

2WRR										Cutting Conditions							
Material		Copper Alloys C1100				Alloy Steels / Pre-hardened Steels NAK80/KP4M				Hardened Steels STAVAX/SKD11				Heat treated Steels/Hardened Steels SKD11/SKD61			
Hardness		40~ 45HRC				45 ~ 55HRC				50~ 62HRC							
Outside Dia	Effective Length	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	1	48,300	850	0.079	0.114	48,300	238	0.033	0.119	39,100	179	0.029	0.119	24,150	98	0.013	0.119
"	3	31,050	750	0.056	0.088	31,050	210	0.022	0.110	25,415	158	0.020	0.110	15,755	87	0.008	0.110
"	5	25,760	700	0.026	0.044	25,760	196	0.011	0.010	20,700	147	0.010	0.010	12,995	81	0.004	0.010
Ø 0.6	2	27,945	850	0.111	0.158	27,945	238	0.010	0.214	23,000	179	0.010	0.214	14,835	98	0.004	0.214
"	6	16,445	750	0.035	0.044	16,445	210	0.003	0.010	13,570	158	0.003	0.010	8,740	87	0.001	0.010
Ø 0.8	4	17,250	900	0.129	0.194	17,250	252	0.014	0.114	14,720	189	0.015	0.114	9,890	104	0.007	0.114
"	8	12,650	750	0.029	0.098	12,650	210	0.005	0.088	10,695	158	0.005	0.088	7,475	87	0.002	0.088
Ø 1	4	13,800	950	0.196	0.396	13,800	266	0.029	0.264	11,730	200	0.029	0.264	8,280	110	0.017	0.264
"	10	8,625	760	0.047	0.308	8,625	210	0.011	0.123	7,475	158	0.011	0.123	5,290	87	0.006	0.123
"	18	6,900	650	0.018	0.220	6,900	182	0.004	0.026	5,980	137	0.004	0.026	4,255	75	0.002	0.026
Ø 1.2	6	9,200	1,035	0.182	0.457	9,200	575	0.018	0.088	8,165	483	0.018	0.088	6,095	59	0.011	0.088
"	12	6,670	662	0.053	0.396	6,670	368	0.007	0.070	5,980	299	0.007	0.070	4,370	37	0.004	0.070
Ø 1.5	4	12,880	1,925	0.293	0.660	12,880	1,070	0.044	0.440	11,730	920	0.044	0.440	8,970	121	0.032	0.440
"	10	8,280	1,325	0.147	0.554	8,280	736	0.031	0.282	7,590	633	0.031	0.282	5,865	83	0.022	0.282
"	20	5,865	725	0.041	0.352	6,350	403	0.005	0.106	4,160	345	0.005	0.106	3,870	45	0.003	0.106
Ø 2	6	12,535	1,801	0.314	0.836	12,535	1,001	0.042	0.792	11,730	909	0.042	0.792	9,430	130	0.035	0.792
"	12	9,200	1,449	0.182	0.704	9,200	805	0.030	0.440	8,280	725	0.030	0.440	6,785	105	0.025	0.440
"	20	6,900	1,139	0.091	0.651	6,200	633	0.017	0.194	3,520	564	0.017	0.194	3,226	82	0.014	0.194
"	30	5,865	973	0.049	0.440	3,300	541	0.005	0.132	2,860	495	0.005	0.132	2,386	68	0.002	0.132
Ø 2.5	10	10,350	1,801	0.331	0.836	10,350	1,001	0.051	0.528	9,775	943	0.051	0.528	8,165	151	0.047	0.528
"	30	6,210	787	0.067	0.616	6,210	437	0.011	0.176	5,865	414	0.011	0.176	4,830	65	0.010	0.176
Ø 3	12	10,350	2,029	0.381	0.831	10,350	1,127	0.103	0.616	9,775	874	0.103	0.655	8,740	196	0.073	0.655
"	20	8,165	1,553	0.254	0.762	6,050	863	0.071	0.567	3,420	667	0.071	0.567	3,108	147	0.043	0.567
"	30	6,900	1,263	0.137	0.674	3,300	702	0.049	0.371	2,890	541	0.049	0.371	2,440	115	0.028	0.352
Ø 4	12	8,740	1,904	0.401	1.525	8,740	1,058	0.081	1.124	7,360	920	0.081	1.124	6,210	210	0.083	1.124
"	20	6,785	1,458	0.375	1.325	5,880	810	0.053	0.880	5,750	840	0.053	0.880	4,830	194	0.057	0.880
"	30	5,750	752	0.196	1.210	2,950	418	0.028	0.671	2,540	666	0.028	0.671	2,160	149	0.030	0.708
"	45	4,715	500	0.096	1.118	2,300	278	0.007	0.326	2,016	322	0.007	0.326	1,800	75	0.007	0.326
Ø 5	15	7,705	3,064	0.697	2.277	7,705	1,702	0.106	1.346	5,520	1,139	0.106	1.346	4,600	342	0.110	1.346
"	30	5,290	1,470	0.342	1.760	2,780	817	0.053	1.035	3,795	541	0.053	1.035	3,220	164	0.055	1.035
Ø 6	20	5,990	2,194	0.6	2.194	5,460	1,219	0.476	1.356	3,565	1,035	0.186	1.356	3,105	393	0.145	1.356
"	40	4,800	1,635	0.565	2.049	2,380	909	0.410	1.304	2,160	759	0.164	1.304	2,040	304	0.123	1.304
Ø 8	22	5,520	1,946	0.528	2.542	5,520	1,081	0.419	1.518	3,220	909	0.164	1.518	2,760	346	0.128	1.518
"	40	4,140	1,449	0.497	2.277	2,120	805	0.361	1.323	2,080	667	0.144	1.323	1,955	268	0.108	1.323
Ø 10	24	4,800	1,656	0.449	2.887	4,485	920	0.356	1.645	2,760	771	0.139	1.645	2,300	294	0.108	1.645
"	48	3,450	1,221	0.423	2.438	3,450	679	0.307	1.334	1,955	564	0.122	1.334	1,725	228	0.092	1.334
Ø 12	26	3,795	1,387	0.377	3.013	3,795	771	0.299	2.024	2,300	644	0.117	2.024	1,955	247	0.091	2.024
"	50	2,875	1,035	0.355	2.415	2,875	575	0.258	1.403	1,725	483	0.103	1.403	1,380	191	0.077	1.403
Ø 16	35	2,990	1,097	0.302	2.921	2,990	610	0.239	2.162	1,725	518	0.094	2.162	1,610	198	0.073	2.162
Depth of cut		Slotting • Ap : Axial Depth • D : Outside Diameter Side Milling • Ap : Axial Depth • Ae : Radial Depth Inclined Cutting															

- 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.