mechelonic engineers

CAPACITOR-DISCHARGE STUDWELDING

PRINCIPLE:

Capacitor-discharge stud welding uses a low voltage capacitor storarge system as power source. There are two different welding systems depending on the materials:

1. Initial-gap, in which the stud is initially positioned away from the surface of the workpiece. Weld-time extremely short, (<0.001 sec). Material: Aluminium.
2. Initial-contact, in which the stud is initially in contact with the workpiece. Weld-time is 0.001 - 0.003 sec. Material: mild steel, inox, brass, titanium etc.

A flux or protective atmosphere is not required. The short welding time prevents heat builtup and permits weiding of studs to very thin metal sections without discoloration and burn through. Minimum weld penetration permits many dissimilar metals to be welded with acceptable strengths and metallurgical characteristics. Also, depending upon the section thickness, paint or vinyl coatings on the other side of the welded surface are not damaged.The stud-welding process is very simple. No special educated people are required.

C.D.STUDS :

The welding end is provided with a small cylindrical or conical tip. that is used to initiate the welding arc.Tip design is extremely important since the tip and shape will influence weld strength and other factors.Basic stud design is given in DIN EN ISO- standard 13918(1998).Besides the three basic designs: Threaded Stud, Unthreaded Stud and Tapped stud it gives a lot of special designs and coatings for various applications.

The equipment consists of:

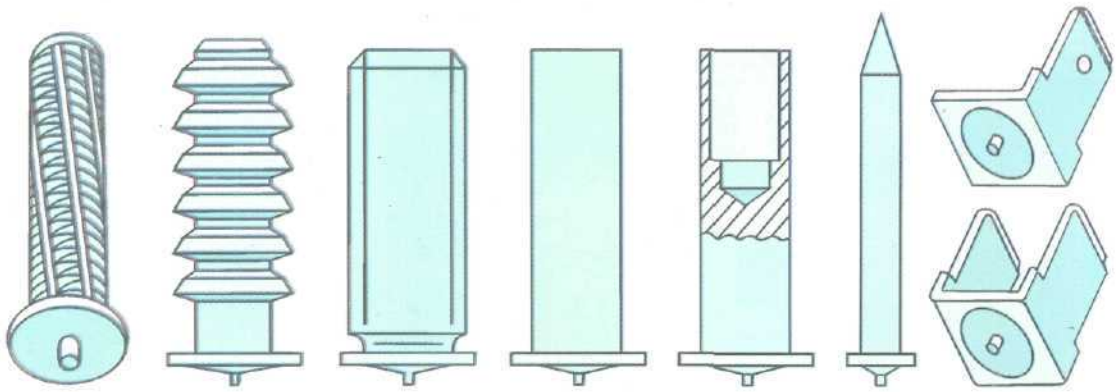
1 CD-Studwelder as described,

1 contact-gun, 6.5 m cable length (Opt.:gap-gun),

2 earth-cables, 2.5 m cable-length with grip,

1 Tool for changing chucks,

1 service manual.



- An extremely efficient method of attaching studs pins and other fastening elements.
- For use with all weldable materials like MS,SS,Brass Copper Aluminium Alloys, Titanium or Inconel.

SIMPLE & EASY:

- Easy to operate
- No specialised skill is required
- Operates on 220 - 250V, AC, 50Hz.
- t Blind fastening from one side , eliminates holes and leakage that rust and corrosion can cause.
- Stud can be welded on any plane.

CD-STUDWELDER

The easy to use solid state lightweight unit for the stud welding process, as described. Al! studwelding applications up-to 8 mm stud-diameter are possible. Simple monitoring of all functions by LED-indicators. The unit is designed for portable and stationary applications, has a temperature controlled fan, a safety switching system, and the main voltage fluctuation doesn't have any affect to the welding energy. Service and maintenance is simple and easy because of the modular construction of the unit.

TECHNICAL DATA:

MODEL NO	1066	1095
Capacity (Approx.)	6600uf	108000uf
Charge Voltage	60-200DC	60-200DC
Stud Dia	M2-M8	M2-M8(M10)
Duty Cycle	10-5 Studs Per Min.	20-10 Studs Per Min.
Type of Gun	Gap or Contact Gun	Gap or Contact Gun
Input supply +5%	230V AC 50 Hz. 6.3 A	230VAC50HZ.10A
Dimension	350x185x230 mm	400 x 290 x 180 mm
Weight	13Kg	26Kg

CD-STUDWELDING GUNS

Gap gun AS 1801: This gun produces an extremely short arc-time. Because of short arc time, the best results are obtained for materials like aluminium.The gap and spring force is stepiessly adjustable and produces under most welding conditions optimal results.

Contact gun AS 1802: The contact gun has 100% more arc time than the gap-gun. It produces a homogenous welding -zone also to oily, rough or metal-coated surfaces. The stud is easy to fix in the exact position.

Autolift gun AS1901: This gun adds the advantage of the gap-gun and the contact gun. The auto lift is stepiessly adjustable.

Note: As efforts are constantly being made to improve the design of the machine, the machine supplied may differ from specification given above.

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