

HMX-4B★HMX-4BL

Workpiece material	Pre-hardened steel, Hardened steel 40~50HRC				Hardened steel 50~60HRC				Hardened steel 60~68HRC			
	Rotating speed (min ⁻¹)	Feed speed (mm/min)	a _p (mm)	a _e (mm)	Rotating speed (min ⁻¹)	Feed speed (mm/min)	a _p (mm)	a _e (mm)	Rotating speed (min ⁻¹)	Feed speed (mm/min)	a _p (mm)	a _e (mm)
R1.5	29000	6560	0.03	0.1	22800	4560	0.03	0.1	21100	4240	0.03	0.1
R2.0	22000	6250	0.04	0.15	17100	4000	0.04	0.15	15800	3520	0.04	0.15
R2.5	17400	5600	0.05	0.15	13600	3520	0.05	0.15	12700	3200	0.05	0.15
R3.0	14500	5000	0.06	0.2	11400	3000	0.06	0.2	10600	2500	0.06	0.2
R4.0	10900	4200	0.08	0.25	8550	2500	0.08	0.25	7950	2250	0.08	0.25
R5.0	8700	3500	0.1	0.3	6850	2200	0.1	0.3	6350	2000	0.1	0.3
R6.0	7250	3000	0.1	0.35	5700	2000	0.1	0.35	5300	1900	0.1	0.35
R8.0	5450	3000	0.1	0.4	4280	2000	0.1	0.4	4000	1900	0.1	0.4
R10.0	4350	3000	0.1	0.5	3425	2000	0.1	0.5	3200	1900	0.1	0.5

Maximum cutting depth

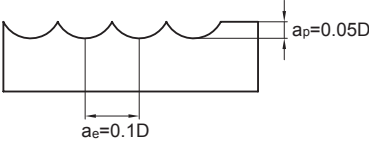
1. Please select high-precision and rigidity machine and tool holder.
2. Above table shows the standard for operations with little change of machining load, such as contour machining. When the machine rigidity and workpiece fixture stability is low, vibration and abnormal noise may be generated. Please reduce the rotating speed and feed speed stated above correspondingly.
3. Please use air blow or MQL (minimum oil mist cooling).
4. When inclination angle α is more than 15°, please reduce rotating speed and feed speed to 50%~80% of the speeds stated in the table.
5. Make overhang of tool as short as possible in conditions of non-interference.

Indexable milling tools

Solid carbide end mills

Cutting parameters for HMX series end mills

HMX-2BS

Workpiece material	Pre-hardened steel, Hardened steel 40~50HRC		Hardened steel 50~60HRC	
	Rotating speed (min^{-1})	Feed speed (mm/min)	Rotating speed (min^{-1})	Feed speed (mm/min)
R0.15	25000	135	25000	115
R0.2	25000	140	25000	120
R0.25	25000	150	25000	130
R0.3	25000	175	24000	150
R0.35	25000	190	24000	150
R0.4	24000	210	18000	140
R0.45	21000	210	15000	140
R0.5	19000	210	14000	140
R1.0	9500	210	7200	140
R1.5	6400	210	4800	140
Maximum cutting depth				

1. Please select high-precision machine and tool holder.
2. Please use air blow or cutting liquid with high mist retardant property.
3. Make overhang of tool as short as possible in conditions of non-interference.
4. Reduce feed speed correspondingly when rotating speed is low.