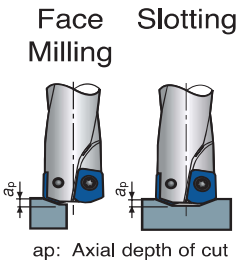


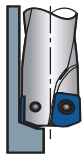
EXH

Standard cutting conditions



Work Material	Carbon Steels and Alloy Steels		Alloy Steels and Prehardened Steels		Stainless Steels		Cast Irons		Aluminum Alloys (Si<12%)		Aluminum Alloys (Si>13%)		
Hardness	<30HRC		30~40HRC		<250HB		-		-		-		
Cutting Speed	vc=330~1,000 SFM		vc=330~820 SFM		vc=330~1,000 SFM		vc=330~1,000 SFM		vc=330~1,650 SFM		vc=330~1,000 SFM		
Conditions	RPM	Feed (ipm)	RPM	Feed (ipm)	RPM	Feed (ipm)	RPM	Feed (ipm)	RPM	Feed (ipm)	RPM	Feed (ipm)	
Tool dia. (in)	0.394	4770	56	3820	30	4770	56	6360	100	9550	226	6360	125
	0.500	3980	47	3180	25	3980	47	5300	83	7950	188	5300	104
	0.625	2980	35	2380	19	2980	35	3970	62	5960	141	3970	78
Depth of cut (in)	0.394	ap<0.024		ap<0.020		ap<0.024		ap<0.024		ap<0.024		ap<0.024	
	0.500	ap<0.024		ap<0.020		ap<0.024		ap<0.024		ap<0.024		ap<0.024	
	0.625	ap<0.031		ap<0.024		ap<0.031		ap<0.031		ap<0.031		ap<0.031	

Plunging

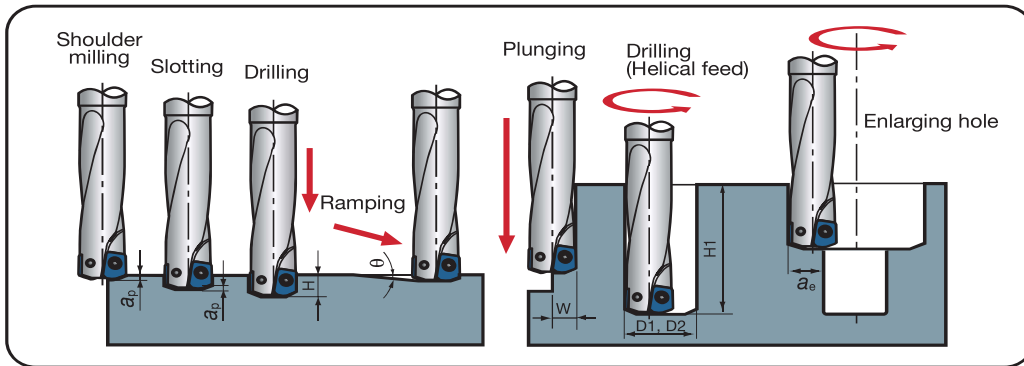


Work Material	Carbon Steels and Alloy Steels		Alloy Steels and Prehardened Steels		Stainless Steels		Cast Irons		Aluminum Alloys (Si<12%)		Aluminum Alloys (Si>13%)		
Hardness	<30HRC		30~40HRC		<250HB		-		-		-		
Cutting Speed	vc=330~1,000 SFM		vc=330~820 SFM		vc=330~1,000 SFM		vc=330~1,000 SFM		vc=330~1,650 SFM		vc=330~1,000 SFM		
Conditions	RPM	Feed (ipm)	RPM	Feed (ipm)	RPM	Feed (ipm)	RPM	Feed (ipm)	RPM	Feed (ipm)	RPM	Feed (ipm)	
Tool dia. (in)	0.394	4770	9	3820	6	4770	9	6360	17	9550	30	6360	17
	0.500	3980	8	3180	5	3980	8	5300	15	7950	25	5300	15
	0.625	2980	6	2380	4	2980	6	3970	11	5960	19	3970	11

- Note:
- In slotting or pocketing where chips tend to stay in the cutting zone, use an air blast to remove chips for preventing chip recutting.
 - When chips tend to weld excessively on the cutting edge such as in machining aluminium alloys, use a water soluble cutting fluid.
 - In the case of cutting a casting skin or a heavily interrupted work surface, decrease the feed per tooth and the maximum

- depth of cut to 1/2 to 2/3 times the values shown in the table.
- Tool overhang length must be as short as possible to avoid chatter. When the tool overhang length is long, decrease the number of revolutions and feed.
- Cutting conditions are generally limited by the rigidity and power of the machine and the rigidity of the workpiece. When setting the conditions, start from half of the values of the standard cutting conditions and then increase the value

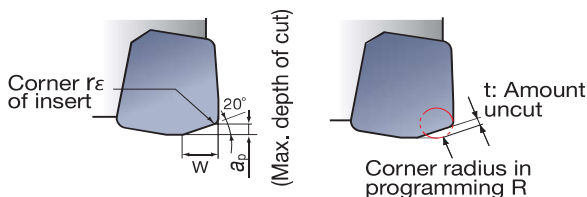
Machining modes



Cat. No.	Tool dia.	Effective edge length ap (in)	Max. depth of drilling H (in)	Max. cutting width in plunging W (in)	Max. ramping angle θ	Min. machinable hole dia. D1 (in)	Max. machinable hole dia. D2 (in)	Max. cutting width in enlarging hole ae (in)	Max. depth of boring H1 (in)
EXH06R039U0050-02	ϕ .394	.236	.197	.197	5	.472	.748	.276	1.25
EXH07R050U0050-02	ϕ .500	.236	.236	.236	5	.551	.906	.354	1.42
EXH09R063U0063-02	ϕ .625	.315	.315	.315	5	.709	1.22	.492	1.89

Notes for programming

When using CAD/CAM, please program it as for a radius cutter. The following table shows actual cutting edge geometry and amount of unfinished work cut.



Cat. No.	Tool dia.	Max. depth of cut ap (in)	Corner of insert r_ϵ	Wide of tooth W	Amount of uncut t (in)	Corner radius in programming R
EXH06R039U0050-02	ϕ .394	.024	.020	0.98	.028	R.020
					.024	R.039
EXH07R050U0050-02	ϕ .500	.024	.020	0.98	.028	R.020
					.024	R.039
EXH09R063U0063-02	ϕ .625	.031	.031	.118	.031	R.020
					.028	R.039
					.024	R.060