

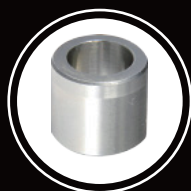
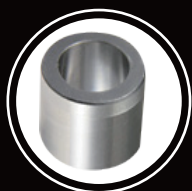


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PARFAITE

襯套

BUSH



名稱		固定襯套		插入式襯套			引導用 固定式襯套	止動螺絲	止動環	
		無帽緣	付帽緣	右向迴轉 切口形	左向迴轉 切口形	切口形				
形狀										
內徑的使用	精密級鉗頭	SA	SB	SD	SE	SF	G形	T形	R形	
	一般級鉗頭	A	B	D	E	F				
	鉸刀	-	BR	DR	ER	FR				
使用方法		無帽緣 (A)		付帽緣(B)	插入式(D)		插入式(E)	插入式(F)		
		AB型襯套均以緊密配合平均壓入				先將固定襯套G以緊密配合壓入治具板後再用手裝取插入式襯套並配以T形螺絲固定				
										



A.無帽緣式固定襯套
A.HEADLESS PRESS FIT BUSH



B.付帽緣式固定襯套
B.HEADLESS PRESS FIT BUSH



D.右向迴轉切口形插入襯套
D.RIGHT SLIP RENEWABLE BUSH



E.左向迴轉切口形插入襯套
E.LEFT SLIP RENEWABLE BUSH



切口形插入襯套
FIXED RENEWABLE BUSH



G.引導用固定襯套
G.HEADLESS LINER BUSH



止動螺絲及止動環
LOCK SCREW& ROUND CLAMP

A.無帽緣式固定襯套

A.HEADLESS PRESS FIT BUSH



內徑

分精密級、一般級和鉸刀用3種

I.D.

Made in 3 different tolerances for precise drilling, normal drilling and reaming.

外徑

以內徑為基準，經精密研磨加工而成，分固定式襯套及插入式襯套

O.D.

Highly precise finish based on I.D.

(Press Fit Bush...P6) (Renewable Bush...m5)

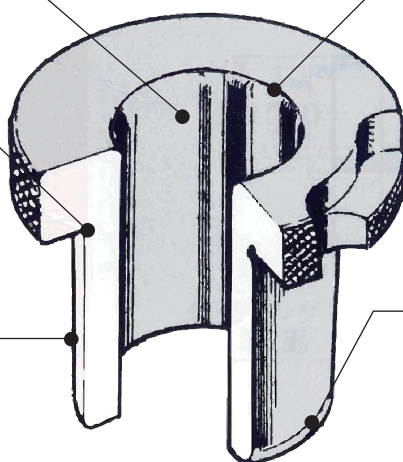
硬度

HRC60° 以上耐磨度極高

HARDNESS

HRC 60° up for long-er life.

襯套 BUSH



R圓

提供容易滑入之引導作用

RADIUS

For smooth entry of tool.

倒角

為了襯套之容易裝配故施以倒角加工

CHAMFER

Permit easy entry and removal.

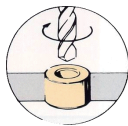
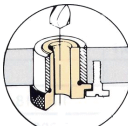
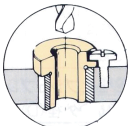
治具用襯套 TYPE

形狀及種類 TYPE AND APPLICATION

S...精密鉗頭用

R...鉸刀用

S...Precise drilling R...Reaming

名稱 Designation		固定襯套 Press Fit		插入式襯套 Renewable Bush				引導用 固定式襯套 Headless Liner bush	止動螺絲 Lock Screw	止動環 Round Clamp			
		無帽緣 Headless	付帽緣 Headed	圓形 Round	右向迴轉切口形 Right Slip	左向迴轉切口形 Left Slip	切口形 Fixed						
形狀 Shape													
內徑的使用 Sort of I.D.	精密級鉗頭 Precise Drilling	SA	SB	SC	SD	SE	SF	G 形	T 形	R 形			
	一般級鉗頭 Normal Drilling	A	B	C	D	E	F						
	銼刀 Reaming	-	BR	CR	DR	ER	FR						
使用方法 Illustration of use		無帽緣(A) Headless		無帽緣(B) Headed		插入式(C)		插入式(D)		插入式(E)		插入式(F)	
		AB型襯套均以緊密配合平均壓入 Press the bush into the plate				先將固定襯套G以緊密配合壓入治具板後再用手裝取插入式襯套並配以T形螺絲固定 First press the liner bush into the plate, the insert the bush and set the lock screw.							
													

內徑與外徑的同心度 Concentricity of ID and OD

內徑 (d) 寸法 ID(d)		1.6~18.0	18.1~50.0	50.1~55.0
精密級 / 鉗孔	Precise drilling/ reaming	0.005	0.008	0.010
一般級 Normal Drilling		0.012	0.020	0.025

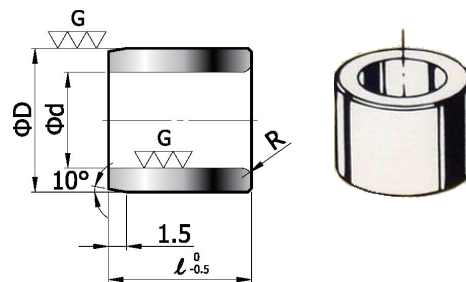
與治具板之裝配公差 Assembly tolerance with bush plate

襯套承板的內徑尺寸 I.D.(d) of hole in bush plate	0.3~3.0	3.1~6.0	6.1~10.0	10.1~18.0	18.1~30.0	30.1~50.0	50.1~55.0
H7公差 Tolerance H7	+0.010 0	+0.012 0	+0.015 0	+0.018 0	+0.021 0	+0.025 0	+0.030 0

A.無帽緣式固定襯套

A.HEADLESS PRESS FIT BUSH

- 無帽緣固定式襯套，其外徑是p6孔請用H7公差，以利壓入配合。
- 如需要高精度的場合，襯套外徑由實測而得，而襯套承板孔徑比襯套外徑小0.004~0.006mm。
- In case of normal precision(general):
Bore a hole in bush plate at H7 in which the bush is straight fitted.
- In case of requiring high precision:
Bore in bush plate with diameter less some 0.004~0.006 of bush actually measured.



■ 標準稱呼尺寸(標準尺寸以外亦可製作)

Standard dimensions (Special dimensions be ordered)

Ød(內徑) (ID)	ØD(外徑)(OD) p6		R	精密級 —一般級	Precise Norma	L	
1.6~2.0	5	+0.020 +0.012	0.8	SA A	8 • 10 • 12		
2.1~3.0	7	+0.024 +0.015		SA A			
3.1~4.0	8		1	SA A	10 • 12 • 16		
4.1~6.0	10			SA A			
6.1~8.0	12		+0.029 +0.018	2	SA A	12 • 16 • 20	
8.1~10.0	15	SA A					
10.1~12.0	18	16 • 20 • 25			SA A		
12.1~15.0	22				SA A		
15.1~18.0	26	+0.035 +0.022	3	SA A	20 • 25 • 30		
18.1~22.0	30			SA A			
22.1~26.0	35	+0.042 +0.026	4	SA A	25 • 30 • 35		
26.1~30.0	42			SA A			
30.1~35.0	48			+0.051 +0.032	4	SA A	30 • 35 • 45
35.1~42.0	55					SA A	
42.1~48.0	62	35 • 45 • 55	SA A				
48.1~55.0	70		SA A				

訂購例: Order

SA - 10.0 x 20

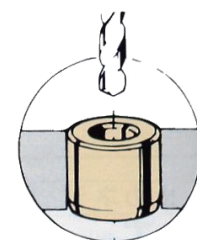
全長 L Length

內徑 ID

型式 Type

■ 內徑(d)的製作公差 Tolerance of I.D. (d)

內徑(d) 寸法	1.6~3.0	3.1~6.0	6.1~10.0	10.1~18.0	18.1~30.0	30.1~50.0	50.1~55.0
SA (G6)	+0.008 +0.002	+0.012 +0.004	+0.014 +0.005	+0.017 +0.006	+0.020 +0.007	+0.025 +0.009	+0.029 +0.010
A	+0.025 +0.002	+0.030 +0.004	+0.036 +0.005	+0.043 +0.006	+0.052 +0.007	+0.062 +0.009	+0.074 +0.010



B.付帽緣式固定襯套

B.HEADLESS PRESS FIT BUSH



內徑

分精密級、一般級和鉸刀用3種

I.D.

Made in 3 different tolerances for precise drilling, normal drilling and reaming.

外徑

以內徑為基準，經精密研磨加工而成，分固定式襯套及插入式襯套

O.D.

Highly precise finish based on I.D.
(Press Fit Bush...P6) (Renewable Bush...m5)

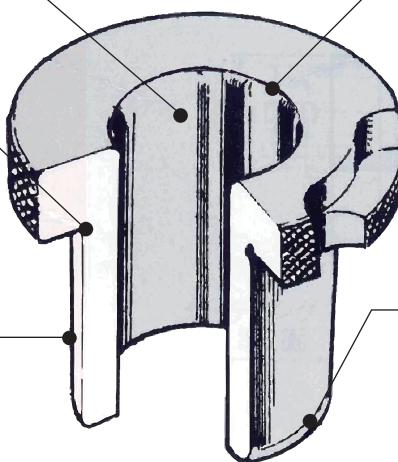
硬度

HRC60° 以上耐磨度極高

HARDNESS

HRC 60° up for long-er life.

襯套 BUSH



R圓

提供容易滑入之引導作用

RADIUS

For smooth entry of tool.

倒角

為了襯套之容易裝配故施以倒角加工

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Permit easy entry and removal.

治具用襯套 TYPE

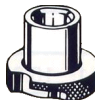
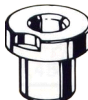
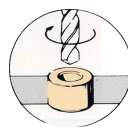
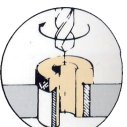
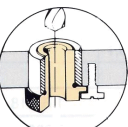
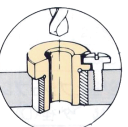
形狀及種類 TYPE AND APPLICATION

S...精密鉗頭用

R...鉸刀用

S...Precise drilling

R...Reaming

名稱 Designation		固定襯套 Press Fit		插入式襯套 Renewable Bush			引導用 固定式襯套 Headless Liner bush	止動螺絲 Lock Screw	止動環 Round Clamp				
		無帽緣 Headless	付帽緣 Headed	圓形 Round	右向迴轉切口形 Right Slip	左向迴轉切口形 Left Slip	切口形 Fixed						
形狀 Shape													
內 徑 的 使 用 Sort of I.D.	精密級鉗頭 Precise Drilling	SA	SB	SC	SD	SE	SF	G 形	T 形	R 形			
	一般級鉗頭 Normal Drilling	A	B	C	D	E	F						
	鉸刀 Reaming	-	BR	CR	DR	ER	FR						
使用方法 Illustration of use		無帽緣(A) Headless		無帽緣(B) Headed		插入式(C)		插入式(D)		插入式(E)		插入式(F)	
		AB型襯套均以緊密配合平均壓入 Press the bush into the plate				先將固定襯套G以緊密配合壓入治具板後再用手裝取插入式襯套並配以T形螺絲固定 First press the liner bush into the plate, the insert the bush and set the lock screw.							
													

內徑與外徑的同心度 Concentricity of ID and OD

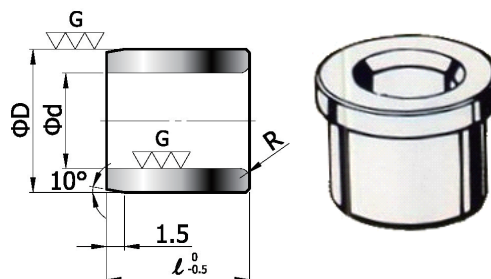
內徑 (d) 寸法 ID(d)		1.6~18.0	18.1~50.0	50.1~55.0
精密級 / 鉗孔	Precise drilling/ reaming	0.005	0.008	0.010
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與治具板之裝配公差 Assembly tolerance with bush plate

襯套承板的內徑尺寸 I.D.(d) of hole in bush plate	0.3~3.0	3.1~6.0	6.1~10.0	10.1~18.0	18.1~30.0	30.1~50.0	50.1~55.0
H7公差 Tolerance H7	+0.010 0	+0.012 0	+0.015 0	+0.018 0	+0.021 0	+0.025 0	+0.030 0

B.付帽緣式固定襯套 B.HEADLESS PRESS FIT BUSH

- 付帽緣固定式襯套，其外徑是p6孔請用H7公差，以利壓入配合。
- 如需要高精度的場合，襯套外徑由實測而得，而襯套承板孔徑比襯套外徑小0.004~0.006mm。
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■ 標準稱呼尺寸(標準尺寸以外亦可製作)

Standard dimensions (Special dimensions be ordered)

Ø d (內徑) (ID)	Ø D (外徑)(OD) P6		D1	ℓ 1	R	精密級 —一般級	Precise Norma	ℓ
1.6~2.0	5	+0.020 +0.012	9	2.5	0.8	<u>SB</u> B	8 • 10 • 12	8 • 10 • 12
2.1~3.0	7	+0.024 +0.015	11			3		
3.1~4.0	8		12	10 • 12 • 16	<u>SB</u> B			
4.1~6.0	10		14		<u>SB</u> B			
6.1~8.0	12	+0.029 +0.018	16		4	2	<u>SB</u> B	12 • 16 • 20
8.1~10.0	15		19	<u>SB</u> B				
10.1~12.0	18		22	<u>SB</u> B			16 • 20 • 25	
12.1~15.0	22	+0.035 +0.022	26	5	3	<u>SB</u> B		
15.1~18.0	26		30			<u>SB</u> B		20 • 25 • 30
18.1~22.0	30		35			<u>SB</u> B		
22.1~26.0	35	+0.042 +0.026	40	6	4	<u>SB</u> B	25 • 30 • 35	
26.1~30.0	42		47			<u>SB</u> B		
30.1~35.0	48		55			8		4
35.1~42.0	55	62	<u>SB</u> B					
42.1~48.0	62	+0.051 +0.032	69	35 • 45 • 55	<u>SB</u> B			
48.1~55.0	70		77		<u>SB</u> B			

訂購例: Order

SB - 10.0 x 20

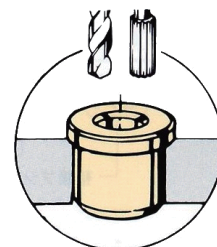
全長 l Length

內徑 ID

型式 Type

■ 內徑(d)的製作公差 Tolerance of I.D. (d)

內徑(d)寸法	1.6~3.0	3.1~6.0	6.1~10.0	10.1~18.0	18.1~30.0	30.1~50.0	50.1~55.0
SB (G6)	+0.008 +0.002	+0.012 +0.004	+0.014 +0.005	+0.017 +0.006	+0.020 +0.007	+0.025 +0.009	+0.029 +0.010
B	+0.025 +0.002	+0.030 +0.004	+0.036 +0.005	+0.043 +0.006	+0.052 +0.007	+0.062 +0.009	+0.074 +0.010
BR	+0.014 +0.008	+0.020 +0.012	+0.024 +0.015	+0.029 +0.018	+0.034 +0.021	+0.041 +0.025	+0.049 +0.030





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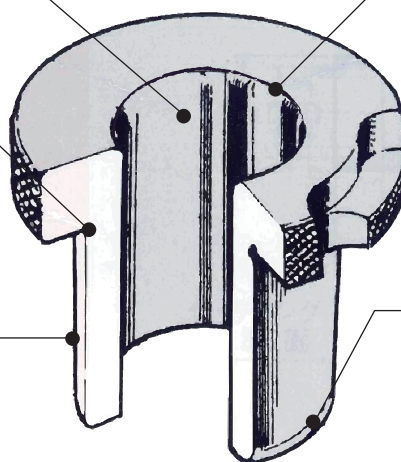
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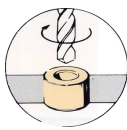
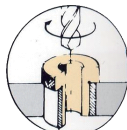
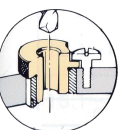
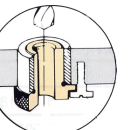
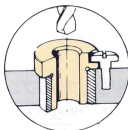
治具用襯套 TYPE

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R...鉸刀用

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內徑的使用 Sort of I.D.	精密級鉗頭 Precise Drilling	SA	SB	SC	SD	SE	SF	G 形	T 形	R 形			
	一般級鉗頭 Normal Drilling	A	B	C	D	E	F						
	鉸刀 Reaming	-	BR	CR	DR	ER	FR						
使用方法 Illustration of use		無帽緣(A) Headless		無帽緣(B) Headed		插入式(C)		插入式(D)		插入式(E)		插入式(F)	
		AB型襯套均以緊密配合平均壓入 Press the bush into the plate				先將固定襯套G以緊密配合壓入治具板後再用手裝取插入式襯套並配以T形螺絲固定 First press the liner bush into the plate, the insert the bush and set the lock screw.							
													

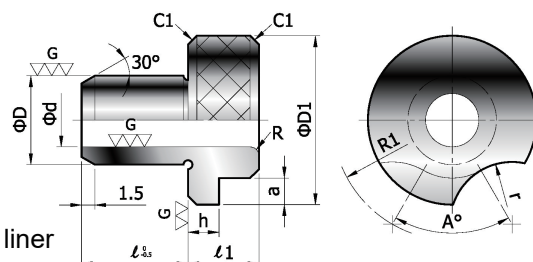
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與治具板之裝配公差 Assembly tolerance with bush plate

襯套承板的內徑尺寸 I.D.(d) of hole in bush plate	0.3~3.0	3.1~6.0	6.1~10.0	10.1~18.0	18.1~30.0	30.1~50.0	50.1~55.0
H7公差 Tolerance H7	+0.010 0	+0.012 0	+0.015 0	+0.018 0	+0.021 0	+0.025 0	+0.030 0

- 左向迴轉切口形插入襯套，請置入引導式固定襯套使用(G 形)。
- 左向迴轉切口形插入襯套的外徑(D)和引導用固定式襯套的內徑(d)請用同尺寸。
- E 形襯套在下列的時機使用最相宜。
 - 數量大長時期的製作同樣製品時。
 - 孔的尺寸經常有變更時。
 - 鑽頭孔徑具有兩種以上的段差或鑽通的孔可以鉸刀直通加工時。
- E形襯套的裝配方法係由缺口部與止動螺絲組合後裝入，只能向反時針方向迴轉，取出時，其反轉即是。
- Left slip renewable bush must be used in combination with headless liner bush (Type G).
- O.D. (D) of left slip renewable bush must coincide with I.D. (d) of headless liner bush.
- The bush can be frequently used in the following cases.
 - The same products are made in the following cases.
 - The hole size differs from one work to another.
 - Drilling requires two or more different drills, or reaming is necessary after being drilled.
- The bush is held in place by a lock screw or a round clamp fitted into a milled recess in the head of the bush.



訂購例: Order
SE - 10.0 x 20

全長 l Length
內徑 ID
型式 Type

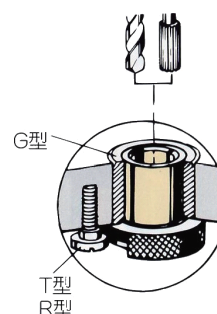
■ 標準稱呼尺寸(標準尺寸以外亦可製作)

Standard dimensions (Special dimensions be ordered)

Ød(內徑) (ID)	ØD(外徑)(OD) m5	ØD1	l_1	h	a	R	A°	R1	r	止動螺絲 Lock Screw	精密級 一般級	Precise Norma	l
1.6~2.0	8	+0.012 +0.006	16	8	3.5	3	0.8	12	7	M5	SE	E	10 • 12
2.1~3.0											SE		
3.1~4.0											SE		
4.1~6.0	10	+0.015 +0.007	19	9	3.5	3	1	60	13.5	7	SE	E	12 • 16
6.1~8.0	12										SE		
8.1~10.0	15										SE		
10.1~12.0	18	+0.017 +0.008	22	9	3.5	3	2	45	15	7	SE	E	16 • 20
12.1~15.0	22										SE		
15.1~18.0	26										SE		
18.1~22.0	30	+0.020 +0.009	26	12	5	4	2	40	17	9	SE	E	20 • 25
22.1~26.0	35										SE		
26.1~30.0	42										SE		
30.1~35.0	48	+0.024 +0.011	30	15	6	5	3	35	28	10	SE	E	25 • 30
35.1~42.0	55										SE		
											SE		

■ 內徑(d)的製作公差 Tolerance of I.D. (d)

內徑(d)寸法	1.6~3.0	3.1~6.0	6.1~10.0	10.1~18.0	18.1~30.0	30.1~42.0
SE (G6)	+0.008 +0.002	+0.012 +0.004	+0.014 +0.005	+0.017 +0.006	+0.020 +0.007	+0.025 +0.009
E	+0.025 +0.002	+0.030 +0.004	+0.036 +0.005	+0.043 +0.006	+0.052 +0.007	+0.062 +0.009
ER	+0.014 +0.008	+0.020 +0.012	+0.024 +0.015	+0.029 +0.018	+0.034 +0.021	+0.041 +0.025



D.右向迴轉切口形插入襯套

D.RIGHT SLIP RENEWABLE BUSH



內徑

分精密級、一般級和鉸刀用3種

I.D.

Made in 3 different tolerances for precise drilling, normal drilling and reaming.

外徑

以內徑為基準，經精密研磨加工而成，分固定式襯套及插入式襯套

O.D.

Highly precise finish based on I.D.
(Press Fit Bush...P6) (Renewable Bush...m5)

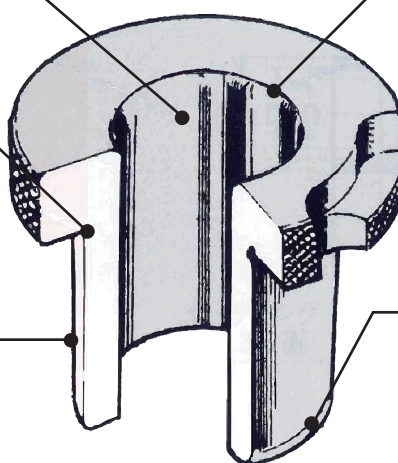
硬度

HRC60° 以上耐磨度極高

HARDNESS

HRC 60° up for long-er life.

襯套 BUSH



R圓

提供容易滑入之引導作用

RADIUS

For smooth entry of tool.

倒角

為了襯套之容易裝配故施以倒角加工

CHAMFER

Permit easy entry and removal.

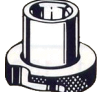
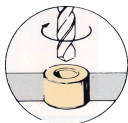
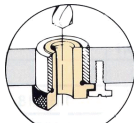
治具用襯套 TYPE

形狀及種類 TYPE AND APPLICATION

S...精密鉗頭用

R...鉸刀用

S...Precise drilling R...Reaming

名稱 Designation		固定襯套 Press Fit		插入式襯套 Renewable Bush			引導用 固定式襯套 Headless Liner bush	止動螺絲 Lock Screw	止動環 Round Clamp		
		無帽緣 Headless	付帽緣 Headed	圓形 Round	右向迴轉切口形 Right Slip	左向迴轉切口形 Left Slip	切口形 Fixed				
形狀 Shape											
內 徑 的 使 用 Sort of I.D.	精密級鉗頭 Precise Drilling	SA	SB	SC	SD	SE	SF	G 形	T 形	R 形	
	一般級鉗頭 Normal Drilling	A	B	C	D	E	F				
	鉸刀 Reaming	-	BR	CR	DR	ER	FR				
使用方法 Illustration of use		無帽緣(A) Headless		無帽緣(B) Headed		插入式(C)		插入式(D)		插入式(E)	插入式(F)
		AB型襯套均以緊密配合平均壓入 Press the bush into the plate				先將固定襯套G以緊密配合壓入治具板後再用手裝取插入式襯套並配以T形螺絲固定 First press the liner bush into the plate, the insert the bush and set the lock screw.					
											

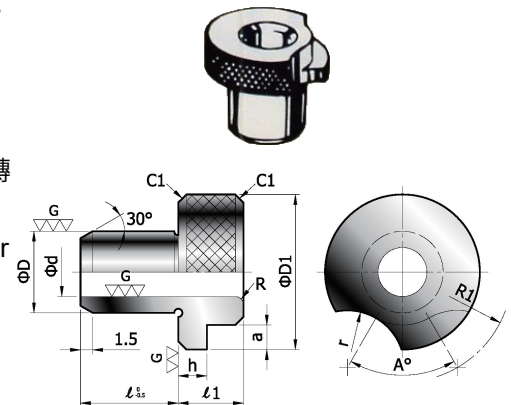
內徑與外徑的同心度 Concentricity of ID and OD

內徑 (d) 寸法 ID(d)		1.6~18.0	18.1~50.0	50.1~55.0
精密級 / 鉗孔	Precise drilling/ reaming	0.005	0.008	0.010
一般級 Normal Drilling		0.012	0.020	0.025

與治具板之裝配公差 Assembly tolerance with bush plate

襯套承板的內徑尺寸 I.D.(d) of hole in bush plate	0.3~3.0	3.1~6.0	6.1~10.0	10.1~18.0	18.1~30.0	30.1~50.0	50.1~55.0
H7公差 Tolerance H7	+0.010 0	+0.012 0	+0.015 0	+0.018 0	+0.021 0	+0.025 0	+0.030 0

- 右向迴轉切口形插入襯套，請置入引導式固定襯套使用(G形)。
- 右向迴轉切口形插入襯套的外徑(D)和引導用固定式襯套的內徑(d)請用同尺寸。
D形襯套在下列的時機使用最相宜。
 - 數量大長時期的製作同樣製品時。
 - 孔的尺寸經常有變更時。
 - 鑽頭孔徑具有兩種以上的段差或鑽通的孔可以鉸刀直通加工時。
- D形襯套的裝配方法係由缺口部與止動螺絲組合後裝入，只能向順時針方向迴轉，取出時，其反轉即是。
- Right slip slip renewable bush must be used in combination with headless liner bush (Type G).
- O.D.(D) of right slip renewable bush must coincide with I.D.(d) of headless liner bush.
The bush can be frequently used in the following cases.
 - The same products are made in the following cases.
 - The hole size differs from one work to another.
 - Drilling requires two or more different drills, or reaming is necessary after being drilled.
- The bush is held in place by a lock screw or a round clamp fitted into a milled recess in the head of the bush.



訂購例: Order

SD - 10.0 x 20

全長 l Length

內徑 ID

型式 Type

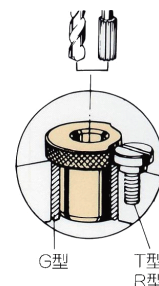
■ 標準稱呼尺寸(標準尺寸以外亦可製作)

Standard dimensions (Special dimensions be ordered)

Ød (內徑) (ID)	ØD (外徑)(OD) m5	ØD1	l1	h	a	R	A°	R1	r	止動螺絲 Lock Screw	精密級 一般級	Precise Norma	l
1.6~2.0	8	+0.012 +0.006	16	8	3.5	3	0.8	12	7	M5	SD	D	10 • 12
2.1~3.0											SD		
3.1~4.0											SD		
4.1~6.0	10	+0.015 +0.007	19	9	3.5	3	1	60	13.5	7	SD	D	12 • 16
6.1~8.0	12										SD		
8.1~10.0	15										SD		
10.1~12.0	18	+0.017 +0.008	22	12	5	4	2	45	22	9	SD	D	16 • 20
12.1~15.0	22										SD		
15.1~18.0	26										SD		
18.1~22.0	30	+0.020 +0.009	26	15	6	5	3	40	28	10	SD	D	20 • 25
22.1~26.0	35										SD		
26.1~30.0	42										SD		
30.1~35.0	48	+0.024 +0.011	30	15	6	5	4	35	36.5	10	SD	D	25 • 30
35.1~42.0	55										SD		
											SD		

■ 內徑(d)的製作公差 Tolerance of I.D. (d)

內徑(d)寸法	1.6~3.0	3.1~6.0	6.1~10.0	10.1~18.0	18.1~30.0	30.1~42.0
SD (G6)	+0.008 +0.002	+0.012 +0.004	+0.014 +0.005	+0.017 +0.006	+0.020 +0.007	+0.025 +0.009
D	+0.025 +0.002	+0.030 +0.004	+0.036 +0.005	+0.043 +0.006	+0.052 +0.007	+0.062 +0.009
DR	+0.014 +0.008	+0.020 +0.012	+0.024 +0.015	+0.029 +0.018	+0.034 +0.021	+0.041 +0.025



F.切口形插入襯套

F.FIXED RENEWABLE BUSH



內徑
分精密級、一般級和鉸刀用3種
I.D.
Made in 3 different tolerances for precise drilling, normal drilling and reaming.

外徑
以內徑為基準，經精密研磨加工而成，分固定式襯套及插入式襯套
O.D.
Highly precise finish based on I.D.
(Press Fit Bush...P6) (Renewable Bush...m5)

硬度
HRC60° 以上耐磨度極高
HARDNESS
HRC 60° up for long-er life.

襯套 BUSH

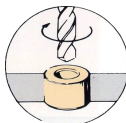
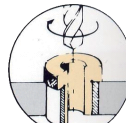
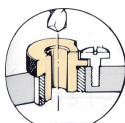
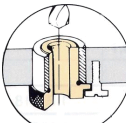
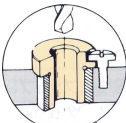
R圓
提供容易滑入之引導作用
RADIUS
For smooth entry of tool.

倒角
為了襯套之容易裝配故施以倒角加工
CHAMFER
Permit easy entry and removal.

治具用襯套 TYPE

形狀及種類 TYPE AND APPLICATION

S...精密鉗頭用 R...鉸刀用
S...Precise drilling R...Reaming

名稱 Designation		固定襯套 Press Fit		插入式襯套 Renewable Bush			引導用 固定式襯套 Headless Liner bush	止動螺絲 Lock Screw	止動環 Round Clamp				
		無帽緣 Headless	付帽緣 Headed	圓形 Round	右向迴轉切口形 Right Slip	左向迴轉切口形 Left Slip				切口形 Fixed			
形狀 Shape													
內 徑 的 使 用 Sort of I.D.	精密級鉗頭 Precise Drilling	SA	SB	SC	SD	SE	SF	G 形	T 形	R 形			
	一般級鉗頭 Normal Drilling	A	B	C	D	E	F						
	鉸刀 Reaming	-	BR	CR	DR	ER	FR						
使用 方法 Illustration of use		無帽緣(A) Headless		無帽緣(B) Headed		插入式(C)		插入式(D)		插入式(E)		插入式(F)	
		AB型襯套均以緊密配合平均壓入 Press the bush into the plate				先將固定襯套G以緊密配合壓入治具板後再用手裝取插入式襯套並配以T形螺絲固定 First press the liner bush into the plate, the insert the bush and set the lock screw.							
													

內徑與外徑的同心度 Concentricity of ID and OD

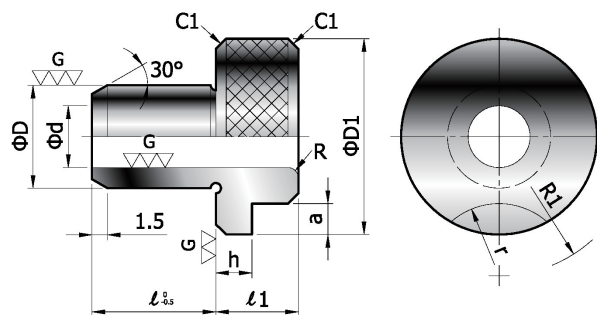
內徑 (d) 寸法 ID(d)	1.6~18.0	18.1~50.0	50.1~55.0
精密級 / 鉗孔 Precise drilling/ reaming	0.005	0.008	0.010
一般級 Normal Drilling	0.012	0.020	0.025

與治具板之裝配公差 Assembly tolerance with bush plate

襯套承板的內徑尺寸 I.D.(d) of hole in bush plate	0.3~3.0	3.1~6.0	6.1~10.0	10.1~18.0	18.1~30.0	30.1~50.0	50.1~55.0
H7公差 Tolerance H7	+0.010 0	+0.012 0	+0.015 0	+0.018 0	+0.021 0	+0.025 0	+0.030 0

F.切口形插入襯套 F.FIXED RENEWABLE BUSH

- 切口形插入襯套，請置入引導式固定襯套使用(G形)。
- 切口形插入襯套的外徑(D)和引導用固定式襯套的內徑(d)請用同尺寸。
- F形襯套在下列的時機使用最相宜。
- Left slip renewable bush must be used in combination with headless liner bush (Type G).
- O.D. (D) of left slip renewable bush must coincide with I.D.(d) of headless liner bush.
- The bush can be frequently used in case the same products are made in quantity for long period.



訂購例: Order

SF - 10.0 x 20

全長 l Length

內徑 ID

型式 Type

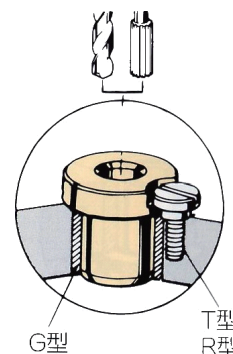
■ 標準稱呼尺寸(標準尺寸以外亦可製作)

Standard dimensions (Special dimensions be ordered)

Ød(內徑) (ID)	ØD(外徑)(OD) m5	ØD1	l_1	h	a	R	R1	r	止動螺絲 Lock Screw	精密級 一般級	Precise Norma	l
1.6~2.0	8	+0.012 +0.006	16	8	3.5	3	0.8	12	7	M5	SF	10 • 12
2.1~3.0							1				F	
3.1~4.0							1				SF	
4.1~6.0	10	+0.015 +0.007	19	9	5	4	1	13.5	9	M6	F	12 • 16
6.1~8.0	12		22				1	15			SF	
8.1~10.0	15		26				2	17			F	
10.1~12.0	18	+0.020 +0.009	30	15	6	5	2	19	10	M8	SF	16 • 20
12.1~15.0	22		35				3	22			F	
15.1~18.0	26		40				3	24.5			SF	
18.1~22.0	30	+0.024 +0.011	47	15	6	5	3	28	10	M8	F	20 • 25
22.1~26.0	35		55				4	33			SF	
26.1~30.0	42		62				4	36.5			F	
30.1~35.0	48	+0.024 +0.011	69	15	6	5	4	40	10	M8	SF	25 • 30
35.1~42.0	55		77				4	44			F	
							4	44			SF	

■ 內徑(d)的製作公差 Tolerance of I.D. (d)

內徑(d) 寸法	1.6~3.0	3.1~6.0	6.1~10.0	10.1~18.0	18.1~30.0	30.1~42.0
SF (G6)	+0.008 +0.002	+0.012 +0.004	+0.014 +0.005	+0.017 +0.006	+0.020 +0.007	+0.025 +0.009
F	+0.025 +0.002	+0.030 +0.004	+0.036 +0.005	+0.043 +0.006	+0.052 +0.007	+0.062 +0.009
FR	+0.014 +0.008	+0.020 +0.012	+0.024 +0.015	+0.029 +0.018	+0.034 +0.021	+0.041 +0.025





內徑

分精密級、一般級和鉸刀用3種

I.D.

Made in 3 different tolerances for precise drilling, normal drilling and reaming.

外徑

以內徑為基準，經精密研磨加工而成，分固定式襯套及插入式襯套

O.D.

Highly precise finish based on I.D.

(Press Fit Bush...P6) (Renewable Bush...m5)

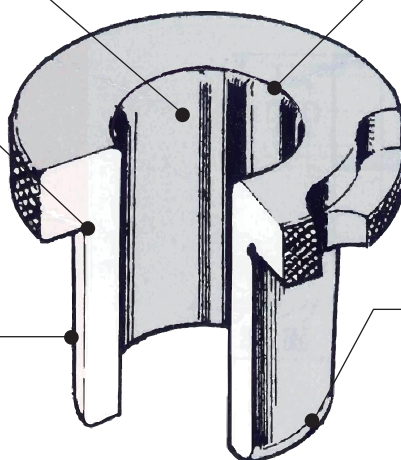
硬度

HRC60° 以上耐磨度極高

HARDNESS

HRC 60° up for long-er life.

襯套 BUSH



R圓

提供容易滑入之引導作用

RADIUS

For smooth entry of tool.

倒角

為了襯套之容易裝配故施以倒角加工

CHAMFER

Permit easy entry and removal.

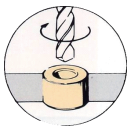
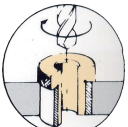
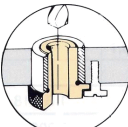
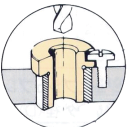
治具用襯套 TYPE

形狀及種類 TYPE AND APPLICATION

S...精密鉗頭用

R...鉸刀用

S...Precise drilling R...Reaming

名稱 Designation		固定襯套 Press Fit		插入式襯套 Renewable Bush				引導用 固定式襯套 Headless Liner bush	止動螺絲 Lock Screw	止動環 Round Clamp			
		無帽緣 Headless	付帽緣 Headed	圓形 Round	右向迴轉切口形 Right Slip	左向迴轉切口形 Left Slip	切口形 Fixed						
形狀 Shape													
內徑的使用 Sort of I.D.	精密級鉗頭 Precise Drilling	SA	SB	SC	SD	SE	SF	G 形	T 形	R 形			
	一般級鉗頭 Normal Drilling	A	B	C	D	E	F						
	鉸刀 Reaming	-	BR	CR	DR	ER	FR						
使用方法 Illustration of use		無帽緣(A) Headless		無帽緣(B) Headed		插入式(C)		插入式(D)		插入式(E)		插入式(F)	
		AB型襯套均以緊密配合平均壓入 Press the bush into the plate				先將固定襯套G以緊密配合壓入治具板後再用手裝取插入式襯套並配以T形螺絲固定 First press the liner bush into the plate, the insert the bush and set the lock screw.							
													

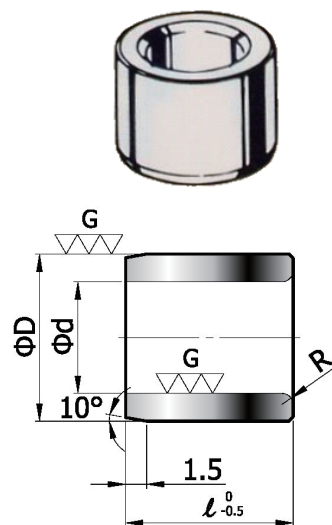
內徑與外徑的同心度 Concentricity of ID and OD

內徑 (d) 寸法 ID(d)		1.6~18.0	18.1~50.0	50.1~55.0
精密級 / 鉗孔	Precise drilling/ reaming	0.005	0.008	0.010
一般級 Normal Drilling		0.012	0.020	0.025

與治具板之裝配公差 Assembly tolerance with bush plate

襯套承板的內徑尺寸 I.D.(d) of hole in bush plate	0.3~3.0	3.1~6.0	6.1~10.0	10.1~18.0	18.1~30.0	30.1~50.0	50.1~55.0
H7公差 Tolerance H7	+0.010 0	+0.012 0	+0.015 0	+0.018 0	+0.021 0	+0.025 0	+0.030 0

- 引導用固定襯套，請於插入式襯套的引導下使用。
- 引導用固定襯套請勿用於鉗孔和鉸刀的加工。
- 就引導用固定襯套和襯套承板的固定而言。
 - 普通精度的場合(一般的)因無帽緣固定式襯套，其外徑係以p6 公差製造，固襯套承板的孔請用H7 公差，以利壓入配合。(用外徑m5 的鉸刀加工，即可得H7 的公差。)只能向反時針方向迴轉，取出時，其反轉即是。
 - 高精度的場合:
- 襯套外徑由實測而得，而襯套承板孔徑比襯套外徑小0.004~0.006mm，裝配時，以油壓壓床作90度垂直壓入。
- Headless liner bush is used for guide of renewable bush.
- Headless liner bush cannot be used for guide of drill or reamer.
- Information on pressing headless liner bush in the bush plate.
 - In case of normal precision (general):
Bore a hole in bush plate at H7 in which the headless liner bush with O.D. (D) p6 can be fitted.
(The tolerance of a hole bored by reamer with O.D. m5 is H7.)
 - In case of requiring high precision:
- Bore in the bush plate the hole with diameter less some 0.004 ~ 0.006 than O.D. of headless liner bush actually measured. in which the bush is straight by oil pressure press.



■ 標準稱呼尺寸(標準尺寸以外亦可製作)

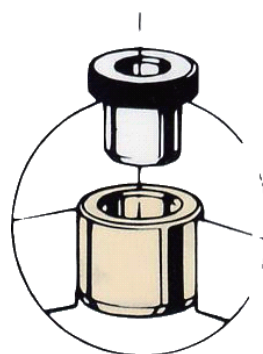
Standard dimensions (Special dimensions be ordered)

Ø d (內徑) (ID)		Ø D (外徑) (OD) p6		R	ℓ
8	+0.032 +0.023	12	+0.029 +0.018	2	12 • 16
10		15			
12	+0.036 +0.025	18			16 • 20
15		22	+0.035 +0.022	3	20 • 25
18	+0.037 +0.026	26			
22	+0.040 +0.027	30			25 • 30
26		35	+0.042 +0.026	4	30 • 35
30	+0.041 +0.023	42			
35		48			35 • 45
42	+0.045 +0.027	55	+0.051 +0.032		
48		62			
55	+0.055 +0.034	70			

訂購例: Order

G - 10.0 x 12

全長 ℓ Length
內徑 ID
型式 Type





內徑

分精密級、一般級和鉸刀用3種

I.D.

Made in 3 different tolerances for precise drilling, normal drilling and reaming.

外徑

以內徑為基準，經精密研磨加工而成，分固定式襯套及插入式襯套

O.D.

Highly precise finish based on I.D.
(Press Fit Bush...P6) (Renewable Bush...m5)

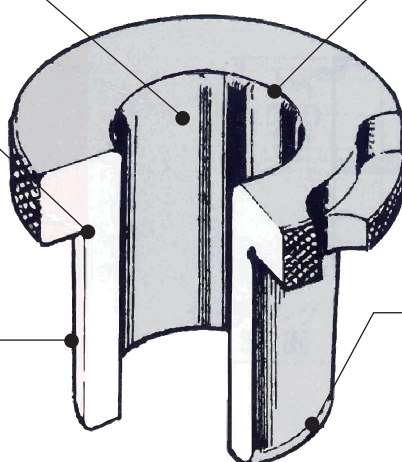
硬度

HRC60° 以上耐磨度極高

HARDNESS

HRC 60° up for long-er life.

襯套 BUSH



R圓

提供容易滑入之引導作用

RADIUS

For smooth entry of tool.

倒角

為了襯套之容易裝配故施以倒角加工

CHAMFER

Permit easy entry and removal.

治具用襯套 TYPE

形狀及種類 TYPE AND APPLICATION

S...精密鉗頭用

R...鉸刀用

S...Precise drilling R...Reaming

名稱 Designation		固定襯套 Press Fit		插入式襯套 Renewable Bush				引導用 固定式襯套 Headless Liner bush	止動螺絲 Lock Screw	止動環 Round Clamp	
		無帽緣 Headless	付帽緣 Headed	圓形 Round	右向迴轉切口形 Right Slip	左向迴轉切口形 Left Slip	切口形 Fixed				
形狀 Shape											
內徑的使用 Sort of I.D.	精密級鉗頭 Precise Drilling	SA	SB	SC	SD	SE	SF	G 形	T 形	R 形	
	一般級鉗頭 Normal Drilling	A	B	C	D	E	F				
	銼刀 Reaming	-	BR	CR	DR	ER	FR				
使用方法 Illustration of use		無帽緣(A) Headless		無帽緣(B) Headed		插入式(C)		插入式(D)		插入式(E)	
		AB型襯套均以緊密配合平均壓入 Press the bush into the plate				先將固定襯套G以緊密配合壓入治具板後再用手裝取插入式襯套並配以T形螺絲固定 First press the liner bush into the plate, the insert the bush and set the lock screw.					
											

內徑與外徑的同心度 Concentricity of ID and OD

內徑 (d) 寸法 ID(d)	1.6~18.0	18.1~50.0	50.1~55.0
精密級 / 鉗孔 Precise drilling/ reaming	0.005	0.008	0.010
一般級 Normal Drilling	0.012	0.020	0.025

與治具板之裝配公差 Assembly tolerance with bush plate

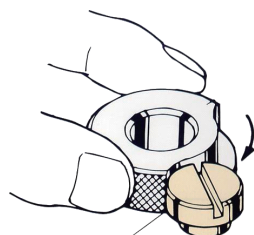
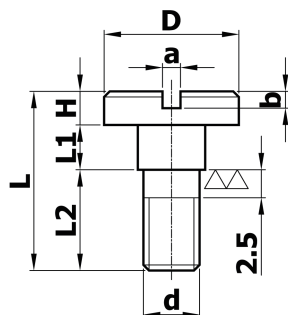
襯套承板的內徑尺寸 I.D.(d) of hole in bush plate	0.3~3.0	3.1~6.0	6.1~10.0	10.1~18.0	18.1~30.0	30.1~50.0	50.1~55.0
H7公差 Tolerance H7	+0.010 0	+0.012 0	+0.015 0	+0.018 0	+0.021 0	+0.025 0	+0.030 0



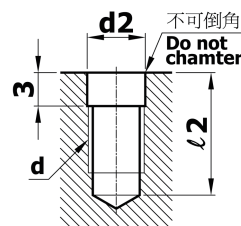
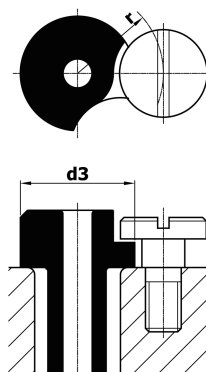
■ T.止動螺絲 LOCK SCREW

購買時請告知型式如 :T-5。

- T-5 之牙距有0.8(ISO)和0.9(JIS)兩種。
- 本公司標準品採用0.8，如需要0.9時，請說明告知。
- T-5 is available in P=0.8 (ISO) and P=0.9 (JIS)
- When ordering T-5 (P=0.9) , Please specify P (pitch) 0.9



T 型止動螺絲
T-LOCK SCREW

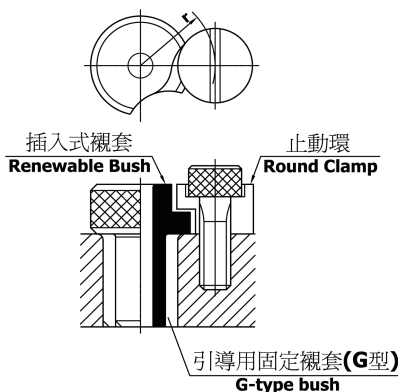
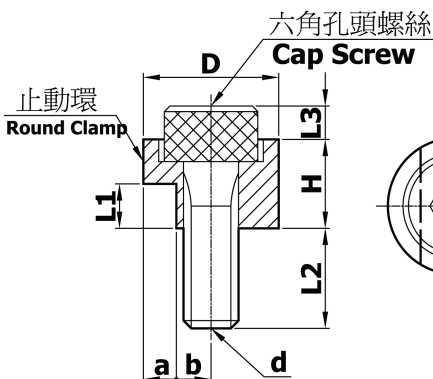


d3	d	尺寸 Size	公差 Tolerance	d2	L2
16	M5	12	±0.2	5.2	11
19		13.5			
22		15			
26		17			
30	M6	19	±0.3	6.2	14
35		22			
40		24.5			
47		28			
55	M8	33	±0.3	8.2	16
62		36.5			
69		40			
77		44			

規格 MODEL	d		d1		D		a	b	H	L1		L2	L
	尺寸 SIZE	牙距 Pitch	尺寸 SIZE	公差 Tolerance	尺寸 SIZE	公差 Tolerance				尺寸 SIZE	公差 Tolerance		
T-5	M5	0.8(0.9)	6	+0.2	12	+0.2	1.6	1.5	3	4	+0.1	9	16
T-6	M6	1	7		15	+0.2		2	4	5.5	+0.2	10.5	20
T-8	M8	1.25	9		18	+0.3	2	2.5	5	6.5	+0.2	12.5	24

■ R.止動環 ROUND CLAMP

- 本止動環請用於高負荷迴轉之插入式襯套。
- 裝置尺寸與位置相同於T 行止動螺絲之裝置尺寸與位置，請參考尺寸圖表。
- The round clamp can be used in place of lock screw Type T to prevent round of renewable bush (Type D、E and f).
- The round clamp is also used in case heavier round is put on renewable bush.



規格 MODEL	d		D		a		b	H	L1	L2	L3	六角孔頭螺絲 Cap Screw
	尺寸 SIZE	牙距 Pitch	尺寸 SIZE	公差 Tolerance	尺寸 SIZE	公差 Tolerance						
R-5	5	0.8	12.3	±0.05	3	0 -0.1	3.15	8	4	9	3	M5x15
R-6	6	1	15.5		4		3.75	12	5.5	8	2	M6x16
R-8	8	1.25	19.5		5		4.75	15	6.5	10.5	2.5	M8x20