

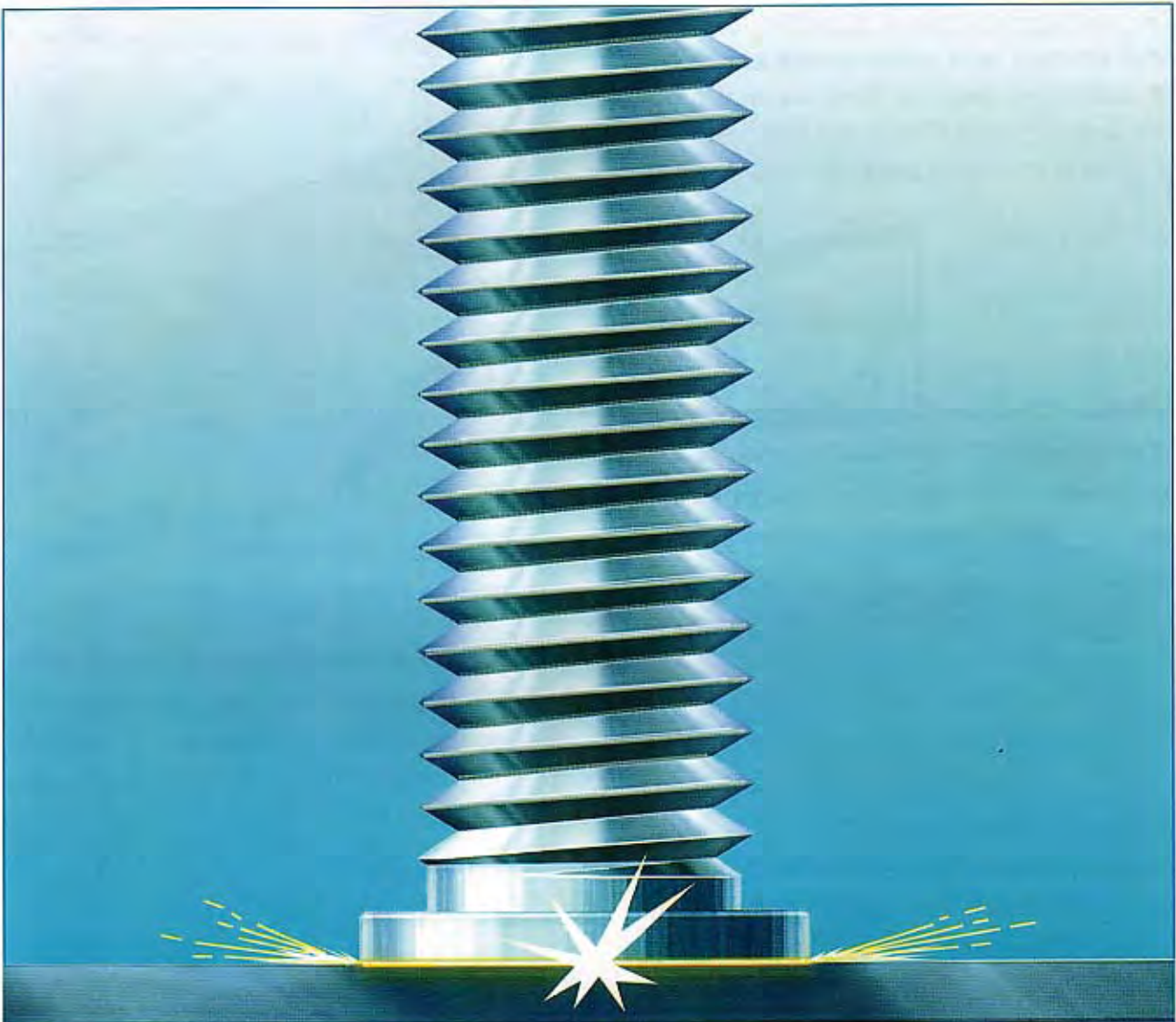
CD system (Capacitor Discharge system)

General Catalogue

JDI Stud Welding Systems

CD

STUD WELDING SYSTEM



Instant welding a threaded stud, pin onto the metal plate.

JDI FASTENING (S) PTE LTD

Whap.....
Instant Welding

Instant Welding for threaded stud and pin is possible on the metal plate.

The welding principle of 'Capacitor Discharge Stud Welding' is to instantly weld various kind of metal stud onto the base material having the same/different kind of metal by using ARC welding & resistance welding.

- **Instant Discharge/Instant Welding**

3/1000 seconds ~ 6/1000 seconds.....

To complete the welding by instantly welding the tip of stud onto the surface of base material.

- **Very little heat influence**

Because of very little heat affection to the base material, the welding is possible for those of thin material, Zinc plated material and back of painted material.



- **Possibility of welding various kind of metal**

Possibility of welding the stud made from mild steel, stainless steel, brass, copper, aluminum, titanium onto the base material having the same/different kind of metal.

- **A simple welding work**

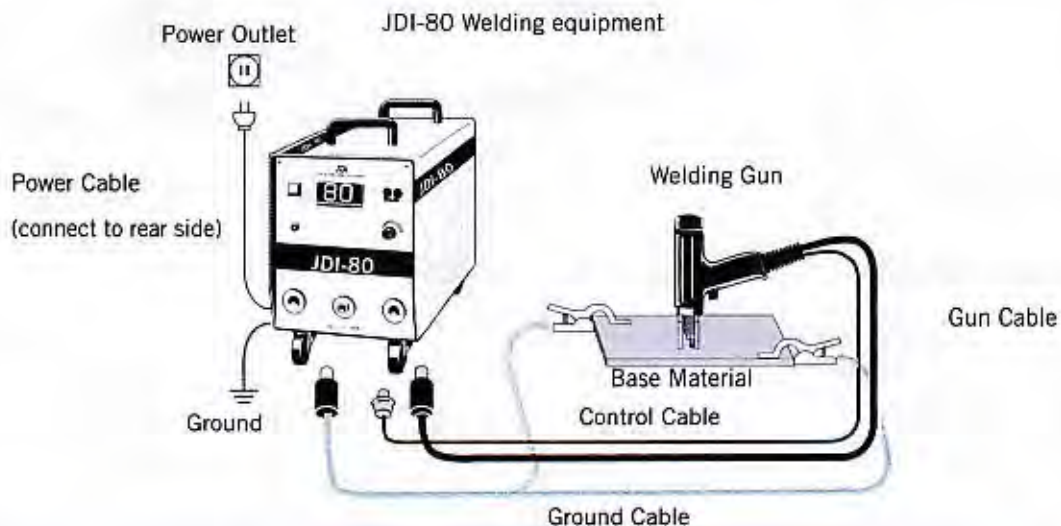
Welding qualification and experiences are not specifically required.

Our company has developed supporting parts to enhance the welding accuracy and efficient workability & so as robot to weld the stud efficiently onto the setting location of base material for mass production use. This is a widely used unique fastening method for metal base material.

CD Stud welding system

The basic system of CD stud welding consists of welding equipment (power source) and welding gun for holding the stud & various kind of metal studs. The instant stud welding shall be performed by triggering the welding gun based on each setting.

The figure below is a setting example of the system showing the model JDI-80 welding equipment. The connecting part of the cable shall be slightly different by the model of the equipment but basically is same.

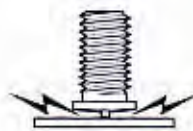


Welding Method

CD stud welding could be roughly divided into Contact Method & Gap Method mainly based on the stud material. Appropriate welding gun is applied respectively. (Please refer to page 4 for more details)

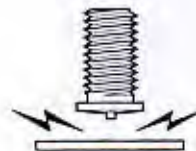
Contact Method

A welding method discharging by compressing the stud tip onto the base material. Mainly applied to the stud made from mild steel & stainless steel.



Contact Method

A welding method of discharging by leaving a gap between the stud tip and base material. Mainly applied to the stud made from aluminum & titanium.

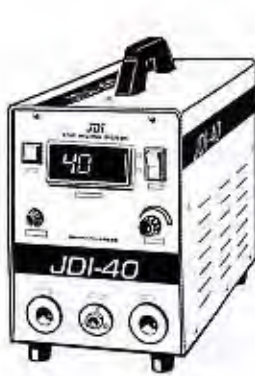


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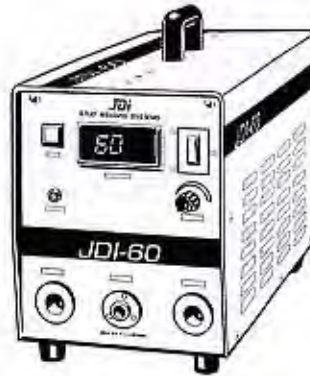
CD Stud welding equipment

There are many types of equipments having different feature & characteristic, corresponding to the application of welding stud & pin made in different diameter & material.



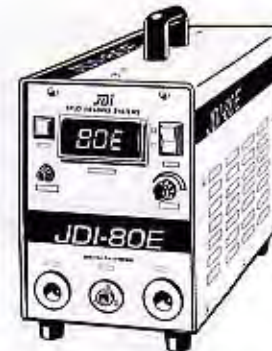
JDI-40 (Former: CD-60E)

- Stud Diameter: ~ $\phi 6.6$
- WVCC circuit applied : simple adjustment for the charging voltage
- Suitably used in the construction of duct due to extra power



JDI-60 (Former: CD-80E)

- Stud Diameter: ~ $\phi 8.6$
- WVCC circuit applied: simple adjustment for the charging voltage
- Suitably used in the factory



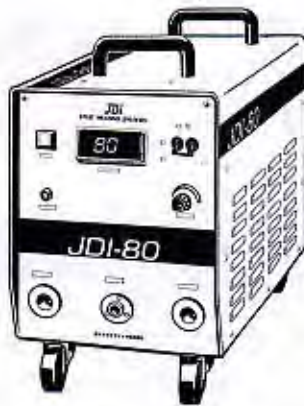
JDI-80E

- Stud Diameter: ~ $\phi 9.6$
- WVCC circuit applied: simple adjustment for the charging voltage
- Suitably used on site

Welding equipment model	JDI-40	JDI-60	JDI-80E
Applicable stud	Stud diameter : ~ $\phi 6.6$ IP diameter : 1.6, 2.0 mm (Mild steel, Stainless steel)	Stud diameter: ~ $\phi 8.6$ (Mild steel, Stainless steel Brass, Copper, Titanium) Stud diameter: ~ $\phi 6$ (Titanium)	Stud diameter: ~ $\phi 9.6$ (Mild steel, Stainless steel) Stud diameter: ~ $\phi 8.6$ (Aluminum, Brass, Copper) Stud diameter: ~ $\phi 6$ (Titanium)
Power supply (AC)	230V \pm 10%, 5A, 50/60Hz	230V \pm 10%, 13A, 50/60Hz	230V \pm 10%, 8A, 50/60Hz
Welding method	Capacitor Charging, Discharging method		
Charging volt(DC) (Charging hour)	30~100V (Continuous varying) (2~3 seconds)	30~180V Continuous varying) (2~4 seconds)	40~195V (Continuous varying) (3~5 seconds)
Dimension (mm)	Width 195, Height 345, Length 390	Width 240, Height 350, Length 500	Width 195, Height 345, Length 470
Weight (kg)	14	22	18
Welding gun model	H-100, DG-3	H-100, H-200, H-5	H-100, H-200 H-5, VP-GH
Standard accessory cable	Power cable, 5m Ground cable, 4m	Power cable, 5m Ground cable, 4m	Power cable, 5m Ground cable, 4m

CD Stud welding equipment

There are 5 types of equipment applied with VVCC circuit, and with easy adjustment of charging voltage.



JDI-80 (Former: CD-100E)

- Stud Diameter : ~ Ø10
- VVCC circuit applied : simple adjustment for the charging voltage
- A standard welding equipment for wide application

JDI-100 (Former: CD-120E)

- Stud Diameter : ~ Ø12
- VVCC circuit applied : simple adjustment for the charging voltage
- A standard welding equipment with extra power

Welding equipment model	JDI-80	JDI-100
Applicable stud	Stud diameter : ~ Ø10 (Mild steel, Stainless steel) Stud diameter : ~ Ø8.6 (Aluminum, Brass, Copper) Stud diameter : ~ Ø6 (Titanium)	Stud diameter : ~ Ø12 (Mild steel, Stainless steel) Stud diameter : ~ Ø8.6 (Aluminum, Brass, Copper, Titanium)
Power supply (AC)	230V±10%, 15A, 50/60Hz	230V±10%, 20A, 50/60Hz
Welding method	Capacitor Charging. Discharging method	
Charging volt(DC) (Charging hour)	30~180V (Continuous varying) (2~5 seconds)	40~190V (Continuous varying) (3~6 seconds)
Dimension (mm)	Width280, Height450, Length565	Width300, Height470, Length570
Weight (kg)	32 (with Caster)	41 (with Caster)
Welding gun model	H-100,H-200,H-5 VP-GH	H-100,H-200,H-5 VP-GH, FG-12
Standard accessory cable	Power cable, 5m Ground cable, 4m	Power cable, 5m Ground cable, 4m

Note : Please refer to page 6~9 for the dimension of the Stud, IP.

Welding Gun

Basically, the welding guns are classified into few types depending on the material & diameter of the stud to be used. The models shown below are the standard specifications.



H-100



H-5



VP-GH



FG-12

Stud material		Mild steel, Stainless steel, Brass, Copper			
Welding gun model		H-100	H-5 (corner used)	VP-GH	FG-12
Stud dimension	Male stud dia. *(Tapped thread dia.)	~M8 (Outer dia.)	~M8 (Outer dia.)	~M10 (Outer dia.)	~M12 (Outer dia.)
	Length (mm)	5~150 (~M6) 5~50 (M8)	5~145 (~M6) 5~50 (M8)	5~130 (~M10)	5~125
Gun length (mm)		207	204	200	253
*Gun weight (kg)		3.3	3.6	3.3	5.1
Cable length (mm)		6	6	6	6
*Welding method		Contact method			



H-200



S6-GHW



DG-3



IP-G

Stud material		Aluminum, Titanium		Stud material		Mild steel, Stainless steel	
Welding gun model		H-200	S6-GHW	Welding gun model		DG-3	IP-G
Stud diameter	Male stud diameter *(Tapped thread dia.)	~M6(Al.) ~M5(Ti.) (Outer dia.:~ φ6mm)	~M10 (Outer dia.:~ φ10mm)	Insul Pin (mm)	Diameter	1.6, 2.0	1.6, 2.0
	Length (mm)	5~50	5~150 (M3~M6) 5~50 (M8~M10)		Length	40~130	40~100
Gun length (mm)		217	226	Duct pin (mm)	Diameter	2.0	/
*Gun weight (kg)		3.6	4.9		Length	22, 47	/
Cable length (mm)		6	6X2pcs	Gun length (mm)		150	236
*Welding method		Gap method		*Gun weight (kg)		3.2	1.4
				Cable length (mm)		6	5
				*Welding method		Contact	Gap

Note :

H-5 can be used for welding as close as 1 mm to the corner of base material. S6-GHW is developed for 'uniforming magnetic field' used. DG-3 can be used for welding upto M6 threaded studs.

- * (Tapped thread) : The outer diameter of the Tapped thread stud (TP stud).
- * Gun weight : Including the cable
- * Welding method : Refer to Page-1, and please refer to page 6~9 for the dimension of the stud, and insul pin.

Collet

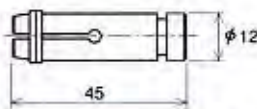
Collet is an important part used to conduct the welding current by holding the stud. It is manufactured according to the stud diameter and welding gun.

Note : The suitability of the collet will affect the welding quality.

Please use the right collet suitable to the stud diameter and welding gun. (Unit : mm)

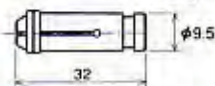


HS: used for H-100, H-5, H-200 welding gun



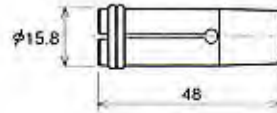
Welding Gun model	Stud axis dia. (mm)	Collet No.
H-100 H-200 H-5	3	HS-3
	4	HS-4
	5	HS-5
	6	HS-6
	8	HS-8

SS model : used for DG-3 welding gun

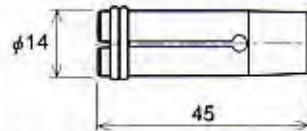


Welding Gun model	Stud axis dia. (mm)	Collet No.
DG-3	1.6	SS-1.6
	2	SS-2

F: used for FG-12 welding gun (for 8mm)

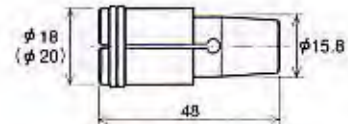


HT model : used for VP-GH, S6-GHW welding gun



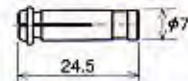
Welding Gun model	Stud axis dia. (mm)	Collet No.
VP-GH S6-GHW	3	HT-3
	4	HT-4
	5	HT-5
	6	HT-6
	8	HT-8
	10	HT-10

F: used for FG-12 welding gun (for 10mm, 12mm)



Welding Gun model	Stud axis dia. (mm)	Collet No.
FG-12	8	F-8
	10	F-10
	12	F-12

IP model : used for IP-G welding gun



Welding Gun Model	Stud axis dia. (mm)	Collet No.
IP-G	1.6	IP-1.6
	2	IP-2

Stop Bar

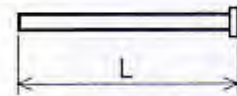
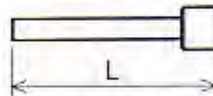
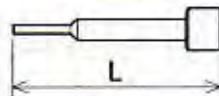
Stop Bar is a part used to determine the stud location and to maintain the protruded dimension. It is set inside the welding gun according to the stud length.

Used for H-100, H-5, H-200 welding gun

Used for H-100 welding gun

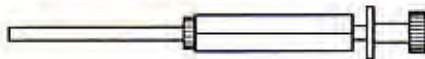
(for male stud)

(for female stud)

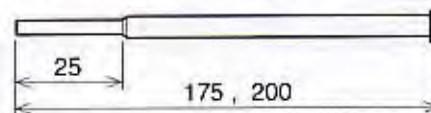


Stud Length (mm)	6	8	10	12	15	20	25	30	35	40	45	50	60	70	80	90	100	110	120	130	140	150
Stop Bar Length (mm)	51	49.5	48	46	43	38	33	28	23	18	13	9	131.5	121.5	111.5	101.5	91.5	81.5	71.5	61.5	51.5	41.5

Used for FG-12 welding gun : length adjustable type



Used for VP-GH welding gun



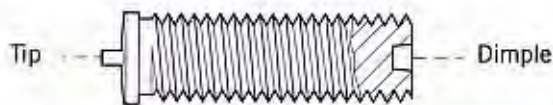
Note : Please refer to the operation manual of welding equipment for the detailed information of Collet and Stop Bar.

Studs

The stud welded with CD method has a special arch 'tip' to produce the arc for welding without using any flux nor solvent. The basic studs are Flanged type (F), Mini Flanged type (MF), Straight type (S), Tapped thread type (TP) and Pin type.

There is a 'dimple stud' which has a dimple formed at the rear end of the stud for the purpose of preventing the damage on the 'tip'. (Shown in ● mark in page 7,8)

Be sure to use the 'dimple stud' for the case of the stud welded with Robotized CDR method.



(Utility Model Registration No.2005059)

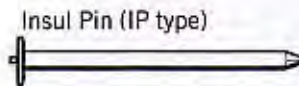
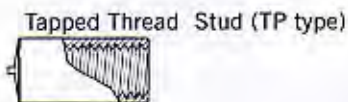
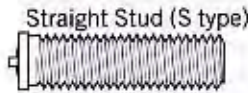
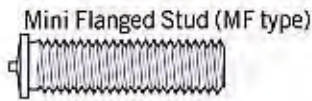
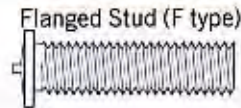
The welding suitability between the stud and base material.

One of the characteristics of CD method is to enable to weld various kind of stud onto the base material having the same/different kind of material. Especially, even the aluminum and titanium stud can be easily welded.

Base Material	Studs					
	Ms	Ss	Cu	Brass	Al	Ti
Hot rolled steel	○	○	○	○		
Cold rolled steel (SPCC)	○	○	○	○		
Zinc coated steel	○	○		○		
Carbon steel (S10C)	○	○	○	○		
Stainless steel (302)	○	○	○	○		
Stainless steel (304)	○	○	○	○		
Stainless steel (430)	○	○	○	○		
Brass (without Lead)	○	○	○	○		
Tough-pitch Copper	○	○	○	○		
Al and Al alloy 1000 serial No.					○	
Al and Al alloy 3000 serial No.					○	
Al and Al alloy 5000 serial No. except 5356					○	
Al and Al alloy 6000 serial No. except 6011, 6035					○	
Pure Ti (type 2)						○

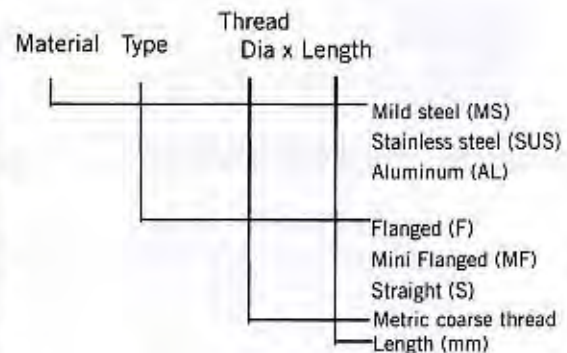
Note:

- The maximum carbon content is 0.13% for base material
- Most suitable ○ Suitable □ Unsuitable



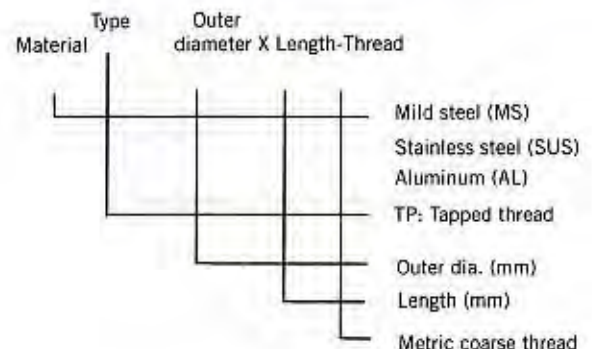
The indication of the stud No.

The stud No. of the male stud is indicated in material, type, thread, and length.

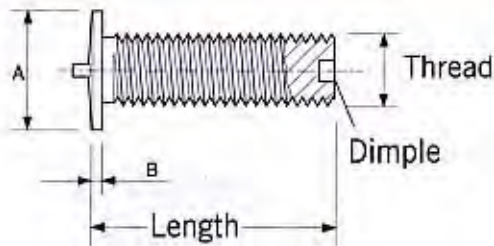


Note: Those *dimple stud* which is not shown as ● in page 7, 8 will be added *A* to the end of the stud No.

The stud No. of the Tapped thread is indicated in material, type, external diameter, length and thread.

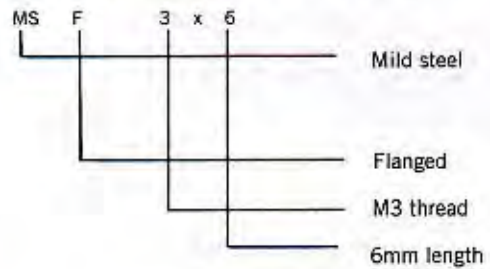


Flanged Stud (F type)



- : With dimple
- : Without dimple

Ex. The indication of the stud No.



Note : Those *dimple stud* which is not shown as ● in the table below will be added *A* to the end of the stud No.

Thread	Length (mm)	Material			Q'ty/Box
		MS	SS	Al	
M3	6	●	○	○	1,000
	8	●	○	○	1,000
	10	●	○	○	1,000
	12	●	○	○	1,000
	15	●	○	○	1,000
	20	●	○	○	500
	25	●			500
	30	●			500
M4	6	●			1,000
	8	●	○	○	1,000
	10	●	○	○	1,000
	12	●	○	○	1,000
	15	●	○	○	1,000
	20	●	○	○	1,000
	25	●	○	○	1,000
	30	●			500
	35	●			500
	40	●			500
	45	●			200
	50	●			200

Thread	Length (mm)	Material			Q'ty/Box
		MS	SS	Al	
M5	10	●	○	○	1,000
	12	●	○		1,000
	15	●	○	○	1,000
	20	●	○	○	500
	25	●			500
	30	●			500

The dimensions (mm) of the welding base for Mild steel, Stainless steel stud

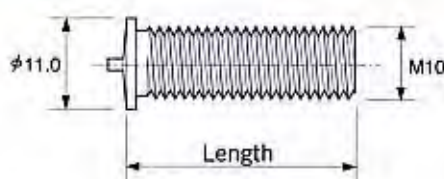
Thread welding	M3	M4	M5
A (Diameter)	4.6	5.6	6.6
B (Thickness)	0.8	0.9	1.0

The dimensions (mm) of the welding base for Aluminum stud

Thread welding	M3	M4	M5
A (Diameter)	4.6	5.6	6.6
B (Thickness)	0.8	0.8	0.9

Note : We also manufacture the studs other than the above thread and length.

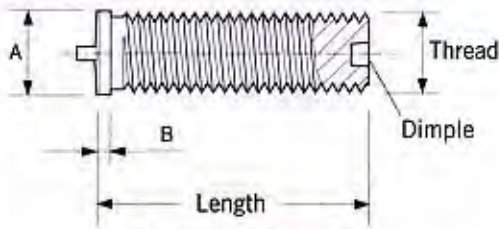
Mini Flanged Stud (MF type)



Thread	Length (mm)	MS	Q'ty/Box
M10	20	○	200
	25	○	200
	30	○	200

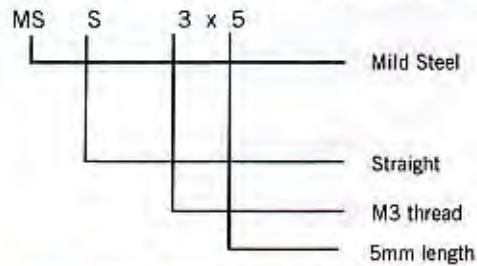
Note : We also manufacture the studs other than the above thread and length

Straight Stud (S type)



- : With dimple
- : Without dimple

Ex. The indication of the products No.



Note : Those *dimple stud* which is not shown as ● in the table below will be added with *A* to the end of the stud

Screw dia.	Length (mm)	Length(mm)			Q'ty/box
		MS	SS	Al	
M3	5	●			1,000
	6	●	○		1,000
	8	●	○		1,000
	10	●	○	○	1,000
	12	●	○		1,000
	15	●	○	○	1,000
	18	●			1,000
	20	●	○		1,000
	25	●			500
	30	●			500
	35	●			500
	M4	6	●	○	
8		●	●	○	1,000
10		●	●	○	1,000
12		●	○	○	1,000
15		●	○	○	1,000
20		●	○	○	1,000
25		●	○		1,000
30		●	○		500
35		●			500
40		●			500
50		●			200
M5		8	●		
	10	●	○	○	1,000
	12	●	○		1,000
	15	●	○	○	1,000
	20	●	○	○	500
	25	●	○		500
	30	●	○		500
	35	●			500

Screw dia.	Length (mm)	Length(mm)			Q'ty/box	
		MS	SS	Al		
M6	8	●			1,000	
	10	●	○	○	1,000	
	12	●	○		1,000	
	15	●	○	○	500	
	20	●	○	○	500	
	25	●	○		500	
	30	●	○		500	
	35	●			500	
	40	●			500	
	M8	10	○			500
		15	○	○		500
		20	○	○		200
25		○	○		200	
30		○			200	
35		○			200	
M10	20	○			200	
	25	○			200	

The dimensions (mm) of the welding base for Mild steel, Stainless steel

Stud dia. welding	M3	M4	M5	M6	M8	M10	stud
A (Diameter)	3.0	4.0	5.0	6.0	8.0	10.0	
B (Thickness)	0.8	0.9	1.0	1.2	1.6	2.0	

The dimensions (mm) of the welding base for Aluminum stud

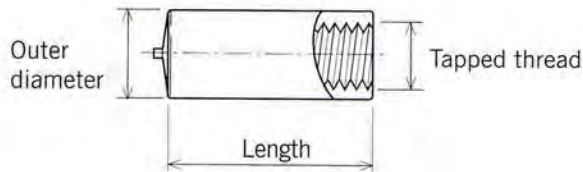
Stud dia. welding	M3	M4	M5	M6
A (Diameter)	3.0	4.0	5.0	6.0
B (Thickness)	0.9	0.9	1.0	1.0

Note : We also manufacture the studs other than the above thread and length.

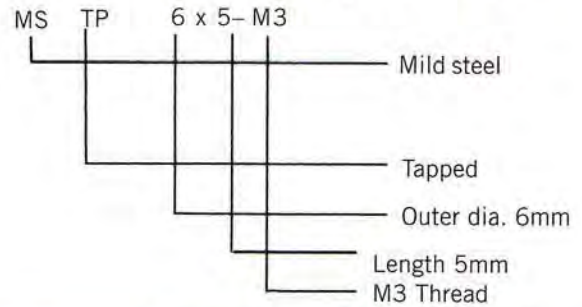
Standard materials of Stud

Mild Steel	Aluminum	Stainless Steel
SWCH 8R (someTP studs : SGD)	A1050	SUS 304 (or SUSXM7)

Tapped Stud (TP type)



Ex. The indication of the products No.



Outer dia. (mm)	Length (mm)	Tapped thread		Materials		Q'ty /box
		Thread	Length (mm)	MS	SS	
6	5.0	M3	2.0	○		1,000
	6.0	M3	2.5	○	○	1,000
	6.5	M3	3.0	○		1,000
	7.0	M3	3.5	○		1,000
	7.5	M3	4.0	○		1,000
	8.0	M3	4.5	○	○	1,000
	8.5	M3	5.0	○		1,000
	9.0	M3	5.5	○		1,000
	10.0	M3	6.0	○	○	1,000
	10.0	M4	5.5	○		1,000
	10.5	M3	6.0	○		1,000
	11.0	M3	6.0	○		1,000
	12.0	M3	6.0	○	○	1,000
	12.0	M4	7.5	○		1,000
	12.5	M3	6.0	○		1,000
	13.0	M3	6.0	○		1,000
	13.5	M4	6.0	○		1,000
	14.0	M3	6.0	○		1,000
15.0	M3	6.0	○	○	500	
16.0	M3	6.0	○		500	

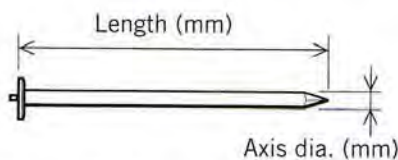
Outer dia. (mm)	Length (mm)	Tapped thread		Materials		Q'ty/box
		Thread	Length (mm)	MS	SS	
6	17.0	M3	6.0	○		500
	18.0	M3	6.0	○		500
	19.0	M3	6.0	○		500
	20.0	M3	6.0	○	○	500
	21.0	M3	6.0	○		500
	22.0	M3	6.0	○		500
	23.0	M3	6.0	○		500
	25.0	M3	6.0	○		500
	30.0	M3	6.0	○		500
	8	8.0	M4	3.5	○	
10.0		M4	5.5	○	○	500
12.0		M4	7.5	○		500
15.0		M4	8.4	○		500
20.0		M4	8.4	○		200
10	10.0	M4	5.5	○		500
	10.0	M5	4.8	○		500
	12.0	M5	6.8	○		200
	15.0	M5	9.6	○		200
20.0	M5	9.6	○		200	

Note : We also manufacture the studs other than the above thread and length.

Insul-Pin (IP type)

Insul-pin is a pin used to install the insulation to the duct, and press the spring washer to hold insulation after welding.

Note : Insul-pin is a registered trademark.

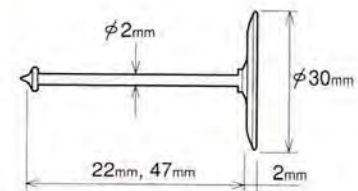


Material : Mild steel (with Copper plating)
Stainless steel (Special order)

Axis dia (mm)	Length (mm)	Q'ty/box
1.6	40	2,000
	50	2,000
	65	2,000
2.0	30	2,000
	65	2,000
	75	2,000
	85	2,000
	100	1,000
	120	1,000

Duct Pin (DCP type)

Duct pin is a pin with washer to install the insulation and weld it through the insulation.



Axis : Mild steel (with Copper plating)
Washer : Polyvinyl chloride steel plate

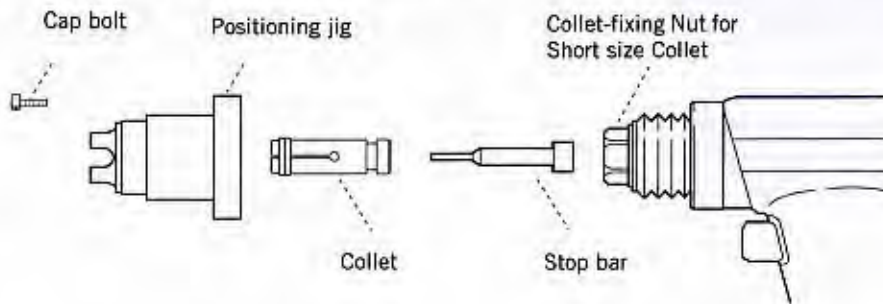
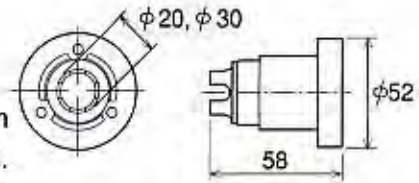
Note : We also manufacture the studs other than the above diameter and length.

Stud Positioning

In case of welding by Handy type welding gun of H -100, H -200, stud positioning procedure is as follows,

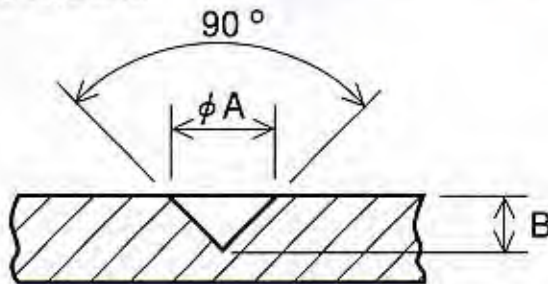
1. Positioning Jigs

Remove the tripod from welding gun, then replace with the positioning Jig, and use the positioning board (template) of thickn approx. 4~8 mm with adaptable hole to leading edge of the jigs. Leading edge diameter of the jigs : 20mm, 30mm



2. Punching

By punching at welding position of base materials, adjust chip of stud leading edge to it.



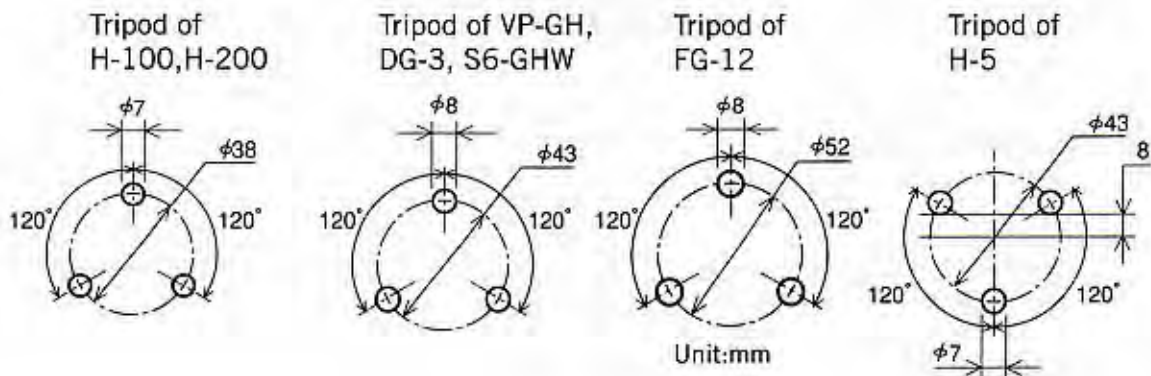
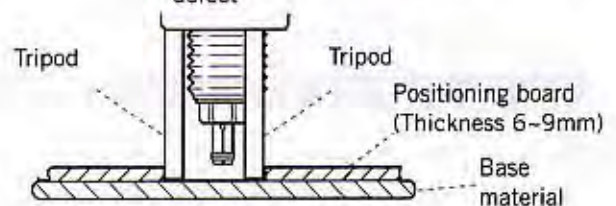
Thread	Punch hole size	
	Ø A	B
M3	~0.7	~0.35
M4	~0.8	~0.40
M5	~0.9	~0.45
M6	~1.0	~0.50
M8	~1.2	~0.60
M10	~1.4	~0.70
M12	~1.8	~0.90

Note) The bigger punch hole may cause welding defect

3. Tripod method

At positioning board (template) of thickness approx. 6~9 mm,

make a hole adaptable to size of tripod in welding gun. Then use it.

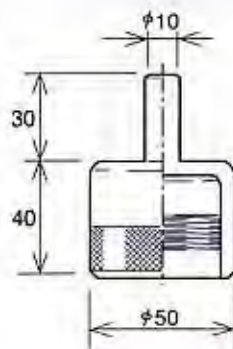


Stud Positioning

4. Use with Drilling Machine

Changing the rear cap of welding gun with rear cap for jig use, attach it to the chuck of Drilling Machine and fix a position while setting the jigs for base materials on the Drilling Machine table.

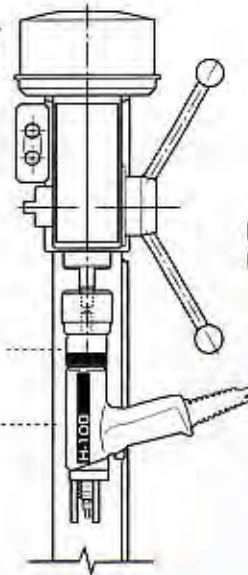
Welding signal is controlled by foot switch operation.



Rear cap for jig use

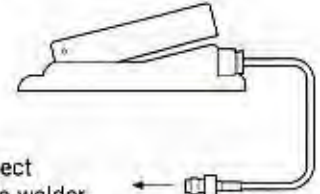
Welding gun

Unit: mm

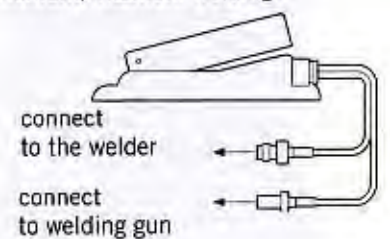


Foot switch

For contact method
(Mild steel, Stainless steel welding)



For gap method
(Aluminium, Titanium welding)



Strength of welded studs

Appropriately welded stud based on operation manual has strength suitable to that's diameter and materials, and corresponds to using purpose as fastening.

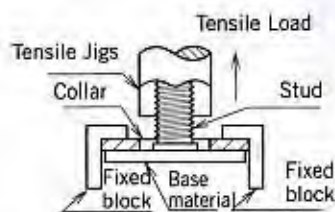
Note

1. Strength in right table is average value of tension fracture in thread for male stud.
2. Shear load is approx. 60% of tensile load.
3. Please consider appropriate safety rate for using purpose when designing new one.
4. Strength is changed by base materials or other condition in some cases, confirm it on pre-test.

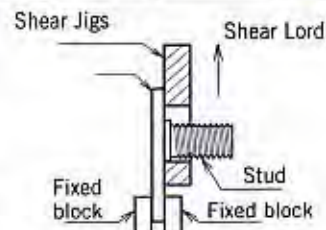
Note

1kg \approx 9.8N, 1kgf \cdot cm \approx 0.098N \cdot m

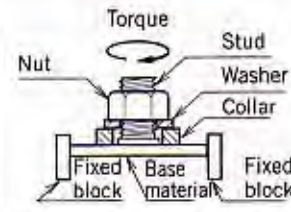
Base materials	Stud materials	Stud Thread size	Tensile load N (kgf)	Shear load N (kgf)	Torque value N·m (kgf·cm)
Rolled steel plate for general structure (SS400) (Thickness = 6mm)	Carbon steel wire for cold heading (SWCH)	M3 X 0.5	2,108 (215)	1,226 (125)	1.3 (13)
		M4 X 0.7	3,677 (375)	2,157 (220)	2.9 (30)
		M5 X 0.8	5,933 (605)	3,481 (355)	5.9 (60)
		M6 X 1	8,483 (865)	4,952 (505)	10.3 (105)
		M8 X 1.25	14,318 (1,460)	8,434 (860)	24.3 (248)
		M10 X 1.5	23,242 (2,370)	13,925(1,420)	48.1 (490)
Cold rolled stainless steel plate (SUS304) (Thickness=6mm)	Stainless steel wire for cool heading (SUS304)	M3 X 0.5	3,138 (320)	1,961 (200)	2.2 (22)
		M4 X 0.7	5,688 (580)	3,481 (355)	4.5 (46)
		M5 X 0.8	9,365 (955)	5,688 (580)	8.8 (90)
		M6 X 1	13,533 (1,380)	8,090 (825)	16.2 (165)
		M8 X 1.25	23,536 (2,400)	14,710(1500)	37.3 (380)
		M10 X 1.5	34,323 (3,500)	23,046(1,350)	78.5 (800)
Aluminum plate (A1100) (Thickness=6mm)	Aluminum wire (A1050)	M3 X 0.5	588 (60)	314 (32)	0.4 (4)
		M4 X 0.7	1,079 (110)	588 (60)	0.9 (9)
		M5 X 0.8	1,716 (175)	961 (98)	2.0 (20)
		M6 X 1	2,354 (240)	1,324 (135)	2.7 (28)
		M8 X 1.25	4,315 (440)	2,452 (250)	6.7 (88)
		M10 X 1.5	5,835 (595)	3,285 (355)	10.8 (110)



① Tensile Test Method



② Shear Test Method



③ Torque Test Method

Robotized Stud welding

Stud welding robot is consisted of CD system Stud welder as base machine, Exclusive Welding Gun head, Stud magazine, Computer and etc. It is automatic stud welding system.

Collet of the gun head hold the stud sent from cylinder magazine depends on inputting a program in compliance with welding condition.

Model CDR-0404

Compact external appearance installable at small space, besides, it possible to weld at a work in 440 x 440mm.

Welding range	X axis	400mm
	Y axis	400mm
A work	Size	440 x 440mm
	Rise	50mm
	Materials	Mild steel, Stainless steel
Stud	Axis diameter	3~8mm
	Length	5~25mm
	Materials	Mild steel, Stainless steel
	Type	S type (Straight) F type (Flanged) MF type (Mini Flanged)
Position accuracy		±0.2mm
Stud feeding	Method	Magazine
	Feeding	Automatic feeding
Number of programs		80
Number of steps		540 (Total for all program)
Travel speed		20m/min



Power supply	Single phase, AC200V±20V
Air pressure	392~882kPa (4~9kgf/cm ²)
Approx. size	925w, 1,560h,960d (mm)
Approx. weight	400kg

Note :

1. Model CDR-0404 should be used with our connecting standard CD stud welder, and it's power supply is necessary to prepare separately with robot.
2. To ensure welding reliability, please use the stud with dimple.

Dimple stud

Dimple stud has a dimple at rear end to protect the tip influence to welding reliability, prevent the tip damage when load the studs into magazine for robot. Therefore dimple stud is necessary.



Robotized Stud welding

Model CDR-0608, Model CDR-1012

With automatic-control of welding voltage and automatic-replacement of collet, it can weld 3 different kinds of stud in sequence. Moreover Aluminum stud is also possible to use for welding.

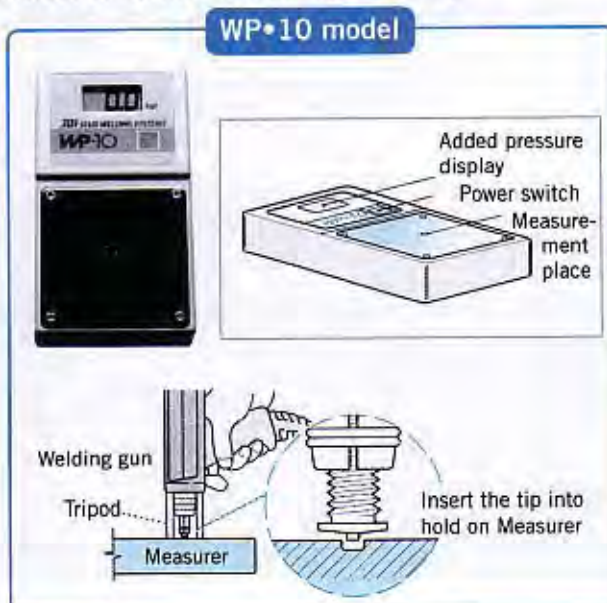


Model		CDR-0608	CDR-1012
Welding range	X axis	600mm	1,000mm
	Y axis	800mm	1,200mm
	Z axis	50mm	
A work	Size	640 x 840mm	1,040 X1,240mm
	Rise	50mm (Option 100mm)	
	Materials	Mild steel, Stainless steel, Al	
Stud	Axis diameter	3~8mm	
	Length	5~25mm	
	Materials	Mild steel, Stainless steel, Al	
	Type	S type (Straight), F type (Flanged), MF type (Mini Flanged)	
Position accuracy		±0.2 mm	
Stud feeding	Method	Magazine	
	Feeding	Automatic feeding	
Number of programs		999	

Model	CDR-0608	CDR-1012
Number of steps	75/1 Program	
Travel speed	20m/min	
Power supply	3ph AC200V±20V	
Air pressure	490~882kPa {5~9kgF/cm ² }	
Size (W, H, D)	1,460 x 1,655	1,860 x 1,655
	1,660mm	x 2,060mm
Weight	800kg	1,000kg

Pressure measurer

This is a tool which measure added pressure for welding gun of contact system used when welding the Mild steel or stainless steel stud mainly.



Model	: WP-10
Measured data display	: Digital
Measurement load	: 0.1~9.9kgf
Measurement accuracy	: ±2% (3.0~9.9kgf, 25°C)
Power supply	: Battery DC 9V
Weight	: 700g
Recommended temp.	: 5~35°C (Moisture is less than 80%)

This measurer allows you to judge simply and exactly whether data (kgf) of added pressure is appropriate or not when added pressure by Stud is displayed on it.

Note :

When measuring actual pressure, let the stud protrude about 4mm than tripod of welding gun, then press perpendicularly till all foot touch at measurer.

Seiretsu-kun

This is to form a stud lined-up on specific direction. And you can load it faster into magazine for welding robot.

Suitable stud (S type stud)

Thread : M3,M4

Max. length : 12mm

Power supply : AC100V

50Hz exclusive,

60Hz exclusive

Dimensions : 200 x 125 x 150mm

Weight : 4.2 kg



If use together with Berry-kun, you can load the studs quickly into hand type welding gun.

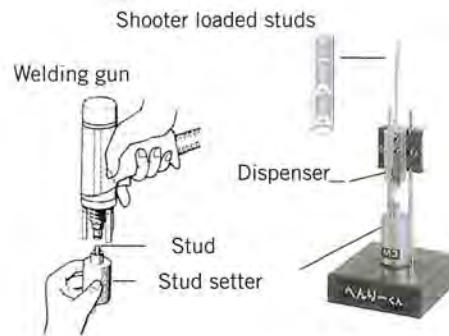
Load the stud into shooter



To magazine of Welding Robot

Berry-kun

This is used after setting shooter which load and re-line the stud. Suitable stud type is M3, M4 (S type).



Press a stud setter against dispenser, then remove out a stud, press the stud setter against collet of welding gun to load a stud.

Safety precautions

- In order to weld safely and appropriately, please read the operation manual and understand its content in advance.
- Do not use or modify the welding equipment for any other purpose than the specified purpose. Be sure to power off and to remove the power cable from the power outlet for the cases of non use, inside checking or maintenance work. Do not operate at the places of "No Flammable", or flammable material surrounded.
- Be sure to wear eye goggle when welding.
- Do not touch the welding equipment by wet hands or wet cloth wearing.
- Please keep the welding equipment stand horizontally at strongly built place to prevent it from falling or dropping. Be noted that the power supply over the regular voltage rate may cause the equipment inside over-heated following to a fire or electric shock.

Content in this catalog may change without notice. (2001 August.)

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