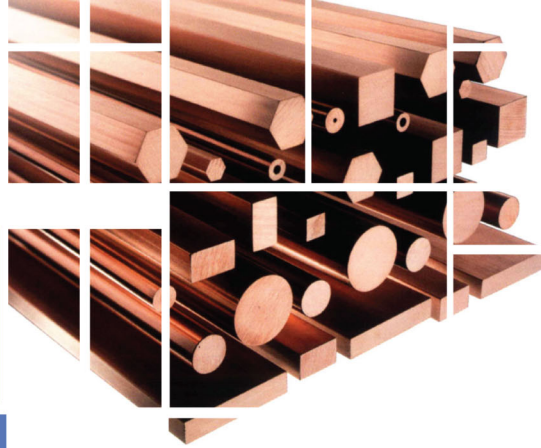


Electrode

TSM



CONTENT

• Cap Tip / Bend Shank	03
• Straight Shank	04
• Straight Electrode / Bend Electrode	05
• Swivel Head / Straight Holder	06
• L Holder / Point Holder	07
• Electrode Adaptor / Electrode Horn	08
• Electrode Platen / Holder	09
• Shunt / Raw, Material Wheel	10
• Xattachment	11
• Two-Point Electrodes	12
• Tip Dresser / Tip Dresser Attach	13
• Cutter	14
• Tip Opener / Tip Remover / Accessories Tungsten and Molybdenum / Taper Reamers	15
• Taper Ring and Plug Gages	16
• Controller	17
• Super Inverter Mesa AIT Series	18
• Weld Condition for Mild Steel Sheets	19

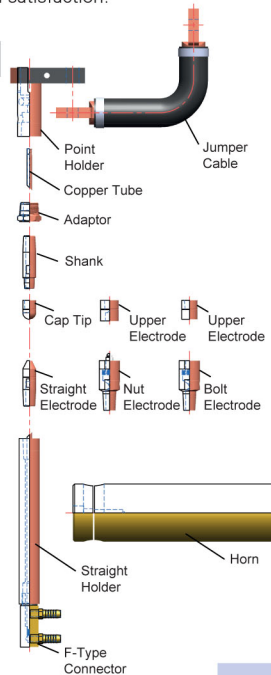
Features of TSM Electrode

Electrode life is very important in the resistance welding. Electrode life is affected by many factors; material characteristic, Manufacturing Process, shape, welding condition and panel material.

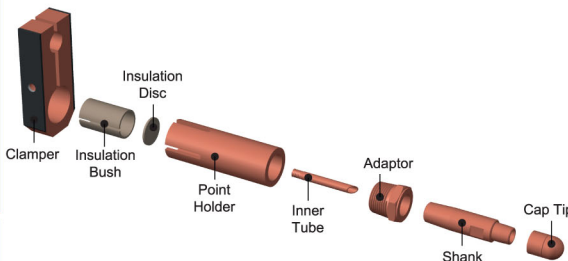
TSM has been manufacturing the electrodes since establishment and been devoting ourselves to make “durable electrode” by giving the excellent engineering technique to superior materials.

We make electrodes according to your needs, and we choose the best material for your maximum satisfaction.

Stationery Welding

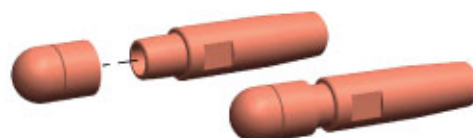


Multi Sport





our product Cap Tip



Standard Drawing

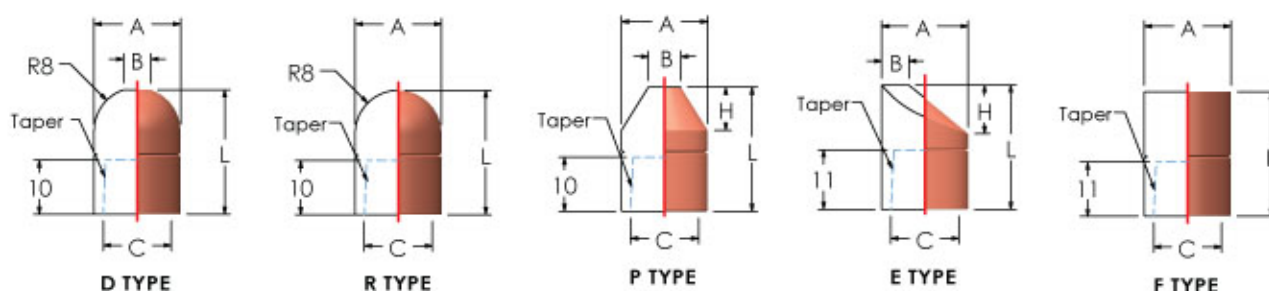
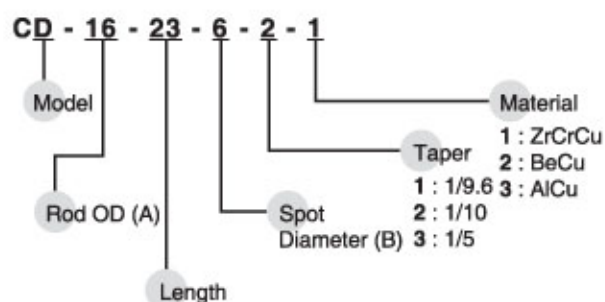


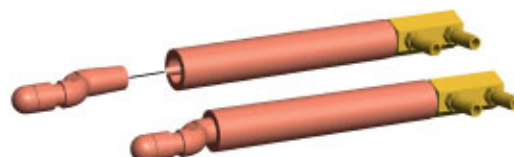
Table for standard Cap Tip

Model Number	Length	Dimensions (mm)				
		ØA	ØB	ØC	R	H
C □ - 12 -	20	12	5	10	6R	9
	23		6			
	25		6			
C □ - 13 -	20	13	5	10	6.5R	9
	23		6			
	25		6			
C □ - 16 -	20	16	5	12.6 (12)	8R	9
	23		6			
	25		6			

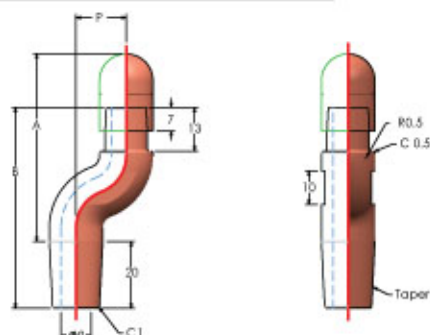
Order Example



our product Bend Shank



Standard Drawing



Order Example

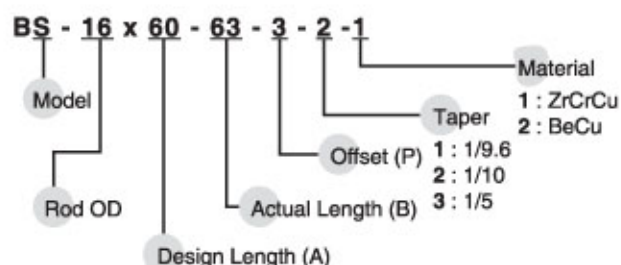


Table for standard Cap Tip

Model Number	P	A	B
BS - 16 x 50 - 53 - 3 - 2 - 1	3	50	53
BS - 16 x 50 - 53 - 6 - 2 - 1	6	50	53
BS - 16 x 50 - 53 - 9 - 2 - 1	9	50	53
BS - 16 x 50 - 53 - 13 - 2 - 1	13	50	53
BS - 16 x 60 - 63 - 3 - 2 - 1	3	60	63
BS - 16 x 60 - 63 - 6 - 2 - 1	6	60	63
BS - 16 x 60 - 63 - 9 - 2 - 1	9	60	63
BS - 16 x 60 - 63 - 13 - 2 - 1	13	60	63
BS - 16 x 60 - 63 - 15 - 2 - 1	15	60	63

Model Number	P	A	B
BS - 16 x 60 - 63 - 19 - 2 - 1	19	60	63
BS - 16 x 80 - 83 - 6 - 2 - 1	6	80	83
BS - 16 x 80 - 83 - 9 - 2 - 1	9	80	83
BS - 16 x 80 - 83 - 13 - 2 - 1	13	80	83
BS - 16 x 80 - 83 - 15 - 2 - 1	15	80	83
BS - 16 x 80 - 83 - 19 - 2 - 1	19	80	83
BS - 16 x 80 - 83 - 25 - 2 - 1	25	80	83
BS - 16 x 100 - 103 - 19 - 2 - 1	19	100	103



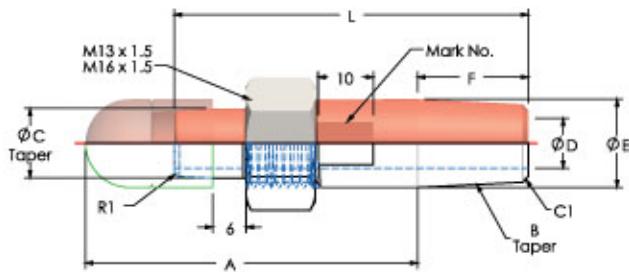
our product

Straight Shank



Nut Opener

Standard Drawing Nut Opener



Shank with nut for removing cap-tip -nature

Order Example

NS/SS - 16 x 23 - 25 - 2 - 1

Nut
Opener

Normal
Shank

Rod OD

Material
1 : ZrCrCu
2 : BeCu

Taper
1 : 1/9.6
2 : 1/10
3 : 1/5

Actual Length (L)

Design Length (A)

Shank 13

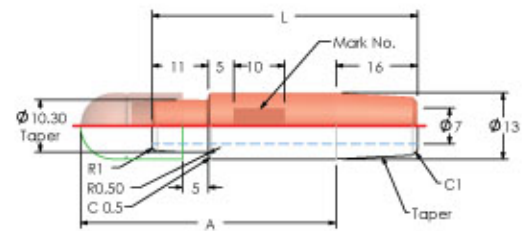
Normal Shank

Model Number	L	A
SS - 13 x 25 - 23 - 2 - 1	25	23
SS - 13 x 30 - 28 - 2 - 1	30	28
SS - 13 x 35 - 33 - 2 - 1	35	33
SS - 13 x 42 - 40 - 2 - 1	42	40
SS - 13 x 52 - 50 - 2 - 1	52	50
SS - 13 x 62 - 60 - 2 - 1	62	60
SS - 13 x 72 - 70 - 2 - 1	72	70
SS - 13 x 82 - 80 - 2 - 1	82	80
SS - 13 x 92 - 90 - 2 - 1	92	90
SS - 13 x 102 - 100 - 2 - 1	102	100

Nut Opener

Model Number	L	A
NS - 13 x 25 - 23 - 2 - 1	25	23
NS - 13 x 30 - 28 - 2 - 1	30	28
NS - 13 x 35 - 33 - 2 - 1	35	33
NS - 13 x 42 - 40 - 2 - 1	42	40
NS - 13 x 52 - 50 - 2 - 1	52	50
NS - 13 x 62 - 60 - 2 - 1	62	60
NS - 13 x 72 - 70 - 2 - 1	72	70
NS - 13 x 82 - 80 - 2 - 1	82	80
NS - 13 x 92 - 90 - 2 - 1	92	90
NS - 13 x 102 - 100 - 2 - 1	102	100

Standard Drawing Normal Shank



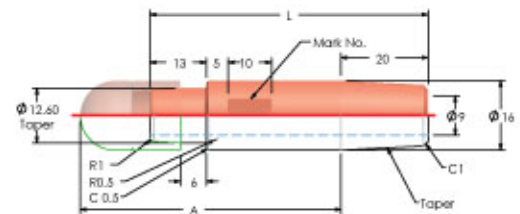
Shank 16

Normal Shank

Model Number	L	A
SS - 16 x 44 - 40 - 2 - 1	44	40
SS - 16 x 54 - 50 - 2 - 1	54	50
SS - 16 x 64 - 60 - 2 - 1	64	60
SS - 16 x 74 - 70 - 2 - 1	74	70
SS - 16 x 84 - 80 - 2 - 1	84	80
SS - 16 x 94 - 90 - 2 - 1	94	90
SS - 16 x 104 - 100 - 2 - 1	104	100
SS - 16 x 114 - 110 - 2 - 1	114	110
SS - 16 x 124 - 124 - 2 - 1	124	120
SS - 16 x 134 - 130 - 2 - 1	134	130
SS - 16 x 144 - 140 - 2 - 1	144	140
SS - 16 x 154 - 150 - 2 - 1	154	150

Nut Opener

Model Number	L	A
NS - 16 x 44 - 40 - 2 - 1	44	40
NS - 16 x 54 - 50 - 2 - 1	54	50
NS - 16 x 64 - 60 - 2 - 1	64	60
NS - 16 x 74 - 70 - 2 - 1	74	70
NS - 16 x 84 - 80 - 2 - 1	84	80
NS - 16 x 94 - 90 - 2 - 1	94	90
NS - 16 x 104 - 100 - 2 - 1	104	100
NS - 16 x 114 - 110 - 2 - 1	114	110
NS - 16 x 124 - 124 - 2 - 1	124	120
NS - 16 x 134 - 130 - 2 - 1	134	130
NS - 16 x 144 - 140 - 2 - 1	144	140
NS - 16 x 154 - 150 - 2 - 1	154	150



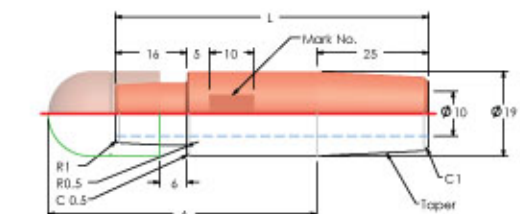
Shank 19

Normal Shank

Model Number	L	A
SS - 19 x 50 - 40 - 2 - 1	50	40
SS - 19 x 60 - 50 - 2 - 1	60	50
SS - 19 x 70 - 60 - 2 - 1	70	60
SS - 19 x 90 - 80 - 2 - 1	90	80
SS - 19 x 100 - 90 - 2 - 1	100	90
SS - 19 x 110 - 100 - 2 - 1	110	100

Nut Opener

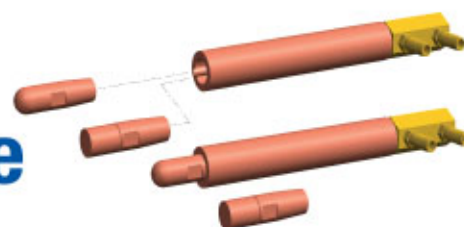
Model Number	L	A
NS - 19 x 50 - 40 - 2 - 1	50	40
NS - 19 x 60 - 50 - 2 - 1	60	50
NS - 19 x 70 - 60 - 2 - 1	70	60
NS - 19 x 90 - 80 - 2 - 1	90	80
NS - 19 x 100 - 90 - 2 - 1	100	90
NS - 19 x 110 - 100 - 2 - 1	110	100





our product

Straight Electrode



Standard Drawing

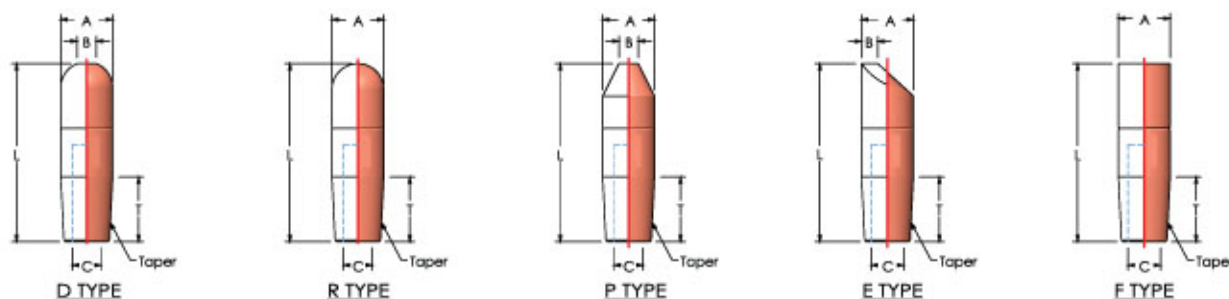
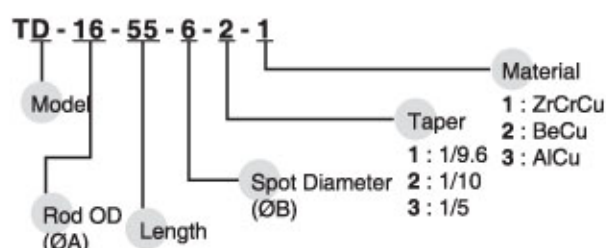


Table for standard Cap Tip

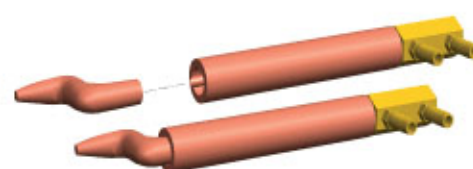
Model Number	Length	Dimensions (mm)			
		ØA	ØB	ØC	T
T□ - 12 -	35	12	4	8	15
	45		5		
T□ - 13 -	55	13	4	8	15
	65		5		
T□ - 16 -	75	16	5	10	20
	85		6		
T□ - 19 -		19	6	10	20
			8		

Order Example



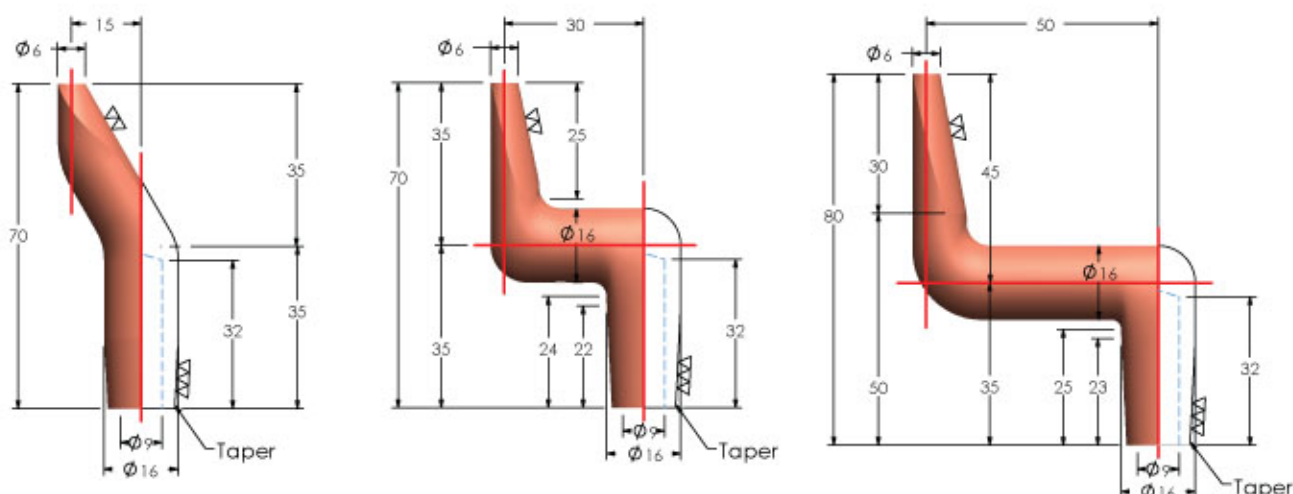
our product

Bend Electrode



Standard Drawing

Material : ZrCrCU



BE - C - 2 - 1

BE - C - 2 - 2

BE - C - 2 - 3



our product

Swivel Head

Table for Swivel Head

Model Number	ØA	B
MW	13	25
		28
	16	32

Order Example

MW - 16 x 32 - 2 - 1

Model

Dia Holder (ØA)

Body Length (B)

Taper

Material

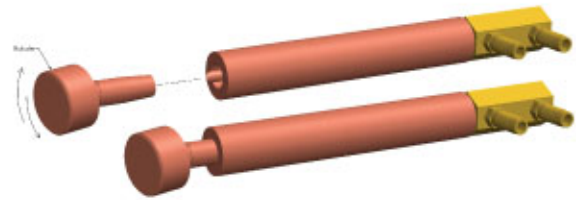
1 : ZrCrCu

2 : BeCu

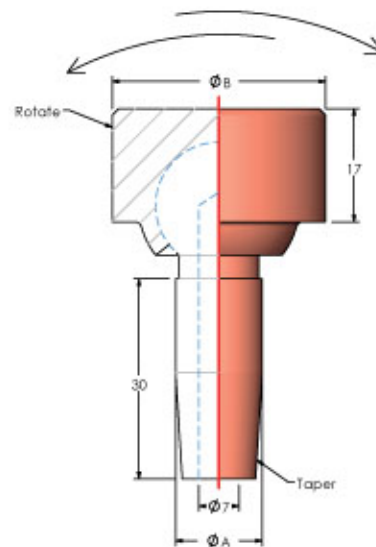
1 : 1/9.6

2 : 1/10

3 : 1/5



Standard Drawing



our product

Straight Holder

Standard Drawing

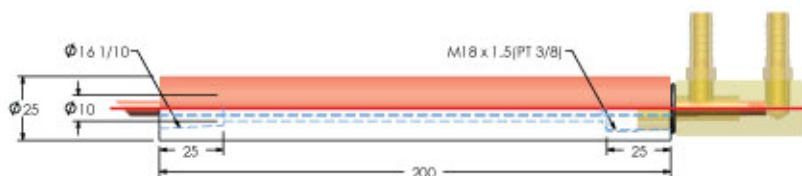


Table for Straight Holder

Model Number	ØA	L
SHL - 25 x 150 -	25	150
SHL - 25 x 200 -	25	200
SHL - 25 x 250 -	25	250
SHL - 25 x 300 -	25	300
SHL - 32 x 200 -	32	200
SHL - 32 x 250 -	32	250

Order Example

SHL - 25 x 150 - 16 - 2 - 1

Model

Rod OD (A)

Design Length (L)

Taper Size

Taper

Material

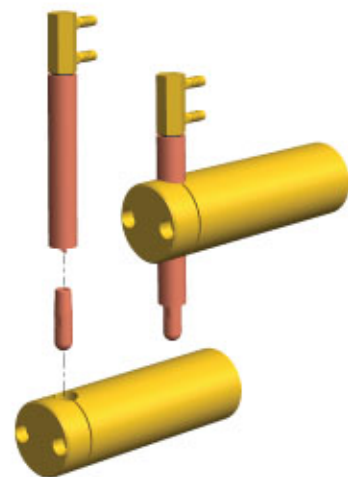
1 : ZrCrCu

2 : BeCu

1 : 1/9.6

2 : 1/10

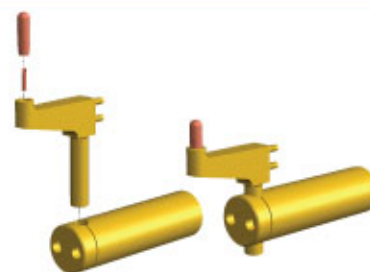
3 : 1/5





our product

L Holder



Standard Drawing

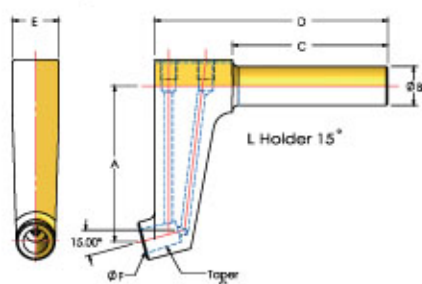
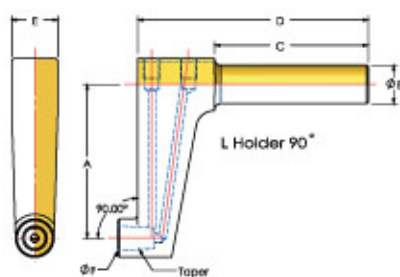


Table for L Holder

Model Number	Degree	Diameter	Distance
LHL	15	25	50
	90		100
LHL	15	32	50
	90		100

Order Example

LHL15 x 25 100 - 16 - 2 - 2

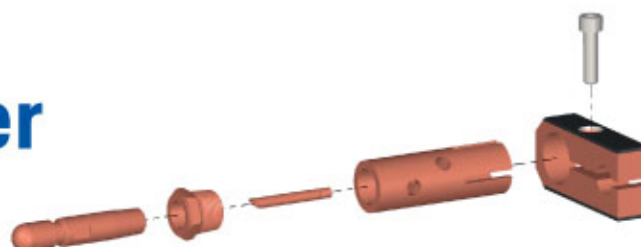
```

graph TD
    Screw --> Model
    Screw --> OD
    Screw --> Degree
    Screw --> Length
    Screw --> TaperSize[Taper Size]
    Screw --> Material
    Material --> Material1[1: CrCu]
    Material --> Material2[2: Brass]
    TaperSize --> Taper1[1: 1/9.6]
    TaperSize --> Taper2[2: 1/10]
    TaperSize --> Taper3[3: 1/5]
  
```

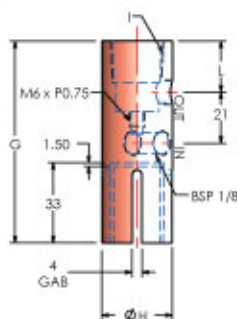


our product

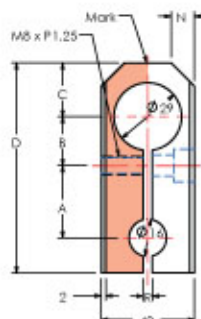
Point Holder



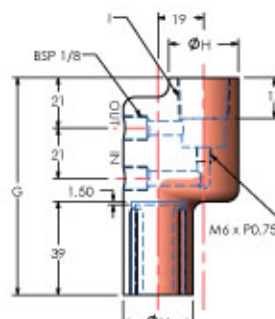
Standard Drawing



Point Holder



Clamper



Offset Point Holder

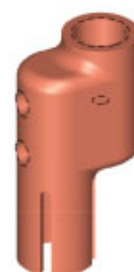


Table for Point Holder

Model Number	A	B	C	D	E	F	G	H	I	J	K	L	M	N	R			
PK - A1	16		25	23	78	41	19	90	5	29	NPT1/4"	M8x30	M3	P=1.25	21	27	10	4
PK - A2	29				91													6
PK - B	21	33	27	96	48	24	96	5	35	NPT1/4"	M10x30	M10x30	M10	P=1.5	26	32	13	4

Order Example

PK -

-Model Number
A1
A2
B

Table for Offset Point Holder

[illegible]

Order Example

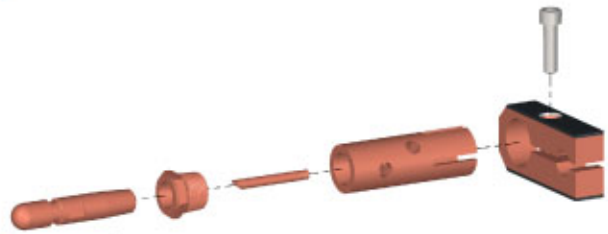
PK - **C** x

	Offset (P)
Model	13
C1	19
C2	

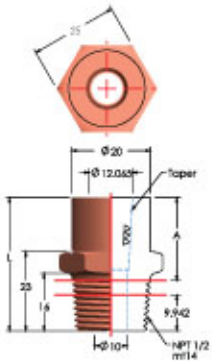


our product

Electrode Adaptor

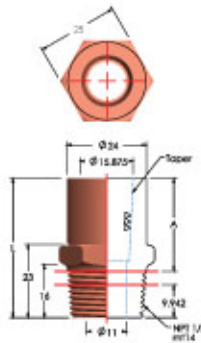


Standard Drawing & Table for Electrode Adaptor



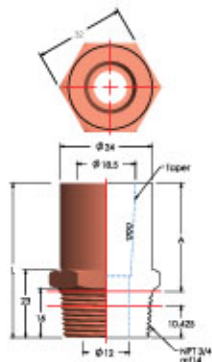
Model Number	L	A
AD - 13 - 10	23	10
AD - 13 - 15	28	15
AD - 13 - 20	33	20
AD - 13 - 30	43	30
AD - 13 - 40	53	40
AD - 13 - 50	63	50
AD - 13 - 60	73	60

AD - 13



Model Number	L	A
AD - 16 - 10	23	10
AD - 16 - 15	28	15
AD - 16 - 20	33	20
AD - 16 - 30	43	30
AD - 16 - 40	53	40
AD - 16 - 50	63	50
AD - 16 - 60	73	60

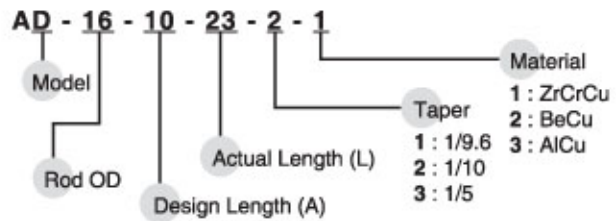
AD - 16



Model Number	L	A
AD - 19 - 10	23	10
AD - 19 - 15	28	15
AD - 19 - 20	33	20
AD - 19 - 30	43	30
AD - 19 - 40	53	40
AD - 19 - 50	63	50
AD - 19 - 60	73	60

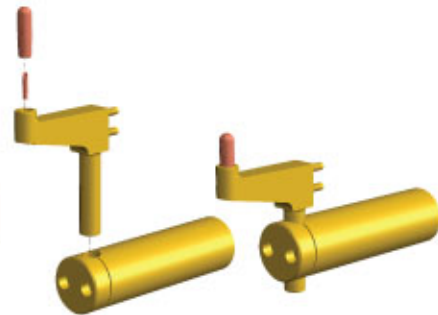
AD - 19

Order Example



our product

Electrode Horn



Standard Drawing

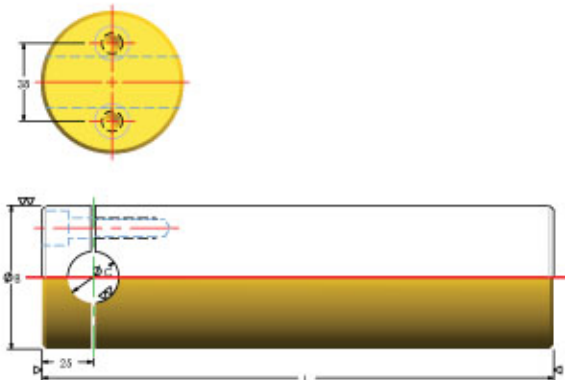
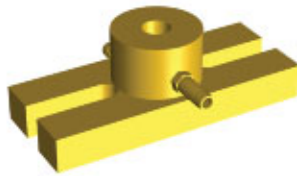


Table for Electrode Horn

Model Number	L	ØB	ØC
H60 - 250 - 25	250	60	25
H60 - 300 - 25	300	60	
H70 - 250 - 32	250	70	32
H70 - 300 - 32	300	70	



our product

Electrode Platen

Standard Drawing

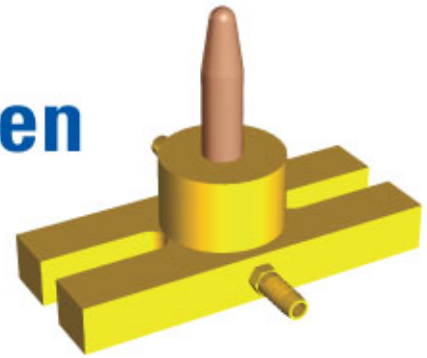
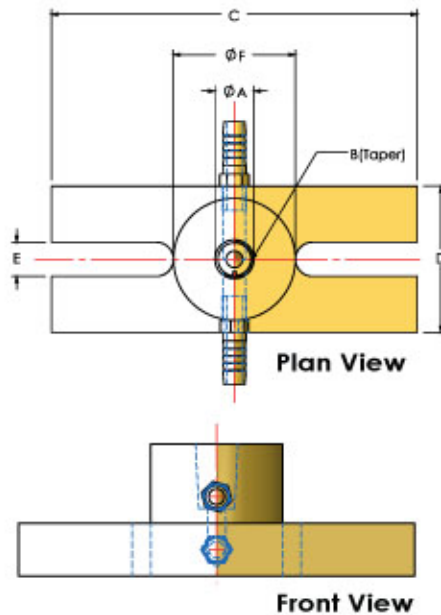


Table for Electrode Platen

Model Number	A	B	C	D	E	F
PH120 - 16 - 1/5	16	1/5	110	40	12	Ø40
PH120 - 16 - 1/10		1/10				
PH120 - 20 - 1/5	20	1/5	150	60	14	Ø50
PH120 - 20 - 1/10		1/10				
PH150 - 16 - 1/5	16	1/5	150	60	18	Ø50
PH150 - 16 - 1/10		1/10				
PH150 - 20 - 1/5	20	1/5	150	60	18	Ø50
PH150 - 20 - 1/10		1/10				
PH180 - 16 - 1/5	16	1/5	150	60	18	Ø50
PH180 - 16 - 1/10		1/10				
PH180 - 20 - 1/5	20	1/5	150	60	18	Ø50
PH180 - 20 - 1/10		1/10				

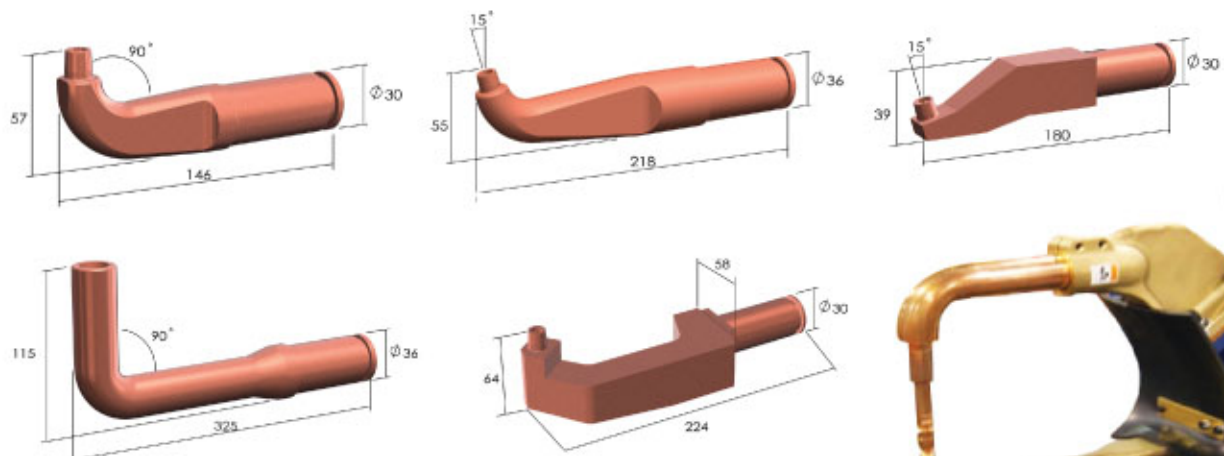


our product

Holder

Portable Resistance Welder Gun And Accessories

Make according to drawing / design



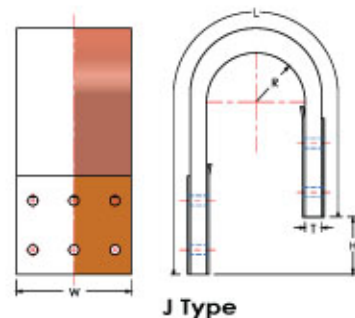
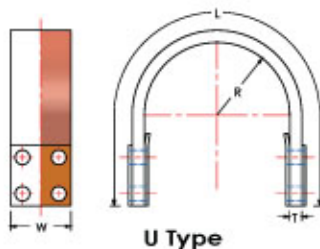
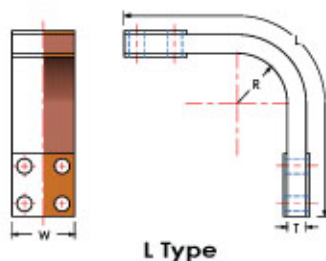


our product
Shunt

Standard Drawing

Make according to drawing / design

Type:



Hole pattern:

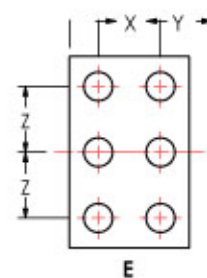
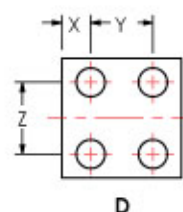
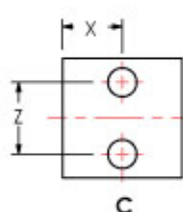
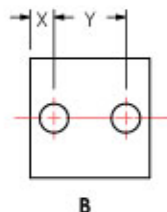
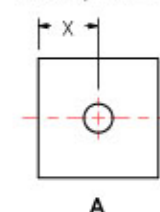
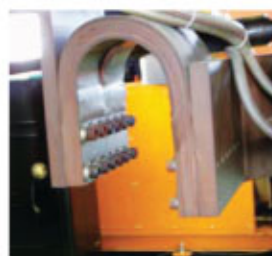


Table of Shunt

Unit: mm

SH	Description
1	W Width
2	T Thickness
3	L Length
4	- Type
5	- Hole Pattern
6	R 1/2 x shunt outside dia.
7	H Height

Code SH-¹W-²T-³L-⁴L-⁵A-⁶R-⁷H



Type
1: L
2: U
3: J

Hole Pattern
1: A
2: B
3: C
4: D
5: E

our product

Raw Material

Special Size Can Be Order

Available Size		
Round (Ømm)		Square Thickness (mm)
10	55	6
13	60	8
16	65	10
19	70	12
20	75	16
22	80	20
25	85	25
30	90	30
32	95	35
35	100	40
38	110	45
40	120	50
42	130	55
45	140	60
50	150	65

Material

- ZRCRCU
- BECU
- WCU



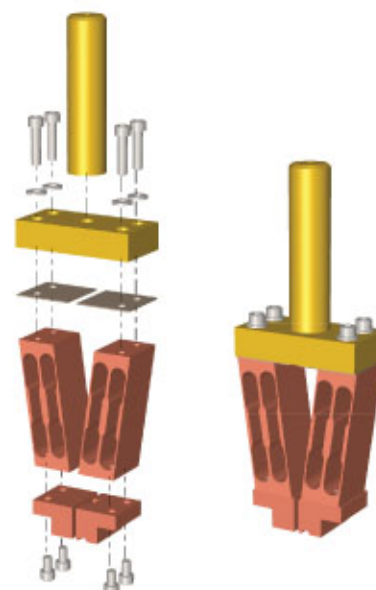
our product

Xattachment

Save space, time, and money with this convenient attachment

- No need to buy expensive butt welder
- Can use only by installing ordinary spot welder
- Small, simple and cheap
- Easy to install, de install and adjust
- Workspace is large so we can process with many work forms as well as dimensions.
- Can have many various styles of butt welding by changing electrodes (straight lines, curved lines, T-joints L-joints, ball on wire end, etc)
- Can make misalignment of welding become smaller by simple and unique anti-sliding
- Device utilizing elastic deformation
- Cycle time is shorter than an ordinary butt welder because clamping and upsetting are performed at the same time by pressing action of spot welder
- Welding qualities are particularly stable with small wire sizes (less than 3mm dia.)

Standard Drawing



Specifications

• Workable wire diameter	1.5 - 7.0mm dia.
• Working conditions (mild steel wire)	
Welding current	Wire dia. X 1000A
Welding time	Wire dia. X cycles
Electrode force	Wire dia. X 80kgf
• Fitting spot welder	
Air-operated type with electrically controlled timer	
Electrode force	more than 350kgf
Electrode holder diameter	choice of 25mm or 25.4mm dia.
* Optional 32mm and 31.7mm dia. sleeves are available	
Arm gap between top and bottom	more than 260mm
• Weight	4kg

Example of Electrode shapes for goods to be welded



our product

Two-Point Electrodes

Features

- Welding operation considerably speed up.
- As it spring type, electrodes are easy get accustomed to work-pieces.
That gives great effect to the balance between pressure force and welding electric current.
- Welding pitch becomes stable which enables welding in high quality.

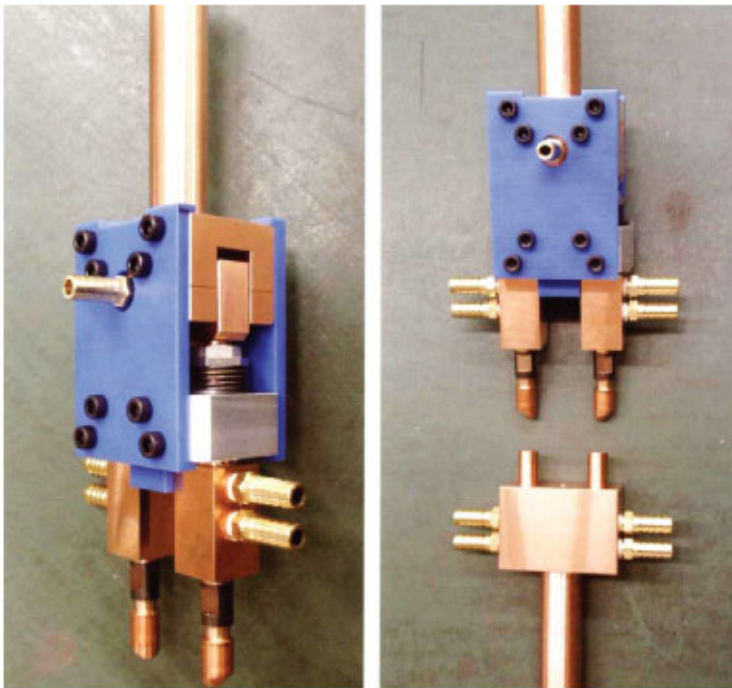
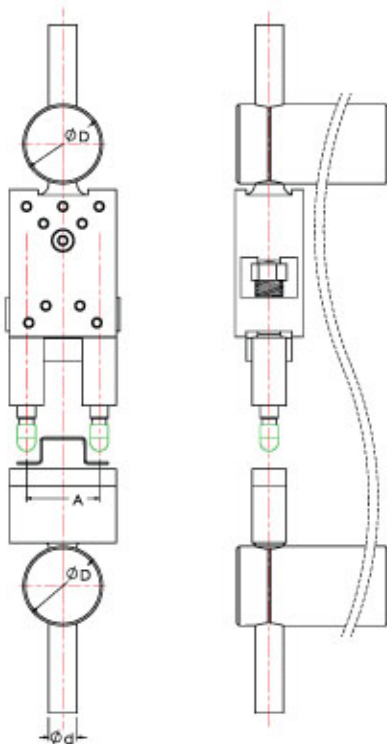


Table for Two-Point Electrodes

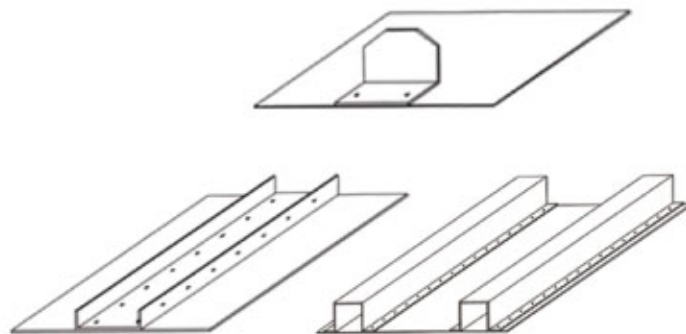
Unit: mm Material: CRCu

Product code No.	A	ØD	Ød
WH - 40	40		
WH - 40	45		
WH - 40	50		
WH - 40	55		
WH - 40	60		

Outline of Electrodes



Example of two-point spot welding



- # 1. Please inform us welding pitch, Horn size and electrode bar size when placing order.
- # 2. Please also inform us the work-piece material type and the surface-treated steel sheet type.

our product

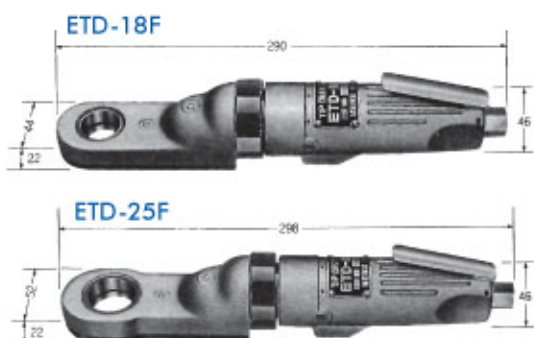
Tip Dresser

ETD - 18F

Tip Size	8 ~ 18 mm
No-load RPM	1,300 r.p.m.
Weight	1.65 kg

ETD - 25F

Tip Size	19 ~ 25 mm
No-load RPM	1,100 r.p.m.
Weight	1.68 kg



Optional:

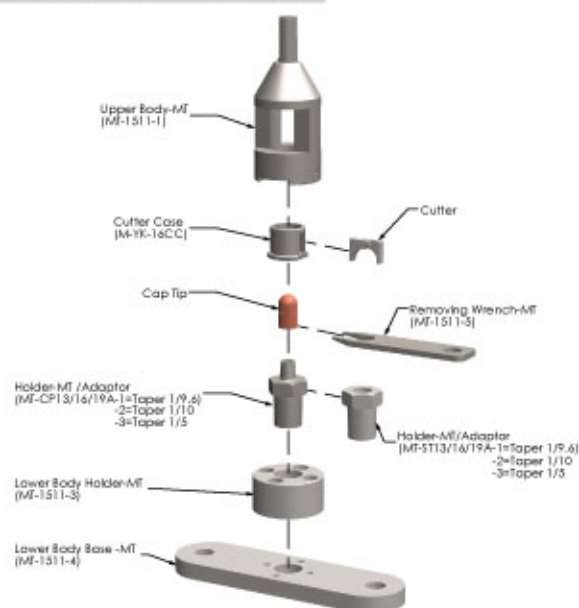


- Small, light and easy to handle
- Quick and accurate work
- Low air consumption
- Easy to change cutter and cutter case

our product

Tip Dresser Attach

Standard Drawing



Cutter Cases and Cutter

Types of Cutter Cases

The cutter case bore diameter (DØ) acts as a guide so that the cutter dresses at the correct location relative to the tip. Please specify a cutter case that matches the tip size.

Note: The following cutter cases and cutters are available severally.
ETD-18F=ETD-0, ETD-25F=ETD-1



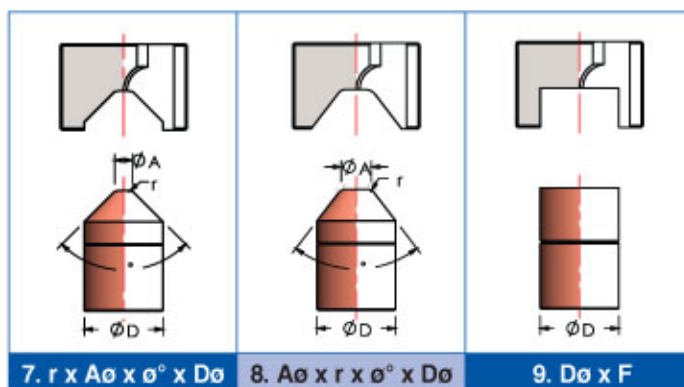
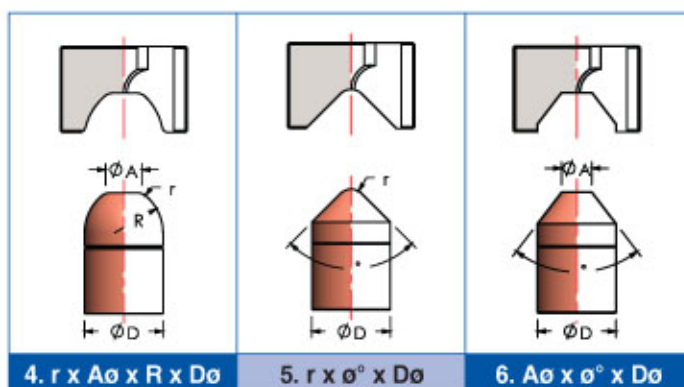
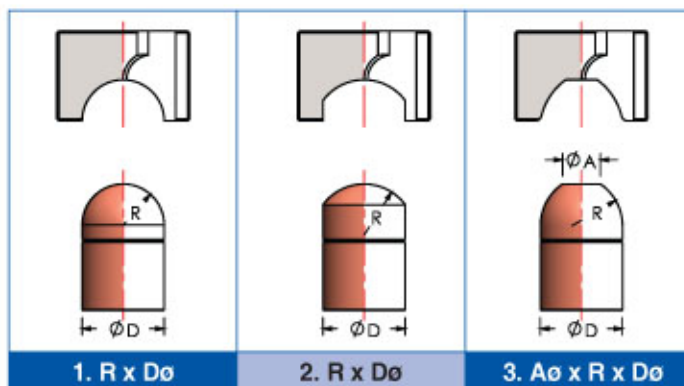


our product
Cutter

ETD - 18F Classification Table

Shapes of Tip Cutters

Cutter No.	Tip Shape (Nominal)	Max. Diameter that can be repaired (DØ)	Reserve Articles
1	5R	10 Ø	
	6R	12 Ø	6R x 12 Ø
	6.5R	13 Ø	6.5R x 13 Ø
	8R	16 Ø	8R x 16 Ø
2	10R or more	18 Ø	16R x 18 Ø
	~150R		20R x 18 Ø
3	A Ø x 6R	12 Ø	5 Ø x 6.5R x 13 Ø
	A Ø x 6.5R	13 Ø	5 Ø x 8R x 16 Ø
	A Ø x 8R	16 Ø	6 Ø x 8R x 16 Ø
4	r x A Ø x 6R	12 Ø	
	r x A Ø x 8R	16 Ø	40r x 6 Ø x 8R x 16 Ø
5	5 ~ 6 r x 60°	13 Ø	
	3 ~ 4 r x 90°	16 Ø	
	5r or more x 90°	18 Ø	
6	6 ~ 9 Ø x 50°	13 Ø	
	space Ø or more x 50°	16 Ø	
	5 ~ 7 Ø x 60°	13 Ø	6 Ø x 60° x 13 Ø
	8 ~ 9 Ø x 60°	16 Ø	
	10 Ø or more x 60°	18 Ø	
	3 ~ 4 Ø x 75°	13 Ø	
	5 ~ 6 Ø x 75°	16 Ø	6 Ø x 75° x 16 Ø
	7 Ø or more x 75°	18 Ø	
	3 Ø x 90°	16 Ø	
	4 Ø or more x 90°	18 Ø	4 Ø x 90° x 18 Ø 5 Ø x 90° x 18 Ø 6 Ø x 90° x 18 Ø 5 Ø x 120° x 18 Ø
	3 Ø or more x 120°	18 Ø	
7	r x A Ø x 0°	D Ø	
8	A Ø x r x 0°	D Ø	
9	F	18 Ø	F x 18 Ø



our product

Tip Opener



Table for Tip Opener

Type	Cap Tips Size
RR - 13	Ø12 ~ Ø13
RR - 16	Ø16



our product

Tungsten and Molybdenum



Our welding electrodes made of tungsten, molybdenum and their alloys are particularly suitable for welding highly conductive materials such as copper.

They are used in the following processes:

- Spot Welding
- Roller Welding
- Projection Welding
- Upset Welding



our product

Tip Remover



Table for Tip Opener

Type	Cap Tips Size
RO - 13 - 25	Ø8 ~ Ø16
RO - 13 - 35	Ø10 ~ Ø20
RO - 16 - 25	Ø8 ~ Ø16
RO - 16 - 35	Ø10 ~ Ø20



our product

Taper Reamers



Table for Taper Ring

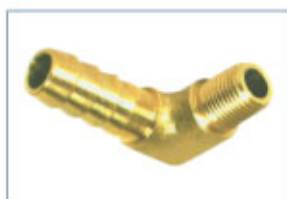
unit : mm

Tip Diameter	Taper	Length of taper
12.065	MT*1	15
12.000	1/10	15
15.875	MT*2	20
16.000	1/5	20
16.000	1/10	20
18.000	MT*2	20
20.000	1/5	20
20.000	1/10	20



our product

Accessories



45° Joint

Type	Cap Tips Size
JHG1/8	PT 1/8" x 10m/m
JHG1/4	PT 1/4" x 10m/m



90° Joint

Type	Cap Tips Size
LHG1/8	PT 1/8" x 10m/m
LHG1/4	PT 1/4" x 10m/m



T Type Copper Cover

Type	Cap Tips Size
120-60T	Ø60
120-70T	Ø70
120-80T	Ø80



Cooling and Wash for Flower

Type	Cap Tips Size
921012	1/4" PT
921013	3/8" PT
921014	1/2" PT
950914	1/2" PT
950916	3/4" PT

our product

Taper Ring and Plug Gages

Standard Drawing for Taper Ring

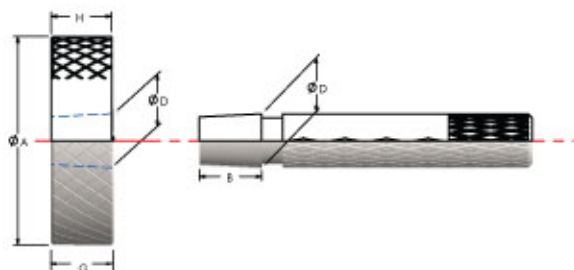


Table for Taper Ring

unit : mm						unit : mm					
Taper	øA	øD	G	H	B	Taper	øA	øD	G	H	B
1/9.8	50	10.0	9	8.5	9	1/10	50	6.0	6	5.5	6
1/9.8	50	10.3	9	8.5	9	1/10	50	7.0	7	6.5	7
1/9.8	50	12.6	8	7.5	8	1/10	50	8.0	8	7.5	8
1/9.8	50	12.6	9	8.5	9	1/10	50	9.0	8	7.5	8
1/9.8	50	12.6	10	9.5	10	1/10	50	10.0	8	7.5	8
1/9.8	50	12.7	9	8.5	9	1/10	50	12.0	9	8.5	9
1/9.8	50	12.8	9	8.5	9	1/10	50	12.0	10	9.5	10
						1/10	50	12.6	10	9.5	10
						1/10	50	12.7	9	8.5	9
						1/10	50	12.7	10	9.5	10
						1/10	50	14.0	10	9.5	10
						1/10	50	15.0	10	9.5	10
						1/10	50	16.0	10	9.5	10



1 / 10 Taper

Table for Taper Ring

unit : mm						unit : mm					
Taper	øA	øD	G	H	B	Taper	øA	øD	G	H	B
1/10	50	12.0	15	14.5	15	1/10	50	20.0	20	19.5	20
1/10	50	13.0	15	14.5	15	1/10	50	22.0	20	19.5	20
1/10	50	14.0	15	14.5	15	1/10	50	23.0	20	19.5	20
1/10	50	16.0	20	19.5	20	1/10	50	25.0	25	24.5	25
1/10	50	18.0	20	19.5	20	1/10	50	27.0	20	19.5	20
1/10	50	18.5	20	19.5	20	1/10	50	30.0	25	24.5	25
1/10	50	19.0	20	19.5	20						



MT#1 MT#2 MT#3 Taper

Standard Drawing for Taper Ring

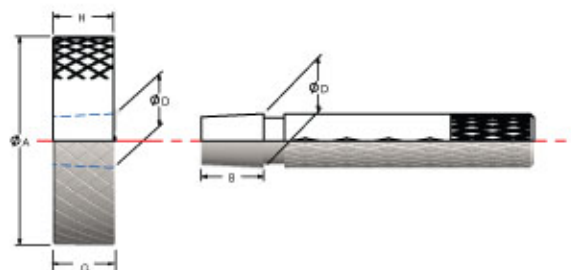


Table for Taper Ring

unit : mm					
Taper	øA	øD	G	H	B
MT*1	50	11.875	15	14	15
MT*1	50	12.065	15	14	15
MT*2	50	15.875	20	19	20
MT*2	50	17.781	20	19	20
MT*2	50	18.000	20	19	20
MT*2	50	20.000	20	19	20
MT*3	50	22.000	20	19	20



1 / 5 Taper

Table for Taper Ring

unit : mm					
Taper	øA	øD	G	H	B
1/5	50	8	8	7	8
1/5	50	12	10	9	10
1/5	50	12	15	14	15
1/5	50	16	20	19	20
1/5	50	18	20	19	20
1/5	50	20	20	19	20
1/5	50	22	20	19	20
1/5	50	25	25	24	25
1/5	50	30	25	24	25



our product

Controller

- Simple Operation
- Single & Dual Gun Operation
- Multiple Heats & Pulsation
- Built On Spot & Job Counter

Features

Monitoring

With the help of Large Display panel **Set Parameters and Monitored Data** can be continuously viewed which helps operator manage the welding process.

Error Display

Error number will be displayed on the Display panel along with error alarm. Description of the error is mentioned on the face plate which helps operator resolve the problem instantly.

Combination of constant current and voltage compensation.

To achieve high quality weld in Zinc coated sheets. Combination of constant current and voltage compensation is available. Multiple heats and pulsation are also available.

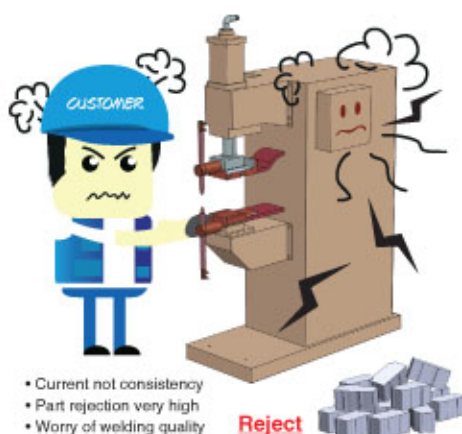
Suitable for spot & Projection Built-in Spot & Job counter

2 separate Displays for Spot & Job count, this helps to monitor production quantity at any given time.



Table for standard Controller

Features	Parameters	Specifications
Basic Frame	Channel	15 Channel
	Squeezing System	2 Systems
	Heating Step	2 Steps
	Sequence Step	6 Steps
Time Set	Heating Time -1 / -2	0-99 Cycles
	Other Step Time Set	0-99 Cycles
	Pulsation Control	0-99 Times
	Current Up-Slope	0-29 Cycles
	Current Down-Slope	0-29 Cycles
Current Controls	Welding Current (Secondary)	2.0-49.9kA
	Current Range (Secondary)	Max.5.0 - 49.9kA
	Constant Current Response Time	0.5 cycles
	Constant Current Response Speed	0.5 cycles
	Constant Current / Voltage Compensation Control	Equipped
Monitoring Function	Current Detector Coil	WDC 550
	Constant Current Monitor	± 5%
	Full-Heat Check	Under Voltage Compensation
	Coolant Check	Thyristor Coolant Level
	Welding Power Check	Monitoring Welding Power
Counter	Thyristor Short-Circuit Detection	Welding Power Check
	Spot Counter	0 ~ 99 Units
	Job Counter	0 ~ 9999 Units
External Input / Output	Heating Interlock Output	Solid-State Circuit
	Off time Output	One Make-Contact
	Alarm Output	One Make-Contact



our product

Super Inverter Mesa AIT Series

AC Inverter Control Device



TRANSFORM SINGLE PHASE A.C. WELDER INTO INVERTER CONTROLLED SPOT WELDER

Do you have these troubles?

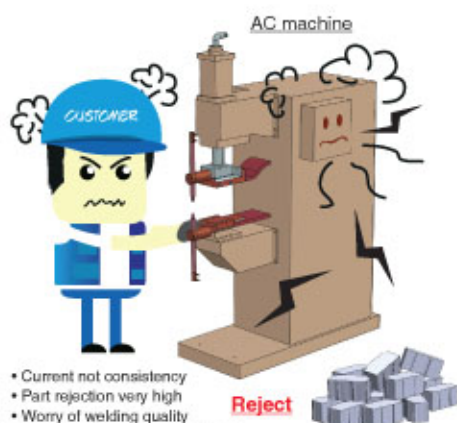
- Galvanized steel sheets
- Electrode grinding
- Restraint the splash
- Burn and strain
- Welding quality.
- Effecting reduce the voltage fluctuation.

Solve the problems

- Secondary constant current control
- The single phase A.C. Welder machine is transformed
- The Welding condition can be transmitted to the program box with the memory.
- The seam weld can be speed up.

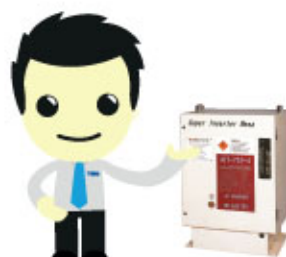
Specification

Type	For Spot and Projection welding machine							For Seam welding machine	
	AIT-724-4	AIT-1124-4	AIT-1624-4	AIT-544-4	AIT-844-4	AIT-1044-4	AIT-1644-4	AIT-826-4	AIT-846-4
Power supply	Three phase A.C.200V/220V±10% A			Three phase A.C.400V/440V±10% B				A	B
Frequency	50/60Hz								
Output voltage	Single phase 300V (Peak value A.C.220V) C			Single phase 600V (Peak value A.C.440V) D				C	D
Output frequency	Standard settings 50 or 60Hz synchronous to frequency of power supply. Also frequency can be set from 20 to 180Hz by each 1Hz								
Output current	700	1100	1600	500	800	1000	1600	800	800
Rated capacity	75	118	173	108	173	216	346	214	429
Maximum capacity	210	330	480	300	480	600	960	240	480
Rated duty cycle	6.5							40	
Control method	Primary or secondary constant current control by PWM control								
Repeated output current accuracy	Repeated accuracy is within ± 3% of scale by primary control Repeated accuracy is within ± 3% of scale by secondary control								
Straight line accuracy	Straight line accuracy is within ± 5% of full scale								
Setting of welding current	By program box or analog input								
Setting of welding condition	7/15/31/63/127 Conditions								
Control unit	Time unit: 1 cycle (1msec unit can be set without heat time) Welding current unit: 100A or 1A								
Maximum welding condition	127 welding conditions, 7 transformers and 2 solenoid valves								
Output squeeze solenoid valve	Each circuits of A.C.100V and D.C.24V can be selected								
Function of EP solenoid valve	Three pressure can be set by two electric and pneumatic proportional solenoid valve circuits (option)								
Mass	29	40	86	29	40	42	86	63	
Leak breaker capacity	150A	225A	350A	100A	175A	200A	350A	400A	400A
Input cable	22sq M8	38sq M8	150sq M12	14sq M8	38sq M8	38sq M8	150sq M12	100sq M12	100sq M12
Output cable	60sq M8	100sq M10	200sq M12	38sq M8	60sq M10	80sq M10	200sq M12	150sq M12	150sq M12
Amount of cooling water	3L/min, AIT-825-4 & AIT-846-4 is 5L/min								
Temperature of cooling water	30°C or less								

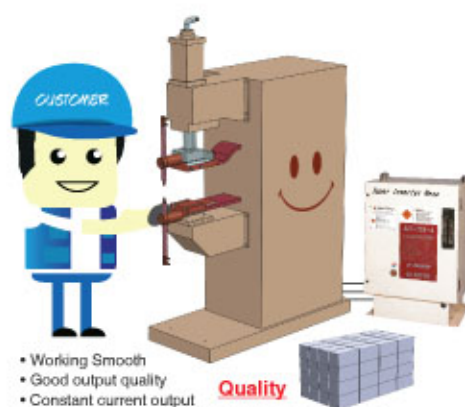


- Current not consistency
- Part rejection very high
- Worry of welding quality
- High power input consumption
- Long weld time

Reject



- Change new super inverter mesa AIT Series
- No need controller
- No need thyristor
- Old machine parts service



- Working Smooth
- Good output quality
- Constant current output
- Low power input (40% lower compare AC machine)
- Shorter weld time

Quality



our product

Weld Condition for Mild Steel Sheets

Material Thickness	Electrode			Min. Weld Spacing	Min. Overlap	Class A (Best Condition)				
						Time	Electrode Force	Weld Current	Diameter or Fused Zone	Tension Shear Strength
mm	mm			mm		$\frac{A}{mm^2}$	kgf	A	mm	kgf
0.25	3.20	10		6	10	4	90	4,000	3.30	105
0.40	3.20	10		6	10	5	115	5,200	4.00	180
0.50	3.50	10		9	11	6	135	6,000	4.30	240
0.60	4.00	10		10	11	7	150	6,600	4.70	300
0.80	4.50	10		12	11	8	190	7,800	5.30	440
1.00	5.00	13		18	12	10	225	8,800	5.80	610
1.20	5.50	13		20	14	12	270	9,800	6.20	780
1.40	6.00	13		23	15	14	305	10,600	6.60	930
1.60	6.30	13		27	16	16	360	11,500	6.90	1,060
1.80	6.70	16		31	17	18	410	12,500	7.40	1,300
2.00	7.00	16		35	18	20	470	13,300	7.90	1,450
2.40	7.80	16		40	20	24	580	15,000	8.60	1,850
2.80	8.50	16		45	21	28	700	16,200	9.40	2,380
3.20	9.00	16	75	50	22	30	820	17,500	10.2	3,130
3.60	10.3	22	100	57	29	41	930	18,200	11.2	3,680
4.00	11.1	22	100	67	32	50	1,030	18,900	11.9	4,450
4.30	11.1	22	100	76	38	61	1,120	19,600	12.9	5,250
4.70	11.9	22	100	83	41	73	1,260	20,200	13.7	6,000
5.10	12.7	22	150	89	45	84	1,320	20,900	14.7	6,690
5.50	13.5	22	150	98	48	95	1,460	21,800	15.5	7,300
5.90	13.5	22	150	108	54	106	1,560	22,300	16.5	7,980
6.40	15.1	25	150	114	57	116	1,710	23,000	17.3	8,570
6.60	15.1	25	250	121	60	127	1,850	23,600	18.0	9,200
7.00	15.1	25	250	133	67	140	1,960	24,400	19.1	9,850
7.90	15.9	25	250	146	73	162	2,200	25,700	20.2	10,900

Material Thickness	Class B (Medium Condition)					Class C (Ordinary Condition)				
	Time	Electrode Pressure	Weld Current	Diameter Of Fused Zone	Tension Shear Strength	Time	Electrode Force	Weld Current	Diameter or Fused Zone	Tension Shear Strength
mm	$\frac{A}{mm^2}$	kgf	A	mm	kgf	$\frac{A}{mm^2}$	kgf	A	mm	kgf
0.25	5	60	3,700	3.00	90	15	30	3,000	2.80	70
0.40	8	75	4,500	3.60	160	20	40	3,500	3.30	125
0.50	10	90	5,000	4.00	210	24	45	4,000	3.60	175
0.60	12	100	5,500	4.30	280	26	50	4,300	4.00	225
0.80	15	125	6,500	4.80	400	30	60	5,000	4.60	355
1.00	20	150	7,200	5.40	540	36	75	5,600	5.30	530
1.20	23	175	7,800	5.80	680	40	85	6,100	5.50	650
1.40	26	210	8,500	6.30	850	46	100	6,600	5.90	780
1.60	30	240	9,100	6.70	1,000	50	115	7,000	6.30	920
1.80	33	275	9,700	7.10	1,180	54	130	7,500	6.70	1,100
2.00	36	300	10,300	7.60	1,370	58	150	8,000	7.10	1,305
2.40	44	370	11,300	8.40	1,770	65	180	8,600	7.90	1,665
2.80	52	430	12,100	9.20	2,300	72	220	9,400	8.90	2,180
3.20	60	520	12,900	9.90	2,940	78	260	10,000	9.40	2,790
3.60	72	560	13,600	10.7	3,600	102	280	10,500	10.2	3,380
4.00	88	640	14,100	11.4	4,200	125	320	11,000	10.7	3,900
4.30	107	720	14,700	12.2	4,780	152	360	11,400	11.4	4,420
4.70	128	800	15,300	12.9	5,460	182	400	11,750	11.9	5,030
5.10	147	880	15,900	13.7	6,080	210	440	12,200	12.7	5,600
5.50	166	970	16,450	14.5	6,680	237	490	12,500	13.2	6,120
5.90	186	1,040	17,000	15.2	7,350	265	520	12,900	14.0	6,700
6.40	204	1,140	17,600	16.0	7,940	290	570	13,200	14.5	7,240
6.60	222	1,230	18,100	16.8	8,500	318	620	13,600	15.0	7,780
7.00	245	1,300	18,700	17.5	9,250	350	660	14,000	15.7	8,370
7.90	284	1,480	19,800	18.8	10,400	405	740	14,800	17.0	9,440

Table Deviation Rate of Tension Shear Strength

Material Thickness	Class A	Class B	Class C
3.2mm	±14%	±17%	±20%
3.6mm	±15%	±15%	±17%

Welding Case





Office:

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