

2WCR/4WCR					Cutting Conditions											
Slotting																
Material	Tool Steels / Mould Steels SCM / HPM				Alloy Steels / Pre-hardened Steels NAK80/KP4M				Hardened Steels STAVAX/SKD11				Heat treated Steels/Hardened Steels SKD11/SKD61			
Hardness	30~ 40HRC				40~ 45HRC				45 ~ 55HRC				50~ 62HRC			
Outside Dia	RPM	FEED	Ap Axial Depth	Ae Radial Depth	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	50,000	1,217	0.03	0.40	45,000	580	0.03	0.40	40,000	252	0.010	0.250	33,000	214	0.01	0.25
Ø 0.6	50,000	1,369	0.03	0.48	45,000	652	0.03	0.48	40,000	284	0.012	0.300	30,000	241	0.01	0.30
Ø 0.8	50,000	1,521	0.04	0.64	45,000	725	0.04	0.64	30,000	315	0.016	0.400	25,000	268	0.02	0.40
Ø 1	48,000	3,773	0.05	0.80	38,000	1,797	0.05	0.80	25,500	781	0.020	0.500	20,500	664	0.02	0.50
Ø 2	33,300	4,503	0.10	1.60	26,000	2,145	0.10	1.60	17,500	932	0.040	1.000	14,500	793	0.04	1.00
Ø 3	21,800	4,564	0.15	2.40	17,300	2,174	0.15	2.40	11,500	945	0.060	1.500	9,500	803	0.06	1.50
Ø 4	16,700	4,686	0.20	3.20	13,200	2,231	0.20	3.20	8,800	970	0.080	2.000	7,200	825	0.08	2.00
Ø 5	15,700	4,990	0.25	4.00	12,500	2,376	0.25	4.00	8,300	1,033	0.100	2.500	6,400	878	0.10	2.50
Ø 6	13,100	4,869	0.30	4.80	10,350	2,318	0.30	4.80	6,900	1,008	0.120	3.000	5,300	857	0.12	3.00
Ø 8	9,880	4,443	0.40	6.40	7,800	2,116	0.40	6.40	5,200	920	0.160	4.000	4,000	782	0.16	4.00
Ø 10	7,800	4,138	0.50	8.00	6,150	1,971	0.50	8.00	4,100	857	0.200	5.000	3,200	728	0.20	5.00
Ø 12	6,650	4,138	0.60	9.60	5,250	1,971	0.60	9.60	3,500	857	0.240	6.000	2,650	728	0.24	6.00
Ø 16	6,150	2,400	0.80	12.80	5,500	1,811	0.80	12.80	3,210	788	0.320	8.000	2,420	669	0.32	8.00
Depth of cut	0.8D ~ 45HRC 0.05D 0.5D 45HRC ~ 0.02D															

Side Slotting																
Material	Tool Steels / Mould Steels SCM / HPM				Alloy Steels / Pre-hardened Steels NAK80/KP4M				Hardened Steels STAVAX/SKD11				Heat treated Steels/Hardened Steels SKD11/SKD61			
Hardness	30~ 40HRC				40~ 45HRC				45 ~ 55HRC				50~ 62HRC			
Outside Dia	RPM	FEED	Ap Axial Depth	Ae Radial Depth	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	50,000	1,643	0.500	0.015	45,000	841	0.50	0.015	40,000	302	0.250	0.010	33,000	289	0.250	0.010
Ø 0.6	50,000	1,848	0.600	0.018	45,000	945	0.60	0.018	40,000	341	0.300	0.012	30,000	325	0.300	0.012
Ø 0.8	50,000	2,053	0.800	0.024	40,000	1051	0.80	0.024	30,000	378	0.400	0.016	25,000	362	0.400	0.016
Ø 1	48,000	5,094	1.000	0.030	38,000	2606	1.00	0.03	25,500	937	0.500	0.020	20,500	896	0.500	0.020
Ø 2	33,300	6,079	2.000	0.060	26,000	3110	2.00	0.06	17,500	1,118	1.000	0.040	14,500	1,071	1.000	0.040
Ø 3	21,800	6,161	3.000	0.090	17,300	3152	3.00	0.09	11,500	1,134	1.500	0.060	9,500	1,804	1.500	0.060
Ø 4	16,700	6,326	4.000	0.120	13,200	3235	4.00	0.12	8,800	1,164	2.000	0.080	7,200	1,114	2.000	0.080
Ø 5	15,700	6,737	5.000	0.150	12,500	3445	5.00	0.15	8,300	1,240	2.500	0.100	6,400	1,185	2.500	0.100
Ø 6	13,100	6,573	6.000	0.180	10,350	3361	6.00	0.18	6,900	1,210	3.000	0.120	5,300	1,157	3.000	0.120
Ø 8	9,880	5,998	8.000	0.240	7,800	3068	8.00	0.24	5,200	1,104	4.000	0.160	4,000	1,056	4.000	0.160
Ø 10	7,800	5,586	10.000	0.300	6,150	2858	10.00	0.3	4,100	1,028	5.000	0.200	3,200	983	5.000	0.200
Ø 12	6,650	5,586	12.000	0.360	5,250	2858	12.00	0.36	3,500	1,028	6.000	0.240	2,650	983	6.000	0.240
Ø 16	6,280	3,240	16.000	0.480	5,100	2626	16.00	0.48	3,410	946	8.000	0.320	2,440	903	8.000	0.320
Depth of cut	~ 45HRC 45HRC ~															

- When milling workpiece HRC over 62, reduce 20% of the RPM and feed with the same diameter.
- If the effective length is long, reduce the RPM and feed maximum 30%.
- Consider the corner radius value when you set up the Ae value.
- For curved milling, set up the lower value of the pitch than the corner radius value of tool diameter.
- For curved milling, raise up the feed up to 30% in stable milling condition.
- The parameters on the table is based on 4 flutes. For using 6 & 8 flutes, use the same RPM and raise up the feed up to 50% in stable milling condition.
- Use this table for your reference. Adjust the parameters depending on your machining geometry, machining purpose and CNC.
- Air blow or oil mist coolants are recommended and note for chip emission, heat or ignition.