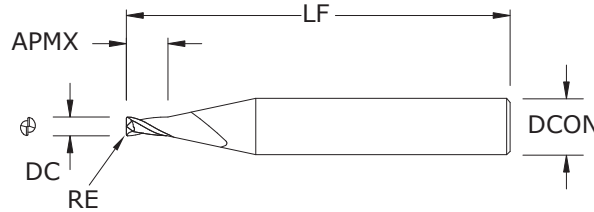




## M2 • M2CR 1.5xD FRACTIONAL SERIES



  New Expanded Tools

### TOLERANCES (inch)

**.004-.120 DIAMETER**

DC = +0.000/-0.001

DCON = h<sub>6</sub>

RE = +0.0000/-0.0005

- 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 (AITiN)
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

- STEELS
- STAINLESS STEELS
- CAST IRON
- HIGH TEMP ALLOYS
- TITANIUM
- HARDENED STEELS
- NON-FERROUS
- PLASTICS/COMPOSITES

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New Expanded Tools

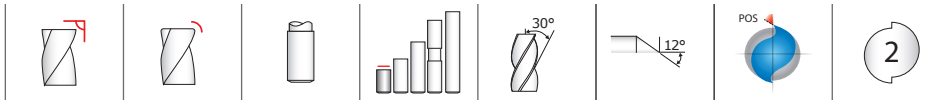
**M2 • M2CR**  
**1.5xD**  
FRACTIONAL SERIES

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

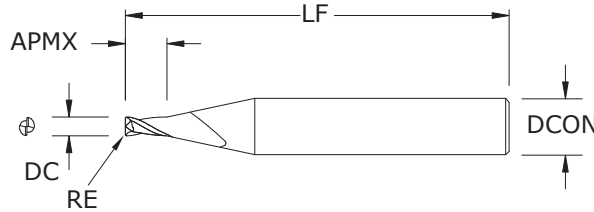
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# M2 • M2CR • 1.5xD



## M2 • M2CR 1.5xD FRACTIONAL SERIES



  New Expanded Tools

**TOLERANCES (inch)**

**.004-.120 DIAMETER**

DC = +0.000/-0.001

DCON = h<sub>6</sub>

RE = +0.0000/-0.0005

continued

CUTTING DIAMETER DC	SHANK DIAMETER DCON	inch			EDP NO.	
		LENGTH OF CUT APMX	OVERALL LENGTH LF	CORNER RADIUS RE	UNCOATED	TI-NAMITE-A (AITiN)
0.059	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

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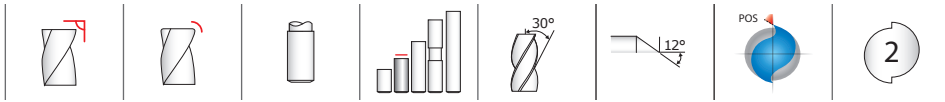
- STEELS
- STAINLESS STEELS
- CAST IRON
- HIGH TEMP ALLOYS
- TITANIUM
- HARDENED STEELS
- NON-FERROUS
- PLASTICS/COMPOSITES

New Expanded Tools

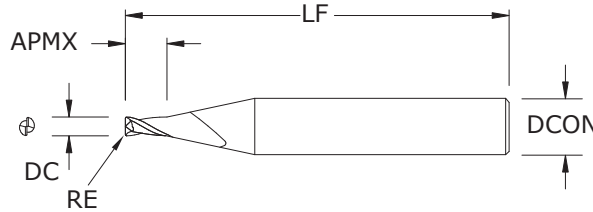
**M2 • M2CR  
1.5xD**  
FRACTIONAL SERIES

*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)
0.095	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



**M2 • M2CR**  
**3xD**  
FRACTIONAL SERIES



  New Expanded Tools

**TOLERANCES (inch)**

**.004-.120 DIAMETER**

DC = +0.000/-0.001

DCON = h<sub>6</sub>

RE = +0.0000/-0.0005

  **STEELS**

  **STAINLESS STEELS**

  **CAST IRON**

  **HIGH TEMP ALLOYS**

  **TITANIUM**

  **HARDENED STEELS**


  **NON-FERROUS**

  **PLASTICS/COMPOSITES**

- 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.
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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			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

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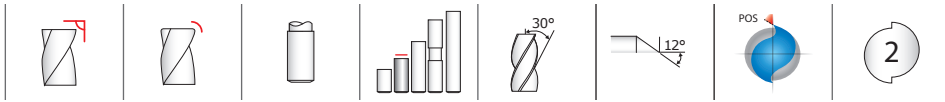
 New Expanded Tools

**M2 • M2CR**  
**3xD**  
FRACTIONAL SERIES

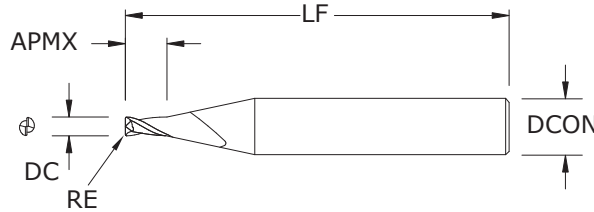
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CUTTING DIAMETER DC	SHANK DIAMETER DCON	inch			EDP NO.	
		LENGTH OF CUT APMX	OVERALL LENGTH LF	CORNER RADIUS RE	UNCOATED	TI-NAMITE-A (AlTiN)
0.034	1/8	0.102	1-1/2	—	00840	02304
0.035	1/8	0.105	1-1/2	—	00841	02305
0.035	1/8	0.105	1-1/2	0.005	08510	08651
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**  
FRACTIONAL SERIES



  New Expanded Tools

**TOLERANCES (inch)**

**.004-.120 DIAMETER**

DC = +0.000/-0.001

DCON = h<sub>6</sub>


RE = +0.0000/-0.0005

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

continued on next page

- STEELS
- STAINLESS STEELS
- CAST IRON
- HIGH TEMP ALLOYS
- TITANIUM
- HARDENED STEELS
- NON-FERROUS
- PLASTICS/COMPOSITES

 New Expanded Tools

**M2 • M2CR**  
**3xD**  
FRACTIONAL SERIES

*continued*

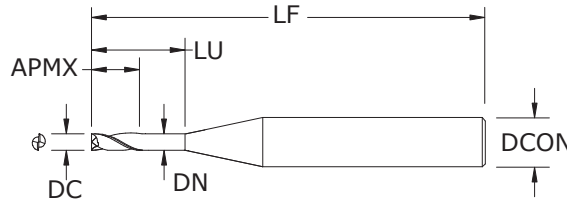
CUTTING DIAMETER DC	SHANK DIAMETER DCON	inch			EDP NO.	
		LENGTH OF CUT APMX	OVERALL LENGTH LF	CORNER RADIUS RE	UNCOATED	TI-NAMITE-A (AITiN)
0.093	1/8	0.279	1-1/2	—	00506	02463
0.095	1/8	0.285	1-1/2	—	00507	02464
0.095	1/8	0.285	1-1/2	0.005	08584	08725
0.095	1/8	0.285	1-1/2	0.010	08586	08727
0.095	1/8	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



# M2 • 3xD • 8xD Overall Reach



## M2 • 3xD 8xD FRACTIONAL SERIES



  New Expanded Tools

**TOLERANCES (inch)**

**.010–.120 DIAMETER**

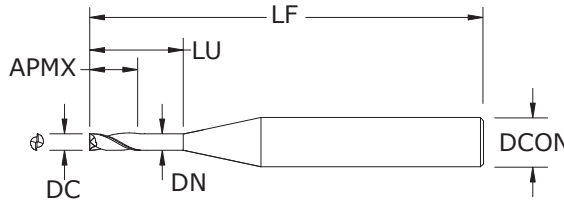
DC = +0.000/–0.001

DCON = h<sub>6</sub>

- 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	

- STEELS
- STAINLESS STEELS
- CAST IRON
- HIGH TEMP ALLOYS
- TITANIUM
- HARDENED STEELS
- NON-FERROUS
- PLASTICS/COMPOSITES



**M2 • 3xD**  
**12xD**  
FRACTIONAL SERIES

**New Expanded Tools**

**TOLERANCES (inch)**

**.010-.120 DIAMETER**

DC = +0.000/-0.001

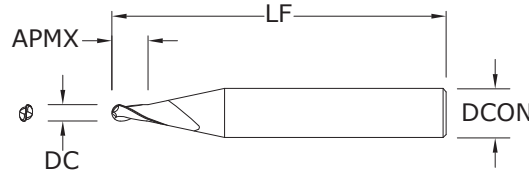
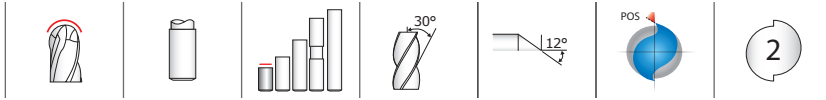
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- STEELS
- STAINLESS STEELS
- CAST IRON
- HIGH TEMP ALLOYS
- TITANIUM
- HARDENED STEELS
- NON-FERROUS
- PLASTICS/COMPOSITES

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	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



  New Expanded Tools

## 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.
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- 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	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

**TOLERANCES (inch)**

**.005-.120 DIAMETER**

DC = +0.000/-0.001

DCON = h<sub>6</sub>

- STEELS
- STAINLESS STEELS
- CAST IRON
- HIGH TEMP ALLOYS
- TITANIUM
- HARDENED STEELS
- NON-FERROUS
- PLASTICS/COMPOSITES

RE = 1/2 Cutting Diameter (DC)

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New Expanded Tools

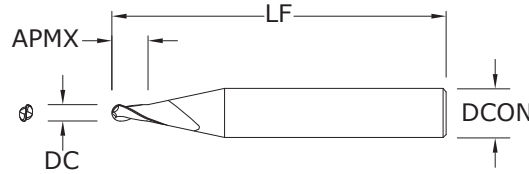
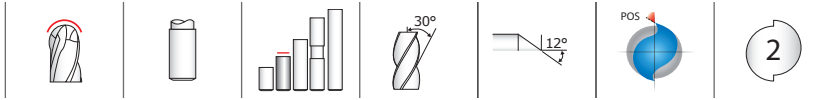
**M2B • 1.5xD**  
FRACTIONAL SERIES

CUTTING DIAMETER DC	inch			EDP NO.	
	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



**New Expanded Tools**

## M2B • 3xD FRACTIONAL SERIES

- Two flute design is ideal for softer alloyed, non-ferrous material applications that require slotting or involve heavy chip loads.
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inch				EDP NO.	
CUTTING DIAMETER DC	SHANK DIAMETER DCON	LENGTH OF CUT APMX	OVERALL LENGTH LF	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

### TOLERANCES (inch)

**.005-.120 DIAMETER**

DC = +0.000/-0.001

DCON = h<sub>6</sub>

- STEELS
- STAINLESS STEELS
- CAST IRON
- HIGH TEMP ALLOYS
- TITANIUM
- HARDENED STEELS
- NON-FERROUS
- PLASTICS/COMPOSITES

continued on next page

New Expanded Tools

**M2B • 3xD**  
FRACTIONAL SERIES

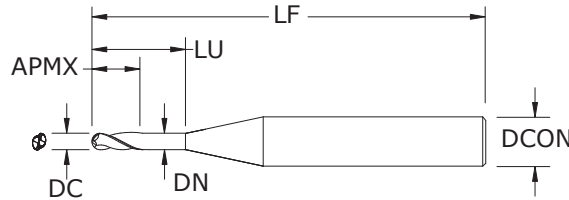
CUTTING DIAMETER DC	inch			EDP NO.	
	SHANK DIAMETER DCON	LENGTH OF CUT APMX	OVERALL LENGTH LF	UNCOATED	TI-NAMITE-A (AlTiN)
0.041	1/8	0.123	1-1/2	00847	02572
0.042	1/8	0.126	1-1/2	00848	02573
0.043	1/8	0.129	1-1/2	00849	02574
0.044	1/8	0.132	1-1/2	00850	02575
0.045	1/8	0.135	1-1/2	00851	02576
0.046	1/8	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

*continued*

# M2B • 3xD • 8xD Overall Reach



## M2B • 3xD 8xD FRACTIONAL SERIES



**New Expanded Tools**

**TOLERANCES (inch)**

**.010–.120 DIAMETER**  
DC = +0.000/–0.001  
DCON = h<sub>6</sub>

- 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	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)

- STEELS
- STAINLESS STEELS
- CAST IRON
- HIGH TEMP ALLOYS
- TITANIUM
- HARDENED STEELS
- NON-FERROUS
- PLASTICS/COMPOSITES



**New Expanded Tools**

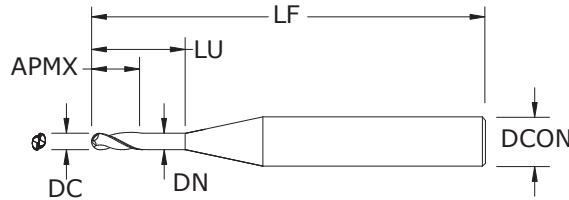
**TOLERANCES (inch)**

**.010-.120 DIAMETER**

DC = +0.000/-0.001

DCON = h<sub>6</sub>

- STEELS
- STAINLESS STEELS
- CAST IRON
- HIGH TEMP ALLOYS
- TITANIUM
- HARDENED STEELS
- NON-FERROUS
- PLASTICS/COMPOSITES



**M2B • 3xD**  
**12xD**  
FRACTIONAL SERIES

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	0.120	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)

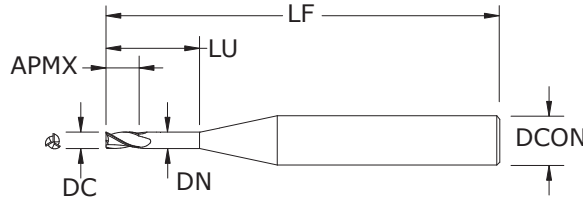
- Two flute design is ideal for softer alloyed, non-ferrous material applications that require slotting or involve heavy chip loads.
- Proprietary coating allows for superior chip flow, driving industry leading productivity and value, even at low spindle speeds.
- High performance carbide substrate designed 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 • 3xD Overall Reach



## M3 • 1.5xD 3xD FRACTIONAL SERIES



  New Expanded Tools

- 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)**

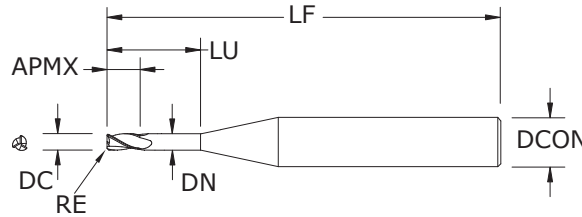
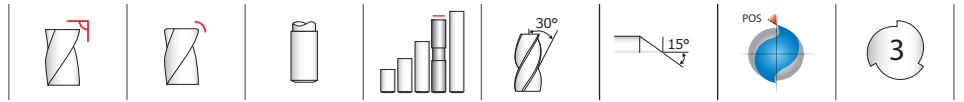
**.010-.120 DIAMETER**

DC = +0.000/-0.001

DCON = h6

- STEELS
- STAINLESS STEELS
- CAST IRON
- HIGH TEMP ALLOYS
- TITANIUM
- HARDENED STEELS
- NON-FERROUS
- PLASTICS/COMPOSITES

# M3 • M3CR • 1.5xD • 5xD Overall Reach



## M3 • M3CR • 1.5xD 5xD FRACTIONAL SERIES

**New Expanded Tools**

**TOLERANCES (inch)**

**.010–.120 DIAMETER**

DC = +0.000/-0.001

DCON = h<sub>6</sub>

RE = +0.0000/-0.0005

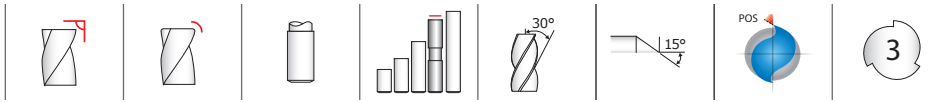
- STEELS**
- STAINLESS STEELS**
- CAST IRON**
- HIGH TEMP ALLOYS**
- TITANIUM**
- HARDENED STEELS**
- NON-FERROUS**
- PLASTICS/COMPOSITES**

inch							EDP NO.	
CUTTING DIAMETER DC	SHANK DIAMETER DCON	LENGTH OF CUT APMX	REACH LU	NECK DIAMETER DN	OVERALL LENGTH LF	CORNER RADIUS RE	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

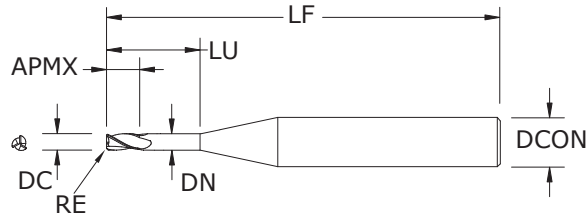
- Three flute design features improved chip space over four flutes and increased strength and feed capability over two flutes.
- Enhanced corner geometry with tight tolerance corner radii
- Proprietary coating allows for superior chip flow, driving industry leading productivity and value, even at low 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 • 5xD Overall Reach



## M3 • M3CR • 1.5xD 5xD FRACTIONAL SERIES



  New Expanded Tools

**TOLERANCES (inch)**

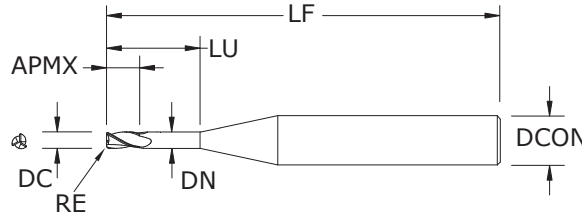
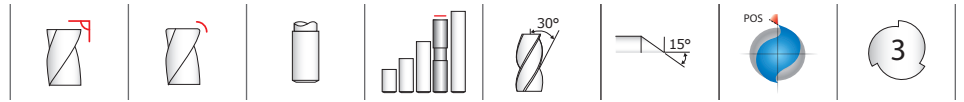
**.010-.120 DIAMETER**  
 DC = +0.000/-0.001  
 DCON = h<sub>6</sub>  
 RE = +0.0000/-0.0005

- STEELS
- STAINLESS STEELS
- CAST IRON
- HIGH TEMP ALLOYS
- TITANIUM
- HARDENED STEELS
- NON-FERROUS
- PLASTICS/COMPOSITES

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

# M3 • M3CR • 1.5xD • 8xD Overall Reach



**New Expanded Tools**

**TOLERANCES (inch)**

**.010–.120 DIAMETER**

DC = +0.000/-0.001

DCON = h<sub>6</sub>

RE = +0.0000/-0.0005

- STEELS
- STAINLESS STEELS
- CAST IRON
- HIGH TEMP ALLOYS
- TITANIUM
- HARDENED STEELS
- NON-FERROUS
- PLASTICS/COMPOSITES

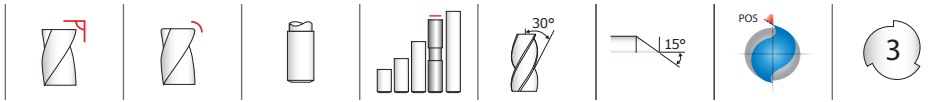
## M3 • M3CR • 1.5xD 8xD FRACTIONAL SERIES

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.

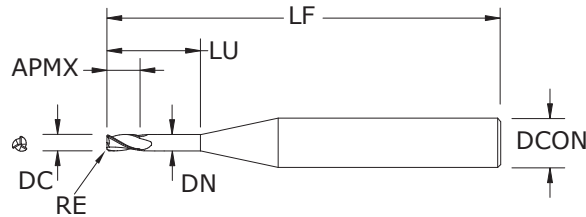
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# M3 • M3CR • 1.5xD • 8xD Overall Reach



## M3 • M3CR • 1.5xD 8xD

FRACTIONAL SERIES



  New Expanded Tools

**TOLERANCES (inch)**

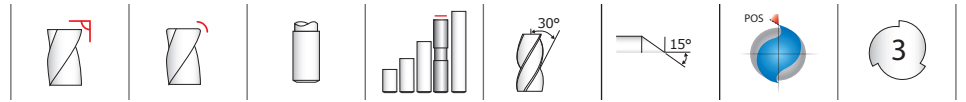
**.010–.120 DIAMETER**  
 DC = +0.000/–0.001  
 DCON = h<sub>6</sub>  
 RE = +0.0000/–0.0005

- STEELS
- STAINLESS STEELS
- CAST IRON
- HIGH TEMP ALLOYS
- TITANIUM
- HARDENED STEELS
- NON-FERROUS
- PLASTICS/COMPOSITES

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

# M3 • M3CR • 1.5xD • 12xD Overall Reach



**New Expanded Tools**

**TOLERANCES (inch)**

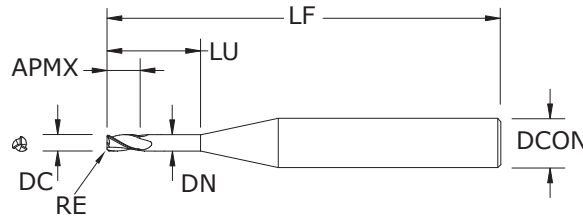
**.010–.120 DIAMETER**

DC = +0.000/-0.001

DCON = h<sub>6</sub>

RE = +0.0000/-0.0005

- STEELS
- STAINLESS STEELS
- CAST IRON
- HIGH TEMP ALLOYS
- TITANIUM
- HARDENED STEELS
- NON-FERROUS
- PLASTICS/COMPOSITES



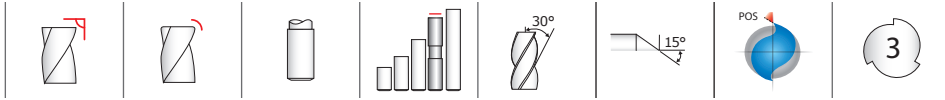
## M3 • M3CR • 1.5xD 12xD FRACTIONAL SERIES

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

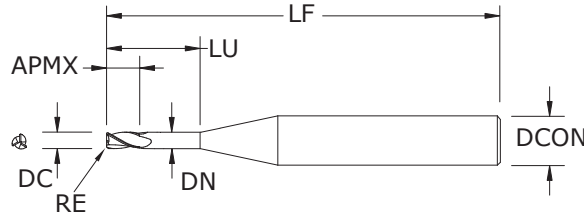
- Three flute design features improved chip space over four flutes and increased strength and feed capability over two flutes.
- Enhanced corner geometry with tight tolerance corner radii
- Proprietary coating allows for superior chip flow, driving industry leading productivity and value, even at low 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.

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# M3 • M3CR • 1.5xD • 12xD Overall Reach



## M3 • M3CR • 1.5xD 12xD FRACTIONAL SERIES



  New Expanded Tools

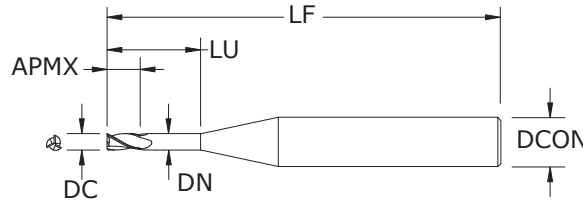
**TOLERANCES (inch)**

**.010–.120 DIAMETER**  
 DC = +0.000/–0.001  
 DCON = h<sub>6</sub>  
 RE = +0.0000/–0.0005

- STEELS
- STAINLESS STEELS
- CAST IRON
- HIGH TEMP ALLOYS
- TITANIUM
- HARDENED STEELS
- NON-FERROUS
- PLASTICS/COMPOSITES

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



**New Expanded Tools**

**TOLERANCES (inch)**

**.010-.120 DIAMETER**

DC = +0.000/-0.001

DCON = h<sub>6</sub>

- STEELS
- STAINLESS STEELS
- CAST IRON
- HIGH TEMP ALLOYS
- TITANIUM
- HARDENED STEELS
- NON-FERROUS
- PLASTICS/COMPOSITES

**M3 • 1.5xD**  
**15xD**  
FRACTIONAL SERIES

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	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

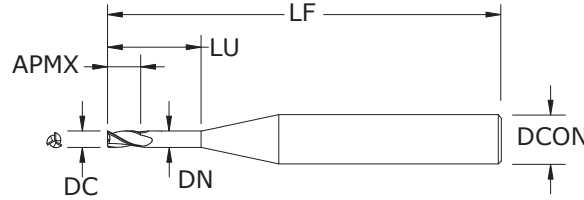
- Three flute design features improved chip space over four flutes and increased strength and feed capability over two flutes.
- Proprietary coating allows for superior chip flow, driving industry leading productivity and value, even at low spindle speeds.
- High performance carbide substrate designed 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.
- All micro tools are manufactured in accordance with the KSPT ISO certified quality procedures.



# M3 • 1.5xD • 20xD Overall Reach



## M3 • 1.5xD 20xD FRACTIONAL SERIES



**New Expanded Tools**

- 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.
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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	

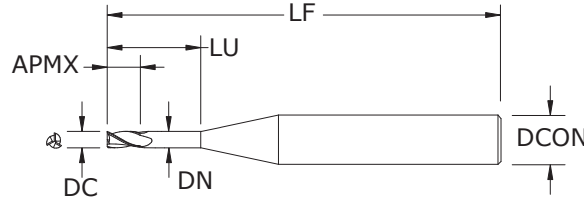
**TOLERANCES (inch)**

**.010-.120 DIAMETER**

DC = +0.000/-0.001

DCON = h<sub>6</sub>

- STEELS
- STAINLESS STEELS
- CAST IRON
- HIGH TEMP ALLOYS
- TITANIUM
- HARDENED STEELS
- NON-FERROUS
- PLASTICS/COMPOSITES



**M3 • 1.5xD**  
**25xD**  
FRACTIONAL SERIES

**New Expanded Tools**

**TOLERANCES (inch)**

**.010-.120 DIAMETER**

DC = +0.000/-0.001

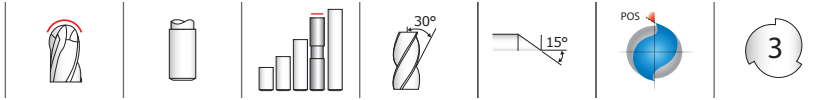
DCON = h<sub>6</sub>

- STEELS
- STAINLESS STEELS
- CAST IRON
- HIGH TEMP ALLOYS
- TITANIUM
- HARDENED STEELS
- NON-FERROUS
- PLASTICS/COMPOSITES

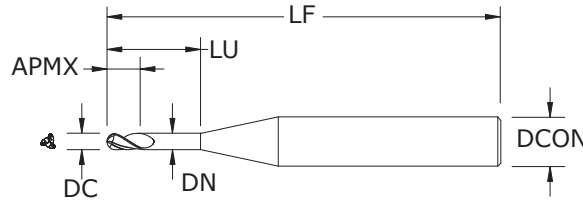
CUTTING DIAMETER DC	SHANK DIAMETER DCON	LENGTH OF CUT APMX	inch		OVERALL LENGTH LF	EDP NO.	
			REACH LU	NECK DIAMETER DN		UNCOATED	TI-NAMITE-A (AlTiN)
0.010	1/8	0.015	0.250	0.009	2-1/2	09598	03670
0.015	1/8	0.023	0.375	0.014	2-1/2	09605	03671
0.020	1/8	0.030	0.500	0.018	2-1/2	09612	03672
0.025	1/8	0.038	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

- 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 • 3xD Overall Reach



## M3B • 1.5xD 3xD FRACTIONAL SERIES



  New Expanded Tools

- Three flute design features improved chip space over four flutes and increased strength and feed capability over two flutes.
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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	0.030	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)

### TOLERANCES (inch)

**.010-.120 DIAMETER**

DC = +0.000/-0.001

DCON = h<sub>6</sub>

- STEELS
- STAINLESS STEELS
- CAST IRON
- HIGH TEMP ALLOYS
- TITANIUM
- HARDENED STEELS
- NON-FERROUS
- PLASTICS/COMPOSITES



**New Expanded Tools**

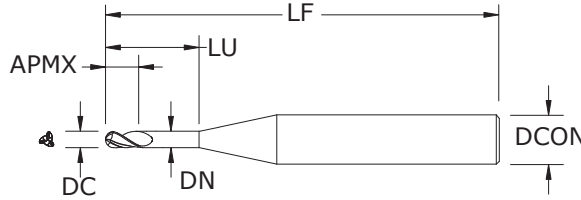
**TOLERANCES (inch)**

**.010-.120 DIAMETER**

DC = +0.000/-0.001

DCON = h<sub>6</sub>

- STEELS
- STAINLESS STEELS
- CAST IRON
- HIGH TEMP ALLOYS
- TITANIUM
- HARDENED STEELS
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- PLASTICS/COMPOSITES



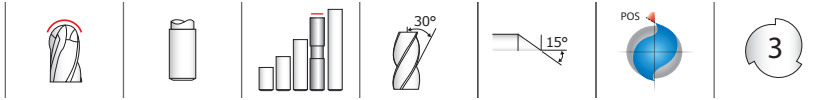
**M3B • 1.5xD**  
**5xD**  
FRACTIONAL SERIES

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	0.015	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

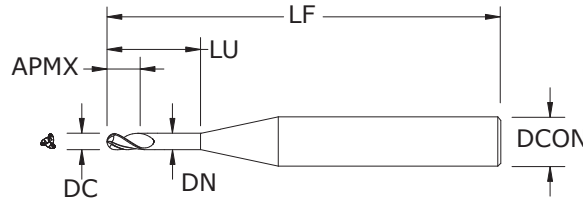
RE = 1/2 Cutting Diameter (DC)

- 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 • 8xD Overall Reach



## M3B • 1.5xD 8xD FRACTIONAL SERIES



  New Expanded Tools

- Three flute design features improved chip space over four flutes and increased strength and feed capability over two flutes.
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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	0.080	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)

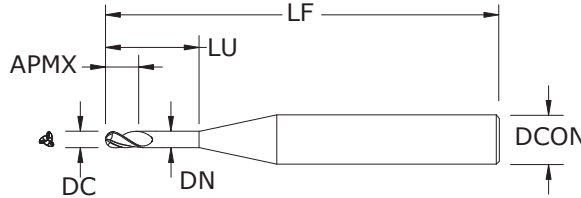
**TOLERANCES (inch)**

**.010-.120 DIAMETER**

DC = +0.000/-0.001

DCON = h<sub>6</sub>

- STEELS
- STAINLESS STEELS
- CAST IRON
- HIGH TEMP ALLOYS
- TITANIUM
- HARDENED STEELS
- NON-FERROUS
- PLASTICS/COMPOSITES



**M3B • 1.5xD**  
**12xD**  
FRACTIONAL SERIES

New Expanded Tools

**TOLERANCES (inch)**

**.010-.120 DIAMETER**

DC = +0.000/-0.001

DCON = h<sub>6</sub>

- STEELS
- STAINLESS STEELS
- CAST IRON
- HIGH TEMP ALLOYS
- TITANIUM
- HARDENED STEELS
- NON-FERROUS
- PLASTICS/COMPOSITES

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	0.120	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

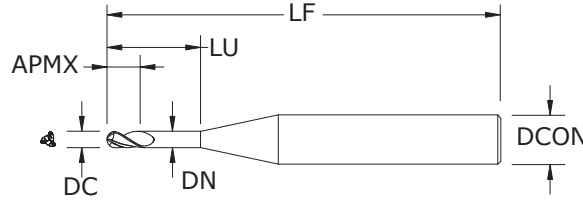
RE = 1/2 Cutting Diameter (DC)

- 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 • 15xD Overall Reach



## M3B • 1.5xD 15xD FRACTIONAL SERIES



  New Expanded Tools

- 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	0.015	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)

**TOLERANCES (inch)**

**.010–.120 DIAMETER**

DC = +0.000/–0.001

DCON = h<sub>6</sub>

- STEELS
- STAINLESS STEELS
- CAST IRON
- HIGH TEMP ALLOYS
- TITANIUM
- HARDENED STEELS
- NON-FERROUS
- PLASTICS/COMPOSITES



**New Expanded Tools**

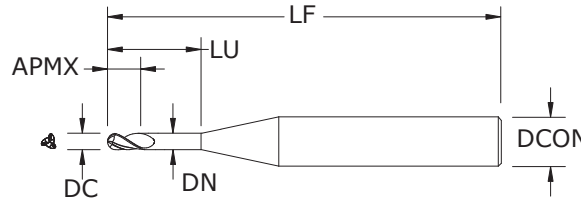
**TOLERANCES (inch)**

**.010-.120 DIAMETER**

DC = +0.000/-0.001

DCON = h<sub>6</sub>

- STEELS
- STAINLESS STEELS
- CAST IRON
- HIGH TEMP ALLOYS
- TITANIUM
- HARDENED STEELS
- NON-FERROUS
- PLASTICS/COMPOSITES



**M3B • 1.5xD**  
**20xD**  
FRACTIONAL SERIES

CUTTING DIAMETER DC	SHANK DIAMETER DCON	LENGTH OF CUT APMX	REACH LU	NECK DIAMETER DN	OVERALL LENGTH LF	EDP NO.	
						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)

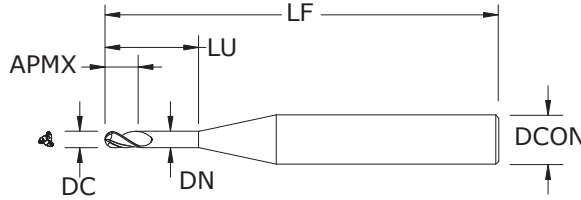
- Three flute design features improved chip space over four flutes and increased strength and feed capability over two flutes.
- Proprietary coating allows for superior chip flow, driving industry leading productivity and value, even at low spindle speeds.
- High performance carbide substrate designed 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 • 25xD Overall Reach



## M3B • 1.5xD 25xD FRACTIONAL SERIES



  New Expanded Tools

- 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	0.015	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)

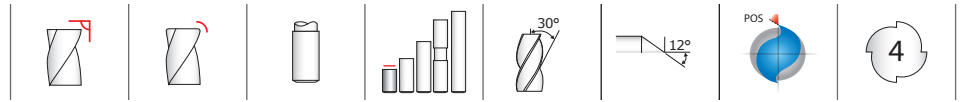
**TOLERANCES (inch)**

**.010-.120 DIAMETER**

DC = +0.000/-0.001

DCON = h<sub>6</sub>

- STEELS
- STAINLESS STEELS
- CAST IRON
- HIGH TEMP ALLOYS
- TITANIUM
- HARDENED STEELS
- NON-FERROUS
- PLASTICS/COMPOSITES



**New Expanded Tools**

**TOLERANCES (inch)**

**.005–.120 DIAMETER**

DC = +0.000/-0.001

DCON = h<sub>6</sub>

RE = +0.0000/-0.0005

**STEELS**

**STAINLESS STEELS**

**CAST IRON**

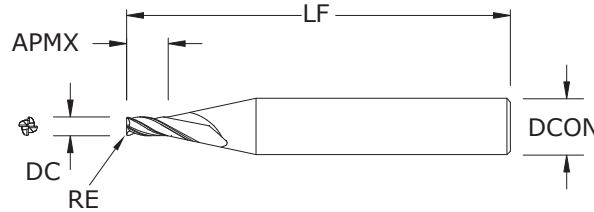
**HIGH TEMP ALLOYS**

**TITANIUM**

**HARDENED STEELS**

**NON-FERROUS**

**PLASTICS/COMPOSITES**



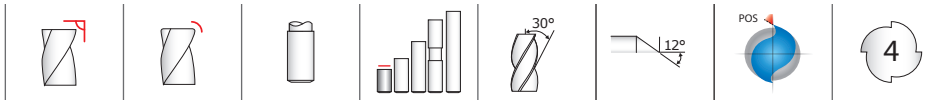
**M4 • M4CR**  
**1.5xD**  
FRACTIONAL SERIES

CUTTING DIAMETER DC	SHANK DIAMETER DCON	inch			EDP NO.	
		LENGTH OF CUT APMX	OVERALL LENGTH LF	CORNER RADIUS RE	UNCOATED	TI-NAMITE-A (AITiN)
0.005	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

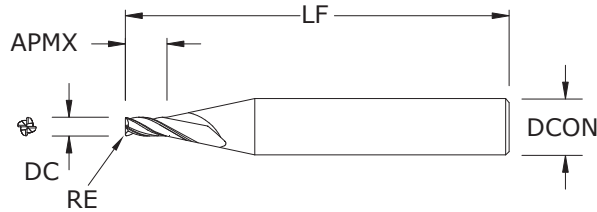
- Four flute design allows for higher feed rates and decreased deflection, improving productivity and surface finish.
- Enhanced corner geometry with tight tolerance corner radii
- Proprietary coating allows for superior chip flow, driving industry leading productivity and value, even at low spindle 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.

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# M4 • M4CR • 1.5xD



## M4 • M4CR 1.5xD FRACTIONAL SERIES



  New Expanded Tools

**TOLERANCES (inch)**

**.005–.120 DIAMETER**  
 DC = +0.000/-0.001  
 DCON = h<sub>6</sub>  
 RE = +0.0000/-0.0005

- STEELS
- STAINLESS STEELS
- CAST IRON
- HIGH TEMP ALLOYS
- TITANIUM
- HARDENED STEELS
- NON-FERROUS
- PLASTICS/COMPOSITES

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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New Expanded Tools

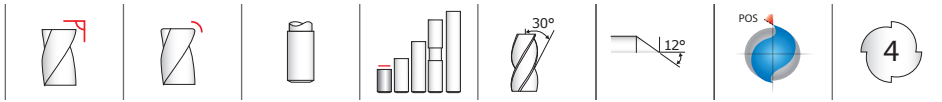
**M4 • M4CR  
1.5xD**  
FRACTIONAL SERIES

CUTTING DIAMETER DC	SHANK DIAMETER DCON	inch			EDP NO.	
		LENGTH OF CUT APMX	OVERALL LENGTH LF	CORNER RADIUS RE	UNCOATED	TI-NAMITE-A (AlTiN)
0.057	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	0.1125	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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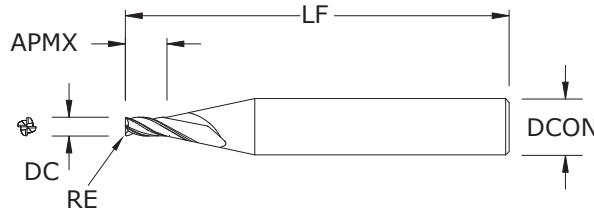
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# M4 • M4CR • 1.5xD



## M4 • M4CR 1.5xD FRACTIONAL SERIES

continued



  New Expanded Tools

**TOLERANCES (inch)**

**.005–.120 DIAMETER**

DC = +0.000/-0.001


DCON = h<sub>6</sub>

RE = +0.0000/-0.0005

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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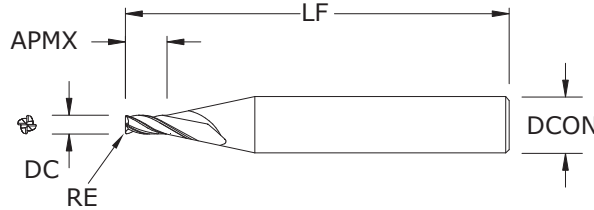
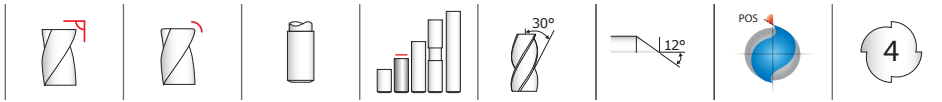
- STEELS
- STAINLESS STEELS
- CAST IRON
- HIGH TEMP ALLOYS
- TITANIUM
- HARDENED STEELS
- NON-FERROUS
- PLASTICS/COMPOSITES

 New Expanded Tools

**M4 • M4CR**  
**1.5xD**  
FRACTIONAL SERIES

CUTTING DIAMETER DC	SHANK DIAMETER DCON	inch			EDP NO.	
		LENGTH OF CUT APMX	OVERALL LENGTH LF	CORNER RADIUS RE	UNCOATED	TI-NAMITE-A (AlTiN)
0.120	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

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## M4 • M4CR • 3xD

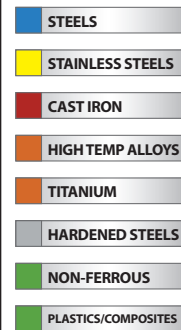
FRACTIONAL SERIES

- 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)

.004–.120 DIAMETER  
 DC = +0.000/–0.001  
 DCON = h<sub>6</sub>  
 RE = +0.0000/–0.0005



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**M4 • M4CR • 3xD**  
FRACTIONAL SERIES

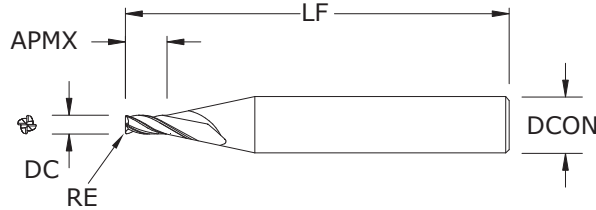
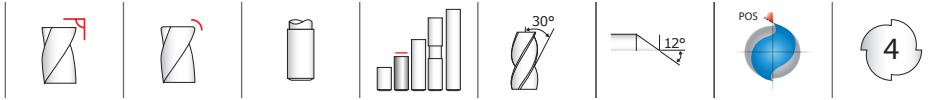
CUTTING DIAMETER DC	SHANK DIAMETER DCON	inch			EDP NO.	
		LENGTH OF CUT APMX	OVERALL LENGTH LF	CORNER RADIUS RE	UNCOATED	TI-NAMITE-A (AITiN)
0.035	1/8	0.105	1-1/2	—	00544	02342
0.035	1/8	0.105	1-1/2	0.005	08995	09135
0.035	1/8	0.105	1-1/2	0.010	08997	09137
0.036	1/8	0.108	1-1/2	—	00545	02343
0.037	1/8	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

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# M4 • M4CR • 3xD



  New Expanded Tools

## 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)

**.004-.120 DIAMETER**  
 DC = +0.000/-0.001  
 DCON = h<sub>6</sub>  
 RE = +0.0000/-0.0005

- STEELS
- STAINLESS STEELS
- CAST IRON
- HIGH TEMP ALLOYS
- TITANIUM
- HARDENED STEELS
- NON-FERROUS
- PLASTICS/COMPOSITES

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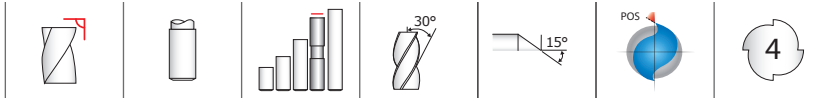
New Expanded Tools

**M4 • M4CR • 3xD**  
FRACTIONAL SERIES

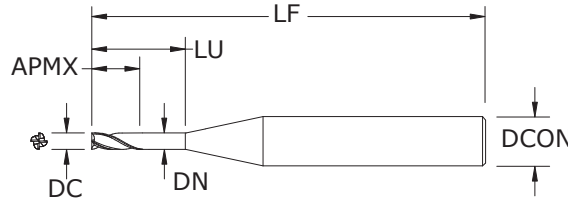
CUTTING DIAMETER DC	SHANK DIAMETER DCON	inch			EDP NO.	
		LENGTH OF CUT APMX	OVERALL LENGTH LF	CORNER RADIUS RE	UNCOATED	TI-NAMITE-A (AITiN)
0.095	1/8	0.285	1-1/2	—	00578	02498
0.095	1/8	0.285	1-1/2	0.005	09069	09209
0.095	1/8	0.285	1-1/2	0.010	09071	09211
0.095	1/8	0.285	1-1/2	0.015	09073	09213
0.095	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



  New Expanded Tools

- 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				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	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	

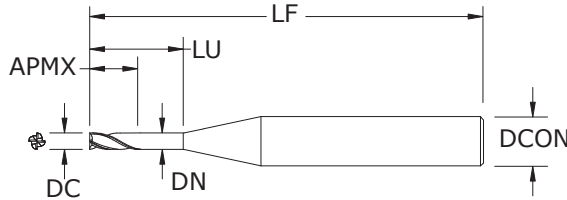
**TOLERANCES (inch)**

**.010-.120 DIAMETER**

DC = +0.000/-0.001

DCON = h<sub>6</sub>

- STEELS
- STAINLESS STEELS
- CAST IRON
- HIGH TEMP ALLOYS
- TITANIUM
- HARDENED STEELS
- NON-FERROUS
- PLASTICS/COMPOSITES



**M4 • 3xD**  
**12xD**  
FRACTIONAL SERIES

**New Expanded Tools**

**TOLERANCES (inch)**

**.010-.120 DIAMETER**

DC = +0.000/-0.001

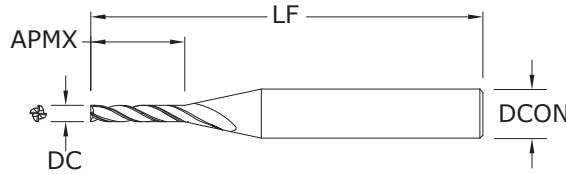
DCON = h<sub>6</sub>

- STEELS
- STAINLESS STEELS
- CAST IRON
- HIGH TEMP ALLOYS
- TITANIUM
- HARDENED STEELS
- NON-FERROUS
- PLASTICS/COMPOSITES

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	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



**New Expanded Tools**

## 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	LENGTH OF CUT APMX	OVERALL LENGTH LF	EDP NO.	
				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 = h<sub>6</sub>

- STEELS
- STAINLESS STEELS
- CAST IRON
- HIGH TEMP ALLOYS
- TITANIUM
- HARDENED STEELS
- NON-FERROUS
- PLASTICS/COMPOSITES



**New Expanded Tools**

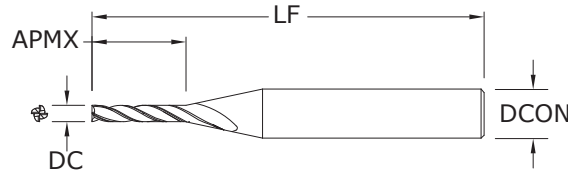
**TOLERANCES (inch)**

**.010-.120 DIAMETER**

DC = +0.000/-0.001

DCON = h<sub>6</sub>

- STEELS
- STAINLESS STEELS
- CAST IRON
- HIGH TEMP ALLOYS
- TITANIUM
- HARDENED STEELS
- NON-FERROUS
- PLASTICS/COMPOSITES

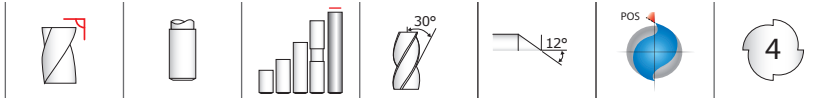


**M4E • 8xD**  
FRACTIONAL SERIES

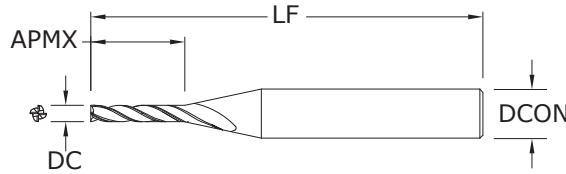
inch				EDP NO.	
CUTTING DIAMETER DC	SHANK DIAMETER DCON	LENGTH OF CUT APMX	OVERALL LENGTH LF	UNCOATED	TI-NAMITE-A (AITiN)
0.010	1/8	0.080	2-1/2	00611	02667
0.015	1/8	0.120	2-1/2	00612	02668
0.020	1/8	0.160	2-1/2	00613	02669
0.025	1/8	0.200	2-1/2	00614	02670
0.030	1/8	0.240	2-1/2	00615	02671
0.031	1/8	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.

# FRACTIONAL M4X • 12xD



## M4X • 12xD FRACTIONAL SERIES



**New Expanded Tools**

- 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	LENGTH OF CUT APMX	OVERALL LENGTH LF	EDP NO.	
				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 = h<sub>6</sub>

- STEELS
- STAINLESS STEELS
- CAST IRON
- HIGH TEMP ALLOYS
- TITANIUM
- HARDENED STEELS
- NON-FERROUS
- PLASTICS/COMPOSITES



**New Expanded Tools**

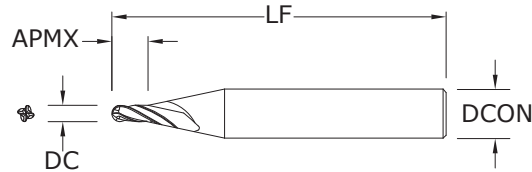
**TOLERANCES (inch)**

**.010-.120 DIAMETER**

DC = +0.000/-0.001

DCON = h<sub>6</sub>

- STEELS
- STAINLESS STEELS
- CAST IRON
- HIGH TEMP ALLOYS
- TITANIUM
- HARDENED STEELS
- NON-FERROUS
- PLASTICS/COMPOSITES



**M4B • 1.5xD**  
FRACTIONAL SERIES

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)

continued on next page

- Four flute design allows for higher feed rates and decreased deflection, improving productivity and surface finish.
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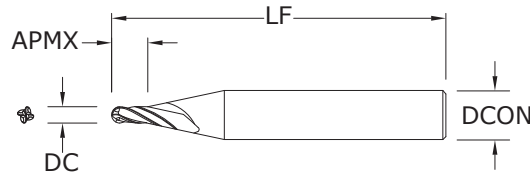


# M4B • 1.5xD



## M4B • 1.5xD

FRACTIONAL SERIES



  New Expanded Tools

**TOLERANCES (inch)**

**.010-.120 DIAMETER**

DC = +0.000/-0.001

DCON = h<sub>6</sub>

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)

- STEELS
- STAINLESS STEELS
- CAST IRON
- HIGH TEMP ALLOYS
- TITANIUM
- HARDENED STEELS
- NON-FERROUS
- PLASTICS/COMPOSITES



**New Expanded Tools**

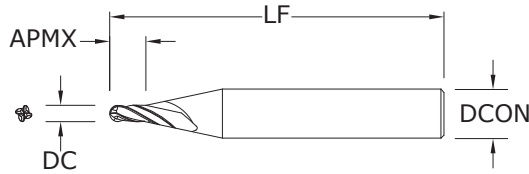
**TOLERANCES (inch)**

**.010-.120 DIAMETER**

DC = +0.000/-0.001

DCON = h<sub>6</sub>

- STEELS
- STAINLESS STEELS
- CAST IRON
- HIGH TEMP ALLOYS
- TITANIUM
- HARDENED STEELS
- NON-FERROUS
- PLASTICS/COMPOSITES



**M4B • 3xD**  
FRACTIONAL SERIES

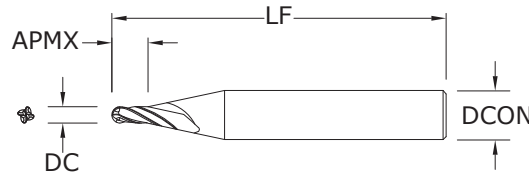
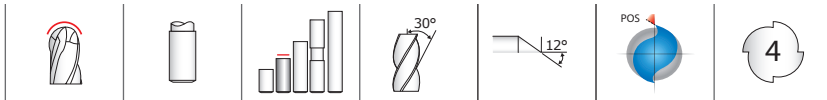
inch				EDP NO.	
CUTTING DIAMETER DC	SHANK DIAMETER DCON	LENGTH OF CUT APMX	OVERALL LENGTH LF	UNCOATED	TI-NAMITE-A (AITiN)
0.010	1/8	0.030	1-1/2	00887	03145
0.011	1/8	0.033	1-1/2	00888	03146
0.012	1/8	0.036	1-1/2	00889	03147
0.013	1/8	0.039	1-1/2	00890	03148
0.014	1/8	0.042	1-1/2	00891	03149
0.015	1/8	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

- 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.

RE = 1/2 Cutting Diameter (DC)

*continued on next page*

# M4B • 3xD



  New Expanded Tools

## M4B • 3xD

FRACTIONAL SERIES

**TOLERANCES (inch)**

**.010-.120 DIAMETER**

DC = +0.000/-0.001

DCON = h<sub>6</sub>

- STEELS
- STAINLESS STEELS
- CAST IRON
- HIGH TEMP ALLOYS
- TITANIUM
- HARDENED STEELS
- NON-FERROUS
- PLASTICS/COMPOSITES

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)



**New Expanded Tools**

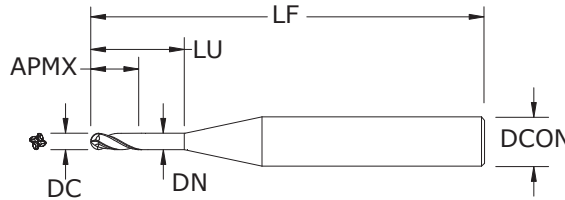
**TOLERANCES (inch)**

**.010-.120 DIAMETER**

DC = +0.000/-0.001

DCON = h<sub>6</sub>

- STEELS
- STAINLESS STEELS
- CAST IRON
- HIGH TEMP ALLOYS
- TITANIUM
- HARDENED STEELS
- NON-FERROUS
- PLASTICS/COMPOSITES



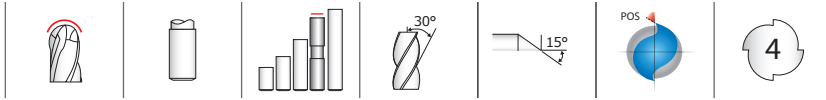
**M4B • 3xD  
8xD**  
FRACTIONAL SERIES

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	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

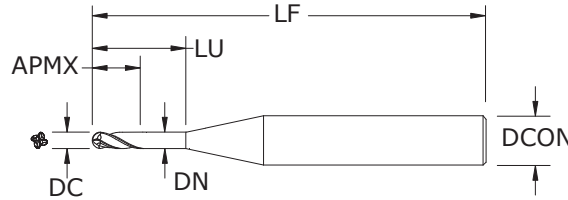
RE = 1/2 Cutting Diameter (DC)

- Four flute design allows for higher feed rates and decreased deflection, improving productivity and surface finish.
- 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.

# M4B • 3xD • 12xD Overall Reach



## M4B • 3xD 12xD FRACTIONAL SERIES



**New Expanded Tools**

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- 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 (AITIN)
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 = h<sub>6</sub>

- STEELS
- STAINLESS STEELS
- CAST IRON
- HIGH TEMP ALLOYS
- TITANIUM
- HARDENED STEELS
- NON-FERROUS
- PLASTICS/COMPOSITES



**New Expanded Tools**

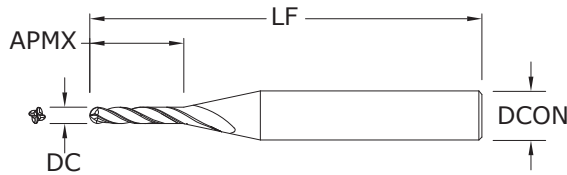
**TOLERANCES (inch)**

**.010-.120 DIAMETER**

DC = +0.000/-0.001

DCON = h<sub>6</sub>

- STEELS
- STAINLESS STEELS
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- HARDENED STEELS
- NON-FERROUS
- PLASTICS/COMPOSITES



**M4LB • 5xD**  
FRACTIONAL SERIES

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)

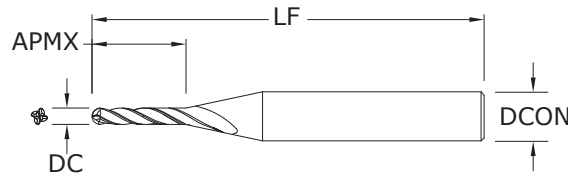
- Four flute design allows for higher feed rates and decreased deflection, improving productivity and surface finish.
- Proprietary coating allows for superior chip flow, driving industry leading productivity and value, even at low spindle speeds.
- High performance carbide substrate designed specifically 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



  New Expanded Tools

- 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	LENGTH OF CUT APMX	OVERALL LENGTH LF	EDP NO.	
				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 = h<sub>6</sub>

- STEELS
- STAINLESS STEELS
- CAST IRON
- HIGH TEMP ALLOYS
- TITANIUM
- HARDENED STEELS
- NON-FERROUS
- PLASTICS/COMPOSITES



**New Expanded Tools**

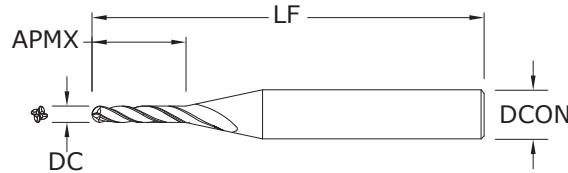
**TOLERANCES (inch)**

**.015-.120 DIAMETER**

DC = +0.000/-0.001

DCON = h<sub>6</sub>

- STEELS
- STAINLESS STEELS
- CAST IRON
- HIGH TEMP ALLOYS
- TITANIUM
- HARDENED STEELS
- NON-FERROUS
- PLASTICS/COMPOSITES



**M4XB • 12xD**  
FRACTIONAL SERIES

inch				EDP NO.	
CUTTING DIAMETER DC	SHANK DIAMETER DCON	LENGTH OF CUT APMX	OVERALL LENGTH LF	UNCOATED	TI-NAMITE-A (AITiN)
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)

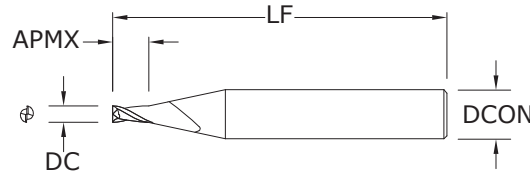
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- Broad portfolio, offering consistent lengths of cut, to ensure application demands are met.
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- All micro tools are manufactured in accordance with the KSPT ISO certified quality procedures.



# M2M • 1.5xD



## M2M • 1.5xD METRIC SERIES



  New Expanded Tools

- 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	0,1	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 = h<sub>6</sub>

- STEELS
- STAINLESS STEELS
- CAST IRON
- HIGH TEMP ALLOYS
- TITANIUM
- HARDENED STEELS
- NON-FERROUS
- PLASTICS/COMPOSITES



**New Expanded Tools**

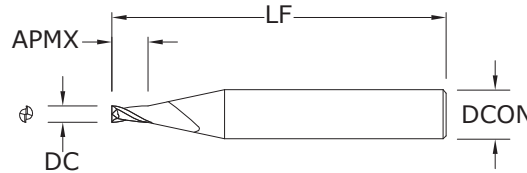
**TOLERANCES (mm)**

**0,1–3,0 DIAMETER**

DC = +0,0000/–0,0254

DCON = h<sub>6</sub>

- STEELS
- STAINLESS STEELS
- CAST IRON
- HIGH TEMP ALLOYS
- TITANIUM
- HARDENED STEELS
- NON-FERROUS
- PLASTICS/COMPOSITES



**M2M • 3xD**  
**METRIC SERIES**

CUTTING DIAMETER DC	DECIMAL EQUIVALENT	mm			EDP NO.	
		SHANK DIAMETER DCON	LENGTH OF CUT APMX	OVERALL LENGTH LF	UNCOATED	TI-NAMITE-A (AITIN)
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

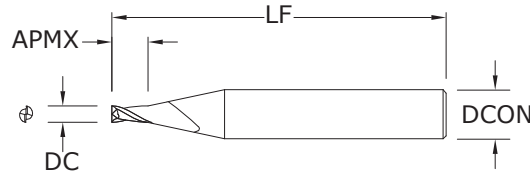
*continued on next page*

- 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.



**M2M • 3xD**  
METRIC SERIES

continued



  New Expanded Tools

**TOLERANCES (mm)**

**0,1–3,0 DIAMETER**

DC = +0,0000/–0,0254

DCON = h<sub>6</sub>

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

  STEELS

  STAINLESS STEELS

  CAST IRON

  HIGH TEMP ALLOYS

  TITANIUM

  HARDENED STEELS

  NON-FERROUS

  PLASTICS/COMPOSITES



**New Expanded Tools**

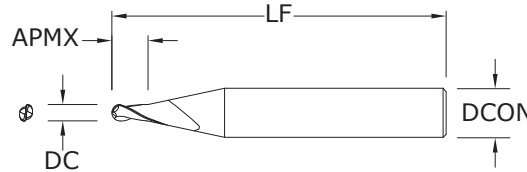
**TOLERANCES (mm)**

**0,1–3,0 DIAMETER**

DC = +0,0000/–0,0254

DCON = h<sub>6</sub>

- STEELS
- STAINLESS STEELS
- CAST IRON
- HIGH TEMP ALLOYS
- TITANIUM
- HARDENED STEELS
- NON-FERROUS
- PLASTICS/COMPOSITES



**M2MB • 1.5xD**  
METRIC SERIES

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

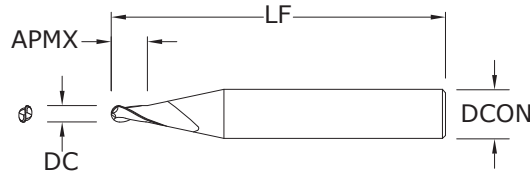
RE = 1/2 Cutting Diameter (DC)

- 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



  New Expanded Tools

- 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)

continued on next page

### TOLERANCES (mm)

0,1–3,0 DIAMETER

DC = +0,0000/–0,0254

DCON = h<sub>6</sub>

- STEELS
- STAINLESS STEELS
- CAST IRON
- HIGH TEMP ALLOYS
- TITANIUM
- HARDENED STEELS
- NON-FERROUS
- PLASTICS/COMPOSITES

**New Expanded Tools**

**TOLERANCES (mm)**

**0,1–3,0 DIAMETER**

DC = +0,0000/–0,0254

DCON = h<sub>6</sub>

- STEELS
- STAINLESS STEELS
- CAST IRON
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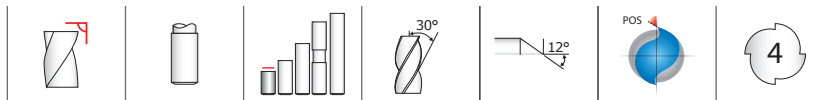
**M2MB • 3xD**  
METRIC SERIES

*continued*

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

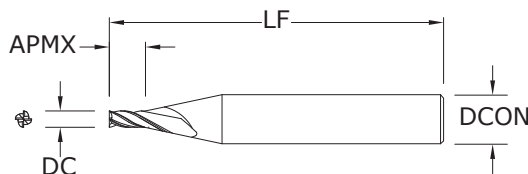
RE = 1/2 Cutting Diameter (DC)

# M4M • 1.5xD



## M4M • 1.5xD

METRIC SERIES



**New Expanded Tools**

- 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**

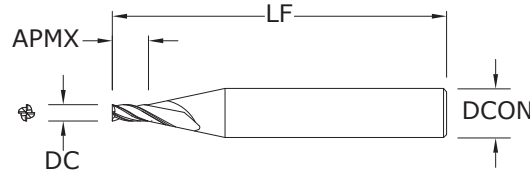
DC = +0,0000/–0,0254

DCON = h<sub>6</sub>

- STEELS
- STAINLESS STEELS
- CAST IRON
- HIGH TEMP ALLOYS
- TITANIUM
- HARDENED STEELS
- NON-FERROUS
- PLASTICS/COMPOSITES



**New Expanded Tools**



**M4M • 3xD**  
METRIC SERIES

**TOLERANCES (mm)**

**0,1–3,0 DIAMETER**

DC = +0,0000/–0,0254

DCON = h<sub>6</sub>

- STEELS
- STAINLESS STEELS
- CAST IRON
- HIGH TEMP ALLOYS
- TITANIUM
- HARDENED STEELS
- NON-FERROUS
- PLASTICS/COMPOSITES

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

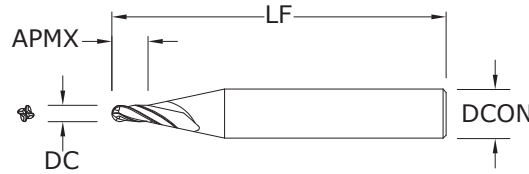
- Four flute design allows for higher feed rates and decreased deflection, improving productivity and surface finish.
- Proprietary coating allows for superior chip flow, driving industry leading productivity and value, even at low spindle speeds.
- High performance carbide substrate designed specifically 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.



# M4MB • 1.5xD



## M4MB • 1.5xD METRIC SERIES



  New Expanded Tools

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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)

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- STEELS
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**New Expanded Tools**

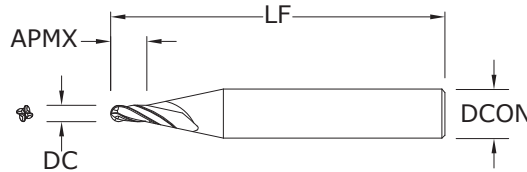
**TOLERANCES (mm)**

**0,4–3,0 DIAMETER**

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**M4MB • 3xD**  
**METRIC SERIES**

CUTTING DIAMETER DC	DECIMAL EQUIVALENT	SHANK DIAMETER DCON	LENGTH OF CUT APMX	OVERALL LENGTH LF	EDP NO.	
					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

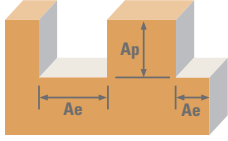
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# Speeds and Feeds

**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]
- Reduce speed and feed 30 percent when using uncoated tools
- Find Width of Cut (Ae) and Depth of Cut (Ap) recommendations on chart below
- refer to the KYOCERA SGS Tool Wizard® or sgsmicrotools.com for detailed technical charts by series



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 H K M S N ALL	Profile	≤.30	≤.50	≤1	≤.10	≤.25	≤2
	Slot	1	≤.20	≤.50	1	≤.15	≤.35

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 H K M S N 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						

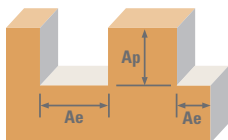
METRIC 2-Flute Square & Ball Without Reach	Flute Length	1.5 x DC		3 x DC			
	Feed Multiplier	1		0.9			
	Width/Depth	Ae x DC	Ap x DC	Ae x DC	Ap x DC		
	Diameter (DC)	≤0.0312	>0.0312	≤0.0312	>0.0312		
P H K M S N ALL	Profile	≤.30	≤.50	≤1	≤.10	≤.25	≤2
	Slot	1	≤.20	≤.50	1	≤.15	≤.35

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 H K M S N 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]
- Reduce speed and feed 30 percent when using uncoated tools
- Find Width of Cut (Ae) and Depth of Cut (Ap) recommendations on chart below
- refer to the KYOCERA SGS Tool Wizard® or sgsmicrotools.com for detailed technical charts by series



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 H K M S N	Profile	≤.25	≤.50	≤.30	≤.22	≤.45	≤.25
ALL	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 H K M S N	Profile	≤.30	≤.60	≤.5	≤.30	≤.60	≤.35	≤.25	≤.50	≤.30	≤.22	≤.45	≤.25	≤.15	≤.30	≤.25	≤.12	≤.25	≤.20	≤.12	≤.25	≤.20
ALL	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 H K M S N	Profile	≤.25	≤.50	≤.30	≤.22	≤.45	≤.25
ALL	Slot	1	≤.07	≤.17	1	≤.06	≤.15

**Note:**













- Bhn (Brinell)    HRC (Rockwell C)
- reduce speed and feed 30 percent when using uncoated tools
- Fz x No. of Flutes x max available rpm when recommendation exceeds machine limit
- 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® or sgsmicrotools.com for detailed technical charts by series

# FRACTIONAL Baseline

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

Material	Hardness	Vc (sfm)	DC • in	DC • in					
				0.0050	0.0156	0.0312	0.0625	0.0938	0.1200
P CARBON STEELS 1018, 1040, 1080, 1090, 10L50, 1140, 1212, 12L15, 1525, 1536	≤ 275 Bhn or ≤ 28 HRc	Profile 	365 RPM	278860	89378	44689	22309	14865	11619
			(292-438) 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 	290 RPM	221560	71013	35506	17725	11810	9232
			(232-348) 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
P ALLOY STEELS 4140, 4150, 4320, 5120, 5150, 8630, 86L20, 50100	≤ 375 Bhn or ≤ 40 HRc	Profile 	210 RPM	160440	51423	25712	12835	8552	6685
			(168-252) 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 	165 RPM	126060	40404	20202	10085	6720	5253
			(132-198) 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
M STAINLESS STEELS (FREE MACHINING) 303, 416, 420F, 430F, 440F	≤ 275 Bhn or ≤ 28 HRc	Profile 	340 RPM	259760	83256	41628	20781	13846	10823
			(272-408) 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 	270 RPM	206280	66115	33058	16502	10996	8595
			(216-324) 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
M STAINLESS STEELS (DIFFICULT) 304, 304L, 316, 316L	≤ 275 Bhn or ≤ 28 HRc	Profile 	235 RPM	179540	57545	28772	14363	9570	7481
			(188-282) 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 	185 RPM	141340	45301	22651	11307	7534	5889
			(148-222) 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
M STAINLESS STEELS (PH) 13-8 PH, 15-5PH, 17-4 PH, CUSTOM 450	≤ 325 Bhn or ≤ 35 HRc	Profile 	215 RPM	164260	52647	26324	13141	8756	6844
			(172-258) 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 	170 RPM	129880	41628	20814	10390	6923	5412
			(136-204) 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
K CAST IRONS (LOW & MEDIUM ALLOY) Gray, Malleable, Ductile	≤ 220 Bhn or ≤ 19 HRc	Profile 	305 RPM	233020	74686	37343	18642	12421	9709
			(244-366) 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 	245 RPM	187180	59994	29997	14974	9978	7799
			(196-294) 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
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	48996	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
N 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

continued on next page

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
N	PLASTICS Polycarbonate, PVC, Polypropylene	Profile 	1000 (800-1200)	RPM	764000	244872	122436	61120	40725	31833
				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 (640-960)	RPM	611200	195897	97949	48896	32580	25467
				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	SUPER ALLOYS (NICKEL, COBALT, IRON BASE) Inconel 601, 617, 625, Incoloy, Monel 400	Profile 	60 (48-72)	RPM	45840	14692	7346	3667	2443	1910
				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 (36-54)	RPM	34380	11019	5510	2750	1833	1433
				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
S	SUPER ALLOYS (NICKEL, COBALT, IRON BASE) Inconel 718, X-750, Incoloy, Waspaloy, Hastelloy, Rene	Profile 	45 (36-54)	RPM	34380	11019	5510	2750	1833	1433
				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 (28-42)	RPM	26740	8571	4285	2139	1425	1114
				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
S	TITANIUM ALLOYS Pure Titanium, Ti6Al4V, Ti6Al2Sn4Zr2Mo, Ti4Al4Mo2Sn0.5Si	Profile 	160 (128-192)	RPM	122240	39179	19590	9779	6516	5093
				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 (104-156)	RPM	99320	31833	15917	7946	5294	4138
				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
S	TITANIUM ALLOYS (DIFFICULT) Ti10Al2Fe3Al, Ti5Al5V5Mo3Cr, Ti7Al4Mo, Ti3Al8V6Cr4Zr4Mo, Ti6Al6V6Sn, Ti15V3 Cr3Sn3Al	Profile 	60 (48-72)	RPM	45840	14692	7346	3667	2443	1910
				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 (36-54)	RPM	34380	11019	5510	2750	1833	1433
				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
H	TOOL STEELS A2, D2, H13, L2, M2, P20, S7, T15, W2	Profile 	175 (140-210)	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 	140 (112-168)	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

**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 D<sub>1</sub> maximum)
- refer to the KYOCERA SGS Tool Wizard® or sgsmicrotools.com for detailed technical charts by series

















# Baseline

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













Hardness

Vc  
(m/min)

DC • (mm)

			Vc (m/min)	RPM	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	≤ 275 Bhn or ≤ 28 HRc	Profile 	111		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		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
P	ALLOY STEELS 4140, 4150, 4320, 5120, 5150, 8630, 86L20, 50100	≤ 375 Bhn or ≤ 40 HRc	Profile 	64		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		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
M	STAINLESS STEELS (FREE MACHINING) 303, 416, 420F, 430F, 440F	≤ 275 Bhn or ≤ 28 HRc	Profile 	104		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		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
M	STAINLESS STEELS (DIFFICULT) 304, 304L, 316, 316L	≤ 275 Bhn or ≤ 28 HRc	Profile 	72		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		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
M	STAINLESS STEELS (PH) 13-8 PH, 15-5PH, 17-4 PH, CUSTOM 450	≤ 325 Bhn or ≤ 35 HRc	Profile 	66		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		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	≤ 220 Bhn or ≤ 19 HRc	Profile 	93		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		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
N	ALUMINUM ALLOYS 2017, 2024, 356, 6061, 7075	≤ 150 Bhn or ≤ 7 HRc	Profile 	305		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		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
N	COPPER ALLOYS Alum Bronze, C110, Muntz Brass	≤ 140 Bhn or ≤ 3 HRc	Profile 	157		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		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

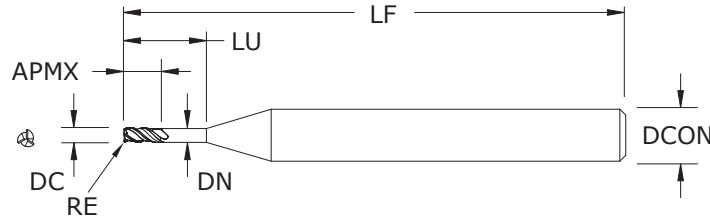
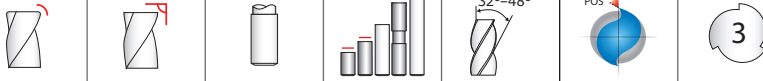
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METRIC Baseline Speed and Feed Square & Ball End With and Without Reach			Hardness	Vc (m/min)	DC • (mm)						
					0.1	0.5	1	1.5	2	2.5	3
N	PLASTICS Polycarbonate, PVC, Polypropylene	Profile 	305	RPM	969416	193883	96942	64628	48471	38777	32314
			(244-366)	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	SUPER ALLOYS (NICKEL, COBALT, IRON BASE) Inconel 601, 617, 625, Incoloy, Monel 400	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
S	SUPER ALLOYS (NICKEL, COBALT, IRON BASE) Inconel 718, X-750, Incoloy, Waspaloy, Hastelloy, Rene	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
S	TITANIUM ALLOYS Pure Titanium, Ti6Al4V, Ti6Al2Sn4Zr2Mo, Ti4Al4Mo2Sn0.5Si	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
S	TITANIUM ALLOYS (DIFFICULT) Ti10Al2Fe3Al, Ti5Al5V5Mo3Cr, Ti7Al4Mo, Ti3Al8V6Cr4Zr4Mo, Ti6Al6V6Sn, Ti15V3 Cr3Sn3Al	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
H	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

- 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 D<sub>1</sub> maximum)
  - refer to the KYOCERA SGS Tool Wizard® or sgsmicrotools.com for detailed technical charts by series



# FRACTIONAL M032



**New Expanded Tools**

## 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 (AITIN)		
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)

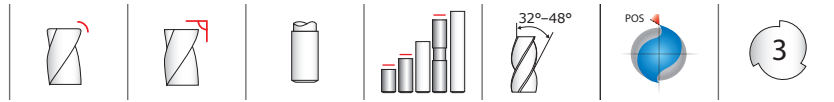
#### .031–.109 DIAMETER

DC = +0.000/–0.001

DCON = h<sub>6</sub>

RE = +0.002/–0.002

- STEELS
- STAINLESS STEELS
- CAST IRON
- HIGH TEMP ALLOYS
- TITANIUM
- HARDENED STEELS
- NON-FERROUS
- PLASTICS/COMPOSITES



**New Expanded Tools**

**TOLERANCES (mm)**

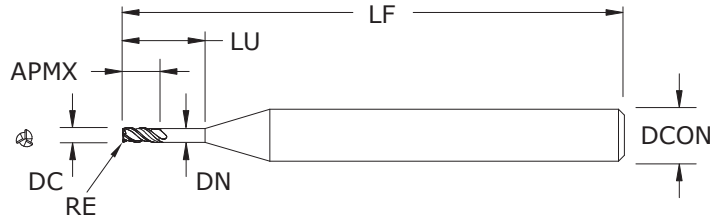
**1,0–3,0 DIAMETER**

DC = +0,0000/–0,0254

DCON = h<sub>6</sub>

RE = +0,050/–0,050

- STEELS
- STAINLESS STEELS
- CAST IRON
- HIGH TEMP ALLOYS
- TITANIUM
- HARDENED STEELS
- NON-FERROUS
- PLASTICS/COMPOSITES

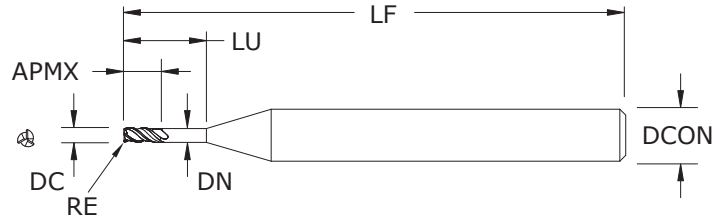
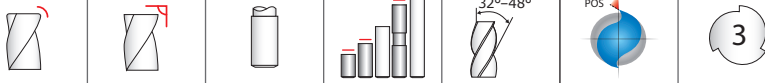


**M032**  
**METRIC SERIES**

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	63,5	0,1	05329	
1,0	6,0	3,0	10,0	0,92	63,5	0,2	05330	
1,0	6,0	3,0	10,0	0,92	63,5	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	63,5	0,1	05316	
1,5	6,0	4,5	15,0	1,38	63,5	0,2	05317	
1,5	6,0	4,5	15,0	1,38	63,5	0,3	05318	
1,5	6,0	4,5	15,0	1,38	63,5	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
- 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

continued on next page



  New Expanded Tools

**M032**  
METRIC SERIES

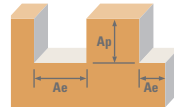
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







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 (AITiN)
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	63,5	0,2	05353
2,0	6,0	6,0	20,0	1,84	63,5	0,3	05354
2,0	6,0	6,0	20,0	1,84	63,5	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	63,5	0,2	05341
2,5	6,0	7,5	25,0	2,3	63,5	0,3	05342
2,5	6,0	7,5	25,0	2,3	63,5	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	63,5	0,2	05367
3,0	6,0	9,0	30,0	2,76	63,5	0,3	05368
3,0	6,0	9,0	30,0	2,76	63,5	0,5	05369
3,0	6,0	9,0	30,0	2,76	63,5	1,0	05370

TOLERANCES (mm)

**1,0–3,0 DIAMETER**  
DC = +0,0000/–0,0254  
DCON = h<sub>6</sub>  
RE = +0,050/–0,050

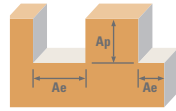
- STEELS
- STAINLESS STEELS
- CAST IRON
- HIGH TEMP ALLOYS
- TITANIUM
- HARDENED STEELS
- NON-FERROUS
- PLASTICS/COMPOSITES



Series M032 Fractional	Hardness	Ae x DC	Ap x DC	Vc (sfm)	DC • in				
					1/32	5/64	7/64		
<b>P</b> 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
<b>P</b> 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
<b>P</b> ALLOY STEELS 4140, 4150, 4320, 5120, 5150, 8630, 86L20, 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
<b>H</b> TOOL STEELS A2, D2, H13, L2, M2, P20, S7, T15, W2	≤ 375 Bhn or ≤ 40 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
<b>K</b> 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

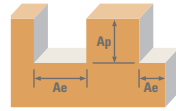
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# Series M032



Series M032 Fractional	Hardness	Ae x DC	Ap x DC	Vc (sfm)		DC • in			
						1/32	5/64	7/64	
<b>M</b> 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
<b>M</b> 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
<b>S</b> SUPER 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
<b>S</b> TITANIUM ALLOYS Pure Titanium, 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

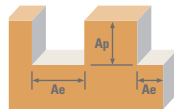
Bhn (Brinell)    HRc (Rockwell C)  
 rpm = Vc x 3.82 / DC  
 ipm = Fz x 3 x rpm (Fz x 3 x max available rpm when recommendation exceeds machine limit)  
 ramp up to 5 degrees using slotting speed and feed rates. Do not plunge.  
 reduce speed and feed for materials harder than listed  
 refer to the KYOCERA SGS Tool Wizard® for complete technical information ([www.kyocera-sgstool.com](http://www.kyocera-sgstool.com))



Series M032 Metric	Hardness	Ae x DC	Ap x DC	Vc (m/min)	DC • mm				
					1	2	3		
<b>P</b> 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	RPM	61073	30537	20358
					(154-230)	Fz	0.0028	0.0057	0.0085
						Feed (ipm)	521	521	521
		Finish 	≤ .02	1	477	RPM	151714	75857	50571
					(382-572)	Fz	0.0053	0.0106	0.0159
						Feed (ipm)	2413	2413	2413
<b>P</b> ALLOY STEELS 4140, 4150, 4320, 5120, 5150, 8630, 86L20, 50100	≤ 375 Bhn or ≤ 40 HRc	Profile 	≤ 0.25	≤ 1	137	RPM	43624	21812	14541
					(110-165)	Fz	0.0021	0.0043	0.0064
						Feed (ipm)	279	279	279
		Slot 	1	≤ .5	110	RPM	34899	17449	11633
					(88-132)	Fz	0.0022	0.0043	0.0065
						Feed (ipm)	226	226	226
		Finish 	≤ .02	1	273	RPM	86763	43381	28921
					(218-327)	Fz	0.0039	0.0078	0.0117
						Feed (ipm)	1016	1016	1016
<b>P</b> ALLOY STEELS 4140, 4150, 4320, 5120, 5150, 8630, 86L20, 50100	≤ 560 Bhn or ≤ 55 HRc	Profile 	≤ 0.25	≤ 1	28	RPM	9016	4508	3005
					(23-34)	Fz	0.0009	0.0018	0.0026
						Feed (ipm)	24	24	24
		Slot 	1	≤ .5	20	RPM	6301	3151	2100
					(16-24)	Fz	0.0008	0.0016	0.0025
						Feed (ipm)	15	15	15
		Finish 	≤ .02	1	51	RPM	16189	8095	5396
					(41-61)	Fz	0.0014	0.0029	0.0043
						Feed (ipm)	70	70	70
<b>H</b> TOOL STEELS A2, D2, H13, L2, M2, P20, S7, T15, W2	≤ 375 Bhn or ≤ 40 HRc	Profile 	≤ 0.25	≤ 1	21	RPM	6689	3344	2230
					(17-25)	Fz	0.0009	0.0019	0.0028
						Feed (ipm)	19	19	19
		Slot 	1	≤ .5	15	RPM	4847	2424	1616
					(12-18)	Fz	0.0008	0.0016	0.0024
						Feed (ipm)	11	11	11
		Finish 	≤ .02	1	38	RPM	12021	6010	4007
					(30-45)	Fz	0.0015	0.0031	0.0046
						Feed (ipm)	56	56	56
<b>K</b> CAST IRONS (LOW & MEDIUM ALLOY) Gray, Malleable, Ductile	≤ 220 Bhn or ≤ 19 HRc	Profile 	≤ 0.25	≤ 1	189	RPM	60104	30052	20035
					(151-227)	Fz	0.0036	0.0072	0.0108
						Feed (ipm)	648	648	648
		Slot 	1	≤ .5	137	RPM	43624	21812	14541
					(110-165)	Fz	0.0031	0.0062	0.0093
						Feed (ipm)	406	406	406
		Finish 	≤ .02	1	340	RPM	108090	54045	36030
					(272-408)	Fz	0.0057	0.0114	0.0172
						Feed (ipm)	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		
<b>M</b> STAINLESS STEELS (DIFFICULT) 304, 304L, 316, 316L	≤ 275 Bhn or ≤ 28 HRc	Profile 	≤ 0.25	≤ 1	102	RPM	32475	16238	10825
					(82-123)	Fz	0.0026	0.0052	0.0077
						Feed (ipm)	251	251	251
	≤ 325 Bhn or ≤ 35 HRc	Slot 	1	≤ .5	75	RPM	23751	11875	7917
					(60-90)	Fz	0.0021	0.0043	0.0064
						Feed (ipm)	152	152	152
	≤ .02	Finish 	≤ .02	1	184	RPM	58650	29325	19550
					(148-221)	Fz	0.0040	0.0079	0.0119
						Feed (ipm)	699	699	699
<b>M</b> STAINLESS STEELS (PH) 13-8 PH, 15-5 PH, 17-4 PH, Custom 450	≤ 325 Bhn or ≤ 35 HRc	Profile 	≤ 0.25	≤ 1	94	RPM	30052	15026	10017
					(76-113)	Fz	0.0025	0.0051	0.0076
						Feed (ipm)	229	229	229
	≤ 325 Bhn or ≤ 35 HRc	Slot 	1	≤ .5	69	RPM	21812	10906	7271
					(55-82)	Fz	0.0021	0.0043	0.0064
						Feed (ipm)	140	140	140
	≤ .02	Finish 	≤ .02	1	169	RPM	53803	26901	17934
					(135-203)	Fz	0.0040	0.0080	0.0120
						Feed (ipm)	648	648	648
<b>S</b> SUPER ALLOYS (NICKEL, COBALT, IRON BASE) Inconel 718, X-750, Incoloy, Waspaloy, Hastelloy, Rene	≤ 400 Bhn or ≤ 43 HRc	Profile 	≤ 0.5	≤ 1.5	61	RPM	19388	9694	6463
					(49-73)	Fz	0.0022	0.0045	0.0067
						Feed (ipm)	130	130	130
	≤ 400 Bhn or ≤ 43 HRc	Slot 	1	≤ 1	44	RPM	14057	7028	4686
					(35-53)	Fz	0.0019	0.0039	0.0058
						Feed (ipm)	81	81	81
	≤ .02	Finish 	≤ .02	1	110	RPM	34899	17449	11633
					(88-132)	Fz	0.0035	0.0070	0.0106
						Feed (ipm)	368	368	368
<b>S</b> TITANIUM ALLOYS Pure Titanium, Ti6Al4V, Ti6Al2Sn4Zr2Mo, Ti4Al4Mo2Sn0.5Si	≤ 350 Bhn or ≤ 38 HRc	Profile 	≤ 0.5	≤ 1.5	75	RPM	23751	11875	7917
					(60-90)	Fz	0.0022	0.0045	0.0067
						Feed (ipm)	160	160	160
	≤ 350 Bhn or ≤ 38 HRc	Slot 	1	≤ 1	55	RPM	17449	8725	5816
					(44-66)	Fz	0.0019	0.0038	0.0057
						Feed (ipm)	99	99	99
	≤ .02	Finish 	≤ .02	1	134	RPM	42654	21327	14218
					(107-161)	Fz	0.0036	0.0071	0.0107
						Feed (ipm)	457	457	457

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)