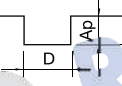
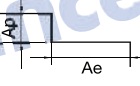
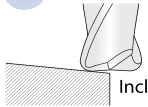


4HPR						Cutting Condition							
Material		Hardened Steels STAVAX / SKD11				Heat-treated Steels / Hardened Steels SKD11 / SKD61				Heat-treated Steels / Hardened Steels YXR7 / SKH51			
Hardness		45 ~ 55HRC				55 ~ 62HRC				62 ~ 70HRC			
Outside Dia.	Corner Radius	RPM	FEED	Ap Axial Depth	Ae Radial Depth	RPM	FEED	Ap Axial Depth	Ae Radial Depth	RPM	FEED	Ap Axial Depth	Ae Radial Depth
Ø 0.5	R 0.1	33,000	85	0.010	0.010	25,000	55	0.010	0.010	25,000	45	0.010	0.010
Ø 0.6	R 0.1	33,000	95	0.020	0.020	25,000	60	0.010	0.010	20,000	50	0.010	0.010
Ø 0.7	R 0.1	30,000	115	0.020	0.100	25,000	75	0.010	0.080	20,000	55	0.010	0.080
Ø 0.8	R 0.1	25,000	120	0.040	0.150	19,000	85	0.020	0.120	16,000	60	0.020	0.120
Ø 0.9	R 0.1	23,000	160	0.060	0.180	17,500	110	0.030	0.150	14,500	95	0.030	0.140
Ø 1	R 0.3	20,500	344	0.100	0.300	16,000	216	0.050	0.200	12,500	140	0.050	0.200
Ø 1.5	R 0.1	18,000	388	0.100	0.300	13,000	235	0.070	0.300	10,500	160	0.080	0.250
	R 0.5	18,000	388	0.130	0.400	13,000	235	0.070	0.300	10,500	160	0.080	0.250
Ø 2	R 0.1	14,500	416	0.150	0.500	11,000	256	0.100	0.450	9,500	184	0.100	0.450
	R 0.5	14,500	416	0.150	0.500	11,000	256	0.100	0.450	9,500	184	0.100	0.450
Ø 2.5	R 0.1	9,500	416	0.200	0.700	7,500	256	0.120	0.550	6,400	184	0.120	0.550
"	R 0.5	9,500	416	0.200	0.700	7,500	256	0.120	0.550	6,400	184	0.120	0.550
Ø 3	R 0.5	8,300	424	0.230	0.800	6,400	268	0.130	0.600	5,600	192	0.130	0.600
"	R 1	8,300	424	0.230	0.800	6,400	268	0.130	0.600	5,600	192	0.130	0.600
Ø 3.5	R 0.5	7,800	432	0.250	0.900	6,000	268	0.130	0.700	5,200	192	0.140	0.700
Ø 4	R 0.5	7,200	432	0.250	0.950	5,600	268	0.150	0.750	4,750	192	0.150	0.750
"	R 1	7,200	432	0.250	1.000	5,600	268	0.150	0.800	4,750	192	0.150	0.800
Ø 4.5	R 0.5	6,400	464	0.250	1.050	5,100	296	0.150	0.850	4,450	216	0.150	0.850
Ø 5	R 0.5	6,400	464	0.250	1.050	5,100	296	0.150	0.850	4,450	216	0.150	0.850
"	R 1	6,400	464	0.300	1.200	5,100	296	0.170	0.900	4,450	216	0.170	0.850
Ø 6	R 0.5	5,300	448	0.300	1.300	4,200	280	0.200	1.000	3,700	208	0.200	0.900
"	R 1	5,300	448	0.300	1.400	4,200	296	0.200	1.000	3,700	216	0.200	0.900
"	R 1.5	5,300	448	0.350	1.500	4,200	280	0.230	1.200	3,700	208	0.220	1.200
"	R 2	5,300	448	0.350	1.600	4,200	296	0.230	1.200	3,700	216	0.220	1.200
Ø 8	R 0.5	4,000	416	0.400	1.700	3,200	264	0.250	1.350	2,800	192	0.250	1.300
"	R 1	4,000	416	0.400	1.700	3,200	264	0.250	1.350	2,800	192	0.250	1.300
"	R 1.5	4,000	416	0.450	2.000	3,200	264	0.280	1.500	2,800	192	0.270	1.400
"	R 2	4,000	416	0.450	2.000	3,200	264	0.280	1.500	2,800	192	0.270	1.400
Ø 10	R 0.5	3,200	384	0.500	2.100	2,550	248	0.300	1.700	2,200	176	0.300	1.700
"	R 1	3,200	384	0.500	2.100	2,550	248	0.300	1.700	2,200	176	0.300	1.700
"	R 1.5	3,200	384	0.550	2.300	2,550	248	0.350	1.800	2,200	176	0.350	1.800
"	R 2	3,200	384	0.550	2.300	2,550	248	0.350	1.900	2,200	176	0.350	1.900
"	R 2.5	3,200	384	0.600	2.300	2,550	248	0.350	1.900	2,200	176	0.350	1.900
Ø 12	R 0.5	2,650	384	0.600	2.600	2,100	240	0.350	2.000	1,860	176	0.350	2.000
"	R 1	2,650	384	0.600	2.600	2,100	240	0.350	2.000	1,860	176	0.350	2.000
"	R 1.5	2,650	384	0.600	2.600	2,100	240	0.350	2.000	1,860	176	0.350	2.000
"	R 2	2,650	384	0.600	2.600	2,100	240	0.350	2.000	1,860	176	0.350	2.000
"	R 2.5	2,650	384	0.800	3.000	2,100	240	0.500	2.200	1,860	176	0.450	2.300
"	R 3	2,650	384	1.000	3.000	2,100	240	0.650	2.400	1,860	176	0.550	2.500
Depth of Cut		Slotting Ap : Axial Depth D : Outside Diameter  Side Milling Ap : Axial Depth Ae : Radial Depth  Inclined Cutting 											

- Above the table is a reference for groove milling and adjust parameters depending on material shape, milling purpose and CNC machine.
- For curved milling, set up the pitch value lower than corner radius value.
- For curved milling, raise up the feed by 30% in stable condition.
- Use the table for your reference. Adjust the parameters depending on your machining geometry, machining purpose and CNC.
- If the table over the maximum RPM & feed of your machine or found red heat on the material, adjust RPM & feed in the same proportion.
- Air blow or mist coolants are recommended and note for chip emission, heat or ignition.