

Hotline

Mo to Fr 08:00 o'clock AM to 04:00 o'clock PM

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info@stud-welding.de

For technical questions, especially about the device / gun please have ready in advance:

Type of machine and serial number

Error description

Please observe the detailed operating instructions for equipment and guns! There are knowledge of stud welding equipment and their components necessary. Stud welding work may be performed only by persons who have reached the age of 18. Observe all the necessary safety instructions.

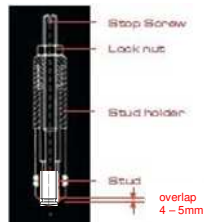


1. Setting-up operation

- Switch position power-switch to „0“
- 32A CEE - plug into the appropriate receptacle connect (Fuse: screwgate 25 AT / attention: no circuit-breaker breaker);
- Control-cable, ground-cable and welding-gun cable connecting to inverter and secure against twisting;
- fix the two locking pliers of the ground cable ideally evenly diagonally attach far from the weld on the workpiece to reduce magnetic blow.

1.1 In case of gas application:

Connect gas on the rear side with a suitable hose to the pressure reducer a protective gas bottle and adjust the flow rate of gas to 4-6 l / min (recommended for steel and stainless steel mixed gas 82% Ar / 18% CO₂). Caution: Gas bottle against falling over!



2.1 Welding-gun DA-10M

- adjust stud-holder (see figure left);
- insert stud-holder in welding-gun;
- tighten and fixed with socket-wrench SW17.

Check the stud-overlap with the indicator "stud-overlap" at the display of the control unit! (see pos. 3)

The welding-gun DA-10 is now ready to use!

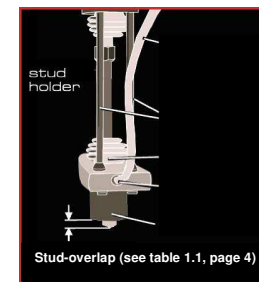
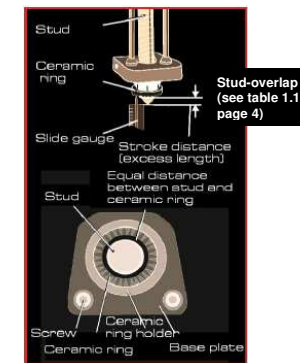


2.2 Welding-gun DA-12M

- select chuck (stud-holder) according the used welding-element;
- Screw the stud holder onto the double nipple;
- Tighten the stud holder with open-end wrench SW 14 (Attention: counter with a socket wrench SW 17 at the double nipple!);
- Place the ceramic or gas tripod.

Ceramic tripod (only at DA-12M, not usable with DA-10M)

- Insert suitable ceramic ring holder in base plate and secure using a 2.5 mm socket wrench
- Insert stud into the stud holder as far as it will go
- Insert appropriate ceramic ring into ceramic ring holder while slightly turning it
- Adjust excess length of stud or stroke distance according to figure and table by adjusting the tripod correspondingly and then tightening the locking screw.
- **Check the stud overlap by with the indicator "stud-overlap" at the display control unit (see section 3.5)**
- Align the base plate using the socket screws so that the stud and the ceramic ring is centered and the stud does not touch the ceramic ring when lifted. Otherwise it might inhibit the insertion
- Check the excess length and the free movement of the motion system by manually pushing the stud in against the spring in the gun. Or you can use the built-in lift test function by actuating the gun in the air.



Gas-tripod (not usable with DA-10M)

- Insert the stud in the gas stud holder (115 mm long) until it stops;
- Stud overlap adjust according picture (left side) and table 1.1 at page 4;
- if necessary center the footplate;
- Tighten the tripod;
- Check overlap and ease of movement by manually pushing the stud against the spring in gun, or use the lift test function by actuating / releasing the gun in the air.

The welding-gun DA-12 is now ready to use!

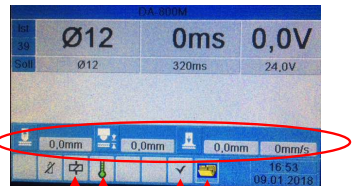
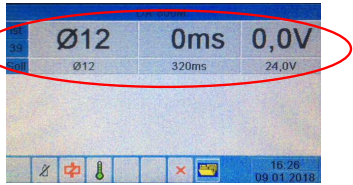
3. Control unit put into operation

3.1 Main menu (basic menu)

After switching on (power switch to "I") and self-test of the inverter, the actual values of **stud diameter, welding time and arc voltage** are displayed in the upper line, in the line below the corresponding preset values. The welding time can be infinitely adjusted with the rotary encoder from 0 ... 400ms:

When a welding gun with measurement system composed of welding power cable and control cable is connected, the symbol in the lower line changes as shown opposite (see also the full operating instructions, chapter "Setting-up operation").

If a gun with position measuring system is connected, the symbols for **stud-overlap, lift dimension, depth of immersion dimension and piston speed** also appear. (Description see on page 4, at the beginning and before the first welding, all values are set to "0").



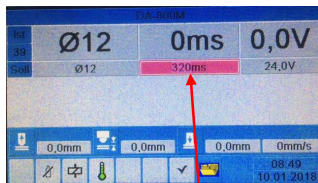
Magnetic coil okay, if symbol lights up black; Symbol is red if solenoid has not been detected (gun not connected)

Symbol "Temperature": green okay, yellow power reduction welding sequence, red device locked

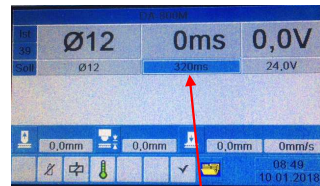
Ready message "okay"; Hook is black, device is ready to weld

Symbol "Library": Submenus / fixed and variable welding times for different welding diameters

3.2 Adjustment of welding-time



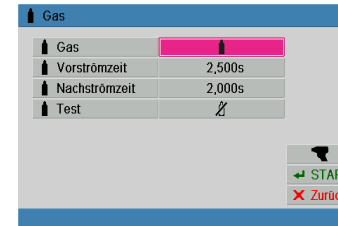
1. Turn the rotary encoder until the setting field is highlighted in blue



2. Press the rotary encoder (the field changes to the color "Magenta");
3. Set value for welding time by turning the rotary encoder;
4. By pressing the rotary encoder again, the field changes back to the color "blue" and the set value is accepted

Tabelle 1.1: Setting ragnes „Welding-time“ / setting values "stud-overlap

Diameter (metrics)	Welding time in ms (depending on the welding application)	Stud-overlap ceramics (circa-values)	Stud overlap gas (circa values)
Ø M 3	3-10	1,5mm	1,0mm
Ø M 4	10-25	1,5mm	1,0mm
Ø M 5	25-40	2,0mm	1,5mm
Ø M 6	40-70	2,5mm	1,5...2,0mm
Ø M 8	70-150	3,0mm	2,0mm
Ø M10	150-280	3,5mm	2,0mm
Ø M12	280-400	4,0mm	2,5mm



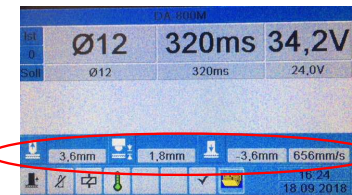
3.4 Gas shielding

If a gun with **position measuring system** is connected, the symbols for **stud overlap, lift dimension, immersion dimension and piston speed** also appear. (At the beginning and before the first welding, all values are set to "0").

1. In the "Gas" submenu, select the protective gas function by scrolling, pressing and turning (to the right) to the Gas symbol using the rotary encoder (the bottle symbol turns black when activated);
2. Set **pre-flow time** and **post-flow time** according to the same principle.
3. **Switch back to the main menu with "START" or "Back":** The activation of the gas module is signaled by the black bottle symbol in the lower status bar of the display.

3.5 Checking of stud-overlap, lift dimension and immersion dimension with the position measuring system

Connect the **gun with position measuring system** to the power unit **after fitting with stud and chuck** and **select a stud from the fixed table (fixed library)** (in this example Ø12). When the gun is connected, the position measuring system is recognized and the **line for the actual values of the distance measurement** appears. From the first weld, these ACTUAL values are displayed. (see also chapter 4.5.4.1 full operating instructions).



The following symbols are displayed, note the settings in Table 1.1:



Stud overlap: This measure indicates by how many millimeters the stud protrudes beyond the ceramic ring / shielding gas tube / chuck and is important for the dipping process.



Lift: in the initial state and before the start of the trip, the value "0" is displayed here. **This dimension indicates by how many millimeters the stud welding gun lifts off. This measurement cannot be set on DA-10M and DA-12M! It is structurally fixed.**



Meltdown rate: In the initial state and before the start of the trip, the value "0" is displayed here. This measure indicates how many millimeters the bolt has melted after welding, that is, has become shorter.



Penetration speed: this measure indicates the piston speed. It should be between 350mm / s and 750mm / s and depends on the stud dimensions and the lift.