

(Original) Use and maintenance manual

Type: Longitudinal profile welding 1500 mm

Model: LRWG-100



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 profile welder
- Brand: ERM Engineering
- Model: LRWG-100
- Serial No.: xxxxxx
- Manufacturer date: 2021

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

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ermengineering
belting fabrication equipment

Arenys de Munt (Barcelona)-SPAIN

Date: 2021/08

- **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:** 2180x700x1400 mm (L x W x H)
- **Weight** 156 kg
- **Max. Belt Width** 100 mm
- **Pulley diameter** 150 mm
- **Max. Belt Thickness** 8 mm
- **Leister Welder:** 2300 W (1600 X 2)
- **Vacuum system:** 1100 W
- **Power supply:** 1x230 V 4.9kW

- **Standard equipment:**

- One grinding wheel
- One Leister with nozzle
- One glue dispenser
- Vacuum system

- **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.

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

- 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.

- **Installation and start-up:**

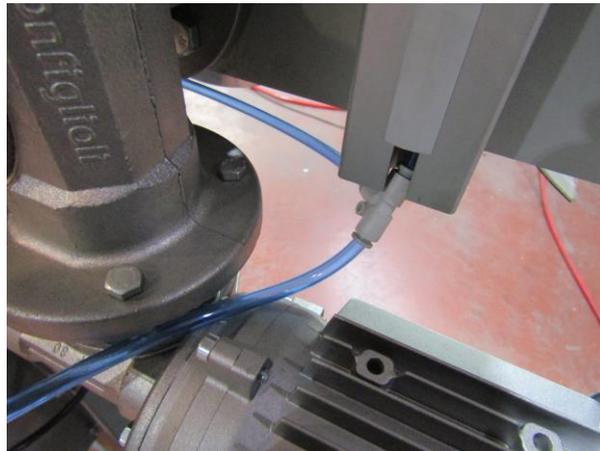
Site the machine in well ventilated places or under a fume exhaust hood.

 **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:



Level the machine with four rubber feet:



- **Electrical Connection:**

Connect the machine to a suitable single-phase 230V power supply:



Connect the vacuum system to the grey socket:



Connect the Leister to the red socket from the opposite side:



- **Using instructions:**

Turn on the control box using the general circuit breaker:



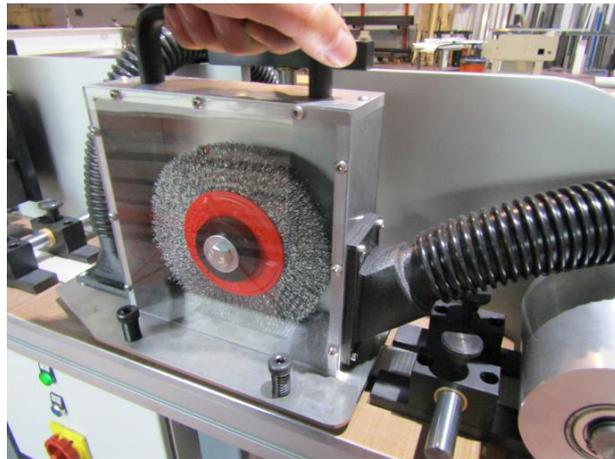
After turning on, restart the machine pressing the blue button RESET:



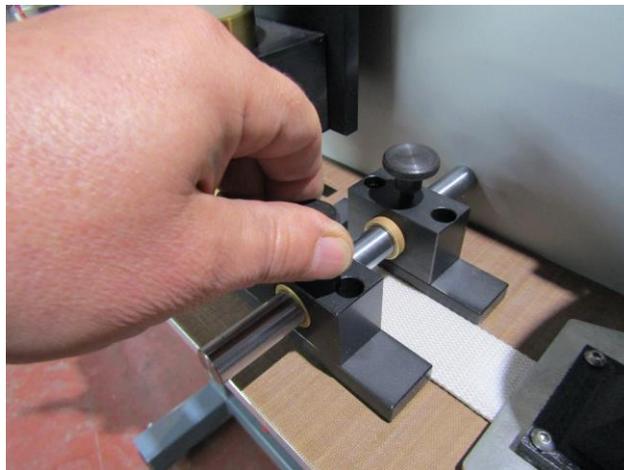
Load the slab in the back shaft and fix the guides:



Pass the belt across the table, pulling up the grinder protection until welding pulley:



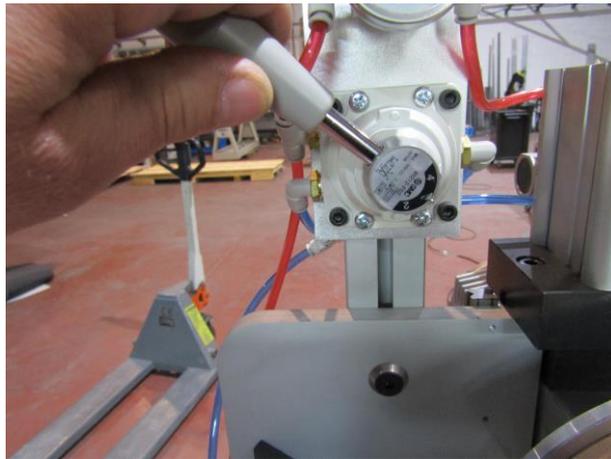
Adjust the table guides at the belt measure completely in the centre:



Select and change, if necessary, the pulley corresponding to the profile to be processed by the machine using 17 mm key:



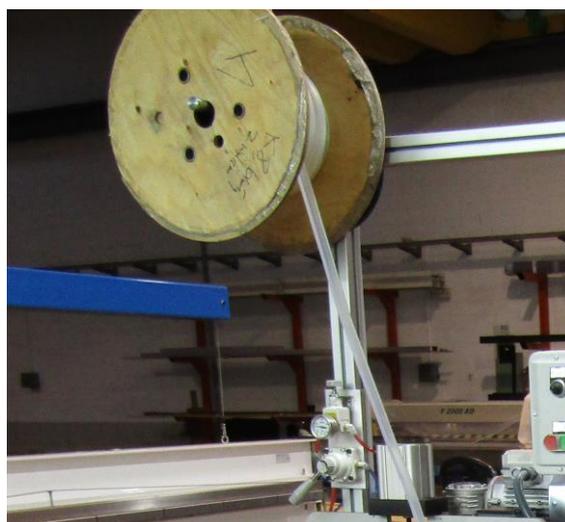
Down the welder pulley using the manual valve:



Adjust the welder pressure with regulator:



Load the profile on the top support:



Introduce the profile down the welder pulley:



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



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

NOTE:

For more information about the Leister's functions, read the user manual that we have attached with the machine.

After the welder has been pre-heated, begin welding by pressing the black button to start welder of valve to rotation while at the same time pressing the green START button on the control panel to start the motor:

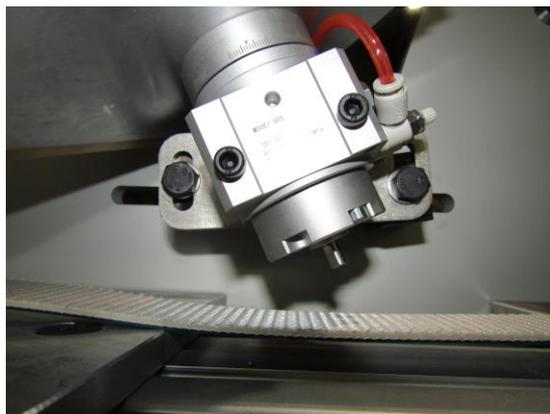


During the welding process, it is always possible to change any of the three settings: temperature, speed and pressure.

All 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 and then tightening them again once it is adjusted:



Also, you can adjust nozzle's proximity using the knob:



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 speed potentiometer has immediate results:



Adjust the pressure by moving the pressure's control knob located at the welding pulley.

Depending on the thickness of the profile, you can adjust a differential of both pulleys speed adjusting the potentiometer for such differential:



NOTE: When differential potentiometer is 100%, both pulleys rotate at the same speed. When this value is reduced, the top pulley (profile) turns faster than the bottom pulley (belt pulley).

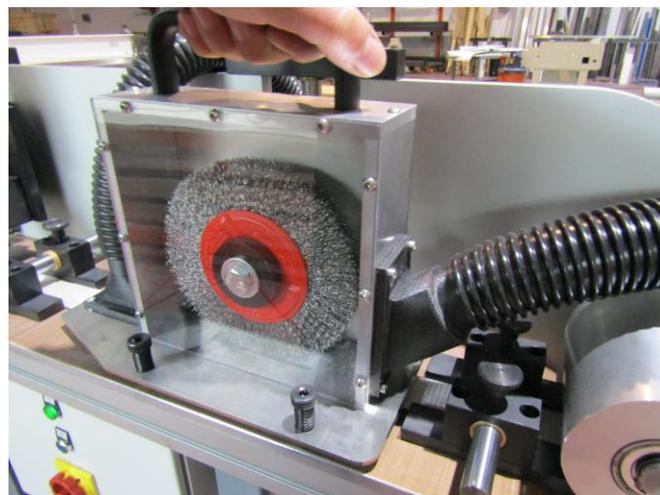
- **Grinding and gluing:**

Turn on the grinding weld by grinding button:



With this control, the vacuum system turns on automatically. Adjust the pressure of this grinding wheel with the knob.

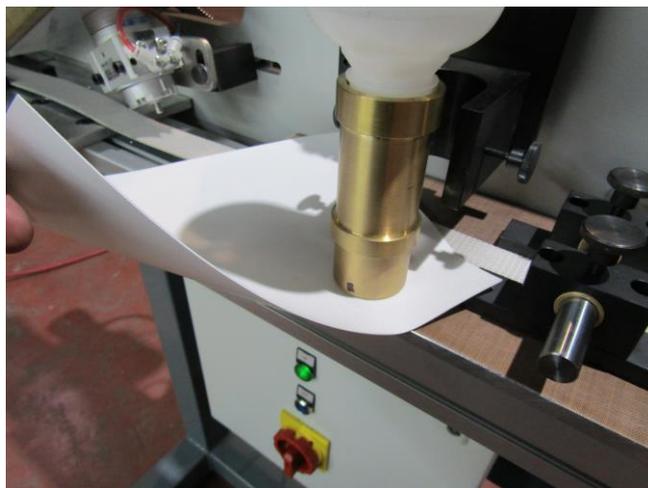
Turning to the left, you can increase the pressure:



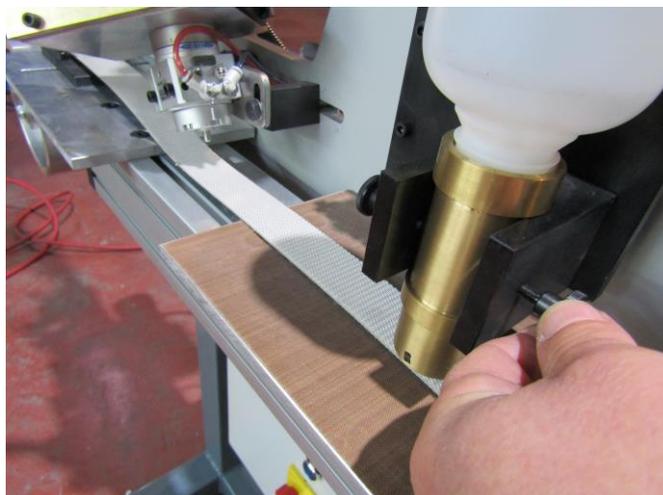
Also, grinder's speed can be adjusted using the grinder potentiometer:

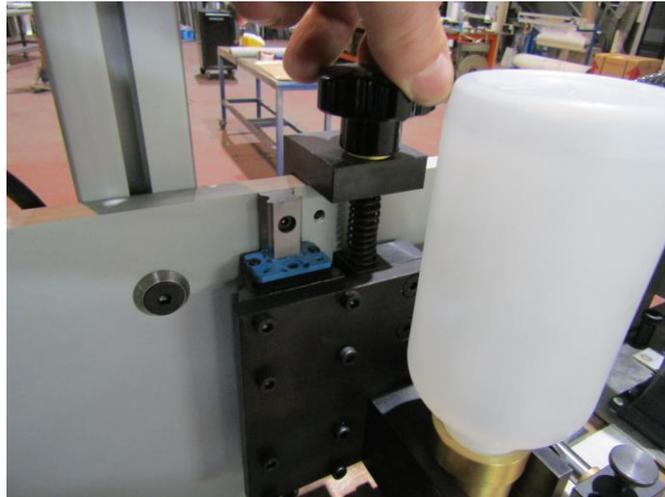


For gluing the belt while the grinding process, install the bottle as shown here using a piece of material down to avoid that glue falls:



Fix the brass tube using the edge knobs and retire the piece of material. Adjust the pressure with a top knob:





Do the same to remove the glue bottle.

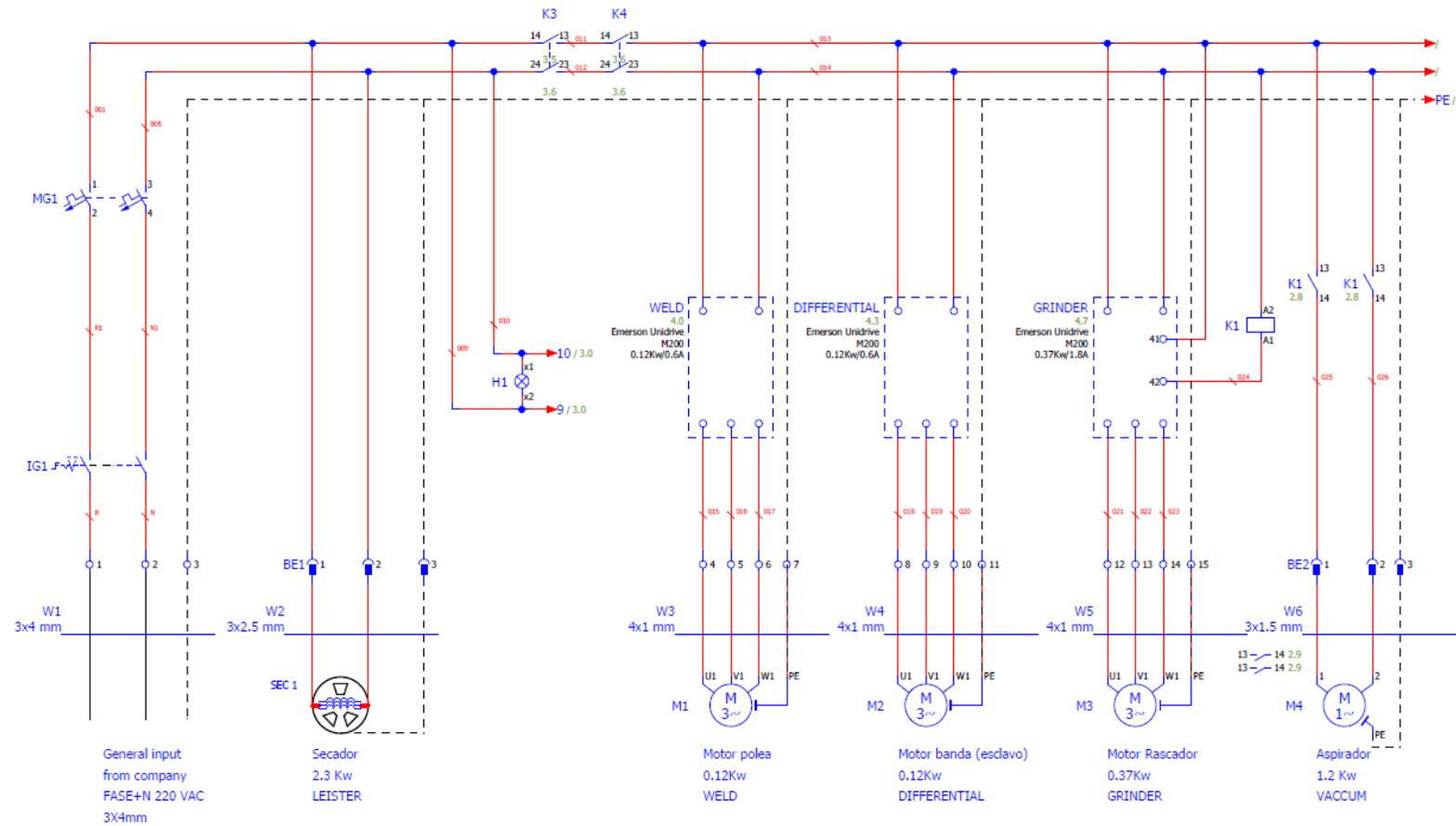
Shut the welder down holding the wheel temperature of the Leister for 5 seconds and allowing it to operate for about 5 minutes, to cool the heater element.

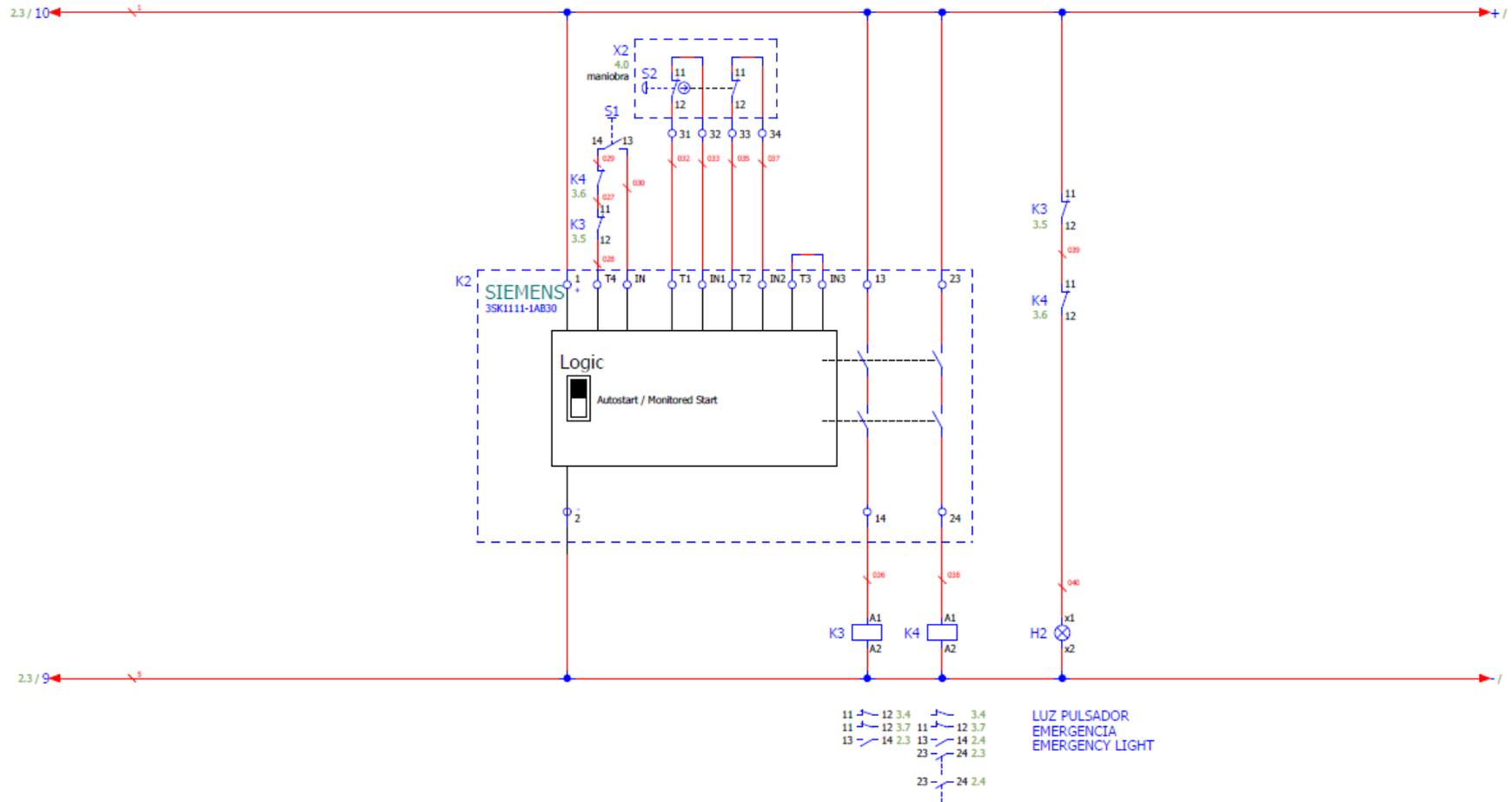
NOTE: Not completing this cooling process, that is turning off the blower when the heater element is still hot, could cause the heater element to fuse because of the increased temperature inside the tube.

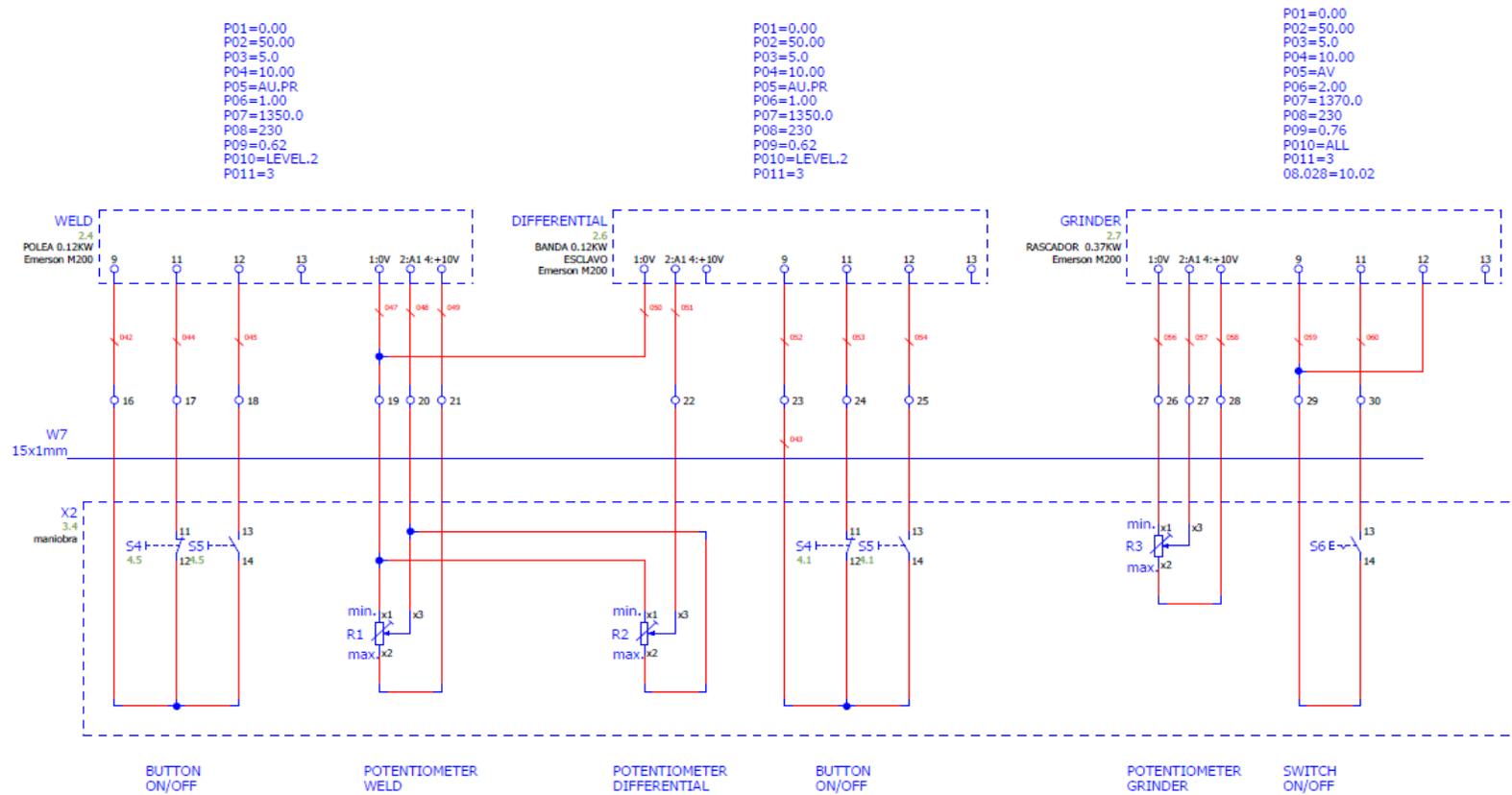
- **Care and maintenance**

- 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.
- 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:**



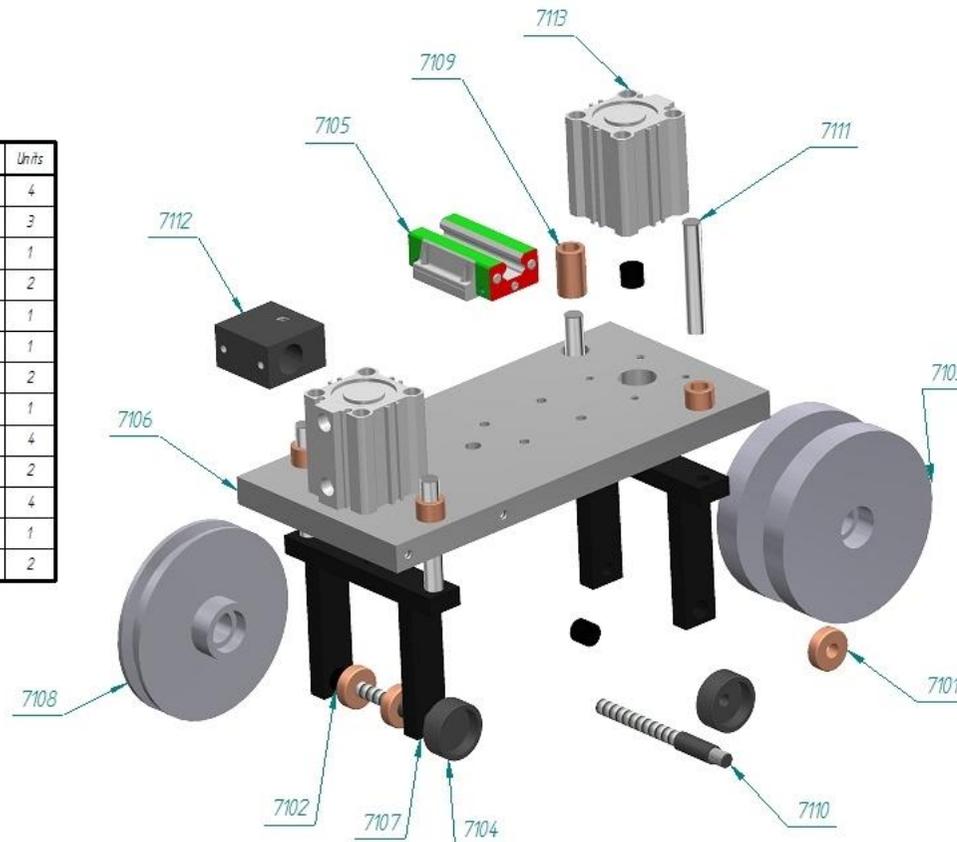






- **Spare parts:**

Number	Name	Units
7101	RODAM 607.par	4
7102	DIST. PQLEA.par	3
7103	PQLEA MOT.par	1
7104	MANDO EJE.par	2
7105	Patn Hiwri 15.par	1
7106	PLACA BICICLETA.par	1
7107	ORQUILLA.par	2
7108	POL 10 X 6.par	1
7109	SELFOL 10X15X15.par	4
7110	EJE PQLEAS.par	2
7111	EJE DRC 10X90.par	4
7112	TOPE ALTURA.par	1
7113	ECQ2832-300.par	2



Number	Name	Units
7001	BRODALEIST.par	1
7002	CILINDRO GROSS.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

