

## 切削條件表

# X-UPR

## MILLING CONDITIONS

被切削材 Work Material		熱處理鋼 Hardened Steels						
		SKD61/STAVAX / 17-4PH : 1.2083 / 1.2344 / 1.4542 : H13 / 420 (HRc48~54)						
冷卻方式 Coolant Type		乾式/油霧切削 Dry/MQL coolant						
型號 Type No.	刀具伸長量 Extension Length (mm)	切削速度 Cutting Speed (m/min)	迴轉速度 Speed (min <sup>-1</sup> )	進給速度 Feed (mm/min)	加工深度 (A <sub>a</sub> ) Depth of Cut	加工寬度 (A <sub>p</sub> ) Width of Cut	加工方式 Milling Type	
X-UPR0805	25	150	5700~6200	1100~1400	0.05~0.1	6~8	溝銑 SLOTTING	
X-UPR0805	25	130	5000~5400	3200~3800	0.1	6~8	溝銑 SLOTTING	
X-UPR0805	25	130	5000~5400	700~900	8	0~0.1	側銑 SIDE MILLING	
X-UPR0805	25	130	5000~5400	3000~3500	8	0.1	側銑 SIDE MILLING	
X-UPR0805	25	120	4600~5000	1300~1600	8	0.3~0.5	側銑 SIDE MILLING	
X-UPR0805	45	120	4600~5000	900~1200	0.05~0.1	6~8	溝銑 SLOTTING	
X-UPR0805	45	100	3800~4200	2500~3000	0.1	6~8	溝銑 SLOTTING	
X-UPR0805	45	85	3200~3600	500~700	8	0~0.1	側銑 SIDE MILLING	
X-UPR0805	45	100	3800~4200	2500~3000	8	0.1	側銑 SIDE MILLING	
X-UPR0805	45	100	3800~4200	1300~1600	8	0.2~0.35	側銑 SIDE MILLING	
X-UPR0810	25	150	5700~6200	1100~1400	0.05~0.1	5~8	溝銑 SLOTTING	
X-UPR0810	25	130	5000~5400	3200~3800	0.1	5~8	溝銑 SLOTTING	
X-UPR0810	25	130	5000~5400	700~900	8	0~0.1	側銑 SIDE MILLING	
X-UPR0810	25	130	5000~5400	3000~3500	8	0.1	側銑 SIDE MILLING	
X-UPR0810	25	120	4600~5000	1300~1600	8	0.3~0.5	側銑 SIDE MILLING	
X-UPR0810	45	120	4600~5000	900~1200	0.05~0.1	5~8	溝銑 SLOTTING	
X-UPR0810	45	100	3800~4200	2500~3000	0.1	5~8	溝銑 SLOTTING	
X-UPR0810	45	85	3200~3600	500~700	8	0~0.1	側銑 SIDE MILLING	
X-UPR0810	45	100	3800~4200	2500~3000	8	0.1	側銑 SIDE MILLING	
X-UPR0810	45	100	3800~4200	1300~1600	8	0.2~0.35	側銑 SIDE MILLING	
X-UPR1005	30	155	4800~5200	900~1200	0~0.15	8~10	溝銑 SLOTTING	
X-UPR1005	30	155	4800~5200	2800~3300	0.15	8~10	溝銑 SLOTTING	
X-UPR1005	30	130	4000~4400	650~850	10	0~0.15	側銑 SIDE MILLING	
X-UPR1005	30	155	4800~5200	2800~3200	10	0.15	側銑 SIDE MILLING	
X-UPR1005	30	115	3400~3800	1000~1300	10	0.4~0.6	側銑 SIDE MILLING	
X-UPR1005	55	120	3600~4000	900~1100	0~0.15	7~10	溝銑 SLOTTING	
X-UPR1005	55	125	3800~4200	1800~2200	0.15	7~10	溝銑 SLOTTING	
X-UPR1005	55	75	2200~2600	400~600	10	0~0.1	側銑 SIDE MILLING	
X-UPR1005	55	90	2600~3000	1600~2000	10	0.15	側銑 SIDE MILLING	
X-UPR1005	55	85	2400~2800	1200~1600	10	0.2~0.4	側銑 SIDE MILLING	
X-UPR1010	30	155	4800~5200	900~1200	0~0.15	8	溝銑 SLOTTING	
X-UPR1010	30	155	4800~5200	3300~3800	0.15	8	溝銑 SLOTTING	
X-UPR1010	30	155	4800~5200	3300~3800	0.15	10	溝銑 SLOTTING	
X-UPR1010	30	130	4000~4400	650~850	10	0~0.15	側銑 SIDE MILLING	
X-UPR1010	30	155	4800~5200	2800~3200	10	0.15	側銑 SIDE MILLING	
X-UPR1010	30	115	3400~3800	1000~1300	10	0.4~0.6	側銑 SIDE MILLING	
X-UPR1010	55	120	3600~4000	900~1100	0~0.15	7	溝銑 SLOTTING	
X-UPR1010	55	125	3800~4200	2500~3000	0.15	7	溝銑 SLOTTING	
X-UPR1010	55	125	3800~4200	1800~2200	0.15	10	溝銑 SLOTTING	
X-UPR1010	55	75	2200~2600	400~600	10	0~0.1	側銑 SIDE MILLING	
X-UPR1010	55	90	2600~3000	1600~2000	10	0.15	側銑 SIDE MILLING	
X-UPR1010	55	85	2400~2800	1200~1600	10	0.2~0.4	側銑 SIDE MILLING	
X-UPR1210	35	135	3400~3800	800~1000	0~0.15	8	溝銑 SLOTTING	
X-UPR1210	35	150	3800~4200	3000~3500	0.15	8	溝銑 SLOTTING	
X-UPR1210	35	130	3200~3600	2500~3000	0.15	12	溝銑 SLOTTING	
X-UPR1210	35	130	3200~3600	650~850	12	0~0.15	側銑 SIDE MILLING	

# EXCHANGEABLE HEAD ENDMILL II



被切削材 Work Material		熱處理鋼 Hardened Steels						加工方式 Milling Type
冷卻方式 Coolant Type		乾式/油霧切削 Dry/MQL coolant						
型號 Type No.	刀具伸長量 Extension Length (mm)	切削速度 Cutting Speed (m/min)	迴轉速度 Speed (min <sup>-1</sup> )	進給速度 Feed (mm/min)	加工深度 (A <sub>a</sub> ) Depth of Cut	加工寬度 (A <sub>p</sub> ) Width of Cut		
X-UPR1210	35	150	3800~4200	3000~3500	12	0.1	側銑 SIDE MILLING	
X-UPR1210	35	135	3300~3700	700~1000	12	0.5~0.7	側銑 SIDE MILLING	
X-UPR1210	70	120	3000~3400	800~1000	0~0.15	8	溝銑 SLOTTING	
X-UPR1210	70	90	2200~2600	1800~2200	0.15	8	溝銑 SLOTTING	
X-UPR1210	70	65	1500~1900	1000~1200	0.15	12	溝銑 SLOTTING	
X-UPR1210	70	80	1900~2300	400~600	12	0.1	側銑 SIDE MILLING	
X-UPR1210	70	55	1200~1600	500~700	12	0.2	側銑 SIDE MILLING	
X-UPR1220	35	135	3400~3800	800~1000	0~0.15	8	溝銑 SLOTTING	
X-UPR1220	35	150	3800~4200	3000~3500	0.15	8	溝銑 SLOTTING	
X-UPR1220	35	130	3200~3600	2500~3000	0.15	12	溝銑 SLOTTING	
X-UPR1220	35	130	3200~3600	650~850	12	0.1	側銑 SIDE MILLING	
X-UPR1220	35	150	3800~4200	3000~3500	12	0.1	側銑 SIDE MILLING	
X-UPR1220	35	135	3300~3700	700~1000	12	0.5~0.7	側銑 SIDE MILLING	
X-UPR1220	70	120	3000~3400	800~1000	0~0.15	8	溝銑 SLOTTING	
X-UPR1220	70	90	2200~2600	1800~2200	0.15	8	溝銑 SLOTTING	
X-UPR1220	70	65	1500~1900	1000~1200	0.15	12	溝銑 SLOTTING	
X-UPR1220	70	80	1900~2300	400~600	12	0.1	側銑 SIDE MILLING	
X-UPR1220	70	55	1200~1600	500~700	12	0.2	側銑 SIDE MILLING	
X-UPR1610	55	165	3100~3500	700~900	0~0.15	10	溝銑 SLOTTING	
X-UPR1610	55	165	3100~3500	1600~2000	0.15	10	溝銑 SLOTTING	
X-UPR1610	55	140	2600~3000	1200~1600	0.15	16	溝銑 SLOTTING	
X-UPR1610	55	85	1500~1800	300~500	16	0~0.15	側銑 SIDE MILLING	
X-UPR1610	55	85	1500~1800	800~1200	16	0.15	側銑 SIDE MILLING	
X-UPR1610	90	100	1800~2100	500~700	0~0.15	10	溝銑 SLOTTING	
X-UPR1610	90	85	1500~1800	1000~1300	0.15	10	溝銑 SLOTTING	
X-UPR1610	90	70	1200~1500	800~1000	0.15	16	溝銑 SLOTTING	
X-UPR1610	90	55	1000~1300	300~450	16	0~0.15	側銑 SIDE MILLING	
X-UPR1610	90	55	1000~1300	600~800	16	0.2	側銑 SIDE MILLING	
X-UPR1620	55	165	3100~3500	700~900	0~0.15	10	溝銑 SLOTTING	
X-UPR1620	55	165	3100~3500	1600~2000	0.15	10	溝銑 SLOTTING	
X-UPR1620	55	140	2600~3000	1200~1600	0.15	16	溝銑 SLOTTING	
X-UPR1620	55	85	1500~1800	300~500	16	0~0.15	側銑 SIDE MILLING	
X-UPR1620	55	85	1500~1800	800~1200	16	0.15	側銑 SIDE MILLING	
X-UPR1620	90	100	1800~2100	500~700	0~0.15	10	溝銑 SLOTTING	
X-UPR1620	90	85	1500~1800	1000~1300	0.15	10	溝銑 SLOTTING	
X-UPR1620	90	70	1200~1500	800~1000	0.15	16	溝銑 SLOTTING	
X-UPR1620	90	55	1000~1300	300~450	16	0~0.15	側銑 SIDE MILLING	
X-UPR1620	90	55	1000~1300	600~800	16	0.2	側銑 SIDE MILLING	
X-UPR1630	55	165	3100~3500	700~900	0~0.15	10	溝銑 SLOTTING	
X-UPR1630	55	165	3100~3500	1600~2000	0.15	10	溝銑 SLOTTING	
X-UPR1630	55	140	2600~3000	1200~1600	0.15	16	溝銑 SLOTTING	
X-UPR1630	55	85	1500~1800	300~500	16	0~0.15	側銑 SIDE MILLING	
X-UPR1630	55	85	1500~1800	800~1200	16	0.15	側銑 SIDE MILLING	
X-UPR1630	90	100	1800~2100	500~700	0~0.15	10	溝銑 SLOTTING	
X-UPR1630	90	85	1500~1800	1000~1300	0.15	10	溝銑 SLOTTING	
X-UPR1630	90	70	1200~1500	800~1000	0.15	16	溝銑 SLOTTING	

被切削材 Work Material		熱處理鋼 Hardened Steels						加工方式 Milling Type
冷卻方式 Coolant Type		乾式/油霧切削 Dry/MQL coolant						
型號 Type No.	刀具伸長量 Extension Length (mm)	切削速度 Cutting Speed (m/min)	迴轉速度 Speed (min <sup>-1</sup> )	進給速度 Feed (mm/min)	加工深度 (A <sub>s</sub> ) Depth of Cut	加工寬度 (A <sub>p</sub> ) Width of Cut		
X-UPR1630	90	55	1000~1300	300~450	16	0~0.15	側銑 SIDE MILLING	
X-UPR1630	90	55	1000~1300	600~800	16	0.2	側銑 SIDE MILLING	
X-UPR2010	75	170	2500~2900	500~700	0~0.2	12	溝銑 SLOTTING	
X-UPR2010	75	120	1800~2200	800~1100	0.2	12	溝銑 SLOTTING	
X-UPR2010	75	120	1800~2200	1100~1400	0.2	20	溝銑 SLOTTING	
X-UPR2010	75	70	1000~1300	200~400	20	0~0.2	側銑 SIDE MILLING	
X-UPR2010	75	70	1000~1300	600~800	20	0.2	側銑 SIDE MILLING	
X-UPR2010	120	120	1800~2200	400~600	0~0.2	12	溝銑 SLOTTING	
X-UPR2010	120	120	1800~2200	700~900	0.2	12	溝銑 SLOTTING	
X-UPR2010	120	120	1800~2200	900~1200	0.15	20	溝銑 SLOTTING	
X-UPR2020	75	170	2500~2900	500~700	0~0.2	12	溝銑 SLOTTING	
X-UPR2020	75	120	1800~2200	800~1100	0.2	12	溝銑 SLOTTING	
X-UPR2020	75	120	1800~2200	1100~1400	0.2	20	溝銑 SLOTTING	
X-UPR2020	75	70	1000~1300	200~400	20	0~0.2	側銑 SIDE MILLING	
X-UPR2020	75	70	1000~1300	600~800	20	0.2	側銑 SIDE MILLING	
X-UPR2020	120	120	1800~2200	400~600	0~0.2	12	溝銑 SLOTTING	
X-UPR2020	120	120	1800~2200	700~900	0.2	12	溝銑 SLOTTING	
X-UPR2020	120	120	1800~2200	900~1200	0.15	20	溝銑 SLOTTING	
X-UPR2030	75	170	2500~2900	500~700	0~0.2	12	溝銑 SLOTTING	
X-UPR2030	75	120	1800~2200	800~1100	0.2	12	溝銑 SLOTTING	
X-UPR2030	75	120	1800~2200	1100~1400	0.2	20	溝銑 SLOTTING	
X-UPR2030	75	70	1000~1300	200~400	20	0~0.2	側銑 SIDE MILLING	
X-UPR2030	75	70	1000~1300	600~800	20	0.2	側銑 SIDE MILLING	
X-UPR2030	120	120	1800~2200	400~600	0~0.2	12	溝銑 SLOTTING	
X-UPR2030	120	120	1800~2200	700~900	0.2	12	溝銑 SLOTTING	
X-UPR2030	120	120	1800~2200	900~1200	0.15	20	溝銑 SLOTTING	
X-UPR2050	75	170	2500~2900	500~700	0~0.2	12	溝銑 SLOTTING	
X-UPR2050	75	120	1800~2200	800~1100	0.2	12	溝銑 SLOTTING	
X-UPR2050	75	120	1800~2200	1100~1400	0.2	20	溝銑 SLOTTING	
X-UPR2050	75	70	1000~1300	200~400	20	0~0.2	側銑 SIDE MILLING	
X-UPR2050	75	70	1000~1300	600~800	20	0.2	側銑 SIDE MILLING	
X-UPR2050	120	120	1800~2200	400~600	0~0.2	12	溝銑 SLOTTING	
X-UPR2050	120	120	1800~2200	700~900	0.2	12	溝銑 SLOTTING	
X-UPR2050	120	120	1800~2200	900~1200	0.15	20	溝銑 SLOTTING	
X-UPR2510	90	170	2000~2300	400~600	0~0.2	14	溝銑 SLOTTING	
X-UPR2510	90	120	1300~1600	600~900	0.2	14	溝銑 SLOTTING	
X-UPR2510	90	120	1300~1600	600~900	0.2	25	溝銑 SLOTTING	
X-UPR2510	90	70	800~1100	150~300	25	0~0.2	側銑 SIDE MILLING	
X-UPR2510	90	70	800~1100	300~500	25	0.2	側銑 SIDE MILLING	
X-UPR2510	130	120	1300~1600	300~500	0~0.2	14	溝銑 SLOTTING	
X-UPR2510	130	120	1300~1600	500~800	0.2	14	溝銑 SLOTTING	
X-UPR2510	130	120	1300~1600	500~800	0.15	25	溝銑 SLOTTING	
X-UPR2520	90	170	2000~2300	400~600	0~0.2	14	溝銑 SLOTTING	
X-UPR2520	90	120	1300~1600	600~900	0.2	14	溝銑 SLOTTING	
X-UPR2520	90	120	1300~1600	600~900	0.2	25	溝銑 SLOTTING	
X-UPR2520	90	70	800~1100	150~300	25	0~0.2	側銑 SIDE MILLING	

# EXCHANGEABLE HEAD ENDMILL II



被切削材 Work Material		熱處理鋼 Hardened Steels					
冷卻方式 Coolant Type		乾式/油霧切削 Dry/MQL coolant					
型號 Type No.	刀具伸長量 Extension Length (mm)	切削速度 Cutting Speed (m/min)	迴轉速度 Speed (min <sup>-1</sup> )	進給速度 Feed (mm/min)	加工深度 (A <sub>s</sub> ) Depth of Cut	加工寬度 (A <sub>p</sub> ) Width of Cut	加工方式 Milling Type
X-UPR2520	90	70	800~1100	300~500	25	0.2	側銑 SIDE MILLING
X-UPR2520	130	120	1300~1600	300~500	0~0.2	14	溝銑 SLOTTING
X-UPR2520	130	120	1300~1600	500~800	0.2	14	溝銑 SLOTTING
X-UPR2520	130	120	1300~1600	500~800	0.15	25	溝銑 SLOTTING
X-UPR2530	90	170	2000~2300	400~600	0~0.2	14	溝銑 SLOTTING
X-UPR2530	90	120	1300~1600	600~900	0.2	14	溝銑 SLOTTING
X-UPR2530	90	120	1300~1600	600~900	0.2	25	溝銑 SLOTTING
X-UPR2530	90	70	800~1100	150~300	25	0~0.2	側銑 SIDE MILLING
X-UPR2530	90	70	800~1100	300~500	25	0.2	側銑 SIDE MILLING
X-UPR2530	130	120	1300~1600	300~500	0~0.2	14	溝銑 SLOTTING
X-UPR2530	130	120	1300~1600	500~800	0.2	14	溝銑 SLOTTING
X-UPR2530	130	120	1300~1600	500~800	0.15	25	溝銑 SLOTTING
X-UPR2550	90	170	2000~2300	400~600	0~0.2	14	溝銑 SLOTTING
X-UPR2550	90	120	1300~1600	600~900	0.2	14	溝銑 SLOTTING
X-UPR2550	90	120	1300~1600	600~900	0.2	25	溝銑 SLOTTING
X-UPR2550	90	70	800~1100	150~300	25	0~0.2	側銑 SIDE MILLING
X-UPR2550	90	70	800~1100	300~500	25	0.2	側銑 SIDE MILLING
X-UPR2550	130	120	1300~1600	300~500	0~0.2	14	溝銑 SLOTTING
X-UPR2550	130	120	1300~1600	500~800	0.2	14	溝銑 SLOTTING
X-UPR2550	130	120	1300~1600	500~800	0.15	25	溝銑 SLOTTING
X-UPR3210	110	170	1500~1800	300~500	0~0.2	20	溝銑 SLOTTING
X-UPR3210	110	120	1100~1400	400~700	0.2	20	溝銑 SLOTTING
X-UPR3210	110	120	1100~1400	400~700	0.2	32	溝銑 SLOTTING
X-UPR3210	110	70	600~800	100~200	32	0~0.2	側銑 SIDE MILLING
X-UPR3210	110	70	600~800	200~400	32	0.2	側銑 SIDE MILLING
X-UPR3210	170	120	1100~1400	200~400	0~0.2	20	溝銑 SLOTTING
X-UPR3210	170	120	1100~1400	300~500	0.2	20	溝銑 SLOTTING
X-UPR3210	170	120	1100~1400	300~500	0.15	32	溝銑 SLOTTING
X-UPR3230	110	170	1500~1800	300~500	0~0.2	20	溝銑 SLOTTING
X-UPR3230	110	120	1100~1400	400~700	0.2	20	溝銑 SLOTTING
X-UPR3230	110	120	1100~1400	400~700	0.2	32	溝銑 SLOTTING
X-UPR3230	110	70	600~800	100~200	32	0~0.2	側銑 SIDE MILLING
X-UPR3230	110	70	600~800	200~400	32	0.2	側銑 SIDE MILLING
X-UPR3230	170	120	1100~1400	200~400	0~0.2	20	溝銑 SLOTTING
X-UPR3230	170	120	1100~1400	300~500	0.2	20	溝銑 SLOTTING
X-UPR3230	170	120	1100~1400	300~500	0.15	32	溝銑 SLOTTING
X-UPR3250	110	170	1500~1800	300~500	0~0.2	20	溝銑 SLOTTING
X-UPR3250	110	120	1100~1400	400~700	0.2	20	溝銑 SLOTTING
X-UPR3250	110	120	1100~1400	400~700	0.2	32	溝銑 SLOTTING
X-UPR3250	110	70	600~800	100~200	32	0~0.2	側銑 SIDE MILLING
X-UPR3250	110	70	600~800	200~400	32	0.2	側銑 SIDE MILLING
X-UPR3250	170	120	1100~1400	200~400	0~0.2	20	溝銑 SLOTTING
X-UPR3250	170	120	1100~1400	300~500	0.2	20	溝銑 SLOTTING
X-UPR3250	170	120	1100~1400	300~500	0.15	32	溝銑 SLOTTING

## 切削條件表

# X-UPR

## MILLING CONDITIONS

被切削材 Work Material		熱處理鋼 Hardened Steels :SKD11 / SKH9 : 1.2379 / 1.3342 : D2 / M2 (HRC55~62)					
冷卻方式 Coolant Type		乾式/油霧切削 Dry/MQL coolant					
型號 Type No.	刀具伸長量 Extension Length (mm)	切削速度 Cutting Speed (m/min)	迴轉速度 Speed (min <sup>-1</sup> )	進給速度 Feed (mm/min)	加工深度 (Aa) Depth of Cut	加工寬度 (Ap) Width of Cut	加工方式 Milling Type
X-UPR0805	25	85	3200~3600	750~950	0~0.1	5~8	溝銑 SLOTTING
X-UPR0805	25	75	2800~3200	700~900	0.5	0.1	溝銑 SLOTTING
X-UPR0805	25	70	2600~3000	500~700	8	0.1	側銑 SIDE MILLING
X-UPR0805	45	65	2400~2800	600~800	0~0.1	5~8	溝銑 SLOTTING
X-UPR0805	45	55	2000~2400	600~800	0.5	0.1	溝銑 SLOTTING
X-UPR0805	45	55	2000~2400	400~600	8	0.1	側銑 SIDE MILLING
X-UPR1005	30	65	1800~2200	500~700	0~0.1	7	溝銑 SLOTTING
X-UPR1005	30	55	1500~1900	500~700	1	0.1	溝銑 SLOTTING
X-UPR1005	30	70	2000~2400	400~550	10	0.1	側銑 SIDE MILLING
X-UPR1005	55	55	1600~2000	450~650	0~0.1	7	溝銑 SLOTTING
X-UPR1005	55	50	1400~1800	500~700	0.5	0.1	溝銑 SLOTTING
X-UPR1005	55	45	1300~1600	300~450	10	0.1	側銑 SIDE MILLING
X-UPR1010	30	65	1800~2200	500~700	0~0.1	7	溝銑 SLOTTING
X-UPR1010	30	55	1500~1900	500~700	1	0.1	溝銑 SLOTTING
X-UPR1010	30	70	2000~2400	400~550	10	0.1	側銑 SIDE MILLING
X-UPR1010	55	55	1600~2000	450~650	0~0.1	7	溝銑 SLOTTING
X-UPR1010	55	50	1400~1800	500~700	0.5	0.1	溝銑 SLOTTING
X-UPR1010	55	45	1300~1600	300~450	10	0.1	側銑 SIDE MILLING
X-UPR1210	35	65	1500~1900	500~700	0~0.1	8	溝銑 SLOTTING
X-UPR1210	35	60	1400~1800	600~800	1	0.1	溝銑 SLOTTING
X-UPR1210	35	55	1300~1700	300~450	12	0.1	側銑 SIDE MILLING
X-UPR1210	70	50	1200~1500	400~600	0~0.1	8	溝銑 SLOTTING
X-UPR1210	70	55	1300~1700	600~800	1	0.1	溝銑 SLOTTING
X-UPR1210	70	45	1000~1400	300~450	12	0.1	側銑 SIDE MILLING
X-UPR1220	35	65	1500~1900	500~700	0~0.1	7	溝銑 SLOTTING
X-UPR1220	35	60	1400~1800	600~800	1	0.1	溝銑 SLOTTING
X-UPR1220	35	55	1300~1700	300~450	12	0.1	側銑 SIDE MILLING
X-UPR1220	70	50	1200~1500	400~600	0~0.1	7	溝銑 SLOTTING
X-UPR1220	70	55	1300~1700	600~800	1	0.1	溝銑 SLOTTING
X-UPR1220	70	45	1000~1400	300~450	12	0.1	側銑 SIDE MILLING
X-UPR1610	55	65	1200~1600	500~700	0~0.15	9	溝銑 SLOTTING
X-UPR1610	55	65	1200~1600	700~900	1	0.1	溝銑 SLOTTING
X-UPR1610	55	60	1100~1500	250~450	16	0.1	側銑 SIDE MILLING
X-UPR1610	90	60	1100~1500	400~600	0~0.1	9	溝銑 SLOTTING
X-UPR1610	90	55	1000~1300	600~800	1	0.1	溝銑 SLOTTING
X-UPR1610	90	50	900~1200	200~350	16	0.1	側銑 SIDE MILLING
X-UPR1620	55	65	1200~1600	500~700	0~0.15	9	溝銑 SLOTTING
X-UPR1620	55	65	1200~1600	700~900	1	0.1	溝銑 SLOTTING
X-UPR1620	55	60	1100~1500	250~450	16	0.1	側銑 SIDE MILLING
X-UPR1620	90	60	1100~1500	400~600	0~0.1	9	溝銑 SLOTTING
X-UPR1620	90	55	1000~1300	600~800	1	0.1	溝銑 SLOTTING
X-UPR1620	90	50	900~1200	200~350	16	0.1	側銑 SIDE MILLING
X-UPR1630	55	65	1200~1600	500~700	0~0.15	9	溝銑 SLOTTING
X-UPR1630	55	65	1200~1600	700~900	1	0.1	溝銑 SLOTTING
X-UPR1630	55	60	1100~1500	250~450	16	0.1	側銑 SIDE MILLING
X-UPR1630	90	60	1100~1500	400~600	0~0.1	9	溝銑 SLOTTING
X-UPR1630	90	55	1000~1300	600~800	1	0.1	溝銑 SLOTTING
X-UPR1630	90	50	900~1200	200~350	16	0.1	側銑 SIDE MILLING
X-UPR2010	75	75	1000~1400	300~500	0~0.15	12	溝銑 SLOTTING
X-UPR2010	75	70	900~1300	600~800	1	0.1	溝銑 SLOTTING
X-UPR2010	75	65	800~1200	200~400	20	0.1	側銑 SIDE MILLING
X-UPR2010	120	70	900~1300	300~500	0~0.1	12	溝銑 SLOTTING

# EXCHANGEABLE HEAD ENDMILL II



被切削材 Work Material		熱處理鋼 Hardened Steels :SKD11 / SKH9 : 1.2379 / 1.3342 : D2 / M2 (HRC55~62)					
冷卻方式 Coolant Type		乾式/油霧切削 Dry/MQL coolant					
型號 Type No.	刀具伸長量 Extension Length (mm)	切削速度 Cutting Speed (m/min)	迴轉速度 Speed (min <sup>-1</sup> )	進給速度 Feed (mm/min)	加工深度 (Aa) Depth of Cut	加工寬度 (Ap) Width of Cut	加工方式 Milling Type
X-UPR2010	120	55	700~1100	500~700	1	0.1	溝銑 SLOTTING
X-UPR2020	75	75	1000~1400	300~500	0~0.15	12	溝銑 SLOTTING
X-UPR2020	75	70	900~1300	600~800	1	0.1	溝銑 SLOTTING
X-UPR2020	75	65	800~1200	200~400	20	0.1	側銑 SIDE MILLING
X-UPR2020	120	70	900~1300	300~500	0~0.1	12	溝銑 SLOTTING
X-UPR2020	120	55	700~1100	500~700	1	0.1	溝銑 SLOTTING
X-UPR2030	75	75	1000~1400	300~500	0~0.15	12	溝銑 SLOTTING
X-UPR2030	75	70	900~1300	600~800	1	0.1	溝銑 SLOTTING
X-UPR2030	75	65	800~1200	200~400	20	0.1	側銑 SIDE MILLING
X-UPR2030	120	70	900~1300	300~500	0~0.1	12	溝銑 SLOTTING
X-UPR2030	120	55	700~1100	500~700	1	0.1	溝銑 SLOTTING
X-UPR2050	75	75	1000~1400	300~500	0~0.15	12	溝銑 SLOTTING
X-UPR2050	75	70	900~1300	600~800	1	0.1	溝銑 SLOTTING
X-UPR2050	75	65	800~1200	200~400	20	0.1	側銑 SIDE MILLING
X-UPR2050	120	70	900~1300	300~500	0~0.1	12	溝銑 SLOTTING
X-UPR2050	120	55	700~1100	500~700	1	0.1	溝銑 SLOTTING
X-UPR2510	90	75	800~1100	250~450	0~0.15	14	溝銑 SLOTTING
X-UPR2510	90	70	750~1050	500~700	1	0.1	溝銑 SLOTTING
X-UPR2510	90	65	700~900	200~300	25	0.1	側銑 SIDE MILLING
X-UPR2510	130	65	700~900	200~400	0~0.1	14	溝銑 SLOTTING
X-UPR2510	130	65	700~900	450~650	1	0.1	溝銑 SLOTTING
X-UPR2520	90	75	800~1100	250~450	0~0.15	14	溝銑 SLOTTING
X-UPR2520	90	70	750~1050	500~700	1	0.1	溝銑 SLOTTING
X-UPR2520	90	65	700~900	200~300	25	0.1	側銑 SIDE MILLING
X-UPR2520	130	65	700~900	200~400	0~0.1	14	溝銑 SLOTTING
X-UPR2520	130	65	700~900	450~650	1	0.1	溝銑 SLOTTING
X-UPR2530	90	75	800~1100	250~450	0~0.15	14	溝銑 SLOTTING
X-UPR2530	90	70	750~1050	500~700	1	0.1	溝銑 SLOTTING
X-UPR2530	90	65	700~900	200~300	25	0.1	側銑 SIDE MILLING
X-UPR2530	130	65	700~900	200~400	0~0.1	14	溝銑 SLOTTING
X-UPR2530	130	65	700~900	450~650	1	0.1	溝銑 SLOTTING
X-UPR2550	90	75	800~1100	250~450	0~0.15	14	溝銑 SLOTTING
X-UPR2550	90	70	750~1050	500~700	1	0.1	溝銑 SLOTTING
X-UPR2550	90	65	700~900	200~300	25	0.1	側銑 SIDE MILLING
X-UPR2550	130	65	700~900	200~400	0~0.1	14	溝銑 SLOTTING
X-UPR2550	130	65	700~900	450~650	1	0.1	溝銑 SLOTTING
X-UPR3210	110	75	600~900	200~400	0~0.15	18	溝銑 SLOTTING
X-UPR3210	110	70	600~800	400~600	1	0.1	溝銑 SLOTTING
X-UPR3210	110	65	550~750	150~250	32	0.1	側銑 SIDE MILLING
X-UPR3210	170	65	550~750	150~350	0~0.1	18	溝銑 SLOTTING
X-UPR3210	170	65	550~750	350~550	1	0.1	溝銑 SLOTTING
X-UPR3230	110	75	600~900	200~400	0~0.15	18	溝銑 SLOTTING
X-UPR3230	110	70	600~800	400~600	1	0.1	溝銑 SLOTTING
X-UPR3230	110	65	550~750	150~250	32	0.1	側銑 SIDE MILLING
X-UPR3230	170	65	550~750	150~350	0~0.1	18	溝銑 SLOTTING
X-UPR3230	170	65	550~750	350~550	1	0.1	溝銑 SLOTTING
X-UPR3250	110	75	600~900	200~400	0~0.15	18	溝銑 SLOTTING
X-UPR3250	110	70	600~800	400~600	1	0.1	溝銑 SLOTTING
X-UPR3250	110	65	550~750	150~250	32	0.1	側銑 SIDE MILLING
X-UPR3250	170	65	550~750	150~350	0~0.1	18	溝銑 SLOTTING
X-UPR3250	170	65	550~750	350~550	1	0.1	溝銑 SLOTTING