
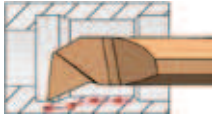

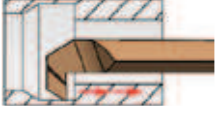

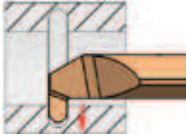



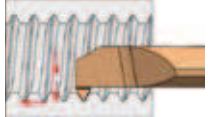


MINI SPEED

方寸之間，游刃有餘

The Best Solution for Applying to Small Space.
小徑空間加工的最佳解決方案



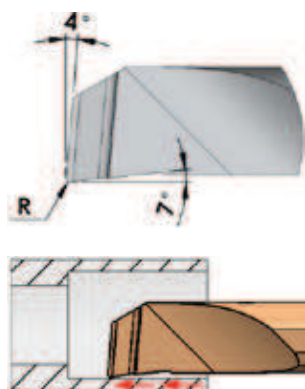
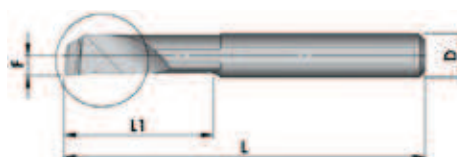
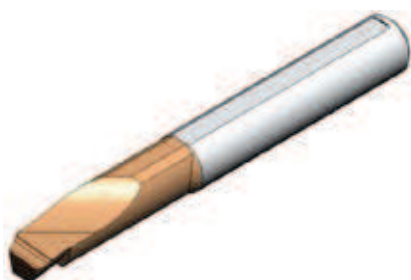
MODE 型號	Type 類型	Item 品名	Min. boring hole diameter 最小加工孔徑	Coating 塗層	Spec. 規格表
BR		Boring 搪孔	Ø0.5mm~Ø8.0mm	TISIN	322
PF22		Profiling & Boring 仿形 & 搪孔	Ø1.0mm~Ø8.0mm	TISIN	323
PF47		Profiling & Boring 仿形 & 搪孔	Ø1.0mm~Ø8.0mm	TISIN	324
BT		Back Turning 背車削	Ø4.0mm~Ø8.0mm	TISIN	325
IG		Internal Grooving 內徑溝槽	Ø4.0mm~Ø8.0mm	TISIN	326
IGR		Internal Grooving Radius 內徑圓溝槽	Ø4.0mm~Ø8.0mm	TISIN	327
FG		Face Grooving 端面溝槽	Ø4.0mm~Ø8.0mm	TISIN	328
FGR		Face Grooving Radius 端面圓溝槽	Ø4.0mm~Ø6.0mm	TISIN	328
CP		Chamfering & Profiling 倒角 & 仿形	Ø1.0mm	TISIN	329
TA		Threading 螺紋車削	Ø2.3mm~Ø6.0mm	TISIN	329

Boring

■ 搪孔

切削條件表 **P330**
Cutting Condition

TISIN



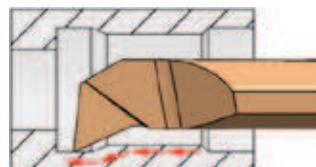
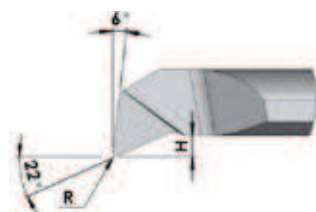
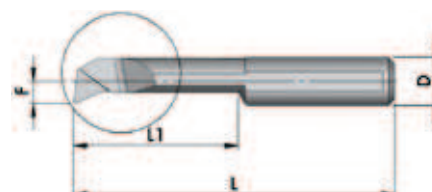
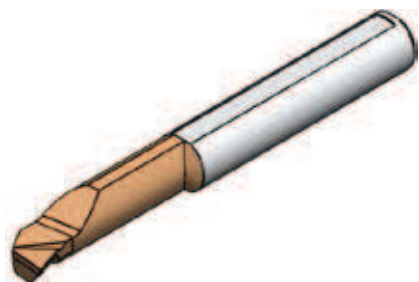
MODE	D	$\varnothing \text{ min}$	F	L	L1	R
型號						
BR07-05.003-015 R/L	4	0.5	0.2	50	1.5	0.03
BR07-05.003-025 R/L	4	0.5	0.2	50	2.5	0.03
BR07-10.005-03 R/L	4	1	0.4	50	3.0	0.05
BR07-10.005-05 R/L	4	1	0.4	50	5.0	0.05
BR07-20.005-06 R/L	4	2	0.8	50	6.0	0.05
BR07-20.005-10 R/L	4	2	0.8	50	10.0	0.05
BR07-20.005-14 R/L	4	2	0.8	50	14.0	0.05
BR07-30.010-09 R/L	4	3	1.3	50	9.0	0.1
BR07-30.010-15 R/L	4	3	1.3	50	15.0	0.1
BR07-30.010-21 R/L	4	3	1.3	50	21.0	0.1
BR07-40.010-12 R/L	4	4	1.8	50	12.0	0.1
BR07-40.010-20 R/L	4	4	1.8	50	20.0	0.1
BR07-40.010-28 R/L	4	4	1.8	60	28.0	0.1
BR07-50.020-15 R/L	6	5	2.3	50	15.0	0.2
BR07-50.020-25 R/L	6	5	2.3	50	25.0	0.2
BR07-50.020-35 R/L	6	5	2.3	60	35.0	0.2
BR07-60.020-18 R/L	6	6	2.8	50	18.0	0.2
BR07-60.020-30 R/L	6	6	2.8	60	30.0	0.2
BR07-60.020-42 R/L	6	6	2.8	75	42.0	0.2
BR07-70.020-21 R/L	8	7	3.3	60	21.0	0.2
BR07-70.020-35 R/L	8	7	3.3	75	35.0	0.2
BR07-70.020-49 R/L	8	7	3.3	100	49.0	0.2
BR07-80.020-24 R/L	8	8	3.8	60	24.0	0.2
BR07-80.020-40 R/L	8	8	3.8	75	40.0	0.2
BR07-80.020-56 R/L	8	8	3.8	100	56.0	0.2

Profiling & Boring

仿形&搪孔

切削
條件表 **P330**
Cutting Condition

TiSiN



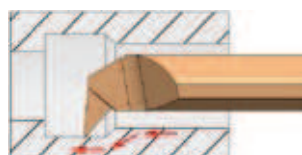
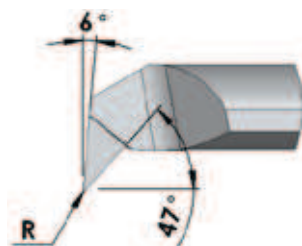
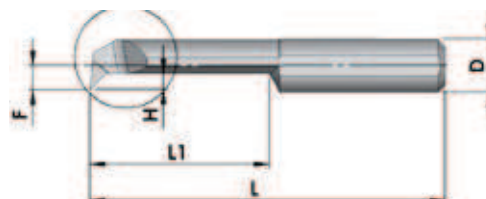
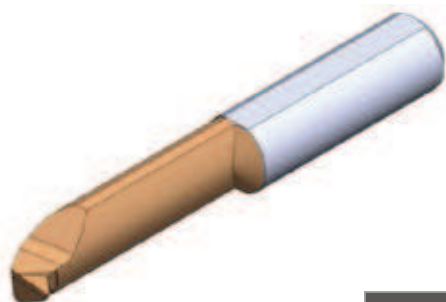
MODE	D	Ø min	F	L	L1	R	H
型號							
PF22-10.005-03 R/L	4	1	0.4	50	3	0.05	0.2
PF22-10.005-05 R/L	4	1	0.4	50	5	0.05	0.2
PF22-20.005-06 R/L	4	2	0.8	50	6	0.05	0.4
PF22-20.005-10 R/L	4	2	0.8	50	10	0.05	0.4
PF22-20.005-14 R/L	4	2	0.8	50	14	0.05	0.4
PF22-30.010-09 R/L	4	3	1.3	50	9	0.1	0.6
PF22-30.010-15 R/L	4	3	1.3	50	15	0.1	0.6
PF22-30.010-21 R/L	4	3	1.3	50	21	0.1	0.6
PF22-40.010-12 R/L	4	4	1.8	50	12	0.1	0.8
PF22-40.010-20 R/L	4	4	1.8	50	20	0.1	0.8
PF22-40.010-28 R/L	4	4	1.8	60	28	0.1	0.8
PF22-50.020-15 R/L	6	5	2.3	50	15	0.2	1
PF22-50.020-25 R/L	6	5	2.3	50	25	0.2	1
PF22-50.020-30 R/L	6	5	2.3	60	30	0.2	1
PF22-60.020-18 R/L	6	6	2.8	50	18	0.2	1.2
PF22-60.020-30 R/L	6	6	2.8	60	30	0.2	1.2
PF22.60.020-42 R/L	6	6	2.8	75	42	0.2	1.2
PF22-70.020-21 R/L	8	7	3.3	60	21	0.2	1.4
PF22-70.020-35 R/L	8	7	3.3	75	35	0.2	1.4
PF22-70.020-49 R/L	8	7	3.3	100	49	0.2	1.4
PF22-80.020-24 R/L	8	8	3.8	60	24	0.2	1.6
PF22-80.020-40 R/L	8	8	3.8	75	40	0.2	1.6
PF22-80.020-56 R/L	8	8	3.8	100	56	0.2	1.6

Profiling & Boring

仿形&搪孔

切削
條件表 **P330**
Cutting Condition

TISIN

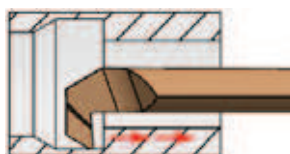
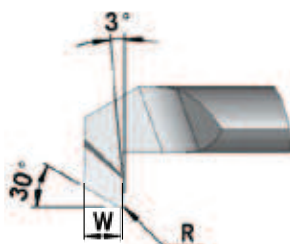
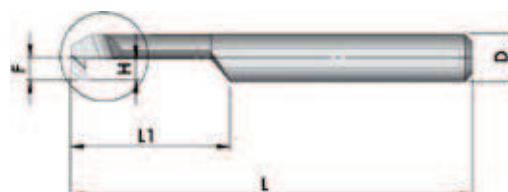
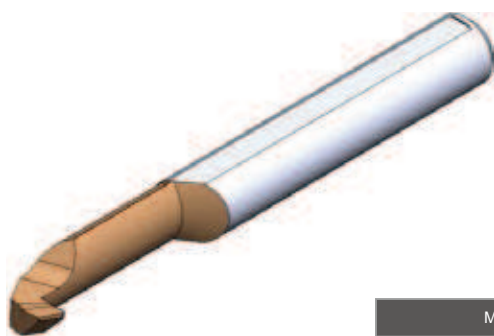


MODE	D	Ø min	F	L	L1	R	H
型號							
PF47-10.005-03 R/L	4	1	0.4	50	3	0.05	0.2
PF47-10.005-05 R/L	4	1	0.4	50	5	0.05	0.2
PF47-20.005-06 R/L	4	2	0.8	50	6	0.05	0.4
PF47-20.005-10 R/L	4	2	0.8	50	10	0.05	0.4
PF47-20.005-14 R/L	4	2	0.8	50	14	0.05	0.4
PF47-30.010-09 R/L	4	3	1.3	50	9	0.1	0.6
PF47-30.010-15 R/L	4	3	1.3	50	15	0.1	0.6
PF47-30.010-21 R/L	4	3	1.3	50	21	0.1	0.6
PF47-40.010-12 R/L	4	4	1.8	50	12	0.1	0.8
PF47-40.010-20 R/L	4	4	1.8	50	20	0.1	0.8
PF47-40.010-28 R/L	4	4	1.8	60	28	0.1	0.8
PF47-50.020-15 R/L	6	5	2.3	50	15	0.2	1
PF47-50.020-25 R/L	6	5	2.3	50	25	0.2	1
PF47-50.020-35 R/L	6	5	2.3	60	35	0.2	1
PF47-60.020-18 R/L	6	6	2.8	50	18	0.2	1.2
PF47-60.020-30 R/L	6	6	2.8	60	30	0.2	1.2
PF47.60.020-42 R/L	6	6	2.8	75	42	0.2	1.2
PF47-70.020-21 R/L	8	7	3.3	60	21	0.2	1.4
PF47-70.020-35 R/L	8	7	3.3	75	35	0.2	1.4
PF47-70.020-49 R/L	8	7	3.3	100	49	0.2	1.4
PF47-80.020-24 R/L	8	8	3.8	60	24	0.2	1.6
PF47-80.020-40 R/L	8	8	3.8	75	40	0.2	1.6
PF47-80.020-56 R/L	8	8	3.8	100	56	0.2	1.6

Back Turning

■ 背車削

切削
條件表 **P330**
Cutting Condition



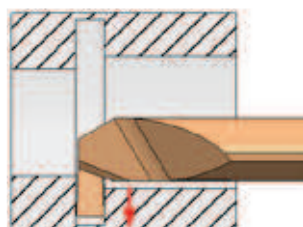
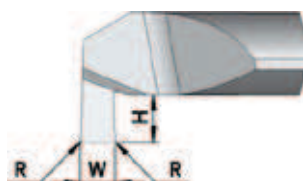
MODE	D	Ø min	F	L	L1	R	H	W
型號								
BT30-40.010-12 R/L	4	4	1.8	50	12	0.1	1	1.5
BT30-40.010-20 R/L	4	4	1.8	50	20	0.1	1	1.5
BT30-60.020-18 R/L	6	6	2.8	50	18	0.2	1.5	2
BT30-60.020-30 R/L	6	6	2.8	60	30	0.2	1.5	2.5
BT30-80.020-24 R/L	8	8	3.8	60	24	0.2	2	2.5
BT30-80.020-40 R/L	8	8	3.8	75	40	0.2	2	2.5

Internal Grooving

■ 內徑溝槽

切削條件表 **P330**
Cutting Condition

TISIN



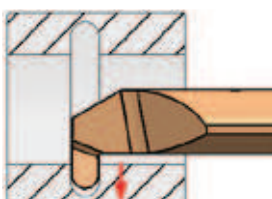
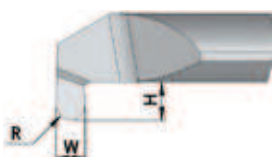
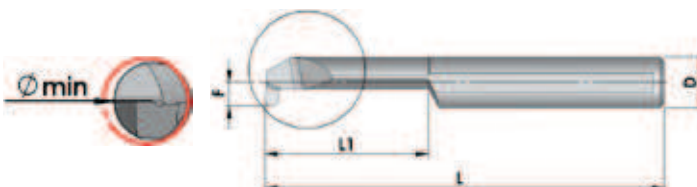
MODE	D	Ø min	F	L	L1	W	R	H
型號								
IG05-40.005-10 R/L	4	4	1.8	50	10	0.5	0.05	0.5
IG05-40.005-15 R/L	4	4	1.8	50	15	0.5	0.05	0.5
IG10-40.010-10 R/L	4	4	1.8	50	10	1.0	0.10	1.0
IG10-40.010-15 R/L	4	4	1.8	50	15	1.0	0.10	1.0
IG15-40.015-10 R/L	4	4	1.8	50	10	1.5	0.15	1.0
IG15-40.015-15 R/L	4	4	1.8	60	15	1.5	0.15	1.0
IG10-50.010-15 R/L	6	5	2.3	50	15	1.0	0.10	1.2
IG10-50.010-25 R/L	6	5	2.3	50	25	1.0	0.10	1.2
IG15-50.015-15 R/L	6	5	2.3	50	15	1.5	0.15	1.2
IG15-50.015-25 R/L	6	5	2.3	50	25	1.5	0.15	1.2
IG20-50.020-15 R/L	6	5	2.3	50	15	2.0	0.20	1.2
IG20-50.020-25 R/L	6	5	2.3	50	25	2.0	0.20	1.2
IG10-60.010-15 R/L	6	6	2.8	50	15	1.0	0.10	1.5
IG10-60.010-25 R/L	6	6	2.8	50	25	1.0	0.10	1.5
IG15-60.015-15 R/L	6	6	2.8	50	15	1.5	0.15	1.5
IG15-60.015-25 R/L	6	6	2.8	50	25	1.5	0.15	1.5
IG20-60.020-15 R/L	6	6	2.8	50	15	2.0	0.20	1.5
IG20-60.020-25 R/L	6	6	2.8	50	25	2.0	0.20	1.5
IG10-70.010-20 R/L	8	7	3.3	60	20	1.0	0.10	1.8
IG10-70.010-30 R/L	8	7	3.3	75	30	1.0	0.10	1.8
IG15-70.015-20 R/L	8	7	3.3	60	20	1.5	0.15	2.0
IG15-70.015-30 R/L	8	7	3.3	75	30	1.5	0.15	2.0
IG20-70.020-20 R/L	8	7	3.3	60	20	2.0	0.20	2.5
IG20-70.020-30 R/L	8	7	3.3	75	30	2.0	0.20	2.5
IG10-80.010-20 R/L	8	8	3.8	60	20	1.0	0.10	1.8
IG10-80.010-30 R/L	8	8	3.8	75	30	1.0	0.10	1.8
IG15-80.015-20 R/L	8	8	3.8	60	20	1.5	0.15	2.0
IG15-80.015-30 R/L	8	8	3.8	75	30	1.5	0.15	2.0
IG20-80.020-20 R/L	8	8	3.8	60	20	2.0	0.20	2.5
IG20-80.020-30 R/L	8	8	3.8	75	30	2.0	0.20	2.5

Internal Grooving Radius

■ 內徑圓溝槽

切削
條件表 **P330**
Cutting Condition

TISIN



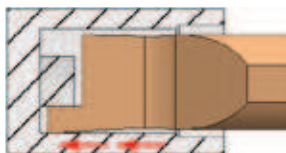
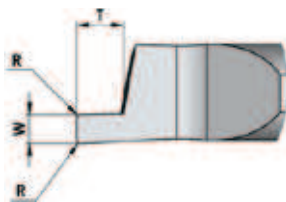
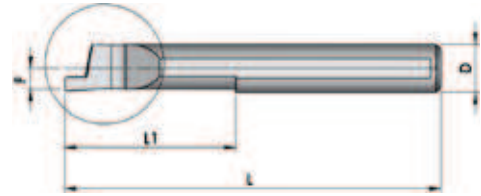
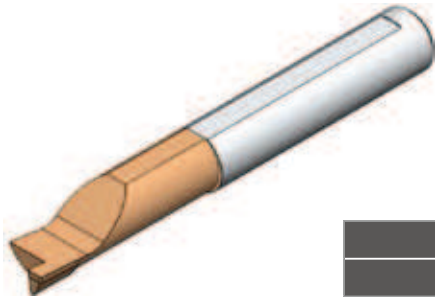
MODE	D	Ø min	F	L	L1	W	R	H
型號								
IGR10-40.050-12 R/L	4	4	1.8	50	12	1.0	0.50	1.0
IGR15-40.075-12R/L	4	4	1.8	50	12	1.5	0.75	1.0
IGR20-40.100-12 R/L	4	4	1.8	50	12	2.0	1.00	1.3
IGR10-60.050-18 R/L	6	6	2.8	50	18	1.0	0.50	1.6
IGR15-60.075-18 R/L	6	6	2.8	50	18	1.5	0.75	1.6
IGR20-60.100-18 R/L	6	6	2.8	50	18	2.0	1.00	1.6
IGR10-80.050-24 R/L	8	8	3.8	60	24	1.0	0.50	2.5
IGR15-80.075-24 R/L	8	8	3.8	60	24	1.5	0.75	2.5
IGR20-80.100-24 R/L	8	8	3.8	60	24	2.0	1.00	2.5

Face Grooving

■ 端面溝槽

切削
條件表 **P330**
Cutting Condition

TiSiN



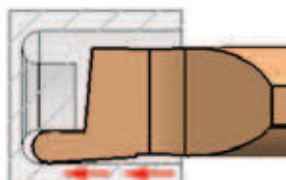
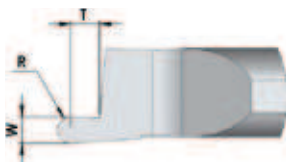
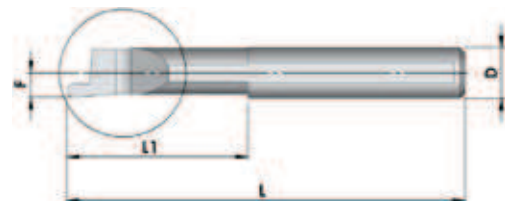
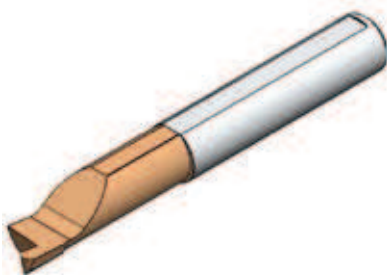
MODE	D	$\varnothing \text{ min}$	F	L	L1	W	R	T
型號								
FG075-40.010-15 R/L	4	4	1.8	50	15	0.75	0.1	1.2
FG100-40.010-15 R/L	4	4	1.8	50	15	1.00	0.1	1.5
FG150-40.010-15 R/L	4	4	1.8	50	15	1.50	0.1	2.6
FG075-50.010-22 R/L	6	5	2.3	50	22	0.75	0.1	1.2
FG100-50.010-22 R/L	6	5	2.3	50	22	1.00	0.1	1.5
FG150-50.010-22 R/L	6	5	2.3	50	22	1.50	0.1	2.5
FG200-50.010-22 R/L	6	5	2.3	50	22	2.00	0.1	3.6
FG100-60.010-22R/L	6	6	2.8	50	22	1.00	0.1	1.5
FG150-60.010-22R/L	6	6	2.8	50	22	1.50	0.1	2.5
FG200-60.010-22 R/L	6	6	2.8	50	22	2.00	0.1	3.0
FG250-60.010-22 R/L	6	6	2.8	50	22	2.50	0.1	4.6
FG250-80.010-22 R/L	8	8	3.8	60	22	2.50	0.1	4.6

Face Grooving Radius

■ 端面圓溝槽

切削
條件表 **P330**
Cutting Condition

TiSiN



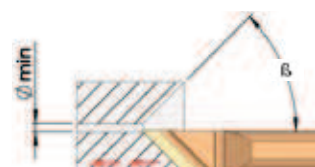
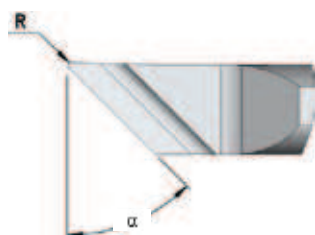
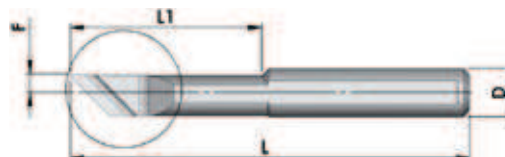
MODE	D	$\varnothing \text{ min}$	F	L	L1	W	R	T
型號								
FGR100-40.050-15 R/L	4	4	1.8	50	15	1.0	0.50	1.2
FGR150-40.075-15 R/L	4	4	1.8	50	15	1.5	0.75	1.5
FGR100-50.050-22 R/L	6	5	2.3	50	22	1.0	0.50	1.2
FGR150-50.075-22 R/L	6	5	2.3	50	22	1.5	0.75	1.5
FGR200-50.100-22 R/L	6	5	2.3	50	22	2.0	1.00	2.5
FGR100-60.050-22 R/L	6	6	2.3	50	22	1.0	0.50	1.2
FGR150-60.075-22R/L	6	6	2.8	50	22	1.5	0.75	1.5
FGR200-60.100-22R/L	6	6	2.8	50	22	2.0	1.00	2.5

Chamfering & Profiling

■ 倒角&仿形

切削
條件表 **P330**
Cutting Condition

TiSiN



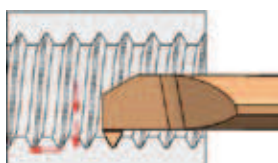
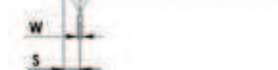
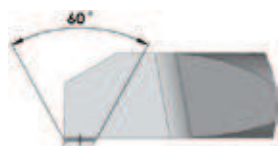
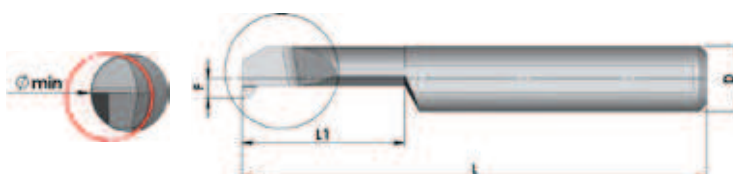
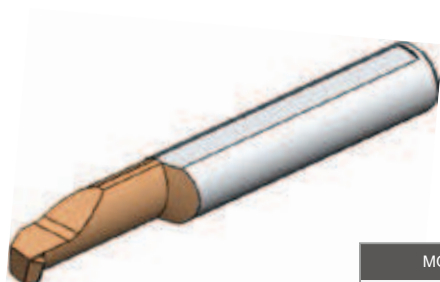
MODE	D	Ø min	F	L	L1	α	β	R
型號								
CP30-10.020-18	6.0	1	2.3	50	18	30	60	0.2
CP45-10.020-18	6.0	1	2.3	50	18	45	45	0.2
CP60-10.020-18	6.0	1	2.3	50	18	60	30	0.2

Threading

■ 螺紋車削

切削
條件表 **P331**
Cutting Condition

TiSiN



MODE	D	Ø min	F	P(mm)	P(TPI)	L	L1	S	W
型號									
TA60-23-08 R/L	4	2.3	1.0	0.2-0.5	80-48	50	8	0.45	0.03
TA60-30-15 R/L	4	3.0	1.3	0.5-0.75	40-36	50	15	0.75	0.06
TA60-40-15 R/L	4	4.0	1.8	0.5-1.0	40-24	50	15	0.75	0.06
TA60-60-20 R/L	6	6.0	2.8	0.75-1.5	36-18	50	20	0.80	0.09

BR

 產品規格表 **P322**
 Specification page

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 產品規格表 **P323**
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 產品規格表 **P324**
 Specification page

BT

 產品規格表 **P325**
 Specification page

IG

 產品規格表 **P326**
 Specification page

IGR

 產品規格表 **P327**
 Specification page

FG/FGR

 產品規格表 **P328**
 Specification page

CP

 產品規格表 **P329**
 Specification page

Internal Turning (Boring & Profiling) 內徑車削 (搪孔 & 仿形)

Work Materials 被切削材料	Vc(m/min)	F(mm/rev)	Work Materials 被切削材料	Vc(m/min)	F(mm/rev)
	切削速度	進給		切削速度	進給
低碳鋼, 易削鋼 S10C, SUM22等...	50-140	0.01-0.12	碳鋼, 合金鋼 S45C, SCM415等...	30-120	0.01-0.1
不鏽鋼 SUS303, SUS430等...	20-100	0.01-0.1	灰鑄鐵, 球墨鑄鐵 FC200, FCD400等...	30-100	0.01-0.08
鋁合金 A5052, A6061, A7025等...	50-140	0.01-0.12	鈦合金, 耐熱合金 Ti-6Al-4V(TC4)等...	20-80	0.01-0.08
黃銅 C2801, C3604等...	50-150	0.01-0.12			

Internal Cutting 內徑槽切削

Work Materials 被切削材料	Vc(m/min)	F(mm/rev)	Work Materials 被切削材料	Vc(m/min)	F(mm/rev)
	切削速度	進給		切削速度	進給
低碳鋼, 易削鋼 S10C, SUM22等...	50-140	0.01-0.04	碳鋼, 合金鋼 S45C, SCM415等...	30-120	0.01-0.04
不鏽鋼 SUS303, SUS430等...	20-100	0.01-0.04	灰鑄鐵, 球墨鑄鐵 FC200, FCD400等...	30-100	0.01-0.04
鋁合金 A5052, A6061, A7025等...	50-140	0.01-0.04	鈦合金, 耐熱合金 Ti-6Al-4V(TC4)等...	20-80	0.01-0.04
黃銅 C2801, C3604等...	50-150	0.01-0.04			

Face Cutting 端面槽切削

Work Materials 被切削材料	Vc(m/min)	F(mm/rev)	Work Materials 被切削材料	Vc(m/min)	F(mm/rev)
	切削速度	進給		切削速度	進給
低碳鋼, 易削鋼 S10C, SUM22等...	50-140	0.01-0.06	碳鋼, 合金鋼 S45C, SCM415等...	30-120	0.01-0.06
不鏽鋼 SUS303, SUS430等...	20-100	0.01-0.06	灰鑄鐵, 球墨鑄鐵 FC200, FCD400等...	30-100	0.01-0.06
鋁合金 A5052, A6061, A7025等...	50-140	0.01-0.06	鈦合金, 耐熱合金 Ti-6Al-4V(TC4)等...	20-80	0.01-0.06
黃銅 C2801, C3604等...	50-150	0.01-0.06			

TA

產品規格表 **P329**

Specification page

● Internal Threading 內徑螺紋切削						
Work Materials 被切削材料	Vc(m/min)	P-0.5mm	P-0.75mm	P-1.0mm	P-1.25mm	P-1.5mm
	切削速度	Number of Passes 進刀次數	Number of Passes 進刀次數	Number of Passes 進刀次數	Number of Passes 進刀次數	Number of Passes 進刀次數
低碳鋼，易削鋼 S10C，SUM22等...	50-150	5~7	7~9	9~11	11~14	14~17
碳鋼，合金鋼 S45C，SCM415等...	30-120	6~8	8~10	10~12	12~15	15~18
不鏽鋼 SUS303，SUS430等...	20-100	8~10	10~12	12~14	15~17	18~20
灰鑄鐵，球墨鑄鐵 FC200，FCD400等...	30-100	7~9	9~11	11~13	14~16	17~19
鋁合金 A5052，A6061，A7025等...	50-150	6~8	8~10	10~12	12~14	15~17
黃銅 C2801，C3604等...	50-150	6~8	8~10	10~12	12~14	15~17