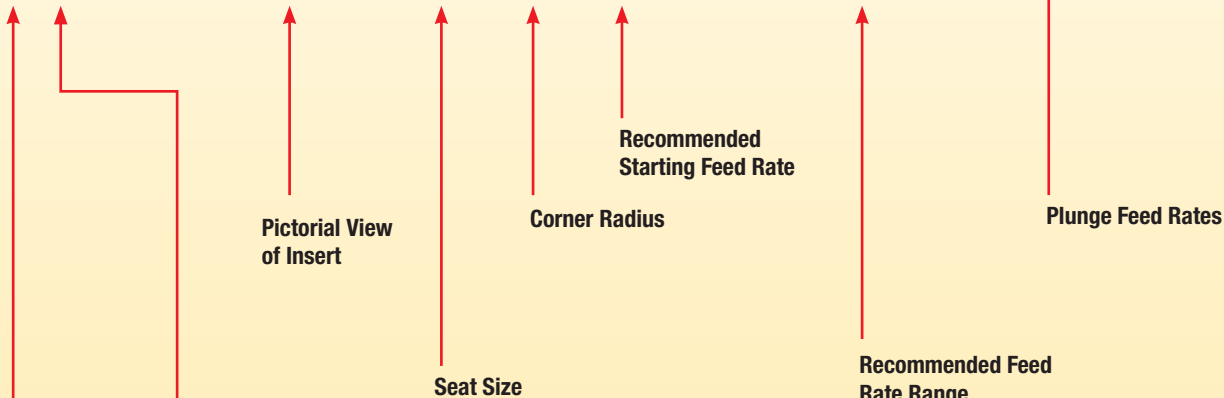


Select the geometry

P	Steel
M	Stainless Steel
K	Cast Iron
N	Non-Ferrous
S	High-Temp Alloys
H	Hardened Materials

- first choice
- alternate choice

Chip Control	Description	Insert Geometry	Seat Size (SSC)	Corner Radius	Starting Conditions	Plunge Feed Rates inch/rev (mm/rev)					
						in (mm)	in (mm)	.0020 (0,05)	.0040 (0,10)	.0060 (0,15)	.0080 (0,20)
-GUP	Positive rake angle for lower cutting forces.		1F	.008 (0,2)	.0024 (0,06)	◊					
			2	.008 (0,2)	.0031 (0,08)		◊				
			3	.008 (0,2)	.0035 (0,09)			◊			
				.016 (0,4)	.0043 (0,11)				◊		
			4	.016 (0,4)	.0047 (0,12)					◊	
		.031 (0,8)	.0059 (0,15)						◊		



Primary Workpiece Material Group

P	Steel
M	Stainless Steel
K	Cast Iron
N	Non-Ferrous
S	High-Temp Alloys
H	Hardened Materials

- first choice
- alternate choice

Chip Control Geometry Designation

Maximum Feed Rate Values

Data above is for P and K material groups. Maximum feed rates should be adjusted by multiplying max feed rate values by following factors for shown material groups.	Material Group	Feed Factor
	M	.8
	N	1.2
	S	.8
	H	.5

■ Plunge feed rates

P	Steel
M	Stainless Steel
K	Cast Iron
N	Non-Ferrous
S	High-Temp Alloys
H	Hardened Materials

- first choice
- alternate choice

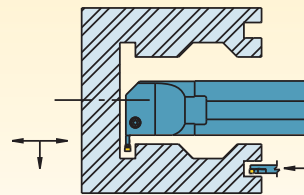
Chip Control	Description	Insert Geometry	Seat Size (SSC)	Corner Radius		Plunge Feed Rates inch/rev (mm/rev)								
				Starting Conditions		.0020 (0,05)	.0040 (0,10)	.0060 (0,15)	.0080 (0,20)	.0100 (0,25)	.0120 (0,30)	.0140 (0,35)		
				in (mm)	in (mm)									
-GUP	Positive rake angle for lower cutting forces.		1F	.008 (0,2)	.0024 (0,06)	◆								
			2	.008 (0,2)	.0031 (0,08)		◆							
			3	.008 (0,2)	.0035 (0,09)			◆						
				.016 (0,4)	.0043 (0,11)				◆					
			4	.016 (0,4)	.0047 (0,12)					◆				
				.031 (0,8)	.0059 (0,15)						◆			
			5	.016 (0,4)	.0059 (0,15)							◆		
				.031 (0,8)	.0059 (0,16)								◆	
			6	.016 (0,4)	.0059 (0,15)									◆
				.031 (0,8)	.0071 (0,18)									
8	.047 (1,2)	.0079 (0,20)										◆		
	.031 (0,8)	.0079 (0,20)											◆	
10	.047 (1,2)	.0087 (0,22)											◆	
	.047 (1,2)	.0094 (0,24)												◆
-GUN	Stable negative cutting edge allowing for more aggressive applications.		1F	.008 (0,2)	.0024 (0,06)	◆								
			2	.008 (0,2)	.0031 (0,08)		◆							
			3	.008 (0,2)	.0035 (0,09)			◆						
				.016 (0,4)	.0043 (0,11)				◆					
			4	.016 (0,4)	.0047 (0,12)					◆				
				.031 (0,8)	.0059 (0,15)						◆			
			5	.016 (0,4)	.0059 (0,15)							◆		
				.031 (0,8)	.0059 (0,16)								◆	
			6	.016 (0,4)	.0059 (0,15)									◆
				.031 (0,8)	.0071 (0,18)									
8	.047 (1,2)	.0079 (0,20)										◆		
	.031 (0,8)	.0079 (0,20)											◆	
10	.047 (1,2)	.0087 (0,22)											◆	
	.047 (1,2)	.0094 (0,24)												◆

Maximum Feed Rate Values

Data above is for P and K material groups. Maximum feed rates should be adjusted by multiplying max feed rate values by following factors for shown material groups.	Material Group	Feed Factor
	M	.8
	N	1.2
	S	.8
	H	.5

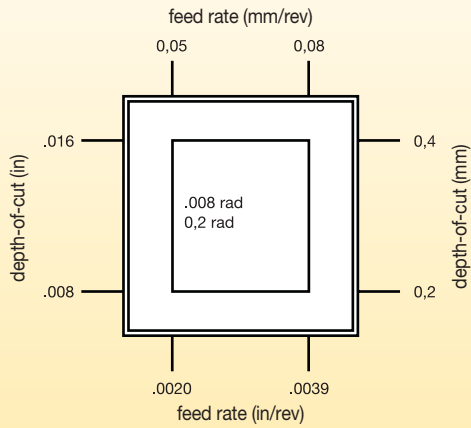
I.D. and Face Grooving

For I.D. and face grooving applications, reduce feed rate by 20%.

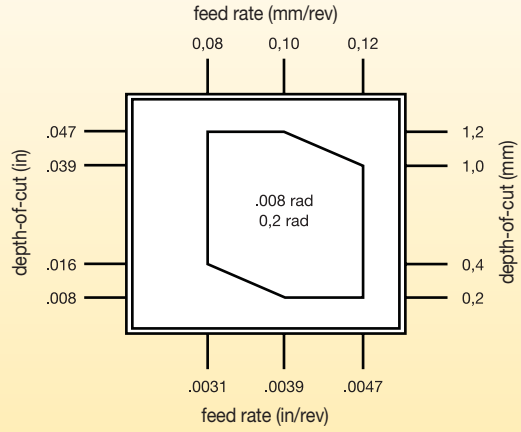


Turn and profile feed rates

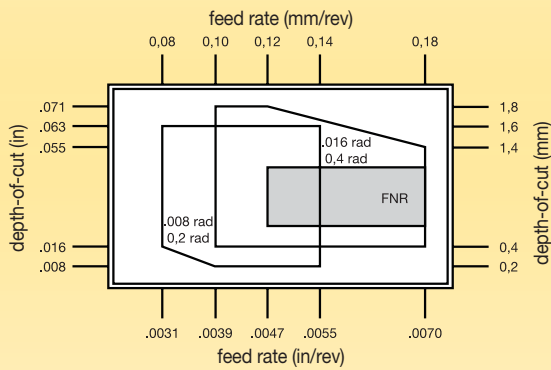
Seat Size 1F



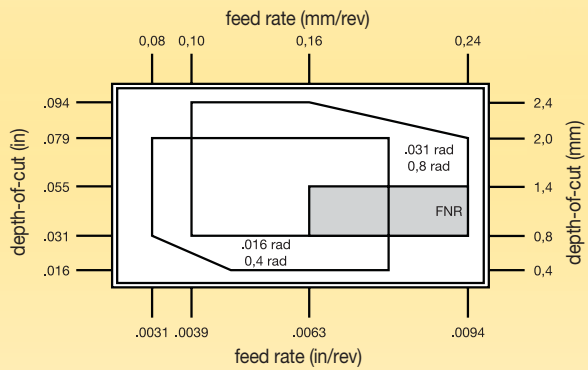
Seat Size 2



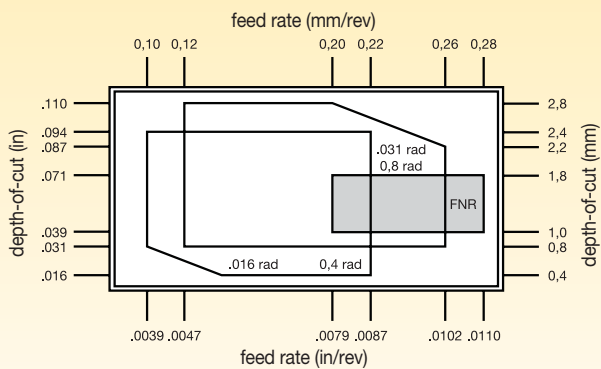
Seat Size 3



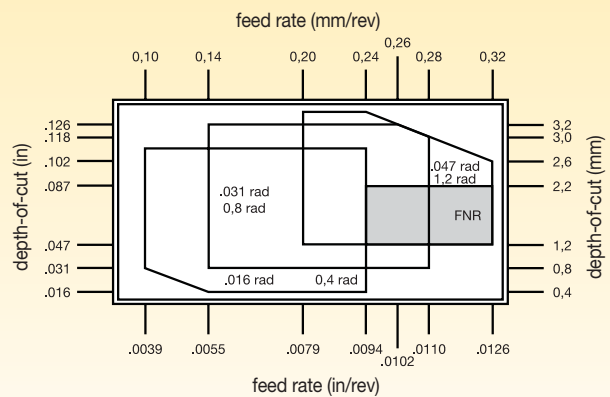
Seat Size 4



Seat Size 5



Seat Size 6

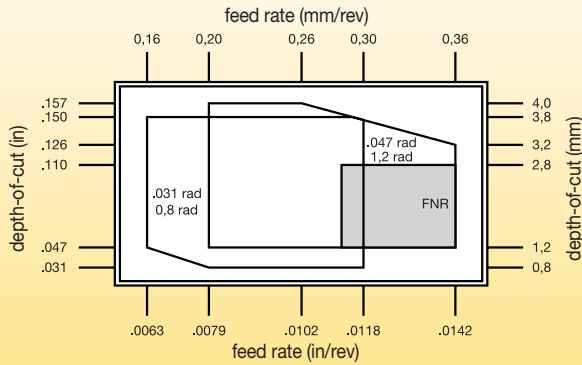
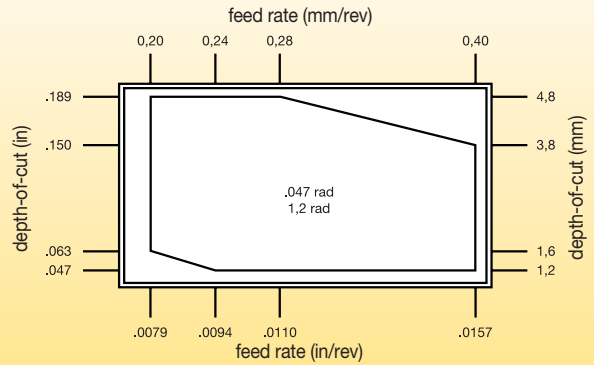


* FNR = Full Nose Radius

(continued)



(Turn and profile feed rates — continued)

Seat Size 8

Seat Size 10

Cut-Off Feed Rates
Plunge feed rates

- first choice
- alternate choice

P	Steel
M	Stainless Steel
K	Cast Iron
N	Non-Ferrous
S	High-Temp Alloys
H	Hardened Materials

Geometry	Description	Insert Geometry	Seat Size (SSC)	Starting Conditions in (mm)	Cut-Off Feed Rates inch/rev (mm/rev)								
					.0020 (0,05)	.0040 (0,10)	.0060 (0,15)	.0080 (0,20)	.0100 (0,25)	.0120 (0,30)	.0140 (0,35)	.0160 (0,40)	
-CL	Aggressive geometry for hard to break chips.		1B	.0024 (0,06)	◊								
			2	.0028 (0,07)		◊							
			3	.0031 (0,08)			◊						
			4	.0035 (0,09)				◊					
-CF	Positive geometry for reduced cutting forces.		1B	.0024 (0,06)	◊								
			2	.0028 (0,07)		◊							
			3	.0035 (0,09)			◊						
			4	.0043 (0,11)				◊					
			5	.0051 (0,13)					◊				
-CM	Stable cutting edge for aggressive feed rates. Primarily in cast iron.		1B	.0024 (0,06)	◊								
			2	.0028 (0,07)		◊							
			3	.0035 (0,09)			◊						
			4	.0043 (0,11)				◊					
			5	.0055 (0,14)					◊				
			6	.0063 (0,16)						◊			
-CR	Most stable cutting edge for steel.		2	.0039 (0,10)			◊						
			3	.0055 (0,14)				◊					
			4	.0063 (0,16)					◊				
			5	.0075 (0,19)						◊			
6	.0083 (0,21)							◊					
8	.0090 (0,23)								◊				

NOTE: For cut-off inserts with a lead angle, maximum feed rate should be reduced by up to 40%.

Maximum Feed Rate Values

Data above is for P and K material groups. Maximum feed rates should be adjusted by multiplying max feed rate values by following factors for shown material groups.	Material Group	Feed Factor
	M	.8
	N	1.2
	S	.8
	H	.5



Recommended Starting Speeds [m/min]

Material Group		K313			KCU10			KCU25			KCM35B			KCP10B			KCP25B			KCK20B		
P	0-1	-	-	-	140	280	350	110	225	270	90	180	213	185	400	450	145	290	365	200	440	490
	2	-	-	-	140	200	300	110	160	260	90	130	155	185	270	350	145	200	305	200	300	380
	3	-	-	-	140	155	245	110	125	235	90	100	155	170	190	260	140	155	245	600	200	280
	4	-	-	-	75	110	170	60	90	160	50	70	110	90	145	200	75	110	180	100	160	220
	5	-	-	-	120	200	260	100	160	210	80	130	165	150	220	305	120	200	270	165	240	330
	6	-	-	-	110	150	230	85	120	185	70	100	145	120	180	275	110	150	230	130	190	300
M	1	60	90	120	140	210	280	90	170	245	75	120	135	-	-	-	-	-	-	-	-	-
	2	45	75	110	120	200	245	90	150	245	75	110	135	-	-	-	-	-	-	-	-	-
	3	35	65	100	120	180	245	90	140	210	75	90	135	-	-	-	-	-	-	-	-	-
K	1	30	75	120	120	180	245	100	145	225	-	-	-	170	245	440	140	200	360	210	305	550
	2	25	70	110	90	150	240	70	120	170	-	-	-	120	195	340	100	160	280	150	245	430
	3	20	60	90	60	110	150	50	85	120	-	-	-	120	170	270	100	140	220	150	210	335
N	1-2	150	370	610	150	550	975	120	440	780	-	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	4	120	275	430	120	365	700	100	290	490	-	-	-	-	-	-	-	-	-	-	-	-
	5	45	90	150	90	170	245	70	135	195	-	-	-	-	-	-	-	-	-	-	-	-
	6	40	75	150	120	210	305	100	170	245	-	-	-	-	-	-	-	-	-	-	-	-
	S	1	8	30	75	15	55	135	8	40	60	8	35	60	-	-	-	-	-	-	-	-
2		8	35	75	15	60	135	8	30	75	8	30	60	-	-	-	-	-	-	-	-	-
3		8	40	75	15	70	150	15	40	75	15	35	60	-	-	-	-	-	-	-	-	-
4		8	45	75	15	70	170	8	50	110	15	45	90	-	-	-	-	-	-	-	-	-
H	1	-	-	-	30	45	60	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	15	30	45	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Recommended Starting Speeds [SFM]

Material Group		K313			KCU10			KCU25			KCM35B			KCP10B			KCP25B			KCK20B		
P	0-1	-	-	-	450	925	1180	360	740	880	290	590	700	600	1320	1475	475	925	1200	660	1450	1620
	2	-	-	-	450	650	1000	360	520	880	290	420	510	600	880	1150	475	650	1000	660	970	1260
	3	-	-	-	450	510	800	360	410	800	290	330	510	550	630	850	450	510	800	600	700	920
	4	-	-	-	250	360	550	200	290	540	160	230	350	300	480	650	250	360	600	330	530	710
	5	-	-	-	400	660	850	320	530	680	260	420	540	500	720	1000	400	650	875	550	800	1100
	6	-	-	-	350	500	750	280	400	600	220	320	480	400	600	900	350	500	750	440	660	990
M	1	200	300	400	450	700	940	300	550	800	250	400	450	-	-	-	-	-	-	-	-	-
	2	150	250	350	400	650	800	300	500	800	250	350	450	-	-	-	-	-	-	-	-	-
	3	120	220	320	400	600	800	300	450	700	250	300	450	-	-	-	-	-	-	-	-	-
K	1	100	250	400	400	600	800	320	480	760	-	-	-	560	800	1440	455	650	1170	700	1000	1800
	2	75	225	350	300	500	800	240	400	560	-	-	-	400	640	1120	325	520	910	500	800	1400
	3	65	190	300	200	350	500	160	280	400	-	-	-	400	560	880	325	455	715	500	700	1100
N	1-2	500	1200	2000	500	1800	3200	400	1440	2560	-	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	4	400	900	1400	400	1200	2360	320	960	1600	-	-	-	-	-	-	-	-	-	-	-	-
	5	150	300	500	300	550	800	240	440	640	-	-	-	-	-	-	-	-	-	-	-	-
	6	120	250	500	400	700	1000	320	560	800	-	-	-	-	-	-	-	-	-	-	-	-
	S	1	25	100	250	50	180	450	25	125	200	25	125	200	-	-	-	-	-	-	-	-
2		25	110	250	50	195	450	25	100	250	25	100	200	-	-	-	-	-	-	-	-	-
3		25	125	250	50	225	500	50	125	250	50	125	200	-	-	-	-	-	-	-	-	-
4		25	150	250	50	225	550	25	175	350	50	150	300	-	-	-	-	-	-	-	-	-
H	1	-	-	-	100	150	200	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	50	100	150	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

NOTE: FIRST choice starting speeds are in bold type.
As the average chip thickness increases, the speed should be decreased.