

HIGH PERFORMANCE CUTTING



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Coolant Type

All items from HPC series are same coating and thus the coolant way is applied to all items. Please see the following information.



Guide Lines to Icons

Carbide



Micro grain.



Super micro grain.

Grain Size



Grain size is 0.4 μm



Grain size is 0.6 μm

Helix Angle



Helix Angle is 50°, 45°, 40°, 35...38°, 37°, 35°, 20°.

Shank



Suitable for the shrink fit holder System.

Shrink Neck



Work Material Hardness



Work material hardness is up to HRC55, HRC60.

Coating



Good at hard cutting material and general steel material. For wet cutting and MQL cutting.

Conner R



Corner Radius.

Roughing



Middle Roughing.



Small Roughing.

Flute



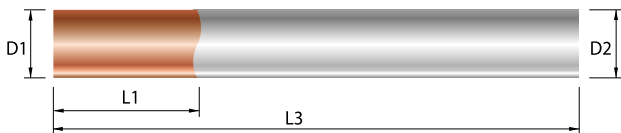
UEW

END MILLS

NEW



D1	D1 Tolerance
6.0	0 -0.02
8.0	0 -0.025
10.0	0 -0.03
12.0	0 -0.035
16.0	0 -0.04
20.0	0 -0.04



D2(h6)	D2 Tolerance
Ø6	0 -0.008
Ø8	0 -0.009
Ø10	0 -0.009
Ø12	0 -0.011
Ø16	0 -0.011
Ø20	0 -0.013

unit : mm

	Finishing		Semi-finishing		Roughing
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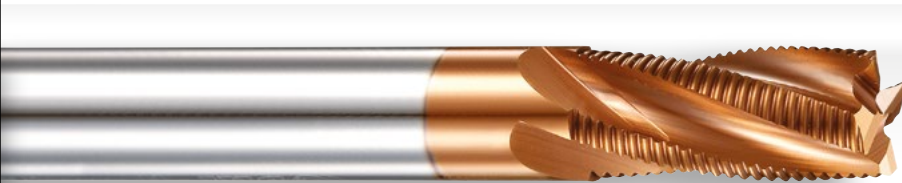
Type No.	D1 Diameter	L1 Flute Length	L3 O.A.L.	D2 Shank Dia.
UEW0604	6.0	16	50	6
UEW0804	8.0	20	60	8
UEW1004	10.0	22	75	10
UEW1204	12.0	26	75	12
UEW1604	16.0	45	100	16
UEW2004	20.0	55	120	20

unit : mm

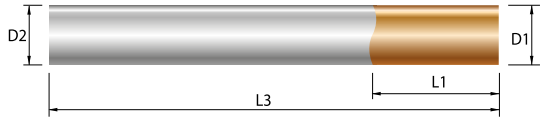
WWB

END MILLS

NEW



D1	D1 Tolerance
6.0	$\frac{0}{-0.04}$
8.0	$\frac{0}{-0.04}$
10.0	$\frac{0}{-0.045}$
12.0	$\frac{0}{-0.045}$
14.0	$\frac{0}{-0.045}$
16.0	$\frac{0}{-0.05}$
18.0	$\frac{0}{-0.05}$
20.0	$\frac{0}{-0.05}$



Finishing		Semi-finishing		Roughing
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D2(h6)	D2 Tolerance
Ø6	$\frac{0}{-0.008}$
Ø8	$\frac{0}{-0.009}$
Ø10	$\frac{0}{-0.009}$
Ø12	$\frac{0}{-0.011}$
Ø14	$\frac{0}{-0.011}$
Ø16	$\frac{0}{-0.011}$
Ø18	$\frac{0}{-0.011}$
Ø20	$\frac{0}{-0.013}$

Type No.	D1 Diameter	L1 Flute Length	L3 O.A.L.	D2 Shank Dia.
WWB0604	6.0	16	50	6
WWB0804	8.0	20	60	8
WWB1004	10.0	25	75	10
WWB1204	12.0	30	75	12
WWB1404	14.0	35	100	16
WWB1604	16.0	40	100	16
WWB1804	18.0	40	100	20
WWB2004	20.0	45	100	20

unit : mm

unit : mm

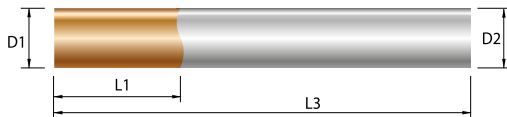
WUB

END MILLS

NEW



D1	D1 Tolerance
6.0	$\frac{0}{-0.04}$
8.0	$\frac{0}{-0.04}$
10.0	$\frac{0}{-0.045}$
12.0	$\frac{0}{-0.045}$
14.0	$\frac{0}{-0.045}$
16.0	$\frac{0}{-0.05}$
18.0	$\frac{0}{-0.05}$
20.0	$\frac{0}{-0.05}$



D2(h6)	D2 Tolerance
Ø6	$\frac{0}{-0.008}$
Ø8	$\frac{0}{-0.009}$
Ø10	$\frac{0}{-0.009}$
Ø12	$\frac{0}{-0.011}$
Ø14	$\frac{0}{-0.011}$
Ø16	$\frac{0}{-0.011}$
Ø18	$\frac{0}{-0.011}$
Ø20	$\frac{0}{-0.013}$

unit : mm

Finishing	Semi-finishing	Roughing

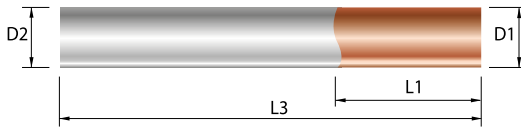
Type No.	D1 Diameter	L1 Flute Length	L3 O.A.L.	D2 Shank Dia.
WUB0604	6.0	16	50	6
WUB0804	8.0	20	60	8
WUB1004	10.0	25	75	10
WUB1204	12.0	30	75	12
WUB1404	14.0	35	100	16
WUB1604	16.0	40	100	16
WUB1804	18.0	40	100	20
WUB2004	20.0	45	100	20

unit : mm

UPS

END MILLS

NEW



D1	D1 Tolerance
3.0	0 -0.02
4.0	0 -0.02
5.0	0 -0.02
6.0	0 -0.02
8.0	0 -0.025
10.0	0 -0.03
12.0	0 -0.035
16.0	0 -0.04
18.0	0 -0.04
20.0	0 -0.04

D2(h6)	D2 Tolerance
Ø6	0 -0.008
Ø8	0 -0.009
Ø10	0 -0.009
Ø12	0 -0.011
Ø16	0 -0.011
Ø18	0 -0.011
Ø20	0 -0.013

unit : mm

Type No.	D1 Diameter	L1 Flute Length	L3 O.A.L.	D2 Shank Dia.
UPS0304	3.0	8	50	6
UPS0304L	3.0	12	60	6
UPS0404	4.0	11	50	6
UPS0404L	4.0	16	60	6
UPS0504	5.0	13	50	6
UPS0604	6.0	16	50	6
UPS0604L	6.0	20	60	6
UPS0804	8.0	20	60	8
UPS0804L	8.0	25	75	8
UPS1004	10.0	22	75	10
UPS1004L	10.0	30	80	10
UPS1204	12.0	26	75	12
UPS1204L	12.0	35	100	12
UPS1604	16.0	36	100	16
UPS1604L	16.0	50	110	16
UPS1804	18.0	40	100	18
UPS2004	20.0	40	100	20
UPS2004L	20.0	50	120	20

unit : mm

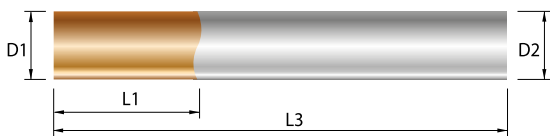
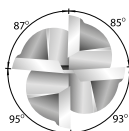
UPZ

END MILLS

NEW



D1	D1 Tolerance
3.0	$\begin{matrix} 0 \\ -0.02 \end{matrix}$
4.0	$\begin{matrix} 0 \\ -0.02 \end{matrix}$
5.0	$\begin{matrix} 0 \\ -0.02 \end{matrix}$
6.0	$\begin{matrix} 0 \\ -0.02 \end{matrix}$
8.0	$\begin{matrix} 0 \\ -0.025 \end{matrix}$
10.0	$\begin{matrix} 0 \\ -0.03 \end{matrix}$
12.0	$\begin{matrix} 0 \\ -0.035 \end{matrix}$
16.0	$\begin{matrix} 0 \\ -0.04 \end{matrix}$
20.0	$\begin{matrix} 0 \\ -0.04 \end{matrix}$



Finishing	Semi-finishing	Roughing

Type No.	D1 Diameter	L1 Flute Length	L3 O.A.L.	D2 Shank Dia.
UPZ0304	3.0	8	50	6
UPZ0404	4.0	11	50	6
UPZ0504	5.0	13	50	6
UPZ0604	6.0	16	50	6
UPZ0804	8.0	20	60	8
UPZ1004	10.0	22	75	10
UPZ1204	12.0	26	75	12
UPZ1604	16.0	36	100	16
UPZ2004	20.0	40	100	20

D2(h6)	D2 Tolerance
Ø6	$\begin{matrix} 0 \\ -0.008 \end{matrix}$
Ø8	$\begin{matrix} 0 \\ -0.009 \end{matrix}$
Ø10	$\begin{matrix} 0 \\ -0.009 \end{matrix}$
Ø12	$\begin{matrix} 0 \\ -0.011 \end{matrix}$
Ø16	$\begin{matrix} 0 \\ -0.011 \end{matrix}$
Ø20	$\begin{matrix} 0 \\ -0.013 \end{matrix}$

unit : mm

unit : mm

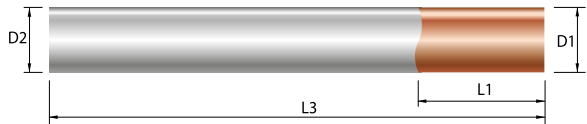
UPA

END MILLS

NEW



D1	D1 Tolerance
2.0	$\begin{matrix} 0 \\ -0.02 \end{matrix}$
3.0	$\begin{matrix} 0 \\ -0.02 \end{matrix}$
4.0	$\begin{matrix} 0 \\ -0.02 \end{matrix}$
5.0	$\begin{matrix} 0 \\ -0.02 \end{matrix}$
6.0	$\begin{matrix} 0 \\ -0.02 \end{matrix}$
8.0	$\begin{matrix} 0 \\ -0.025 \end{matrix}$
10.0	$\begin{matrix} 0 \\ -0.03 \end{matrix}$
12.0	$\begin{matrix} 0 \\ -0.035 \end{matrix}$
16.0	$\begin{matrix} 0 \\ -0.04 \end{matrix}$
20.0	$\begin{matrix} 0 \\ -0.04 \end{matrix}$



	Finishing		Semi-finishing		Roughing
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D2(h6)	D2 Tolerance
Ø6	$\begin{matrix} 0 \\ -0.008 \end{matrix}$
Ø8	$\begin{matrix} 0 \\ -0.009 \end{matrix}$
Ø10	$\begin{matrix} 0 \\ -0.009 \end{matrix}$
Ø12	$\begin{matrix} 0 \\ -0.011 \end{matrix}$
Ø16	$\begin{matrix} 0 \\ -0.011 \end{matrix}$
Ø20	$\begin{matrix} 0 \\ -0.013 \end{matrix}$

Type No.	D1 Diameter	L1 Flute Length	L3 O.A.L.	D2 Shank Dia.
UPA0203	2.0	6	50	6
UPA0303	3.0	8	50	6
UPA0403	4.0	11	50	6
UPA0503	5.0	13	50	6
UPA0603	6.0	16	50	6
UPA0803	8.0	20	60	8
UPA1003	10.0	25	75	10
UPA1203	12.0	30	75	12
UPA1603	16.0	50	120	16
UPA2003	20.0	60	120	20

unit : mm




unit : mm

UPW

END MILLS

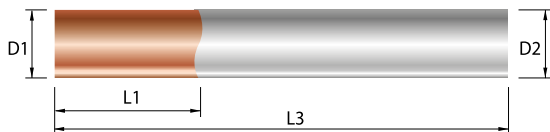
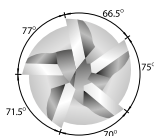
NEW



-  Finishing
-  Semi-finishing
-  Roughing



D1	Tolerance
3.0	0 -0.02
4.0	0 -0.02
5.0	0 -0.02
6.0	0 -0.02
8.0	0 -0.025
10.0	0 -0.03
12.0	0 -0.035
14.0	0 -0.04
16.0	0 -0.04
18.0	0 -0.04
20.0	0 -0.04
25.0	0 -0.04



D2	Tolerance
Ø6	0 -0.008
Ø8	0 -0.009
Ø10	0 -0.009
Ø12	0 -0.011
Ø14	0 -0.011
Ø16	0 -0.011
Ø18	0 -0.011
Ø20	0 -0.013
Ø25	0 -0.013

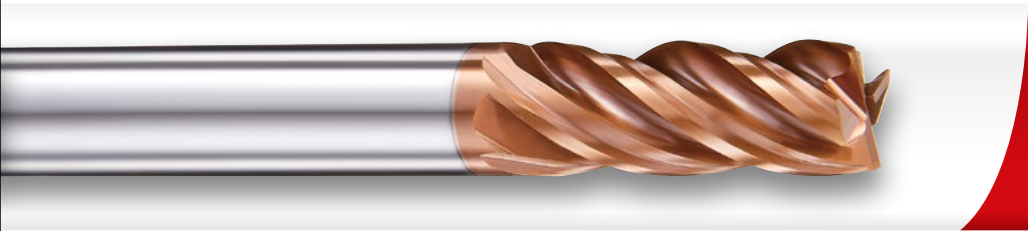
UPW0305	3.0	8	50	6
UPW0405	4.0	11	50	6
UPW0505	5.0	13	50	6
UPW0605	6.0	16	50	6
UPW0805	8.0	20	60	8
UPW1005	10.0	22	75	10
UPW1205	12.0	26	75	12
UPW1405	14.0	30	80	14
UPW1605	16.0	36	100	16
UPW1805	18.0	40	100	18
UPW2005	20.0	40	100	20
UPW2505	25.0	45	100	25

unit : mm

unit : mm

UPE

END MILLS

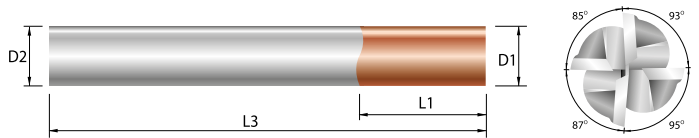


NEW

⊙ Finishing
 ⊙ Semi-finishing
 ⊙ Roughing

Super **MG**
0.4 μ m
35°
FIT
4 Flutes
HRC 60
G10

D1	Tolerance
3.0	0 -0.02
4.0	0 -0.02
5.0	0 -0.02
6.0	0 -0.02
8.0	0 -0.025
10.0	0 -0.03
12.0	0 -0.035
14.0	0 -0.04
16.0	0 -0.04
18.0	0 -0.04
20.0	0 -0.04
25.0	0 -0.04



D2	Tolerance
Ø6	0 -0.008
Ø8	0 -0.009
Ø10	0 -0.009
Ø12	0 -0.011
Ø14	0 -0.011
Ø16	0 -0.011
Ø18	0 -0.011
Ø20	0 -0.013
Ø25	0 -0.013

UPE0304	3.0	8	50	6
UPE0404	4.0	11	50	6
UPE0504	5.0	13	50	6
UPE0604	6.0	16	50	6
UPE0804	8.0	20	60	8
UPE1004	10.0	22	75	10
UPE1204	12.0	26	75	12
UPE1404	14.0	30	80	14
UPE1604	16.0	36	100	16
UPE1804	18.0	40	100	18
UPE2004	20.0	40	100	20
UPE2504	25.0	45	100	25

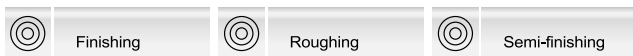
unit : mm

unit : mm

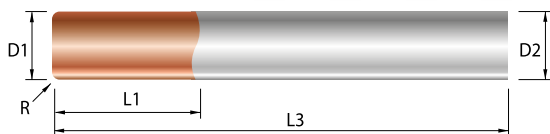
UPER

END MILLS

NEW



D1	R Tolerance	D1 Tolerance
4.0	+0.02 0	0 -0.02
5.0	+0.02 0	0 -0.02
6.0	+0.02 0	0 -0.02
8.0	+0.02 0	0 -0.025
10.0	+0.02 0	0 -0.03
12.0	+0.02 0	0 -0.035
16.0	+0.02 0	0 -0.04
20.0	+0.02 0	0 -0.04



Type No.	D1 Diameter	R Coner R	L1 Flute Length	L3 O.A.L.	D2 Shank Dia.
UPER0405	4.0	0.5	11	50	6
UPER0502	5.0	0.2	13	50	6
UPER0505	5.0	0.5	13	50	6
UPER0605	6.0	0.5	16	50	6
UPER0610	6.0	1.0	16	50	6
UPER0805	8.0	0.5	20	60	8
UPER0810	8.0	1.0	20	60	8
UPER1005	10.0	0.5	22	75	10
UPER1010	10.0	1.0	22	75	10
UPER1020	10.0	2.0	22	75	10
UPER1210	12.0	1.0	26	75	12
UPER1220	12.0	2.0	26	75	12
UPER1610	16.0	1.0	36	100	16
UPER1620	16.0	2.0	36	100	16
UPER2010	20.0	1.0	40	100	20
UPER2020	20.0	2.0	40	100	20

D2(h6)	D2 Tolerance
Ø6	0 -0.008
Ø8	0 -0.009
Ø10	0 -0.009
Ø12	0 -0.011
Ø16	0 -0.011
Ø20	0 -0.013

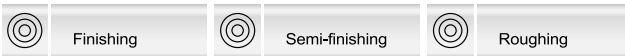
unit : mm

unit : mm

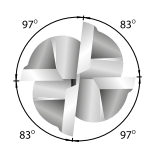
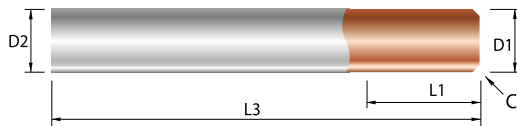
UPG

END MILLS

NEW



D1	D1 Tolerance
3.0	$\begin{matrix} 0 \\ -0.02 \end{matrix}$
4.0	$\begin{matrix} 0 \\ -0.02 \end{matrix}$
5.0	$\begin{matrix} 0 \\ -0.02 \end{matrix}$
6.0	$\begin{matrix} 0 \\ -0.02 \end{matrix}$
8.0	$\begin{matrix} 0 \\ -0.025 \end{matrix}$
10.0	$\begin{matrix} 0 \\ -0.03 \end{matrix}$
12.0	$\begin{matrix} 0 \\ -0.035 \end{matrix}$
16.0	$\begin{matrix} 0 \\ -0.04 \end{matrix}$
18.0	$\begin{matrix} 0 \\ -0.04 \end{matrix}$
20.0	$\begin{matrix} 0 \\ -0.04 \end{matrix}$



D2(h6)	D2 Tolerance
Ø6	$\begin{matrix} 0 \\ -0.008 \end{matrix}$
Ø8	$\begin{matrix} 0 \\ -0.009 \end{matrix}$
Ø10	$\begin{matrix} 0 \\ -0.009 \end{matrix}$
Ø12	$\begin{matrix} 0 \\ -0.011 \end{matrix}$
Ø16	$\begin{matrix} 0 \\ -0.011 \end{matrix}$
Ø18	$\begin{matrix} 0 \\ -0.011 \end{matrix}$
Ø20	$\begin{matrix} 0 \\ -0.013 \end{matrix}$

Type No.	D1 Diameter	C Chamfer	L1 Flute Length	L3 O.A.L.	D2 Shank Dia.
UPG0304	3.0	0.15	8	50	6
UPG0404	4.0	0.15	11	50	6
UPG0504	5.0	0.2	13	50	6
UPG0604	6.0	0.2	16	50	6
UPG0604L	6.0	0.2	20	60	6
UPG0804	8.0	0.25	20	60	8
UPG0804L	8.0	0.25	25	75	8
UPG1004	10.0	0.3	22	75	10
UPG1004L	10.0	0.3	30	80	10
UPG1204	12.0	0.3	26	75	12
UPG1204L	12.0	0.3	35	100	12
UPG1604	16.0	0.4	40	100	16
UPG1604L	16.0	0.4	50	120	16
UPG1804	18.0	0.5	40	100	18
UPG2004	20.0	0.5	40	100	20
UPG2004L	20.0	0.5	50	120	20

unit : mm

unit : mm

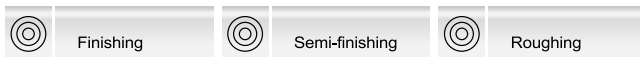
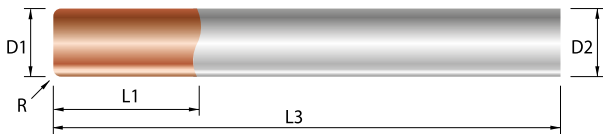
UPJ

END MILLS

NEW



D1	R Tolerance	D1 Tolerance
3.0	$\begin{matrix} +0.02 \\ 0 \end{matrix}$	$\begin{matrix} 0 \\ -0.02 \end{matrix}$
4.0	$\begin{matrix} +0.02 \\ 0 \end{matrix}$	$\begin{matrix} 0 \\ -0.02 \end{matrix}$
5.0	$\begin{matrix} +0.02 \\ 0 \end{matrix}$	$\begin{matrix} 0 \\ -0.02 \end{matrix}$
6.0	$\begin{matrix} +0.02 \\ 0 \end{matrix}$	$\begin{matrix} 0 \\ -0.02 \end{matrix}$
8.0	$\begin{matrix} +0.02 \\ 0 \end{matrix}$	$\begin{matrix} 0 \\ -0.025 \end{matrix}$
10.0	$\begin{matrix} +0.02 \\ 0 \end{matrix}$	$\begin{matrix} 0 \\ -0.03 \end{matrix}$
12.0	$\begin{matrix} +0.02 \\ 0 \end{matrix}$	$\begin{matrix} 0 \\ -0.035 \end{matrix}$
16.0	$\begin{matrix} +0.02 \\ 0 \end{matrix}$	$\begin{matrix} 0 \\ -0.04 \end{matrix}$
20.0	$\begin{matrix} +0.02 \\ 0 \end{matrix}$	$\begin{matrix} 0 \\ -0.04 \end{matrix}$



D2(h6)	D2 Tolerance
Ø6	$\begin{matrix} 0 \\ -0.008 \end{matrix}$
Ø8	$\begin{matrix} 0 \\ -0.009 \end{matrix}$
Ø10	$\begin{matrix} 0 \\ -0.009 \end{matrix}$
Ø12	$\begin{matrix} 0 \\ -0.011 \end{matrix}$
Ø16	$\begin{matrix} 0 \\ -0.011 \end{matrix}$
Ø20	$\begin{matrix} 0 \\ -0.013 \end{matrix}$

unit : mm

Type No.	D1 Diameter	R Coner R	L1 Flute Length	L3 O.A.L.	D2 Shank Dia.
UPJ0304	3.0	0.2	8	50	6
UPJ0404	4.0	0.3	11	50	6
UPJ0504	5.0	0.3	13	50	6
UPJ0604	6.0	0.4	16	50	6
UPJ0804	8.0	0.5	20	60	8
UPJ1004	10.0	0.6	25	75	10
UPJ1204	12.0	0.6	30	75	12
UPJ1604	16.0	0.8	45	110	16
UPJ2004	20.0	1.0	50	110	20

unit : mm

HPC MILLING CONDITIONS**Attention**

- Please use high rigidity and precision machine and holder.
- Please adjust the speed when the cutting depth is too much or the machine rigidity is less.
- Please use suitable fluid with high smoke retardant.
- For dry cutting, please use air blow to remove chips.
- Tool's life can extend over 30% when using thermal shrink holder.



UEW

MILLING CONDITIONS

Work Material		Alloy Tool Steels / Carbon Tool Steels					
		P20 / P5 / SK3 / SKD61 / SKD11 : 1.2311 / 1.1545 / 1.2379 / 1.2344 : H13 / D2 (HRC23~32)					
Coolant Type		Wet coolant					
Type No.	Extension Length (mm)	Cutting Speed (m/min)	Speed (min ⁻¹)	Feed (mm/min)	(A _a) Depth of Cut	(A _p) Width of Cut	Milling Type
UEW0604	20	125	6500~7000	1800~2200	0~0.5	6	SLOTTING
UEW0604	20	125	6500~7000	800~1200	1~2	6	SLOTTING
UEW0604	20	125	6500~7000	500~800	3~4	6	SLOTTING
UEW0604	20	130	6800~7300	1800~2200	6	0~0.5	SIDE MILLING
UEW0604	20	130	6800~7300	1000~1400	6	1~2	SIDE MILLING
UEW0604	20	130	6800~7300	500~800	6	3~4	SIDE MILLING
UEW0604	20	120	6000~6500	1200~1600	12	0~0.5	SIDE MILLING
UEW0604	20	120	6000~6500	400~700	12	1~2	SIDE MILLING
UEW0804	25	130	5000~5500	2000~2400	0~0.5	8	SLOTTING
UEW0804	25	130	5000~5500	1200~1600	1~2	8	SLOTTING
UEW0804	25	130	5000~5500	700~1000	3~4	8	SLOTTING
UEW0804	25	130	5000~5500	500~800	7~8	8	SLOTTING
UEW0804	25	130	5000~5500	300~600	10~12	8	SLOTTING
UEW0804	25	150	5700~6200	2000~2400	8	0~0.5	SIDE MILLING
UEW0804	25	125	4800~5300	1000~1400	8	1~2	SIDE MILLING
UEW0804	25	125	4800~5300	500~800	8	3~4	SIDE MILLING
UEW0804	25	120	4500~5000	500~800	8	6~7	SIDE MILLING
UEW0804	25	120	4500~5000	300~600	12	5~6	SIDE MILLING
UEW0804	25	125	4700~5200	1800~2200	16	0~0.5	SIDE MILLING
UEW0804	25	125	4700~5200	300~600	16	3~4	SIDE MILLING
UEW1004	30	150	4500~5000	1800~2200	0~0.6	10	SLOTTING
UEW1004	30	150	4500~5000	1000~1400	1~2	10	SLOTTING
UEW1004	30	150	4500~5000	800~1200	4~5	10	SLOTTING
UEW1004	30	150	4500~5000	500~800	7~8	10	SLOTTING
UEW1004	30	135	4000~4500	300~600	13~15	10	SLOTTING
UEW1004	30	140	4200~4700	1800~2200	10	0~0.6	SIDE MILLING
UEW1004	30	140	4200~4700	800~1200	10	1~2	SIDE MILLING
UEW1004	30	140	4200~4700	700~1000	10	4~5	SIDE MILLING
UEW1004	30	140	4200~4700	500~800	10	8~9	SIDE MILLING
UEW1004	30	140	4200~4700	300~600	15	8~9	SIDE MILLING
UEW1004	30	135	4000~4500	1400~1800	20	0~0.6	SIDE MILLING
UEW1004	30	135	4000~4500	700~1000	20	1~2	SIDE MILLING
UEW1004	30	135	4000~4500	400~700	20	4~5	SIDE MILLING
UEW1204	35	145	3700~4200	1400~1800	0~0.7	12	SLOTTING
UEW1204	35	145	3700~4200	800~1200	2~3	12	SLOTTING
UEW1204	35	145	3700~4200	400~700	5~7	12	SLOTTING
UEW1204	35	145	3700~4200	400~700	9~11	12	SLOTTING

UEW

MILLING CONDITIONS

Work Material		Alloy Tool Steels / Carbon Tool Steels					
		P20 / P5 / SK3 / SKD61 / SKD11 : 1.2311 / 1.1545 / 1.2379 / 1.2344 : H13 / D2 (HRC23~32)					
Coolant Type		Wet coolant					
Type No.	Extension Length (mm)	Cutting Speed (m/min)	Speed (min ⁻¹)	Feed (mm/min)	(A _s) Depth of Cut	(A _p) Width of Cut	Milling type
UEW1204	35	145	3700~4200	300~600	16~18	12	SLOTTING
UEW1204	35	135	3400~3800	1400~1800	12	0~0.7	SIDE MILLING
UEW1204	35	145	3700~4200	700~1100	12	2~3	SIDE MILLING
UEW1204	35	145	3700~4200	300~600	12	5~7	SIDE MILLING
UEW1204	35	145	3700~4200	300~600	12	9~11	SIDE MILLING
UEW1204	35	145	3700~4200	500~800	18	9~11	SIDE MILLING
UEW1204	35	145	3700~4200	1000~1400	24	0~0.7	SIDE MILLING
UEW1204	35	145	3700~4200	300~600	24	2~3	SIDE MILLING
UEW1204	35	145	3700~4200	400~700	24	5~7	SIDE MILLING
UEW1604	50	150	2700~3200	800~1200	0~0.7	16	SLOTTING
UEW1604	50	140	2500~3000	600~800	3~4	16	SLOTTING
UEW1604	50	140	2500~3000	200~400	7~8	16	SLOTTING
UEW1604	50	150	2700~3200	1000~1400	16	0~0.8	SIDE MILLING
UEW1604	50	140	2500~3000	600~800	16	3~4	SIDE MILLING
UEW1604	50	140	2500~3000	200~400	16	6~7	SIDE MILLING
UEW1604	50	140	2500~3000	300~600	24	4~5	SIDE MILLING
UEW1604	50	140	2500~3000	900~1200	32	0~0.7	SIDE MILLING
UEW1604	50	140	2500~3000	300~600	32	3~4	SIDE MILLING
UEW2004	60	140	2000~2400	900~1200	0~0.8	20	SLOTTING
UEW2004	60	130	1800~2200	300~500	5~6	20	SLOTTING
UEW2004	60	130	1800~2200	200~300	7~8	20	SLOTTING
UEW2004	60	140	2000~2400	800~1000	20	0~0.8	SIDE MILLING
UEW2004	60	130	1800~2200	300~500	20	5~6	SIDE MILLING
UEW2004	60	130	1800~2200	200~300	20	7~8	SIDE MILLING
UEW2004	60	130	1800~2200	300~500	30	4~5	SIDE MILLING
UEW2004	60	140	2000~2400	700~1000	40	0~0.8	SIDE MILLING
UEW2004	60	130	1800~2200	300~500	40	3~4	SIDE MILLING

UEW

MILLING CONDITIONS

Work Material		Prehardened Steels : NAK80 : 1.2083 : AISI420 : M310 (HRC36~45)					
Coolant Type		Wet coolant					
Type No.	Extension Length (mm)	Cutting Speed (m/min)	Speed (min ⁻¹)	Feed (mm/min)	(A _a) Depth of Cut	(A _p) Width of Cut	Milling Type
UEW0604	20	125	6500~7000	1200~1600	0~0.5	6	SLOTTING
UEW0604	20	125	6500~7000	700~1000	1~2	6	SLOTTING
UEW0604	20	125	6500~7000	300~600	3~4	6	SLOTTING
UEW0604	20	130	6800~7300	1200~1600	6	0~0.5	SIDE MILLING
UEW0604	20	130	6800~7300	700~1000	6	1~2	SIDE MILLING
UEW0604	20	130	6800~7300	300~600	6	3~4	SIDE MILLING
UEW0604	20	120	6000~6500	700~1000	12	0~0.5	SIDE MILLING
UEW0604	20	120	6000~6500	300~500	12	1~2	SIDE MILLING
UEW0804	25	130	5000~5500	1600~2000	0~0.5	8	SLOTTING
UEW0804	25	130	5000~5500	800~1200	1~2	8	SLOTTING
UEW0804	25	130	5000~5500	400~700	3~4	8	SLOTTING
UEW0804	25	130	5000~5500	300~600	7~8	8	SLOTTING
UEW0804	25	130	5000~5500	300~500	10~12	8	SLOTTING
UEW0804	25	150	5700~6200	1600~2000	8	0~0.5	SIDE MILLING
UEW0804	25	125	4800~5300	700~1000	8	1~2	SIDE MILLING
UEW0804	25	125	4800~5300	300~600	8	3~4	SIDE MILLING
UEW0804	25	120	4500~5000	300~600	8	6~7	SIDE MILLING
UEW0804	25	120	4500~5000	300~500	12	5~6	SIDE MILLING
UEW0804	25	125	4700~5200	1400~1800	16	0~0.5	SIDE MILLING
UEW0804	25	120	4500~5000	300~500	16	3~4	SIDE MILLING
UEW1004	30	150	4500~5000	1400~1800	0~0.6	10	SLOTTING
UEW1004	30	150	4500~5000	800~1200	1~2	10	SLOTTING
UEW1004	30	150	4500~5000	700~1000	4~5	10	SLOTTING
UEW1004	30	150	4500~5000	400~700	7~8	10	SLOTTING
UEW1004	30	135	4000~4500	300~500	13~15	10	SLOTTING
UEW1004	30	140	4200~4700	1400~1800	10	0~0.6	SIDE MILLING
UEW1004	30	140	4200~4700	700~1000	10	1~2	SIDE MILLING
UEW1004	30	140	4200~4700	500~800	10	4~5	SIDE MILLING
UEW1004	30	140	4200~4700	400~700	10	8~9	SIDE MILLING
UEW1004	30	140	4200~4700	300~500	15	8~9	SIDE MILLING
UEW1004	30	135	4000~4500	1200~1600	20	0~0.6	SIDE MILLING
UEW1004	30	135	4000~4500	500~800	20	1~2	SIDE MILLING
UEW1004	30	135	4000~4500	300~500	20	4~5	SIDE MILLING
UEW1204	35	145	3700~4200	1200~1600	0~0.7	12	SLOTTING
UEW1204	35	145	3700~4200	700~1000	2~3	12	SLOTTING
UEW1204	35	145	3700~4200	300~600	5~7	12	SLOTTING
UEW1204	35	145	3700~4200	300~600	9~11	12	SLOTTING

UEW

MILLING CONDITIONS

Work Material		Prehardened Steels : NAK80 : 1.2083 : AISI420 : M310 (HRC36~45)					
Coolant Type		Wet coolant					
Type No.	Extension Length (mm)	Cutting Speed (m/min)	Speed (min ⁻¹)	Feed (mm/min)	(A _s) Depth of Cut	(A _p) Width of Cut	Milling Type
UEW1204	35	145	3700~4200	300~500	16~18	12	SLOTTING
UEW1204	35	135	3400~3800	1200~1600	12	0~0.7	SIDE MILLING
UEW1204	35	145	3700~4200	700~1000	12	2~3	SIDE MILLING
UEW1204	35	145	3700~4200	300~500	12	5~7	SIDE MILLING
UEW1204	35	145	3700~4200	300~500	12	9~11	SIDE MILLING
UEW1204	35	145	3700~4200	300~600	18	9~11	SIDE MILLING
UEW1204	35	145	3700~4200	800~1200	24	0~0.7	SIDE MILLING
UEW1204	35	145	3700~4200	300~500	24	2~3	SIDE MILLING
UEW1204	35	145	3700~4200	300~600	24	5~7	SIDE MILLING
UEW1604	50	140	2500~3000	700~1100	0~0.7	16	SLOTTING
UEW1604	50	130	2400~2800	500~700	3~4	16	SLOTTING
UEW1604	50	130	2400~2800	200~400	6~7	16	SLOTTING
UEW1604	50	140	2500~3000	900~1200	16	0~0.8	SIDE MILLING
UEW1604	50	130	2400~2800	500~700	16	3~4	SIDE MILLING
UEW1604	50	130	2400~2800	200~400	16	6~7	SIDE MILLING
UEW1604	50	130	2400~2800	300~500	24	4~5	SIDE MILLING
UEW1604	50	140	2500~3000	800~1100	32	0~0.7	SIDE MILLING
UEW1604	50	130	2400~2800	300~500	32	3~4	SIDE MILLING
UEW2004	60	130	1800~2200	900~1100	0~0.8	20	SLOTTING
UEW2004	60	120	1700~2100	300~400	5~6	20	SLOTTING
UEW2004	60	120	1700~2100	150~250	7~8	20	SLOTTING
UEW2004	60	130	1800~2200	800~1000	20	0~0.8	SIDE MILLING
UEW2004	60	120	1700~2100	300~400	20	5~6	SIDE MILLING
UEW2004	60	120	1700~2100	150~250	20	7~8	SIDE MILLING
UEW2004	60	120	1700~2100	300~500	30	3~4	SIDE MILLING
UEW2004	60	130	1800~2200	700~900	40	0~0.8	SIDE MILLING
UEW2004	60	120	1700~2100	200~400	40	3~4	SIDE MILLING

WWB

MILLING CONDITIONS

Work Material		Carbon Steels : S50C / SS400 : 1.1210 / 1.0036 : 1050 / A570 Gr.45 (~HRc22)					
Coolant Type		Wet coolant					
Type No.	Extension Length (mm)	Cutting Speed (m/min)	Speed (min ⁻¹)	Feed (mm/min)	(A _a) Depth of Cut	(A _p) Width of Cut	Milling Type
WWB0604	22	90	4500~5000	400~700	2	6	SLOTTING
WWB0604	22	90	4500~5000	400~700	4	6	SLOTTING
WWB0604	22	90	4500~5000	300~450	6	6	SLOTTING
WWB0604	22	90	4500~5000	200~400	12	6	SLOTTING
WWB0604	22	90	4500~5000	300~500	6	5.5	SIDE MILLING
WWB0804	30	100	3800~4300	400~700	2	8	SLOTTING
WWB0804	30	100	3800~4300	700~1000	4	8	SLOTTING
WWB0804	30	100	3800~4300	400~700	8	8	SLOTTING
WWB0804	30	100	3800~4300	300~500	16	8	SLOTTING
WWB0804	30	100	3700~4200	300~600	8	7.5	SIDE MILLING
WWB1004	33	95	2800~3300	400~700	2	10	SLOTTING
WWB1004	33	95	2800~3300	400~700	4	10	SLOTTING
WWB1004	33	95	2800~3300	500~800	8	10	SLOTTING
WWB1004	33	95	2800~3300	300~500	10	10	SLOTTING
WWB1004	33	95	2800~3300	300~600	20	10	SLOTTING
WWB1004	33	95	2800~3300	300~600	10	9.5	SIDE MILLING
WWB1204	40	90	2200~2600	400~700	3	12	SLOTTING
WWB1204	40	90	2200~2600	300~500	6	12	SLOTTING
WWB1204	40	90	2200~2600	300~500	9	12	SLOTTING
WWB1204	40	90	2200~2600	300~500	12	12	SLOTTING
WWB1204	40	90	2200~2600	200~400	18	12	SLOTTING
WWB1204	40	90	2200~2600	300~500	12	11.5	SIDE MILLING
WWB1404	45	90	1800~2200	300~400	5~6	14	SLOTTING
WWB1404	45	90	1800~2200	200~350	7~8	14	SLOTTING
WWB1404	45	90	1800~2200	250~400	14	5~6	SIDE MILLING
WWB1404	45	90	1800~2200	200~300	14	7~8	SIDE MILLING
WWB1604	50	90	1600~2000	200~300	5~6	16	SLOTTING
WWB1604	50	90	1600~2000	150~250	7~8	16	SLOTTING
WWB1604	50	90	1600~2000	200~300	16	5~6	SIDE MILLING
WWB1604	50	90	1600~2000	150~250	16	7~8	SIDE MILLING
WWB1804	50	90	1400~1800	180~250	4~5	18	SLOTTING
WWB1804	50	90	1400~1800	150~250	6~7	18	SLOTTING
WWB1804	50	90	1400~1800	180~250	18	4~5	SIDE MILLING
WWB1804	50	90	1400~1800	130~200	18	6~7	SIDE MILLING
WWB2004	55	90	1200~1600	150~250	4~5	20	SLOTTING
WWB2004	55	90	1200~1600	120~200	6~7	20	SLOTTING
WWB2004	55	90	1200~1600	150~250	20	4~5	SIDE MILLING
WWB2004	55	90	1200~1600	100~150	20	6~7	SIDE MILLING

WWB

MILLING CONDITIONS

Work Material		SCM440 : 1.7225 : 4140 : 42CrMoA (HRC25~28)					
Coolant Type		Wet coolant					
Type No.	Extension Length (mm)	Cutting Speed (m/min)	Speed (min ⁻¹)	Feed (mm/min)	(A _s) Depth of Cut	(A _p) Width of Cut	Milling Type
WWB0604	22	85	4200~4700	300~500	2	6	SLOTTING
WWB0604	22	85	4200~4700	300~500	4	6	SLOTTING
WWB0604	22	85	4200~4700	150~300	6	6	SLOTTING
WWB0604	22	85	4200~4700	100~200	12	6	SLOTTING
WWB0604	22	85	4200~4700	200~400	6	5.5	SIDE MILLING
WWB0804	30	95	3500~4000	300~500	2	8	SLOTTING
WWB0804	30	95	3500~4000	400~700	4	8	SLOTTING
WWB0804	30	95	3500~4000	300~500	8	8	SLOTTING
WWB0804	30	95	3500~4000	150~300	16	8	SLOTTING
WWB0804	30	95	3500~4000	200~400	8	7.5	SIDE MILLING
WWB1004	33	80	2400~2800	300~500	2	10	SLOTTING
WWB1004	33	80	2400~2800	300~600	4	10	SLOTTING
WWB1004	33	80	2400~2800	300~600	8	10	SLOTTING
WWB1004	33	80	2400~2800	200~350	10	10	SLOTTING
WWB1004	33	80	2400~2800	150~300	20	10	SLOTTING
WWB1004	33	80	2400~2800	200~400	10	9.5	SIDE MILLING
WWB1204	40	75	1800~2200	300~500	3	12	SLOTTING
WWB1204	40	75	1800~2200	200~400	6	12	SLOTTING
WWB1204	40	75	1800~2200	150~300	9	12	SLOTTING
WWB1204	40	75	1800~2200	150~300	12	12	SLOTTING
WWB1204	40	75	1800~2200	70~130	18	12	SLOTTING
WWB1204	40	75	1800~2200	100~200	12	11.5	SIDE MILLING
WWB1404	45	80	1600~2000	200~300	5~6	14	SLOTTING
WWB1404	45	80	1600~2000	150~250	7~8	14	SLOTTING
WWB1404	45	80	1600~2000	200~300	14	5~6	SIDE MILLING
WWB1404	45	80	1600~2000	150~250	14	7~8	SIDE MILLING
WWB1604	50	80	1400~1800	170~270	5~6	16	SLOTTING
WWB1604	50	80	1400~1800	120~220	7~8	16	SLOTTING
WWB1604	50	80	1400~1800	170~270	16	5~6	SIDE MILLING
WWB1604	50	80	1400~1800	120~220	16	7~8	SIDE MILLING
WWB1804	50	80	1200~1600	150~250	4~5	18	SLOTTING
WWB1804	50	80	1200~1600	100~200	6~7	18	SLOTTING
WWB1804	50	80	1200~1600	150~250	18	4~5	SIDE MILLING
WWB1804	50	80	1200~1600	100~200	18	6~7	SIDE MILLING
WWB2004	55	80	1000~1400	120~220	4~5	20	SLOTTING
WWB2004	55	80	1000~1400	100~150	6~7	20	SLOTTING
WWB2004	55	80	1000~1400	120~220	20	4~5	SIDE MILLING
WWB2004	55	80	1000~1400	80~130	20	6~7	SIDE MILLING

WWB

MILLING CONDITIONS

Work Material		Alloy Tool Steels / Carbon Tool Steels					
		P20 / P5 / SK3 / SKD61 / SKD11 : 1.2311 / 1.1545 / 1.2379 / 1.2344 : H13 / D2(HRC23~32)					
Coolant Type		Wet coolant					
Type No.	Extension Length (mm)	Cutting Speed (m/min)	Speed (min ⁻¹)	Feed (mm/min)	(A _a) Depth of Cut	(A _p) Width of Cut	Milling Type
WWB0604	22	85	4200~4700	300~500	2	6	SLOTTING
WWB0604	22	85	4200~4700	300~500	4	6	SLOTTING
WWB0604	22	85	4200~4700	150~300	6	6	SLOTTING
WWB0604	22	85	4200~4700	100~200	9~12	6	SLOTTING
WWB0604	22	85	4200~4700	200~400	6	5.5	SIDE MILLING
WWB0804	30	95	3500~4000	300~500	2	8	SLOTTING
WWB0804	30	95	3500~4000	400~700	4	8	SLOTTING
WWB0804	30	95	3500~4000	300~500	8	8	SLOTTING
WWB0804	30	95	3500~4000	150~300	12~16	8	SLOTTING
WWB0804	30	95	3500~4000	200~400	8	7.5	SIDE MILLING
WWB1004	33	80	2400~2800	300~500	2	10	SLOTTING
WWB1004	33	80	2400~2800	300~600	4	10	SLOTTING
WWB1004	33	80	2400~2800	300~600	8	10	SLOTTING
WWB1004	33	80	2400~2800	200~350	10	10	SLOTTING
WWB1004	33	80	2400~2800	150~300	15~20	10	SLOTTING
WWB1004	33	80	2400~2800	200~400	10	9.5	SIDE MILLING
WWB1204	40	80	1900~2300	300~500	3	12	SLOTTING
WWB1204	40	80	1900~2300	200~400	6	12	SLOTTING
WWB1204	40	80	1900~2300	150~300	9	12	SLOTTING
WWB1204	40	80	1900~2300	150~300	12	12	SLOTTING
WWB1204	40	80	1900~2300	70~130	14~18	12	SLOTTING
WWB1204	40	80	1900~2300	100~200	12	11.5	SIDE MILLING
WWB1404	45	80	1600~2000	200~300	5~6	14	SLOTTING
WWB1404	45	80	1600~2000	150~250	7~8	14	SLOTTING
WWB1404	45	80	1600~2000	200~300	14	5~6	SIDE MILLING
WWB1404	45	80	1600~2000	150~250	14	7~8	SIDE MILLING
WWB1604	50	80	1400~1800	170~270	5~6	16	SLOTTING
WWB1604	50	80	1400~1800	120~220	7~8	16	SLOTTING
WWB1604	50	80	1400~1800	170~270	16	5~6	SIDE MILLING
WWB1604	50	80	1400~1800	120~220	16	7~8	SIDE MILLING
WWB1804	50	80	1200~1600	150~250	4~5	18	SLOTTING
WWB1804	50	80	1200~1600	100~200	6~7	18	SLOTTING
WWB1804	50	80	1200~1600	150~250	18	4~5	SIDE MILLING
WWB1804	50	80	1200~1600	100~200	18	6~7	SIDE MILLING
WWB2004	55	80	1000~1400	120~220	4~5	20	SLOTTING
WWB2004	55	80	1000~1400	100~150	6~7	20	SLOTTING
WWB2004	55	80	1000~1400	120~220	20	4~5	SIDE MILLING
WWB2004	55	80	1000~1400	80~130	20	6~7	SIDE MILLING

WWB

MILLING CONDITIONS

Work Material		Stainless Steels [Easy] : SUS304 : 1.4301 : AISI 304 (HRC28~32)					
Coolant Type		Wet coolant					
Type No.	Extension Length (mm)	Cutting Speed (m/min)	Speed (min ⁻¹)	Feed (mm/min)	(A _s) Depth of Cut	(A _p) Width of Cut	Milling Type
WWB0604	22	80	4000~4500	400~550	1	6	SLOTTING
WWB0604	22	80	4000~4500	350~450	1.5	6	SLOTTING
WWB0604	22	80	4000~4500	300~420	3	6	SLOTTING
WWB0604	22	80	4000~4500	200~270	6	6	SLOTTING
WWB0604	22	80	4000~4500	200~270	6	5.7	SIDE MILLING
WWB0804	28	80	3000~3500	350~480	2	8	SLOTTING
WWB0804	28	80	3000~3500	270~360	4	8	SLOTTING
WWB0804	28	80	3000~3500	240~320	6	8	SLOTTING
WWB0804	28	80	3000~3500	200~260	8	8	SLOTTING
WWB0804	28	80	3000~3500	200~260	8	7.7	SIDE MILLING
WWB1004	32	80	2400~2800	350~500	2	10	SLOTTING
WWB1004	32	80	2400~2800	300~400	3.5	10	SLOTTING
WWB1004	32	80	2400~2800	250~320	5	10	SLOTTING
WWB1004	32	80	2400~2800	200~260	10	10	SLOTTING
WWB1004	32	80	2400~2800	200~260	10	9.7	SIDE MILLING
WWB1204	38	80	1900~2300	260~420	2	12	SLOTTING
WWB1204	38	80	1900~2300	200~300	4	12	SLOTTING
WWB1204	38	80	1900~2300	180~260	6	12	SLOTTING
WWB1204	38	80	1900~2300	150~210	10	12	SLOTTING
WWB1204	38	80	1900~2300	120~200	12	12	SLOTTING
WWB1204	38	80	1900~2300	100~190	12	11.7	SIDE MILLING
WWB1404	42	80	1600~2000	200~360	1~2	14	SLOTTING
WWB1404	42	80	1600~2000	150~250	3~4	14	SLOTTING
WWB1404	42	80	1600~2000	120~200	5~6	14	SLOTTING
WWB1404	42	80	1600~2000	100~150	14	3~4	SLOTTING
WWB1404	42	80	1600~2000	70~130	14	5~6	SIDE MILLING
WWB1604	47	80	1400~1800	200~280	1~2	16	SLOTTING
WWB1604	47	80	1400~1800	130~200	3~4	16	SLOTTING
WWB1604	47	80	1400~1800	100~170	5~6	16	SLOTTING
WWB1604	47	80	1400~1800	50~100	16	5~6	SIDE MILLING
WWB1804	50	80	1200~1600	200~250	1~2	18	SLOTTING
WWB1804	50	80	1200~1600	130~180	3~4	18	SLOTTING
WWB1804	50	80	1200~1600	100~150	5~6	18	SLOTTING
WWB1804	50	80	1200~1600	50~100	18	5~6	SIDE MILLING
WWB2004	50	80	1000~1400	180~230	1~2	20	SLOTTING
WWB2004	50	80	1000~1400	120~160	3~4	20	SLOTTING
WWB2004	50	80	1000~1400	100~140	5~6	20	SLOTTING
WWB2004	50	80	1000~1400	50~100	20	5~6	SIDE MILLING

WUB

MILLING CONDITIONS

Work Material		Carbon Steels : S50C / S5400 : 1.1210 / 1.0036 : 1050 / A570 Gr.45 (~HRc22)					
Coolant Type		Wet coolant					
Type No.	Extension Length (mm)	Cutting Speed (m/min)	Speed (min ⁻¹)	Feed (mm/min)	(A _s) Depth of Cut	(A _p) Width of Cut	Milling Type
WUB0604	20	90	4500~5000	400~700	2	6	SLOTTING
WUB0604	20	90	4500~5000	400~700	4	6	SLOTTING
WUB0604	20	90	4500~5000	300~500	6	6	SLOTTING
WUB0604	20	90	4500~5000	150~300	12	6	SLOTTING
WUB0604	20	90	4500~5000	300~500	6	5.5	SIDE MILLING
WUB0804	30	100	3800~4300	500~800	2	8	SLOTTING
WUB0804	30	100	3800~4300	500~800	4	8	SLOTTING
WUB0804	30	100	3800~4300	250~400	8	8	SLOTTING
WUB0804	30	100	3800~4300	150~350	16	8	SLOTTING
WUB0804	30	100	3700~4200	250~400	8	7.5	SIDE MILLING
WUB1004	30	95	2800~3300	400~700	2	10	SLOTTING
WUB1004	30	95	2800~3300	400~700	4	10	SLOTTING
WUB1004	30	95	2800~3300	400~600	8	10	SLOTTING
WUB1004	30	95	2800~3300	250~450	10	10	SLOTTING
WUB1004	30	95	2800~3300	300~500	20	10	SLOTTING
WUB1004	30	95	2800~3300	300~500	10	9.5	SIDE MILLING
WUB1204	40	90	2200~2600	300~600	3	12	SLOTTING
WUB1204	40	90	2200~2600	300~600	6	12	SLOTTING
WUB1204	40	90	2200~2600	300~500	9	12	SLOTTING
WUB1204	40	90	2200~2600	200~400	12	12	SLOTTING
WUB1204	40	90	2200~2600	150~350	18	12	SLOTTING
WUB1204	40	90	2200~2600	200~400	12	11.5	SIDE MILLING
WUB1404	45	90	1800~2200	200~300	5~6	14	SLOTTING
WUB1404	45	90	1800~2200	160~260	7~8	14	SLOTTING
WUB1404	45	90	1800~2200	200~300	14	5~6	SIDE MILLING
WUB1404	45	90	1800~2200	160~260	14	7~8	SIDE MILLING
WUB1604	50	90	1600~2000	170~270	5~6	16	SLOTTING
WUB1604	50	90	1600~2000	120~220	7~8	16	SLOTTING
WUB1604	50	90	1600~2000	170~270	16	5~6	SIDE MILLING
WUB1604	50	90	1600~2000	120~220	16	7~8	SIDE MILLING
WUB1804	50	90	1400~1800	150~250	4~5	18	SLOTTING
WUB1804	50	90	1400~1800	130~230	6~7	18	SLOTTING
WUB1804	50	90	1400~1800	150~250	18	4~5	SIDE MILLING
WUB1804	50	90	1400~1800	100~200	18	6~7	SIDE MILLING
WUB2004	55	90	1200~1600	130~230	4~5	20	SLOTTING
WUB2004	55	90	1200~1600	80~130	6~7	20	SLOTTING
WUB2004	55	90	1200~1600	130~230	20	4~5	SIDE MILLING
WUB2004	55	90	1200~1600	80~130	20	6~7	SIDE MILLING

WUB

MILLING CONDITIONS

Work Material		SCM440 : 1.7225 : 4140 : 42CrMoA (HRC25~28)					
Coolant Type		Wet coolant					
Type No.	Extension Length (mm)	Cutting Speed (m/min)	Speed (min ⁻¹)	Feed (mm/min)	(A _s) Depth of Cut	(A _p) Width of Cut	Milling Type
WUB0604	20	85	4200~4700	300~600	2	6	SLOTTING
WUB0604	20	85	4200~4700	300~600	4	6	SLOTTING
WUB0604	20	85	4200~4700	200~400	6	6	SLOTTING
WUB0604	20	85	4200~4700	100~250	12	6	SLOTTING
WUB0604	20	85	4200~4700	200~350	6	5.5	SIDE MILLING
WUB0804	30	95	3500~4000	300~500	2	8	SLOTTING
WUB0804	30	95	3500~4000	300~600	4	8	SLOTTING
WUB0804	30	95	3500~4000	150~300	8	8	SLOTTING
WUB0804	30	95	3500~4000	100~250	16	8	SLOTTING
WUB0804	30	95	3500~4000	150~300	8	7.5	SIDE MILLING
WUB1004	30	80	2400~2800	300~600	2	10	SLOTTING
WUB1004	30	80	2400~2800	300~600	4	10	SLOTTING
WUB1004	30	80	2400~2800	300~500	8	10	SLOTTING
WUB1004	30	80	2400~2800	200~400	10	10	SLOTTING
WUB1004	30	80	2400~2800	150~250	20	10	SLOTTING
WUB1004	30	80	2400~2800	200~350	10	9.5	SIDE MILLING
WUB1204	40	75	1800~2200	150~350	3	12	SLOTTING
WUB1204	40	75	1800~2200	200~400	6	12	SLOTTING
WUB1204	40	75	1800~2200	150~300	9	12	SLOTTING
WUB1204	40	75	1800~2200	100~250	12	12	SLOTTING
WUB1204	40	75	1800~2200	70~130	18	12	SLOTTING
WUB1204	40	75	1800~2200	100~250	12	11.5	SIDE MILLING
WUB1404	45	80	1600~2000	170~270	5~6	14	SLOTTING
WUB1404	45	80	1600~2000	130~230	7~8	14	SLOTTING
WUB1404	45	80	1600~2000	170~270	14	5~6	SIDE MILLING
WUB1404	45	80	1600~2000	130~230	14	7~8	SIDE MILLING
WUB1604	50	80	1400~1800	140~240	5~6	16	SLOTTING
WUB1604	50	80	1400~1800	100~200	7~8	16	SLOTTING
WUB1604	50	80	1400~1800	140~240	16	5~6	SIDE MILLING
WUB1604	50	80	1400~1800	100~200	16	7~8	SIDE MILLING
WUB1804	50	80	1200~1600	130~230	4~5	18	SLOTTING
WUB1804	50	80	1200~1600	100~170	6~7	18	SLOTTING
WUB1804	50	80	1200~1600	130~230	18	4~5	SIDE MILLING
WUB1804	50	80	1200~1600	100~170	18	6~7	SIDE MILLING
WUB2004	55	80	1000~1400	100~200	4~5	20	SLOTTING
WUB2004	55	80	1000~1400	70~110	6~7	20	SLOTTING
WUB2004	55	80	1000~1400	100~200	20	4~5	SIDE MILLING
WUB2004	55	80	1000~1400	70~110	20	6~7	SIDE MILLING

WUB

MILLING CONDITIONS

Alloy Tool Steels / Carbon Tool Steels							
P20 / P5 / SK3 / SKD61 / SKD11 : 1.2311 / 1.1545 / 1.2379 / 1.2344 : H13 / D2(HRC23~32)							
Coolant Type		Wet coolant					
Type No.	Extension Length (mm)	Cutting Speed (m/min)	Speed (min ⁻¹)	Feed (mm/min)	(A _s) Depth of Cut	(A _p) Width of Cut	Milling Type
WUB0604	20	85	4200~4700	300~600	2	6	SLOTTING
WUB0604	20	85	4200~4700	300~600	4	6	SLOTTING
WUB0604	20	85	4200~4700	200~400	6	6	SLOTTING
WUB0604	20	85	4200~4700	100~250	12	6	SLOTTING
WUB0604	20	85	4200~4700	200~350	6	5.5	SIDE MILLING
WUB0804	30	95	3500~4000	300~500	2	8	SLOTTING
WUB0804	30	95	3500~4000	300~600	4	8	SLOTTING
WUB0804	30	95	3500~4000	150~300	8	8	SLOTTING
WUB0804	30	95	3500~4000	100~250	16	8	SLOTTING
WUB0804	30	95	3500~4000	150~300	8	7.5	SIDE MILLING
WUB1004	30	80	2400~2800	300~600	2	10	SLOTTING
WUB1004	30	80	2400~2800	300~600	4	10	SLOTTING
WUB1004	30	80	2400~2800	300~500	8	10	SLOTTING
WUB1004	30	80	2400~2800	200~400	10	10	SLOTTING
WUB1004	30	80	2400~2800	150~250	20	10	SLOTTING
WUB1004	30	80	2400~2800	200~350	10	9.5	SIDE MILLING
WUB1204	40	75	1800~2200	150~350	3	12	SLOTTING
WUB1204	40	75	1800~2200	200~400	6	12	SLOTTING
WUB1204	40	75	1800~2200	150~300	9	12	SLOTTING
WUB1204	40	75	1800~2200	100~250	12	12	SLOTTING
WUB1204	40	75	1800~2200	70~130	14~16	12	SLOTTING
WUB1204	40	75	1800~2200	100~250	12	11.5	SIDE MILLING
WUB1404	45	80	1600~2000	170~270	5~6	14	SLOTTING
WUB1404	45	80	1600~2000	130~230	7~8	14	SLOTTING
WUB1404	45	80	1600~2000	170~270	14	5~6	SIDE MILLING
WUB1404	45	80	1600~2000	130~230	14	7~8	SIDE MILLING
WUB1604	50	80	1400~1800	140~240	5~6	16	SLOTTING
WUB1604	50	80	1400~1800	100~200	7~8	16	SLOTTING
WUB1604	50	80	1400~1800	140~240	16	5~6	SIDE MILLING
WUB1604	50	80	1400~1800	100~200	16	7~8	SIDE MILLING
WUB1804	50	80	1200~1600	130~230	4~5	18	SLOTTING
WUB1804	50	80	1200~1600	100~170	6~7	18	SLOTTING
WUB1804	50	80	1200~1600	130~230	18	4~5	SIDE MILLING
WUB1804	50	80	1200~1600	100~170	18	6~7	SIDE MILLING
WUB2004	55	80	1000~1400	100~200	4~5	20	SLOTTING
WUB2004	55	80	1000~1400	70~110	6~7	20	SLOTTING
WUB2004	55	80	1000~1400	100~200	20	4~5	SIDE MILLING
WUB2004	55	80	1000~1400	70~110	20	6~7	SIDE MILLING

UPS

MILLING CONDITIONS

Work Material		Carbon Steels : S50C / SS400 : 1.1210 / 1.0036 : 1050 / A570 Gr.45 (~HRC22)					
Coolant Type		Wet coolant					
Type No.	Extension Length (mm)	Cutting Speed (m/min)	Speed (min ⁻¹)	Feed (mm/min)	(A _s) Depth of Cut	(A _p) Width of Cut	Milling Type
UPS0304	16	90	9000~9500	700~1000	0.02~0.07	3	SLOTTING
UPS0304	16	90	9000~9500	1200~1600	0~0.2	3	SLOTTING
UPS0304	16	90	9000~9500	700~1000	0.5~0.8	3	SLOTTING
UPS0304	16	90	9000~9500	700~1000	3	0.02~0.07	SIDE MILLING
UPS0304	16	90	9000~9500	1200~1600	3	0~0.2	SIDE MILLING
UPS0304	16	90	9000~9500	700~1000	3	0.5~1	SIDE MILLING
UPS0304	16	90	9000~9500	500~800	6	0.02~0.07	SIDE MILLING
UPS0304	16	90	9000~9500	1000~1400	6	0~0.2	SIDE MILLING
UPS0304	16	90	9000~9500	500~800	6	0.5~1	SIDE MILLING
UPS0304L	25	80	8500~9000	500~800	9	0.02~0.07	SIDE MILLING
UPS0304L	25	80	8500~9000	700~1100	9	0~0.2	SIDE MILLING
UPS0404	18	95	7500~8000	700~1000	0.03~0.08	4	SLOTTING
UPS0404	18	95	7500~8000	1200~1600	0~0.3	4	SLOTTING
UPS0404	18	95	7500~8000	500~800	0.8~1.3	4	SLOTTING
UPS0404	18	95	7500~8000	700~1000	4	0.03~0.08	SIDE MILLING
UPS0404	18	95	7500~8000	1200~1600	4	0~0.3	SIDE MILLING
UPS0404	18	95	7500~8000	400~700	4	0.8~1.3	SIDE MILLING
UPS0404	18	95	7500~8000	700~1000	8	0.03~0.08	SIDE MILLING
UPS0404	18	95	7500~8000	700~1100	8	0~0.3	SIDE MILLING
UPS0404	18	95	7500~8000	400~600	8	0.8~1.3	SIDE MILLING
UPS0404L	25	85	6500~7000	500~800	12	0.03~0.08	SIDE MILLING
UPS0404L	25	85	6500~7000	700~1100	12	0~0.3	SIDE MILLING
UPS0504	20	100	6200~6700	700~1000	0.05~0.1	5	SLOTTING
UPS0504	20	100	6200~6700	1000~1400	0~0.4	5	SLOTTING
UPS0504	20	100	6200~6700	400~700	2~2.5	5	SLOTTING
UPS0504	20	100	6200~6700	700~1000	5	0.05~0.1	SIDE MILLING
UPS0504	20	100	6200~6700	1000~1400	5	0~0.4	SIDE MILLING
UPS0504	20	100	6200~6700	400~700	5	2~2.5	SIDE MILLING
UPS0504	20	100	6200~6700	500~800	10	0.05~0.1	SIDE MILLING
UPS0504	20	100	6200~6700	700~1000	10	0~0.4	SIDE MILLING
UPS0504	20	100	6200~6700	300~600	10	1~1.5	SIDE MILLING
UPS0604	20	100	5200~5700	700~1000	0.05~0.1	6	SLOTTING
UPS0604	20	100	5200~5700	1200~1600	0~0.4	6	SLOTTING
UPS0604	20	100	5200~5700	300~600	3~4	6	SLOTTING
UPS0604	20	110	5500~6000	700~1000	6	0.05~0.1	SIDE MILLING
UPS0604	20	110	5500~6000	1200~1600	6	0~0.4	SIDE MILLING
UPS0604	20	110	5500~6000	300~600	6	3~4	SIDE MILLING
UPS0604	20	110	5500~6000	500~800	12	0.05~0.1	SIDE MILLING

UPS

MILLING CONDITIONS

Work Material		Carbon Steels : S50C / S5400 : 1.1210 / 1.0036 : 1050 / A570 Gr.45 (~HRc22)					
Coolant Type		Wet coolant					
Type No.	Extension Length (mm)	Cutting Speed (m/min)	Speed (min ⁻¹)	Feed (mm/min)	(A _a) Depth of Cut	(A _p) Width of Cut	Milling Type
UPS0604	20	110	5500~6000	700~1000	12	0~0.4	SIDE MILLING
UPS0604	20	110	5500~6000	300~600	12	2~3	SIDE MILLING
UPS0604L	30	90	4500~5000	400~700	16	0.05~0.1	SIDE MILLING
UPS0604L	30	90	4500~5000	700~1000	16	0~0.4	SIDE MILLING
UPS0604L	30	70	3500~4000	300~500	16	0.7~1.2	SIDE MILLING
UPS0804	25	120	4500~5000	700~1100	0.05~0.1	8	SLOTTING
UPS0804	25	120	4500~5000	1600~2000	0~0.5	8	SLOTTING
UPS0804	25	120	4500~5000	400~700	3~4	8	SLOTTING
UPS0804	25	120	4500~5000	700~1100	8	0.05~0.1	SIDE MILLING
UPS0804	25	110	4200~4700	1200~1600	8	0~0.5	SIDE MILLING
UPS0804	25	105	4000~4500	500~800	8	3~4	SIDE MILLING
UPS0804	25	105	4000~4500	300~500	8	6~7	SIDE MILLING
UPS0804	25	110	4200~4700	500~800	16	0.05~0.1	SIDE MILLING
UPS0804	25	115	4300~4800	800~1200	16	0~0.5	SIDE MILLING
UPS0804	25	115	4300~4800	400~700	16	3~4	SIDE MILLING
UPS0804L	35	95	3500~4000	400~700	20	0.05~0.1	SIDE MILLING
UPS0804L	35	95	3500~4000	800~1200	20	0~0.5	SIDE MILLING
UPS0804L	35	75	2700~3200	500~800	20	1~1.5	SIDE MILLING
UPS1004	30	120	3600~4000	700~1000	0.05~0.1	10	SLOTTING
UPS1004	30	110	3400~3800	1200~1600	0~0.5	10	SLOTTING
UPS1004	30	110	3400~3800	400~700	4~5	10	SLOTTING
UPS1004	30	110	3400~3800	300~600	8	10	SLOTTING
UPS1004	30	125	3700~4200	700~1000	10	0.05~0.1	SIDE MILLING
UPS1004	30	125	3700~4200	1400~1800	10	0~0.5	SIDE MILLING
UPS1004	30	110	3400~3800	400~700	10	4~5	SIDE MILLING
UPS1004	30	110	3400~3800	250~400	10	7~8	SIDE MILLING
UPS1004	30	120	3600~4000	500~800	20	0.05~0.1	SIDE MILLING
UPS1004	30	110	3400~3800	1200~1600	20	0~0.5	SIDE MILLING
UPS1004	30	90	2700~3200	300~600	20	1~2	SIDE MILLING
UPS1004	30	90	2700~3200	300~500	20	4~5	SIDE MILLING
UPS1004L	40	90	2700~3200	300~600	25	0.05~0.1	SIDE MILLING
UPS1004L	40	90	2700~3200	800~1200	25	0~0.5	SIDE MILLING
UPS1004L	40	75	2200~2600	400~700	25	1~1.5	SIDE MILLING
UPS1204	33	110	2700~3200	500~800	0.1~0.15	12	SLOTTING
UPS1204	33	110	2700~3200	1200~1600	0~0.5	12	SLOTTING
UPS1204	33	110	2700~3200	300~500	2~3	12	SLOTTING
UPS1204	33	110	2700~3200	300~500	5~6	12	SLOTTING
UPS1204	33	110	2700~3200	700~1000	12	0.1~0.15	SIDE MILLING

UPS

MILLING CONDITIONS

Work Material		Carbon Steels : S50C / SS400 : 1.1210 / 1.0036 : 1050 / A570 Gr.45 (~HRC22)					
Coolant Type		Wet coolant					
Type No.	Extension Length (mm)	Cutting Speed (m/min)	Speed (min ⁻¹)	Feed (mm/min)	(A _s) Depth of Cut	(A _p) Width of Cut	Milling Type
UPS1204	33	110	2700~3200	1400~1800	12	0~0.5	SIDE MILLING
UPS1204	33	110	2700~3200	500~800	12	2~3	SIDE MILLING
UPS1204	33	110	2700~3200	300~400	12	5~6	SIDE MILLING
UPS1204	33	110	2700~3200	500~800	24	0.1~0.15	SIDE MILLING
UPS1204	33	110	2700~3200	1200~1600	24	0~0.5	SIDE MILLING
UPS1204	33	110	2700~3200	300~600	24	2~3	SIDE MILLING
UPS1204L	50	90	2200~2700	500~800	30	0.1~0.15	SIDE MILLING
UPS1204L	50	90	2200~2700	800~1200	30	0~0.5	SIDE MILLING
UPS1204L	50	85	2000~2500	400~700	30	1~2	SIDE MILLING
UPS1604	45	110	2000~2500	500~800	0.1~0.15	16	SLOTTING
UPS1604	45	110	2000~2500	800~1200	0~0.6	16	SLOTTING
UPS1604	45	110	2000~2500	300~500	3~4	16	SLOTTING
UPS1604	45	110	2000~2500	300~500	5~6	16	SLOTTING
UPS1604	45	110	2000~2500	500~800	16	0.1~0.15	SIDE MILLING
UPS1604	45	110	2000~2500	800~1200	16	0~0.6	SIDE MILLING
UPS1604	45	110	2000~2500	400~700	16	3~4	SIDE MILLING
UPS1604	45	110	2000~2500	300~400	16	5~6	SIDE MILLING
UPS1604	45	110	2000~2500	500~800	32	0.1~0.15	SIDE MILLING
UPS1604	45	110	2000~2500	800~1200	32	0~0.6	SIDE MILLING
UPS1604	45	110	2000~2500	300~600	32	2~3	SIDE MILLING
UPS1804	50	90	1300~1800	300~500	0.1~0.15	18	SLOTTING
UPS1804	50	90	1300~1800	500~800	0~0.7	18	SLOTTING
UPS1804	50	90	1300~1800	300~500	3~4	18	SLOTTING
UPS1804	50	90	1300~1800	300~500	18	0.1~0.15	SIDE MILLING
UPS1804	50	90	1300~1800	500~800	18	0~0.7	SIDE MILLING
UPS1804	50	90	1300~1800	300~600	18	3~4	SIDE MILLING
UPS1804	50	90	1300~1800	300~500	36	0.1~0.15	SIDE MILLING
UPS1804	50	90	1300~1800	400~700	36	0~0.7	SIDE MILLING
UPS1804	50	90	1300~1800	300~500	36	2~3	SIDE MILLING
UPS2004	50	65	800~1300	200~400	0.1~0.15	20	SLOTTING
UPS2004	50	65	800~1300	200~400	0~0.6	20	SLOTTING
UPS2004	50	65	800~1300	150~300	3~4	20	SLOTTING
UPS2004	50	65	800~1300	200~400	20	0.1~0.15	SIDE MILLING
UPS2004	50	65	800~1300	200~400	20	0~0.6	SIDE MILLING
UPS2004	50	65	800~1300	150~300	20	3~4	SIDE MILLING
UPS2004	50	65	800~1300	200~400	40	0.1~0.15	SIDE MILLING
UPS2004	50	65	800~1300	200~400	40	0~0.6	SIDE MILLING
UPS2004L	70	50	600~1100	200~400	45	0.1~0.15	SIDE MILLING
UPS2004L	70	50	600~1100	150~350	45	0~0.4	SIDE MILLING

UPS

MILLING CONDITIONS

Work Material		SCM440 : 1.7225 : 4140 : 42CrMoA (HRC25~28)					
Coolant Type		Wet coolant					
Type No.	Extension Length (mm)	Cutting Speed (m/min)	Speed (min ⁻¹)	Feed (mm/min)	(A _s) Depth of Cut	(A _p) Width of Cut	Milling Type
UPS0304	16	90	9000~9500	400~700	0.02~0.07	3	SLOTTING
UPS0304	16	90	9000~9500	1200~1600	0~0.2	3	SLOTTING
UPS0304	16	90	9000~9500	700~1000	0.5~0.8	3	SLOTTING
UPS0304	16	90	9000~9500	500~800	3	0.02~0.07	SIDE MILLING
UPS0304	16	90	9000~9500	1200~1600	3	0~0.2	SIDE MILLING
UPS0304	16	90	9000~9500	700~1000	3	0.5~1	SIDE MILLING
UPS0304	16	90	9000~9500	500~800	6	0.02~0.07	SIDE MILLING
UPS0304	16	90	9000~9500	1000~1400	6	0~0.2	SIDE MILLING
UPS0304	16	90	9000~9500	500~800	6	0.5~1	SIDE MILLING
UPS0304L	25	80	8500~9000	500~800	9	0.02~0.07	SIDE MILLING
UPS0304L	25	80	8500~9000	500~800	9	0~0.2	SIDE MILLING
UPS0404	18	95	7500~8000	500~800	0.03~0.08	4	SLOTTING
UPS0404	18	95	7500~8000	1200~1600	0~0.3	4	SLOTTING
UPS0404	18	95	7500~8000	500~800	0.8~1.3	4	SLOTTING
UPS0404	18	95	7500~8000	700~1000	4	0.03~0.08	SIDE MILLING
UPS0404	18	95	7500~8000	1200~1600	4	0~0.3	SIDE MILLING
UPS0404	18	95	7500~8000	400~700	4	0.8~1.3	SIDE MILLING
UPS0404	18	95	7500~8000	700~1000	8	0.03~0.08	SIDE MILLING
UPS0404	18	95	7500~8000	700~1100	8	0~0.3	SIDE MILLING
UPS0404	18	95	7500~8000	400~600	8	0.8~1.3	SIDE MILLING
UPS0404L	25	85	6500~7000	500~800	12	0.03~0.08	SIDE MILLING
UPS0404L	25	85	6500~7000	500~800	12	0~0.3	SIDE MILLING
UPS0504	20	100	6200~6700	700~1000	0.05~0.1	5	SLOTTING
UPS0504	20	100	6200~6700	700~1100	0~0.4	5	SLOTTING
UPS0504	20	100	6200~6700	300~600	2~2.5	5	SLOTTING
UPS0504	20	100	6200~6700	700~1000	5	0.05~0.1	SIDE MILLING
UPS0504	20	100	6200~6700	700~1100	5	0~0.4	SIDE MILLING
UPS0504	20	100	6200~6700	300~600	5	2~2.5	SIDE MILLING
UPS0504	20	100	6200~6700	500~800	10	0.05~0.1	SIDE MILLING
UPS0504	20	100	6200~6700	500~800	10	0~0.4	SIDE MILLING
UPS0504	20	100	6200~6700	300~500	10	1~1.5	SIDE MILLING
UPS0604	20	100	5200~5700	500~800	0.05~0.1	6	SLOTTING
UPS0604	20	100	5200~5700	1200~1600	0~0.4	6	SLOTTING
UPS0604	20	100	5200~5700	300~500	3~4	6	SLOTTING
UPS0604	20	110	5500~6000	500~800	6	0.05~0.1	SIDE MILLING
UPS0604	20	110	5500~6000	1200~1600	6	0~0.4	SIDE MILLING
UPS0604	20	110	5500~6000	300~600	6	3~4	SIDE MILLING
UPS0604	20	110	5500~6000	500~800	12	0.05~0.1	SIDE MILLING

UPS

MILLING CONDITIONS

Work Material		SCM440 : 1.7225 : 4140 : 42CrMoA (HRC25~28)					
Coolant Type		Wet coolant					
Type No.	Extension Length (mm)	Cutting Speed (m/min)	Speed (min ⁻¹)	Feed (mm/min)	(A _s) Depth of Cut	(A _p) Width of Cut	Milling type
UPS0604	20	110	5500~6000	700~1000	12	0~0.4	SIDE MILLING
UPS0604	20	100	5000~5500	200~400	12	2~3	SIDE MILLING
UPS0604L	30	90	4500~5000	400~700	16	0.05~0.1	SIDE MILLING
UPS0604L	30	90	4500~5000	500~800	16	0~0.4	SIDE MILLING
UPS0604L	30	70	3500~4000	200~400	16	0.7~1.2	SIDE MILLING
UPS0804	25	120	4500~5000	700~1100	0.05~0.1	8	SLOTTING
UPS0804	25	120	4500~5000	1600~2000	0~0.5	8	SLOTTING
UPS0804	25	120	4500~5000	400~700	3~4	8	SLOTTING
UPS0804	25	120	4500~5000	700~1100	8	0.05~0.1	SIDE MILLING
UPS0804	25	110	4200~4700	1200~1600	8	0~0.5	SIDE MILLING
UPS0804	25	105	4000~4500	500~800	8	3~4	SIDE MILLING
UPS0804	25	105	4000~4500	300~500	8	6~7	SIDE MILLING
UPS0804	25	110	4200~4700	500~800	16	0.05~0.1	SIDE MILLING
UPS0804	25	115	4300~4800	800~1200	16	0~0.5	SIDE MILLING
UPS0804	25	105	4000~4500	400~700	16	3~4	SIDE MILLING
UPS0804L	35	95	3500~4000	400~700	20	0.05~0.1	SIDE MILLING
UPS0804L	35	95	3500~4000	800~1200	20	0~0.5	SIDE MILLING
UPS0804L	35	70	2500~3000	500~800	20	1~1.5	SIDE MILLING
UPS1004	30	120	3600~4000	700~1000	0.05~0.1	10	SLOTTING
UPS1004	30	110	3400~3800	1200~1600	0~0.5	10	SLOTTING
UPS1004	30	95	2800~3300	400~700	4~5	10	SLOTTING
UPS1004	30	95	2800~3300	300~500	8	10	SLOTTING
UPS1004	30	125	3700~4200	700~1000	10	0.05~0.1	SIDE MILLING
UPS1004	30	125	3700~4200	1400~1800	10	0~0.5	SIDE MILLING
UPS1004	30	85	2500~3000	400~700	10	4~5	SIDE MILLING
UPS1004	30	85	2500~3000	250~400	10	7~8	SIDE MILLING
UPS1004	30	120	3600~4000	500~800	20	0.05~0.1	SIDE MILLING
UPS1004	30	110	3400~3800	1200~1600	20	0~0.5	SIDE MILLING
UPS1004	30	90	2700~3200	300~600	20	1~2	SIDE MILLING
UPS1004	30	70	2000~2500	300~500	20	4~5	SIDE MILLING
UPS1004L	40	90	2700~3200	300~600	25	0.05~0.1	SIDE MILLING
UPS1004L	40	90	2700~3200	800~1200	25	0~0.5	SIDE MILLING
UPS1004L	40	70	2000~2500	400~700	25	1~1.5	SIDE MILLING
UPS1204	33	110	2700~3200	500~800	0.1~0.15	12	SLOTTING
UPS1204	33	110	2700~3200	1200~1600	0~0.5	12	SLOTTING
UPS1204	33	110	2700~3200	300~500	2~3	12	SLOTTING
UPS1204	33	75	1800~2300	300~500	5~6	12	SLOTTING
UPS1204	33	110	2700~3200	700~1000	12	0.1~0.15	SIDE MILLING

UPS

MILLING CONDITIONS

Work Material		SCM440 : 1.7225 : 4140 : 42CrMoA (HRc25~28)					
Coolant Type		Wet coolant					
Type No.	Extension Length (mm)	Cutting Speed (m/min)	Speed (min ⁻¹)	Feed (mm/min)	(A _a) Depth of Cut	(A _p) Width of Cut	Milling Type
UPS1204	33	110	2700~3200	1400~1800	12	0~0.5	SIDE MILLING
UPS1204	33	110	2700~3200	500~800	12	2~3	SIDE MILLING
UPS1204	33	85	2000~2500	300~400	12	5~6	SIDE MILLING
UPS1204	33	110	2700~3200	500~800	24	0.1~0.15	SIDE MILLING
UPS1204	33	110	2700~3200	1200~1600	24	0~0.5	SIDE MILLING
UPS1204	33	85	2000~2500	300~500	24	2~3	SIDE MILLING
UPS1204L	50	90	2200~2700	500~800	30	0.1~0.15	SIDE MILLING
UPS1204L	50	90	2200~2700	700~1000	30	0~0.5	SIDE MILLING
UPS1204L	50	85	2000~2500	300~600	30	1~2	SIDE MILLING
UPS1604	45	110	2000~2500	300~600	0.1~0.15	16	SLOTTING
UPS1604	45	110	2000~2500	700~1000	0~0.6	16	SLOTTING
UPS1604	45	110	2000~2500	200~400	3~4	16	SLOTTING
UPS1604	45	110	2000~2500	200~400	5~6	16	SLOTTING
UPS1604	45	110	2000~2500	300~600	16	0.1~0.15	SIDE MILLING
UPS1604	45	110	2000~2500	700~1000	16	0~0.6	SIDE MILLING
UPS1604	45	110	2000~2500	300~500	16	3~4	SIDE MILLING
UPS1604	45	110	2000~2500	300~500	16	5~6	SIDE MILLING
UPS1604	45	110	2000~2500	300~600	32	0.1~0.15	SIDE MILLING
UPS1604	45	110	2000~2500	700~1000	32	0~0.6	SIDE MILLING
UPS1604	45	110	2000~2500	300~500	32	2~3	SIDE MILLING
UPS1804	50	90	1300~1800	300~500	0.1~0.15	18	SLOTTING
UPS1804	50	90	1300~1800	300~600	0~0.7	18	SLOTTING
UPS1804	50	90	1300~1800	150~300	3~4	18	SLOTTING
UPS1804	50	90	1300~1800	300~500	18	0.1~0.15	SIDE MILLING
UPS1804	50	90	1300~1800	300~600	18	0~0.7	SIDE MILLING
UPS1804	50	90	1300~1800	200~400	18	3~4	SIDE MILLING
UPS1804	50	90	1300~1800	300~500	36	0.1~0.15	SIDE MILLING
UPS1804	50	90	1300~1800	300~600	36	0~0.7	SIDE MILLING
UPS1804	50	90	1300~1800	150~300	36	2~3	SIDE MILLING
UPS2004	50	65	800~1300	200~400	0.1~0.15	20	SLOTTING
UPS2004	50	65	800~1300	150~300	0~0.6	20	SLOTTING
UPS2004	50	65	800~1300	100~200	3~4	20	SLOTTING
UPS2004	50	65	800~1300	200~400	20	0.1~0.15	SIDE MILLING
UPS2004	50	65	800~1300	150~300	20	0~0.6	SIDE MILLING
UPS2004	50	65	800~1300	100~200	20	3~4	SIDE MILLING
UPS2004	50	65	800~1300	200~400	40	0.1~0.15	SIDE MILLING
UPS2004	50	65	800~1300	150~300	40	0~0.6	SIDE MILLING
UPS2004L	70	50	600~1100	200~400	45	0.1~0.15	SIDE MILLING
UPS2004L	70	50	600~1100	100~200	45	0~0.4	SIDE MILLING

UPS

MILLING CONDITIONS

Work Material		Alloy Tool Steels / Carbon Tool Steels					
		P20 / P5 / SK3 / SKD61 / SKD11 : 1.2311 / 1.1545 / 1.2379 / 1.2344 : H13 / D2(HRC23~32)					
Coolant Type		Wet coolant					
Type No.	Extension Length (mm)	Cutting Speed (m/min)	Speed (min ⁻¹)	Feed (mm/min)	(A _s) Depth of Cut	(A _p) Width of Cut	Milling type
UPS0304	16	85	8700~9200	700~1000	0.02~0.07	3	SLOTTING
UPS0304	16	85	8700~9200	1000~1400	0~0.2	3	SLOTTING
UPS0304	16	85	8700~9200	500~800	0.5~0.8	3	SLOTTING
UPS0304	16	85	9000~9500	700~1000	3	0.02~0.07	SIDE MILLING
UPS0304	16	85	8700~9200	1000~1400	3	0~0.2	SIDE MILLING
UPS0304	16	85	8700~9200	500~800	3	0.5~0.8	SIDE MILLING
UPS0304	16	85	8700~9200	500~800	6	0.02~0.07	SIDE MILLING
UPS0304	16	85	8700~9200	700~1100	6	0~0.2	SIDE MILLING
UPS0304	16	85	8700~9200	400~700	6	0.5~0.8	SIDE MILLING
UPS0304L	25	80	8500~9000	500~800	9	0.02~0.07	SIDE MILLING
UPS0304L	25	80	8500~9000	500~800	9	0~0.2	SIDE MILLING
UPS0404	18	90	7000~7500	700~1000	0.03~0.08	4	SLOTTING
UPS0404	18	90	7000~7500	800~1200	0~0.3	4	SLOTTING
UPS0404	18	90	7000~7500	400~700	0.7~1	4	SLOTTING
UPS0404	18	90	7000~7500	700~1000	4	0.03~0.08	SIDE MILLING
UPS0404	18	90	7000~7500	700~1000	4	0~0.3	SIDE MILLING
UPS0404	18	90	7000~7500	300~600	4	0.7~1	SIDE MILLING
UPS0404	18	90	7000~7500	700~1000	8	0.03~0.08	SIDE MILLING
UPS0404	18	90	7000~7500	500~800	8	0~0.3	SIDE MILLING
UPS0404	18	90	7000~7500	300~500	8	0.7~1	SIDE MILLING
UPS0404L	25	85	6500~7000	500~800	12	0.03~0.08	SIDE MILLING
UPS0404L	25	85	6500~7000	500~800	12	0~0.3	SIDE MILLING
UPS0504	20	90	5500~6000	700~1000	0.05~0.1	5	SLOTTING
UPS0504	20	90	5500~6000	700~1100	0~0.4	5	SLOTTING
UPS0504	20	90	5500~6000	300~600	2~2.5	5	SLOTTING
UPS0504	20	90	5500~6000	700~1000	5	0.05~0.1	SIDE MILLING
UPS0504	20	90	5500~6000	700~1100	5	0~0.4	SIDE MILLING
UPS0504	20	90	5500~6000	300~600	5	2~2.5	SIDE MILLING
UPS0504	20	90	5500~6000	500~800	10	0.05~0.1	SIDE MILLING
UPS0504	20	90	5500~6000	500~800	10	0~0.4	SIDE MILLING
UPS0504	20	90	5500~6000	300~500	10	1~1.5	SIDE MILLING
UPS0604	20	95	4800~5300	500~800	0.05~0.1	6	SLOTTING
UPS0604	20	95	4800~5300	800~1200	0~0.4	6	SLOTTING
UPS0604	20	95	4800~5300	300~500	3~4	6	SLOTTING
UPS0604	20	95	4800~5300	500~800	6	0.05~0.1	SIDE MILLING
UPS0604	20	95	4800~5300	800~1200	6	0~0.4	SIDE MILLING
UPS0604	20	95	4800~5300	300~500	6	3~4	SIDE MILLING
UPS0604	20	95	4800~5300	500~800	12	0.05~0.1	SIDE MILLING

UPS

MILLING CONDITIONS

Work Material		Alloy Tool Steels / Carbon Tool Steels					
		P20 / P5 / SK3 / SKD61 / SKD11 : 1.2311 / 1.1545 / 1.2379 / 1.2344 : H13 / D2 (HRC23~32)					
Coolant Type		Wet coolant					
Type No.	Extension Length (mm)	Cutting Speed (m/min)	Speed (min ⁻¹)	Feed (mm/min)	(A _a) Depth of Cut	(A _p) Width of Cut	Milling Type
UPS0604	20	95	4800~5300	500~800	12	0~0.4	SIDE MILLING
UPS0604	20	95	4800~5300	300~500	12	2~3	SIDE MILLING
UPS0604L	30	90	4500~5000	400~700	16	0.05~0.1	SIDE MILLING
UPS0604L	30	90	4500~5000	500~800	16	0~0.4	SIDE MILLING
UPS0604L	30	70	3500~4000	200~400	16	0.7~1.2	SIDE MILLING
UPS0804	25	105	4000~4500	700~1100	0.05~0.1	8	SLOTTING
UPS0804	25	105	4000~4500	1200~1600	0~0.5	8	SLOTTING
UPS0804	25	105	4000~4500	300~600	3~4	8	SLOTTING
UPS0804	25	105	4000~4500	700~1100	8	0.05~0.1	SIDE MILLING
UPS0804	25	105	4000~4500	1000~1400	8	0~0.5	SIDE MILLING
UPS0804	25	105	4000~4500	400~700	8	3~4	SIDE MILLING
UPS0804	25	140	4200~4700	500~800	16	0.05~0.1	SIDE MILLING
UPS0804	25	140	4200~4700	700~1100	16	0~0.5	SIDE MILLING
UPS0804	25	140	4200~4700	300~600	16	3~4	SIDE MILLING
UPS0804L	35	95	3500~4000	400~700	20	0.05~0.1	SIDE MILLING
UPS0804L	35	95	3500~4000	700~1000	20	0~0.5	SIDE MILLING
UPS0804L	35	75	2700~3200	400~700	20	1~1.5	SIDE MILLING
UPS1004	30	100	3000~3500	500~800	0.05~0.1	10	SLOTTING
UPS1004	30	95	2800~3300	800~1200	0~0.5	10	SLOTTING
UPS1004	30	95	2800~3300	300~600	4~5	10	SLOTTING
UPS1004	30	95	2800~3300	300~500	8	10	SLOTTING
UPS1004	30	100	3000~3500	500~800	10	0.05~0.1	SIDE MILLING
UPS1004	30	95	2800~3300	1000~1400	10	0~0.5	SIDE MILLING
UPS1004	30	95	2800~3300	300~600	10	4~5	SIDE MILLING
UPS1004	30	95	2800~3300	400~700	20	0.05~0.1	SIDE MILLING
UPS1004	30	95	2800~3300	800~1200	20	0~0.5	SIDE MILLING
UPS1004	30	95	2800~3300	300~500	20	1~2	SIDE MILLING
UPS1004	30	95	2800~3300	200~400	20	4~5	SIDE MILLING
UPS1004L	40	90	2700~3200	300~600	25	0.05~0.1	SIDE MILLING
UPS1004L	40	90	2700~3200	700~1000	25	0~0.5	SIDE MILLING
UPS1004L	40	75	2200~2600	300~500	25	1~1.5	SIDE MILLING
UPS1204	33	110	2700~3200	300~600	0.1~0.15	10~12	SLOTTING
UPS1204	33	110	2700~3200	1000~1400	0~0.5	12	SLOTTING
UPS1204	33	110	2700~3200	300~450	2~3	12	SLOTTING
UPS1204	33	110	2700~3200	500~800	12	0.1~0.15	SIDE MILLING
UPS1204	33	110	2700~3200	1100~1500	12	0~0.5	SIDE MILLING
UPS1204	33	110	2700~3200	300~600	12	2~3	SIDE MILLING
UPS1204	33	110	2700~3200	400~700	24	0.1~0.15	SIDE MILLING

UPS

MILLING CONDITIONS

Work Material		Alloy Tool Steels / Carbon Tool Steels					
		P20 / P5 / SK3 / SKD61 / SKD11 : 1.2311 / 1.1545 / 1.2379 / 1.2344 : H13 / D2 (HRC23~32)					
Coolant Type		Wet coolant					
Type No.	Extension Length (mm)	Cutting Speed (m/min)	Speed (min ⁻¹)	Feed (mm/min)	(A _s) Depth of Cut	(A _p) Width of Cut	Milling type
UPS1204	33	110	2700~3200	800~1200	24	0~0.5	SIDE MILLING
UPS1204	33	110	2700~3200	300~500	24	2~3	SIDE MILLING
UPS1204L	50	90	2200~2700	600~800	30	0.1~0.15	SIDE MILLING
UPS1204L	50	90	2200~2700	700~1000	30	0~0.5	SIDE MILLING
UPS1204L	50	85	2000~2500	300~600	30	1~2	SIDE MILLING
UPS1604	45	110	2000~2500	300~600	0.1~0.15	16	SLOTTING
UPS1604	45	110	2000~2500	700~1000	0~0.6	16	SLOTTING
UPS1604	45	110	2000~2500	200~400	3~4	16	SLOTTING
UPS1604	45	110	2000~2500	300~600	16	0.1~0.15	SIDE MILLING
UPS1604	45	110	2000~2500	700~1000	16	0~0.6	SIDE MILLING
UPS1604	45	110	2000~2500	300~500	16	3~4	SIDE MILLING
UPS1604	45	110	2000~2500	300~600	32	0.1~0.15	SIDE MILLING
UPS1604	45	110	2000~2500	700~1000	32	0~0.6	SIDE MILLING
UPS1604	45	110	2000~2500	300~500	32	1~2	SIDE MILLING
UPS1804	50	90	1300~1800	300~500	0.1~0.15	18	SLOTTING
UPS1804	50	90	1300~1800	300~600	0~0.7	18	SLOTTING
UPS1804	50	90	1300~1800	200~350	3~4	18	SLOTTING
UPS1804	50	90	1300~1800	300~500	18	0.1~0.15	SIDE MILLING
UPS1804	50	90	1300~1800	300~600	18	0~0.7	SIDE MILLING
UPS1804	50	90	1300~1800	250~400	18	3~4	SIDE MILLING
UPS1804	50	90	1300~1800	300~500	36	0.1~0.15	SIDE MILLING
UPS1804	50	90	1300~1800	300~600	36	0~0.7	SIDE MILLING
UPS1804	50	90	1300~1800	150~300	36	2~3	SIDE MILLING
UPS2004	50	65	800~1300	200~400	0.1~0.15	20	SLOTTING
UPS2004	50	65	800~1300	150~300	0~0.6	20	SLOTTING
UPS2004	50	65	800~1300	150~250	3~4	20	SLOTTING
UPS2004	50	65	800~1300	200~400	20	0.1~0.15	SIDE MILLING
UPS2004	50	65	800~1300	150~300	20	0~0.6	SIDE MILLING
UPS2004	50	65	800~1300	150~250	20	3~4	SIDE MILLING
UPS2004	50	65	800~1300	200~400	40	0.1~0.15	SIDE MILLING
UPS2004	50	65	800~1300	150~300	40	0~0.6	SIDE MILLING
UPS2004L	70	50	600~1100	200~400	45	0.1~0.15	SIDE MILLING
UPS2004L	70	50	600~1100	100~200	45	0~0.4	SIDE MILLING

UPS

MILLING CONDITIONS

Work Material		Stainless Steels [Easy] : SUS304 : 1.4301 : AISI 304 (HRC28~32)					
Coolant Type		Wet coolant					
Type No.	Extension Length (mm)	Cutting Speed (m/min)	Speed (min ⁻¹)	Feed (mm/min)	(A _a) Depth of Cut	(A _p) Width of Cut	Milling Type
UPS0304	16	85	8700~9200	500~800	0.02~0.07	3	SLOTTING
UPS0304	16	85	8700~9200	700~1100	0~0.2	3	SLOTTING
UPS0304	16	85	8700~9200	300~600	0.5~0.8	3	SLOTTING
UPS0304	16	85	9000~9500	500~800	3	0.02~0.07	SIDE MILLING
UPS0304	16	85	8700~9200	700~1100	3	0~0.2	SIDE MILLING
UPS0304	16	85	8700~9200	300~600	3	0.5~0.8	SIDE MILLING
UPS0304	16	85	8700~9200	400~700	6	0.02~0.07	SIDE MILLING
UPS0304	16	85	8700~9200	500~800	6	0~0.2	SIDE MILLING
UPS0304	16	85	8700~9200	300~500	6	0.5~0.8	SIDE MILLING
UPS0304L	25	80	8500~9000	400~700	9	0.02~0.07	SIDE MILLING
UPS0304L	25	80	8500~9000	300~600	9	0~0.2	SIDE MILLING
UPS0404	18	90	7000~7500	500~800	0.03~0.08	4	SLOTTING
UPS0404	18	90	7000~7500	700~1000	0~0.3	4	SLOTTING
UPS0404	18	90	7000~7500	300~600	0.7~1	4	SLOTTING
UPS0404	18	90	7000~7500	500~800	4	0.03~0.08	SIDE MILLING
UPS0404	18	90	7000~7500	700~1000	4	0~0.3	SIDE MILLING
UPS0404	18	90	7000~7500	300~500	4	0.7~1	SIDE MILLING
UPS0404	18	90	7000~7500	400~700	8	0.03~0.08	SIDE MILLING
UPS0404	18	90	7000~7500	300~600	8	0~0.3	SIDE MILLING
UPS0404	18	90	7000~7500	200~400	8	0.7~1	SIDE MILLING
UPS0404L	25	85	6500~7000	400~700	12	0.03~0.08	SIDE MILLING
UPS0404L	25	85	6500~7000	300~600	12	0~0.3	SIDE MILLING
UPS0504	20	90	5500~6000	500~800	0.05~0.1	5	SLOTTING
UPS0504	20	90	5500~6000	700~1000	0~0.4	5	SLOTTING
UPS0504	20	90	5500~6000	300~500	1.7~2.2	5	SLOTTING
UPS0504	20	90	5500~6000	500~800	5	0.05~0.1	SIDE MILLING
UPS0504	20	90	5500~6000	700~1000	5	0~0.4	SIDE MILLING
UPS0504	20	90	5500~6000	300~600	5	1.7~2.2	SIDE MILLING
UPS0504	20	90	5500~6000	400~700	10	0.05~0.1	SIDE MILLING
UPS0504	20	90	5500~6000	400~700	10	0~0.4	SIDE MILLING
UPS0504	20	90	5500~6000	300~600	10	1~1.5	SIDE MILLING
UPS0604	20	95	4800~5300	400~700	0.05~0.1	6	SLOTTING
UPS0604	20	95	4800~5300	700~1000	0~0.4	6	SLOTTING
UPS0604	20	95	4800~5300	200~400	3~4	6	SLOTTING
UPS0604	20	95	4800~5300	400~700	6	0.05~0.1	SIDE MILLING
UPS0604	20	95	4800~5300	700~1000	6	0~0.4	SIDE MILLING
UPS0604	20	95	4800~5300	300~500	6	3~4	SIDE MILLING
UPS0604	20	95	4800~5300	400~700	12	0.05~0.1	SIDE MILLING

UPS

MILLING CONDITIONS

Work Material		Stainless Steels [Easy] : SUS304 : 1.4301 : AISI 304 (HRC28~32)					
Coolant Type		Wet coolant					
Type No.	Extension Length (mm)	Cutting Speed (m/min)	Speed (min ⁻¹)	Feed (mm/min)	(A _s) Depth of Cut	(A _p) Width of Cut	Milling Type
UPS0604	20	95	4800~5300	400~700	12	0~0.4	SIDE MILLING
UPS0604	20	95	4800~5300	300~500	12	1~2	SIDE MILLING
UPS0604L	30	90	4500~5000	300~600	16	0.05~0.1	SIDE MILLING
UPS0604L	30	90	4500~5000	400~700	16	0~0.4	SIDE MILLING
UPS0604L	30	70	3500~4000	200~400	16	0.7~1	SIDE MILLING
UPS0804	25	105	4000~4500	500~800	0.05~0.1	8	SLOTTING
UPS0804	25	105	4000~4500	1000~1400	0~0.5	8	SLOTTING
UPS0804	25	105	4000~4500	300~600	3~4	8	SLOTTING
UPS0804	25	105	4000~4500	500~800	8	0.05~0.1	SIDE MILLING
UPS0804	25	105	4000~4500	700~1000	8	0~0.5	SIDE MILLING
UPS0804	25	105	4000~4500	300~600	8	3~4	SIDE MILLING
UPS0804	25	140	4200~4700	400~700	16	0.05~0.1	SIDE MILLING
UPS0804	25	140	4200~4700	500~800	16	0~0.5	SIDE MILLING
UPS0804	25	140	4200~4700	300~500	16	3~4	SIDE MILLING
UPS0804L	35	95	3500~4000	300~600	20	0.05~0.1	SIDE MILLING
UPS0804L	35	95	3500~4000	500~800	20	0~0.5	SIDE MILLING
UPS0804L	35	75	2700~3200	300~600	20	1~1.5	SIDE MILLING
UPS1004	30	100	3000~3500	500~800	0.05~0.1	10	SLOTTING
UPS1004	30	95	2800~3300	700~1000	0~0.5	10	SLOTTING
UPS1004	30	95	2800~3300	300~500	4~5	10	SLOTTING
UPS1004	30	95	2800~3300	300~500	8	10	SLOTTING
UPS1004	30	100	3000~3500	500~800	10	0.05~0.1	SIDE MILLING
UPS1004	30	95	2800~3300	800~1200	10	0~0.5	SIDE MILLING
UPS1004	30	95	2800~3300	300~500	10	4~5	SIDE MILLING
UPS1004	30	95	2800~3300	400~700	20	0.05~0.1	SIDE MILLING
UPS1004	30	95	2800~3300	700~1000	20	0~0.5	SIDE MILLING
UPS1004	30	95	2800~3300	300~500	20	1~2	SIDE MILLING
UPS1004	30	95	2800~3300	200~400	20	4~5	SIDE MILLING
UPS1004L	40	90	2700~3200	300~500	25	0.05~0.1	SIDE MILLING
UPS1004L	40	90	2700~3200	500~800	25	0~0.5	SIDE MILLING
UPS1004L	40	75	2200~2600	200~400	25	1~1.5	SIDE MILLING
UPS1204	33	95	2300~2800	300~500	0.1~0.15	10~12	SLOTTING
UPS1204	33	95	2300~2800	800~1200	0~0.5	12	SLOTTING
UPS1204	33	95	2300~2800	200~400	2~3	12	SLOTTING
UPS1204	33	95	2300~2800	500~700	12	0.1~0.15	SIDE MILLING
UPS1204	33	95	2300~2800	1000~1400	12	0~0.5	SIDE MILLING
UPS1204	33	95	2300~2800	300~500	12	2~3	SIDE MILLING
UPS1204	33	95	2300~2800	400~600	24	0.1~0.15	SIDE MILLING

UPS

MILLING CONDITIONS

Work Material		Stainless Steels [Easy] : SUS304 : 1.4301 : AISI 304 (HRc28~32)					
Coolant Type		Wet coolant					
Type No.	Extension Length (mm)	Cutting Speed (m/min)	Speed (min ⁻¹)	Feed (mm/min)	(A _a) Depth of Cut	(A _p) Width of Cut	Milling Type
UPS1204	33	95	2300~2800	800~1000	24	0~0.5	SIDE MILLING
UPS1204	33	95	2300~2800	300~500	24	1.5~2.5	SIDE MILLING
UPS1204L	50	85	2000~2500	500~700	30	0.1~0.15	SIDE MILLING
UPS1204L	50	85	2000~2500	700~900	30	0~0.5	SIDE MILLING
UPS1204L	50	80	1900~2300	300~500	30	1~1.5	SIDE MILLING
UPS1604	45	95	1700~2100	300~500	0.1~0.15	16	SLOTTING
UPS1604	45	95	1700~2100	700~900	0~0.5	16	SLOTTING
UPS1604	45	95	1700~2100	200~350	3~4	16	SLOTTING
UPS1604	45	95	1700~2100	300~500	16	0.1~0.15	SIDE MILLING
UPS1604	45	95	1700~2100	700~900	16	0~0.4	SIDE MILLING
UPS1604	45	95	1700~2100	300~400	16	3~4	SIDE MILLING
UPS1604	45	95	1700~2100	300~500	32	0.1~0.15	SIDE MILLING
UPS1604	45	95	1700~2100	700~900	32	0~0.6	SIDE MILLING
UPS1604	45	95	1700~2100	300~500	32	1~1.5	SIDE MILLING
UPS1804	50	80	1200~1600	300~500	0.1~0.15	18	SLOTTING
UPS1804	50	80	1200~1600	300~600	0~0.5	18	SLOTTING
UPS1804	50	80	1200~1600	150~300	3~4	18	SLOTTING
UPS1804	50	80	1200~1600	300~500	18	0.1~0.15	SIDE MILLING
UPS1804	50	80	1200~1600	300~600	18	0~0.5	SIDE MILLING
UPS1804	50	80	1200~1600	200~350	18	2~3	SIDE MILLING
UPS1804	50	80	1200~1600	300~500	36	0.1~0.15	SIDE MILLING
UPS1804	50	80	1200~1600	300~600	36	0~0.5	SIDE MILLING
UPS1804	50	80	1200~1600	150~300	36	1.5~2.5	SIDE MILLING
UPS2004	50	60	750~1150	200~400	0.1~0.15	20	SLOTTING
UPS2004	50	60	750~1150	150~300	0~0.5	20	SLOTTING
UPS2004	50	60	750~1150	100~200	3~4	20	SLOTTING
UPS2004	50	60	750~1150	200~400	20	0.1~0.15	SIDE MILLING
UPS2004	50	60	750~1150	150~300	20	0~0.6	SIDE MILLING
UPS2004	50	60	750~1150	100~200	20	3~4	SIDE MILLING
UPS2004	50	60	750~1150	200~400	40	0.1~0.15	SIDE MILLING
UPS2004	50	60	750~1150	150~300	40	0~0.5	SIDE MILLING
UPS2004L	70	50	600~1100	200~400	45	0.1~0.15	SIDE MILLING
UPS2004L	70	50	600~1100	100~200	45	0~0.3	SIDE MILLING

UPZ

MILLING CONDITIONS

Work Material		Carbon Steels : S50C / SS400 : 1.1210 / 1.0036 : 1050 / A570 Gr.45 (~HRC22)					
Coolant Type		Wet coolant					
Type No.	Extension Length (mm)	Cutting Speed (m/min)	Speed (min ⁻¹)	Feed (mm/min)	(A _s) Depth of Cut	(A _p) Width of Cut	Milling type
UPZ0304	16	85	8800~9300	1200~1600	0~0.2	3	SLOTTING
UPZ0304	16	85	8800~9300	500~800	0.5~1	3	SLOTTING
UPZ0304	16	85	8800~9300	1200~1600	3	0~0.2	SIDE MILLING
UPZ0304	16	85	8800~9300	500~800	3	0.5~1	SIDE MILLING
UPZ0304	16	85	8800~9300	800~1200	6	0~0.2	SIDE MILLING
UPZ0404	20	100	7800~8300	1600~2000	0~0.3	4	SLOTTING
UPZ0404	20	100	7800~8300	800~1200	0.5~0.8	4	SLOTTING
UPZ0404	20	100	7800~8300	400~700	1~2	4	SLOTTING
UPZ0404	20	100	7800~8300	1600~2000	4	0~0.3	SIDE MILLING
UPZ0404	20	100	7800~8300	800~1200	4	0.5~0.8	SIDE MILLING
UPZ0404	20	100	7800~8300	500~800	4	1~2	SIDE MILLING
UPZ0404	20	100	7800~8300	1200~1600	8	0~0.3	SIDE MILLING
UPZ0504	20	110	6700~7200	1800~2200	0~0.4	5	SLOTTING
UPZ0504	20	110	6700~7200	1000~1400	1~2	5	SLOTTING
UPZ0504	20	110	6700~7200	500~800	3~4	5	SLOTTING
UPZ0504	20	110	6700~7200	1800~2200	5	0~0.4	SIDE MILLING
UPZ0504	20	110	6700~7200	1000~1400	5	1~2	SIDE MILLING
UPZ0504	20	110	6700~7200	500~800	5	3~4	SIDE MILLING
UPZ0504	20	110	6700~7200	1200~1600	10	0~0.4	SIDE MILLING
UPZ0504	20	110	6700~7200	500~800	10	1~2	SIDE MILLING
UPZ0504	20	110	6700~7200	400~700	10	3~4	SIDE MILLING
UPZ0604	20	115	5800~6300	2000~2400	0~0.5	6	SLOTTING
UPZ0604	20	115	5800~6300	1200~1600	1~2	6	SLOTTING
UPZ0604	20	115	5800~6300	500~800	4~5	6	SLOTTING
UPZ0604	20	115	5800~6300	700~1000	7~9	6	SLOTTING
UPZ0604	20	115	5800~6300	1800~2200	6	0~0.5	SIDE MILLING
UPZ0604	20	115	5800~6300	1200~1600	6	1~2	SIDE MILLING
UPZ0604	20	115	5800~6300	700~1000	6	4~5	SIDE MILLING
UPZ0604	20	115	5800~6300	1400~1800	12	0~0.5	SIDE MILLING
UPZ0604	20	115	5800~6300	700~1000	12	1~2	SIDE MILLING
UPZ0604	20	115	5800~6300	500~800	12	4~5	SIDE MILLING
UPZ0804	25	125	4700~5200	2200~2600	0~0.5	8	SLOTTING
UPZ0804	25	125	4700~5200	1200~1600	1~2	8	SLOTTING
UPZ0804	25	125	4700~5200	700~1100	3~4	8	SLOTTING
UPZ0804	25	125	4700~5200	1000~1400	7~8	8	SLOTTING
UPZ0804	25	125	4700~5200	700~1000	10~12	8	SLOTTING
UPZ0804	25	125	4700~5200	2200~2600	8	0~0.5	SIDE MILLING
UPZ0804	25	125	4700~5200	1200~1600	8	1~2	SIDE MILLING
UPZ0804	25	125	4700~5200	800~1200	8	3~4	SIDE MILLING

UPZ

MILLING CONDITIONS

Work Material		Prehardened Steels : NAK80 : 1.2083 : AISI420 : M310 (HRC36~45)					
Coolant Type		Wet coolant					
Type No.	Extension Length (mm)	Cutting Speed (m/min)	Speed (min ⁻¹)	Feed (mm/min)	(A _a) Depth of Cut	(A _p) Width of Cut	Milling Type
UPZ0804	25	120	4500~5000	500~800	8	6~7	SIDE MILLING
UPZ0804	25	120	4500~5000	1800~2200	16	0~0.5	SIDE MILLING
UPZ0804	25	120	4500~5000	700~1000	16	1~2	SIDE MILLING
UPZ0804	25	120	4500~5000	400~700	16	3~4	SIDE MILLING
UPZ0804	25	120	4500~5000	300~600	16	6~7	SIDE MILLING
UPZ1004	30	100	3000~3500	1200~1600	0~0.6	10	SLOTTING
UPZ1004	30	95	2800~3300	500~800	1~2	10	SLOTTING
UPZ1004	30	95	2800~3300	300~600	4~5	10	SLOTTING
UPZ1004	30	95	2800~3300	500~800	8~10	10	SLOTTING
UPZ1004	30	95	2800~3300	300~500	13~15	10	SLOTTING
UPZ1004	30	125	3700~4200	2200~2600	10	0~0.6	SIDE MILLING
UPZ1004	30	90	2700~3200	500~800	10	1~2	SIDE MILLING
UPZ1004	30	100	3000~3400	500~800	10	4~5	SIDE MILLING
UPZ1004	30	95	2800~3300	500~800	10	8~9	SIDE MILLING
UPZ1004	30	95	2800~3300	500~800	20	0~0.6	SIDE MILLING
UPZ1004	30	95	2800~3300	300~600	20	1~2	SIDE MILLING
UPZ1004	30	95	2800~3300	300~600	20	4~5	SIDE MILLING
UPZ1004	30	95	2800~3300	300~500	20	8~9	SIDE MILLING
UPZ1204	33	110	2700~3200	700~1000	0~0.7	12	SLOTTING
UPZ1204	33	110	2700~3200	300~600	2~3	12	SLOTTING
UPZ1204	33	110	2700~3200	300~600	5~7	12	SLOTTING
UPZ1204	33	110	2700~3200	800~1200	12	0~0.7	SIDE MILLING
UPZ1204	33	110	2700~3200	300~600	12	2~3	SIDE MILLING
UPZ1204	33	110	2700~3200	300~600	12	5~7	SIDE MILLING
UPZ1204	33	90	2200~2600	500~800	24	0~0.7	SIDE MILLING
UPZ1204	33	90	2200~2600	300~600	24	2~3	SIDE MILLING
UPZ1604	45	90	1600~2000	700~900	0~1	16	SLOTTING
UPZ1604	45	90	1600~2000	300~400	3~4	16	SLOTTING
UPZ1604	45	90	1600~2000	200~350	5~6	16	SLOTTING
UPZ1604	45	90	1600~2000	700~900	16	0~1	SIDE MILLING
UPZ1604	45	90	1600~2000	400~600	16	3~4	SIDE MILLING
UPZ1604	45	90	1600~2000	250~450	16	5~6	SIDE MILLING
UPZ1604	45	90	1600~2000	600~800	32	0~1	SIDE MILLING
UPZ2004	50	90	1200~1600	400~600	1~1.5	20	SLOTTING
UPZ2004	50	90	1200~1600	300~600	2~3	20	SLOTTING
UPZ2004	50	90	1200~1600	200~400	4~5	20	SLOTTING
UPZ2004	50	90	1200~1600	500~800	20	1~1.5	SIDE MILLING
UPZ2004	50	90	1200~1600	300~600	20	2~3	SIDE MILLING
UPZ2004	50	90	1200~1600	200~400	20	4~5	SIDE MILLING

UPZ

MILLING CONDITIONS

Work Material		Stainless Steels [Easy] : SUS304 : 1.4301 : AISI 304 (HRC28~32)					
Coolant Type		Wet coolant					
Type No.	Extension Length (mm)	Cutting Speed (m/min)	Speed (min ⁻¹)	Feed (mm/min)	(A _s) Depth of Cut	(A _p) Width of Cut	Milling type
UPZ0304	13	105	11000	700~900	0~0.7	3	SLOTTING
UPZ0304	13	105	11000	450~650	0.7~1.5	3	SLOTTING
UPZ0304	13	105	11000	1500~1700	3~6	0~0.3	SIDE MILLING
UPZ0304	13	105	11000	600~800	3	1~1.5	SIDE MILLING
UPZ0304	13	105	11000	500~700	6	1~1.5	SIDE MILLING
UPZ0304	13	105	11000	400~500	3	1.5~3	SIDE MILLING
UPZ0304	13	140	14800	500~700	3	1.5~3	SIDE MILLING
UPZ0404	16	105	8300	800~1000	0~1	4	SLOTTING
UPZ0404	16	105	8300	500~700	1~2	4	SLOTTING
UPZ0404	16	105	8300	1500~1700	4~8	0~0.4	SIDE MILLING
UPZ0404	16	105	8300	800~1000	4	1.6~2	SIDE MILLING
UPZ0404	16	105	8300	600~800	8	1.6~2	SIDE MILLING
UPZ0404	16	105	8300	500~700	4	2~4	SIDE MILLING
UPZ0404	16	140	11000	700~900	4	2~4	SIDE MILLING
UPZ0504	18	105	6700	900~1100	0~1.2	5	SLOTTING
UPZ0504	18	105	6700	600~800	1.2~2.5	5	SLOTTING
UPZ0504	18	105	6700	500~600	2.5~5	5	SLOTTING
UPZ0504	18	140	8900	900~1100	2.5~5	5	SLOTTING
UPZ0504	18	105	6700	1500~1700	5~10	0~0.5	SIDE MILLING
UPZ0504	18	105	6700	900~1100	5	1.8~2.5	SIDE MILLING
UPZ0504	18	105	6700	700~900	10	1.8~2.5	SIDE MILLING
UPZ0504	18	105	6700	600~800	5	2.5~5	SIDE MILLING
UPZ0504	18	140	8900	900~1100	5	2.5~5	SIDE MILLING
UPZ0604	20	105	5500	1000~1200	0~1.5	6	SLOTTING
UPZ0604	20	105	5500	700~900	1.5~3	6	SLOTTING
UPZ0604	20	105	5500	600~800	3~6	6	SLOTTING
UPZ0604	20	140	7400	1000~1200	3~6	6	SLOTTING
UPZ0604	20	105	5500	1600~1800	6~12	0~0.5	SIDE MILLING
UPZ0604	20	105	5500	1000~1200	6	2.2~3	SIDE MILLING
UPZ0604	20	105	5500	700~900	12	2.2~3	SIDE MILLING
UPZ0604	20	105	5500	700~900	6	3~6	SIDE MILLING
UPZ0604	20	140	7400	1000~1200	6	3~6	SIDE MILLING
UPZ0804	25	105	4200	1000~1200	0~1.8	8	SLOTTING
UPZ0804	25	105	4200	800~1000	2~4	8	SLOTTING
UPZ0804	25	105	4200	700~900	4~8	8	SLOTTING
UPZ0804	25	140	5600	900~1100	4~8	8	SLOTTING
UPZ0804	25	105	4200	1400~1600	8~16	0~0.5	SIDE MILLING
UPZ0804	25	105	4200	800~1000	8	3~4	SIDE MILLING

UPW

MILLING CONDITIONS

Work Material		Stainless Steels 【Easy】 : SUS304 : 1.4301 : AISI 304 (HRC28~32)					
Coolant Type		Wet coolant					
Type No.	Extension Length (mm)	Cutting Speed (m/min)	Speed (min ⁻¹)	Feed (mm/min)	(A _a) Depth of Cut	(A _p) Width of Cut	Milling Type
UPW0305	18	85	8700~9200	700~1000	0.02~0.07	3	SLOTTING
UPW0305	18	85	8700~9200	800~1200	0~0.2	3	SLOTTING
UPW0305	18	85	8700~9200	300~600	0.7~1	3	SLOTTING
UPW0305	18	85	8700~9200	300~600	3	3	SLOTTING
UPW0305	18	85	8700~9200	700~1000	3	0.02~0.07	SIDE MILLING
UPW0305	18	85	8700~9200	800~1200	3	0~0.2	SIDE MILLING
UPW0305	18	85	8700~9200	700~1000	6	0.02~0.07	SIDE MILLING
UPW0305	18	85	8700~9200	700~1000	6	0~0.2	SIDE MILLING
UPW0405	18	95	7200~7700	700~1000	0~0.3	4	SLOTTING
UPW0405	18	95	7200~7700	800~1200	0~0.3	4	SLOTTING
UPW0405	18	95	7200~7700	300~600	1~1.5	4	SLOTTING
UPW0405	18	95	7200~7700	300~500	4	4	SLOTTING
UPW0405	18	95	7200~7700	800~1200	4	0.03~0.08	SIDE MILLING
UPW0405	18	95	7200~7700	800~1200	4	0~0.3	SIDE MILLING
UPW0405	18	95	7200~7700	800~1200	8	0.03~0.08	SIDE MILLING
UPW0405	18	95	7200~7700	700~1000	8	0~0.3	SIDE MILLING
UPW0505	20	95	5800~6300	500~800	0~0.4	5	SLOTTING
UPW0505	20	95	5800~6300	1400~1800	0~0.4	5	SLOTTING
UPW0505	20	95	5800~6300	400~700	2~2.5	5	SLOTTING
UPW0505	20	95	5800~6300	300~600	5	5	SLOTTING
UPW0505	20	95	5800~6300	700~1100	5	0.05~0.1	SIDE MILLING
UPW0505	20	95	5800~6300	1400~1800	5	0~0.4	SIDE MILLING
UPW0505	20	95	5800~6300	700~1100	10	0.05~0.1	SIDE MILLING
UPW0505	20	95	5800~6300	800~1200	10	0~0.4	SIDE MILLING
UPW0605	20	95	4800~5300	500~800	0.05~0.1	6	SLOTTING
UPW0605	20	95	4800~5300	1600~2000	0~0.4	6	SLOTTING
UPW0605	20	95	4800~5300	400~700	2~3	6	SLOTTING
UPW0605	20	95	4800~5300	300~600	6	6	SLOTTING
UPW0605	20	95	4800~5300	700~1100	6	0.05~0.1	SIDE MILLING
UPW0605	20	95	4800~5300	1600~2000	6	0~0.4	SIDE MILLING
UPW0605	20	95	4800~5300	700~1100	12	0.05~0.1	SIDE MILLING
UPW0605	20	95	4800~5300	1000~1400	12	0~0.4	SIDE MILLING
UPW0805	25	115	4300~4800	500~800	0.05~0.1	8	SLOTTING
UPW0805	25	115	4300~4800	1400~1800	0~0.5	8	SLOTTING
UPW0805	25	115	4300~4800	300~600	3~4	8	SLOTTING
UPW0805	25	115	4300~4800	300~600	8	8	SLOTTING
UPW0805	25	115	4300~4800	700~1100	8	0.05~0.1	SIDE MILLING
UPW0805	25	115	4300~4800	1400~1800	8	0~0.5	SIDE MILLING

UPW

MILLING CONDITIONS

Work Material		Stainless Steels [Easy] : SUS304 : 1.4301 : AISI 304 (HRC28~32)					
Coolant Type		Wet coolant					
Type No.	Extension Length (mm)	Cutting Speed (m/min)	Speed (min ⁻¹)	Feed (mm/min)	(A _s) Depth of Cut	(A _p) Width of Cut	Milling type
UPW0805	25	115	4300~4800	700~1100	16	0.05~0.1	SIDE MILLING
UPW0805	25	115	4300~4800	1000~1400	16	0~0.5	SIDE MILLING
UPW1005	30	125	3700~4200	500~800	0.05~0.1	10	SLOTTING
UPW1005	30	125	3700~4200	1600~2000	0~0.5	10	SLOTTING
UPW1005	30	125	3700~4200	400~700	4~5	10	SLOTTING
UPW1005	30	125	3700~4200	400~700	10	10	SLOTTING
UPW1005	30	125	3700~4200	700~1100	10	0.05~0.1	SIDE MILLING
UPW1005	30	125	3700~4200	1600~2000	10	0~0.5	SIDE MILLING
UPW1005	30	125	3700~4200	800~1200	10	1	SIDE MILLING
UPW1005	30	125	3700~4200	700~1100	20	0.05~0.1	SIDE MILLING
UPW1005	30	125	3700~4200	1000~1400	20	0~0.5	SIDE MILLING
UPW1005	30	125	3700~4200	500~800	20	1	SIDE MILLING
UPW1205	35	95	2300~2800	500~800	0.1~0.15	12	SLOTTING
UPW1205	35	95	2300~2800	1000~1400	0~0.5	12	SLOTTING
UPW1205	35	95	2300~2800	300~600	2~3	12	SLOTTING
UPW1205	35	95	2300~2800	300~600	5~6	12	SLOTTING
UPW1205	35	95	2300~2800	700~1000	12	0.1~0.15	SIDE MILLING
UPW1205	35	95	2300~2800	1000~1400	12	0~0.5	SIDE MILLING
UPW1205	35	95	2300~2800	500~800	12	1	SIDE MILLING
UPW1205	35	95	2300~2800	700~1000	24	0.1~0.15	SIDE MILLING
UPW1205	35	95	2300~2800	800~1200	24	0~0.5	SIDE MILLING
UPW1205	35	95	2300~2800	400~700	24	1	SIDE MILLING
UPW1405	40	90	1800~2300	500~800	0.1~0.15	14	SLOTTING
UPW1405	40	90	1800~2300	700~1000	0~0.6	14	SLOTTING
UPW1405	40	90	1800~2300	300~600	2~3	14	SLOTTING
UPW1405	40	90	1800~2300	300~500	5~6	14	SLOTTING
UPW1405	40	90	1800~2300	700~1000	14	0.1~0.15	SIDE MILLING
UPW1405	40	90	1800~2300	700~1000	14	0~0.6	SIDE MILLING
UPW1405	40	90	1800~2300	400~700	14	1	SIDE MILLING
UPW1405	40	90	1800~2300	700~1000	28	0.1~0.15	SIDE MILLING
UPW1405	40	90	1800~2300	500~800	28	0~0.6	SIDE MILLING
UPW1405	40	90	1800~2300	300~600	28	1	SIDE MILLING
UPW1605	50	90	1500~2000	500~800	0.1~0.15	16	SLOTTING
UPW1605	50	90	1500~2000	700~1000	0~0.6	16	SLOTTING
UPW1605	50	90	1500~2000	300~600	2~3	16	SLOTTING
UPW1605	50	90	1500~2000	300~500	5~6	16	SLOTTING
UPW1605	50	90	1500~2000	700~1000	16	0.1~0.15	SIDE MILLING
UPW1605	50	90	1500~2000	700~1000	16	0~0.6	SIDE MILLING

UPJ

MILLING CONDITIONS

Work Material		SCM440 : 1.7225 : 4140 : 42CrMoA (HRc25~28)					
Coolant Type		Wet coolant					
Type No.	Extension Length (mm)	Cutting Speed (m/min)	Speed (min ⁻¹)	Feed (mm/min)	(A _a) Depth of Cut	(A _p) Width of Cut	Milling Type
UPJ0804	25	110	4200~4700	300~600	8	7	SIDE MILLING
UPJ0804	25	110	4200~4700	1600~2000	16	0~0.5	SIDE MILLING
UPJ0804	25	110	4200~4700	700~1000	16	1~2	SIDE MILLING
UPJ0804	25	110	4200~4700	400~700	16	3~4	SIDE MILLING
UPJ0804	25	160	6200~6700	3400~3800	0.15~0.25	0.15~0.25	3D MILLING
UPJ1004	30	125	3700~4200	1400~1800	0~0.6	10	SLOTTING
UPJ1004	30	125	3700~4200	1000~1400	1~2	10	SLOTTING
UPJ1004	30	125	3700~4200	700~1000	4~5	10	SLOTTING
UPJ1004	30	125	3700~4200	300~600	10	10	SLOTTING
UPJ1004	30	125	3700~4200	1200~1600	10	1~2	SIDE MILLING
UPJ1004	30	125	3700~4200	700~1000	10	4~5	SIDE MILLING
UPJ1004	30	125	3700~4200	400~700	10	8	SIDE MILLING
UPJ1004	30	125	3700~4200	1800~2200	20	0~0.6	SIDE MILLING
UPJ1004	30	125	3700~4200	800~1200	20	1~2	SIDE MILLING
UPJ1004	30	125	3700~4200	400~700	20	4~5	SIDE MILLING
UPJ1004	30	160	4800~5300	3400~3800	0.2~0.3	0.2~0.3	3D MILLING
UPJ1204	35	110	2700~3200	1600~2000	0~0.6	12	SLOTTING
UPJ1204	35	115	2800~3300	800~1200	1~2	12	SLOTTING
UPJ1204	35	115	2800~3300	400~700	4~5	12	SLOTTING
UPJ1204	35	115	2800~3300	800~1200	12	1~2	SIDE MILLING
UPJ1204	35	115	2800~3300	500~800	12	4~5	SIDE MILLING
UPJ1204	35	115	2800~3300	1400~1800	24	0~0.6	SIDE MILLING
UPJ1204	35	115	2800~3300	700~1000	24	2~3	SIDE MILLING
UPJ1204	35	150	3800~4300	2400~2800	0.2~0.3	0.2~0.3	3D MILLING
UPJ1604	50	100	1800~2300	1000~1400	0~0.7	16	SLOTTING
UPJ1604	50	100	1800~2300	700~1000	1.5~2	16	SLOTTING
UPJ1604	50	100	1800~2300	400~700	5~6	16	SLOTTING
UPJ1604	50	100	1800~2300	1000~1400	16	0~0.7	SIDE MILLING
UPJ1604	50	100	1800~2300	700~1000	16	2~3	SIDE MILLING
UPJ1604	50	100	1800~2300	400~700	16	5~6	SIDE MILLING
UPJ1604	50	100	1800~2300	800~1200	32	0~0.7	SIDE MILLING
UPJ1604	50	100	1800~2300	400~700	32	2~3	SIDE MILLING
UPJ1604	50	150	2800~3300	1800~2200	0.3~0.4	0.3~0.4	3D MILLING
UPJ2004	60	80	1000~1500	700~1100	0~0.7	20	SLOTTING
UPJ2004	60	80	1000~1500	300~600	2~3	20	SLOTTING
UPJ2004	60	80	1000~1500	700~1100	20	0~0.7	SIDE MILLING
UPJ2004	60	80	1000~1500	300~600	20	2~3	SIDE MILLING
UPJ2004	60	80	1000~1500	500~800	40	0~0.7	SIDE MILLING
UPJ2004	60	130	1800~2300	1000~1400	0.4~0.5	0.4~0.5	3D MILLING

UPJ

MILLING CONDITIONS

Work Material		Alloy Tool Steels / Carbon Tool Steels					
		P20 / P5 / SK3 / SKD61 / SKD11 : 1.2311 / 1.1545 / 1.2379 / 1.2344 : H13 / D2 (HRC23~32)					
Coolant Type		Wet coolant					
Type No.	Extension Length (mm)	Cutting Speed (m/min)	Speed (min ⁻¹)	Feed (mm/min)	(A _s) Depth of Cut	(A _p) Width of Cut	Milling type
UPJ0304	16	85	8700~9200	800~1200	0~0.3	3	SLOTTING
UPJ0304	16	85	8700~9200	300~600	1~1.5	3	SLOTTING
UPJ0304	16	85	8700~9200	300~500	3	3	SLOTTING
UPJ0304	16	85	8700~9200	1000~1400	3	0~0.3	SIDE MILLING
UPJ0304	16	85	8700~9200	400~700	3	1~1.5	SIDE MILLING
UPJ0304	16	85	8700~9200	700~1100	6	0~0.3	SIDE MILLING
UPJ0304	16	85	8700~9200	300~600	6	1~1.5	SIDE MILLING
UPJ0304	16	110	11000~12000	2200~2600	0.05~0.1	0.05~0.1	3D MILLING
UPJ0404	16	105	8200~8700	1000~1400	0~0.3	4	SLOTTING
UPJ0404	16	105	8200~8700	400~700	1~2	4	SLOTTING
UPJ0404	16	105	8200~8700	300~500	4	4	SLOTTING
UPJ0404	16	105	8200~8700	1200~1600	4	0~0.3	SIDE MILLING
UPJ0404	16	105	8200~8700	400~700	4	1~2	SIDE MILLING
UPJ0404	16	105	8200~8700	800~1200	8	0~0.3	SIDE MILLING
UPJ0404	16	105	8200~8700	300~600	8	1~2	SIDE MILLING
UPJ0404	16	130	10000~11000	2400~2800	0.1~0.15	0.1~0.15	3D MILLING
UPJ0504	18	110	6700~7200	1200~1600	0~0.4	5	SLOTTING
UPJ0504	18	110	6700~7200	700~1000	2~2.5	5	SLOTTING
UPJ0504	18	110	6700~7200	300~600	5	5	SLOTTING
UPJ0504	18	110	6700~7200	1400~1800	5	0~0.4	SIDE MILLING
UPJ0504	18	110	6700~7200	700~1100	5	2~2.5	SIDE MILLING
UPJ0504	18	110	6700~7200	400~700	5	4	SIDE MILLING
UPJ0504	18	110	6700~7200	1200~1600	10	0~0.4	SIDE MILLING
UPJ0504	18	110	6700~7200	500~800	10	2~2.5	SIDE MILLING
UPJ0504	18	150	9000~10000	2600~3000	0.1~0.15	0.1~0.15	3D MILLING
UPJ0604	20	110	5700~6200	1400~1800	0~0.5	6	SLOTTING
UPJ0604	20	110	5700~6200	700~1000	2~3	6	SLOTTING
UPJ0604	20	110	5700~6200	400~700	6	6	SLOTTING
UPJ0604	20	110	5700~6200	1800~2200	6	0~0.5	SIDE MILLING
UPJ0604	20	110	5700~6200	800~1200	6	2~3	SIDE MILLING
UPJ0604	20	110	5700~6200	400~700	6	5	SIDE MILLING
UPJ0604	20	110	5700~6200	1400~1800	12	0~0.5	SIDE MILLING
UPJ0604	20	110	5700~6200	500~800	12	2~3	SIDE MILLING
UPJ0604	20	165	8500~9000	2800~3200	0.15~0.2	0.15~0.2	3D MILLING
UPJ0804	25	110	4200~4700	1600~2000	0~0.5	8	SLOTTING
UPJ0804	25	110	4200~4700	800~1200	1~2	8	SLOTTING
UPJ0804	25	110	4200~4700	500~800	4~5	8	SLOTTING
UPJ0804	25	110	4200~4700	400~700	8	8	SLOTTING
UPJ0804	25	110	4200~4700	1000~1400	8	1~2	SIDE MILLING
UPJ0804	25	110	4200~4700	500~800	8	4~5	SIDE MILLING

UPJ

MILLING CONDITIONS

Work Material		Alloy Tool Steels / Carbon Tool Steels					
		P20 / P5 / SK3 / SKD61 / SKD11 : 1.2311 / 1.1545 / 1.2379 / 1.2344 : H13 / D2(HRC23~32)					
Coolant Type		Wet coolant					
Type No.	Extension Length (mm)	Cutting Speed (m/min)	Speed (min ⁻¹)	Feed (mm/min)	(A _a) Depth of Cut	(A _p) Width of Cut	Milling Type
UPJ0804	25	110	4200~4700	400~700	8	7	SIDE MILLING
UPJ0804	25	110	4200~4700	1800~2200	16	0~0.5	SIDE MILLING
UPJ0804	25	110	4200~4700	700~1000	16	1~2	SIDE MILLING
UPJ0804	25	110	4200~4700	400~700	16	3~4	SIDE MILLING
UPJ0804	25	160	6200~6700	3400~3800	0.15~0.25	0.15~0.25	3D MILLING
UPJ1004	30	125	3700~4200	1600~2000	0~0.6	10	SLOTTING
UPJ1004	30	125	3700~4200	1000~1400	1~2	10	SLOTTING
UPJ1004	30	125	3700~4200	700~1000	4~5	10	SLOTTING
UPJ1004	30	125	3700~4200	400~700	10	10	SLOTTING
UPJ1004	30	125	3700~4200	1200~1600	10	1~2	SIDE MILLING
UPJ1004	30	125	3700~4200	700~1000	10	4~5	SIDE MILLING
UPJ1004	30	125	3700~4200	400~700	10	8	SIDE MILLING
UPJ1004	30	125	3700~4200	1800~2200	20	0~0.6	SIDE MILLING
UPJ1004	30	125	3700~4200	800~1200	20	1~2	SIDE MILLING
UPJ1004	30	125	3700~4200	400~700	20	4~5	SIDE MILLING
UPJ1004	30	160	4800~5300	3400~3800	0.2~0.3	0.2~0.3	3D MILLING
UPJ1204	35	110	2700~3200	1800~2200	0~0.6	12	SLOTTING
UPJ1204	35	110	2700~3200	800~1200	1~2	12	SLOTTING
UPJ1204	35	110	2700~3200	400~700	4~5	12	SLOTTING
UPJ1204	35	110	2700~3200	800~1200	12	1~2	SIDE MILLING
UPJ1204	35	110	2700~3200	500~800	12	4~5	SIDE MILLING
UPJ1204	35	110	2700~3200	1400~1800	24	0~0.6	SIDE MILLING
UPJ1204	35	110	2700~3200	700~1000	24	2~3	SIDE MILLING
UPJ1204	35	150	3800~4300	2400~2800	0.2~0.3	0.2~0.3	3D MILLING
UPJ1604	50	100	1800~2300	1000~1400	0~0.7	16	SLOTTING
UPJ1604	50	100	1800~2300	700~1000	1.5~2	16	SLOTTING
UPJ1604	50	100	1800~2300	400~600	5~6	16	SLOTTING
UPJ1604	50	100	1800~2300	1000~1400	16	0~0.7	SIDE MILLING
UPJ1604	50	100	1800~2300	700~1000	16	2~3	SIDE MILLING
UPJ1604	50	100	1800~2300	400~600	16	5~6	SIDE MILLING
UPJ1604	50	100	1800~2300	800~1200	32	0~0.7	SIDE MILLING
UPJ1604	50	100	1800~2300	400~700	32	2~3	SIDE MILLING
UPJ1604	50	150	2800~3300	1800~2200	0.3~0.4	0.3~0.4	3D MILLING
UPJ2004	60	80	1000~1500	700~1100	0~0.7	20	SLOTTING
UPJ2004	60	80	1000~1500	300~600	2~3	20	SLOTTING
UPJ2004	60	80	1000~1500	700~1100	20	0~0.7	SIDE MILLING
UPJ2004	60	80	1000~1500	300~600	20	2~3	SIDE MILLING
UPJ2004	60	80	1000~1500	500~800	40	0~0.7	SIDE MILLING
UPJ2004	60	130	1800~2300	1000~1400	0.4~0.5	0.4~0.5	3D MILLING

UPJ

MILLING CONDITIONS

Work Material		Stainless Steels [Easy] : SUS304 : 1.4301 : AISI 304 (HRC28~32)					
Coolant Type		Wet coolant					
Type No.	Extension Length (mm)	Cutting Speed (m/min)	Speed (min ⁻¹)	Feed (mm/min)	(A _s) Depth of Cut	(A _p) Width of Cut	Milling type
UPJ0304	16	85	8700~9200	700~1100	0~0.3	3	SLOTTING
UPJ0304	16	85	8700~9200	300~600	1~1.5	3	SLOTTING
UPJ0304	16	85	8700~9200	300~500	3	3	SLOTTING
UPJ0304	16	85	8700~9200	800~1200	3	0~0.3	SIDE MILLING
UPJ0304	16	85	8700~9200	400~700	3	1~1.5	SIDE MILLING
UPJ0304	16	85	8700~9200	700~1000	6	0~0.3	SIDE MILLING
UPJ0304	16	85	8700~9200	300~600	6	1~1.5	SIDE MILLING
UPJ0304	16	110	11000~12000	2000~2400	0.05~0.1	0.05~0.1	3D MILLING
UPJ0404	16	105	8200~8700	800~1200	0~0.3	4	SLOTTING
UPJ0404	16	105	8200~8700	400~700	1~2	4	SLOTTING
UPJ0404	16	105	8200~8700	300~500	4	4	SLOTTING
UPJ0404	16	105	8200~8700	1000~1400	4	0~0.3	SIDE MILLING
UPJ0404	16	105	8200~8700	400~700	4	1~2	SIDE MILLING
UPJ0404	16	105	8200~8700	700~1100	8	0~0.3	SIDE MILLING
UPJ0404	16	105	8200~8700	300~600	8	1~2	SIDE MILLING
UPJ0404	16	130	10000~11000	2200~2600	0.1~0.15	0.1~0.15	3D MILLING
UPJ0504	18	110	6700~7200	1000~1400	0~0.4	5	SLOTTING
UPJ0504	18	110	6700~7200	500~800	2~2.5	5	SLOTTING
UPJ0504	18	110	6700~7200	300~500	5	5	SLOTTING
UPJ0504	18	110	6700~7200	1200~1600	5	0~0.4	SIDE MILLING
UPJ0504	18	110	6700~7200	700~1000	5	2~2.5	SIDE MILLING
UPJ0504	18	110	6700~7200	400~700	5	4	SIDE MILLING
UPJ0504	18	110	6700~7200	1000~1400	10	0~0.4	SIDE MILLING
UPJ0504	18	110	6700~7200	500~800	10	2~2.5	SIDE MILLING
UPJ0504	18	150	9000~10000	2400~2800	0.1~0.15	0.1~0.15	3D MILLING
UPJ0604	20	110	5700~6200	1200~1600	0~0.5	6	SLOTTING
UPJ0604	20	110	5700~6200	700~1000	2~3	6	SLOTTING
UPJ0604	20	110	5700~6200	300~600	6	6	SLOTTING
UPJ0604	20	110	5700~6200	1600~2000	6	0~0.5	SIDE MILLING
UPJ0604	20	110	5700~6200	800~1200	6	2~3	SIDE MILLING
UPJ0604	20	110	5700~6200	400~700	6	5	SIDE MILLING
UPJ0604	20	110	5700~6200	1200~1600	12	0~0.5	SIDE MILLING
UPJ0604	20	110	5700~6200	500~800	12	2~3	SIDE MILLING
UPJ0604	20	165	8500~9000	2600~3000	0.15~0.2	0.15~0.2	3D MILLING
UPJ0804	25	110	4200~4700	1400~1800	0~0.5	8	SLOTTING
UPJ0804	25	110	4200~4700	800~1200	1~2	8	SLOTTING
UPJ0804	25	110	4200~4700	500~800	4~5	8	SLOTTING
UPJ0804	25	110	4200~4700	300~600	8	8	SLOTTING
UPJ0804	25	110	4200~4700	1000~1400	8	1~2	SIDE MILLING
UPJ0804	25	110	4200~4700	500~800	8	4~5	SIDE MILLING

UPJ

MILLING CONDITIONS

Work Material		Stainless Steels [Easy] : SUS304 1.4301 AISI 304 (HRC28~32)					
Coolant Type		Wet coolant					
Type No.	Extension Length (mm)	Cutting Speed (m/min)	Speed (min ⁻¹)	Feed (mm/min)	(A _a) Depth of Cut	(A _p) Width of Cut	Milling Type
UPJ0804	25	110	4200~4700	300~600	8	7	SIDE MILLING
UPJ0804	25	110	4200~4700	1600~2000	16	0~0.5	SIDE MILLING
UPJ0804	25	110	4200~4700	700~1000	16	1~2	SIDE MILLING
UPJ0804	25	110	4200~4700	400~700	16	3~4	SIDE MILLING
UPJ0804	25	160	6200~6700	3000~3400	0.15~0.25	0.15~0.25	3D MILLING
UPJ1004	30	115	3400~3800	1400~1800	0~0.6	10	SLOTTING
UPJ1004	30	115	3400~3800	1000~1400	1~2	10	SLOTTING
UPJ1004	30	115	3400~3800	700~1000	4~5	10	SLOTTING
UPJ1004	30	115	3400~3800	300~600	10	10	SLOTTING
UPJ1004	30	115	3400~3800	1200~1600	10	1~2	SIDE MILLING
UPJ1004	30	115	3400~3800	700~1000	10	4~5	SIDE MILLING
UPJ1004	30	115	3400~3800	400~700	10	8	SIDE MILLING
UPJ1004	30	115	3400~3800	1800~2200	20	0~0.6	SIDE MILLING
UPJ1004	30	115	3400~3800	700~1100	20	1~2	SIDE MILLING
UPJ1004	30	115	3400~3800	400~700	20	4~5	SIDE MILLING
UPJ1004	30	160	4800~5300	3000~3400	0.2~0.3	0.2~0.3	3D MILLING
UPJ1204	35	110	2700~3200	1600~2000	0~0.6	12	SLOTTING
UPJ1204	35	110	2700~3200	700~1100	1~2	12	SLOTTING
UPJ1204	35	110	2700~3200	400~700	4~5	12	SLOTTING
UPJ1204	35	110	2700~3200	700~1100	12	1~2	SIDE MILLING
UPJ1204	35	110	2700~3200	500~800	12	4~5	SIDE MILLING
UPJ1204	35	110	2700~3200	1200~1600	24	0~0.6	SIDE MILLING
UPJ1204	35	110	2700~3200	500~800	24	2~3	SIDE MILLING
UPJ1204	35	150	3800~4300	2200~2600	0.2~0.3	0.2~0.3	3D MILLING
UPJ1604	50	100	1800~2300	800~1200	0~0.7	16	SLOTTING
UPJ1604	50	100	1800~2300	500~800	1.5~2	16	SLOTTING
UPJ1604	50	100	1800~2300	300~500	5~6	16	SLOTTING
UPJ1604	50	100	1800~2300	800~1200	16	0~0.7	SIDE MILLING
UPJ1604	50	100	1800~2300	500~800	16	2~3	SIDE MILLING
UPJ1604	50	100	1800~2300	300~500	16	5~6	SIDE MILLING
UPJ1604	50	100	1800~2300	700~1000	32	0~0.7	SIDE MILLING
UPJ1604	50	100	1800~2300	400~700	32	2~3	SIDE MILLING
UPJ1604	50	150	2800~3300	1400~1800	0.3~0.4	0.3~0.4	3D MILLING
UPJ2004	60	80	1000~1500	700~1000	0~0.7	20	SLOTTING
UPJ2004	60	80	1000~1500	300~500	2~3	20	SLOTTING
UPJ2004	60	80	1000~1500	700~1000	20	0~0.7	SIDE MILLING
UPJ2004	60	80	1000~1500	300~500	20	2~3	SIDE MILLING
UPJ2004	60	80	1000~1500	400~700	40	0~0.7	SIDE MILLING
UPJ2004	60	130	1800~2300	800~1200	0.4~0.5	0.4~0.5	3D MILLING



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