Proweld™ Equipment

Operations & Maintenance Manual

Halar® Shop 6 Tool

ASAHI/AMERICA®
Your Experts in Plastics™

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Section I - Safety Precautions

1. Keep working area clean and tidy.

2. Keep electrical tools away from moisture. Never use in wet environment or humid conditions. Working area should be well illuminated. Keep tools away from chemicals and other corrosive materials.

3. Keep visitors at a safe distance.

4. Electrical tools not in use should be stored away safely.

5. Do not wear loose clothing or jewelry. They can inadvertently get stuck in the moving parts of the machine, causing injury.

6. Never carry tools by the electric cable. Never unplug by pulling the cable. Keep cables away from oil, heat and sharp edges.

7. Always check that the pipe and fittings are clamped down tightly.

8. The heating element can reach temperatures in excess of 570° F (300° C). Do not touch the surface, and keep non-operating personnel at a safe distance.

9. Keep tools clean and sharpened. They produce better and safer results. Missing and worn-out parts should be replaced immediately. Always assure that the accessories are properly mounted on the machine. Only use factory parts.

10. Always use correct extension cable.

11. Do not use tools and machines when housing or handles, specifically plastic ones, if they are bent or cracked. Dirt and humidity in any fracture can lead to electrical shock should the insulation in the machine be damaged.

Section II - Welding Conditions

1. The welding environment needs to be protected against unfavorable conditions, e.g.rain, winds, dust, excessive humidity or temperature below 41° F (5° C).

2. It's necessary to have adequate pipe wall temperature for welding. If necessary, the pipe has to be warmed up or an environmentally-controlled welding tent needs to be set up. If these conditions are met, the welding can be performed at virtually any environmental temperature. It is advisable to verify the weld quality by making some test welds at the given conditions.

3. Should the pipe be irregularly heated by intense sunshine, it may be necessary to cover the pipe ends to be welded so that a balanced temperature is obtained.

4. The pipe ends to be welded must be checked for damage and be free from oil, grease, dirt and other contaminates. Cleaning the pipe ends must be done just prior to welding.

5. The weld must be kept free from external stresses during the weld process until the material has sufficiently cooled.

6. The weld process has to be observed continuously. It is recommended to keep a record of each weld.

7. A stop watch is to be available in order to register the actual times for heating up and cooling down.

8. A heat stick or pyrometer is to be available in order to verify the correct heating element temperature.

9. A table is to be available from which you can read the parameters that are prescribed by the welding regulation for the pipe dimension to be welded.

10. The heating element surfaces are to be clean and, above all, free from grease. Therefore, they are to be cleaned with lint free paper and detergent (e.g. isopropyl alcohol) before every welding or if they are dirty.

Section III - Machine Set Up and Operation

1. General Tool Information

A. The Halar® Shop 6 is made for heating element butt welding of pipes and fittings made out of PE, PP, PVDF, ECTFE (Halar®) with a diameter range of ½" - 6" (20mm – 160mm).

B. Voltage: 110 AC
Amperage: 16 Amps

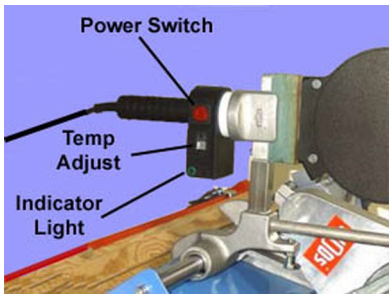
C. Additional Technical Data

Pipe/Fitting Material:	PE, PP, PVDF, ECTFE (Halar®)
Pipe/Fitting Sizes:	½" -6" (20mm -160mm)
Transport box (L x B x H):	33" x 23" x 26"
Weight:	Approx. 180 lbs.
Fuse:	16 Amp
Heating Element Voltage:	110 V (+/- 10%)
Heating Element Current:	7.3 A (+/- 10%)
Heating Element Components:	- Thermostatic temperature control - Control lamp - Connection cable with plugs
Planer Voltage:	110 V (+/- 10%)

2. Heating Element Temperature Setting

A. Connect the plug of the heating element to a 110-volt outlet.

B. The thermostat is located in the heating element and can be adjusted by turning the dial located above the handle. Set the thermostat to the appropriate temperature.

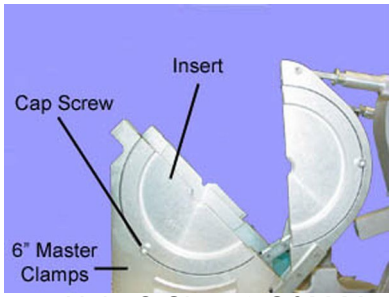


I. HDPE 420° F - 446° F (215° C - 230° C)
II. PP 393° F - 410° F (200° C - 210° C)
III. PVDF 436° F - 456° F (225° C - 235° C)
IV. Halar® 527° F - 536° F (275° C - 280° C)

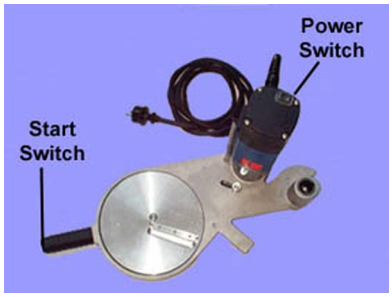
3. Clamping Setup

A. For 6" (160mm) pipe and fittings, use the 6" master clamps.

B. For pipe sizes smaller than 6", place the appropriate clamp insert into the 6" master clamps and fasten with the cap screws.



4. Facing



A. Place the planer between the two ends of the pipe. Lock the planer power switch located on the back handle of the planer to the on position.

B. Start the planer motor by holding the black button on the top handle of the planer and bring the pipe ends in to the planer face until both ends of the pipe to be welded are smooth. Bring the ends of the pipe away fromthe planer while the motor is still running.

C. Release the button on the handle to stop the planer. Lift and store the planer on the right side of the machine.

5. Alignment

A. Bring the two ends of the pipe together to check alignment, both parallel and axial.

B. Loosening or tightening the clamps will adjust alignment and can also eliminate egg shaped pipe. The misalignment of the pipe should not exceed 10% of the wall thickness of the pipe.

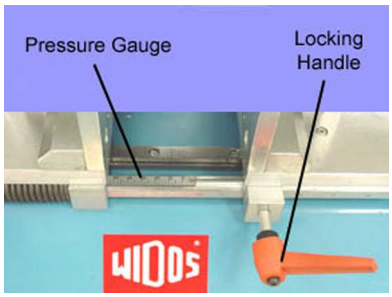
6. Initial Heating

A. Check whether the heating plate has reached the working temperature (see Heating Element Temperature Setting or the welding parameters section). The working temperature is reached when the control lamp goes out. A heat stick or pyrometer should be used to verify temperature.

B. Place the heating plate between the two end of the pipe to be welded. Bring the pipe ends against the heater applying the proper initial melt pressure (see welding parameters). Lock the clamps in place with the locking handle.

C. Watch for a bead to form completely around both pipe ends (see pipe manufacturer, AWS/DVS standards for size). Bead must be formed 360° around each pipe.

D. Lower pressure until the proper melt pressure is reached (almost zero). Heater plate must not lose contact with pipe/fittings during this process. Lock the clamps in place with the locking handle.



⇒ **Note:** If the clamps are moved too far in this direction, the pipe may move away from the heater causing a bad weld.

7. Heat Soak

A. With the pressure almost at zero, begin to time the heat soak time (see welding parameters). It is important to assure that the pipe ends remain in full contact with the heating element.

8. Change Over Time

A. Move the pipe ends apart. Remove the heating element and then bring the pipe ends back together.

B. Bring the pressure back to the original weld pressure and lock the clamps in place. These steps must be performed within the allowable change over time (see welding parameters).

9. Cooling Time

A. Keep the machine under pressure until the cooling time has expired.

B. For PP and HDPE, cooling time can be reduced by 50% under the following conditions:

I. Prefabrication under workshop conditions
II. Low additional pressure when unclamping
III. No additional pressure during further cool down
IV. System will not see pressure until cool down is complete

Section IV – Welding Parameters

Weld parameters are located on a separate document. All rented or purchased tools will include a physical copy of the latest weld parameters.

Parameters can also be accessed in the following ways:

A. Located on our website at www.asahi-america.com under the resources tab of each product page.

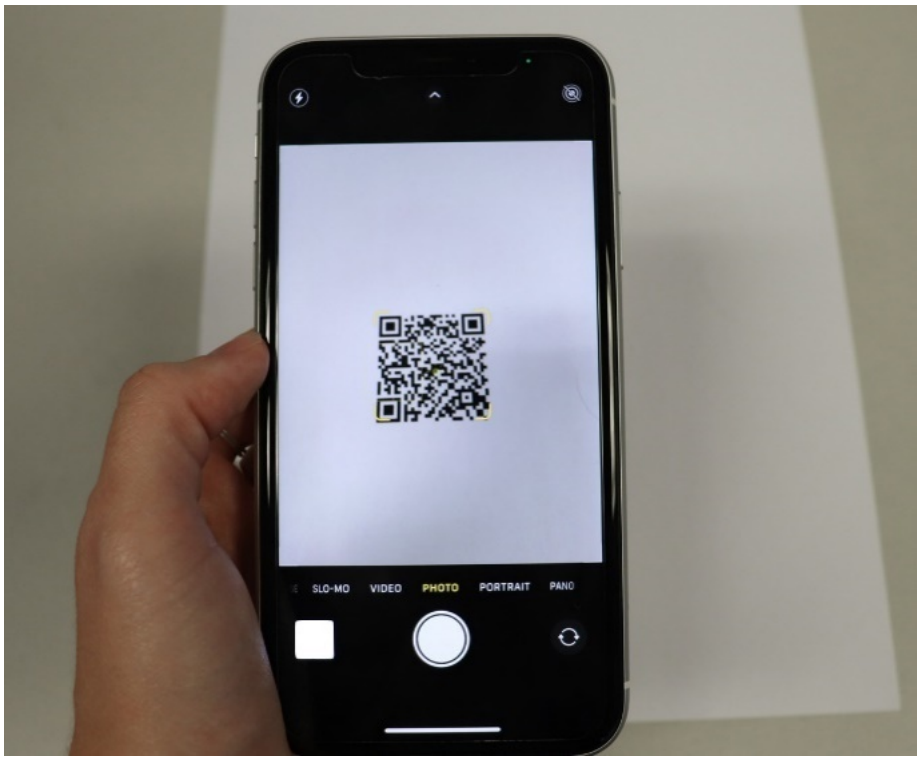
B. Through Asahi/America's welding web app at https://myasahi.asahi-america.com/welding or scan the QR code on the right.

How to scan the QR code:

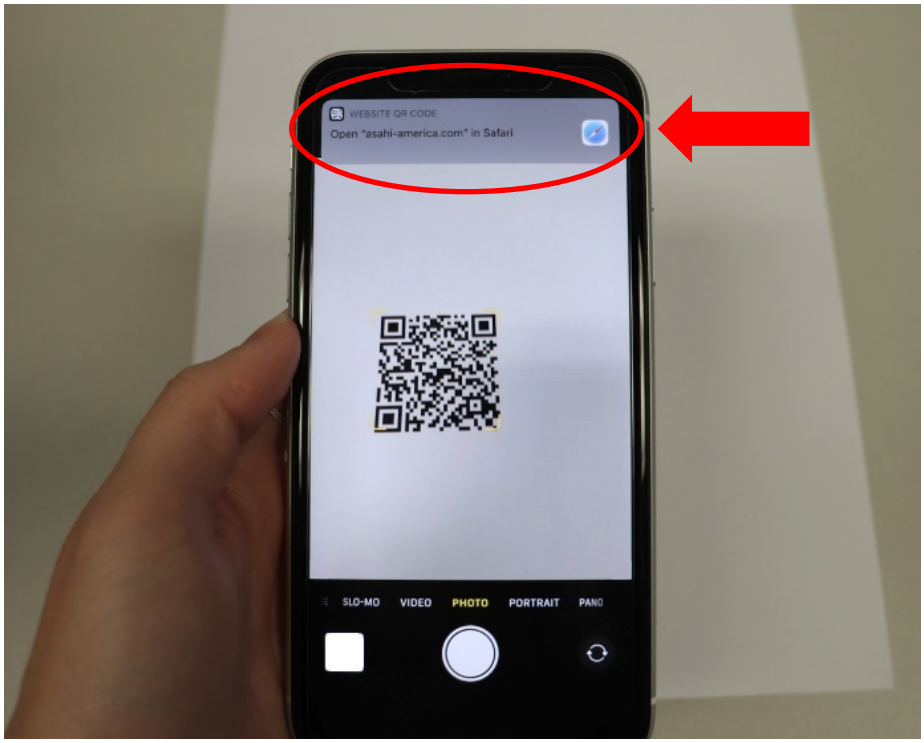
1. Most phones now have the native capability to scan QR codes using the camera on the phone, with no additional QR app required. If you're having trouble with this, there are multiple free QR reader apps available wherever you download your apps.

2. Open up the camera app on your phone or tablet.

3. Hover the camera over the QR code (without taking a photo); focus the camera if needed.

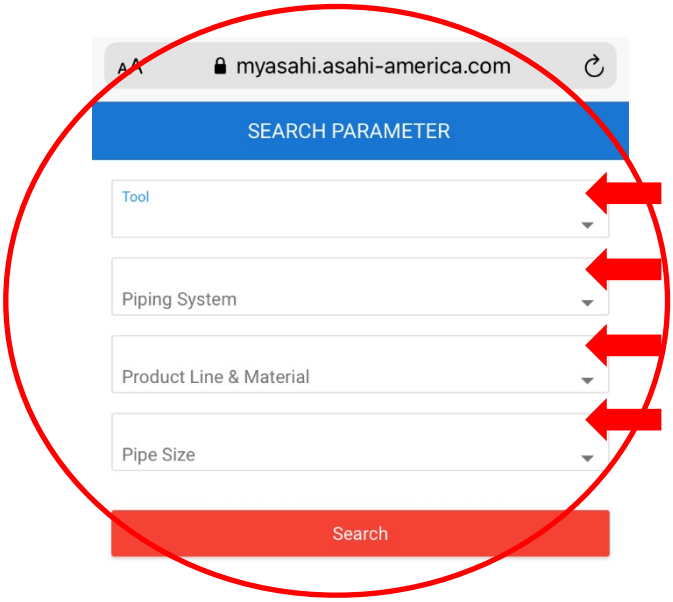


4. Wait for a web address pop-up to appear. Click on the pop-up to take you the weld parameter app.

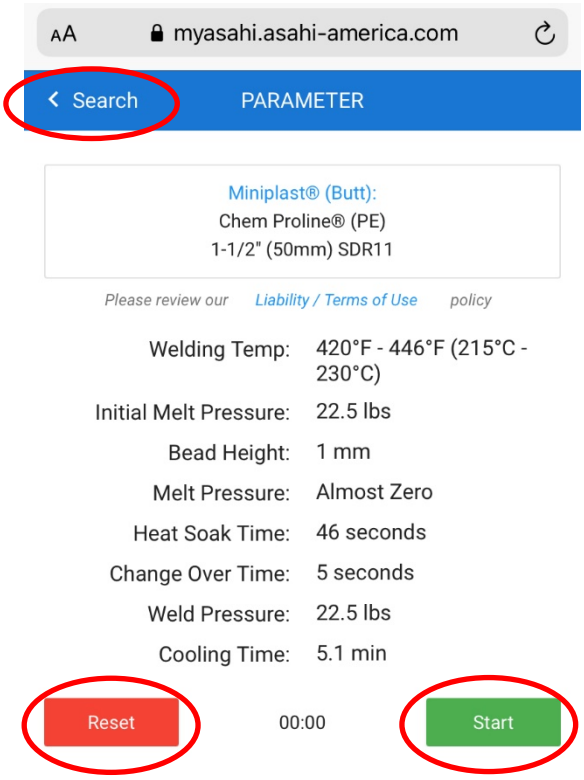


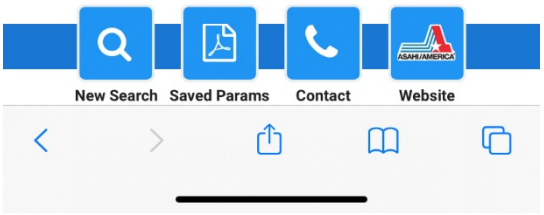
How to use the weld web app:

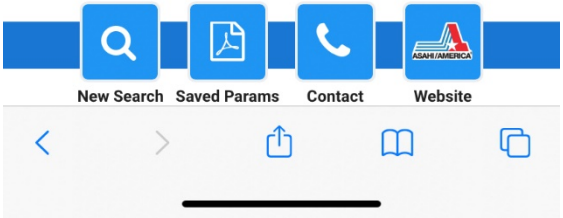
1. To search for a parameter, fill out all four fields: tool, piping system, product line & material, and pipe size from the drop-down options. Then, click ‘search’.



2. The appropriate parameters will appear. Click the ‘start’ and ‘reset’ buttons to use the timer. To search for a different parameter, click ‘search’ in the upper left corner.







Section V – Maintenance

To keep the machine in good working condition, the following should be observed:

1. Keep the hardened chrome guide shafts free of dirt.

2. Assure that the machine is always connected to proper power supply.

3. Keep heating element clean. Whenever necessary, wipe residue off with clean, lint-free cloth while the element is at operating temperature.

4. Assure that blades are sharp at all times. The blade design allows for reversal touse both sides. If necessary, replace blades.

5. For a long service life, clean and grease the threaded spindles and the joint parts regularly, which are used for clamping the pipe.

6. Asahi/America recommends maintenance work after one year for contractor-owned tools.

TOOL DEPARTMENT CONTACTS

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781-388-4618
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Rental Administration, Billing & Returns
781-388-4623
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