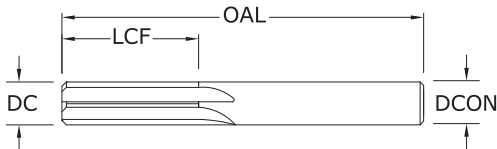
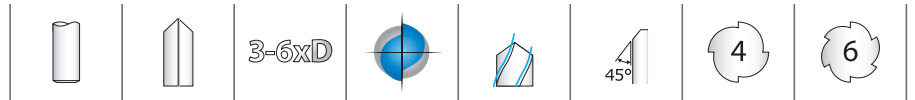


Straight Flute Reamer



201M
METRIC SERIES

TOLERANCES (mm)

1-6 DIAMETER

DC = +0,008/-0,000

>6-10 DIAMETER

DC = +0,010/-0,000

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

For patent
information visit
www.ksptpatents.com

mm					EDP NO.
CUTTING DIAMETER DC	SHANK DIAMETER DCON	MAXIMUM REAM LENGTH LCF	OVERALL LENGTH OAL	NO. OF FLUTES	UNCOATED
1,0	1,0	6,0	32,0	4	81001
1,5	1,5	9,5	38,0	4	81003
2,0	2,0	12,7	44,0	4	81005
2,5	2,5	12,7	50,0	4	81007
3,0	3,0	16,0	57,0	4	81009
3,5	3,5	19,0	63,0	4	81011
4,0	4,0	19,0	63,0	4	81013
4,5	4,5	22,0	70,0	4	81015
5,0	5,0	25,0	75,0	4	81017
5,5	5,5	25,0	75,0	4	81019
6,0	6,0	25,0	75,0	4	81021
7,0	7,0	28,0	82,0	6	81023
8,0	8,0	28,0	82,0	6	81025
9,0	9,0	31,0	89,0	6	81027
10,0	10,0	31,0	89,0	6	81029

Straight Flute Reamer

	Series 201M Metric	Hardness	Vc (m/min)	DC • mm							
				1	2	3	4	6	8	10	
P	CARBON STEELS 1018, 1040, 1080, 1090, 10L50, 1140, 1212, 12L15, 1525, 1536	≤ 175 Bhn or ≤ 7 HRc	46	RPM	14541	7271	4847	3635	2424	1818	1454
			(37-55)	Fr	0.028	0.056	0.085	0.113	0.169	0.226	0.282
				Feed (mm/min)	410	410	410	410	410	410	410
		≤ 300 Bhn or ≤ 32 HRc	23	RPM	7271	3635	2424	1818	1212	909	727
			(18-27)	Fr	0.025	0.050	0.074	0.099	0.149	0.198	0.248
				Feed (mm/min)	180	180	180	180	180	180	180
		≤ 425 Bhn or ≤ 45 HRc	17	RPM	5332	2666	1777	1333	889	666	533
			(13-20)	Fr	0.015	0.030	0.044	0.059	0.089	0.119	0.148
				Feed (mm/min)	79	79	79	79	79	79	79
	ALLOY STEELS 4140, 4150, 4320, 5120, 5150, 8630, 86L20, 50100	≤ 275 Bhn or ≤ 28 HRc	35	RPM	11148	5574	3716	2787	1858	1394	1115
			(28-42)	Fr	0.024	0.048	0.072	0.096	0.144	0.192	0.240
				Feed (mm/min)	268	268	268	268	268	268	268
		≤ 375 Bhn or ≤ 40 HRc	21	RPM	6786	3393	2262	1696	1131	848	679
			(17-26)	Fr	0.024	0.048	0.072	0.096	0.144	0.192	0.240
				Feed (mm/min)	163	163	163	163	163	163	163
		≤ 450 Bhn or ≤ 48 HRc	14	RPM	4362	2181	1454	1091	727	545	436
			(11-16)	Fr	0.015	0.030	0.045	0.060	0.089	0.119	0.149
				Feed (mm/min)	65	65	65	65	65	65	65
M	STAINLESS STEELS (FREE MACHINING) 303, 416, 420F, 430F 440F	≤ 250 Bhn or ≤ 24 HRc	23	RPM	7271	3635	2424	1818	1212	909	727
			(18-27)	Fr	0.015	0.030	0.045	0.059	0.089	0.119	0.149
				Feed (mm/min)	108	108	108	108	108	108	108
		≤ 330 Bhn or ≤ 36 HRc	17	RPM	5332	2666	1777	1333	889	666	533
			(13-20)	Fr	0.012	0.024	0.036	0.048	0.072	0.096	0.120
				Feed (mm/min)	64	64	64	64	64	64	64
	STAINLESS STEELS (DIFFICULT) 304, 316, 321, 13-8 PH, 15-5PH, 17-4 PH, Custom 450	≤ 275 Bhn or ≤ 28 HRc	11	RPM	3393	1696	1131	848	565	424	339
			(9-13)	Fr	0.015	0.029	0.044	0.059	0.088	0.118	0.147
				Feed (mm/min)	50	50	50	50	50	50	50
		≤ 375 Bhn or ≤ 40 HRc	8	RPM	2424	1212	808	606	404	303	242
			(6-9)	Fr	0.010	0.020	0.030	0.040	0.059	0.079	0.099
				Feed (mm/min)	24	24	24	24	24	24	24
K	CAST IRONS Gray, Malleable, Ductile	≤ 220 Bhn or ≤ 19 HRc	38	RPM	12118	6059	4039	3029	2020	1515	1212
			(30-46)	Fr	0.032	0.064	0.097	0.129	0.193	0.257	0.322
				Feed (mm/min)	390	390	390	390	390	390	390
		≤ 330 Bhn or ≤ 36 HRc	29	RPM	9209	4605	3070	2302	1535	1151	921
			(23-35)	Fr	0.032	0.064	0.096	0.128	0.192	0.256	0.320
				Feed (mm/min)	295	295	295	295	295	295	295

continued on next page

Straight Flute Reamer

Series 201M Metric	Hardness	Vc (m/min)	DC • mm								
			1	2	3	4	6	8	10		
N	ALUMINUM ALLOYS 2017, 2024, 356, 6061, 7075	≤ 80 Bhn or ≤ 47 HRb	82	RPM	26174	13087	8725	6544	4362	3272	2617
		(66-99)	Fr	0.040	0.080	0.120	0.160	0.240	0.320	0.400	
			Feed (mm/min)	1047	1047	1047	1047	1047	1047	1047	
		≤ 150 Bhn or ≤ 7 HRc	70	RPM	22297	11148	7432	5574	3716	2787	2230
		(56-84)	Fr	0.040	0.080	0.120	0.160	0.240	0.320	0.400	
			Feed (mm/min)	892	892	892	892	892	892	892	
	COPPER ALLOYS Alum Bronze, C110, Muntz Brass	≤ 140 Bhn or ≤ 3 HRc	35	RPM	11148	5574	3716	2787	1858	1394	1115
		(28-42)	Fr	0.020	0.041	0.061	0.081	0.122	0.163	0.204	
			Feed (mm/min)	227	227	227	227	227	227	227	
		≤ 200 Bhn or ≤ 23 HRc	29	RPM	9209	4605	3070	2302	1535	1151	921
		(23-35)	Fr	0.020	0.041	0.061	0.082	0.122	0.163	0.204	
			Feed (mm/min)	188	188	188	188	188	188	188	
S	SUPER ALLOYS (NICKEL, COBALT, IRON BASE) Inconel 601, 617, 625, Incoloy 800, Monel 400, Rene, Waspaloy	≤ 220 Bhn or ≤ 19 HRc	6	RPM	1939	969	646	485	323	242	194
		(5-7)	Fr	0.012	0.024	0.036	0.047	0.071	0.095	0.119	
			Feed (mm/min)	23	23	23	23	23	23	23	
		≤ 320 Bhn or ≤ 34 HRc	5	RPM	1454	727	485	364	242	182	145
		(4-5)	Fr	0.010	0.021	0.031	0.041	0.062	0.083	0.103	
			Feed (mm/min)	15	15	15	15	15	15	15	
	≤ 425 Bhn or ≤ 45 HRc	3	RPM	969	485	323	242	162	121	97	
	(2-4)	Fr	0.006	0.012	0.019	0.025	0.037	0.050	0.062		
		Feed (mm/min)	6	6	6	6	6	6	6		
	TITANIUM ALLOYS Pure Titanium, Ti6Al4V, Ti6Al2Sn4Zr2Mo, Ti4Al4Mo2Sn0.5Si, Ti-6Al4V	≤ 275 Bhn or ≤ 28 HRc	14	RPM	4362	2181	1454	1091	727	545	436
		(11-16)	Fr	0.024	0.048	0.072	0.096	0.144	0.193	0.241	
			Feed (mm/min)	105	105	105	105	105	105	105	
≤ 350 Bhn or ≤ 38 HRc		11	RPM	3393	1696	1131	848	565	424	339	
(9-13)		Fr	0.015	0.029	0.044	0.059	0.088	0.118	0.147		
		Feed (mm/min)	50	50	50	50	50	50	50		
≤ 440 Bhn or ≤ 47 HRc	8	RPM	2424	1212	808	606	404	303	242		
(6-9)	Fr	0.010	0.020	0.030	0.040	0.059	0.079	0.099			
	Feed (mm/min)	24	24	24	24	24	24	24			
H	TOOL STEELS A2, D2, H13, L2, M2, P20, S7, T15, W2	≤ 250 Bhn or ≤ 24 HRc	12	RPM	3878	1939	1293	969	646	485	388
		(10-15)	Fr	0.015	0.031	0.046	0.062	0.093	0.124	0.155	
			Feed (mm/min)	60	60	60	60	60	60	60	
		≤ 375 Bhn or ≤ 40 HRc	8	RPM	2424	1212	808	606	404	303	242
		(6-9)	Fr	0.010	0.020	0.030	0.040	0.059	0.079	0.099	
			Feed (mm/min)	24	24	24	24	24	24	24	
		≤ 475 Bhn or ≤ 50 HRc	6	RPM	1939	969	646	485	323	242	194
		(5-7)	Fr	0.006	0.012	0.019	0.025	0.037	0.050	0.062	
			Feed (mm/min)	12	12	12	12	12	12	12	
		≤ 655 Bhn or ≤ 60 HRc	4	RPM	1272	636	424	318	212	159	127
		(3-5)	Fr	0.006	0.013	0.019	0.025	0.038	0.050	0.063	
			Feed (mm/min)	8	8	8	8	8	8	8	

Bhn (Brinell) HRc (Rockwell C) HRb (Rockwell B)

rpm = (Vc x 1000) / (DC x 3.14)

mm/min = Fr x rpm

increase speed and feed 30 percent when using coated reamers

reduce speed and feed for materials harder than listed

refer to the SGS Tool Wizard® for complete technical information (www.kyocera-sgstool.com)