	GG		
N	N	Non-Ferrous Metals, Aluminiums & Coppers	Al	W	
S	S	Titaniums & Super Alloys	Ti		Ni
H	H	Hard Materials (≥ 45 HRC)	H		

^ VDI 3323 material groups can also be determined by referring to the workpiece material cross reference listing. Refer to main index of this section.

For expert tooling recommendations, go to:
www.suttontools.com/expert-tool-selector

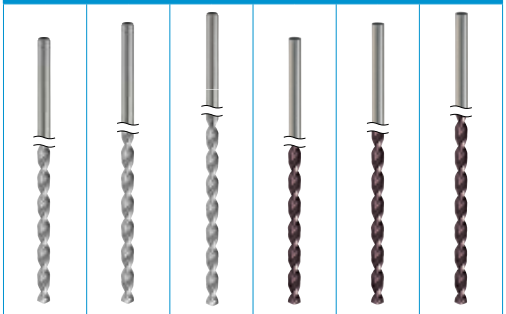
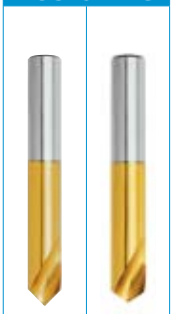
	STUB				JOBBER				
Catalogue Code	D151	D177	D155	D153	D163	D165	D168	D169	D182
Material	HSS Co	HSS Co	SPM	HSS Co	HSS Co	HSS Co	SPM	HSS Co	HSS Co
Surface Finish	*TiAlN*	*TiAlN*	*TiAlN*	*TiAlN*	*TiAlN*	*TiAlN*	*TiAlN*	*TiAlN*	*TiAlN*
Sutton Designation	NH	WN	UNI	VA	NH	WN	UNI	VA	NH
Geometry	R40	R35	R40	R40	R40	R40	R40	R40	R40 - IK
Drilling Depth	≤ 3xØ	≤ 3xØ	≤ 3xØ	≤ 3xØ	≤ 5xØ	≤ 5xØ	≤ 5xØ	≤ 5xØ	≤ 5xØ

ISO	VDI^ 3323	Material		Condition	HB	N/mm²	Vc	Feed #	Vc	Feed #	Vc	Feed #	Vc	Feed #	Vc	Feed #	Vc	Feed #	Vc	Feed #	Vc	Feed #	Vc	Feed #
P	1	Steel - Non-alloy, cast & free cutting	~ 0.15 %C	A	125	440	**40**	**6**	**35**	**4**	**65**	**6**	**64**	**6**	**24**	**5**	**29**	**4**	**60**	**7**	**58**	**6**	**65**	**7**
	2		~ 0.45 %C	A	190	640	**30**	**6**	**30**	**4**	**55**	**6**	64	6	**20**	**5**	**25**	**4**	**45**	**7**	58	6	**55**	**7**
	3			QT	250	840	**30**	**6**	**30**	**4**	**50**	**6**	62	5	**20**	**5**	**25**	**4**	**45**	**7**	58	5	**50**	**7**
	4		~ 0.75 %C	A	270	910	**30**	**6**	**30**	**4**	**50**	**6**	62	5	**20**	**5**	**25**	**4**	**45**	**7**	58	5	**50**	**7**
	5			QT	300	1010	**15**	**4**	12	4	**25**	**6**	-	-	**12**	**4**	10	4	**20**	**6**	-	-	25	5
	6	Steel - Low alloy & cast < 5% of alloying elements		A	180	610	**30**	**6**	**30**	**4**	**50**	**6**	62	5	**20**	**5**	**25**	**4**	**45**	**7**	58	5	**50**	**7**
	7			QT	275	930	**20**	**5**	20	4	**35**	**6**	30	4	**20**	**4**	20	4	**30**	**7**	25	5	**40**	**7**
	8			QT	300	1010	**15**	**4**	12	4	**25**	**6**	-	-	**12**	**4**	10	4	**20**	**6**	-	-	25	5
	9			QT	350	1180	12	4	-	-	15	5	-	-	10	4	-	-	12	6	-	-	15	5
	10	Steel - High alloy, cast & tool		A	200	680	**15**	**4**	12	4	**25**	**6**	-	-	**12**	**4**	10	4	**20**	**6**	-	-	25	5
	11			HT	325	1100	12	4	-	-	15	5	-	-	10	4	-	-	12	6	-	-	15	5
	12	Steel - Corrosion resistant & cast	Ferritic / Martensitic	A	200	680	20	4	-	-	**14**	**4**	**12**	**4**	12	4	-	-	**10**	**3**	**12**	**5**	**14**	**3**
	13		Martensitic	QT	240	810	12	4	-	-	15	5	12	5	10	4	-	-	**12**	**6**	12	5	15	5
M	14.1	Stainless Steel	Austenitic	AH	180	610	20	5	15	3	16	5	**30**	**5**	12	4	12	3	10	4	**25**	**5**	16	4
	14.2		Duplex		250	840	15	5	10	4	12	5	**20**	**5**	-	-	10	4	8	4	**14**	**5**	12	4
	14.3		Precipitation Hardening		250	840	**20**	**4**	15	4	**14**	**4**	**12**	**4**	12	4	-	-	**10**	**3**	**12**	**4**	**14**	**3**
K	15	Cast Iron - Grey (GG)	Ferritic / Pearlitic		180	610	**30**	**6**	-	-	**44**	**6**	-	-	**24**	**6**	-	-	**40**	**6**	-	-	**40**	**6**
	16		Pearlitic		260	880	**25**	**6**	-	-	**39**	**6**	-	-	**20**	**5**	-	-	**35**	**6**	-	-	**35**	**6**
	17	Cast Iron - Nodular (GGG)	Ferritic		160	570	**25**	**6**	-	-	**44**	**5**	-	-	**20**	**6**	-	-	**40**	**5**	-	-	**40**	**5**
	18		Pearlitic		250	840	**25**	**6**	-	-	**44**	**5**	-	-	**20**	**6**	-	-	**40**	**5**	-	-	**40**	**5**
	19	Cast Iron - Malleable	Ferritic		130	460	**25**	**6**	-	-	**44**	**5**	-	-	**20**	**6**	-	-	**40**	**5**	-	-	**40**	**5**
	20		Pearlitic		230	780	**25**	**6**	-	-	**44**	**5**	-	-	**20**	**6**	-	-	**40**	**5**	-	-	**40**	**5**
N	21	Aluminum & Magnesium - wrought alloy	Non Heat Treatable		60	210	-	-	**60**	**6**	88	5	**112**	**6**	-	-	**48**	**6**	80	5	112	8	60	6
	22		Heat Treatable	AH	100	360	-	-	**60**	**6**	88	5	**112**	**6**	-	-	**48**	**6**	80	5	112	8	60	6
	23	Aluminum & Magnesium - cast alloy ≤12% Si	Non Heat Treatable		75	270	**40**	**5**	**40**	**5**	**53**	**5**	**70**	**7**	32	5	**32**	**5**	**48**	**5**	70	6	**40**	**5**
	24		Heat Treatable	AH	90	320	**40**	**5**	**40**	**5**	**53**	**5**	**70**	**7**	**32**	**5**	**32**	**5**	**48**	**5**	70	6	**40**	**5**
	25	Al & Mg - cast alloy >12% Si	Non Heat Treatable		130	460	**30**	**7**	30	8	-	-	-	-	**25**	**6**	25	7	**30**	**6**	-	-	40	5
	26	Copper & Cu alloys (Brass/Bronze)	Free cutting, Pb > 1%		110	390	60	5	**50**	**5**	39	4	**50**	**5**	48	5	**48**	**5**	35	4	40	5	50	5
	27		Brass (CuZn, CuSnZn)		90	320	40	5	35	5	**44**	**5**	-	-	32	5	32	5	**40**	**5**	-	-	**36**	**5**
	28		Bronze (CuSn)		100	360	30	5	**45**	**5**	33	4	**80**	**3**	-	-	**40**	**5**	**30**	**5**	70	3	**45**	**5**
	29	Non-metallic - Thermosetting & fiber-reinforced plastics					50	4	70	5	70	5	50	4	50	4	60	5	60	4	-	-	70	5
	30	Non-metallic - Hard rubber, wood etc.					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
S	31	High temp. alloys	Fe based	A	200	680	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8	3
	32			AH	280	950	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8	3
	33		Ni / Co based	A	250	840	-	-	-	-	8	4	-	-	-	-	-	-	8	4	-	-	8	3
	34			AH	350	1180	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8	3
	35			C	320	1080	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8	3
	36	Titanium & Ti alloys	CP Titanium		400 MPa		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8	3
	37.1		Alpha alloys		860 MPa		-	-	-	-	9	4	10	3	-	-	-	-	9	4	10	3	8	3
	37.2		Alpha / Beta alloys	A	960 MPa		-	-	-	-	-	-	8	3	-	-	-	-	-	-	8	3	8	3
	37.3			AH	1170 MPa		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8	3
	37.4		Beta alloys	A	830 MPa		-	-	-	-	-	-	8	3	-	-	-	-	-	-	8	3	8	3
	37.5			AH	1400 MPa		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8	3
H	38.1	Hardened steel		HT	45 HRC		-	-	-	-	10	4	-	-	-	-	-	-	8	4	-	-	10	4
	38.2			HT	55 HRC		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	39.1			HT	58 HRC		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	39.2			HT	62 HRC		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	40	Cast Iron	Chilled	C	400	1350	**25**	**6**	-	-	**39**	**6**	-	-	**20**	**5**	-	-	**35**	**6**	-	-	**35**	**6**
	41			HT	55 HRC		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Condition: A (Annealed), **AH** (Age Hardened), **C** (Cast), **HT** (Hardened & Tempered), **QT** (Quenched & Tempered)
Bold = Optimal | Regular = Effective

Notes on Drilling

1. Step feeding or pecking is required for drilling greater than 3 x Ø.
2. When drilling cast surface & black (ie: not machined surface), reduce drilling speed by 20%.
3. For optimal positional accuracy and hole size, the use of spot drills is recommended prior to drilling desired hole, refer to our standard range (D175).
4. For hole depths greater than 7 x Ø, pre-drill initially to pilot start for more accurate hole position and eliminate drill wandering. The pilot can be drilled with short rigid drill, approximately 3 x Ø in depth and reduced feed to ensure accurate pilot hole.

LONG		EXTRA LENGTH												NC SPOTTING				COUNTERSINK							
																									
D171		D197		D198		D199		D194		D195		D196		D175		D176		C107		C108		C110			
HSS Co		HSS		HSS		HSS		HSS Co		HSS Co		HSS Co		HSS Co				HSS Co		HSS Co		VHM INSERT			
TiAlN		*Brt*		*Brt*		*Brt*		*TiAlN*		*TiAlN*		*TiAlN*		*TiN*				*Brt*		*TiAlN*		*TiCN*			
NH		N		N		N		NH		NH		NH		NC				N		UNI		UNI			
R40		R40		R40		R40		R40		R40		R40		90°		120°		90°		90°		-			
≤ 8xØ		≤ 10xØ		≤ 12xØ		≤ 14xØ		≤ 10xØ		≤ 12xØ		≤ 14xØ		-				-		-		-			
Vc	Feed #	Vc	Feed #	Vc	Feed #	Vc	Feed #	Vc	Feed #	Vc	Feed #	Vc	Feed #	Vc	Feed #	Vc	Feed #	Vc	Feed #	Vc	Feed #	Vc	Feed #	VDI^ 3323	ISO
30	**5**	**21**	**5**	**16**	**5**	**16**	**5**	**25**	**5**	**20**	**5**	**20**	**5**	**35**	**4**	**35**	**4**	**36**	**3**	**44**	**3**	**20**	**1**	1	P
16	**5**	**11**	**5**	**8**	**5**	**8**	**5**	**13**	**5**	**10**	**5**	**10**	**5**	**25**	**4**	**25**	**4**	**30**	**3**	**36**	**3**	**20**	**1**	2	
16	**5**	11	5	8	5	8	5	**13**	**5**	**10**	**5**	**10**	**5**	**20**	**4**	**20**	**4**	**30**	**2**	**36**	**2**	**20**	**1**	3	
16	**5**	11	5	8	5	8	5	**13**	**5**	**10**	**5**	**10**	**5**	**20**	**4**	**20**	**4**	**30**	**2**	**36**	**2**	**20**	**1**	4	
10	**4**	-	-	-	-	-	-	**10**	**4**	**10**	**4**	**10**	**4**	15	3	15	3	14	1	16	1	**20**	**1**	5	
16	**5**	**11**	**5**	**8**	**5**	**8**	**5**	**13**	**5**	**10**	**5**	**10**	**5**	**20**	**4**	**20**	**4**	**30**	**2**	**36**	**2**	**20**	**1**	6	
16	**4**	11	4	8	4	8	4	**13**	**4**	**10**	**4**	**10**	**4**	**15**	**4**	**15**	**4**	**18**	**2**	**22**	**2**	**20**	**1**	7	
10	**4**	-	-	-	-	-	-	**10**	**4**	**10**	**4**	**10**	**4**	15	3	15	3	14	1	**16**	**1**	**20**	**1**	8	
8	4	-	-	-	-	-	-	8	4	10	4	10	4	-	-	-	-	-	-	10	1	**20**	**1**	9	
10	**4**	-	-	-	-	-	-	**10**	**4**	**10**	**4**	**10**	**4**	15	3	15	3	14	1	**16**	**1**	**20**	**1**	10	
8	4	-	-	-	-	-	-	8	4	10	4	10	4	-	-	-	-	-	-	10	1	**20**	**1**	11	
10	4	-	-	-	-	-	-	10	4	10	4	10	4	10	2	10	2	10	1	**12**	**1**	**20**	**1**	12	
8	4	-	-	-	-	-	-	8	4	10	4	10	4	12	3	12	3	-	-	**10**	**1**	**20**	**1**	13	
10	4	8	4	8	4	8	4	10	4	10	4	10	4	**10**	**3**	**10**	**3**	**12**	**2**	**14**	**2**	**20**	**1**	14.1	M
-	-	-	-	-	-	-	-	-	-	-	-	-	-	**15**	**2**	**15**	**2**	**10**	**1**	**12**	**1**	**20**	**1**	14.2	
10	4	8	4	8	4	8	4	10	4	10	4	10	4	10	2	10	2	10	1	**12**	**1**	**20**	**1**	14.3	
19	**6**	12	6	10	6	10	6	**15**	**6**	**12**	**6**	**12**	**6**	**30**	**5**	**30**	**5**	**24**	**2**	**28**	**2**	**15**	**2**	15	K
16	**5**	-	-	-	-	-	-	**13**	**5**	**10**	**5**	**10**	**5**	20	4	20	4	24	2	**28**	**2**	**15**	**2**	16	
16	**6**	11	6	8	6	8	6	**13**	**6**	**10**	**6**	**10**	**6**	**20**	**4**	**20**	**4**	**20**	**2**	**25**	**2**	**15**	**2**	17	
16	**6**	-	-	-	-	-	-	**13**	**6**	**10**	**6**	**10**	**6**	20	4	20	4	**20**	**2**	**25**	**2**	**15**	**2**	18	
16	**6**	11	6	8	6	8	6	**13**	**6**	**10**	**6**	**10**	**6**	20	4	20	4	20	2	**25**	**2**	**15**	**2**	19	
16	**6**	-	-	-	-	-	-	**13**	**6**	**10**	**6**	**10**	**6**	20	4	20	4	20	2	**25**	**2**	**15**	**2**	20	
-	-	26	6	21	6	21	6	-	-	-	-	-	-	**50**	**5**	**50**	**5**	**48**	**4**	58	4	**50**	**3**	21	N
-	-	26	6	21	6	21	6	-	-	-	-	-	-	**50**	**5**	**50**	**5**	**48**	**4**	58	4	**50**	**3**	22	
26	5	16	5	13	5	13	5	20	5	16	5	16	5	**35**	**4**	**35**	**4**	**36**	**4**	**44**	**4**	**50**	**3**	23	
26	**5**	16	5	13	5	13	5	**20**	**5**	**16**	**5**	**16**	**5**	**35**	**4**	**35**	**4**	**36**	**4**	**44**	**4**	**50**	**3**	24	
18	**5**	-	-	-	-	-	-	**18**	**5**	**16**	**5**	**16**	**5**	30	4	30	4	30	4	**44**	**4**	**50**	**3**	25	
38	5	26	5	21	5	21	5	31	5	25	5	25	5	**40**	**4**	**40**	**4**	**78**	**2**	**94**	**2**	**50**	**3**	26	
26	5	16	5	13	5	13	5	20	5	16	5	16	5	30	4	30	4	48	2	**58**	**2**	**50**	**3**	27	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	**50**	**4**	**50**	**4**	60	2	**72**	**2**	**50**	**3**	28	
40	4	-	-	-	-	-	-	40	4	40	4	40	4	30	4	30	4	30	4	44	4	**50**	**3**	29	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**50**	**3**	30	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	9	2	9	2	5	2	8	2	**20**	**1**	31	S
-	-	-	-	-	-	-	-	-	-	-	-	-	-	8	2	8	2	4	2	5	2	**20**	**1**	32	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	9	2	9	2	5	2	8	2	**20**	**1**	33	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	8	2	8	2	-	-	5	2	**20**	**1**	34	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	2	**20**	**1**	35	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8	3	10	3	**20**	**1**	36	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	8	2	8	2	7	3	9	3	**20**	**1**	37.1	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	8	2	8	2	7	3	9	3	**20**	**1**	37.2	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8	2	**20**	**1**	37.3	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	8	2	8	2	7	3	9	3	**20**	**1**	37.4	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8	2	**20**	**1**	37.5	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	3	10	3	-	-	-	-	**15**	**1**	38.1	H
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15	1	38.2	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15	1	39.1	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15	1	39.2	
16	**5**	-	-	-	-	-	-	**13**	**5**	**10**	**5**	**10**	**5**	20	4	20	4	**24**	**2**	**28**	**2**	15	1	40	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15	1	41	

Feed Table (f) (mm/rev)

Ø	Feed # 1	2	3	4	5	6	7	8	9	10
2.0	0.020	0.025	0.030	0.040	0.050	0.060	0.075	0.095	0.120	0.15
3.0	0.030	0.035	0.045	0.055	0.070	0.090	0.110	0.135	0.17	0.21
4.0	0.040	0.045	0.060	0.075	0.090	0.115	0.140	0.18	0.22	0.27
5.0	0.045	0.055	0.070	0.090	0.110	0.135	0.17	0.21	0.26	0.32
6.0	0.055	0.065	0.080	0.100	0.125	0.16	0.19	0.24	0.30	0.37
8.0	0.070	0.085	0.105	0.130	0.16	0.20	0.25	0.31	0.38	0.47
10.0	0.085	0.105	0.125	0.16	0.19	0.24	0.30	0.37	0.46	0.56
12.0	0.095	0.120	0.15	0.18	0.23	0.28	0.34	0.42	0.52	0.64
16.0	0.125	0.15	0.19	0.23	0.29	0.36	0.44	0.54	0.66	0.82
20.0	0.15	0.18	0.23	0.28	0.34	0.42	0.52	0.64	0.80	0.98
25.0	0.18	0.22	0.27	0.33	0.41	0.50	0.60	0.74	0.90	1.10
32.0	0.23	0.27	0.33	0.41	0.50	0.60	0.74	0.88	1.10	1.30
38.0	0.26	0.32	0.38	0.46	0.56	0.68	0.82	1.00	1.20	1.45
45.0	0.30	0.36	0.43	0.52	0.64	0.76	0.92	1.10	1.35	1.60
52.0	0.33	0.40	0.48	0.58	0.70	0.84	1.00	1.20	1.45	1.75
63.0	0.39	0.47	0.56	0.67	0.80	0.96	1.14	1.35	1.65	1.95

METRIC DRILLS (mm size)

Ø = nominal tap size (mm)
n = spindle speed (RPM)
v_c = cutting speed (m/min)
f = feed (mm/rev)
v_f = feed rate (mm/min)

$$n = \frac{V_c \times 1000}{Ø \times \pi} \simeq \frac{V_c}{Ø} \times 318$$

$$V_c = \frac{n \times Ø \times \pi}{1000} \simeq \frac{n \times Ø}{318}$$

$$V_f = f \times n$$

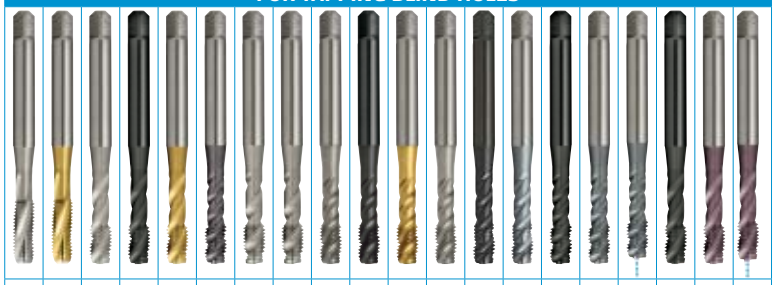
suttontools

ISO	VDI	Material Group	Sutton	
P	A	Steel	N	UNI
M	R	Stainless Steel	VA	
K	F	Cast Iron	GG	
N	N	Non-Ferrous Metals, Aluminiums & Coppers	Al W	
S	S	Titaniums & Super Alloys	Ti	Ni
H	H	Hard Materials (≥ 45 HRC)	H	

^ VDI 3323 material groups can also be determined by referring to the workpiece material cross reference listing. Refer to main index of this section.

For expert tooling recommendations, go to:
www.suttontools.com/expert-tool-selector

FOR TAPPING BLIND HOLES



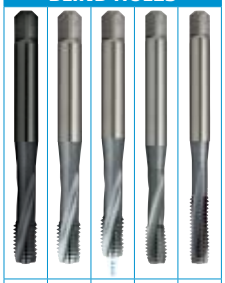
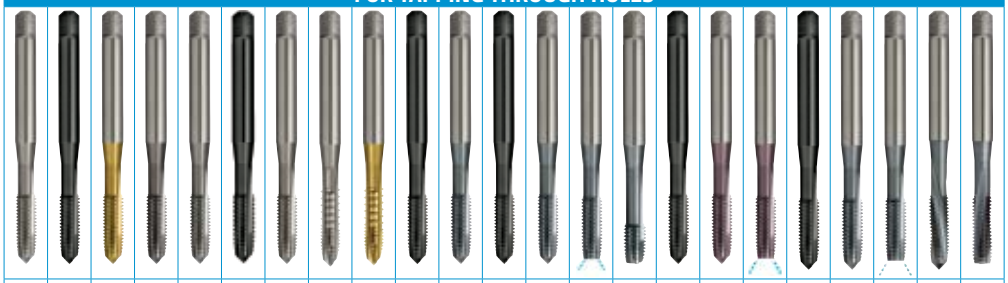
Catalogue Code M	T183	T185	T187	T189		T684	T231	T233	T235	T237	T241	T239	T197	T201	T203	T205	T207	T221	T227	T229
MF	T243	T244	T245	T247	T248	T686		T703					T249	T251	T250	T252			T254	
UNC	T255	T256	T258	T260	T273	T691							T261	T262		T695		T266	T267	
UNF	T274		T275	T701		T692							T276	T277		T696				
G (BSPF)	T278	T279	T281	T282	T283	T699							T284	T285	T351	T352				
Material	HSSE		HSSE			PM-HSSE V3	HSSE		HSSE			HSSE	HSSE		PM-HSSE V3			PM-HSSE V3		
Surface Finish	*Brt*	*TiN*	*Brt*	*Blu*	*TiN*	*Hardlube*	*Brt*	*CrN*	*Ni*	*Blu*	*TiN*	*CrN*	*Blu*	*TiCN*	*Blu*	*TiCN*		*Blu*	*TiAlN*	
Sutton Designation	N		N			UNI	Al		W			Cu	VADH		VA PM			NH		
Geometry	R15		R40			R50	R45 2 Flute		R45			R45	R45		R50		IK	R40		IK
Thread Depth	≤ 1.5xØ		≤ 3xØ			≤ 3xØ	≤ 3xØ		≤ 3xØ			≤ 3xØ	≤ 3xØ		≤ 3xØ			≤ 2.5xØ		

ISO	VDI^ 3323	Material		Condition	HB	N/mm²	Vc (m/min)																	
P	1	Steel - Non-alloy, cast & free cutting	~ 0.15 %C	A	125	440	**10**	**14**	**10**	**11**	**14**	**17**	-	-	**14**	**11**	**14**	-	**11**	**14**	**13**	**17**	**21**	-	-	-
	2		~ 0.45 %C	A	190	640	**10**	**14**	**10**	**11**	**14**	**17**	-	-	**14**	**11**	**14**	-	**11**	**14**	**13**	**17**	**21**	-	-	-
	3			QT	250	840	8	**12**	8	**9**	**12**	**14**	-	-	12	9	12	-	9	12	**11**	**14**	**17**	**11**	**14**	**17**
	4		~ 0.75 %C	A	270	910	9	**13**	9	**10**	**13**	16	-	-	13	10	**13**	-	-	13	-	16	19	**12**	**16**	**19**
	5			QT	300	1010	-	11	-	-	11	-	-	-	-	-	-	-	-	-	-	-	-	10	**13**	**16**
	6	Steel - Low alloy & cast < 5% of alloying elements		A	180	610	**10**	**14**	**10**	**11**	**14**	**17**	-	-	**14**	**11**	**14**	-	11	14	**13**	**17**	**21**	-	-	-
	7			QT	275	930	6	**10**	6	**7**	**10**	12	-	-	10	7	10	-	7	10	8	12	14	**8**	**12**	**14**
	8			QT	300	1010	-	7	-	-	7	-	-	-	-	-	-	-	-	7	-	9	10	6	**9**	**10**
	9			QT	350	1180	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	5
	10	Steel - High alloy, cast & tool		A	200	680	6	**10**	6	**7**	**10**	**12**	-	-	-	-	-	-	-	10	-	12	14	8	**12**	**14**
	11			HT	325	1100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9	10
	12	Steel - Corrosion resistant & cast	Ferritic / Martensitic	A	200	680	-	6	-	4	6	**7**	-	-	-	-	-	-	4	**6**	5	**7**	**9**	5	7	9
	13		Martensitic	QT	240	810	-	-	-	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-	4	5
M	14.1	Stainless Steel	Austenitic	AH	180	610	-	7	-	5	7	**9**	-	-	-	-	-	-	**5**	**7**	**6**	**9**	**10**	6	9	10
	14.2		Duplex		250	840	-	5	-	4	5	**6**	-	-	-	-	-	-	**4**	**5**	**4**	**6**	**7**	4	6	7
	14.3		Precipitation Hardening		250	840	-	4	-	3	4	-	-	-	-	-	-	-	3	**4**	3	**4**	**5**	3	**4**	**5**
K	15	Cast Iron - Grey (GG)	Ferritic / Pearlitic		180	610	10	14	10	11	14	17	-	-	-	-	-	-	-	-	-	-	-	13	17	21
	16		Pearlitic		260	880	-	12	-	-	12	14	-	-	-	-	-	-	-	-	-	-	-	11	14	17
	17	Cast Iron - Nodular (GGG)	Ferritic		160	570	10	14	10	11	14	17	-	-	-	-	-	-	-	-	-	-	-	13	17	21
	18		Pearlitic		250	840	-	12	-	-	12	14	-	-	-	-	-	-	-	-	-	-	-	11	14	17
	19	Cast Iron - Malleable	Ferritic		130	460	12	18	12	13	18	22	-	-	-	-	-	-	-	-	-	-	-	16	22	26
	20		Pearlitic		230	780	10	14	10	11	14	17	-	-	-	-	-	-	-	-	-	-	-	13	17	21
N	21	Aluminum & Magnesium - wrought alloy	Non Heat Treatable		60	210	**10**	**14**	**10**	-	**14**	**17**	**10**	**14**	**14**	-	14	14	-	14	-	17	21	-	17	21
	22		Heat Treatable	AH	100	360	**12**	**18**	**12**	-	**18**	**22**	**12**	**18**	18	-	18	18	-	18	-	22	26	-	22	26
	23	Aluminum & Magnesium - cast alloy ≤12% Si	Non Heat Treatable		75	270	12	18	12	-	18	**22**	**12**	**18**	-	-	-	-	-	18	-	22	26	-	22	26
	24		Heat Treatable	AH	90	320	12	18	12	-	18	22	**12**	**18**	-	-	-	-	-	18	-	22	26	-	22	26
	25	Al & Mg - cast alloy >12% Si	Non Heat Treatable		130	460	-	-	-	-	-	14	-	-	-	-	-	-	-	-	-	14	17	-	**14**	**17**
	26	Copper & Cu alloys (Brass/Bronze)	Free cutting, Pb > 1%		110	390	6	10	6	-	**10**	12	6	**10**	10	-	10	**10**	-	10	-	12	14	-	12	14
	27		Brass (CuZn, CuSnZn)		90	320	14	22	14	-	22	26	-	-	-	-	-	-	-	-	-	-	-	-	26	31
	28		Bronze (CuSn)		100	360	-	-	-	-	-	-	11	**17**	17	-	**17**	**17**	-	17	-	20	24	-	20	24
	29	Non-metallic - Thermosetting & fiber-reinforced plastics					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	30	Non-metallic - Hard rubber, wood etc.					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
S	31	High temp. alloys	Fe based	A	200	680	-	-	-	-	-	-	-	-	-	-	-	-	-	**4**	-	**4**	**5**	-	-	-
	32			AH	280	950	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	33		Ni / Co based	A	250	840	-	-	-	-	-	-	-	-	-	-	-	-	-	3	-	**4**	4	-	-	-
	34			AH	350	1180	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	35			C	320	1080	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	36	Titanium & Ti alloys	CP Titanium		400 MPa		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	37.1		Alpha alloys		860 MPa		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	37.2		Alpha / Beta alloys	A	960 MPa		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	37.3			AH	1170 MPa		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	37.4		Beta alloys	A	830 MPa		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	37.5			AH	1400 MPa		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
H	38.1	Hardened steel		HT	45 HRC		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	38.2			HT	55 HRC		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	39.1			HT	58 HRC		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	39.2			HT	62 HRC		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	40	Cast Iron	Chilled	C	400	1350	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8	12	14
	41			HT	55 HRC		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Condition: A (Annealed), **AH** (Age Hardened), **C** (Cast), **HT** (Hardened & Tempered), **QT** (Quenched & Tempered)
Bold = Optimal | Regular = Effective

Notes on Tapping

1. The speeds listed above are a recommendation only, and are based on depth of thread listed, speeds can be adjusted on application.
   As a general rule;
   -If hole depth required is less than above mentioned = increase speed
   -If hole depth required is more than above mentioned = reduce speed
2. Taps must be driven by the square to eliminate slippage, eg, ER-GB collets (square drive).
3. When using spiral flute taps with length compensation tapping attachment, it is recommended to short pitch the feed 95%, to eliminate tap cutting oversize, eg. M6x1 @ 1000RPM, Feedrate= 950mm/min.

BLIND HOLES					FOR TAPPING THROUGH HOLES																								
																													
T209	T211	T213	T215	T217	T100	T102	T104	T687	T122	T124	T126	T128	T130	T110	T112	T114	T116	T118	T120	T134	T140	T142	T144	T146	T148	T152	T217		
	T707				T154	T156	T157	T689						T158	T161	T159	T160				T163			T710		T784	T792		
T265	T667		T790	T794	T164	T166	T167	T693						T170	T171		T697			T168	T169		T172	T666		T786	T794		
			T791	T795	T173	T702	T175	T694						T176	T177		T698									T787	T795		
					T178	T179	T180	T700						T181		T349	T350												
PM-HSS Co					HSSE			PM-HSSE V3	HSSE		HSSE	HSSE		HSSE		PM-HSSE V3				PM-HSSE V3			PM-HSS Co			PM-HSS Co		
Blu	*TiCN*				*Brt*	*Blu*	*TiN*	*Hardlube*	*Ni*	*Blu*	*CrN*	*Brt*	*TiN*	*Blu*	*TiCN*	*Blu*	*TiCN*		*TiCN*	*Blu*	*TiAlN*		*Blu*	*TiCN*		*TiCN*			
H			Ti	Ni	N			UNI	W		Cu	W		VA		VA PM			VADH	NH			H			Ti	Ni		
R15		IK	R15	R10								Interrupted Threads						IK				IK			IK	L12	R10		
≤ 1.5xØ					≤ 3xØ			≤ 3xØ	≤ 3xØ		≤ 3xØ	≤ 3xØ		≤ 3xØ		≤ 3xØ				≤ 3xØ			≤ 3xØ			≤ 3xØ			
Vc (m/min)					Vc (m/min)																							VDI^ 3323	ISO
-	-	-	-	-	**12**	**13**	**18**	**22**	**18**	**13**	-	12	**18**	**13**	**18**	**16**	**22**	**26**	**22**	-	-	-	-	-	-	-	-	1	
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3	**4**	**4**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	5	6	**4**	**5**	**6**	-	-	9	
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-	-	-	-	**4**	-	-	-	-	-	-	-	-	-	-	4	-	**5**	**5**	-	-	-	-	-	-	-	-	**4**	32	
-	-	-	-	**3**	-	-	-	-	-	-	-	-	-	-	4	-	**5**	**5**	-	-	-	-	-	-	-	-	**3**	33	
-	-	-	-	**3**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**3**	34	
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8	11	11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	14	16	-	-	36	S
5	**7**	**7**	**6**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7	**9**	**11**	**9**	-	37.1	
5	**7**	**7**	**6**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7	**9**	**11**	**9**	-	37.2	
5	**7**	**7**	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7	**9**	**11**	9	-	37.3	
3	**4**	**4**	**4**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	**5**	**6**	**5**	-	37.4	
2	**3**	**3**	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	**4**	**4**	4	-	37.5	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	6	4	**5**	**6**	-	-	38.1	
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8	12	12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11	14	17	11	**14**	**17**	-	-	40	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	41	

METRIC TAPS (mm size)

Ø = nominal tap size (mm)
P = thread pitch (mm)
n = spindle speed (RPM)
Vc = cutting speed (m/min)
Vf = feed rate (mm/min)
Vr = feed rate per rev (mm/rev)

$$n = \frac{V_c \times 1000}{Ø \times \pi} \simeq \frac{V_c}{Ø} \times 318$$

$$V_c = \frac{n \times Ø \times \pi}{1000} \simeq \frac{n \times Ø}{318}$$

$$V_f = n \times P$$

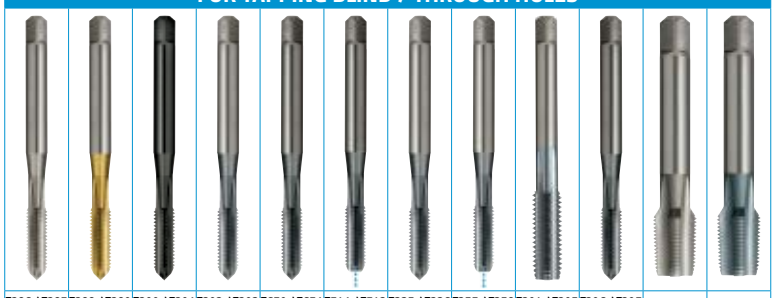
suttontools

ISO	VDI	Material Group	Sutton		
P	A	Steel	N		UNI
M	R	Stainless Steel	VA		
K	F	Cast Iron	GG		
N	N	Non-Ferrous Metals, Aluminiums & Coppers	Al	W	
S	S	Titaniums & Super Alloys	Ti		Ni
H	H	Hard Materials (≥ 45 HRC)	H		

^ VDI 3323 material groups can also be determined by referring to the workpiece material cross reference listing. Refer to main index of this section.

For expert tooling recommendations, go to:
www.suttontools.com/expert-tool-selector

FOR TAPPING BLIND / THROUGH HOLES



Catalogue Code M	T286 / T287	T288 / T289	T290 / T291	T292 / T293	T670 / T671	T741 / T742	T335 / T336	T357 / T358	T294 / T295	T296 / T297		
MF	T298	T299	T300	T301	T743	T744	T668	T669	T343 / T344	T345 / T346		
UNC			T302	T303								
UNF												
G (BSPF)	T304	T305	T306	T307								
NPT											T308	T808
Material	HSSE		HSSE		VHM		HSSE		SPM	VHM	HSSE	
Surface Finish	*Brt*	*TiN*	*Blu*	*TiCN*	*TiCN*		*TiCN*		*TiCN*		*Brt*	*TiCN*
Sutton Designation	N		GG		GG		DC		XH	VH	UNI	
Geometry			Low Relief		Low Relief	IK		IK	Special Relief			
Thread Depth	≤ 1.5xØ		≤ 3xØ		≤ 3xØ		≤ 3xØ		≤ 1.5xØ		-	

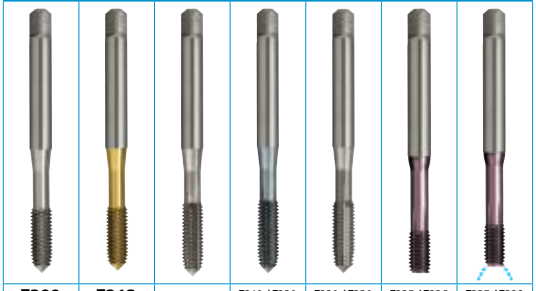
ISO	VDI^ 3323	Material		Condition	HB	N/mm²	Vc (m/min)											
P	1	Steel - Non-alloy, cast & free cutting	~ 0.15 %C	A	125	440	**7**	**11**	-	-	-	-	-	-	-	-	**7**	**7**
	2		~ 0.45 %C	A	190	640	**7**	**11**	-	-	-	-	-	-	-	-	**7**	**7**
	3			QT	250	840	**6**	**9**	-	-	-	-	-	-	-	-	**6**	**6**
	4		~ 0.75 %C	A	270	910	**7**	**10**	-	-	-	-	-	-	-	-	**7**	**7**
	5			QT	300	1010	5	8	-	-	-	-	-	-	11	-	5	5
	6	Steel - Low alloy & cast < 5% of alloying elements		A	180	610	**7**	**11**	-	-	-	-	-	-	-	-	**7**	**7**
	7			QT	275	930	5	7	-	-	-	-	-	-	-	-	5	5
	8			QT	300	1010	4	5	-	-	-	-	-	-	7	-	4	4
	9			QT	350	1180	-	-	-	-	-	-	-	-	**4**	5	-	-
	10	Steel - High alloy, cast & tool		A	200	680	5	7	-	-	-	-	-	-	-	-	5	5
	11			HT	325	1100	-	-	-	-	-	-	-	-	**7**	11	-	-
	12	Steel - Corrosion resistant & cast	Ferritic / Martensitic	A	200	680	-	-	-	-	-	-	-	-	-	-	-	-
	13		Martensitic	QT	240	810	-	-	-	-	-	-	-	-	**4**	5	-	-
M	14.1	Stainless Steel	Austenitic	AH	180	610	-	-	-	-	-	-	-	-	-	-	-	-
	14.2		Duplex		250	840	-	-	-	-	-	-	-	-	-	-	-	-
	14.3		Precipitation Hardening		250	840	-	-	-	-	-	-	-	-	-	-	-	-
K	15	Cast Iron - Grey (GG)	Ferritic / Pearlitic		180	610	7	11	**8**	**11**	**22**	**26**	11	13	-	-	7	7
	16		Pearlitic		260	880	6	9	**7**	**9**	**18**	**22**	9	11	**12**	-	6	6
	17	Cast Iron - Nodular (GGG)	Ferritic		160	570	7	11	**8**	**11**	**22**	**26**	11	13	-	-	7	7
	18		Pearlitic		250	840	6	9	**7**	**9**	**18**	**22**	9	11	**12**	-	6	6
	19	Cast Iron - Malleable	Ferritic		130	460	9	14	10	**14**	27	32	14	16	-	-	9	9
	20		Pearlitic		230	780	7	11	8	11	22	26	11	13	-	-	7	7
N	21	Aluminum & Magnesium - wrought alloy	Non Heat Treatable		60	210	7	11	-	-	-	-	-	-	-	-	7	7
	22		Heat Treatable	AH	100	360	9	14	-	-	-	-	-	-	-	-	9	9
	23	Aluminum & Magnesium - cast alloy ≤12% Si	Non Heat Treatable		75	270	9	14	-	-	-	-	**14**	**16**	-	-	9	9
	24		Heat Treatable	AH	90	320	9	14	-	-	-	-	**14**	**16**	-	-	9	9
	25	Al & Mg - cast alloy >12% Si	Non Heat Treatable		130	460	-	-	-	9	**18**	**22**	**9**	**11**	-	-	-	-
	26	Copper & Cu alloys (Brass/Bronze)	Free cutting, Pb > 1%		110	390	5	7	-	-	-	-	-	-	-	-	5	5
	27		Brass (CuZn, CuSnZn)		90	320	11	16	-	-	**32**	**39**	16	19	21	32	11	11
	28		Bronze (CuSn)		100	360	8	13	-	-	-	-	-	-	-	-	8	8
	29	Non-metallic - Thermosetting & fiber-reinforced plastics					-	-	-	-	-	-	-	-	-	-	-	-
	30	Non-metallic - Hard rubber, wood etc.					-	-	-	-	-	-	-	-	-	-	-	-
S	31	High temp. alloys	Fe based	A	200	680	-	-	-	-	-	-	-	-	-	-	-	-
	32			AH	280	950	-	-	-	-	-	-	-	-	-	-	-	-
	33		Ni / Co based	A	250	840	-	-	-	-	-	-	-	-	-	-	-	-
	34			AH	350	1180	-	-	-	-	-	-	-	-	-	-	-	-
	35			C	320	1080	-	-	-	-	-	-	-	-	-	-	-	-
	36	Titanium & Ti alloys	CP Titanium		400 MPa		-	-	-	-	-	-	-	-	-	-	-	-
	37.1		Alpha alloys		860 MPa		-	-	-	-	-	-	-	-	-	-	-	-
	37.2		Alpha / Beta alloys	A	960 MPa		-	-	-	-	-	-	-	-	-	-	-	-
	37.3			AH	1170 MPa		-	-	-	-	-	-	-	-	-	-	-	-
	37.4		Beta alloys	A	830 MPa		-	-	-	-	-	-	-	-	-	-	-	-
	37.5			AH	1400 MPa		-	-	-	-	-	-	-	-	-	-	-	-
H	38.1	Hardened steel		HT	45 HRC		-	-	-	-	-	-	-	-	**4**	**5**	-	-
	38.2			HT	55 HRC		-	-	-	-	-	-	-	-	-	**4**	-	-
	39.1			HT	58 HRC		-	-	-	-	-	-	-	-	-	**4**	-	-
	39.2			HT	62 HRC		-	-	-	-	-	-	-	-	-	**4**	-	-
	40	Cast Iron	Chilled	C	400	1350	-	-	-	-	**14**	**17**	7	9	**9**	14	-	-
	41			HT	55 HRC		-	-	-	-	-	-	-	-	-	**4**	-	-

Condition: A (Annealed), **AH** (Age Hardened), **C** (Cast), **HT** (Hardened & Tempered), **QT** (Quenched & Tempered)
Bold = Optimal | Regular = Effective

Notes on Tapping

1. The speeds listed above are a recommendation only, and are based on depth of thread listed, speeds can be adjusted on application.
   As a general rule;
   -If hole depth required is less than above mentioned = increase speed
   -If hole depth required is more than above mentioned = reduce speed
2. Taps must be driven by the square to eliminate slippage, eg, ER-GB collets (square drive).
3. When using spiral flute taps with length compensation tapping attachment, it is recommended to short pitch the feed 95%, to eliminate tap cutting oversize, eg. M6x1 @ 1000RPM, Feedrate= 950mm/min.
4. Forming taps are suitable for materials with >10% elongation

THREAD FORMING



T309	T313		T319 / T320	T329 / T330	T325 / T326	T327 / T328
			T773			
		T361	T363			
HSSE		HSSE		HSSE	SPM	
Brt	*TiN*	*Brt*	*TiCN*	*CrN*	*TiAlN*	
N		N		Cu	UNI	
No Groove		Multi-Coolant Groove		Multi-Coolant Groove	Multi-Coolant Groove	IK
≤ 3xØ		≤ 3xØ		≤ 3xØ	≤ 3xØ	
Vc (m/min)						
12	**18**	**12**	**18**	-	**23**	**28**
12	**18**	**12**	**18**	-	**23**	**28**
-	15	10	**15**	-	**20**	**23**
-	**17**	**11**	**17**	-	**21**	**26**
-	-	-	-	-	-	-
-	18	12	**18**	-	**23**	**28**
-	-	-	-	-	16	19
-	-	-	-	-	-	-
-	-	-	-	-	-	-
-	-	-	-	-	**16**	**19**
-	-	-	-	-	-	-
-	-	-	-	-	-	-
-	-	-	-	-	-	-
-	**9**	**-**	**9**	-	**12**	**14**
-	6	-	6	-	**8**	**9**
-	-	-	-	-	-	-
-	-	-	-	-	-	-
-	-	-	-	-	-	-
-	-	-	-	-	-	-
-	-	-	-	-	-	-
-	-	-	-	-	-	-
-	-	-	-	-	-	-
12	**18**	**12**	**18**	**18**	**23**	**28**
15	**23**	**15**	**23**	**23**	**29**	**35**
15	23	15	23	**23**	**29**	**35**
15	23	15	23	**23**	**29**	**35**
-	-	-	-	-	-	-
8	**12**	8	**12**	**12**	**16**	**19**
-	-	-	-	-	-	-
14	21	14	21	**21**	27	33
-	-	-	-	-	-	-
-	-	-	-	-	-	-
-	-	-	-	-	-	-
-	-	-	-	-	-	-
-	-	-	-	-	-	-
-	-	-	-	-	-	-
-	-	-	-	-	-	-
-	-	-	-	-	-	-
-	-	-	-	-	-	-
-	-	-	-	-	-	-
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SYNCHRO TAPPING

T377	T379	T373	T375	T365	T367	T369	T371	T381	T383		
T754	T756	T758	T760	T762	T764	T766	T768	T770	T772		
PM-HSSE V3		PM-HSSE V3		PM-HSSE V3		PM-HSSE V3		PM-HSSE V3			
TiCN		*TiCN*		*TiCN*		*CrN*		*TiN*			
High Speed Cutting		High Speed Cutting		High Speed Cutting		High Speed Cutting		High Speed Cutting			
	IK	R50	R50 IK	L20	L20 IK	R45	R45 IK		IK		
≤ 2xØ		≤ 2xØ		≤ 2xØ		≤ 2xØ		≤ 2xØ			
Vc (m/min)										VDI^ 3323	ISO
39	**47**	**31**	**31**	**31**	**37**	-	-	**25**	**30**	1	P
39	**47**	**31**	**31**	**31**	**37**	-	-	**25**	**30**	2	
32	**39**	**26**	**26**	**26**	**31**	-	-	21	25	3	
36	**43**	**29**	**29**	**29**	**34**	-	-	**23**	**27**	4	
29	35	23	23	23	28	-	-	-	-	5	
39	**47**	**31**	**31**	**31**	**37**	-	-	25	30	6	
26	**31**	**21**	**21**	**21**	**25**	-	-	17	20	7	
19	23	16	16	16	19	-	-	-	-	8	
-	-	-	-	-	-	-	-	-	-	9	
26	**31**	**21**	**21**	**21**	**25**	-	-	17	20	10	
-	-	-	-	-	-	-	-	-	-	11	
16	**19**	**13**	**13**	**13**	**16**	-	-	-	-	12	
10	12	8	8	8	9	-	-	-	-	13	
19	**23**	**16**	**16**	**16**	**19**	-	-	**12**	**15**	14.1	M
13	**16**	**10**	**10**	**10**	**12**	-	-	8	10	14.2	
10	12	8	8	8	9	-	-	-	-	14.3	
39	**47**	**31**	**31**	**31**	**37**	-	-	-	-	15	K
32	39	26	26	26	31	-	-	-	-	16	
39	**47**	**31**	**31**	**31**	**37**	-	-	-	-	17	
32	39	26	26	26	31	-	-	-	-	18	
49	**58**	**39**	**39**	**39**	**47**	-	-	-	-	19	
39	47	31	31	31	37	-	-	-	-	20	
39	**47**	**31**	**31**	**31**	**37**	**31**	**31**	**25**	**30**	21	N
49	**58**	**39**	**39**	**39**	**47**	**39**	**39**	**31**	**37**	22	
49	**58**	39	39	**39**	**47**	**39**	**39**	**31**	**37**	23	
49	**58**	39	39	**39**	**47**	**39**	**39**	31	37	24	
32	39	**26**	**26**	26	31	-	-	-	-	25	
26	**31**	21	21	**21**	**25**	**21**	**21**	-	-	26	
58	70	47	47	47	56	**47**	**47**	-	-	27	
45	**54**	36	36	**36**	**44**	**36**	**36**	**29**	**35**	28	
-	-	-	-	-	-	-	-	-	-	29	
-	-	-	-	-	-	-	-	-	-	30	
10	**12**	**8**	**8**	-	-	-	-	-	-	31	S
-	-	-	-	-	-	-	-	-	-	32	
8	**10**	**6**	**6**	-	-	-	-	-	-	33	
-	-	-	-	-	-	-	-	-	-	34	
-	-	-	-	-	-	-	-	-	-	35	
-	-	-	-	-	-	-	-	-	-	36	
-	-	-	-	**13**	**16**	-	-	-	-	37.1	
-	-	-	-	**13**	**16**	-	-	-	-	37.2	
-	-	-	-	-	-	-	-	-	-	37.3	
-	-	-	-	**8**	**9**	-	-	-	-	37.4	
-	-	-	-	-	-	-	-	-	-	37.5	
-	-	-	-	-	-	-	-	-	-	38.1	H
-	-	-	-	-	-	-	-	-	-	38.2	
-	-	-	-	-	-	-	-	-	-	39.1	
-	-	-	-	-	-	-	-	-	-	39.2	
-	-	-	-	-	-	-	-	-	-	40	
-	-	-	-	-	-	-	-	-	-	41	

METRIC TAPS (mm size)

Ø = nominal tap size (mm)
P = thread pitch (mm)
n = spindle speed (RPM)
Vc = cutting speed (m/min)
Vf = feed rate (mm/min)
Vr = feed rate per rev (mm/rev)

$$n = \frac{V_c \times 1000}{Ø \times \pi} \simeq \frac{V_c}{Ø} \times 318$$

$$V_c = \frac{n \times Ø \times \pi}{1000} \simeq \frac{n \times Ø}{318}$$

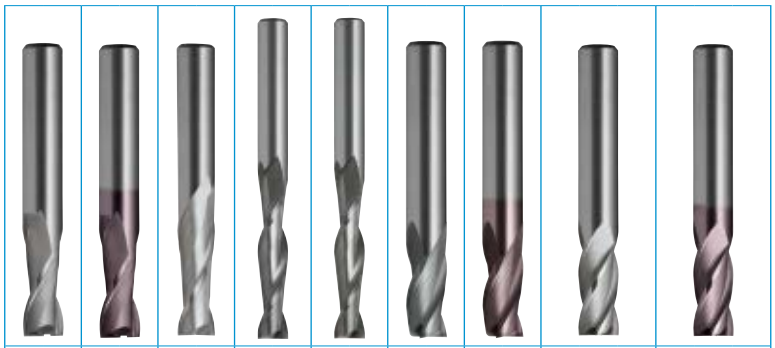
$$V_f = n \times P$$

suttontools

ISO	VDI	Material Group	Sutton	
P	A	Steel	N	UNI
M	R	Stainless Steel	VA	
K	F	Cast Iron	GG	
N	N	Non-Ferrous Metals, Aluminiums & Coppers	Al W	
S	S	Titaniums & Super Alloys	Ti	Ni
H	H	Hard Materials (≥ 45 HRC)	H	

^ VDI 3323 material groups can also be determined by referring to the workpiece material cross reference listing. Refer to main index of this section.

For expert tooling recommendations, go to:
www.suttontools.com/expert-tool-selector



Catalogue Code	E600 / E304	E603 / E307	E308	E309	E608	E610	E611	E601 / E333			E604 / E336		
Material	VHM		VHM	VHM	VHM	VHM		VHM					
Surface Finish	Brt	TiAlN	Brt	Brt	Brt	Brt	TiAlN	Brt			TiAlN		
Sutton Designation	N		N	N	N	N	N	N					
Type of Cut: Slotting		●		●		●		●					
Finishing										●			●
Universal									●			●	
Roughing													
Profiling													
ap × Ø	0.75	0.75	0.75	0.75	0.75	0.75	0.75	1.75	1.75		1.75	1.75	
ae × Ø	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.2	0.2		0.2	0.2	

ISO	VDI^ 3323	Material		Condition	HB	N/mm²	Vc	Feed #	Vc	Feed #	Vc	Feed #	Vc	Feed #	Vc	Feed #	Vc	Feed #	Vc	Feed #	Vc	Feed #	Vc	Feed #	Vc	Feed #
P	1	Steel - Non-alloy, cast & free cutting	~ 0.15 %C	A	125	440	**100**	**7**	**144**	**8**	**100**	**7**	**100**	**7**	**100**	**7**	**100**	**7**	**144**	**8**	**100**	**7**	**10**	**144**	**8**	**11**
	2		~ 0.45 %C	A	190	640	**100**	**7**	**144**	**8**	**100**	**7**	**100**	**7**	**100**	**7**	**100**	**7**	**144**	**8**	**100**	**7**	**10**	**144**	**8**	**11**
	3			QT	250	840	**56**	**7**	**80**	**8**	**56**	**7**	56	7	56	7	**56**	**7**	**80**	**8**	**56**	**7**	**10**	**80**	**8**	**11**
	4		~ 0.75 %C	A	270	910	**56**	**7**	**80**	**8**	**56**	**7**	56	7	56	7	**56**	**7**	**80**	**8**	**56**	**7**	**10**	**80**	**8**	**11**
	5			QT	300	1010	-	-	80	8	-	-	-	-	-	-	-	-	80	8	-	-	-	80	8	11
	6	Steel - Low alloy & cast < 5% of alloying elements		A	180	610	**100**	**7**	**144**	**8**	**100**	**7**	**100**	**7**	**100**	**7**	**100**	**7**	**144**	**8**	**100**	**7**	**10**	**144**	**8**	**11**
	7			QT	275	930	56	7	**80**	**8**	**56**	**7**	56	7	56	7	56	7	**80**	**8**	56	7	10	**80**	**8**	**11**
	8			QT	300	1010	-	-	80	8	-	-	-	-	-	-	-	-	80	8	-	-	-	80	8	11
	9			QT	350	1180	-	-	64	8	-	-	-	-	-	-	-	-	64	8	-	-	-	64	8	11
	10	Steel - High alloy, cast & tool		A	200	680	56	7	**80**	**8**	**56**	**7**	56	7	56	7	56	7	**80**	**8**	56	7	10	**80**	**8**	**11**
	11			HT	325	1100	-	-	64	8	-	-	-	-	-	-	-	-	64	8	-	-	-	64	8	11
	12	Steel - Corrosion resistant & cast	Ferritic / Martensitic	A	200	680	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	13		Martensitic	QT	240	810	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M	14.1	Stainless Steel	Austenitic	AH	180	610	52	7	72	8	**52**	**7**	52	7	52	7	52	7	72	8	52	7	10	72	8	11
	14.2		Duplex		250	840	52	7	-	-	52	7	52	7	52	7	52	7	72	8	52	7	10	72	8	11
	14.3		Precipitation Hardening		250	840	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
K	15	Cast Iron - Grey (GG)	Ferritic / Pearlitic		180	610	80	7	112	8	**80**	**7**	80	7	80	7	80	7	112	8	80	7	10	112	8	11
	16		Pearlitic		260	880	80	7	112	8	80	7	80	7	80	7	80	7	112	8	80	7	10	112	8	11
	17	Cast Iron - Nodular (GGG)	Ferritic		160	570	80	7	112	8	**80**	**7**	80	7	80	7	80	7	112	8	80	7	10	112	8	11
	18		Pearlitic		250	840	80	7	112	8	80	7	80	7	80	7	80	7	112	8	80	7	10	112	8	11
	19	Cast Iron - Malleable	Ferritic		130	460	56	7	80	8	56	7	56	7	56	7	56	7	80	8	56	7	10	80	8	11
	20		Pearlitic		230	780	56	7	80	8	56	7	56	7	56	7	56	7	80	8	56	7	10	80	8	11
N	21	Aluminum & Magnesium - wrought alloy	Non Heat Treatable		60	210	150	8	150	8	120	7	100	6	100	6	120	6	120	6	150	8	8	150	8	8
	22		Heat Treatable	AH	100	360	150	8	150	8	120	7	100	6	100	6	120	6	120	6	150	8	8	150	8	8
	23	Aluminum & Magnesium - cast alloy ≤12% Si	Non Heat Treatable		75	270	150	8	150	8	120	7	100	6	100	6	120	6	120	6	150	8	8	150	8	8
	24		Heat Treatable	AH	90	320	150	8	150	8	120	7	100	6	100	6	120	6	120	6	150	8	8	150	8	8
	25	Al & Mg - cast alloy >12% Si	Non Heat Treatable		130	460	150	8	150	8	120	7	100	6	100	6	120	6	120	6	150	8	8	150	8	8
	26	Copper & Cu alloys (Brass/Bronze)	Free cutting, Pb > 1%		110	390	150	8	150	8	120	7	100	6	100	6	120	6	120	6	150	8	8	150	8	8
	27		Brass (CuZn, CuSnZn)		90	320	150	8	150	8	120	7	100	6	100	6	120	6	120	6	150	8	8	150	8	8
	28		Bronze (CuSn)		100	360	150	8	150	8	120	7	100	6	100	6	120	6	120	6	150	8	8	150	8	8
	29	Non-metallic - Thermosetting & fiber-reinforced plastics					150	8	150	8	120	7	100	6	100	6	120	6	120	6	150	8	8	150	8	8
	30	Non-metallic - Hard rubber, wood etc.					150	8	150	8	120	7	100	6	100	6	120	6	120	6	150	8	8	150	8	8
S	31	High temp. alloys	Fe based	A	200	680	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	32			AH	280	950	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	33		Ni / Co based	A	250	840	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	34			AH	350	1180	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	35			C	320	1080	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	36	Titanium & Ti alloys	CP Titanium		400 MPa		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	37.1		Alpha alloys		860 MPa		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	37.2		Alpha / Beta alloys	A	960 MPa		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	37.3			AH	1170 MPa		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	37.4		Beta alloys	A	830 MPa		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	37.5			AH	1400 MPa		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
H	38.1	Hardened steel		HT	45 HRC		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	38.2			HT	55 HRC		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	39.1			HT	58 HRC		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	39.2			HT	62 HRC		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	40	Cast Iron	Chilled	C	400	1350	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	41			HT	55 HRC		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Condition: A (Annealed), **AH** (Age Hardened), **C** (Cast), **HT** (Hardened & Tempered), **QT** (Quenched & Tempered)

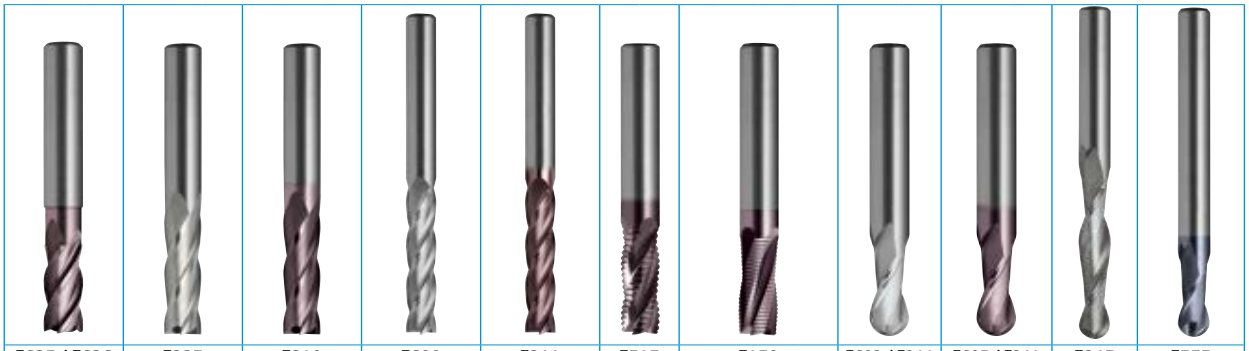
Bold = Optimal | Regular = Effective

Feed Table (f_z) (mm/tooth)

Ø	Feed # 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
2	0.001	0.002	0.002	0.003	0.004	0.005	0.006	0.007	0.008	0.010	0.011	0.013	0.014	0.016	0.018	0.020	0.022	0.024	0.026	0.030
3	0.002	0.003	0.004	0.005	0.006	0.008	0.009	0.010	0.012	0.014	0.016	0.018	0.020	0.023	0.025	0.028	0.032	0.034	0.038	0.042
4	0.004	0.005	0.006	0.007	0.009	0.010	0.012	0.014	0.016	0.018	0.021	0.023	0.026	0.030	0.032	0.036	0.040	0.044	0.045	0.050
5	0.005	0.006	0.008	0.009	0.011	0.013	0.015	0.017	0.020	0.023	0.025	0.030	0.032	0.036	0.040	0.044	0.050	0.055	0.060	0.065
6	0.006	0.008	0.009	0.011	0.013	0.016	0.018	0.021	0.024	0.028	0.030	0.034	0.038	0.042	0.045	0.050	0.055	0.060	0.070	0.075
8	0.010	0.012	0.014	0.017	0.019	0.022	0.025	0.028	0.032	0.036	0.040	0.045	0.050	0.055	0.060	0.065	0.075	0.080	0.085	0.095
10	0.013	0.015	0.018	0.021	0.024	0.028	0.032	0.036	0.040	0.045	0.050	0.055	0.060	0.070	0.075	0.085	0.090	0.100	0.11	0.12
12	0.016	0.019	0.022	0.026	0.030	0.034	0.038	0.044	0.050	0.055	0.060	0.065	0.075	0.080	0.090	0.100	0.11	0.12	0.13	0.14
16	0.020	0.024	0.028	0.034	0.038	0.044	0.050	0.055	0.060	0.070	0.080	0.085	0.095	0.11	0.12	0.13	0.14	0.16	0.17	0.18
20	0.022	0.028	0.032	0.038	0.044	0.050	0.060	0.065	0.075	0.085	0.095	0.11	0.12	0.13	0.15	0.16	0.18	0.19	0.21	0.23
25	0.025	0.032	0.038	0.045	0.055	0.060	0.070	0.080	0.090	0.10	0.12	0.13	0.15	0.16	0.18	0.20	0.22	0.24	0.26	0.29

Notes on Milling

1. Above values are guidelines for the size and type of cut nominated.
2. For long series tools, reduce speed by 40% and feed by 20%.



E635 / E636			E337			E340			E609			E344			E547		E450				E602 / E311		E605 / E314		E315		E555			
VHM-ULTRA			VHM			VHM			VHM			VHM			VHM		VHM				VHM				VHM		VHM-ULTRA			
TiAlN			*Brt*			*TiAlN*			*Brt*			*TiAlN*			*TiAlN*		*TiAlN*				*Brt*		*TiAlN*		*Brt*		*AlCrN*			
N			N						N			N			N		WN				N				N		N			
																		●												
	●				●			●			●			●																
		●		●			●			●			●						●											
																●				●										
																						●		●		●		●		
1.0	1.5	1.5		1.0	1.75		1.0	1.75		1.0	1.75		1.0	1.75		1.5		0.75	1.0	1.0		0.025		0.025		0.025		0.025		
0.4	0.1	0.25		0.3	0.2		0.3	0.2		0.3	0.2		0.3	0.2		0.5		1.0	0.25	0.4		0.05		0.05		0.05		0.05		
Vc	Feed #		Vc	Feed #		Vc	Feed #		Vc	Feed #		Vc	Feed #		Vc	Feed #	Vc	Feed #			Vc	Feed #	Vc	Feed #	Vc	Feed #	Vc	Feed #	VDI^ 3323	ISO
210	**11**	**8**	**125**	**7**	**10**	**180**	**8**	**11**	**100**	**7**	**10**	**144**	**8**	**11**	**180**	**12**	**180**	**3**	**9**	**5**	**80-140**	**19**	**110-200**	**20**	**110**	**19**	**140-250**	**20**	1	P
210	**11**	**8**	**125**	**7**	**10**	**180**	**8**	**11**	**100**	**7**	**10**	**144**	**8**	**11**	**180**	**12**	**180**	**3**	**9**	**5**	**80-140**	**19**	**110-200**	**20**	**110**	**19**	**140-250**	**20**	2	
175	**11**	**8**	**70**	**7**	**10**	**100**	**8**	**11**	56	7	10	**80**	**8**	**11**	100	12	**100**	**3**	**9**	**5**	**45-100**	**19**	**60-145**	**20**	70	19	**75-180**	**20**	3	
175	**11**	**8**	**70**	**7**	**10**	**100**	**8**	**11**	56	7	10	**80**	**8**	**11**	100	12	**100**	**3**	**9**	**5**	**45-100**	**19**	**60-145**	**20**	70	19	**75-180**	**20**	4	
175	11	8	70	7	10	**100**	**8**	**11**	-	-	-	**80**	**8**	**11**	100	10	100	3	9	5	-	-	60-145	20	-	-	**75-180**	**20**	5	
210	**11**	**8**	**125**	**7**	**10**	**180**	**8**	**11**	**100**	**7**	**10**	**144**	**8**	**11**	180	12	**180**	**3**	**9**	**5**	**80-140**	**19**	**110-200**	**20**	110	19	**140-250**	**20**	6	
175	11	8	**70**	**7**	**10**	**100**	**8**	**11**	56	7	10	**80**	**8**	**11**	100	12	**100**	**3**	**9**	**5**	45-100	19	**60-145**	**20**	70	19	**75-180**	**20**	7	
175	11	8	70	7	10	**100**	**8**	**11**	-	-	-	**80**	**8**	**11**	100	10	100	3	9	5	-	-	60-145	20	-	-	**75-180**	**20**	8	
120	11	8	-	-	-	80	8	11	-	-	-	64	8	11	-	-	-	-	-	-	-	-	45-95	20	-	-	60-120	20	9	
175	11	8	**70**	**7**	**10**	**100**	**8**	**11**	56	7	10	**80**	**8**	**11**	100	10	100	3	9	5	45-100	19	**60-145**	**20**	70	19	**75-180**	**20**	10	
120	11	8	-	-	-	80	8	11	-	-	-	64	8	11	-	-	-	-	-	-	-	-	45-95	20	-	-	60-120	20	11	
90	11	8	65	7	10	**90**	**8**	**11**	-	-	-	**80**	**8**	**11**	-	-	-	-	-	-	-	-	-	-	-	-	70-110	20	12	
80	11	8	55	7	10	80	8	11	-	-	-	70	8	11	-	-	-	-	-	-	-	-	-	-	-	-	60-100	20	13	
-	-	-	**65**	**7**	**10**	**90**	**8**	**11**	**52**	**7**	**10**	**72**	**8**	**11**	-	-	-	-	-	-	40-60	19	55-90	20	50	19	**70-110**	**20**	14.1	M
-	-	-	65	7	10	90	8	11	52	7	10	72	8	11	-	-	-	-	-	-	40-60	19	55-90	20	50	19	70-110	20	14.2	
-	-	-	55	7	10	80	8	11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	60-100	20	14.3	
150	11	8	**100**	**7**	**10**	**140**	**8**	**11**	80	7	10	**112**	**8**	**11**	140	10	**140**	**3**	**9**	**5**	70-100	19	95-145	20	85	19	**120-180**	**20**	15	K
150	11	8	100	7	10	**140**	**8**	**11**	80	7	10	**112**	**8**	**11**	140	10	**140**	**3**	**9**	**5**	70-100	19	95-145	20	85	19	**120-180**	**20**	16	
150	11	8	**100**	**7**	**10**	**140**	**8**	**11**	80	7	10	**112**	**8**	**11**	140	10	**140**	**3**	**9**	**5**	70-100	19	95-145	20	85	19	**120-180**	**20**	17	
150	11	8	100	7	10	**140**	**8**	**11**	80	7	10	**112**	**8**	**11**	140	10	**140**	**3**	**9**	**5**	70-100	19	95-145	20	85	19	**120-180**	**20**	18	
110	11	8	70	7	10	**100**	**8**	**11**	56	7	10	**80**	**8**	**11**	100	10	**100**	**3**	**9**	**5**	55-80	19	80-110	20	65	19	**100-140**	**20**	19	
110	11	8	70	7	10	**100**	**8**	**11**	56	7	10	**80**	**8**	**11**	100	10	**100**	**3**	**9**	**5**	55-80	19	80-110	20	65	19	**100-140**	**20**	20	
200	11	8	**120**	**7**	**7**	**120**	**7**	**7**	100	6	6	**100**	**6**	**6**	**300**	**16**	-	-	-	-	200	19	200	19	-	-	150-450	20	21	N
200	11	8	**120**	**7**	**7**	**120**	**7**	**7**	100	6	6	**100**	**6**	**6**	**300**	**16**	-	-	-	-	200	19	200	19	-	-	150-450	20	22	
200	11	8	120	7	7	120	7	7	100	6	6	100	6	6	300	16	-	-	-	-	200	19	200	19	-	-	150-450	20	23	
200	11	8	120	7	7	120	7	7	100	6	6	100	6	6	300	16	-	-	-	-	200	19	200	19	-	-	150-450	20	24	
200	11	8	120	7	7	120	7	7	100	6	6	100	6	6	300	16	-	-	-	-	200	19	200	19	-	-	150-450	20	25	
-	-	-	120	7	7	120	7	7	100	6	6	100	6	6	-	-	-	-	-	-	200	19	200	19	-	-	120-350	20	26	
200	11	8	120	7	7	120	7	7	100	6	6	100	6	6	-	-	-	-	-	-	200	19	200	19	-	-	120-350	20	27	
-	-	-	120	7	7	120	7	7	100	6	6	100	6	6	-	-	-	-	-	-	200	19	200	19	-	-	120-350	20	28	
-	-	-	120	7	7	120	7	7	100	6	6	100	6	6	-	-	-	-	-	-	200	19	200	19	-	-	-	-	29	
-	-	-	120	7	7	120	7	7	100	6	6	100	6	6	-	-	-	-	-	-	200	19	200	19	-	-	-	-	30	
50	11	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**50**	**3**	**9**	**5**	-	-	-	-	-	-	40-90	20	31	S
50	11	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**50**	**3**	**9**	**5**	-	-	-	-	-	-	-	-	32	
50	11	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**50**	**3**	**9**	**5**	-	-	-	-	-	-	40-90	20	33	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**50**	**3**	**9**	**5**	-	-	-	-	-	-	-	-	34	
50	11	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**50**	**3**	**9**	**5**	-	-	-	-	-	-	-	-	35	
70	11	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**70**	**3**	**9**	**5**	-	-	-	-	-	-	60-200	20	36	
70	11	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**70**	**3**	**9**	**5**	-	-	-	-	-	-	60-200	20	37.1	
70	11	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**70**	**3**	**9**	**5**	-	-	-	-	-	-	60-200	20	37.2	
70	11	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**70**	**3**	**9**	**5**	-	-	-	-	-	-	60-200	20	37.3	
70	11	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**70**	**3**	**9**	**5**	-	-	-	-	-	-	60-200	20	37.4	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**70**	**3**	**9**	**5**	-	-	-	-	-	-	60-200	20	37.5	
120	11	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	38.1	H
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	38.2	
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-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	39.2	
120	11	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**100**	**3**	**9**	**5**	-	-	-	-	-	-	**70-100**	**20**	40	
100	11	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	41	

METRIC ENDMILLS (mm size)

- **Ø** = nominal tool diameter (mm)
- **n** = Spindel speed (RPM)
- **vc** = Cutting speed (m/min)
- **fz** = Feed rate per tooth (mm/tooth)
- **vf** = Feed rate (mm/min)
- **z** = No. cutting edges
- **Q** = Metal removal rate (cm^3/min)
- **ap** = Cutting depth (mm)
- **ae** = Cutting width (mm)

$$n = \frac{v_c \times 1000}{Ø \times \pi} \simeq \frac{v_c}{Ø} \times 318$$

$$v_c = \frac{n \times Ø \times \pi}{1000} \simeq \frac{n \times Ø}{318}$$

$$f_z = \frac{V_f}{z \times n} \qquad v_f = f_z \times z \times n$$

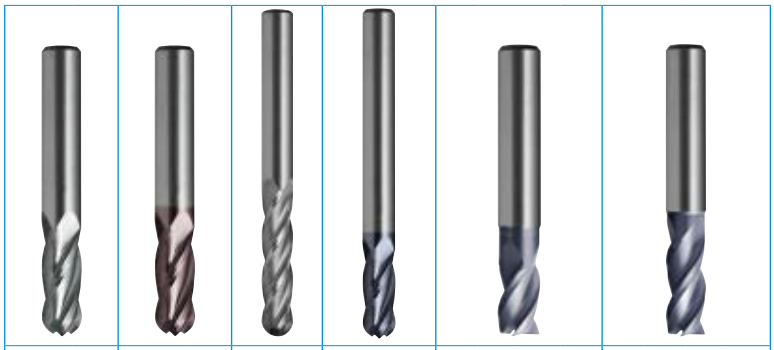
$$Q = \frac{a_p \times a_e \times v_f}{1000}$$

suttontools

ISO	VDI	Material Group	Sutton		
P	A	Steel	N		UNI
M	R	Stainless Steel	VA		
K	F	Cast Iron	GG		
N	N	Non-Ferrous Metals, Aluminiums & Coppers	Al	W	
S	S	Titaniums & Super Alloys	Ti		Ni
H	H	Hard Materials (≥ 45 HRC)	H		

^ VDI 3323 material groups can also be determined by referring to the workpiece material cross reference listing. Refer to main index of this section.

For expert tooling recommendations, go to:
www.suttontools.com/expert-tool-selector



Catalogue Code	E606 / E316		E607 / E319		E320		E557		E422				E424			
Material	VHM		VHM		VHM		VHM-ULTRA		VHM-ULTRA				VHM-ULTRA			
Surface Finish	*Brt*		*TiAlN*		*Brt*		*AlCrN*		*AlCrN*				*AlCrN*			
Sutton Designation	N		N		N		N		UNI				UNI			
Type of Cut: *Slotting*																
Finishing										●				●		
Universal											●				●	
Roughing												●				●
Profiling		●		●				●								
↕ ap × Ø		0.025		0.025		0.025		0.025		0.25	1.0	1.0		0.25	1.0	1.0
↔ ae × Ø		0.05		0.05		0.05		0.05		1.0	0.25	0.4		1.0	0.25	0.4

ISO	VDI^ 3323	Material		Condition	HB	N/mm²	Vc	Feed #	Vc	Feed #	Vc	Feed #	Vc	Feed #	Vc	Feed #			Vc	Feed #		
P	1	Steel - Non-alloy, cast & free cutting	~ 0.15 %C	A	125	440	**110**	**19**	**140-250**	**16**	**110**	**19**	**140-250**	**16**	**210**	**9**	**16**	**11**	**210**	**9**	**16**	**11**
	2		~ 0.45 %C	A	190	640	**110**	**19**	**140-250**	**16**	**110**	**19**	**140-250**	**16**	**210**	**9**	**16**	**11**	**210**	**9**	**16**	**11**
	3			QT	250	840	**70**	**19**	**75-180**	**16**	70	19	**75-180**	**16**	**175**	**9**	**16**	**11**	**175**	**9**	**16**	**11**
	4		~ 0.75 %C	A	270	910	**70**	**19**	**75-180**	**16**	70	19	**75-180**	**16**	**175**	**9**	**16**	**11**	**175**	**9**	**16**	**11**
	5			QT	300	1010	-	-	75-180	16	-	-	**75-180**	**16**	**175**	**9**	**16**	**11**	**175**	**9**	**16**	**11**
	6	Steel - Low alloy & cast < 5% of alloying elements		A	180	610	**110**	**19**	**140-250**	**16**	**110**	**19**	**140-250**	**16**	**210**	**9**	**16**	**11**	**210**	**9**	**16**	**11**
	7			QT	275	930	70	19	**75-180**	**16**	70	19	**75-180**	**16**	**175**	**9**	**16**	**11**	**175**	**9**	**16**	**11**
	8			QT	300	1010	-	-	75-180	16	-	-	**75-180**	**16**	**175**	**9**	**16**	**11**	**175**	**9**	**16**	**11**
	9			QT	350	1180	-	-	60-120	16	-	-	60-120	16	**120**	**9**	**16**	**11**	**120**	**9**	**16**	**11**
	10	Steel - High alloy, cast & tool		A	200	680	70	19	**75-180**	**16**	70	19	**75-180**	**16**	**175**	**9**	**16**	**11**	**175**	**9**	**16**	**11**
	11			HT	325	1100	-	-	60-120	16	-	-	60-120	16	**120**	**9**	**16**	**11**	**120**	**9**	**16**	**11**
	12	Steel - Corrosion resistant & cast	Ferritic / Martensitic	A	200	680	-	-	-	-	-	-	70-110	16	-	-	-	-	-	-	-	-
	13		Martensitic	QT	240	810	-	-	-	-	-	-	60-100	16	-	-	-	-	-	-	-	-
M	14.1	Stainless Steel	Austenitic	AH	180	610	**50**	**19**	**70-110**	**16**	50	19	**70-110**	**16**	-	-	-	-	-	-	-	-
	14.2		Duplex		250	840	50	19	70-110	16	50	19	70-110	16	-	-	-	-	-	-	-	-
	14.3		Precipitation Hardening		250	840	-	-	-	-	-	-	60-100	16	-	-	-	-	-	-	-	-
K	15	Cast Iron - Grey (GG)	Ferritic / Pearlitic		180	610	85	19	120-180	16	85	19	**120-180**	**16**	**150**	**9**	**16**	**11**	**150**	**9**	**16**	**11**
	16		Pearlitic		260	880	85	19	120-180	16	85	19	**120-180**	**16**	**150**	**9**	**16**	**11**	**150**	**9**	**16**	**11**
	17	Cast Iron - Nodular (GGG)	Ferritic		160	570	85	19	120-180	16	85	19	**120-180**	**16**	**150**	**9**	**16**	**11**	**150**	**9**	**16**	**11**
	18		Pearlitic		250	840	85	19	120-180	16	85	19	**120-180**	**16**	**150**	**9**	**16**	**11**	**150**	**9**	**16**	**11**
	19	Cast Iron - Malleable	Ferritic		130	460	65	19	100-140	16	65	19	**100-140**	**16**	**110**	**9**	**16**	**11**	**110**	**9**	**16**	**11**
	20		Pearlitic		230	780	65	19	100-140	16	65	19	**100-140**	**16**	**110**	**9**	**16**	**11**	**110**	**9**	**16**	**11**
N	21	Aluminum & Magnesium - wrought alloy	Non Heat Treatable		60	210	150-450	16	150-450	16	100	14	150-450	16	-	-	-	-	-	-	-	-
	22		Heat Treatable	AH	100	360	150-450	16	150-450	16	100	14	150-450	16	-	-	-	-	-	-	-	-
	23	Aluminum & Magnesium - cast alloy ≤12% Si	Non Heat Treatable		75	270	150-450	16	150-450	16	100	14	150-450	16	-	-	-	-	-	-	-	-
	24		Heat Treatable	AH	90	320	150-450	16	150-450	16	100	14	150-450	16	-	-	-	-	-	-	-	-
	25	Al & Mg - cast alloy >12% Si	Non Heat Treatable		130	460	150-450	16	150-450	16	100	14	150-450	16	-	-	-	-	-	-	-	-
	26	Copper & Cu alloys (Brass/Bronze)	Free cutting, Pb > 1%		110	390	120-350	16	120-350	16	80	14	120-350	16	-	-	-	-	-	-	-	-
	27		Brass (CuZn, CuSnZn)		90	320	120-350	16	120-350	16	80	14	120-350	16	-	-	-	-	-	-	-	-
	28		Bronze (CuSn)		100	360	120-350	16	120-350	16	80	14	120-350	16	-	-	-	-	-	-	-	-
	29	Non-metallic - Thermosetting & fiber-reinforced plastics					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	30	Non-metallic - Hard rubber, wood etc.					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
S	31	High temp. alloys	Fe based	A	200	680	-	-	-	-	-	-	40-90	16	50	9	16	11	50	9	16	11
	32			AH	280	950	-	-	-	-	-	-	-	-	50	9	16	11	50	9	16	11
	33		Ni / Co based	A	250	840	-	-	-	-	-	-	40-90	16	50	9	16	11	50	9	16	11
	34			AH	350	1180	-	-	-	-	-	-	-	-	50	9	16	11	50	9	16	11
	35			C	320	1080	-	-	-	-	-	-	-	-	50	9	16	11	50	9	16	11
	36	Titanium & Ti alloys	CP Titanium		400 MPa		-	-	-	-	-	-	60-200	16	**70**	**9**	**16**	**11**	**70**	**9**	**16**	**11**
	37.1		Alpha alloys		860 MPa		-	-	-	-	-	-	60-200	16	**70**	**9**	**16**	**11**	**70**	**9**	**16**	**11**
	37.2		Alpha / Beta alloys	A	960 MPa		-	-	-	-	-	-	60-200	16	**70**	**9**	**16**	**11**	**70**	**9**	**16**	**11**
	37.3			AH	1170 MPa		-	-	-	-	-	-	60-200	16	**70**	**9**	**16**	**11**	**70**	**9**	**16**	**11**
	37.4		Beta alloys	A	830 MPa		-	-	-	-	-	-	60-200	16	**70**	**9**	**16**	**11**	**70**	**9**	**16**	**11**
	37.5			AH	1400 MPa		-	-	-	-	-	-	60-200	16	**70**	**9**	**16**	**11**	**70**	**9**	**16**	**11**
H	38.1	Hardened steel		HT	45 HRC		-	-	-	-	-	-	-	-	**120**	**9**	**16**	**11**	**120**	**9**	**16**	**11**
	38.2			HT	55 HRC		-	-	-	-	-	-	-	-	**120**	**9**	**16**	**11**	**120**	**9**	**16**	**11**
	39.1			HT	58 HRC		-	-	-	-	-	-	-	-	**100**	**9**	**16**	**11**	**100**	**9**	**16**	**11**
	39.2			HT	62 HRC		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	40	Cast Iron	Chilled	C	400	1350	-	-	-	-	-	-	**70-100**	**16**	**120**	**9**	**16**	**11**	**120**	**9**	**16**	**11**
	41			HT	55 HRC		-	-	-	-	-	-	-	-	**100**	**9**	**16**	**11**	**100**	**9**	**16**	**11**

Condition: A (Annealed), **AH** (Age Hardened), **C** (Cast), **HT** (Hardened & Tempered), **QT** (Quenched & Tempered)

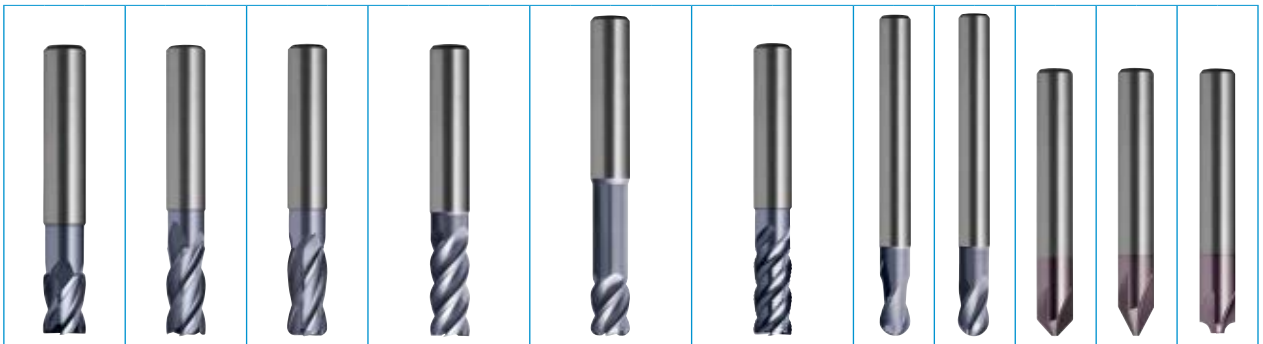
Bold = Optimal | Regular = Effective

Feed Table (f_z) (mm/tooth)

Ø	Feed # 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
2	0.001	0.002	0.002	0.003	0.004	0.005	0.006	0.007	0.008	0.010	0.011	0.013	0.014	0.016	0.018	0.020	0.022	0.024	0.026	0.030
3	0.002	0.003	0.004	0.005	0.006	0.008	0.009	0.010	0.012	0.014	0.016	0.018	0.020	0.023	0.025	0.028	0.032	0.034	0.038	0.042
4	0.004	0.005	0.006	0.007	0.009	0.010	0.012	0.014	0.016	0.018	0.021	0.023	0.026	0.030	0.032	0.036	0.040	0.044	0.045	0.050
5	0.005	0.006	0.008	0.009	0.011	0.013	0.015	0.017	0.020	0.023	0.025	0.030	0.032	0.036	0.040	0.044	0.050	0.055	0.060	0.065
6	0.006	0.008	0.009	0.011	0.013	0.016	0.018	0.021	0.024	0.028	0.030	0.034	0.038	0.042	0.045	0.050	0.055	0.060	0.070	0.075
8	0.010	0.012	0.014	0.017	0.019	0.022	0.025	0.028	0.032	0.036	0.040	0.045	0.050	0.055	0.060	0.065	0.075	0.080	0.085	0.095
10	0.013	0.015	0.018	0.021	0.024	0.028	0.032	0.036	0.040	0.045	0.050	0.055	0.060	0.070	0.075	0.085	0.090	0.100	0.11	0.12
12	0.016	0.019	0.022	0.026	0.030	0.034	0.038	0.044	0.050	0.055	0.060	0.065	0.075	0.080	0.090	0.100	0.11	0.12	0.13	0.14
16	0.020	0.024	0.028	0.034	0.038	0.044	0.050	0.055	0.060	0.070	0.080	0.085	0.095	0.11	0.12	0.13	0.14	0.16	0.17	0.18
20	0.022	0.028	0.032	0.038	0.044	0.050	0.060	0.065	0.075	0.085	0.095	0.11	0.12	0.13	0.15	0.16	0.18	0.19	0.21	0.23
25	0.025	0.032	0.038	0.045	0.055	0.060	0.070	0.080	0.090	0.10	0.12	0.13	0.15	0.16	0.18	0.20	0.22	0.24	0.26	0.29

Notes on Milling

1. Above values are guidelines for the size and type of cut nominated.
2. For long series tools, reduce speed by 40% and feed by 20%.



E533			E535 / E572			E559 / E576			E426				E430				E549 / E578				E440		E442		E456		E457		E458			
VHM-ULTRA			VHM-ULTRA			VHM-ULTRA			VHM-ULTRA				VHM-ULTRA				VHM-ULTRA				VHM-ULTRA				VHM							
AlCrN			AlCrN			AlCrN			AlCrN				AlCrN				AlCrN				AlCrN				TiAlN							
UNI			UNI			UNI			UNI				UNI				UNI				UNI				N							
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	0.25	1.0	1.0	1.5	1.5		1.5	1.5		0.25	1.0	1.0		0.25	1.0	1.0		1.0	1.5	1.5		0.1		0.1		-		-		-		
	1.0	0.25	0.4	0.1	0.25		0.1	0.25		1.0	0.2	0.4		1.0	0.2	0.3		1.0	0.25	0.4		0.05		0.05		-		-		-		
Vc	Feed #		Vc	Feed #		Vc	Feed #		Vc	Feed #			Vc	Feed #			Vc	Feed #			Vc	Feed #	Vc	Feed #	Vc	Feed #	Vc	Feed #	Vc	Feed #	VDI^ 3323	ISO
210	**11**	**8**	**210**	**11**	**8**	**210**	**11**	**8**	**210**	**7**	**16**	**11**	**210**	**7**	**15**	**11**	**180**	**5**	**9**	**13**	-	-	-	-	**180**	**16**	**180**	**15**	**180**	**16**	1	P
210	**11**	**8**	**210**	**11**	**8**	**210**	**11**	**8**	**210**	**7**	**16**	**11**	**210**	**7**	**15**	**11**	**180**	**5**	**9**	**13**	-	-	-	-	**180**	**16**	**180**	**15**	**180**	**16**	2	
175	**11**	**8**	**175**	**11**	**8**	**175**	**11**	**8**	**175**	**7**	**16**	**11**	**175**	**7**	**15**	**11**	**100**	**5**	**9**	**13**	175	18	175	18	**100**	**16**	**100**	**15**	**100**	**16**	3	
175	**11**	**8**	**175**	**11**	**8**	**175**	**11**	**8**	**175**	**7**	**16**	**11**	**175**	**7**	**15**	**11**	**100**	**5**	**9**	**13**	175	18	175	18	**100**	**16**	**100**	**15**	**100**	**16**	4	
175	**11**	**8**	**175**	**11**	**8**	**175**	**11**	**8**	**175**	**7**	**16**	**11**	**175**	**7**	**15**	**11**	**100**	**5**	**9**	**13**	**175**	**18**	**175**	**18**	**100**	**16**	**100**	**15**	**100**	**16**	5	
210	**11**	**8**	**210**	**11**	**8**	**210**	**11**	**8**	**210**	**7**	**16**	**11**	**210**	**7**	**15**	**11**	**180**	**5**	**9**	**13**	-	-	-	-	**180**	**16**	**180**	**15**	**180**	**16**	6	
175	**11**	**8**	**175**	**11**	**8**	**175**	**11**	**8**	**175**	**7**	**16**	**11**	**175**	**7**	**15**	**11**	**100**	**5**	**9**	**13**	175	18	175	18	**100**	**16**	**100**	**15**	**100**	**16**	7	
175	**11**	**8**	**175**	**11**	**8**	**175**	**11**	**8**	**175**	**7**	**16**	**11**	**175**	**7**	**15**	**11**	**100**	**5**	**9**	**13**	**175**	**18**	**175**	**18**	**100**	**16**	**100**	**15**	**100**	**16**	8	
120	11	8	120	11	8	120	11	8	**120**	**7**	**16**	**11**	**120**	**7**	**15**	**11**	80	5	9	13	**120**	**18**	**120**	**18**	80	16	80	15	80	16	9	
175	**11**	**8**	**175**	**11**	**8**	**175**	**11**	**8**	**175**	**7**	**16**	**11**	**175**	**7**	**15**	**11**	**100**	**5**	**9**	**13**	175	18	175	18	**100**	**16**	**100**	**15**	**100**	**16**	10	
120	11	8	120	11	8	120	11	8	**120**	**7**	**16**	**11**	**120**	**7**	**15**	**11**	80	5	9	13	**120**	**18**	**120**	**18**	80	16	80	15	80	16	11	
90	11	8	90	11	8	90	11	8	-	-	-	-	-	-	-	-	**90**	**5**	**9**	**13**	-	-	-	-	**90**	**16**	**90**	**15**	**90**	**16**	12	
80	11	8	80	11	8	80	11	8	-	-	-	-	-	-	-	-	80	5	9	13	-	-	-	-	80	16	80	15	80	16	13	
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150	**11**	**8**	**150**	**11**	**8**	**150**	**11**	**8**	**150**	**7**	**16**	**11**	**150**	**7**	**15**	**11**	**140**	**5**	**9**	**13**	**150**	**18**	**150**	**18**	**140**	**16**	**140**	**15**	**140**	**16**	15	K
150	11	8	150	11	8	150	11	8	**150**	**7**	**16**	**11**	**150**	**7**	**15**	**11**	140	5	9	13	**150**	**18**	**150**	**18**	**140**	**16**	**140**	**15**	**140**	**16**	16	
150	**11**	**8**	**150**	**11**	**8**	**150**	**11**	**8**	**150**	**7**	**16**	**11**	**150**	**7**	**15**	**11**	**140**	**5**	**9**	**13**	**150**	**18**	**150**	**18**	**140**	**16**	**140**	**15**	**140**	**16**	17	
150	11	8	150	11	8	150	11	8	**150**	**7**	**16**	**11**	**150**	**7**	**15**	**11**	140	5	9	13	**150**	**18**	**150**	**18**	**140**	**16**	**140**	**15**	**140**	**16**	18	
110	**11**	**8**	**110**	**11**	**8**	**110**	**11**	**8**	**110**	**7**	**16**	**11**	**110**	**7**	**15**	**11**	**100**	**5**	**9**	**13**	**110**	**18**	**110**	**18**	**100**	**16**	**100**	**15**	**100**	**16**	19	
110	**11**	**8**	**110**	**11**	**8**	**110**	**11**	**8**	**110**	**7**	**16**	**11**	**110**	**7**	**15**	**11**	**100**	**5**	**9**	**13**	**110**	**18**	**110**	**18**	**100**	**16**	**100**	**15**	**100**	**16**	20	
200	11	8	200	11	8	200	11	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	21	N
200	11	8	200	11	8	200	11	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	22	
200	11	8	200	11	8	200	11	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	23	
200	11	8	200	11	8	200	11	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	24	
200	11	8	200	11	8	200	11	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	25	
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200	11	8	200	11	8	200	11	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	27	
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50	11	8	50	11	8	50	11	8	50	7	16	11	50	7	15	11	50	5	9	13	50	18	50	18	**50**	**16**	**50**	**15**	**50**	**16**	31	S
50	11	8	50	11	8	50	11	8	50	7	16	11	50	7	15	11	50	5	9	13	**50**	**18**	**50**	**18**	**50**	**16**	**50**	**15**	**50**	**16**	32	
50	11	8	50	11	8	50	11	8	50	7	16	11	50	7	15	11	50	5	9	13	50	18	50	18	**50**	**16**	**50**	**15**	**50**	**16**	33	
-	-	-	-	-	-	-	-	-	50	7	16	11	50	7	15	11	-	-	-	-	**50**	**18**	**50**	**18**	**50**	**16**	**50**	**15**	**50**	**16**	34	
50	11	8	50	11	8	50	11	8	50	7	16	11	50	7	15	11	50	5	9	13	**50**	**18**	**50**	**18**	**50**	**16**	**50**	**15**	**50**	**16**	35	
70	11	8	**70**	11	8	**70**	11	8	**70**	**7**	**16**	**11**	**70**	**7**	**15**	**11**	70	5	9	13	70	18	70	18	**70**	**16**	**70**	**15**	**70**	**16**	36	
70	11	8	**70**	11	8	**70**	11	8	**70**	**7**	**16**	**11**	**70**	**7**	**15**	**11**	70	5	9	13	70	18	70	18	**70**	**16**	**70**	**15**	**70**	**16**	37.1	
70	11	8	**70**	11	8	**70**	11	8	**70**	**7**	**16**	**11**	**70**	**7**	**15**	**11**	70	5	9	13	70	18	70	18	**70**	**16**	**70**	**15**	**70**	**16**	37.2	
70	11	8	**70**	11	8	**70**	11	8	**70**	**7**	**16**	**11**	**70**	**7**	**15**	**11**	70	5	9	13	**70**	**18**	**70**	**18**	**70**	**16**	**70**	**15**	**70**	**16**	37.3	
70	11	8	**70**	11	8	**70**	11	8	**70**	**7**	**16**	**11**	**70**	**7**	**15**	**11**	70	5	9	13	70	18	70	18	**70**	**16**	**70**	**15**	**70**	**16**	37.4	
-	-	-	-	-	-	-	-	-	**70**	**7**	**16**	**11**	**70**	**7**	**15**	**11**	-	-	-	-	**70**	**18**	**70**	**18**	**70**	**16**	**70**	**15**	**70**	**16**	37.5	
120	11	8	**120**	11	8	**120**	11	8	**120**	**7**	**16**	**11**	**120**	**7**	**15**	**11**	-	-	-	-	**120**	**18**	**120**	**18**	**80**	**16**	**80**	**15**	**80**	**16**	38.1	H
-	-	-	-	-	-	-	-	-	**120**	**7**	**16**	**11**	**120**	**7**	**15**	**11**	-	-	-	-	**120**	**18**	**120**	**18**	60	16	60	15	60	16	38.2	
-	-	-	-	-	-	-	-	-	**100**	**7**	**16**	**11**	**100**	**7**	**15**	**11**	-	-	-	-	**100**	**18**	**100**	**18**	-	-	-	-	-	-	39.1	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	39.2	
120	**11**	**8**	**120**	**11**	**8**	**120**	**11**	**8**	**120**	**7**	**16**	**11**	**120**	**7**	**15**	**11**	-	-	-	-	-	-	-	-	**60**	**16**	**60**	**15**	**60**	**16**	40	
100	11	8	**100**	11	8	**100**	11	8	**100**	**7**	**16**	**11**	**100**	**7**	**15**	**11**	-	-	-	-	**100**	**18**	**100**	**18**	-	-	-	-	-	-	41	

METRIC ENDMILLS (mm size)

- **Ø** = nominal tool diameter (mm)
- **n** = Spindel speed (RPM)
- **vc** = Cutting speed (m/min)
- **fz** = Feed rate per tooth (mm/tooth)
- **vf** = Feed rate (mm/min)
- **z** = No. cutting edges
- **Q** = Metal removal rate (cm^3/min)
- **ap** = Cutting depth (mm)
- **ae** = Cutting width (mm)

$$n = \frac{v_c \times 1000}{Ø \times \pi} \simeq \frac{v_c}{Ø} \times 318$$

$$v_c = \frac{n \times Ø \times \pi}{1000} \simeq \frac{n \times Ø}{318}$$

$$f_z = \frac{V_f}{z \times n} \qquad v_f = f_z \times z \times n$$

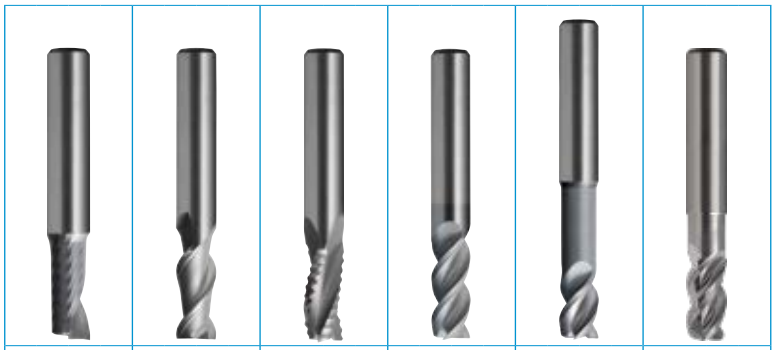
$$Q = \frac{a_p \times a_e \times v_f}{1000}$$

suttontools

ISO	VDI	Material Group	Sutton	
P	A	Steel	N	UNI
M	R	Stainless Steel	VA	UNI
K	F	Cast Iron	GG	UNI
N	N	Non-Ferrous Metals, Aluminiums & Coppers	Al W	UNI
S	S	Titaniums & Super Alloys	Ti	Ni
H	H	Hard Materials (≥ 45 HRC)	H	

^ VDI 3323 material groups can also be determined by referring to the workpiece material cross reference listing. Refer to main index of this section.

For expert tooling recommendations, go to:
www.suttontools.com/expert-tool-selector



Catalogue Code	E444				E310				E446				E400				E402				E478 / E480			
Material	VHM				VHM				VHM				VHM-ULTRA				VHM-ULTRA				VHM-ULTRA			
Surface Finish	*Brt*				*Brt*				*Brt*				*CrN*				*CrN*				*Brt*			
Sutton Designation	Al				Al				Al				Al				Al				Al			
Type of Cut: *Slotting*		●				●				●				●				●				●		
Finishing																							●	
Universal			●				●				●				●				●					●
Roughing				●				●				●				●				●				
Profiling																								
ap × Ø		1.0	1.5	1.5		1.0	1.5	1.5		1.25	2.0	2.0		1.5	1.5	1.5		0.25	0.5	0.5		0.25	0.5	0.5
ae × Ø		1.0	0.2	0.2		1.0	0.25	0.4		1.0	0.4	0.4		1.0	0.25	0.4		1.0	0.2	0.3		1.0	0.2	0.3

ISO	VDI^ 3323	Material		Condition	HB	N/mm²	Vc	Feed #			Vc	Feed #			Vc	Feed #			Vc	Feed #			Vc	Feed #			Vc	Feed #		
P	1	Steel - Non-alloy, cast & free cutting	~ 0.15 %C	A	125	440	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2		~ 0.45 %C	A	190	640	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3			QT	250	840	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	4		~ 0.75 %C	A	270	910	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	5			QT	300	1010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	6	Steel - Low alloy & cast < 5% of alloying elements		A	180	610	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	7			QT	275	930	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	8			QT	300	1010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	9			QT	350	1180	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	10	Steel - High alloy, cast & tool		A	200	680	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	11			HT	325	1100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	12	Steel - Corrosion resistant & cast	Ferritic / Martensitic	A	200	680	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	13		Martensitic	QT	240	810	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M	14.1	Stainless Steel	Austenitic	AH	180	610	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	14.2		Duplex		250	840	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	14.3		Precipitation Hardening		250	840	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
K	15	Cast Iron - Grey (GG)	Ferritic / Pearlitic		180	610	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	16		Pearlitic		260	880	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	17	Cast Iron - Nodular (GGG)	Ferritic		160	570	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	18		Pearlitic		250	840	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	19	Cast Iron - Malleable	Ferritic		130	460	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	20		Pearlitic		230	780	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
N	21	Aluminum & Magnesium - wrought alloy	Non Heat Treatable		60	210	**220**	**3**	**11**	**16**	**220**	**8**	**18**	**14**	**220**	**14**	**19**	**17**	**200**	**8**	**17**	**13**	**200**	**9**	**18**	**13**	**200**	**9**	**18**	**13**
	22		Heat Treatable	AH	100	360	**220**	**3**	**11**	**16**	**220**	**8**	**18**	**14**	**220**	**14**	**19**	**17**	**200**	**8**	**17**	**13**	**200**	**9**	**18**	**13**	**200**	**9**	**18**	**13**
	23	Aluminum & Magnesium - cast alloy ≤12% Si	Non Heat Treatable		75	270	**220**	**3**	**11**	**16**	**220**	**8**	**18**	**14**	**220**	**14**	**19**	**17**	**200**	**8**	**17**	**13**	**200**	**9**	**18**	**13**	**200**	**9**	**18**	**13**
	24		Heat Treatable	AH	90	320	**220**	**3**	**11**	**16**	**220**	**8**	**18**	**14**	**220**	**14**	**19**	**17**	**200**	**8**	**17**	**13**	**200**	**9**	**18**	**13**	**200**	**9**	**18**	**13**
	25	Al & Mg - cast alloy >12% Si	Non Heat Treatable		130	460	220	3	11	16	**220**	**8**	**18**	**14**	220	14	19	17	**200**	**8**	**17**	**13**	**200**	**9**	**18**	**13**	**200**	**9**	**18**	**13**
	26	Copper & Cu alloys (Brass/Bronze)	Free cutting, Pb > 1%		110	390	160	3	11	16	**160**	**8**	**18**	**14**	160	14	19	17	**500**	**8**	**17**	**13**	**500**	**9**	**18**	**13**	**350**	**9**	**18**	**13**
	27		Brass (CuZn, CuSnZn)		90	320	160	3	11	16	**160**	**8**	**18**	**14**	160	14	19	17	**500**	**8**	**17**	**13**	**500**	**9**	**18**	**13**	**350**	**9**	**18**	**13**
	28		Bronze (CuSn)		100	360	160	3	11	16	**160**	**8**	**18**	**14**	160	14	19	17	**500**	**8**	**17**	**13**	**500**	**9**	**18**	**13**	**350**	**9**	**18**	**13**
	29	Non-metallic - Thermosetting & fiber-reinforced plastics					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	30	Non-metallic - Hard rubber, wood etc.					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
S	31	High temp. alloys	Fe based	A	200	680	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	32			AH	280	950	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	33		Ni / Co based	A	250	840	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	34			AH	350	1180	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	35			C	320	1080	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	36	Titanium & Ti alloys	CP Titanium		400 MPa		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	37.1		Alpha alloys		860 MPa		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	37.2		Alpha / Beta alloys	A	960 MPa		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	37.3			AH	1170 MPa		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	37.4		Beta alloys	A	830 MPa		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	37.5			AH	1400 MPa		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
H	38.1	Hardened steel		HT	45 HRC		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	38.2			HT	55 HRC		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	39.1			HT	58 HRC		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	39.2			HT	62 HRC		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	40	Cast Iron	Chilled	C	400	1350	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	41			HT	55 HRC		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Condition: A (Annealed), **AH** (Age Hardened), **C** (Cast), **HT** (Hardened & Tempered), **QT** (Quenched & Tempered)

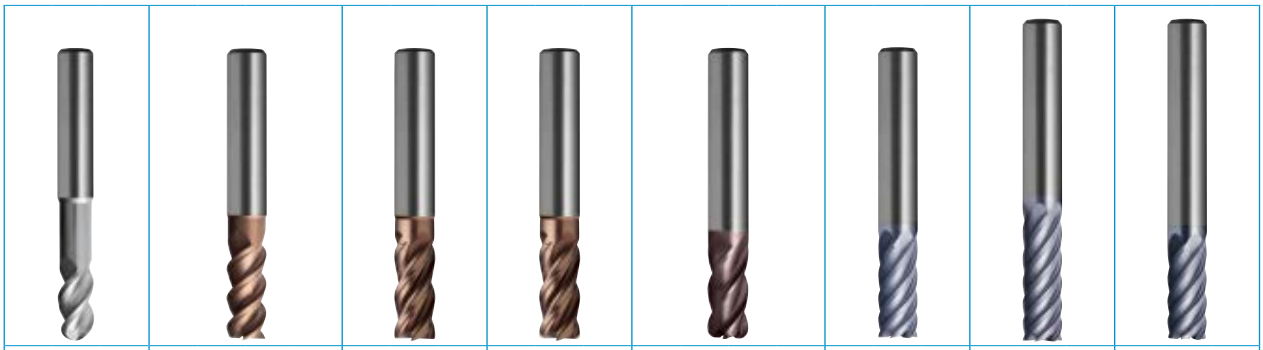
Bold = Optimal | Regular = Effective

Feed Table (f_z) (mm/tooth)

Ø	Feed # 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
2	0.001	0.002	0.002	0.003	0.004	0.005	0.006	0.007	0.008	0.010	0.011	0.013	0.014	0.016	0.018	0.020	0.022	0.024	0.026	0.030
3	0.002	0.003	0.004	0.005	0.006	0.008	0.009	0.010	0.012	0.014	0.016	0.018	0.020	0.023	0.025	0.028	0.032	0.034	0.038	0.042
4	0.004	0.005	0.006	0.007	0.009	0.010	0.012	0.014	0.016	0.018	0.021	0.023	0.026	0.030	0.032	0.036	0.040	0.044	0.045	0.050
5	0.005	0.006	0.008	0.009	0.011	0.013	0.015	0.017	0.020	0.023	0.025	0.030	0.032	0.036	0.040	0.044	0.050	0.055	0.060	0.065
6	0.006	0.008	0.009	0.011	0.013	0.016	0.018	0.021	0.024	0.028	0.030	0.034	0.038	0.042	0.045	0.050	0.055	0.060	0.070	0.075
8	0.010	0.012	0.014	0.017	0.019	0.022	0.025	0.028	0.032	0.036	0.040	0.045	0.050	0.055	0.060	0.065	0.075	0.080	0.085	0.095
10	0.013	0.015	0.018	0.021	0.024	0.028	0.032	0.036	0.040	0.045	0.050	0.055	0.060	0.070	0.075	0.085	0.090	0.100	0.11	0.12
12	0.016	0.019	0.022	0.026	0.030	0.034	0.038	0.044	0.050	0.055	0.060	0.065	0.075	0.080	0.090	0.100	0.11	0.12	0.13	0.14
16	0.020	0.024	0.028	0.034	0.038	0.044	0.050	0.055	0.060	0.070	0.080	0.085	0.095	0.11	0.12	0.13	0.14	0.16	0.17	0.18
20	0.022	0.028	0.032	0.038	0.044	0.050	0.060	0.065	0.075	0.085	0.095	0.11	0.12	0.13	0.15	0.16	0.18	0.19	0.21	0.23
25	0.025	0.032	0.038	0.045	0.055	0.060	0.070	0.080	0.090	0.10	0.12	0.13	0.15	0.16	0.18	0.20	0.22	0.24	0.26	0.29

Notes on Milling

1. Above values are guidelines for the size and type of cut nominated.
2. For long series tools, reduce speed by 40% and feed by 20%.



E408	E410	E459	E462	E348	E432	E434	E436
VHM-ULTRA	VHM-ULTRA	VHM-ULTRA	VHM-ULTRA	VHM	VHM-ULTRA	VHM-ULTRA	VHM-ULTRA
CrN	*HELICA*	*HELICA*	*HELICA*	*TiAlN*	*AlCrN*	*AlCrN*	*AlCrN*
Al	VA	VA	VA	NH	NH	NH	NH
	●						
		●	●	●	●	●	●
	●	●	●	●	●	●	●
				●			
0.1 0.1	0.25 2.3 2.3	1.0 1.0	1.0 1.0	1.5 1.0 0.2	2.0 2.0	2.0 2.0	2.0 2.0
0.1 0.05	1.0 0.2 0.4	0.1 0.3	0.1 0.3	0.1 0.4 0.05	0.05 0.025	0.05 0.025	0.06 0.05

E408 Vc	E408 Feed #		E410 Vc	E410 Feed #			E459 Vc	E459 Feed #		E462 Vc	E462 Feed #		E348 Vc	E348 Feed #			E432 Vc	E432 Feed #		E434 Vc	E434 Feed #		E436 Vc	E436 Feed #		VDI^ 3323	ISO
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	210	15	11	210	15	11	210	14	11	1	P
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	210	15	11	210	15	11	210	14	11	2	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**175**	**15**	**11**	**175**	**15**	**11**	**175**	**14**	**11**	3	
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-	-	-	-	-	-	-	-	-	-	-	-	-	**100**	**8**	**11**	**14**	**175**	**15**	**11**	**175**	**15**	**11**	**175**	**14**	**11**	5	
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-	-	-	-	-	-	-	-	-	-	-	-	-	**100**	**8**	**11**	**14**	**175**	**15**	**11**	**175**	**15**	**11**	**175**	**14**	**11**	8	
-	-	-	-	-	-	-	-	-	-	-	-	-	**80**	**8**	**11**	**14**	**120**	**15**	**11**	**120**	**15**	**11**	**120**	**14**	**11**	9	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**175**	**15**	**11**	**175**	**15**	**11**	**175**	**14**	**11**	10	
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-	-	-	120	11	18	16	120	12	9	120	12	9	-	-	-	-	120	15	11	120	15	11	120	14	11	12	
-	-	-	100	11	18	16	100	12	9	100	12	9	**80**	**8**	**11**	**14**	**100**	**15**	**11**	**100**	**15**	**11**	**100**	**14**	**11**	13	
-	-	-	**120**	**11**	**18**	**16**	**120**	**12**	**9**	**120**	**12**	**9**	-	-	-	-	-	-	-	-	-	-	-	-	-	14.1	M
-	-	-	**120**	**11**	**18**	**16**	**120**	**12**	**9**	**120**	**12**	**9**	-	-	-	-	-	-	-	-	-	-	-	-	-	14.2	
-	-	-	**100**	**11**	**18**	**16**	**100**	**12**	**9**	**100**	**12**	**9**	**80**	**8**	**11**	**14**	-	-	-	-	-	-	-	-	-	14.3	
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200	**18**	**15**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	21	N
200	**18**	**15**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	22	
200	**18**	**15**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	23	
200	**18**	**15**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	24	
200	**18**	**15**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	25	
500	**18**	**15**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	26	
500	**18**	**15**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	27	
500	**18**	**15**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	28	
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-	-	-	70	10	18	14	70	11	8	70	11	8	-	-	-	-	-	-	-	-	-	-	-	-	-	31	S
-	-	-	**70**	**10**	**18**	**14**	**70**	11	8	**70**	11	8	-	-	-	-	50	15	11	50	15	11	50	14	11	32	
-	-	-	70	10	18	14	70	11	8	70	11	8	-	-	-	-	-	-	-	-	-	-	-	-	-	33	
-	-	-	**70**	**10**	**18**	**14**	**70**	11	8	**70**	11	8	**50**	**8**	**11**	**14**	**50**	**15**	**11**	**50**	**15**	**11**	**50**	**14**	**11**	34	
-	-	-	**70**	**10**	**18**	**14**	**70**	11	8	**70**	11	8	50	8	11	14	50	15	11	50	15	11	50	14	11	35	
-	-	-	90	10	18	14	90	11	8	90	11	8	-	-	-	-	-	-	-	-	-	-	-	-	-	36	
-	-	-	**90**	**10**	**18**	**14**	**90**	11	8	**90**	11	8	-	-	-	-	-	-	-	-	-	-	-	-	-	37.1	
-	-	-	**90**	**10**	**18**	**14**	**90**	11	8	**90**	11	8	-	-	-	-	70	15	11	70	15	11	70	14	11	37.2	
-	-	-	-	-	-	-	-	-	-	-	-	-	**70**	**8**	**11**	**14**	**70**	**15**	**11**	**70**	**15**	**11**	**70**	**14**	**11**	37.3	
-	-	-	**90**	**10**	**18**	**14**	**90**	11	8	**90**	11	8	-	-	-	-	70	15	11	70	15	11	70	14	11	37.4	
-	-	-	90	10	18	14	90	11	8	90	11	8	**70**	**8**	**11**	**14**	**70**	**15**	**11**	**70**	**15**	**11**	**70**	**14**	**11**	37.5	
-	-	-	-	-	-	-	-	-	-	-	-	-	**80**	**8**	**11**	**14**	**120**	**15**	**11**	**120**	**15**	**11**	**120**	**14**	**11**	38.1	H
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**120**	**15**	**11**	**120**	**15**	**11**	**120**	**14**	**11**	38.2	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100	15	11	100	15	11	100	14	11	39.1	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	39.2	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**120**	**15**	**11**	**120**	**15**	**11**	**120**	**14**	**11**	40	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100	15	11	100	15	11	100	14	11	41	

METRIC ENDMILLS (mm size)

- **Ø** = nominal tool diameter (mm)
- **n** = Spindel speed (RPM)
- **vc** = Cutting speed (m/min)
- **fz** = Feed rate per tooth (mm/tooth)
- **vf** = Feed rate (mm/min)
- **z** = No. cutting edges
- **Q** = Metal removal rate (cm^3/min)
- **ap** = Cutting depth (mm)
- **ae** = Cutting width (mm)

$$n = \frac{v_c \times 1000}{Ø \times \pi} \simeq \frac{v_c}{Ø} \times 318$$

$$v_c = \frac{n \times Ø \times \pi}{1000} \simeq \frac{n \times Ø}{318}$$

$$f_z = \frac{V_f}{z \times n} \qquad v_f = f_z \times z \times n$$

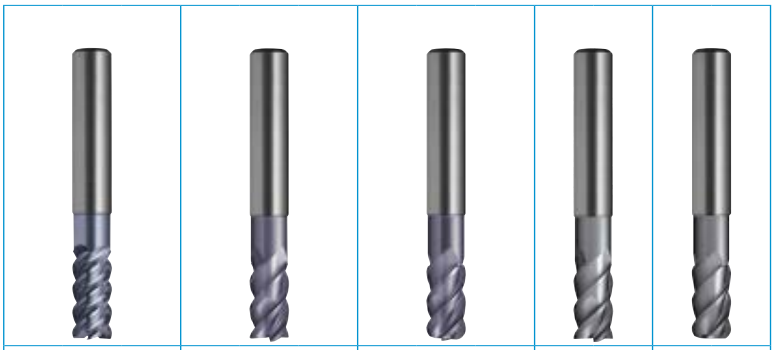
$$Q = \frac{a_p \times a_e \times v_f}{1000}$$

suttontools

ISO	VDI	Material Group	Sutton		
P	A	Steel	N		UNI
M	R	Stainless Steel	VA		
K	F	Cast Iron	GG		
N	N	Non-Ferrous Metals, Aluminiums & Coppers	Al	W	
S	S	Titaniums & Super Alloys	Ti		Ni
H	H	Hard Materials (≥ 45 HRC)	H		

^ VDI 3323 material groups can also be determined by referring to the workpiece material cross reference listing. Refer to main index of this section.

For expert tooling recommendations, go to:
www.suttontools.com/expert-tool-selector



Catalogue Code	E543			E562			E564			E566		E568	
Material	VHM-ULTRA			VHM-ULTRA			VHM-ULTRA			VHM-ULTRA			
Surface Finish	*AlCrN*			*AlCrN*			*AlCrN*			*Aldura*			
Sutton Designation	NH			NH			NH			VH			
Type of Cut: *Slotting*					●			●					
Finishing		●									●		●
Universal			●			●			●				
Roughing													
Profiling													
ap × Ø		1.75	1.75		0.5	1.0		0.5	1.0		1.0		1.0
ae × Ø		0.05	0.025		1.0	0.4		1.0	0.4		0.05		0.05

ISO	VDI^ 3323	Material		Condition	HB	N/mm²	Vc	Feed #		Vc	Feed #		Vc	Feed #		Vc	Feed #	Vc	Feed #
P	1	Steel - Non-alloy, cast & free cutting	~ 0.15 %C	A	125	440	-	-	-	-	-	-	-	-	-	-	-	-	-
	2		~ 0.45 %C	A	190	640	-	-	-	-	-	-	-	-	-	-	-	-	-
	3			QT	250	840	-	-	-	-	-	-	-	-	-	-	-	-	-
	4		~ 0.75 %C	A	270	910	-	-	-	-	-	-	-	-	-	-	-	-	-
	5			QT	300	1010	**100**	**14**	**11**	**175**	**9**	**10**	**175**	**9**	**10**	-	-	-	-
	6	Steel - Low alloy & cast < 5% of alloying elements		A	180	610	-	-	-	-	-	-	-	-	-	-	-	-	-
	7			QT	275	930	**100**	**14**	**11**	-	-	-	-	-	-	-	-	-	-
	8			QT	300	1010	**100**	**14**	**11**	**175**	**9**	**10**	**175**	**9**	**10**	-	-	-	-
	9			QT	350	1180	**80**	**14**	**11**	**120**	**9**	**10**	**120**	**9**	**10**	-	-	-	-
	10	Steel - High alloy, cast & tool		A	200	680	**100**	**14**	**11**	-	-	-	-	-	-	-	-	-	-
	11			HT	325	1100	**80**	**14**	**11**	**120**	**9**	**10**	**120**	**9**	**10**	-	-	-	-
	12	Steel - Corrosion resistant & cast	Ferritic / Martensitic	A	200	680	90	14	11	-	-	-	-	-	-	-	-	-	-
	13		Martensitic	QT	240	810	**80**	**14**	**11**	**100**	**9**	**10**	**100**	**9**	**10**	-	-	-	-
M	14.1	Stainless Steel	Austenitic	AH	180	610	90	14	11	-	-	-	-	-	-	-	-	-	-
	14.2		Duplex		250	840	**90**	14	11	**120**	**9**	**10**	**120**	**9**	**10**	-	-	-	-
	14.3		Precipitation Hardening		250	840	**80**	14	11	**100**	**9**	**10**	**100**	**9**	**10**	-	-	-	-
K	15	Cast Iron - Grey (GG)	Ferritic / Pearlitic		180	610	**140**	**14**	**11**	-	-	-	-	-	-	-	-	-	-
	16		Pearlitic		260	880	**140**	**14**	**11**	150	9	10	150	9	10	-	-	-	-
	17	Cast Iron - Nodular (GGG)	Ferritic		160	570	**140**	**14**	**11**	-	-	-	-	-	-	-	-	-	-
	18		Pearlitic		250	840	**140**	**14**	**11**	**150**	**9**	**10**	**150**	**9**	**10**	-	-	-	-
	19	Cast Iron - Malleable	Ferritic		130	460	**100**	**14**	**11**	-	-	-	-	-	-	-	-	-	-
	20		Pearlitic		230	780	**100**	**14**	**11**	-	-	-	-	-	-	-	-	-	-
N	21	Aluminum & Magnesium - wrought alloy	Non Heat Treatable		60	210	-	-	-	-	-	-	-	-	-	-	-	-	-
	22		Heat Treatable	AH	100	360	-	-	-	-	-	-	-	-	-	-	-	-	-
	23	Aluminum & Magnesium - cast alloy ≤12% Si	Non Heat Treatable		75	270	-	-	-	-	-	-	-	-	-	-	-	-	-
	24		Heat Treatable	AH	90	320	-	-	-	-	-	-	-	-	-	-	-	-	-
	25	Al & Mg - cast alloy >12% Si	Non Heat Treatable		130	460	-	-	-	-	-	-	-	-	-	-	-	-	-
	26	Copper & Cu alloys (Brass/Bronze)	Free cutting, Pb > 1%		110	390	-	-	-	-	-	-	-	-	-	-	-	-	-
	27		Brass (CuZn, CuSnZn)		90	320	-	-	-	-	-	-	-	-	-	-	-	-	-
	28		Bronze (CuSn)		100	360	-	-	-	-	-	-	-	-	-	-	-	-	-
	29	Non-metallic - Thermosetting & fiber-reinforced plastics					-	-	-	-	-	-	-	-	-	-	-	-	-
	30	Non-metallic - Hard rubber, wood etc.					-	-	-	-	-	-	-	-	-	-	-	-	-
S	31	High temp. alloys	Fe based	A	200	680	**50**	**14**	**11**	-	-	-	-	-	-	-	-	-	-
	32			AH	280	950	**50**	**14**	**11**	**50**	**9**	**10**	**50**	**9**	**10**	-	-	-	-
	33		Ni / Co based	A	250	840	**50**	**14**	**11**	-	-	-	-	-	-	-	-	-	-
	34			AH	350	1180	**50**	**14**	**11**	**50**	**9**	**10**	**50**	**9**	**10**	-	-	-	-
	35			C	320	1080	-	-	-	**50**	**9**	**10**	**50**	**9**	**10**	-	-	-	-
	36	Titanium & Ti alloys	CP Titanium		400 MPa		-	-	-	-	-	-	-	-	-	-	-	-	-
	37.1		Alpha alloys		860 MPa		**70**	**14**	**11**	**70**	**9**	**10**	**70**	**9**	**10**	-	-	-	-
	37.2		Alpha / Beta alloys	A	960 MPa		**70**	**14**	**11**	**70**	**9**	**10**	**70**	**9**	**10**	-	-	-	-
	37.3			AH	1170 MPa		**70**	**14**	**11**	-	-	-	-	-	-	-	-	-	-
	37.4		Beta alloys	A	830 MPa		**70**	**14**	**11**	**70**	**9**	**10**	**70**	**9**	**10**	-	-	-	-
	37.5			AH	1400 MPa		-	-	-	-	-	-	-	-	-	-	-	-	-
H	38.1	Hardened steel		HT	45 HRC		80	14	11	120	9	10	120	9	10	-	-	-	-
	38.2			HT	55 HRC		-	-	-	-	-	-	-	-	-	**60**	**12**	**60**	**12**
	39.1			HT	58 HRC		-	-	-	-	-	-	-	-	-	**50**	**12**	**50**	**12**
	39.2			HT	62 HRC		-	-	-	-	-	-	-	-	-	**30**	**12**	**30**	**12**
	40	Cast Iron	Chilled	C	400	1350	**80**	**14**	**11**	**120**	**9**	**10**	**120**	**9**	**10**	-	-	-	-
	41			HT	55 HRC		-	-	-	-	-	-	-	-	-	**140**	**12**	**140**	**12**

Condition: A (Annealed), **AH** (Age Hardened), **C** (Cast), **HT** (Hardened & Tempered), **QT** (Quenched & Tempered)

Bold = Optimal | Regular = Effective

Feed Table (f_z) (mm/tooth)

Ø	Feed # 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
2	0.001	0.002	0.002	0.003	0.004	0.005	0.006	0.007	0.008	0.010	0.011	0.013	0.014	0.016	0.018	0.020	0.022	0.024	0.026	0.030
3	0.002	0.003	0.004	0.005	0.006	0.008	0.009	0.010	0.012	0.014	0.016	0.018	0.020	0.023	0.025	0.028	0.032	0.034	0.038	0.042
4	0.004	0.005	0.006	0.007	0.009	0.010	0.012	0.014	0.016	0.018	0.021	0.023	0.026	0.030	0.032	0.036	0.040	0.044	0.045	0.050
5	0.005	0.006	0.008	0.009	0.011	0.013	0.015	0.017	0.020	0.023	0.025	0.030	0.032	0.036	0.040	0.044	0.050	0.055	0.060	0.065
6	0.006	0.008	0.009	0.011	0.013	0.016	0.018	0.021	0.024	0.028	0.030	0.034	0.038	0.042	0.045	0.050	0.055	0.060	0.070	0.075
8	0.010	0.012	0.014	0.017	0.019	0.022	0.025	0.028	0.032	0.036	0.040	0.045	0.050	0.055	0.060	0.065	0.075	0.080	0.085	0.095
10	0.013	0.015	0.018	0.021	0.024	0.028	0.032	0.036	0.040	0.045	0.050	0.055	0.060	0.070	0.075	0.085	0.090	0.100	0.11	0.12
12	0.016	0.019	0.022	0.026	0.030	0.034	0.038	0.044	0.050	0.055	0.060	0.065	0.075	0.080	0.090	0.100	0.11	0.12	0.13	0.14
16	0.020	0.024	0.028	0.034	0.038	0.044	0.050	0.055	0.060	0.070	0.080	0.085	0.095	0.11	0.12	0.13	0.14	0.16	0.17	0.18
20	0.022	0.028	0.032	0.038	0.044	0.050	0.060	0.065	0.075	0.085	0.095	0.11	0.12	0.13	0.15	0.16	0.18	0.19	0.21	0.23
25	0.025	0.032	0.038	0.045	0.055	0.060	0.070	0.080	0.090	0.10	0.12	0.13	0.15	0.16	0.18	0.20	0.22	0.24	0.26	0.29

Notes on Milling

1. Above values are guidelines for the size and type of cut nominated.
2. For long series tools, reduce speed by 40% and feed by 20%.

E464		E466		E468		E470		E476				E477				E472/E473		E474/E475			
VHM-ULTRA				VHM-ULTRA				VHM-ULTRA				VHM-ULTRA				VHM-ULTRA		VHM-ULTRA			
AlNova				*AlNova*				*AlNova*				*AlNova*				*Xceed*		*Xceed*			
Ti				Ti				Ti-3XL				Ti-4XL				Ni		Ni			
									●				●				●		●		
	●		●		●		●														
											●				●						
	1.0		1.0		1.0		1.0		3.0		3.0		4.0		4.0		1.5		1.5		
	0.02		0.02		0.02		0.02		0.05		0.25		0.05		0.2		0.05		0.05		
Vc	Feed #	Vc	Feed #	Vc	Feed #	Vc	Feed #													VDI^ 3323	ISO
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	P
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-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**120**	**14**	**120**	**14**	14.1	M
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-	-	-	-	-	-	-	-	**80**	**11**	**60**	**13**	-	-	-	-	**100**	**14**	**100**	**14**	14.3	
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-	-	-	-	-	-	-	-	**70**	**7**	**70**	**10**	**65**	**7**	**65**	**10**	-	-	-	-	36	
80	**10**	**80**	**10**	**80**	**9**	**80**	**9**	**65**	**7**	**55**	**10**	**60**	**7**	**50**	**10**	-	-	-	-	37.1	
80	**10**	**80**	**10**	**80**	**9**	**80**	**9**	**65**	**7**	**50**	**10**	**60**	**7**	**45**	**10**	-	-	-	-	37.2	
80	**10**	**80**	**10**	**80**	**9**	**80**	**9**	**50**	**7**	**40**	**10**	**45**	**7**	**35**	**10**	-	-	-	-	37.3	
80	**10**	**80**	**10**	**80**	**9**	**80**	**9**	**65**	**7**	**55**	**10**	**60**	**7**	**50**	**10**	-	-	-	-	37.4	
80	**10**	**80**	**10**	**80**	**9**	**80**	**9**	**50**	**7**	**40**	**10**	**45**	**7**	**35**	**10**	-	-	-	-	37.5	
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-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	41	

METRIC ENDMILLS (mm size)

Ø = nominal tool diameter (mm)
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vf = Feed rate (mm/min)
z = No. cutting edges
Q = Metal removal rate (cm^3/min)
ap = Cutting depth (mm)
ae = Cutting width (mm)

$$n = \frac{v_c \times 1000}{Ø \times \pi} \simeq \frac{v_c}{Ø} \times 318$$

$$v_c = \frac{n \times Ø \times \pi}{1000} \simeq \frac{n \times Ø}{318}$$

$$f_z = \frac{V_f}{z \times n} \qquad v_f = f_z \times z \times n$$

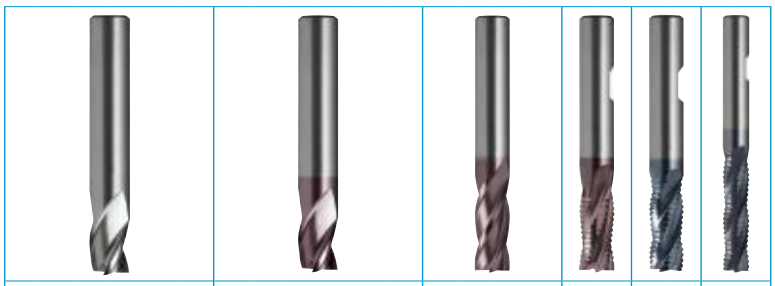
$$Q = \frac{a_p \times a_e \times v_f}{1000}$$

suttontools

ISO	VDI	Material Group	Sutton		
P	A	Steel	N		UNI
M	R	Stainless Steel	VA		
K	F	Cast Iron	GG		
N	N	Non-Ferrous Metals, Aluminiums & Coppers	Al	W	
S	S	Titaniums & Super Alloys	Ti		Ni
H	H	Hard Materials (≥ 45 HRC)	H		

^ VDI 3323 material groups can also be determined by referring to the workpiece material cross reference listing. Refer to main index of this section.

For expert tooling recommendations, go to:
www.suttontools.com/expert-tool-selector



Catalogue Code	E187			E188					E126				E202		E145		E147	
Material	HSS Co.8			HSS Co.8					HSS Co.8				HSS Co.8		HSS Co.8		HSS Co.8	
Surface Finish	*Brt*			*TiAlN*					*TiAlN*				*TiAlN*		*TiCN*		*TiCN*	
Sutton Designation	N			N					N				N		WN		WN	
Geometry	R30			R30					R30				R30 NF		R30 NR		R30 NR	
Type of Cut: *Slotting*	●				●													
Finishing		●					●			●								
Universal			●					●				●						
Roughing														●		●		●
Profiling																		
ap × Ø	0.5	1.5	1.5		0.5		1.5		1.5		1.5		1.5		1.0		1.0	
ae × Ø	1.0	0.1	0.1		1.0		0.1		0.25		0.1		0.25		0.5		0.5	

ISO	VDI^ 3323	Material		Condition	HB	N/mm²	Vc	Feed #	Vc	Feed #	Vc	Feed #	Vc	Feed #	Vc	Feed #	Vc	Feed #	Vc	Feed #	Vc	Feed #	Vc	Feed #	Vc	Feed #	Vc	Feed #
P	1	Steel - Non-alloy, cast & free cutting	~ 0.15 %C	A	125	440	**30**	**6**	**40**	**5**	**40**	**5**	**36**	**6**	**50**	**4**	**50**	**5**	**50**	**4**	**40**	**5**	**50**	**9**	**40**	**5**	**40**	**5**
	2		~ 0.45 %C	A	190	640	**30**	**6**	**40**	**5**	**40**	**5**	**36**	**6**	**50**	**4**	**50**	**5**	**50**	**4**	**40**	**5**	**50**	**9**	**40**	**5**	**40**	**5**
	3			QT	250	840	30	6	40	5	40	5	36	6	50	4	50	5	50	4	40	5	**50**	**9**	40	5	40	5
	4		~ 0.75 %C	A	270	910	30	6	40	5	40	5	36	6	50	4	50	5	50	4	40	5	**50**	**9**	40	5	40	5
	5			QT	300	1010	20	5	25	4	25	4	25	5	30	3	30	4	30	3	25	4	**40**	**7**	40	5	40	5
	6	Steel - Low alloy & cast < 5% of alloying elements		A	180	610	**30**	**6**	**40**	**5**	**40**	**5**	**36**	**6**	**50**	**4**	**50**	**5**	**50**	**4**	**40**	**5**	**50**	**9**	**40**	**5**	**40**	**5**
	7			QT	275	930	25	5	30	4	30	4	30	5	40	4	40	5	40	4	35	5	**50**	**9**	40	5	40	5
	8			QT	300	1010	20	5	25	4	25	4	25	5	30	3	30	4	30	3	25	4	**40**	**7**	40	5	40	5
	9			QT	350	1180	-	-	-	-	-	-	18	4	25	3	25	4	25	3	20	4	25	6	-	-	-	-
	10	Steel - High alloy, cast & tool		A	200	680	20	5	25	4	25	4	**25**	**5**	**30**	**3**	**30**	**4**	**30**	**3**	**25**	**4**	**40**	**7**	-	-	-	-
	11			HT	325	1100	-	-	-	-	-	-	18	4	25	3	25	4	25	3	20	4	25	6	-	-	-	-
	12	Steel - Corrosion resistant & cast	Ferritic / Martensitic	A	200	680	-	-	10	3	10	3	-	-	-	-	-	-	12	2	10	3	15	4	-	-	-	-
	13		Martensitic	QT	240	810	15	4	22	4	22	4	18	4	25	3	25	4	25	3	20	4	25	6	-	-	-	-
M	14.1	Stainless Steel	Austenitic	AH	180	610	-	-	-	-	-	-	18	5	25	3	25	4	20	3	16	4	**25**	**5**	-	-	-	-
	14.2		Duplex		250	840	-	-	-	-	-	-	15	3	18	1	18	3	15	1	12	3	**20**	**5**	-	-	-	-
	14.3		Precipitation Hardening		250	840	-	-	-	-	-	-	-	-	-	-	-	-	12	2	10	3	15	4	-	-	-	-
K	15	Cast Iron - Grey (GG)	Ferritic / Pearlitic		180	610	30	5	35	4	35	4	**35**	**5**	**40**	**3**	**32**	**4**	**40**	**3**	**32**	**4**	**30**	**9**	50	8	50	8
	16		Pearlitic		260	880	25	4	25	3	25	3	30	4	30	2	24	3	30	2	24	3	30	9	-	-	-	-
	17	Cast Iron - Nodular (GGG)	Ferritic		160	570	20	3	22	3	22	3	-	-	-	-	-	-	-	-	-	-	**30**	**9**	20	8	20	8
	18		Pearlitic		250	840	20	3	22	3	22	3	-	-	-	-	-	-	-	-	-	-	30	9	-	-	-	-
	19	Cast Iron - Malleable	Ferritic		130	460	20	3	22	3	22	3	-	-	-	-	-	-	-	-	-	-	30	9	20	8	20	8
	20		Pearlitic		230	780	20	3	22	3	22	3	-	-	-	-	-	-	-	-	-	-	30	9	-	-	-	-
N	21	Aluminum & Magnesium - wrought alloy	Non Heat Treatable		60	210	**70**	**6**	**70**	**6**	**70**	**6**	85	6	90	5	90	6	75	5	60	6	90	15	90	9	90	9
	22		Heat Treatable	AH	100	360	**70**	**6**	**70**	**6**	**70**	**6**	85	6	90	5	90	6	75	5	60	6	90	15	90	9	90	9
	23	Aluminum & Magnesium - cast alloy ≤12% Si	Non Heat Treatable		75	270	50	5	55	5	55	5	55	5	70	4	70	5	60	4	45	5	60	15	65	8	65	8
	24		Heat Treatable	AH	90	320	50	5	55	5	55	5	55	5	70	4	70	5	60	4	45	5	60	15	65	8	65	8
	25	Al & Mg - cast alloy >12% Si	Non Heat Treatable		130	460	30	6	-	-	-	-	35	6	60	4	60	5	50	4	35	5	-	-	-	-	-	-
	26	Copper & Cu alloys (Brass/Bronze)	Free cutting, Pb > 1%		110	390	25	5	40	5	40	5	30	5	60	4	60	5	40	4	32	5	**60**	**14**	35	6	35	6
	27		Brass (CuZn, CuSnZn)		90	320	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	80	10	-	-	-	-
	28		Bronze (CuSn)		100	360	50	6	70	6	70	6	55	6	90	5	90	6	75	5	60	6	**70**	**14**	50	6	50	6
	29	Non-metallic - Thermosetting & fiber-reinforced plastics					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	30	Non-metallic - Hard rubber, wood etc.					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
S	31	High temp. alloys	Fe based	A	200	680	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20	5	-	-	-	-
	32			AH	280	950	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	5	-	-	-	-
	33		Ni / Co based	A	250	840	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20	5	-	-	-	-
	34			AH	350	1180	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8	5	-	-	-	-
	35			C	320	1080	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	5	-	-	-	-
	36	Titanium & Ti alloys	CP Titanium		400 MPa		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	22	8	-	-	-	-
	37.1		Alpha alloys		860 MPa		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	18	8	-	-	-	-
	37.2		Alpha / Beta alloys	A	960 MPa		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	18	8	-	-	-	-
	37.3			AH	1170 MPa		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12	8	-	-	-	-
	37.4		Beta alloys	A	830 MPa		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	18	8	-	-	-	-
	37.5			AH	1400 MPa		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12	8	-	-	-	-
H	38.1	Hardened steel		HT	45 HRC		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	38.2			HT	55 HRC		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	39.1			HT	58 HRC		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	39.2			HT	62 HRC		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	40	Cast Iron	Chilled	C	400	1350	-	-	25	3	25	3	-	-	-	-	-	-	**28**	**3**	**24**	**3**	**30**	**9**	-	-	-	-
	41			HT	55 HRC		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Condition: A (Annealed), **AH** (Age Hardened), **C** (Cast), **HT** (Hardened & Tempered), **QT** (Quenched & Tempered)

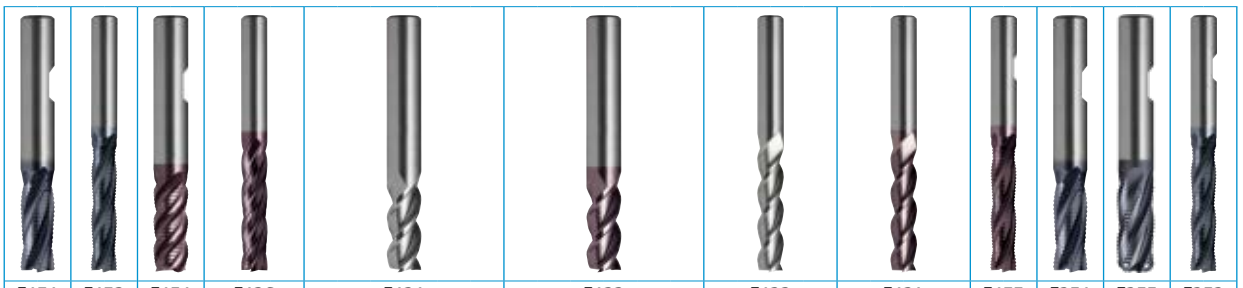
Bold = Optimal | Regular = Effective

Feed Table (f_z) (mm/tooth)

Ø	Feed # 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
2	0.001	0.002	0.002	0.003	0.004	0.005	0.006	0.007	0.008	0.010	0.011	0.013	0.014	0.016	0.018	0.020	0.022	0.024	0.026	0.030
3	0.002	0.003	0.004	0.005	0.006	0.008	0.009	0.010	0.012	0.014	0.016	0.018	0.020	0.023	0.025	0.028	0.032	0.034	0.038	0.042
4	0.004	0.005	0.006	0.007	0.009	0.010	0.012	0.014	0.016	0.018	0.021	0.023	0.026	0.030	0.032	0.036	0.040	0.044	0.045	0.050
5	0.005	0.006	0.008	0.009	0.011	0.013	0.015	0.017	0.020	0.023	0.025	0.030	0.032	0.036	0.040	0.044	0.050	0.055	0.060	0.065
6	0.006	0.008	0.009	0.011	0.013	0.016	0.018	0.021	0.024	0.028	0.030	0.034	0.038	0.042	0.045	0.050	0.055	0.060	0.070	0.075
8	0.010	0.012	0.014	0.017	0.019	0.022	0.025	0.028	0.032	0.036	0.040	0.045	0.050	0.055	0.060	0.065	0.075	0.080	0.085	0.095
10	0.013	0.015	0.018	0.021	0.024	0.028	0.032	0.036	0.040	0.045	0.050	0.055	0.060	0.070	0.075	0.085	0.090	0.100	0.11	0.12
12	0.016	0.019	0.022	0.026	0.030	0.034	0.038	0.044	0.050	0.055	0.060	0.065	0.075	0.080	0.090	0.100	0.11	0.12	0.13	0.14
16	0.020	0.024	0.028	0.034	0.038	0.044	0.050	0.055	0.060	0.070	0.080	0.085	0.095	0.11	0.12	0.13	0.14	0.16	0.17	0.18
20	0.022	0.028	0.032	0.038	0.044	0.050	0.060	0.065	0.075	0.085	0.095	0.11	0.12	0.13	0.15	0.16	0.18	0.19	0.21	0.23
25	0.025	0.032	0.038	0.045	0.055	0.060	0.070	0.080	0.090	0.10	0.12	0.13	0.15	0.16	0.18	0.20	0.22	0.24	0.26	0.29

Notes on Milling

1. Above values are guidelines for the size and type of cut nominated.
2. For long series tools, reduce speed by 40% and feed by 20%.



E171		E173		E151		E136			E121						E122						E123				E124				E177		E251		E255		E252			
HSS Co.8				SPM		SPM			SPM						SPM						SPM				SPM				SPM		SPM		SPM					
TiCN				*TiAlN*		*TiAlN*			*Brt*						*TiAlN*						*Brt*				*TiAlN*				*TiAlN*		*AlCrN*		*AlCrN*					
NH				UNI		UNI			W						W						W				W				H		VA		VA					
R30 HR				R45 HRS		R30 / 32			R45						R45						R45				R45				R30 HR		R30 VA-R		R30 VA-R		R30 VA-R			
										●						●						●				●												
						●						●						●					●				●											
								●						●						●				●														
	●		●	●																										●		●		●		●		
	1.0		1.0	1.0		1.5	1.5			0.5		1.5		1.5		0.5		1.5		1.5		0.5	1.5	1.5		0.5	1.5	1.5		1.0		1.0		1.0		1.0		
	0.5		0.5	0.5		0.1	0.25			1.0		0.1		0.25		1.0		0.1		0.25		1.0	0.1	0.25		1.0	0.1	0.25		0.5		0.5		0.5		0.5		
Vc	Feed #	Vc	Feed #	Vc	Feed #	Vc	Feed #		Vc	Feed #	Vc	Feed #	Vc	Feed #	Vc	Feed #	Vc	Feed #	Vc	Feed #	Vc	Feed #			Vc	Feed #			Vc	Feed #	Vc	Feed #	Vc	Feed #	Vc	Feed #	VDI^ 3323	ISO
-	-	-	-	70	6	**70**	**7**	**8**	-	-	-	-	-	-	-	-	-	-	-	-									-	-	40	4	40	4	40	4	1	P
-	-	-	-	70	6	**70**	**7**	**8**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	40	4	40	4	40	4	2	
-	-	-	-	60	6	**55**	**6**	**7**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	40	4	40	4	40	4	40	4	3	
-	-	-	-	60	6	**70**	**6**	**7**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	40	4	40	4	40	4	40	4	4	
35	**3**	**35**	**3**	**40**	**4**	**50**	**6**	**7**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**40**	**4**	**40**	**4**	**40**	**4**	**40**	**4**	5	
-	-	-	-	60	6	**70**	**6**	**7**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	40	4	40	4	40	4	6	
40	**3**	**40**	**3**	40	5	**60**	**6**	**7**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	40	4	**40**	**4**	**40**	**4**	**40**	**4**	7	
35	**3**	**35**	**3**	**40**	**4**	**40**	**6**	**7**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**40**	**4**	**40**	**4**	**40**	**4**	**40**	**4**	8	
30	**3**	**30**	**3**	**30**	**4**	40	4	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**30**	**3**	-	-	-	-	-	-	9	
35	**3**	**35**	**3**	40	4	**50**	**6**	**7**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	40	4	**40**	**4**	**40**	**4**	**40**	**4**	10	
30	**3**	**30**	**3**	**30**	**4**	40	4	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**30**	**3**	-	-	-	-	-	-	11	
20	3	20	3	15	3	18	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	25	6	25	6	25	6	25	6	12	
30	3	30	3	**30**	**4**	40	4	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**30**	**3**	**30**	**4**	**30**	**4**	**30**	**4**	13	
35	4	35	4	25	4	30	4	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**40**	**10**	**40**	**10**	**40**	**10**	14.1	M
25	3	25	3	15	2	22	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**40**	**10**	**40**	**10**	**40**	**10**	14.2	
20	3	20	3	15	3	18	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	25	6	25	6	25	6	25	6	14.3	
60	**8**	**60**	**8**	**60**	**8**	60	4	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	60	7	-	-	-	-	-	-	15	K
40	8	40	8	40	8	40	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	60	7	-	-	-	-	-	-	16	
30	**8**	**30**	**8**	**25**	**8**	**40**	**2**	**3**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**40**	**7**	-	-	-	-	-	-	17	
30	8	30	8	25	8	**40**	**2**	**3**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**40**	**7**	-	-	-	-	-	-	18	
30	**8**	**30**	**8**	**25**	**8**	30	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**40**	**7**	-	-	-	-	-	-	19	
30	8	30	8	25	8	40	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**40**	**7**	-	-	-	-	-	-	20	
-	-	-	-	-	-	100	5	6	**150**	**10**	**250**	**10**	**250**	**12**	**200**	**10**	**300**	**10**	**300**	**12**	**250**	**10**	**12**	**10**	**300**	**10**	**12**	**10**	-	-	-	-	-	-	-	-	21	N
-	-	-	-	-	-	100	5	6	**150**	**10**	**250**	**10**	**250**	**12**	**200**	**10**	**300**	**10**	**300**	**12**	**250**	**10**	**12**	**10**	**300**	**10**	**12**	**10**	-	-	-	-	-	-	-	-	22	
-	-	-	-	80	8	70	4	5	**100**	**10**	**150**	**10**	**150**	**12**	**150**	**10**	**180**	**10**	**180**	**12**	**150**	**10**	**12**	**10**	**180**	**10**	**12**	**10**	-	-	-	-	-	-	-	-	23	
-	-	-	-	80	8	70	4	5	**100**	**10**	**150**	**10**	**150**	**12**	**150**	**10**	**180**	**10**	**180**	**12**	**150**	**10**	**12**	**10**	**180**	**10**	**12**	**10**	-	-	-	-	-	-	-	-	24	
-	-	-	-	-	-	-	-	-	60	8	70	10	100	12	70	8	120	10	120	12	100	8	12	10	120	8	12	10	50	7	-	-	-	-	-	-	25	
-	-	-	-	-	-	70	4	5	60	8	70	10	100	12	70	8	-	-	-	-	70	8	12	10	70	8	**12**	**10**	-	-	-	-	-	-	-	-	26	
30	**5**	**30**	**5**	-	-	-	-	-	50	8	60	10	100	12	60	8	-	-	-	-	60	8	12	10	60	8	12	10	**30**	**6**	-	-	-	-	-	-	27	
-	-	-	-	-	-	100	5	6	**100**	**10**	**130**	**10**	**130**	**12**	**130**	**10**	**150**	**10**	**150**	**12**	**130**	**10**	**12**	**10**	**150**	**10**	**12**	**10**	-	-	-	-	-	-	-	-	28	
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-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15	4	**15**	**4**	**15**	**4**	**15**	**4**	37.2	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12	4	**12**	**4**	**12**	**4**	**12**	**4**	37.3	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15	4	**15**	**4**	**15**	**4**	**15**	**4**	37.4	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12	4	12	4	12	4	12	4	37.5	
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40	8	40	8	40	8	**40**	**4**	**4**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	60	6	-	-	-	-	-	-	40	
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METRIC ENDMILLS (mm size)

n = Spindel speed (RPM)
vc = Cutting speed (m/min)
fz = Feed rate per tooth (mm/tooth)
vf = Feed rate (mm/min)
z = No. cutting edges
Q = Metal removal rate (cm^3/min)
ap = Cutting depth (mm)
ae = Cutting width (mm)

$$n = \frac{}{Ø \times \pi} \simeq \frac{}{Ø} \times 318$$

$$v_c = \frac{n \times Ø \times \pi}{1000} \simeq \frac{n \times Ø}{318}$$

$$f_z = \frac{V_f}{z \times n} \qquad v_f = f_z \times z \times n$$

$$Q = \frac{a_p \times a_e \times V_f}{1000}$$

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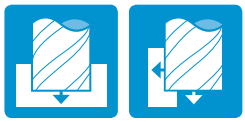
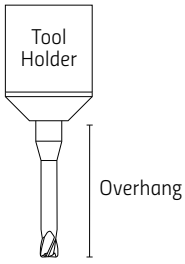
E650 Carbide, 4 Flute, up to 6mm

E650 Carbide, 6 Flute, over 6mm





Application Notes:

- Above conditions based on 5xØ overhang
- For 6xØ overhang, reduce ap by 10%
- For 8xØ overhang, reduce ap by 25%
- For 10xØ overhang, reduce ap by 50%
- For plunge in Z-Axis direction or ramping at 1° incline, reduce feed rate between 60% to 70%

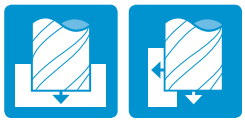
LEGEND

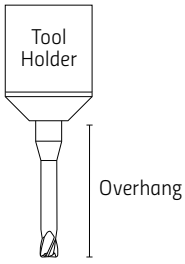
Ø	= nominal tool diameter (mm)
n	= Spindle speed (RPM^{-1})
v_c	= Cutting speed (m/min)
F_z	= Feed rate per tooth (mm/tooth)
v_f	= Feed rate (mm/min)
a_p	= Cutting depth (mm)
a_e	= Cutting width (mm)

		ISO	P			H			H		
		VDI	35 ≤ HRC ≤ 45			45 ≤ HRC ≤ 52			≥ 52 - 68 HRC		
		Material	Pre-hardened Steel			Hardened Steel			Hardened Steel		
Ø	ae x Ø	ap x Ø	Vc	n	Vf	Vc	n	Vf	Vc	n	Vf
2	0.31	0.05	90	14300	2150	80	12700	1910	70	11100	1670
3	0.31	0.05	90	9500	2280	80	8500	2040	70	7400	1780
4	0.31	0.05	90	7200	2880	80	6400	2560	70	5600	2240
6	0.31	0.05	90	4800	2220	80	4200	1940	70	3700	1710
8	0.31	0.05	90	3600	4050	80	3200	3600	70	2800	3150
10	0.31	0.05	90	2900	3520	80	2500	3040	70	2200	2670
12	0.31	0.05	90	2400	3130	80	2100	2740	70	1900	2480

suttontools

E598 Carbide, Micro, 4 Flute, Long Reach, **Corner Rad**





Application Notes:

- Above conditions based on 5xØ overhang
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- For 8xØ overhang, reduce ap by 25%
- For 10xØ overhang, reduce ap by 50%
- For plunge in Z-Axis direction or ramping at 1° incline, reduce feed rate between 60% to 70%

LEGEND

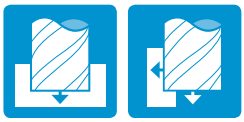
Ø	= nominal tool diameter (mm)
n	= Spindle speed (RPM^{-1})
v_c	= Cutting speed (m/min)
F_z	= Feed rate per tooth (mm/tooth)
v_f	= Feed rate (mm/min)
a_p	= Cutting depth (mm)
a_e	= Cutting width (mm)

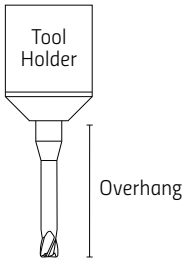
ISO	P					H					H				
VDI	35 ≤ HRC ≤ 45					45 ≤ HRC ≤ 52					≥ 52 - 68 HRC				
Material	Pre-hardened Steel					Hardened Steel					Hardened Steel				
Ø	ap	Vc	Fz	n	Vf	ap	Vc	Fz	n	Vf	ap	Vc	Fz	n	Vf
1	0.030	96	0.020	30600	2480	0.025	85	0.018	27000	1940	0.023	79	0.016	25200	1590
1	0.019	78	0.020	24800	2000	0.016	69	0.018	21900	1570	0.014	64	0.016	20400	1280
1	0.019	69	0.020	22000	1780	0.016	61	0.018	19400	1400	0.014	57	0.016	18100	1140
1	0.012	61	0.020	19300	1560	0.010	53	0.018	17000	1220	0.009	50	0.016	15900	1000
1	0.012	54	0.016	17100	1080	0.010	47	0.016	15100	950	0.009	44	0.013	14100	760
1	0.010	54	0.015	17100	1040	0.008	47	0.015	15100	880	0.007	44	0.012	14100	700
1	0.007	54	0.015	17100	1000	0.006	47	0.013	15100	810	0.005	44	0.011	14100	630
1	0.005	41	0.015	12900	750	0.004	36	0.013	11300	610	0.004	33	0.011	10600	480
1.5	0.052	106	0.022	22500	2000	0.042	94	0.019	20000	1550	0.039	87	0.017	18500	1270
1.5	0.048	101	0.022	21400	1900	0.039	89	0.019	18900	1470	0.036	83	0.017	17600	1210
1.5	0.048	81	0.022	17100	1520	0.039	71	0.019	15100	1170	0.036	66	0.017	14100	970
1.5	0.036	72	0.020	15200	1220	0.029	63	0.018	13400	990	0.027	59	0.016	12500	810
1.5	0.024	63	0.017	13300	920	0.020	56	0.017	11800	810	0.018	52	0.015	11000	640
2	0.064	123	0.042	19600	3310	0.052	109	0.034	17300	2340	0.048	102	0.029	16200	1910
2	0.056	112	0.042	17900	3010	0.046	99	0.034	15800	2120	0.042	92	0.029	14700	1730
2	0.044	102	0.040	16200	2600	0.036	90	0.034	14300	1920	0.033	84	0.03	13300	1570
2	0.032	91	0.038	14500	2190	0.026	80	0.034	12800	1720	0.024	75	0.029	11900	1400
2	0.032	86	0.038	13700	2070	0.026	75	0.034	12000	1620	0.024	70	0.03	11200	1330
2	0.032	81	0.038	12900	1950	0.026	71	0.034	11300	1530	0.024	67	0.029	10600	1250
2	0.030	75	0.038	12000	1830	0.025	67	0.032	10600	1370	0.023	62	0.028	9900	1110
2	0.028	70	0.038	11200	1710	0.023	62	0.030	9900	1200	0.021	58	0.026	9300	980
2	0.020	70	0.038	11200	1710	0.016	62	0.030	9900	1200	0.015	58	0.026	9300	980
2	0.014	67	0.038	10700	1620	0.011	59	0.030	9400	1140	0.010	55	0.026	8800	930
2.5	0.077	119	0.038	15100	2290	0.062	104	0.034	13300	1820	0.058	97	0.03	12400	1490
2.5	0.072	114	0.038	14500	2190	0.059	101	0.034	12800	1720	0.054	93	0.029	11900	1400
2.5	0.067	108	0.038	13800	2100	0.055	96	0.033	12200	1620	0.050	90	0.029	11400	1320
2.5	0.062	104	0.038	13200	2000	0.051	91	0.033	11600	1510	0.047	85	0.028	10800	1230
2.5	0.058	98	0.038	12500	1900	0.047	87	0.032	11100	1410	0.043	81	0.028	10300	1150
2.5	0.053	93	0.038	11900	1800	0.043	82	0.031	10500	1310	0.040	77	0.027	9800	1070
2.5	0.048	88	0.038	11200	1710	0.039	78	0.030	9900	1200	0.036	73	0.026	9300	980
2.5	0.036	86	0.038	11000	1660	0.029	76	0.030	9700	1170	0.027	71	0.027	9000	960
2.5	0.024	84	0.038	10700	1620	0.020	74	0.030	9400	1140	0.018	69	0.026	8800	930
3	0.072	128	0.053	13600	2860	0.059	113	0.042	12000	2020	0.054	106	0.037	11200	1650
3	0.064	128	0.053	13600	2860	0.052	113	0.042	12000	2020	0.048	106	0.037	11200	1650
3	0.056	128	0.053	13600	2860	0.046	113	0.042	12000	2020	0.042	106	0.037	11200	1650
3	0.048	128	0.053	13600	2860	0.039	113	0.042	12000	2020	0.036	106	0.037	11200	1650
3	0.040	128	0.053	13600	2860	0.033	113	0.042	12000	2020	0.030	106	0.037	11200	1650
3	0.040	115	0.053	12200	2570	0.033	100	0.042	10600	1790	0.030	95	0.037	10100	1490
3	0.040	104	0.053	11000	2320	0.033	91	0.042	9700	1640	0.030	86	0.037	9100	1340
3	0.036	92	0.050	9800	1970	0.029	81	0.041	8600	1400	0.027	76	0.035	8100	1140
3	0.032	81	0.047	8600	1620	0.026	72	0.038	7600	1160	0.024	67	0.033	7100	930
4	0.184	147	0.065	11700	3060	0.150	131	0.052	10400	2160	0.138	122	0.045	9700	1760
4	0.164	134	0.065	10700	2780	0.133	117	0.052	9300	1940	0.123	109	0.046	8700	1590
4	0.144	121	0.065	9600	2510	0.117	103	0.052	8200	1720	0.108	98	0.046	7800	1420
4	0.136	109	0.062	8700	2170	0.111	96	0.049	7600	1500	0.102	89	0.044	7100	1240
4	0.120	99	0.058	7900	1830	0.098	87	0.046	6900	1280	0.090	80	0.041	6400	1050
4	0.104	88	0.054	7000	1500	0.085	78	0.043	6200	1060	0.078	73	0.037	5800	860

suttontools

E580 Carbide, Micro, 2 Flute, Long Reach, **Sq End**

E581 Carbide, Micro, 2 Flute, **Corner Rad**





Application Notes:

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LEGEND

Ø	= nominal tool diameter (mm)
n	= Spindle speed (RPM^{-1})
v_c	= Cutting speed (m/min)
F_z	= Feed rate per tooth (mm/tooth)
v_f	= Feed rate (mm/min)
a_p	= Cutting depth (mm)
a_e	= Cutting width (mm)

		ISO	P					M					S					H				
		VDI	5, 8, 9, 10, 11					14.2, 14.3					34, 35, 37.3, 37.5					38.1				
		Material	Steel - Low alloy & cast Steel - High alloy, cast & tool					Stainless Steel					High temp. alloys Titanium & Ti alloys					Hardened Steel				
Ø	l_3	ae x Ø	ap	Vc	Fz	n	Vf	ap	Vc	Fz	n	Vf	ap	Vc	Fz	n	Vf	ap	Vc	Fz	n	Vf
0.2	0.5	1.0	0.028	25	0.003	40000	240	0.028	25	0.003	40000	240	0.028	25	0.003	40000	240	0.040	25	0.003	40000	240
0.2	1	1.0	0.011	23	0.003	37400	210	0.011	23	0.003	37400	210	0.011	23	0.003	37400	210	0.016	23	0.003	37400	210
0.2	1.5	1.0	0.008	22	0.003	34800	182	0.008	22	0.003	34800	182	0.008	22	0.003	34800	182	0.011	22	0.003	34800	182
0.4	2	1.0	0.022	47	0.004	37400	280	0.022	47	0.004	37400	280	0.022	47	0.004	37400	280	0.032	47	0.004	37400	280
0.4	4	1.0	0.011	37	0.003	29600	175	0.011	37	0.003	29600	175	0.011	37	0.003	29600	175	0.016	37	0.003	29600	175
0.5	2	1.0	0.035	62	0.007	39099	513	0.035	62	0.007	39099	513	0.035	62	0.007	39099	513	0.050	63	0.004	40000	320
0.5	4	1.0	0.018	50	0.005	31474	332	0.018	50	0.005	31474	332	0.018	50	0.005	31474	332	0.025	51	0.003	32200	207
0.5	6	1.0	0.012	42	0.004	26391	234	0.012	42	0.004	26391	234	0.012	42	0.004	26391	234	0.017	43	0.003	27000	146
0.6	4	1.0	0.028	59	0.007	31246	423	0.028	59	0.007	31246	423	0.028	59	0.007	31246	423	0.040	63	0.007	33554	443
0.6	6	1.0	0.017	50	0.006	26577	306	0.017	50	0.006	26577	306	0.017	50	0.006	26577	306	0.024	54	0.006	28540	321
0.8	4	1.0	0.045	65	0.007	26042	410	0.045	65	0.007	26042	410	0.045	65	0.007	26042	410	0.064	75	0.007	29762	466
0.8	6	1.0	0.032	61	0.007	24231	355	0.032	61	0.007	24231	355	0.032	61	0.007	24231	355	0.046	70	0.007	27693	404
0.8	8	1.0	0.022	52	0.006	20610	257	0.022	52	0.006	20610	257	0.022	52	0.006	20610	257	0.032	59	0.006	23555	292
1.0	6	1.0	0.047	61	0.008	19385	337	0.047	61	0.008	19385	337	0.047	61	0.008	19385	337	0.067	70	0.008	22155	383
1.0	8	1.0	0.035	56	0.008	17937	289	0.035	56	0.008	17937	289	0.035	56	0.008	17937	289	0.050	64	0.008	20499	328
1.0	10	1.0	0.028	52	0.007	16489	244	0.028	52	0.007	16489	244	0.028	52	0.007	16489	244	0.040	59	0.007	18844	277
1.0	12	1.0	0.023	47	0.006	15040	203	0.023	47	0.006	15040	203	0.023	47	0.006	15040	203	0.033	54	0.006	17189	231
1.0	16	1.0	0.018	38	0.005	12144	132	0.018	38	0.005	12144	132	0.018	38	0.005	12144	132	0.025	44	0.005	13878	150
1.2	6	1.0	0.067	65	0.010	17361	357	0.067	65	0.010	17361	357	0.067	65	0.010	17361	357	0.096	75	0.010	19841	406
1.2	10	1.0	0.042	56	0.008	14947	265	0.042	56	0.008	14947	265	0.042	56	0.008	14947	265	0.060	64	0.008	17083	301
1.2	12	1.0	0.034	52	0.008	13740	224	0.034	52	0.008	13740	224	0.034	52	0.008	13740	224	0.048	59	0.008	15703	254
1.5	6	1.0	0.105	70	0.013	14855	391	0.105	70	0.013	14855	391	0.105	70	0.013	14855	391	0.150	80	0.013	16977	444
1.5	8	1.0	0.084	65	0.012	13889	341	0.084	65	0.012	13889	341	0.084	65	0.012	13889	341	0.120	75	0.012	15873	388
1.5	12	1.0	0.053	56	0.010	11958	253	0.053	56	0.010	11958	253	0.053	56	0.010	11958	253	0.075	64	0.010	13666	287
1.5	16	1.0	0.042	52	0.009	10992	214	0.042	52	0.009	10992	214	0.042	52	0.009	10992	214	0.060	59	0.009	12563	243
1.5	20	1.0	0.032	47	0.008	10027	178	0.032	47	0.008	10027	178	0.032	47	0.008	10027	178	0.046	54	0.008	11459	202
2.0	6	1.0	0.187	70	0.015	11141	350	0.187	70	0.015	11141	350	0.187	70	0.015	11141	350	0.267	80	0.015	12733	398
2.0	8	1.0	0.140	70	0.015	11141	350	0.140	70	0.015	11141	350	0.140	70	0.015	11141	350	0.200	80	0.015	12733	398
2.0	10	1.0	0.112	65	0.014	10416	306	0.112	65	0.014	10416	306	0.112	65	0.014	10416	306	0.160	75	0.014	11905	348
2.0	12	1.0	0.093	61	0.013	9692	265	0.093	61	0.013	9692	265	0.093	61	0.013	9692	265	0.133	70	0.013	11077	301
2.0	16	1.0	0.070	56	0.012	8968	227	0.070	56	0.012	8968	227	0.070	56	0.012	8968	227	0.100	64	0.012	10250	258
2.0	20	1.0	0.056	52	0.011	8244	192	0.056	52	0.011	8244	192	0.056	52	0.011	8244	192	0.080	59	0.011	9422	218
2.0	25	1.0	0.047	47	0.010	7520	159	0.047	47	0.010	7520	159	0.047	47	0.010	7520	159	0.067	54	0.010	8594	181
2.5	8	1.0	0.233	70	0.018	8913	336	0.233	70	0.018	8913	336	0.233	70	0.018	8913	336	0.333	80	0.018	10186	382
2.5	12	1.0	0.175	70	0.018	8913	336	0.175	70	0.018	8913	336	0.175	70	0.018	8913	336	0.250	80	0.018	10186	382
3.0	16	1.0	0.168	65	0.020	6944	285	0.168	65	0.020	6944	285	0.168	65	0.020	6944	285	0.240	75	0.020	7936	325
3.0	20	1.0	0.140	61	0.018	6461	247	0.140	61	0.018	6461	247	0.140	61	0.018	6461	247	0.200	70	0.018	7385	281
3.0	25	1.0	0.105	56	0.017	5979	212	0.105	56	0.017	5979	212	0.105	56	0.017	5979	212	0.150	64	0.017	6833	241

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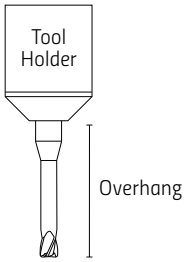
E582 Carbide, Micro, 2 Flute, Long Reach, **Ballnose**



Application Notes:

- Above conditions based on 5xØ overhang
- For 6xØ overhang, reduce ap by 10%
- For 8xØ overhang, reduce ap by 25%
- For 10xØ overhang, reduce ap by 50%
- For plunge in Z-Axis direction or ramping at 1° incline, reduce feed rate between 60% to 70%

LEGEND

Ø	= nominal tool diameter (mm)
n	= Spindle speed (RPM^{-1})
v_c	= Cutting speed (m/min)
F_z	= Feed rate per tooth (mm/tooth)
v_f	= Feed rate (mm/min)
a_p	= Cutting depth (mm)
a_e	= Cutting width (mm)

			ISO	P				M				S				H			
			VDI	5, 8, 9, 10, 11				14.2, 14.3				34, 35, 37.3, 37.5				38.1			
			Material	Steel - Low alloy & cast Steel - High alloy, cast & tool				Stainless Steel				High temp. alloys Titanium & Ti alloys				Hardened Steel			
Ø	l_3	ae x Ø	ap x Ø	Vc	Fz	n	Vf	Vc	Fz	n	Vf	Vc	Fz	n	Vf	Vc	Fz	n	Vf
0.2	0.5	0.05	0.20	25	0.003	40000	240	25	0.003	40000	240	25	0.003	40000	240	25	0.003	40000	240
0.2	1	0.05	0.20	25	0.003	40000	240	25	0.003	40000	240	25	0.003	40000	240	25	0.003	40000	240
0.2	1.5	0.05	0.15	21	0.002	34000	144	21	0.002	34000	144	21	0.002	34000	144	21	0.002	34000	144
0.4	2	0.05	0.20	50	0.004	40000	320	50	0.004	40000	320	50	0.004	40000	320	50	0.004	40000	320
0.4	4	0.02	0.10	35	0.003	28000	160	35	0.003	28000	160	35	0.003	28000	160	35	0.003	28000	160
0.5	2	0.05	0.20	62	0.006	39099	433	62	0.006	39099	433	62	0.006	39099	433	63	0.004	40000	320
0.5	6	0.02	0.10	43	0.004	27369	217	43	0.004	27369	217	43	0.004	27369	217	44	0.003	28000	160
0.6	2	0.05	0.20	68	0.006	35916	448	68	0.006	35916	448	68	0.006	35916	448	73	0.006	38568	469
0.6	4	0.05	0.15	57	0.004	30528	269	57	0.004	30528	269	57	0.004	30528	269	62	0.004	32783	281
0.6	6	0.02	0.10	47	0.004	25141	224	47	0.004	25141	224	47	0.004	25141	224	51	0.004	26998	234
0.6	8	0.02	0.10	47	0.004	25141	224	47	0.004	25141	224	47	0.004	25141	224	51	0.004	26998	234
0.8	4	0.05	0.20	70	0.007	27852	406	70	0.007	27852	406	70	0.007	27852	406	80	0.007	31831	462
0.8	6	0.05	0.15	60	0.005	23674	244	60	0.005	23674	244	60	0.005	23674	244	68	0.005	27056	277
0.8	8	0.02	0.10	49	0.005	19496	203	49	0.005	19496	203	49	0.005	19496	203	56	0.005	22282	231
1.0	4	0.05	0.20	70	0.009	22282	395	70	0.009	22282	395	70	0.009	22282	395	80	0.009	25465	449
1.0	6	0.05	0.15	60	0.006	18940	237	60	0.006	18940	237	60	0.006	18940	237	68	0.006	21645	269
1.0	8	0.05	0.15	60	0.006	18940	237	60	0.006	18940	237	60	0.006	18940	237	68	0.006	21645	269
1.0	10	0.02	0.10	49	0.006	15597	197	49	0.006	15597	197	49	0.006	15597	197	56	0.006	17826	224
1.0	12	0.02	0.10	49	0.006	15597	197	49	0.006	15597	197	49	0.006	15597	197	56	0.006	17826	224
1.0	14	0.02	0.10	49	0.006	15597	197	49	0.006	15597	197	49	0.006	15597	197	56	0.006	17826	224
1.0	20	0.02	0.10	42	0.006	13369	158	42	0.006	13369	158	42	0.006	13369	158	48	0.006	15279	179
1.2	8	0.05	0.15	60	0.006	15783	210	60	0.006	15783	210	60	0.006	15783	210	68	0.006	18037	239
1.2	10	0.05	0.15	60	0.006	15783	210	60	0.006	15783	210	60	0.006	15783	210	68	0.006	18037	239
1.2	12	0.02	0.10	49	0.006	12998	175	49	0.006	12998	175	49	0.006	12998	175	56	0.006	14854	199
2.0	6	0.05	0.20	70	0.014	11141	315	70	0.014	11141	315	70	0.014	11141	315	80	0.014	12733	359
2.0	8	0.05	0.20	70	0.014	11141	315	70	0.014	11141	315	70	0.014	11141	315	80	0.014	12733	359
2.0	12	0.05	0.15	60	0.010	9469	189	60	0.010	9469	189	60	0.010	9469	189	68	0.010	10823	215
2.0	16	0.05	0.15	60	0.010	9469	189	60	0.010	9469	189	60	0.010	9469	189	68	0.010	10823	215
2.0	20	0.02	0.10	49	0.010	7798	158	49	0.010	7798	158	49	0.010	7798	158	56	0.010	8913	179
2.0	30	0.02	0.10	49	0.010	7798	158	49	0.010	7798	158	49	0.010	7798	158	56	0.010	8913	179
3.0	10	0.05	0.20	70	0.019	7427	289	70	0.019	7427	289	70	0.019	7427	289	80	0.019	8488	328
3.0	16	0.05	0.20	70	0.019	7427	289	70	0.019	7427	289	70	0.019	7427	289	80	0.019	8488	328
3.0	25	0.05	0.15	60	0.013	6313	173	60	0.013	6313	173	60	0.013	6313	173	68	0.013	7215	197
3.0	30	0.02	0.10	49	0.013	5199	144	49	0.013	5199	144	49	0.013	5199	144	56	0.013	5942	164

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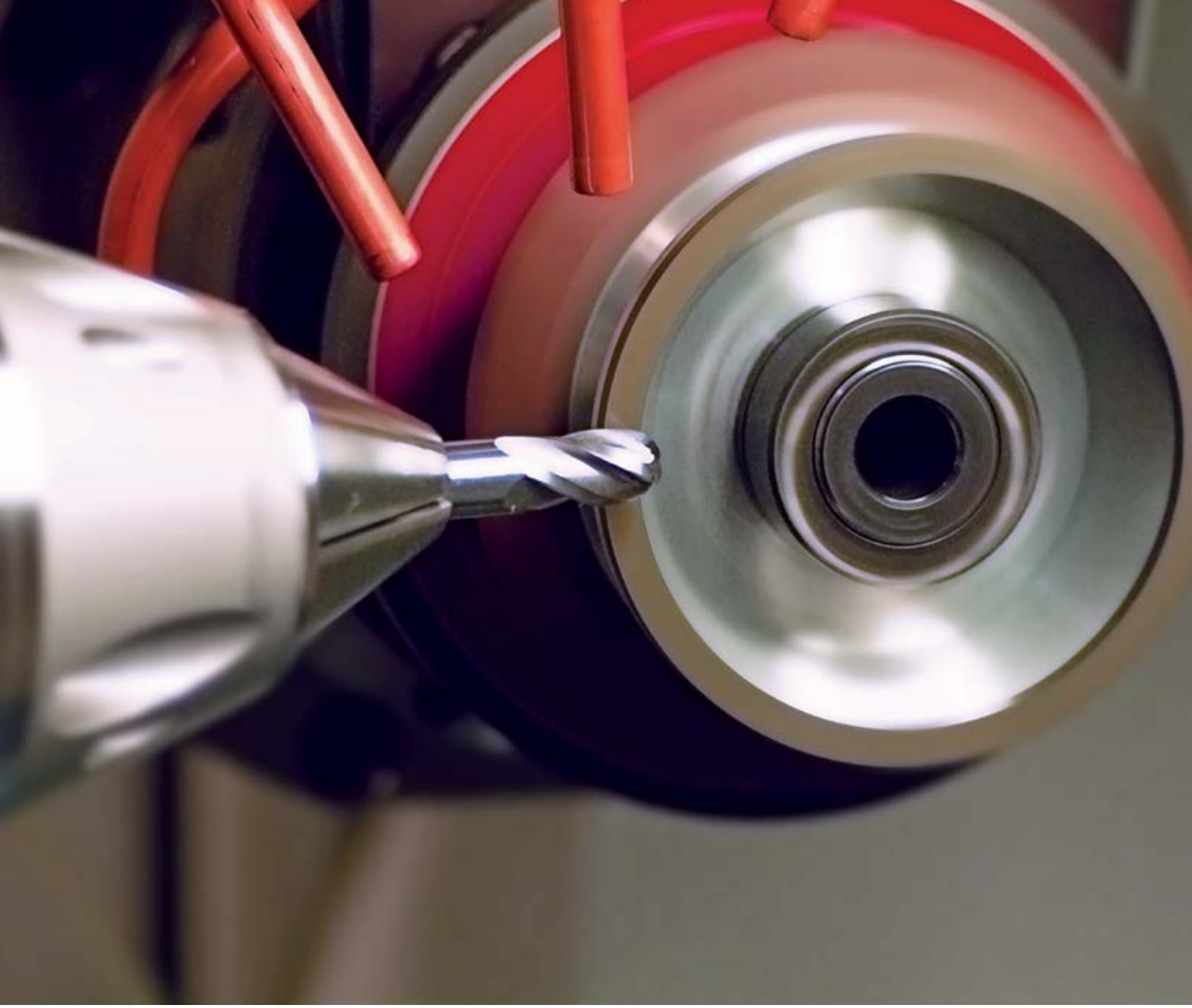
Trade Name	Coating	Coating Structure	Micro-hardness	Coeff. of Friction vs Steel	Thermal Stability	Colour	Application and Benefits
Alcrona (AlCrN)	Aluminium Chromium Nitride	Mono Layer	3200 HV	0.35	up to 2012°F	Blue - Grey	• Low alloy steels and high tensile steels • Hardened steels up to 54 HRC • Ideal for carbide tools
Aldura	TiAlN + AlCrN	Multi Layer	3300 HV	<0.4	>1100°C	Blue - Grey	• High speed machining • Suitable for minimum quantity lubrication (MQL) and dry machining • Machining of hardened steels (>60HRC) • Ideal for carbide tools
AlNova	Alcrona based	Multi Layer	3200 HV	0.35	>1100°C	Light Grey	• Even high thermal stresses hardly effect the superior hardness of the coating • Its high hot hardness results in excellent abrasion resistance even at high cutting speeds
Blu	Steam Oxide	-	-	0.8 – 1.0	-	Blue - Black	• For ferrous metals • Prevents chip build-up on the cutting edges, especially in low carbon steels • Oxide layer protects surface • Good carrier of lubricants
Brt	-	-	-	0.8 – 1.0	-	-	• For general purpose applications
CrN	Chromium Nitride	Gradient Coating	1750 HV	0.5	up to 1292°F	Silver - Grey	• Cutting and forming of copper, nickel, and monel metal • Enhanced thermal stability and oxidation resistance • Excellent corrosion resistance • Low internal stress of coating results in excellent adhesion under high loads
Futura Nano (TiAlN)	Titanium Aluminium Nitride	Nano Layer	3300 HV	0.3 – 0.35	up to 1652°F	Violet - Grey	• Abrasive materials – cast iron and heat treated steel • Difficult to machine materials, such as stainless steel • Higher speeds and feeds • Reduces or eliminates use of coolants
Hardlube	TiAlN + WC/C	Nano Layer	3000 HV	0.15 – 0.20	up to 1472°F	Dark Grey	• Excellent friction and lubricating properties of the coating provide optimal chip flow • Tapping and drilling of hard to machine materials • Suitable for minimum quantity lubrication (MQL) and dry machining
Helica	Alcrona based	Multi Layer	3000 HV	0.25	up to 1100°C	Copper	• Longer tool life • Higher cutting speeds and feeds • Superb chip evacuation • Greater number of regrinds • Improved drill hole quality • Excellent performance in abrasive material
Ni	Plasma Nitride	-	-	0.8 – 1.0	-	-	• Increases surface hardness • Better lubricant carrying properties • Abrasive materials – cast iron and aluminium alloys
TiCN	Titanium Carbonitride	Gradient Coating	3000 HV	0.4	up to 752°F	Blue - Grey	• High performance applications • Difficult to machine materials • Abrasive materials - cast iron and aluminium alloys • Adhesive materials - copper and copper based alloys
TiN	Titanium Nitride	Mono Layer	2300 HV	0.4	up to 1112°F	Gold - Yellow	• General purpose use • Wide range of materials • 3 to 8 times longer tool life than uncoated tools • Higher tool speeds and feeds than uncoated tools
TiSiN	TiSi based	Multi Layer	3600 HV	0.3	<1200°C	Copper	• Suitable for high speed (wet / dry) and hard machining for difficult materials above 52 HRC. • Suitable for high speed machining with hardened steels above 60 HRC to maximum of 63 HRC • Vc and Vf = +50%
Xceed	AlTiN	Nano Layer	3300 HV	0.4	up to 900°C	Blue - Grey	• Hard materials • Difficult to machine materials, eg. Ti alloys, Inconel • High speeds and feeds • Dry or MQL machining • Machining of hardened steels (>52HRC)

Abbreviations	Type	Application	Description
HSS	Conventional high speed steel	Standard tool material for most common applications	Used for the manufacturing of cutting tools such as twist drills, endmills and taps.
HSS Co	5% cobalt grade of high speed steel	High-heat resistance, especially suited for roughing or when coolant insufficient	Cobalt alloyed, tungsten-molybdenum high speed steel possessing high hardness, excellent cutting properties, high-red hardness and good toughness.
HSSE Co8%	8% cobalt grade of high speed steel	Increased heat resistance and hardness, suitable for difficult-to-machine materials	Available for applications that require a strong resistance to softening at elevated cutting temperatures. The ability of the steel to maintain its "red-hot hardness" is provided by the addition of cobalt. The high hot hardness is required for machining difficult materials such as nickel-base, titanium and highly alloyed steel.
HSSE	Premium grade of high speed steel	Wide range of machine taps.	Vanadium grade gives high wear resistance and toughness for most tapping applications.
PM-HSSE V3	Powdered metallurgy - vanadium grade of high speed steel	Materials with hardness up to 40HRC. Difficult to machine materials eg. stainless steels.	PM-HSS V3 for higher performance tools, incorporates very fine and uniform grain structure allowing a high hardness to be achieved, whilst maintaining good toughness.
PM-HSS Co	Powdered metallurgy - 8% Cobalt grade of high speed steel	Materials with hardness up to 45HRC	The addition of cobalt provides this material with the ability to maintain its strength and hardness level when exposed to extremely high cutting temperatures. This makes PM-HSS Co suitable for heavy duty tapping, in materials such as high alloyed steels to non-ferrous metals like Ni-base alloys and Ti-alloys.
SPM	Powdered metallurgy - 11% Cobalt grade of high speed steel	Special applications, requiring very high edge hardness. Cutting tools with the appropriate geometry can be applied to workpiece materials with hardness up to 55HRC	An excellent bridge material between high speed steel and carbide. SPM offers very high red hardness, wear resistance and the highest compressive strength of any high speed steel.
VHM	Sub-micron grade of solid carbide (ISO K15-K30)	Tapping hardened steel	Ultra fine grain type (0.8µm) with maximum toughness and high hardness, therefore especially recommended for rotating tools to machine hardened parts.
VHM	Sub-micron grade of solid carbide (ISO K40)	Sutton standard grade for endmills and drills	Ultra fine grain type (0.6µm) offers the ideal combination of hardness and toughness for high performance drilling and general milling applications.
VHM-ULTRA	Sub-micron grade of solid carbide (ISO K40-K50)	High performance grade for endmills	Ultra fine grain type (0.5µm) offers the best wear resistance for high performance milling applications.



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