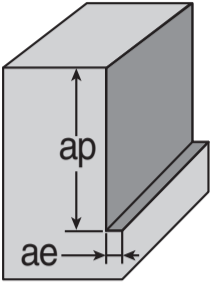


# Recommended Cutting Conditions

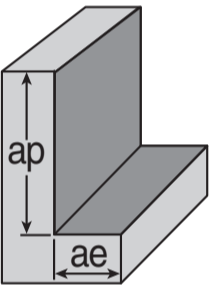
## Machining data for SED 4 ( ...U / ...UL / ...-R / ...-C )

### Finishing

Application	ISO	Material	Cutting Conditions	Diameter (mm)													
				Ø1	Ø1.5	Ø2	Ø2.5	Ø3	Ø4	Ø5	Ø6	Ø8	Ø10	Ø12	Ø14	Ø16	Ø20
 <p>ap ≤ 1.0xD ae ≤ 0.05xD</p>	<b>P</b>	Carbon & alloy steel (≤HRC30)	rpm (S) Feed (F)	41,300 500	27,500 550	20,700 660	16,550 990	13,800 1100	10,350 910	8,280 830	6,900 970	5,180 830	4,140 830	3,450 830	2,960 770	2,590 730	2,070 830
		Pre-harden steel (HRC30-40)	rpm (S) Feed (F)	38,200 300	25,500 410	19,100 460	15,300 790	12,700 910	9,550 770	7,650 760	6,370 770	4,780 770	3,820 690	3,190 710	2,730 660	2,390 630	1,910 690
	<b>M</b>	Stainless steel	rpm (S) Feed (F)	31,800 250	21,200 340	15,900 380	12,700 660	10,600 770	7,950 640	6,360 640	5,310 640	4,000 640	3,190 580	2,660 590	2,280 550	2,000 520	1,600 580
	<b>S</b>	Titanium	rpm (S) Feed (F)	19,100 150	12,750 205	9,550 380	7,640 460	6,370 510	4,780 480	3,820 460	3,190 440	2,390 460	1,910 440	1,600 430	1,370 420	1,200 420	960 370
		High temp. alloys	rpm (S) Feed (F)	7,950 65	5,300 63	3,980 80	3,180 102	2,650 117	1,990 112	1,590 108	1,330 107	1,000 100	800 103	665 101	570 100	500 96	398 88

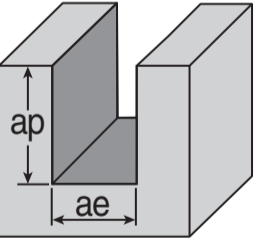
S: rev/min, F: mm/min

### Medium machining

Application	ISO	Material	Cutting Conditions	Diameter (mm)													
				Ø1	Ø1.5	Ø2	Ø2.5	Ø3	Ø4	Ø5	Ø6	Ø8	Ø10	Ø12	Ø14	Ø16	Ø20
 <p>ap ≤ 1.0xD ae ≤ 0.2xD</p>	<b>P</b>	Carbon & alloy steel (≤HRC30)	rpm (S) Feed (F)	38,200 410	25,500 460	19,100 550	15,300 820	12,700 920	9,550 760	7,650 690	6,370 800	4,780 690	3,820 690	3,190 690	2,730 640	2,390 600	1,910 690
		Pre-harden steel (HRC30-40)	rpm (S) Feed (F)	35,000 250	23,300 340	17,500 380	14,000 660	11,600 750	8,750 630	7,000 630	5,840 630	4,380 630	3,500 570	2,920 580	2,500 550	2,190 520	1,750 570
	<b>M</b>	Stainless steel	rpm (S) Feed (F)	28,600 210	19,100 275	14,300 315	11,400 545	9,550 650	7,160 530	5,730 530	4,780 520	3,580 520	2,870 470	2,390 480	2,050 450	1,790 420	1,430 470
	<b>S</b>	Titanium	rpm (S) Feed (F)	17,500 125	11,700 170	8,750 315	7,000 380	5,840 420	4,380 400	3,500 380	2,920 360	2,190 380	1,750 360	1,460 360	1,250 350	1,100 350	875 300
		High temp. alloys	rpm (S) Feed (F)	7,000 50	4,660 50	3,500 63	2,800 85	2,330 92	1,750 88	1,400 86	1,170 85	875 80	700 80	580 80	500 80	440 80	350 70

S: rev/min, F: mm/min

### Slotting

Application	ISO	Material	Cutting Conditions	Diameter (mm)													
				Ø1	Ø1.5	Ø2	Ø2.5	Ø3	Ø4	Ø5	Ø6	Ø8	Ø10	Ø12	Ø14	Ø16	Ø20
 <p>ap ≤ 1.0xD ae = 1.0xD</p> <p>Titanium</p> <p>ap ≤ 0.5xD ae = 1.0xD</p> <p>High temp. alloys</p> <p>ap ≤ 0.4xD ae = 1.0xD</p>	<b>P</b>	Carbon & alloy steel (≤HRC30)	rpm (S) Feed (F)	31,800 270	21,200 300	15,900 350	12,700 540	10,600 600	7,950 500	6,360 450	5,310 530	4,000 450	3,190 450	2,660 450	2,280 410	2,000 400	1,600 450
		Pre-harden steel (HRC30-40)	rpm (S) Feed (F)	28,600 162	19,100 216	14,300 243	11,400 414	9,550 486	7,150 423	5,700 405	4,780 405	3,600 405	2,870 369	2,390 369	2,050 351	1,800 333	1,440 369
	<b>M</b>	Stainless steel	rpm (S) Feed (F)	22,270 125	14,850 165	11,140 185	8,910 325	7,430 375	5,570 315	4,450 315	3,710 315	2,780 315	2,230 285	1,860 290	1,600 270	1,400 260	1,120 285
	<b>S</b>	Titanium	rpm (S) Feed (F)	16,000 90	10,600 120	7,950 225	6,360 270	5,300 300	3,980 280	3,180 270	2,650 255	1,990 270	1,590 260	1,330 250	1,140 245	1,000 245	800 215
		High temp. alloys	rpm (S) Feed (F)	5,400 30	3,600 30	2,700 38	2,160 48	1,800 56	1,350 53	1,080 52	900 51	675 48	540 50	450 50	390 48	340 48	270 45

S: rev/min, F: mm/min

■ Steel     
 ■ Stainless steel     
 ■ High temp. alloys