



WELDING EQUIPMENT ST 110



Operating Instructions / Warranty Card

Welding with angles between 0° - 30° ST 110 makes it possible to butt-weld pipes with angles less than 2 x 15°.	Chap. 3.1
Removable frame ST 110 makes it possible to dismantle the main frame to considerably reduce the weight of the whole equipment. This facilitates handling the welder, for example, when welding pipes under a ceiling.	Chap. 3.2
Welding short sockets ST 110 makes it possible to weld even very short sockets, such as those close to a tank wall, or branches of large pipes. The minimum length of a tank socket is 70 mm.	Chap. 3.3
Welding adapted fittings ST 110 makes it possible to weld fittings with a minimum necessity of clamping; in practice, it is possible to weld fittings cut at any angle.	Chap. 3.4
Correction of both horizontal and vertical shift ST 110 makes it possible to correct the pipes to be welded both vertically and horizontally; this feature is applied particularly when welding deformed thin-walled pipes.	Chap. 3.5

1. Introduction

Dear customer

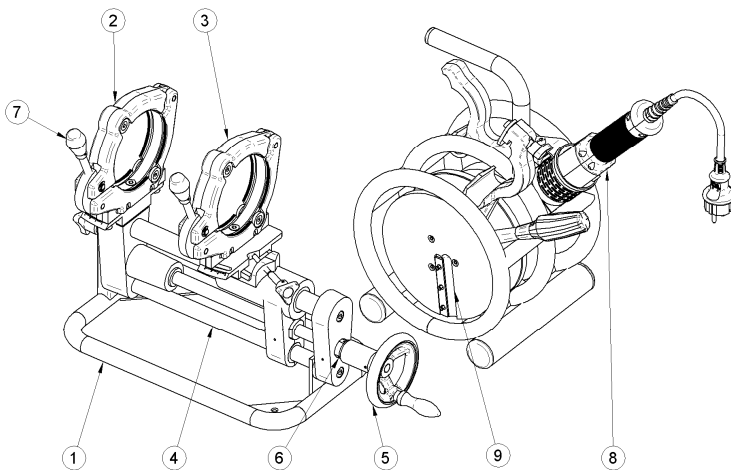
The equipment you have just purchased was manufactured by DYTRON EUROPE s.r.o., the largest manufacturer of plastic welding equipment in the Czech Republic. We believe you will be satisfied with the quality and reliability of the product.

Before putting the equipment into operation for the first time, please read these Operating Instructions carefully. They provide you with important information on the safe and correct operation and maintenance of the equipment.

2. Description of the Equipment

Welding equipment ST 110 makes it possible to butt-weld pipes with angles continuously adjustable from 0° up to 30°.

The equipment consists of a frame (1) and two pairs of clamping jaws. One of them (2) is fixed, while the other (3) slides on guide rods (4) and is driven by turning the control wheel (5). The welding equipment is equipped with a pressure indicator (6). Interchangeable inserts with dimensions fitting the sizes of pipes being welded are mounted into the clamping jaws. The inserts are secured against falling out by means of washers. Pipes are clamped by means of a hinged clamping bolt (7). The equipment includes removable welder POLYS P - 4 (8), a mechanical plane (9) and a set of interchangeable inserts.

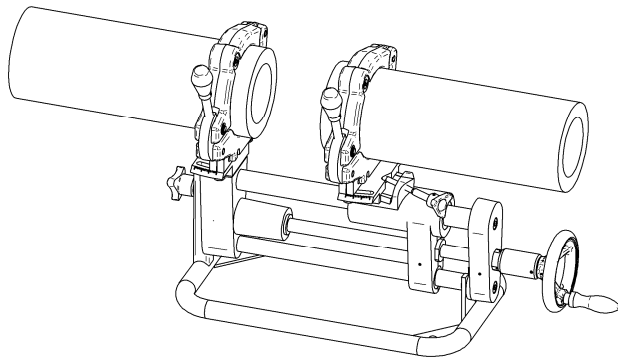


3. Welding Procedure

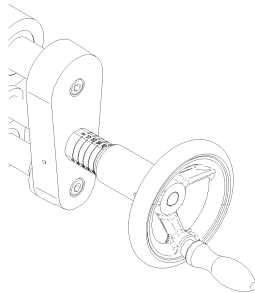
This procedure provides only a description of welding principles using the ST 110 equipment. However, it does not substitute applicable regulations and the professional training of workers. Butt-welding consists of fusing the fronts of pipes and joining them. This process results in a flawless and permanent joint.

Procedure:

- Plug the welder supply cable into a 230 V socket secured with a fuse or a disconnecting switch of at least 10A and set temperature as required (see the operating instructions for the welder). Take advantage of the welder temperature onset period to prepare the pipes and the fittings to be welded by squaring, cleaning and degreasing them.
- Fit the interchangeable inserts of required diameter into the jaws. Diameter data is provided on the side of the insert.
- Clamp the pipe to be welded into one of the jaws so that the pipe edge projects from the jaw by 1 cm to a maximum of 3 cm – this does not apply to angle welding – see Chap. 3.2. Use the same method to clamp the other pipe into the second jaw – see the Figure.



- By turning the control wheel, move the jaws apart from each other to make a space between them for placing the plane.
- Place the mechanical plane into the holder and secure. Square up the ends of the pipes by moving the ratchet lever in reverse under slight pressure.
- Turn the lock on the plane holder and remove the plane from the holder.
- Replace the plane with the heated welder.
- Move the fronts of the pipes towards the heated welding plate under the prescribed pressure and check if a regular collar of the prescribed size appears around the whole circumference. Decrease the pressure for a period necessary to heat the pipes. The times required and the welding pressure values are given in pipe manufacturer's welding tables.
- After the pipe heating time has elapsed, take away the pipe fronts from the welding plate and remove the welder.
- Reverse turn the control wheel until the pipes join and the indicator shows a correct pressure value in kg – see the Figure.



- Let the joint cool down under the pressure. After cooling down, reduce the pressure value to zero, release the jaws and remove the welded piece from the equipment.
- After finishing your work, unplug the welder from the mains and let cool down.

ATTENTION! Weld only pipes made of the same material and the same flux index.

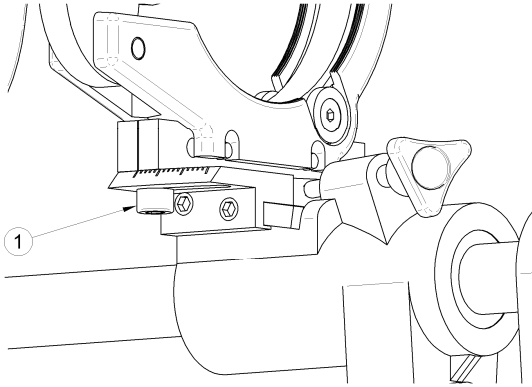
3.1 Angle Welding

The ST 110 equipment makes it possible to angle weld pipes. The welding angle can be set within the range from 0° up to 30° (or 2x15°).

By loosening the hexagonal bolts (1) on both sides of the sliding supports it is possible to set the required angle by means of the scale.

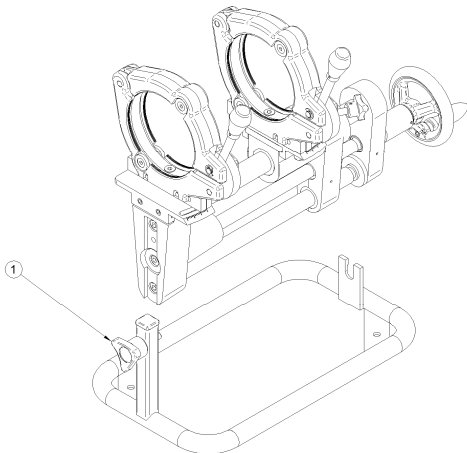
Broad clips that facilitate stronger clamping of the pipe for welding and prevent it from being deformed under higher welding pressure are used for angle welding.

Tip: To have the pipe planed more quickly, cut the pipe to be welded at the required angle with a saw before clamping and planing it.



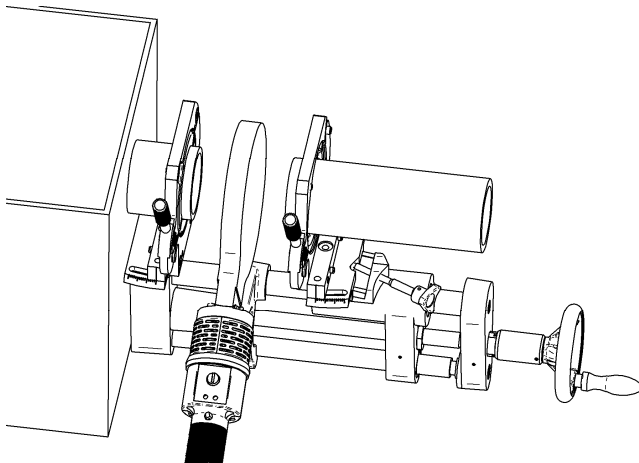
3.2 Frame Dismantling

When working under ceiling or in other hard to reach places, it is possible to remove the equipment from the fixed frame – see the Figure. Dismantle the frame by loosening the clamping three-wing nut (1).



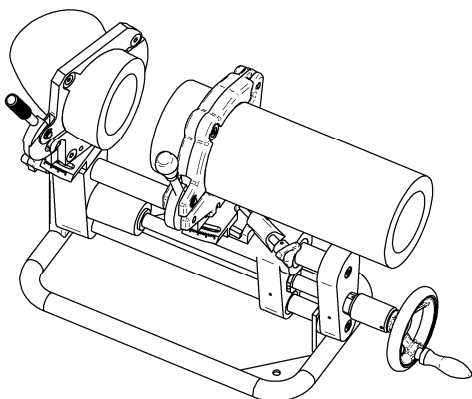
3.3 Welding Short Sockets

When welding short sockets (e.g. close to a tank nozzle), the pipe to be welded can be clamped using narrow clips – see the Figure.



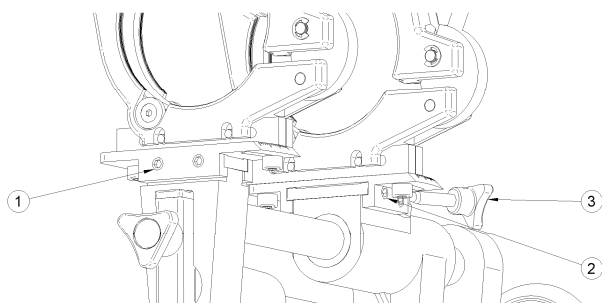
3.4 Welding Adapted Fittings

The equipment makes it possible to weld fittings with minimum requirements for clamping; in practice, it is possible to weld fittings cut at any angle.



3.5 Setting Pipe Axial Alignment

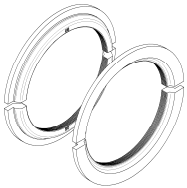

By means of sliding supports it is possible to set the axial alignment of the pipes to be welded. By loosening the hexagonal bolts (1) it is possible to set the left support to the sides. By loosening the hexagonal bolts (2) it is possible to set the right support in elevation. The adjusting screw (3) is used to smoothly adjust the equipment's height.

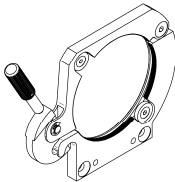


4. Specifications

Welding type:	butt-welding
Pipe size:	Ø 20 - 110 mm
Equipment weight:	13 kg (with the plane installed)
Weight of inserts:	8 kg

5. Accessories

		ST 110	ST 110 eko
Welder POLYS P-4		1 pc	1 pc
Mechanical plane		1 pc	1 pc
Plane and welder stand		1 pc	1 pc
	d20	8 pcs	---
	d25	8 pcs	---
	d32	8 pcs	---
	d40	8 pcs	8 pcs
	d50	8 pcs	8 pcs
	d63	8 pcs	8 pcs
	d70	8 pcs	8 pcs
	d90	8 pcs	8 pcs
Broad clip – right (adjustable part)		1 pc	1 pc
	Broad clip – left (fixed part)		
		1 pc	1 pc

Narrow clip 		2 pcs	---
Hexagonal wrench No. 4		1 pc	1 pc
Hexagonal wrench No. 5		1 pc	1 pc
Hexagonal wrench No. 6		1 pc	1 pc

6. Safety Instructions

All products manufactured by DYTRON EUROPE s. r. o. have been manufactured in compliance with requirements of respective European technical standards and Declarations of Conformity have been issued. The technical requirements used to assess conformance are defined by 2014/35/EU and 2014/30/EU directives. The products are safe if used in a common way and in accordance with the instructions for use.

Despite the above, we recommend you to follow strictly these safety instructions:

- Use the welder only:
 - to butt-weld plastic pipes
 - in an environment free of aggressive gases, combustibles and explosives
- The welding equipment must not:
 - come into contact with water
 - be used in damp environment
 - be used in work the product is not designed for
 - be suspended by the power cord (the welder)
 - be left switched on unattended (the welder)
 - be disassembled and repaired in an unauthorized service shop
- Protect your welder from shocks that could result in damage to the electronics or in damage to the equipment as a whole.
- The equipment may only be operated by a person properly trained by welding instructor.
- According to EN 60 335-1, the polyfusion welder POLYS P-4 is classified as a class I manual tool. For safety reasons, use power sockets with properly grounded pins only when working in a normal environment (the same applies to extension cords which should be three-core cables connected in compliance with applicable standards). The socket should be protected with a ground fault interrupter.
- An isolation transformer should be used for protection when working in an outdoor environment.
- Avoid using damaged and unprofessionally repaired extension cables or cables of unknown origin.
- Make sure the power supply cables and sockets are in good order.
- If the power cord of this appliance becomes damaged, it should be replaced by the manufacturer or its service engineer or a similarly qualified person in order to avoid any dangerous incidents.

7. Maintenance

The welding equipment does not require any special maintenance. Only after use in a dusty environment, clean the guide rods with a piece of rag and treat with several drops of oil.

After the cutting edge of the plane knife becomes blunt, unscrew the two bolts securing the knife and turn the knife over.

Any maintenance and repairs to the welder may only be performed only by service centres authorized by DYTRON EUROPE s.r.o.

8. Old Welder Disposal

DYTRON EUROPE s.r.o. offers its customers to safely dispose of rejected welders. Please hand over or send welders to your service centre.

The rights and obligations of the manufacturer when using waste packages follow from the contract of associated fulfilment entered into on 12 July 2002 with EKO-KOM a.s., Na Pankráci 1685/19, Praha 4.

9. Warranty Conditions

- DYTRON EUROPE s.r.o. is not responsible for the loss of profit, good reputation and/or business, or accidental, special and consequent damage occurring in relation to the use or, the misuse of this product.
- The manufacturer is responsible for the quality and good workmanship of the welding equipment for a period of 12 months from the date of purchase, provided it is used and operated in accordance with the conditions shown in the instructions.

- All defects which are due to a failure in the product or in the material will be repaired free of charge during the warranty period.
- The warranty period will be extended by the amount of time that the product undergoes repair under the warranty.
- The warranty does not apply to cases:
 - that occurred due to incorrect operation of the equipment;
 - of non-adherence to equipment operation technical conditions;
 - of usual wear;
 - of intentional damage;
 - of damage to equipment seals;
 - of damage to the equipment that occurred as a result of an unforeseeable incident or natural disaster (fire, flood, theft, vandalism, etc.).
- The warranty is void if the Warranty Card is not properly completed by the seller.
- The Warranty Card is a part of the equipment.