

## (Original) Use and maintenance manual

**Type: Longitudinal profile welding 2100 mm (scraper and gluer)**  
**Model: LRWG-210**



### **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-210
- Serial No.: 73108
- Manufacturer date: 2023

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



ermengineering  
belting fabrication equipment

Arenys de Munt (Barcelona)-SPAIN

Date: 2023/03

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- **Guarantee conditions:**

ERM Engineering guarantees the product against any faults in materials or in workmanship, for 2 (two) years from the date of expedition.

ERM Engineering may, at his own discretion, also replace or repair any part or parts of the machine being repaired that is/are felt to defective.

ERM Engineering shall have the sole right to decide is such parts should be repaired or replaced.

ERM Engineering shall not be liable in any other case for collateral or incidental damage.

The guarantee does not apply to plant that has been repaired by third parties that have NOT authorized by manufacturer.

Spare parts supplied by the manufacturer must be used. Any deviation from this rule will mean the guarantee will not apply.

- **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.

Provided with motors with scraper wheels and glue dispensers adjustable to the width of the belt for simultaneous welding of guide profiles on the belt surface.

- **Technical Characteristics:**

- **Dimensions:** 3160x1200x1780 mm (L x W x H)
- **Weight** 708 kg
- **Max. Belt Width** 2100 mm
- **Minimum Endless belt** 1660mm
- **Pulley diameter** 150 mm
- **Max. Belt Thickness** 8 mm
- **Leister Welder:** 3200 W (1600 X 2)
- **Power supply:** 3x480 V + 2x250V 4.7kW

- **Standard equipment:**

- Two grinding heads
- Two Leister with nozzles
- Two glue dispensers
- Set of two tree pulleys (10x6) (13x8) (17x11)

- **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 good ventilated places or under a fume exhaust hood.

In the case of poorly ventilated environments, it is recommended to install extraction of smoke harmful to health.



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

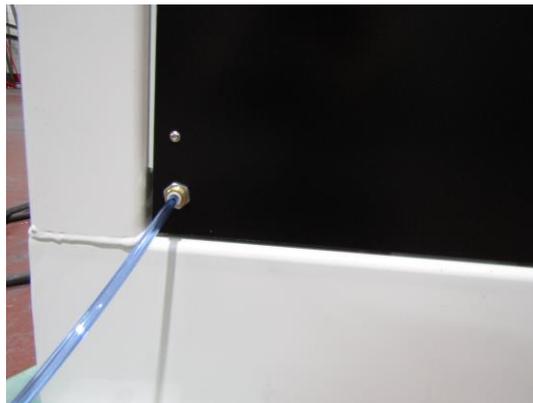
Place the welder in such a way to simplify placement and removal of continuous belts on the open side of the machine frame.

Allow sufficient free space for movement of material.

Fix the machine on floor through the bottom plates, holding it with 6 metal studs



It must also be connected to a compressed air supply through the blue tube to the compressed air line.



- **Electrical Connection:**

Connect the machine to a suitable 3x480V with one of black cable at the bottom part of control box and other cable 2x240V (only for Leisters) to power supply:



Connect the Leisters welder to the down blue sockets:



- **Using instructions:**

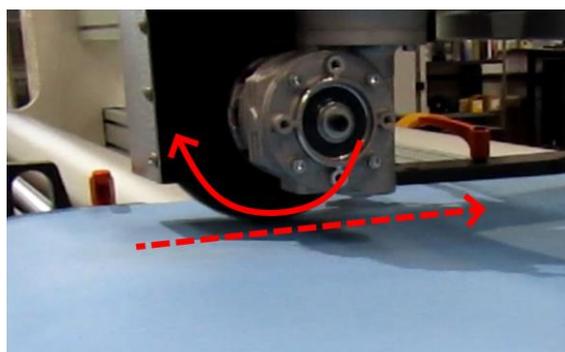
Turn on the control box using the general circuit breaker:



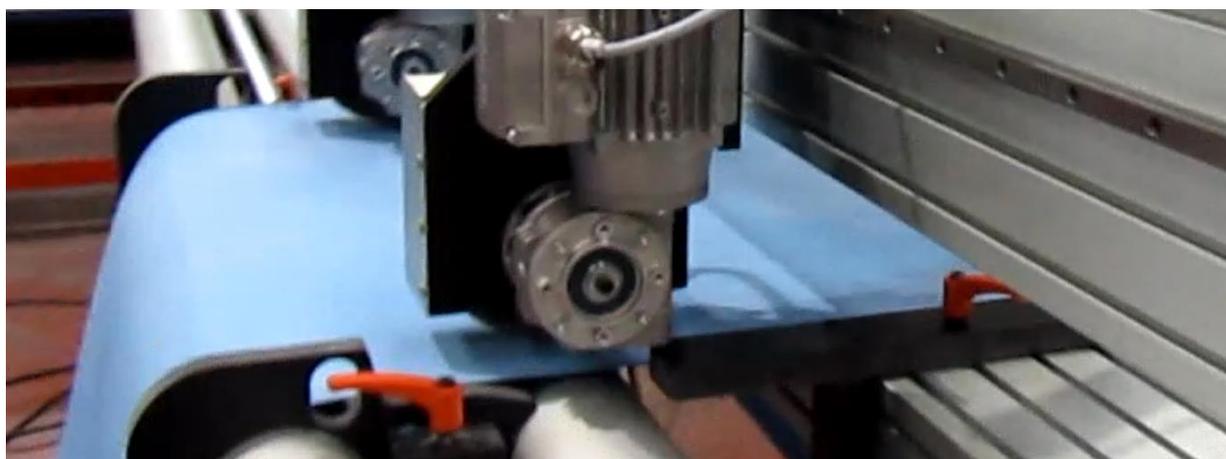
After turning on, restart the machine pressing the blue button RESET:



**⚠ ATTENTION:** Before introducing the belt into the machine, check that the scrapers twist in the appropriate direction (same than drive roller, that means opposite direction of the belt entering). If not, then is necessary to exchange two phases of the electrical power supply.



Introduce de belt by the top of the rear drum until motor roller and adjust the guides at belt width.



First we recommend to adjust the flat guides at the belt width complete symmetrical for this we will refer to the measuring tape

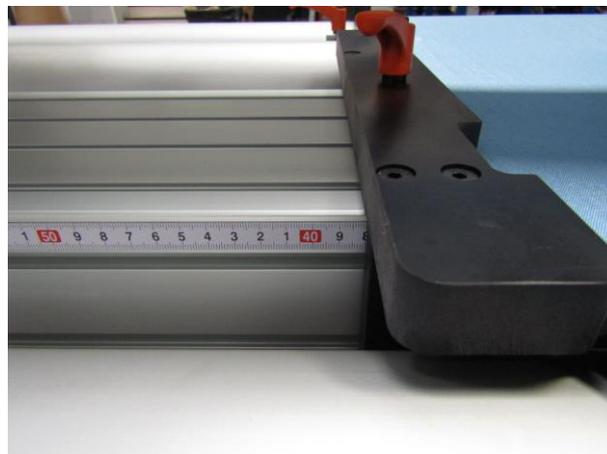
For settle the band centred over the rollers first we fix it with the lateral guides

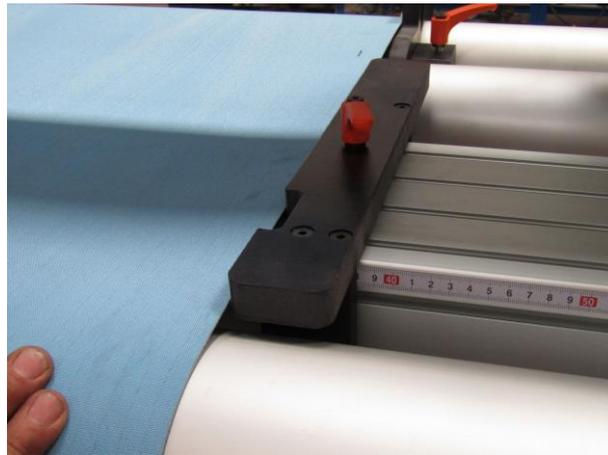


and the external side of the bar should show the half value width (in this example there is a band of 762 mm. width)



(so, in the tape measure the value showed is 381 mm. in both external edges)





Once the belt is positioned, distribute the pressure rollers across the width of the belt and activate the pressure rollers to have the necessary traction with the manual valve.

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

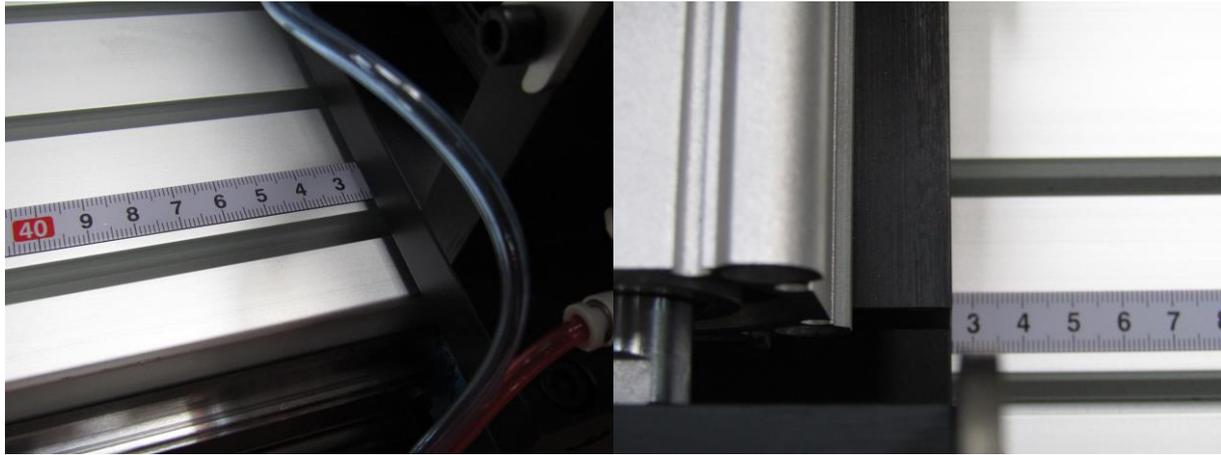
There are three different types of pulley for the V-guide (10x6) (13x8) (17x11)



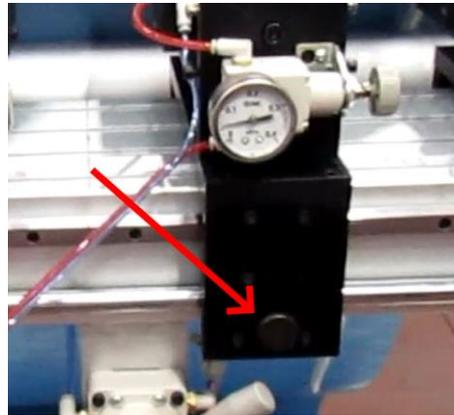
Adjust the welding heads at the measure of V-guides between centres and fix.

The external measure that you can read is the centre of the pulley.

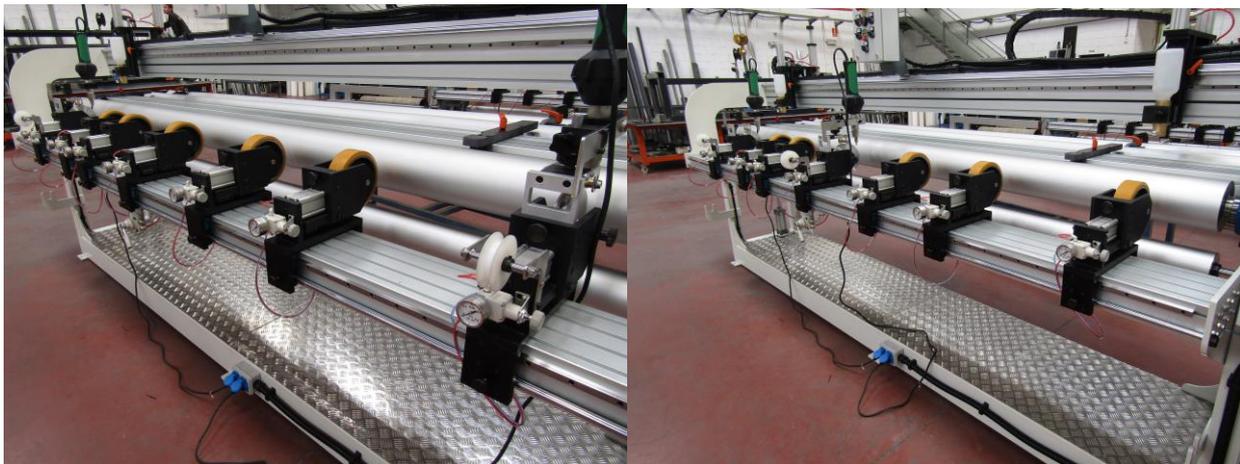
The welding heads also can be fixed along its cart in the exactly point we need through its corresponding tape measure



Fix on position using the knob



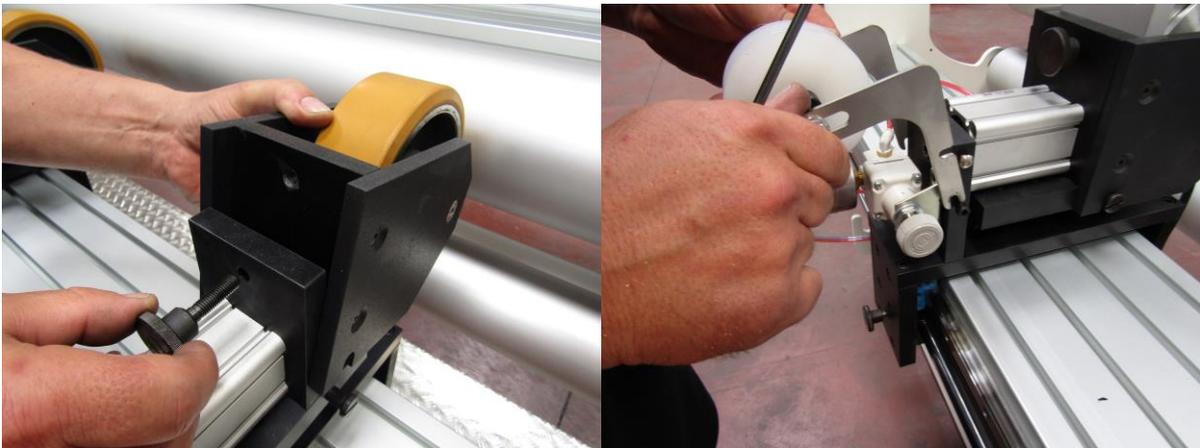
Each pulley welder and pulley pressure have it owns regulator in order to exchange one from another depending on the position we need they work (according to the length of each belt and the number of V-guides to weld)



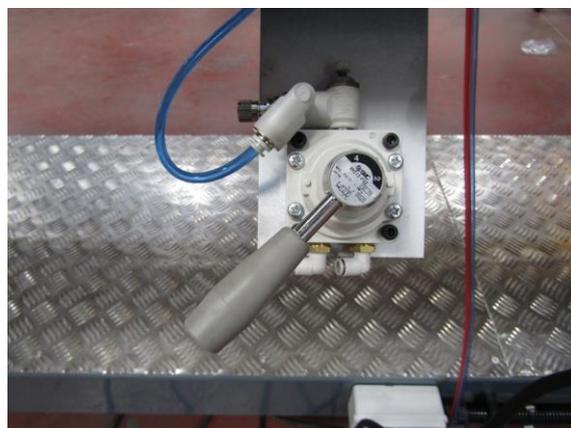
To replace a welding head by a pressure head, take out the knob that fixes the Leister welder and then take out the welding head



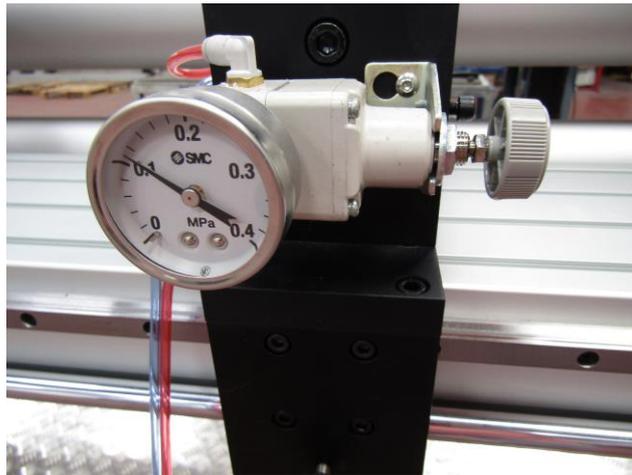
Take out the knob that fixes the pressure head, and also the entrance V-guides pulley



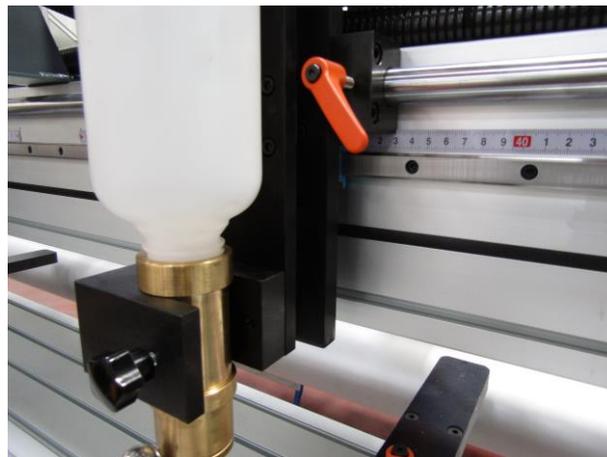
Once the belt is positioned up to the driving roller, activate the pressure wheels with the manual valve located in the centre of the machine.



It is also possible to adjust the pressure of these wheels one by one, adjusting the manometer that everyone has installed.



As well adjust the glue dispensers & scrapper using the same system, the measure tape is the centre of both heads.



Turn on the Leister welder to preheat by pressing the black button located on top and adjust the temperature rotating the black wheel:



**NOTE:** For a perfect welding, the welder should be pre-heated during 3/4 minutes

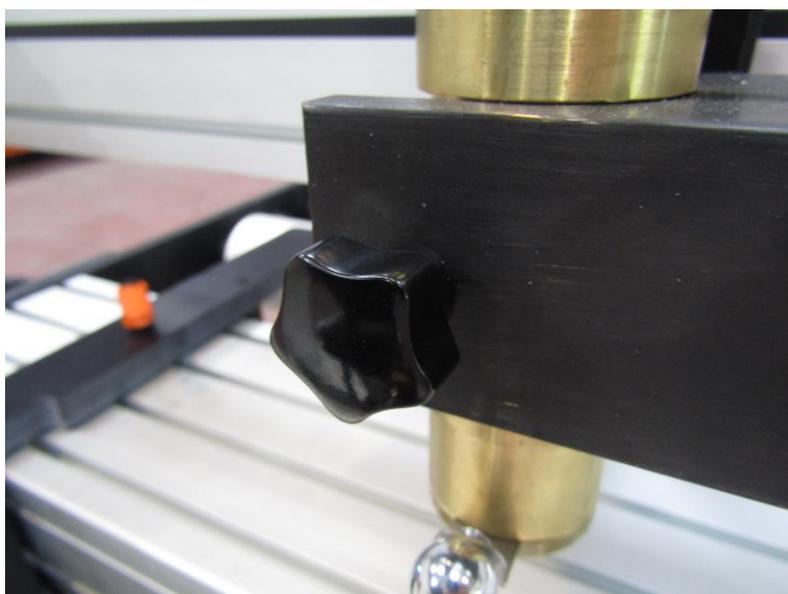
**NOTE:**

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

To adjust the speed potentiometer between 00.0 and 99.9 (depending on the belt material), after that press START green button of control box to start the process.



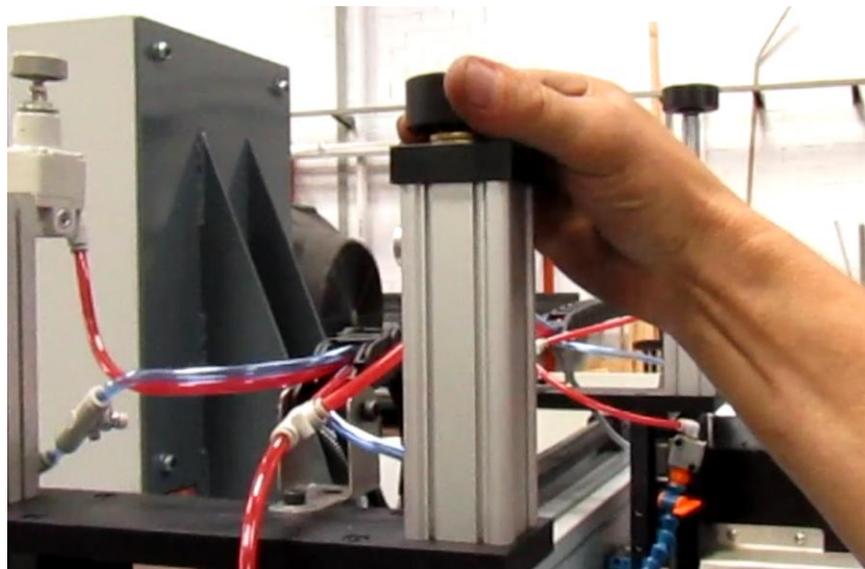
Assemble and fix the dispenser gluer using the edge knob.



Active the scrapers motors to grind the fabric of belt if is necessary with these two switches

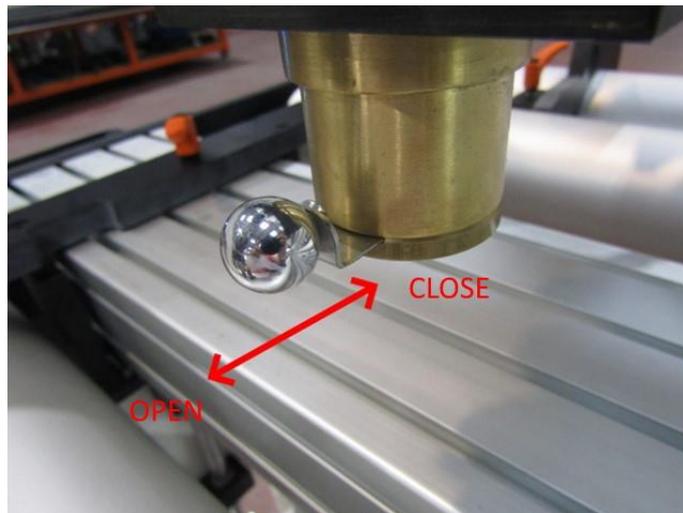


Adjust the pressure on the scraper wheels by rotating the top knob on each cylinder.

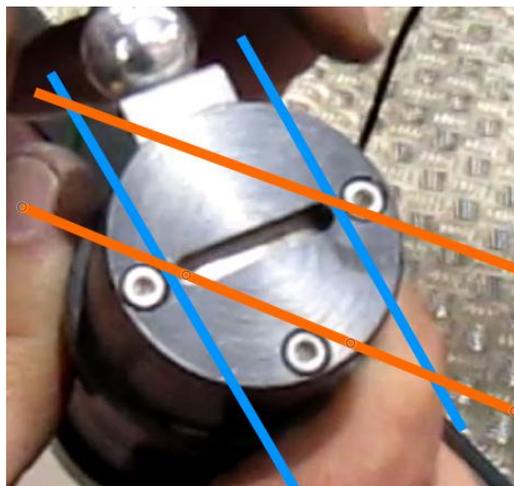


Lower the glue dispensers and open the hatch by pulling it out.

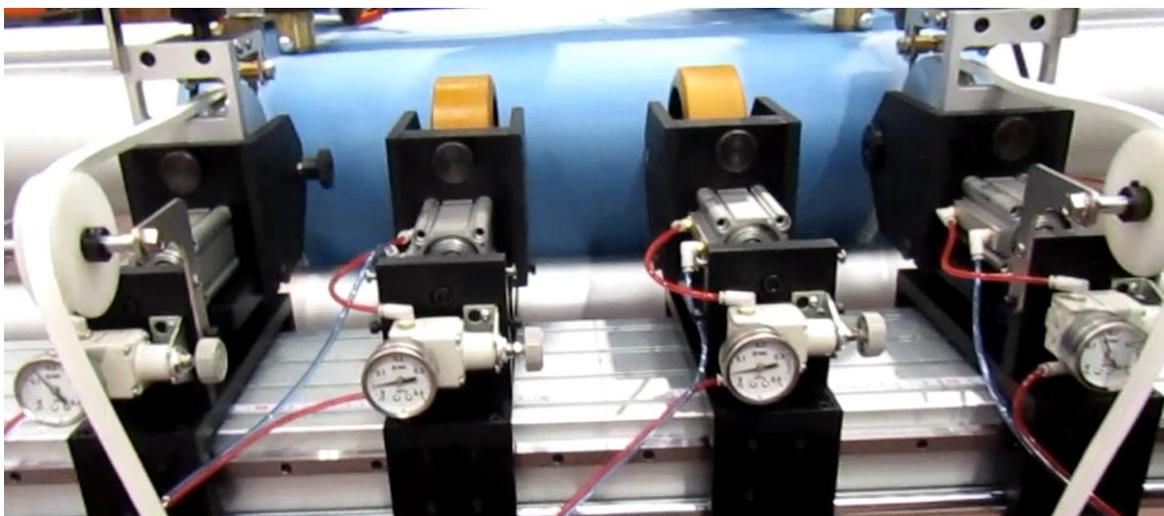




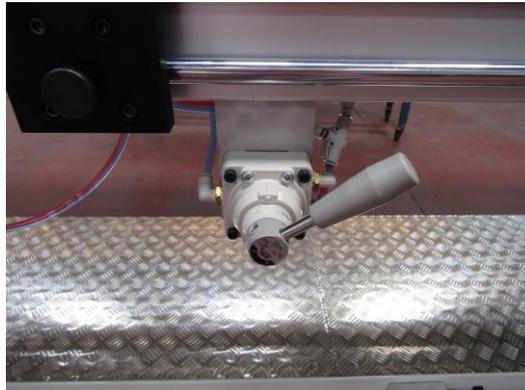
Depending on the mounting angle of the spreader, we will obtain a wider or narrower gluing strip.



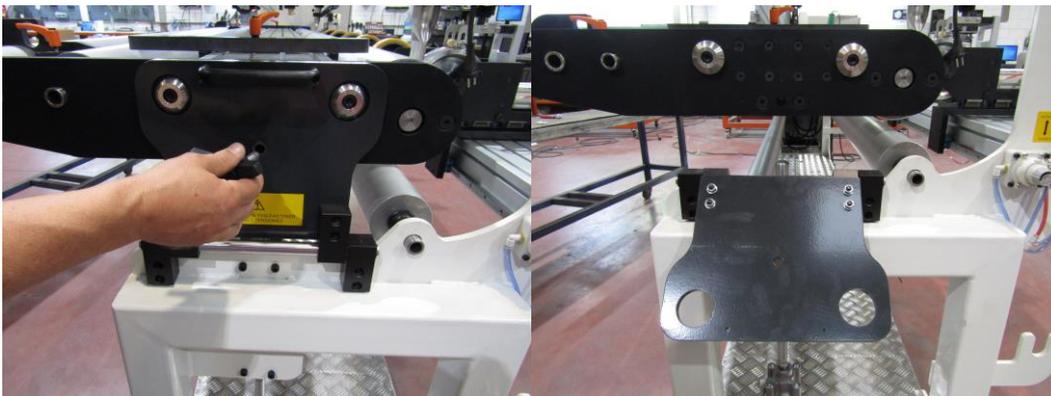
We will introduce the V-guide profile to the welding pulley as shown in the image



Active the welder pulley using the manual valve in the middle of the frame:



For working with endless belts, we can do it through the side where there is a trapdoor that can be open down: remove the start knob and open the small door



**IMPORTANT:**  
**DO NOT TENSION THE BELT, WOTHOUT TRAPDOOR CLOSE.**

Depending on the kind of the profile, you can adjust the speed of drum adjusting the potentiometer:



Shut the welder down turning the wheel temperature of the Leister in 0 and allowing it to operate for about 5 minutes, to cool the heater element.

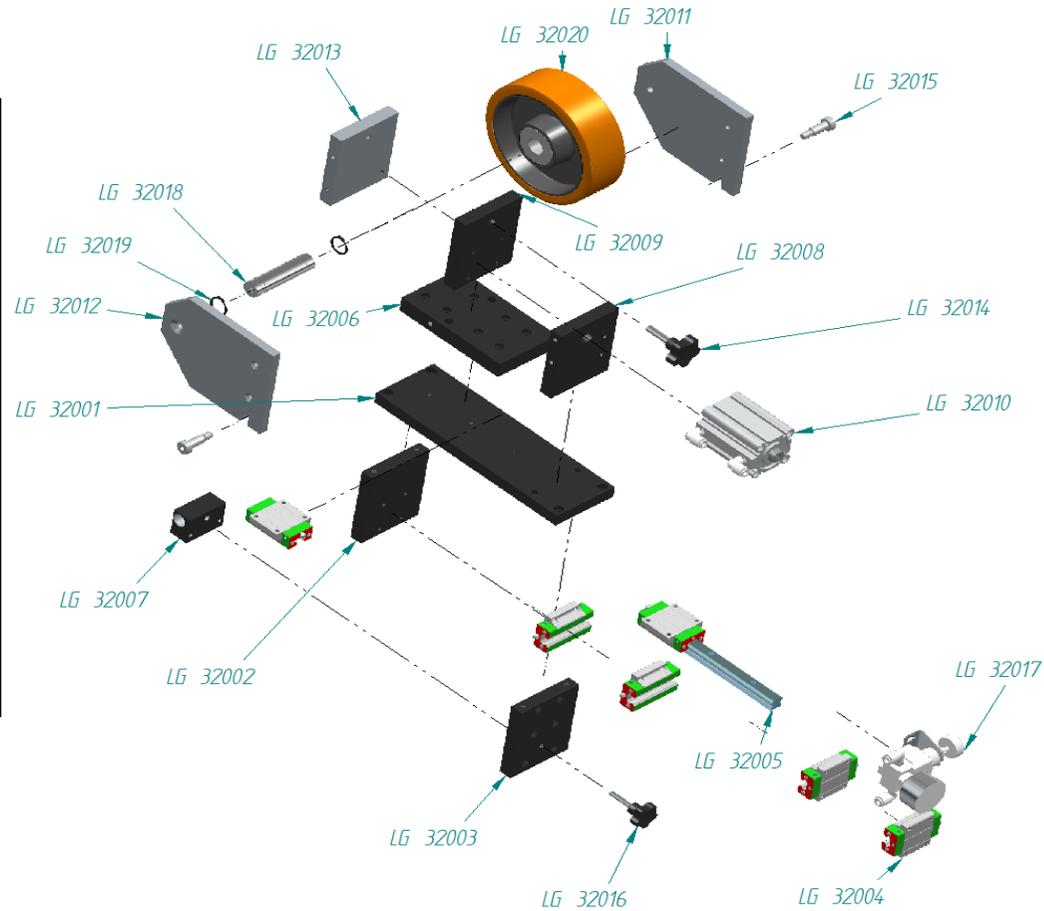
**NOTE: Not completing this cooling process, that is turning off the blower when the heater element is still hot, could cause the heater element to fuse because of the increased temperature inside the tube.**

- **Care and maintenance**

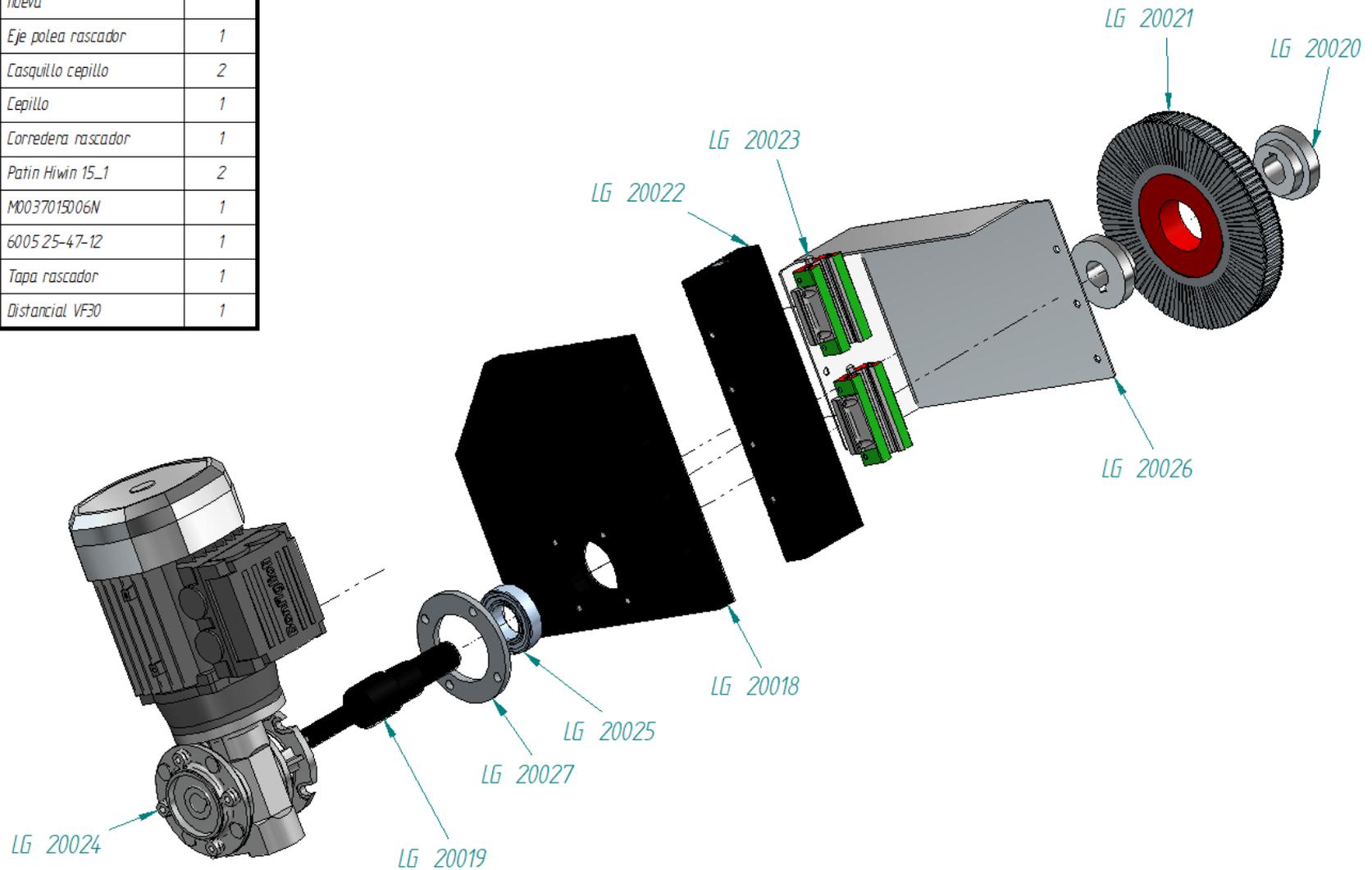
- Because various chemical components are used during the welding process, there is an accumulation of highly corrosive waste in the welding area (rollers, pulleys, guides, etc. and so they should be cleaned regularly to ensure correct operation.
- Do not grease or lubricate any component of the machine. These components are self-lubricated, and the mixture of different lubricants could cause jamming or seizing.
- 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.

- **Spare parts:**

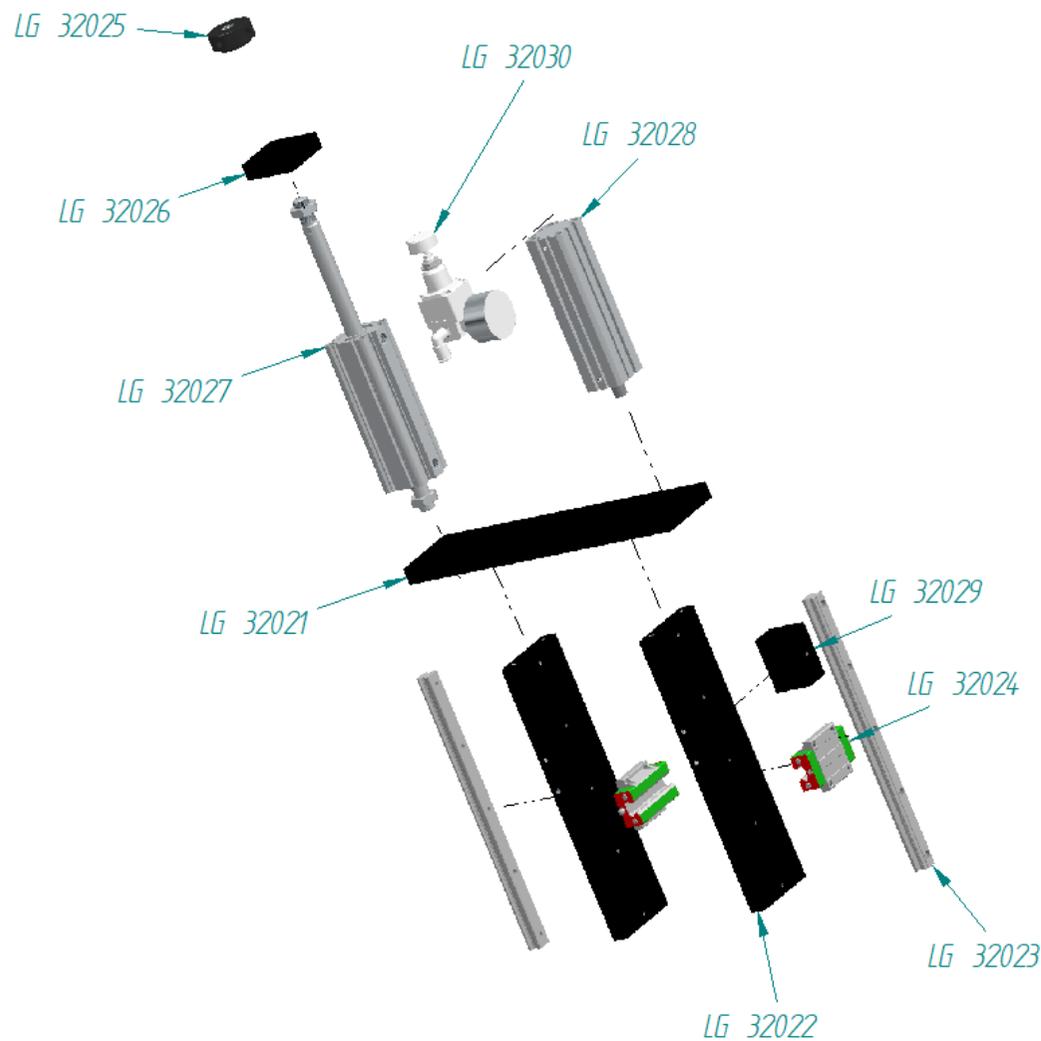
Number	Name	Unts
LG32001	Base corredera	1
LG32002	frontal corredera perfil	1
LG32003	traseira corredera	1
LG32004	Patin Hiwin 15	6
LG32005	GUÍA 15 120	1
LG32006	Base corredera superior	1
LG32007	Dado freno perfiles	1
LG32008	Tope CDD	1
LG32009	Soporte CDD	1
LG32010	CQ2640-50DZ10_0_0)	1
LG32011	Braço rueda D	1
LG32012	Braço rueda I	1
LG32013	Dist rueda presion 2	1
LG32014	vc_692_40_p_m6x30	1
LG32015	07534-10X20_Stahl	2
LG32016	vc_692_32_p_m6x30	1
LG32017	IR10-01B	1
LG32018	Eje rueda 4515	1
LG32019	20x12	2
LG32020	Rueda 4514 B	1



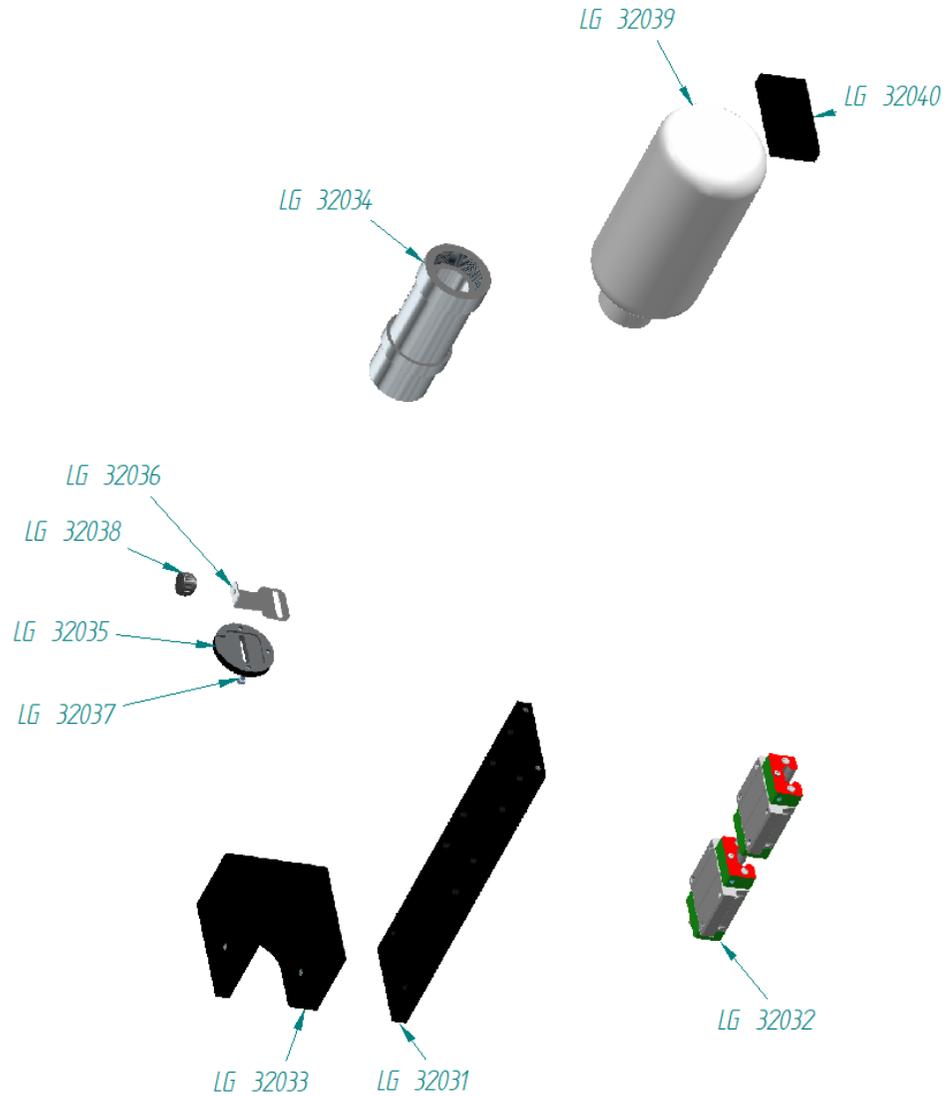
Number	Name	Units
LG20018	Placa motor rascador nueva	1
LG20019	Eje polea rascador	1
LG20020	Casquillo cepillo	2
LG20021	Cepillo	1
LG20022	Corredera rascador	1
LG20023	Patin Hiwin 15_1	2
LG20024	M0037015006N	1
LG20025	6005 25-47-12	1
LG20026	Tapa rascador	1
LG20027	Distancial VF30	1



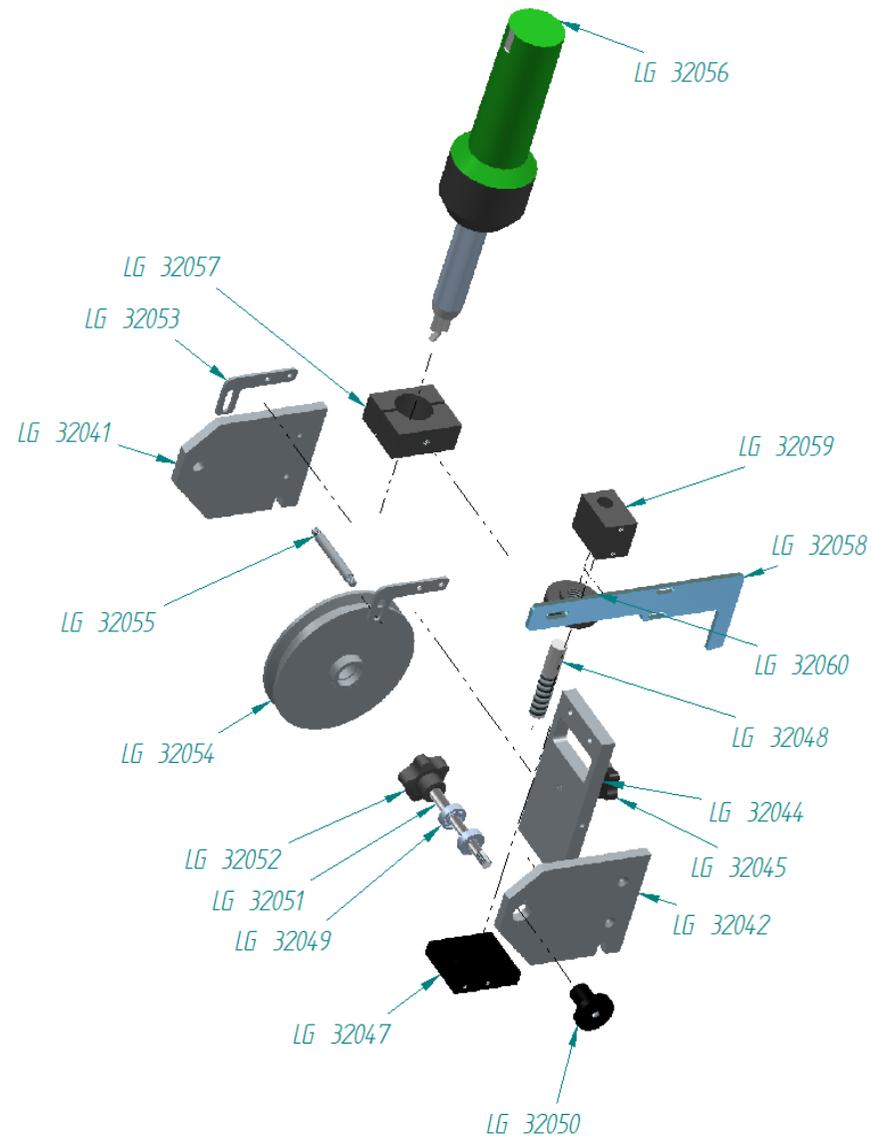
Number	Name	Unts
LG32021	Tapa superior ala	1
LG32022	Ala trasera rascador	2
LG32023	Rail_200	2
LG32024	Patin Hiwin 15_1	2
LG32025	06070-140	1
LG32026	Tapa CQ2	1
LG32027	CQ2WB32TF-100DMZ10_0_0 )	1
LG32028	CQ3SB25-100DC10_1_0)	1
LG32029	Freno 20	1
LG32030	IR1010-01B	1



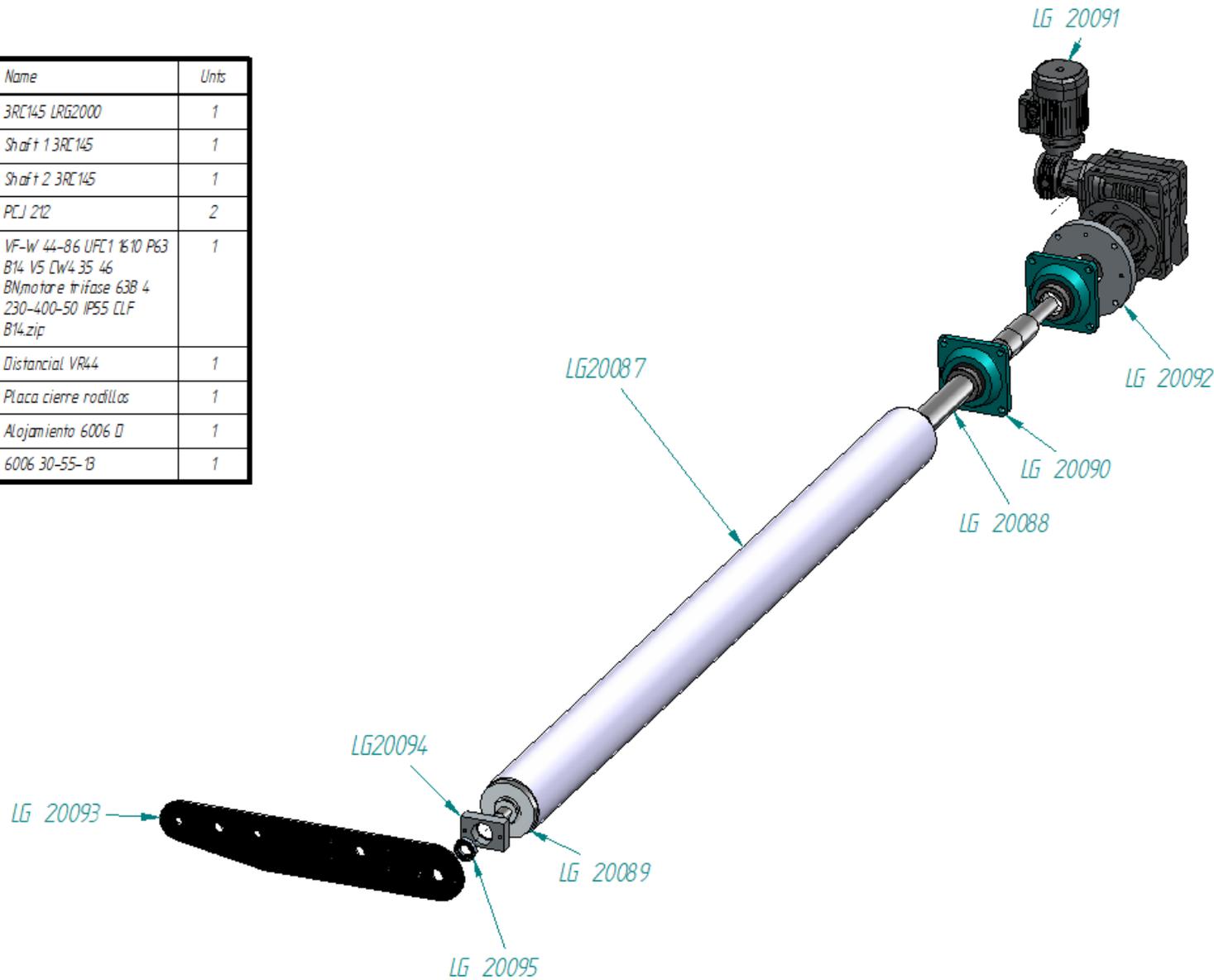
Number	Name	Units
LG32031	Corredera encolador	1
LG32032	Patin Hiwin 15_1	2
LG32033	Soporte encolador	1
LG32034	Rosca tapon V2	1
LG32035	Boca dosificador	1
LG32036	Guillotina dossificador	1
LG32037	912MBx10	3
LG32038	Knurled grip knobs B.193_15 B-M4	1
LG32039	Botella	1
LG32040	Bracket cola	1



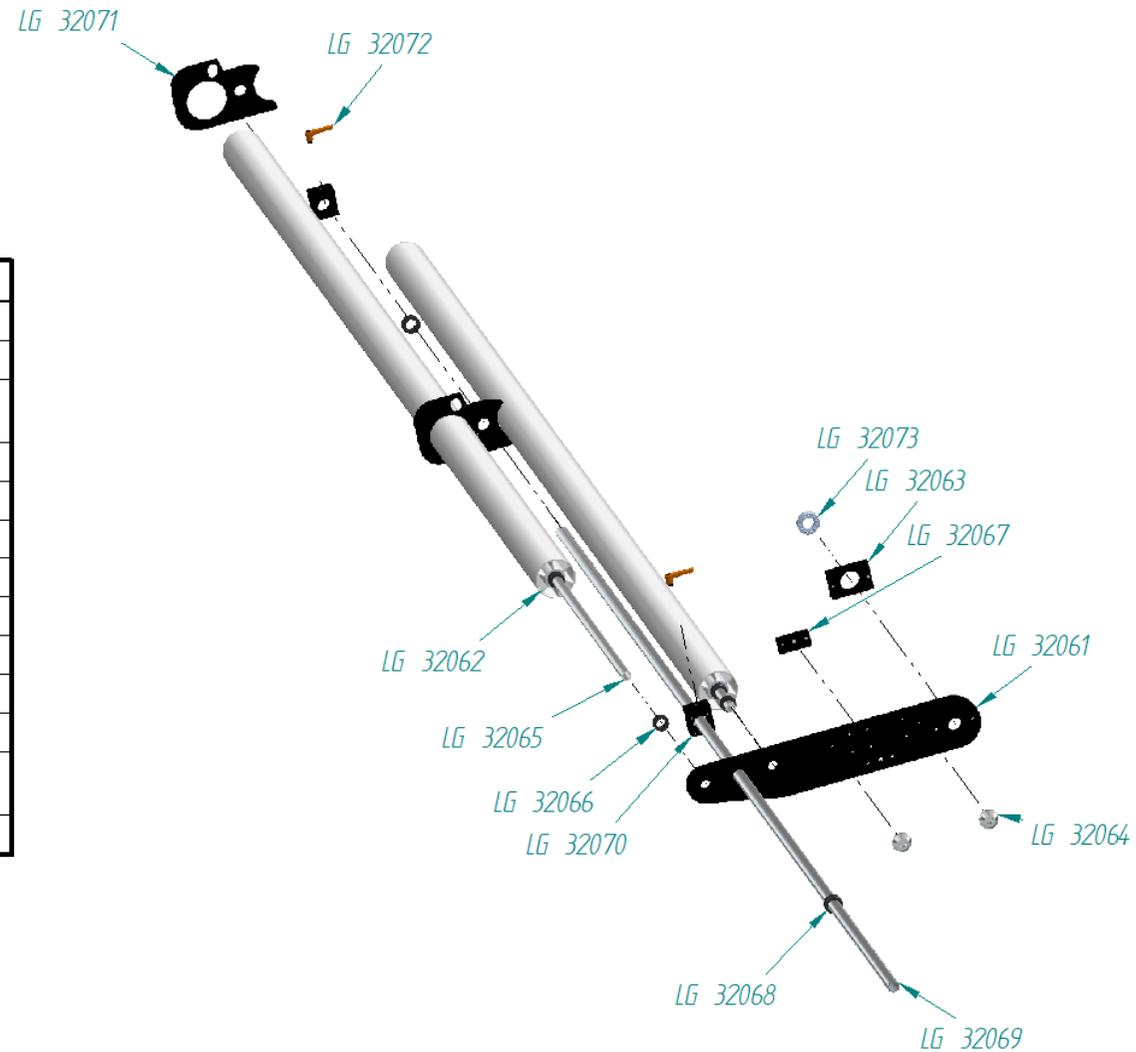
Number	Name	Umts
LG32041	Braza polea 1	1
LG32042	Braza polea 2	1
LG32043*	POL 60 Schiki	1
LG32044	Dist rueda presion	1
LG32045	vc_692_40_p_m8x30	1
LG32047	Apoyo dado Leister	1
LG32048	Vasla giro dado	1
LG32049	6000 10-26-8	2
LG32050	Brida eje polea	1
LG32051	Eje polea V	1
LG32052	vc_192_50_b_m10	1
LG32053	Braza entrada polea LRWG	2
LG32054	POL 17	1
LG32055	Ele polea entrada	1
LG32056	LEISTER 13G	1
LG32057	BRIDA LEISTER	1
LG32058	BRAZO GIRATORIO v2	1
LG32059	DADO GIRO	1
LG32060	MANDO GRAFIL	1



Number	Name	Units
LG20087*	3RC145 LRG2000	1
LG20088	Shaft 1 3RC145	1
LG20089	Shaft 2 3RC145	1
LG20090	PCJ 212	2
LG20091	VF-W 44-86 UFC1 16.10 P63 B14 V5 CW4 35 46 BNmotore trifase 63B 4 230-400-50 IP55 CLF B14.zip	1
LG20092	Distancial VR44	1
LG20093	Placa cierre rodillos	1
LG20094*	Alojamiento 6006 D	1
LG20095	6006 30-55-13	1



Number	Name	Units
LG32061	Placa cierre rodillos	1
LG32062	Rodillo Libre	2
LG32063	Alojamiento rodamiento rodillo	1
LG32064	Cono cierre rodillo	2
LG32065	Eje rodillo entrada	2
LG32066	gn_705_25_e	4
LG32067	Tuerca Vasla alza	1
LG32068	gn_705_30_e	2
LG32069	Vasla cachipi	1
LG32070	Dado guia trasera	2
LG32071	Guia banda trasera	2
LG32072	Manecilla GN 302-63-M8-SR	2
LG32073	6006 30-55-13	1



- **Electrical drawings:**