

Recommended Cutting Conditions for Slotting (2)

Workpiece Materials		Depth of Cut (ap) (mm)	Outside Dia. (mm)		ø2	ø3	ø4	ø5	ø6	ø8	ø10	ø12	ø16	ø20	ø25
3RDSM 4RDSM 5RDSM (L23)															
Steel	< 22HRC	0.75Dc	Spindle Revolution (min ⁻¹)		-	-	13,900	11,100	9,300	6,900	5,600	4,600	3,500	2,800	2,200
			Feed Rate (mm/min)				750	770	800	800	1,000	1,030	1,040	1,050	1,110
	22~32HRC	0.75Dc	Spindle Revolution (min ⁻¹)				11,900	9,500	7,900	5,900	4,800	4,000	3,000	2,400	1,900
			Feed Rate (mm/min)				540	540	550	550	740	740	740	760	860
	32~40HRC	0.6Dc	Spindle Revolution (min ⁻¹)				8,000	6,400	5,300	4,000	3,200	2,600	2,000	1,600	1,300
			Feed Rate (mm/min)				240	250	260	260	340	340	330	330	330
	40~45HRC	0.5Dc	Spindle Revolution (min ⁻¹)				6,400	5,100	4,300	3,200	2,600	2,200	1,600	1,300	1,000
			Feed Rate (mm/min)				150	170	180	180	240	230	230	220	220
	45~50HRC	0.4Dc	Spindle Revolution (min ⁻¹)				5,700	4,500	3,800	2,900	2,300	1,900	1,400	1,100	900
			Feed Rate (mm/min)				140	140	140	140	170	160	160	150	150
Cast Iron		1Dc	Spindle Revolution (min ⁻¹)		11,900	9,500	7,900	5,900	4,800	4,000	3,000	2,400	1,900		
			Feed Rate (mm/min)		640	660	700	700	900	900	900	910	1,140		
4YECM 4YERM (L35)															
Stainless Steel		1Dc	Spindle Revolution (min ⁻¹)		-	-	7,200	5,700	4,800	3,600	2,900	2,400	1,800	1,400	1,100
			Feed Rate (mm/min)				700	700	760	720	690	620	500	430	340
Heat-resistant Alloy		0.3Dc	Spindle Revolution (min ⁻¹)				2,000	1,600	1,300	1,000	800	700	500	400	300
			Feed Rate (mm/min)				80	80	90	110	100	100	90	70	
Soft Steel		1Dc	Spindle Revolution (min ⁻¹)				11,900	9,600	8,000	6,000	4,800	4,000	3,000	2,400	1,900
			Feed Rate (mm/min)				1,150	1,150	1,300	1,400	1,100	1,100	900	900	800
Titanium Alloy		1Dc	Spindle Revolution (min ⁻¹)				4,000	3,200	2,700	2,000	1,600	1,300	1,000	800	600
			Feed Rate (mm/min)				190	190	210	240	200	200	180	180	180
Gray Cast Iron		1Dc	Spindle Revolution (min ⁻¹)				9,600	7,600	6,400	4,800	3,800	3,200	2,400	1,900	1,500
			Feed Rate (mm/min)				950	950	1,020	1,150	920	900	720	690	610

Workpiece Materials	Depth of Cut (ap) (mm)	Outside Dia. (mm)	ø2	ø3	ø4	ø5	ø6	ø8	ø10	ø12	ø14	ø16	ø20	ø25
4YEBM (L38)														
Stainless Steel SUS304	1Dc	Spindle Revolution (min ⁻¹)	-	-	-	5,100	4,200	3,200	2,500	2,100	-	1,600	1,300	-
		Feed Rate (mm/min)				550	610	570	550	500		400	350	
Heat-resistant Alloy	0.5Dc	Spindle Revolution (min ⁻¹)	-	-	-	1,400	1,200	900	700	600	-	400	400	-
		Feed Rate (mm/min)				60	70	80	80	80		80	70	
Soft Steel	1Dc	Spindle Revolution (min ⁻¹)	-	-	-	8,600	7,200	5,400	4,300	3,600	-	2,700	2,200	-
		Feed Rate (mm/min)				930	1,030	1,160	930	900		730	700	
Titanium Alloy	0.5Dc	Spindle Revolution (min ⁻¹)	-	-	-	2,900	2,400	1,800	1,400	1,200	-	900	700	-
		Feed Rate (mm/min)				160	170	190	170	170		160	160	
Gray Cast Iron	1Dc	Spindle Revolution (min ⁻¹)	-	-	-	7,000	5,800	4,400	3,500	2,900	-	2,200	1,800	-
		Feed Rate (mm/min)				760	840	950	760	740		600	570	

Workpiece Materials	Depth of Cut (ap) (mm)	Outside Dia. (mm)	ø4	ø5	ø6	ø8	ø10	ø12	ø16	ø20	ø25
5DERM 5DEKM (L37)											
Medium and high carbon steel > 0.3%C	5DERM: 0.8Dc 5DEKM: 0.25Dc	Spindle Revolution (min ⁻¹)	16,000	12,700	10,600	8,000	6,400	5,300	4,000	3,200	2,500
		Feed Rate (mm/min)	2,400	2,500	2,700	2,400	2,200	1,900	1,600	1,600	1,400
Alloy steel and alloy tool steel < 330HB, < 35HRC	5DERM: 0.8Dc 5DEKM: 0.25Dc	Spindle Revolution (min ⁻¹)	14,300	11,500	9,600	7,200	5,700	4,800	3,600	2,900	2,300
		Feed Rate (mm/min)	2,100	1,700	1,900	1,800	1,700	1,400	1,300	1,100	
Alloy steel and alloy tool steel 340~450HB, 36~48HRC	5DERM: 0.8Dc 5DEKM: 0.25Dc	Spindle Revolution (min ⁻¹)	13,000	10,000	8,500	6,400	5,100	4,200	3,200	2,500	2,000
		Feed Rate (mm/min)	1,300	1,500	1,700	1,300	1,300	1,300	1,100	1,000	1,000
Austenitic Stainless Steel	5DERM: 0.8Dc 5DEKM: 0.25Dc	Spindle Revolution (min ⁻¹)	9,200	7,300	6,100	4,600	3,700	3,100	2,300	1,800	1,500
		Feed Rate (mm/min)	1,400	1,100	1,200	1,100	1,100	1,100	920	820	730
Austenitic Stainless Steel	5DERM: 0.8Dc 5DEKM: 0.25Dc	Spindle Revolution (min ⁻¹)	6,400	5,100	4,200	3,200	2,500	2,100	1,600	1,300	1,000
		Feed Rate (mm/min)	640	760	640	640	640	640	560	510	410
Gray Cast Iron	5DERM: 0.8Dc 5DEKM: 0.25Dc	Spindle Revolution (min ⁻¹)	14,000	11,000	9,000	6,800	5,400	4,500	3,400	2,700	2,200
		Feed Rate (mm/min)	2,000	2,200	2,300	2,000	2,200	1,800	1,700	1,600	1,400
Nodular Cast Iron CGI and malleable cast iron	5DERM: 0.8Dc 5DEKM: 0.25Dc	Spindle Revolution (min ⁻¹)	10,000	8,300	6,900	5,200	4,100	3,500	2,600	2,100	1,700
		Feed Rate (mm/min)	1,000	1,200	1,000	1,300	1,000	1,000	910	830	830
Heat-resistant Alloy	5DERM: 0.8Dc 5DEKM: 0.25Dc	Spindle Revolution (min ⁻¹)	3,200	2,500	2,100	1,600	1,300	1,100	800	640	510
		Feed Rate (mm/min)	160	130	210	240	190	210	200	190	180
Titanium Alloy	5DERM: 0.8Dc 5DEKM: 0.25Dc	Spindle Revolution (min ⁻¹)	4,800	3,800	3,200	2,400	1,900	1,600	1,200	960	760
		Feed Rate (mm/min)	480	380	480	480	380	400	360	380	340