List 78PXHF-AM: PXHF-AM Exchangeable Heads

Facing (L/D ≤ 4)

Hardness	< 45 HRC	< 62 HRC	< 70 HRC	–	–	–	–
Work Material	Hardened Steel Prehardened Steel	Hardened Steel	Hardened Steel	Stainless Steel	Cobalt-Chrome Alloy Stellite	Titanium Alloy	Nickel-based Alloy Inconel 718
Cutting Speed	360 - 425 SFM	295 - 360 SFM	215 - 280 SFM	410 - 475 SFM	360 - 425 SFM	295 - 360 SFM	100 - 165 SFM
Depth of Cut 	Aa=0.04Dc Max • Ar=0.5Dc Max						

Mill Dia. (in)	Mill Dia. (mm)	Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)
-	12	3180	207.87	2650	172.83	1990	62.20	3580	233.86	3180	207.48	2650	172.83	1060	30.31
1/2	-	3020	207.87	2520	172.83	1870	62.20	3400	233.86	3020	207.48	2520	172.83	990	30.31
5/8	-	2415	207.87	2015	172.83	1500	62.20	2720	233.86	2415	207.48	2015	172.83	800	30.31
-	16	2390	207.87	1990	172.83	1490	62.20	2690	233.86	2390	207.48	1990	172.83	800	30.31
3/4	-	2010	207.87	1680	172.83	1250	62.20	2265	233.86	2010	207.48	1680	172.83	660	30.31
-	20	1910	207.87	1590	172.83	1190	62.20	2150	233.86	1910	207.48	1590	172.83	640	30.31
1	-	1510	207.87	1260	172.83	935	62.20	1700	233.86	1510	207.48	1260	172.83	500	30.31

1. This tool is recommended for the roughing of additive manufacturing and mold overlay surfaces.
2.Please use machines and holders that are rigid and highly accurate.
3. The values listed above are for reference. Please set the cutting condition in accordance with the actual machining environment.
4.Please reduce the feed rate when the depth of cut is greater than specified.
5. Please adjust the cutting condition when the overhang length is longer.
6. Please use a suitable fluid with high smoke retardant properties.
7. During dry (no fluid) milling, please use air blow to remove disposable chips from the milling area and to eliminate chip packing.
8. Please use water-soluble coolant when machining stainless steel, cobalt-chromiumalloy, titanium alloy, and Ni-based alloy.
9.Tool runout should be kept to a minimum for maximum accuracy.
10. When the cutting load fluctuates in areas such as the corners, please reduce the rotational speed.
11. If Ar is greater than 0.5Dc, there may be a cusp in the machined surface.

Facing (4 < L/D ≤ 5)

Hardness	< 45 HRC	< 62 HRC	< 70 HRC	–	–	–	–
Work Material	Hardened Steel Prehardened Steel	Hardened Steel	Hardened Steel	Stainless Steel	Cobalt-Chrome Alloy Stellite	Titanium Alloy	Nickel-based Alloy Inconel 718
Cutting Speed	330 - 395 SFM	265 - 330 SFM	195 - 265 SFM	380 - 450 SFM	330 - 400 SFM	265 - 330 SFM	80 - 150 SFM
Depth of Cut 	Aa=0.03Dc Max • Ar=0.5Dc Max						

Mill Dia. (in)	Mill Dia. (mm)	Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)
-	12	2920	148.80	2390	73.23	1860	47.64	3320	169.30	2920	148.80	2390	122.05	930	21.26
1/2	-	2750	148.80	2250	73.23	1560	47.64	3130	169.30	2750	148.80	2250	122.05	880	21.26
5/8	-	2200	148.80	1800	73.23	1400	47.64	2500	169.30	2200	148.80	1800	122.05	700	21.26
-	16	2190	148.80	1790	73.23	1390	47.64	2490	169.30	2190	148.80	1790	122.05	700	21.26
3/4	-	1830	148.80	1500	73.23	1170	47.64	2090	169.30	1830	148.80	1500	122.05	590	21.26
-	20	1750	148.80	1430	73.23	1110	47.64	1990	169.30	1750	148.80	1430	122.05	560	21.26
1	-	1380	148.80	1130	73.23	880	47.64	1570	169.30	1380	148.80	1130	122.05	440	21.26

1. This tool is recommended for the roughing of additive manufacturing and mold overlay surfaces.
2.Please use machines and holders that are rigid and highly accurate.
3. The values listed above are for reference. Please set the cutting condition in accordance with the actual machining environment.
4.Please reduce the feed rate when the depth of cut is greater than specified.
5. Please adjust the cutting condition when the overhang length is longer.
6. Please use a suitable fluid with high smoke retardant properties.
7. During dry (no fluid) milling, please use air blow to remove disposable chips from the milling area and to eliminate chip packing.
8. Please use water-soluble coolant when machining stainless steel, cobalt-chromiumalloy, titanium alloy, and Ni-based alloy.
9.Tool runout should be kept to a minimum for maximum accuracy.
10. When the cutting load fluctuates in areas such as the corners, please reduce the rotational speed.
11. If Ar is greater than 0.5Dc, there may be a cusp in the machined surface.

Facing (5 < L/D ≤ 6)

Hardness	< 45 HRC		< 62 HRC		< 70 HRC		–		–		–		–	
Work Material	Hardened Steel Prehardened Steel		Hardened Steel		Hardened Steel		Stainless Steel		Cobalt-Chrome Alloy Stellite		Titanium Alloy		Nickel-based Alloy Inconel 718	
Cutting Speed	295 - 360 SFM		230 - 295 SFM		165 - 230 SFM		330 - 395 SFM		295 - 360 SFM		230 - 295 SFM		65 - 130 SFM	
Depth of Cut 	Aa=0.02Dc Max • Ar=0.5Dc Max													
Mill Dia. (in)	Mill Dia. (mm)	Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)
-	12	2650	105.12	2120	83.46	1590	31.50	2920	115.75	2650	105.12	2120	84.25	800	13.78
1/2	-	2520	105.12	2000	83.46	1500	31.50	2750	115.75	2520	105.12	2000	84.25	760	13.78
5/8	-	2010	105.12	1600	83.46	1200	31.50	2200	115.75	2010	105.12	1600	84.25	610	13.78
-	16	1990	105.12	1590	83.46	1190	31.50	2190	115.75	1990	105.12	1590	84.25	600	13.78
3/4	-	1680	105.12	1330	83.46	1000	31.50	1830	115.75	1680	105.12	1330	84.25	510	13.78
-	20	1590	105.12	1270	83.46	960	31.50	1750	115.75	1590	105.12	1270	84.25	480	13.78
1	-	1260	105.12	1000	83.46	750	31.50	1380	115.75	1260	105.12	1000	84.25	380	13.78

1. This tool is recommended for the roughing of additive manufacturing and mold overlay surfaces.
2.Please use machines and holders that are rigid and highly accurate.
3. The values listed above are for reference. Please set the cutting condition in accordance with the actual machining environment.
4.Please reduce the feed rate when the depth of cut is greater than specified.
5. Please adjust the cutting condition when the overhang length is longer.
6. Please use a suitable fluid with high smoke retardant properties.
7. During dry (no fluid) milling, please use air blow to remove disposable chips from the milling area and to eliminate chip packing.
8. Please use water-soluble coolant when machining stainless steel, cobalt-chromiumalloy, titanium alloy, and Ni-based alloy.
9.Tool runout should be kept to a minimum for maximum accuracy.
10. When the cutting load fluctuates in areas such as the corners, please reduce the rotational speed.
11. If Ar is greater than 0.5Dc, there may be a cusp in the machined surface.

Side Milling

Hardness	< 45 HRC		< 62 HRC		< 70 HRC		–		–		–		–	
Work Material	Hardened Steel Prehardened Steel		Hardened Steel		Hardened Steel		Stainless Steel		Cobalt-Chrome Alloy Stellite		Titanium Alloy		Nickel-based Alloy Inconel 718	
Cutting Speed	260 - 330 SFM		165 - 230 SFM		165 - 230 SFM		330 - 395 SFM		295 - 360 SFM		100 - 165 SFM			
Depth of Cut 	Aa=0.5Dc Max • Ar=0.05Dc Max		Aa=0.5Dc Max • Ar=0.02Dc Max				Aa=0.5Dc Max • Ar=0.05Dc Max				Aa=0.5Dc Max • Ar=0.02Dc Max			
Mill Dia. (in)	Mill Dia. (mm)	Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)	Speed (RPM)	Feed (in/min)
-	12	2390	47.25	1590	22.83	1060	9.06	2650	52.75	2390	47.25	1590	22.83	800	9.06
1/2	-	2250	47.25	1490	22.83	990	9.06	2520	52.75	2250	47.25	1490	22.83	760	9.06
5/8	-	1800	47.25	1190	22.83	790	9.06	2010	52.75	1800	47.25	1190	22.83	610	9.06
-	16	1790	47.25	1190	22.83	800	9.06	1990	52.75	1790	47.25	1190	22.83	600	9.06
3/4	-	1500	47.25	990	22.83	660	9.06	1680	52.75	1500	47.25	990	22.83	510	9.06
-	20	1430	47.25	960	22.83	640	9.06	1590	52.75	1430	47.25	960	22.83	480	9.06
1	-	1120	47.25	740	22.83	500	9.06	1260	52.75	1120	47.25	740	22.83	380	9.06

1. This tool is recommended for the roughing of additive manufacturing and mold overlay surfaces.
2.Please use machines and holders that are rigid and highly accurate.
3. The values listed above are for reference. Please set the cutting condition in accordance with the actual machining environment.
4.Please reduce the feed rate when the depth of cut is greater than specified.
5. The above table is a guide when the amount of protrusion of the tool is 4D or less. If the amount of protrusion is large, chattering is likely to occur. Please adjust the rotation speed, feed speed, and depth of cut.
6. Please use a suitable fluid with high smoke retardant properties.
7. During dry (no fluid) milling, please use air blow to remove disposable chips from the milling area and to eliminate chip packing.
8. Please use water-soluble coolant when machining stainless steel, cobalt-chromiumalloy, titanium alloy, and Ni-based alloy.
9.Tool runout should be kept to a minimum for maximum accuracy.
10. When the cutting load fluctuates in areas such as the corners, please reduce the rotational speed.