

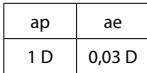
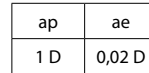


# CUTTING CONDITIONS

Milling | Indexables | Cutting conditions





## PXSH For both PXMZ straight shank holder / PXMZ collet

Side milling  $L/D \leq 4$

	Hardened Steel - Prehardened Steel SCM • SKD61 • NAK80		Hardened Steel							
			~55HRC		~62HRC		~66HRC		~70HRC	
Cutting Speed	110 ~ 130		80 ~ 100		60 ~ 80		50 ~ 70		40 ~ 60	
Ø	S (min <sup>-1</sup> )	F (mm/min)	S (min <sup>-1</sup> )	F (mm/min)	S (min <sup>-1</sup> )	F (mm/min)	S (min <sup>-1</sup> )	F (mm/min)	S (min <sup>-1</sup> )	F (mm/min)
12	3.180	2.290	2.390	1.720	1.860	940	1.590	690	1.330	510
16	2.390	2.290	1.790	1.720	1.390	930	1.190	690	1.000	510
20	1.910	2.290	1.430	1.720	1.110	930	960	690	800	510
25	1.530	2.450	1.150	1.840	890	1.000	760	730	640	510
Depth of cut										
	apMax=1mm		apMax=1mm		apMax=0,5mm					

## PXSH For both PXMZ straight shank holder / PXMZ collet

Side milling  $4 < L/D \leq 5$

	Hardened Steel - Prehardened Steel SCM • SKD61• NAK80		Hardened Steel							
			~55HRC		~62HRC		~66HRC		~70HRC	
Cutting Speed	75 ~ 95		55 ~ 75		40 ~ 60		35 ~ 55		25 ~ 45	
Ø	S (min <sup>-1</sup> )	F (mm/min)	S (min <sup>-1</sup> )	F (mm/min)	S (min <sup>-1</sup> )	F (mm/min)	S (min <sup>-1</sup> )	F (mm/min)	S (min <sup>-1</sup> )	F (mm/min)
12	2.260	1.630	1.730	1.250	1.330	480	1.190	340	930	200
16	1.690	1.620	1.290	1.240	1.000	480	900	350	700	200
20	1.350	1.620	1.040	1.250	800	480	720	350	560	200
25	1.080	1.730	830	1.330	640	720	570	550	450	360
Depth of cut										
	apMax=1mm		apMax=1mm		apMax=0,5mm					


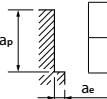
1. Use a rigid and precise machine and holder.
2. When chattering occurs, reduce the speed and feed simultaneously.  
when machines with low rigidity are used.
3. Please adjust the cutting condition when the overhang length is longer.
4. Please consider the overhang length as the total length of replaceable head and overhang length of shank holder.
5. Use an air blow or a suitable cutting uid with high smoke retardant properties.

## CUTTING CONDITIONS

## Milling | Indexables | Cutting conditions

**PXSH** For both PXMZ straight shank holder / PXMC collet

## High Speed Side milling $L/D \leq 4$

	Hardened Steel SCM • SKD61 • NAK80		Hardened Steel																							
			~55HRC		~62HRC		~66HRC		~70HRC																	
Cutting Speed	160 ~ 180		140 ~ 160		95 ~ 115		80 ~ 100		60 ~ 80																	
Ø	S (min <sup>-1</sup> )	F (mm/min)	S (min <sup>-1</sup> )	F (mm/min)	S (min <sup>-1</sup> )	F (mm/min)	S (min <sup>-1</sup> )	F (mm/min)	S (min <sup>-1</sup> )	F (mm/min)																
12	4.510	2.600	3.980	2.290	2.790	1.130	2.390	860	1.860	600																
16	3.380	2.600	2.990	2.300	2.090	1.130	1.790	860	1.390	600																
20	2.710	2.600	2.390	2.290	1.670	1.130	1.430	860	1.110	600																
25	2.170	2.780	1.910	2.440	1.340	1.210	1.150	920	890	640																
Depth of cut 	<table><tr><td>ap</td><td>ae</td></tr><tr><td>1 D</td><td>0,05 D</td></tr></table> aeMax=1mm		ap	ae	1 D	0,05 D	<table><tr><td>ap</td><td>ae</td></tr><tr><td>1 D</td><td>0,03 D</td></tr></table> aeMax=1mm		ap	ae	1 D	0,03 D	<table><tr><td>ap</td><td>ae</td></tr><tr><td>1 D</td><td>0,015 D</td></tr></table> aeMax=0,5mm		ap	ae	1 D	0,015 D	<table><tr><td>ap</td><td>ae</td></tr><tr><td>1 D</td><td>0,01 D</td></tr></table> aeMax=0,2mm				ap	ae	1 D	0,01 D
	ap	ae																								
	1 D	0,05 D																								
ap	ae																									
1 D	0,03 D																									
ap	ae																									
1 D	0,015 D																									
ap	ae																									
1 D	0,01 D																									
<div><div>1. Tools can cause sparks. Do not use flammable fluids.</div><div>2. Use a rigid and precise machine and holder.</div><div>3. When chattering occurs, reduce the speed and feed simultaneously.</div><div>4. Please consider the overhang length as the total length of replaceable head and overhang length of shank holder.</div><div>5. Use an air blow or a suitable cutting uid with high smoke retardant properties.</div></div>																										
<div>Caution: Sparks generated during operation or heat caused by tool breakage can cause fire.</div> <div>Be sure to use all proper fire - prevention measures.</div> <div>The conditions below are for high speed / high precision machining centers.</div>																										