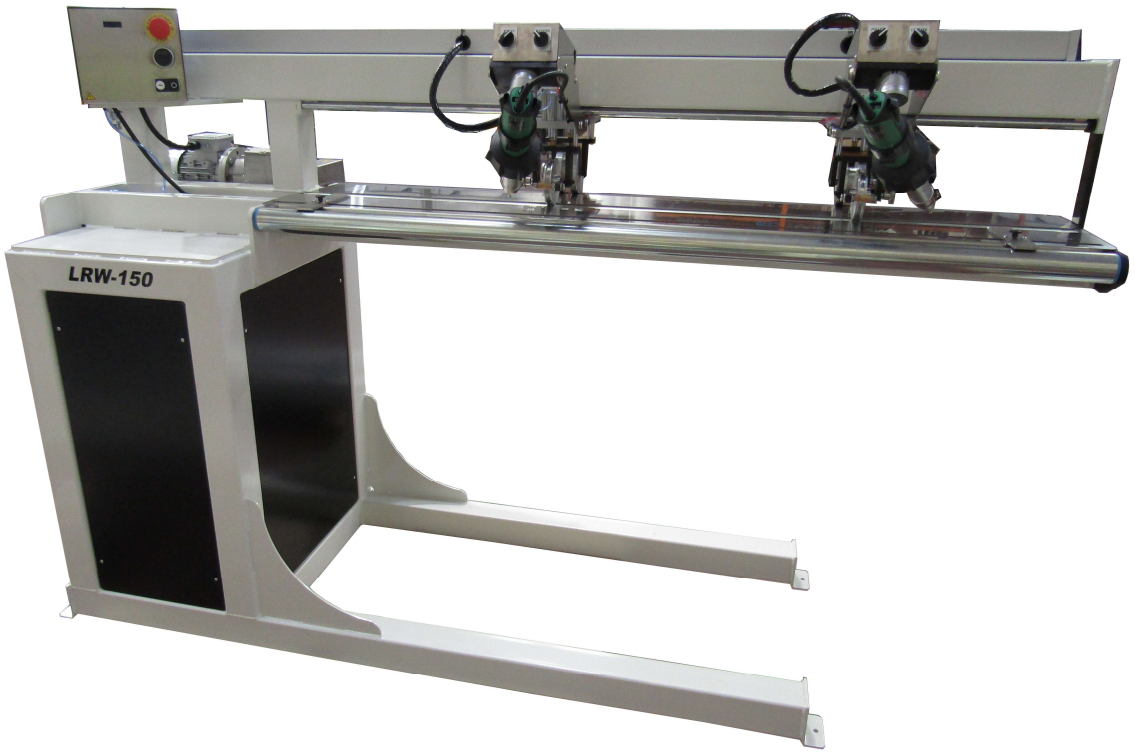
(Original) Use and maintenance manual

Type: Longitudinal profile welding 1500 mm
Model: LRW-150



IMPORTANT:

Read this user manual and follow the instructions and warnings before operating this device.

Any modification or transformation performed on this machine may cause loss of the manufacturer's guarantee and liability.

This manual must always remain near to the machine and visible to all the operating and maintenance staff, for any future consultation, forming part of the equipment.

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- CE Declaration of conformity:

WE DECLARE, under our responsibility, that the machine:
- Type: Longitudinal welder
- Brand: ERM Engineering
- Model: LRW-150
- Serial No.: xxxxxx
- Manufacturer date: 2022

Inspired by the directives of the Official Journal of the European Communities:

2006/42/CE Machinery Directive
2014/35/UE Low Voltage Directive
2014/30/UE Electromagnetic Compatibility Directive

Complies with the design and construction specifications of the European Standards on General Machine Safety:

EN 349 – EN 614-1 – EN 614-2 – EN 12100 – EN 11161-1 - EN 1005-1 – EN 1005-2 – EN 1005-3 - EN 1005-4 – EN 13849-1 – EN 13849-2 – EN 894-3 – EN 13850 - EN 13857 – EN 61310-1 EN 60204-1 - EN 14118 - EN 14120 – EN 13732-1

General Manager: Eduardo Ramos Martínez

Arenys de Munt (Barcelona)-SPAIN
Date: 2022/10

- Description:

Continuous longitudinal profile welder for conveyor belts using a jet of hot air at the point of intersection of the two materials. Fitted with speed, temperature and pressure controls for different types of material.

- Technical Characteristics:

Dimensions	2190x700x1400 mm (LxWxH)
Weight	178 kg
Max. Belt Width	1500 mm
Min. continuous operation	960 mm
Pulley diameter	100 mm
Max. Belt Thickness	8 mm
Motor	0.25 kW
Leister Welder	3750W

- Standard equipment:

- Two welding heads
- Two pulleys 10x6 / 13x8 / 17x11

- Optional equipment:

- Other pulleys under order

- Warnings and safety:

– ERM Engineering recommends the users of this machine to fully read this user's manual prior to its use to guarantee safe work.
– It also advises and recommends equipment not being used by unqualified staff who have not received prior training from ERM Engineering
– A copy of this manual delivered along with the machine must always remain at hand during its use, both for the production operators as well as the maintenance managers.

– Any repairs or modification of the machine performed by personnel not qualified by ERM Engineering or use of non-original spare parts provided by persons unrelated to the company, shall give rise to loss of the manufacturer's guarantee.
– During use of the machinery and industrial use, people are subject to the risk of damage or injury by mechanical elements in linear or gyrating movement, high voltage electric components and static components under high temperature, due to which, during design

and construction of its equipment, ERM Engineering. has aimed to reduce and minimise those risks by including protection devices and safety systems based on the European Community Council Directives.

NOTE: ERM Engineering shall not be held liable under any case for damage caused by undue or improper use of this equipment.

- Installation and start-up:

Site the machine in well ventilated places or under a fume exhaust hood.

⚠ **THE FUMES PRODUCED WHEN WELDING SOME MATERIALS ARE TOXIC AND MAY CAUSE IRRITATION OF THE RESPIRATORY TRACT.**

Place the welder in such a way to simplify placement and removal of continuous belts on the open side of the machine frame.

Allow sufficient free space for movement of material.

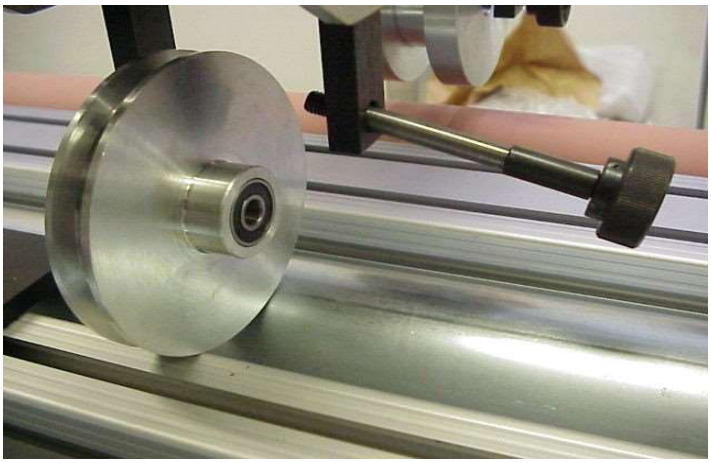
It must also be connected to a compressed air supply through the input to the pressure regulator located on the left-hand side of the machine. Adjust the input pressure to 6 bar:

- Electrical Connection:

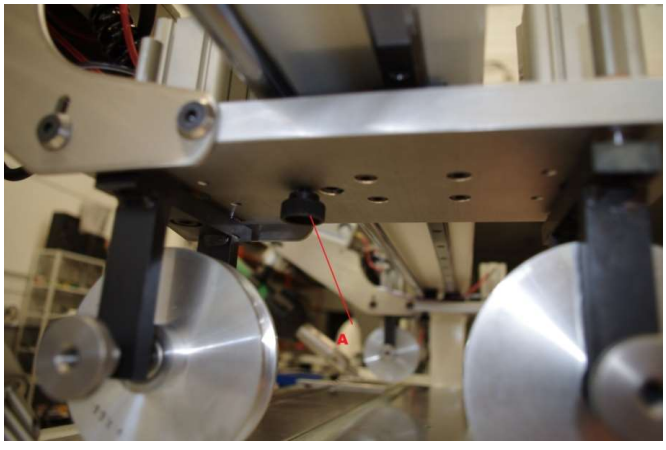
Connect the machine to a suitable single-phase 1 X 230 V power supply bearing in mind the power consumption as this depends on whether it is fitted with one or two welding heads:

- **Using instructions:**

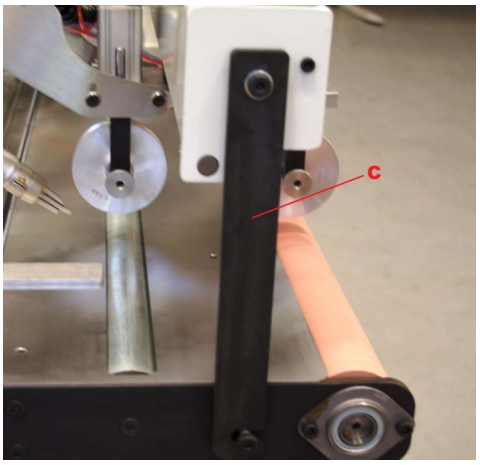
Select and change, if necessary, the pulley corresponding to the profile to be processed by the machine:



Place the belt on the welding table and centre the side guides so that the belt advances evenly and without any side travel. It is also possible to move the welding carriage by loosening the holding bolt (A):



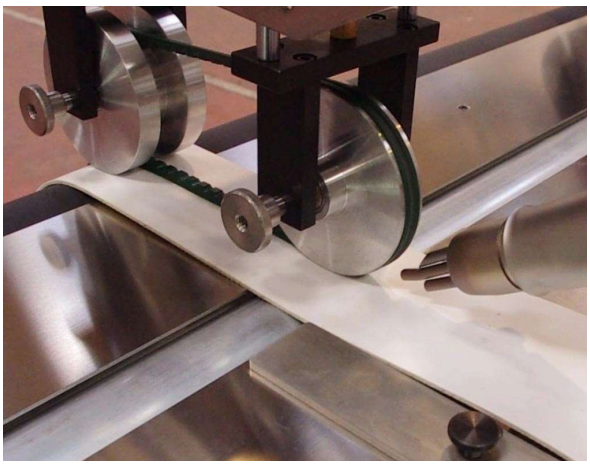
Once the belt is placed in position, close the frame using the arm (C) to prevent any movement or deformation caused by the pressure of the pulleys:



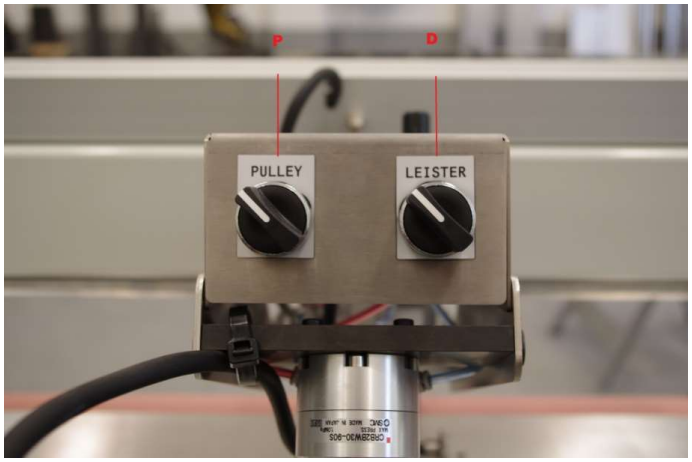
Start the Leister welder by pressing the black wheel located on the rear and adjust the temperature rotating this wheel

NOTE: For perfect welding, the welder should be pre-heated until the temperature digits will be fixed.

Introduce one end of the profile into the rear of the machine until completing one turn of the welding pulley as shown in the photo:



Lower the pulleys using the drive system located on the front of the welding carriage so that they press the belt and are driven by turning the control knob (P):



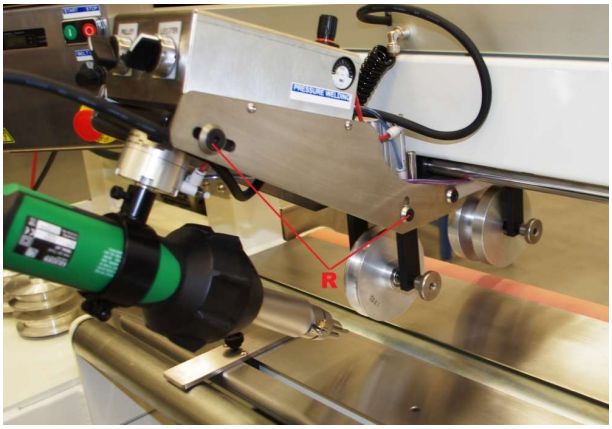
After the welder has been pre-heated, begin welding by turning the control knob (D) to start welder rotation while at the same time pressing the green START button on the control panel to start the motor.

During the welding process it is always possible to change any of the three settings: temperature, speed and pressure.

All of these settings have a direct effect on the quality of the weld so a test should be performed before welding the belt just to make sure all the settings are correct.

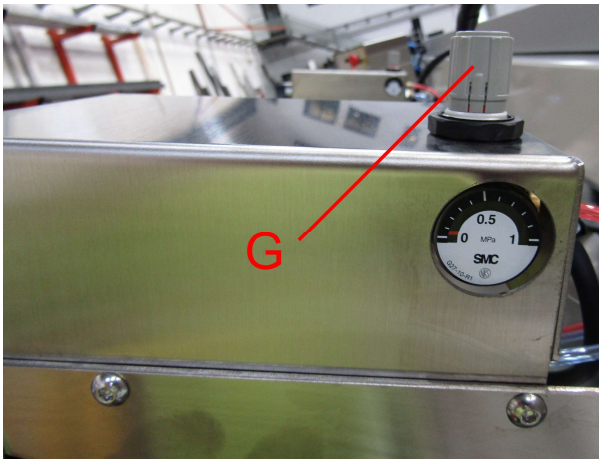
The position, angle and proximity of the welder is also very important for the temperature setting. Increasing the distance or angle in relation to the profile reduces the effectiveness of the bond between the materials.

Change the position of the welder by first loosening the screws (R) and then moving it through the slot holes until reach the desired position and then tightening them again once it is adjusted:



Note that any changes made to the temperature will not become effective until a few minutes have elapsed. Adjusting the welding rate using the control potentiometer (S) has immediate results:

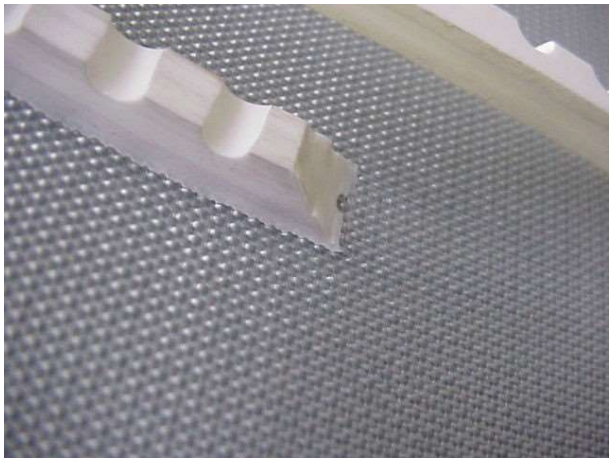
Adjust the pressure by moving the pressure control knob located on the piston of the welding pulley (G) this adjustment only becomes effective on operating the pulley drive system, even though it only affects the welding pulley:



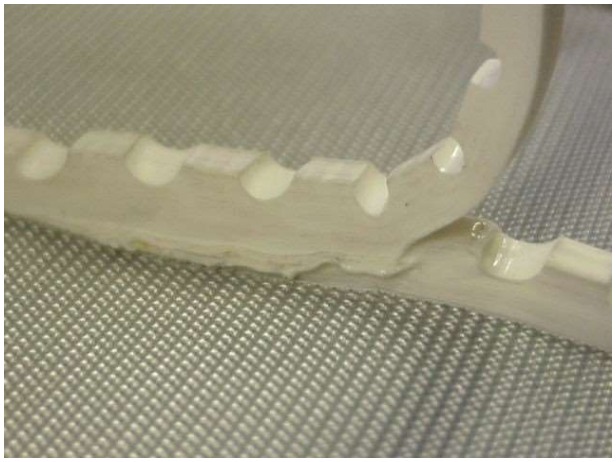
NOTE: Check the weld by attempting to pull the welded joint apart. It should not come apart cleanly, that is, without tearing.
If this test is to be performed on a profile welded to fabric, wait at least 12 hours to allow the components of the size to set before performing the test.

Normally the sizes used for welding on fabric are two-component and require some hours to fully set.

In the case of welding continuous belts, make a cut at the beginning of the weld at an angle of about 45º:



Continue welding to this point and then stop the forward drive motor while at the same time pressing the control to withdraw the Leister:



After overlapping the weld and once the profile has cooled, cut it and form the excess to match the original shape.

Shut the welder down by adjusting the temperature of the Leister to 0 and allowing it to operate for about 5 minutes to cool the heater element.

NOTE: Not completing this cooling process, that is turning off the blower when the heater element is still hot, could cause the heater element to fuse because of the increased temperature inside the tube.

- Care and maintenance

- Because various chemical components are used during the welding process, there is an accumulation of highly corrosive waste in the welding area (rollers, pulleys, guides, etc. and so they should be cleaned regularly to ensure correct operation.

- Do not grease or lubricate any component of the machine.
  These components are self-lubricated and the mixture of different lubricants could cause jamming or seizing.

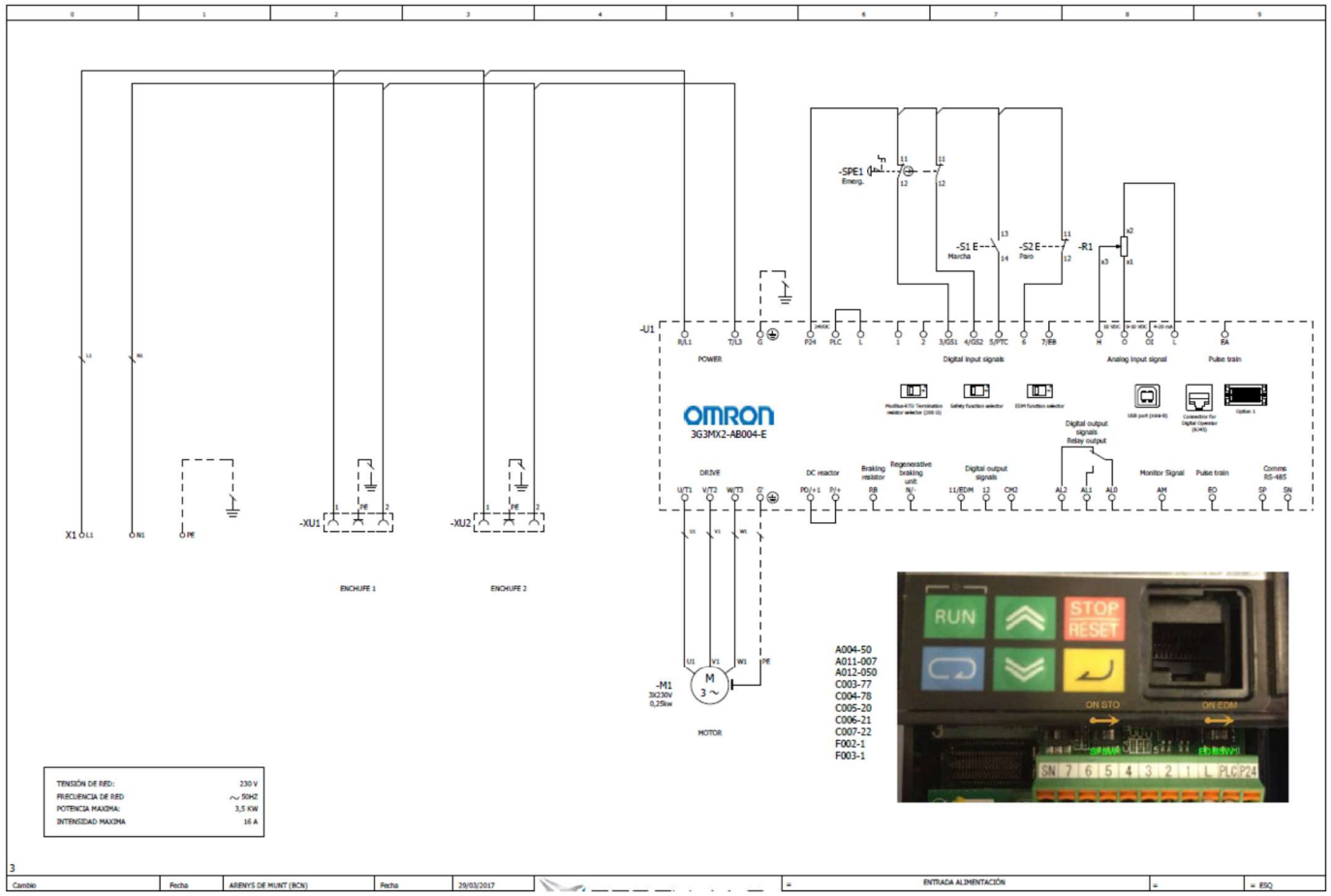
- Make sure the machine frame is always closed to prevent any deformation of the structure.

- Always make sure the black intake grille on the rear of the Leister is clean, if it is blocked this would reduce the air flow rate and alter the weld quality.

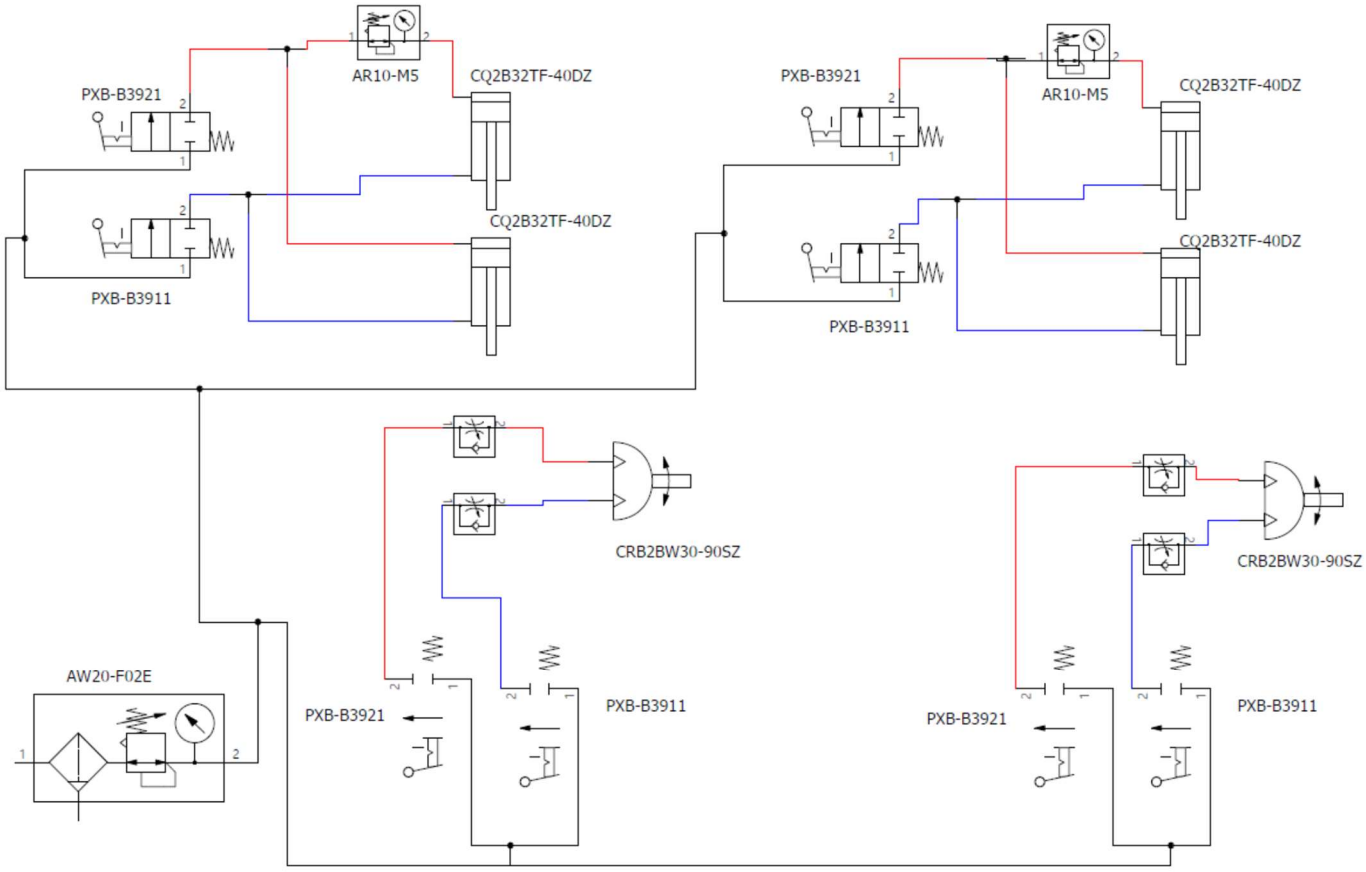
- Protect the pulleys from knocks that could mark or damage their profiles as they would cause imperfections in the welding.

- In the event of unusual noises in the welder, check the condition of the brushes. They have relative wear.

- **Electrical drawings:**

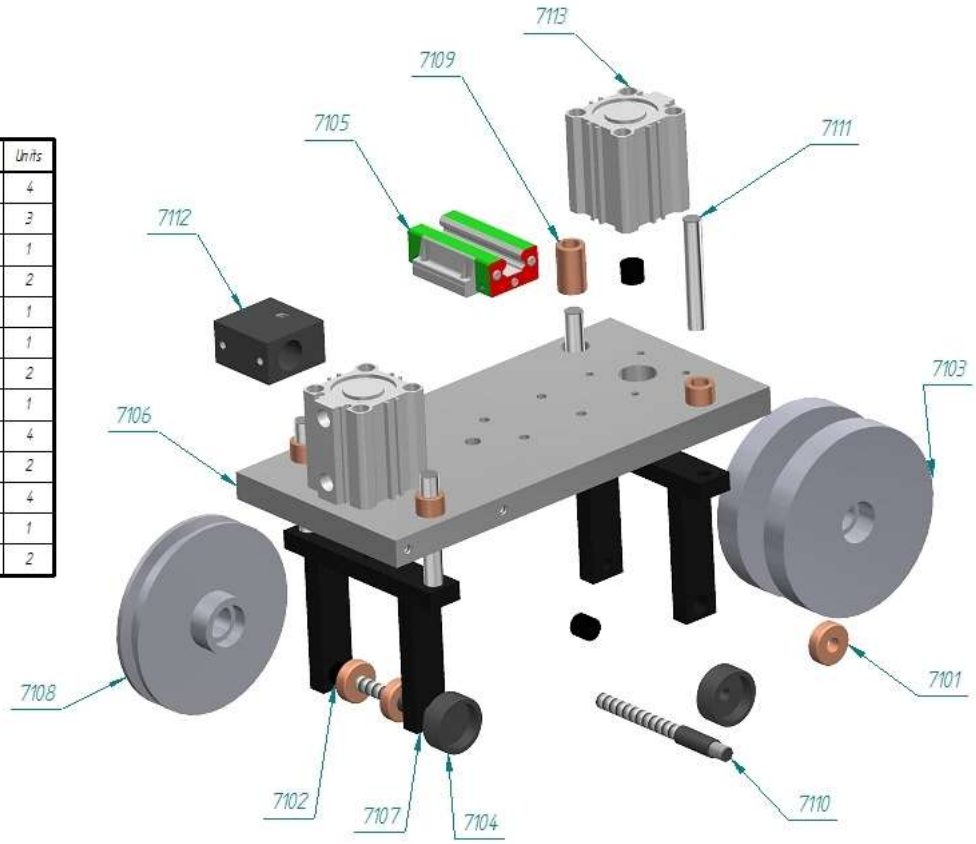


- **Pneumatic drawings:**



- **Spare parts:**

Number	Name	Units
7101	RODAM 607.par	4
7102	DIST. POLEA.par	3
7103	POLEA MOT.par	1
7104	MANDO EJE.par	2
7105	Patin Hiwin 15.par	1
7106	PLACA BICICLETA.par	1
7107	ORQUILLA.par	2
7108	POL 10 X 6.par	1
7109	SELFOIL 10X15X15.par	4
7110	EJE POLEAS.par	2
7111	EJE DRC 10X90.par	4
7112	TOPE ALTURA.par	1
7113	ECO2832-300.par	2



Number	Name	Units
7001	BRIDA LEIST.par	1
7002	CILINDRO GIRO.par	1
7003	LEISTER 13G.par	1
7004	BRAZO.par	2
7005	CUADRO MANDOS.psm	1
7006	DISTABRAZO.par	1
7007	VFM350_02_34S_F.par	2
7008	AR1000_M5_.par	1
7009	G27_10_R1.par	1