



VALUE AT THE SPINDLE®



2023 Micro Tool Catalog



www.kyocera-sgstool.com

ISO 9001:2015 Certified



VALUE AT THE SPINDLE®

KYOCERA SGS Precision Tools (KSPT) is an ISO 9001:2015 Certified manufacturer of industry leading round solid carbide cutting tools. State of the art manufacturing and warehouse facilities have the capacity and processes to meet the quality and delivery demands of customers in all markets around the world. Complete inspections performed within its metallurgical lab and manufacturing quality departments ensure the use of high quality carbide and reliable manufacturing consistency regardless of when a cutting tool is produced.

KSPT is proud to have pioneered some of the world's most advanced cutting technologies due to rigorous testing of tools, coatings, and materials within its Global Innovation Center. It is this commitment to innovation that has launched patented products and technologies like the Z-Carb with its variable geometry and cutting edge preparation, Series 43 APR® and APF® ultra high performance aluminum cutting tools, and the JetStream coolant technology.

SGS has become an important part of the KYOCERA Precision Tools family, and while the name has changed, one thing has not. Its dedicated people and their relentless commitment to the customer. KSPT Technical Sales Engineers, Application Specialists, and Distribution Partners blanket the globe, delivering reliable service and support to all market segments. It is these people and products that drive innovative application strategies and cutting tool technologies into the end user, continually exceeding expectations and providing the most Value at the Spindle®.



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Speed & Feed Recommendations

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Speed & Feed Recommendations

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Speed & Feed Recommendations

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KSPT MICRO END MILLS

KYOCERA SGS Precision Tools (KSPT) commitment to providing superior quality round solid carbide cutting tools is unwavering, and these efforts are being taken another step further with an impressive micro tool lineup. With over 5,200 tools in various lengths of cut, reach variations, end configurations and coating options, the portfolio can satisfy a variety of machining applications tailored for small diameter milling environments. Explore the portfolio below and discover how these small tools can deliver epic **VALUE AT THE SPINDLE®!**

END MILL PORTFOLIO HIGHLIGHTS:

- 2, 3, and 4 flutes in square, corner radii, and ball end configurations options standard
- Lengths of cut ranging from 1.5 times diameter through 12 times diameter
- Expansive reach options ranging from 3 times diameter through 25 times diameter overall reach
- Fractional tools on 1/8" common shank and metric tools on 3MM and 4MM shanks to suit global application demands
- Offered uncoated and with Ti-NAMITE®-A coating for superior chip flow at low spindle speeds in a variety of applications
- All micro tools are manufactured in accordance with KSPT ISO 9001:2015 quality standards



CASE STUDY M4 8XD MICRO END MILL

INDUSTRY

AEROSPACE

MATERIAL

347 Stainless Steel (28 HRc Hardness)

PRODUCT

M4 8XD Micro End Mills

APPLICATION

Plunging

COMPETITOR

3 Flute Extended Reach Micro End Mill

COOLANT

Soluble Flood

TOOL INFORMATION

0.07" Dia / 0.21" LOC / 2" OAL

GOALS

The goals of this study were to significantly reduce job cost through the implementation of superior tooling and increased manufacturing efficiencies.

STRATEGY

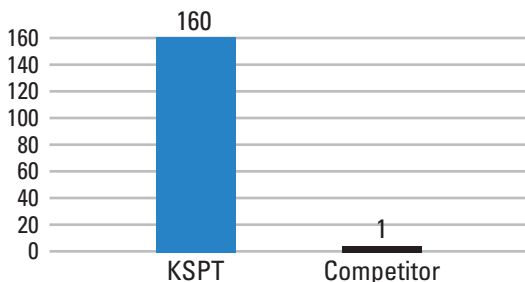
KSPT approached the job with a 4 flute 8XD Micro End Mill. The four flute design allows for higher feed rates and decreased deflection, improving productivity and surface finish.

	KSPT	COMPETITOR
TOOL DIAMETER	.07"	.07"
SPEED	6600 RPM	3400 RPM
FEED	4 IPM	2 IPM
RADIAL CUT (AE)	N/A	N/A
AXIAL CUT (AP)	0.38	0.38
CYCLE TIME	6 SECONDS	11.4 SECONDS

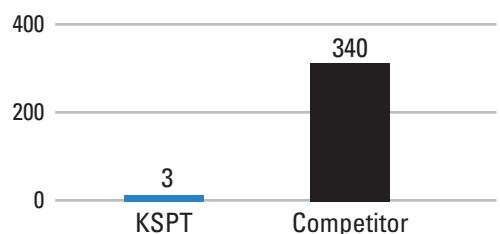
RESULTS

The overall findings of this study indicate **KSPT's 4 flute micro end mill blew away the competitor's 3 flute tool** in efficiency and effectiveness. **KSPT's tool was able to capacitate a 94% higher speed and a 100% greater feed rate.** Those combined efficiencies were able to **cut the cycle time in half!** Because of the higher quality tool, the customer was able to **produce 160 parts per KSPT tool.** The competitor's 3 flute end mill was only able to produce 1 part per tool. Thus, the **tool change cost was reduced by over 99%!** Additionally, since KSPT only used 3 total tools to complete the job, the customer benefited from a **new tool cost reduction by over 99%.** The **M4 8XD 4 flute micro end mill ultimately saved the customer a grand total of \$12,030.34, resulting in a 98.88% cost reduction!** These tools, albeit small, are an epic step forward for micro machining.

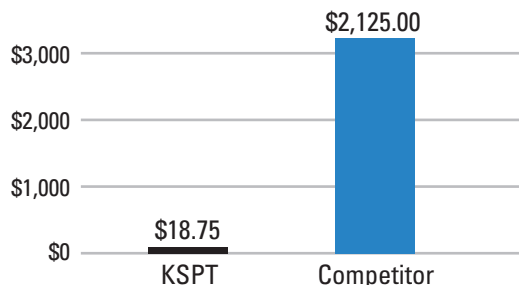
TOTAL PARTS AVAILABLE PER TOOL



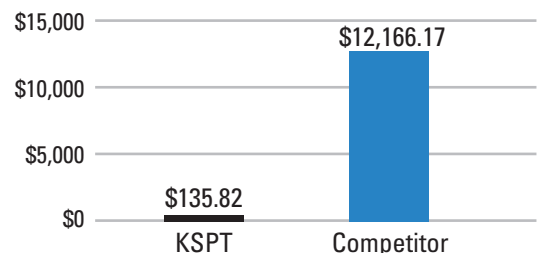
NEW TOOLS REQUIRED TO COMPLETE THE JOB



TOOL CHANGE COST



TOTAL COST



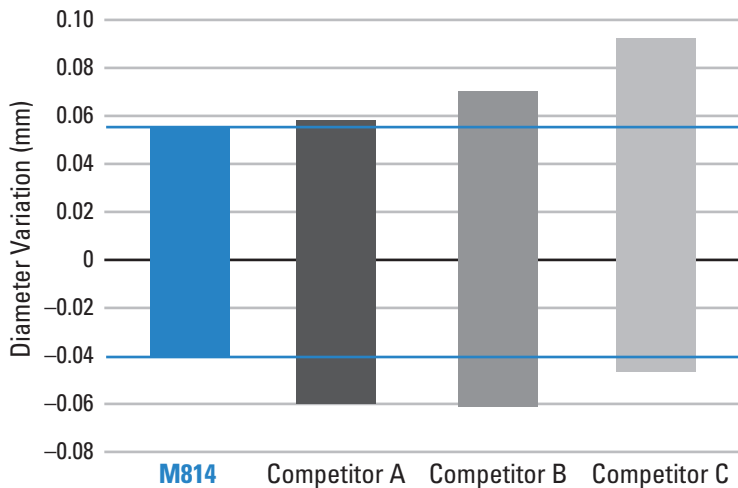
KSPT MICRO DRILLS

KYOCERA SGS Precision Tools (KSPT) commitment to providing superior quality round solid carbide cutting tools is unwavering with an extensive micro drill portfolio. KSPT micro drills total more than 1,500 tools with a variety of coolant and length options to meet the demands of global hole making applications. Explore the portfolio below and discover how these small tools can deliver epic VALUE AT THE SPINDLE®!

DRILL PORTFOLIO HIGHLIGHTS:

- 2 flutes for optimal chip evacuation and cutting edge strength
- Internal coolant options on select series promotes controlled and consistent operating temperatures
- Lengths of cut ranging from 3 times diameter through 15 times diameter
- Fractional tools on 1/8" common shank and metric tools on 3MM and 4MM shanks to suit global market demands
- Uncoated options standard in select series
- Offered with Ti-NAMITE®-A coating for superior tool life and all-around value across a variety of applications
- Select series offered with Ti-NAMITE®-Cr (AlCrN) coating for exceptional wear resistance in wet and dry drilling of cast iron and steel materials up to 52 HRc
- All micro tools are manufactured in accordance with KSPT ISO 9001: 2015 quality standards

**HOLE DIAMETER VARIATION
SERIES M814**



	No. of Holes	Dia. Variation (mm)
M814	600	0.0937
Competitor A	600	0.1141
Competitor B	269 (Broken)	0.1281
Competitor C	600	0.1347

Cutting Conditions:

N = 6468 rpm, Vf = 575 mm/min
Drill Diameter 3,0 mm
Drilling Depth 25,4 mm, 17-4PH-900

M080 & M081

- 4-facet point design, stub length, and mirror finish provide the highest quality spot
- Ti-NAMITE®-A coating and uncoated options for the ultimate performance and tool life in a variety of ferrous and non-ferrous workpiece materials
- Available from stock in all popular diameters and point configurations
- Application specific sub-micron grain carbide designed specifically for micro-tool applications
- Manufactured in accordance with KSPT ISO certified quality procedures



M080

M081

M105

- 4-facet point design stabilizes on entry for superior hole size control and tool life
- Mirror surface finishes improve chip flow as hole depth increases
- Ti-NAMITE®-A coating and uncoated options for the ultimate performance in a variety of ferrous and non-ferrous workpiece materials
- Available from stock in a selection of popular lengths and diameters
- Application specific sub-micron grain carbide designed specifically for micro-tool applications
- Manufactured in accordance with KSPT ISO certified quality procedures



M105

M226 & L226

- 4-facet point design stabilizes on entry for superior hole size control and tool life (>.08mm)
- Mirror surface finishes improve chip flow as hole depth increases
- Ti-NAMITE®-A coating and uncoated options for the ultimate performance in a variety of ferrous and non-ferrous workpiece materials
- Right and left hand cut available from stock in a wide selection of popular lengths and diameters
- Application specific sub-micron grain carbide designed specifically for micro-tool applications
- Manufactured in accordance with KSPT ISO certified quality procedures



M226

L226

M814

- Split point and double margin design provide superior hole finish and size control
- Coolant hole feature allows straight through drilling without a peck cycle
- High-performance Ti-NAMITE®-Cr coating and mirror polished fluting increase tool life and productivity in moderate-to-difficult workpiece materials
- Available from stock in a selection of popular lengths and diameters
- Application specific sub-micron grain carbide designed specifically for micro-tool applications
- Manufactured in accordance with KSPT ISO certified quality procedures



M814 8XD

M814 15XD

M155

- Optimal end geometry ideal for a variety of materials
- 4-faceted point geometry provides centering assistance upon entry
- Mirror surface finish is applied to allow for smooth chip flow
- Wide diameters offer ability to drill larger than average holes than is commonly possible in micro spindles
- Application specific sub-micron grain carbide designed specifically for micro-tool applications
- Manufactured in accordance with KSPT ISO certified quality procedures



M155

KSPT COATINGS

Ti-NAMITE-A®

With excellent thermal and chemical resistance, Ti-NAMITE®-A (AlTiN) allows for dry cutting and improvements in performance of carbide. The coating has a high hardness giving ultimate protection against abrasive wear and erosion. Ideal for cast iron, high temperature alloys, steels, and stainless steel applications.

- Hardness (HV): 3700
- Oxidation Temperature: 1100°C / 2010°F
- Coefficient of Friction: 0.30
- Thickness: 1 – 3 Microns (based on tool diameter)

KYOCERA SGS PRECISION TOOLS AlTiN COATING PERFORMANCE (LAB RESULTS)

SEM photography shows the KSPT proprietary coating method provides a significant reduction in macro particle deposition on the tool surface, which contributes to increased performance due to smoother chip flow. Another benefit of the KSPT micro-tool coating is a significant reduction in edge rounding due to excessive thickness, typical of most normal coatings.



Ti-NAMITE CR®

With very high wear resistance and excellent hot hardness, Ti-NAMITE®-Cr (AlCrN) allows for wet and dry machining versatility at the highest of cutting speeds for increased machine utilization and productivity. The coating provides optimal thermal shock stability and is ideal for cast iron and steel applications up to 52 HRC.

- Hardness (HV): 3200
- Oxidation Temperature: 1100°C / 2010°F
- Coefficient of Friction: 0.35
- Thickness: 1 – 3 Microns (based on tool diameter)

Common Legend

TO ORDER: Please specify quantity and EDP number.

RETURN POLICY: An RMA number must accompany all product returns. Contact your Customer Service Representative for an RMA number.

REGULATION SAFETY GLASSES SHOULD ALWAYS BE WORN WHEN USING HIGH-SPEED CUTTING EQUIPMENT



WARNING: This product can expose you to chemicals including Cobalt, which is known to the State of California to cause cancer. For more information go to www.p65warnings.ca.gov

MATERIALS



Steels



Stainless Steels



Cast Iron



Non-Ferrous



High Temp Alloys



Hardened Steels

END MILLS

TOOL LENGTH



Stub



Regular



Long



Long Reach



Extra Long

FLUTES



2 Flutes



3 Flutes



4 Flutes

END CONFIGURATIONS



Ball



Corner



Square

SHANK TYPE



Common

HELIX ANGLE



Right Spiral

PROFILE ANGLE



Profile Angle

RAKE ANGLE



Positive

All tools are in Right Cut Direction unless noted

DRILLS

SHANK TYPE



Common



Straight

HELIX ANGLES



Right Spiral



Left Spiral

COOLANT OPTIONS



Internal Coolant



External Coolant

POINT ANGLE



Drill Point

REACH

1.5xD

1.5xD Reach

3xD

3xD Reach

5xD

5xD Reach

8xD

8xD Reach

12xD

12xD Reach

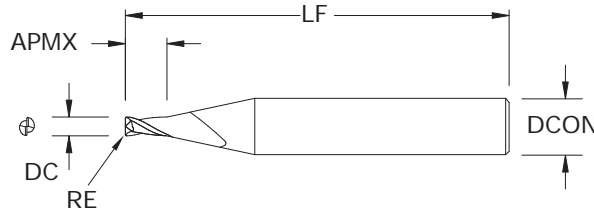
15xD

15xD Reach

M2 • M2CR • 1.5xD



M2 • M2CR 1.5xD FRACTIONAL SERIES



- Two flute design is ideal for softer alloyed, non-ferrous material applications that require slotting or involve heavy chip loads
- Enhanced corner geometry with tight tolerance corner radii
- Proprietary coating allows for superior chip flow, driving industry leading productivity and value, even at low spindle speeds
- High performance carbide substrate designed specifically for Micro Tool applications
- Broad portfolio, offering consistent lengths of cut, to ensure application demands are met
- Advanced geometries that extend tool life, reduce chatter, cut cycle times, and improve part quality
- All tools in stock to meet customer order requirements
- All micro tools are manufactured in accordance with the KSPT ISO certified quality procedures

CUTTING DIAMETER DC	SHANK DIAMETER DCON	inch			EDP NO.	
		LENGTH OF CUT APMX	OVERALL LENGTH LF	CORNER RADIUS RE	UNCOATED	TI-NAMITE®-A (AlTiN)
0.004	1/8	0.006	1-1/2	—	04004	04000
0.005	1/8	0.008	1-1/2	—	00301	02201
0.006	1/8	0.009	1-1/2	—	00302	02202
0.007	1/8	0.011	1-1/2	—	00303	02203
0.008	1/8	0.012	1-1/2	—	00304	02204
0.009	1/8	0.014	1-1/2	—	00305	02205
0.010	1/8	0.015	1-1/2	—	00306	02206
0.011	1/8	0.017	1-1/2	—	00307	02207
0.012	1/8	0.018	1-1/2	—	00308	02208
0.013	1/8	0.020	1-1/2	—	00309	02209
0.014	1/8	0.021	1-1/2	—	00310	02210
0.015	1/8	0.023	1-1/2	—	00311	02211
0.015	1/8	0.023	1-1/2	0.003	08500	08641
0.016	1/8	0.024	1-1/2	—	00312	02212
0.017	1/8	0.026	1-1/2	—	00313	02213
0.018	1/8	0.027	1-1/2	—	00314	02214
0.019	1/8	0.029	1-1/2	—	00315	02215
0.020	1/8	0.030	1-1/2	—	00316	02216
0.020	1/8	0.030	1-1/2	0.003	08502	08643
0.020	1/8	0.030	1-1/2	0.005	08504	08645
0.021	1/8	0.032	1-1/2	—	00317	02217
0.022	1/8	0.033	1-1/2	—	00318	02218
0.023	1/8	0.035	1-1/2	—	00319	02219
0.024	1/8	0.036	1-1/2	—	00320	02220
0.025	1/8	0.038	1-1/2	—	00321	02221
0.025	1/8	0.038	1-1/2	0.010	08505	08646
0.026	1/8	0.039	1-1/2	—	00322	02222
0.027	1/8	0.041	1-1/2	—	00323	02223
0.028	1/8	0.042	1-1/2	—	00324	02224
0.029	1/8	0.044	1-1/2	—	00325	02225
0.030	1/8	0.045	1-1/2	—	00326	02226
0.030	1/8	0.045	1-1/2	0.010	08507	08648
0.031	1/8	0.047	1-1/2	—	00327	02227
0.032	1/8	0.048	1-1/2	—	00328	02228
0.033	1/8	0.050	1-1/2	—	00329	02229
0.034	1/8	0.051	1-1/2	—	00330	02230

TOLERANCES (inch)

.004–.120 DIAMETER

DC = +0.000/–0.001

DCON = h₆

RE = +0.0000/–0.0005

STEELS

STAINLESS STEELS

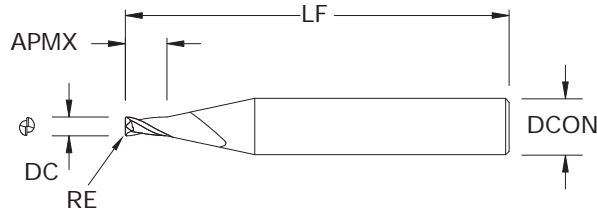
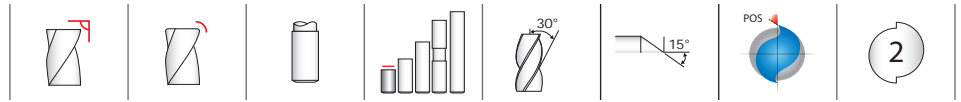
CAST IRON

NON-FERROUS

HIGH TEMP ALLOYS

continued on next page

FRACTIONAL
M2 • M2CR • 1.5xD



M2 • M2CR
1.5xD
 FRACTIONAL SERIES

TOLERANCES (inch)

.004–.120 DIAMETER

DC = +0.000/–0.001

DCON = h_6

RE = +0.0000/–0.0005

- STEELS
- STAINLESS STEELS
- CAST IRON
- NON-FERROUS
- HIGH TEMP ALLOYS

CUTTING DIAMETER DC	SHANK DIAMETER DCON	inch			EDP NO.	
		LENGTH OF CUT APMX	OVERALL LENGTH LF	CORNER RADIUS RE	UNCOATED	TI-NAMITE®-A (AlTiN)
0.035	1/8	0.053	1-1/2	–	00331	02231
0.035	1/8	0.053	1-1/2	0.005	08509	08650
0.035	1/8	0.053	1-1/2	0.010	08511	08652
0.036	1/8	0.054	1-1/2	–	00332	02232
0.037	1/8	0.056	1-1/2	–	00333	02233
0.038	1/8	0.057	1-1/2	–	00334	02234
0.039	1/8	0.059	1-1/2	–	00335	02235
0.040	1/8	0.060	1-1/2	–	00336	02236
0.040	1/8	0.060	1-1/2	0.005	08513	08654
0.040	1/8	0.060	1-1/2	0.010	08515	08656
0.041	1/8	0.062	1-1/2	–	00337	02368
0.042	1/8	0.063	1-1/2	–	00338	02369
0.043	1/8	0.065	1-1/2	–	00339	02370
0.044	1/8	0.066	1-1/2	–	00340	02371
0.045	1/8	0.068	1-1/2	–	00341	02372
0.045	1/8	0.068	1-1/2	0.005	08517	08658
0.045	1/8	0.068	1-1/2	0.010	08519	08660
0.046	1/8	0.069	1-1/2	–	00342	02373
0.047	1/8	0.071	1-1/2	–	00343	02374
0.048	1/8	0.072	1-1/2	–	00344	02375
0.049	1/8	0.074	1-1/2	–	00345	02376
0.050	1/8	0.075	1-1/2	–	00346	02377
0.050	1/8	0.075	1-1/2	0.005	08521	08662
0.050	1/8	0.075	1-1/2	0.010	08523	08664
0.050	1/8	0.075	1-1/2	0.015	08525	08666
0.051	1/8	0.077	1-1/2	–	00347	02378
0.052	1/8	0.078	1-1/2	–	00348	02379
0.053	1/8	0.080	1-1/2	–	00349	02380
0.054	1/8	0.081	1-1/2	–	00350	02381
0.055	1/8	0.083	1-1/2	–	00351	02382
0.055	1/8	0.083	1-1/2	0.005	08527	08668
0.055	1/8	0.083	1-1/2	0.010	08529	08670
0.055	1/8	0.083	1-1/2	0.015	08531	08672
0.056	1/8	0.084	1-1/2	–	00352	02383
0.057	1/8	0.086	1-1/2	–	00353	02384
0.058	1/8	0.087	1-1/2	–	00354	02385

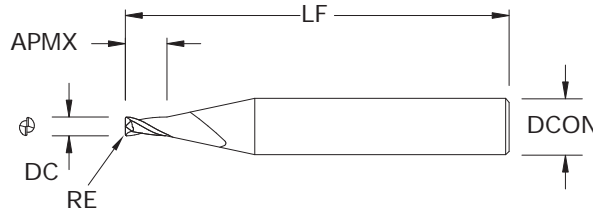
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M2 • M2CR • 1.5xD



M2 • M2CR 1.5xD FRACTIONAL SERIES



continued

CUTTING DIAMETER DC	SHANK DIAMETER DCON	inch			EDP NO.	
		LENGTH OF CUT APMX	OVERALL LENGTH LF	CORNER RADIUS RE	UNCOATED	TI-NAMITE®-A (AlTiN)
0.059	1/8	0.089	1-1/2	–	00355	02386
0.060	1/8	0.090	1-1/2	–	00356	02387
0.060	1/8	0.090	1-1/2	0.005	08533	08674
0.060	1/8	0.090	1-1/2	0.010	08535	08676
0.060	1/8	0.090	1-1/2	0.015	08537	08678
0.062	1/8	0.093	1-1/2	–	00357	02388
0.065	1/8	0.098	1-1/2	–	00358	02389
0.065	1/8	0.098	1-1/2	0.005	08539	08680
0.065	1/8	0.098	1-1/2	0.010	08541	08682
0.065	1/8	0.098	1-1/2	0.015	08543	08684
0.070	1/8	0.105	1-1/2	–	00359	02390
0.070	1/8	0.105	1-1/2	0.005	08545	08686
0.070	1/8	0.105	1-1/2	0.010	08547	08688
0.070	1/8	0.105	1-1/2	0.015	08549	08690
0.075	1/8	0.112	1-1/2	–	04006	04002
0.075	1/8	0.113	1-1/2	0.005	08551	08692
0.075	1/8	0.113	1-1/2	0.010	08553	08694
0.075	1/8	0.113	1-1/2	0.015	08555	08696
0.075	1/8	0.113	1-1/2	0.020	08557	08698
0.078	1/8	0.117	1-1/2	–	00360	02391
0.080	1/8	0.120	1-1/2	–	00361	02392
0.080	1/8	0.120	1-1/2	0.005	08559	08700
0.080	1/8	0.120	1-1/2	0.010	08561	08702
0.080	1/8	0.120	1-1/2	0.015	08563	08704
0.080	1/8	0.120	1-1/2	0.020	08565	08706
0.085	1/8	0.128	1-1/2	–	00362	02393
0.085	1/8	0.128	1-1/2	0.005	08567	08708
0.085	1/8	0.128	1-1/2	0.010	08569	08710
0.085	1/8	0.128	1-1/2	0.015	08571	08712
0.085	1/8	0.128	1-1/2	0.020	08573	08714
0.090	1/8	0.135	1-1/2	–	00363	02394
0.090	1/8	0.135	1-1/2	0.005	08575	08716
0.090	1/8	0.135	1-1/2	0.010	08577	08718
0.090	1/8	0.135	1-1/2	0.015	08579	08720
0.090	1/8	0.135	1-1/2	0.020	08581	08722
0.093	1/8	0.140	1-1/2	–	00364	02395

TOLERANCES (inch)

.004–.120 DIAMETER

DC = +0.000/–0.001

DCON = h₆

RE = +0.0000/–0.0005

STEELS

STAINLESS STEELS

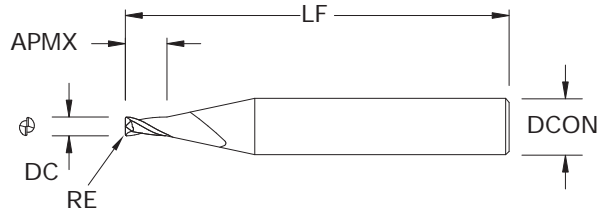
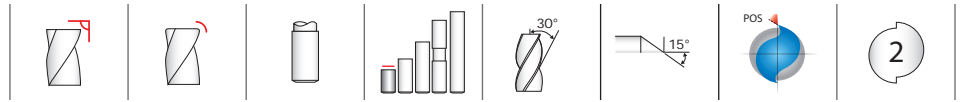
CAST IRON

NON-FERROUS

HIGH TEMP ALLOYS

continued on next page

FRACTIONAL
M2 • M2CR • 1.5xD



M2 • M2CR
1.5xD
 FRACTIONAL SERIES

TOLERANCES (inch)

.004–.120 DIAMETER

DC = +0.000/–0.001

DCON = h_6

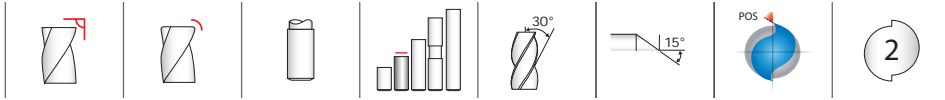
RE = +0.0000/–0.0005

- STEELS
- STAINLESS STEELS
- CAST IRON
- NON-FERROUS
- HIGH TEMP ALLOYS

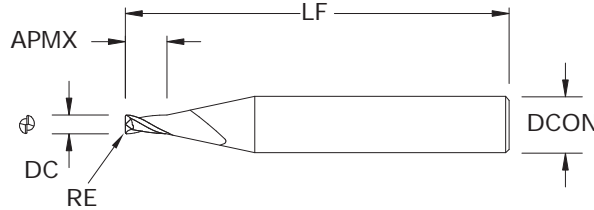
CUTTING DIAMETER DC	SHANK DIAMETER DCON	inch			EDP NO.	
		LENGTH OF CUT APMX	OVERALL LENGTH LF	CORNER RADIUS RE	UNCOATED	TI-NAMITE®-A (AlTiN)
0.095	1/8	0.143	1-1/2	–	00365	02396
0.095	1/8	0.143	1-1/2	0.005	08583	08724
0.095	1/8	0.143	1-1/2	0.010	08585	08726
0.095	1/8	0.143	1-1/2	0.015	08587	08728
0.095	1/8	0.143	1-1/2	0.020	08589	08730
0.100	1/8	0.150	1-1/2	–	00366	02397
0.100	1/8	0.150	1-1/2	0.005	08591	08732
0.100	1/8	0.150	1-1/2	0.010	08593	08734
0.100	1/8	0.150	1-1/2	0.015	08595	08736
0.100	1/8	0.150	1-1/2	0.020	08597	08738
0.100	1/8	0.150	1-1/2	0.030	08599	08740
0.105	1/8	0.158	1-1/2	–	00367	02398
0.105	1/8	0.158	1-1/2	0.005	08601	08742
0.105	1/8	0.158	1-1/2	0.010	08603	08744
0.105	1/8	0.158	1-1/2	0.015	08605	08746
0.105	1/8	0.158	1-1/2	0.020	08607	08748
0.105	1/8	0.158	1-1/2	0.030	08609	08750
0.110	1/8	0.165	1-1/2	–	00368	02399
0.110	1/8	0.165	1-1/2	0.005	08611	08752
0.110	1/8	0.165	1-1/2	0.010	08613	08754
0.110	1/8	0.165	1-1/2	0.015	08615	08756
0.110	1/8	0.165	1-1/2	0.020	08617	08758
0.110	1/8	0.165	1-1/2	0.030	08619	08760
0.115	1/8	0.173	1-1/2	–	00369	02400
0.115	1/8	0.173	1-1/2	0.005	08621	08762
0.115	1/8	0.173	1-1/2	0.010	08623	08764
0.115	1/8	0.173	1-1/2	0.015	08625	08766
0.115	1/8	0.173	1-1/2	0.020	08627	08768
0.115	1/8	0.173	1-1/2	0.030	08629	08770
0.120	1/8	0.180	1-1/2	–	00370	02401
0.120	1/8	0.180	1-1/2	0.005	08631	08772
0.120	1/8	0.180	1-1/2	0.010	08633	08774
0.120	1/8	0.180	1-1/2	0.015	08635	08776
0.120	1/8	0.180	1-1/2	0.020	08637	08778
0.120	1/8	0.180	1-1/2	0.030	08639	08780

continued

M2 • M2CR • 3xD



M2 • M2CR 3xD FRACTIONAL SERIES



- Two flute design is ideal for softer alloyed, non-ferrous material applications that require slotting or involve heavy chip loads
- Enhanced corner geometry with tight tolerance corner radii
- Proprietary coating allows for superior chip flow, driving industry leading productivity and value, even at low spindle speeds
- High performance carbide substrate designed specifically for Micro Tool applications
- Broad portfolio, offering consistent lengths of cut, to ensure application demands are met
- Advanced geometries that extend tool life, reduce chatter, cut cycle times, and improve part quality
- All tools in stock to meet customer order requirements
- All micro tools are manufactured in accordance with the KSPT ISO certified quality procedures

CUTTING DIAMETER DC	SHANK DIAMETER DCON	inch			EDP NO.	
		LENGTH OF CUT APMX	OVERALL LENGTH LF	CORNER RADIUS RE	UNCOATED	TI-NAMITE®-A (AlTiN)
0.004	1/8	0.012	1-1/2	—	04005	04001
0.005	1/8	0.015	1-1/2	—	00811	02275
0.006	1/8	0.018	1-1/2	—	00812	02276
0.007	1/8	0.021	1-1/2	—	00813	02277
0.008	1/8	0.024	1-1/2	—	00814	02278
0.009	1/8	0.027	1-1/2	—	00815	02279
0.010	1/8	0.030	1-1/2	—	00816	02280
0.011	1/8	0.033	1-1/2	—	00817	02281
0.012	1/8	0.036	1-1/2	—	00818	02282
0.013	1/8	0.039	1-1/2	—	00819	02283
0.014	1/8	0.042	1-1/2	—	00820	02284
0.015	1/8	0.045	1-1/2	—	00821	02285
0.015	1/8	0.045	1-1/2	0.003	08501	08642
0.016	1/8	0.048	1-1/2	—	00822	02286
0.017	1/8	0.051	1-1/2	—	00823	02287
0.018	1/8	0.054	1-1/2	—	00824	02288
0.019	1/8	0.057	1-1/2	—	00825	02289
0.020	1/8	0.060	1-1/2	—	00826	02290
0.020	1/8	0.060	1-1/2	0.003	08503	08644
0.020	1/8	0.060	1-1/2	0.005	04020	04021
0.021	1/8	0.063	1-1/2	—	00827	02291
0.022	1/8	0.066	1-1/2	—	00828	02292
0.023	1/8	0.069	1-1/2	—	00829	02293
0.024	1/8	0.072	1-1/2	—	00830	02294
0.025	1/8	0.075	1-1/2	—	00831	02295
0.025	1/8	0.075	1-1/2	0.005	04022	04023
0.025	1/8	0.075	1-1/2	0.010	08506	08647
0.026	1/8	0.078	1-1/2	—	00832	02296
0.027	1/8	0.081	1-1/2	—	00833	02297
0.028	1/8	0.084	1-1/2	—	00834	02298
0.029	1/8	0.087	1-1/2	—	00835	02299
0.030	1/8	0.090	1-1/2	—	00836	02300
0.030	1/8	0.090	1-1/2	0.010	08508	08649
0.031	1/8	0.093	1-1/2	—	00837	02301
0.032	1/8	0.096	1-1/2	—	00838	02302
0.033	1/8	0.099	1-1/2	—	00839	02303

TOLERANCES (inch)

.004–.120 DIAMETER

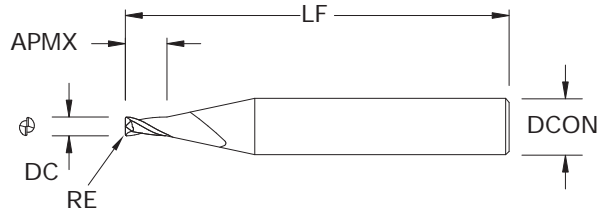
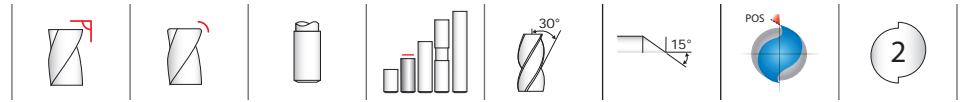
DC = +0.000/–0.001

DCON = h₆

RE = +0.0000/–0.0005

- STEELS
- STAINLESS STEELS
- CAST IRON
- NON-FERROUS
- HIGH TEMP ALLOYS

continued on next page



M2 • M2CR
3xD
FRACTIONAL SERIES

TOLERANCES (inch)

.004-.120 DIAMETER

DC = +0.000/-0.001

DCON = h_6

RE = +0.0000/-0.0005

- STEELS
- STAINLESS STEELS
- CAST IRON
- NON-FERROUS
- HIGH TEMP ALLOYS

CUTTING DIAMETER DC	SHANK DIAMETER DCON	inch			EDP NO.	
		LENGTH OF CUT APMX	OVERALL LENGTH LF	CORNER RADIUS RE	UNCOATED	TI-NAMITE®-A (AlTiN)
0.034	1/8	0.102	1-1/2	-	00840	02304
0.035	1/8	0.105	1-1/2	-	00841	02305
0.035	1/8	0.105	1-1/2	0.005	08510	08651
0.035	1/8	0.105	1-1/2	0.010	08512	08653
0.036	1/8	0.108	1-1/2	-	00842	02306
0.037	1/8	0.111	1-1/2	-	00843	02307
0.038	1/8	0.114	1-1/2	-	00844	02308
0.039	1/8	0.117	1-1/2	-	00845	02309
0.040	1/8	0.120	1-1/2	-	00846	02310
0.040	1/8	0.120	1-1/2	0.005	08514	08655
0.040	1/8	0.120	1-1/2	0.010	08516	08657
0.041	1/8	0.123	1-1/2	-	00479	02436
0.042	1/8	0.126	1-1/2	-	00480	02437
0.043	1/8	0.129	1-1/2	-	00481	02438
0.044	1/8	0.132	1-1/2	-	00482	02439
0.045	1/8	0.135	1-1/2	-	00483	02440
0.045	1/8	0.135	1-1/2	0.005	08518	08659
0.045	1/8	0.135	1-1/2	0.010	08520	08661
0.046	1/8	0.138	1-1/2	-	00484	02441
0.047	1/8	0.141	1-1/2	-	00485	02442
0.048	1/8	0.144	1-1/2	-	00486	02443
0.049	1/8	0.147	1-1/2	-	00487	02444
0.050	1/8	0.150	1-1/2	-	00488	02445
0.050	1/8	0.150	1-1/2	0.005	08522	08663
0.050	1/8	0.150	1-1/2	0.010	08524	08665
0.050	1/8	0.150	1-1/2	0.015	08526	08667
0.051	1/8	0.153	1-1/2	-	00489	02446
0.052	1/8	0.156	1-1/2	-	00490	02447
0.053	1/8	0.159	1-1/2	-	00491	02448
0.054	1/8	0.162	1-1/2	-	00492	02449
0.055	1/8	0.165	1-1/2	-	00493	02450
0.055	1/8	0.165	1-1/2	0.005	08528	08669
0.055	1/8	0.165	1-1/2	0.010	08530	08671
0.055	1/8	0.165	1-1/2	0.015	08532	08673
0.056	1/8	0.168	1-1/2	-	00494	02451
0.057	1/8	0.171	1-1/2	-	00495	02452

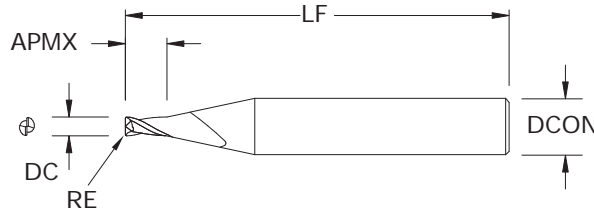
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M2 • M2CR • 3xD



M2 • M2CR 3xD FRACTIONAL SERIES



continued

CUTTING DIAMETER DC	SHANK DIAMETER DCON	inch			EDP NO.	
		LENGTH OF CUT APMX	OVERALL LENGTH LF	CORNER RADIUS RE	UNCOATED	TI-NAMITE®-A (AlTiN)
0.058	1/8	0.174	1-1/2	—	00496	02453
0.059	1/8	0.177	1-1/2	—	00865	02454
0.060	1/8	0.180	1-1/2	—	00498	02455
0.060	1/8	0.180	1-1/2	0.005	08534	08675
0.060	1/8	0.180	1-1/2	0.010	08536	08677
0.060	1/8	0.180	1-1/2	0.015	08538	08679
0.062	1/8	0.186	1-1/2	—	00499	02456
0.065	1/8	0.195	1-1/2	—	00500	02457
0.065	1/8	0.195	1-1/2	0.005	08540	08681
0.065	1/8	0.195	1-1/2	0.010	08542	08683
0.065	1/8	0.195	1-1/2	0.015	08544	08685
0.070	1/8	0.210	1-1/2	—	00501	02458
0.070	1/8	0.210	1-1/2	0.005	08546	08687
0.070	1/8	0.210	1-1/2	0.010	08548	08689
0.070	1/8	0.210	1-1/2	0.015	08550	08691
0.075	1/8	0.225	1-1/2	—	04007	04003
0.075	1/8	0.225	1-1/2	0.005	08552	08693
0.075	1/8	0.225	1-1/2	0.010	08554	08695
0.075	1/8	0.225	1-1/2	0.015	08556	08697
0.075	1/8	0.225	1-1/2	0.020	08558	08699
0.078	1/8	0.234	1-1/2	—	00870	02459
0.080	1/8	0.240	1-1/2	—	00503	02460
0.080	1/8	0.240	1-1/2	0.005	08560	08701
0.080	1/8	0.240	1-1/2	0.010	08562	08703
0.080	1/8	0.240	1-1/2	0.015	08564	08705
0.080	1/8	0.240	1-1/2	0.020	08566	08707
0.085	1/8	0.255	1-1/2	—	00504	02461
0.085	1/8	0.255	1-1/2	0.005	08568	08709
0.085	1/8	0.255	1-1/2	0.010	08570	08711
0.085	1/8	0.255	1-1/2	0.015	08572	08713
0.085	1/8	0.255	1-1/2	0.020	08574	08715
0.090	1/8	0.270	1-1/2	—	00505	02462
0.090	1/8	0.270	1-1/2	0.005	08576	08717
0.090	1/8	0.270	1-1/2	0.010	08578	08719
0.090	1/8	0.270	1-1/2	0.015	08580	08721
0.090	1/8	0.270	1-1/2	0.020	08582	08723

TOLERANCES (inch)

.004–.120 DIAMETER

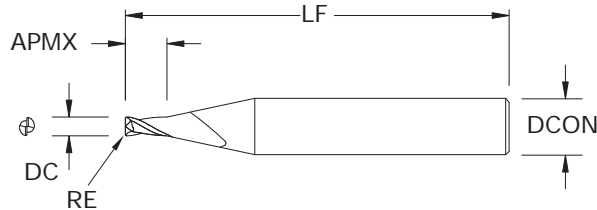
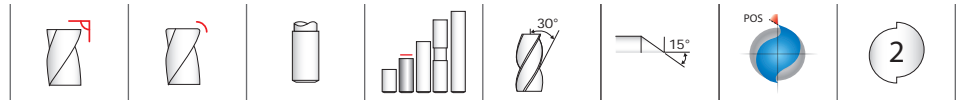
DC = +0.000/–0.001

DCON = h₆

RE = +0.0000/–0.0005

- STEELS
- STAINLESS STEELS
- CAST IRON
- NON-FERROUS
- HIGH TEMP ALLOYS

continued on next page



M2 • M2CR
3xD
 FRACTIONAL SERIES

TOLERANCES (inch)

.004–.120 DIAMETER

DC = +0.000/–0.001

DCON = h_6

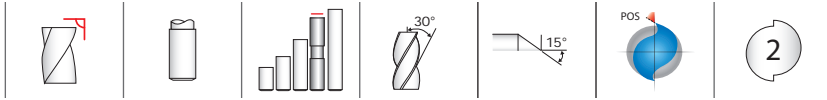
RE = +0.0000/–0.0005

- STEELS
- STAINLESS STEELS
- CAST IRON
- NON-FERROUS
- HIGH TEMP ALLOYS

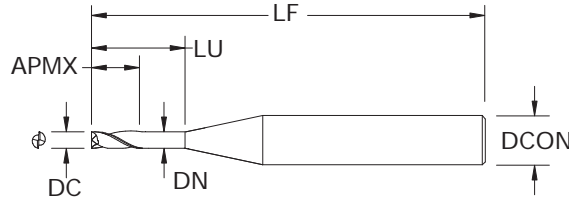
CUTTING DIAMETER DC	SHANK DIAMETER DCON	inch			EDP NO.	
		LENGTH OF CUT APMX	OVERALL LENGTH LF	CORNER RADIUS RE	UNCOATED	TI-NAMITE®-A (AlTiN)
0.093	1/8	0.279	1-1/2	–	00506	02463
0.095	1/8	0.285	1-1/2	–	00507	02464
0.095	1/8	0.285	1-1/2	0.005	08584	08725
0.095	1/8	0.285	1-1/2	0.010	08586	08727
0.095	1/8	0.285	1-1/2	0.015	08588	08729
0.095	1/8	0.285	1-1/2	0.020	08590	08731
0.100	1/8	0.300	1-1/2	–	00508	02465
0.100	1/8	0.300	1-1/2	0.005	08592	08733
0.100	1/8	0.300	1-1/2	0.010	08594	08735
0.100	1/8	0.300	1-1/2	0.015	08596	08737
0.100	1/8	0.300	1-1/2	0.020	08598	08739
0.100	1/8	0.300	1-1/2	0.030	08600	08741
0.105	1/8	0.315	1-1/2	–	00509	02466
0.105	1/8	0.315	1-1/2	0.005	08602	08743
0.105	1/8	0.315	1-1/2	0.010	08604	08745
0.105	1/8	0.315	1-1/2	0.015	08606	08747
0.105	1/8	0.315	1-1/2	0.020	08608	08749
0.105	1/8	0.315	1-1/2	0.030	08610	08751
0.110	1/8	0.330	1-1/2	–	00878	02467
0.110	1/8	0.330	1-1/2	0.005	08612	08753
0.110	1/8	0.330	1-1/2	0.010	08614	08755
0.110	1/8	0.330	1-1/2	0.015	08616	08757
0.110	1/8	0.330	1-1/2	0.020	08618	08759
0.110	1/8	0.330	1-1/2	0.030	08620	08761
0.115	1/8	0.345	1-1/2	–	00511	02468
0.115	1/8	0.345	1-1/2	0.005	08622	08763
0.115	1/8	0.345	1-1/2	0.010	08624	08765
0.115	1/8	0.345	1-1/2	0.015	08626	08767
0.115	1/8	0.345	1-1/2	0.020	08628	08769
0.115	1/8	0.345	1-1/2	0.030	08630	08771
0.120	1/8	0.360	1-1/2	–	00512	02469
0.120	1/8	0.360	1-1/2	0.005	08632	08773
0.120	1/8	0.360	1-1/2	0.010	08634	08775
0.120	1/8	0.360	1-1/2	0.015	08636	08777
0.120	1/8	0.360	1-1/2	0.020	08638	08779
0.120	1/8	0.360	1-1/2	0.030	08640	08781

continued

M2 • 3xD • 8xD Overall Reach



M2 • 3xD 8xD FRACTIONAL SERIES



- Two flute design is ideal for softer alloyed, non-ferrous material applications that require slotting or involve heavy chip loads
- Proprietary coating allows for superior chip flow, driving industry leading productivity and value, even at low spindle speeds
- High performance carbide substrate designed specifically for Micro Tool applications
- Broad portfolio, offering consistent lengths of cut, to ensure application demands are met
- Advanced geometries that extend tool life, reduce chatter, cut cycle times, and improve part quality
- All tools in stock to meet customer order requirements
- All micro tools are manufactured in accordance with the KSPT ISO certified quality procedures

CUTTING DIAMETER DC	SHANK DIAMETER DCON	inch				OVERALL LENGTH LF	EDP NO.	
		LENGTH OF CUT APMX	REACH LU	NECK DIAMETER DN	UNCOATED		TI-NAMITE®-A (AITIN)	
0.010	1/8	0.030	0.080	0.009	1-1/2	09353	03400	
0.015	1/8	0.045	0.120	0.014	1-1/2	09355	03401	
0.020	1/8	0.060	0.160	0.018	1-1/2	09357	03402	
0.025	1/8	0.075	0.200	0.023	1-1/2	09359	03403	
0.030	1/8	0.090	0.240	0.028	1-1/2	09361	03404	
0.031	1/8	0.093	0.248	0.029	1-1/2	09363	03405	
0.035	1/8	0.105	0.280	0.032	1-1/2	09365	03406	
0.040	1/8	0.120	0.320	0.037	1-1/2	09367	03407	
0.045	1/8	0.135	0.360	0.042	2	09369	03408	
0.047	1/8	0.141	0.376	0.044	2	09371	03409	
0.050	1/8	0.150	0.400	0.047	2	09373	03410	
0.055	1/8	0.165	0.440	0.051	2	09375	03411	
0.060	1/8	0.180	0.480	0.056	2	09377	03412	
0.062	1/8	0.186	0.496	0.058	2	09379	03413	
0.065	1/8	0.195	0.520	0.061	2	09381	03414	
0.070	1/8	0.210	0.560	0.065	2	09383	03415	
0.075	1/8	0.225	0.600	0.070	2	09385	03416	
0.078	1/8	0.234	0.624	0.073	2	09387	03417	
0.080	1/8	0.240	0.640	0.075	2	09389	03418	
0.085	1/8	0.255	0.680	0.079	2	09391	03419	
0.090	1/8	0.270	0.720	0.084	2	09393	03420	
0.093	1/8	0.279	0.744	0.087	2	09395	03421	
0.095	1/8	0.285	0.760	0.089	2	09397	03422	
0.100	1/8	0.300	0.800	0.094	2	09399	03423	
0.110	1/8	0.330	0.880	0.103	2	09401	03424	
0.115	1/8	0.345	0.920	0.108	2	09403	03425	
0.120	1/8	0.360	0.960	0.112	2	09405	03426	

TOLERANCES (inch)

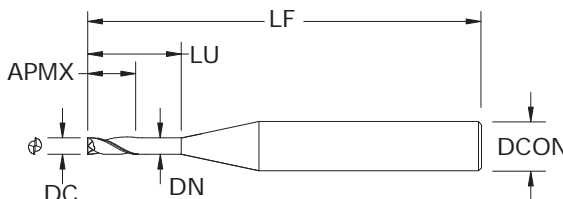
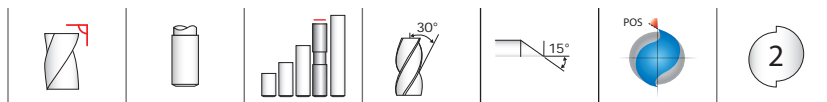
.010–.120 DIAMETER

DC = +0.000/–0.001

DCON = h₆

- STEELS
- STAINLESS STEELS
- CAST IRON
- NON-FERROUS
- HIGH TEMP ALLOYS

M2 • 3xD • 12xD Overall Reach



M2 • 3xD 12xD FRACTIONAL SERIES

TOLERANCES (inch)

.010–.120 DIAMETER

DC = +0.000/–0.001

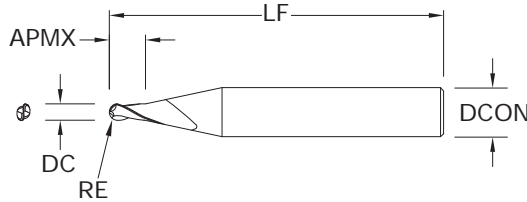
DCON = h₆

- STEELS
- STAINLESS STEELS
- CAST IRON
- NON-FERROUS
- HIGH TEMP ALLOYS

inch						EDP NO.	
CUTTING DIAMETER DC	SHANK DIAMETER DCON	LENGTH OF CUT APMX	REACH LU	NECK DIAMETER DN	OVERALL LENGTH LF	UNCOATED	TI-NAMITE®-A (AlTiN)
0.010	1/8	0.030	0.120	0.009	1-1/2	09352	03427
0.015	1/8	0.045	0.180	0.014	1-1/2	09354	03428
0.020	1/8	0.060	0.240	0.018	1-1/2	09356	03429
0.025	1/8	0.075	0.300	0.023	1-1/2	09358	03430
0.030	1/8	0.090	0.360	0.028	2	09360	03431
0.031	1/8	0.093	0.372	0.029	2	09362	03432
0.035	1/8	0.105	0.420	0.032	2	09364	03433
0.040	1/8	0.120	0.480	0.037	2	09366	03434
0.045	1/8	0.135	0.540	0.042	2	09368	03435
0.047	1/8	0.141	0.564	0.044	2	09370	03436
0.050	1/8	0.150	0.600	0.047	2	09372	03437
0.055	1/8	0.165	0.660	0.051	2	09374	03438
0.060	1/8	0.180	0.720	0.056	2	09376	03439
0.062	1/8	0.186	0.744	0.058	2	09378	03440
0.065	1/8	0.195	0.780	0.061	2	09380	03441
0.070	1/8	0.210	0.840	0.065	2	09382	03442
0.075	1/8	0.225	0.900	0.070	2	09384	03443
0.078	1/8	0.234	0.936	0.073	2-1/2	09386	03444
0.080	1/8	0.240	0.960	0.075	2-1/2	09388	03445
0.085	1/8	0.255	1.020	0.079	2-1/2	09390	03446
0.090	1/8	0.270	1.080	0.084	2-1/2	09392	03447
0.093	1/8	0.279	1.116	0.087	2-1/2	09394	03448
0.095	1/8	0.285	1.140	0.089	2-1/2	09396	03449
0.100	1/8	0.300	1.200	0.094	2-1/2	09398	03450
0.110	1/8	0.330	1.320	0.103	2-1/2	09400	03451
0.115	1/8	0.345	1.380	0.108	2-1/2	09402	03452
0.120	1/8	0.360	1.440	0.112	2-1/2	09404	03453

- Two flute design is ideal for softer alloyed, non-ferrous material applications that require slotting or involve heavy chip loads
- Proprietary coating allows for superior chip flow, driving industry leading productivity and value, even at low spindle speeds
- High performance carbide substrate designed specifically for Micro Tool applications
- Broad portfolio, offering consistent lengths of cut, to ensure application demands are met
- Advanced geometries that extend tool life, reduce chatter, cut cycle times, and improve part quality
- All tools in stock to meet customer order requirements
- All micro tools are manufactured in accordance with the KSPT ISO certified quality procedures

M2B • 1.5xD



M2B • 1.5xD FRACTIONAL SERIES

- Two flute design is ideal for softer alloyed, non-ferrous material applications that require slotting or involve heavy chip loads
- Proprietary coating allows for superior chip flow, driving industry leading productivity and value, even at low spindle speeds
- High performance carbide substrate designed specifically for Micro Tool applications
- Broad portfolio, offering consistent lengths of cut, to ensure application demands are met
- Advanced geometries that extend tool life, reduce chatter, cut cycle times, and improve part quality
- All tools in stock to meet customer order requirements
- All micro tools are manufactured in accordance with the KSPT ISO certified quality procedures

CUTTING DIAMETER DC	inch			EDP NO.	
	SHANK DIAMETER DCON	LENGTH OF CUT APMX	OVERALL LENGTH LF	UNCOATED	TI-NAMITE®-A (AlTiN)
0.005	1/8	0.008	1-1/2	00669	03029
0.006	1/8	0.009	1-1/2	00670	03030
0.007	1/8	0.011	1-1/2	00671	03031
0.008	1/8	0.012	1-1/2	00672	03032
0.009	1/8	0.014	1-1/2	00673	03033
0.010	1/8	0.015	1-1/2	00674	03034
0.011	1/8	0.017	1-1/2	00675	03035
0.012	1/8	0.018	1-1/2	00676	03036
0.013	1/8	0.020	1-1/2	00677	03037
0.014	1/8	0.021	1-1/2	00678	03038
0.015	1/8	0.023	1-1/2	00679	03039
0.016	1/8	0.024	1-1/2	00680	03040
0.017	1/8	0.026	1-1/2	00681	03041
0.018	1/8	0.027	1-1/2	00682	03042
0.019	1/8	0.029	1-1/2	00683	03043
0.020	1/8	0.030	1-1/2	00684	03044
0.021	1/8	0.032	1-1/2	00685	03045
0.022	1/8	0.033	1-1/2	00686	03046
0.023	1/8	0.035	1-1/2	00687	03047
0.024	1/8	0.036	1-1/2	00688	03048
0.025	1/8	0.038	1-1/2	00689	03049
0.026	1/8	0.039	1-1/2	00690	03050
0.027	1/8	0.041	1-1/2	00691	03051
0.028	1/8	0.042	1-1/2	00692	03052
0.029	1/8	0.044	1-1/2	00693	03053
0.030	1/8	0.045	1-1/2	00694	03054
0.031	1/8	0.047	1-1/2	00695	03055
0.032	1/8	0.048	1-1/2	00696	03056
0.033	1/8	0.050	1-1/2	00697	03057
0.034	1/8	0.051	1-1/2	00698	03058
0.035	1/8	0.053	1-1/2	00699	03059
0.036	1/8	0.054	1-1/2	00700	03060
0.037	1/8	0.056	1-1/2	00701	03061
0.038	1/8	0.057	1-1/2	00702	03062
0.039	1/8	0.059	1-1/2	00703	03063
0.040	1/8	0.060	1-1/2	00704	03064

RE = 1/2 Cutting Diameter (DC)

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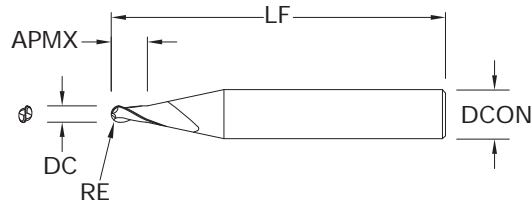
TOLERANCES (inch)

.005–.120 DIAMETER

DC = +0.000/–0.001

DCON = h₆

- STEELS
- STAINLESS STEELS
- CAST IRON
- NON-FERROUS
- HIGH TEMP ALLOYS



M2B • 1.5xD
FRACTIONAL SERIES

TOLERANCES (inch)

.005–.120 DIAMETER

DC = +0.000/–0.001

DCON = h₆

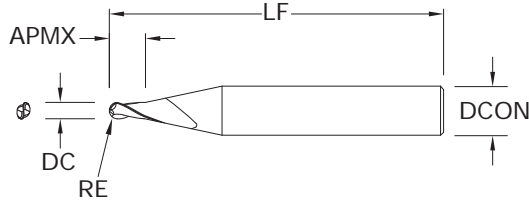
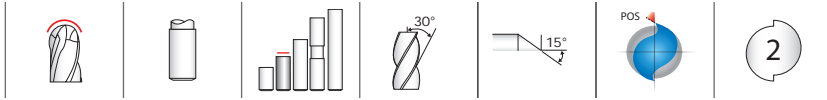
- STEELS
- STAINLESS STEELS
- CAST IRON
- NON-FERROUS
- HIGH TEMP ALLOYS

inch				EDP NO.	
CUTTING DIAMETER DC	SHANK DIAMETER DCON	LENGTH OF CUT APMX	OVERALL LENGTH LF	UNCOATED	TI-NAMITE®-A (AITIN)
0.041	1/8	0.062	1-1/2	00705	02504
0.042	1/8	0.063	1-1/2	00706	02505
0.043	1/8	0.065	1-1/2	00707	02506
0.044	1/8	0.066	1-1/2	00708	02507
0.045	1/8	0.068	1-1/2	00709	02508
0.046	1/8	0.069	1-1/2	00710	02509
0.047	1/8	0.071	1-1/2	00711	02510
0.048	1/8	0.072	1-1/2	00712	02511
0.049	1/8	0.074	1-1/2	00713	02512
0.050	1/8	0.075	1-1/2	00714	02513
0.051	1/8	0.077	1-1/2	00715	02514
0.052	1/8	0.078	1-1/2	00716	02515
0.053	1/8	0.080	1-1/2	00717	02516
0.054	1/8	0.081	1-1/2	00718	02517
0.055	1/8	0.083	1-1/2	00719	02518
0.056	1/8	0.084	1-1/2	00720	02519
0.057	1/8	0.086	1-1/2	00721	02520
0.058	1/8	0.087	1-1/2	00722	02521
0.059	1/8	0.089	1-1/2	00723	02522
0.060	1/8	0.090	1-1/2	00724	02523
0.062	1/8	0.093	1-1/2	00725	02524
0.065	1/8	0.098	1-1/2	00726	02525
0.070	1/8	0.105	1-1/2	00727	02526
0.075	1/8	0.112	1-1/2	04010	04008
0.078	1/8	0.117	1-1/2	00728	02527
0.080	1/8	0.120	1-1/2	00729	02528
0.085	1/8	0.128	1-1/2	00730	02529
0.090	1/8	0.135	1-1/2	00731	02530
0.093	1/8	0.140	1-1/2	00732	02531
0.095	1/8	0.143	1-1/2	00733	02532
0.100	1/8	0.150	1-1/2	00734	02533
0.105	1/8	0.158	1-1/2	00735	02534
0.110	1/8	0.165	1-1/2	00736	02535
0.115	1/8	0.173	1-1/2	00737	02536
0.120	1/8	0.180	1-1/2	00738	02537

RE = 1/2 Cutting Diameter (DC)

continued

FRACTIONAL M2B • 3xD



M2B • 3xD FRACTIONAL SERIES

- Two flute design is ideal for softer alloyed, non-ferrous material applications that require slotting or involve heavy chip loads
- Proprietary coating allows for superior chip flow, driving industry leading productivity and value, even at low spindle speeds
- High performance carbide substrate designed specifically for Micro Tool applications
- Broad portfolio, offering consistent lengths of cut, to ensure application demands are met
- Advanced geometries that extend tool life, reduce chatter, cut cycle times, and improve part quality
- All tools in stock to meet customer order requirements
- All micro tools are manufactured in accordance with the KSPT ISO certified quality procedures

CUTTING DIAMETER DC	SHANK DIAMETER DCON	LENGTH OF CUT APMX	OVERALL LENGTH LF	EDP NO.	
				UNCOATED	TI-NAMITE®-A (AlTiN)
0.005	1/8	0.015	1-1/2	00443	03103
0.006	1/8	0.018	1-1/2	00444	03104
0.007	1/8	0.021	1-1/2	00445	03105
0.008	1/8	0.024	1-1/2	00446	03106
0.009	1/8	0.027	1-1/2	00447	03107
0.010	1/8	0.030	1-1/2	00448	03108
0.011	1/8	0.033	1-1/2	00449	03109
0.012	1/8	0.036	1-1/2	00450	03110
0.013	1/8	0.039	1-1/2	00451	03111
0.014	1/8	0.042	1-1/2	00452	03112
0.015	1/8	0.045	1-1/2	00453	03113
0.016	1/8	0.048	1-1/2	00454	03114
0.017	1/8	0.051	1-1/2	00455	03115
0.018	1/8	0.054	1-1/2	00456	03116
0.019	1/8	0.057	1-1/2	00457	03117
0.020	1/8	0.060	1-1/2	00458	03118
0.021	1/8	0.063	1-1/2	00459	03119
0.022	1/8	0.066	1-1/2	00460	03120
0.023	1/8	0.069	1-1/2	00461	03121
0.024	1/8	0.072	1-1/2	00462	03122
0.025	1/8	0.075	1-1/2	00463	03123
0.026	1/8	0.078	1-1/2	00464	03124
0.027	1/8	0.081	1-1/2	00465	03125
0.028	1/8	0.084	1-1/2	00466	03126
0.029	1/8	0.087	1-1/2	00467	03127
0.030	1/8	0.090	1-1/2	00468	03128
0.031	1/8	0.093	1-1/2	00469	03129
0.032	1/8	0.096	1-1/2	00470	03130
0.033	1/8	0.099	1-1/2	00471	03131
0.034	1/8	0.102	1-1/2	00472	03132
0.035	1/8	0.105	1-1/2	00473	03133
0.036	1/8	0.108	1-1/2	00474	03134
0.037	1/8	0.111	1-1/2	00475	03135
0.038	1/8	0.114	1-1/2	00476	03136
0.039	1/8	0.117	1-1/2	00477	03137
0.040	1/8	0.120	1-1/2	00478	03138

RE = 1/2 Cutting Diameter (DC)

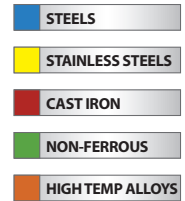
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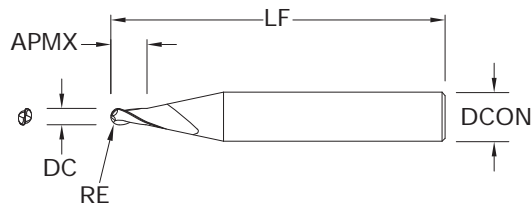
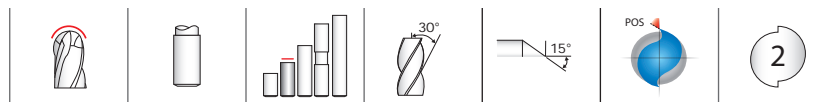
TOLERANCES (inch)

.005–.120 DIAMETER

DC = +0.000/–0.001

DCON = h₆





TOLERANCES (inch)

.005-.120 DIAMETER

DC = +0.000/-0.001

DCON = h₆

- STEELS
- STAINLESS STEELS
- CAST IRON
- NON-FERROUS
- HIGH TEMP ALLOYS

M2B • 3xD
FRACTIONAL SERIES

continued

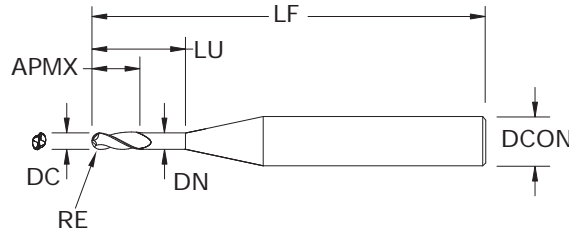
inch				EDP NO.	
CUTTING DIAMETER DC	SHANK DIAMETER DCON	LENGTH OF CUT APMX	OVERALL LENGTH LF	UNCOATED	TI-NAMITE®-A (AITiN)
0.041	1/8	0.123	1-1/2	00847	02572
0.042	1/8	0.126	1-1/2	00848	02573
0.043	1/8	0.129	1-1/2	00849	02574
0.044	1/8	0.132	1-1/2	00850	02575
0.045	1/8	0.135	1-1/2	00851	02576
0.046	1/8	0.138	1-1/2	00852	02577
0.047	1/8	0.141	1-1/2	00853	02578
0.048	1/8	0.144	1-1/2	00854	02579
0.049	1/8	0.147	1-1/2	00855	02580
0.050	1/8	0.150	1-1/2	00856	02581
0.051	1/8	0.153	1-1/2	00857	02582
0.052	1/8	0.156	1-1/2	00858	02583
0.053	1/8	0.159	1-1/2	00859	02584
0.054	1/8	0.162	1-1/2	00860	02585
0.055	1/8	0.165	1-1/2	00861	02586
0.056	1/8	0.168	1-1/2	00862	02587
0.057	1/8	0.171	1-1/2	00863	02588
0.058	1/8	0.174	1-1/2	00864	02589
0.059	1/8	0.177	1-1/2	00497	02590
0.060	1/8	0.180	1-1/2	00866	02591
0.062	1/8	0.186	1-1/2	00867	02592
0.065	1/8	0.195	1-1/2	00868	02593
0.070	1/8	0.210	1-1/2	00869	02594
0.075	1/8	0.225	1-1/2	04011	04009
0.078	1/8	0.234	1-1/2	00502	02595
0.080	1/8	0.240	1-1/2	00871	02596
0.085	1/8	0.255	1-1/2	00872	02597
0.090	1/8	0.270	1-1/2	00873	02598
0.093	1/8	0.279	1-1/2	00874	02599
0.095	1/8	0.285	1-1/2	00875	02600
0.100	1/8	0.300	1-1/2	00876	02601
0.105	1/8	0.315	1-1/2	00877	02602
0.110	1/8	0.330	1-1/2	00510	02603
0.115	1/8	0.345	1-1/2	00879	02604
0.120	1/8	0.360	1-1/2	00880	02605

RE = 1/2 Cutting Diameter (DC)

M2B • 3xD • 8xD Overall Reach



M2B • 3xD 8xD FRACTIONAL SERIES



- Two flute design is ideal for softer alloyed, non-ferrous material applications that require slotting or involve heavy chip loads
- Proprietary coating allows for superior chip flow, driving industry leading productivity and value, even at low spindle speeds
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- All micro tools are manufactured in accordance with the KSPT ISO certified quality procedures

CUTTING DIAMETER DC	SHANK DIAMETER DCON	inch				OVERALL LENGTH LF	EDP NO.	
		LENGTH OF CUT APMX	REACH LU	NECK DIAMETER DN	UNCOATED		TI-NAMITE®-A (AlTiN)	
0.010	1/8	0.030	0.080	0.009	1-1/2	09299	03697	
0.015	1/8	0.045	0.120	0.014	1-1/2	09301	03698	
0.020	1/8	0.060	0.160	0.018	1-1/2	09303	03699	
0.025	1/8	0.075	0.200	0.023	1-1/2	09305	03700	
0.030	1/8	0.090	0.240	0.028	1-1/2	09307	03701	
0.031	1/8	0.093	0.248	0.029	1-1/2	09309	03702	
0.035	1/8	0.105	0.280	0.032	1-1/2	09311	03703	
0.040	1/8	0.120	0.320	0.037	1-1/2	09313	03704	
0.045	1/8	0.135	0.360	0.042	2	09315	03705	
0.047	1/8	0.141	0.376	0.044	2	09317	03706	
0.050	1/8	0.150	0.400	0.047	2	09319	03707	
0.055	1/8	0.165	0.440	0.051	2	09321	03708	
0.060	1/8	0.180	0.480	0.056	2	09323	03709	
0.062	1/8	0.186	0.496	0.058	2	09325	03710	
0.065	1/8	0.195	0.520	0.061	2	09327	03711	
0.070	1/8	0.210	0.560	0.065	2	09329	03712	
0.075	1/8	0.225	0.600	0.070	2	09331	03713	
0.078	1/8	0.234	0.624	0.073	2	09333	03714	
0.080	1/8	0.240	0.640	0.075	2	09335	03715	
0.085	1/8	0.255	0.680	0.079	2	09337	03716	
0.090	1/8	0.270	0.720	0.084	2	09339	03717	
0.093	1/8	0.279	0.744	0.087	2	09341	03718	
0.095	1/8	0.285	0.760	0.089	2	09343	03719	
0.100	1/8	0.300	0.800	0.094	2	09345	03720	
0.110	1/8	0.330	0.880	0.103	2	09347	03721	
0.115	1/8	0.345	0.920	0.108	2	09349	03722	
0.120	1/8	0.360	0.960	0.112	2	09351	03723	

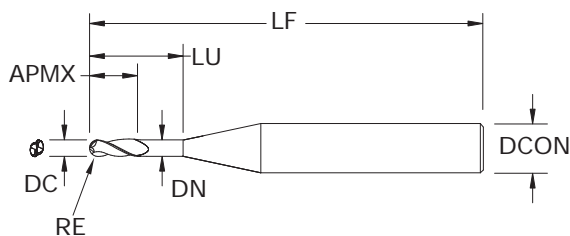
RE = 1/2 Cutting Diameter (DC)

TOLERANCES (inch)

.010–.120 DIAMETER
DC = +0.000/–0.001
DCON = h₆

- STEELS
- STAINLESS STEELS
- CAST IRON
- NON-FERROUS
- HIGH TEMP ALLOYS

M2B • 3xD • 12xD Overall Reach



M2B • 3xD 12xD FRACTIONAL SERIES

TOLERANCES (inch)

.010–.120 DIAMETER

DC = +0.000/–0.001

DCON = h₆

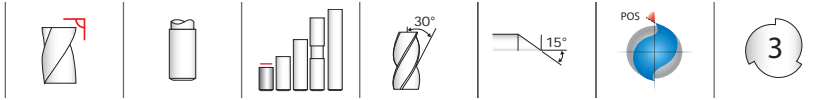
- STEELS
- STAINLESS STEELS
- CAST IRON
- NON-FERROUS
- HIGH TEMP ALLOYS

inch						EDP NO.	
CUTTING DIAMETER DC	SHANK DIAMETER DCON	LENGTH OF CUT APMX	REACH LU	NECK DIAMETER DN	OVERALL LENGTH LF	UNCOATED	TI-NAMITE®-A (AlTiN)
0.010	1/8	0.030	0.120	0.009	1-1/2	09298	03724
0.015	1/8	0.045	0.180	0.014	1-1/2	09300	03725
0.020	1/8	0.060	0.240	0.018	1-1/2	09302	03726
0.025	1/8	0.075	0.300	0.023	1-1/2	09304	03727
0.030	1/8	0.090	0.360	0.028	2	09306	03728
0.031	1/8	0.093	0.372	0.029	2	09308	03729
0.035	1/8	0.105	0.420	0.032	2	09310	03730
0.040	1/8	0.120	0.480	0.037	2	09312	03731
0.045	1/8	0.135	0.540	0.042	2	09314	03732
0.047	1/8	0.141	0.564	0.044	2	09316	03733
0.050	1/8	0.150	0.600	0.047	2	09318	03734
0.055	1/8	0.165	0.660	0.051	2	09320	03735
0.060	1/8	0.180	0.720	0.056	2	09322	03736
0.062	1/8	0.186	0.744	0.058	2	09324	03737
0.065	1/8	0.195	0.780	0.061	2	09326	03738
0.070	1/8	0.210	0.840	0.065	2	09328	03739
0.075	1/8	0.225	0.900	0.070	2	09330	03740
0.078	1/8	0.234	0.936	0.073	2-1/2	09332	03741
0.080	1/8	0.240	0.960	0.075	2-1/2	09334	03742
0.085	1/8	0.255	1.020	0.079	2-1/2	09336	03743
0.090	1/8	0.270	1.080	0.084	2-1/2	09338	03744
0.093	1/8	0.279	1.116	0.087	2-1/2	09340	03745
0.095	1/8	0.285	1.140	0.089	2-1/2	09342	03746
0.100	1/8	0.300	1.200	0.094	2-1/2	09344	03747
0.110	1/8	0.330	1.320	0.103	2-1/2	09346	03748
0.115	1/8	0.345	1.380	0.108	2-1/2	09348	03749
0.120	1/8	0.360	1.440	0.112	2-1/2	09350	03750

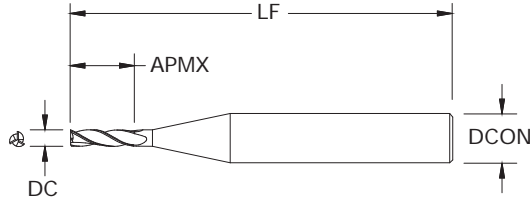
RE = 1/2 Cutting Diameter (DC)

- Two flute design is ideal for softer alloyed, non-ferrous material applications that require slotting or involve heavy chip loads
- Proprietary coating allows for superior chip flow, driving industry leading productivity and value, even at low spindle speeds
- High performance carbide substrate designed specifically for Micro Tool applications
- Broad portfolio, offering consistent lengths of cut, to ensure application demands are met
- Advanced geometries that extend tool life, reduce chatter, cut cycle times, and improve part quality
- All tools in stock to meet customer order requirements
- All micro tools are manufactured in accordance with the KSPT ISO certified quality procedures

M3 • 1.5xD



M3 • 1.5xD FRACTIONAL SERIES



- Three flute design features improved chip space over four flutes and increased strength and feed capability over two flutes
- Proprietary coating allows for superior chip flow, driving industry leading productivity and value, even at low spindle speeds
- High performance carbide substrate designed specifically for Micro Tool applications
- Broad portfolio, offering consistent lengths of cut, to ensure application demands are met
- Advanced geometries that extend tool life, reduce chatter, cut cycle times, and improve part quality
- All tools in stock to meet customer order requirements
- All micro tools are manufactured in accordance with the KSPT ISO certified quality procedures

CUTTING DIAMETER DC	inch			EDP NO.	
	SHANK DIAMETER DCON	LENGTH OF CUT APMX	OVERALL LENGTH LF	UNCOATED	TI-NAMITE®-A (AlTiN)
0.005	1/8	0.008	1-1/2	04040	01085
0.006	1/8	0.009	1-1/2	04041	01086
0.007	1/8	0.011	1-1/2	04042	01087
0.008	1/8	0.012	1-1/2	04043	01088
0.009	1/8	0.014	1-1/2	04044	01089
0.010	1/8	0.015	1-1/2	04045	01090
0.011	1/8	0.017	1-1/2	04046	01091
0.012	1/8	0.018	1-1/2	04047	01092
0.013	1/8	0.020	1-1/2	04048	01093
0.014	1/8	0.021	1-1/2	04049	01094
0.015	1/8	0.023	1-1/2	04050	01095
0.016	1/8	0.024	1-1/2	04051	01096
0.017	1/8	0.026	1-1/2	04052	01097
0.018	1/8	0.027	1-1/2	04053	01098
0.019	1/8	0.029	1-1/2	04054	01099
0.020	1/8	0.030	1-1/2	04055	01100
0.021	1/8	0.032	1-1/2	04056	01101
0.022	1/8	0.033	1-1/2	04057	01102
0.023	1/8	0.035	1-1/2	04058	01103
0.024	1/8	0.036	1-1/2	04059	01104
0.025	1/8	0.038	1-1/2	04060	01105
0.026	1/8	0.039	1-1/2	04061	01106
0.027	1/8	0.041	1-1/2	04062	01107
0.028	1/8	0.042	1-1/2	04063	01108
0.029	1/8	0.044	1-1/2	04064	01109
0.030	1/8	0.045	1-1/2	04065	01110
0.031	1/8	0.047	1-1/2	04066	01111
0.032	1/8	0.048	1-1/2	04067	01112
0.033	1/8	0.050	1-1/2	04068	01113
0.034	1/8	0.051	1-1/2	04069	01114
0.035	1/8	0.053	1-1/2	04070	01115
0.036	1/8	0.054	1-1/2	04071	01116
0.037	1/8	0.056	1-1/2	04072	01117
0.038	1/8	0.057	1-1/2	04073	01118
0.039	1/8	0.059	1-1/2	04074	01119
0.040	1/8	0.060	1-1/2	04075	01120

TOLERANCES (inch)

.005–.120 DIAMETER

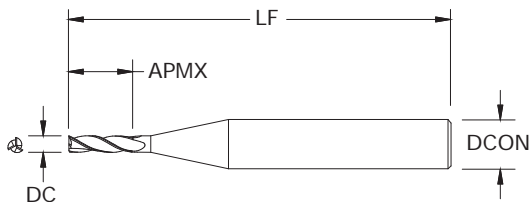
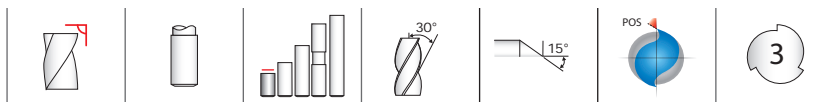
DC = +0.000/-0.001

DCON = h6

- STEELS
- STAINLESS STEELS
- CAST IRON
- NON-FERROUS
- HIGH TEMP ALLOYS

continued on next page

FRACTIONAL M3 • 1.5xD



TOLERANCES (inch)

.005-.120 DIAMETER

DC = +0.000/-0.001

DCON = h₆

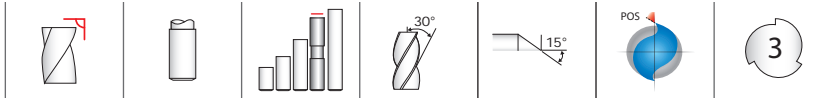
- STEELS
- STAINLESS STEELS
- CAST IRON
- NON-FERROUS
- HIGH TEMP ALLOYS

M3 • 1.5xD FRACTIONAL SERIES

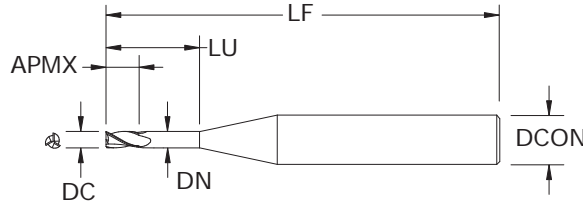
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CUTTING DIAMETER DC	SHANK DIAMETER DCON	LENGTH OF CUT APMX	OVERALL LENGTH LF	EDP NO.	
				UNCOATED	TI-NAMITE®-A (AlTiN)
0.041	1/8	0.062	1-1/2	04076	01121
0.042	1/8	0.063	1-1/2	04077	01122
0.043	1/8	0.065	1-1/2	04078	01123
0.044	1/8	0.066	1-1/2	04079	01124
0.045	1/8	0.068	1-1/2	04080	01125
0.046	1/8	0.069	1-1/2	04081	01126
0.047	1/8	0.071	1-1/2	04082	01127
0.048	1/8	0.072	1-1/2	04083	01128
0.049	1/8	0.074	1-1/2	04084	01129
0.050	1/8	0.075	1-1/2	04085	01130
0.051	1/8	0.077	1-1/2	04086	01131
0.052	1/8	0.078	1-1/2	04087	01132
0.053	1/8	0.080	1-1/2	04088	01133
0.054	1/8	0.081	1-1/2	04089	01134
0.055	1/8	0.083	1-1/2	04090	01135
0.056	1/8	0.084	1-1/2	04091	01136
0.057	1/8	0.086	1-1/2	04092	01137
0.058	1/8	0.087	1-1/2	04093	01138
0.059	1/8	0.089	1-1/2	04094	01139
0.060	1/8	0.090	1-1/2	04095	01140
0.062	1/8	0.093	1-1/2	04096	01141
0.065	1/8	0.098	1-1/2	04097	01142
0.070	1/8	0.105	1-1/2	04098	01143
0.075	1/8	0.113	1-1/2	04099	01144
0.078	1/8	0.117	1-1/2	04100	01145
0.080	1/8	0.120	1-1/2	04101	01146
0.085	1/8	0.128	1-1/2	04102	01147
0.090	1/8	0.135	1-1/2	04103	01148
0.093	1/8	0.140	1-1/2	04104	01149
0.095	1/8	0.143	1-1/2	04105	01150
0.100	1/8	0.150	1-1/2	04106	01151
0.105	1/8	0.158	1-1/2	04107	01152
0.110	1/8	0.165	1-1/2	04108	01153
0.115	1/8	0.173	1-1/2	04109	01154
0.120	1/8	0.180	1-1/2	04110	01155

M3 • 1.5xD • 3xD Overall Reach



M3 • 1.5xD 3xD FRACTIONAL SERIES



- Three flute design features improved chip space over four flutes and increased strength and feed capability over two flutes
- Proprietary coating allows for superior chip flow, driving industry leading productivity and value, even at low spindle speeds
- High performance carbide substrate designed specifically for Micro Tool applications
- Broad portfolio, offering consistent lengths of cut, to ensure application demands are met
- Advanced geometries that extend tool life, reduce chatter, cut cycle times, and improve part quality
- All tools in stock to meet customer order requirements
- All micro tools are manufactured in accordance with the KSPT ISO certified quality procedures

CUTTING DIAMETER DC	SHANK DIAMETER DCON	inch				OVERALL LENGTH LF	EDP NO.	
		LENGTH OF CUT APMX	REACH LU	NECK DIAMETER DN	UNCOATED		TI-NAMITE®-A (AlTiN)	
0.010	1/8	0.015	0.030	0.009	2-1/2	09599	03508	
0.015	1/8	0.023	0.045	0.014	2-1/2	09606	03509	
0.020	1/8	0.030	0.060	0.018	2-1/2	09613	03510	
0.025	1/8	0.038	0.075	0.023	2-1/2	09620	03511	
0.030	1/8	0.045	0.090	0.028	2-1/2	09627	03512	
0.031	1/8	0.047	0.093	0.029	2-1/2	09634	03513	
0.035	1/8	0.053	0.105	0.032	2-1/2	09641	03514	
0.040	1/8	0.060	0.120	0.037	2-1/2	09648	03515	
0.045	1/8	0.068	0.135	0.042	2-1/2	09655	03516	
0.047	1/8	0.071	0.141	0.044	2-1/2	09662	03517	
0.050	1/8	0.075	0.150	0.047	2-1/2	09669	03518	
0.055	1/8	0.083	0.165	0.051	2-1/2	09676	03519	
0.060	1/8	0.090	0.180	0.056	2-1/2	09683	03520	
0.062	1/8	0.093	0.186	0.058	2-1/2	09690	03521	
0.065	1/8	0.098	0.195	0.061	2-1/2	09697	03522	
0.070	1/8	0.105	0.210	0.065	2-1/2	09704	03523	
0.075	1/8	0.113	0.225	0.070	2-1/2	09711	03524	
0.078	1/8	0.117	0.234	0.073	2-1/2	09718	03525	
0.080	1/8	0.120	0.240	0.075	2-1/2	09725	03526	
0.085	1/8	0.128	0.255	0.079	2-1/2	09732	03527	
0.090	1/8	0.135	0.270	0.084	2-1/2	09739	03528	
0.093	1/8	0.140	0.279	0.087	2-1/2	09746	03529	
0.095	1/8	0.143	0.285	0.089	2-1/2	09753	03530	
0.100	1/8	0.150	0.300	0.094	2-1/2	09760	03531	
0.110	1/8	0.165	0.330	0.103	2-1/2	09767	03532	
0.115	1/8	0.173	0.345	0.108	2-1/2	09774	03533	
0.120	1/8	0.180	0.360	0.112	2-1/2	09781	03534	

TOLERANCES (inch)

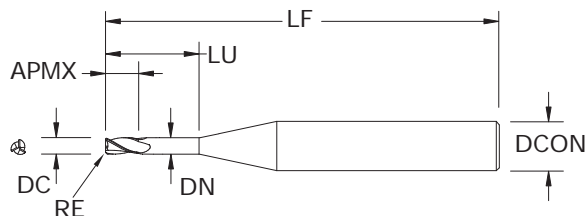
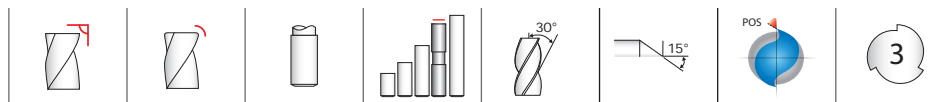
.010-.120 DIAMETER

DC = +0.000/-0.001

DCON = h₆

- STEELS
- STAINLESS STEELS
- CAST IRON
- NON-FERROUS
- HIGH TEMP ALLOYS

M3 • M3CR • 1.5xD • 5xD Overall Reach



M3 • M3CR • 1.5xD 5xD

FRACTIONAL SERIES

TOLERANCES (inch)

.010–.120 DIAMETER

DC = +0.000/–0.001

DCON = h₆

RE = +0.0000/–0.0005

STEELS

STAINLESS STEELS

CAST IRON

NON-FERROUS

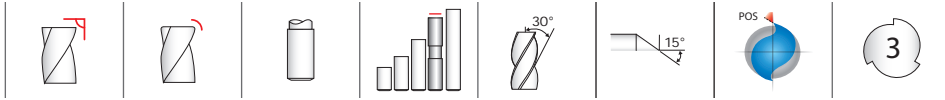
HIGH TEMP ALLOYS

CUTTING DIAMETER DC	SHANK DIAMETER DCON	LENGTH OF CUT APMX	inch				CORNER RADIUS RE	EDP NO.	
			REACH LU	NECK DIAMETER DN	OVERALL LENGTH LF	UNCOATED		TI-NAMITE®-A (AlTiN)	
0.010	1/8	0.015	0.050	0.009	2-1/2	–	09600	03535	
0.015	1/8	0.023	0.075	0.014	2-1/2	–	09607	03536	
0.015	1/8	0.023	0.075	0.014	2-1/2	0.003	08782	08884	
0.020	1/8	0.030	0.100	0.018	2-1/2	–	09614	03537	
0.020	1/8	0.030	0.100	0.018	2-1/2	0.005	08785	08887	
0.025	1/8	0.038	0.125	0.023	2-1/2	–	09621	03538	
0.025	1/8	0.038	0.125	0.023	2-1/2	0.005	08788	08890	
0.030	1/8	0.045	0.150	0.028	2-1/2	–	09628	03539	
0.030	1/8	0.045	0.150	0.028	2-1/2	0.005	08791	08893	
0.031	1/8	0.047	0.155	0.029	2-1/2	–	09635	03540	
0.035	1/8	0.053	0.175	0.032	2-1/2	–	09642	03541	
0.035	1/8	0.053	0.175	0.032	2-1/2	0.005	08794	08896	
0.035	1/8	0.053	0.175	0.032	2-1/2	0.010	08797	08899	
0.040	1/8	0.060	0.200	0.037	2-1/2	–	09649	03542	
0.040	1/8	0.060	0.200	0.037	2-1/2	0.005	08800	08902	
0.040	1/8	0.060	0.200	0.037	2-1/2	0.010	08803	08905	
0.045	1/8	0.068	0.225	0.042	2-1/2	–	09656	03543	
0.045	1/8	0.068	0.225	0.042	2-1/2	0.005	08806	08908	
0.045	1/8	0.068	0.225	0.042	2-1/2	0.010	08809	08911	
0.047	1/8	0.071	0.235	0.044	2-1/2	–	09663	03544	
0.050	1/8	0.075	0.250	0.047	2-1/2	–	09670	03545	
0.050	1/8	0.075	0.250	0.047	2-1/2	0.005	08812	08914	
0.050	1/8	0.075	0.250	0.047	2-1/2	0.010	08815	08917	
0.050	1/8	0.075	0.250	0.047	2-1/2	0.015	08818	08920	
0.055	1/8	0.083	0.275	0.051	2-1/2	–	09677	03546	
0.060	1/8	0.090	0.300	0.056	2-1/2	–	09684	03547	
0.060	1/8	0.090	0.300	0.056	2-1/2	0.005	08821	08923	
0.060	1/8	0.090	0.300	0.056	2-1/2	0.010	08824	08926	
0.060	1/8	0.090	0.300	0.056	2-1/2	0.015	08827	08929	
0.062	1/8	0.093	0.310	0.058	2-1/2	–	09691	03548	
0.065	1/8	0.098	0.325	0.061	2-1/2	–	09698	03549	
0.070	1/8	0.105	0.350	0.065	2-1/2	–	09705	03550	
0.070	1/8	0.105	0.350	0.065	2-1/2	0.005	08830	08932	
0.070	1/8	0.105	0.350	0.065	2-1/2	0.010	08833	08935	

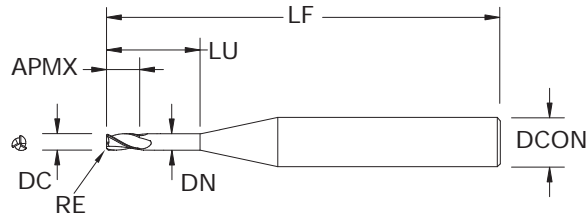
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- Three flute design features improved chip space over four flutes and increased strength and feed capability over two flutes
- Enhanced corner geometry with tight tolerance corner radii
- Proprietary coating allows for superior chip flow, driving industry leading productivity and value, even at low spindle speeds
- High performance carbide substrate designed specifically for Micro Tool applications
- Broad portfolio, offering consistent lengths of cut, to ensure application demands are met
- Advanced geometries that extend tool life, reduce chatter, cut cycle times, and improve part quality
- All tools in stock to meet customer order requirements
- All micro tools are manufactured in accordance with the KSPT ISO certified quality procedures

M3 • M3CR • 1.5xD • 5xD Overall Reach



M3 • M3CR • 1.5xD 5xD FRACTIONAL SERIES



continued

CUTTING DIAMETER DC	SHANK DIAMETER DCON	LENGTH OF CUT APMX	inch				EDP NO.	
			REACH LU	NECK DIAMETER DN	OVERALL LENGTH LF	CORNER RADIUS RE	UNCOATED	TI-NAMITE®-A (AlTiN)
0.070	1/8	0.105	0.350	0.065	2-1/2	0.015	08836	08938
0.075	1/8	0.113	0.375	0.070	2-1/2	—	09712	03551
0.078	1/8	0.117	0.390	0.073	2-1/2	—	09719	03552
0.080	1/8	0.120	0.400	0.075	2-1/2	—	09726	03553
0.080	1/8	0.120	0.400	0.075	2-1/2	0.005	08839	08941
0.080	1/8	0.120	0.400	0.075	2-1/2	0.010	08842	08944
0.080	1/8	0.120	0.400	0.075	2-1/2	0.015	08845	08947
0.085	1/8	0.128	0.425	0.079	2-1/2	—	09733	03554
0.090	1/8	0.135	0.450	0.084	2-1/2	—	09740	03555
0.090	1/8	0.135	0.450	0.084	2-1/2	0.005	08848	08950
0.090	1/8	0.135	0.450	0.084	2-1/2	0.010	08851	08953
0.090	1/8	0.135	0.450	0.084	2-1/2	0.015	08854	08956
0.093	1/8	0.140	0.465	0.087	2-1/2	—	09747	03556
0.095	1/8	0.143	0.475	0.089	2-1/2	—	09754	03557
0.100	1/8	0.150	0.500	0.094	2-1/2	—	09761	03558
0.100	1/8	0.150	0.500	0.094	2-1/2	0.005	08857	08959
0.100	1/8	0.150	0.500	0.094	2-1/2	0.010	08860	08962
0.100	1/8	0.150	0.500	0.094	2-1/2	0.015	08863	08965
0.110	1/8	0.165	0.550	0.103	2-1/2	—	09768	03559
0.110	1/8	0.165	0.550	0.103	2-1/2	0.005	08866	08968
0.110	1/8	0.165	0.550	0.103	2-1/2	0.010	08869	08971
0.110	1/8	0.165	0.550	0.103	2-1/2	0.015	08872	08974
0.115	1/8	0.173	0.575	0.108	2-1/2	—	09775	03560
0.120	1/8	0.180	0.600	0.112	2-1/2	—	09782	03561
0.120	1/8	0.180	0.600	0.112	2-1/2	0.005	08875	08977
0.120	1/8	0.180	0.600	0.112	2-1/2	0.010	08878	08980
0.120	1/8	0.180	0.600	0.112	2-1/2	0.015	08881	08983

TOLERANCES (inch)

.010–.120 DIAMETER

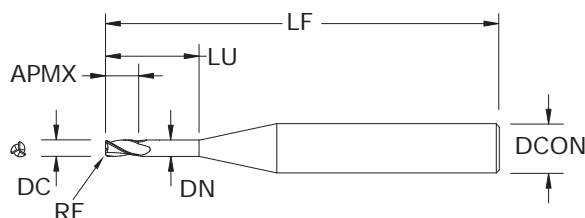
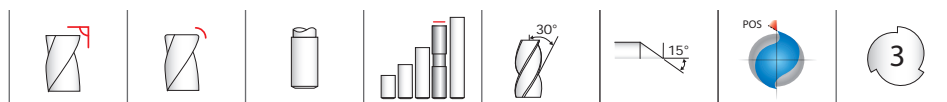
DC = +0.000/–0.001

DCON = h₆

RE = +0.0000/–0.0005

- STEELS
- STAINLESS STEELS
- CAST IRON
- NON-FERROUS
- HIGH TEMP ALLOYS

M3 • M3CR • 1.5xD • 8xD Overall Reach



M3 • M3CR • 1.5xD 8xD

FRACTIONAL SERIES

TOLERANCES (inch)

.010–.120 DIAMETER

DC = +0.000/-0.001

DCON = h₆

RE = +0.0000/-0.0005

STEELS

STAINLESS STEELS

CAST IRON

NON-FERROUS

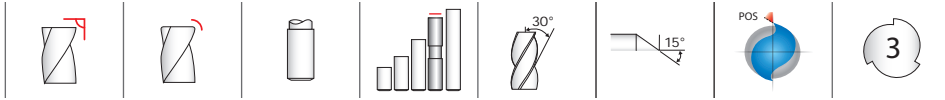
HIGH TEMP ALLOYS

CUTTING DIAMETER DC	SHANK DIAMETER DCON	LENGTH OF CUT APMX	inch				CORNER RADIUS RE	EDP NO.	
			REACH LU	NECK DIAMETER DN	OVERALL LENGTH LF	UNCOATED		TI-NAMITE®-A (AlTiN)	
0.010	1/8	0.015	0.080	0.009	2-1/2	—	09601	03562	
0.015	1/8	0.023	0.120	0.014	2-1/2	—	09608	03563	
0.015	1/8	0.023	0.120	0.014	2-1/2	0.003	08783	08885	
0.020	1/8	0.030	0.160	0.018	2-1/2	—	09615	03564	
0.020	1/8	0.030	0.160	0.018	2-1/2	0.005	08786	08888	
0.025	1/8	0.038	0.200	0.023	2-1/2	—	09622	03565	
0.025	1/8	0.038	0.200	0.023	2-1/2	0.005	08789	08891	
0.030	1/8	0.045	0.240	0.028	2-1/2	—	09629	03566	
0.030	1/8	0.045	0.240	0.028	2-1/2	0.005	08792	08894	
0.031	1/8	0.047	0.248	0.029	2-1/2	—	09636	03567	
0.035	1/8	0.053	0.280	0.032	2-1/2	—	09643	03568	
0.035	1/8	0.053	0.280	0.032	2-1/2	0.005	08795	08897	
0.035	1/8	0.053	0.280	0.032	2-1/2	0.010	08798	08900	
0.040	1/8	0.060	0.320	0.037	2-1/2	—	09650	03569	
0.040	1/8	0.060	0.320	0.037	2-1/2	0.005	08801	08903	
0.040	1/8	0.060	0.320	0.037	2-1/2	0.010	08804	08906	
0.045	1/8	0.068	0.360	0.042	2-1/2	—	09657	03570	
0.045	1/8	0.068	0.360	0.042	2-1/2	0.005	08807	08909	
0.045	1/8	0.068	0.360	0.042	2-1/2	0.010	08810	08912	
0.047	1/8	0.071	0.376	0.044	2-1/2	—	09664	03571	
0.050	1/8	0.075	0.400	0.047	2-1/2	—	09671	03572	
0.050	1/8	0.075	0.400	0.047	2-1/2	0.005	08813	08915	
0.050	1/8	0.075	0.400	0.047	2-1/2	0.010	08816	08918	
0.050	1/8	0.075	0.400	0.047	2-1/2	0.015	08819	08921	
0.055	1/8	0.083	0.440	0.051	2-1/2	—	09678	03573	
0.060	1/8	0.090	0.480	0.056	2-1/2	—	09685	03574	
0.060	1/8	0.090	0.480	0.056	2-1/2	0.005	08822	08924	
0.060	1/8	0.090	0.480	0.056	2-1/2	0.010	08825	08927	
0.060	1/8	0.090	0.480	0.056	2-1/2	0.015	08828	08930	
0.062	1/8	0.093	0.496	0.058	2-1/2	—	09692	03575	
0.065	1/8	0.098	0.520	0.061	2-1/2	—	09699	03576	
0.070	1/8	0.105	0.560	0.065	2-1/2	—	09706	03577	
0.070	1/8	0.105	0.560	0.065	2-1/2	0.005	08831	08933	
0.070	1/8	0.105	0.560	0.065	2-1/2	0.010	08834	08936	
0.070	1/8	0.105	0.560	0.065	2-1/2	0.015	08837	08939	
0.075	1/8	0.113	0.600	0.070	2-1/2	—	09713	03578	

- Three flute design features improved chip space over four flutes and increased strength and feed capability over two flutes
- Proprietary coating allows for superior chip flow, driving industry leading productivity and value, even at low spindle speeds
- High performance carbide substrate designed specifically for Micro Tool applications
- Broad portfolio, offering consistent lengths of cut, to ensure application demands are met
- Advanced geometries that extend tool life, reduce chatter, cut cycle times, and improve part quality
- All tools in stock to meet customer order requirements
- All micro tools are manufactured in accordance with the KSPT ISO certified quality procedures

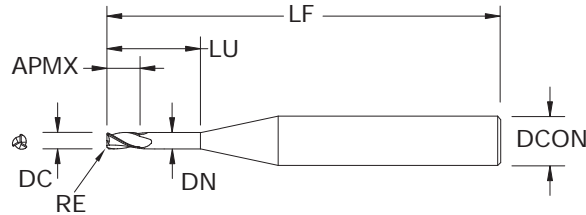
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M3 • M3CR • 1.5xD • 8xD Overall Reach



M3 • M3CR • 1.5xD 8xD

FRACTIONAL SERIES



continued

CUTTING DIAMETER DC	SHANK DIAMETER DCON	LENGTH OF CUT APMX	inch				EDP NO.	
			REACH LU	NECK DIAMETER DN	OVERALL LENGTH LF	CORNER RADIUS RE	UNCOATED	TI-NAMITE®-A (AlTiN)
0.078	1/8	0.117	0.624	0.073	2-1/2	—	09720	03579
0.080	1/8	0.120	0.640	0.075	2-1/2	—	09727	03580
0.080	1/8	0.120	0.640	0.075	2-1/2	0.005	08840	08942
0.080	1/8	0.120	0.640	0.075	2-1/2	0.010	08843	08945
0.080	1/8	0.120	0.640	0.075	2-1/2	0.015	08846	08948
0.085	1/8	0.128	0.680	0.079	2-1/2	—	09734	03581
0.090	1/8	0.135	0.720	0.084	2-1/2	—	09741	03582
0.090	1/8	0.135	0.720	0.084	2-1/2	0.005	08849	08951
0.090	1/8	0.135	0.720	0.084	2-1/2	0.010	08852	08954
0.090	1/8	0.135	0.720	0.084	2-1/2	0.015	08855	08957
0.093	1/8	0.140	0.744	0.087	2-1/2	—	09748	03583
0.095	1/8	0.143	0.760	0.089	2-1/2	—	09755	03584
0.100	1/8	0.150	0.800	0.094	2-1/2	—	09762	03585
0.100	1/8	0.150	0.800	0.094	2-1/2	0.005	08858	08960
0.100	1/8	0.150	0.800	0.094	2-1/2	0.010	08861	08963
0.100	1/8	0.150	0.800	0.094	2-1/2	0.015	08864	08966
0.110	1/8	0.165	0.880	0.103	2-1/2	—	09769	03586
0.110	1/8	0.165	0.880	0.103	2-1/2	0.005	08867	08969
0.110	1/8	0.165	0.880	0.103	2-1/2	0.010	08870	08972
0.110	1/8	0.165	0.880	0.103	2-1/2	0.015	08873	08975
0.115	1/8	0.173	0.920	0.108	2-1/2	—	09776	03587
0.120	1/8	0.180	0.960	0.112	2-1/2	—	09783	03588
0.120	1/8	0.180	0.960	0.112	2-1/2	0.005	08876	08978
0.120	1/8	0.180	0.960	0.112	2-1/2	0.010	08879	08981
0.120	1/8	0.180	0.960	0.112	2-1/2	0.015	08882	08984

TOLERANCES (inch)

.010–.120 DIAMETER

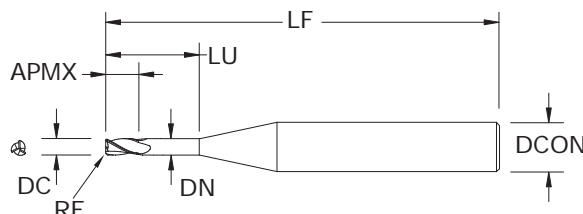
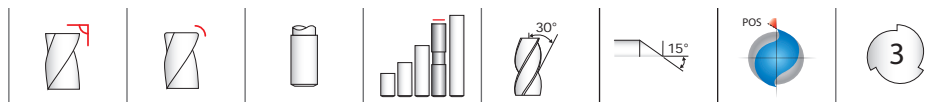
DC = +0.000/–0.001

DCON = h₆

RE = +0.0000/–0.0005

- STEELS
- STAINLESS STEELS
- CAST IRON
- NON-FERROUS
- HIGH TEMP ALLOYS

M3 • M3CR • 1.5xD • 12xD Overall Reach



M3 • M3CR • 1.5xD 12xD FRACTIONAL SERIES

TOLERANCES (inch)

.010–.120 DIAMETER

DC = +0.000/–0.001

DCON = h₆

RE = +0.0000/–0.0005

STEELS

STAINLESS STEELS

CAST IRON

NON-FERROUS

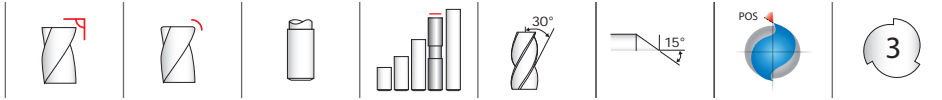
HIGH TEMP ALLOYS

CUTTING DIAMETER DC	SHANK DIAMETER DCON	LENGTH OF CUT APMX	inch				EDP NO.	
			REACH LU	NECK DIAMETER DN	OVERALL LENGTH LF	CORNER RADIUS RE	UNCOATED	TI-NAMITE®-A (AlTiN)
0.010	1/8	0.015	0.120	0.009	2-1/2	–	09595	03589
0.015	1/8	0.023	0.180	0.014	2-1/2	–	09602	03590
0.015	1/8	0.023	0.180	0.014	2-1/2	0.003	08784	08886
0.020	1/8	0.030	0.240	0.018	2-1/2	–	09609	03591
0.020	1/8	0.030	0.240	0.018	2-1/2	0.005	08787	08889
0.025	1/8	0.038	0.300	0.023	2-1/2	–	09616	03592
0.025	1/8	0.038	0.300	0.023	2-1/2	0.005	08790	08892
0.030	1/8	0.045	0.360	0.028	2-1/2	–	09623	03593
0.030	1/8	0.045	0.360	0.028	2-1/2	0.005	08793	08895
0.031	1/8	0.047	0.372	0.029	2-1/2	–	09630	03594
0.035	1/8	0.053	0.420	0.032	2-1/2	–	09637	03595
0.035	1/8	0.053	0.420	0.032	2-1/2	0.005	08796	08898
0.035	1/8	0.053	0.420	0.032	2-1/2	0.010	08799	08901
0.040	1/8	0.060	0.480	0.037	2-1/2	–	09644	03596
0.040	1/8	0.060	0.480	0.037	2-1/2	0.005	08802	08904
0.040	1/8	0.060	0.480	0.037	2-1/2	0.010	08805	08907
0.045	1/8	0.068	0.540	0.042	2-1/2	–	09651	03597
0.045	1/8	0.068	0.540	0.042	2-1/2	0.005	08808	08910
0.045	1/8	0.068	0.540	0.042	2-1/2	0.010	08811	08913
0.047	1/8	0.071	0.564	0.044	2-1/2	–	09658	03598
0.050	1/8	0.075	0.600	0.047	2-1/2	–	09665	03599
0.050	1/8	0.075	0.600	0.047	2-1/2	0.005	08814	08916
0.050	1/8	0.075	0.600	0.047	2-1/2	0.010	08817	08919
0.050	1/8	0.075	0.600	0.047	2-1/2	0.015	08820	08922
0.055	1/8	0.083	0.660	0.051	2-1/2	–	09672	03600
0.060	1/8	0.090	0.720	0.056	2-1/2	–	09679	03601
0.060	1/8	0.090	0.720	0.056	2-1/2	0.005	08823	08925
0.060	1/8	0.090	0.720	0.056	2-1/2	0.010	08826	08928
0.060	1/8	0.090	0.720	0.056	2-1/2	0.015	08829	08931
0.062	1/8	0.093	0.744	0.058	2-1/2	–	09686	03602
0.065	1/8	0.098	0.780	0.061	2-1/2	–	09693	03603
0.070	1/8	0.105	0.840	0.065	2-1/2	–	09700	03604
0.070	1/8	0.105	0.840	0.065	2-1/2	0.005	08832	08934
0.070	1/8	0.105	0.840	0.065	2-1/2	0.010	08835	08937
0.070	1/8	0.105	0.840	0.065	2-1/2	0.015	08838	08940
0.075	1/8	0.113	0.900	0.070	2-1/2	–	09707	03605

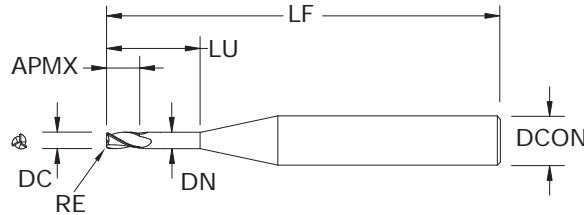
- Three flute design features improved chip space over four flutes and increased strength and feed capability over two flutes
- Enhanced corner geometry with tight tolerance corner radii
- Proprietary coating allows for superior chip flow, driving industry leading productivity and value, even at low spindle speeds
- High performance carbide substrate designed specifically for Micro Tool applications
- Broad portfolio, offering consistent lengths of cut, to ensure application demands are met
- Advanced geometries that extend tool life, reduce chatter, cut cycle times, and improve part quality
- All tools in stock to meet customer order requirements
- All micro tools are manufactured in accordance with the KSPT ISO certified quality procedures

continued on next page

M3 • M3CR • 1.5xD • 12xD Overall Reach



M3 • M3CR • 1.5xD 12xD FRACTIONAL SERIES



continued

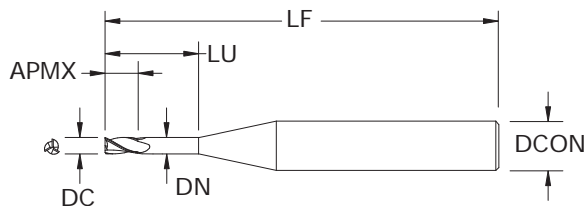
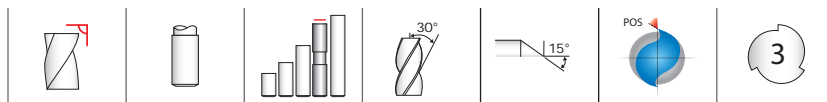
CUTTING DIAMETER DC	SHANK DIAMETER DCON	LENGTH OF CUT APMX	inch				EDP NO.	
			REACH LU	NECK DIAMETER DN	OVERALL LENGTH LF	CORNER RADIUS RE	UNCOATED	TI-NAMITE®-A (AlTiN)
0.078	1/8	0.117	0.936	0.073	2-1/2	—	09714	03606
0.080	1/8	0.120	0.960	0.075	2-1/2	—	09721	03607
0.080	1/8	0.120	0.960	0.075	2-1/2	0.005	08841	08943
0.080	1/8	0.120	0.960	0.075	2-1/2	0.010	08844	08946
0.080	1/8	0.120	0.960	0.075	2-1/2	0.015	08847	08949
0.085	1/8	0.128	1.020	0.079	2-1/2	—	09728	03608
0.090	1/8	0.135	1.080	0.084	2-1/2	—	09735	03609
0.090	1/8	0.135	1.080	0.084	2-1/2	0.005	08850	08952
0.090	1/8	0.135	1.080	0.084	2-1/2	0.010	08853	08955
0.090	1/8	0.135	1.080	0.084	2-1/2	0.015	08856	08958
0.093	1/8	0.140	1.116	0.087	2-1/2	—	09742	03610
0.095	1/8	0.143	1.140	0.089	2-1/2	—	09749	03611
0.100	1/8	0.150	1.200	0.094	2-1/2	—	09756	03612
0.100	1/8	0.150	1.200	0.094	2-1/2	0.005	08859	08961
0.100	1/8	0.150	1.200	0.094	2-1/2	0.010	08862	08964
0.100	1/8	0.150	1.200	0.094	2-1/2	0.015	08865	08967
0.110	1/8	0.165	1.320	0.103	2-1/2	—	09763	03613
0.110	1/8	0.165	1.320	0.103	2-1/2	0.005	08868	08970
0.110	1/8	0.165	1.320	0.103	2-1/2	0.010	08871	08973
0.110	1/8	0.165	1.320	0.103	2-1/2	0.015	08874	08976
0.115	1/8	0.173	1.380	0.108	2-1/2	—	09770	03614
0.120	1/8	0.180	1.440	0.112	2-1/2	—	09777	03615
0.120	1/8	0.180	1.440	0.112	2-1/2	0.005	08877	08979
0.120	1/8	0.180	1.440	0.112	2-1/2	0.010	08880	08982
0.120	1/8	0.180	1.440	0.112	2-1/2	0.015	08883	08985

TOLERANCES (inch)

.010–.120 DIAMETER
 DC = +0.000/–0.001
 DCON = h₆
 RE = +0.0000/–0.0005

- STEELS
- STAINLESS STEELS
- CAST IRON
- NON-FERROUS
- HIGH TEMP ALLOYS

M3 • 1.5xD • 15xD Overall Reach



M3 • 1.5xD 15xD FRACTIONAL SERIES

TOLERANCES (inch)

.010-.120 DIAMETER

DC = +0.000/-0.001

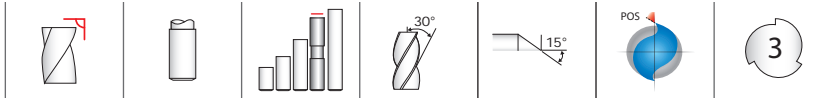
DCON = h₆

- STEELS
- STAINLESS STEELS
- CAST IRON
- NON-FERROUS
- HIGH TEMP ALLOYS

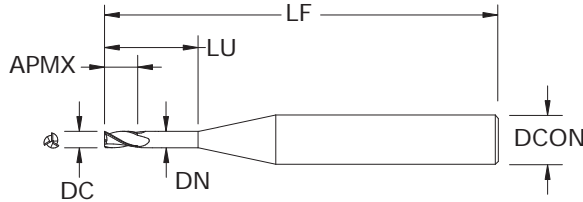
inch						EDP NO.	
CUTTING DIAMETER DC	SHANK DIAMETER DCON	LENGTH OF CUT APMX	REACH LU	NECK DIAMETER DN	OVERALL LENGTH LF	UNCOATED	TI-NAMITE®-A (AlTiN)
0.010	1/8	0.015	0.150	0.009	2-1/2	09596	03616
0.015	1/8	0.023	0.225	0.014	2-1/2	09603	03617
0.020	1/8	0.030	0.300	0.018	2-1/2	09610	03618
0.025	1/8	0.038	0.375	0.023	2-1/2	09617	03619
0.030	1/8	0.045	0.450	0.028	2-1/2	09624	03620
0.031	1/8	0.047	0.465	0.029	2-1/2	09631	03621
0.035	1/8	0.053	0.525	0.032	2-1/2	09638	03622
0.040	1/8	0.060	0.600	0.037	2-1/2	09645	03623
0.045	1/8	0.068	0.675	0.042	2-1/2	09652	03624
0.047	1/8	0.071	0.705	0.044	2-1/2	09659	03625
0.050	1/8	0.075	0.750	0.047	2-1/2	09666	03626
0.055	1/8	0.083	0.825	0.051	2-1/2	09673	03627
0.060	1/8	0.090	0.900	0.056	2-1/2	09680	03628
0.062	1/8	0.093	0.930	0.058	2-1/2	09687	03629
0.065	1/8	0.098	0.975	0.061	2-1/2	09694	03630
0.070	1/8	0.105	1.050	0.065	2-1/2	09701	03631
0.075	1/8	0.113	1.125	0.070	2-1/2	09708	03632
0.078	1/8	0.117	1.170	0.073	2-1/2	09715	03633
0.080	1/8	0.120	1.200	0.075	2-1/2	09722	03634
0.085	1/8	0.128	1.275	0.079	2-1/2	09729	03635
0.090	1/8	0.135	1.350	0.084	2-1/2	09736	03636
0.093	1/8	0.140	1.395	0.087	3	09743	03637
0.095	1/8	0.143	1.425	0.089	3	09750	03638
0.100	1/8	0.150	1.500	0.094	3	09757	03639
0.110	1/8	0.165	1.650	0.103	3	09764	03640
0.115	1/8	0.173	1.725	0.108	3	09771	03641
0.120	1/8	0.180	1.800	0.112	3	09778	03642

- Three flute design features improved chip space over four flutes and increased strength and feed capability over two flutes
- Proprietary coating allows for superior chip flow, driving industry leading productivity and value, even at low spindle speeds
- High performance carbide substrate designed specifically for Micro Tool applications
- Broad portfolio, offering consistent lengths of cut, to ensure application demands are met
- Advanced geometries that extend tool life, reduce chatter, cut cycle times, and improve part quality
- All tools in stock to meet customer order requirements
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M3 • 1.5xD • 20xD Overall Reach



M3 • 1.5xD 20xD FRACTIONAL SERIES



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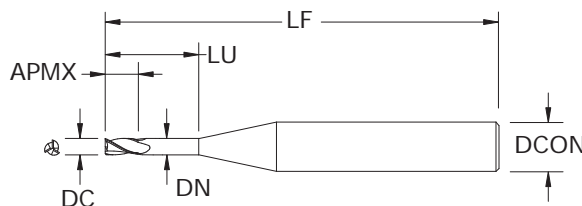
CUTTING DIAMETER DC	SHANK DIAMETER DCON	inch				OVERALL LENGTH LF	EDP NO.	
		LENGTH OF CUT APMX	REACH LU	NECK DIAMETER DN	UNCOATED		TI-NAMITE®-A (AITiN)	
0.010	1/8	0.015	0.200	0.009	2-1/2	09597	03643	
0.015	1/8	0.023	0.300	0.014	2-1/2	09604	03644	
0.020	1/8	0.030	0.400	0.018	2-1/2	09611	03645	
0.025	1/8	0.038	0.500	0.023	2-1/2	09618	03646	
0.030	1/8	0.045	0.600	0.028	2-1/2	09625	03647	
0.031	1/8	0.047	0.620	0.029	2-1/2	09632	03648	
0.035	1/8	0.053	0.700	0.032	2-1/2	09639	03649	
0.040	1/8	0.060	0.800	0.037	2-1/2	09646	03650	
0.045	1/8	0.068	0.900	0.042	2-1/2	09653	03651	
0.047	1/8	0.071	0.940	0.044	2-1/2	09660	03652	
0.050	1/8	0.075	1.000	0.047	2-1/2	09667	03653	
0.055	1/8	0.083	1.100	0.051	2-1/2	09674	03654	
0.060	1/8	0.090	1.200	0.056	2-1/2	09681	03655	
0.062	1/8	0.093	1.240	0.058	2-1/2	09688	03656	
0.065	1/8	0.098	1.300	0.061	3	09695	03657	
0.070	1/8	0.105	1.400	0.065	3	09702	03658	
0.075	1/8	0.113	1.500	0.070	3	09709	03659	
0.078	1/8	0.117	1.560	0.073	3	09716	03660	
0.080	1/8	0.120	1.600	0.075	3	09723	03661	
0.085	1/8	0.128	1.700	0.079	3	09730	03662	
0.090	1/8	0.135	1.800	0.084	3	09737	03663	
0.093	1/8	0.140	1.860	0.087	3	09744	03664	
0.095	1/8	0.143	1.900	0.089	3	09751	03665	
0.100	1/8	0.150	2.000	0.094	4	09758	03666	
0.110	1/8	0.165	2.200	0.103	4	09765	03667	
0.115	1/8	0.173	2.300	0.108	4	09772	03668	
0.120	1/8	0.180	2.400	0.112	4	09779	03669	

TOLERANCES (inch)

.010-.120 DIAMETER
 DC = +0.000/-0.001
 DCON = h₆

- STEELS
- STAINLESS STEELS
- CAST IRON
- NON-FERROUS
- HIGH TEMP ALLOYS

M3 • 1.5xD • 25xD Overall Reach



M3 • 1.5xD 25xD FRACTIONAL SERIES

TOLERANCES (inch)

.010-.120 DIAMETER

DC = +0.000/-0.001

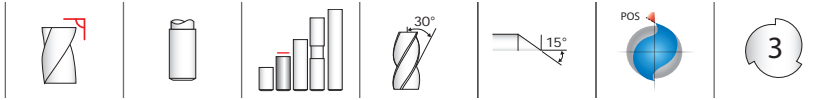
DCON = h₆

- STEELS
- STAINLESS STEELS
- CAST IRON
- NON-FERROUS
- HIGH TEMP ALLOYS

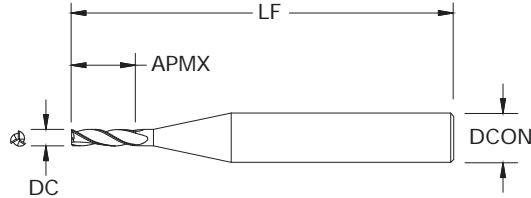
inch						EDP NO.	
CUTTING DIAMETER DC	SHANK DIAMETER DCON	LENGTH OF CUT APMX	REACH LU	NECK DIAMETER DN	OVERALL LENGTH LF	UNCOATED	TI-NAMITE®-A (AlTiN)
0.010	1/8	0.015	0.250	0.009	2-1/2	09598	03670
0.015	1/8	0.023	0.375	0.014	2-1/2	09605	03671
0.020	1/8	0.030	0.500	0.018	2-1/2	09612	03672
0.025	1/8	0.038	0.625	0.023	2-1/2	09619	03673
0.030	1/8	0.045	0.750	0.028	2-1/2	09626	03674
0.031	1/8	0.047	0.775	0.029	2-1/2	09633	03675
0.035	1/8	0.053	0.875	0.032	2-1/2	09640	03676
0.040	1/8	0.060	1.000	0.037	2-1/2	09647	03677
0.045	1/8	0.068	1.125	0.042	2-1/2	09654	03678
0.047	1/8	0.071	1.175	0.044	2-1/2	09661	03679
0.050	1/8	0.075	1.250	0.047	2-1/2	09668	03680
0.055	1/8	0.083	1.375	0.051	3	09675	03681
0.060	1/8	0.090	1.500	0.056	3	09682	03682
0.062	1/8	0.093	1.550	0.058	3	09689	03683
0.065	1/8	0.098	1.625	0.061	3	09696	03684
0.070	1/8	0.105	1.750	0.065	3	09703	03685
0.075	1/8	0.113	1.875	0.070	3	09710	03686
0.078	1/8	0.117	1.950	0.073	4	09717	03687
0.080	1/8	0.120	2.000	0.075	4	09724	03688
0.085	1/8	0.128	2.125	0.079	4	09731	03689
0.090	1/8	0.135	2.250	0.084	4	09738	03690
0.093	1/8	0.140	2.325	0.087	4	09745	03691
0.095	1/8	0.143	2.375	0.089	4	09752	03692
0.100	1/8	0.150	2.500	0.094	4	09759	03693
0.110	1/8	0.165	2.750	0.103	4	09766	03694
0.115	1/8	0.173	2.875	0.108	4	09773	03695
0.120	1/8	0.180	3.000	0.112	4	09780	03696

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FRACTIONAL M3 • 3xD



M3 • 3xD FRACTIONAL SERIES



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CUTTING DIAMETER DC	SHANK DIAMETER DCON	inch		EDP NO.	
		LENGTH OF CUT APMX	OVERALL LENGTH LF	UNCOATED	TI-NAMITE®-A (AlTiN)
0.005	1/8	0.015	1-1/2	04111	01156
0.006	1/8	0.018	1-1/2	04112	01157
0.007	1/8	0.021	1-1/2	04113	01158
0.008	1/8	0.024	1-1/2	04114	01159
0.009	1/8	0.027	1-1/2	04115	01160
0.010	1/8	0.030	1-1/2	04116	01161
0.011	1/8	0.033	1-1/2	04117	01162
0.012	1/8	0.036	1-1/2	04118	01163
0.013	1/8	0.039	1-1/2	04119	01164
0.014	1/8	0.042	1-1/2	04120	01165
0.015	1/8	0.045	1-1/2	04121	01166
0.016	1/8	0.048	1-1/2	04122	01167
0.017	1/8	0.051	1-1/2	04123	01168
0.018	1/8	0.054	1-1/2	04124	01169
0.019	1/8	0.057	1-1/2	04125	01170
0.020	1/8	0.060	1-1/2	04126	01171
0.021	1/8	0.063	1-1/2	04127	01172
0.022	1/8	0.066	1-1/2	04128	01173
0.023	1/8	0.069	1-1/2	04129	01174
0.024	1/8	0.072	1-1/2	04130	01175
0.025	1/8	0.075	1-1/2	04131	01176
0.026	1/8	0.078	1-1/2	04132	01177
0.027	1/8	0.081	1-1/2	04133	01178
0.028	1/8	0.084	1-1/2	04134	01179
0.029	1/8	0.087	1-1/2	04135	01180
0.030	1/8	0.090	1-1/2	04136	01181
0.031	1/8	0.093	1-1/2	04137	01182
0.032	1/8	0.096	1-1/2	04138	01183
0.033	1/8	0.099	1-1/2	04139	01184
0.034	1/8	0.102	1-1/2	04140	01185
0.035	1/8	0.105	1-1/2	04141	01186
0.036	1/8	0.108	1-1/2	04142	01187
0.037	1/8	0.111	1-1/2	04143	01188
0.038	1/8	0.114	1-1/2	04144	01189
0.039	1/8	0.117	1-1/2	04145	01190
0.040	1/8	0.120	1-1/2	04146	01191

TOLERANCES (inch)

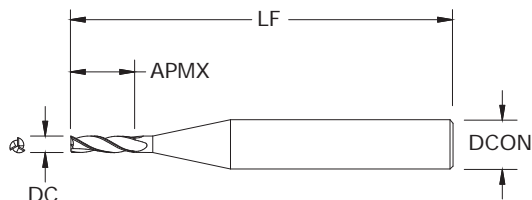
.005-.120 DIAMETER

DC = +0.000/-0.001

DCON = h6

- STEELS
- STAINLESS STEELS
- CAST IRON
- NON-FERROUS
- HIGH TEMP ALLOYS

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M3 • 3xD
FRACTIONAL SERIES

continued

TOLERANCES (inch)

.005-.120 DIAMETER

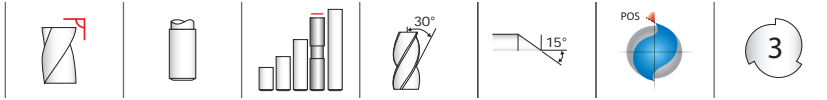
DC = +0.000/-0.001

DCON = h₆

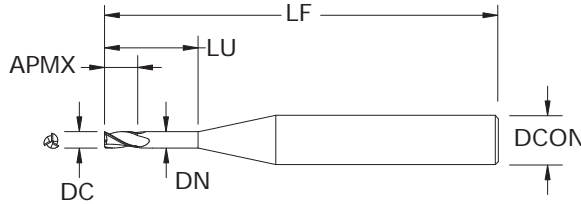
- STEELS
- STAINLESS STEELS
- CAST IRON
- NON-FERROUS
- HIGH TEMP ALLOYS

CUTTING DIAMETER DC	SHANK DIAMETER DCON	LENGTH OF CUT APMX	OVERALL LENGTH LF	EDP NO.	
				UNCOATED	TI-NAMITE®-A (AlTiN)
0.041	1/8	0.123	1-1/2	04147	01192
0.042	1/8	0.126	1-1/2	04148	01193
0.043	1/8	0.129	1-1/2	04149	01194
0.044	1/8	0.132	1-1/2	04150	01195
0.045	1/8	0.135	1-1/2	04151	01196
0.046	1/8	0.138	1-1/2	04152	01197
0.047	1/8	0.141	1-1/2	04153	01198
0.048	1/8	0.144	1-1/2	04154	01199
0.049	1/8	0.147	1-1/2	04155	01200
0.050	1/8	0.150	1-1/2	04156	01201
0.051	1/8	0.153	1-1/2	04157	01202
0.052	1/8	0.156	1-1/2	04158	01203
0.053	1/8	0.159	1-1/2	04159	01204
0.054	1/8	0.162	1-1/2	04160	01205
0.055	1/8	0.165	1-1/2	04161	01206
0.056	1/8	0.168	1-1/2	04162	01207
0.057	1/8	0.171	1-1/2	04163	01208
0.058	1/8	0.174	1-1/2	04164	01209
0.059	1/8	0.177	1-1/2	04165	01210
0.060	1/8	0.180	1-1/2	04166	01211
0.062	1/8	0.186	1-1/2	04167	01212
0.065	1/8	0.195	1-1/2	04168	01213
0.070	1/8	0.210	1-1/2	04169	01214
0.075	1/8	0.225	1-1/2	04170	01215
0.078	1/8	0.234	1-1/2	04171	01216
0.080	1/8	0.240	1-1/2	04172	01217
0.085	1/8	0.255	1-1/2	04173	01218
0.090	1/8	0.270	1-1/2	04174	01219
0.093	1/8	0.279	1-1/2	04175	01220
0.095	1/8	0.285	1-1/2	04176	01221
0.100	1/8	0.300	1-1/2	04177	01222
0.105	1/8	0.315	1-1/2	04178	01223
0.110	1/8	0.330	1-1/2	04179	01224
0.115	1/8	0.345	1-1/2	04180	01225
0.120	1/8	0.360	1-1/2	04181	01226

M3 • 3xD • 8xD Overall Reach



M3 • 3xD 8xD FRACTIONAL SERIES



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CUTTING DIAMETER DC	SHANK DIAMETER DCON	inch				OVERALL LENGTH LF	EDP NO.	
		LENGTH OF CUT APMX	REACH LU	NECK DIAMETER DN	UNCOATED		TI-NAMITE®-A (AlTiN)	
0.010	1/8	0.030	0.080	0.009	1-1/2	01311	04266	
0.015	1/8	0.045	0.120	0.014	1-1/2	01312	04267	
0.020	1/8	0.060	0.160	0.019	1-1/2	01313	04268	
0.025	1/8	0.075	0.200	0.024	1-1/2	01314	04269	
0.030	1/8	0.090	0.240	0.028	1-1/2	01315	04270	
0.031	1/8	0.093	0.248	0.029	1-1/2	01316	04271	
0.035	1/8	0.105	0.280	0.033	1-1/2	01317	04272	
0.040	1/8	0.120	0.320	0.038	1-1/2	01318	04273	
0.045	1/8	0.135	0.360	0.042	2	01319	04274	
0.047	1/8	0.141	0.376	0.044	2	01320	04275	
0.050	1/8	0.150	0.400	0.047	2	01321	04276	
0.055	1/8	0.165	0.440	0.052	2	01322	04277	
0.060	1/8	0.180	0.480	0.056	2	01323	04278	
0.062	1/8	0.186	0.496	0.058	2	01324	04279	
0.065	1/8	0.195	0.520	0.061	2	01325	04280	
0.070	1/8	0.210	0.560	0.066	2	01326	04281	
0.075	1/8	0.225	0.600	0.071	2	01327	04282	
0.078	1/8	0.234	0.624	0.073	2	01328	04283	
0.080	1/8	0.240	0.640	0.075	2	01329	04284	
0.085	1/8	0.255	0.680	0.080	2	01330	04285	
0.090	1/8	0.270	0.720	0.085	2	01331	04286	
0.093	1/8	0.279	0.744	0.087	2	01332	04287	
0.095	1/8	0.285	0.760	0.089	2	01333	04288	
0.100	1/8	0.300	0.800	0.094	2	01334	04289	
0.105	1/8	0.315	0.840	0.099	2	01335	04290	
0.110	1/8	0.330	0.880	0.103	2	01336	04291	
0.115	1/8	0.345	0.920	0.108	2	01337	04292	
0.120	1/8	0.360	0.960	0.113	2	01338	04293	

TOLERANCES (inch)

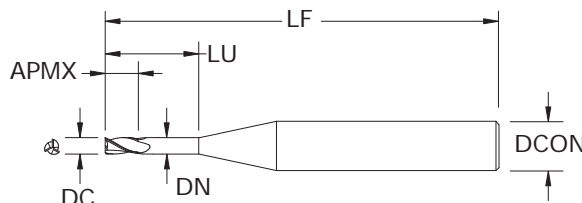
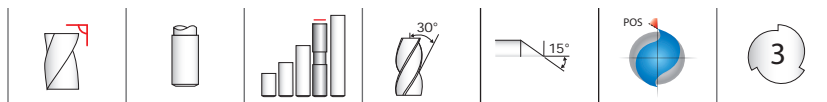
.010–.120 DIAMETER

DC = +0.000/–0.001

DCON = h₆

- STEELS
- STAINLESS STEELS
- CAST IRON
- NON-FERROUS
- HIGH TEMP ALLOYS

M3 • 3xD • 12xD Overall Reach



M3 • 3xD 12xD FRACTIONAL SERIES

TOLERANCES (inch)

.010-.120 DIAMETER

DC = +0.000/-0.001

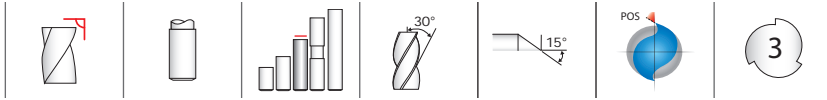
DCON = h₆

- STEELS
- STAINLESS STEELS
- CAST IRON
- NON-FERROUS
- HIGH TEMP ALLOYS

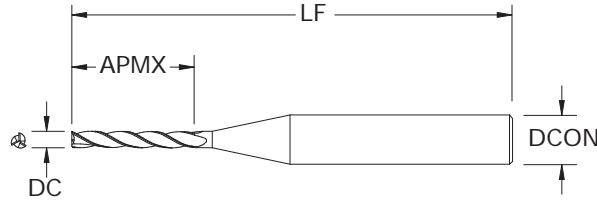
inch						EDP NO.	
CUTTING DIAMETER DC	SHANK DIAMETER DCON	LENGTH OF CUT APMX	REACH LU	NECK DIAMETER DN	OVERALL LENGTH LF	UNCOATED	TI-NAMITE®-A (AlTiN)
0.010	1/8	0.030	0.120	0.009	1-1/2	01339	04294
0.015	1/8	0.045	0.180	0.014	1-1/2	01340	04295
0.020	1/8	0.060	0.240	0.019	1-1/2	01341	04296
0.025	1/8	0.075	0.300	0.024	1-1/2	01342	04297
0.030	1/8	0.090	0.360	0.028	2	01343	04298
0.031	1/8	0.093	0.372	0.029	2	01344	04299
0.035	1/8	0.105	0.420	0.033	2	01345	04300
0.040	1/8	0.120	0.480	0.038	2	01346	04301
0.045	1/8	0.135	0.540	0.042	2	01347	04302
0.047	1/8	0.141	0.564	0.044	2	01348	04303
0.050	1/8	0.150	0.600	0.047	2	01349	04304
0.055	1/8	0.165	0.660	0.052	2	01350	04305
0.060	1/8	0.180	0.720	0.056	2	01351	04306
0.062	1/8	0.186	0.744	0.058	2	01352	04307
0.065	1/8	0.195	0.780	0.061	2	01353	04308
0.070	1/8	0.210	0.840	0.066	2	01354	04309
0.075	1/8	0.225	0.900	0.071	2	01355	04310
0.078	1/8	0.234	0.936	0.073	2-1/2	01356	04311
0.080	1/8	0.240	0.960	0.075	2-1/2	01357	04312
0.085	1/8	0.255	1.020	0.080	2-1/2	01358	04313
0.090	1/8	0.270	1.080	0.085	2-1/2	01359	04314
0.093	1/8	0.279	1.116	0.087	2-1/2	01360	04315
0.095	1/8	0.285	1.140	0.089	2-1/2	01361	04316
0.100	1/8	0.300	1.200	0.094	2-1/2	01362	04317
0.105	1/8	0.315	1.260	0.099	2-1/2	01363	04318
0.110	1/8	0.330	1.320	0.103	2-1/2	01364	04319
0.115	1/8	0.345	1.380	0.108	2-1/2	01365	04320
0.120	1/8	0.360	1.440	0.113	2-1/2	01366	04321

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FRACTIONAL M3L • 5xD



M3L • 5xD FRACTIONAL SERIES



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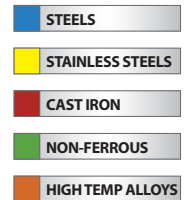
CUTTING DIAMETER DC	inch			EDP NO.	
	SHANK DIAMETER DCON	LENGTH OF CUT APMX	OVERALL LENGTH LF	UNCOATED	TI-NAMITE®-A (AlTiN)
0.010	1/8	0.050	2-1/2	01227	04182
0.015	1/8	0.075	2-1/2	01228	04183
0.020	1/8	0.100	2-1/2	01229	04184
0.025	1/8	0.125	2-1/2	01230	04185
0.030	1/8	0.150	2-1/2	01231	04186
0.031	1/8	0.155	2-1/2	01232	04187
0.035	1/8	0.175	2-1/2	01233	04188
0.040	1/8	0.200	2-1/2	01234	04189
0.045	1/8	0.225	2-1/2	01235	04190
0.047	1/8	0.235	2-1/2	01236	04191
0.050	1/8	0.250	2-1/2	01237	04192
0.055	1/8	0.275	2-1/2	01238	04193
0.060	1/8	0.300	2-1/2	01239	04194
0.062	1/8	0.310	2-1/2	01240	04195
0.065	1/8	0.325	2-1/2	01241	04196
0.070	1/8	0.350	2-1/2	01242	04197
0.075	1/8	0.375	2-1/2	01243	04198
0.078	1/8	0.390	2-1/2	01244	04199
0.080	1/8	0.400	2-1/2	01245	04200
0.085	1/8	0.425	2-1/2	01246	04201
0.090	1/8	0.450	2-1/2	01247	04202
0.093	1/8	0.465	2-1/2	01248	04203
0.095	1/8	0.475	2-1/2	01249	04204
0.100	1/8	0.500	2-1/2	01250	04205
0.105	1/8	0.525	2-1/2	01251	04206
0.110	1/8	0.550	2-1/2	01252	04207
0.115	1/8	0.575	2-1/2	01253	04208
0.120	1/8	0.600	2-1/2	01254	04209

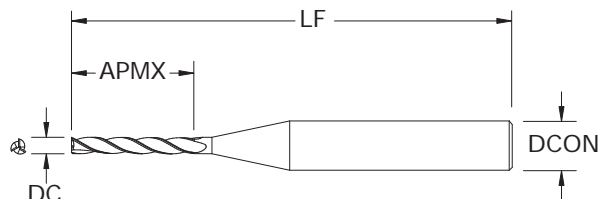
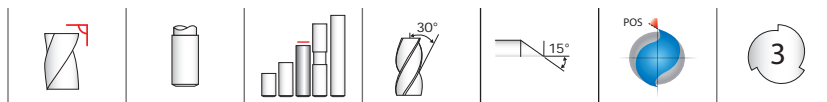
TOLERANCES (inch)

.010–.120 DIAMETER

DC = +0.000/–0.001

DCON = h₆





M3E • 8xD
FRACTIONAL SERIES

TOLERANCES (inch)

.010-.120 DIAMETER

DC = +0.000/-0.001

DCON = h₆

- STEELS
- STAINLESS STEELS
- CAST IRON
- NON-FERROUS
- HIGH TEMP ALLOYS

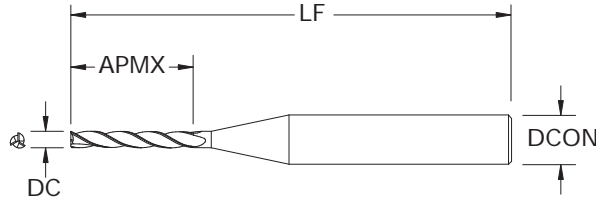
inch				EDP NO.	
CUTTING DIAMETER DC	SHANK DIAMETER DCON	LENGTH OF CUT APMX	OVERALL LENGTH LF	UNCOATED	TI-NAMITE®-A (AlTiN)
0.010	1/8	0.080	2-1/2	01255	04210
0.015	1/8	0.120	2-1/2	01256	04211
0.020	1/8	0.160	2-1/2	01257	04212
0.025	1/8	0.200	2-1/2	01258	04213
0.030	1/8	0.240	2-1/2	01259	04214
0.031	1/8	0.248	2-1/2	01260	04215
0.035	1/8	0.280	2-1/2	01261	04216
0.040	1/8	0.320	2-1/2	01262	04217
0.045	1/8	0.360	2-1/2	01263	04218
0.047	1/8	0.376	2-1/2	01264	04219
0.050	1/8	0.400	2-1/2	01265	04220
0.055	1/8	0.440	2-1/2	01266	04221
0.060	1/8	0.480	2-1/2	01267	04222
0.062	1/8	0.496	2-1/2	01268	04223
0.065	1/8	0.520	2-1/2	01269	04224
0.070	1/8	0.560	2-1/2	01270	04225
0.075	1/8	0.600	2-1/2	01271	04226
0.078	1/8	0.624	2-1/2	01272	04227
0.080	1/8	0.640	2-1/2	01273	04228
0.085	1/8	0.680	2-1/2	01274	04229
0.090	1/8	0.720	2-1/2	01275	04230
0.093	1/8	0.744	2-1/2	01276	04231
0.095	1/8	0.760	2-1/2	01277	04232
0.100	1/8	0.800	2-1/2	01278	04233
0.105	1/8	0.840	2-1/2	01279	04234
0.110	1/8	0.880	2-1/2	01280	04235
0.115	1/8	0.920	2-1/2	01281	04236
0.120	1/8	0.960	2-1/2	01282	04237

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M3X • 12xD



M3X • 12xD FRACTIONAL SERIES



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CUTTING DIAMETER DC	inch			EDP NO.	
	SHANK DIAMETER DCON	LENGTH OF CUT APMX	OVERALL LENGTH LF	UNCOATED	TI-NAMITE®-A (AlTiN)
0.010	1/8	0.120	2-1/2	01283	04238
0.015	1/8	0.180	2-1/2	01284	04239
0.020	1/8	0.240	2-1/2	01285	04240
0.025	1/8	0.300	2-1/2	01286	04241
0.030	1/8	0.360	2-1/2	01287	04242
0.031	1/8	0.372	2-1/2	01288	04243
0.035	1/8	0.420	2-1/2	01289	04244
0.040	1/8	0.480	2-1/2	01290	04245
0.045	1/8	0.540	2-1/2	01291	04246
0.047	1/8	0.564	2-1/2	01292	04247
0.050	1/8	0.600	2-1/2	01293	04248
0.055	1/8	0.660	2-1/2	01294	04249
0.060	1/8	0.720	2-1/2	01295	04250
0.062	1/8	0.744	2-1/2	01296	04251
0.065	1/8	0.780	2-1/2	01297	04252
0.070	1/8	0.840	2-1/2	01298	04253
0.075	1/8	0.900	2-1/2	01299	04254
0.078	1/8	0.936	2-1/2	01300	04255
0.080	1/8	0.960	2-1/2	01301	04256
0.085	1/8	1.020	2-1/2	01302	04257
0.090	1/8	1.080	2-1/2	01303	04258
0.093	1/8	1.116	2-1/2	01304	04259
0.095	1/8	1.140	2-1/2	01305	04260
0.100	1/8	1.200	2-1/2	01306	04261
0.105	1/8	1.260	2-1/2	01307	04262
0.110	1/8	1.320	2-1/2	01308	04263
0.115	1/8	1.380	2-1/2	01309	04264
0.120	1/8	1.440	2-1/2	01310	04265

TOLERANCES (inch)

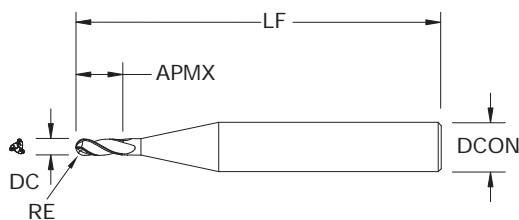
.010-.120 DIAMETER

DC = +0.000/-0.001

DCON = h6

- STEELS
- STAINLESS STEELS
- CAST IRON
- NON-FERROUS
- HIGH TEMP ALLOYS

FRACTIONAL M3B • 1.5xD



M3B • 1.5xD FRACTIONAL SERIES

TOLERANCES (inch)

.010-.120 DIAMETER

DC = +0.000/-0.001

DCON = h₆

STEELS
STAINLESS STEELS
CAST IRON
NON-FERROUS
HIGH TEMP ALLOYS

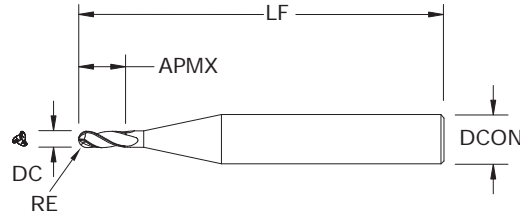
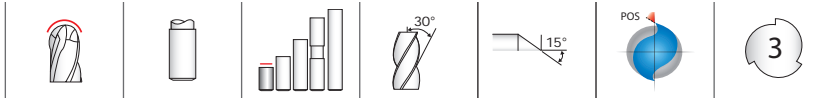
inch				EDP NO.	
CUTTING DIAMETER DC	SHANK DIAMETER DCON	LENGTH OF CUT APMX	OVERALL LENGTH LF	UNCOATED	TI-NAMITE®-A (AlTiN)
0.010	1/8	0.015	1-1/2	01367	04322
0.011	1/8	0.017	1-1/2	01368	04323
0.012	1/8	0.018	1-1/2	01369	04324
0.013	1/8	0.020	1-1/2	01370	04325
0.014	1/8	0.021	1-1/2	01371	04326
0.015	1/8	0.023	1-1/2	01372	04327
0.016	1/8	0.024	1-1/2	01373	04328
0.017	1/8	0.026	1-1/2	01374	04329
0.018	1/8	0.027	1-1/2	01375	04330
0.019	1/8	0.029	1-1/2	01376	04331
0.020	1/8	0.030	1-1/2	01377	04332
0.021	1/8	0.032	1-1/2	01378	04333
0.022	1/8	0.033	1-1/2	01379	04334
0.023	1/8	0.035	1-1/2	01380	04335
0.024	1/8	0.036	1-1/2	01381	04336
0.025	1/8	0.038	1-1/2	01382	04337
0.026	1/8	0.039	1-1/2	01383	04338
0.027	1/8	0.041	1-1/2	01384	04339
0.028	1/8	0.042	1-1/2	01385	04340
0.029	1/8	0.044	1-1/2	01386	04341
0.030	1/8	0.045	1-1/2	01387	04342
0.031	1/8	0.047	1-1/2	01388	04343
0.032	1/8	0.048	1-1/2	01389	04344
0.033	1/8	0.050	1-1/2	01390	04345
0.034	1/8	0.051	1-1/2	01391	04346
0.035	1/8	0.053	1-1/2	01392	04347
0.036	1/8	0.054	1-1/2	01393	04348
0.037	1/8	0.056	1-1/2	01394	04349
0.038	1/8	0.057	1-1/2	01395	04350
0.039	1/8	0.059	1-1/2	01396	04351
0.040	1/8	0.060	1-1/2	01397	04352
0.041	1/8	0.062	1-1/2	01398	04353
0.042	1/8	0.063	1-1/2	01399	04354
0.043	1/8	0.065	1-1/2	01400	04355

RE = 1/2 Cutting Diameter (DC)

continued on next page

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M3B • 1.5xD



M3B • 1.5xD

FRACTIONAL SERIES

continued

CUTTING DIAMETER DC	SHANK DIAMETER DCON	LENGTH OF CUT APMX	OVERALL LENGTH LF	EDP NO.	
				UNCOATED	TI-NAMITE®-A (AlTiN)
0.044	1/8	0.066	1-1/2	01401	04356
0.045	1/8	0.068	1-1/2	01402	04357
0.046	1/8	0.069	1-1/2	01403	04358
0.047	1/8	0.071	1-1/2	01404	04359
0.048	1/8	0.072	1-1/2	01405	04360
0.049	1/8	0.074	1-1/2	01406	04361
0.050	1/8	0.075	1-1/2	01407	04362
0.051	1/8	0.077	1-1/2	01408	04363
0.052	1/8	0.078	1-1/2	01409	04364
0.053	1/8	0.080	1-1/2	01410	04365
0.054	1/8	0.081	1-1/2	01411	04366
0.055	1/8	0.083	1-1/2	01412	04367
0.056	1/8	0.084	1-1/2	01413	04368
0.057	1/8	0.086	1-1/2	01414	04369
0.058	1/8	0.087	1-1/2	01415	04370
0.059	1/8	0.089	1-1/2	01416	04371
0.060	1/8	0.090	1-1/2	01417	04372
0.062	1/8	0.093	1-1/2	01418	04373
0.065	1/8	0.098	1-1/2	01419	04374
0.070	1/8	0.105	1-1/2	01420	04375
0.075	1/8	0.113	1-1/2	01421	04376
0.078	1/8	0.117	1-1/2	01422	04377
0.080	1/8	0.120	1-1/2	01423	04378
0.085	1/8	0.128	1-1/2	01424	04379
0.090	1/8	0.135	1-1/2	01425	04380
0.093	1/8	0.140	1-1/2	01426	04381
0.095	1/8	0.143	1-1/2	01427	04382
0.100	1/8	0.150	1-1/2	01428	04383
0.105	1/8	0.158	1-1/2	01429	04384
0.110	1/8	0.165	1-1/2	01430	04385
0.115	1/8	0.173	1-1/2	01431	04386
0.120	1/8	0.180	1-1/2	01432	04387

RE = 1/2 Cutting Diameter (DC)

TOLERANCES (inch)

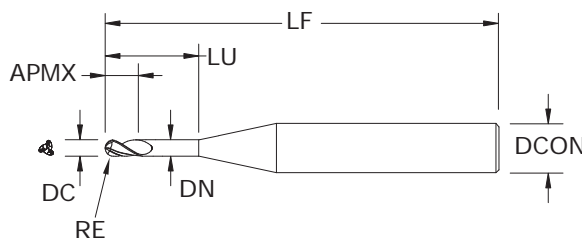
.010-.120 DIAMETER

DC = +0.000/-0.001

DCON = h₆

- STEELS
- STAINLESS STEELS
- CAST IRON
- NON-FERROUS
- HIGH TEMP ALLOYS

M3B • 1.5xD • 3xD Overall Reach



M3B • 1.5xD 3xD FRACTIONAL SERIES

TOLERANCES (inch)

.010-.120 DIAMETER

DC = +0.000/-0.001

DCON = h₆

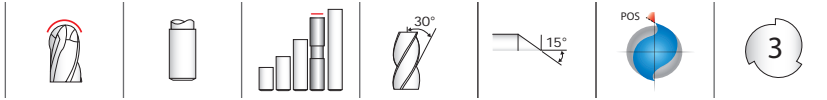
- STEELS
- STAINLESS STEELS
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CUTTING DIAMETER DC	SHANK DIAMETER DCON	inch				EDP NO.	
		LENGTH OF CUT APMX	REACH LU	NECK DIAMETER DN	OVERALL LENGTH LF	UNCOATED	TI-NAMITE®-A (AlTiN)
0.010	1/8	0.015	0.030	0.009	2-1/2	09410	03805
0.015	1/8	0.023	0.045	0.014	2-1/2	09417	03806
0.020	1/8	0.030	0.060	0.018	2-1/2	09424	03807
0.025	1/8	0.038	0.075	0.023	2-1/2	09431	03808
0.030	1/8	0.045	0.090	0.028	2-1/2	09438	03809
0.031	1/8	0.047	0.093	0.029	2-1/2	09445	03810
0.035	1/8	0.053	0.105	0.032	2-1/2	09452	03811
0.040	1/8	0.060	0.120	0.037	2-1/2	09459	03812
0.045	1/8	0.068	0.135	0.042	2-1/2	09466	03813
0.047	1/8	0.071	0.141	0.044	2-1/2	09473	03814
0.050	1/8	0.075	0.150	0.047	2-1/2	09480	03815
0.055	1/8	0.083	0.165	0.051	2-1/2	09487	03816
0.060	1/8	0.090	0.180	0.056	2-1/2	09494	03817
0.062	1/8	0.093	0.186	0.058	2-1/2	09501	03818
0.065	1/8	0.098	0.195	0.061	2-1/2	09508	03819
0.070	1/8	0.105	0.210	0.065	2-1/2	09515	03820
0.075	1/8	0.113	0.225	0.070	2-1/2	09522	03821
0.078	1/8	0.117	0.234	0.073	2-1/2	09529	03822
0.080	1/8	0.120	0.240	0.075	2-1/2	09536	03823
0.085	1/8	0.128	0.255	0.079	2-1/2	09543	03824
0.090	1/8	0.135	0.270	0.084	2-1/2	09550	03825
0.093	1/8	0.140	0.279	0.087	2-1/2	09557	03826
0.095	1/8	0.143	0.285	0.089	2-1/2	09564	03827
0.100	1/8	0.150	0.300	0.094	2-1/2	09571	03828
0.110	1/8	0.165	0.330	0.103	2-1/2	09578	03829
0.115	1/8	0.173	0.345	0.108	2-1/2	09585	03830
0.120	1/8	0.180	0.360	0.112	2-1/2	09592	03831

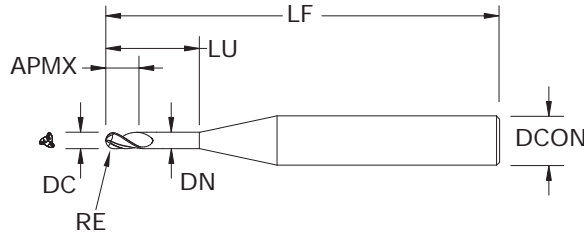
RE = 1/2 Cutting Diameter (DC)

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M3B • 1.5xD • 5xD Overall Reach



M3B • 1.5xD 5xD FRACTIONAL SERIES



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CUTTING DIAMETER DC	SHANK DIAMETER DCON	inch				OVERALL LENGTH LF	EDP NO.	
		LENGTH OF CUT APMX	REACH LU	NECK DIAMETER DN	UNCOATED		TI-NAMITE®-A (AITiN)	
0.010	1/8	0.015	0.050	0.009	2-1/2	09411	03832	
0.015	1/8	0.023	0.075	0.014	2-1/2	09418	03833	
0.020	1/8	0.030	0.100	0.018	2-1/2	09425	03834	
0.025	1/8	0.038	0.125	0.023	2-1/2	09432	03835	
0.030	1/8	0.045	0.150	0.028	2-1/2	09439	03836	
0.031	1/8	0.047	0.155	0.029	2-1/2	09446	03837	
0.035	1/8	0.053	0.175	0.032	2-1/2	09453	03838	
0.040	1/8	0.060	0.200	0.037	2-1/2	09460	03839	
0.045	1/8	0.068	0.225	0.042	2-1/2	09467	03840	
0.047	1/8	0.071	0.235	0.044	2-1/2	09474	03841	
0.050	1/8	0.075	0.250	0.047	2-1/2	09481	03842	
0.055	1/8	0.083	0.275	0.051	2-1/2	09488	03843	
0.060	1/8	0.090	0.300	0.056	2-1/2	09495	03844	
0.062	1/8	0.093	0.310	0.058	2-1/2	09502	03845	
0.065	1/8	0.098	0.325	0.061	2-1/2	09509	03846	
0.070	1/8	0.105	0.350	0.065	2-1/2	09516	03847	
0.075	1/8	0.113	0.375	0.070	2-1/2	09523	03848	
0.078	1/8	0.117	0.390	0.073	2-1/2	09530	03849	
0.080	1/8	0.120	0.400	0.075	2-1/2	09537	03850	
0.085	1/8	0.128	0.425	0.079	2-1/2	09544	03851	
0.090	1/8	0.135	0.450	0.084	2-1/2	09551	03852	
0.093	1/8	0.140	0.465	0.087	2-1/2	09558	03853	
0.095	1/8	0.143	0.475	0.089	2-1/2	09565	03854	
0.100	1/8	0.150	0.500	0.094	2-1/2	09572	03855	
0.110	1/8	0.165	0.550	0.103	2-1/2	09579	03856	
0.115	1/8	0.173	0.575	0.108	2-1/2	09586	03857	
0.120	1/8	0.180	0.600	0.112	2-1/2	09593	03858	

RE = 1/2 Cutting Diameter (DC)

TOLERANCES (inch)

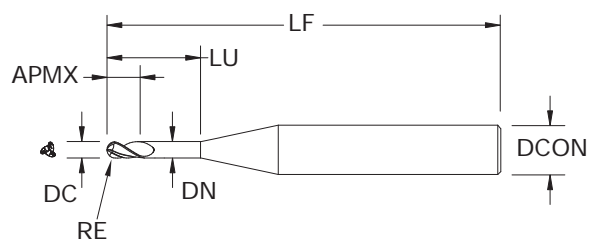
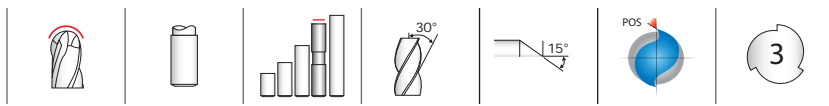
.010-.120 DIAMETER

DC = +0.000/-0.001

DCON = h₆

- STEELS
- STAINLESS STEELS
- CAST IRON
- NON-FERROUS
- HIGH TEMP ALLOYS

M3B • 1.5xD • 8xD Overall Reach



M3B • 1.5xD 8xD FRACTIONAL SERIES

TOLERANCES (inch)

.010-.120 DIAMETER

DC = +0.000/-0.001

DCON = h₆

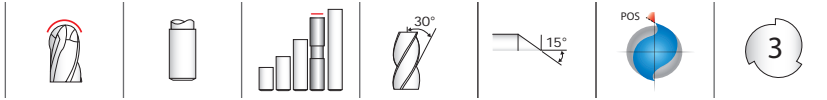
- STEELS
- STAINLESS STEELS
- CAST IRON
- NON-FERROUS
- HIGH TEMP ALLOYS

CUTTING DIAMETER DC	SHANK DIAMETER DCON	inch				EDP NO.	
		LENGTH OF CUT APMX	REACH LU	NECK DIAMETER DN	OVERALL LENGTH LF	UNCOATED	TI-NAMITE®-A (AlTiN)
0.010	1/8	0.015	0.080	0.009	2-1/2	09412	03859
0.015	1/8	0.023	0.120	0.014	2-1/2	09419	03860
0.020	1/8	0.030	0.160	0.018	2-1/2	09426	03861
0.025	1/8	0.038	0.200	0.023	2-1/2	09433	03862
0.030	1/8	0.045	0.240	0.028	2-1/2	09440	03863
0.031	1/8	0.047	0.248	0.029	2-1/2	09447	03864
0.035	1/8	0.053	0.280	0.032	2-1/2	09454	03865
0.040	1/8	0.060	0.320	0.037	2-1/2	09461	03866
0.045	1/8	0.068	0.360	0.042	2-1/2	09468	03867
0.047	1/8	0.071	0.376	0.044	2-1/2	09475	03868
0.050	1/8	0.075	0.400	0.047	2-1/2	09482	03869
0.055	1/8	0.083	0.440	0.051	2-1/2	09489	03870
0.060	1/8	0.090	0.480	0.056	2-1/2	09496	03871
0.062	1/8	0.093	0.496	0.058	2-1/2	09503	03872
0.065	1/8	0.098	0.520	0.061	2-1/2	09510	03873
0.070	1/8	0.105	0.560	0.065	2-1/2	09517	03874
0.075	1/8	0.113	0.600	0.070	2-1/2	09524	03875
0.078	1/8	0.117	0.624	0.073	2-1/2	09531	03876
0.080	1/8	0.120	0.640	0.075	2-1/2	09538	03877
0.085	1/8	0.128	0.680	0.079	2-1/2	09545	03878
0.090	1/8	0.135	0.720	0.084	2-1/2	09552	03879
0.093	1/8	0.140	0.744	0.087	2-1/2	09559	03880
0.095	1/8	0.143	0.760	0.089	2-1/2	09566	03881
0.100	1/8	0.150	0.800	0.094	2-1/2	09573	03882
0.110	1/8	0.165	0.880	0.103	2-1/2	09580	03883
0.115	1/8	0.173	0.920	0.108	2-1/2	09587	03884
0.120	1/8	0.180	0.960	0.112	2-1/2	09594	03885

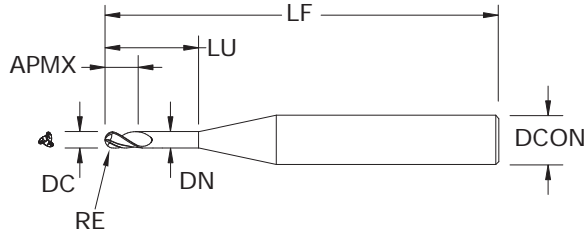
RE = 1/2 Cutting Diameter (DC)

- Three flute design features improved chip space over four flutes and increased strength and feed capability over two flutes
- Proprietary coating allows for superior chip flow, driving industry leading productivity and value, even at low spindle speeds
- High performance carbide substrate designed specifically for Micro Tool applications
- Broad portfolio, offering consistent lengths of cut, to ensure application demands are met
- Advanced geometries that extend tool life, reduce chatter, cut cycle times, and improve part quality
- All tools in stock to meet customer order requirements
- All micro tools are manufactured in accordance with the KSPT ISO certified quality procedures

M3B • 1.5xD • 12xD Overall Reach



M3B • 1.5xD 12xD FRACTIONAL SERIES



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CUTTING DIAMETER DC	SHANK DIAMETER DCON	inch				OVERALL LENGTH LF	EDP NO.	
		LENGTH OF CUT APMX	REACH LU	NECK DIAMETER DN	UNCOATED		TI-NAMITE®-A (AITIN)	
0.010	1/8	0.015	0.120	0.009	2-1/2	09406	03886	
0.015	1/8	0.023	0.180	0.014	2-1/2	09413	03887	
0.020	1/8	0.030	0.240	0.018	2-1/2	09420	03888	
0.025	1/8	0.038	0.300	0.023	2-1/2	09427	03889	
0.030	1/8	0.045	0.360	0.028	2-1/2	09434	03890	
0.031	1/8	0.047	0.372	0.029	2-1/2	09441	03891	
0.035	1/8	0.053	0.420	0.032	2-1/2	09448	03892	
0.040	1/8	0.060	0.480	0.037	2-1/2	09455	03893	
0.045	1/8	0.068	0.540	0.042	2-1/2	09462	03894	
0.047	1/8	0.071	0.564	0.044	2-1/2	09469	03895	
0.050	1/8	0.075	0.600	0.047	2-1/2	09476	03896	
0.055	1/8	0.083	0.660	0.051	2-1/2	09483	03897	
0.060	1/8	0.090	0.720	0.056	2-1/2	09490	03898	
0.062	1/8	0.093	0.744	0.058	2-1/2	09497	03899	
0.065	1/8	0.098	0.780	0.061	2-1/2	09504	03900	
0.070	1/8	0.105	0.840	0.065	2-1/2	09511	03901	
0.075	1/8	0.113	0.900	0.070	2-1/2	09518	03902	
0.078	1/8	0.117	0.936	0.073	2-1/2	09525	03903	
0.080	1/8	0.120	0.960	0.075	2-1/2	09532	03904	
0.085	1/8	0.128	1.020	0.079	2-1/2	09539	03905	
0.090	1/8	0.135	1.080	0.084	2-1/2	09546	03906	
0.093	1/8	0.140	1.116	0.087	2-1/2	09553	03907	
0.095	1/8	0.143	1.140	0.089	2-1/2	09560	03908	
0.100	1/8	0.150	1.200	0.094	2-1/2	09567	03909	
0.110	1/8	0.165	1.320	0.103	2-1/2	09574	03910	
0.115	1/8	0.173	1.380	0.108	2-1/2	09581	03911	
0.120	1/8	0.180	1.440	0.112	2-1/2	09588	03912	

RE = 1/2 Cutting Diameter (DC)

TOLERANCES (inch)

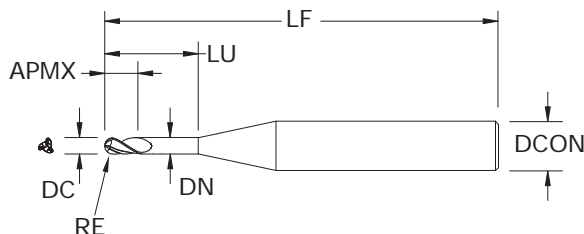
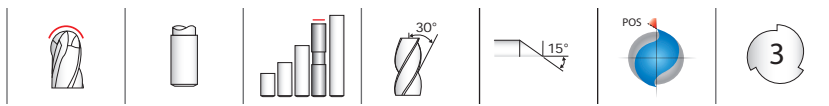
.010–.120 DIAMETER

DC = +0.000/–0.001

DCON = h₆

- STEELS
- STAINLESS STEELS
- CAST IRON
- NON-FERROUS
- HIGH TEMP ALLOYS

M3B • 1.5xD • 15xD Overall Reach



M3B • 1.5xD 15xD FRACTIONAL SERIES

TOLERANCES (inch)

.010-.120 DIAMETER

DC = +0.000/-0.001

DCON = h₆

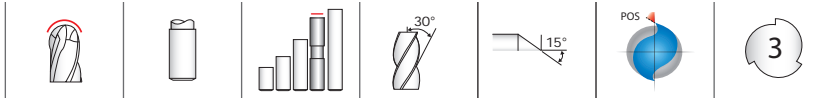
- STEELS
- STAINLESS STEELS
- CAST IRON
- NON-FERROUS
- HIGH TEMP ALLOYS

CUTTING DIAMETER DC	SHANK DIAMETER DCON	inch				EDP NO.	
		LENGTH OF CUT APMX	REACH LU	NECK DIAMETER DN	OVERALL LENGTH LF	UNCOATED	TI-NAMITE®-A (AlTiN)
0.010	1/8	0.015	0.150	0.009	2-1/2	09407	03913
0.015	1/8	0.023	0.225	0.014	2-1/2	09414	03914
0.020	1/8	0.030	0.300	0.018	2-1/2	09421	03915
0.025	1/8	0.038	0.375	0.023	2-1/2	09428	03916
0.030	1/8	0.045	0.450	0.028	2-1/2	09435	03917
0.031	1/8	0.047	0.465	0.029	2-1/2	09442	03918
0.035	1/8	0.053	0.525	0.032	2-1/2	09449	03919
0.040	1/8	0.060	0.600	0.037	2-1/2	09456	03920
0.045	1/8	0.068	0.675	0.042	2-1/2	09463	03921
0.047	1/8	0.071	0.705	0.044	2-1/2	09470	03922
0.050	1/8	0.075	0.750	0.047	2-1/2	09477	03923
0.055	1/8	0.083	0.825	0.051	2-1/2	09484	03924
0.060	1/8	0.090	0.900	0.056	2-1/2	09491	03925
0.062	1/8	0.093	0.930	0.058	2-1/2	09498	03926
0.065	1/8	0.098	0.975	0.061	2-1/2	09505	03927
0.070	1/8	0.105	1.050	0.065	2-1/2	09512	03928
0.075	1/8	0.113	1.125	0.070	2-1/2	09519	03929
0.078	1/8	0.117	1.170	0.073	2-1/2	09526	03930
0.080	1/8	0.120	1.200	0.075	2-1/2	09533	03931
0.085	1/8	0.128	1.275	0.079	2-1/2	09540	03932
0.090	1/8	0.135	1.350	0.084	2-1/2	09547	03933
0.093	1/8	0.140	1.395	0.087	3	09554	03934
0.095	1/8	0.143	1.425	0.089	3	09561	03935
0.100	1/8	0.150	1.500	0.094	3	09568	03936
0.110	1/8	0.165	1.650	0.103	3	09575	03937
0.115	1/8	0.173	1.725	0.108	3	09582	03938
0.120	1/8	0.180	1.800	0.112	3	09589	03939

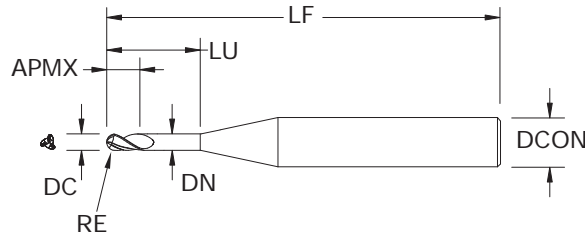
RE = 1/2 Cutting Diameter (DC)

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M3B • 1.5xD • 20xD Overall Reach



M3B • 1.5xD 20xD FRACTIONAL SERIES



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inch						EDP NO.	
CUTTING DIAMETER DC	SHANK DIAMETER DCON	LENGTH OF CUT APMX	REACH LU	NECK DIAMETER DN	OVERALL LENGTH LF	UNCOATED	TI-NAMITE®-A (AlTiN)
0.010	1/8	0.015	0.200	0.009	2-1/2	09408	03940
0.015	1/8	0.023	0.300	0.014	2-1/2	09415	03941
0.020	1/8	0.030	0.400	0.018	2-1/2	09422	03942
0.025	1/8	0.038	0.500	0.023	2-1/2	09429	03943
0.030	1/8	0.045	0.600	0.028	2-1/2	09436	03944
0.031	1/8	0.047	0.620	0.029	2-1/2	09443	03945
0.035	1/8	0.053	0.700	0.032	2-1/2	09450	03946
0.040	1/8	0.060	0.800	0.037	2-1/2	09457	03947
0.045	1/8	0.068	0.900	0.042	2-1/2	09464	03948
0.047	1/8	0.071	0.940	0.044	2-1/2	09471	03949
0.050	1/8	0.075	1.000	0.047	2-1/2	09478	03950
0.055	1/8	0.083	1.100	0.051	2-1/2	09485	03951
0.060	1/8	0.090	1.200	0.056	2-1/2	09492	03952
0.062	1/8	0.093	1.240	0.058	2-1/2	09499	03953
0.065	1/8	0.098	1.300	0.061	3	09506	03954
0.070	1/8	0.105	1.400	0.065	3	09513	03955
0.075	1/8	0.113	1.500	0.070	3	09520	03956
0.078	1/8	0.117	1.560	0.073	3	09527	03957
0.080	1/8	0.120	1.600	0.075	3	09534	03958
0.085	1/8	0.128	1.700	0.079	3	09541	03959
0.090	1/8	0.135	1.800	0.084	3	09548	03960
0.093	1/8	0.140	1.860	0.087	3	09555	03961
0.095	1/8	0.143	1.900	0.089	3	09562	03962
0.100	1/8	0.150	2.000	0.094	4	09569	03963
0.110	1/8	0.165	2.200	0.103	4	09576	03964
0.115	1/8	0.173	2.300	0.108	4	09583	03965
0.120	1/8	0.180	2.400	0.112	4	09590	03966

RE = 1/2 Cutting Diameter (DC)

TOLERANCES (inch)

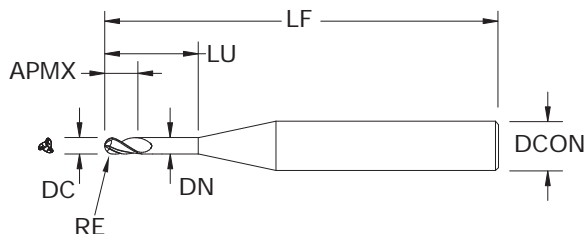
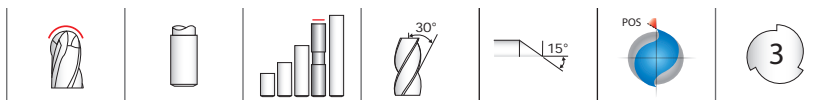
.010–.120 DIAMETER

DC = +0.000/–0.001

DCON = h₆

- STEELS
- STAINLESS STEELS
- CAST IRON
- NON-FERROUS
- HIGH TEMP ALLOYS

M3B • 1.5xD • 25xD Overall Reach



M3B • 1.5xD 25xD FRACTIONAL SERIES

TOLERANCES (inch)

.010-.120 DIAMETER

DC = +0.000/-0.001

DCON = h₆

- STEELS
- STAINLESS STEELS
- CAST IRON
- NON-FERROUS
- HIGH TEMP ALLOYS

CUTTING DIAMETER DC	SHANK DIAMETER DCON	inch				EDP NO.	
		LENGTH OF CUT APMX	REACH LU	NECK DIAMETER DN	OVERALL LENGTH LF	UNCOATED	TI-NAMITE®-A (AlTiN)
0.010	1/8	0.015	0.250	0.009	2-1/2	09409	03967
0.015	1/8	0.023	0.375	0.014	2-1/2	09416	03968
0.020	1/8	0.030	0.500	0.018	2-1/2	09423	03969
0.025	1/8	0.038	0.625	0.023	2-1/2	09430	03970
0.030	1/8	0.045	0.750	0.028	2-1/2	09437	03971
0.031	1/8	0.047	0.775	0.029	2-1/2	09444	03972
0.035	1/8	0.053	0.875	0.032	2-1/2	09451	03973
0.040	1/8	0.060	1.000	0.037	2-1/2	09458	03974
0.045	1/8	0.068	1.125	0.042	2-1/2	09465	03975
0.047	1/8	0.071	1.175	0.044	2-1/2	09472	03976
0.050	1/8	0.075	1.250	0.047	2-1/2	09479	03977
0.055	1/8	0.083	1.375	0.051	3	09486	03978
0.060	1/8	0.090	1.500	0.056	3	09493	03979
0.062	1/8	0.093	1.550	0.058	3	09500	03980
0.065	1/8	0.098	1.625	0.061	3	09507	03981
0.070	1/8	0.105	1.750	0.065	3	09514	03982
0.075	1/8	0.113	1.875	0.070	3	09521	03983
0.078	1/8	0.117	1.950	0.073	4	09528	03984
0.080	1/8	0.120	2.000	0.075	4	09535	03985
0.085	1/8	0.128	2.125	0.079	4	09542	03986
0.090	1/8	0.135	2.250	0.084	4	09549	03987
0.093	1/8	0.140	2.325	0.087	4	09556	03988
0.095	1/8	0.143	2.375	0.089	4	09563	03989
0.100	1/8	0.150	2.500	0.094	4	09570	03990
0.110	1/8	0.165	2.750	0.103	4	09577	03991
0.115	1/8	0.173	2.875	0.108	4	09584	03992
0.120	1/8	0.180	3.000	0.112	4	09591	03993

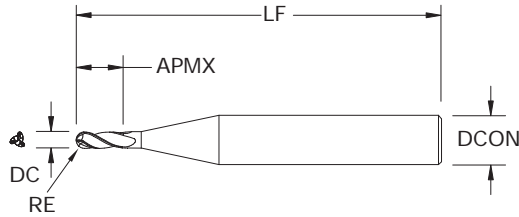
RE = 1/2 Cutting Diameter (DC)

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FRACTIONAL M3B • 3xD



M3B • 3xD FRACTIONAL SERIES



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CUTTING DIAMETER DC	SHANK DIAMETER DCON	inch		EDP NO.	
		LENGTH OF CUT APMX	OVERALL LENGTH LF	UNCOATED	TI-NAMITE®-A (AlTiN)
0.010	1/8	0.030	1-1/2	01433	04388
0.011	1/8	0.033	1-1/2	01434	04389
0.012	1/8	0.036	1-1/2	01435	04390
0.013	1/8	0.039	1-1/2	01436	04391
0.014	1/8	0.042	1-1/2	01437	04392
0.015	1/8	0.045	1-1/2	01438	04393
0.016	1/8	0.048	1-1/2	01439	04394
0.017	1/8	0.051	1-1/2	01440	04395
0.018	1/8	0.054	1-1/2	01441	04396
0.019	1/8	0.057	1-1/2	01442	04397
0.020	1/8	0.060	1-1/2	01443	04398
0.021	1/8	0.063	1-1/2	01444	04399
0.022	1/8	0.066	1-1/2	01445	04400
0.023	1/8	0.069	1-1/2	01446	04401
0.024	1/8	0.072	1-1/2	01447	04402
0.025	1/8	0.075	1-1/2	01448	04403
0.026	1/8	0.078	1-1/2	01449	04404
0.027	1/8	0.081	1-1/2	01450	04405
0.028	1/8	0.084	1-1/2	01451	04406
0.029	1/8	0.087	1-1/2	01452	04407
0.030	1/8	0.090	1-1/2	01453	04408
0.031	1/8	0.093	1-1/2	01454	04409
0.032	1/8	0.096	1-1/2	01455	04410
0.033	1/8	0.099	1-1/2	01456	04411
0.034	1/8	0.102	1-1/2	01457	04412
0.035	1/8	0.105	1-1/2	01458	04413
0.036	1/8	0.108	1-1/2	01459	04414
0.037	1/8	0.111	1-1/2	01460	04415
0.038	1/8	0.114	1-1/2	01461	04416
0.039	1/8	0.117	1-1/2	01462	04417
0.040	1/8	0.120	1-1/2	01463	04418
0.041	1/8	0.123	1-1/2	01464	04419
0.042	1/8	0.126	1-1/2	01465	04420
0.043	1/8	0.129	1-1/2	01466	04421

RE = 1/2 Cutting Diameter (DC)

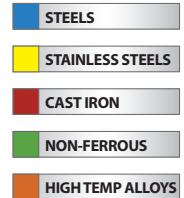
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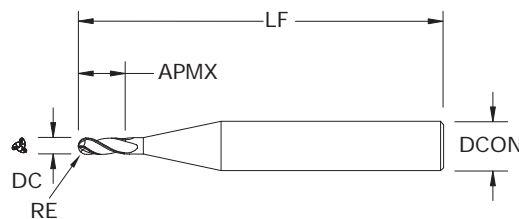
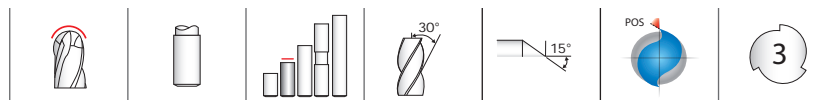
TOLERANCES (inch)

.010–.120 DIAMETER

DC = +0.000/–0.001

DCON = h₆





M3B • 3xD
 FRACTIONAL SERIES

TOLERANCES (inch)

.010-.120 DIAMETER

DC = +0.000/-0.001

DCON = h₆

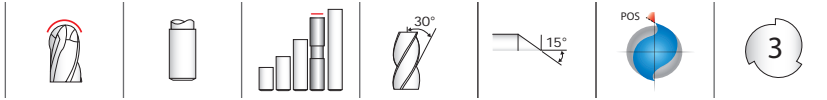
- STEELS
- STAINLESS STEELS
- CAST IRON
- NON-FERROUS
- HIGH TEMP ALLOYS

inch				EDP NO.	
CUTTING DIAMETER DC	SHANK DIAMETER DCON	LENGTH OF CUT APMX	OVERALL LENGTH LF	UNCOATED	TI-NAMITE®-A (AlTiN)
0.044	1/8	0.132	1-1/2	01467	04422
0.045	1/8	0.135	1-1/2	01468	04423
0.046	1/8	0.138	1-1/2	01469	04424
0.047	1/8	0.141	1-1/2	01470	04425
0.048	1/8	0.144	1-1/2	01471	04426
0.049	1/8	0.147	1-1/2	01472	04427
0.050	1/8	0.150	1-1/2	01473	04428
0.051	1/8	0.153	1-1/2	01474	04429
0.052	1/8	0.156	1-1/2	01475	04430
0.053	1/8	0.159	1-1/2	01476	04431
0.054	1/8	0.162	1-1/2	01477	04432
0.055	1/8	0.165	1-1/2	01478	04433
0.056	1/8	0.168	1-1/2	01479	04434
0.057	1/8	0.171	1-1/2	01480	04435
0.058	1/8	0.174	1-1/2	01481	04436
0.059	1/8	0.177	1-1/2	01482	04437
0.060	1/8	0.180	1-1/2	01483	04438
0.062	1/8	0.186	1-1/2	01484	04439
0.065	1/8	0.195	1-1/2	01485	04440
0.070	1/8	0.210	1-1/2	01486	04441
0.075	1/8	0.225	1-1/2	01487	04442
0.078	1/8	0.234	1-1/2	01488	04443
0.080	1/8	0.240	1-1/2	01489	04444
0.085	1/8	0.255	1-1/2	01490	04445
0.090	1/8	0.270	1-1/2	01491	04446
0.093	1/8	0.279	1-1/2	01492	04447
0.095	1/8	0.285	1-1/2	01493	04448
0.100	1/8	0.300	1-1/2	01494	04449
0.105	1/8	0.315	1-1/2	01495	04450
0.110	1/8	0.330	1-1/2	01496	04451
0.115	1/8	0.345	1-1/2	01497	04452
0.120	1/8	0.360	1-1/2	01498	04453

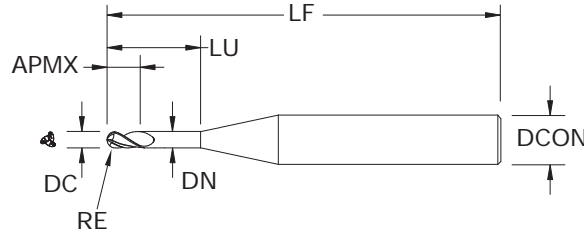
RE = 1/2 Cutting Diameter (DC)

continued

M3B • 3xD • 8xD Overall Reach



M3B • 3xD 8xD FRACTIONAL SERIES



- Three flute design features improved chip space over four flutes and increased strength and feed capability over two flutes
- Proprietary coating allows for superior chip flow, driving industry leading productivity and value, even at low spindle speeds
- High performance carbide substrate designed specifically for Micro Tool applications
- Broad portfolio, offering consistent lengths of cut, to ensure application demands are met
- Advanced geometries that extend tool life, reduce chatter, cut cycle times, and improve part quality
- All tools in stock to meet customer order requirements
- All micro tools are manufactured in accordance with the KSPT ISO certified quality procedures

CUTTING DIAMETER DC	SHANK DIAMETER DCON	inch				OVERALL LENGTH LF	EDP NO.	
		LENGTH OF CUT APMX	REACH LU	NECK DIAMETER DN	UNCOATED		TI-NAMITE®-A (AITiN)	
0.010	1/8	0.030	0.080	0.009	1-1/2	01583	04538	
0.015	1/8	0.045	0.120	0.014	1-1/2	01584	04539	
0.020	1/8	0.060	0.160	0.019	1-1/2	01585	04540	
0.025	1/8	0.075	0.200	0.024	1-1/2	01586	04541	
0.030	1/8	0.090	0.240	0.028	1-1/2	01587	04542	
0.031	1/8	0.093	0.248	0.029	1-1/2	01588	04543	
0.035	1/8	0.105	0.280	0.033	1-1/2	01589	04544	
0.040	1/8	0.120	0.320	0.038	1-1/2	01590	04545	
0.045	1/8	0.135	0.360	0.042	2	01591	04546	
0.047	1/8	0.141	0.376	0.044	2	01592	04547	
0.050	1/8	0.150	0.400	0.047	2	01593	04548	
0.055	1/8	0.165	0.440	0.052	2	01594	04549	
0.060	1/8	0.180	0.480	0.056	2	01595	04550	
0.062	1/8	0.186	0.496	0.058	2	01596	04551	
0.065	1/8	0.195	0.520	0.061	2	01597	04552	
0.070	1/8	0.210	0.560	0.066	2	01598	04553	
0.075	1/8	0.225	0.600	0.071	2	01599	04554	
0.078	1/8	0.234	0.624	0.073	2	01600	04555	
0.080	1/8	0.240	0.640	0.075	2	01601	04556	
0.085	1/8	0.255	0.680	0.080	2	01602	04557	
0.090	1/8	0.270	0.720	0.085	2	01603	04558	
0.093	1/8	0.279	0.744	0.087	2	01604	04559	
0.095	1/8	0.285	0.760	0.089	2	01605	04560	
0.100	1/8	0.300	0.800	0.094	2	01606	04561	
0.105	1/8	0.315	0.840	0.099	2	01607	04562	
0.110	1/8	0.330	0.880	0.103	2	01608	04563	
0.115	1/8	0.345	0.920	0.108	2	01609	04564	
0.120	1/8	0.360	0.960	0.113	2	01610	04565	

RE = 1/2 Cutting Diameter (DC)

TOLERANCES (inch)

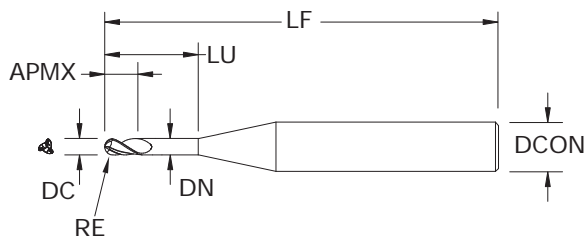
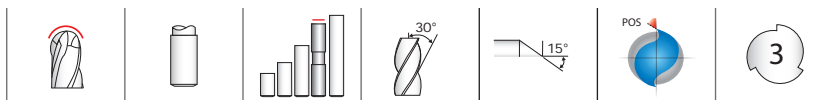
.010-.120 DIAMETER

DC = +0.000/-0.001

DCON = h₆

- STEELS
- STAINLESS STEELS
- CAST IRON
- NON-FERROUS
- HIGH TEMP ALLOYS

M3B • 3xD • 12xD Overall Reach



M3B • 3xD 12xD FRACTIONAL SERIES

TOLERANCES (inch)

.010-.120 DIAMETER

DC = +0.000/-0.001

DCON = h₆

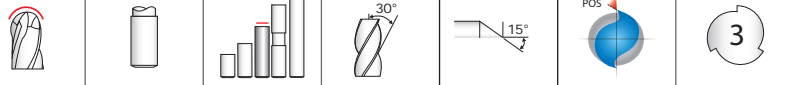
- STEELS
- STAINLESS STEELS
- CAST IRON
- NON-FERROUS
- HIGH TEMP ALLOYS

CUTTING DIAMETER DC	SHANK DIAMETER DCON	inch				OVERALL LENGTH LF	EDP NO.	
		LENGTH OF CUT APMX	REACH LU	NECK DIAMETER DN	UNCOATED		TI-NAMITE®-A (AlTiN)	
0.010	1/8	0.030	0.120	0.009	1-1/2	01611	04566	
0.015	1/8	0.045	0.180	0.014	1-1/2	01612	04567	
0.020	1/8	0.060	0.240	0.019	1-1/2	01613	04568	
0.025	1/8	0.075	0.300	0.024	1-1/2	01614	04569	
0.030	1/8	0.090	0.360	0.028	2	01615	04570	
0.031	1/8	0.093	0.372	0.029	2	01616	04571	
0.035	1/8	0.105	0.420	0.033	2	01617	04572	
0.040	1/8	0.120	0.480	0.038	2	01618	04573	
0.045	1/8	0.135	0.540	0.042	2	01619	04574	
0.047	1/8	0.141	0.564	0.044	2	01620	04575	
0.050	1/8	0.150	0.600	0.047	2	01621	04576	
0.055	1/8	0.165	0.660	0.052	2	01622	04577	
0.060	1/8	0.180	0.720	0.056	2	01623	04578	
0.062	1/8	0.186	0.744	0.058	2	01624	04579	
0.065	1/8	0.195	0.780	0.061	2	01625	04580	
0.070	1/8	0.210	0.840	0.066	2	01626	04581	
0.075	1/8	0.225	0.900	0.071	2	01627	04582	
0.078	1/8	0.234	0.936	0.073	2-1/2	01628	04583	
0.080	1/8	0.240	0.960	0.075	2-1/2	01629	04584	
0.085	1/8	0.255	1.020	0.080	2-1/2	01630	04585	
0.090	1/8	0.270	1.080	0.085	2-1/2	01631	04586	
0.093	1/8	0.279	1.116	0.087	2-1/2	01632	04587	
0.095	1/8	0.285	1.140	0.089	2-1/2	01633	04588	
0.100	1/8	0.300	1.200	0.094	2-1/2	01634	04589	
0.105	1/8	0.315	1.260	0.099	2-1/2	01635	04590	
0.110	1/8	0.330	1.320	0.103	2-1/2	01636	04591	
0.115	1/8	0.345	1.380	0.108	2-1/2	01637	04592	
0.120	1/8	0.360	1.440	0.113	2-1/2	01638	04593	

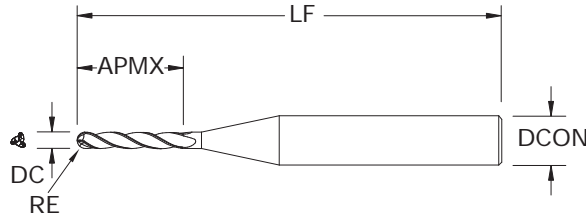
RE = 1/2 Cutting Diameter (DC)

- Three flute design features improved chip space over four flutes and increased strength and feed capability over two flutes
- Proprietary coating allows for superior chip flow, driving industry leading productivity and value, even at low spindle speeds
- High performance carbide substrate designed specifically for Micro Tool applications
- Broad portfolio, offering consistent lengths of cut, to ensure application demands are met
- Advanced geometries that extend tool life, reduce chatter, cut cycle times, and improve part quality
- All tools in stock to meet customer order requirements
- All micro tools are manufactured in accordance with the KSPT ISO certified quality procedures

FRACTIONAL M3LB • 5xD



M3LB • 5xD FRACTIONAL SERIES



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CUTTING DIAMETER DC	inch			EDP NO.	
	SHANK DIAMETER DCON	LENGTH OF CUT APMX	OVERALL LENGTH LF	UNCOATED	TI-NAMITE®-A (AlTiN)
0.010	1/8	0.050	2-1/2	01499	04454
0.015	1/8	0.075	2-1/2	01500	04455
0.020	1/8	0.100	2-1/2	01501	04456
0.025	1/8	0.125	2-1/2	01502	04457
0.030	1/8	0.150	2-1/2	01503	04458
0.031	1/8	0.155	2-1/2	01504	04459
0.035	1/8	0.175	2-1/2	01505	04460
0.040	1/8	0.200	2-1/2	01506	04461
0.045	1/8	0.225	2-1/2	01507	04462
0.047	1/8	0.235	2-1/2	01508	04463
0.050	1/8	0.250	2-1/2	01509	04464
0.055	1/8	0.275	2-1/2	01510	04465
0.060	1/8	0.300	2-1/2	01511	04466
0.062	1/8	0.310	2-1/2	01512	04467
0.065	1/8	0.325	2-1/2	01513	04468
0.070	1/8	0.350	2-1/2	01514	04469
0.075	1/8	0.375	2-1/2	01515	04470
0.078	1/8	0.390	2-1/2	01516	04471
0.080	1/8	0.400	2-1/2	01517	04472
0.085	1/8	0.425	2-1/2	01518	04473
0.090	1/8	0.450	2-1/2	01519	04474
0.093	1/8	0.465	2-1/2	01520	04475
0.095	1/8	0.475	2-1/2	01521	04476
0.100	1/8	0.500	2-1/2	01522	04477
0.105	1/8	0.525	2-1/2	01523	04478
0.110	1/8	0.550	2-1/2	01524	04479
0.115	1/8	0.575	2-1/2	01525	04480
0.120	1/8	0.600	2-1/2	01526	04481

RE = 1/2 Cutting Diameter (DC)

TOLERANCES (inch)

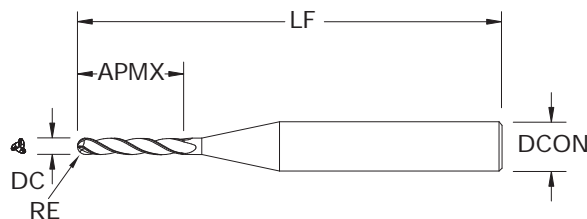
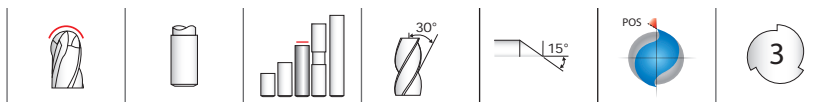
.010-.120 DIAMETER

DC = +0.000/-0.001

DCON = h6

- STEELS
- STAINLESS STEELS
- CAST IRON
- NON-FERROUS
- HIGH TEMP ALLOYS

FRACTIONAL M3EB • 8xD



M3EB • 8xD FRACTIONAL SERIES

TOLERANCES (inch)

.010-.120 DIAMETER

DC = +0.000/-0.001

DCON = h₆

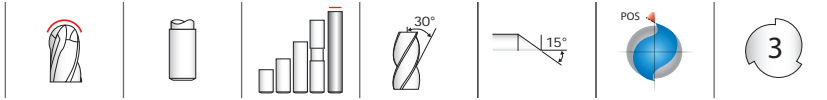
- STEELS
- STAINLESS STEELS
- CAST IRON
- NON-FERROUS
- HIGH TEMP ALLOYS

inch				EDP NO.	
CUTTING DIAMETER DC	SHANK DIAMETER DCON	LENGTH OF CUT APMX	OVERALL LENGTH LF	UNCOATED	TI-NAMITE®-A (AlTiN)
0.010	1/8	0.080	2-1/2	01527	04482
0.015	1/8	0.120	2-1/2	01528	04483
0.020	1/8	0.160	2-1/2	01529	04484
0.025	1/8	0.200	2-1/2	01530	04485
0.030	1/8	0.240	2-1/2	01531	04486
0.031	1/8	0.248	2-1/2	01532	04487
0.035	1/8	0.280	2-1/2	01533	04488
0.040	1/8	0.320	2-1/2	01534	04489
0.045	1/8	0.360	2-1/2	01535	04490
0.047	1/8	0.376	2-1/2	01536	04491
0.050	1/8	0.400	2-1/2	01537	04492
0.055	1/8	0.440	2-1/2	01538	04493
0.060	1/8	0.480	2-1/2	01539	04494
0.062	1/8	0.496	2-1/2	01540	04495
0.065	1/8	0.520	2-1/2	01541	04496
0.070	1/8	0.560	2-1/2	01542	04497
0.075	1/8	0.600	2-1/2	01543	04498
0.078	1/8	0.624	2-1/2	01544	04499
0.080	1/8	0.640	2-1/2	01545	04500
0.085	1/8	0.680	2-1/2	01546	04501
0.090	1/8	0.720	2-1/2	01547	04502
0.093	1/8	0.744	2-1/2	01548	04503
0.095	1/8	0.760	2-1/2	01549	04504
0.100	1/8	0.800	2-1/2	01550	04505
0.105	1/8	0.840	2-1/2	01551	04506
0.110	1/8	0.880	2-1/2	01552	04507
0.115	1/8	0.920	2-1/2	01553	04508
0.120	1/8	0.960	2-1/2	01554	04509

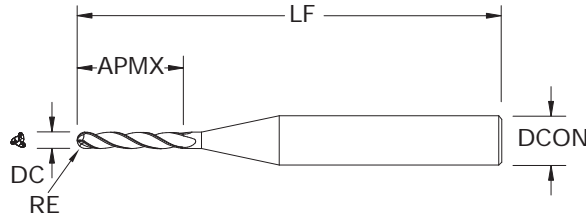
RE = 1/2 Cutting Diameter (DC)

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M3XB • 12xD



M3XB • 12xD FRACTIONAL SERIES



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- Broad portfolio, offering consistent lengths of cut, to ensure application demands are met
- Advanced geometries that extend tool life, reduce chatter, cut cycle times, and improve part quality
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- All micro tools are manufactured in accordance with the KSPT ISO certified quality procedures

CUTTING DIAMETER DC	inch			EDP NO.	
	SHANK DIAMETER DCON	LENGTH OF CUT APMX	OVERALL LENGTH LF	UNCOATED	TI-NAMITE®-A (AlTiN)
0.010	1/8	0.120	2-1/2	01555	04510
0.015	1/8	0.180	2-1/2	01556	04511
0.020	1/8	0.240	2-1/2	01557	04512
0.025	1/8	0.300	2-1/2	01558	04513
0.030	1/8	0.360	2-1/2	01559	04514
0.031	1/8	0.372	2-1/2	01560	04515
0.035	1/8	0.420	2-1/2	01561	04516
0.040	1/8	0.480	2-1/2	01562	04517
0.045	1/8	0.540	2-1/2	01563	04518
0.047	1/8	0.564	2-1/2	01564	04519
0.050	1/8	0.600	2-1/2	01565	04520
0.055	1/8	0.660	2-1/2	01566	04521
0.060	1/8	0.720	2-1/2	01567	04522
0.062	1/8	0.744	2-1/2	01568	04523
0.065	1/8	0.780	2-1/2	01569	04524
0.070	1/8	0.840	2-1/2	01570	04525
0.075	1/8	0.900	2-1/2	01571	04526
0.078	1/8	0.936	2-1/2	01572	04527
0.080	1/8	0.960	2-1/2	01573	04528
0.085	1/8	1.020	2-1/2	01574	04529
0.090	1/8	1.080	2-1/2	01575	04530
0.093	1/8	1.116	2-1/2	01576	04531
0.095	1/8	1.140	2-1/2	01577	04532
0.100	1/8	1.200	2-1/2	01578	04533
0.105	1/8	1.260	2-1/2	01579	04534
0.110	1/8	1.320	2-1/2	01580	04535
0.115	1/8	1.380	2-1/2	01581	04536
0.120	1/8	1.440	2-1/2	01582	04537

RE = 1/2 Cutting Diameter (DC)

TOLERANCES (inch)

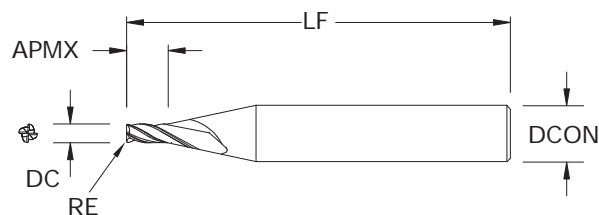
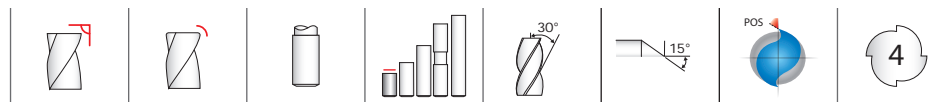
.010-.120 DIAMETER

DC = +0.000/-0.001

DCON = h₆

- STEELS
- STAINLESS STEELS
- CAST IRON
- NON-FERROUS
- HIGH TEMP ALLOYS

FRACTIONAL M4 • M4CR • 1.5xD



M4 • M4CR 1.5xD FRACTIONAL SERIES

TOLERANCES (inch)

.005–.120 DIAMETER

DC = +0.000/-0.001

DCON = h_6

RE = +0.0000/-0.0005

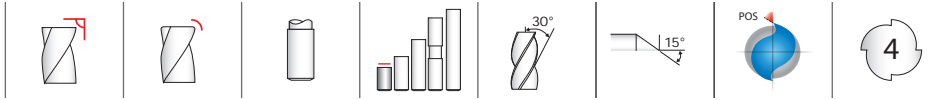
STEELS
STAINLESS STEELS
CAST IRON
NON-FERROUS
HIGH TEMP ALLOYS

CUTTING DIAMETER DC	SHANK DIAMETER DCON	inch			EDP NO.	
		LENGTH OF CUT APMX	OVERALL LENGTH LF	CORNER RADIUS RE	UNCOATED	TI-NAMITE®-A (AlTiN)
0.005	1/8	0.008	1-1/2	—	00372	02238
0.006	1/8	0.009	1-1/2	—	00373	02239
0.007	1/8	0.011	1-1/2	—	00374	02240
0.008	1/8	0.012	1-1/2	—	00375	02241
0.009	1/8	0.014	1-1/2	—	00376	02242
0.010	1/8	0.015	1-1/2	—	00377	02243
0.011	1/8	0.017	1-1/2	—	00378	02244
0.012	1/8	0.018	1-1/2	—	00379	02245
0.013	1/8	0.020	1-1/2	—	00380	02246
0.014	1/8	0.021	1-1/2	—	00381	02247
0.015	1/8	0.023	1-1/2	—	00382	02248
0.015	1/8	0.023	1-1/2	0.003	08986	09126
0.016	1/8	0.024	1-1/2	—	00383	02249
0.017	1/8	0.026	1-1/2	—	00384	02250
0.018	1/8	0.027	1-1/2	—	00385	02251
0.019	1/8	0.029	1-1/2	—	00386	02252
0.020	1/8	0.030	1-1/2	—	00387	02253
0.020	1/8	0.030	1-1/2	0.003	08988	09128
0.020	1/8	0.030	1-1/2	0.005	04024	04025
0.021	1/8	0.032	1-1/2	—	00388	02254
0.022	1/8	0.033	1-1/2	—	00389	02255
0.023	1/8	0.035	1-1/2	—	00390	02256
0.024	1/8	0.036	1-1/2	—	00391	02257
0.025	1/8	0.038	1-1/2	—	00392	02258
0.025	1/8	0.038	1-1/2	0.005	04026	04027
0.025	1/8	0.038	1-1/2	0.010	08990	09130
0.026	1/8	0.039	1-1/2	—	00393	02259
0.027	1/8	0.041	1-1/2	—	00394	02260
0.028	1/8	0.042	1-1/2	—	00395	02261
0.029	1/8	0.044	1-1/2	—	00396	02262
0.030	1/8	0.045	1-1/2	—	00397	02263
0.030	1/8	0.045	1-1/2	0.010	08992	09132
0.031	1/8	0.047	1-1/2	—	00398	02264
0.032	1/8	0.048	1-1/2	—	00399	02265
0.033	1/8	0.050	1-1/2	—	00400	02266
0.034	1/8	0.051	1-1/2	—	00401	02267

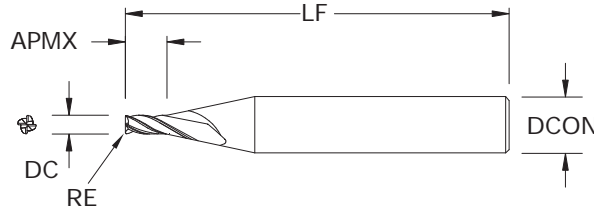
- Four flute design allows for higher feed rates and decreased deflection, improving productivity and surface finish
- Enhanced corner geometry with tight tolerance corner radii
- Proprietary coating allows for superior chip flow, driving industry leading productivity and value, even at low spindle speeds
- High performance carbide substrate designed specifically for Micro Tool applications
- Broad portfolio, offering consistent lengths of cut, to ensure application demands are met
- Advanced geometries that extend tool life, reduce chatter, cut cycle times, and improve part quality
- All tools in stock to meet customer order requirements
- All micro tools are manufactured in accordance with the KSPT ISO certified quality procedures

continued on next page

M4 • M4CR • 1.5xD



M4 • M4CR 1.5xD FRACTIONAL SERIES



continued

CUTTING DIAMETER DC	SHANK DIAMETER DCON	inch			EDP NO.	
		LENGTH OF CUT APMX	OVERALL LENGTH LF	CORNER RADIUS RE	UNCOATED	TI-NAMITE®-A (AlTiN)
0.035	1/8	0.053	1-1/2	—	00402	02268
0.035	1/8	0.053	1-1/2	0.005	08994	09134
0.035	1/8	0.053	1-1/2	0.010	08996	09136
0.036	1/8	0.054	1-1/2	—	00403	02269
0.037	1/8	0.056	1-1/2	—	00404	02270
0.038	1/8	0.057	1-1/2	—	00405	02271
0.039	1/8	0.059	1-1/2	—	00406	02272
0.040	1/8	0.060	1-1/2	—	00407	02273
0.040	1/8	0.060	1-1/2	0.005	08998	09138
0.040	1/8	0.060	1-1/2	0.010	09000	09140
0.041	1/8	0.062	1-1/2	—	00408	02402
0.042	1/8	0.063	1-1/2	—	00409	02403
0.043	1/8	0.065	1-1/2	—	00410	02404
0.044	1/8	0.066	1-1/2	—	00411	02405
0.045	1/8	0.068	1-1/2	—	00412	02406
0.045	1/8	0.068	1-1/2	0.005	09002	09142
0.045	1/8	0.068	1-1/2	0.010	09004	09144
0.046	1/8	0.069	1-1/2	—	00413	02407
0.047	1/8	0.071	1-1/2	—	00414	02408
0.048	1/8	0.072	1-1/2	—	00415	02409
0.049	1/8	0.074	1-1/2	—	00416	02410
0.050	1/8	0.075	1-1/2	—	00417	02411
0.050	1/8	0.075	1-1/2	0.005	09006	09146
0.050	1/8	0.075	1-1/2	0.010	09008	09148
0.050	1/8	0.075	1-1/2	0.015	09010	09150
0.051	1/8	0.077	1-1/2	—	00418	02412
0.052	1/8	0.078	1-1/2	—	00419	02413
0.053	1/8	0.080	1-1/2	—	00420	02414
0.054	1/8	0.081	1-1/2	—	00421	02415
0.055	1/8	0.083	1-1/2	—	00422	02416
0.055	1/8	0.083	1-1/2	0.005	09012	09152
0.055	1/8	0.083	1-1/2	0.010	09014	09154
0.055	1/8	0.083	1-1/2	0.015	09016	09156
0.056	1/8	0.084	1-1/2	—	00423	02417

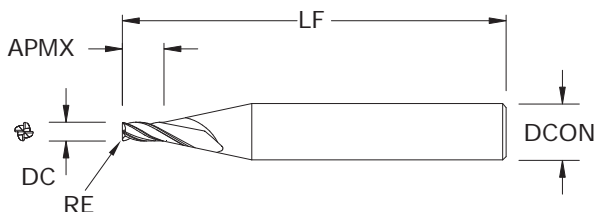
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TOLERANCES (inch)

.005–.120 DIAMETER
 DC = +0.000/–0.001
 DCON = h₆
 RE = +0.0000/–0.0005

- STEELS
- STAINLESS STEELS
- CAST IRON
- NON-FERROUS
- HIGH TEMP ALLOYS

M4 • M4CR • 1.5xD



M4 • M4CR 1.5xD FRACTIONAL SERIES

continued

TOLERANCES (inch)

.005–.120 DIAMETER

DC = +0.000/-0.001

DCON = h₆

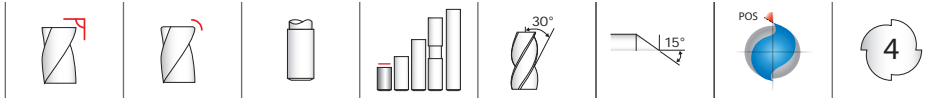
RE = +0.0000/-0.0005

- STEELS
- STAINLESS STEELS
- CAST IRON
- NON-FERROUS
- HIGH TEMP ALLOYS

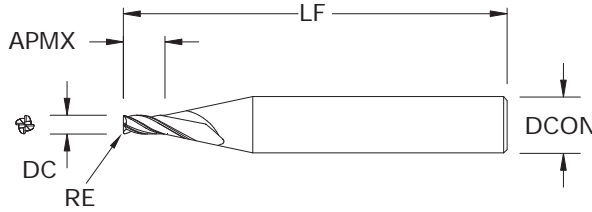
CUTTING DIAMETER DC	SHANK DIAMETER DCON	inch			EDP NO.	
		LENGTH OF CUT APMX	OVERALL LENGTH LF	CORNER RADIUS RE	UNCOATED	TI-NAMITE®-A (AITiN)
0.057	1/8	0.086	1-1/2	—	00424	02418
0.058	1/8	0.087	1-1/2	—	00425	02419
0.059	1/8	0.089	1-1/2	—	00426	02420
0.060	1/8	0.090	1-1/2	—	00427	02421
0.060	1/8	0.090	1-1/2	0.005	09018	09158
0.060	1/8	0.090	1-1/2	0.010	09020	09160
0.060	1/8	0.090	1-1/2	0.015	09022	09162
0.062	1/8	0.093	1-1/2	—	00428	02422
0.065	1/8	0.098	1-1/2	—	00429	02423
0.065	1/8	0.098	1-1/2	0.005	09024	09164
0.065	1/8	0.098	1-1/2	0.010	09026	09166
0.065	1/8	0.098	1-1/2	0.015	09028	09168
0.070	1/8	0.105	1-1/2	—	00430	02424
0.070	1/8	0.105	1-1/2	0.005	09030	09170
0.070	1/8	0.105	1-1/2	0.010	09032	09172
0.070	1/8	0.105	1-1/2	0.015	09034	09174
0.075	1/8	0.113	1-1/2	—	04014	04012
0.075	1/8	0.113	1-1/2	0.005	09036	09176
0.075	1/8	0.113	1-1/2	0.010	09038	09178
0.075	1/8	0.113	1-1/2	0.015	09040	09180
0.075	1/8	0.113	1-1/2	0.020	09042	09182
0.078	1/8	0.117	1-1/2	—	00431	02425
0.080	1/8	0.120	1-1/2	—	00432	02426
0.080	1/8	0.120	1-1/2	0.005	09044	09184
0.080	1/8	0.120	1-1/2	0.010	09046	09186
0.080	1/8	0.120	1-1/2	0.015	09048	09188
0.080	1/8	0.120	1-1/2	0.020	09050	09190
0.085	1/8	0.128	1-1/2	—	00433	02427
0.085	1/8	0.128	1-1/2	0.005	09052	09192
0.085	1/8	0.128	1-1/2	0.010	09054	09194
0.085	1/8	0.128	1-1/2	0.015	09056	09196
0.085	1/8	0.128	1-1/2	0.020	09058	09198
0.090	1/8	0.135	1-1/2	—	00434	02428
0.090	1/8	0.135	1-1/2	0.005	09060	09200

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M4 • M4CR • 1.5xD



M4 • M4CR 1.5xD FRACTIONAL SERIES



continued

CUTTING DIAMETER DC	SHANK DIAMETER DCON	inch			EDP NO.	
		LENGTH OF CUT APMX	OVERALL LENGTH LF	CORNER RADIUS RE	UNCOATED	TI-NAMITE®-A (AlTiN)
0.090	1/8	0.135	1-1/2	0.010	09062	09202
0.090	1/8	0.135	1-1/2	0.015	09064	09204
0.090	1/8	0.135	1-1/2	0.020	09066	09206
0.093	1/8	0.140	1-1/2	—	00435	02429
0.095	1/8	0.143	1-1/2	—	00436	02430
0.095	1/8	0.143	1-1/2	0.005	09068	09208
0.095	1/8	0.143	1-1/2	0.010	09070	09210
0.095	1/8	0.143	1-1/2	0.015	09072	09212
0.095	1/8	0.143	1-1/2	0.020	09074	09214
0.100	1/8	0.150	1-1/2	—	00437	02431
0.100	1/8	0.150	1-1/2	0.005	09076	09216
0.100	1/8	0.150	1-1/2	0.010	09078	09218
0.100	1/8	0.150	1-1/2	0.015	09080	09220
0.100	1/8	0.150	1-1/2	0.020	09082	09222
0.100	1/8	0.150	1-1/2	0.030	09084	09224
0.105	1/8	0.158	1-1/2	—	00438	02432
0.105	1/8	0.158	1-1/2	0.005	09086	09226
0.105	1/8	0.158	1-1/2	0.010	09088	09228
0.105	1/8	0.158	1-1/2	0.015	09090	09230
0.105	1/8	0.158	1-1/2	0.020	09092	09232
0.105	1/8	0.158	1-1/2	0.030	09094	09234
0.110	1/8	0.165	1-1/2	—	00439	02433
0.110	1/8	0.165	1-1/2	0.005	09096	09236
0.110	1/8	0.165	1-1/2	0.010	09098	09238
0.110	1/8	0.165	1-1/2	0.015	09100	09240
0.110	1/8	0.165	1-1/2	0.020	09102	09242
0.110	1/8	0.165	1-1/2	0.030	09104	09244
0.115	1/8	0.173	1-1/2	—	00440	02434
0.115	1/8	0.173	1-1/2	0.005	09106	09246
0.115	1/8	0.173	1-1/2	0.010	09108	09248
0.115	1/8	0.173	1-1/2	0.015	09110	09250
0.115	1/8	0.173	1-1/2	0.020	09112	09252
0.115	1/8	0.173	1-1/2	0.030	09114	09254
0.120	1/8	0.180	1-1/2	—	00441	02435

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TOLERANCES (inch)

.005–.120 DIAMETER

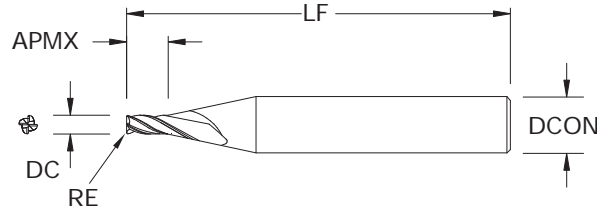
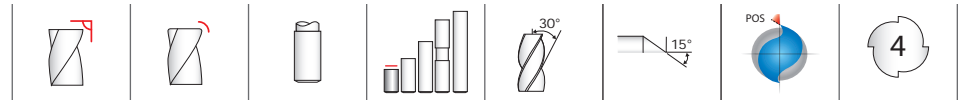
DC = +0.000/–0.001

DCON = h₆

RE = +0.0000/–0.0005

- STEELS
- STAINLESS STEELS
- CAST IRON
- NON-FERROUS
- HIGH TEMP ALLOYS

FRACTIONAL
M4 • M4CR • 1.5xD



M4 • M4CR
1.5xD
 FRACTIONAL SERIES

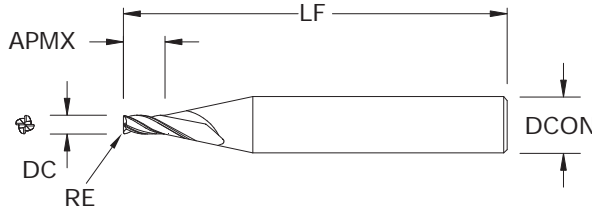
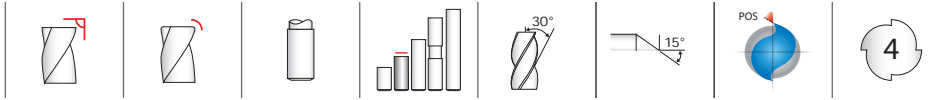
TOLERANCES (inch)
.005–.120 DIAMETER
 DC = +0.000/–0.001
 DCON = h₆
 RE = +0.0000/–0.0005

- STEELS
- STAINLESS STEELS
- CAST IRON
- NON-FERROUS
- HIGH TEMP ALLOYS

CUTTING DIAMETER DC	SHANK DIAMETER DCON	inch			EDP NO.	
		LENGTH OF CUT APMX	OVERALL LENGTH LF	CORNER RADIUS RE	UNCOATED	TI-NAMITE®-A (AITiN)
0.120	1/8	0.180	1-1/2	0.005	09116	09256
0.120	1/8	0.180	1-1/2	0.010	09118	09258
0.120	1/8	0.180	1-1/2	0.015	09120	09260
0.120	1/8	0.180	1-1/2	0.020	09122	09262
0.120	1/8	0.180	1-1/2	0.030	09124	09264

continued

M4 • M4CR • 3xD



M4 • M4CR • 3xD FRACTIONAL SERIES

- Four flute design allows for higher feed rates and decreased deflection, improving productivity and surface finish
- Enhanced corner geometry with tight tolerance corner radii
- Proprietary coating allows for superior chip flow, driving industry leading productivity and value, even at low spindle speeds
- High performance carbide substrate designed specifically for Micro Tool applications
- Broad portfolio, offering consistent lengths of cut, to ensure application demands are met
- Advanced geometries that extend tool life, reduce chatter, cut cycle times, and improve part quality
- All tools in stock to meet customer order requirements
- All micro tools are manufactured in accordance with the KSPT ISO certified quality procedures

CUTTING DIAMETER DC	SHANK DIAMETER DCON	inch			EDP NO.	
		LENGTH OF CUT APMX	OVERALL LENGTH LF	CORNER RADIUS RE	UNCOATED	TI-NAMITE®-A (AlTiN)
0.005	1/8	0.015	1-1/2	—	00514	02312
0.006	1/8	0.018	1-1/2	—	00515	02313
0.007	1/8	0.021	1-1/2	—	00516	02314
0.008	1/8	0.024	1-1/2	—	00517	02315
0.009	1/8	0.027	1-1/2	—	00518	02316
0.010	1/8	0.030	1-1/2	—	00519	02317
0.011	1/8	0.033	1-1/2	—	00520	02318
0.012	1/8	0.036	1-1/2	—	00521	02319
0.013	1/8	0.039	1-1/2	—	00522	02320
0.014	1/8	0.042	1-1/2	—	00523	02321
0.015	1/8	0.045	1-1/2	—	00524	02322
0.015	1/8	0.045	1-1/2	0.003	08987	09127
0.016	1/8	0.048	1-1/2	—	00525	02323
0.017	1/8	0.051	1-1/2	—	00526	02324
0.018	1/8	0.054	1-1/2	—	00527	02325
0.019	1/8	0.057	1-1/2	—	00528	02326
0.020	1/8	0.060	1-1/2	—	00529	02327
0.020	1/8	0.060	1-1/2	0.003	08989	09129
0.020	1/8	0.060	1-1/2	0.005	04028	04029
0.021	1/8	0.063	1-1/2	—	00530	02328
0.022	1/8	0.066	1-1/2	—	00531	02329
0.023	1/8	0.069	1-1/2	—	00532	02330
0.024	1/8	0.072	1-1/2	—	00533	02331
0.025	1/8	0.075	1-1/2	—	00534	02332
0.025	1/8	0.075	1-1/2	0.005	04030	04031
0.025	1/8	0.075	1-1/2	0.010	08991	09131
0.026	1/8	0.078	1-1/2	—	00535	02333
0.027	1/8	0.081	1-1/2	—	00536	02334
0.028	1/8	0.084	1-1/2	—	00537	02335
0.029	1/8	0.087	1-1/2	—	00538	02336
0.030	1/8	0.090	1-1/2	—	00539	02337
0.030	1/8	0.090	1-1/2	0.010	08993	09133
0.031	1/8	0.093	1-1/2	—	00540	02338
0.032	1/8	0.096	1-1/2	—	00541	02339
0.033	1/8	0.099	1-1/2	—	00542	02340
0.034	1/8	0.102	1-1/2	—	00543	02341

TOLERANCES (inch)

.005–.120 DIAMETER

DC = +0.000/–0.001

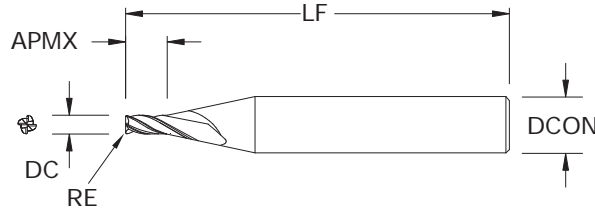
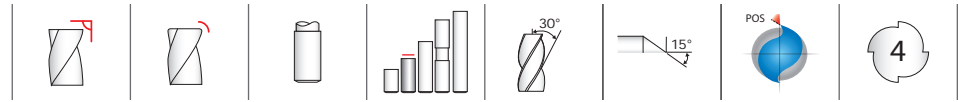
DCON = h₆

RE = +0.0000/–0.0005

- STEELS
- STAINLESS STEELS
- CAST IRON
- NON-FERROUS
- HIGH TEMP ALLOYS

continued on next page

FRACTIONAL
M4 • M4CR • 3xD



M4 • M4CR • 3xD
 FRACTIONAL SERIES

TOLERANCES (inch)
.005–.120 DIAMETER
 DC = +0.000/–0.001
 DCON = h₆
 RE = +0.0000/–0.0005

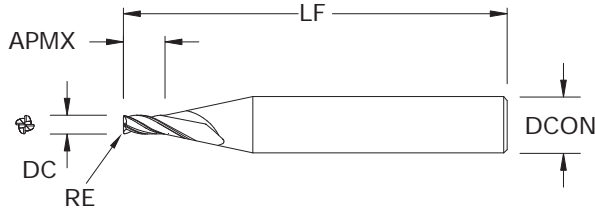
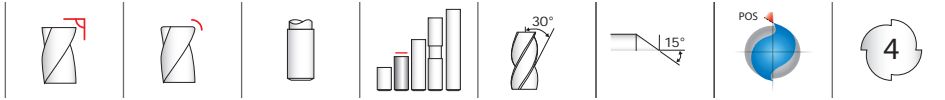
- STEELS
- STAINLESS STEELS
- CAST IRON
- NON-FERROUS
- HIGH TEMP ALLOYS

CUTTING DIAMETER DC	SHANK DIAMETER DCON	inch			EDP NO.	
		LENGTH OF CUT APMX	OVERALL LENGTH LF	CORNER RADIUS RE	UNCOATED	TI-NAMITE®-A (AITiN)
0.035	1/8	0.105	1-1/2	–	00544	02342
0.035	1/8	0.105	1-1/2	0.005	08995	09135
0.035	1/8	0.105	1-1/2	0.010	08997	09137
0.036	1/8	0.108	1-1/2	–	00545	02343
0.037	1/8	0.111	1-1/2	–	00546	02344
0.038	1/8	0.114	1-1/2	–	00547	02345
0.039	1/8	0.117	1-1/2	–	00548	02346
0.040	1/8	0.120	1-1/2	–	00549	02347
0.040	1/8	0.120	1-1/2	0.005	08999	09139
0.040	1/8	0.120	1-1/2	0.010	09001	09141
0.041	1/8	0.123	1-1/2	–	00550	02470
0.042	1/8	0.126	1-1/2	–	00551	02471
0.043	1/8	0.129	1-1/2	–	00552	02472
0.044	1/8	0.132	1-1/2	–	00553	02473
0.045	1/8	0.135	1-1/2	–	00554	02474
0.045	1/8	0.135	1-1/2	0.005	09003	09143
0.045	1/8	0.135	1-1/2	0.010	09005	09145
0.046	1/8	0.138	1-1/2	–	00555	02475
0.047	1/8	0.141	1-1/2	–	00556	02476
0.048	1/8	0.144	1-1/2	–	00557	02477
0.049	1/8	0.147	1-1/2	–	00558	02478
0.050	1/8	0.150	1-1/2	–	00559	02479
0.050	1/8	0.150	1-1/2	0.005	09007	09147
0.050	1/8	0.150	1-1/2	0.010	09009	09149
0.050	1/8	0.150	1-1/2	0.015	09011	09151
0.051	1/8	0.153	1-1/2	–	00560	02480
0.052	1/8	0.156	1-1/2	–	00561	02481
0.053	1/8	0.159	1-1/2	–	00562	02482
0.054	1/8	0.162	1-1/2	–	00563	02483
0.055	1/8	0.165	1-1/2	–	00564	02484
0.055	1/8	0.165	1-1/2	0.005	09013	09153
0.055	1/8	0.165	1-1/2	0.010	09015	09155
0.055	1/8	0.165	1-1/2	0.015	09017	09157
0.056	1/8	0.168	1-1/2	–	00565	02485
0.057	1/8	0.171	1-1/2	–	00566	02486
0.058	1/8	0.174	1-1/2	–	00567	02487

continued

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M4 • M4CR • 3xD



M4 • M4CR • 3xD

FRACTIONAL SERIES

continued

CUTTING DIAMETER DC	SHANK DIAMETER DCON	inch			EDP NO.	
		LENGTH OF CUT APMX	OVERALL LENGTH LF	CORNER RADIUS RE	UNCOATED	TI-NAMITE®-A (AlTiN)
0.059	1/8	0.177	1-1/2	—	00568	02488
0.060	1/8	0.180	1-1/2	—	00569	02489
0.060	1/8	0.180	1-1/2	0.005	09019	09159
0.060	1/8	0.180	1-1/2	0.010	09021	09161
0.060	1/8	0.180	1-1/2	0.015	09023	09163
0.062	1/8	0.186	1-1/2	—	00570	02490
0.065	1/8	0.195	1-1/2	—	00571	02491
0.065	1/8	0.195	1-1/2	0.005	09025	09165
0.065	1/8	0.195	1-1/2	0.010	09027	09167
0.065	1/8	0.195	1-1/2	0.015	09029	09169
0.070	1/8	0.210	1-1/2	—	00572	02492
0.070	1/8	0.210	1-1/2	0.005	09031	09171
0.070	1/8	0.210	1-1/2	0.010	09033	09173
0.070	1/8	0.210	1-1/2	0.015	09035	09175
0.075	1/8	0.225	1-1/2	—	04015	04013
0.075	1/8	0.225	1-1/2	0.005	09037	09177
0.075	1/8	0.225	1-1/2	0.010	09039	09179
0.075	1/8	0.225	1-1/2	0.015	09041	09181
0.075	1/8	0.225	1-1/2	0.020	09043	09183
0.078	1/8	0.234	1-1/2	—	00573	02493
0.080	1/8	0.240	1-1/2	—	00574	02494
0.080	1/8	0.240	1-1/2	0.005	09045	09185
0.080	1/8	0.240	1-1/2	0.010	09047	09187
0.080	1/8	0.240	1-1/2	0.015	09049	09189
0.080	1/8	0.240	1-1/2	0.020	09051	09191
0.085	1/8	0.255	1-1/2	—	00575	02495
0.085	1/8	0.255	1-1/2	0.005	09053	09193
0.085	1/8	0.255	1-1/2	0.010	09055	09195
0.085	1/8	0.255	1-1/2	0.015	09057	09197
0.085	1/8	0.255	1-1/2	0.020	09059	09199
0.090	1/8	0.270	1-1/2	—	00576	02496
0.090	1/8	0.270	1-1/2	0.005	09061	09201
0.090	1/8	0.270	1-1/2	0.010	09063	09203
0.090	1/8	0.270	1-1/2	0.015	09065	09205
0.090	1/8	0.270	1-1/2	0.020	09067	09207
0.093	1/8	0.279	1-1/2	—	00577	02497

TOLERANCES (inch)

.005–.120 DIAMETER

DC = +0.000/–0.001

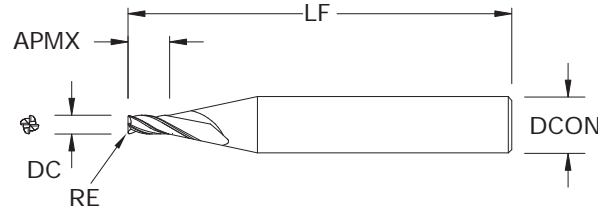
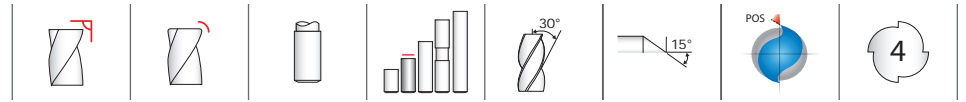
DCON = h₆

RE = +0.0000/–0.0005

- STEELS
- STAINLESS STEELS
- CAST IRON
- NON-FERROUS
- HIGH TEMP ALLOYS

continued on next page

FRACTIONAL
M4 • M4CR • 3xD



M4 • M4CR • 3xD
 FRACTIONAL SERIES

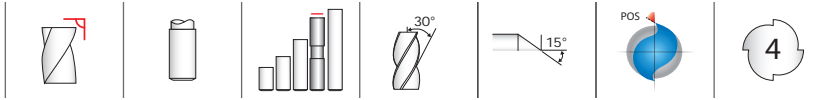
TOLERANCES (inch)
.005–.120 DIAMETER
 DC = +0.000/–0.001
 DCON = h_6
 RE = +0.0000/–0.0005

- STEELS
- STAINLESS STEELS
- CAST IRON
- NON-FERROUS
- HIGH TEMP ALLOYS

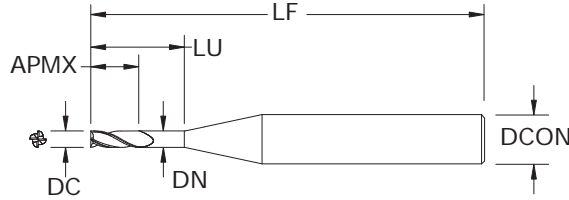
CUTTING DIAMETER DC	SHANK DIAMETER DCON	inch			EDP NO.	
		LENGTH OF CUT APMX	OVERALL LENGTH LF	CORNER RADIUS RE	UNCOATED	TI-NAMITE®-A (AlTiN)
0.095	1/8	0.285	1-1/2	–	00578	02498
0.095	1/8	0.285	1-1/2	0.005	09069	09209
0.095	1/8	0.285	1-1/2	0.010	09071	09211
0.095	1/8	0.285	1-1/2	0.015	09073	09213
0.095	1/8	0.285	1-1/2	0.020	09075	09215
0.100	1/8	0.300	1-1/2	–	00579	02499
0.100	1/8	0.300	1-1/2	0.005	09077	09217
0.100	1/8	0.300	1-1/2	0.010	09079	09219
0.100	1/8	0.300	1-1/2	0.015	09081	09221
0.100	1/8	0.300	1-1/2	0.020	09083	09223
0.100	1/8	0.300	1-1/2	0.030	09085	09225
0.105	1/8	0.315	1-1/2	–	00580	02500
0.105	1/8	0.315	1-1/2	0.005	09087	09227
0.105	1/8	0.315	1-1/2	0.010	09089	09229
0.105	1/8	0.315	1-1/2	0.015	09091	09231
0.105	1/8	0.315	1-1/2	0.020	09093	09233
0.105	1/8	0.315	1-1/2	0.030	09095	09235
0.110	1/8	0.330	1-1/2	–	00581	02501
0.110	1/8	0.330	1-1/2	0.005	09097	09237
0.110	1/8	0.330	1-1/2	0.010	09099	09239
0.110	1/8	0.330	1-1/2	0.015	09101	09241
0.110	1/8	0.330	1-1/2	0.020	09103	09243
0.110	1/8	0.330	1-1/2	0.030	09105	09245
0.115	1/8	0.345	1-1/2	–	00582	02502
0.115	1/8	0.345	1-1/2	0.005	09107	09247
0.115	1/8	0.345	1-1/2	0.010	09109	09249
0.115	1/8	0.345	1-1/2	0.015	09111	09251
0.115	1/8	0.345	1-1/2	0.020	09113	09253
0.115	1/8	0.345	1-1/2	0.030	09115	09255
0.120	1/8	0.360	1-1/2	–	00583	02503
0.120	1/8	0.360	1-1/2	0.005	09117	09257
0.120	1/8	0.360	1-1/2	0.010	09119	09259
0.120	1/8	0.360	1-1/2	0.015	09121	09261
0.120	1/8	0.360	1-1/2	0.020	09123	09263
0.120	1/8	0.360	1-1/2	0.030	09125	09265

continued

M4 • 3xD • 8xD Overall Reach



M4 • 3xD 8xD FRACTIONAL SERIES



- Four flute design allows for higher feed rates and decreased deflection, improving productivity and surface finish
- Proprietary coating allows for superior chip flow, driving industry leading productivity and value, even at low spindle speeds
- High performance carbide substrate designed specifically for Micro Tool applications
- Broad portfolio, offering consistent lengths of cut, to ensure application demands are met
- Advanced geometries that extend tool life, reduce chatter, cut cycle times, and improve part quality
- All tools in stock to meet customer order requirements
- All micro tools are manufactured in accordance with the KSPT ISO certified quality procedures

inch						EDP NO.	
CUTTING DIAMETER DC	SHANK DIAMETER DCON	LENGTH OF CUT APMX	REACH LU	NECK DIAMETER DN	OVERALL LENGTH LF	UNCOATED	TI-NAMITE®-A (AlTiN)
0.010	1/8	0.030	0.080	0.009	1-1/2	09839	03454
0.015	1/8	0.045	0.120	0.014	1-1/2	09841	03455
0.020	1/8	0.060	0.160	0.018	1-1/2	09843	03456
0.025	1/8	0.075	0.200	0.023	1-1/2	09845	03457
0.030	1/8	0.090	0.240	0.028	1-1/2	09847	03458
0.031	1/8	0.093	0.248	0.029	1-1/2	09849	03459
0.035	1/8	0.105	0.280	0.032	1-1/2	09851	03460
0.040	1/8	0.120	0.320	0.037	1-1/2	09853	03461
0.045	1/8	0.135	0.360	0.042	2	09855	03462
0.047	1/8	0.141	0.376	0.044	2	09857	03463
0.050	1/8	0.150	0.400	0.047	2	09859	03464
0.055	1/8	0.165	0.440	0.051	2	09861	03465
0.060	1/8	0.180	0.480	0.056	2	09863	03466
0.062	1/8	0.186	0.496	0.058	2	09865	03467
0.065	1/8	0.195	0.520	0.061	2	09867	03468
0.070	1/8	0.210	0.560	0.065	2	09869	03469
0.075	1/8	0.225	0.600	0.070	2	09871	03470
0.078	1/8	0.234	0.624	0.073	2	09873	03471
0.080	1/8	0.240	0.640	0.075	2	09875	03472
0.085	1/8	0.255	0.680	0.079	2	09877	03473
0.090	1/8	0.270	0.720	0.084	2	09879	03474
0.093	1/8	0.279	0.744	0.087	2	09881	03475
0.095	1/8	0.285	0.760	0.089	2	09883	03476
0.100	1/8	0.300	0.800	0.094	2	09885	03477
0.110	1/8	0.330	0.880	0.103	2	09887	03478
0.115	1/8	0.345	0.920	0.108	2	09889	03479
0.120	1/8	0.360	0.960	0.112	2	09891	03480

TOLERANCES (inch)

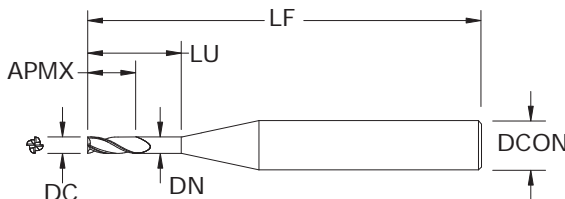
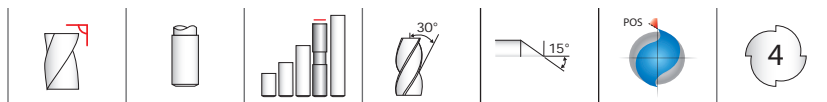
.010-.120 DIAMETER

DC = +0.000/-0.001

DCON = h₆

- STEELS
- STAINLESS STEELS
- CAST IRON
- NON-FERROUS
- HIGH TEMP ALLOYS

M4 • 3xD • 12xD Overall Reach



M4 • 3xD 12xD FRACTIONAL SERIES

TOLERANCES (inch)

.010-.120 DIAMETER

DC = +0.000/-0.001

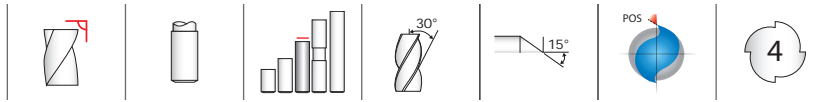
DCON = h₆

- STEELS
- STAINLESS STEELS
- CAST IRON
- NON-FERROUS
- HIGH TEMP ALLOYS

CUTTING DIAMETER DC	SHANK DIAMETER DCON	inch		NECK DIAMETER DN	OVERALL LENGTH LF	EDP NO.	
		LENGTH OF CUT APMX	REACH LU			UNCOATED	TI-NAMITE®-A (AlTiN)
0.010	1/8	0.030	0.120	0.009	1-1/2	09838	03481
0.015	1/8	0.045	0.180	0.014	1-1/2	09840	03482
0.020	1/8	0.060	0.240	0.018	1-1/2	09842	03483
0.025	1/8	0.075	0.300	0.023	1-1/2	09844	03484
0.030	1/8	0.090	0.360	0.028	2	09846	03485
0.031	1/8	0.093	0.372	0.029	2	09848	03486
0.035	1/8	0.105	0.420	0.032	2	09850	03487
0.040	1/8	0.120	0.480	0.037	2	09852	03488
0.045	1/8	0.135	0.540	0.042	2	09854	03489
0.047	1/8	0.141	0.564	0.044	2	09856	03490
0.050	1/8	0.150	0.600	0.047	2	09858	03491
0.055	1/8	0.165	0.660	0.051	2	09860	03492
0.060	1/8	0.180	0.720	0.056	2	09862	03493
0.062	1/8	0.186	0.744	0.058	2	09864	03494
0.065	1/8	0.195	0.780	0.061	2	09866	03495
0.070	1/8	0.210	0.840	0.065	2	09868	03496
0.075	1/8	0.225	0.900	0.070	2	09870	03497
0.078	1/8	0.234	0.936	0.073	2-1/2	09872	03498
0.080	1/8	0.240	0.960	0.075	2-1/2	09874	03499
0.085	1/8	0.255	1.020	0.079	2-1/2	09876	03500
0.090	1/8	0.270	1.080	0.084	2-1/2	09878	03501
0.093	1/8	0.279	1.116	0.087	2-1/2	09880	03502
0.095	1/8	0.285	1.140	0.089	2-1/2	09882	03503
0.100	1/8	0.300	1.200	0.094	2-1/2	09884	03504
0.110	1/8	0.330	1.320	0.103	2-1/2	09886	03505
0.115	1/8	0.345	1.380	0.108	2-1/2	09888	03506
0.120	1/8	0.360	1.440	0.112	2-1/2	09890	03507

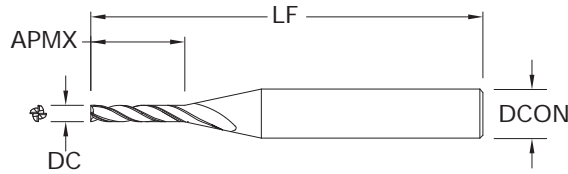
- Four flute design allows for higher feed rates and decreased deflection, improving productivity and surface finish
- Proprietary coating allows for superior chip flow, driving industry leading productivity and value, even at low spindle speeds
- High performance carbide substrate designed specifically for Micro Tool applications
- Broad portfolio, offering consistent lengths of cut, to ensure application demands are met
- Advanced geometries that extend tool life, reduce chatter, cut cycle times, and improve part quality
- All tools in stock to meet customer order requirements
- All micro tools are manufactured in accordance with the KSPT ISO certified quality procedures

FRACTIONAL M4L • 5xD



M4L • 5xD FRACTIONAL SERIES

- Four flute design allows for higher feed rates and decreased deflection, improving productivity and surface finish
- Proprietary coating allows for superior chip flow, driving industry leading productivity and value, even at low spindle speeds
- High performance carbide substrate designed specifically for Micro Tool applications
- Broad portfolio, offering consistent lengths of cut, to ensure application demands are met
- Advanced geometries that extend tool life, reduce chatter, cut cycle times, and improve part quality
- All tools in stock to meet customer order requirements
- All micro tools are manufactured in accordance with the KSPT ISO certified quality procedures



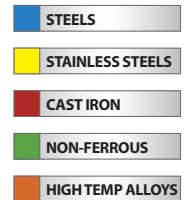
CUTTING DIAMETER DC	SHANK DIAMETER DCON	inch		EDP NO.	
		LENGTH OF CUT APMX	OVERALL LENGTH LF	UNCOATED	TI-NAMITE®-A (AlTiN)
0.010	1/8	0.050	2-1/2	00584	02640
0.015	1/8	0.075	2-1/2	00585	02641
0.020	1/8	0.100	2-1/2	00586	02642
0.025	1/8	0.125	2-1/2	00587	02643
0.030	1/8	0.150	2-1/2	00588	02644
0.031	1/8	0.155	2-1/2	00589	02645
0.035	1/8	0.175	2-1/2	00590	02646
0.040	1/8	0.200	2-1/2	00591	02647
0.045	1/8	0.225	2-1/2	00592	02648
0.047	1/8	0.235	2-1/2	00593	02649
0.050	1/8	0.250	2-1/2	00594	02650
0.055	1/8	0.275	2-1/2	00595	02651
0.060	1/8	0.300	2-1/2	00596	02652
0.062	1/8	0.310	2-1/2	00597	02653
0.065	1/8	0.325	2-1/2	00598	02654
0.070	1/8	0.350	2-1/2	00599	02655
0.075	1/8	0.375	2-1/2	00600	02656
0.078	1/8	0.390	2-1/2	00601	02657
0.080	1/8	0.400	2-1/2	00602	02658
0.085	1/8	0.425	2-1/2	00603	02659
0.090	1/8	0.450	2-1/2	00604	02660
0.093	1/8	0.465	2-1/2	00605	02661
0.095	1/8	0.475	2-1/2	00606	02662
0.100	1/8	0.500	2-1/2	00607	02663
0.110	1/8	0.550	2-1/2	00608	02664
0.115	1/8	0.575	2-1/2	00609	02665
0.120	1/8	0.600	2-1/2	00610	02666

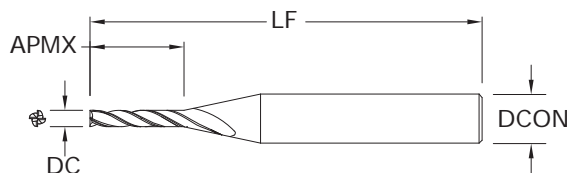
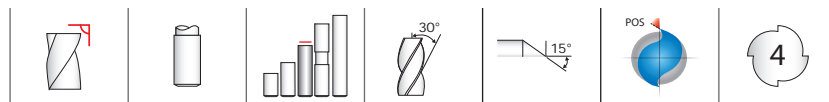
TOLERANCES (inch)

.010-.120 DIAMETER

DC = +0.000/-0.001

DCON = h₆





M4E • 8xD
FRACTIONAL SERIES

TOLERANCES (inch)

.010-.120 DIAMETER

DC = +0.000/-0.001

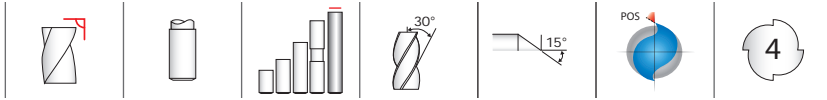
DCON = h₆

- STEELS
- STAINLESS STEELS
- CAST IRON
- NON-FERROUS
- HIGH TEMP ALLOYS

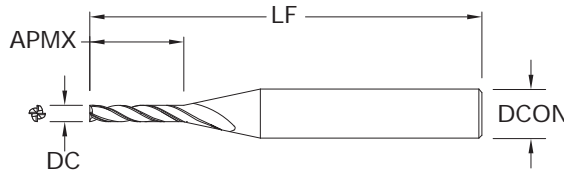
CUTTING DIAMETER DC	SHANK DIAMETER DCON	LENGTH OF CUT APMX	OVERALL LENGTH LF	EDP NO.	
				UNCOATED	TI-NAMITE®-A (AITiN)
0.010	1/8	0.080	2-1/2	00611	02667
0.015	1/8	0.120	2-1/2	00612	02668
0.020	1/8	0.160	2-1/2	00613	02669
0.025	1/8	0.200	2-1/2	00614	02670
0.030	1/8	0.240	2-1/2	00615	02671
0.031	1/8	0.248	2-1/2	00616	02672
0.035	1/8	0.280	2-1/2	00617	02673
0.040	1/8	0.320	2-1/2	00618	02674
0.045	1/8	0.360	2-1/2	00619	02675
0.047	1/8	0.376	2-1/2	00620	02676
0.050	1/8	0.400	2-1/2	00621	02677
0.055	1/8	0.440	2-1/2	00622	02678
0.060	1/8	0.480	2-1/2	00623	02679
0.062	1/8	0.496	2-1/2	00624	02680
0.065	1/8	0.520	2-1/2	00625	02681
0.070	1/8	0.560	2-1/2	00626	02682
0.075	1/8	0.600	2-1/2	00627	02683
0.078	1/8	0.624	2-1/2	00628	02684
0.080	1/8	0.640	2-1/2	00629	02685
0.085	1/8	0.680	2-1/2	00630	02686
0.090	1/8	0.720	2-1/2	00631	02687
0.093	1/8	0.744	2-1/2	00632	02688
0.095	1/8	0.760	2-1/2	00633	02689
0.100	1/8	0.800	2-1/2	00634	02690
0.110	1/8	0.880	2-1/2	00635	02691
0.115	1/8	0.920	2-1/2	00636	02692
0.120	1/8	0.960	2-1/2	00637	02693

- Four flute design allows for higher feed rates and decreased deflection, improving productivity and surface finish
- Proprietary coating allows for superior chip flow, driving industry leading productivity and value, even at low spindle speeds
- High performance carbide substrate designed specifically for Micro Tool applications
- Broad portfolio, offering consistent lengths of cut, to ensure application demands are met
- Advanced geometries that extend tool life, reduce chatter, cut cycle times, and improve part quality
- All tools in stock to meet customer order requirements
- All micro tools are manufactured in accordance with the KSPT ISO certified quality procedures

M4X • 12xD



M4X • 12xD FRACTIONAL SERIES



- Four flute design allows for higher feed rates and decreased deflection, improving productivity and surface finish
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- All tools in stock to meet customer order requirements
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CUTTING DIAMETER DC	SHANK DIAMETER DCON	inch		EDP NO.	
		LENGTH OF CUT APMX	OVERALL LENGTH LF	UNCOATED	TI-NAMITE®-A (AlTiN)
0.015	1/8	0.180	2-1/2	00639	02694
0.020	1/8	0.240	2-1/2	00640	02695
0.025	1/8	0.300	2-1/2	00641	02696
0.030	1/8	0.360	2-1/2	00642	02697
0.031	1/8	0.372	2-1/2	00643	02698
0.035	1/8	0.420	2-1/2	00644	02699
0.040	1/8	0.480	2-1/2	00645	02700
0.045	1/8	0.540	2-1/2	00646	02701
0.047	1/8	0.564	2-1/2	00647	02702
0.050	1/8	0.600	2-1/2	00648	02703
0.055	1/8	0.660	2-1/2	00649	02704
0.060	1/8	0.720	2-1/2	00650	02705
0.062	1/8	0.744	2-1/2	00651	02706
0.065	1/8	0.780	2-1/2	00652	02707
0.070	1/8	0.840	2-1/2	00653	02708
0.075	1/8	0.900	2-1/2	00654	02709
0.078	1/8	0.936	2-1/2	00655	02710
0.080	1/8	0.960	2-1/2	00656	02711
0.085	1/8	1.020	2-1/2	00657	02712
0.090	1/8	1.080	2-1/2	00658	02713
0.093	1/8	1.116	2-1/2	00659	02714
0.095	1/8	1.140	2-1/2	00660	02715
0.100	1/8	1.200	2-1/2	00661	02716
0.110	1/8	1.320	2-1/2	00662	02717
0.115	1/8	1.380	2-1/2	00663	02718
0.120	1/8	1.440	2-1/2	00664	02719

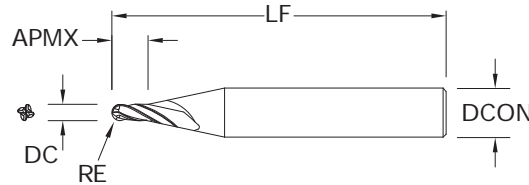
TOLERANCES (inch)

.015-.120 DIAMETER

DC = +0.000/-0.001

DCON = h₆

- STEELS
- STAINLESS STEELS
- CAST IRON
- NON-FERROUS
- HIGH TEMP ALLOYS



M4B • 1.5xD
FRACTIONAL SERIES

TOLERANCES (inch)

.010-.120 DIAMETER

DC = +0.000/-0.001

DCON = h₆

- STEELS
- STAINLESS STEELS
- CAST IRON
- NON-FERROUS
- HIGH TEMP ALLOYS

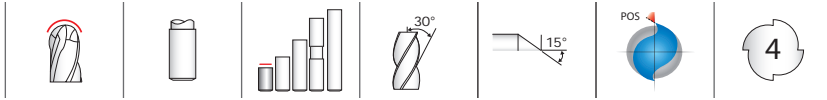
inch				EDP NO.	
CUTTING DIAMETER DC	SHANK DIAMETER DCON	LENGTH OF CUT APMX	OVERALL LENGTH LF	UNCOATED	TI-NAMITE®-A (AITiN)
0.010	1/8	0.015	1-1/2	00745	03071
0.011	1/8	0.017	1-1/2	00746	03072
0.012	1/8	0.018	1-1/2	00747	03073
0.013	1/8	0.020	1-1/2	00748	03074
0.014	1/8	0.021	1-1/2	00749	03075
0.015	1/8	0.023	1-1/2	00750	03076
0.016	1/8	0.024	1-1/2	00751	03077
0.017	1/8	0.026	1-1/2	00752	03078
0.018	1/8	0.027	1-1/2	00753	03079
0.019	1/8	0.029	1-1/2	00754	03080
0.020	1/8	0.030	1-1/2	00755	03081
0.021	1/8	0.032	1-1/2	00756	03082
0.022	1/8	0.033	1-1/2	00757	03083
0.023	1/8	0.035	1-1/2	00758	03084
0.024	1/8	0.036	1-1/2	00759	03085
0.025	1/8	0.038	1-1/2	00760	03086
0.026	1/8	0.039	1-1/2	00761	03087
0.027	1/8	0.041	1-1/2	00762	03088
0.028	1/8	0.042	1-1/2	00763	03089
0.029	1/8	0.044	1-1/2	00764	03090
0.030	1/8	0.045	1-1/2	00765	03091
0.031	1/8	0.047	1-1/2	00766	03092
0.032	1/8	0.048	1-1/2	00767	03093
0.033	1/8	0.050	1-1/2	00768	03094
0.034	1/8	0.051	1-1/2	00769	03095
0.035	1/8	0.053	1-1/2	00770	03096
0.036	1/8	0.054	1-1/2	00771	03097
0.037	1/8	0.056	1-1/2	00772	03098
0.038	1/8	0.057	1-1/2	00773	03099
0.039	1/8	0.059	1-1/2	00774	03100
0.040	1/8	0.060	1-1/2	00775	03101
0.041	1/8	0.062	1-1/2	00776	02538
0.042	1/8	0.063	1-1/2	00777	02539
0.043	1/8	0.065	1-1/2	00778	02540

RE = 1/2 Cutting Diameter (DC)

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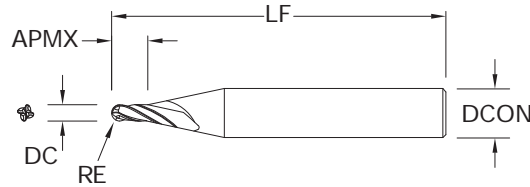
- Four flute design allows for higher feed rates and decreased deflection, improving productivity and surface finish
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- All tools in stock to meet customer order requirements
- All micro tools are manufactured in accordance with the KSPT ISO certified quality procedures

M4B • 1.5xD



M4B • 1.5xD

FRACTIONAL SERIES



continued

CUTTING DIAMETER DC	SHANK DIAMETER DCON	LENGTH OF CUT APMX	OVERALL LENGTH LF	EDP NO.	
				UNCOATED	TI-NAMITE®-A (AlTiN)
0.044	1/8	0.066	1-1/2	00779	02541
0.045	1/8	0.068	1-1/2	00780	02542
0.046	1/8	0.069	1-1/2	00781	02543
0.047	1/8	0.071	1-1/2	00782	02544
0.048	1/8	0.072	1-1/2	00783	02545
0.049	1/8	0.074	1-1/2	00784	02546
0.050	1/8	0.075	1-1/2	00785	02547
0.051	1/8	0.077	1-1/2	00786	02548
0.052	1/8	0.078	1-1/2	00787	02549
0.053	1/8	0.080	1-1/2	00788	02550
0.054	1/8	0.081	1-1/2	00789	02551
0.055	1/8	0.083	1-1/2	00790	02552
0.056	1/8	0.084	1-1/2	00791	02553
0.057	1/8	0.086	1-1/2	00792	02554
0.058	1/8	0.087	1-1/2	00793	02555
0.059	1/8	0.089	1-1/2	00794	02556
0.060	1/8	0.090	1-1/2	00795	02557
0.062	1/8	0.093	1-1/2	00796	02558
0.065	1/8	0.098	1-1/2	00797	02559
0.070	1/8	0.105	1-1/2	00798	02560
0.075	1/8	0.112	1-1/2	04018	04016
0.078	1/8	0.117	1-1/2	00799	02561
0.080	1/8	0.120	1-1/2	00800	02562
0.085	1/8	0.128	1-1/2	00801	02563
0.090	1/8	0.135	1-1/2	00802	02564
0.093	1/8	0.140	1-1/2	00803	02565
0.095	1/8	0.143	1-1/2	00804	02566
0.100	1/8	0.150	1-1/2	00805	02567
0.105	1/8	0.158	1-1/2	00806	02568
0.110	1/8	0.165	1-1/2	00807	02569
0.115	1/8	0.173	1-1/2	00808	02570
0.120	1/8	0.180	1-1/2	00809	02571

RE = 1/2 Cutting Diameter (DC)

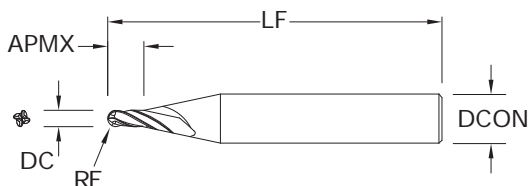
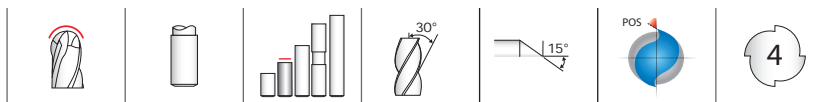
TOLERANCES (inch)

.010-.120 DIAMETER

DC = +0.000/-0.001

DCON = h₆

- STEELS
- STAINLESS STEELS
- CAST IRON
- NON-FERROUS
- HIGH TEMP ALLOYS



M4B • 3xD
FRACTIONAL SERIES

TOLERANCES (inch)

.010-.120 DIAMETER

DC = +0.000/-0.001

DCON = h₆

- STEELS
- STAINLESS STEELS
- CAST IRON
- NON-FERROUS
- HIGH TEMP ALLOYS

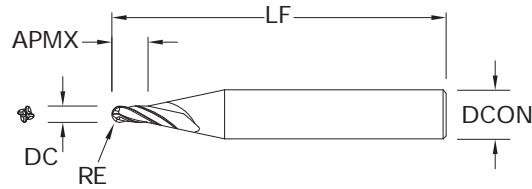
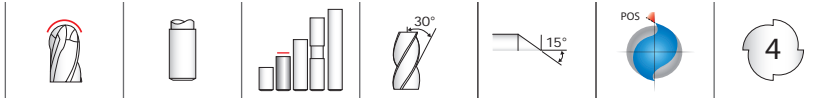
inch				EDP NO.	
CUTTING DIAMETER DC	SHANK DIAMETER DCON	LENGTH OF CUT APMX	OVERALL LENGTH LF	UNCOATED	TI-NAMITE®-A (AITiN)
0.010	1/8	0.030	1-1/2	00887	03145
0.011	1/8	0.033	1-1/2	00888	03146
0.012	1/8	0.036	1-1/2	00889	03147
0.013	1/8	0.039	1-1/2	00890	03148
0.014	1/8	0.042	1-1/2	00891	03149
0.015	1/8	0.045	1-1/2	00892	03150
0.016	1/8	0.048	1-1/2	00893	03151
0.017	1/8	0.051	1-1/2	00894	03152
0.018	1/8	0.054	1-1/2	00895	03153
0.019	1/8	0.057	1-1/2	00896	03154
0.020	1/8	0.060	1-1/2	00897	03155
0.021	1/8	0.063	1-1/2	00898	03156
0.022	1/8	0.066	1-1/2	00899	03157
0.023	1/8	0.069	1-1/2	00900	03158
0.024	1/8	0.072	1-1/2	00901	03159
0.025	1/8	0.075	1-1/2	00902	03160
0.026	1/8	0.078	1-1/2	00903	03161
0.027	1/8	0.081	1-1/2	00904	03162
0.028	1/8	0.084	1-1/2	00905	03163
0.029	1/8	0.087	1-1/2	00906	03164
0.030	1/8	0.090	1-1/2	00907	03165
0.031	1/8	0.093	1-1/2	00908	03166
0.032	1/8	0.096	1-1/2	00909	03167
0.033	1/8	0.099	1-1/2	00910	03168
0.034	1/8	0.102	1-1/2	00911	03169
0.035	1/8	0.105	1-1/2	00912	03170
0.036	1/8	0.108	1-1/2	00913	03171
0.037	1/8	0.111	1-1/2	00914	03172
0.038	1/8	0.114	1-1/2	00915	03173
0.039	1/8	0.117	1-1/2	00916	03174
0.040	1/8	0.120	1-1/2	00917	03175
0.041	1/8	0.123	1-1/2	00918	02606
0.042	1/8	0.126	1-1/2	00919	02607
0.043	1/8	0.129	1-1/2	00920	02608

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- All micro tools are manufactured in accordance with the KSPT ISO certified quality procedures

RE = 1/2 Cutting Diameter (DC)

continued on next page

M4B • 3xD



M4B • 3xD

FRACTIONAL SERIES

continued

CUTTING DIAMETER DC	SHANK DIAMETER DCON	LENGTH OF CUT APMX	OVERALL LENGTH LF	EDP NO.	
				UNCOATED	TI-NAMITE®-A (AlTiN)
0.044	1/8	0.132	1-1/2	00921	02609
0.045	1/8	0.135	1-1/2	00922	02610
0.046	1/8	0.138	1-1/2	00923	02611
0.047	1/8	0.141	1-1/2	00924	02612
0.048	1/8	0.144	1-1/2	00925	02613
0.049	1/8	0.147	1-1/2	00926	02614
0.050	1/8	0.150	1-1/2	00927	02615
0.051	1/8	0.153	1-1/2	00928	02616
0.052	1/8	0.156	1-1/2	00929	02617
0.053	1/8	0.159	1-1/2	00930	02618
0.054	1/8	0.162	1-1/2	00931	02619
0.055	1/8	0.165	1-1/2	00932	02620
0.056	1/8	0.168	1-1/2	00933	02621
0.057	1/8	0.171	1-1/2	00934	02622
0.058	1/8	0.174	1-1/2	00935	02623
0.059	1/8	0.177	1-1/2	00936	02624
0.060	1/8	0.180	1-1/2	00937	02625
0.062	1/8	0.186	1-1/2	00938	02626
0.065	1/8	0.195	1-1/2	00939	02627
0.070	1/8	0.210	1-1/2	00940	02628
0.075	1/8	0.225	1-1/2	04019	04017
0.078	1/8	0.234	1-1/2	00941	02629
0.080	1/8	0.240	1-1/2	00942	02630
0.085	1/8	0.255	1-1/2	00943	02631
0.090	1/8	0.270	1-1/2	00944	02632
0.093	1/8	0.279	1-1/2	00945	02633
0.095	1/8	0.285	1-1/2	00946	02634
0.100	1/8	0.300	1-1/2	00947	02635
0.105	1/8	0.315	1-1/2	00948	02636
0.110	1/8	0.330	1-1/2	00949	02637
0.115	1/8	0.345	1-1/2	00950	02638
0.120	1/8	0.360	1-1/2	00951	02639

RE = 1/2 Cutting Diameter (DC)

TOLERANCES (inch)

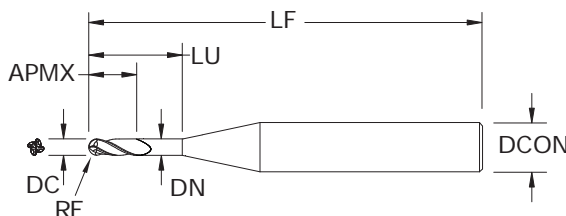
.010–.120 DIAMETER

DC = +0.000/–0.001

DCON = h₆

- STEELS
- STAINLESS STEELS
- CAST IRON
- NON-FERROUS
- HIGH TEMP ALLOYS

M4B • 3xD • 8xD Overall Reach



M4B • 3xD 8xD FRACTIONAL SERIES

TOLERANCES (inch)

.010-.120 DIAMETER

DC = +0.000/-0.001

DCON = h₆

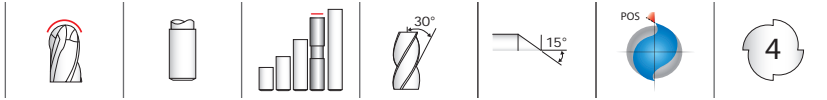
- STEELS
- STAINLESS STEELS
- CAST IRON
- NON-FERROUS
- HIGH TEMP ALLOYS

CUTTING DIAMETER DC	SHANK DIAMETER DCON	inch				EDP NO.	
		LENGTH OF CUT APMX	REACH LU	NECK DIAMETER DN	OVERALL LENGTH LF	UNCOATED	TI-NAMITE®-A (AlTiN)
0.010	1/8	0.030	0.080	0.009	1-1/2	09785	03751
0.015	1/8	0.045	0.120	0.014	1-1/2	09787	03752
0.020	1/8	0.060	0.160	0.018	1-1/2	09789	03753
0.025	1/8	0.075	0.200	0.023	1-1/2	09791	03754
0.030	1/8	0.090	0.240	0.028	1-1/2	09793	03755
0.031	1/8	0.093	0.248	0.029	1-1/2	09795	03756
0.035	1/8	0.105	0.280	0.032	1-1/2	09797	03757
0.040	1/8	0.120	0.320	0.037	1-1/2	09799	03758
0.045	1/8	0.135	0.360	0.042	2	09801	03759
0.047	1/8	0.141	0.376	0.044	2	09803	03760
0.050	1/8	0.150	0.400	0.047	2	09805	03761
0.055	1/8	0.165	0.440	0.051	2	09807	03762
0.060	1/8	0.180	0.480	0.056	2	09809	03763
0.062	1/8	0.186	0.496	0.058	2	09811	03764
0.065	1/8	0.195	0.520	0.061	2	09813	03765
0.070	1/8	0.210	0.560	0.065	2	09815	03766
0.075	1/8	0.225	0.600	0.070	2	09817	03767
0.078	1/8	0.234	0.624	0.073	2	09819	03768
0.080	1/8	0.240	0.640	0.075	2	09821	03769
0.085	1/8	0.255	0.680	0.079	2	09823	03770
0.090	1/8	0.270	0.720	0.084	2	09825	03771
0.093	1/8	0.279	0.744	0.087	2	09827	03772
0.095	1/8	0.285	0.760	0.089	2	09829	03773
0.100	1/8	0.300	0.800	0.094	2	09831	03774
0.110	1/8	0.330	0.880	0.103	2	09833	03775
0.115	1/8	0.345	0.920	0.108	2	09835	03776
0.120	1/8	0.360	0.960	0.112	2	09837	03777

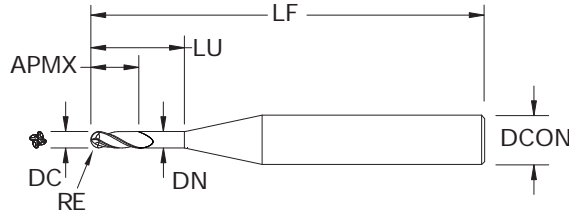
RE = 1/2 Cutting Diameter (DC)

- Four flute design allows for higher feed rates and decreased deflection, improving productivity and surface finish
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- All tools in stock to meet customer order requirements
- All micro tools are manufactured in accordance with the KSPT ISO certified quality procedures

M4B • 3xD • 12xD Overall Reach



M4B • 3xD 12xD FRACTIONAL SERIES



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CUTTING DIAMETER DC	SHANK DIAMETER DCON	inch				OVERALL LENGTH LF	EDP NO.	
		LENGTH OF CUT APMX	REACH LU	NECK DIAMETER DN	UNCOATED		TI-NAMITE®-A (AlTiN)	
0.010	1/8	0.030	0.120	0.009	1-1/2	09784	03778	
0.015	1/8	0.045	0.180	0.014	1-1/2	09786	03779	
0.020	1/8	0.060	0.240	0.018	1-1/2	09788	03780	
0.025	1/8	0.075	0.300	0.023	1-1/2	09790	03781	
0.030	1/8	0.090	0.360	0.028	2	09792	03782	
0.031	1/8	0.093	0.372	0.029	2	09794	03783	
0.035	1/8	0.105	0.420	0.032	2	09796	03784	
0.040	1/8	0.120	0.480	0.037	2	09798	03785	
0.045	1/8	0.135	0.540	0.042	2	09800	03786	
0.047	1/8	0.141	0.564	0.044	2	09802	03787	
0.050	1/8	0.150	0.600	0.047	2	09804	03788	
0.055	1/8	0.165	0.660	0.051	2	09806	03789	
0.060	1/8	0.180	0.720	0.056	2	09808	03790	
0.062	1/8	0.186	0.744	0.058	2	09810	03791	
0.065	1/8	0.195	0.780	0.061	2	09812	03792	
0.070	1/8	0.210	0.840	0.065	2	09814	03793	
0.075	1/8	0.225	0.900	0.070	2	09816	03794	
0.078	1/8	0.234	0.936	0.073	2-1/2	09818	03795	
0.080	1/8	0.240	0.960	0.075	2-1/2	09820	03796	
0.085	1/8	0.255	1.020	0.079	2-1/2	09822	03797	
0.090	1/8	0.270	1.080	0.084	2-1/2	09824	03798	
0.093	1/8	0.279	1.116	0.087	2-1/2	09826	03799	
0.095	1/8	0.285	1.140	0.089	2-1/2	09828	03800	
0.100	1/8	0.300	1.200	0.094	2-1/2	09830	03801	
0.110	1/8	0.330	1.320	0.103	2-1/2	09832	03802	
0.115	1/8	0.345	1.380	0.108	2-1/2	09834	03803	
0.120	1/8	0.360	1.440	0.112	2-1/2	09836	03804	

RE = 1/2 Cutting Diameter (DC)

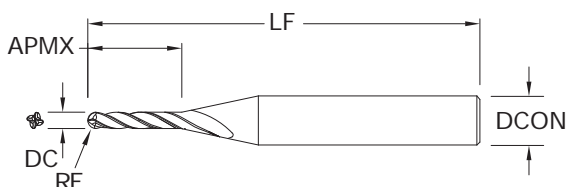
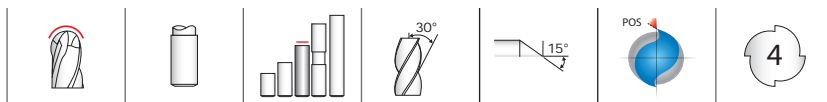
TOLERANCES (inch)

.010-.120 DIAMETER

DC = +0.000/-0.001

DCON = h₆

- STEELS
- STAINLESS STEELS
- CAST IRON
- NON-FERROUS
- HIGH TEMP ALLOYS



M4LB • 5xD
FRACTIONAL SERIES

TOLERANCES (inch)

.010-.120 DIAMETER

DC = +0.000/-0.001

DCON = h₆

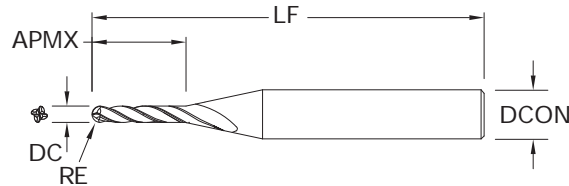
- STEELS
- STAINLESS STEELS
- CAST IRON
- NON-FERROUS
- HIGH TEMP ALLOYS

CUTTING DIAMETER DC	SHANK DIAMETER DCON	LENGTH OF CUT APMX	OVERALL LENGTH LF	EDP NO.	
				UNCOATED	TI-NAMITE®-A (AlTiN)
0.010	1/8	0.050	2-1/2	00952	02720
0.015	1/8	0.075	2-1/2	00953	02721
0.020	1/8	0.100	2-1/2	00954	02722
0.025	1/8	0.125	2-1/2	00955	02723
0.030	1/8	0.150	2-1/2	00956	02724
0.031	1/8	0.155	2-1/2	00957	02725
0.035	1/8	0.175	2-1/2	00958	02726
0.040	1/8	0.200	2-1/2	00959	02727
0.045	1/8	0.225	2-1/2	00960	02728
0.047	1/8	0.235	2-1/2	00961	02729
0.050	1/8	0.250	2-1/2	00962	02730
0.055	1/8	0.275	2-1/2	00963	02731
0.060	1/8	0.300	2-1/2	00964	02732
0.062	1/8	0.310	2-1/2	00965	02733
0.065	1/8	0.325	2-1/2	00966	02734
0.070	1/8	0.350	2-1/2	00967	02735
0.075	1/8	0.375	2-1/2	00968	02736
0.078	1/8	0.390	2-1/2	00969	02737
0.080	1/8	0.400	2-1/2	00970	02738
0.085	1/8	0.425	2-1/2	00971	02739
0.090	1/8	0.450	2-1/2	00972	02740
0.093	1/8	0.465	2-1/2	00973	02741
0.095	1/8	0.475	2-1/2	00974	02742
0.100	1/8	0.500	2-1/2	00975	02743
0.110	1/8	0.550	2-1/2	00976	02744
0.115	1/8	0.575	2-1/2	00977	02745
0.120	1/8	0.600	2-1/2	00978	02746

RE = 1/2 Cutting Diameter (DC)

- Four flute design allows for higher feed rates and decreased deflection, improving productivity and surface finish
- Proprietary coating allows for superior chip flow, driving industry leading productivity and value, even at low spindle speeds
- High performance carbide substrate designed specifically for Micro Tool applications
- Broad portfolio, offering consistent lengths of cut, to ensure application demands are met
- Advanced geometries that extend tool life, reduce chatter, cut cycle times, and improve part quality
- All tools in stock to meet customer order requirements
- All micro tools are manufactured in accordance with the KSPT ISO certified quality procedures

M4EB • 8xD



M4EB • 8xD

FRACTIONAL SERIES

- Four flute design allows for higher feed rates and decreased deflection, improving productivity and surface finish
- Proprietary coating allows for superior chip flow, driving industry leading productivity and value, even at low spindle speeds
- High performance carbide substrate designed specifically for Micro Tool applications
- Broad portfolio, offering consistent lengths of cut, to ensure application demands are met
- Advanced geometries that extend tool life, reduce chatter, cut cycle times, and improve part quality
- All tools in stock to meet customer order requirements
- All micro tools are manufactured in accordance with the KSPT ISO certified quality procedures

CUTTING DIAMETER DC	inch			EDP NO.	
	SHANK DIAMETER DCON	LENGTH OF CUT APMX	OVERALL LENGTH LF	UNCOATED	TI-NAMITE®-A (AlTiN)
0.010	1/8	0.080	2-1/2	00979	02747
0.015	1/8	0.120	2-1/2	00980	02748
0.020	1/8	0.160	2-1/2	00981	02749
0.025	1/8	0.200	2-1/2	00982	02750
0.030	1/8	0.240	2-1/2	00983	02751
0.031	1/8	0.248	2-1/2	00984	02752
0.035	1/8	0.280	2-1/2	00985	02753
0.040	1/8	0.320	2-1/2	00986	02754
0.045	1/8	0.360	2-1/2	00987	02755
0.047	1/8	0.376	2-1/2	00988	02756
0.050	1/8	0.400	2-1/2	00989	02757
0.055	1/8	0.440	2-1/2	00990	02758
0.060	1/8	0.480	2-1/2	00991	02759
0.062	1/8	0.496	2-1/2	00992	02760
0.065	1/8	0.520	2-1/2	00993	02761
0.070	1/8	0.560	2-1/2	00994	02762
0.075	1/8	0.600	2-1/2	00995	02763
0.078	1/8	0.624	2-1/2	00996	02764
0.080	1/8	0.640	2-1/2	00997	02765
0.085	1/8	0.680	2-1/2	00998	02766
0.090	1/8	0.720	2-1/2	00999	02767
0.093	1/8	0.744	2-1/2	01000	02768
0.095	1/8	0.760	2-1/2	01001	02769
0.100	1/8	0.800	2-1/2	01002	02770
0.110	1/8	0.880	2-1/2	01003	02771
0.115	1/8	0.920	2-1/2	01004	02772
0.120	1/8	0.960	2-1/2	01005	02773

RE = 1/2 Cutting Diameter (DC)

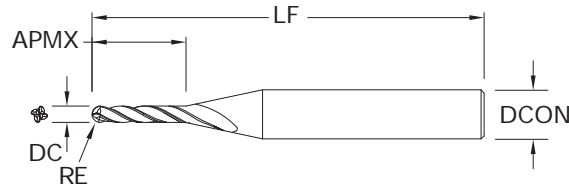
TOLERANCES (inch)

.010-.120 DIAMETER

DC = +0.000/-0.001

DCON = h6

- STEELS
- STAINLESS STEELS
- CAST IRON
- NON-FERROUS
- HIGH TEMP ALLOYS



M4XB • 12xD
FRACTIONAL SERIES

TOLERANCES (inch)

.015-.120 DIAMETER

DC = +0.000/-0.001

DCON = h₆

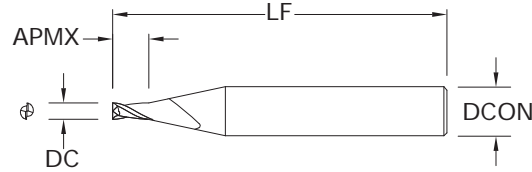
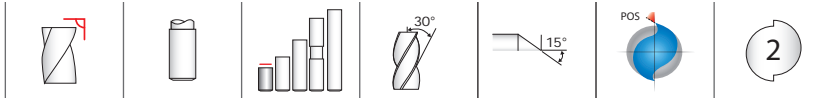
- STEELS
- STAINLESS STEELS
- CAST IRON
- NON-FERROUS
- HIGH TEMP ALLOYS

inch				EDP NO.	
CUTTING DIAMETER DC	SHANK DIAMETER DCON	LENGTH OF CUT APMX	OVERALL LENGTH LF	UNCOATED	TI-NAMITE®-A (AlTiN)
0.015	1/8	0.180	2-1/2	01007	02774
0.020	1/8	0.240	2-1/2	01008	02775
0.025	1/8	0.300	2-1/2	01009	02776
0.030	1/8	0.360	2-1/2	01010	02777
0.031	1/8	0.372	2-1/2	01011	02778
0.035	1/8	0.420	2-1/2	01012	02779
0.040	1/8	0.480	2-1/2	01013	02780
0.045	1/8	0.540	2-1/2	01014	02781
0.047	1/8	0.564	2-1/2	01015	02782
0.050	1/8	0.600	2-1/2	01016	02783
0.055	1/8	0.660	2-1/2	01017	02784
0.060	1/8	0.720	2-1/2	01018	02785
0.062	1/8	0.744	2-1/2	01019	02786
0.065	1/8	0.780	2-1/2	01020	02787
0.070	1/8	0.840	2-1/2	01021	02788
0.075	1/8	0.900	2-1/2	01022	02789
0.078	1/8	0.936	2-1/2	01023	02790
0.080	1/8	0.960	2-1/2	01024	02791
0.085	1/8	1.020	2-1/2	01025	02792
0.090	1/8	1.080	2-1/2	01026	02793
0.093	1/8	1.116	2-1/2	01027	02794
0.095	1/8	1.140	2-1/2	01028	02795
0.100	1/8	1.200	2-1/2	01029	02796
0.110	1/8	1.320	2-1/2	01030	02797
0.115	1/8	1.380	2-1/2	01031	02798
0.120	1/8	1.440	2-1/2	01032	02799

RE = 1/2 Cutting Diameter (DC)

- Four flute design allows for higher feed rates and decreased deflection, improving productivity and surface finish
- Proprietary coating allows for superior chip flow, driving industry leading productivity and value, even at low spindle speeds
- High performance carbide substrate designed specifically for Micro Tool applications
- Broad portfolio, offering consistent lengths of cut, to ensure application demands are met
- Advanced geometries that extend tool life, reduce chatter, cut cycle times, and improve part quality
- All tools in stock to meet customer order requirements
- All micro tools are manufactured in accordance with the KSPT ISO certified quality procedures

M2M • 1.5xD



M2M • 1.5xD METRIC SERIES

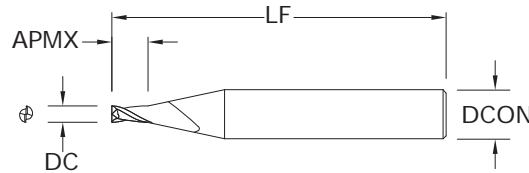
- Two flute design is ideal for softer alloyed, non-ferrous material applications that require slotting or involve heavy chip loads
- Proprietary coating allows for superior chip flow, driving industry leading productivity and value, even at low spindle speeds
- High performance carbide substrate designed specifically for Micro Tool applications
- Broad portfolio, offering consistent lengths of cut, to ensure application demands are met
- Advanced geometries that extend tool life, reduce chatter, cut cycle times, and improve part quality
- All tools in stock to meet customer order requirements
- All micro tools are manufactured in accordance with the KSPT ISO certified quality procedures

CUTTING DIAMETER DC	DECIMAL EQUIVALENT DC	mm			EDP NO.	
		SHANK DIAMETER DCON	LENGTH OF CUT APMX	OVERALL LENGTH LF	UNCOATED	TI-NAMITE®-A (AlTiN)
0,1	0.0039	3,0	0,1	38,0	05002	05000
0,2	0.0079	3,0	0,3	38,0	01801	02801
0,3	0.0118	3,0	0,4	38,0	01802	02802
0,4	0.0157	3,0	0,6	38,0	01803	02803
0,5	0.0197	3,0	0,7	38,0	01804	02804
0,6	0.0236	3,0	0,9	38,0	01805	02805
0,7	0.0276	3,0	1,0	38,0	01806	02806
0,8	0.0315	3,0	1,2	38,0	01807	02807
0,9	0.0354	3,0	1,3	38,0	01808	02808
1,0	0.0394	3,0	1,5	38,0	01809	02809
1,0	0.0394	4,0	1,5	50,0	01861	02819
1,1	0.0433	3,0	1,6	38,0	01810	02860
1,1	0.0433	4,0	1,6	50,0	01862	02892
1,2	0.0472	3,0	1,8	38,0	01811	02861
1,2	0.0472	4,0	1,8	50,0	01863	02893
1,3	0.0512	3,0	1,9	38,0	01812	02862
1,3	0.0512	4,0	1,9	50,0	01864	02894
1,4	0.0551	3,0	2,1	38,0	01813	02863
1,4	0.0551	4,0	2,1	50,0	01865	02895
1,5	0.0591	3,0	2,2	38,0	01814	02864
1,5	0.0591	4,0	2,2	50,0	01866	02896
1,6	0.0630	3,0	2,4	38,0	01815	02865
1,6	0.0630	4,0	2,4	50,0	01867	02897
1,7	0.0669	3,0	2,5	38,0	01816	02866
1,7	0.0669	4,0	2,5	50,0	01868	02898
1,8	0.0709	3,0	2,7	38,0	01817	02867
1,8	0.0709	4,0	2,7	50,0	01869	02899
1,9	0.0748	3,0	2,8	38,0	01818	02868
1,9	0.0748	4,0	2,8	50,0	01870	02900
2,0	0.0787	3,0	3,0	38,0	01819	02869
2,0	0.0787	4,0	3,0	50,0	01871	02901
2,5	0.0984	3,0	3,7	38,0	01820	02870
2,5	0.0984	4,0	3,7	50,0	01872	02902
3,0	0.1181	3,0	4,5	38,0	01821	02871
3,0	0.1181	4,0	4,5	50,0	01873	02903

TOLERANCES (mm)

0,1–3,0 DIAMETER
DC = +0,0000/–0,0254
DCON = h₆

- STEELS
- STAINLESS STEELS
- CAST IRON
- NON-FERROUS
- HIGH TEMP ALLOYS



M2M • 3xD
METRIC SERIES

TOLERANCES (mm)

0,1–3,0 DIAMETER

DC = +0,0000/–0,0254

DCON = h₆

- STEELS
- STAINLESS STEELS
- CAST IRON
- NON-FERROUS
- HIGH TEMP ALLOYS

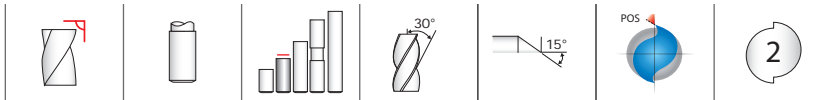
CUTTING DIAMETER DC	DECIMAL EQUIVALENT	mm			EDP NO.	
		SHANK DIAMETER DCON	LENGTH OF CUT APMX	OVERALL LENGTH LF	UNCOATED	TI-NAMITE®-A (AlTiN)
0,1	0.0039	3,0	0,3	38,0	05003	05001
0,2	0.0079	3,0	0,6	38,0	01823	02811
0,2	0.0079	4,0	0,6	50,0	01875	02349
0,3	0.0118	3,0	0,9	38,0	01824	02350
0,3	0.0118	4,0	0,9	50,0	01876	02360
0,4	0.0157	3,0	1,2	38,0	01825	02351
0,4	0.0157	4,0	1,2	50,0	01877	02361
0,5	0.0197	3,0	1,5	38,0	01826	02352
0,5	0.0197	4,0	1,5	50,0	01878	02362
0,6	0.0236	3,0	1,8	38,0	01827	02353
0,6	0.0236	4,0	1,8	50,0	01879	02363
0,7	0.0276	3,0	2,1	38,0	01828	02354
0,7	0.0276	4,0	2,1	50,0	01880	02364
0,8	0.0315	3,0	2,4	38,0	01829	02355
0,8	0.0315	4,0	2,4	50,0	01881	02365
0,9	0.0354	3,0	2,7	38,0	01830	02356
0,9	0.0354	4,0	2,7	50,0	01882	02366
1,0	0.0394	3,0	3,0	38,0	01831	02357
1,0	0.0394	4,0	3,0	50,0	01883	02367
1,1	0.0433	3,0	3,3	38,0	01832	02872
1,1	0.0433	4,0	3,3	50,0	01884	02904
1,2	0.0472	3,0	3,6	38,0	01833	02873
1,2	0.0472	4,0	3,6	50,0	01885	02905
1,3	0.0512	3,0	3,9	38,0	01834	02874
1,3	0.0512	4,0	3,9	50,0	01886	02906
1,4	0.0551	3,0	4,2	38,0	01835	02875
1,4	0.0551	4,0	4,2	50,0	01887	02907
1,5	0.0591	3,0	4,5	38,0	01836	02876
1,5	0.0591	4,0	4,5	50,0	01888	02908
1,6	0.0630	3,0	4,8	38,0	01837	02877
1,6	0.0630	4,0	4,8	50,0	01889	02909
1,7	0.0669	3,0	5,1	38,0	01838	02878
1,7	0.0669	4,0	5,1	50,0	01890	02910
1,8	0.0709	3,0	5,4	38,0	01839	02879

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- Two flute design is ideal for softer alloyed, non-ferrous material applications that require slotting or involve heavy chip loads
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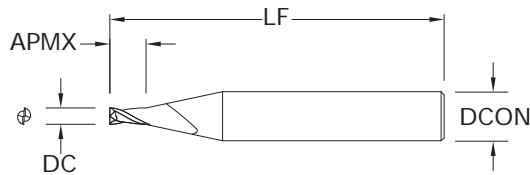
METRIC

M2M • 3xD



M2M • 3xD

METRIC SERIES



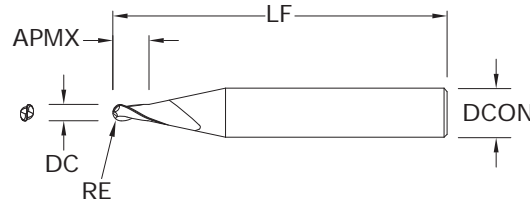
TOLERANCES (mm)

0,1–3,0 DIAMETER
 DC = +0,0000/–0,0254
 DCON = h₆

- STEELS
- STAINLESS STEELS
- CAST IRON
- NON-FERROUS
- HIGH TEMP ALLOYS

continued

CUTTING DIAMETER DC	DECIMAL EQUIVALENT	mm			EDP NO.	
		SHANK DIAMETER DCON	LENGTH OF CUT APMX	OVERALL LENGTH LF	UNCOATED	TI-NAMITE®-A (AlTiN)
1,8	0.0709	4,0	5,4	50,0	01891	02911
1,9	0.0748	3,0	5,7	38,0	01840	02880
1,9	0.0748	4,0	5,7	50,0	01892	02912
2,0	0.0787	3,0	6,0	38,0	01841	02881
2,0	0.0787	4,0	6,0	50,0	01893	02913
2,1	0.0827	3,0	6,3	38,0	01842	02882
2,2	0.0866	3,0	6,6	38,0	01843	02883
2,3	0.0906	3,0	6,9	38,0	01844	02884
2,4	0.0945	3,0	7,2	38,0	01845	02885
2,5	0.0984	3,0	7,5	38,0	01846	02886
2,5	0.0984	4,0	7,5	50,0	01894	02914
2,6	0.1024	3,0	7,8	38,0	01847	02887
2,7	0.1063	3,0	8,1	38,0	01848	02888
2,8	0.1102	3,0	8,4	38,0	01849	02889
2,9	0.1142	3,0	8,7	38,0	01850	02890
3,0	0.1181	3,0	9,0	38,0	01851	02891
3,0	0.1181	4,0	9,0	50,0	01895	02915



M2MB • 1.5xD
METRIC SERIES

TOLERANCES (mm)

0,1–3,0 DIAMETER

DC = +0,0000/–0,0254

DCON = h₆

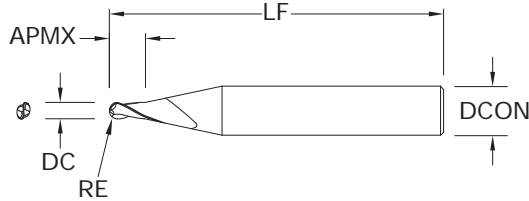
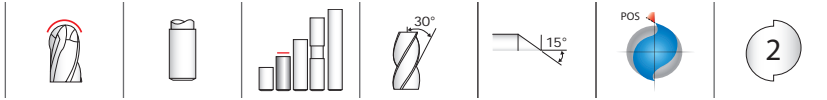
- STEELS
- STAINLESS STEELS
- CAST IRON
- NON-FERROUS
- HIGH TEMP ALLOYS

CUTTING DIAMETER DC	DECIMAL EQUIVALENT	mm			EDP NO.	
		SHANK DIAMETER DCON	LENGTH OF CUT APMX	OVERALL LENGTH LF	UNCOATED	TI-NAMITE®-A (AlTiN)
0,1	0.0039	3,0	0,1	38,0	05017	05004
0,2	0.0079	3,0	0,3	38,0	05019	05006
0,3	0.0118	3,0	0,3	38,0	05021	05008
0,4	0.0157	3,0	0,6	38,0	05023	05010
0,5	0.0197	3,0	0,7	38,0	01900	03180
0,6	0.0236	3,0	0,9	38,0	01901	03181
0,7	0.0276	3,0	1,0	38,0	01902	03182
0,8	0.0315	3,0	1,2	38,0	01903	03183
0,9	0.0354	3,0	1,3	38,0	01904	03184
1,0	0.0394	3,0	1,5	38,0	01905	03185
1,0	0.0394	4,0	1,5	50,0	02009	02849
1,1	0.0433	3,0	1,6	38,0	01906	02916
1,1	0.0433	4,0	1,6	50,0	02010	02980
1,2	0.0472	3,0	1,8	38,0	01907	02917
1,2	0.0472	4,0	1,8	50,0	02011	02981
1,3	0.0512	3,0	1,9	38,0	01908	02918
1,3	0.0512	4,0	1,9	50,0	02012	02982
1,4	0.0551	3,0	2,1	38,0	01909	02919
1,4	0.0551	4,0	2,1	50,0	02013	02983
1,5	0.0591	3,0	2,2	38,0	01910	02920
1,5	0.0591	4,0	2,2	50,0	02014	02984
1,6	0.0630	3,0	2,4	38,0	01911	02921
1,6	0.0630	4,0	2,4	50,0	02015	02985
1,7	0.0669	3,0	2,5	38,0	01912	02922
1,7	0.0669	4,0	2,5	50,0	02016	02986
1,8	0.0709	3,0	2,7	38,0	01913	02923
1,8	0.0709	4,0	2,7	50,0	02017	02987
1,9	0.0748	3,0	2,8	38,0	01914	02924
1,9	0.0748	4,0	2,8	50,0	02018	02988
2,0	0.0787	3,0	3,0	38,0	01915	02925
2,0	0.0787	4,0	3,0	50,0	02019	02989
2,5	0.0984	3,0	3,7	38,0	01916	02926
2,5	0.0984	4,0	3,7	50,0	02020	02990
3,0	0.1181	3,0	4,5	38,0	01917	02927
3,0	0.1181	4,0	4,5	50,0	02021	02991

RE = 1/2 Cutting Diameter (DC)

- Two flute design is ideal for softer alloyed, non-ferrous material applications that require slotting or involve heavy chip loads
- Proprietary coating allows for superior chip flow, driving industry leading productivity and value, even at low spindle speeds
- High performance carbide substrate designed specifically for Micro Tool applications
- Broad portfolio, offering consistent lengths of cut, to ensure application demands are met
- Advanced geometries that extend tool life, reduce chatter, cut cycle times, and improve part quality
- All tools in stock to meet customer order requirements
- All micro tools are manufactured in accordance with the KSPT ISO certified quality procedures

M2MB • 3xD



M2MB • 3xD METRIC SERIES

- Two flute design is ideal for softer alloyed, non-ferrous material applications that require slotting or involve heavy chip loads
- Proprietary coating allows for superior chip flow, driving industry leading productivity and value, even at low spindle speeds
- High performance carbide substrate designed specifically for Micro Tool applications
- Broad portfolio, offering consistent lengths of cut, to ensure application demands are met
- Advanced geometries that extend tool life, reduce chatter, cut cycle times, and improve part quality
- All tools in stock to meet customer order requirements
- All micro tools are manufactured in accordance with the KSPT ISO certified quality procedures

CUTTING DIAMETER DC	DECIMAL EQUIVALENT	mm			EDP NO.	
		SHANK DIAMETER DCON	LENGTH OF CUT APMX	OVERALL LENGTH LF	UNCOATED	TI-NAMITE®-A (AlTiN)
0,1	0.0039	3,0	0,3	38,0	05018	05005
0,2	0.0079	3,0	0,6	38,0	05020	05007
0,3	0.0118	3,0	0,9	38,0	05022	05009
0,4	0.0157	3,0	1,2	38,0	05024	05011
0,5	0.0197	3,0	1,5	38,0	05025	05012
0,5	0.0197	4,0	1,5	50,0	02048	03200
0,6	0.0236	3,0	1,8	38,0	05026	05013
0,6	0.0236	4,0	1,8	50,0	02049	03201
0,7	0.0276	3,0	2,1	38,0	05027	05014
0,7	0.0276	4,0	2,1	50,0	02050	03202
0,8	0.0315	3,0	2,4	38,0	05028	05015
0,8	0.0315	4,0	2,4	50,0	02051	03203
0,9	0.0354	3,0	2,7	38,0	05029	05016
0,9	0.0354	4,0	2,7	50,0	02052	03204
1,0	0.0394	3,0	3,0	38,0	01949	02829
1,0	0.0394	4,0	3,0	50,0	02053	03205
1,1	0.0433	3,0	3,3	38,0	01950	02940
1,1	0.0433	4,0	3,3	50,0	02054	03004
1,2	0.0472	3,0	3,6	38,0	01951	02941
1,2	0.0472	4,0	3,6	50,0	02055	03005
1,3	0.0512	3,0	3,9	38,0	01952	02942
1,3	0.0512	4,0	3,9	50,0	02056	03006
1,4	0.0551	3,0	4,2	38,0	01953	02943
1,4	0.0551	4,0	4,2	50,0	02057	03007
1,5	0.0591	3,0	4,5	38,0	01954	02944
1,5	0.0591	4,0	4,5	50,0	02058	03008
1,6	0.0630	3,0	4,8	38,0	01955	02945
1,6	0.0630	4,0	4,8	50,0	02059	03009
1,7	0.0669	3,0	5,1	38,0	01956	02946
1,7	0.0669	4,0	5,1	50,0	02060	03010
1,8	0.0709	3,0	5,4	38,0	01957	02947
1,8	0.0709	4,0	5,4	50,0	02061	03011
1,9	0.0748	3,0	5,7	38,0	01958	02948
1,9	0.0748	4,0	5,7	50,0	02062	03012

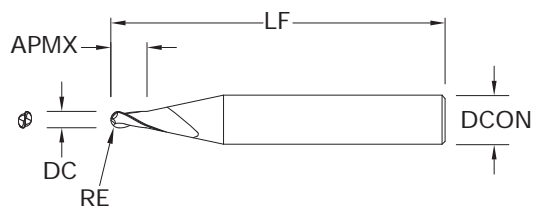
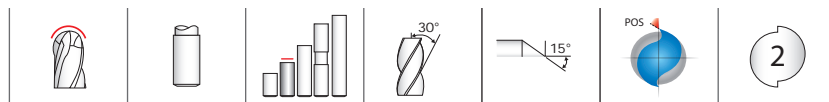
RE = 1/2 Cutting Diameter (DC)

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TOLERANCES (mm)

0,1–3,0 DIAMETER
DC = +0,0000/–0,0254
DCON = h₆

- STEELS
- STAINLESS STEELS
- CAST IRON
- NON-FERROUS
- HIGH TEMP ALLOYS



M2MB • 3xD
 METRIC SERIES

TOLERANCES (mm)

0,1–3,0 DIAMETER

DC = +0,0000/–0,0254

DCON = h₆

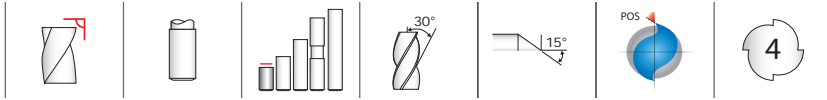
- STEELS
- STAINLESS STEELS
- CAST IRON
- NON-FERROUS
- HIGH TEMP ALLOYS

CUTTING DIAMETER DC	DECIMAL EQUIVALENT	mm			EDP NO.	
		SHANK DIAMETER DCON	LENGTH OF CUT APMX	OVERALL LENGTH LF	UNCOATED	TI-NAMITE®-A (AlTiN)
2,0	0.0787	3,0	6,0	38,0	01959	02949
2,0	0.0787	4,0	6,0	50,0	02063	03013
2,1	0.0827	3,0	6,3	38,0	01960	02950
2,2	0.0866	3,0	6,6	38,0	01961	02951
2,3	0.0906	3,0	6,9	38,0	01962	02952
2,4	0.0945	3,0	7,2	38,0	01963	02953
2,5	0.0984	3,0	7,5	38,0	01964	02954
2,5	0.0984	4,0	7,5	50,0	02064	03014
2,6	0.1024	3,0	7,8	38,0	01965	02955
2,7	0.1063	3,0	8,1	38,0	01966	02956
2,8	0.1102	3,0	8,4	38,0	01967	02957
2,9	0.1142	3,0	8,7	38,0	01968	02958
3,0	0.1181	3,0	9,0	38,0	01969	02959
3,0	0.1181	4,0	9,0	50,0	02065	03015

RE = 1/2 Cutting Diameter (DC)

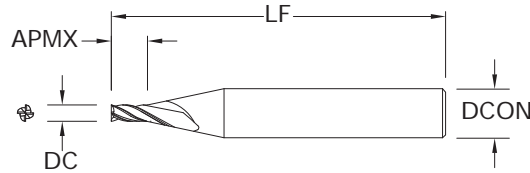
continued

M4M • 1.5xD



M4M • 1.5xD

METRIC SERIES



- Four flute design allows for higher feed rates and decreased deflection, improving productivity and surface finish
- Proprietary coating allows for superior chip flow, driving industry leading productivity and value, even at low spindle speeds
- High performance carbide substrate designed specifically for Micro Tool applications
- Broad portfolio, offering consistent lengths of cut, to ensure application demands are met
- Advanced geometries that extend tool life, reduce chatter, cut cycle times, and improve part quality
- All tools in stock to meet customer order requirements
- All micro tools are manufactured in accordance with the KSPT ISO certified quality procedures

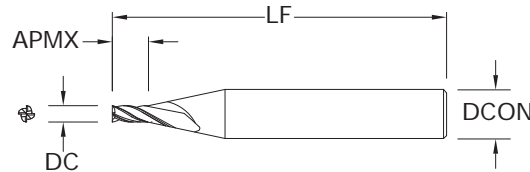
CUTTING DIAMETER DC	DECIMAL EQUIVALENT	mm			EDP NO.	
		SHANK DIAMETER DCON	LENGTH OF CUT APMX	OVERALL LENGTH LF	UNCOATED	TI-NAMITE®-A (AlTiN)
0,1	0.0039	3,0	0,15	38,0	05112	05076
0,2	0.0079	3,0	0,30	38,0	05113	05077
0,3	0.0118	3,0	0,45	38,0	05114	05078
0,4	0.0157	3,0	0,60	38,0	05115	05079
0,5	0.0197	3,0	0,75	38,0	05116	05080
0,6	0.0236	3,0	0,90	38,0	05117	05081
0,7	0.0276	3,0	1,05	38,0	05118	05082
0,8	0.0315	3,0	1,20	38,0	05119	05083
0,9	0.0354	3,0	1,35	38,0	05120	05084
1,0	0.0394	3,0	1,50	38,0	05121	05085
1,1	0.0433	3,0	1,65	38,0	09282	09290
1,2	0.0472	3,0	1,80	38,0	09283	09291
1,3	0.0512	3,0	1,95	38,0	09284	09292
1,4	0.0551	3,0	2,10	38,0	09285	09293
1,5	0.0591	3,0	2,25	38,0	05122	05086
1,6	0.0630	3,0	2,40	38,0	09286	09294
1,7	0.0669	3,0	2,55	38,0	09287	09295
1,8	0.0709	3,0	2,70	38,0	09288	09296
1,9	0.0748	3,0	2,85	38,0	09289	09297
2,0	0.0787	3,0	3,00	38,0	05123	05087
2,1	0.0827	3,0	3,15	38,0	09270	09278
2,2	0.0866	3,0	3,30	38,0	09271	09279
2,3	0.0906	3,0	3,45	38,0	09272	09280
2,4	0.0945	3,0	3,60	38,0	09273	09281
2,5	0.0984	3,0	3,75	38,0	05124	05088
3,0	0.1181	3,0	4,50	38,0	05125	05089

TOLERANCES (mm)

0,1–3,0 DIAMETER
 DC = +0,0000/–0,0254
 DCON = h₆

- STEELS
- STAINLESS STEELS
- CAST IRON
- NON-FERROUS
- HIGH TEMP ALLOYS

M4M • 3xD



M4M • 3xD METRIC SERIES

TOLERANCES (mm)

0,1–3,0 DIAMETER

DC = +0,0000/–0,0254

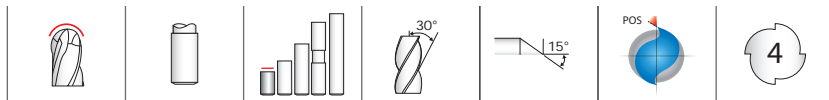
DCON = h₆

- STEELS
- STAINLESS STEELS
- CAST IRON
- NON-FERROUS
- HIGH TEMP ALLOYS

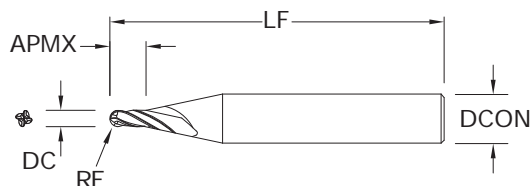
CUTTING DIAMETER DC	DECIMAL EQUIVALENT	mm			EDP NO.	
		SHANK DIAMETER DCON	LENGTH OF CUT APMX	OVERALL LENGTH LF	UNCOATED	TI-NAMITE®-A (AlTiN)
0,1	0.0039	3,0	0,3	38,0	05090	05054
0,2	0.0079	3,0	0,6	38,0	05091	05055
0,3	0.0118	3,0	0,9	38,0	05092	05056
0,4	0.0157	3,0	1,2	38,0	05093	05057
0,5	0.0197	3,0	1,5	38,0	05094	05058
0,6	0.0236	3,0	1,8	38,0	05095	05059
0,7	0.0276	3,0	2,1	38,0	05096	05060
0,8	0.0315	3,0	2,4	38,0	05097	05061
0,9	0.0354	3,0	2,7	38,0	05098	05062
1,0	0.0394	3,0	3,0	38,0	05099	05063
1,1	0.0433	3,0	3,3	38,0	05100	05064
1,2	0.0472	3,0	3,6	38,0	05101	05065
1,3	0.0512	3,0	3,9	38,0	05102	05066
1,4	0.0551	3,0	4,2	38,0	05103	05067
1,5	0.0591	3,0	4,5	38,0	05104	05068
1,6	0.0630	3,0	4,8	38,0	05105	05069
1,7	0.0669	3,0	5,1	38,0	05106	05070
1,8	0.0709	3,0	5,4	38,0	05107	05071
1,9	0.0748	3,0	5,7	38,0	05108	05072
2,0	0.0787	3,0	6,0	38,0	05109	05073
2,1	0.0827	3,0	6,3	38,0	09266	09274
2,2	0.0866	3,0	6,6	38,0	09267	09275
2,3	0.0906	3,0	6,9	38,0	09268	09276
2,4	0.0945	3,0	7,2	38,0	09269	09277
2,5	0.0984	3,0	7,5	38,0	05110	05074
3,0	0.1181	3,0	9,0	38,0	05111	05075

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- All micro tools are manufactured in accordance with the KSPT ISO certified quality procedures

M4MB • 1.5xD



M4MB • 1.5xD METRIC SERIES



- Four flute design allows for higher feed rates and decreased deflection, improving productivity and surface finish
- Proprietary coating allows for superior chip flow, driving industry leading productivity and value, even at low spindle speeds
- High performance carbide substrate designed specifically for Micro Tool applications
- Broad portfolio, offering consistent lengths of cut, to ensure application demands are met
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- All micro tools are manufactured in accordance with the KSPT ISO certified quality procedures

CUTTING DIAMETER DC	DECIMAL EQUIVALENT	mm			EDP NO.	
		SHANK DIAMETER DCON	LENGTH OF CUT APMX	OVERALL LENGTH LF	UNCOATED	TI-NAMITE®-A (AlTiN)
0,4	0.0157	3,0	0,6	38,0	05042	05030
0,5	0.0197	3,0	0,7	38,0	05044	05032
0,6	0.0236	3,0	0,9	38,0	05046	05034
0,7	0.0276	3,0	1,0	38,0	05048	05036
0,8	0.0315	3,0	1,2	38,0	05050	05038
0,9	0.0354	3,0	1,3	38,0	05052	05040
1,0	0.0394	3,0	1,5	38,0	01927	03195
1,0	0.0394	4,0	1,5	50,0	02031	02859
1,1	0.0433	3,0	1,6	38,0	01928	02928
1,1	0.0433	4,0	1,6	50,0	02032	02992
1,2	0.0472	3,0	1,8	38,0	01929	02929
1,2	0.0472	4,0	1,8	50,0	02033	02993
1,3	0.0512	3,0	1,9	38,0	01930	02930
1,3	0.0512	4,0	1,9	50,0	02034	02994
1,4	0.0551	3,0	2,1	38,0	01931	02931
1,4	0.0551	4,0	2,1	50,0	02035	02995
1,5	0.0591	3,0	2,2	38,0	01932	02932
1,5	0.0591	4,0	2,2	50,0	02036	02996
1,6	0.0630	3,0	2,4	38,0	01933	02933
1,6	0.0630	4,0	2,4	50,0	02037	02997
1,7	0.0669	3,0	2,5	38,0	01934	02934
1,7	0.0669	4,0	2,5	50,0	02038	02998
1,8	0.0709	3,0	2,7	38,0	01935	02935
1,8	0.0709	4,0	2,7	50,0	02039	02999
1,9	0.0748	3,0	2,8	38,0	01936	02936
1,9	0.0748	4,0	2,8	50,0	02040	03000
2,0	0.0787	3,0	3,0	38,0	01937	02937
2,0	0.0787	4,0	3,0	50,0	02041	03001
2,5	0.0984	3,0	3,7	38,0	01938	02938
2,5	0.0984	4,0	3,7	50,0	02042	03002
3,0	0.1181	3,0	4,5	38,0	01939	02939
3,0	0.1181	4,0	4,5	50,0	02043	03003

RE = 1/2 Cutting Diameter (DC)

TOLERANCES (mm)

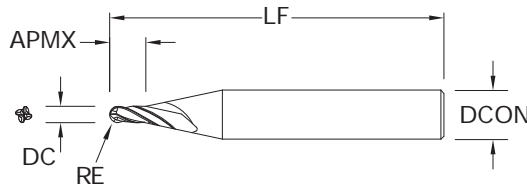
0,4–3,0 DIAMETER

DC = +0,0000/–0,0254

DCON = h₆

- STEELS
- STAINLESS STEELS
- CAST IRON
- NON-FERROUS
- HIGH TEMP ALLOYS

M4MB • 3xD



M4MB • 3xD METRIC SERIES

TOLERANCES (mm)

0,4–3,0 DIAMETER

DC = +0,0000/–0,0254

DCON = h₆

- STEELS
- STAINLESS STEELS
- CAST IRON
- NON-FERROUS
- HIGH TEMP ALLOYS

CUTTING DIAMETER DC	DECIMAL EQUIVALENT	mm			EDP NO.	
		SHANK DIAMETER DCON	LENGTH OF CUT APMX	OVERALL LENGTH LF	UNCOATED	TI-NAMITE®-A (AlTiN)
0,4	0.0157	3,0	1,2	38,0	05043	05031
0,5	0.0197	3,0	1,5	38,0	05045	05033
0,6	0.0236	3,0	1,8	38,0	05047	05035
0,7	0.0276	3,0	2,1	38,0	05049	05037
0,8	0.0315	3,0	2,4	38,0	05051	05039
0,9	0.0354	3,0	2,7	38,0	05053	05041
1,0	0.0394	3,0	3,0	38,0	01979	02839
1,0	0.0394	4,0	3,0	50,0	02075	03215
1,1	0.0433	3,0	3,3	38,0	01980	02960
1,1	0.0433	4,0	3,3	50,0	02076	03016
1,2	0.0472	3,0	3,6	38,0	01981	02961
1,2	0.0472	4,0	3,6	50,0	02077	03017
1,3	0.0512	3,0	3,9	38,0	01982	02962
1,3	0.0512	4,0	3,9	50,0	02078	03018
1,4	0.0551	3,0	4,2	38,0	01983	02963
1,4	0.0551	4,0	4,2	50,0	02079	03019
1,5	0.0591	3,0	4,5	38,0	01984	02964
1,5	0.0591	4,0	4,5	50,0	02080	03020
1,6	0.0630	3,0	4,8	38,0	01985	02965
1,6	0.0630	4,0	4,8	50,0	02081	03021
1,7	0.0669	3,0	5,1	38,0	01986	02966
1,7	0.0669	4,0	5,1	50,0	02082	03022
1,8	0.0709	3,0	5,4	38,0	01987	02967
1,8	0.0709	4,0	5,4	50,0	02083	03023
1,9	0.0748	3,0	5,7	38,0	01988	02968
1,9	0.0748	4,0	5,7	50,0	02084	03024
2,0	0.0787	3,0	6,0	38,0	01989	02969
2,0	0.0787	4,0	6,0	50,0	02085	03025
2,1	0.0827	3,0	6,3	38,0	01990	02970
2,2	0.0866	3,0	6,6	38,0	01991	02971
2,3	0.0906	3,0	6,9	38,0	01992	02972
2,4	0.0945	3,0	7,2	38,0	01993	02973
2,5	0.0984	3,0	7,5	38,0	01994	02974
2,5	0.0984	4,0	7,5	50,0	02086	03026
2,6	0.1024	3,0	7,8	38,0	01995	02975
2,7	0.1063	3,0	8,1	38,0	01996	02976
2,8	0.1102	3,0	8,4	38,0	01997	02977
2,9	0.1142	3,0	8,7	38,0	01998	02978
3,0	0.1181	3,0	9,0	38,0	01999	02979
3,0	0.1181	4,0	9,0	50,0	02087	03027

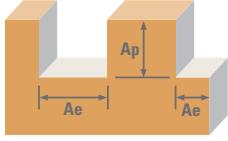
RE = 1/2 Cutting Diameter (DC)

- Four flute design allows for higher feed rates and decreased deflection, improving productivity and surface finish
- Proprietary coating allows for superior chip flow, driving industry leading productivity and value, even at low spindle speeds
- High performance carbide substrate designed specifically for Micro Tool applications
- Broad portfolio, offering consistent lengths of cut, to ensure application demands are met
- Advanced geometries that extend tool life, reduce chatter, cut cycle times, and improve part quality
- All tools in stock to meet customer order requirements
- All micro tools are manufactured in accordance with the KSPT ISO certified quality procedures

Speeds and Feeds

Instructions:

- rpm = use speed from INCH or METRIC Baseline chart
- ipm = INCH Baseline Feed (ipm) x Feed Multiplier [from selected chart below]
- mm/min = METRIC Baseline Feed (mm/min) x Feed Multiplier [from selected chart below]
- Find Width of Cut (Ae) and Depth of Cut (Ap) recommendations on chart below
- refer to the KYOCERA SGS Tool Wizard® for detailed technical charts by series (www.kyocera-sgstool.com)



INCH 2-Flute, Square, Corner Radius & Ball Without Reach	Flute Length	1.5 x DC		3 x DC			
	Feed Multiplier	1		0.9			
	Width/Depth	Ae x DC	Ap x DC	Ae x DC	Ap x DC		
	Diameter (DC)	≤0.0312	>0.0312	≤0.0312	>0.0312		
P M K N S ALL	Profile	≤.30	≤.50	≤1	≤.10	≤.25	≤2
	Slot	1	≤.20	≤.50	1	≤.15	≤.35

INCH 3-Flute, Square, Corner Radius & Ball Without Reach	Flute Length	1.5 x DC		3 x DC		5 x DC		8 x DC		12 x DC						
	Feed Multiplier	1.35		1.22		0.65		0.33		0.2						
	Width/Depth	Ae x DC	Ap x DC	Ae x DC	Ap x DC	Ae x DC	Ap x DC	Ae x DC	Ap x DC	Ae x DC	Ap x DC					
	Diameter (DC)	≤0.0312	>0.0312	≤0.0312	>0.0312	≤0.0312	>0.0312	≤0.0312	>0.0312	≤0.0312	>0.0312					
P M K N S ALL	Profile	≤.30	≤.50	≤1	≤.10	≤.25	≤2	≤.10	≤.25	≤3	≤.05	≤.10	≤4	≤.03	≤.06	≤6
	Slot	1	≤.20	≤.50	1	≤.15	≤.35	1	≤.10	≤.20						

INCH 4-Flute, Square, Corner Radius & Ball Without Reach	Flute Length	1.5 x DC		3 x DC		5 x DC		8 x DC		12 x DC						
	Feed Multiplier	1.57		1.41		0.59		0.59		0.36						
	Width/Depth	Ae x DC	Ap x DC	Ae x DC	Ap x DC	Ae x DC	Ap x DC	Ae x DC	Ap x DC	Ae x DC	Ap x DC					
	Diameter (DC)	≤0.0312	>0.0312	≤0.0312	>0.0312	≤0.0312	>0.0312	≤0.0312	>0.0312	≤0.0312	>0.0312					
P M K N S ALL	Profile	≤.30	≤.50	≤1	≤.10	≤.25	≤2	≤.05	≤.10	≤3	≤.05	≤.10	≤4	≤.03	≤.06	≤6
	Slot	1	≤.20	≤.50	1	≤.15	≤.35									

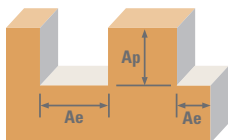
METRIC 2-Flute Square & Ball Without Reach	Flute Length	1.5 x DC		3 x DC			
	Feed Multiplier	1		0.9			
	Width/Depth	Ae x DC	Ap x DC	Ae x DC	Ap x DC		
	Diameter (DC)	≤0.0312	>0.0312	≤0.0312	>0.0312		
P M K N S ALL	Profile	≤.30	≤.50	≤1	≤.10	≤.25	≤2
	Slot	1	≤.20	≤.50	1	≤.15	≤.35

METRIC 4-Flute Square & Ball Without Reach	Flute Length	1.5 x DC		3 x DC			
	Feed Multiplier	1.57		1.41			
	Width/Depth	Ae x DC	Ap x DC	Ae x DC	Ap x DC		
	Diameter (DC)	≤0.0312	>0.0312	≤0.0312	>0.0312		
P M K N S ALL	Profile	≤.30	≤.50	≤1	≤.10	≤.25	≤2
	Slot	1	≤.20	≤.50	1	≤.15	≤.35

Speeds and Feeds

Instructions:

- rpm = use speed from INCH or METRIC Baseline chart
- ipm = INCH Baseline Feed (ipm) x Feed Multiplier [from selected chart below]
- mm/min = METRIC Baseline Feed (mm/min) x Feed Multiplier [from selected chart below]
- Find Width of Cut (Ae) and Depth of Cut (Ap) recommendations on chart below
- refer to the KYOCERA SGS Tool Wizard® for detailed technical charts by series (www.kyocera-sgstool.com)



INCH 2-Flute Square & Ball With Reach	Flute Length	8 x DC		12 x DC			
	Feed Multiplier	0.6		0.5			
	Width/Depth	Ae x DC	Ap x DC	Ae x DC	Ap x DC		
	Diameter (DC)	≤0.0312	>0.0312	≤0.0312	>0.0312		
P M K N S ALL	Profile	≤.25	≤.50	≤.30	≤.22	≤.45	≤.25
	Slot	1	≤.07	≤.17	1	≤.06	≤.15

INCH 3-Flute Square, Corner Radius & Ball With Reach	Flute Length	3 x DC		5 x DC		8 x DC		12 x DC		15 x DC		20 x DC		25 x DC								
	Feed Multiplier	1.4		1.15		0.9		0.7		0.6		0.45		0.35								
	Width/Depth	Ae x DC	Ap x DC	Ae x DC	Ap x DC	Ae x DC	Ap x DC	Ae x DC	Ap x DC	Ae x DC	Ap x DC	Ae x DC	Ap x DC	Ae x DC	Ap x DC							
	Diameter (DC)	≤0.0312	>0.0312	≤0.0312	>0.0312	≤0.0312	>0.0312	≤0.0312	>0.0312	≤0.0312	>0.0312	≤0.0312	>0.0312	≤0.0312	>0.0312							
P M K N S ALL	Profile	≤.30	≤.60	≤.5	≤.30	≤.60	≤.35	≤.25	≤.50	≤.30	≤.22	≤.45	≤.25	≤.15	≤.30	≤.25	≤.12	≤.25	≤.20	≤.12	≤.25	≤.20
	Slot	1	≤.15	≤.30	1	≤.08	≤.20	1	≤.07	≤.17	1	≤.06	≤.15	1	≤.06	≤.15	1	≤.04	≤.10	1	≤.04	≤.10















INCH 4-Flute Square & Ball With Reach	Flute Length	8 x DC		12 x DC			
	Feed Multiplier	0.95		0.75			
	Width/Depth	Ae x DC	Ap x DC	Ae x DC	Ap x DC		
	Diameter (DC)	≤0.0312	>0.0312	≤0.0312	>0.0312		
P M K N S ALL	Profile	≤.25	≤.50	≤.30	≤.22	≤.45	≤.25
	Slot	1	≤.07	≤.17	1	≤.06	≤.15

Note:

- Bhn (Brinell) Hrc (Rockwell C)
- when recommended speed exceeds your capability, use maximum available and recalculate feed
- helical ramp at 1 degrees or less, using slotting speed and feed rates (plunging is not recommended)
- reduce speed and feed for materials harder than listed
- reduce feed and Ae when finish milling (.02 x DC maximum)
- refer to the KYOCERA SGS Tool Wizard® for detailed technical charts by series (www.kyocera-sgstool.com)

FRACTIONAL Baseline















INCH Baseline
Speed and Feed
Square, Corner Radius
& Ball End
With and Without Reach

Hardness	Vc (sfm)			DC • in						
				0.0050	0.0156	0.0312	0.0625	0.0938	0.1200	
CARBON STEELS 1018, 1040, 1080, 1090, 10L50, 1140, 1212, 12L15, 1525, 1536 ≤ 275 Bhn or ≤ 28 HRc	Profile  (292-438)	365	RPM	278860	89378	44689	22309	14865	11619	
		Fz	0.000022	0.00007	0.00013	0.00027	0.00041	0.00052		
		Feed (ipm)	12.05	12.05	12.05	12.05	12.05	12.05		
		Slot  (232-348)	290	RPM	221560	71013	35506	17725	11810	9232
			Fz	0.000022	0.00007	0.00013	0.00027	0.00041	0.00052	
			Feed (ipm)	9.57	9.57	9.57	9.57	9.57	9.57	
	ALLOY STEELS 4140, 4150, 4320, 5120, 5150, 8630, 86L20, 50100 ≤ 375 Bhn or ≤ 40 HRc	Profile  (168-252)	210	RPM	160440	51423	25712	12835	8552	6685
			Fz	0.000019	0.00006	0.00012	0.00024	0.00036	0.00046	
			Feed (ipm)	6.16	6.16	6.16	6.16	6.16	6.16	
		Slot  (132-198)	165	RPM	126060	40404	20202	10085	6720	5253
			Fz	0.000019	0.00006	0.00012	0.00024	0.00036	0.00046	
			Feed (ipm)	4.84	4.84	4.84	4.84	4.84	4.84	
TOOL STEELS A2, D2, H13, L2, M2, P20, S7, T15, W2 ≤ 375 Bhn or ≤ 40 HRc	Profile  (140-210)	175	RPM	133700	42853	21426	10696	7127	5571	
		Fz	0.000016	0.00005	0.00010	0.00020	0.00030	0.00038		
		Feed (ipm)	4.28	4.28	4.28	4.28	4.28	4.28		
	Slot  (112-168)	140	RPM	106960	34282	17141	8557	5701	4457	
		Fz	0.000016	0.00005	0.00010	0.00020	0.00030	0.00038		
		Feed (ipm)	3.42	3.42	3.42	3.42	3.42	3.42		
STAINLESS STEELS (FREE MACHINING) 303, 416, 420F, 430F, 440F ≤ 275 Bhn or ≤ 28 HRc	Profile  (272-408)	340	RPM	259760	83256	41628	20781	13846	10823	
		Fz	0.000022	0.00007	0.00013	0.00027	0.00041	0.00052		
		Feed (ipm)	11.22	11.22	11.22	11.22	11.22	11.22		
	Slot  (216-324)	270	RPM	206280	66115	33058	16502	10996	8595	
		Fz	0.000022	0.00007	0.00013	0.00027	0.00041	0.00052		
		Feed (ipm)	8.91	8.91	8.91	8.91	8.91	8.91		
	STAINLESS STEELS (DIFFICULT) 304, 304L, 316, 316L ≤ 275 Bhn or ≤ 28 HRc	Profile  (188-282)	235	RPM	179540	57545	28772	14363	9570	7481
			Fz	0.000019	0.00006	0.00012	0.00024	0.00036	0.00046	
			Feed (ipm)	6.90	6.90	6.90	6.90	6.90	6.90	
		Slot  (148-222)	185	RPM	141340	45301	22651	11307	7534	5889
			Fz	0.000019	0.00006	0.00012	0.00024	0.00036	0.00046	
			Feed (ipm)	5.43	5.43	5.43	5.43	5.43	5.43	
STAINLESS STEELS (PH) 13-8 PH, 15-5PH, 17-4 PH, CUSTOM 450 ≤ 325 Bhn or ≤ 35 HRc	Profile  (172-258)	215	RPM	164260	52647	26324	13141	8756	6844	
		Fz	0.000014	0.00004	0.00008	0.00017	0.00025	0.00033		
		Feed (ipm)	4.46	4.46	4.46	4.46	4.46	4.46		
	Slot  (136-204)	170	RPM	129880	41628	20814	10390	6923	5412	
		Fz	0.000014	0.00004	0.00008	0.00017	0.00025	0.00033		
		Feed (ipm)	3.53	3.53	3.53	3.53	3.53	3.53		
CAST IRONS (LOW & MEDIUM ALLOY) Gray, Malleable, Ductile ≤ 220 Bhn or ≤ 19 HRc	Profile  (244-366)	305	RPM	233020	74686	37343	18642	12421	9709	
		Fz	0.000022	0.00007	0.00014	0.00027	0.00041	0.00052		
		Feed (ipm)	10.08	10.08	10.08	10.08	10.08	10.08		
	Slot  (196-294)	245	RPM	187180	59994	29997	14974	9978	7799	
		Fz	0.000022	0.00007	0.00014	0.00027	0.00041	0.00052		
		Feed (ipm)	8.10	8.10	8.10	8.10	8.10	8.10		

continued on next page

INCH Baseline
Speed and Feed
Square, Corner Radius
& Ball End
With and Without Reach

DC • in

	Hardness	Vc (sfm)	DC • in							
			0.0050	0.0156	0.0312	0.0625	0.0938	0.1200		
N	ALUMINUM ALLOYS 2017, 2024, 356, 6061, 7075 ≤ 150 Bhn or ≤ 7 HRc	Profile 	1000	RPM	764000	244872	122436	61120	40725	31833
			(800-1200)	Fz	0.000064	0.00020	0.00040	0.00080	0.00120	0.00153
				Feed (ipm)	97.50	97.50	97.50	97.50	97.50	97.50
		Slot 	800	RPM	611200	195897	97949	48896	32580	25467
			(640-960)	Fz	0.000064	0.00020	0.00040	0.00080	0.00120	0.00153
				Feed (ipm)	78.00	78.00	78.00	78.00	78.00	78.00
	COPPER ALLOYS Alum Bronze, C110, Muntz Brass ≤ 140 Bhn or ≤ 3 HRc	Profile 	515	RPM	393460	126109	63054	31477	20973	16394
			(412-618)	Fz	0.000048	0.00015	0.00030	0.00060	0.00090	0.00115
				Feed (ipm)	37.68	37.68	37.68	37.68	37.68	37.68
		Slot 	410	RPM	313240	100397	50199	25059	16697	13052
			(328-492)	Fz	0.000048	0.00015	0.00030	0.00060	0.00090	0.00115
				Feed (ipm)	30.00	30.00	30.00	30.00	30.00	30.00
PLASTICS Polycarbonate, PVC, Polypropylene		Profile 	1000	RPM	764000	244872	122436	61120	40725	31833
			(800-1200)	Fz	0.000064	0.00020	0.00040	0.00080	0.00120	0.00153
				Feed (ipm)	97.50	97.50	97.50	97.50	97.50	97.50
		Slot 	800	RPM	611200	195897	97949	48896	32580	25467
			(640-960)	Fz	0.000064	0.00020	0.00040	0.00080	0.00120	0.00153
				Feed (ipm)	78.00	78.00	78.00	78.00	78.00	78.00
S	HIGH TEMP ALLOYS (NICKEL, COBALT, IRON BASE) Inconel 601, 617, 625, Incoloy, Monel 400 ≤ 300 Bhn or ≤ 32 HRc	Profile 	60	RPM	45840	14692	7346	3667	2443	1910
			(48-72)	Fz	0.000012	0.00004	0.00008	0.00015	0.00023	0.00029
				Feed (ipm)	1.11	1.11	1.11	1.11	1.11	1.11
		Slot 	45	RPM	34380	11019	5510	2750	1833	1433
			(36-54)	Fz	0.000012	0.00004	0.00008	0.00015	0.00023	0.00029
				Feed (ipm)	0.83	0.83	0.83	0.83	0.83	0.83
	HIGH TEMP ALLOYS (NICKEL, COBALT, IRON BASE) Inconel 718, X-750, Incoloy, Waspaloy, Hastelloy, Rene ≤ 400 Bhn or ≤ 43 HRc	Profile 	45	RPM	34380	11019	5510	2750	1833	1433
			(36-54)	Fz	0.000008	0.00003	0.00005	0.00010	0.00015	0.00019
				Feed (ipm)	0.55	0.55	0.55	0.55	0.55	0.55
		Slot 	35	RPM	26740	8571	4285	2139	1425	1114
			(28-42)	Fz	0.000008	0.00003	0.00005	0.00010	0.00015	0.00019
				Feed (ipm)	0.43	0.43	0.43	0.43	0.43	0.43
TITANIUM ALLOYS Pure Titanium, Ti6Al4V, Ti6Al2Sn4Zr2Mo, Ti4Al4Mo2Sn0.5Si ≤ 350 Bhn or ≤ 38 HRc	Profile 	160	RPM	122240	39179	19590	9779	6516	5093	
		(128-192)	Fz	0.000014	0.00004	0.00008	0.00017	0.00025	0.00033	
			Feed (ipm)	3.32	3.32	3.32	3.32	3.32	3.32	
	Slot 	130	RPM	99320	31833	15917	7946	5294	4138	
		(104-156)	Fz	0.000014	0.00004	0.00008	0.00017	0.00025	0.00033	
			Feed (ipm)	2.70	2.70	2.70	2.70	2.70	2.70	
TITANIUM ALLOYS (DIFFICULT) Ti10Al2Fe3Al, Ti5Al5V5Mo3Cr, Ti7Al4Mo, Ti3Al8V6Cr4Zr4Mo, Ti6Al6V6Sn, Ti15V3 Cr3Sn3Al ≤ 440 Bhn or ≤ 47 HRc	Profile 	60	RPM	45840	14692	7346	3667	2443	1910	
		(48-72)	Fz	0.000010	0.00003	0.00006	0.00012	0.00018	0.00023	
			Feed (ipm)	0.88	0.88	0.88	0.88	0.88	0.88	
	Slot 	45	RPM	34380	11019	5510	2750	1833	1433	
		(36-54)	Fz	0.000010	0.00003	0.00006	0.00012	0.00018	0.00023	
			Feed (ipm)	0.66	0.66	0.66	0.66	0.66	0.66	















Note:

- Bhn (Brinell) HRc (Rockwell C)
- when recommended speed exceeds your capability, use maximum available and recalculate ipm
- rpm = Vc x 3.82 / DC
- ipm = Fz x No. of flutes x rpm
- reduce speed and feed for materials harder than listed
- reduce feed and Ae when finish milling (.02 x DC maximum)
- refer to the KYOCERA SGS Tool Wizard® for detailed technical charts by series (www.kyocera-sgstool.com)





Baseline

**METRIC Baseline
Speed and Feed
Square & Ball End
With and Without Reach** Hardness

DC • (mm)

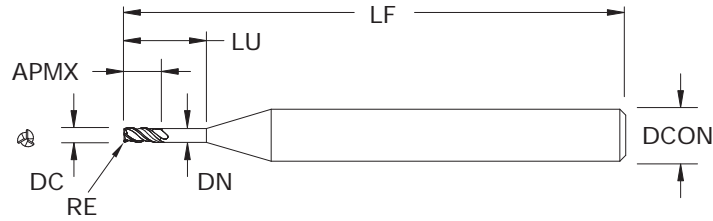
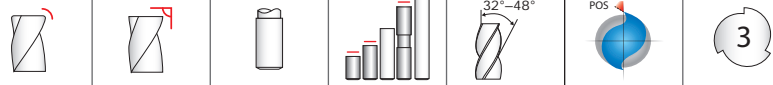
	Vc (m/min)	DC • (mm)									
		0.1	0.5	1	1.5	2	2.5	3			
P	CARBON STEELS 1018, 1040, 1080, 1090, 10L50, 1140, 1212, 12L15, 1525, 1536	Profile 	111	RPM	353837	70767	35384	23589	17692	14153	11795
			(89-134)	Fz	0.00043	0.00216	0.00432	0.00648	0.00865	0.01081	0.01297
			Feed (mm/min)	306	306	306	306	306	306	306	
		Slot 	88	RPM	281131	56226	28113	18742	14057	11245	9371
			(71-106)	Fz	0.00043	0.00216	0.00432	0.00648	0.00865	0.01081	0.01297
			Feed (mm/min)	243	243	243	243	243	243	243	
	ALLOY STEELS 4140, 4150, 4320, 5120, 5150, 8630, 86L20, 50100	Profile 	64	RPM	203577	40715	20358	13572	10179	8143	6786
			(51-77)	Fz	0.00038	0.00192	0.00384	0.00576	0.00769	0.00961	0.01153
			Feed (mm/min)	156	156	156	156	156	156	156	
		Slot 	50	RPM	159954	31991	15995	10664	7998	6398	5332
			(40-60)	Fz	0.00038	0.00192	0.00384	0.00576	0.00769	0.00961	0.01153
			Feed (mm/min)	123	123	123	123	123	123	123	
TOOL STEELS A2, D2, H13, L2, M2, P20, S7, T15, W2	Profile 	53	RPM	169648	33930	16965	11310	8482	6786	5655	
		(43-64)	Fz	0.00032	0.00160	0.00320	0.00480	0.00640	0.00800	0.00962	
		Feed (mm/min)	109	109	109	109	109	109	109		
	Slot 	43	RPM	135718	27144	13572	9048	6786	5429	4524	
		(34-51)	Fz	0.00032	0.00160	0.00320	0.00480	0.00640	0.00800	0.00962	
		Feed (mm/min)	87	87	87	87	87	87	87		
M	STAINLESS STEELS (FREE MACHINING) 303, 416, 420F, 430F, 440F	Profile 	104	RPM	329602	65920	32960	21973	16480	13184	10987
			(83-124)	Fz	0.00043	0.00216	0.00432	0.00648	0.00865	0.01081	0.01295
			Feed (mm/min)	285	285	285	285	285	285	285	
		Slot 	82	RPM	261742	52348	26174	17449	13087	10470	8725
			(66-99)	Fz	0.00043	0.00216	0.00432	0.00648	0.00865	0.01081	0.01295
			Feed (mm/min)	226	226	226	226	226	226	226	
	STAINLESS STEELS (DIFFICULT) 304, 304L, 316, 316L	Profile 	72	RPM	227813	45563	22781	15188	11391	9113	7594
			(57-86)	Fz	0.00038	0.00192	0.00385	0.00577	0.00769	0.00961	0.01154
			Feed (mm/min)	175	175	175	175	175	175	175	
		Slot 	56	RPM	179342	35868	17934	11956	8967	7174	5978
			(45-68)	Fz	0.00038	0.00192	0.00385	0.00577	0.00769	0.00961	0.01154
			Feed (mm/min)	138	138	138	138	138	138	138	
STAINLESS STEELS (PH) 13-8 PH, 15-5PH, 17-4 PH, CUSTOM 450	Profile 	66	RPM	208425	41685	20842	13895	10421	8337	6947	
		(52-79)	Fz	0.00027	0.00136	0.00272	0.00408	0.00544	0.00680	0.00819	
		Feed (mm/min)	113	113	113	113	113	113	113		
	Slot 	52	RPM	164801	32960	16480	10987	8240	6592	5493	
		(41-62)	Fz	0.00027	0.00136	0.00272	0.00408	0.00544	0.00680	0.00819	
		Feed (mm/min)	90	90	90	90	90	90	90		
K	CAST IRONS (LOW & MEDIUM ALLOY) Gray, Malleable, Ductile	Profile 	93	RPM	295672	59134	29567	19711	14784	11827	9856
			(74-112)	Fz	0.00043	0.00217	0.00433	0.00650	0.00866	0.01083	0.01301
			Feed (mm/min)	256	256	256	256	256	256	256	
		Slot 	75	RPM	237507	47501	23751	15834	11875	9500	7917
			(60-90)	Fz	0.00043	0.00217	0.00433	0.00650	0.00866	0.01083	0.01301
			Feed (mm/min)	206	206	206	206	206	206	206	

continued on next page

METRIC Baseline Speed and Feed Square & Ball End With and Without Reach		Hardness	Vc (m/min)	DC • (mm)								
				0.1	0.5	1	1.5	2	2.5	3		
N	ALUMINUM ALLOYS 2017, 2024, 356, 6061, 7075	≤ 150 Bhn or ≤ 7 HRc	Profile 	305	RPM	969416	193883	96942	64628	48471	38777	32314
				(244-366)	Fz	0.00128	0.00639	0.01277	0.01916	0.02555	0.03193	0.03832
				Feed (mm/min)	2477	2477	2477	2477	2477	2477	2477	
			Slot 	244	RPM	775533	155107	77553	51702	38777	31021	25851
				(195-293)	Fz	0.00128	0.00639	0.01277	0.01916	0.02555	0.03193	0.03832
				Feed (mm/min)	1981	1981	1981	1981	1981	1981	1981	
	COPPER ALLOYS Alum Bronze, C110, Muntz Brass	≤ 140 Bhn or ≤ 3 HRc	Profile 	157	RPM	499249	99850	49925	33283	24962	19970	16642
				(126-188)	Fz	0.00096	0.00479	0.00959	0.01438	0.01917	0.02396	0.02876
				Feed (mm/min)	957	957	957	957	957	957	957	
			Slot 	125	RPM	397461	79492	39746	26497	19873	15898	13249
				(100-150)	Fz	0.00096	0.00479	0.00959	0.01438	0.01917	0.02396	0.02876
				Feed (mm/min)	762	762	762	762	762	762	762	
PLASTICS Polycarbonate, PVC, Polypropylene		Profile 	305	RPM	969416	193883	96942	64628	48471	38777	32314	
			(244-366)	Fz	0.00128	0.00639	0.01277	0.01916	0.02555	0.03193	0.03832	
			Feed (mm/min)	2477	2477	2477	2477	2477	2477	2477		
		Slot 	244	RPM	775533	155107	77553	51702	38777	31021	25851	
			(195-293)	Fz	0.00128	0.00639	0.01277	0.01916	0.02555	0.03193	0.03832	
			Feed (mm/min)	1981	1981	1981	1981	1981	1981	1981		
S	HIGH TEMP ALLOYS (NICKEL, COBALT, IRON BASE) Inconel 601, 617, 625, Incoloy, Monel 400	≤ 300 Bhn or ≤ 32 HRc	Profile 	18	RPM	58165	11633	5816	3878	2908	2327	1939
				(15-22)	Fz	0.00024	0.00121	0.00242	0.00362	0.00483	0.00604	0.00722
				Feed (mm/min)	28	28	28	28	28	28	28	
			Slot 	14	RPM	43624	8725	4362	2908	2181	1745	1454
				(11-16)	Fz	0.00024	0.00121	0.00242	0.00362	0.00483	0.00604	0.00722
				Feed (mm/min)	21	21	21	21	21	21	21	
	HIGH TEMP ALLOYS (NICKEL, COBALT, IRON BASE) Inconel 718, X-750, Incoloy, Waspaloy, Hastelloy, Rene	≤ 400 Bhn or ≤ 43 HRc	Profile 	14	RPM	43624	8725	4362	2908	2181	1745	1454
				(11-16)	Fz	0.00016	0.00080	0.00161	0.00241	0.00322	0.00402	0.00486
				Feed (mm/min)	14	14	14	14	14	14	14	
			Slot 	11	RPM	33930	6786	3393	2262	1696	1357	1131
				(9-13)	Fz	0.00016	0.00080	0.00161	0.00241	0.00322	0.00402	0.00486
				Feed (mm/min)	11	11	11	11	11	11	11	
TITANIUM ALLOYS Pure Titanium, Ti6Al4V, Ti6Al2Sn4Zr2Mo, Ti4Al4Mo2Sn0.5Si	≤ 350 Bhn or ≤ 38 HRc	Profile 	49	RPM	155107	31021	15511	10340	7755	6204	5170	
			(39-59)	Fz	0.00027	0.00136	0.00272	0.00408	0.00544	0.00680	0.00821	
			Feed (mm/min)	84	84	84	84	84	84	84		
		Slot 	40	RPM	126024	25205	12602	8402	6301	5041	4201	
			(32-48)	Fz	0.00027	0.00136	0.00272	0.00408	0.00544	0.00680	0.00821	
			Feed (mm/min)	69	69	69	69	69	69	69		
TITANIUM ALLOYS (DIFFICULT) Ti10Al2Fe3Al, Ti5Al5V5Mo3Cr, Ti7Al4Mo, Ti3Al8V6Cr4Zr4Mo, Ti6Al6V6Sn, Ti15V3 Cr3Sn3Al	≤ 440 Bhn or ≤ 47 HRc	Profile 	18	RPM	58165	11633	5816	3878	2908	2327	1939	
			(15-22)	Fz	0.00019	0.00096	0.00192	0.00288	0.00384	0.00480	0.00585	
			Feed (mm/min)	22	22	22	22	22	22	22		
		Slot 	14	RPM	43624	8725	4362	2908	2181	1745	1454	
			(11-16)	Fz	0.00019	0.00096	0.00192	0.00288	0.00384	0.00480	0.00585	
			Feed (mm/min)	17	17	17	17	17	17	17		

- Note:**
- Bhn (Brinell) HRc (Rockwell C)
 - when recommended speed exceeds your capability, use maximum available and recalculate mm/min
 - rpm = (Vc x 1000) / (DC x 3.14)
 - mm/min = Fz x No. of flutes x rpm
 - reduce speed and feed for materials harder than listed
 - reduce feed and Ae when finish milling (.02 x DC maximum)
 - refer to the KYOCERA SGS Tool Wizard® for detailed technical charts by series (www.kyocera-sgtool.com)

FRACTIONAL M032



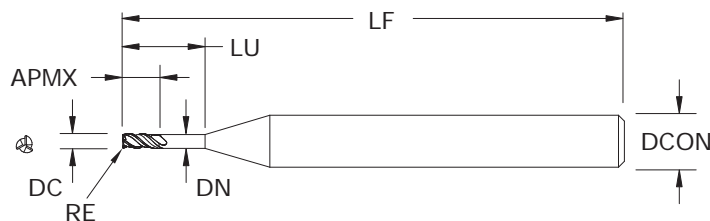
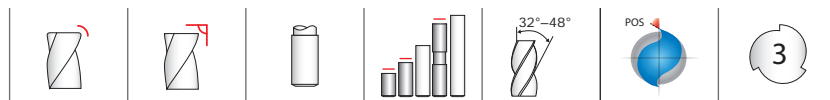
M032 FRACTIONAL SERIES

- Variable helix design improves stability, extends tool life, and improves part quality in challenging applications
- Reinforced shank maximizes rigidity, especially in applications requiring additional tool extension
- Proprietary coating allows for superior chip flow, driving industry leading productivity and value, even at low spindle speeds
- Available from stock in a selection of popular diameters, flute lengths, and end configurations
- Application specific sub-micron grain carbide designed specifically for micro-tool applications
- Manufactured in accordance with KSPT ISO certified quality procedures

CUTTING DIAMETER DC	SHANK DIAMETER DCON	LENGTH OF CUT APMX	inch				CORNER RADIUS RE	EDP NO.
			REACH LU	NECK DIAMETER DN	OVERALL LENGTH LF	TI-NAMITE®-A (AlTiN)		
0.0312	1/4	0.063	–	–	2-1/2	–	05271	
0.0312	1/4	0.063	0.155	0.029	2-1/2	–	05272	
0.0312	1/4	0.063	–	–	2-1/2	0.006	05270	
0.0312	1/4	0.094	–	–	2-1/2	–	05274	
0.0312	1/4	0.094	–	–	2-1/2	0.006	05273	
0.0312	1/4	0.094	0.155	0.029	2-1/2	0.006	05275	
0.0469	1/4	0.094	–	–	2-1/2	–	05277	
0.0469	1/4	0.094	0.230	0.043	2-1/2	–	05278	
0.0469	1/4	0.094	–	–	2-1/2	0.010	05276	
0.0469	1/4	0.141	–	–	2-1/2	–	05280	
0.0469	1/4	0.141	–	–	2-1/2	0.010	05279	
0.0469	1/4	0.141	0.230	0.043	2-1/2	0.010	05281	
0.0625	1/4	0.140	–	–	2-1/2	–	05283	
0.0625	1/4	0.140	0.312	0.058	2-1/2	–	05284	
0.0625	1/4	0.140	–	–	2-1/2	0.010	05282	
0.0625	1/4	0.188	–	–	2-1/2	–	05286	
0.0625	1/4	0.188	–	–	2-1/2	0.010	05285	
0.0625	1/4	0.188	0.312	0.058	2-1/2	0.010	05287	
0.0781	1/4	0.140	–	–	2-1/2	–	05289	
0.0781	1/4	0.140	0.390	0.072	2-1/2	–	05290	
0.0781	1/4	0.140	–	–	2-1/2	0.010	05288	
0.0781	1/4	0.234	–	–	2-1/2	–	05292	
0.0781	1/4	0.234	–	–	2-1/2	0.010	05291	
0.0781	1/4	0.234	0.390	0.072	2-1/2	0.010	05293	
0.0938	1/4	0.188	–	–	2-1/2	–	05295	
0.0938	1/4	0.188	0.465	0.086	2-1/2	–	05296	
0.0938	1/4	0.188	–	–	2-1/2	0.010	05294	
0.0938	1/4	0.375	–	–	2-1/2	–	05298	
0.0938	1/4	0.375	–	–	2-1/2	0.010	05297	
0.0938	1/4	0.375	0.465	0.086	2-1/2	0.010	05299	
0.1094	1/4	0.188	–	–	2-1/2	–	05301	
0.1094	1/4	0.188	0.545	0.101	2-1/2	–	05302	
0.1094	1/4	0.188	–	–	2-1/2	0.010	05300	
0.1094	1/4	0.438	–	–	2-1/2	–	05304	
0.1094	1/4	0.438	–	–	2-1/2	0.010	05303	
0.1094	1/4	0.438	0.545	0.101	2-1/2	0.010	05305	

TOLERANCES (inch)
.031–.109 DIAMETER
 DC = +0.000/–0.001
 DCON = h6
 RE = +0.002/–0.002

- STEELS
- STAINLESS STEELS
- CAST IRON
- NON-FERROUS
- HIGH TEMP ALLOYS
- HARDENED STEELS



M032
METRIC SERIES

TOLERANCES (mm)

1,0–3,0 DIAMETER

DC = +0,0000/–0,0254

DCON = h_6

RE = +0,050/–0,050

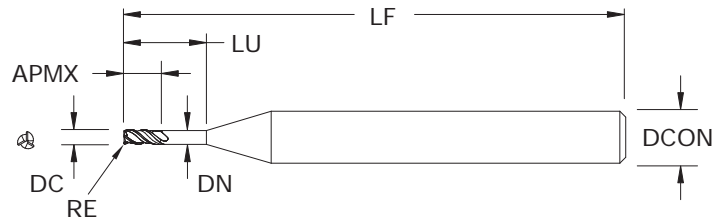
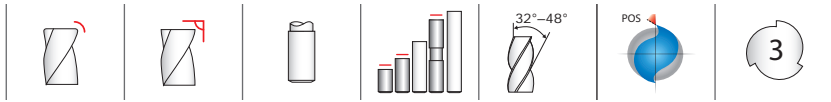
- STEELS
- STAINLESS STEELS
- CAST IRON
- NON-FERROUS
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- HARDENED STEELS

CUTTING DIAMETER DC	SHANK DIAMETER DCON	LENGTH OF CUT APMX	mm				CORNER RADIUS RE	EDP NO.
			REACH LU	NECK DIAMETER DN	OVERALL LENGTH LF	TI-NAMITE®-A (AlTiN)		
1,0	6,0	1,5	–	–	63,5	–	05324	
1,0	6,0	1,5	–	–	63,5	0,1	05321	
1,0	6,0	1,5	–	–	63,5	0,2	05322	
1,0	6,0	1,5	–	–	63,5	0,3	05323	
1,0	6,0	3,0	–	–	63,5	–	05328	
1,0	6,0	3,0	–	–	63,5	0,1	05325	
1,0	6,0	3,0	–	–	63,5	0,2	05326	
1,0	6,0	3,0	–	–	63,5	0,3	05327	
1,0	6,0	3,0	10,0	0,92	75,0	–	05332	
1,0	6,0	3,0	10,0	0,92	75,0	0,1	05329	
1,0	6,0	3,0	10,0	0,92	75,0	0,2	05330	
1,0	6,0	3,0	10,0	0,92	75,0	0,3	05331	
1,5	6,0	2,5	–	–	63,5	–	05310	
1,5	6,0	2,5	–	–	63,5	0,1	05306	
1,5	6,0	2,5	–	–	63,5	0,2	05307	
1,5	6,0	2,5	–	–	63,5	0,3	05308	
1,5	6,0	2,5	–	–	63,5	0,5	05309	
1,5	6,0	4,5	–	–	63,5	–	05315	
1,5	6,0	4,5	–	–	63,5	0,1	05311	
1,5	6,0	4,5	–	–	63,5	0,2	05312	
1,5	6,0	4,5	–	–	63,5	0,3	05313	
1,5	6,0	4,5	–	–	63,5	0,5	05314	
1,5	6,0	4,5	15,0	1,38	75,0	–	05320	
1,5	6,0	4,5	15,0	1,38	75,0	0,1	05316	
1,5	6,0	4,5	15,0	1,38	75,0	0,2	05317	
1,5	6,0	4,5	15,0	1,38	75,0	0,3	05318	
1,5	6,0	4,5	15,0	1,38	75,0	0,5	05319	
2,0	6,0	3,0	–	–	63,5	–	05348	
2,0	6,0	3,0	–	–	63,5	0,2	05345	
2,0	6,0	3,0	–	–	63,5	0,3	05346	
2,0	6,0	3,0	–	–	63,5	0,5	05347	
2,0	6,0	6,0	–	–	63,5	–	05352	
2,0	6,0	6,0	–	–	63,5	0,2	05349	
2,0	6,0	6,0	–	–	63,5	0,3	05350	

- Variable helix design improves stability, extends tool life, and improves part quality in challenging applications
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METRIC
M032



M032
METRIC SERIES

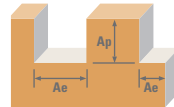
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mm							EDP NO,
CUTTING DIAMETER DC	SHANK DIAMETER DCON	LENGTH OF CUT APMX	REACH LU	NECK DIAMETER DN	OVERALL LENGTH LF	CORNER RADIUS RE	TI-NAMITE®-A (AlTiN)
2,0	6,0	6,0	–	–	63,5	0,5	05351
2,0	6,0	6,0	20,0	1,84	75,0	–	05356
2,0	6,0	6,0	20,0	1,84	75,0	0,2	05353
2,0	6,0	6,0	20,0	1,84	75,0	0,3	05354
2,0	6,0	6,0	20,0	1,84	75,0	0,5	05355
2,5	6,0	4,0	–	–	63,5	–	05336
2,5	6,0	4,0	–	–	63,5	0,2	05333
2,5	6,0	4,0	–	–	63,5	0,3	05334
2,5	6,0	4,0	–	–	63,5	0,5	05335
2,5	6,0	7,5	–	–	63,5	–	05340
2,5	6,0	7,5	–	–	63,5	0,2	05337
2,5	6,0	7,5	–	–	63,5	0,3	05338
2,5	6,0	7,5	–	–	63,5	0,5	05339
2,5	6,0	7,5	25,0	2,3	75,0	–	05344
2,5	6,0	7,5	25,0	2,3	75,0	0,2	05341
2,5	6,0	7,5	25,0	2,3	75,0	0,3	05342
2,5	6,0	7,5	25,0	2,3	75,0	0,5	05343
3,0	6,0	5,0	–	–	63,5	–	05361
3,0	6,0	5,0	–	–	63,5	0,2	05357
3,0	6,0	5,0	–	–	63,5	0,3	05358
3,0	6,0	5,0	–	–	63,5	0,5	05359
3,0	6,0	5,0	–	–	63,5	1,0	05360
3,0	6,0	9,0	–	–	63,5	–	05366
3,0	6,0	9,0	–	–	63,5	0,2	05362
3,0	6,0	9,0	–	–	63,5	0,3	05363
3,0	6,0	9,0	–	–	63,5	0,5	05364
3,0	6,0	9,0	–	–	63,5	1,0	05365
3,0	6,0	9,0	30,0	2,76	75,0	–	05371
3,0	6,0	9,0	30,0	2,76	75,0	0,2	05367
3,0	6,0	9,0	30,0	2,76	75,0	0,3	05368
3,0	6,0	9,0	30,0	2,76	75,0	0,5	05369
3,0	6,0	9,0	30,0	2,76	75,0	1,0	05370

TOLERANCES (mm)

1,0–3,0 DIAMETER
DC = +0,0000/–0,0254
DCON = h₆
RE = +0,050/–0,050

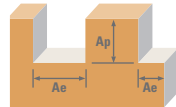
- STEELS
- STAINLESS STEELS
- CAST IRON
- NON-FERROUS
- HIGH TEMP ALLOYS
- HARDENED STEELS



Series M032 Fractional	Hardness	Ae x DC	Ap x DC	Vc (sfm)	DC • in				
					1/32	5/64	7/64		
CARBON STEELS 1018, 1040, 1080, 1090, 10L50, 1140, 1212, 12L15, 1525, 1536	≤ 275 Bhn or ≤ 28 HRc	Profile 	≤ 0.25	≤ 1	790	RPM	96570	38628	27591
					(632-948)	Fz	0.00009	0.00022	0.00031
						Feed (ipm)	26.0	26.0	26.0
		Slot 	1	≤ .5	630	RPM	77011	30804	22003
					(504-756)	Fz	0.00009	0.00022	0.00031
						Feed (ipm)	20.5	20.5	20.5
		Finish 	≤ .02	1	1565	RPM	191306	76522	54659
					(1252-1878)	Fz	0.00017	0.00041	0.00058
						Feed (ipm)	95.0	95.0	95.0
ALLOY STEELS 4140, 4150, 4320, 5120, 5150, 8630, 86L20, 50100	≤ 375 Bhn or ≤ 40 HRc	Profile 	≤ 0.25	≤ 1	450	RPM	55008	22003	15717
					(360-540)	Fz	0.00007	0.00017	0.00023
						Feed (ipm)	11.0	11.0	11.0
		Slot 	1	≤ .5	360	RPM	44006	17603	12573
					(288-432)	Fz	0.00007	0.00017	0.00024
						Feed (ipm)	8.9	8.9	8.9
		Finish 	≤ .02	1	895	RPM	109405	43762	31259
					(716-1074)	Fz	0.00012	0.00030	0.00043
						Feed (ipm)	40.0	40.0	40.0
STAINLESS STEELS (DIFFICULT) 304, 304L, 316, 316L	≤ 275 Bhn or ≤ 28 HRc	Profile 	≤ 0.25	≤ 1	335	RPM	40950	16380	11700
					(268-402)	Fz	0.00008	0.00020	0.00028
						Feed (ipm)	9.9	9.9	9.9
		Slot 	1	≤ .5	245	RPM	29949	11980	8557
					(196-294)	Fz	0.00007	0.00017	0.00023
						Feed (ipm)	6.0	6.0	6.0
		Finish 	≤ .02	1	605	RPM	73955	29582	21130
					(484-726)	Fz	0.00012	0.00031	0.00043
						Feed (ipm)	27.5	27.5	27.5
STAINLESS STEELS (PH) 13-8 PH, 15-5 PH, 17-4 PH, Custom 450	≤ 325 Bhn or ≤ 35 HRc	Profile 	≤ 0.25	≤ 1	310	RPM	37894	15158	10827
					(248-372)	Fz	0.00008	0.00020	0.00028
						Feed (ipm)	9.0	9.0	9.0
		Slot 	1	≤ .5	225	RPM	27504	11002	7858
					(180-270)	Fz	0.00007	0.00017	0.00023
						Feed (ipm)	5.5	5.5	5.5
		Finish 	≤ .02	1	555	RPM	67843	27137	19384
					(444-666)	Fz	0.00013	0.00031	0.00044
						Feed (ipm)	25.5	25.5	25.5
CAST IRONS (LOW & MEDIUM ALLOY) Gray, Malleable, Ductile	≤ 220 Bhn or ≤ 19 HRc	Profile 	≤ 0.25	≤ 1	620	RPM	75789	30316	21654
					(496-744)	Fz	0.00011	0.00028	0.00039
						Feed (ipm)	25.5	25.5	25.5
		Slot 	1	≤ .5	450	RPM	55008	22003	15717
					(360-540)	Fz	0.00010	0.00024	0.00034
						Feed (ipm)	16.0	16.0	16.0
		Finish 	≤ .02	1	1115	RPM	136298	54519	38942
					(892-1338)	Fz	0.00018	0.00045	0.00062
						Feed (ipm)	73.0	73.0	73.0

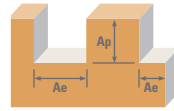
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Series M032



Series M032 Fractional	Hardness	Ae x DC	Ap x DC	Vc (sfm)	DC • in					
					1/32	5/64	7/64			
HIGH TEMP ALLOYS (NICKEL, COBALT, IRON BASE) Inconel 718, X-750, Incoloy, Waspaloy, Hastelloy, Rene	≤ 400 Bhn or ≤ 43 HRc	Profile 	≤ 0.5	≤ 1.5	200	RPM	24448	9779	6985	
					(160-240)	Fz	0.00007	0.00017	0.00024	
						Feed (ipm)	5.1	5.1	5.1	
		Slot 	1	≤ 1	145	RPM	17725	7090	5064	
					(116-174)	Fz	0.00006	0.00015	0.00021	
						Feed (ipm)	3.2	3.2	3.2	
	Finish 	≤ .02	1	360	RPM	44006	17603	12573		
				(288-432)	Fz	0.00011	0.00027	0.00038		
					Feed (ipm)	14.5	14.5	14.5		
	TITANIUM ALLOYS Ti6Al4V, Ti6Al2Sn4Zr2Mo, Ti4Al4Mo2Sn0.5Si	≤ 350 Bhn or ≤ 38 HRc	Profile 	≤ 0.5	≤ 1.5	245	RPM	29949	11980	8557
						(196-294)	Fz	0.00007	0.00018	0.00025
							Feed (ipm)	6.3	6.3	6.3
Slot 			1	≤ 1	180	RPM	22003	8801	6287	
					(144-216)	Fz	0.00006	0.00015	0.00021	
						Feed (ipm)	3.9	3.9	3.9	
Finish 		≤ .02	1	440	RPM	53786	21514	15367		
				(352-528)	Fz	0.00011	0.00028	0.00039		
					Feed (ipm)	18.0	18.0	18.0		
ALLOY STEELS 4140, 4150, 4320, 5120, 5150, 8630, 50100		≤ 560 Bhn or ≤ 55 HRc	Profile 	≤ 0.25	≤ 1	93	RPM	11368	4547	3248
						(74-112)	Fz	0.00003	0.00007	0.00010
							Feed (ipm)	0.9	0.9	0.9
	Slot 		1	≤ .5	65	RPM	7946	3178	2270	
					(52-78)	Fz	0.00003	0.00006	0.00009	
						Feed (ipm)	0.6	0.6	0.6	
	Finish 	≤ .02	1	167	RPM	20414	8166	5833		
				(134-200)	Fz	0.00004	0.00011	0.00016		
					Feed (ipm)	2.8	2.8	2.8		
	TOOL STEELS A2, D2, H13, L2, M2, P20, S7, T15, W2	≤ 654 Bhn or ≤ 60 HRc	Profile 	≤ 0.25	≤ 1	69	RPM	8435	3374	2410
						(55-83)	Fz	0.00003	0.00007	0.00010
							Feed (ipm)	0.8	0.8	0.8
Slot 			1	≤ .5	50	RPM	6112	2445	1746	
					(40-60)	Fz	0.00002	0.00006	0.00009	
						Feed (ipm)	0.5	0.5	0.5	
Finish 		≤ .02	1	124	RPM	15158	6063	4331		
				(99-149)	Fz	0.00005	0.00012	0.00017		
					Feed (ipm)	2.2	2.2	2.2		

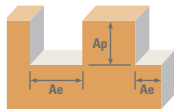
- Note:**
- Bhn (Brinell) HRc (Rockwell C)
 - rpm = Vc x 3.82 / DC
 - ipm = Fz x 3 x rpm (Fz x 3 x max available rpm when recommendation exceeds machine limit)
 - reduce speed and feed for materials harder than listed
 - refer to the KYOCERA SGS Tool Wizard® for complete technical information (www.kyocera-sgstool.com)



Series M032 Metric	Hardness	Ae x DC	Ap x DC	Vc (m/min)	DC • mm							
					1	2	3					
P	CARBON STEELS 1018, 1040, 1080, 1090, 10L50, 1140, 1212, 12L15, 1525, 1536	≤ 275 Bhn or ≤ 28 HRc	Profile 	≤ 0.25	≤ 1	241	RPM	76584	38292	25528		
						(193-289)	Fz	0.0029	0.0057	0.0086		
							Feed (mm/min)	660	660	660		
			Slot 	1	≤ .5	192	(154-230)	RPM	61073	30537	20358	
		Fz						0.0028	0.0057	0.0085		
		Feed (mm/min)						521	521	521		
			Finish 	≤ .02	1	477	(382-572)	RPM	151714	75857	50571	
		Fz						0.0053	0.0106	0.0159		
		Feed (mm/min)						2413	2413	2413		
	ALLOY STEELS 4140, 4150, 4320, 5120, 5150, 8630, 86L20, 50100	≤ 375 Bhn or ≤ 40 HRc	Profile 	≤ 0.25	≤ 1	137	(110-165)	RPM	43624	21812	14541	
								Fz	0.0021	0.0043	0.0064	
								Feed (mm/min)	279	279	279	
			Slot 	1	≤ .5	110	(88-132)	RPM	34899	17449	11633	
Fz								0.0022	0.0043	0.0065		
Feed (mm/min)								226	226	226		
			Finish 	≤ .02	1	273	(218-327)	RPM	86763	43381	28921	
Fz								0.0039	0.0078	0.0117		
Feed (ipm)								1016	1016	1016		
M	STAINLESS STEELS (DIFFICULT) 304, 304L, 316, 316L	≤ 275 Bhn or ≤ 28 HRc	Profile 	≤ 0.25	≤ 1	102	(82-123)	RPM	32475	16238	10825	
								Fz	0.0026	0.0052	0.0077	
								Feed (mm/min)	251	251	251	
				Slot 	1	≤ .5	75	(60-90)	RPM	23751	11875	7917
			Fz						0.0021	0.0043	0.0064	
			Feed (mm/min)						152	152	152	
				Finish 	≤ .02	1	184	(148-221)	RPM	58650	29325	19550
			Fz						0.0040	0.0079	0.0119	
			Feed (mm/min)						699	699	699	
	STAINLESS STEELS (PH) 13-8 PH, 15-5 PH, 17-4 PH, Custom 450	≤ 325 Bhn or ≤ 35 HRc	Profile 	≤ 0.25	≤ 1	94	(76-113)	RPM	30052	15026	10017	
								Fz	0.0025	0.0051	0.0076	
								Feed (mm/min)	229	229	229	
			Slot 	1	≤ .5	69	(55-82)	RPM	21812	10906	7271	
Fz								0.0021	0.0043	0.0064		
Feed (mm/min)								140	140	140		
			Finish 	≤ .02	1	169	(135-203)	RPM	53803	26901	17934	
Fz								0.0040	0.0080	0.0120		
Feed (mm/min)								648	648	648		
K	CAST IRONS (LOW & MEDIUM ALLOY) Gray, Malleable, Ductile	≤ 220 Bhn or ≤ 19 HRc	Profile 	≤ 0.25	≤ 1	189	(151-227)	RPM	60104	30052	20035	
								Fz	0.0036	0.0072	0.0108	
								Feed (mm/min)	648	648	648	
				Slot 	1	≤ .5	137	(110-165)	RPM	43624	21812	14541
			Fz						0.0031	0.0062	0.0093	
			Feed (mm/min)						406	406	406	
				Finish 	≤ .02	1	340	(272-408)	RPM	108090	54045	36030
			Fz						0.0057	0.0114	0.0172	
			Feed (mm/min)						1854	1854	1854	

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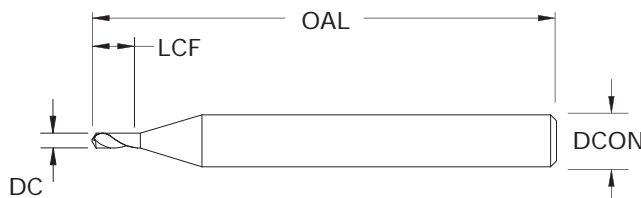
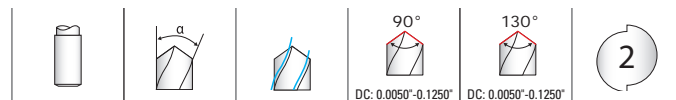
Series M032



Series M032 Metric	Hardness	Ae x DC	Ap x DC	Vc (m/min)	DC • mm				
					1	2	3		
S	HIGH TEMP ALLOYS (NICKEL, COBALT, IRON BASE) Inconel 718, X-750, Incoloy, Waspaloy, Hastelloy, Rene	Profile 	≤ 0.5	≤ 1.5	61	RPM	19388	9694	6463
					(49-73)	Fz	0.0022	0.0045	0.0067
						Feed (mm/min)	130	130	130
		Slot 	1	≤ 1	44	RPM	14057	7028	4686
					(35-53)	Fz	0.0019	0.0039	0.0058
						Feed (mm/min)	81	81	81
	Finish 	≤ .02	1	110	RPM	34899	17449	11633	
				(88-132)	Fz	0.0035	0.0070	0.0106	
					Feed (mm/min)	368	368	368	
	TITANIUM ALLOYS Pure Titanium, Ti6Al4V, Ti6Al2Sn4Zr2Mo, Ti4Al4Mo2Sn0.5Si	Profile 	≤ 0.5	≤ 1.5	75	RPM	23751	11875	7917
					(60-90)	Fz	0.0022	0.0045	0.0067
						Feed (mm/min)	160	160	160
Slot 		1	≤ 1	55	RPM	17449	8725	5816	
				(44-66)	Fz	0.0019	0.0038	0.0057	
					Feed (mm/min)	99	99	99	
Finish 	≤ .02	1	134	RPM	42654	21327	14218		
			(107-161)	Fz	0.0036	0.0071	0.0107		
				Feed (mm/min)	457	457	457		
H	ALLOY STEELS 4140, 4150, 4320, 5120, 5150, 8630, 50100	Profile 	≤ 0.25	≤ 1	28	RPM	9016	4508	3005
					(23-34)	Fz	0.0009	0.0018	0.0026
						Feed (mm/min)	24	24	24
		Slot 	1	≤ .5	20	RPM	6301	3151	2100
					(16-24)	Fz	0.0008	0.0016	0.0025
						Feed (mm/min)	15	15	15
	Finish 	≤ .02	1	51	RPM	16189	8095	5396	
				(41-61)	Fz	0.0014	0.0029	0.0043	
					Feed (mm/min)	70	70	70	
	TOOL STEELS A2, D2, H13, L2, M2, P20, S7, T15, W2	Profile 	≤ 0.25	≤ 1	21	RPM	6689	3344	2230
					(17-25)	Fz	0.0009	0.0019	0.0028
						Feed (mm/min)	19	19	19
Slot 		1	≤ .5	15	RPM	4847	2424	1616	
				(12-18)	Fz	0.0008	0.0016	0.0024	
					Feed (mm/min)	11	11	11	
Finish 	≤ .02	1	38	RPM	12021	6010	4007		
			(30-45)	Fz	0.0015	0.0031	0.0046		
				Feed (mm/min)	56	56	56		

- Note:**
- Bhn (Brinell) HRC (Rockwell C)
 - rpm = (Vc x 1000) / (DC x 3.14)
 - mm/min = Fz x 3 x rpm (Fz x 3 x max available rpm when recommendation exceeds machine limit)
 - reduce speed and feed for materials harder than listed
 - refer to the KYOCERA SGS Tool Wizard® for complete technical information (www.kyocera-sgstool.com)

2 Flute Spotting External Coolant



M080 FRACTIONAL SERIES

TOLERANCES (inch)

.005-.125 DIAMETER

DC = +0.0000/-0.0003

DCON = h₆

- STEELS
- STAINLESS STEELS
- CAST IRON
- NON-FERROUS
- HIGH TEMP ALLOYS
- HARDENED STEELS

CUTTING DIAMETER DC	SHANK DIAMETER DCON	inch			POINT ANGLE	EDP NO.	
		FLUTE LENGTH LCF	OVERALL LENGTH OAL			UNCOATED	TI-NAMITE®-A (AlTiN)
0.0050	1/8	0.025	1-1/2	90	07016	07000	
0.0100	1/8	0.035	1-1/2	90	07017	07001	
0.0150	1/8	0.045	1-1/2	90	07018	07002	
0.0200	1/8	0.050	1-1/2	90	07019	07003	
0.0312	1/8	0.090	1-1/2	90	07020	07004	
0.0625	1/8	0.200	1-1/2	90	07021	07005	
0.0938	1/8	0.200	1-1/2	90	07022	07006	
0.1250	1/8	0.200	1-1/2	90	07023	07007	
0.0050	1/8	0.025	1-1/2	130	07024	07008	
0.0100	1/8	0.035	1-1/2	130	07025	07009	
0.0150	1/8	0.045	1-1/2	130	07026	07010	
0.0200	1/8	0.050	1-1/2	130	07027	07011	
0.0312	1/8	0.090	1-1/2	130	07028	07012	
0.0625	1/8	0.200	1-1/2	130	07029	07013	
0.0938	1/8	0.200	1-1/2	130	07030	07014	
0.1250	1/8	0.200	1-1/2	130	07031	07015	

- 4-facet point design, stub length, and mirror finish provide the highest quality spot
- Ti-Namite® A coating and uncoated options for the ultimate performance and tool life in a variety of ferrous and non-ferrous workpiece materials
- Available from stock in all popular diameters and point configurations
- Application specific sub-micron grain carbide designed specifically for micro-tool applications
- Manufactured in accordance with KSPT ISO certified quality procedures

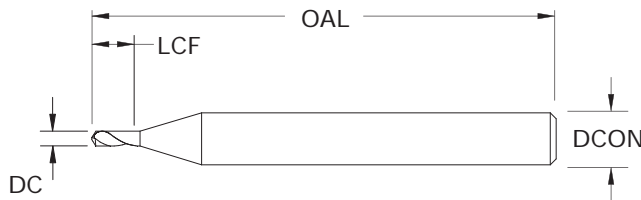
2 Flute Spotting External Coolant



DC: 0,15MM-3,00MM



DC: 0,15MM-3,00MM



M081 METRIC SERIES

- 4-facet point design, stub length, and mirror finish provide the highest quality spot
- Ti-Namite® A coating and uncoated options for the ultimate performance and tool life in a variety of ferrous and non-ferrous workpiece materials
- Available from stock in all popular diameters and point configurations
- Application specific sub-micron grain carbide designed specifically for micro-tool applications
- Manufactured in accordance with KSPT ISO certified quality procedures

CUTTING DIAMETER DC	SHANK DIAMETER DCON	mm			POINT ANGLE	EDP NO.	
		FLUTE LENGTH LCF	OVERALL LENGTH OAL	UNCOATED		TI-NAMITE®-A (AlTiN)	
0,15	3,0	0,65	38,0	90	07048	07032	
0,25	3,0	0,90	38,0	90	07049	07033	
0,40	3,0	1,15	38,0	90	07050	07034	
0,50	3,0	1,30	38,0	90	07051	07035	
1,00	3,0	2,30	38,0	90	07052	07036	
1,50	3,0	5,00	38,0	90	07053	07037	
2,00	3,0	5,00	38,0	90	07054	07038	
3,00	3,0	5,00	38,0	90	07055	07039	
0,15	3,0	0,65	38,0	130	07056	07040	
0,25	3,0	0,90	38,0	130	07057	07041	
0,40	3,0	1,15	38,0	130	07058	07042	
0,50	3,0	1,30	38,0	130	07059	07043	
1,00	3,0	2,30	38,0	130	07060	07044	
1,50	3,0	5,00	38,0	130	07061	07045	
2,00	3,0	5,00	38,0	130	07062	07046	
3,00	3,0	5,00	38,0	130	07063	07047	

TOLERANCES (mm)

0,15–3,0 DIAMETER

DC = +0,000/–0,008

DCON = h₆

- STEELS
- STAINLESS STEELS
- CAST IRON
- NON-FERROUS
- HIGH TEMP ALLOYS
- HARDENED STEELS

Series M080	Hardness	Vc (sfm)	DC • in						
			0.005	0.010	0.020	0.040	0.080	0.125	
P CARBON STEELS 1018, 1040, 1080, 1090, 10L50, 1140, 1212, 12L15, 1525, 1536	≤ 175 Bhn or ≤ 7 HRc	280 (224-336)	RPM	213920	106960	53480	26740	13370	8557
			Fr	0.00010	0.00021	0.0004	0.0008	0.0016	0.0026
			Feed (ipm)	22.0	22.0	22.0	22.0	22.0	22.0
			RPM	137520	68760	34380	17190	8595	5501
			Fr	0.00010	0.00019	0.0004	0.0008	0.0015	0.0024
			Feed (ipm)	13.3	13.3	13.3	13.3	13.3	13.3
M STAINLESS STEELS (FREE MACHINING) 303, 416, 420F, 430F, 440F	≤ 250 Bhn or ≤ 24 HRc	210 (168-252)	RPM	160440	80220	40110	20055	10028	6418
			Fr	0.00011	0.00021	0.0004	0.0008	0.0017	0.0026
			Feed (ipm)	17.0	17.0	17.0	17.0	17.0	17.0
			RPM	137520	68760	34380	17190	8595	5501
			Fr	0.0001	0.0002	0.0004	0.0008	0.0015	0.0024
			Feed (ipm)	13.3	13.3	13.3	13.3	13.3	13.3
K CAST IRONS Gray, Malleable, Ductile	≤ 220 Bhn or ≤ 19 HRc	280 (224-336)	RPM	213920	106960	53480	26740	13370	8557
			Fr	0.00007	0.00015	0.0003	0.0006	0.0012	0.0018
			Feed (ipm)	15.8	15.8	15.8	15.8	15.8	15.8
			RPM	458400	229200	114600	57300	28650	18336
			Fr	0.00012	0.00024	0.0005	0.0009	0.0019	0.0029
			Feed (ipm)	54.0	54.0	54.0	54.0	54.0	54.0
N ALUMINUM ALLOYS 2017, 2024, 356, 6061, 7075	≤ 150 Bhn or ≤ 7 HRc	600 (480-720)	RPM	145160	72580	36290	18145	9073	5806
			Fr	0.00010	0.00019	0.0004	0.0008	0.0016	0.0024
			Feed (ipm)	14.1	14.1	14.1	14.1	14.1	14.1
			RPM	382000	191000	95500	47750	23875	15280
			Fr	0.00012	0.00024	0.0005	0.0009	0.0019	0.0029
			Feed (ipm)	45.0	45.0	45.0	45.0	45.0	45.0
S COPPER ALLOYS Alum Bronze, C110, Muntz Brass	≤ 140 Bhn or ≤ 3 HRc	190 (152-228)	RPM	53480	26740	13370	6685	3343	2139
			Fr	0.00006	0.00012	0.0002	0.0005	0.0010	0.0015
			Feed (ipm)	3.2	3.2	3.2	3.2	3.2	3.2
			RPM	91680	45840	22920	11460	5730	3667
			Fr	0.00006	0.00012	0.0002	0.0005	0.0010	0.0015
			Feed (ipm)	5.6	5.6	5.6	5.6	5.6	5.6
H PLASTICS Polycarbonate, PVC	≤ 320 Bhn or ≤ 34 HRc	70 (56-84)	RPM	53480	26740	13370	6685	3343	2139
			Fr	0.00004	0.00008	0.0002	0.0003	0.0006	0.0010
			Feed (ipm)	2.1	2.1	2.1	2.1	2.1	2.1
			RPM	53480	26740	13370	6685	3343	2139
			Fr	0.00004	0.00008	0.0002	0.0003	0.0006	0.0010
			Feed (ipm)	2.1	2.1	2.1	2.1	2.1	2.1
S HIGH TEMP ALLOYS (NICKEL, COBALT, IRON BASE) Inconel 601, 617, 625, Incoloy 800, Monel 400, Rene, Waspaloy	≤ 350 Bhn or ≤ 38 HRc	120 (96-144)	RPM	53480	26740	13370	6685	3343	2139
			Fr	0.00004	0.00008	0.0002	0.0003	0.0006	0.0010
			Feed (ipm)	2.1	2.1	2.1	2.1	2.1	2.1
			RPM	53480	26740	13370	6685	3343	2139
			Fr	0.00004	0.00008	0.0002	0.0003	0.0006	0.0010
			Feed (ipm)	2.1	2.1	2.1	2.1	2.1	2.1
S TITANIUM ALLOYS Pure Titanium, Ti6Al4V, Ti6Al2Sn4Zr2Mo, Ti4Al4Mo2Sn0.5Si	≤ 475 Bhn or ≤ 50 HRc	70 (56-84)	RPM	53480	26740	13370	6685	3343	2139
			Fr	0.00004	0.00008	0.0002	0.0003	0.0006	0.0010
			Feed (ipm)	2.1	2.1	2.1	2.1	2.1	2.1
			RPM	53480	26740	13370	6685	3343	2139
			Fr	0.00004	0.00008	0.0002	0.0003	0.0006	0.0010
			Feed (ipm)	2.1	2.1	2.1	2.1	2.1	2.1
H TOOL STEELS A2, D2, H13, L2, M2, P20, S7, T15, W2	≤ 475 Bhn or ≤ 50 HRc	70 (56-84)	RPM	53480	26740	13370	6685	3343	2139
			Fr	0.00004	0.00008	0.0002	0.0003	0.0006	0.0010
			Feed (ipm)	2.1	2.1	2.1	2.1	2.1	2.1
			RPM	53480	26740	13370	6685	3343	2139
			Fr	0.00004	0.00008	0.0002	0.0003	0.0006	0.0010
			Feed (ipm)	2.1	2.1	2.1	2.1	2.1	2.1

Note:

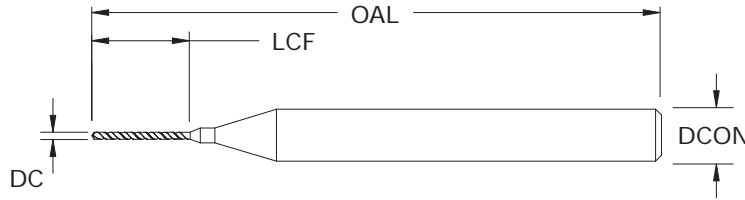
- Bhn (Brinell) HRc (Rockwell C) HRb (Rockwell B)
- rpm = Vc x 3.82 / DC
- ipm = Fr x rpm
- reduce speed and feed 30% when using uncoated drills
- reduce speed and feed for materials harder than listed
- refer to the KYOCERA SGS Tool Wizard® for complete technical information (www.kyocera-sgstool.com)

Series M081

Series M081	Hardness	Vc (m/min)	DC • mm							
				0.15	0.25	0.5	1	2	3	
P	CARBON STEELS 1018, 1040, 1080, 1090, 10L50, 1140, 1212, 12L15, 1525, 1536	≤ 175 Bhn or ≤ 7 HRc	85 (68-102)	RPM	180958	108575	54287	27144	13572	9048
				Fr	0.003	0.005	0.010	0.021	0.041	0.062
				Feed (mm/min)	559	559	559	559	559	559
				RPM	116330	69798	34899	17449	8725	5816
				Fr	0.003	0.005	0.010	0.019	0.039	0.058
				Feed (mm/min)	338	338	338	338	338	338
M	STAINLESS STEELS (FREE MACHINING) 303, 416, 420F, 430F, 440F	≤ 250 Bhn or ≤ 24 HRc	64 (51-77)	RPM	135718	81431	40715	20358	10179	6786
				Fr	0.003	0.005	0.011	0.021	0.042	0.064
				Feed (mm/min)	432	432	432	432	432	432
				RPM	116330	69798	34899	17449	8725	5816
				Fr	0.003	0.005	0.010	0.019	0.039	0.058
				Feed (mm/min)	338	338	338	338	338	338
K	CAST IRONS Gray, Malleable, Ductile	≤ 220 Bhn or ≤ 19 HRc	85 (68-102)	RPM	180958	108575	54287	27144	13572	9048
				Fr	0.002	0.004	0.007	0.015	0.030	0.044
				Feed (mm/min)	401	401	401	401	401	401
				RPM	387767	232660	116330	58165	29082	19388
				Fr	0.004	0.006	0.012	0.024	0.047	0.071
				Feed (mm/min)	1372	1372	1372	1372	1372	1372
N	ALUMINUM ALLOYS 2017, 2024, 356, 6061, 7075	≤ 150 Bhn or ≤ 7 HRc	183 (146-219)	RPM	122793	73676	36838	18419	9209	6140
				Fr	0.003	0.005	0.010	0.019	0.039	0.058
				Feed (mm/min)	358	358	358	358	358	358
				RPM	323139	193883	96942	48471	24235	16157
				Fr	0.004	0.006	0.012	0.024	0.047	0.071
				Feed (mm/min)	1143	1143	1143	1143	1143	1143
S	COPPER ALLOYS Alum Bronze, C110, Muntz Brass	≤ 140 Bhn or ≤ 3 HRc	58 (46-69)	RPM	45239	27144	13572	6786	3393	2262
				Fr	0.002	0.003	0.006	0.012	0.024	0.036
				Feed (mm/min)	81	81	81	81	81	81
				RPM	77553	46532	23266	11633	5816	3878
				Fr	0.002	0.003	0.006	0.012	0.024	0.037
				Feed (mm/min)	142	142	142	142	142	142
H	HIGH TEMP ALLOYS (NICKEL, COBALT, IRON BASE) Inconel 601, 617, 625, Incoloy 800, Monel 400, Rene, Waspaloy	≤ 320 Bhn or ≤ 34 HRc	21 (17-26)	RPM	45239	27144	13572	6786	3393	2262
				Fr	0.001	0.002	0.004	0.008	0.016	0.024
				Feed (mm/min)	53	53	53	53	53	53
				RPM	45239	27144	13572	6786	3393	2262
				Fr	0.001	0.002	0.004	0.008	0.016	0.024
				Feed (mm/min)	53	53	53	53	53	53
H	TITANIUM ALLOYS Ti6Al4V, Ti6Al2Sn4Zr2Mo, Ti4Al4Mo2Sn0.5Si	≤ 350 Bhn or ≤ 38 HRc	37 (29-44)	RPM	45239	27144	13572	6786	3393	2262
				Fr	0.001	0.002	0.004	0.008	0.016	0.024
				Feed (mm/min)	53	53	53	53	53	53
				RPM	45239	27144	13572	6786	3393	2262
				Fr	0.001	0.002	0.004	0.008	0.016	0.024
				Feed (mm/min)	53	53	53	53	53	53
H	TOOL STEELS A2, D2, H13, L2, M2, P20, S7, T15, W2	≤ 475 Bhn or ≤ 50 HRc	21 (17-26)	RPM	45239	27144	13572	6786	3393	2262
				Fr	0.001	0.002	0.004	0.008	0.016	0.024
				Feed (mm/min)	53	53	53	53	53	53
				RPM	45239	27144	13572	6786	3393	2262
				Fr	0.001	0.002	0.004	0.008	0.016	0.024
				Feed (mm/min)	53	53	53	53	53	53

- Note:**
- Bhn (Brinell) HRc (Rockwell C) HRb (Rockwell B)
 - rpm = (Vc x 1000) / (DC x 3.14)
 - mm/min = Fr x rpm
 - reduce speed and feed 30% when using uncoated drills
 - reduce speed and feed for materials harder than listed
 - refer to the KYOCERA SGS Tool Wizard® for complete technical information (www.kyocera-sgstool.com)

2 Flute External Coolant • Standard & Extended Length



M105

FRACTIONAL & METRIC SERIES

TOLERANCES (inch)

≤.125 DIAMETER

DC = +.0000/-0.0003

DCON = h₆

TOLERANCES (mm)

0.1–3.0 DIAMETER

DC = +0.000/-0.008

DCON = h₆

- STEELS
- STAINLESS STEELS
- CAST IRON
- NON-FERROUS
- HIGH TEMP ALLOYS
- HARDENED STEELS

inch & mm								EDP NO.	
DECIMAL DC	METRIC DC	FRACTIONAL/ LETTER/WIRE DC	SHANK DIAMETER DCON	OVERALL LENGTH OAL	FLUTE LENGTH LCF	USABLE LENGTH LU	POINT ANGLE	UNCOATED	TI-NAMITE®-A (AlTiN)
0.0040	0,102 mm		1/8	1-1/2	0.040	0.034	118	07088	07098
0.0040	0,102 mm		1/8	1-1/2	0.070	0.064	118	07089	07099
0.0050	0,127 mm		1/8	1-1/2	0.040	0.033	118	07064	07066
0.0050	0,127 mm		1/8	1-1/2	0.070	0.063	118	07065	07067
0.0059	0,150 mm	#97	1/8	1-1/2	0.080	0.071	118	07236	07068
0.0059	0,150 mm	#97	1/8	1-1/2	0.120	0.111	118	07237	07069
0.0063	0,160 mm	#96	1/8	1-1/2	0.080	0.071	118	07238	07070
0.0063	0,160 mm	#96	1/8	1-1/2	0.120	0.111	118	07239	07071
0.0067	0,170 mm	#95	1/8	1-1/2	0.080	0.070	118	07240	07072
0.0067	0,170 mm	#95	1/8	1-1/2	0.120	0.110	118	07241	07073
0.0071	0,180 mm	#94	1/8	1-1/2	0.100	0.089	118	07242	07074
0.0071	0,180 mm	#94	1/8	1-1/2	0.150	0.139	118	07243	07075
0.0075	0,191 mm	#93	1/8	1-1/2	0.100	0.089	118	07244	07076
0.0075	0,191 mm	#93	1/8	1-1/2	0.150	0.139	118	07245	07077
0.0079	0,200 mm	#92	1/8	1-1/2	0.100	0.088	118	07246	07078
0.0079	0,200 mm	#92	1/8	1-1/2	0.150	0.138	118	07247	07079
0.0083	0,211 mm	#91	1/8	1-1/2	0.100	0.088	118	07248	07080
0.0083	0,211 mm	#91	1/8	1-1/2	0.150	0.138	118	07249	07081
0.0087	0,220 mm	#90	1/8	1-1/2	0.100	0.087	118	07250	07082
0.0087	0,220 mm	#90	1/8	1-1/2	0.150	0.137	118	07251	07083
0.0091	0,231 mm	#89	1/8	1-1/2	0.150	0.136	118	07252	07084
0.0091	0,231 mm	#89	1/8	1-1/2	0.220	0.206	118	07253	07085
0.0095	0,241 mm	#88	1/8	1-1/2	0.150	0.136	118	07254	07086
0.0095	0,241 mm	#88	1/8	1-1/2	0.220	0.206	118	07255	07087
0.0098	0,250 mm		1/8	1-1/2	0.150	0.135	118	07108	07114
0.0098	0,250 mm		1/8	1-1/2	0.220	0.205	118	07109	07115
0.0100	0,254 mm	#87	1/8	1-1/2	0.150	0.135	118	07258	07090
0.0100	0,254 mm	#87	1/8	1-1/2	0.220	0.205	118	07259	07091
0.0105	0,267 mm	#86	1/8	1-1/2	0.150	0.134	118	07260	07092
0.0105	0,267 mm	#86	1/8	1-1/2	0.220	0.204	118	07261	07093
0.0110	0,280 mm	#85	1/8	1-1/2	0.150	0.134	118	07262	07094
0.0110	0,280 mm	#85	1/8	1-1/2	0.220	0.204	118	07263	07095
0.0115	0,292 mm	#84	1/8	1-1/2	0.150	0.133	118	07264	07096
0.0115	0,292 mm	#84	1/8	1-1/2	0.220	0.203	118	07265	07097
0.0118	0,300 mm		1/8	1-1/2	0.225	0.207	118	07127	07132
0.0118	0,300 mm		1/8	1-1/2	0.280	0.262	118	07129	07134

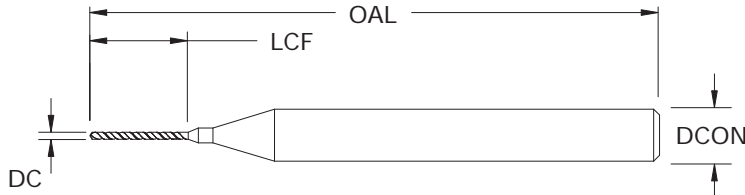
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- 4-flute point design stabilizes on entry for superior hole size control and tool life
- Mirror surface finishes improve chip flow as hole depth increases
- Ti-Namite® A coating and uncoated options for the ultimate performance in a variety of ferrous and non-ferrous workpiece materials
- Available from stock in a selection of popular lengths and diameters
- Application specific sub-micron grain carbide designed specifically for micro-tool applications
- Manufactured in accordance with KSPT ISO certified quality procedures

2 Flute External Coolant • Standard & Extended Length



3-15xD



M105

FRACTIONAL & METRIC SERIES

continued

		inch & mm							EDP NO.	
DECIMAL DC	METRIC DC	FRACTIONAL/ LETTER/WIRE DC	SHANK DIAMETER DCON	OVERALL LENGTH OAL	FLUTE LENGTH LCF	USABLE LENGTH LU	POINT ANGLE	UNCOATED	TI-NAMITE®-A (AITIN)	
0.0120	0,305 mm	#83	1/8	1-1/2	0.225	0.207	118	07268	07100	
0.0120	0,305 mm	#83	1/8	1-1/2	0.280	0.262	118	07269	07101	
0.0125	0,318 mm	#82	1/8	1-1/2	0.225	0.206	118	07270	07102	
0.0125	0,318 mm	#82	1/8	1-1/2	0.280	0.261	118	07271	07103	
0.0130	0,330 mm	#81	1/8	1-1/2	0.225	0.206	118	07272	07104	
0.0130	0,330 mm	#81	1/8	1-1/2	0.280	0.261	118	07273	07105	
0.0135	0,343 mm	#80	1/8	1-1/2	0.225	0.205	130	07274	07106	
0.0135	0,343 mm	#80	1/8	1-1/2	0.280	0.260	130	07275	07107	
0.0138	0,350 mm		1/8	1-1/2	0.225	0.204	130	07118	07122	
0.0138	0,350 mm		1/8	1-1/2	0.280	0.259	130	07119	07123	
0.0145	0,368 mm	#79	1/8	1-1/2	0.225	0.203	130	07278	07110	
0.0145	0,368 mm	#79	1/8	1-1/2	0.280	0.258	130	07279	07111	
0.0156	0,396 mm	1/16	1/8	1-1/2	0.250	0.227	130	07280	07112	
0.0156	0,396 mm	1/16	1/8	1-1/2	0.295	0.272	130	07281	07113	
0.0157	0,400 mm		1/8	1-1/2	0.250	0.226	130	07148	07233	
0.0157	0,400 mm		1/8	1-1/2	0.295	0.271	130	07232	07234	
0.0160	0,406 mm	#78	1/8	1-1/2	0.250	0.226	130	07284	07116	
0.0160	0,406 mm	#78	1/8	1-1/2	0.295	0.271	130	07285	07117	
0.0177	0,450 mm		1/8	1-1/2	0.250	0.223	130	07137	07143	
0.0177	0,450 mm		1/8	1-1/2	0.295	0.268	130	07140	07145	
0.0180	0,457 mm	#77	1/8	1-1/2	0.250	0.223	130	07288	07120	
0.0180	0,457 mm	#77	1/8	1-1/2	0.295	0.268	130	07289	07121	
0.0197	0,500 mm		1/8	1-1/2	0.260	0.230	130	07257	07267	
0.0197	0,500 mm		1/8	1-1/2	0.310	0.280	130	07266	07276	
0.0200	0,508 mm	#76	1/8	1-1/2	0.260	0.230	130	07292	07124	
0.0200	0,508 mm	#76	1/8	1-1/2	0.310	0.280	130	07293	07125	
0.0210	0,533 mm	#75	1/8	1-1/2	0.310	0.279	130	07294	07126	
0.0217	0,550 mm		1/8	1-1/2	0.340	0.307	130	07235	07256	
0.0225	0,572 mm	#74	1/8	1-1/2	0.340	0.306	130	07296	07128	
0.0236	0,600 mm		1/8	1-1/2	0.340	0.305	130	07283	07286	
0.0240	0,610 mm	#73	1/8	1-1/2	0.340	0.304	130	07298	07130	
0.0250	0,635 mm	#72	1/8	1-1/2	0.340	0.303	130	07299	07131	
0.0256	0,650 mm		1/8	1-1/2	0.340	0.302	130	07277	07282	
0.0260	0,660 mm	#71	1/8	1-1/2	0.340	0.301	130	07301	07133	
0.0276	0,700 mm		1/8	1-1/2	0.400	0.359	130	07291	07295	
0.0280	0,711 mm	#70	1/8	1-1/2	0.400	0.358	130	07303	07135	

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TOLERANCES (inch)

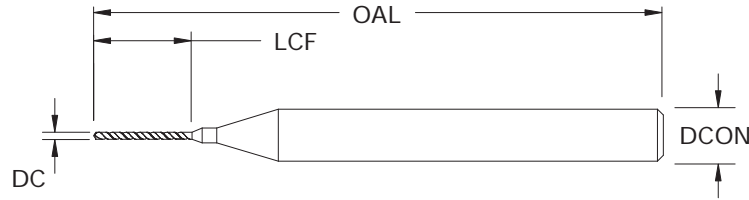
≤.125 DIAMETER
DC = +.0000/-0.0003
DCON = h₆

TOLERANCES (mm)

0,1-3,0 DIAMETER
DC = +0,000/-0,008
DCON = h₆

- STEELS
- STAINLESS STEELS
- CAST IRON
- NON-FERROUS
- HIGH TEMP ALLOYS
- HARDENED STEELS

2 Flute External Coolant • Standard & Extended Length



M105
FRACTIONAL & METRIC SERIES

TOLERANCES (inch)

≤.125 DIAMETER
DC = +.0000/-0.0003
DCON = h₆

TOLERANCES (mm)

0.1–3.0 DIAMETER
DC = +0.000/-0.008
DCON = h₆

- STEELS
- STAINLESS STEELS
- CAST IRON
- NON-FERROUS
- HIGH TEMP ALLOYS
- HARDENED STEELS

inch & mm								EDP NO.	
DECIMAL DC	METRIC DC	FRACTIONAL/ LETTER/WIRE DC	SHANK DIAMETER DCON	OVERALL LENGTH OAL	FLUTE LENGTH LCF	USABLE LENGTH LU	POINT ANGLE	UNCOATED	TI-NAMITE®-A (AITIN)
0.0292	0,742 mm	#69	1/8	1-1/2	0.400	0.356	130	07304	07136
0.0295	0,750 mm		1/8	1-1/2	0.400	0.356	130	07287	07290
0.0310	0,787 mm	#68	1/8	1-1/2	0.400	0.354	130	07306	07138
0.0312	0,792 mm	1/32	1/8	1-1/2	0.400	0.353	130	07307	07139
0.0315	0,800 mm		1/8	1-1/2	0.400	0.353	130	07302	07305
0.0320	0,813 mm	#67	1/8	1-1/2	0.400	0.352	130	07309	07141
0.0330	0,838 mm	#66	1/8	1-1/2	0.400	0.351	130	07310	07142
0.0335	0,850 mm		1/8	1-1/2	0.400	0.350	130	07297	07300
0.0350	0,889 mm	#65	1/8	1-1/2	0.400	0.348	130	07312	07144
0.0354	0,900 mm		1/8	1-1/2	0.400	0.347	130	07313	07316
0.0360	0,914 mm	#64	1/8	1-1/2	0.400	0.346	130	07314	07146
0.0370	0,940 mm	#63	1/8	1-1/2	0.400	0.345	130	07315	07147
0.0374	0,950 mm		1/8	1-1/2	0.400	0.344	130	07308	07311
0.0380	0,965 mm	#62	1/8	1-1/2	0.400	0.343	130	07317	07149
0.0390	0,991 mm	#61	1/8	1-1/2	0.400	0.342	130	07318	07150
0.0394	1,000 mm		1/8	1-1/2	0.400	0.341	130	07319	07151
0.0400	1,016 mm	#60	1/8	1-1/2	0.400	0.340	130	07320	07152
0.0410	1,041 mm	#59	1/8	1-1/2	0.400	0.339	130	07321	07153
0.0413	1,050 mm		1/8	1-1/2	0.400	0.338	130	07322	07154
0.0420	1,067 mm	#58	1/8	1-1/2	0.400	0.337	130	07323	07155
0.0430	1,092 mm	#57	1/8	1-1/2	0.400	0.336	130	07324	07156
0.0433	1,100 mm		1/8	1-1/2	0.400	0.335	130	07325	07157
0.0440	1,118 mm		1/8	1-1/2	0.400	0.334	130	07326	07158
0.0453	1,150 mm		1/8	1-1/2	0.400	0.332	130	07327	07159
0.0465	1,181 mm	#56	1/8	1-1/2	0.400	0.330	130	07328	07160
0.0469	1,191 mm	3/64	1/8	1-1/2	0.400	0.330	130	07329	07161
0.0472	1,200 mm		1/8	1-1/2	0.400	0.329	130	07330	07162
0.0492	1,250 mm		1/8	1-1/2	0.400	0.326	130	07331	07163
0.0512	1,300 mm		1/8	1-1/2	0.400	0.323	130	07332	07164
0.0520	1,321 mm	#55	1/8	1-1/2	0.400	0.322	130	07333	07165
0.0531	1,350 mm		1/8	1-1/2	0.400	0.320	130	07334	07166
0.0550	1,397 mm	#54	1/8	1-1/2	0.400	0.318	130	07335	07167
0.0551	1,400 mm		1/8	1-1/2	0.400	0.317	130	07336	07168
0.0571	1,450 mm		1/8	1-1/2	0.400	0.314	130	07337	07169
0.0591	1,500 mm		1/8	1-1/2	0.400	0.311	130	07338	07170
0.0595	1,511 mm	#53	1/8	1-1/2	0.400	0.311	130	07339	07171

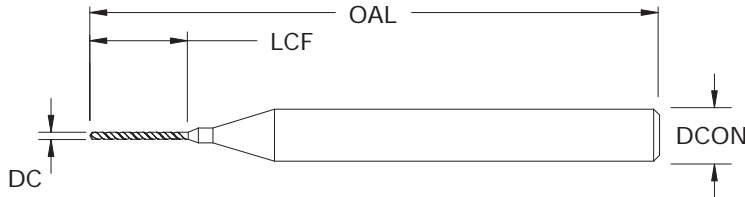
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2 Flute External Coolant • Standard & Extended Length



3-15xD



M105

FRACTIONAL & METRIC SERIES

continued

DECIMAL DC	METRIC DC	inch & mm						EDP NO.	
		FRACTIONAL/ LETTER/WIRE DC	SHANK DIAMETER DCON	OVERALL LENGTH OAL	FLUTE LENGTH LCF	USABLE LENGTH LU	POINT ANGLE	UNCOATED	TI-NAMITE®-A (AITIN)
0.0610	1,550 mm		1/8	1-1/2	0.400	0.309	130	07340	07172
0.0625	1,588 mm	1/16	1/8	1-1/2	0.400	0.306	130	07341	07173
0.0630	1,600 mm		1/8	1-1/2	0.400	0.306	130	07342	07174
0.0635	1,613 mm	#52	1/8	1-1/2	0.400	0.305	130	07343	07175
0.0650	1,650 mm		1/8	1-1/2	0.400	0.303	130	07344	07176
0.0669	1,700 mm		1/8	1-1/2	0.400	0.300	130	07345	07177
0.0670	1,702 mm	#51	1/8	1-1/2	0.400	0.300	130	07346	07178
0.0689	1,750 mm		1/8	1-1/2	0.400	0.297	130	07347	07179
0.0700	1,778 mm	#50	1/8	1-1/2	0.400	0.295	130	07348	07180
0.0709	1,800 mm		1/8	1-1/2	0.400	0.294	130	07349	07181
0.0728	1,850 mm		1/8	1-1/2	0.400	0.291	130	07350	07182
0.0730	1,854 mm	#49	1/8	1-1/2	0.400	0.291	130	07351	07183
0.0748	1,900 mm		1/8	1-1/2	0.400	0.288	130	07352	07184
0.0760	1,930 mm	#48	1/8	1-1/2	0.400	0.286	130	07353	07185
0.0768	1,950 mm		1/8	1-1/2	0.400	0.285	130	07354	07186
0.0781	1,984 mm	5/64	1/8	1-1/2	0.400	0.283	130	07355	07187
0.0785	1,994 mm	#47	1/8	1-1/2	0.400	0.282	130	07356	07188
0.0787	2,000 mm		1/8	1-1/2	0.400	0.282	130	07357	07189
0.0807	2,050 mm		1/8	1-1/2	0.400	0.279	130	07358	07190
0.0810	2,057 mm	#46	1/8	1-1/2	0.400	0.279	130	07359	07191
0.0820	2,083 mm	#45	1/8	1-1/2	0.400	0.277	130	07360	07192
0.0827	2,100 mm		1/8	1-1/2	0.400	0.276	130	07361	07193
0.0846	2,150 mm		1/8	1-1/2	0.400	0.273	130	07362	07194
0.0860	2,184 mm	#44	1/8	1-1/2	0.400	0.271	130	07363	07195
0.0866	2,200 mm		1/8	1-1/2	0.400	0.270	130	07364	07196
0.0886	2,250 mm		1/8	1-1/2	0.400	0.267	130	07365	07197
0.0890	2,261 mm	#43	1/8	1-1/2	0.400	0.267	130	07366	07198
0.0906	2,300 mm		1/8	1-1/2	0.400	0.264	130	07367	07199
0.0925	2,350 mm		1/8	1-1/2	0.400	0.261	130	07368	07200
0.0935	2,375 mm	#42	1/8	1-1/2	0.400	0.260	130	07369	07201
0.0938	2,383 mm	3/32	1/8	1-1/2	0.400	0.259	130	07370	07202
0.0945	2,400 mm		1/8	1-1/2	0.400	0.258	130	07371	07203
0.0960	2,438 mm	#41	1/8	1-1/2	0.400	0.256	130	07372	07204
0.0965	2,450 mm		1/8	1-1/2	0.400	0.255	130	07373	07205
0.0980	2,489 mm	#40	1/8	1-1/2	0.400	0.253	130	07374	07206
0.0984	2,500 mm		1/8	1-1/2	0.400	0.252	130	07375	07207

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TOLERANCES (inch)

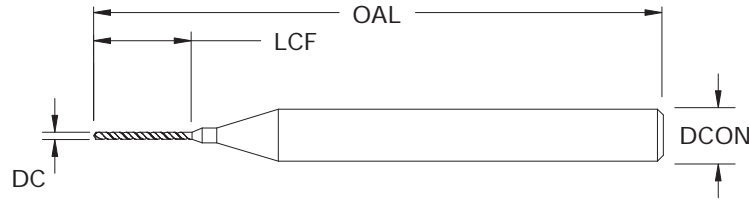
≤.125 DIAMETER
DC = +.0000/-0.0003
DCON = h₆

TOLERANCES (mm)

0.1-3.0 DIAMETER
DC = +0.000/-0.008
DCON = h₆

- STEELS
- STAINLESS STEELS
- CAST IRON
- NON-FERROUS
- HIGH TEMP ALLOYS
- HARDENED STEELS

2 Flute External Coolant • Standard & Extended Length



M105

FRACTIONAL & METRIC SERIES

continued

TOLERANCES (inch)

≤.125 DIAMETER

DC = +.0000/-0.003

DCON = h₆

TOLERANCES (mm)

0.1–3.0 DIAMETER

DC = +0.000/-0.008

DCON = h₆

STEELS

STAINLESS STEELS

CAST IRON

NON-FERROUS

HIGH TEMP ALLOYS

HARDENED STEELS

DECIMAL DC	METRIC DC	FRACTIONAL/ LETTER/WIRE DC	SHANK DIAMETER DCON	inch & mm				POINT ANGLE	EDP NO.	
				OVERALL LENGTH OAL	FLUTE LENGTH LCF	USABLE LENGTH LU	UNCOATED		TI-NAMITE®-A (AlTiN)	
0.0995	2,527 mm	#39	1/8	1-1/2	0.400	0.251	130	07376	07208	
0.1004	2,550 mm		1/8	1-1/2	0.400	0.249	130	07377	07209	
0.1015	2,578 mm	#38	1/8	1-1/2	0.400	0.248	130	07378	07210	
0.1024	2,600 mm		1/8	1-1/2	0.400	0.246	130	07379	07211	
0.1040	2,642 mm	#37	1/8	1-1/2	0.400	0.244	130	07380	07212	
0.1043	2,649 mm		1/8	1-1/2	0.400	0.244	130	07381	07213	
0.1063	2,700 mm		1/8	1-1/2	0.400	0.241	130	07382	07214	
0.1065	2,705 mm	#36	1/8	1-1/2	0.400	0.240	130	07383	07215	
0.1083	2,751 mm		1/8	1-1/2	0.400	0.238	130	07384	07216	
0.1094	2,779 mm	7/64	1/8	1-1/2	0.400	0.236	130	07385	07217	
0.1100	2,794 mm	#35	1/8	1-1/2	0.400	0.235	130	07386	07218	
0.1102	2,800 mm		1/8	1-1/2	0.400	0.235	130	07387	07219	
0.1110	2,819 mm	#34	1/8	1-1/2	0.400	0.234	130	07388	07220	
0.1122	2,850 mm		1/8	1-1/2	0.400	0.232	130	07389	07221	
0.1130	2,870 mm	#33	1/8	1-1/2	0.400	0.231	130	07390	07222	
0.1142	2,900 mm		1/8	1-1/2	0.400	0.229	130	07391	07223	
0.1160	2,946 mm	#32	1/8	1-1/2	0.400	0.226	130	07392	07224	
0.1161	2,949 mm		1/8	1-1/2	0.400	0.226	130	07393	07225	
0.1181	3,000 mm		1/8	1-1/2	0.400	0.223	130	07394	07226	
0.1200	3,048 mm	#31	1/8	1-1/2	0.400	0.220	130	07395	07227	
0.1201	3,051 mm		1/8	1-1/2	0.400	0.220	130	07396	07228	
0.1220	3,100 mm		1/8	1-1/2	0.400	0.217	130	07397	07229	
0.1240	3,150 mm		1/8	1-1/2	0.400	0.214	130	07398	07230	
0.1250	3,175 mm	1/8	1/8	1-1/2	0.400	0.213	130	07399	07231	

Series M105

Series M105	Hardness	Vc (sfm)		DC • in						
				0.004	0.010	0.020	0.040	0.080	0.125	
P	CARBON STEELS 1018, 1040, 1080, 1090, 10L50, 1140, 1212, 12L15, 1525, 1536	≤ 175 Bhn or ≤ 7 HRc	130 (104-156)	RPM	124150	49660	24830	12415	6208	3973
				Fr	0.00012	0.00029	0.00058	0.00115	0.00230	0.00360
				Feed (ipm)	14.3	14.3	14.3	14.3	14.3	14.3
				RPM	186225	74490	37245	18623	9311	5959
				Fr	0.00010	0.00026	0.00052	0.00104	0.00208	0.00326
				Feed (ipm)	19.4	19.4	19.4	19.4	19.4	19.4
M	STAINLESS STEELS (DIFFICULT) 304, 304L, 316, 316L	≤ 275 Bhn or ≤ 28 HRc	65 (52-78)	RPM	62075	24830	12415	6208	3104	1986
				Fr	0.00009	0.00022	0.00043	0.00087	0.00174	0.00272
				Feed (ipm)	5.4	5.4	5.4	5.4	5.4	5.4
				RPM	38200	15280	7640	3820	1910	1222
				Fr	0.0001	0.0002	0.00035	0.00071	0.00141	0.00221
				Feed (ipm)	2.7	2.7	2.7	2.7	2.7	2.7
K	CAST IRONS Gray, Malleable, Ductile	≤ 220 Bhn or ≤ 19 HRc	280 (224-336)	RPM	267400	106960	53480	26740	13370	8557
				Fr	0.00007	0.00016	0.00033	0.00065	0.00131	0.00205
				Feed (ipm)	17.5	17.5	17.5	17.5	17.5	17.5
				RPM	233975	93590	46795	23398	11699	7487
				Fr	0.00020	0.00049	0.00099	0.00197	0.00394	0.00616
				Feed (ipm)	46.1	46.1	46.1	46.1	46.1	46.1
N	ALUMINUM ALLOYS 2017, 2024, 356, 6061, 7075	≤ 150 Bhn or ≤ 7 HRc	245 (196-294)	RPM	171900	68760	34380	17190	8595	5501
				Fr	0.00020	0.00049	0.00099	0.00197	0.00394	0.00616
				Feed (ipm)	33.9	33.9	33.9	33.9	33.9	33.9
				RPM	233975	93590	46795	23398	11699	7487
				Fr	0.00020	0.00049	0.00099	0.00197	0.00394	0.00616
				Feed (ipm)	46.1	46.1	46.1	46.1	46.1	46.1
S	COPPER ALLOYS Alum Bronze, C110, Muntz Brass	≤ 140 Bhn or ≤ 3 HRc	180 (144-216)	RPM	233975	93590	46795	23398	11699	7487
				Fr	0.00020	0.00049	0.00099	0.00197	0.00394	0.00616
				Feed (ipm)	46.1	46.1	46.1	46.1	46.1	46.1
				RPM	47750	19100	9550	4775	2388	1528
				Fr	0.00004	0.00011	0.00022	0.00044	0.00088	0.00137
				Feed (ipm)	2.1	2.1	2.1	2.1	2.1	2.1
H	PLASTICS Polycarbonate, PVC	≤ 320 Bhn or ≤ 34 HRc	50 (40-60)	RPM	47750	19100	9550	4775	2388	1528
				Fr	0.00005	0.00013	0.00026	0.00052	0.00105	0.00164
				Feed (ipm)	2.5	2.5	2.5	2.5	2.5	2.5
				RPM	76400	30560	15280	7640	3820	2445
				Fr	0.00005	0.00013	0.00026	0.00052	0.00105	0.00164
				Feed (ipm)	4.0	4.0	4.0	4.0	4.0	4.0
H	TITANIUM ALLOYS Ti6Al4V, Ti6Al2Sn4Zr2Mo, Ti4Al4Mo2Sn0.5Si	≤ 350 Bhn or ≤ 38 HRc	50 (40-60)	RPM	76400	30560	15280	7640	3820	2445
				Fr	0.00005	0.00013	0.00026	0.00052	0.00105	0.00164
				Feed (ipm)	4.0	4.0	4.0	4.0	4.0	4.0
				RPM	76400	30560	15280	7640	3820	2445
				Fr	0.00005	0.00013	0.00026	0.00052	0.00105	0.00164
				Feed (ipm)	4.0	4.0	4.0	4.0	4.0	4.0
H	TOOL STEELS A2, D2, H13, L2, M2, P20, S7, T15, W2	≤ 475 Bhn or ≤ 50 HRc	80 (64-96)	RPM	76400	30560	15280	7640	3820	2445
				Fr	0.00005	0.00013	0.00026	0.00052	0.00105	0.00164
				Feed (ipm)	4.0	4.0	4.0	4.0	4.0	4.0

- Note:**
- Bhn (Brinell) HRc (Rockwell C) HRb (Rockwell B)
 - rpm = Vc x 3.82 / DC
 - ipm = Fr x rpm (Fr x maximum available rpm when recommendation exceeds machine limit)
 - reduce speed and feed 30% when using uncoated drills
 - reduce speed and feed for materials harder than listed
 - refer to the KYOCERA SGS Tool Wizard® for complete technical information (www.kyocera-sgstool.com)

Series M105	Hardness	Vc (m/min)	DC • mm							
			0.04	0.25	0.5	1	2	3		
P	CARBON STEELS 1018, 1040, 1080, 1090, 10L50, 1140, 1212, 12L15, 1525, 1536	≤ 175 Bhn or ≤ 7 HRc	40 (32-48)	RPM	315060	50410	25205	12602	6301	4201
				Fr	0.0012	0.0072	0.0144	0.0288	0.0576	0.0865
				Feed (mm/min)	363	363	363	363	363	363
				RPM	472590	75614	37807	18904	9452	6301
				Fr	0.0010	0.0065	0.0130	0.0261	0.0521	0.0782
				Feed (mm/min)	493	493	493	493	493	493
M	STAINLESS STEELS (DIFFICULT) 304, 304L, 316, 316L	≤ 275 Bhn or ≤ 28 HRc	20 (16-24)	RPM	157530	25205	12602	6301	3151	2100
				Fr	0.0009	0.0054	0.0109	0.0218	0.0435	0.0653
				Feed (mm/min)	137	137	137	137	137	137
				RPM	96942	15511	7755	3878	1939	1293
				Fr	0.0007	0.0044	0.0088	0.0177	0.0354	0.0531
				Feed (mm/min)	69	69	69	69	69	69
K	CAST IRONS Gray, Malleable, Ductile	≤ 220 Bhn or ≤ 19 HRc	85 (68-102)	RPM	678591	108575	54287	27144	13572	9048
				Fr	0.0007	0.0041	0.0082	0.0164	0.0328	0.0491
				Feed (mm/min)	445	445	445	445	445	445
				RPM	593768	95003	47501	23751	11875	7917
				Fr	0.0020	0.0123	0.0247	0.0493	0.0986	0.1479
				Feed (mm/min)	1171	1171	1171	1171	1171	1171
N	ALUMINUM ALLOYS 2017, 2024, 356, 6061, 7075	≤ 150 Bhn or ≤ 7 HRc	75 (60-90)	RPM	436237	69798	34899	17449	8725	5816
				Fr	0.0020	0.0123	0.0247	0.0493	0.0987	0.1480
				Feed (mm/min)	861	861	861	861	861	861
				RPM	593768	95003	47501	23751	11875	7917
				Fr	0.0020	0.0123	0.0247	0.0493	0.0986	0.1479
				Feed (mm/min)	1171	1171	1171	1171	1171	1171
S	COPPER ALLOYS Alum Bronze, C110, Muntz Brass	≤ 140 Bhn or ≤ 3 HRc	55 (44-66)	RPM	593768	95003	47501	23751	11875	7917
				Fr	0.0020	0.0123	0.0247	0.0493	0.0986	0.1479
				Feed (mm/min)	1171	1171	1171	1171	1171	1171
				RPM	121177	19388	9694	4847	2424	1616
				Fr	0.0004	0.0028	0.0055	0.0110	0.0220	0.0330
				Feed (mm/min)	53	53	53	53	53	53
H	PLASTICS Polycarbonate, PVC	≤ 320 Bhn or ≤ 34 HRc	15 (12-18)	RPM	121177	19388	9694	4847	2424	1616
				Fr	0.0007	0.0042	0.0085	0.0170	0.0339	0.0509
				Feed (mm/min)	82	82	82	82	82	82
				RPM	193883	31021	15511	7755	3878	2585
				Fr	0.0005	0.0033	0.0066	0.0131	0.0262	0.0393
				Feed (mm/min)	102	102	102	102	102	102
H	HIGH TEMP ALLOYS (NICKEL, COBALT, IRON BASE) Inconel 601, 617, 625, Incoloy 800, Monel 400, Rene, Waspaloy	≤ 350 Bhn or ≤ 38 HRc	15 (12-18)	RPM	121177	19388	9694	4847	2424	1616
				Fr	0.0007	0.0042	0.0085	0.0170	0.0339	0.0509
				Feed (mm/min)	82	82	82	82	82	82
				RPM	193883	31021	15511	7755	3878	2585
				Fr	0.0005	0.0033	0.0066	0.0131	0.0262	0.0393
				Feed (mm/min)	102	102	102	102	102	102
H	TITANIUM ALLOYS Ti6Al4V, Ti6Al2Sn4Zr2Mo, Ti4Al4Mo2Sn0.5Si	≤ 475 Bhn or ≤ 50 HRc	24 (20-29)	RPM	193883	31021	15511	7755	3878	2585
				Fr	0.0005	0.0033	0.0066	0.0131	0.0262	0.0393
				Feed (mm/min)	102	102	102	102	102	102
				RPM	193883	31021	15511	7755	3878	2585
				Fr	0.0005	0.0033	0.0066	0.0131	0.0262	0.0393
				Feed (mm/min)	102	102	102	102	102	102
H	TOOL STEELS A2, D2, H13, L2, M2, P20, S7, T15, W2	≤ 475 Bhn or ≤ 50 HRc	24 (20-29)	RPM	193883	31021	15511	7755	3878	2585
				Fr	0.0005	0.0033	0.0066	0.0131	0.0262	0.0393
				Feed (mm/min)	102	102	102	102	102	102
				RPM	193883	31021	15511	7755	3878	2585
				Fr	0.0005	0.0033	0.0066	0.0131	0.0262	0.0393
				Feed (mm/min)	102	102	102	102	102	102

Note:

- Bhn (Brinell) HRc (Rockwell C) HRb (Rockwell B)
- rpm = (Vc x 1000) / (DC x 3.14)
- mm/min = Fr x rpm (Fr x maximum available rpm when recommendation exceeds machine limit)
- reduce speed and feed 30% when using uncoated drills
- reduce speed and feed for materials harder than listed
- refer to the KYOCERA SGS Tool Wizard® for complete technical information (www.kyocera-sgstool.com)

2 Flute External Coolant



3-12xD



M226 METRIC SERIES

- 4-facet point design stabilizes on entry for superior hole size control and tool life (>0.8mm). 2-facet point on 0,08 and smaller
- Mirror surface finishes improve chip flow as hole depth increases
- Ti-Namite® A coating and uncoated options for the ultimate performance in a variety of ferrous and non-ferrous workpiece materials
- Available from stock in a selection of popular lengths and diameters
- Application specific sub-micron grain carbide designed specifically for micro-tool applications
- Manufactured in accordance with KSPT ISO certified quality procedures

mm								EDP NO.	
DECIMAL DC	METRIC DC	FRACTIONAL/ LETTER/WIRE DC	SHANK DIAMETER DCON	OVERALL LENGTH OAL	FLUTE LENGTH LCF	USABLE LENGTH LU	POINT ANGLE	UNCOATED	TI-NAMITE®-A (AlTiN)
0.0016	0,040 mm		3,0	38,0	0,5	0,4	118	07722	—
0.0018	0,050 mm		3,0	38,0	0,6	0,5	118	07723	—
0.0020	0,050 mm		3,0	38,0	0,8	0,7	118	07724	—
0.0024	0,060 mm		3,0	38,0	0,8	0,7	118	07725	—
0.0028	0,070 mm		3,0	38,0	1,3	1,2	118	07726	—
0.0031	0,080 mm		3,0	38,0	1,3	1,2	118	07727	—
0.0035	0,090 mm		3,0	38,0	1,3	1,2	118	07728	—
0.0039	0,100 mm		3,0	38,0	1,0	0,9	118	07729	—
0.0043	0,110 mm		3,0	38,0	1,0	0,8	118	07730	—
0.0047	0,120 mm		3,0	38,0	1,0	0,8	118	07731	—
0.0051	0,130 mm		3,0	38,0	1,0	0,8	118	07732	—
0.0055	0,140 mm		3,0	38,0	1,0	0,8	118	07733	—
0.0059	0,150 mm	#97	3,0	38,0	2,0	1,8	118	07734	—
0.0063	0,160 mm	#96	3,0	38,0	2,0	1,8	118	07735	—
0.0067	0,170 mm	#95	3,0	38,0	2,0	1,7	118	07736	—
0.0071	0,180 mm	#94	3,0	38,0	2,5	2,2	118	07737	—
0.0075	0,190 mm	#93	3,0	38,0	2,5	2,2	118	07738	—
0.0079	0,200 mm	#92	3,0	38,0	2,5	2,2	118	07739	—
0.0083	0,210 mm	#91	3,0	38,0	2,5	2,2	118	07740	—
0.0087	0,220 mm	#90	3,0	38,0	2,5	2,2	118	07741	—
0.0091	0,230 mm	#89	3,0	38,0	3,8	3,5	118	07742	—
0.0094	0,240 mm		3,0	38,0	3,8	3,4	118	07743	—
0.0098	0,250 mm		3,0	38,0	3,8	3,4	118	07744	07400
0.0102	0,260 mm		3,0	38,0	3,8	3,4	118	07745	07401
0.0106	0,270 mm		3,0	38,0	3,8	3,4	118	07746	07402
0.0110	0,280 mm	#85	3,0	38,0	3,8	3,4	118	07747	07403
0.0114	0,290 mm		3,0	38,0	3,8	3,4	118	07748	07404
0.0118	0,300 mm		3,0	38,0	5,7	5,3	118	07749	07405
0.0122	0,310 mm		3,0	38,0	5,7	5,2	118	07750	07406
0.0126	0,320 mm		3,0	38,0	5,7	5,2	118	07751	07407
0.0130	0,330 mm	#81	3,0	38,0	5,7	5,2	118	07752	07408
0.0134	0,340 mm		3,0	38,0	5,7	5,2	118	07753	07409
0.0138	0,350 mm		3,0	38,0	5,7	5,2	130	07754	07410
0.0142	0,360 mm		3,0	38,0	5,7	5,2	130	07755	07411
0.0146	0,370 mm		3,0	38,0	5,7	5,1	130	07756	07412
0.0150	0,380 mm		3,0	38,0	6,4	5,8	130	07757	07413

TOLERANCES (mm)

0,04–3,0 DIAMETER

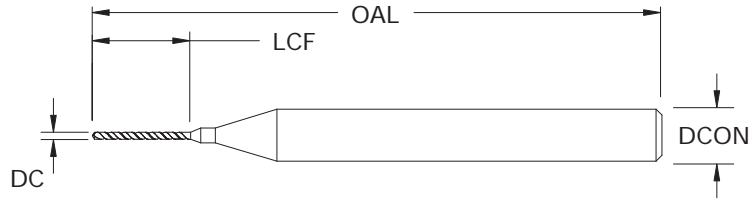
DC = +0,000/–0,008

DCON = h₆

- STEELS
- STAINLESS STEELS
- CAST IRON
- NON-FERROUS
- HIGH TEMP ALLOYS
- HARDENED STEELS

continued on next page

2 Flute External Coolant



TOLERANCES (mm)

0,04–3,0 DIAMETER

DC = +0,000/-0,008

DCON = h₆

- STEELS
- STAINLESS STEELS
- CAST IRON
- NON-FERROUS
- HIGH TEMP ALLOYS
- HARDENED STEELS

M226
METRIC SERIES

continued

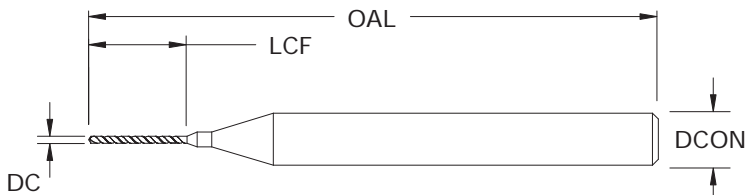
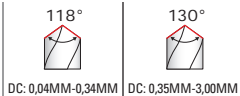
DECIMAL DC	METRIC DC	mm						EDP NO.	
		FRACTIONAL/ LETTER/WIRE DC	SHANK DIAMETER DCON	OVERALL LENGTH OAL	FLUTE LENGTH LCF	USABLE LENGTH LU	POINT ANGLE	UNCOATED	TI-NAMITE®-A (AlTiN)
0.0154	0,390 mm		3,0	38,0	6,4	5,8	130	07758	07414
0.0157	0,400 mm		3,0	38,0	6,4	5,8	130	07759	07415
0.0161	0,410 mm		3,0	38,0	6,4	5,8	130	07760	07416
0.0165	0,420 mm		3,0	38,0	6,4	5,8	130	07761	07417
0.0169	0,430 mm		3,0	38,0	6,4	5,8	130	07762	07418
0.0173	0,440 mm		3,0	38,0	6,4	5,7	130	07763	07419
0.0177	0,450 mm		3,0	38,0	6,4	5,7	130	07764	07420
0.0181	0,460 mm		3,0	38,0	6,4	5,7	130	07765	07421
0.0185	0,470 mm		3,0	38,0	6,4	5,7	130	07766	07422
0.0189	0,480 mm		3,0	38,0	6,6	5,9	130	07767	07423
0.0193	0,490 mm		3,0	38,0	6,6	5,9	130	07768	07424
0.0197	0,500 mm		3,0	38,0	6,6	5,9	130	07769	07425
0.0201	0,510 mm		3,0	38,0	6,6	5,8	130	07770	07426
0.0205	0,520 mm		3,0	38,0	6,6	5,8	130	07771	07427
0.0209	0,530 mm		3,0	38,0	6,6	5,8	130	07772	07428
0.0213	0,540 mm		3,0	38,0	6,6	5,8	130	07773	07429
0.0217	0,550 mm		3,0	38,0	8,6	7,8	130	07774	07430
0.0220	0,560 mm		3,0	38,0	8,6	7,8	130	07775	07431
0.0224	0,570 mm		3,0	38,0	8,6	7,7	130	07776	07432
0.0228	0,580 mm		3,0	38,0	8,6	7,7	130	07777	07433
0.0232	0,590 mm		3,0	38,0	8,6	7,7	130	07778	07434
0.0236	0,600 mm		3,0	38,0	8,6	7,7	130	07779	07435
0.0240	0,610 mm	#73	3,0	38,0	8,6	7,7	130	07780	07436
0.0244	0,620 mm		3,0	38,0	8,6	7,7	130	07781	07437
0.0248	0,630 mm		3,0	38,0	8,6	7,7	130	07782	07438
0.0252	0,640 mm		3,0	38,0	8,6	7,6	130	07783	07439
0.0256	0,650 mm		3,0	38,0	8,6	7,6	130	07784	07440
0.0260	0,660 mm	#71	3,0	38,0	8,6	7,6	130	07785	07441
0.0264	0,670 mm		3,0	38,0	8,6	7,6	130	07786	07442
0.0268	0,680 mm		3,0	38,0	8,6	7,6	130	07787	07443
0.0272	0,690 mm		3,0	38,0	8,6	7,6	130	07788	07444
0.0276	0,700 mm		3,0	38,0	10,2	9,2	130	07789	07445
0.0280	0,710 mm	#70	3,0	38,0	10,2	9,1	130	07790	07446
0.0283	0,720 mm		3,0	38,0	10,2	9,1	130	07791	07447
0.0287	0,730 mm		3,0	38,0	10,2	9,1	130	07792	07448
0.0291	0,740 mm		3,0	38,0	10,2	9,1	130	07793	07449

continued on next page

2 Flute External Coolant



3-12xD



M226 METRIC SERIES

continued

mm								EDP NO.	
DECIMAL DC	METRIC DC	FRACTIONAL/ LETTER/WIRE DC	SHANK DIAMETER DCON	OVERALL LENGTH OAL	FLUTE LENGTH LCF	USABLE LENGTH LU	POINT ANGLE	UNCOATED	TI-NAMITE®-A (AITIN)
0.0295	0,750 mm		3,0	38,0	10,2	9,1	130	07794	07450
0.0295	0,750 mm		3,0	50,0	11,0	9,9	130	07795	07451
0.0299	0,760 mm		3,0	38,0	10,2	9,1	130	07796	07452
0.0303	0,770 mm		3,0	38,0	10,2	9,0	130	07797	07453
0.0307	0,780 mm		3,0	38,0	10,2	9,0	130	07798	07454
0.0311	0,790 mm		3,0	38,0	10,2	9,0	130	07799	07455
0.0315	0,800 mm		3,0	38,0	10,2	9,0	130	07800	07456
0.0315	0,800 mm		3,0	50,0	11,0	9,8	130	07801	07457
0.0319	0,810 mm		3,0	38,0	10,2	9,0	130	07802	07458
0.0323	0,820 mm		3,0	38,0	10,2	9,0	130	07803	07459
0.0327	0,830 mm		3,0	38,0	10,2	9,0	130	07804	07460
0.0331	0,840 mm		3,0	38,0	10,2	8,9	130	07805	07461
0.0335	0,850 mm		3,0	38,0	10,2	8,9	130	07806	07462
0.0335	0,850 mm		3,0	50,0	13,0	11,7	130	07807	07463
0.0339	0,860 mm		3,0	38,0	10,2	8,9	130	07808	07464
0.0343	0,870 mm		3,0	38,0	10,2	8,9	130	07809	07465
0.0346	0,880 mm		3,0	38,0	10,2	8,9	130	07810	07466
0.0350	0,890 mm	#65	3,0	38,0	10,2	8,9	130	07811	07467
0.0354	0,900 mm		3,0	38,0	10,2	8,9	130	07812	07468
0.0354	0,900 mm		3,0	50,0	13,0	11,7	130	07813	07469
0.0358	0,910 mm		3,0	38,0	10,2	8,8	130	07814	07470
0.0362	0,920 mm		3,0	38,0	10,2	8,8	130	07815	07471
0.0366	0,930 mm		3,0	38,0	10,2	8,8	130	07816	07472
0.0370	0,940 mm	#63	3,0	38,0	10,2	8,8	130	07817	07473
0.0374	0,950 mm		3,0	38,0	10,2	8,8	130	07818	07474
0.0374	0,950 mm		3,0	50,0	15,0	13,6	130	07819	07475
0.0378	0,960 mm		3,0	38,0	10,2	8,8	130	07820	07476
0.0382	0,970 mm		3,0	38,0	10,2	8,7	130	07821	07477
0.0386	0,980 mm		3,0	38,0	10,2	8,7	130	07822	07478
0.0390	0,990 mm	#61	3,0	38,0	10,2	8,7	130	07823	07479
0.0394	1,000 mm		3,0	38,0	10,2	8,7	130	07824	07480
0.0394	1,000 mm		3,0	50,0	15,0	13,5	130	07825	07481
0.0398	1,010 mm		3,0	38,0	10,2	8,7	130	07826	07482
0.0402	1,020 mm		3,0	38,0	10,2	8,7	130	07827	07483
0.0406	1,030 mm		3,0	38,0	10,2	8,7	130	07828	07484
0.0409	1,040 mm		3,0	38,0	10,2	8,6	130	07829	07485

TOLERANCES (mm)

0,04–3,0 DIAMETER

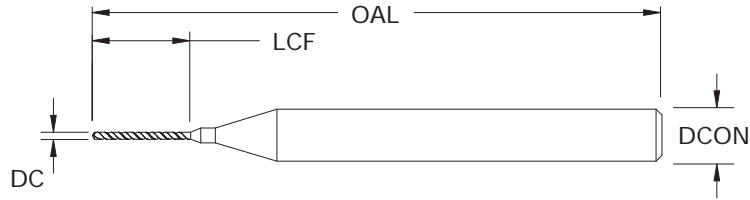
DC = +0,000/-0,008

DCON = h₆

- STEELS
- STAINLESS STEELS
- CAST IRON
- NON-FERROUS
- HIGH TEMP ALLOYS
- HARDENED STEELS

continued on next page

2 Flute External Coolant



M226
METRIC SERIES

continued

TOLERANCES (mm)

0,04–3,0 DIAMETER

DC = +0,000/-0,008

DCON = h₆

- STEELS
- STAINLESS STEELS
- CAST IRON
- NON-FERROUS
- HIGH TEMP ALLOYS
- HARDENED STEELS

mm								EDP NO.	
DECIMAL DC	METRIC DC	FRACTIONAL/ LETTER/WIRE DC	SHANK DIAMETER DCON	OVERALL LENGTH OAL	FLUTE LENGTH LCF	USABLE LENGTH LU	POINT ANGLE	UNCOATED	TI-NAMITE®-A (AITIN)
0.0413	1,050 mm		3,0	38,0	10,2	8,6	130	07830	07486
0.0413	1,050 mm		3,0	50,0	17,0	15,4	130	07831	07487
0.0417	1,060 mm		3,0	38,0	10,2	8,6	130	07832	07488
0.0421	1,070 mm		3,0	38,0	10,2	8,6	130	07833	07489
0.0425	1,080 mm		3,0	38,0	10,2	8,6	130	07834	07490
0.0429	1,090 mm		3,0	38,0	10,2	8,6	130	07835	07491
0.0433	1,100 mm		3,0	38,0	10,2	8,6	130	07836	07492
0.0433	1,100 mm		3,0	50,0	17,0	15,4	130	07837	07493
0.0437	1,110 mm		3,0	38,0	10,2	8,5	130	07838	07494
0.0441	1,120 mm		3,0	38,0	10,2	8,5	130	07839	07495
0.0445	1,130 mm		3,0	38,0	10,2	8,5	130	07840	07496
0.0449	1,140 mm		3,0	38,0	10,2	8,5	130	07841	07497
0.0453	1,150 mm		3,0	38,0	10,2	8,5	130	07842	07498
0.0453	1,150 mm		3,0	50,0	17,0	15,3	130	07843	07499
0.0457	1,160 mm		3,0	38,0	10,2	8,5	130	07844	07500
0.0461	1,170 mm		3,0	38,0	10,2	8,4	130	07845	07501
0.0465	1,180 mm	#56	3,0	38,0	10,2	8,4	130	07846	07502
0.0469	1,190 mm	3/64	3,0	38,0	10,2	8,4	130	07847	07503
0.0472	1,200 mm		3,0	38,0	10,2	8,4	130	07848	07504
0.0472	1,200 mm		3,0	50,0	17,0	15,2	130	07849	07505
0.0476	1,210 mm		3,0	38,0	10,2	8,4	130	07850	07506
0.0480	1,220 mm		3,0	38,0	10,2	8,4	130	07851	07507
0.0484	1,230 mm		3,0	38,0	10,2	8,4	130	07852	07508
0.0488	1,240 mm		3,0	38,0	10,2	8,3	130	07853	07509
0.0492	1,250 mm		3,0	38,0	10,2	8,3	130	07854	07510
0.0492	1,250 mm		3,0	50,0	19,0	17,1	130	07855	07511
0.0496	1,260 mm		3,0	38,0	10,2	8,3	130	07856	07512
0.0500	1,270 mm		3,0	38,0	10,2	8,3	130	07857	07513
0.0504	1,280 mm		3,0	38,0	10,2	8,3	130	07858	07514
0.0508	1,290 mm		3,0	38,0	10,2	8,3	130	07859	07515
0.0512	1,300 mm		3,0	38,0	10,2	8,3	130	07860	07516
0.0512	1,300 mm		3,0	50,0	19,0	17,1	130	07861	07517
0.0516	1,310 mm		3,0	38,0	10,2	8,2	130	07862	07518
0.0520	1,320 mm		3,0	38,0	10,2	8,2	130	07863	07519
0.0524	1,330 mm		3,0	38,0	10,2	8,2	130	07864	07520
0.0528	1,340 mm		3,0	38,0	10,2	8,2	130	07865	07521

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2 Flute External Coolant

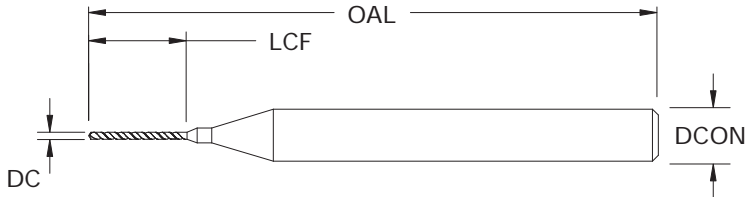


3-12xD



118°
DC: 0,04MM-0,34MM

130°
DC: 0,35MM-3,00MM



M226 METRIC SERIES

continued

mm								EDP NO.	
DECIMAL DC	METRIC DC	FRACTIONAL/ LETTER/WIRE DC	SHANK DIAMETER DCON	OVERALL LENGTH OAL	FLUTE LENGTH LCF	USABLE LENGTH LU	POINT ANGLE	UNCOATED	TI-NAMITE®-A (AITIN)
0.0531	1,350 mm		3,0	38,0	10,2	8,2	130	07866	07522
0.0531	1,350 mm		3,0	50,0	19,0	17,0	130	07867	07523
0.0535	1,360 mm		3,0	38,0	10,2	8,2	130	07868	07524
0.0539	1,370 mm		3,0	38,0	10,2	8,1	130	07869	07525
0.0543	1,380 mm		3,0	38,0	10,2	8,1	130	07870	07526
0.0547	1,390 mm		3,0	38,0	10,2	8,1	130	07871	07527
0.0551	1,400 mm		3,0	38,0	10,2	8,1	130	07872	07528
0.0551	1,400 mm		3,0	50,0	19,0	16,9	130	07873	07529
0.0555	1,410 mm		3,0	38,0	10,2	8,1	130	07874	07530
0.0559	1,420 mm		3,0	38,0	10,2	8,1	130	07875	07531
0.0563	1,430 mm		3,0	38,0	10,2	8,1	130	07876	07532
0.0567	1,440 mm		3,0	38,0	10,2	8,0	130	07877	07533
0.0571	1,450 mm		3,0	38,0	10,2	8,0	130	07878	07534
0.0571	1,450 mm		3,0	50,0	20,0	17,8	130	07879	07535
0.0575	1,460 mm		3,0	38,0	10,2	8,0	130	07880	07536
0.0579	1,470 mm		3,0	38,0	10,2	8,0	130	07881	07537
0.0583	1,480 mm		3,0	38,0	10,2	8,0	130	07882	07538
0.0587	1,490 mm		3,0	38,0	10,2	8,0	130	07883	07539
0.0591	1,500 mm		3,0	38,0	10,2	8,0	130	07884	07540
0.0591	1,500 mm		3,0	50,0	20,0	17,8	130	07885	07541
0.0594	1,510 mm		3,0	38,0	10,2	7,9	130	07886	07542
0.0598	1,520 mm		3,0	38,0	10,2	7,9	130	07887	07543
0.0602	1,530 mm		3,0	38,0	10,2	7,9	130	07888	07544
0.0606	1,540 mm		3,0	38,0	10,2	7,9	130	07889	07545
0.0610	1,550 mm		3,0	38,0	10,2	7,9	130	07890	07546
0.0610	1,550 mm		3,0	50,0	20,0	17,7	130	07891	07547
0.0614	1,560 mm		3,0	38,0	10,2	7,9	130	07892	07548
0.0618	1,570 mm		3,0	38,0	10,2	7,8	130	07893	07549
0.0622	1,580 mm		3,0	38,0	10,2	7,8	130	07894	07550
0.0626	1,590 mm		3,0	38,0	10,2	7,8	130	07895	07551
0.0630	1,600 mm		3,0	38,0	10,2	7,8	130	07896	07552
0.0630	1,600 mm		3,0	50,0	20,0	17,6	130	07897	07553
0.0634	1,610 mm		3,0	38,0	10,2	7,8	130	07898	07554
0.0638	1,620 mm		3,0	38,0	10,2	7,8	130	07899	07555
0.0642	1,630 mm		3,0	38,0	10,2	7,8	130	07900	07556
0.0646	1,640 mm		3,0	38,0	10,2	7,7	130	07901	07557

TOLERANCES (mm)

0,04–3,0 DIAMETER

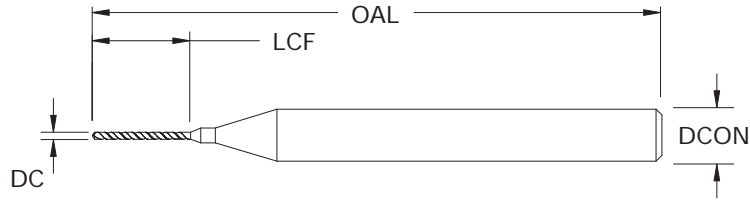
DC = +0,000/-0,008

DCON = h₆

- STEELS
- STAINLESS STEELS
- CAST IRON
- NON-FERROUS
- HIGH TEMP ALLOYS
- HARDENED STEELS

continued on next page

2 Flute External Coolant



M226
METRIC SERIES

continued

TOLERANCES (mm)

0,04–3,0 DIAMETER

DC = +0,000/-0,008

DCON = h₆

- STEELS
- STAINLESS STEELS
- CAST IRON
- NON-FERROUS
- HIGH TEMP ALLOYS
- HARDENED STEELS

DECIMAL DC	METRIC DC	FRACTIONAL/ LETTER/WIRE DC	mm					EDP NO.	
			SHANK DIAMETER DCON	OVERALL LENGTH OAL	FLUTE LENGTH LCF	USABLE LENGTH LU	POINT ANGLE	UNCOATED	TI-NAMITE®-A (AlTiN)
0.0650	1,650 mm		3,0	38,0	10,2	7,7	130	07902	07558
0.0650	1,650 mm		3,0	50,0	20,0	17,5	130	07903	07559
0.0654	1,660 mm		3,0	38,0	10,2	7,7	130	07904	07560
0.0657	1,670 mm		3,0	38,0	10,2	7,7	130	07905	07561
0.0661	1,680 mm		3,0	38,0	10,2	7,7	130	07906	07562
0.0665	1,690 mm		3,0	38,0	10,2	7,7	130	07907	07563
0.0669	1,700 mm		3,0	38,0	10,2	7,7	130	07908	07564
0.0669	1,700 mm		3,0	50,0	20,0	17,5	130	07909	07565
0.0673	1,710 mm		3,0	38,0	10,2	7,6	130	07910	07566
0.0677	1,720 mm		3,0	38,0	10,2	7,6	130	07911	07567
0.0681	1,730 mm		3,0	38,0	10,2	7,6	130	07912	07568
0.0685	1,740 mm		3,0	38,0	10,2	7,6	130	07913	07569
0.0689	1,750 mm		3,0	38,0	10,2	7,6	130	07914	07570
0.0689	1,750 mm		3,0	50,0	20,0	17,4	130	07915	07571
0.0693	1,760 mm		3,0	38,0	10,2	7,6	130	07916	07572
0.0697	1,770 mm		3,0	38,0	10,2	7,5	130	07917	07573
0.0701	1,780 mm		3,0	38,0	10,2	7,5	130	07918	07574
0.0705	1,790 mm		3,0	38,0	10,2	7,5	130	07919	07575
0.0709	1,800 mm		3,0	38,0	10,2	7,5	130	07920	07576
0.0709	1,800 mm		3,0	50,0	20,0	17,3	130	07921	07577
0.0713	1,810 mm		3,0	38,0	10,2	7,5	130	07922	07578
0.0717	1,820 mm		3,0	38,0	10,2	7,5	130	07923	07579
0.0720	1,830 mm		3,0	38,0	10,2	7,5	130	07924	07580
0.0724	1,840 mm		3,0	38,0	10,2	7,4	130	07925	07581
0.0728	1,850 mm		3,0	38,0	10,2	7,4	130	07926	07582
0.0728	1,850 mm		3,0	60,0	22,8	20,0	130	07927	07583
0.0732	1,860 mm		3,0	38,0	10,2	7,4	130	07928	07584
0.0736	1,870 mm		3,0	38,0	10,2	7,4	130	07929	07585
0.0740	1,880 mm		3,0	38,0	10,2	7,4	130	07930	07586
0.0744	1,890 mm		3,0	38,0	10,2	7,4	130	07931	07587
0.0748	1,900 mm		3,0	38,0	10,2	7,4	130	07932	07588
0.0748	1,900 mm		3,0	60,0	22,8	20,0	130	07933	07589
0.0752	1,910 mm		3,0	38,0	10,2	7,3	130	07934	07590
0.0756	1,920 mm		3,0	38,0	10,2	7,3	130	07935	07591
0.0760	1,930 mm	#48	3,0	38,0	10,2	7,3	130	07936	07592
0.0764	1,940 mm		3,0	38,0	10,2	7,3	130	07937	07593

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2 Flute External Coolant

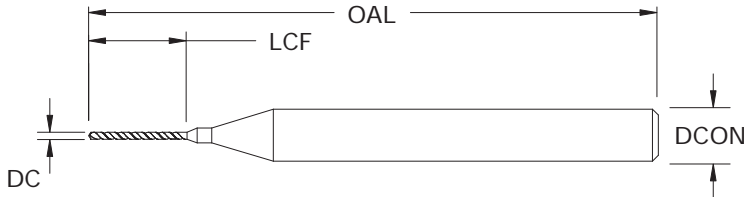


3-12xD



118°
DC: 0,04MM-0,34MM

130°
DC: 0,35MM-3,00MM



M226 METRIC SERIES

continued

mm								EDP NO.	
DECIMAL DC	METRIC DC	FRACTIONAL/ LETTER/WIRE DC	SHANK DIAMETER DCON	OVERALL LENGTH OAL	FLUTE LENGTH LCF	USABLE LENGTH LU	POINT ANGLE	UNCOATED	TI-NAMITE®-A (AITIN)
0.0768	1,950 mm		3,0	38,0	10,2	7,3	130	07938	07594
0.0768	1,950 mm		3,0	60,0	24,0	21,1	130	07939	07595
0.0772	1,960 mm		3,0	38,0	10,2	7,3	130	07940	07596
0.0776	1,970 mm		3,0	38,0	10,2	7,2	130	07941	07597
0.0780	1,980 mm		3,0	38,0	10,2	7,2	130	07942	07598
0.0783	1,990 mm		3,0	38,0	10,2	7,2	130	07943	07599
0.0787	2,000 mm		3,0	38,0	10,2	7,2	130	07944	07600
0.0787	2,000 mm		3,0	60,0	24,0	21,0	130	07945	07601
0.0791	2,010 mm		3,0	38,0	10,2	7,2	130	07946	07602
0.0795	2,020 mm		3,0	38,0	10,2	7,2	130	07947	07603
0.0799	2,030 mm		3,0	38,0	10,2	7,2	130	07948	07604
0.0803	2,040 mm		3,0	38,0	10,2	7,1	130	07949	07605
0.0807	2,050 mm		3,0	38,0	10,2	7,1	130	07950	07606
0.0807	2,050 mm		3,0	60,0	25,2	22,1	130	07951	07607
0.0811	2,060 mm		3,0	38,0	10,2	7,1	130	07952	07608
0.0815	2,070 mm		3,0	38,0	10,2	7,1	130	07953	07609
0.0819	2,080 mm		3,0	38,0	10,2	7,1	130	07954	07610
0.0823	2,090 mm		3,0	38,0	10,2	7,1	130	07955	07611
0.0827	2,100 mm		3,0	38,0	10,2	7,1	130	07956	07612
0.0827	2,100 mm		3,0	60,0	25,2	22,1	130	07957	07613
0.0831	2,110 mm		3,0	38,0	10,2	7,0	130	07958	07614
0.0835	2,120 mm		3,0	38,0	10,2	7,0	130	07959	07615
0.0839	2,130 mm		3,0	38,0	10,2	7,0	130	07960	07616
0.0843	2,140 mm		3,0	38,0	10,2	7,0	130	07961	07617
0.0846	2,150 mm		3,0	38,0	10,2	7,0	130	07962	07618
0.0846	2,150 mm		3,0	60,0	26,4	23,2	130	07963	07619
0.0850	2,160 mm		3,0	38,0	10,2	7,0	130	07964	07620
0.0854	2,170 mm		3,0	38,0	10,2	6,9	130	07965	07621
0.0858	2,180 mm		3,0	38,0	10,2	6,9	130	07966	07622
0.0862	2,190 mm		3,0	38,0	10,2	6,9	130	07967	07623
0.0866	2,200 mm		3,0	38,0	10,2	6,9	130	07968	07624
0.0866	2,200 mm		3,0	60,0	26,4	23,1	130	07969	07625
0.0870	2,210 mm		3,0	38,0	10,2	6,9	130	07970	07626
0.0874	2,220 mm		3,0	38,0	10,2	6,9	130	07971	07627
0.0878	2,230 mm		3,0	38,0	10,2	6,9	130	07972	07628
0.0882	2,240 mm		3,0	38,0	10,2	6,8	130	07973	07629

TOLERANCES (mm)

0,04–3,0 DIAMETER

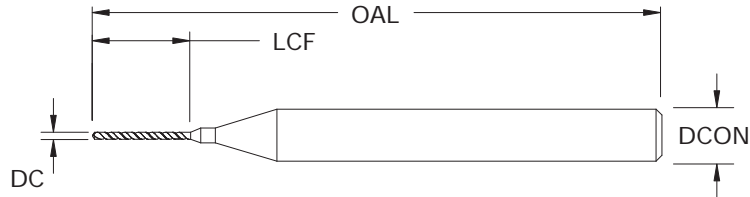
DC = +0,000/-0,008

DCON = h₆

- STEELS
- STAINLESS STEELS
- CAST IRON
- NON-FERROUS
- HIGH TEMP ALLOYS
- HARDENED STEELS

continued on next page

2 Flute External Coolant



M226
METRIC SERIES

continued

TOLERANCES (mm)

0,04–3,0 DIAMETER

DC = +0,000/-0,008

DCON = h₆

- STEELS
- STAINLESS STEELS
- CAST IRON
- NON-FERROUS
- HIGH TEMP ALLOYS
- HARDENED STEELS

mm								EDP NO.	
DECIMAL DC	METRIC DC	FRACTIONAL/ LETTER/WIRE DC	SHANK DIAMETER DCON	OVERALL LENGTH OAL	FLUTE LENGTH LCF	USABLE LENGTH LU	POINT ANGLE	UNCOATED	TI-NAMITE®-A (AITIN)
0.0886	2,250 mm		3,0	38,0	10,2	6,8	130	07974	07630
0.0886	2,250 mm		3,0	60,0	27,6	24,2	130	07975	07631
0.0890	2,260 mm	#43	3,0	38,0	10,2	6,8	130	07976	07632
0.0894	2,270 mm		3,0	38,0	10,2	6,8	130	07977	07633
0.0898	2,280 mm		3,0	38,0	10,2	6,8	130	07978	07634
0.0902	2,290 mm		3,0	38,0	10,2	6,8	130	07979	07635
0.0906	2,300 mm		3,0	38,0	10,2	6,8	130	07980	07636
0.0906	2,300 mm		3,0	60,0	27,6	24,2	130	07981	07637
0.0909	2,310 mm		3,0	38,0	10,2	6,7	130	07982	07638
0.0913	2,320 mm		3,0	38,0	10,2	6,7	130	07983	07639
0.0917	2,330 mm		3,0	38,0	10,2	6,7	130	07984	07640
0.0921	2,340 mm		3,0	38,0	10,2	6,7	130	07985	07641
0.0925	2,350 mm		3,0	38,0	10,2	6,7	130	07986	07642
0.0925	2,350 mm		3,0	60,0	28,8	25,3	130	07987	07643
0.0929	2,360 mm		3,0	38,0	10,2	6,7	130	07988	07644
0.0933	2,370 mm		3,0	38,0	10,2	6,6	130	07989	07645
0.0937	2,380 mm		3,0	38,0	10,2	6,6	130	07990	07646
0.0941	2,390 mm		3,0	38,0	10,2	6,6	130	07991	07647
0.0945	2,400 mm		3,0	38,0	10,2	6,6	130	07992	07648
0.0945	2,400 mm		3,0	60,0	28,8	25,2	130	07993	07649
0.0949	2,410 mm		3,0	38,0	10,2	6,6	130	07994	07650
0.0953	2,420 mm		3,0	38,0	10,2	6,6	130	07995	07651
0.0957	2,430 mm		3,0	38,0	10,2	6,6	130	07996	07652
0.0961	2,440 mm		3,0	38,0	10,2	6,5	130	07997	07653
0.0965	2,450 mm		3,0	38,0	10,2	6,5	130	07998	07654
0.0965	2,450 mm		3,0	60,0	30,0	26,3	130	07999	07655
0.0969	2,460 mm		3,0	38,0	10,2	6,5	130	08000	07656
0.0972	2,470 mm		3,0	38,0	10,2	6,5	130	08001	07657
0.0976	2,480 mm		3,0	38,0	10,2	6,5	130	08002	07658
0.0980	2,490 mm	#40	3,0	38,0	10,2	6,5	130	08003	07659
0.0984	2,500 mm		3,0	38,0	10,2	6,5	130	08004	07660
0.0984	2,500 mm		3,0	60,0	30,0	26,3	130	08005	07661
0.0988	2,510 mm		3,0	38,0	10,2	6,4	130	08006	07662
0.0992	2,520 mm		3,0	38,0	10,2	6,4	130	08007	07663
0.0996	2,530 mm		3,0	38,0	10,2	6,4	130	08008	07664
0.1000	2,540 mm		3,0	38,0	10,2	6,4	130	08009	07665
0.1004	2,550 mm		3,0	38,0	10,2	6,4	130	08010	07666

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2 Flute External Coolant

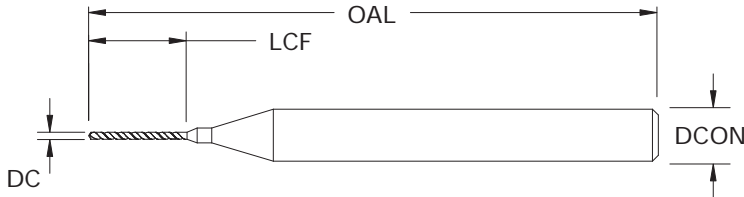


3-12xD



118°
DC: 0,04MM-0,34MM

130°
DC: 0,35MM-3,00MM



M226 METRIC SERIES

continued

mm								EDP NO.	
DECIMAL DC	METRIC DC	FRACTIONAL/ LETTER/WIRE DC	SHANK DIAMETER DCON	OVERALL LENGTH OAL	FLUTE LENGTH LCF	USABLE LENGTH LU	POINT ANGLE	UNCOATED	TI-NAMITE®-A (AITIN)
0.1004	2,550 mm		3,0	60,0	31,2	27,4	130	08011	07667
0.1008	2,560 mm		3,0	38,0	10,2	6,4	130	08012	07668
0.1012	2,570 mm		3,0	38,0	10,2	6,3	130	08013	07669
0.1016	2,580 mm		3,0	38,0	10,2	6,3	130	08014	07670
0.1020	2,590 mm		3,0	38,0	10,2	6,3	130	08015	07671
0.1024	2,600 mm		3,0	38,0	10,2	6,3	130	08016	07672
0.1024	2,600 mm		3,0	60,0	31,2	27,3	130	08017	07673
0.1028	2,610 mm		3,0	38,0	10,2	6,3	130	08018	07674
0.1031	2,620 mm		3,0	38,0	10,2	6,3	130	08019	07675
0.1035	2,630 mm		3,0	38,0	10,2	6,3	130	08020	07676
0.1039	2,640 mm		3,0	38,0	10,2	6,2	130	08021	07677
0.1043	2,650 mm		3,0	38,0	10,2	6,2	130	08022	07678
0.1043	2,650 mm		3,0	60,0	32,4	28,4	130	08023	07679
0.1047	2,660 mm		3,0	38,0	10,2	6,2	130	08024	07680
0.1051	2,670 mm		3,0	38,0	10,2	6,2	130	08025	07681
0.1055	2,680 mm		3,0	38,0	10,2	6,2	130	08026	07682
0.1059	2,690 mm		3,0	38,0	10,2	6,2	130	08027	07683
0.1063	2,700 mm		3,0	38,0	10,2	6,2	130	08028	07684
0.1063	2,700 mm		3,0	60,0	32,4	28,4	130	08029	07685
0.1067	2,710 mm		3,0	38,0	10,2	6,1	130	08030	07686
0.1071	2,720 mm		3,0	38,0	10,2	6,1	130	08031	07687
0.1075	2,730 mm		3,0	38,0	10,2	6,1	130	08032	07688
0.1079	2,740 mm		3,0	38,0	10,2	6,1	130	08033	07689
0.1083	2,750 mm		3,0	38,0	10,2	6,1	130	08034	07690
0.1083	2,750 mm		3,0	60,0	33,6	29,5	130	08035	07691
0.1087	2,760 mm		3,0	38,0	10,2	6,1	130	08036	07692
0.1091	2,770 mm		3,0	38,0	10,2	6,0	130	08037	07693
0.1094	2,780 mm	7/64	3,0	38,0	10,2	6,0	130	08038	07694
0.1098	2,790 mm		3,0	38,0	10,2	6,0	130	08039	07695
0.1102	2,800 mm		3,0	38,0	10,2	6,0	130	08040	07696
0.1102	2,800 mm		3,0	60,0	33,6	29,4	130	08041	07697
0.1106	2,810 mm		3,0	38,0	10,2	6,0	130	08042	07698
0.1110	2,820 mm	#34	3,0	38,0	10,2	6,0	130	08043	07699
0.1114	2,830 mm		3,0	38,0	10,2	6,0	130	08044	07700
0.1118	2,840 mm		3,0	38,0	10,2	5,9	130	08045	07701
0.1122	2,850 mm		3,0	38,0	10,2	5,9	130	08046	07702

TOLERANCES (mm)

0,04–3,0 DIAMETER

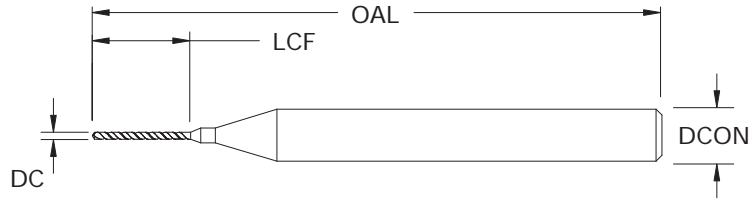
DC = +0,000/-0,008

DCON = h₆

- STEELS
- STAINLESS STEELS
- CAST IRON
- NON-FERROUS
- HIGH TEMP ALLOYS
- HARDENED STEELS

continued on next page

2 Flute External Coolant



TOLERANCES (mm)

0,04–3,0 DIAMETER

DC = +0,000/-0,008

DCON = h₆

- STEELS
- STAINLESS STEELS
- CAST IRON
- NON-FERROUS
- HIGH TEMP ALLOYS
- HARDENED STEELS

M226 METRIC SERIES

continued

DECIMAL DC	METRIC DC	mm						EDP NO.	
		FRACTIONAL/ LETTER/WIRE DC	SHANK DIAMETER DCON	OVERALL LENGTH OAL	FLUTE LENGTH LCF	USABLE LENGTH LU	POINT ANGLE	UNCOATED	TI-NAMITE®-A (AITIN)
0.1122	2,850 mm		3,0	60,0	34,8	30,5	130	08047	07703
0.1126	2,860 mm		3,0	38,0	10,2	5,9	130	08048	07704
0.1130	2,870 mm		3,0	38,0	10,2	5,9	130	08049	07705
0.1134	2,880 mm		3,0	38,0	10,2	5,9	130	08050	07706
0.1138	2,890 mm		3,0	38,0	10,2	5,9	130	08051	07707
0.1142	2,900 mm		3,0	38,0	10,2	5,9	130	08052	07708
0.1142	2,900 mm		3,0	60,0	34,8	30,5	130	08053	07709
0.1146	2,910 mm		3,0	38,0	10,2	5,8	130	08054	07710
0.1150	2,920 mm		3,0	38,0	10,2	5,8	130	08055	07711
0.1154	2,930 mm		3,0	38,0	10,2	5,8	130	08056	07712
0.1157	2,940 mm		3,0	38,0	10,2	5,8	130	08057	07713
0.1161	2,950 mm		3,0	38,0	10,2	5,8	130	08058	07714
0.1161	2,950 mm		3,0	60,0	36,0	31,6	130	08059	07715
0.1165	2,960 mm		3,0	38,0	10,2	5,8	130	08060	07716
0.1169	2,970 mm		3,0	38,0	10,2	5,7	130	08061	07717
0.1173	2,980 mm		3,0	38,0	10,2	5,7	130	08062	07718
0.1177	2,990 mm		3,0	38,0	10,2	5,7	130	08063	07719
0.1181	3,000 mm		3,0	38,0	10,2	5,7	130	08064	07720
0.1181	3,000 mm		3,0	60,0	36,0	31,5	130	08065	07721

2 Flute Left Hand Cut External Coolant



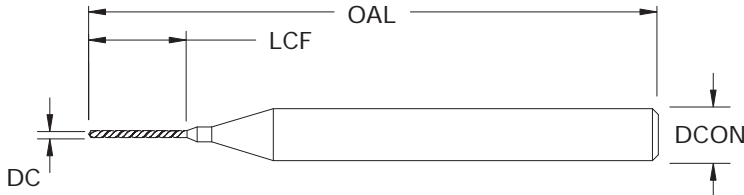
3-12xD



DC: 0,04MM-0,34MM



DC: 0,35MM-3,00MM



L226 METRIC SERIES

- 4-facet point design stabilizes on entry for superior hole size control and tool life (>.08mm). 2-facet point on 0,08 and smaller
- Mirror surface finishes improve chip flow as hole depth increases
- Ti-Namite® A coating and uncoated options for the ultimate performance in a variety of ferrous and non-ferrous workpiece materials
- Available from stock in a selection of popular lengths and diameters
- Application specific sub-micron grain carbide designed specifically for micro-tool applications
- Manufactured in accordance with KSPT ISO certified quality procedures

mm								EDP NO.	
DECIMAL DC	METRIC DC	FRACTIONAL/ LETTER/WIRE DC	SHANK DIAMETER DCON	OVERALL LENGTH OAL	FLUTE LENGTH LCF	USABLE LENGTH LU	POINT ANGLE	UNCOATED	TI-NAMITE®-A (AITIN)
0.0016	0,040 mm		3,0	38,0	0,5	0,4	118	08228	—
0.0020	0,050 mm		3,0	38,0	0,8	0,7	118	08229	—
0.0024	0,060 mm		3,0	38,0	0,8	0,7	118	08230	—
0.0028	0,070 mm		3,0	38,0	1,3	1,2	118	08231	—
0.0031	0,080 mm		3,0	38,0	1,3	1,2	118	08232	—
0.0035	0,090 mm		3,0	38,0	1,3	1,2	118	08233	—
0.0039	0,100 mm		3,0	38,0	1,0	0,9	118	08234	—
0.0043	0,110 mm		3,0	38,0	1,0	0,8	118	08235	—
0.0047	0,120 mm		3,0	38,0	1,0	0,8	118	08236	—
0.0051	0,130 mm		3,0	38,0	1,0	0,8	118	08237	—
0.0055	0,140 mm		3,0	38,0	1,0	0,8	118	08238	—
0.0059	0,150 mm	#97	3,0	38,0	2,0	1,8	118	08239	—
0.0063	0,160 mm	#96	3,0	38,0	2,0	1,8	118	08240	—
0.0067	0,170 mm	#95	3,0	38,0	2,0	1,7	118	08241	—
0.0071	0,180 mm	#94	3,0	38,0	2,5	2,2	118	08242	—
0.0075	0,190 mm	#93	3,0	38,0	2,5	2,2	118	08243	—
0.0079	0,200 mm	#92	3,0	38,0	2,5	2,2	118	08244	—
0.0083	0,210 mm	#91	3,0	38,0	2,5	2,2	118	08245	—
0.0087	0,220 mm	#90	3,0	38,0	2,5	2,2	118	08246	—
0.0091	0,230 mm	#89	3,0	38,0	3,8	3,5	118	08247	—
0.0094	0,240 mm		3,0	38,0	3,8	3,4	118	08248	—
0.0098	0,250 mm		3,0	38,0	3,8	3,4	118	08249	08066
0.0102	0,260 mm		3,0	38,0	3,8	3,4	118	08250	08067
0.0106	0,270 mm		3,0	38,0	3,8	3,4	118	08251	08068
0.0110	0,280 mm	#85	3,0	38,0	3,8	3,4	118	08252	08069
0.0114	0,290 mm		3,0	38,0	3,8	3,4	118	08253	08070
0.0118	0,300 mm		3,0	38,0	5,7	5,3	118	08254	08071
0.0122	0,310 mm		3,0	38,0	5,7	5,2	118	08255	08072
0.0126	0,320 mm		3,0	38,0	5,7	5,2	118	08256	08073
0.0130	0,330 mm	#81	3,0	38,0	5,7	5,2	118	08257	08074
0.0134	0,340 mm		3,0	38,0	5,7	5,2	118	08258	08075
0.0138	0,350 mm		3,0	38,0	5,7	5,2	130	08259	08076
0.0142	0,360 mm		3,0	38,0	5,7	5,2	130	08260	08077
0.0146	0,370 mm		3,0	38,0	5,7	5,1	130	08261	08078

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TOLERANCES (mm)

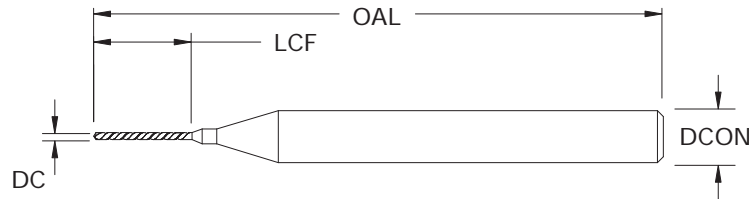
0,04–3,0 DIAMETER

DC = +0,000/–0,008

DCON = h₆

- STEELS
- STAINLESS STEELS
- CAST IRON
- NON-FERROUS
- HIGH TEMP ALLOYS
- HARDENED STEELS

2 Flute Left Hand Cut External Coolant



TOLERANCES (mm)

0,04–3,0 DIAMETER

DC = +0,000/-0,008

DCON = h₆

- STEELS
- STAINLESS STEELS
- CAST IRON
- NON-FERROUS
- HIGH TEMP ALLOYS
- HARDENED STEELS

L226
METRIC SERIES

continued

DECIMAL DC	METRIC DC	FRACTIONAL/ LETTER/WIRE DC	SHANK DIAMETER DCON	mm				EDP NO.	
				OVERALL LENGTH OAL	FLUTE LENGTH LCF	USABLE LENGTH LU	POINT ANGLE	UNCOATED	TI-NAMITE®-A (AlTiN)
0.0150	0,380 mm		3,0	38,0	6,4	5,8	130	08262	08079
0.0154	0,390 mm		3,0	38,0	6,4	5,8	130	08263	08080
0.0157	0,400 mm		3,0	38,0	6,4	5,8	130	08264	08081
0.0161	0,410 mm		3,0	38,0	6,4	5,8	130	08265	08082
0.0165	0,420 mm		3,0	38,0	6,4	5,8	130	08266	08083
0.0169	0,430 mm		3,0	38,0	6,4	5,8	130	08267	08084
0.0173	0,440 mm		3,0	38,0	6,4	5,7	130	08268	08085
0.0177	0,450 mm		3,0	38,0	6,4	5,7	130	08269	08086
0.0181	0,460 mm		3,0	38,0	6,4	5,7	130	08270	08087
0.0185	0,470 mm		3,0	38,0	6,4	5,7	130	08271	08088
0.0189	0,480 mm		3,0	38,0	6,6	5,9	130	08272	08089
0.0193	0,490 mm		3,0	38,0	6,6	5,9	130	08273	08090
0.0197	0,500 mm		3,0	38,0	6,6	5,9	130	08274	08091
0.0201	0,510 mm		3,0	38,0	6,6	5,8	130	08275	08092
0.0205	0,520 mm		3,0	38,0	6,6	5,8	130	08276	08093
0.0209	0,530 mm		3,0	38,0	6,6	5,8	130	08277	08094
0.0213	0,540 mm		3,0	38,0	6,6	5,8	130	08278	08095
0.0217	0,550 mm		3,0	38,0	8,6	7,8	130	08279	08096
0.0220	0,560 mm		3,0	38,0	8,6	7,8	130	08280	08097
0.0224	0,570 mm		3,0	38,0	8,6	7,7	130	08281	08098
0.0228	0,580 mm		3,0	38,0	8,6	7,7	130	08282	08099
0.0232	0,590 mm		3,0	38,0	8,6	7,7	130	08283	08100
0.0236	0,600 mm		3,0	38,0	8,6	7,7	130	08284	08101
0.0240	0,610 mm	#73	3,0	38,0	8,6	7,7	130	08285	08102
0.0244	0,620 mm		3,0	38,0	8,6	7,7	130	08286	08103
0.0248	0,630 mm		3,0	38,0	8,6	7,7	130	08287	08104
0.0252	0,640 mm		3,0	38,0	8,6	7,6	130	08288	08105
0.0256	0,650 mm		3,0	38,0	8,6	7,6	130	08289	08106
0.0260	0,660 mm	#71	3,0	38,0	8,6	7,6	130	08290	08107
0.0264	0,670 mm		3,0	38,0	8,6	7,6	130	08291	08108
0.0268	0,680 mm		3,0	38,0	8,6	7,6	130	08292	08109
0.0272	0,690 mm		3,0	38,0	8,6	7,6	130	08293	08110
0.0276	0,700 mm		3,0	38,0	10,2	9,2	130	08294	08111
0.0280	0,710 mm	#70	3,0	38,0	10,2	9,1	130	08295	08112

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2 Flute Left Hand Cut External Coolant



3-12xD



118°

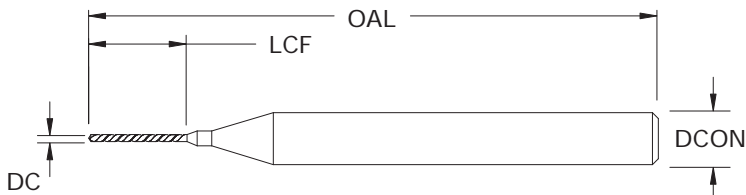


DC: 0,04MM-0,34MM

130°



DC: 0,35MM-3,00MM



L226 METRIC SERIES

continued

mm								EDP NO.	
DECIMAL DC	METRIC DC	FRACTIONAL/ LETTER/WIRE DC	SHANK DIAMETER DCON	OVERALL LENGTH OAL	FLUTE LENGTH LCF	USABLE LENGTH LU	POINT ANGLE	UNCOATED	TI-NAMITE®-A (AITIN)
0.0283	0,720 mm		3,0	38,0	10,2	9,1	130	08296	08113
0.0287	0,730 mm		3,0	38,0	10,2	9,1	130	08297	08114
0.0291	0,740 mm		3,0	38,0	10,2	9,1	130	08298	08115
0.0295	0,750 mm		3,0	38,0	10,2	9,1	130	08299	08116
0.0295	0,750 mm		3,0	50,0	11,0	9,9	130	08300	08117
0.0299	0,760 mm		3,0	38,0	10,2	9,1	130	08301	08118
0.0303	0,770 mm		3,0	38,0	10,2	9,0	130	08302	08119
0.0307	0,780 mm		3,0	38,0	10,2	9,0	130	08303	08120
0.0311	0,790 mm		3,0	38,0	10,2	9,0	130	08304	08121
0.0315	0,800 mm		3,0	38,0	10,2	9,0	130	08305	08122
0.0315	0,800 mm		3,0	50,0	11,0	9,8	130	08306	08123
0.0319	0,810 mm		3,0	38,0	10,2	9,0	130	08307	08124
0.0323	0,820 mm		3,0	38,0	10,2	9,0	130	08308	08125
0.0327	0,830 mm		3,0	38,0	10,2	9,0	130	08309	08126
0.0331	0,840 mm		3,0	38,0	10,2	8,9	130	08310	08127
0.0335	0,850 mm		3,0	38,0	10,2	8,9	130	08311	08128
0.0335	0,850 mm		3,0	50,0	13,0	11,7	130	08312	08129
0.0339	0,860 mm		3,0	38,0	10,2	8,9	130	08313	08130
0.0343	0,870 mm		3,0	38,0	10,2	8,9	130	08314	08131
0.0346	0,880 mm		3,0	38,0	10,2	8,9	130	08315	08132
0.0350	0,890 mm	#65	3,0	38,0	10,2	8,9	130	08316	08133
0.0354	0,900 mm		3,0	38,0	10,2	8,9	130	08317	08134
0.0354	0,900 mm		3,0	50,0	13,0	11,7	130	08318	08135
0.0358	0,910 mm		3,0	38,0	10,2	8,8	130	08319	08136
0.0362	0,920 mm		3,0	38,0	10,2	8,8	130	08320	08137
0.0366	0,930 mm		3,0	38,0	10,2	8,8	130	08321	08138
0.0370	0,940 mm	#63	3,0	38,0	10,2	8,8	130	08322	08139
0.0374	0,950 mm		3,0	38,0	10,2	8,8	130	08323	08140
0.0374	0,950 mm		3,0	50,0	15,0	13,6	130	08324	08141
0.0378	0,960 mm		3,0	38,0	10,2	8,8	130	08325	08142
0.0382	0,970 mm		3,0	38,0	10,2	8,7	130	08326	08143
0.0386	0,980 mm		3,0	38,0	10,2	8,7	130	08327	08144
0.0390	0,990 mm	#61	3,0	38,0	10,2	8,7	130	08328	08145
0.0394	1,000 mm		3,0	38,0	10,2	8,7	130	08329	08146

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TOLERANCES (mm)

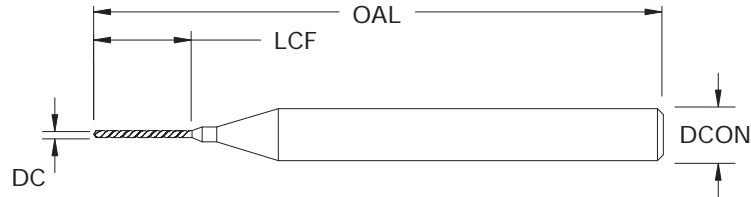
0,04–3,0 DIAMETER

DC = +0,000/-0,008

DCON = h₆

- STEELS
- STAINLESS STEELS
- CAST IRON
- NON-FERROUS
- HIGH TEMP ALLOYS
- HARDENED STEELS

2 Flute Left Hand Cut External Coolant



TOLERANCES (mm)

0,04–3,0 DIAMETER

DC = +0,000/-0,008

DCON = h₆

- STEELS
- STAINLESS STEELS
- CAST IRON
- NON-FERROUS
- HIGH TEMP ALLOYS
- HARDENED STEELS

L226
METRIC SERIES

continued

mm								EDP NO.	
DECIMAL DC	METRIC DC	FRACTIONAL/ LETTER/WIRE DC	SHANK DIAMETER DCON	OVERALL LENGTH OAL	FLUTE LENGTH LCF	USABLE LENGTH LU	POINT ANGLE	UNCOATED	TI-NAMITE®-A (AITiN)
0.0394	1,000 mm		3,0	50,0	15,0	13,5	130	08330	08147
0.0413	1,050 mm		3,0	38,0	10,2	8,6	130	08331	08148
0.0413	1,050 mm		3,0	50,0	17,0	15,4	130	08332	08149
0.0433	1,100 mm		3,0	38,0	10,2	8,6	130	08333	08150
0.0433	1,100 mm		3,0	50,0	17,0	15,4	130	08334	08151
0.0453	1,150 mm		3,0	38,0	10,2	8,5	130	08335	08152
0.0453	1,150 mm		3,0	50,0	17,0	15,3	130	08336	08153
0.0472	1,200 mm		3,0	38,0	10,2	8,4	130	08337	08154
0.0472	1,200 mm		3,0	50,0	17,0	15,2	130	08338	08155
0.0492	1,250 mm		3,0	38,0	10,2	8,3	130	08339	08156
0.0492	1,250 mm		3,0	50,0	19,0	17,1	130	08340	08157
0.0512	1,300 mm		3,0	38,0	10,2	8,3	130	08341	08158
0.0512	1,300 mm		3,0	50,0	19,0	17,1	130	08342	08159
0.0531	1,350 mm		3,0	38,0	10,2	8,2	130	08343	08160
0.0531	1,350 mm		3,0	50,0	19,0	17,0	130	08344	08161
0.0551	1,400 mm		3,0	38,0	10,2	8,1	130	08345	08162
0.0551	1,400 mm		3,0	50,0	19,0	16,9	130	08346	08163
0.0571	1,450 mm		3,0	38,0	10,2	8,0	130	08347	08164
0.0571	1,450 mm		3,0	50,0	20,0	17,8	130	08348	08165
0.0591	1,500 mm		3,0	38,0	10,2	8,0	130	08349	08166
0.0591	1,500 mm		3,0	50,0	20,0	17,8	130	08350	08167
0.0610	1,550 mm		3,0	38,0	10,2	7,9	130	08351	08168
0.0610	1,550 mm		3,0	50,0	20,0	17,7	130	08352	08169
0.0630	1,600 mm		3,0	38,0	10,2	7,8	130	08353	08170
0.0630	1,600 mm		3,0	50,0	20,0	17,6	130	08354	08171
0.0650	1,650 mm		3,0	38,0	10,2	7,7	130	08355	08172
0.0650	1,650 mm		3,0	50,0	20,0	17,5	130	08356	08173
0.0669	1,700 mm		3,0	38,0	10,2	7,7	130	08357	08174
0.0669	1,700 mm		3,0	50,0	20,0	17,5	130	08358	08175
0.0689	1,750 mm		3,0	38,0	10,2	7,6	130	08359	08176
0.0689	1,750 mm		3,0	50,0	20,0	17,4	130	08360	08177
0.0709	1,800 mm		3,0	38,0	10,2	7,5	130	08361	08178
0.0709	1,800 mm		3,0	50,0	20,0	17,3	130	08362	08179
0.0728	1,850 mm		3,0	38,0	10,2	7,4	130	08363	08180

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2 Flute Left Hand Cut External Coolant



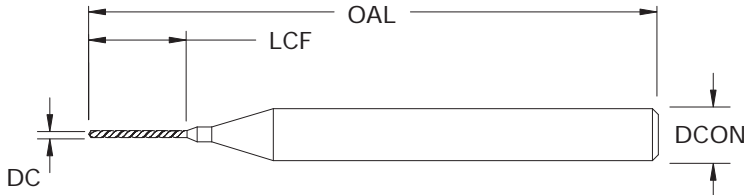
3-12xD



DC: 0,04MM-0,34MM



DC: 0,35MM-3,00MM



L226 METRIC SERIES

continued

mm								EDP NO.	
DECIMAL DC	METRIC DC	FRACTIONAL/ LETTER/WIRE DC	SHANK DIAMETER DCON	OVERALL LENGTH OAL	FLUTE LENGTH LCF	USABLE LENGTH LU	POINT ANGLE	UNCOATED	TI-NAMITE®-A (AITiN)
0.0728	1,850 mm		3,0	60,0	22,8	20,0	130	08364	08181
0.0748	1,900 mm		3,0	38,0	10,2	7,4	130	08365	08182
0.0748	1,900 mm		3,0	60,0	22,8	20,0	130	08366	08183
0.0768	1,950 mm		3,0	38,0	10,2	7,3	130	08367	08184
0.0768	1,950 mm		3,0	60,0	24,0	21,1	130	08368	08185
0.0787	2,000 mm		3,0	38,0	10,2	7,2	130	08369	08186
0.0787	2,000 mm		3,0	60,0	24,0	21,0	130	08370	08187
0.0807	2,050 mm		3,0	38,0	10,2	7,1	130	08371	08188
0.0807	2,050 mm		3,0	60,0	25,2	22,1	130	08372	08189
0.0827	2,100 mm		3,0	38,0	10,2	7,1	130	08373	08190
0.0827	2,100 mm		3,0	60,0	25,2	22,1	130	08374	08191
0.0846	2,150 mm		3,0	38,0	10,2	7,0	130	08375	08192
0.0846	2,150 mm		3,0	60,0	26,4	23,2	130	08376	08193
0.0866	2,200 mm		3,0	38,0	10,2	6,9	130	08377	08194
0.0866	2,200 mm		3,0	60,0	26,4	23,1	130	08378	08195
0.0886	2,250 mm		3,0	38,0	10,2	6,8	130	08379	08196
0.0886	2,250 mm		3,0	60,0	27,6	24,2	130	08380	08197
0.0906	2,300 mm		3,0	38,0	10,2	6,8	130	08381	08198
0.0906	2,300 mm		3,0	60,0	27,6	24,2	130	08382	08199
0.0925	2,350 mm		3,0	38,0	10,2	6,7	130	08383	08200
0.0925	2,350 mm		3,0	60,0	28,8	25,3	130	08384	08201
0.0945	2,400 mm		3,0	38,0	10,2	6,6	130	08385	08202
0.0945	2,400 mm		3,0	60,0	28,8	25,2	130	08386	08203
0.0965	2,450 mm		3,0	38,0	10,2	6,5	130	08387	08204
0.0965	2,450 mm		3,0	60,0	30,0	26,3	130	08388	08205
0.0984	2,500 mm		3,0	38,0	10,2	6,5	130	08389	08206
0.0984	2,500 mm		3,0	60,0	30,0	26,3	130	08390	08207
0.1004	2,550 mm		3,0	38,0	10,2	6,4	130	08391	08208
0.1004	2,550 mm		3,0	60,0	31,2	27,4	130	08392	08209
0.1024	2,600 mm		3,0	38,0	10,2	6,3	130	08393	08210
0.1024	2,600 mm		3,0	60,0	31,2	27,3	130	08394	08211
0.1043	2,650 mm		3,0	38,0	10,2	6,2	130	08395	08212
0.1043	2,650 mm		3,0	60,0	32,4	28,4	130	08396	08213
0.1063	2,700 mm		3,0	38,0	10,2	6,2	130	08397	08214
0.1063	2,700 mm		3,0	60,0	32,4	28,4	130	08398	08215
0.1083	2,750 mm		3,0	38,0	10,2	6,1	130	08399	08216

TOLERANCES (mm)

0,04–3,0 DIAMETER

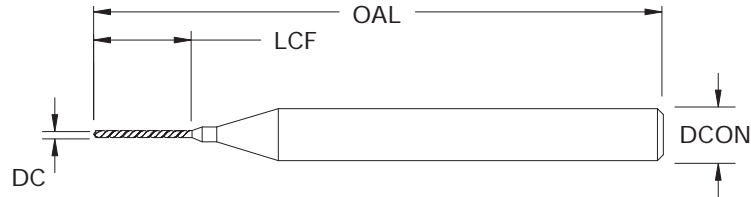
DC = +0,000/-0,008

DCON = h₆

- STEELS
- STAINLESS STEELS
- CAST IRON
- NON-FERROUS
- HIGH TEMP ALLOYS
- HARDENED STEELS

continued on next page

2 Flute Left Hand Cut External Coolant



TOLERANCES (mm)

0,04–3,0 DIAMETER

DC = +0,000/-0,008

DCON = h₆

- STEELS
- STAINLESS STEELS
- CAST IRON
- NON-FERROUS
- HIGH TEMP ALLOYS
- HARDENED STEELS

L226
METRIC SERIES

continued

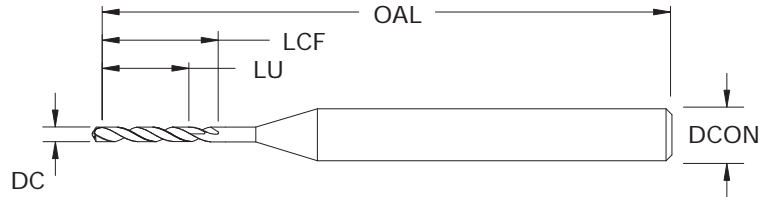
mm								EDP NO.	
DECIMAL DC	METRIC DC	FRACTIONAL/ LETTER/WIRE DC	SHANK DIAMETER DCON	OVERALL LENGTH OAL	FLUTE LENGTH LCF	USABLE LENGTH LU	POINT ANGLE	UNCOATED	TI-NAMITE®-A (AlTiN)
0.1083	2,750 mm		3,0	60,0	33,6	29,5	130	08400	08217
0.1102	2,800 mm		3,0	38,0	10,2	6,0	130	08401	08218
0.1102	2,800 mm		3,0	60,0	33,6	29,4	130	08402	08219
0.1122	2,850 mm		3,0	38,0	10,2	5,9	130	08403	08220
0.1122	2,850 mm		3,0	60,0	34,8	30,5	130	08404	08221
0.1142	2,900 mm		3,0	38,0	10,2	5,9	130	08405	08222
0.1142	2,900 mm		3,0	60,0	34,8	30,5	130	08406	08223
0.1161	2,950 mm		3,0	38,0	10,2	5,8	130	08407	08224
0.1161	2,950 mm		3,0	60,0	36,0	31,6	130	08408	08225
0.1181	3,000 mm		3,0	38,0	10,2	5,7	130	08409	08226
0.1181	3,000 mm		3,0	60,0	36,0	31,5	130	08410	08227

Series M226 • L226

Series M226 • L226	Hardness	Vc (m/min)	DC • mm							
			0.04	0.25	0.5	1	2	3		
P	CARBON STEELS 1018, 1040, 1080, 1090, 10L50, 1140, 1212, 12L15, 1525, 1536	≤ 175 Bhn or ≤ 7 HRc	40 (32-48)	RPM	315060	50410	25205	12602	6301	4201
				Fr	0.0012	0.0072	0.0144	0.0288	0.0576	0.0865
				Feed (mm/min)	363	363	363	363	363	363
				RPM	472590	75614	37807	18904	9452	6301
				Fr	0.0010	0.0065	0.0130	0.0261	0.0521	0.0782
				Feed (mm/min)	493	493	493	493	493	493
M	STAINLESS STEELS (DIFFICULT) 304, 304L, 316, 316L	≤ 275 Bhn or ≤ 28 HRc	20 (16-24)	RPM	157530	25205	12602	6301	3151	2100
				Fr	0.0009	0.0054	0.0109	0.0218	0.0435	0.0653
				Feed (mm/min)	137	137	137	137	137	137
				RPM	96942	15511	7755	3878	1939	1293
				Fr	0.0007	0.0044	0.0088	0.0177	0.0354	0.0531
				Feed (mm/min)	69	69	69	69	69	69
K	CAST IRONS Gray, Malleable, Ductile	≤ 220 Bhn or ≤ 19 HRc	85 (68-102)	RPM	678591	108575	54287	27144	13572	9048
				Fr	0.0007	0.0041	0.0082	0.0164	0.0328	0.0491
				Feed (mm/min)	445	445	445	445	445	445
				RPM	593768	95003	47501	23751	11875	7917
				Fr	0.0020	0.0123	0.0247	0.0493	0.0986	0.1479
				Feed (mm/min)	1171	1171	1171	1171	1171	1171
N	ALUMINUM ALLOYS 2017, 2024, 356, 6061, 7075	≤ 150 Bhn or ≤ 7 HRc	75 (60-90)	RPM	436237	69798	34899	17449	8725	5816
				Fr	0.0020	0.0123	0.0247	0.0493	0.0987	0.1480
				Feed (mm/min)	861	861	861	861	861	861
				RPM	593768	95003	47501	23751	11875	7917
				Fr	0.0020	0.0123	0.0247	0.0493	0.0986	0.1479
				Feed (mm/min)	1171	1171	1171	1171	1171	1171
S	COPPER ALLOYS Alum Bronze, C110, Muntz Brass	≤ 140 Bhn or ≤ 3 HRc	55 (44-66)	RPM	593768	95003	47501	23751	11875	7917
				Fr	0.0020	0.0123	0.0247	0.0493	0.0986	0.1479
				Feed (mm/min)	1171	1171	1171	1171	1171	1171
				RPM	121177	19388	9694	4847	2424	1616
				Fr	0.0004	0.0028	0.0055	0.0110	0.0220	0.0330
				Feed (mm/min)	53	53	53	53	53	53
H	PLASTICS Polycarbonate, PVC	≤ 320 Bhn or ≤ 34 HRc	15 (12-18)	RPM	121177	19388	9694	4847	2424	1616
				Fr	0.0007	0.0042	0.0085	0.0170	0.0339	0.0509
				Feed (mm/min)	82	82	82	82	82	82
				RPM	193883	31021	15511	7755	3878	2585
				Fr	0.0005	0.0033	0.0066	0.0131	0.0262	0.0393
				Feed (mm/min)	102	102	102	102	102	102
H	HIGH TEMP ALLOYS (NICKEL, COBALT, IRON BASE) Inconel 601, 617, 625, Incoloy 800, Monel 400, Rene, Waspaloy	≤ 350 Bhn or ≤ 38 HRc	15 (12-18)	RPM	193883	31021	15511	7755	3878	2585
				Fr	0.0005	0.0033	0.0066	0.0131	0.0262	0.0393
				Feed (mm/min)	102	102	102	102	102	102
				RPM	121177	19388	9694	4847	2424	1616
				Fr	0.0007	0.0042	0.0085	0.0170	0.0339	0.0509
				Feed (mm/min)	82	82	82	82	82	82
H	TITANIUM ALLOYS Ti6Al4V, Ti6Al2Sn4Zr2Mo, Ti4Al4Mo2Sn0.5Si	≤ 475 Bhn or ≤ 50 HRc	24 (20-29)	RPM	121177	19388	9694	4847	2424	1616
				Fr	0.0007	0.0042	0.0085	0.0170	0.0339	0.0509
				Feed (mm/min)	82	82	82	82	82	82
				RPM	193883	31021	15511	7755	3878	2585
				Fr	0.0005	0.0033	0.0066	0.0131	0.0262	0.0393
				Feed (mm/min)	102	102	102	102	102	102
H	TOOL STEELS A2, D2, H13, L2, M2, P20, S7, T15, W2	≤ 475 Bhn or ≤ 50 HRc	24 (20-29)	RPM	193883	31021	15511	7755	3878	2585
				Fr	0.0005	0.0033	0.0066	0.0131	0.0262	0.0393
				Feed (mm/min)	102	102	102	102	102	102

- Note:**
- Bhn (Brinell) HRc (Rockwell C) HRb (Rockwell B)
 - rpm = (Vc x 1000) / (DC x 3.14)
 - mm/min = Fr x rpm (Fr x maximum available rpm when recommendation exceeds machine limit)
 - reduce speed and feed 30% when using uncoated drills
 - reduce speed and feed for materials harder than listed
 - refer to the KYOCERA SGS Tool Wizard® for complete technical information (www.kyocera-sgstool.com)

2 Flute Internal Coolant



M814
METRIC SERIES

TOLERANCES (mm)

1,0–3,0 DIAMETER

DC = +0,000/–0,006 (k6)

DCON = h₆

>3,0–4,0 DIAMETER

DC = +0,000/–0,009 (k6)

DCON = h₆

- STEELS
- STAINLESS STEELS
- CAST IRON
- NON-FERROUS
- HIGH TEMP ALLOYS
- HARDENED STEELS

mm						EDP NO.
DECIMAL DC	METRIC DC	SHANK DIAMETER DCON	OVERALL LENGTH OAL	FLUTE LENGTH LCF	CLEARED LENGTH LU	TI-NAMITE®-CR (AlCrN)
0.0394	1,000 mm	4,0	53,0	13,3	11,8	06000
0.0394	1,000 mm	4,0	53,0	20,3	18,8	06031
0.0433	1,100 mm	4,0	53,0	14,1	12,5	06001
0.0433	1,100 mm	4,0	53,0	21,8	20,2	06032
0.0472	1,200 mm	4,0	53,0	14,9	13,1	06002
0.0472	1,200 mm	4,0	53,0	23,3	21,5	06033
0.0512	1,300 mm	4,0	64,0	15,7	13,8	06003
0.0512	1,300 mm	4,0	64,0	24,8	22,9	06034
0.0551	1,400 mm	4,0	64,0	16,5	14,4	06004
0.0551	1,400 mm	4,0	64,0	26,3	24,2	06035
0.0591	1,500 mm	4,0	64,0	17,3	15,1	06005
0.0591	1,500 mm	4,0	64,0	27,8	25,6	06036
0.0630	1,600 mm	4,0	64,0	18,1	15,7	06006
0.0630	1,600 mm	4,0	64,0	29,3	26,9	06037
0.0669	1,700 mm	4,0	64,0	18,9	16,4	06007
0.0669	1,700 mm	4,0	64,0	30,8	28,3	06038
0.0709	1,800 mm	4,0	76,0	20,4	17,7	06008
0.0709	1,800 mm	4,0	76,0	33,0	30,3	06039
0.0748	1,900 mm	4,0	76,0	21,2	18,4	06009
0.0748	1,900 mm	4,0	76,0	34,5	31,7	06040
0.0787	2,000 mm	4,0	76,0	22,0	19,0	06010
0.0787	2,000 mm	4,0	76,0	36,0	33,0	06041
0.0827	2,100 mm	4,0	76,0	22,8	19,7	06011
0.0827	2,100 mm	4,0	76,0	37,5	34,4	06042
0.0866	2,200 mm	4,0	76,0	25,7	22,4	06012
0.0866	2,200 mm	4,0	76,0	41,1	37,8	06043
0.0906	2,300 mm	4,0	76,0	26,5	23,1	06013
0.0906	2,300 mm	4,0	76,0	42,6	39,2	06044
0.0945	2,400 mm	4,0	76,0	27,3	23,7	06014
0.0945	2,400 mm	4,0	76,0	44,1	40,5	06045
0.0984	2,500 mm	4,0	76,0	28,1	24,4	06015
0.0984	2,500 mm	4,0	64,0	45,6	41,9	06046

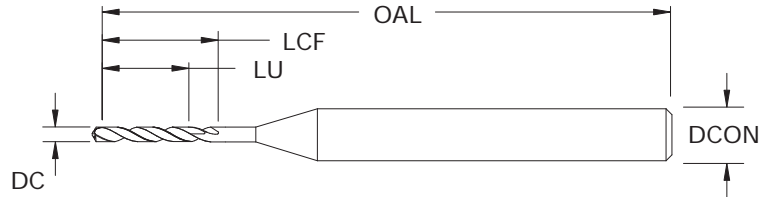
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- Split point and double margin design provide superior hole finish and size control
- Coolant hole feature allows straight through drilling without a peck cycle
- Proprietary high-performance coating and mirror polished fluting increase tool life and productivity in moderate-to-difficult workpiece materials
- Available from stock in a selection of popular lengths and diameters
- Application specific sub-micron grain carbide designed specifically for micro-tool applications
- Manufactured in accordance with KSPT ISO certified quality procedures

2 Flute Internal Coolant



8-15xD



M814

METRIC SERIES

continued

mm						EDP NO.
DECIMAL DC	METRIC DC	SHANK DIAMETER DCON	OVERALL LENGTH OAL	FLUTE LENGTH LCF	CLEARED LENGTH LU	TI-NAMITE®-CR (AlCrN)
0.1024	2,600 mm	4,0	64,0	28,9	25,0	06016
0.1024	2,600 mm	4,0	64,0	47,1	43,2	06047
0.1063	2,700 mm	4,0	64,0	29,7	25,7	06017
0.1063	2,700 mm	4,0	64,0	48,6	44,6	06048
0.1102	2,800 mm	4,0	64,0	30,5	26,3	06018
0.1102	2,800 mm	4,0	81,0	50,1	45,9	06049
0.1142	2,900 mm	4,0	81,0	32,2	27,9	06019
0.1142	2,900 mm	4,0	81,0	52,5	48,2	06050
0.1181	3,000 mm	4,0	81,0	33,0	28,5	06020
0.1181	3,000 mm	4,0	81,0	54,0	49,5	06051
0.1220	3,100 mm	4,0	81,0	33,8	29,2	06021
0.1220	3,100 mm	4,0	81,0	55,5	50,9	06052
0.1260	3,200 mm	4,0	81,0	34,6	29,8	06022
0.1260	3,200 mm	4,0	81,0	57,0	52,2	06053
0.1299	3,300 mm	4,0	90,0	35,4	30,5	06023
0.1299	3,300 mm	4,0	90,0	58,5	53,6	06054
0.1339	3,400 mm	4,0	90,0	38,1	33,0	06024
0.1339	3,400 mm	4,0	90,0	61,9	56,8	06055
0.1378	3,500 mm	4,0	90,0	38,9	33,7	06025
0.1378	3,500 mm	4,0	90,0	63,4	58,2	06056
0.1417	3,600 mm	4,0	106,0	39,7	34,3	06026
0.1417	3,600 mm	4,0	106,0	64,9	59,5	06057
0.1457	3,700 mm	4,0	106,0	40,5	35,0	06027
0.1457	3,700 mm	4,0	106,0	66,4	60,9	06058
0.1496	3,800 mm	4,0	106,0	41,3	35,6	06028
0.1496	3,800 mm	4,0	106,0	67,9	62,2	06059
0.1535	3,900 mm	4,0	106,0	42,1	36,3	06029
0.1535	3,900 mm	4,0	106,0	69,4	63,6	06060
0.1575	4,000 mm	4,0	106,0	42,9	36,9	06030
0.1575	4,000 mm	4,0	106,0	70,9	64,9	06061

TOLERANCES (mm)

1,0–3,0 DIAMETER

DC = +0,000/–0,006 (k6)

DCON = h₆

>3,0–4,0 DIAMETER

DC = +0,000/–0,009 (k6)

DCON = h₆

STEELS
STAINLESS STEELS
CAST IRON
NON-FERROUS
HIGH TEMP ALLOYS
HARDENED STEELS

Series M814 8xD

Series M814 8xD	Hardness	Vc (m/min)	DC • mm					
			1	2	3	4		
P	CARBON STEELS 1018, 1040, 1080, 1090, 10L50, 1140, 1212, 12L15, 1525, 1536	≤ 175 Bhn or ≤ 7 HRc	125 (100-150)	RPM	39746	19873	13249	9937
				Fr	0.023	0.046	0.069	0.092
				Feed (mm/min)	909	909	909	909
	ALLOY STEELS 4140, 4150, 4320, 5120, 5150, 8630, 86L20, 50100	≤ 275 Bhn or ≤ 28 HRc	94 (76-113)	RPM	30052	15026	10017	7513
				Fr	0.022	0.043	0.065	0.086
				Feed (mm/min)	648	648	648	648
M	STAINLESS STEELS (FREE MACHINING) 303, 416, 420F, 430F, 440F	≤ 250 Bhn or ≤ 24 HRc	64 (51-77)	RPM	20358	10179	6786	5089
				Fr	0.018	0.036	0.054	0.071
				Feed (mm/min)	363	363	363	363
	STAINLESS STEELS (DIFFICULT) 304, 316, 321, 13-8 PH, 15-5PH, 17-4 PH, CUSTOM 450	≤ 275 Bhn or ≤ 28 HRc	38 (30-46)	RPM	12118	6059	4039	3029
				Fr	0.014	0.028	0.042	0.056
				Feed (mm/min)	170	170	170	170
K	CAST IRONS Gray, Malleable, Ductile	≤ 220 Bhn or ≤ 19 HRc	130 (104-155)	RPM	41200	20600	13733	10300
				Fr	0.032	0.063	0.095	0.127
				Feed (mm/min)	1308	1308	1308	1308
N	ALUMINUM ALLOYS 2017, 2024, 356, 6061, 7075	≤ 150 Bhn or ≤ 7 HRc	130 (104-155)	RPM	41200	20600	13733	10300
				Fr	0.039	0.079	0.118	0.158
				Feed (mm/min)	1626	1626	1626	1626
	COPPER ALLOYS Alum Bronze, C110, Muntz Brass	≤ 140 Bhn or ≤ 3 HRc	99 (79-119)	RPM	31506	15753	10502	7877
				Fr	0.011	0.023	0.034	0.045
				Feed (mm/min)	356	356	356	356
PLASTICS Polycarbonate, PVC		152 (122-183)	RPM	48471	24235	16157	12118	
			Fr	0.024	0.047	0.071	0.094	
			Feed (mm/min)	1143	1143	1143	1143	
S	HIGH TEMP ALLOYS (NICKEL, COBALT, IRON BASE) Inconel 601, 617, 625, Incoloy 800, Monel 400, Rene, Waspaloy	≤ 320 Bhn or ≤ 34 HRc	27 (22-33)	RPM	8725	4362	2908	2181
				Fr	0.010	0.019	0.029	0.038
				Feed (mm/min)	84	84	84	84
	TITANIUM ALLOYS Pure Titanium, Ti6Al4V, Ti6Al2Sn4Zr2Mo, Ti4Al4Mo2Sn0.5Si	≤ 350 Bhn or ≤ 38 HRc	46 (37-55)	RPM	14541	7271	4847	3635
				Fr	0.010	0.020	0.030	0.041
				Feed (mm/min)	147	147	147	147
H	TOOL STEELS A2, D2, H13, L2, M2, P20, S7, T15, W2	≤ 475 Bhn or ≤ 50 HRc	46 (37-55)	RPM	14541	7271	4847	3635
				Fr	0.010	0.020	0.030	0.041
				Feed (mm/min)	147	147	147	147

Note:

- Bhn (Brinell) HRc (Rockwell C) HRb (Rockwell B)
- rpm = (Vc x 1000) / (DC x 3.14)
- mm/min = Fr x rpm (Fr x maximum available rpm when recommendation exceeds machine limit)
- reduce speed and feed 30% when using uncoated drills
- reduce speed and feed for materials harder than listed
- refer to the KYOCERA SGS Tool Wizard® for complete technical information (www.kyocera-sgstool.com)

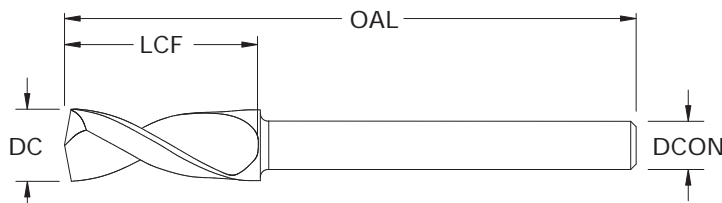
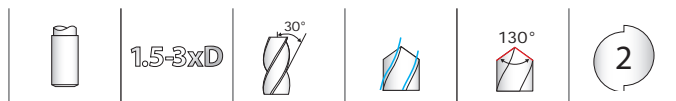
Series M814 15xD

Series M815 15xD	Hardness	Vc (m/min)	DC • mm					
			1	2	3	4		
P CARBON STEELS 1018, 1040, 1080, 1090, 10L50, 1140, 1212, 12L15, 1525, 1536	≤ 175 Bhn or ≤ 7 HRc	125 (100-150)	RPM	39746	19873	13249	9937	
			Fr	0.016	0.032	0.048	0.064	
			Feed (mm/min)	635	635	635	635	
	≤ 275 Bhn or ≤ 28 HRc	94 (76-113)	RPM	30052	15026	10017	7513	
			Fr	0.014	0.028	0.042	0.056	
			Feed (mm/min)	419	419	419	419	
M STAINLESS STEELS (FREE MACHINING) 303, 416, 420F, 430F, 440F	≤ 275 Bhn or ≤ 28 HRc	65 (51-77)	RPM	20358	10179	6786	5089	
			Fr	0.012	0.024	0.036	0.047	
			Feed (mm/min)	241	241	241	241	
	≤ 325 Bhn or ≤ 35 HRc	38 (30-46)	RPM	12118	6059	4039	3029	
			Fr	0.009	0.019	0.028	0.038	
			Feed (mm/min)	114	114	114	114	
K CAST IRONS Gray, Malleable, Ductile	≤ 220 Bhn or ≤ 19 HRc	130 (104-155)	RPM	41200	20600	13733	10300	
			Fr	0.022	0.043	0.065	0.086	
			Feed (mm/min)	889	889	889	889	
	N ALUMINUM ALLOYS 2017, 2024, 356, 6061, 7075	≤ 150 Bhn or ≤ 7 HRc	130 (104-155)	RPM	41200	20600	13733	10300
				Fr	0.029	0.057	0.086	0.115
				Feed (mm/min)	1181	1181	1181	1181
≤ 140 Bhn or ≤ 3 HRc		99 (79-119)	RPM	31506	15753	10502	7877	
			Fr	0.029	0.057	0.086	0.114	
			Feed (mm/min)	902	902	902	902	
PLASTICS Polycarbonate, PVC		152 (122-183)	RPM	48471	24235	16157	12118	
			Fr	0.017	0.033	0.050	0.066	
			Feed (mm/min)	800	800	800	800	
S HIGH TEMP ALLOYS (NICKEL, COBALT, IRON BASE) Inconel 601, 617, 625, Incoloy 800, Monel 400, Rene, Waspaloy	≤ 320 Bhn or ≤ 34 HRc	27 (22-33)	RPM	8725	4362	2908	2181	
			Fr	0.006	0.012	0.017	0.023	
			Feed (mm/min)	51	51	51	51	
	≤ 350 Bhn or ≤ 38 HRc	46 (37-55)	RPM	14541	7271	4847	3635	
			Fr	0.007	0.014	0.021	0.028	
			Feed (mm/min)	102	102	102	102	
H TOOL STEELS A2, D2, H13, L2, M2, P20, S7, T15, W2	≤ 475 Bhn or ≤ 50 HRc	46 (37-55)	RPM	14541	7271	4847	3635	
			Fr	0.007	0.014	0.021	0.028	
			Feed (mm/min)	102	102	102	102	

Note:

- Bhn (Brinell) HRc (Rockwell C) HRb (Rockwell B)
- rpm = (Vc x 1000) / (DC x 3.14)
- mm/min = Fr x rpm (Fr x maximum available rpm when recommendation exceeds machine limit)
- reduce speed and feed 30% when using uncoated drills
- reduce speed and feed for materials harder than listed
- refer to the KYOCERA SGS Tool Wizard® for complete technical information (www.kyocera-sgstool.com)

2 Flute Inverse Shank Drill External Coolant



TOLERANCES (inch)

0.1260–0.2638 DIAMETER

DC = +.0000/–.0004

DCON = +0.00016/–0.00016

TOLERANCES (mm)

3,2–6,7 DIAMETER

DC = +0,000/–0,010

DCON = +0,004/–0,004

NON-FERROUS

HIGH TEMP ALLOYS

M155

FRACTIONAL & METRIC SERIES

inch & mm							EDP NO.
DECIMAL DC	METRIC DC	FRACTIONAL/ LETTER/WIRE DC	SHANK DIAMETER DCON	OVERALL LENGTH OAL	FLUTE LENGTH LCF	USABLE LENGTH LU	UNCOATED
0.1260	3,200 mm		1/8	1-1/2	0.500	0.500	06069
0.1280	3,250 mm		1/8	1-1/2	0.500	0.500	06070
0.1285	3,264 mm	#30	1/8	1-1/2	0.500	0.500	06071
0.1299	3,300 mm		1/8	1-1/2	0.500	0.500	06072
0.1319	3,350 mm		1/8	1-1/2	0.500	0.500	06073
0.1339	3,400 mm		1/8	1-1/2	0.500	0.500	06074
0.1358	3,450 mm		1/8	1-1/2	0.500	0.500	06075
0.1360	3,454 mm	#29	1/8	1-1/2	0.500	0.500	06076
0.1378	3,500 mm		1/8	1-1/2	0.500	0.500	06077
0.1398	3,550 mm		1/8	1-1/2	0.500	0.500	06078
0.1405	3,569 mm	#28	1/8	1-1/2	0.500	0.500	06079
0.1406	3,571 mm	9/64	1/8	1-1/2	0.500	0.500	06080
0.1417	3,600 mm		1/8	1-1/2	0.500	0.500	06081
0.1437	3,650 mm		1/8	1-1/2	0.500	0.500	06082
0.1440	3,658 mm	#27	1/8	1-1/2	0.500	0.500	06083
0.1457	3,700 mm		1/8	1-1/2	0.500	0.500	06084
0.1470	3,734 mm	#26	1/8	1-1/2	0.500	0.500	06085
0.1476	3,750 mm		1/8	1-1/2	0.500	0.500	06086
0.1495	3,797 mm	#25	1/8	1-1/2	0.500	0.500	06087
0.1496	3,800 mm		1/8	1-1/2	0.500	0.500	06088
0.1516	3,850 mm		1/8	1-1/2	0.500	0.500	06089
0.1520	3,861 mm	#24	1/8	1-1/2	0.500	0.500	06090
0.1535	3,900 mm		1/8	1-1/2	0.500	0.500	06091
0.1540	3,912 mm	#23	1/8	1-1/2	0.500	0.500	06092
0.1555	3,950 mm		1/8	1-1/2	0.500	0.500	06093
0.1562	3,967 mm	5/32	1/8	1-1/2	0.500	0.500	06094
0.1570	3,988 mm	#22	1/8	1-1/2	0.500	0.500	06095
0.1575	4,000 mm		1/8	1-1/2	0.500	0.500	06096
0.1590	4,039 mm	#21	1/8	1-1/2	0.500	0.500	06097
0.1594	4,050 mm		1/8	1-1/2	0.500	0.500	06098
0.1610	4,089 mm	#20	1/8	1-1/2	0.500	0.500	06099
0.1614	4,100 mm		1/8	1-1/2	0.500	0.500	06100
0.1634	4,150 mm		1/8	1-1/2	0.500	0.500	06101
0.1654	4,200 mm		1/8	1-1/2	0.500	0.500	06102
0.1660	4,216 mm	#19	1/8	1-1/2	0.500	0.500	06103
0.1673	4,250 mm		1/8	1-1/2	0.500	0.500	06104
0.1693	4,300 mm		1/8	1-1/2	0.500	0.500	06105
0.1695	4,305 mm	#18	1/8	1-1/2	0.500	0.500	06106
0.1713	4,350 mm		1/8	1-1/2	0.500	0.500	06107
0.1719	4,366 mm	11/64	1/8	1-1/2	0.500	0.500	06108

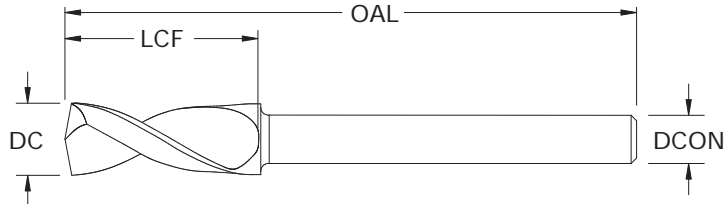
- Optimal end geometry ideal for a variety of materials
- 4-faceted point geometry provides centering assistance upon entry
- Mirror surface finish is applied to allow for smooth chip flow
- Wide diameters offer ability to drill larger than average holes than is commonly possible in micro spindles
- Application specific sub-micron grain carbide designed specifically for micro-tool applications
- Manufactured in accordance with KSPT ISO certified quality procedures

continued on next page

2 Flute Inverse Shank Drill External Coolant



1.5-3xD



M155

FRACTIONAL & METRIC SERIES

continued

DECIMAL DC	METRIC DC	FRACTIONAL/ LETTER/WIRE DC	inch & mm		FLUTE LENGTH LCF	USABLE LENGTH LU	EDP NO.
			SHANK DIAMETER DCON	OVERALL LENGTH OAL			
0.1730	4,394 mm	#17	1/8	1-1/2	0.500	0.500	06109
0.1732	4,400 mm		1/8	1-1/2	0.500	0.500	06110
0.1752	4,450 mm		1/8	1-1/2	0.500	0.500	06111
0.1770	4,496 mm	#16	1/8	1-1/2	0.500	0.500	06112
0.1772	4,500 mm		1/8	1-1/2	0.500	0.500	06113
0.1791	4,550 mm		1/8	1-1/2	0.500	0.500	06114
0.1800	4,572 mm	#15	1/8	1-1/2	0.500	0.500	06115
0.1811	4,600 mm		1/8	1-1/2	0.500	0.500	06116
0.1820	4,623 mm	#14	1/8	1-1/2	0.500	0.500	06117
0.1831	4,650 mm		1/8	1-1/2	0.500	0.500	06118
0.1850	4,700 mm	#13	1/8	1-1/2	0.500	0.500	06120
0.1870	4,750 mm		1/8	1-1/2	0.500	0.500	06121
0.1875	4,763 mm	3/16	1/8	1-1/2	0.500	0.500	06122
0.1890	4,800 mm	#12	1/8	1-1/2	0.500	0.500	06124
0.1909	4,850 mm		1/8	1-1/2	0.500	0.500	06125
0.1910	4,851 mm	#11	1/8	1-1/2	0.500	0.500	06126
0.1929	4,900 mm		1/8	1-1/2	0.500	0.500	06127
0.1935	4,915 mm	#10	1/8	1-1/2	0.500	0.500	06128
0.1949	4,950 mm		1/8	1-1/2	0.500	0.500	06129
0.1960	4,978 mm	#9	1/8	1-1/2	0.500	0.500	06130
0.1968	5,000 mm		1/8	1-1/2	0.500	0.500	06131
0.1988	5,050 mm		1/8	1-1/2	0.500	0.500	06132
0.1990	5,055 mm	#8	1/8	1-1/2	0.500	0.500	06133
0.2008	5,100 mm		1/8	1-1/2	0.500	0.500	06134
0.2010	5,105 mm	#7	1/8	1-1/2	0.500	0.500	06135
0.2028	5,150 mm		1/8	1-1/2	0.500	0.500	06136
0.2031	5,159 mm	13/64	1/8	1-1/2	0.500	0.500	06137
0.2040	5,182 mm	#6	1/8	1-1/2	0.500	0.500	06138
0.2047	5,200 mm		1/8	1-1/2	0.500	0.500	06139
0.2055	5,220 mm	#5	1/8	1-1/2	0.500	0.500	06140
0.2067	5,250 mm		1/8	1-1/2	0.500	0.500	06141
0.2087	5,300 mm		1/8	1-1/2	0.500	0.500	06142
0.2090	5,309 mm	#4	1/8	1-1/2	0.500	0.500	06143
0.2106	5,350 mm		1/8	1-1/2	0.500	0.500	06144
0.2126	5,400 mm		1/8	1-1/2	0.500	0.500	06145
0.2130	5,410 mm	#3	1/8	1-1/2	0.500	0.500	06146
0.2146	5,450 mm		1/8	1-1/2	0.500	0.500	06147
0.2165	5,500 mm		1/8	1-1/2	0.500	0.500	06148
0.2185	5,550 mm		1/8	1-1/2	0.500	0.500	06149
0.2188	5,558 mm	7/32	1/8	1-1/2	0.500	0.500	06150

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TOLERANCES (inch)

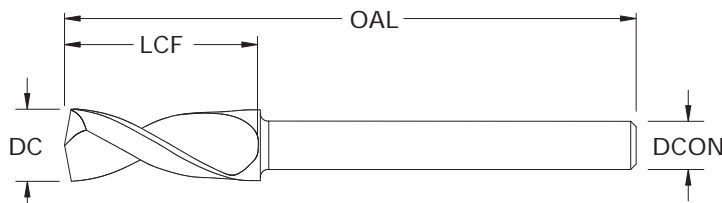
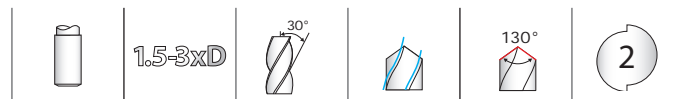
0.1260–0.2638 DIAMETER
 DC = +0.0000/–0.0004
 DCON = +0.00016/–0.00016

TOLERANCES (mm)

3,2–6,7 DIAMETER
 DC = +0,000/–0,010
 DCON = +0,004/–0,004

- NON-FERROUS
- HIGH TEMP ALLOYS

2 Flute Inverse Shank Drill External Coolant



M155

FRACTIONAL & METRIC SERIES

continued

TOLERANCES (inch)

0.1260–0.2638 DIAMETER

DC = +.0000/–.0004

DCON = +0.00016/–0.00016

TOLERANCES (mm)

3,2–6,7 DIAMETER

DC = +0,000/–0,010

DCON = +0,004/–0,004

NON-FERROUS

HIGHTEMP ALLOYS

inch & mm							EDP NO.
DECIMAL DC	METRIC DC	FRACTIONAL/ LETTER/WIRE DC	SHANK DIAMETER DCON	OVERALL LENGTH OAL	FLUTE LENGTH LCF	USABLE LENGTH LU	UNCOATED
0.2205	5,600 mm		1/8	1-1/2	0.500	0.500	06151
0.2210	5,613 mm	#2	1/8	1-1/2	0.500	0.500	06152
0.2224	5,650 mm		1/8	1-1/2	0.500	0.500	06153
0.2244	5,700 mm		1/8	1-1/2	0.500	0.500	06154
0.2264	5,750 mm		1/8	1-1/2	0.500	0.500	06155
0.2280	5,791 mm	#1	1/8	1-1/2	0.500	0.500	06156
0.2283	5,800 mm		1/8	1-1/2	0.500	0.500	06157
0.2302	5,850 mm		1/8	1-1/2	0.500	0.500	06158
0.2323	5,900 mm		1/8	1-1/2	0.500	0.500	06159
0.2340	5,944 mm	A	1/8	1-1/2	0.500	0.500	06160
0.2343	5,950 mm		1/8	1-1/2	0.500	0.500	06161
0.2344	5,954 mm	15/64	1/8	1-1/2	0.500	0.500	06162
0.2362	6,000 mm		1/8	1-1/2	0.500	0.500	06163
0.2380	6,045 mm	B	1/8	1-1/2	0.500	0.500	06164
0.2382	6,050 mm		1/8	1-1/2	0.500	0.500	06165
0.2402	6,100 mm		1/8	1-1/2	0.500	0.500	06166
0.2420	6,147 mm	C	1/8	1-1/2	0.500	0.500	06167
0.2421	6,150 mm		1/8	1-1/2	0.500	0.500	06168
0.2441	6,200 mm		1/8	1-1/2	0.500	0.500	06169
0.2460	6,248 mm	D	1/8	1-1/2	0.500	0.500	06170
0.2461	6,250 mm		1/8	1-1/2	0.500	0.500	06171
0.2480	6,300 mm		1/8	1-1/2	0.500	0.500	06172
0.2500	6,350 mm	1/4 E	1/8	1-1/2	0.500	0.500	06173
0.2520	6,400 mm		1/8	1-1/2	0.500	0.500	06176
0.2559	6,500 mm		1/8	1-1/2	0.500	0.500	06177
0.2570	6,528 mm	F	1/8	1-1/2	0.500	0.500	06178
0.2598	6,600 mm		1/8	1-1/2	0.500	0.500	06179
0.2610	6,629 mm	G	1/8	1-1/2	0.500	0.500	06180
0.2638	6,700 mm		1/8	1-1/2	0.500	0.500	06181

Series M155

Series M155	Hardness	Vc (sfm)	DC • in						
			0.126	0.158	0.197	0.236	0.264		
ALUMINUM ALLOYS 2017, 2024, 356, 6061, 7075 COPPER ALLOYS Alum Bronze, C110, Muntz Brass PLASTICS Polycarbonate, PVC	≤ 150 Bhn or ≤ 7 HRc	450 (360-540)	RPM	13643	10914	8730	7278	6516	
			Fr	0.00550	0.00687	0.0086	0.0103	0.0115	
			Feed (ipm)	75.0	75.0	75.0	75.0	75.0	
	N	≤ 140 Bhn or ≤ 3 HRc	350 (280-420)	RPM	10611	8489	6790	5660	5068
				Fr	0.00547	0.00683	0.0085	0.0102	0.0114
				Feed (ipm)	58.0	58.0	58.0	58.0	58.0
	S	≤ 350 Bhn or ≤ 38 HRc	575 (460-690)	RPM	17433	13946	11155	9299	8326
				Fr	0.00631	0.00789	0.0099	0.0118	0.0132
				Feed (ipm)	110.0	110.0	110.0	110.0	110.0
S	≤ 350 Bhn or ≤ 38 HRc	100 (80-120)	RPM	3032	2425	1940	1617	1448	
			Fr	0.00185	0.00231	0.0029	0.0035	0.0039	
			Feed (ipm)	5.6	5.6	5.6	5.6	5.6	

- Note:**
- Bhn (Brinell) HRc (Rockwell C) HRb (Rockwell B)
 - rpm = Vc x 3.82 / DC
 - ipm = Fr x rpm (Fr x maximum available rpm when recommendation exceeds machine limit)
 - reduce speed and feed for materials harder than listed
 - refer to the KYOCERA SGS Tool Wizard® for complete technical information (www.kyocera-sgstool.com)

METRIC

Series M155

Series M155	Hardness	Vc (m/min)	DC • mm						
			3	4	5	6	7		
ALUMINUM ALLOYS 2017, 2024, 356, 6061, 7075 COPPER ALLOYS Alum Bronze, C110, Muntz Brass PLASTICS Polycarbonate, PVC	≤ 150 Bhn or ≤ 7 HRc	137 (110-165)	RPM	14541	10906	8725	7271	6232	
			Fr	0.1310	0.1747	0.2183	0.2620	0.3057	
			Feed (mm/min)	1905	1905	1905	1905	1905	
	N	≤ 140 Bhn or ≤ 3 HRc	107 (85-128)	RPM	11310	8482	6786	5655	4847
				Fr	0.1303	0.1737	0.2171	0.2605	0.3039
				Feed (mm/min)	1473	1473	1473	1473	1473
	S	≤ 350 Bhn or ≤ 38 HRc	175 (140-210)	RPM	18580	13935	11148	9290	7963
				Fr	0.1504	0.2005	0.2506	0.3007	0.3509
				Feed (mm/min)	2794	2794	2794	2794	2794
S	≤ 350 Bhn or ≤ 38 HRc	30 (24-37)	RPM	3231	2424	1939	1616	1385	
			Fr	0.0440	0.0587	0.0734	0.0880	0.1027	
			Feed (mm/min)	142	142	142	142	142	

- Note:**
- Bhn (Brinell) HRc (Rockwell C) HRb (Rockwell B)
 - rpm = (Vc x 1000) / (DC x 3.14)
 - mm/min = Fr x rpm (Fr x maximum available rpm when recommendation exceeds machine limit)
 - reduce speed and feed for materials harder than listed
 - refer to the KYOCERA SGS Tool Wizard® for complete technical information (www.kyocera-sgstool.com)

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01088	26	01178	38	01268	43	01358	41	01448	54	01538	59	01628	57
01089	26	01179	38	01269	43	01359	41	01449	54	01539	59	01629	57
01090	26	01180	38	01270	43	01360	41	01450	54	01540	59	01630	57
01091	26	01181	38	01271	43	01361	41	01451	54	01541	59	01631	57
01092	26	01182	38	01272	43	01362	41	01452	54	01542	59	01632	57
01093	26	01183	38	01273	43	01363	41	01453	54	01543	59	01633	57
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02643	72	02733	81	02868	84	02958	89	03049	20	03152	77	03452	19
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02677	73	02767	82	02902	84	02992	92	03089	75	03203	88	03486	71
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02683	73	02773	82	02908	85	02998	92	03095	75	03402	18	03492	71
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02687	73	02777	83	02912	86	03002	92	03099	75	03406	18	03496	71
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08123	130	08213	132	08303	130	08393	132	08572	15	08662	17	08752	12
08124	130	08214	132	08304	130	08394	132	08573	11	08663	13	08753	16
08125	130	08215	132	08305	130	08395	132	08574	15	08664	17	08754	12
08126	130	08216	132	08306	130	08396	132	08575	11	08665	13	08755	16
08127	130	08217	133	08307	130	08397	132	08576	15	08666	17	08756	12
08128	130	08218	133	08308	130	08398	132	08577	11	08667	13	08757	16
08129	130	08219	133	08309	130	08399	132	08578	15	08668	17	08758	12
08130	130	08220	133	08310	130	08400	133	08579	11	08669	13	08759	16
08131	130	08221	133	08311	130	08401	133	08580	15	08670	17	08760	12
08132	130	08222	133	08312	130	08402	133	08581	11	08671	13	08761	16
08133	130	08223	133	08313	130	08403	133	08582	15	08672	17	08762	12
08134	130	08224	133	08314	130	08404	133	08583	11	08673	13	08763	16
08135	130	08225	133	08315	130	08405	133	08584	15	08674	17	08764	12
08136	130	08226	133	08316	130	08406	133	08585	11	08675	13	08765	16
08137	130	08227	133	08317	130	08407	133	08586	15	08676	17	08766	12
08138	130	08228	128	08318	130	08408	133	08587	11	08677	13	08767	16
08139	130	08229	128	08319	130	08409	133	08588	15	08678	17	08768	12
08140	130	08230	128	08320	130	08410	133	08589	11	08679	13	08769	16
08141	130	08231	128	08321	130	08500	10	08590	15	08680	17	08770	12
08142	130	08232	128	08322	130	08501	14	08591	11	08681	13	08771	16
08143	130	08233	128	08323	130	08502	10	08592	15	08682	17	08772	12
08144	130	08234	128	08324	130	08503	14	08593	11	08683	13	08773	16
08145	130	08235	128	08325	130	08504	10	08594	15	08684	17	08774	12
08146	130	08236	128	08326	130	08505	10	08595	11	08685	13	08775	16
08147	131	08237	128	08327	130	08506	14	08596	15	08686	17	08776	12
08148	131	08238	128	08328	130	08507	10	08597	11	08687	13	08777	16

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08779	17	08869	30	08959	30	09049	68	09139	67	09229	69	09319	24
08780	13	08870	32	08960	32	09050	63	09140	62	09230	64	09320	25
08781	17	08871	34	08961	34	09051	68	09141	67	09231	69	09321	24
08782	29	08872	30	08962	30	09052	63	09142	62	09232	64	09322	25
08783	31	08873	32	08963	32	09053	68	09143	67	09233	69	09323	24
08784	33	08874	34	08964	34	09054	63	09144	62	09234	64	09324	25
08785	29	08875	30	08965	30	09055	68	09145	67	09235	69	09325	24
08786	31	08876	32	08966	32	09056	63	09146	62	09236	64	09326	25
08787	33	08877	34	08967	34	09057	68	09147	67	09237	69	09327	24
08788	29	08878	30	08968	30	09058	63	09148	62	09238	64	09328	25
08789	31	08879	32	08969	32	09059	68	09149	67	09239	69	09329	24
08790	33	08880	34	08970	34	09060	63	09150	62	09240	64	09330	25
08791	29	08881	30	08971	30	09061	68	09151	67	09241	69	09331	24
08792	31	08882	32	08972	32	09062	64	09152	62	09242	64	09332	25
08793	33	08883	34	08973	34	09063	68	09153	67	09243	69	09333	24
08794	29	08884	29	08974	30	09064	64	09154	62	09244	64	09334	25
08795	31	08885	31	08975	32	09065	68	09155	67	09245	69	09335	24
08796	33	08886	33	08976	34	09066	64	09156	62	09246	64	09336	25
08797	29	08887	29	08977	30	09067	68	09157	67	09247	69	09337	24
08798	31	08888	31	08978	32	09068	64	09158	63	09248	64	09338	25
08799	33	08889	33	08979	34	09069	69	09159	68	09249	69	09339	24
08800	29	08890	29	08980	30	09070	64	09160	63	09250	64	09340	25
08801	31	08891	31	08981	32	09071	69	09161	68	09251	69	09341	24
08802	33	08892	33	08982	34	09072	64	09162	63	09252	64	09342	25
08803	29	08893	29	08983	30	09073	69	09163	68	09253	69	09343	24
08804	31	08894	31	08984	32	09074	64	09164	63	09254	64	09344	25
08805	33	08895	33	08985	34	09075	69	09165	68	09255	69	09345	24
08806	29	08896	29	08986	61	09076	64	09166	63	09256	65	09346	25
08807	31	08897	31	08987	66	09077	69	09167	68	09257	69	09347	24
08808	33	08898	33	08988	61	09078	64	09168	63	09258	65	09348	25
08809	29	08899	29	08989	66	09079	69	09169	68	09259	69	09349	24
08810	31	08900	31	08990	61	09080	64	09170	63	09260	65	09350	25
08811	33	08901	33	08991	66	09081	69	09171	68	09261	69	09351	24
08812	29	08902	29	08992	61	09082	64	09172	63	09262	65	09352	19
08813	31	08903	31	08993	66	09083	69	09173	68	09263	69	09353	18
08814	33	08904	33	08994	62	09084	64	09174	63	09264	65	09354	19
08815	29	08905	29	08995	67	09085	69	09175	68	09265	69	09355	18
08816	31	08906	31	08996	62	09086	64	09176	63	09266	65	09356	19
08817	33	08907	33	08997	67	09087	69	09177	68	09267	91	09357	18
08818	29	08908	29	08998	62	09088	64	09178	63	09268	91	09358	19
08819	31	08909	31	08999	67	09089	69	09179	68	09269	91	09359	18
08820	33	08910	33	09000	62	09090	64	09180	63	09270	90	09360	19
08821	29	08911	29	09001	67	09091	69	09181	68	09271	90	09361	18
08822	31	08912	31	09002	62	09092	64	09182	63	09272	90	09362	19
08823	33	08913	33	09003	67	09093	69	09183	68	09273	90	09363	18
08824	29	08914	29	09004	62	09094	64	09184	63	09274	91	09364	19
08825	31	08915	31	09005	67	09095	69	09185	68	09275	91	09365	18
08826	33	08916	33	09006	62	09096	64	09186	63	09276	91	09366	19
08827	29	08917	29	09007	67	09097	69	09187	68	09277	91	09367	18
08828	31	08918	31	09008	62	09098	64	09188	63	09278	90	09368	19
08829	33	08919	33	09009	67	09099	69	09189	68	09279	90	09369	18
08830	29	08920	29	09010	62	09100	64	09190	63	09280	90	09370	19
08831	31	08921	31	09011	67	09101	69	09191	68	09281	90	09371	18
08832	33	08922	33	09012	62	09102	64	09192	63	09282	90	09372	19
08833	29	08923	29	09013	67	09103	69	09193	68	09283	90	09373	18
08834	31	08924	31	09014	62	09104	64	09194	63	09284	90	09374	19
08835	33	08925	33	09015	67	09105	69	09195	68	09285	90	09375	18
08836	30	08926	29	09016	62	09106	64	09196	63	09286	90	09376	19
08837	31	08927	31	09017	67	09107	69	09197	68	09287	90	09377	18
08838	33	08928	33	09018	63	09108	64	09198	63	09288	90	09378	19
08839	30	08929	29	09019	68	09109	69	09199	68	09289	90	09379	18
08840	32	08930	31	09020	63	09110	64	09200	63	09290	90	09380	19
08841	34	08931	33	09021	68	09111	69	09201	68	09291	90	09381	18
08842	30	08932	29	09022	63	09112	64	09202	64	09292	90	09382	19
08843	32	08933	31	09023	68	09113	69	09203	68	09293	90	09383	18
08844	34	08934	33	09024	63	09114	64	09204	64	09294	90	09384	19
08845	30	08935	29	09025	68	09115	69	09205	68	09295	90	09385	18
08846	32	08936	31	09026	63	09116	65	09206	64	09296	90	09386	19
08847	34	08937	33	09027	68	09117	69	09207	68	09297	90	09387	18
08848	30	08938	30	09028	63	09118	65	09208	64	09298	25	09388	19
08849	32	08939	31	09029	68	09119	69	09209	69	09299	24	09389	18
08850	34	08940	33	09030	63	09120	65	09210	64	09300	25	09390	19
08851	30	08941	30	09031	68	09121	69	09211	69	09301	24	09391	18
08852	32	08942	32	09032	63	09122	65	09212	64	09302	25	09392	19
08853	34	08943	34	09033	68	09123	69	09213	69	09303	24	09393	18
08854	30	08944	30	09034	63	09124	65	09214	64	09304	25	09394	19
08855	32	08945	32	09035	68	09125	69	09215	69	09305	24	09395	18
08856	34	08946	34	09036	63	09126	61	09216	64	09306	25	09396	19
08857	30	08947	30	09037	68	09127	66	09217	69	09307	24	09397	18
08858	32	08948	32	09038	63	09128	61	09218	64	09308	25	09398	19
08859	34	08949	34	09039	68	09129	66	09219	69	09309	24	09399	18
08860	30	08950	30	09040	63	09130	61	09220	64	09310	25	09400	19
08861	32	08951	32	09041	68	09131	66	09221	69	09311	24	09401	18
08862	34	08952	34	09042	63	09132	61	09222	64	09312	25	09402	19
08863	30	08953	30	09043	68	09133	66	09223	69	09313	24	09403	18
08864	32	08954	32	09044	63	09134	62	09224	64	09314	25	09404	19
08865	34	08955	34	09045	68	09135	67	09225	69	09315	24	09405	18
08866	30	08956	30	09046	63	09136	62	09226	64	09316	25	09406	50
08867	32	08957	32	09047	68	09137	67	09227	69	09317	24	09407	51

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09409	53	09479	53	09549	53	09619	37	09689	37	09759	37	09829	79
09410	47	09480	47	09550	47	09620	28	09690	28	09760	28	09830	80
09411	48	09481	48	09551	48	09621	29	09691	29	09761	30	09831	79
09412	49	09482	49	09552	49	09622	31	09692	31	09762	32	09832	80
09413	50	09483	50	09553	50	09623	33	09693	33	09763	34	09833	79
09414	51	09484	51	09554	51	09624	35	09694	35	09764	35	09834	80
09415	52	09485	52	09555	52	09625	36	09695	36	09765	36	09835	79
09416	53	09486	53	09556	53	09626	37	09696	37	09766	37	09836	80
09417	47	09487	47	09557	47	09627	28	09697	28	09767	28	09837	79
09418	48	09488	48	09558	48	09628	29	09698	29	09768	30	09838	71
09419	49	09489	49	09559	49	09629	31	09699	31	09769	32	09839	70
09420	50	09490	50	09560	50	09630	33	09700	33	09770	34	09840	71
09421	51	09491	51	09561	51	09631	35	09701	35	09771	35	09841	70
09422	52	09492	52	09562	52	09632	36	09702	36	09772	36	09842	71
09423	53	09493	53	09563	53	09633	37	09703	37	09773	37	09843	70
09424	47	09494	47	09564	47	09634	28	09704	28	09774	28	09844	71
09425	48	09495	48	09565	48	09635	29	09705	29	09775	30	09845	71
09426	49	09496	49	09566	49	09636	31	09706	31	09776	32	09846	70
09427	50	09497	50	09567	50	09637	33	09707	33	09777	34	09847	70
09428	51	09498	51	09568	51	09638	35	09708	35	09778	35	09848	71
09429	52	09499	52	09569	52	09639	36	09709	36	09779	36	09849	70
09430	53	09500	53	09570	53	09640	37	09710	37	09780	37	09850	71
09431	47	09501	47	09571	47	09641	28	09711	28	09781	28	09851	70
09432	48	09502	48	09572	48	09642	29	09712	30	09782	30	09852	71
09433	49	09503	49	09573	49	09643	31	09713	31	09783	32	09853	71
09434	50	09504	50	09574	50	09644	33	09714	34	09784	30	09854	70
09435	51	09505	51	09575	51	09645	35	09715	35	09785	79	09855	70
09436	52	09506	52	09576	52	09646	36	09716	36	09786	80	09856	71
09437	53	09507	53	09577	53	09647	37	09717	37	09787	79	09857	70
09438	47	09508	47	09578	47	09648	28	09718	28	09788	80	09858	71
09439	48	09509	48	09579	48	09649	29	09719	30	09789	79	09859	70
09440	49	09510	49	09580	49	09650	31	09720	32	09790	80	09860	71
09441	50	09511	50	09581	50	09651	33	09721	34	09791	79	09861	70
09442	51	09512	51	09582	51	09652	35	09722	35	09792	80	09862	71
09443	52	09513	52	09583	52	09653	36	09723	36	09793	79	09863	70
09444	53	09514	53	09584	53	09654	37	09724	37	09794	80	09864	71
09445	47	09515	47	09585	47	09655	28	09725	28	09795	79	09865	70
09446	48	09516	48	09586	48	09656	29	09726	30	09796	80	09866	71
09447	49	09517	49	09587	49	09657	31	09727	32	09797	79	09867	70
09448	50	09518	50	09588	50	09658	33	09728	34	09798	80	09868	71
09449	51	09519	51	09589	51	09659	35	09729	35	09799	79	09869	70
09450	52	09520	52	09590	52	09660	36	09730	36	09800	80	09870	71
09451	53	09521	53	09591	53	09661	37	09731	37	09801	79	09871	70
09452	47	09522	47	09592	47	09662	28	09732	28	09802	80	09872	71
09453	48	09523	48	09593	48	09663	29	09733	30	09803	79	09873	70
09454	49	09524	49	09594	49	09664	31	09734	32	09804	80	09874	71
09455	50	09525	50	09595	33	09665	33	09735	34	09805	79	09875	70
09456	51	09526	51	09596	35	09666	35	09736	35	09806	80	09876	71
09457	52	09527	52	09597	36	09667	36	09737	36	09807	79	09877	70
09458	53	09528	53	09598	37	09668	37	09738	37	09808	80	09878	71
09459	47	09529	47	09599	28	09669	28	09739	28	09809	79	09879	70
09460	48	09530	48	09600	29	09670	29	09740	30	09810	80	09880	71
09461	49	09531	49	09601	31	09671	31	09741	32	09811	79	09881	70
09462	50	09532	50	09602	33	09672	33	09742	34	09812	80	09882	71
09463	51	09533	51	09603	35	09673	35	09743	35	09813	79	09883	70
09464	52	09534	52	09604	36	09674	36	09744	36	09814	80	09884	71
09465	53	09535	53	09605	37	09675	37	09745	37	09815	79	09885	70
09466	47	09536	47	09606	28	09676	28	09746	28	09816	80	09886	71
09467	48	09537	48	09607	29	09677	29	09747	30	09817	79	09887	70
09468	49	09538	49	09608	31	09678	31	09748	32	09818	80	09888	71
09469	50	09539	50	09609	33	09679	33	09749	34	09819	79	09889	70
09470	51	09540	51	09610	35	09680	35	09750	35	09820	80	09890	71
09471	52	09541	52	09611	36	09681	36	09751	36	09821	79	09891	70
09472	53	09542	53	09612	37	09682	37	09752	37	09822	80		
09473	47	09543	47	09613	28	09683	28	09753	28	09823	79		
09474	48	09544	48	09614	29	09684	29	09754	30	09824	80		
09475	49	09545	49	09615	31	09685	31	09755	32	09825	79		
09476	50	09546	50	09616	33	09686	33	09756	34	09826	80		
09477	51	09547	51	09617	35	09687	35	09757	35	09827	79		

Decimal Equivalents

Fraction • **Number** • **Letter** • Metric Sizes

INCH	METRIC	DECIMAL EQUIVALENT	INCH	METRIC	DECIMAL EQUIVALENT	INCH	METRIC	DECIMAL EQUIVALENT	INCH	METRIC	DECIMAL EQUIVALENT	INCH	METRIC	DECIMAL EQUIVALENT	INCH	METRIC	DECIMAL EQUIVALENT
-	0,10	0.0039	-	1,60	0.0630	9/64	3,57	0.1406	#1	5,79	0.2280	R	8,61	0.3390	-	13,00	0.5118
-	0,20	0.0079	#52	1,61	0.0635	-	3,60	0.1417	-	5,80	0.2283	-	8,70	0.3425	33/64	13,10	0.5156
-	0,25	0.0098	-	1,65	0.0650	#27	3,66	0.1440	-	5,90	0.2323	11/32	8,73	0.3438	17/32	13,49	0.5312
-	0,30	0.0118	#51	1,70	0.0669	-	3,70	0.1457	A	5,94	0.2340	-	8,75	0.3445	-	13,50	0.5315
#80	0,34	0.0135	-	1,75	0.0689	#26	3,73	0.1470	15/64	5,95	0.2344	-	8,80	0.3465	35/64	13,89	0.5469
-	0,35	0.0138	#50	1,78	0.0700	-	3,75	0.1476	-	6,00	0.2362	S	8,84	0.3480	-	14,00	0.5512
#79	0,37	0.0145	-	1,80	0.0709	#25	3,80	0.1495	B	6,05	0.2380	-	8,90	0.3504	9/16	14,29	0.5625
1/64	0,40	0.0156	#49	1,85	0.0728	-	3,80	0.1496	-	6,10	0.2402	-	9,00	0.3543	-	14,50	0.5709
#78	0,41	0.0160	-	1,90	0.0748	#24	3,86	0.1520	C	6,15	0.2420	T	9,09	0.3580	37/64	14,68	0.5781
-	0,45	0.0177	#48	1,93	0.0760	-	3,90	0.1535	-	6,20	0.2441	-	9,10	0.3583	-	15,00	0.5906
#77	0,46	0.0180	-	1,95	0.0768	#23	3,91	0.1540	D	6,25	0.2461	23/64	9,13	0.3594	19/32	15,08	0.5938
-	0,50	0.0197	5/64	1,98	0.0781	5/32	3,97	0.1562	-	6,30	0.2480	-	9,20	0.3622	39/64	15,48	0.6094
#76	0,51	0.0200	#47	1,99	0.0785	#22	3,99	0.1570	E	6,35	0.2500	-	9,25	0.3642	-	15,50	0.6102
#75	0,53	0.0210	-	2,00	0.0787	-	4,00	0.1575	1/4	6,35	0.2500	-	9,30	0.3661	5/8	15,88	0.6250
-	0,55	0.0217	-	2,05	0.0807	#21	4,04	0.1590	-	6,40	0.2520	U	9,35	0.3680	-	16,00	0.6299
#74	0,57	0.0225	#46	2,06	0.0810	#20	4,09	0.1610	-	6,50	0.2559	-	9,40	0.3701	41/64	16,27	0.6406
-	0,60	0.0236	#45	2,08	0.0820	-	4,10	0.1614	F	6,53	0.2570	-	9,50	0.3740	-	16,50	0.6496
#73	0,61	0.0240	-	2,10	0.0827	-	4,20	0.1654	-	6,60	0.2598	3/8	9,53	0.3750	21/32	16,67	0.6562
#72	0,64	0.0250	-	2,15	0.0846	#19	4,22	0.1660	G	6,63	0.2610	V	9,56	0.3770	-	17,00	0.6693
-	0,65	0.0256	#44	2,18	0.0860	-	4,25	0.1673	-	6,70	0.2638	-	9,60	0.3780	43/64	17,07	0.6719
#71	0,66	0.0260	-	2,20	0.0866	-	4,30	0.1693	17/64	6,75	0.2656	-	9,70	0.3819	11/16	17,46	0.6875
-	0,70	0.0276	-	2,25	0.0886	#18	4,31	0.1695	H	6,76	0.2660	-	9,75	0.3839	-	17,50	0.6890
#70	0,71	0.0280	#43	2,26	0.0890	11/64	4,37	0.1719	-	6,80	0.2677	W	9,80	0.3858	45/64	17,86	0.7031
#69	0,74	0.0292	-	2,30	0.0906	#17	4,39	0.1730	-	6,90	0.2717	-	9,90	0.3898	-	18,00	0.7087
-	0,75	0.0295	-	2,35	0.0925	-	4,40	0.1732	I	6,91	0.2720	25/64	9,92	0.3906	23/32	18,26	0.7188
#68	0,79	0.0310	#42	2,37	0.0935	#16	4,50	0.1770	-	7,00	0.2756	-	10,00	0.3937	-	18,50	0.7283
1/32	0,79	0.0313	3/32	2,38	0.0938	-	4,50	0.1772	J	7,04	0.2770	X	10,08	0.3970	47/64	18,65	0.7344
-	0,80	0.0315	-	2,40	0.0945	#15	4,57	0.1800	-	7,10	0.2795	-	10,10	0.3976	-	19,00	0.7480
#67	0,81	0.0320	#41	2,44	0.0960	-	4,60	0.1811	K	7,14	0.2810	-	10,20	0.4016	3/4	19,05	0.7500
#66	0,84	0.0330	-	2,45	0.0965	#14	4,62	0.1820	9/32	7,14	0.2812	Y	10,26	0.4040	49/64	19,45	0.7656
-	0,85	0.0335	#40	2,50	0.0984	#13	4,70	0.1850	-	7,20	0.2835	-	10,30	0.4055	-	19,50	0.7677
#65	0,89	0.0350	#39	2,53	0.0995	-	4,75	0.1870	-	7,25	0.2854	13/32	10,32	0.4062	25/32	19,84	0.7812
-	0,90	0.0354	#38	2,58	0.1015	3/16	4,76	0.1875	-	7,30	0.2874	-	10,40	0.4094	-	20,00	0.7874
#64	0,91	0.0360	-	2,60	0.1024	#12	4,80	0.1890	L	7,37	0.2900	Z	10,49	0.4130	51/64	20,24	0.7969
#63	0,94	0.0370	#37	2,64	0.1040	#11	4,85	0.1910	-	7,40	0.2913	-	10,50	0.4134	-	20,50	0.8071
-	0,95	0.0374	-	2,70	0.1063	-	4,90	0.1929	M	7,49	0.2950	-	10,60	0.4173	13/16	20,64	0.8125
#62	0,97	0.0380	#36	2,71	0.1065	#10	4,91	0.1935	-	7,50	0.2953	-	10,70	0.4213	-	21,00	0.8268
#61	0,99	0.0390	-	2,75	0.1083	#9	4,98	0.1960	19/64	7,54	0.2969	27/64	10,72	0.4219	53/64	21,03	0.8281
-	1,00	0.0394	7/64	2,78	0.1094	-	5,00	0.1969	-	7,60	0.2992	-	10,80	0.4252	27/32	21,43	0.8438
#60	1,02	0.0400	#35	2,79	0.1100	#8	5,05	0.1990	N	7,67	0.3020	-	10,90	0.4291	-	21,50	0.8465
#59	1,04	0.0410	-	2,80	0.1102	-	5,10	0.2008	-	7,70	0.3031	-	11,00	0.4331	55/64	21,84	0.8594
-	1,05	0.0413	#34	2,82	0.1110	#7	5,11	0.2010	-	7,75	0.3051	-	11,10	0.4370	-	22,00	0.8661
#58	1,07	0.0420	#33	2,87	0.1130	13/64	5,16	0.2031	-	7,80	0.3071	7/16	11,11	0.4375	7/8	22,23	0.8750
#57	1,09	0.0430	-	2,90	0.1142	#6	5,18	0.2040	-	7,90	0.3110	-	11,20	0.4409	-	22,50	0.8858
-	1,10	0.0433	#32	2,95	0.1160	-	5,20	0.2047	5/16	7,94	0.3125	-	11,30	0.4449	57/64	22,62	0.8906
-	1,15	0.0453	-	3,00	0.1181	#5	5,22	0.2055	-	8,00	0.3150	-	11,40	0.4488	-	23,00	0.9055
#56	1,18	0.0465	#31	3,05	0.1200	-	5,25	0.2067	O	8,03	0.3160	-	11,50	0.4528	29/32	23,02	0.9062
3/64	1,19	0.0469	-	3,10	0.1220	-	5,3	0.2087	-	8,10	0.3189	29/64	11,51	0.4531	59/64	23,42	0.9219
-	1,20	0.0472	1/8	3,18	0.1250	#4	5,31	0.2090	-	8,20	0.3228	-	11,60	0.4567	-	23,50	0.9252
-	1,25	0.0492	-	3,20	0.1260	-	5,40	0.2126	P	8,20	0.3230	-	11,70	0.4606	15/16	23,81	0.9375
-	1,30	0.0512	-	3,25	0.1280	#3	5,41	0.2130	-	8,25	0.3248	-	11,80	0.4646	-	24,00	0.9449
#55	1,32	0.0520	#30	3,26	0.1285	-	5,50	0.2165	-	8,30	0.3268	-	11,90	0.4685	61/64	24,21	0.9531
-	1,35	0.0531	-	3,30	0.1299	7/32	5,56	0.2188	21/64	8,33	0.3281	15/32	11,91	0.4688	-	24,50	0.9646
#54	1,40	0.0550	-	3,40	0.1339	-	5,60	0.2205	-	8,40	0.3307	-	12,00	0.4724	31/32	24,61	0.9688
#53	1,51	0.0595	#29	3,45	0.1360	#2	5,61	0.2210	Q	8,43	0.3320	31/64	12,30	0.4844	-	25,00	0.9843
-	1,55	0.0610	-	3,50	0.1378	-	5,70	0.2244	-	8,50	0.3346	-	12,50	0.4921	63/64	25,00	0.9844
1/16	1,59	0.0625	#28	3,57	0.1405	-	5,75	0.2264	-	8,60	0.3386	1/2	12,70	0.5000	1	25,40	1.0000

Hardness Conversion Chart

ROCKWELL HARDNESS (HRb)	ROCKWELL HARDNESS (HRc)	BRINELL HARDNESS (HB)	VICKERS HARDNESS (HV)	TENSILE STRENGTH (N/mm ²)	PSI (1000lb/in ²)
67	—	121	122	401	58
70	—	126	127	432	63
73	—	132	132	448	65
75	—	136	137	455	66
77	—	140	143	463	67
80	—	147	150	479	69
82	—	153	156	494	72
84	—	159	163	525	76
86	—	165	171	540	78
89	—	177	178	556	81
91	—	186	188	602	88
93	—	197	196	632	92
96	—	216	212	664	97
97	—	223	218	695	101
98	21	230	234	756	110
—	22	236	241	772	112
—	23	242	247	787	114
—	24	248	255	818	118
—	25	254	261	849	123
—	27	266	269	865	125
—	28	272	275	895	130
—	29	278	284	911	132
—	30	284	292	942	136
—	31	293	300	973	141
—	32	302	308	988	143
—	33	310	318	1019	147
—	34	319	327	1050	152
—	35	328	337	1096	159
—	37	345	349	1127	163
—	38	353	359	1158	168
—	39	362	370	1189	172
—	40	370	381	1235	179
—	41	381	395	1266	183
—	42	391	408	1312	190
—	44	411	422	1359	197
—	45	422	437	1420	206
—	46	433	452	1467	212
—	48	455	470	1513	219
—	50	479	497	1559	226
—	51	485	517	1621	235
—	52	497	532	1668	241
—	54	—	573	1729	250
—	56	—	609	1807	262
—	57	—	630	1884	273
—	59	—	670	1961	284
—	60	—	698	2039	295
—	61	—	725	—	—
—	62	—	740	—	—
—	63	—	780	—	—
—	64	—	812	—	—
—	65	—	847	—	—
—	66	—	885	—	—
—	67	—	926	—	—
—	68	—	971	—	—

Conversions from each scale are approximate

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