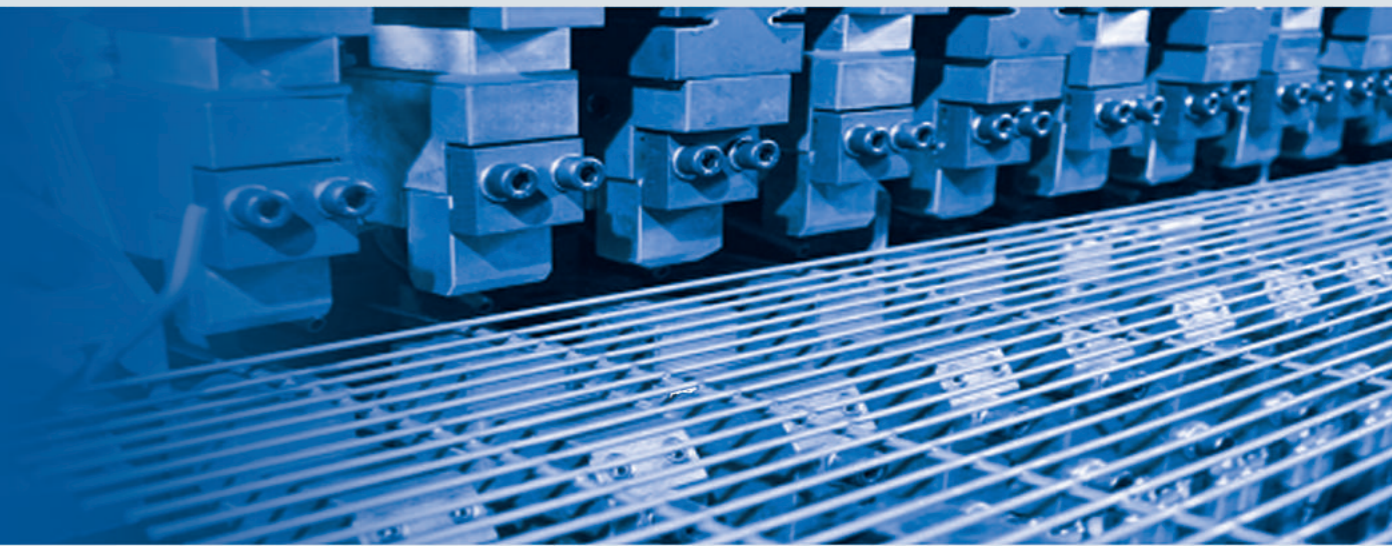


熔接相關部品型錄
Various Types of Welding Electrodes



高速 | 高信賴度 | 高耐力 | 省電力

High Speed | Highly Reliable | Long Lasting Design | Electricity Saving



金鐸機電廠股份有限公司
GOLDEN SPOT INDUSTRY INC.

No.13, Ln. 498, Side Rd, Wufeng Dist,
Taichung City 413, Taiwan

一廠：台中市大里區國中一路25巷25弄6號

二廠：台中市霧峰區四德路498巷13號

TEL:886-4-23334589 (Rep)

FAX:886-4-23331788

<http://www.goldspot.com.tw>

E-mail:welding@goldspot.com.tw



目錄 Contents

1 · 各式電極銅 Electrodes.....	01
1-1 · 單點電極銅 Spot Welding Electrodes.....	02
1)通用型電極銅 Standard Straight Electrodes.....	02
2)彎頭型電極銅頭 Bent Electrodes.....	03
3)螺絲用電極銅頭 Stud Welding Electrodes.....	05
4)螺帽用電極銅頭 Nut Welding Electrodes.....	07
5)焊帽及焊帽接桿 Caps and Shanks.....	11
1-2 · 標準角材電極銅 Standard Electrode Copper Block.....	13
1-3 · 特製電極銅 Special Custom-made Copper.....	14
2 · 各式通水銅 Water-Cooled Electrode Holder.....	15
2-1 · 標準直式通水銅 Straight Electrode Holder.....	17
2-2 · 標準L型通水銅 15°/90° Head Electrode Holders [L-holder]	18
2-3 · 梯型通水銅座組 Ladder Type Electrode Holder - w/ Shank.....	19
2-4 · 梯型通水銅座組-無柄 Ladder Type Electrode Holder - w/o Shank.....	20
2-5 · 單點通水銅座-無柄 Special Single Point Electrode Holder - w/o Shank.....	21
3 · 伸出銅 Horn Electrode Holder.....	22
4 · 電極銅拔取器 Tips Pulling Tool.....	23
5 · 水流調整計 Water Flow Meter.....	23
6 · 儲氣桶 Air Tank.....	24

1 · 各式電極銅頭(Electrodes)

1-1 · 單點電極銅(Spot Welding Electrodes)

配合於通水銅(直)、L型通水銅


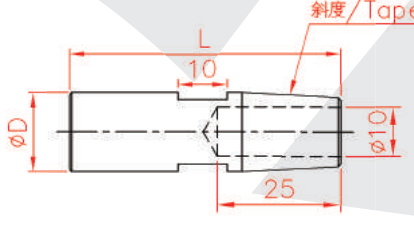

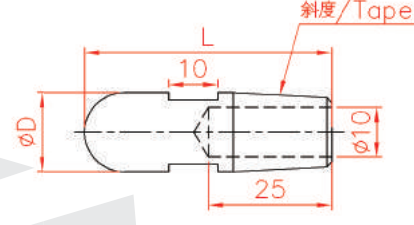

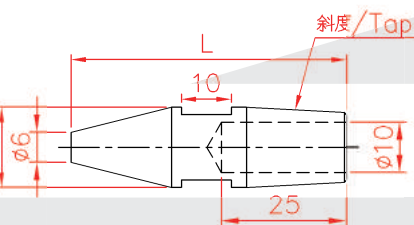

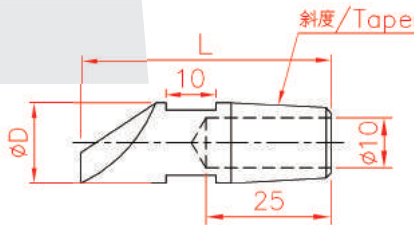

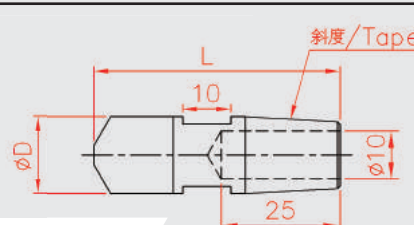
Tie in with straight selding tip holders and offset welding tip holders(L-holder)

 <p>通用型電極銅頭(Standard Straight Electrodes)</p>	 <p>彎頭型電極銅 (Bent Electrodes)</p>
 <p>螺絲用電極(Stud Welding Electrodes)</p>	 <p>螺帽用電極 (Nut Welding Electrodes)</p>
 <p>各式焊帽與接桿(小型件專用) Caps and Shanks(Small pieces of special)</p>	

1-1 · 單點電極銅(Spot Welding Electrodes)

1) 通用型電極銅頭(Standard Straight Electrodes)

- 用於SA單點/SF系列為主(For SA/SF single point-based series)。
- 材質-鉻鋯銅(Material-CrZrCu)。
- 需特殊材質，可接受訂製(建議材質如鉻銅、鈹銅、鋁銅)。
Custom-made material (Ex: Cr Cu, CcNB, Al Cu)
- 如需特殊尺寸與模組生產，可接受訂製。
Customized acceptable.

	 <p>平頭型(Flat Tips)</p>		 <p>半圓型(Dome Tips)</p>
	 <p>尖頭型(Pointed Tips)</p>		 <p>偏心型(Offset Tips)</p>
	 <p>120°尖型(120° Truncated Tips)</p>		

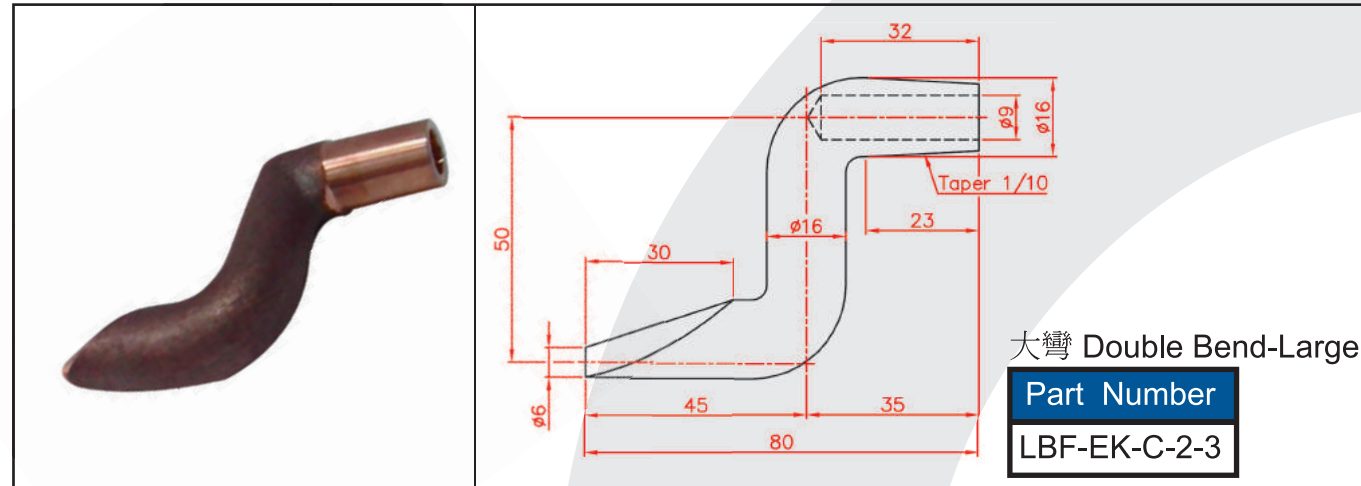
產品標準規格表如下-(Specification)

尺寸單位(Unit) : mm

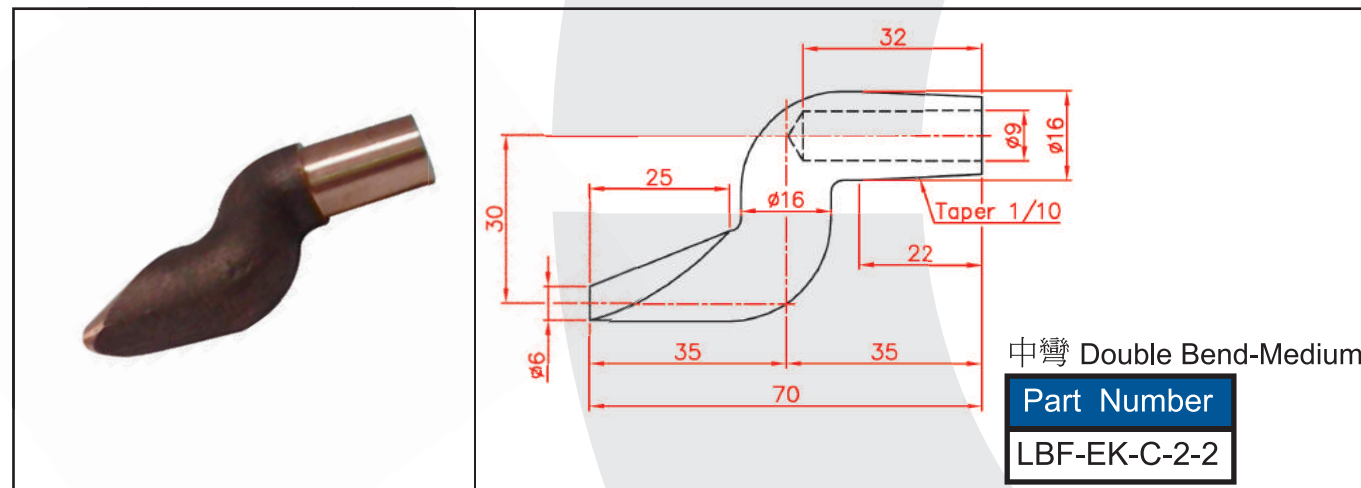
Category		Standard Size							
Spec	ØD	13	16	19	19	25	25	32	32
	L	51	53	57	57	57	57	57	57
	TAPER	13 1/10	16 1/10	16 1/10	19 1/10	16 1/10	19 1/10	16 1/10	19 1/10
Part Number	Flat	LTG-004-001	LTG-005-001	LTG-006-001-01	LTG-006-001	LTG-010-001-01	LTG-010-001	LTG-012-001-01	LTG-012-001
	Dome	LTG-004-002	LTG-005-002	LTG-006-002-01	LTG-006-002	—	—	—	—
	Pointed	LTG-004-004	LTG-005-004	LTG-006-004-01	LTG-006-004	—	—	—	—
	Offset	LTG-004-003	LTG-005-003	LTG-006-003-01	LTG-006-003	—	—	—	—
	Truncated	LTG-004-007	LTG-005-007	LTG-006-007-01	LTG-006-007	—	—	—	—

2) 彎頭型/旋轉頭電極銅頭(Bent Electrode)

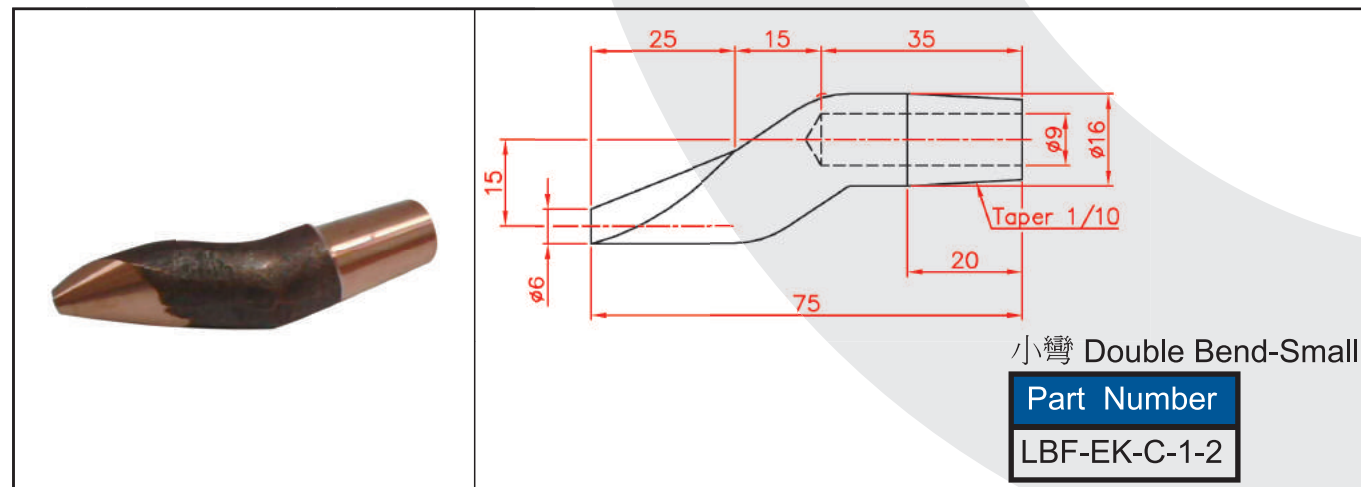
- 多用於SA/SF單點系列(For SA/SF single point-based series)。
- 單一材質-鑄黃銅 Bent Tips (Material : YBsC3-Casting)。



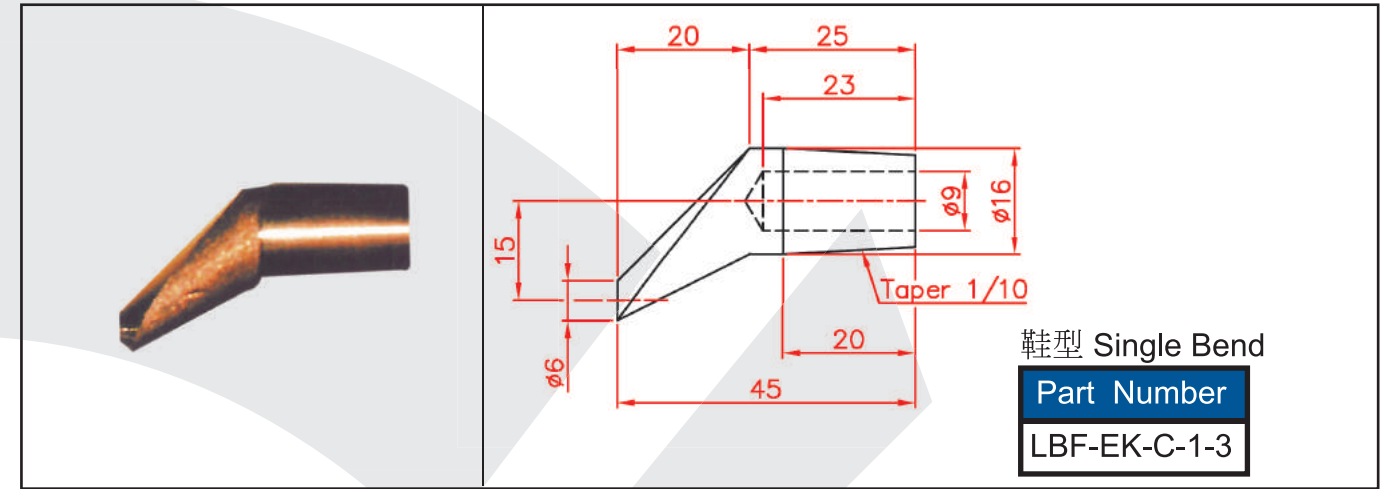
Technical drawing of a large double-bend electrode tip. Dimensions include: total length 80, distance from tip to first bend 45, distance between bends 30, distance from second bend to end 35, end diameter $\phi 16$, and taper 1/10. The drawing is labeled "大彎 Double Bend-Large" with Part Number LBF-EK-C-2-3.



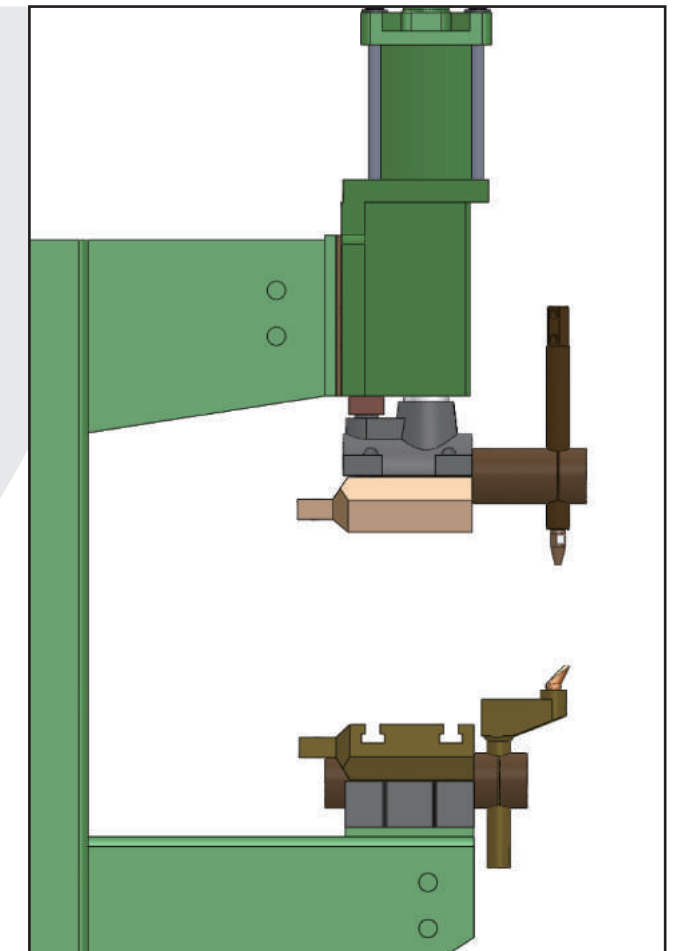
Technical drawing of a medium double-bend electrode tip. Dimensions include: total length 70, distance from tip to first bend 35, distance between bends 25, distance from second bend to end 35, end diameter $\phi 16$, and taper 1/10. The drawing is labeled "中彎 Double Bend-Medium" with Part Number LBF-EK-C-2-2.



Technical drawing of a small double-bend electrode tip. Dimensions include: total length 75, distance from tip to first bend 15, distance between bends 25, distance from second bend to end 35, end diameter $\phi 16$, and taper 1/10. The drawing is labeled "小彎 Double Bend-Small" with Part Number LBF-EK-C-1-2.

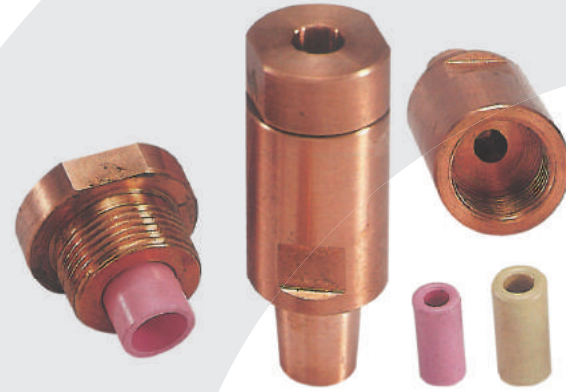
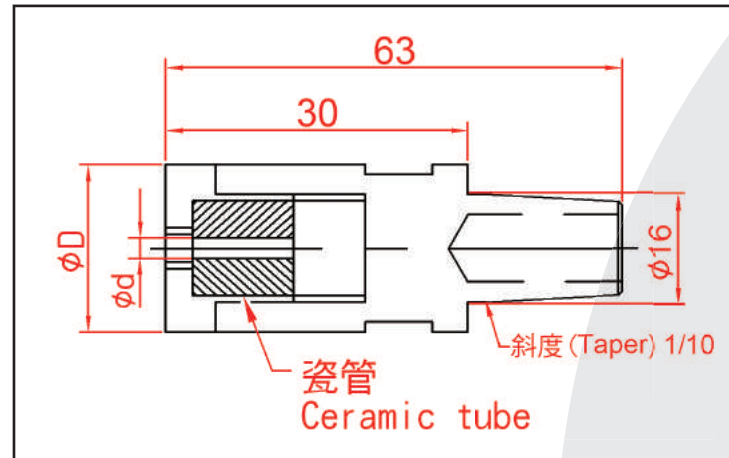


Technical drawing of a single-bend electrode tip. Dimensions include: total length 45, distance from tip to bend 20, distance from bend to end 25, end diameter $\phi 16$, and taper 1/10. The drawing is labeled "鞋型 Single Bend" with Part Number LBF-EK-C-1-3.



3) 螺絲用電極(Stud Welding Electrodes)

- 用於SA單點系列為主(For SA single-point based series)。
- 材質-電極銅頭：鉻鋯銅(Material-CrZrCu) / 瓷管：陶瓷(Ceramic Tube)。
- 如需特殊尺寸與模組生產，可接受訂製。
Customized acceptable.

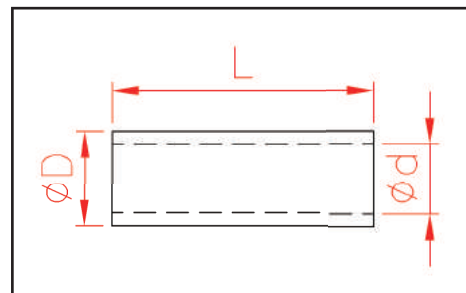


產品標準規格表如下-(Specification)

尺寸單位(Unit) : mm

Category		Standard Size				
Spec	Screws	M4	M5	M6	M8	M10
	ϕD	25	25	25	25	32
	ϕd	4.1	5	6	5	5
Part Number		LTG-B007-04	LTG-B007-05	LTG-B007-06	LTG-B007-08	LTG-B007-10

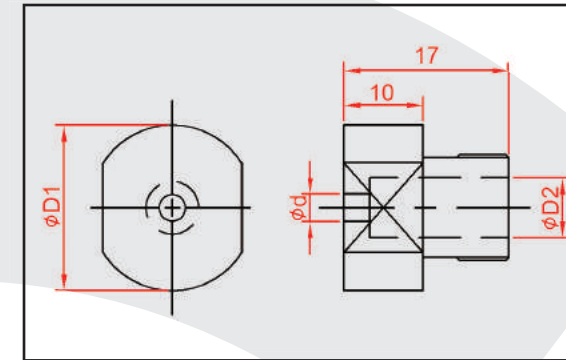
瓷管(Ceramic Tube)



尺寸單位(Unit) : mm

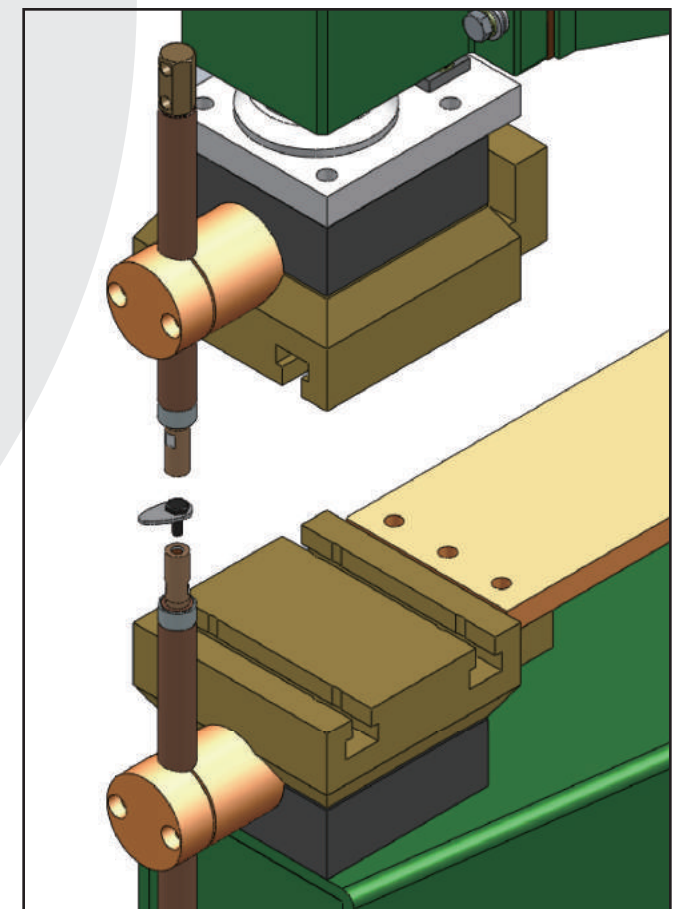
Category		Standard Size				
Spec	Screws	M4	M5	M6	M8	M10
	ϕD	7.8	9.4	9.8	11	13.4
	ϕd	4.1	5	6	8	10
	L	16.3	19.05	20	18	15.6
Part Number		LTG-B006-04	LTG-B006-05	LTG-B006-06	LTG-B006-08	LTG-B006-10

螺絲用電極上蓋(Heads)



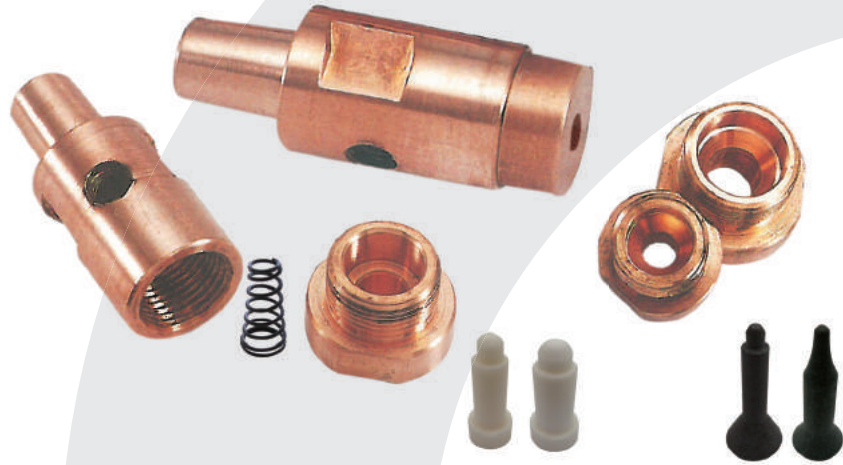
尺寸單位(Unit) : mm

Category		Standard Size				
Spec	Screws	M4	M5	M6	M8	M10
	$\phi D1$	25	25	25	25	32
	$\phi D2$	8	9.5	10	11	13.6
	ϕd	4.1	5.4	6.5	8.2	10.2
Part Number		LTG-B008-04	LTG-B008-05	LTG-B008-06	LTG-B008-08	LTG-B008-10

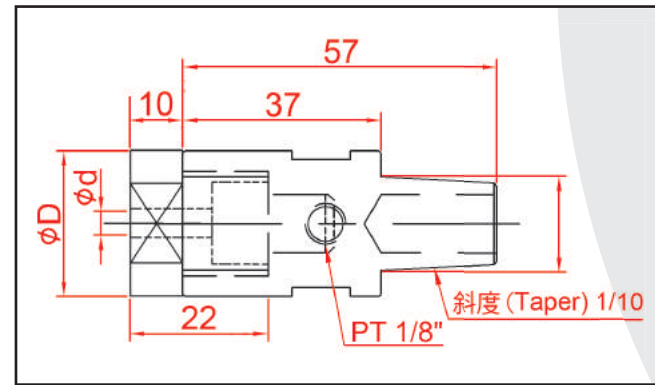


4) 螺帽用電極(Nut Welding Electrodes)

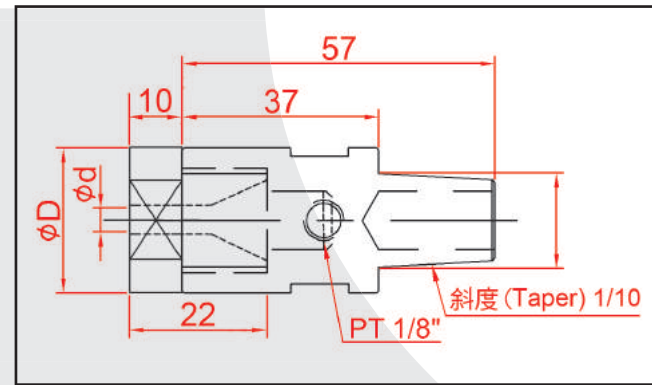
- 用於SA單點系列為主(For SA single-point based series)。
- 材質-電極銅頭：鉻鋯銅(Material-CrZrCu)
- 如需特殊尺寸與模組生產，可接受訂製。
Customized acceptable.



螺帽電極-瓷心用
Electrode for Ceramic pins



螺帽電極-黑鋼心用
Electrode for Steel pins

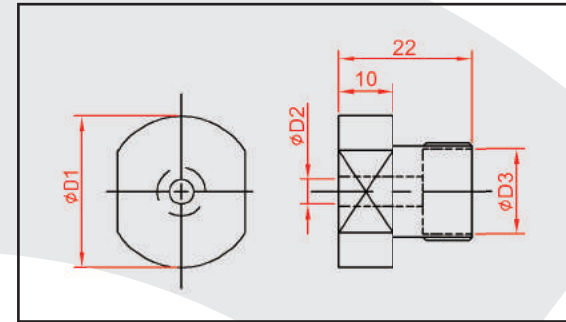


產品標準規格表如下-(Specification)

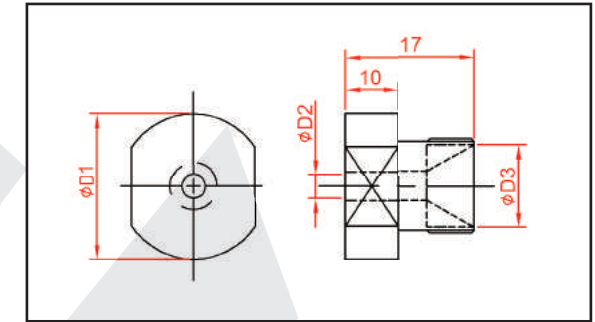
尺寸單位(Unit) : mm

Category		Standard Size					
Spec	Screws	M4	M5	M6	M8	M10	M12
	ØD	25	25	25	25	32	32
	Ød	5	6	7	9	11	13
Number	for Ceramic	LTG-B005-04	LTG-B005-05	LTG-B005-06	LTG-B005-08	LTG-B005-10	LTG-B005-12
	for Steel	LTG-B003-04	LTG-B003-05	LTG-B003-06	LTG-B003-08	LTG-B003-10	LTG-B003-12

瓷心銅座上蓋
Heads for Ceramic pins



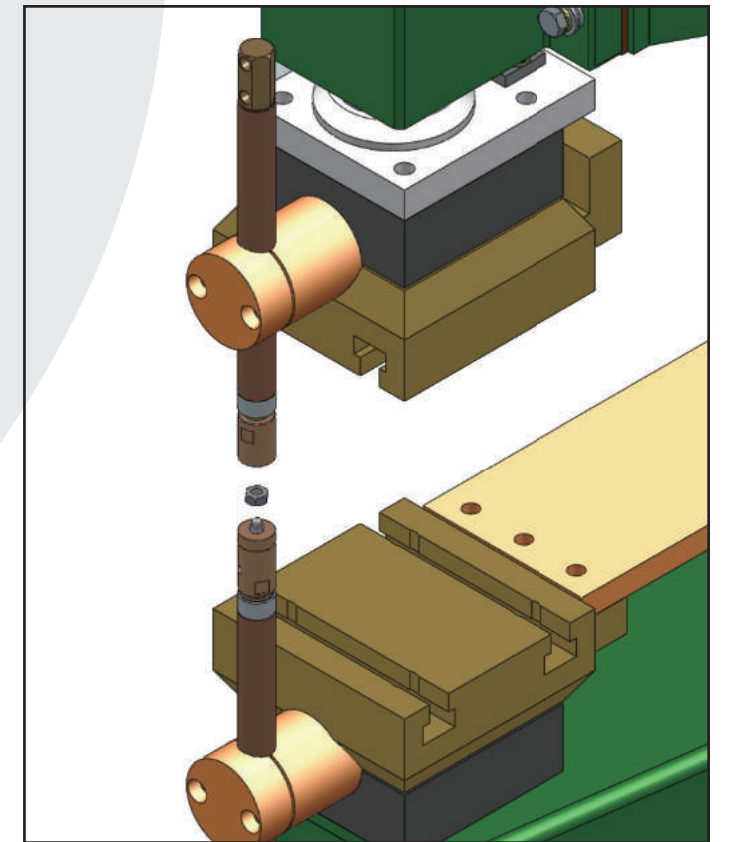
黑鋼心銅座上蓋
Heads for Steel pins



產品標準規格表如下-(Specification)

尺寸單位(Unit) : mm

Category		Standard Size					
Spec	Screws	M4	M5	M6	M8	M10	M12
	ØD1	25	25	25	25	32	32
	ØD2	5	6	7	9	11	13
	ØD3	14	14	14	14	17.6	17.6
Number	for Ceramic	LTG-B005-04-F	LTG-B005-05-F	LTG-B005-06-F	LTG-B005-08-F	LTG-B005-10-F	LTG-B005-12-F
	for Steel	LTG-B003-04-F	LTG-B003-05-F	LTG-B003-06-F	LTG-B003-08-F	LTG-B003-10-F	LTG-B003-12-F



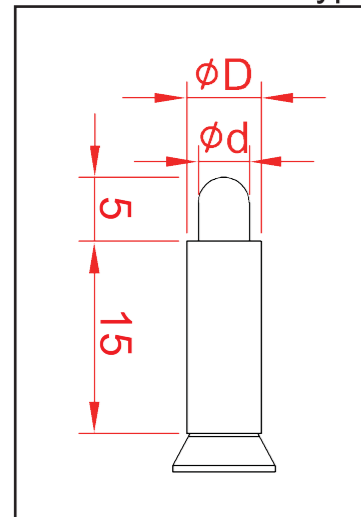
4) 螺帽用電極(Nut Welding Electrodes)

- 材質-瓷心：陶瓷/黑鋼心：鐵包覆鐵弗龍。
Material- Ceramic Pin: Ceramics / Steel Pin: KCF.
- 如需特殊尺寸與模組生產，可接受訂製。
Customized acceptable.

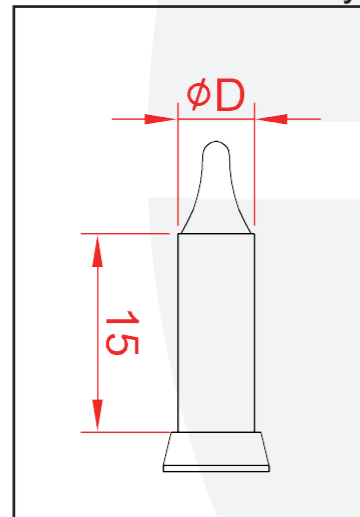


彈簧 Spring
型號 Part Number : AAI-23.5L

黑鋼心-瓷型
Steel Pin-Round Type



黑鋼心-尖型
Steel Pin-Pencial Type

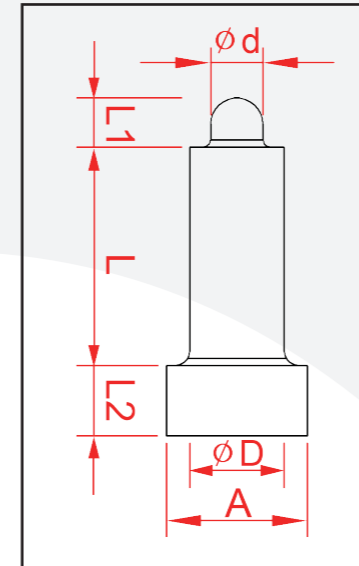


產品標準規格表如下-(Specification)

尺寸單位(Unit) : mm

Category		Standard Size					
Spec	Screws	M4	M5	M6	M8	M10	M12
	ϕD	4.8	5.8	6.8	8.8	10.8	12.8
	ϕd	—	4	4.8	6.6	8.3	—
Number	Round	—	LTG-B002-05-1	LTG-B002-06-1	LTG-B002-08-1	LTG-B002-10-1	—
	Pencial	LTG-B002-04	LTG-B002-05	LTG-B002-06	LTG-B002-08	LTG-B002-10	LTG-B002-12

瓷心
Ceramic Pin



產品標準規格表如下-(Specification)

尺寸單位(Unit) : mm

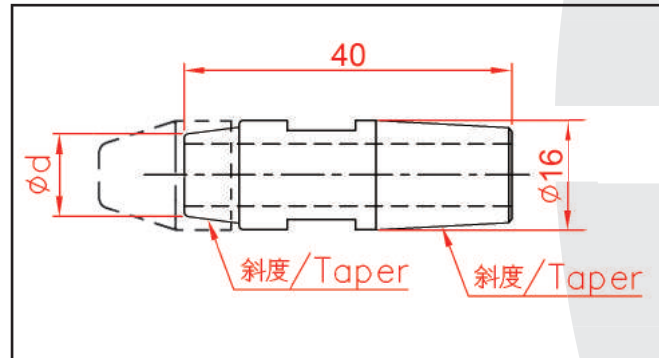
Category		Standard Size					
Spec	Screws	M4	M5	M6	M8	M10	M12
	ϕD	4.73	5.9	6.9	8.72	10.87	12.7
	ϕd	3.17	4.05	4.78	6.67	8.6	10.4
	A	8	9.78	9.8	11.9	13.85	16.3
	L	15	15	15	15.5	14	17
	L1	3.8	4	4.8	5.8	8	8
	L2	5	5	5	5	6	5
Part Number		LTG-B004-04	LTG-B004-05	LTG-B004-06	LTG-B004-08	LTG-B004-10	LTG-B004-12

5) 焊帽及焊帽接桿(Caps and Shanks)

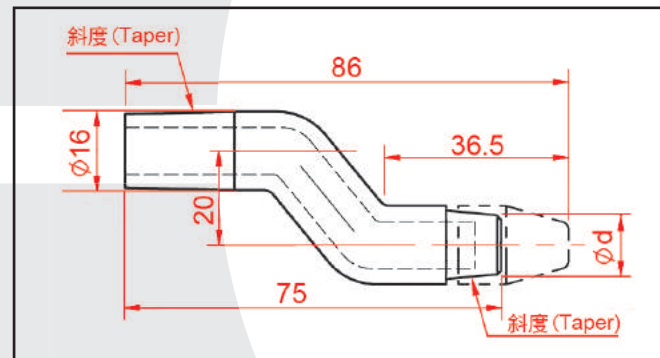
- 用於SA單點系列為主(For SA single-point based series)。
- 材質-鉻鋯銅(Material-CrZrCu)。
- 如需特殊尺寸與模組生產，可接受訂製。
Customized acceptable.



焊帽接桿-直型 Straight Shank



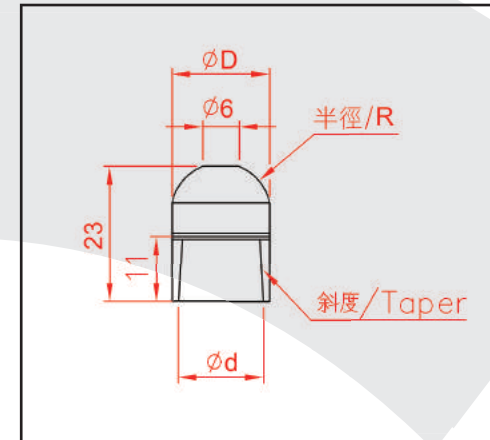
焊帽接桿-S型 Bent Shank



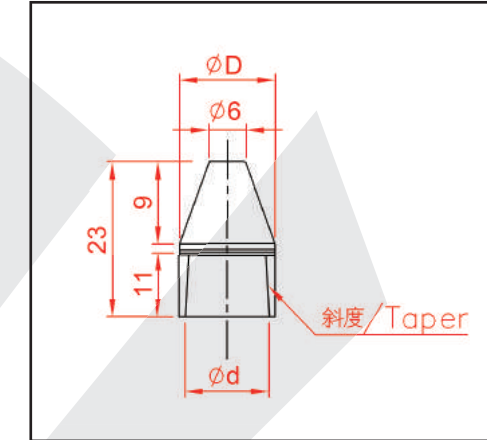
尺寸單位(Unit) : mm

Category		Standard Size	
Spec	ϕd	10	12.3
	Taper	1/10	1/10
Part Number	Straight	LTG-Q001-13	LTG-Q001-16
	Bent	LTG-Q002-13	LTG-Q002-16

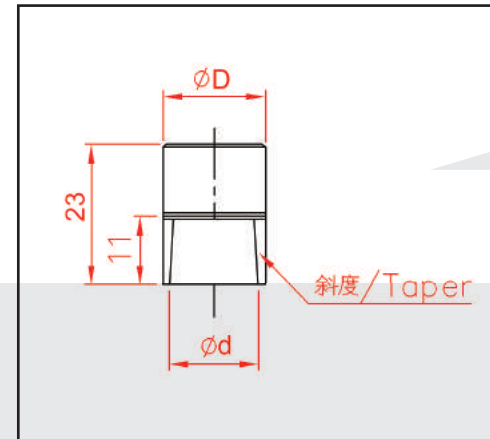
焊帽-半圓型
Male Caps-Dome Tips



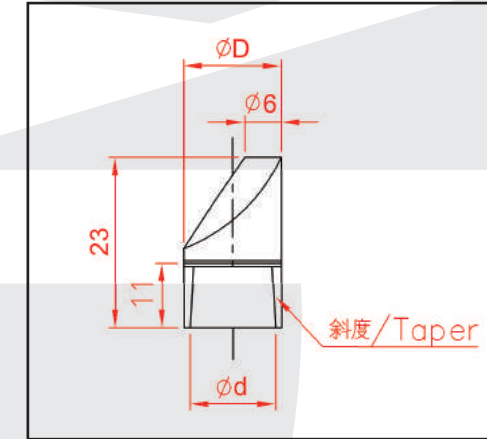
焊帽-尖頭型
Male Caps-Pointed Tips



焊帽-平頭型
Male Caps-Flat Tips

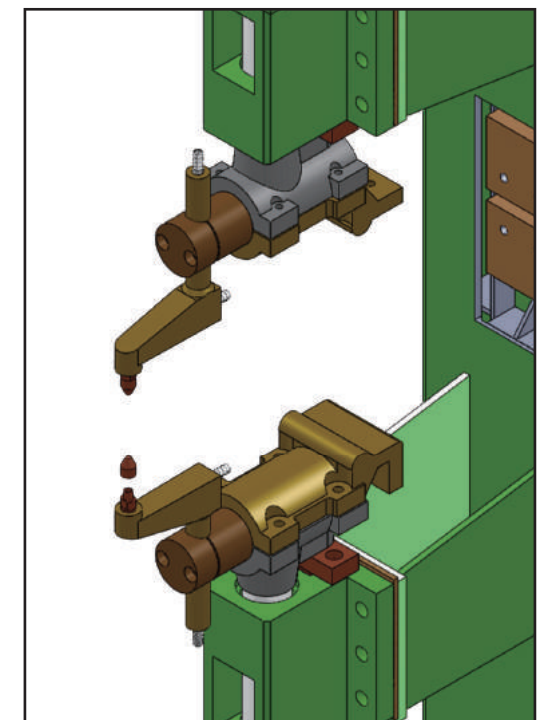


焊帽-偏心型
Male Caps-Offset Tips



尺寸單位(Unit) : mm

Category		Standard Size	
Spec	ϕD	13	16
	ϕd	10	12.3
	R	6.5	8
	Taper	1/10	1/10
Part Number	Dome	LTG-P002-13	LTG-P002-16
	Pointed	LTG-P004-13	LTG-P004-16
	Flat	LTG-P003-13	LTG-P003-16
	Offset	LTG-P001-13	LTG-P001-16



1-2 · 標準角材電極銅(Standard Electrode Copper Block)

1) 多用於SA系列(For SA Multi-point based series)



Part Number : LA055

2) 多用於GSA/GSW系列(For GSA/GSW Model)



LA109-424-A

Part Number : LA109-424-B



LA87196-04024

Part Number : LA87196-04024-A

3) SB3-05/HPE14-A/SB3-14/HPE15-A : 多用於SB系列(For SB-series)



Part Number : SB3-05



Part Number : HPE14-A



Part Number : HPE15-A

1-2 · 標準角材電極銅(Electrode Copper Bar/Block)

1) LA055

- 用於SA多點系列為主，配合於梯型通水銅(T型)、多點銅座。
For SA Multi-point based series
- 標準尺寸(Standard)-W : 20mm H : 70mm L : 90mm。
- 材質-鉻鋯銅(Material-CrZrCu)。

2) LA109-424-A/LA87109-424-B/LA87196-04024/LA87196-04024-A

- 用於GSA/GSW系列為主。
For GSA/GSW Model

Part Number	Standard	Material
LA87109-424-A	W : 38mm H : 38mm	鉻鋯銅 CrZrCu
LA87109-424-B	L : 38mm	鍍銅 CCNB
LA87196-04024	W : 20mm H : 38mm	鉻鋯銅 CrZrCu
LA87196-04024-A	L : 38mm	鍍銅 CCNB

3) SB3-05/HPE14-A/SB3-14/HPE15-A

- 用於SB系列為主(For SB-Series model)。
- SB3-05，用於30KVA碰焊機上電極銅(30KVA butt welder-Upper copper block) 標準尺寸(Standard)-W : 16mm H : 32mm L : 50mm。
- HPE14-A，用於60KVA碰焊機上電極銅(60KVA butt welder-Upper copper block) 標準尺寸(Standard)-W : 20mm H : 50mm L : 60mm。
- SB3-14，用於30KVA碰焊機下電極銅(30KVA butt welder-Lower copper block) 標準尺寸(Standard)-W : 16mm H : 43mm L : 50mm。
- HPE15-A，用於60KVA碰焊機下電極銅(60KVA butt welder-Lower copper block) 標準尺寸(Standard)-W : 16mm H : 32mm L : 50mm。
- 材質-鉻鋯銅(Material-CrZrCu)。

1-3 · 特製電極銅(Special Custom-made copper)

依特殊物件點焊訂作型。(Accept custom-made Size and jig)



特製單點範例
Special Single-point.



特製角材範例
Special Electrode Copper Block

1-3 · 特製電極銅-(Special Custom-made copper)

- 依客戶特殊尺寸與模組生產。(Customized acceptable.)
- 標準材質為鉻鋯銅。(Material-CrZrCu.)
- 如需特殊材質，可接受訂製(如鉻銅、鍍銅、鋁銅)。
Custom-made material (Ex: CrCu, CCNB, AlCu).

2 · 各式通水銅(Water-Cooled Electrode Holder)

2-1 · 標準直式通水銅 (Straight Electrode Holders)



- 配合單點電極及伸出銅使用。
For Single Point and Extend holder.
- 帶柄可調整高度。(Height Adjustable.)
- 標準長度為200L，可依需求增減。
Standard length: 200L, Shorter or Longer is acceptable.

2-2 · 標準L型通水銅 (15°/90° Head Electrode Holders [L-holder])



- 配合單點電極及伸出銅使用。
For Single Point and Extend holder.
- 帶柄可調整高度。(Height Adjustable.)
- 用於特定角度熔接。(For specific angle welding.)
- 標準中心距為60/100L，可依需求增減。
Standard length: 60/100L, Shorter or Longer is acceptable.

2-3 · 單點通水銅座-無柄 (Special Single Point Electrode Holder - w/o Shank)



- 配合特製單點電極使用。
For Special Single-point.
- 配合T型槽銅座使用。
Apply to T-Slot Copper base.

2-4 · 梯型通水銅座組-帶柄(Ladder Type Electrode Holder - w/ Shank)



- 配合角材電極使用。
For Electrode Copper Block.
- 帶柄可調整高度。(Height Adjustable.)

2-5 · 梯型通水銅座組-無柄(Ladder Type Electrode Holder - w/o Shank)



- 配合角材電極使用。
For Electrode Copper Block.
- 為龍門SA專用銅座。
Mainly apply to SA-series model.

附件-壓板(Accessory - Steel Plate)

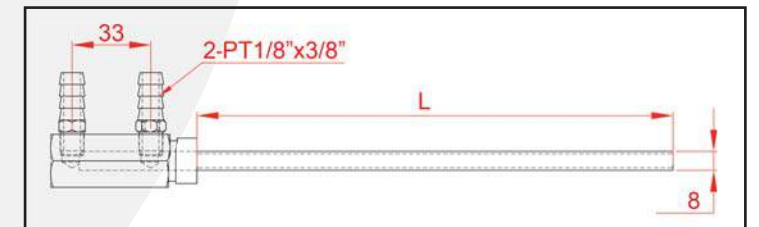


- 配合梯型通水銅使用。
Apply to ladder-electrode application.
- 目的為壓制電極銅用。
For pressing electrode copper block purpose.

附件-通水管、接頭(Accessory - Water Copper-pipe, Coupling)



- 配合帶柄通水銅使用。
Apply to holders with shank.
- 標準長度為200L，可依需求增減
Standard length: 200L, more or less is acceptable.



編碼原則(Key to Description) :

LTF-C001-XXX

XXX=L

050=50L

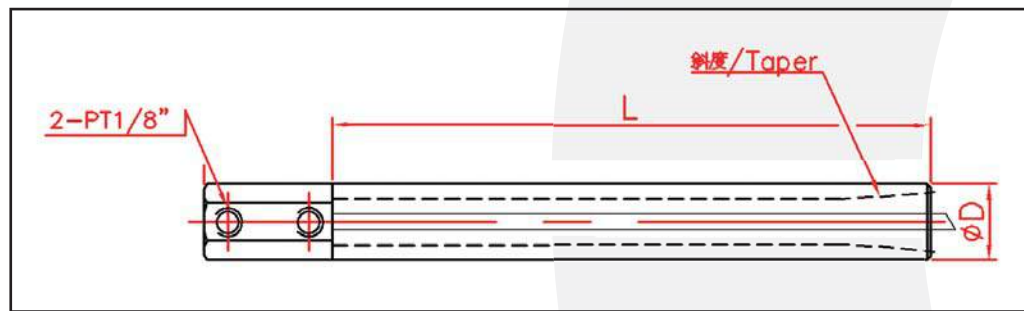
100=100L

範例(Example) : LTF-C001-200

通水管 Water Copper-pipe : 200L

2-1 · 標準直式通水銅 (Straight Electrode Holder)

- 用於SA單點系列為主，與單點電極銅及伸出銅搭配使用。
Mainly apply to SA-series model. For Single Point and Extend holder.
- 已內含通水管。(Water copper-pipe is included.)
- 材質-紅銅(Material-Cu)。
- 如需特殊尺寸與模組生產，可接受訂製。
Customized acceptable.

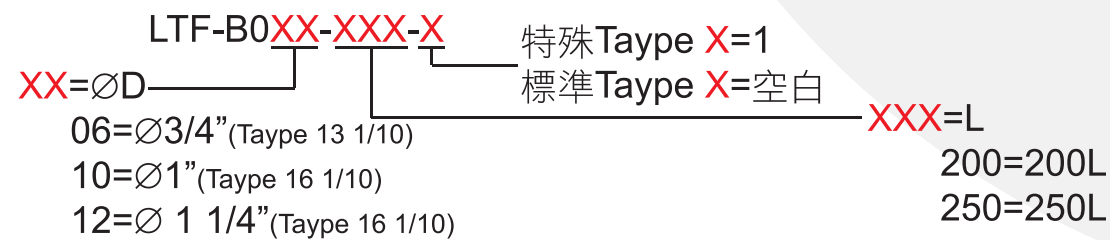


產品標準規格表如下-(Specification)

尺寸單位(Unit) : inch/mm

Spec	Standard Size												
ØD	3/4"	3/4"	3/4"	1"	1"	1"	1"	1"	1"	1"	1"	1 1/4"	1 1/4"
L	200	250	300	150	180	200	250	300	350	400	200	250	
TAYPE 1/10	13	•	•	•									
	16				•	•	•	•	•	•	•	•	•
	19										•	•	

編碼原則(Key to Description) :



範例(Example) : LTF-B006-200
 Ø3/4"x200L(Taype 13 1/10)

LTF-B012-200-1
 Ø1 1/4"x200L(Taype 19 1/10)

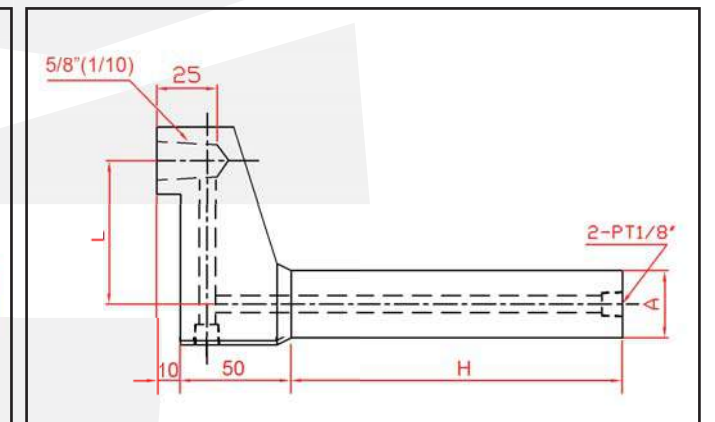
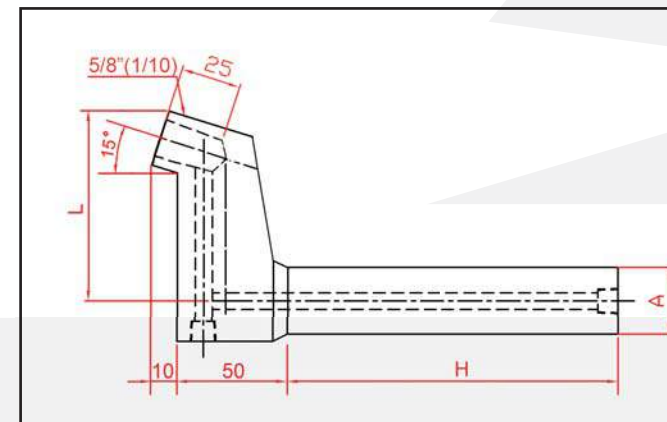
2-2 · 標準L型通水銅 (15°/90° Head Electrode Holders [L-holder])

- 用於SA單點系列為主，與單點電極銅及伸出銅搭配使用。
Mainly apply to SA-series model. For Single Point and Extend holder.
- 單一材質-鑄黃銅/鍛造黃銅(Material-YBsC3)。



標準L型通水銅(L-holder)-15° Head

標準L型通水銅(L-holder)-90° Head

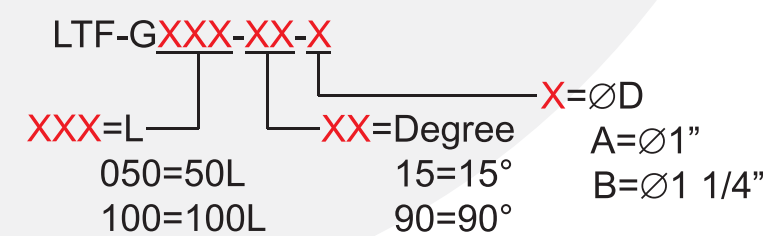


產品標準規格表如下-(Specification)

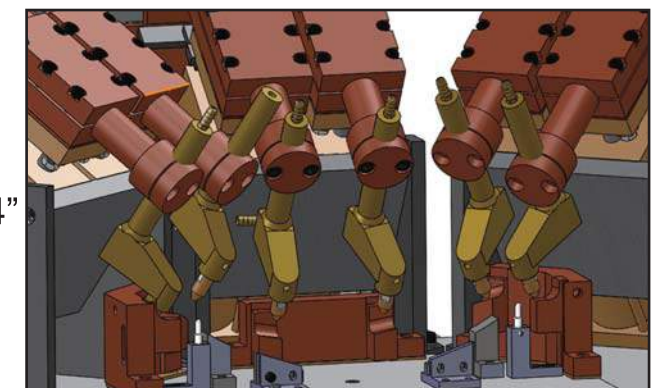
尺寸單位(Unit) : inch/mm

Spec	Standard Size						
Degree	15°	15°	15°	90°	90°	90°	
L	50	70	100	50	60	100	
H	195	175	195	195	135	195	
ØD	1"	1"	1"	1"	1"	1"	
	1 1/4"	—	1 1/4"	1 1/4"	1 1/4"	1 1/4"	

編碼原則(Key to Description) :

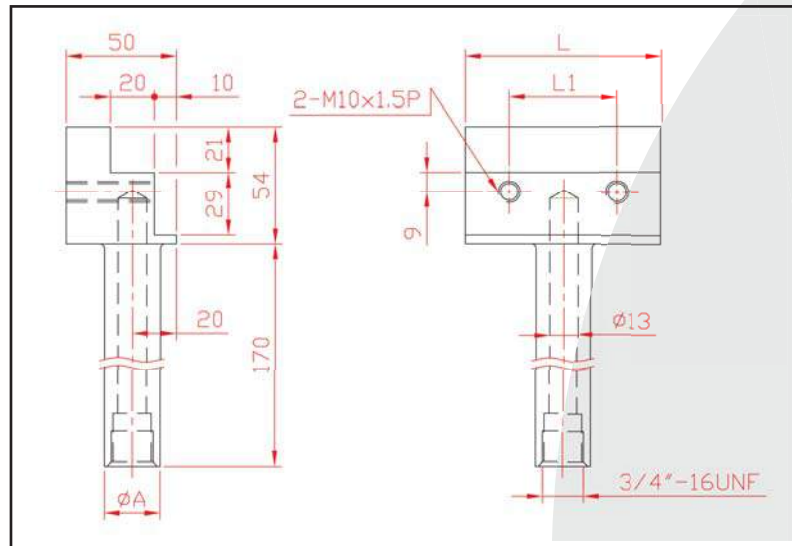


範例(Example) : LTF-G100-15-A
 Ø1" 15° PITCH : 100L



2-3 · 梯型通水銅座組-帶柄(Ladder Type Electrode Holder - w/ Shank)

- 用於SA多點系列為主，與角材電極銅搭配使用。
Mainly apply to SA-series model. For Electrode Copper Block.
- 整組合通水管及壓板。
With water copper-pipe and steel plate is included.
- 單一材質-鍛造黃銅(Material-YBsC3)。

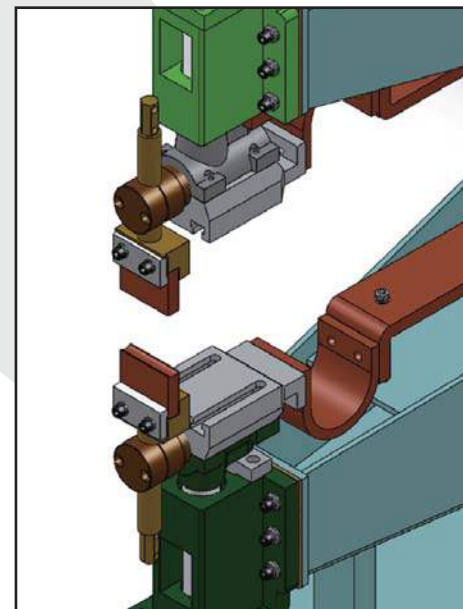
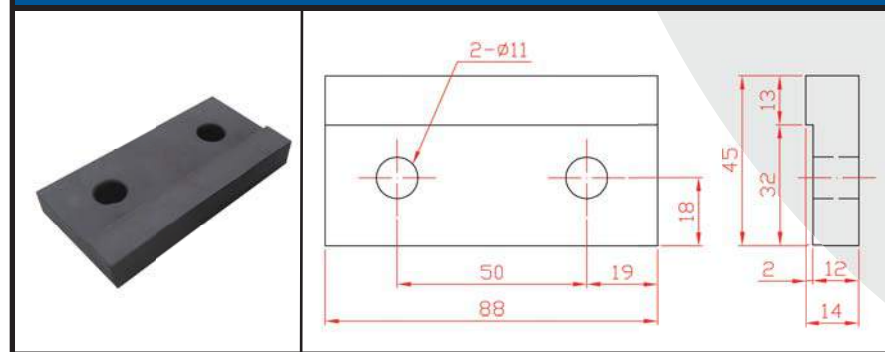


產品標準規格表如下-(Specification)

尺寸單位(Unit) : inch/mm

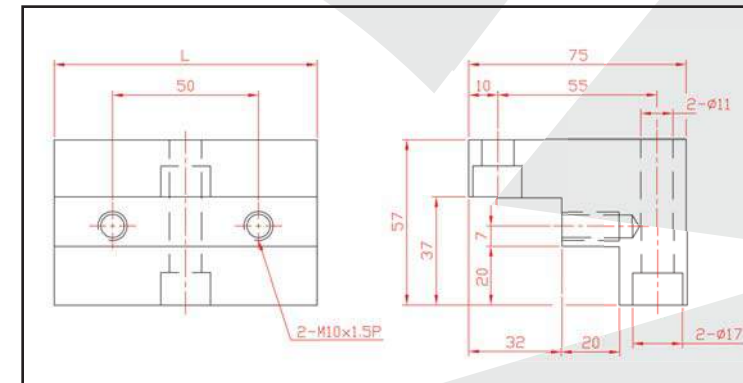
Spec	Standard Size		
L	60	90	120
L1	40	50	50
ϕA	Select 1" or 1 1/4"	Select 1" or 1 1/4"	Select 1" or 1 1/4"
Part Number	D0-060	D0-090	D0-120

Part Number : FG452



2-4 · 梯型通水銅座組-無柄(Ladder Type Electrode Holder - w/o Shank)

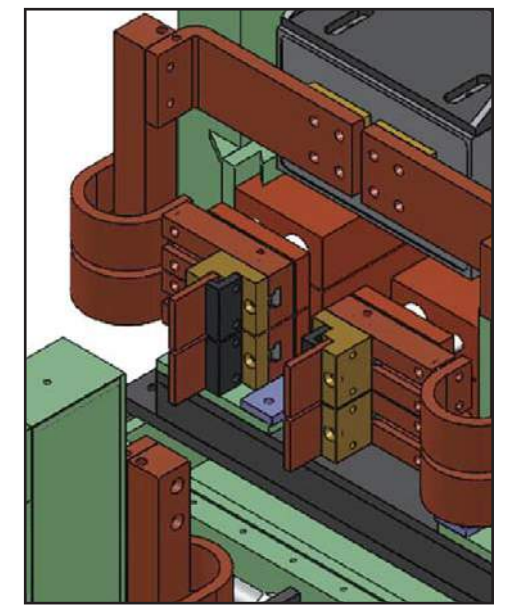
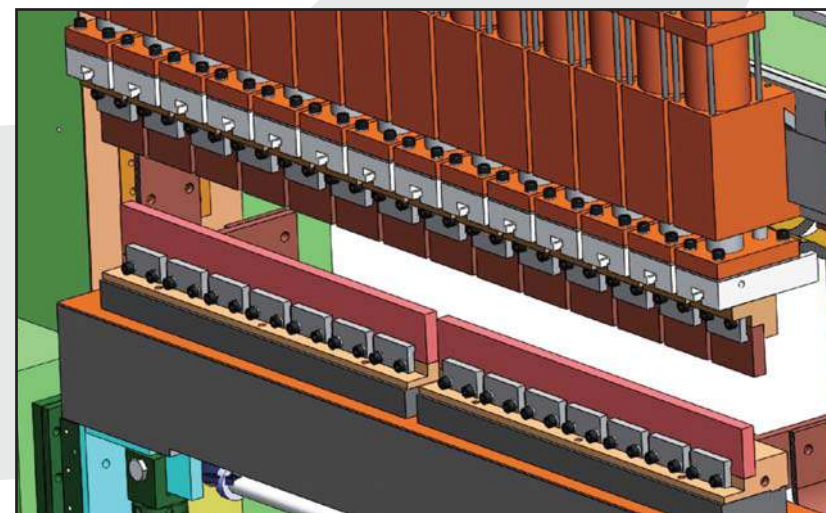
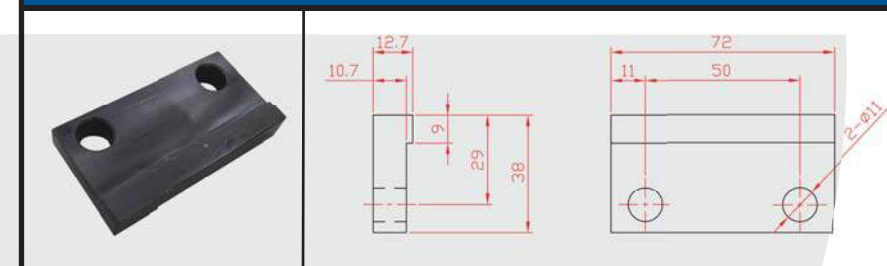
- 用於SA多點系列為主，與角材電極銅搭配使用。
Mainly apply to SA-series model. For Electrode Copper Block.
- 整組合壓板。
With steel plate is included.
- 材質-鍛造黃銅。(Material-YBsC3)
- 如需特殊尺寸與模組生產，可接受訂製。
Customized acceptable.



尺寸單位(Unit) : mm

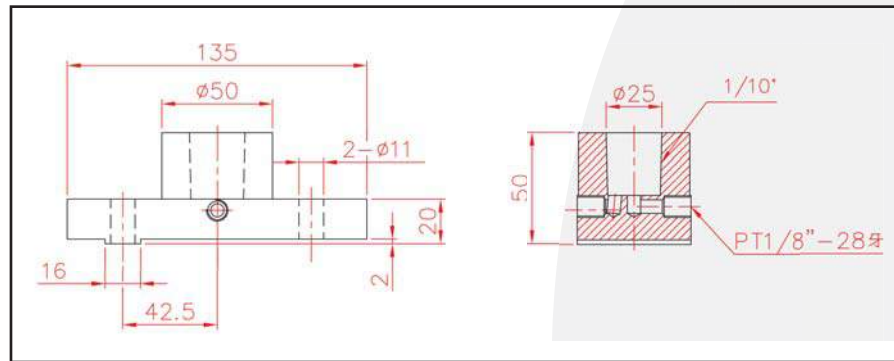
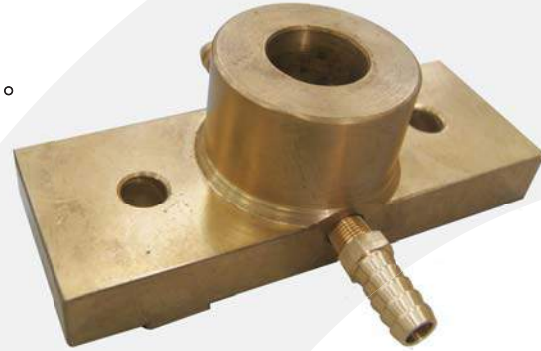
Spec	Standard Size	
L	90	73
Part Number	LA98-8002	LA98-8003

Part Number : LA023

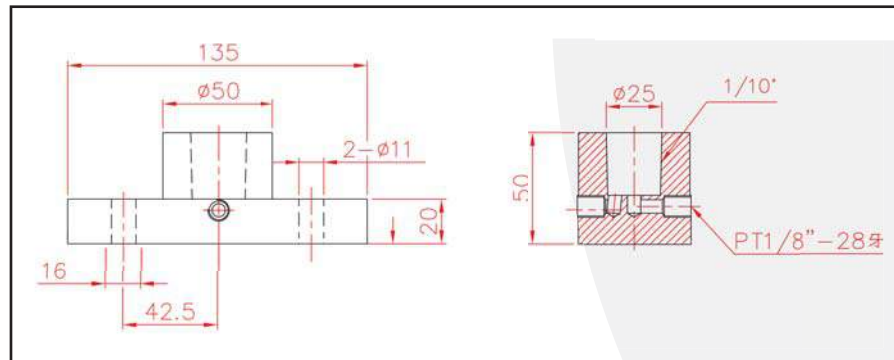


2-5 · 單點通水銅座-無柄 (Special Single Point Electrode Holder - w/o Shank)

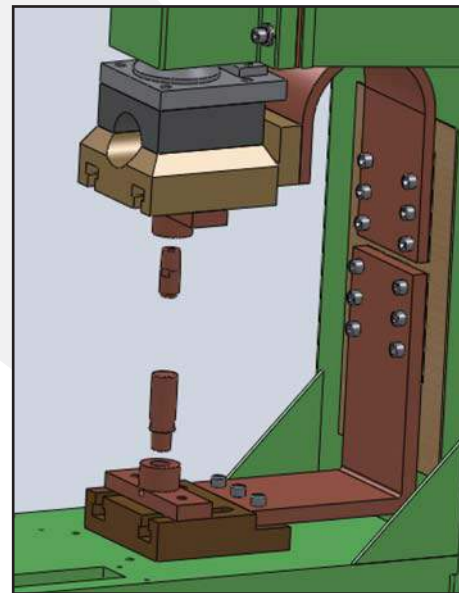
- 配合特製單點電極使用。(For Special Single-point.)
- 配合T型槽銅座使用。(Apply to T-Slot Copper base.)
- 材質-鉻鋯銅(Material-CrZrCu)
- 如需特殊尺寸與模組生產，可接受訂製。
Customized acceptable.



有凸緣 (w/ Ridge)
Part Number
FG412

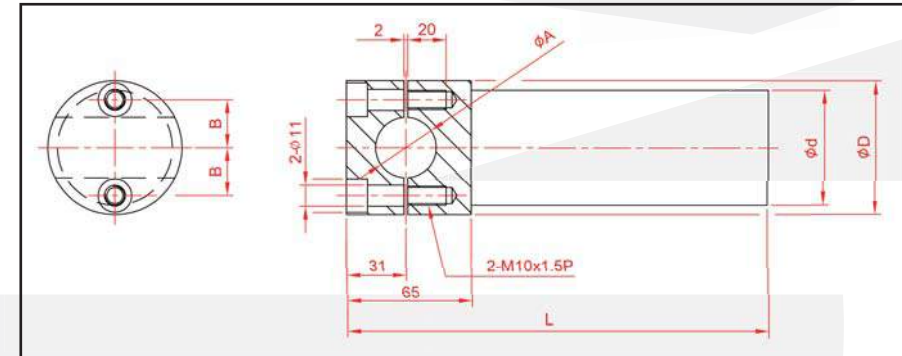


無凸緣 (w/o Ridge)
Part Number
H21



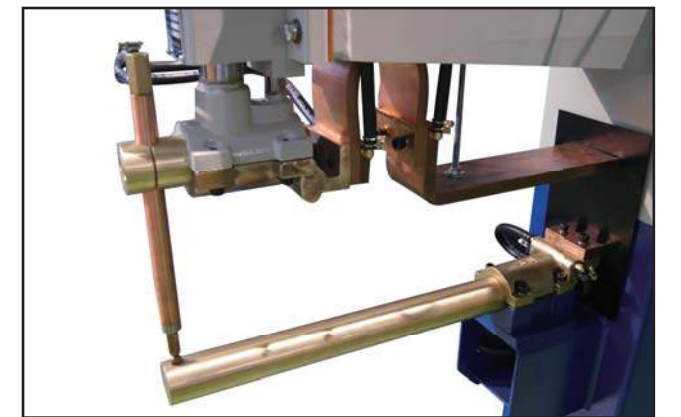
3 · 伸出銅(Horn Electrode Holder)

- 用於SA系列為主，與通水銅搭配使用。
Mainly apply to SA-series model, utilized with straight holder.
- 長度取決於機台使用及喉身。
Required Length depends on machine application and throat depth.
- 材質-青銅(Material-BSBM)。
- 如需特殊尺寸與模組生產，可接受訂製。
Customized acceptable.



產品標準規格表如下-(Specification) 尺寸單位(Unit) : inch/mm

Spec	Standard Size			
ØA	1"	1 1/4"	1 1/4"	1 1/4"
ØD	60	70	70	70
ød	60	70	70	60
B	20	25	25	25
L	220	220	300	220
Part Number	FG403-220	FG403-2-220	FG403-2-300	FG403-1-220



4 · 電極拔取器(Tips Pulling Tool)

- 拆卸電極的工具。(Remove the electrode.)



產品標準規格表如下-(Specification)

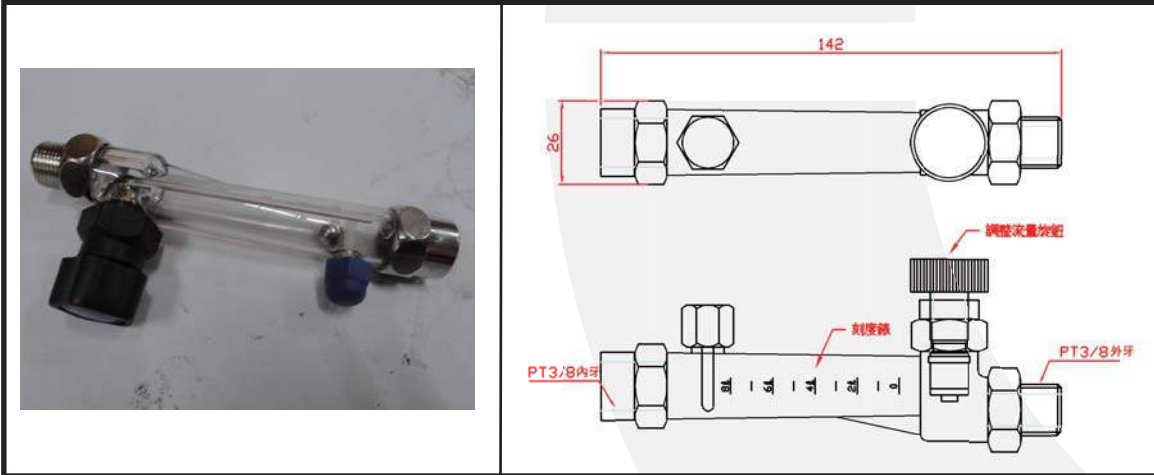
尺寸單位(Unit) : mm

Spec	Standard Size			
Tips size	φ8~φ16		φ10~φ20	
Part Number	WDJ-RO-13-25	WDJ-RO-16-25	WDJ-RO-13-35	WDJ-RO-16-35

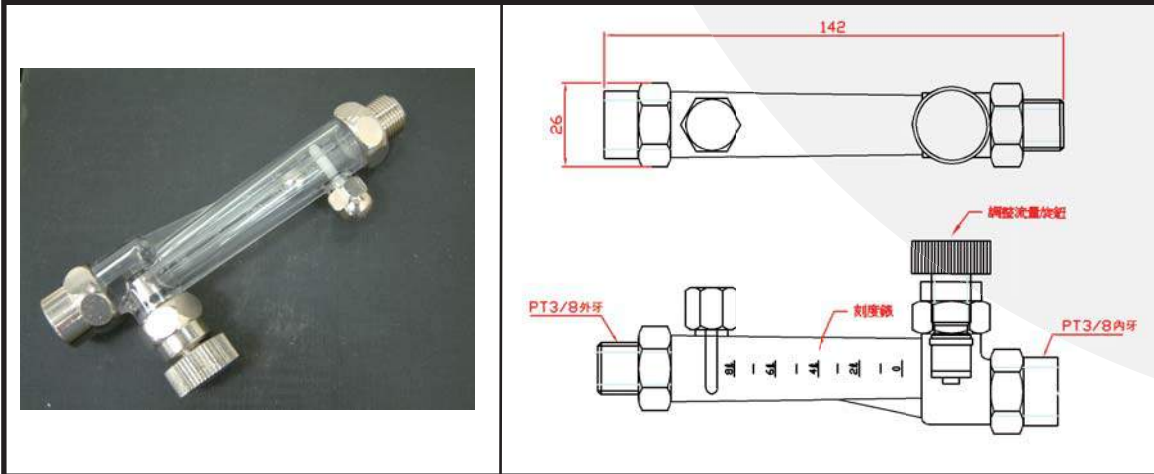
5 · 水流調整計(Water Flow Meter)

- 調整流量及觀測流動量。(Water flow adjustable and watch.)
- 規格3/8"，分內外牙。(Specs: 3/8")

Part Number : FYG-W001-1



Part Number : FYG-W001



6 · 儲氣桶(Air Tank)

- 強化氣缸反應速度。(Strengthen Cylinder movement.)
- 標準規格 : (Specs :)
 - 1) 小型機台使用(For SA-series) - 20L。
 - 2) 大型機台使用(含安全閥/壓力錶) - 360/660/1000/1200L。
For GSA/GSW(w/ safty valve & pressure gauge).
- 如需其它規格，可接受訂製。
Customized acceptable.

Part Number : KSA-002



Part Number : ANZ-KSA-XXXX



大型機台使用-編碼原則：
For GSA/GSW Key to Description :

ANZ-KSA-XXXX
XXXX=L
0360=360L
1200=1200L

範例(Example) : ANZ-KSA-1200