

## UP210-S2

For Steels, Cast Iron—— Side Milling



Workpiece Material		mm	Vc m/min	Tool Diameter(mm)	3	4	6	8	10	12	16	20
<b>P</b>	35HRC	$ap \leq 1.5D$	180	min-1	19110	14330	9550	7170	5730	4780	3580	2870
		$ae \leq 0.15D$		mm/min	1070	1030	920	930	920	860	860	860
	35-48HRC	$ap \leq 1D$	130	min-1	13800	10350	6900	5180	4140	3450	2590	2070
		$ae \leq 0.12D$		mm/min	610	580	550	620	560	500	410	370
<b>M</b>		$ap \leq 1.5D$	130	min-1	13800	10350	6900	5180	4140	3450	2590	2070
		$ap \leq 0.15D$		mm/min	690	660	590	650	610	590	490	460
<b>K</b>	32HRC	$ap \leq 1.5D$	160	min-1	16990	12740	8490	6370	5100	4250	3190	2550
		$ae \leq 0.15D$		mm/min	850	820	820	750	700	680	610	560
	35-45HRC	$ap \leq 1D$	140	min-1	14860	11150	7430	5570	4460	3720	2790	2230
		$ae \leq 0.12D$		mm/min	650	670	670	620	580	560	500	460

Make sure work piece and machine are stable and use a precision holder.

Please adjust the speed, feed and cutting depth according to actual cutting conditions.

The milling conditions are for an end mill where the tool overhang length is less than  $4 \cdot D$  (mill dia).

When the tool overhang length is longer, please adjust the speed, feed and cutting depth.

## UP210-S2

For Steels, Cast Iron——Slotting



Workpiece Material		mm	Vc m/min	Tool Diameter(mm)	3	4	6	8	10	12	16	20
<b>P</b>	35HRC	ap≤0.8D	80	min-1	8490	6370	4250	3190	2550	2120	1590	1270
				mm/min	430	540	440	400	370	350	400	410
	35-48HRC	ap≤0.3D	60	min-1	6370	4780	3190	2390	1910	1590	1190	960
				mm/min	260	310	270	230	220	220	230	230
<b>M</b>		ap≤0.3D	55	min-1	5840	4380	2920	2190	1750	1460	1100	880
				mm/min	140	160	200	200	200	190	170	160
<b>K</b>	32HRC	ap≤0.5D	55	min-1	5840	4380	2920	2190	1750	1460	1100	880
				mm/min	210	250	250	220	210	200	190	170
	35-45HRC	ap≤0.3D	50	min-1	5310	3980	2650	1990	1590	1330	1000	800
				mm/min	160	180	210	180	180	170	160	140

Make sure work piece and machine are stable and use a precision holder.

Please adjust the speed,feed and cutting depth according to actual cutting conditons.

The milling conditions are for an end mill where the tool overhang length is less than 4\*D(mill dia ).

When the tool overhang length is longer, please adjust the speed,feed and cutting depth.