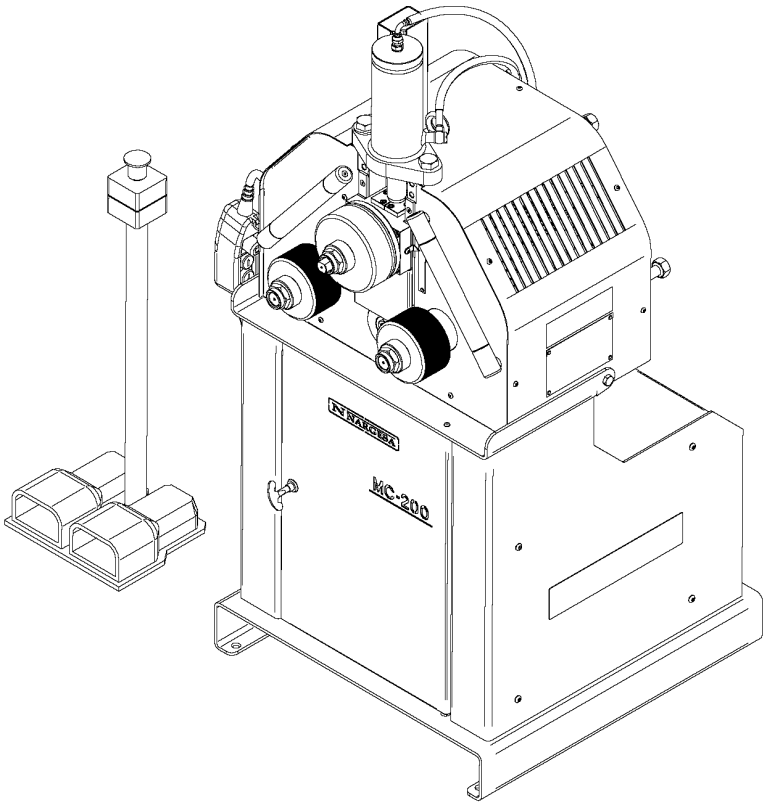
SECTION BENDING MACHINE

MC200H

NS: 2021-468



INSTRUCTIONS BOOK

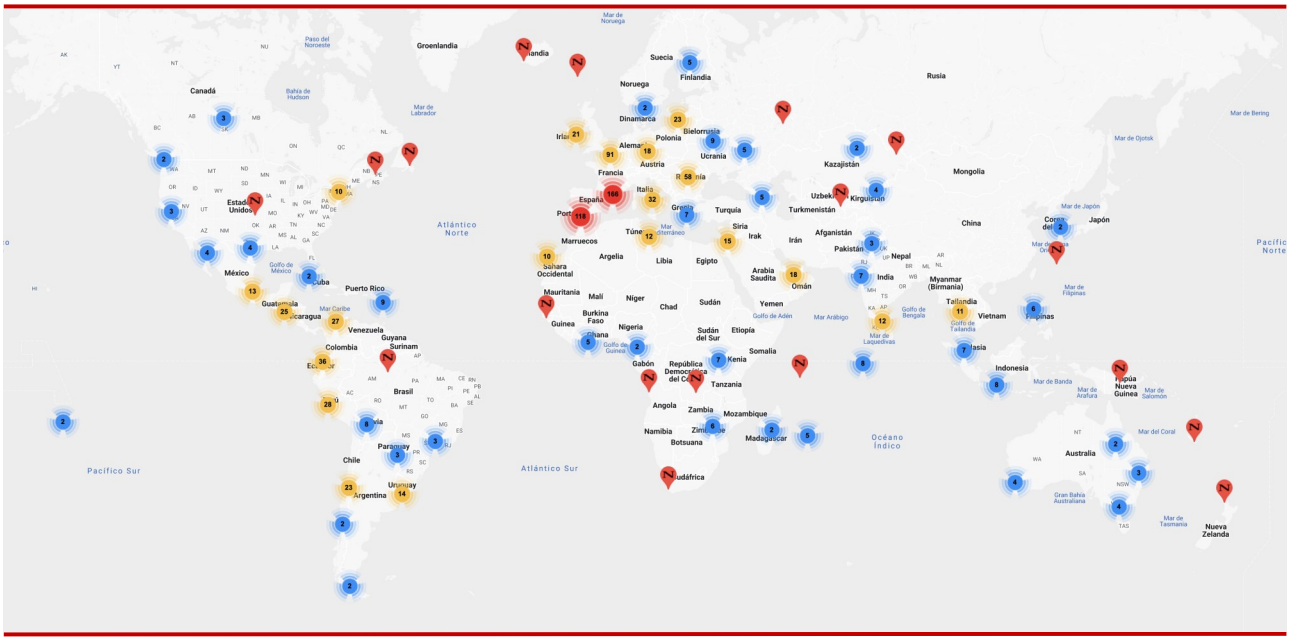
PRADA NARGESA, S.L

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TECHNICAL ANNEX

1. MACHINE DETAILS

1.1. Machine identification details

Trademark: NARGESA

Type:Hydraulic bending machine

Model: MC 200H

1.2. Dimensions

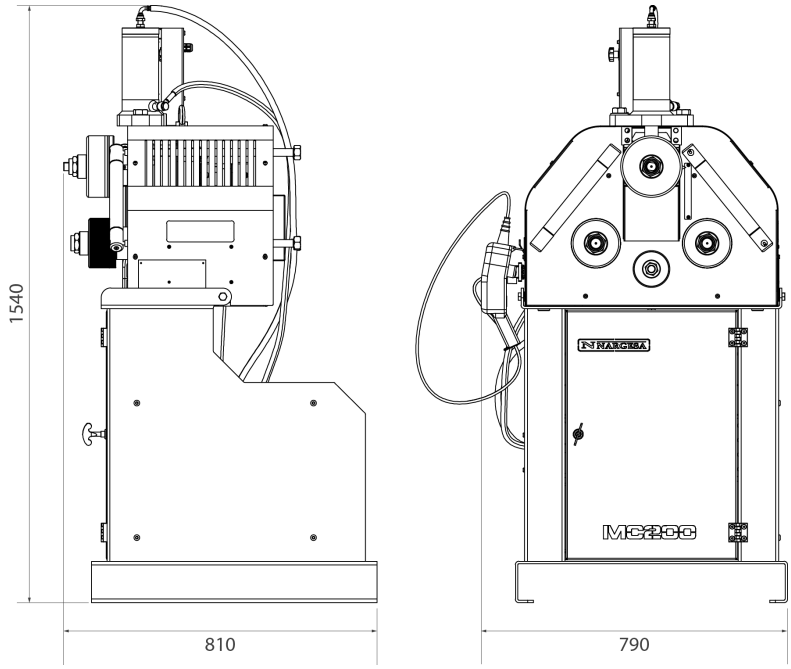


Figure 1. External dimensions of the MC200H bending machine

1.3. Description of the machine

The MC200H bending machine is a machine specifically designed for bending profiles, the majority of which are metal, with different thicknesses and configurations, such as solid profiles, pipes, T-profiles, angles, etc.

The bending machine offers a set of standard tools, rollers, to allow the bending of profiles in a range of shapes and sizes.

Apart from the standard rollers, the manufacturer also offers different types of additional rollers to produce other types of bending, according to the configuration of the material to be handled, as well as specific rollers for works with stainless steel or aluminium, manufactured with **Sustarin,* that prevents scratches and damage on the surfaces.

* *Sustarín: Polyoxymethylene, high resistance and high rigid crystalline thermoplastic, low friction and excellent dimensional stability*

PRADA NARGESA S. L is not liable for any damage that might occur due to misuse or failure by users to comply with the safety standards.

1.4. Machine part identification

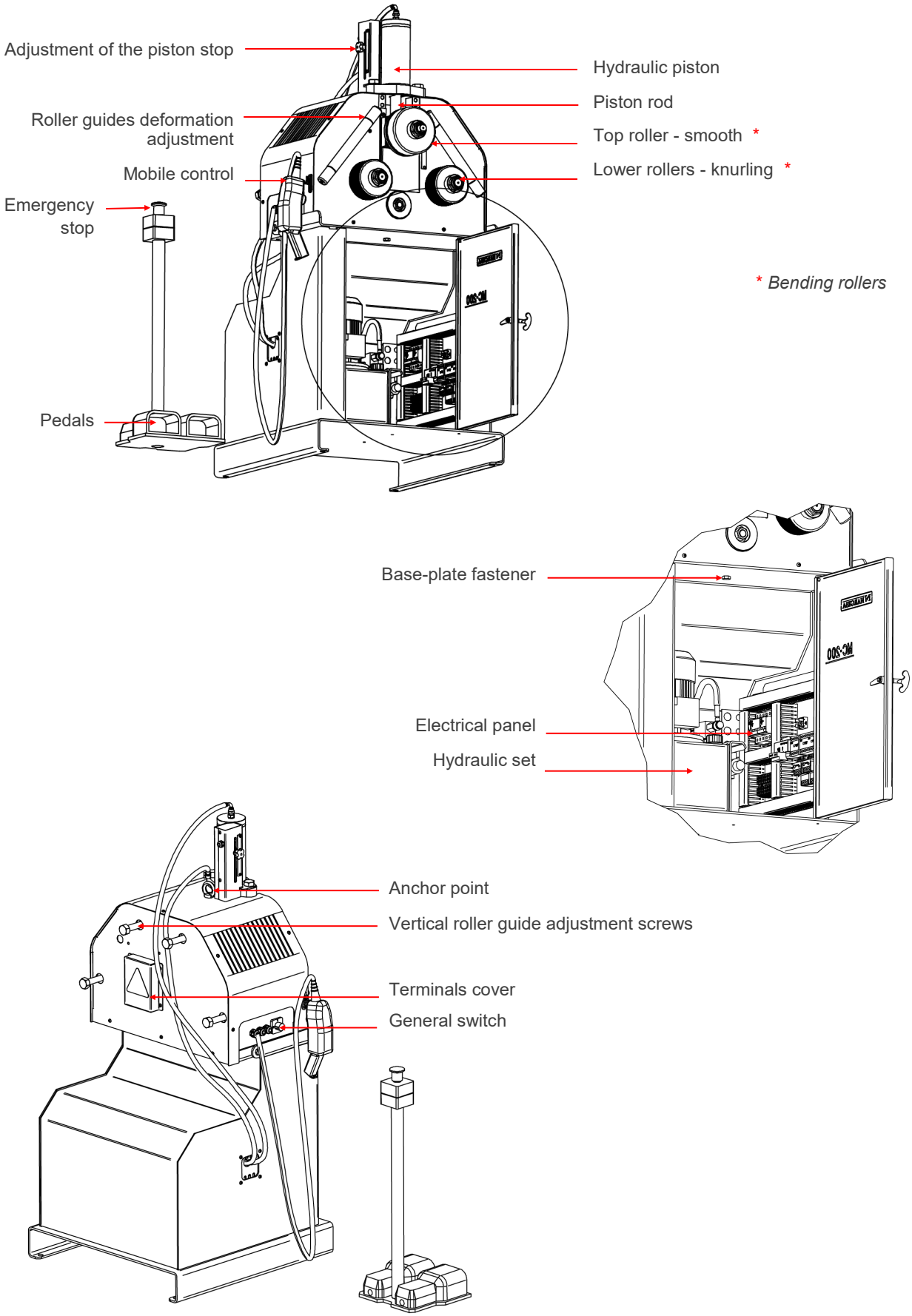




Figure 2. Nameplate

1.5. General Characteristics

Motor power	1.85Kw/2.5 CV a 900 r.p.m.
Tension	230/400V Three-Phase 50/60 Hz 230V Single-Phase 50/60 Hz
Intensity	5.2 / 2.6 A
Type of pull	Two rollers
Roller speed	8 r.p.m.
Axes diameter	40 mm
Axes useful length	74 mm
Structure material	Plate
Total weight	360 Kg
Dimensions	700x830x1530 mm

Hydraulic engine characteristics

Motor power	0.75 Kw/1 CV a 1400 r.p.m.
Pump flow	1.5 l/min
Work pressure	210 Kg/cm^2 (21 MPa)

1.6. Description of the guards

The gear motor and all the gears that allow the operation of the machine are located under the main upper cover that protects the mechanisms.

Although the major mobile elements are protected by the upper cover, it is necessary to take special precautions during bending operations in order to avoid entrapment between the rollers and the piece being bent.

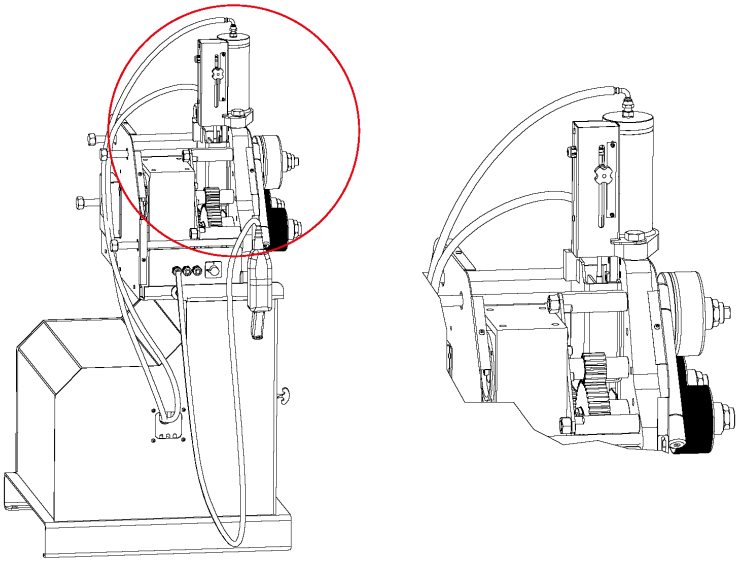


Figure 3. Mechanism protection guards

2. TRANSPORT AND STORAGE

2.1. Transport

There are two ways of carrying out the transportation of the machine:

- From the bottom, through the base of the machine, using a pallet jack or forklift as shown in the illustration. Never raise the machine more than 200 mm from the surface in order to prevent the risk of tipping
- From the top of the machine, from the anchor point designed for this purpose defined in figure 4, using a crane or forklift .

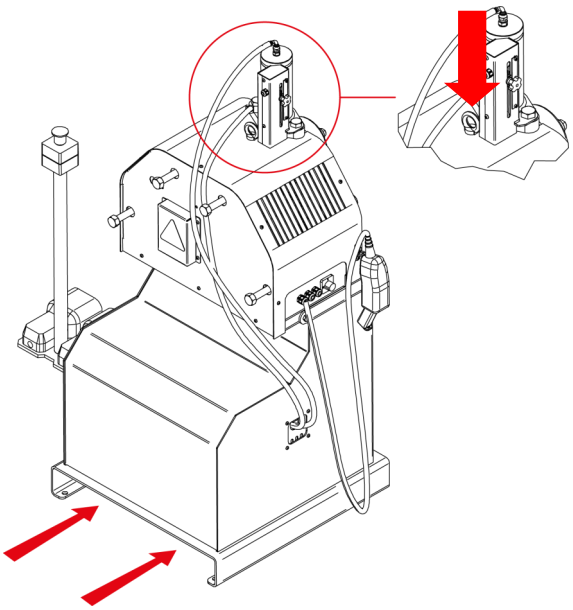


Figure 4. Transportation of the machine

CAUTION:

Before moving the machine, it is essential to check that the screw located in the interior of the cabinet, at its top, is properly secured. This ensures the work of the machine in vertical position without it moving. If the machine is moved while it is in upright position without the screw being correctly secured, there is danger that the machine could tip over, damaging its structure or harming users handling it .

2.2. Storage Conditions

The bending machine shouldn't be stored in a place that does not meet the following requirements:

- Humidity between 30% and 95%
- Temperature of -25 °C to 55 °C or 75 °C for periods not exceeding 24hrs (remember that these temperatures are in storage conditions)
- Machines or heavy objects should not be stacked on top
- Do not take apart for storage

3. MAINTENANCE

3.1. General maintenance

- It is recommended to keep the piston rod clean, whenever possible, to ensure proper operation and to extend its useful life.
- It is advisable to keep the friction rule lubricated along which the upper roller support slides. It is also necessary to ensure a minimum lubrication of the inner walls along which the upper roller support slides.
- Carry out a regular check of the oil level in the hydraulic tank located in the interior of the base. The upper roller must be positioned at its highest point in order to obtain a correct oil level reading .

CAUTION:
The "Emergency Stop" push button must be pressed and the machine brought to a stop in order to lubricate the machine".

In order to lubricate the moving parts of the machine that require lubrication, it's recommended to follow the next instructions:

- Clean the surface to be lubricated with a cotton cloth or a soft rag that does not release any threads. To remove the accumulated grease and any possible residues that have become stuck to it.
- After cleaning, reapply grease onto the surface with the help of a rag or a spatula.
- Spread the grease evenly without creating excesses or clumps.
- Once the machine is lubricated, using the mobile control that manages the height of the upper roller, raise this until it reaches its highest point.
- When the upper roller comes to a stop, reverse the direction of the piston to lower the roller down to its lowest point.
- Repeat the operation to ensure that the friction rule is lubricated.
- Lubricate the machine on a regular basis according to its use.

** It is recommended that you use lithium grease type: N.850 EP-2 for bearings.*

The following is recommended to replace the hydraulic oil:

- Each 500 hours of use, check the oil level in the tank
- The oil plug is located at the top of the tank. In the event of having to add oil, fill until the peep hole, at the front of the tank, is covered.
- Replace the hydraulic oil in the tank after every 2000 hours of work, or every 5 years. The screws holding the tank must be removed in order to replace the hydraulic oil. The drain plug is located at the bottom of the tank.
- Extract the oil with the help of a bucket and deposit it at the nearest recycling point.
- Fill the tank with new hydraulic oil until the oil covers the peep hole located at the front. The tank capacity is approximately 8 litres.
- Return the hydraulic unit to its location and secure it to the machine using the screws.

** It is recommended the use of CEPSA HYDRAULIC HM 68 hydraulic oil.*

4. INSTALLATION AND START UP

4.1. Positioning the machine

Locate the machine properly in order to avoid moving it; otherwise, follow the guidelines described in the paragraph transport (no. 2). Must be placed on a flat, level surface to prevent it vibrating and moving during bending operations.

It is possible to fix the machine using bolts due to the fact that it already comes with a lower base with four holes as shown in figure 5.

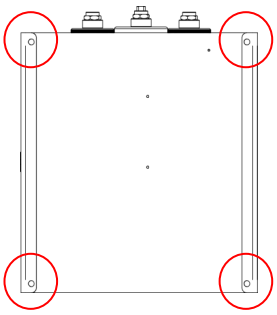


Figure 5. Anchor points of the machine

4.2. Dimensions and work area

The dimensions must be considered when the machine is being placed, the working area for the operator and the possible lengths of the parts to be worked.

The bending machine can be used by a single operator, who must be directly in the front of the machine to be able to handle the piece being bend with safety, and never on the side.

Prior to commencing the bending operation, with the machine shut down, the operator must adjust the bending rollers, adapting them to the material and the profile to be bent, as shown in paragraph *7, figure 15* .

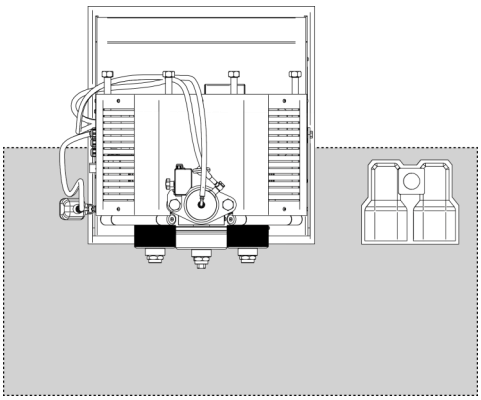


Figure 6. Operator's working area

4.3. External permissible conditions

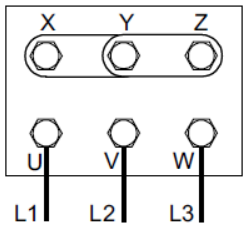
- Room temperature between +5 °C and +40 ºC without exceeding an average temperature of +35 °C within 24 hrs.
- Humidity between 30% and 90% without water condensation .

4.4 Instructions for connecting to the power supply

IMPORTANTThis machine must be connected to an electrical outlet with earthing contact.

The MC200H bending machine comes equipped with a 230V/ 400V 1.1Kw three-phase motor for the operation of the rollers and a 230V/ 400V 0.75 Kw three-phase motor to regulate the hydraulic piston, both ready to be connected to a 400V power supply. The machine must be connected with the plug installed to a compatible power supply that meets the requirements specified.
If you want to connect the machine to a 230V three-phase voltage, a series of changes must be made to the electrical panel. These are the following:
- Change of the main motor coil connections
- Change of the hydraulic motor coil connections
- Change of the transformer connections
- Adjustment of the intensity range of the motor guard contactors.

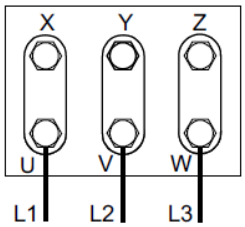
Change of the motor connection:
When the power supply voltage is 400V three-phase, we perform the connection in a Star shape (default setting in the machine). In the case of 230V three-phase, we perform the connection in a Triangle shape. As shown in the figure.
The modification of the connection must be made through the motor terminal box located in the rear of the machine, changing the configuration of the flats according to the power voltage.



Star figure

(Default)

For voltage 400V



Triangle figure

For voltage 230V

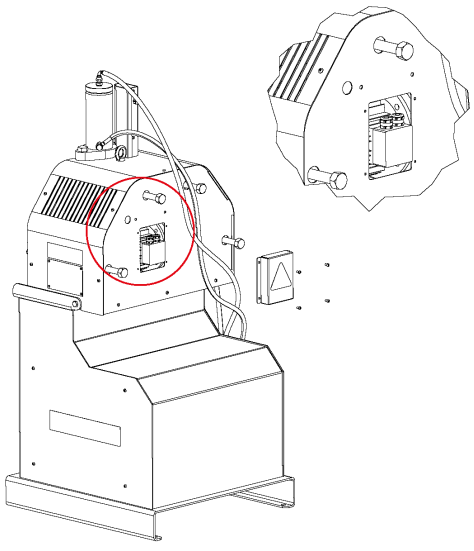


Figure 7. Change of engine connections

A check must be carried out to ensure that the machine is not connected to the power supply prior to making any modification to the connection or the electrical panel.

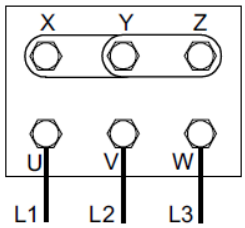
Changing of the hydraulic motor connections:

The hydraulic system motor is located in the inside of the cabinet, at the base of the machine.

The hydraulic group is located inside the cabinet, with the motor secured to the tank and the terminal box located at the front of the machine.

Just like the main motor, when there is three-phase 400 V power voltage, we make the connection in a Star shape (already pre-installed in the machine). If it is 230 V three-phase, we make the connection in a triangle shape, as shown in the diagram.

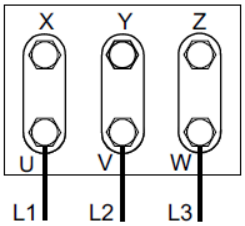
The modification of the connection must be done in the same way as the main motor, changing the configuration of the plates.



Star figure

(Default)

For voltage 400V



Triangle figure

For voltage 230V

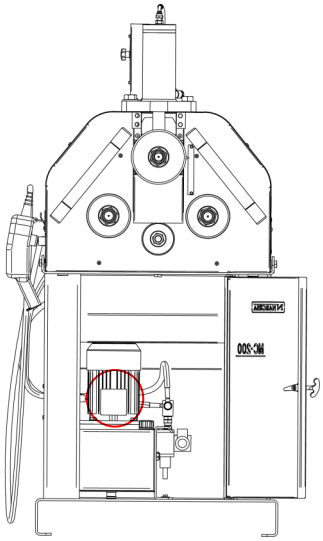


Figure 8. Changing the hydraulic engine connections

Change of the transformer connections:

Depending on the operation voltage required, the connections will also have to be changed in the transformer. This is located secured to the electrical panel inside the machine cabinet as shown in section A3.

Electrical cabinet

This is like the one shown in the diagram below. In order for the machine to operate at 400V, the inlet terminals connected are identified as “0v” and “415v”. To modify the operation voltage to 230V, all you have to do is release terminal “415v” using a star screwdriver and connect the released cable to the “230v” inlet and tighten it with the screwdriver .

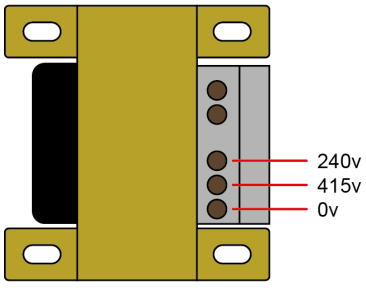


Figure 9. Changing the transformer connections

Adjust the range of intensities of the motor guard contactors:
Depending on the power voltage, the working intensity also varies, and it is therefore necessary to also modify the working range of the motor protection devices. The motor guard contactors are secured to the electrical panel as shown in section A3. *Electrical cabinet*
The motor guard contactor have a structure like the ones shown in the diagram below and allow a rapid adjustment through the regulator located at their front.
The right-hand contactor is responsible for protecting the main motor:
The regulator indication arrow must be around “5A” for 230V three-phase connection. In the case of a 400V three-phase connection, this must be around “2.6A”.
The left-hand contactor is responsible for protecting the hydraulic motor:
The regulator indication arrow must be around “3.5A” for 230V three-phase connection. In the case of a 400V three-phase connection, this must be around “2A” .

**If the motor guard contactor cannot assume the intensity range required, this must be replaced with one with a greater range.*

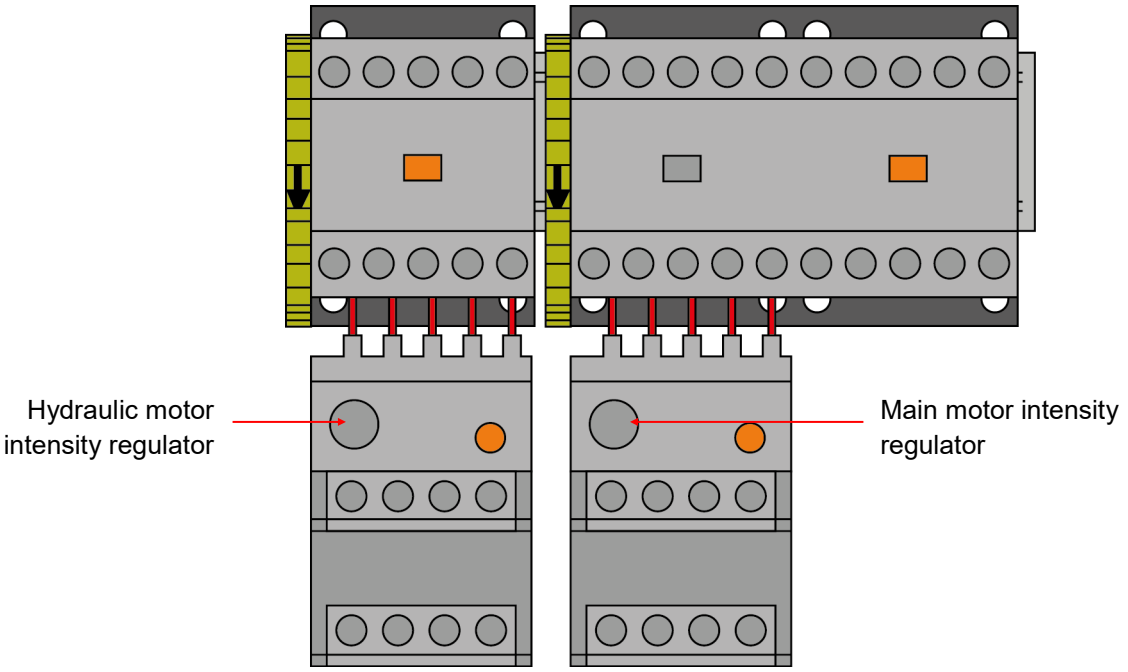
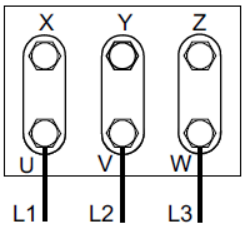


Figure 10. Intensity range adjustment

We recommend contacting the Technical Service Department of NARGESA S.L. if you wish to change the operation voltage of the machine in order to be guided and assisted through the procedure.

The MC200H bending machine comes equipped with a 230V/ 400V 1.1Kw three-phase motor for the operation of the rollers and a 230V/ 400V 0.75 Kw three-phase motor to regulate the hydraulic piston, both ready to be connected to a 1 phase 230V power supply. The machine must be connected with the plug installed to a compatible power supply that meets the requirements specified.



Triangle figure

For voltage 230V

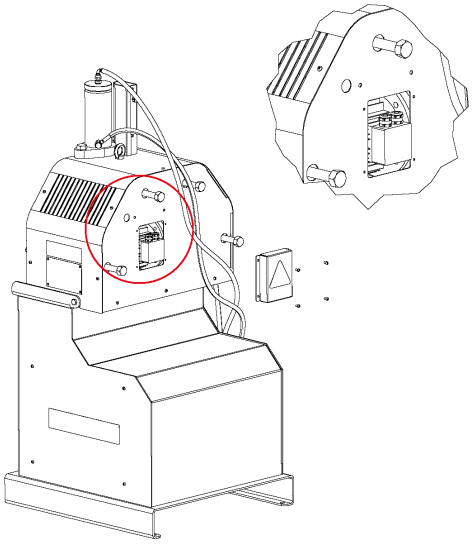
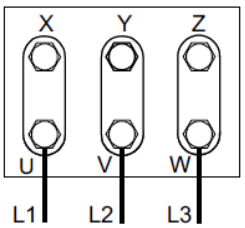


Figure 11. Engine connections

The hydraulic system motor is located in the inside of the cabinet, at the base of the machine.

The hydraulic group is located inside the cabinet, with the motor secured to the tank and the terminal box located at the front of the machine.



Triangle figure

For voltage 230V

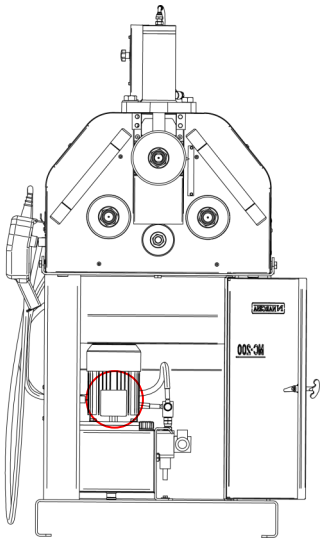


Figure 12. Changing the hydraulic engine connections

5. INSTRUCTIONS FOR USE

5.1. Bending principles

- The bending machine engine is started up using two pedals without interlocking, one for the clockwise rotation and the other for the anti-clockwise rotation.
- The bending machine radius is regulated by activating the mobile control push buttons, adjusting the height of the upper roller.
- There are two emergency stop buttons, one at the top of the pedals and another on the mobile control. Both stop the operation of the machine.
- The material can be placed in the machine through both sides. Use the mobile control to adjust the height of the upper roller, thereby adjusting the entry of the material. We can position the central roller end point at the end stop, which will allow us to obtain a high level of positioning repeatability.
- The distance between the deformation adjustment roller guide and the work surface must be modified in order to adjust the alignment of the material. This task will be performed by tightening the adjusting screws located at the rear of the machine. These roller guides guide the material to minimise lateral deformation. (The support roller guides must gently press against the profile to be bent)
- It is recommended to cut the tip into a wedge shape in order to obtain optimum bending in the profile to be worked, to facilitate its entry.
- In the event of not obtaining the proper results, the position of the guide rollers for deformation must be adjusted.
- The roller mounting nuts must be tightened by manual force only .

5.2. Assembly of the rollers

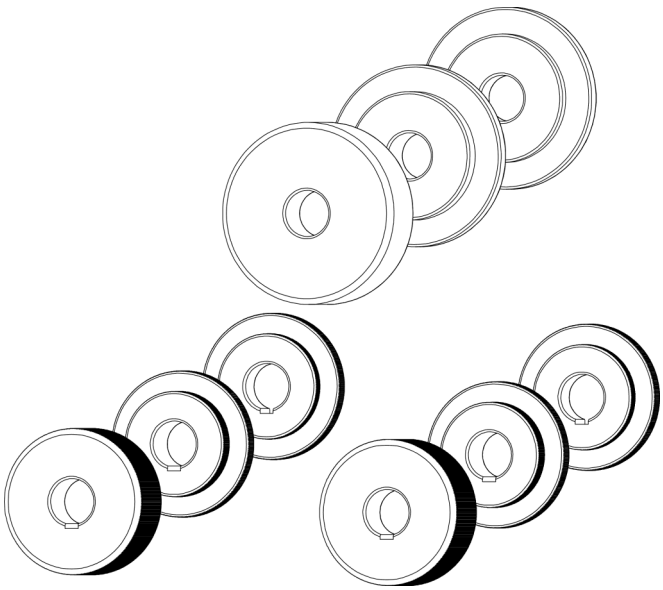


Figure 13. Position of the rollers in relation to the machine axes

5.3. Positioning the base-plate

The MC 200H can be worked with the base-plate in the horizontal or vertical position according to what is deemed necessary, depending on the tasks to be performed.

In order to place the bending machine in horizontal position:

- Open the cabinet and loosen the clamping screw located in the interior, in the top of the cabinet, as specified in paragraph 1.4 *Machine identification details.*
- Once the screw is loosened, tilt the base-plate backwards that houses the rollers and the gear motor with the help of another operator.
- Take care to handle the base-plate via the cylinder and the rear of the same during the tilt operation. Never handle the base-plate via the horizontal base that supports the work area, owing to the risk of entrapment.
- The machine will be supported on top of the cabinet that holds it allowing the horizontal work.

To return the machine to its vertical configuration:

- With the help of another operator, handling the base-plate through the rear (now located in horizontal) and the cylinder, reposition the base-plate in an upright position.
- Once positioned in vertical, screw the clamping screw, located in the inside of the cabinet, to prevent the base-plate from returning to its horizontal position.

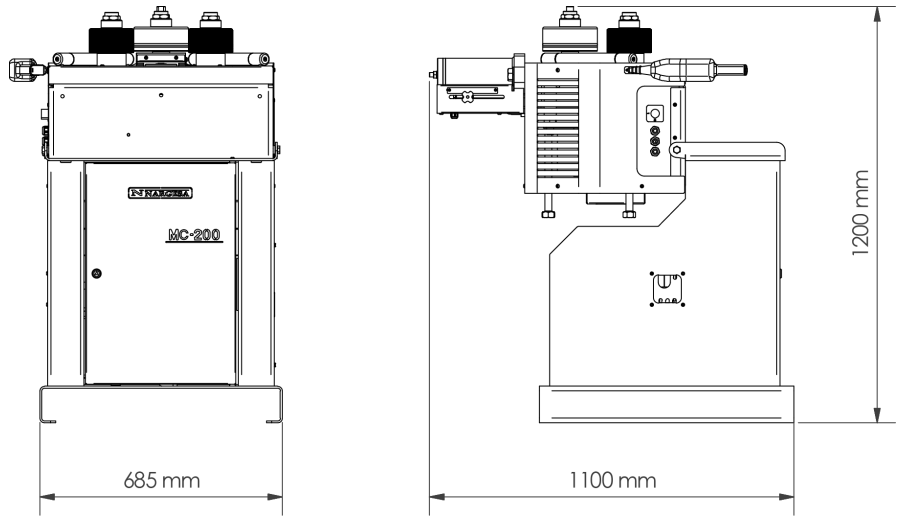


Figure 14. Machine dimensions with the base-plate in a horizontal position

CAUTION:

To change the configuration of the machine from vertical to horizontal or vice versa, the machine must be stopped and the "Emergency Stop" push button pressed.

Never handle the machine around the axes or the rollers while changing configuration.

Before using the bending machine in a vertical position, and after the configuration change, ensure that the fixing screw has a proper torque and the machine is stable.

Ensure that the hydraulic lines are not being pinched by the base-plate when carrying out the manoeuvre .

6. WARNINGS

The MC200H bending machine is designed and assembled to allow the operator to handle the machine and bend the necessary parts in a completely safe manner. Any change to the machine's structure or characteristics could modify the safety offered by the machine, breaching the EC certificate of conformity and could endanger the operator.

6.1. Residual hazards

Hazardous conditions may occur during the bending of materials that must be analysed and prevented. Attention should be paid to the movements of the piece to be bent and the roller while the material is being introduced into the machine as well as during its shaping. Despite the fact that the forward speed of the rollers is slow, there is a risk of entrapment in the extremities between the rollers and the part.
Users of the machine are recommended to handle the part to be bent firmly with one hand and to move the hand according to the progress of the bending operation in order to maintain a safe distance from the rollers.
It is also necessary to prepare the work area to prevent other operators from injuring themselves during operation of the machine.

6.2. Counter-productive methods

Tools or rollers that are not supplied by the manufacturer of the machine, NARGESA S.L., and which have not been specially designed for the MC200H bending machine should never be used .

6.3. Other recommendations

- Use gloves for handling the machine and during the bending processes.
- Wear EC-approved goggles and protective boots
- Handle the material at the ends, and never around the area being bent
- Do not work without the protection devices that the machine is fitted with
- Ensure that there is a safe distance between the machine and the operator

7.1. Bending capacity






	MC150B		MC200		MC400		MC200H	
Profile	Measures	Min. radius	Measures	Min. radius	Measures	Min. radius	Measures	Min. radius
	50 x 10	300	50 x 10	300	50 x 10	250	60 x 10	200
	60 x 20	200	80 x 20	150	80 x 20	150	80 x 20	150
	25 x 25	200	30 x 30	200	30 x 30	150	30 x 30	150
	50 x 50 x 3 40 x 40 x 3	700 350	50 x 50 x 3 40 x 40 x 3	600 300	50 x 50 x 3 40 x 40 x 3	600 300	50 x 50 x 3 40 x 40 x 3	450 300
	40	200	40	200	40	150	40	200
	40	250	40	250	40	200	40	250
	40	300	40	300	40	250	40	250
	50	200	60	300	60	225	60	225
	50	250	60	300	60	225	60	225
	40	500	40	420	40	200	40	300
	25	180	30	150	30	150	30	150
*	40 x 2 * 50,8 x 3 * = 2” x 3 *	300 600 600	40 x 2 * 63,5 x 3 * = 2”1/2 x 3 *	250 500 500	40 x 2 * 63,5 x 3 * =2”1/2 x 3 *	200 450 450	40 x 2 * 63,5 x 3 * =2”1/2 x 3 *	200 450 450





	MC550 · MC550CNC		MC650 · MC650CNC	
Profile	Measures	Min. radius	Measures	Min. radius
	60x15 60x8 50x15 50x10 40x8 30x5 25x5	400 200 350 175 150 110 105	100x15 80x20 60x15 50x15 20x10●	1250 450 300 155 140
	100x20 80x20 80x15	250 200 180	120x20 100x25 80x20	250 350 200
	35x35 30x30 25x25 20x20 15x15 15x15	400 200 175 150 150	45x45 40x40 25x25● 20x20●	300 280 200 150
	60x60x3 50x50x3 35x35x3	800 600 200	70x70x4 60x60x3 40x40x3	750 750 300
	70x30x3 60x30x3 50x30x3	500 400 250	80x40x3 60x30x3 50x30x3	500 300 250
	60x60x7 50x50x6 40x40x5	300 250 200	80* 70 60 40	500 400 200 150
	60x60x7 50x50x6 40x40x5	500 400 300	80* 60 40	500 400 150
	60x60x7 50x50x6 40x40x5	350 300 250	60x8 40x6	450 250





	MC550 · MC550CNC		MC650 · MC650CNC	
Profile	Measures	Min. radius	Measures	Min. radius
	40x20x5 60x30x6 80x45x6	160 200 400	120* 100* 80	600 600 350
	80x45x6 60x30x6 40x20x5	600 250 200	120* 100* 80	700 700 400
	50x5 40x5	550 400	70x7 60x5 50x5 40x4	600 400 300 250
	50x5* 40x4*	750 500	50x5* 40x4*	750 500
	40 35 30 20	300 250 200 130	50 40 25	300 200 175
	76,2x3* (3”x3) 40x2 20x2	500 180 100	101,6x3,5* (=4”x3) 100x3* 88,9x4* (=3”SCH) 35x2* 20x1,5*	500 500 700 120 115

* Optional rollers

• Consulting with manufacturer

7. ASSEMBLING OF THE ROLLERS

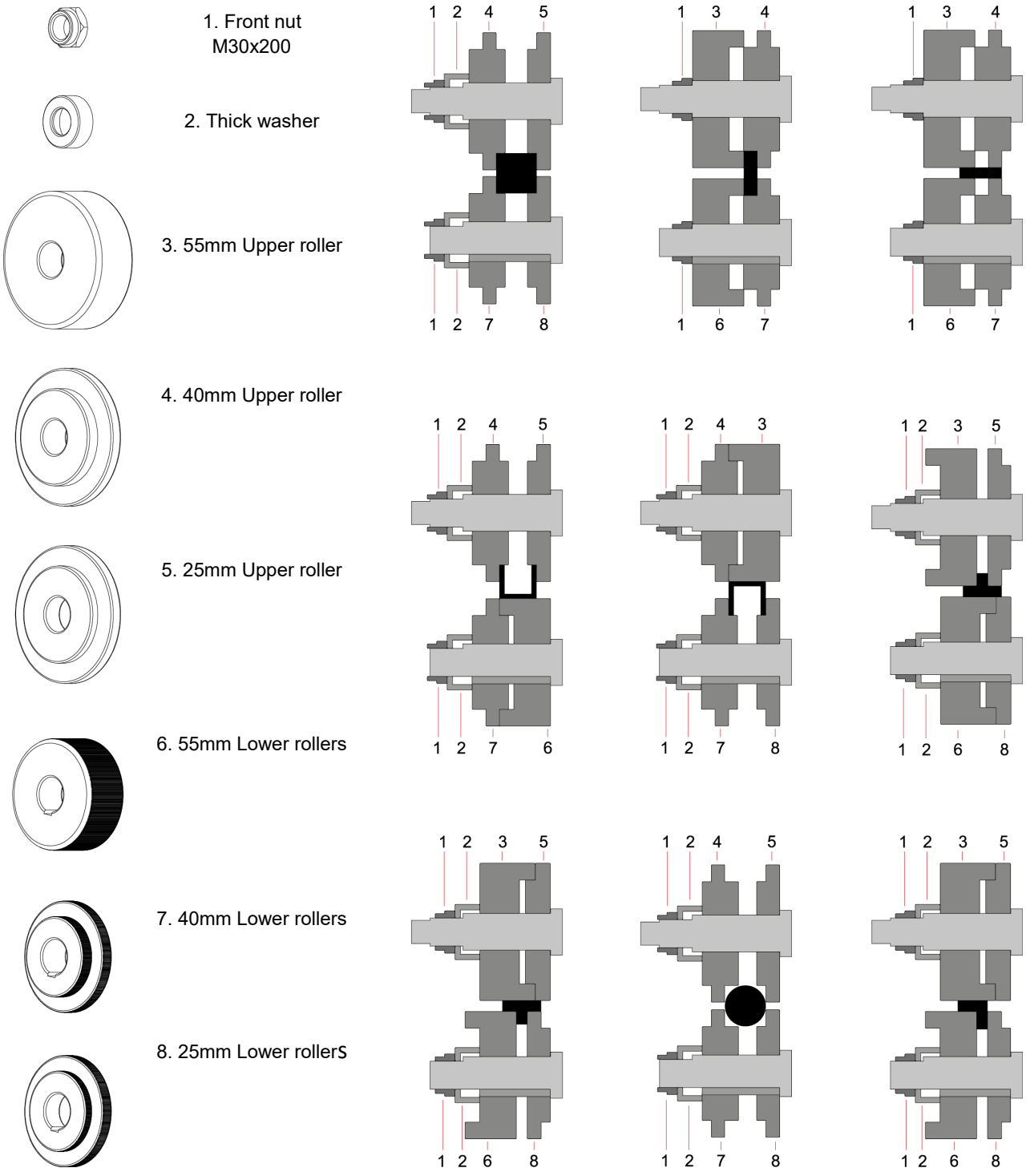


Figure 15. Nomenclature of the rollers and assembly

IMPORTANT NOTE:
The clamping nut of the rollers should never be tightened with a wrench and only by hand. If pipe rollers are being used, the nuts must be loose.

8. OPTIONAL ACCESSORIES

The bending machine has been designed for bending all kinds of profiles irrespective of their shape.

The standard rolls included as standard on the bending machine allow the configuration of all kinds of handrails, angles, square, round pipes, etc., thanks to their multiple configurations.

In order to facilitate the bending of certain more delicate materials that require a very good surface finish or to facilitate the bending of more common sections, NARGESA has designed a series of rollers that can be purchased at an official dealership or by directly by contacting NARGESA S.L.

Besides the accessories shown below, NARGESA also designs special rollers upon specific request for customers .

Set of treated steel rollers



Set of 3 treated steel rollers for steel round pipe or stainless steel, thickness bigger than 2 mm.
When pipe sizes are smaller, two sizes are included in the same roller.
Eg. (25 + 30) o (1/2" + 1"1/4")
Always clean up the rollers well before using stainless steel not to get the pipe contaminated.

Tube size in mm		
Reference	**Dimensions**	**Weight**
140-08-01-RHT0007	(25 + 30)	17,00 Kg
140-08-01-RHT0006	(20 + 35)	16,50 Kg
140-08-01-RHT0001	40	16,60 Kg
140-08-01-RHT0002	50	14,25 Kg
140-08-01-RHT0003	60	11,10 Kg
For Schedule pipe		
140-08-01-RHISOT0006	(3/4" + 1/2") = (26,9 + 21,3 mm)	17,70 Kg
140-08-01-RHISOT0007	(1" + 3/8") = (33,7 + 17,2 mm)	17,00 Kg
140-08-01-RHISOT0002	1" 1/4 = 42,4 mm	16,00 Kg
140-08-01-RHISOT0003	1" 1/2 = 48,3 mm	14,40 Kg
140-08-01-RHISOT0004	2" = 60,3 mm	11,15 Kg
For Whitwort inches pipe		
140-08-01-RHWT-00001	(1/2" + 1"1/4") = (12,700 + 31,751 mm)	18,00 Kg
140-08-01-RHWT-00002	(1" + 3/4") = (25,401 + 19,051 mm)	18,50 Kg
140-08-01-RHWT-00003	1"1/2 = 38,101 mm	17,25 Kg
140-08-01-RHWT-00004	2" = 50,802 mm	13,60 Kg
140-08-01-RHWT-00005	2"1/2 = 63,502 mm	9,75 Kg

Set of Sustarín rollers



Set of 3 Sustarin rollers for stainless steel pipes, aluminium and delicate materials for thickness smaller than 2.5 mm.

When pipe sizes are smaller, two sizes are included in the same roller.

Eg. (25 + 30)

Tube size in mm		
Reference	**Dimensions**	**Weight**
140-08-01-RI0007	(25 + 30)	1,40 Kg
140-08-01-RI0001	(20 + 35)	1,40 Kg
140-08-01-RI0010	33	1,50 Kg
140-08-01-RI0004	40	1,40 Kg
140-08-01-RI0003	43	1,30 Kg
140-08-01-RI0006	50	1,20 Kg
140-08-01-RI0008	60	0,90 Kg
For Schedule pipe		
140-08-01-RIISO0001	(3/4” + 1/2”) = (26,9 + 21,3 mm)	1,70 Kg
140-08-01-RIISO0002	(1” + 3/8”) = (33,7 + 17,2 mm)	1,60 Kg
140-08-01-RIISO0003	1” 1/4 = 42,4 mm	1,30 Kg
140-08-01-RIISO0004	1” 1/2 = 48,3 mm	1,20 Kg
140-08-01-RIISO0005	2” = 60,3 mm	0,90 Kg
For inches pipe		
140-08-01-RIW-00001	(1/2” + 1”1/4”) = (12,700 + 31,751 mm)	1,80 Kg
140-08-01-RIW-00002	(1” + 3/4”) = (25,401 + 19,051 mm)	1,50 Kg
140-08-01-RIW-00003	1”1/2 = 38,101 mm	1,40 Kg
140-08-01-RIW-00004	2” = 50,802 mm	1,20 Kg
140-08-01-RIW-00005	2”1/2 = 63,502 mm	0,90 Kg

Technical annex

MC200H Bending Machine

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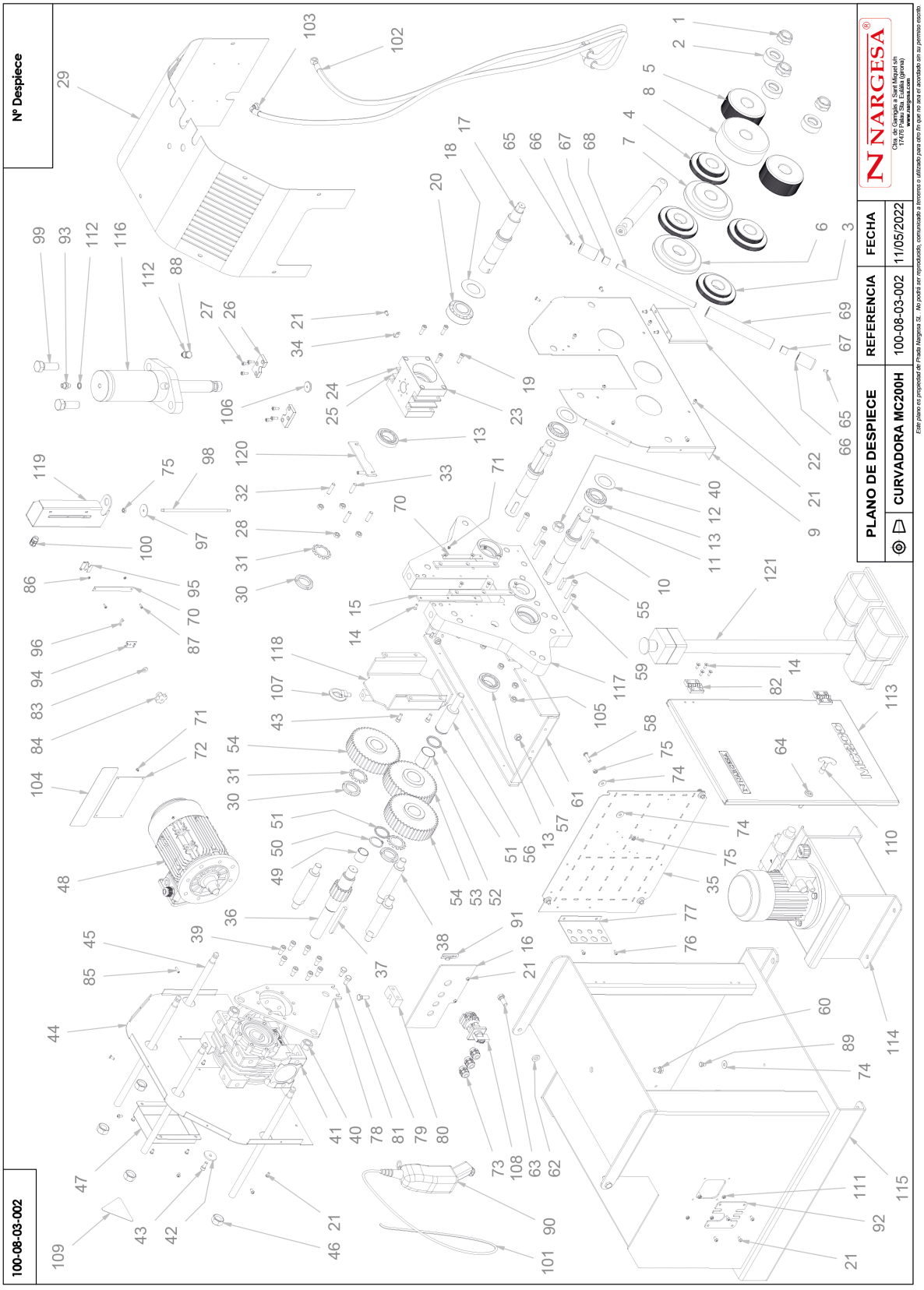
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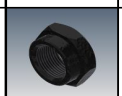
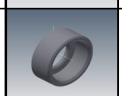
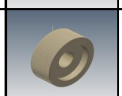
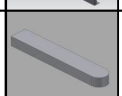
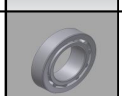
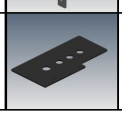
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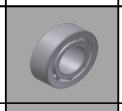
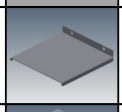
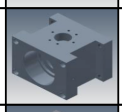
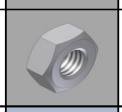
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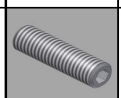
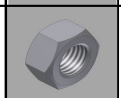
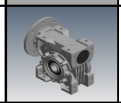
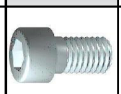
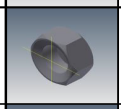
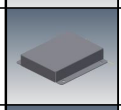
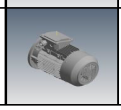
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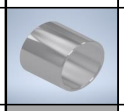
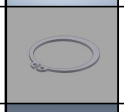
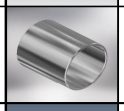
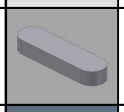
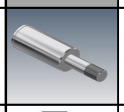
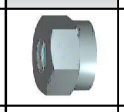
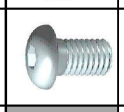
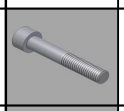
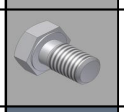
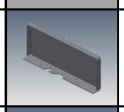
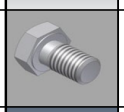
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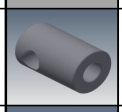
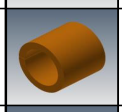
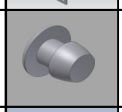
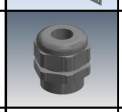
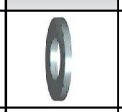
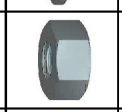
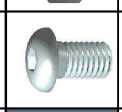
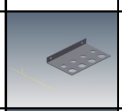
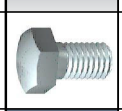
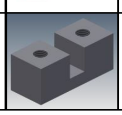


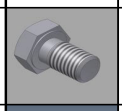
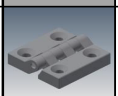
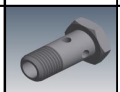
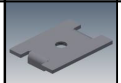
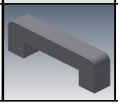
Elemento	Miniatura	Nº de pieza	Descripción	CTDAD
1		120-08-01-00001	Tuerca Posterior	3
2		120-08-01-00002	Arandela de Vaso	3
3		120-08-02-00160	RODILLO INFERIOR DE 25	2
4		120-08-02-00161	RODILLO INFERIOR DE 40	2
5		120-08-02-00162	RODILLO INFERIOR DE 55	2
6		120-08-02-00165	RODILLO SUPERIOR DE 25	1
7		120-08-02-00164	RODILLO SUPERIOR DE 40	1
8		120-08-02-00163	RODILLO SUPERIOR DE 55	1
9		120-08-02-00183	TAPA FRONTAL	1
10		030-D6885AB-00001	CHAVETA PARALELA DIN 6885AB 12X8X75	2
11		120-08-02-00008	EJE TRACCION	2
12		120-08-02-00167	PROTECCION COJINETE DELANTERO EJES MOTRICES MC200	2
13		030-CJ-00002	Rodamiento de rodillos cónico 32008 40x68x19	5
14		020-D7991-M6X16	TORNILLO ALLEN DIN 7991 M6X16	20
15		120-08-02-00026	REGLA DE FRICCION	4
16		120-08-02-00171	SOPORTE INTERRUPTOR GENERAL	1

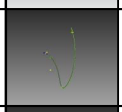
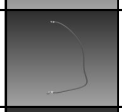
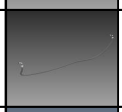
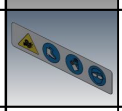
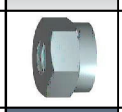
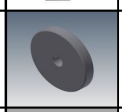
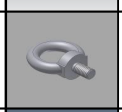
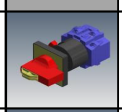
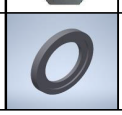
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17		120-08-02-00011	EJE BUJE MOVIL	1
18		120-08-02-00168	PROTECCION COJINETE DELANTERO EJE CENTRAL MC200	1
19		020-D912-M8X25	TORNILLO ALLEN DIN 912 M8 x25	4
20		030-CJ-00007	Rodamiento de rodillos cónico 33208 40X80X32	1
21		020-I7380-M6X12	TORNILLO ALLEN ABOMBADO ISO7380 M6X12	29
22		120-08-02-00071	TAPA PROTECCION DELANTERA	1
23		120-08-02-00010	BUJE MOVIL	1
24		120-08-02-00012	PASAMANO FRICCION BUJE MOVIL	2
25		120-08-02-00013	PASAMANO FRICCION AJUSTE BUJE MOVIL	2
26		120-08-02-00021	PASAMANO FIJACION	2
27		020-D912-M6X16	Tornillo Allen DIN912 M6X16	6
28		020-D934-M10	Tuerca Hexagonal DIN934 M10	4
29		120-08-03-00128	TAPA PRINCIPAL	1
30		020-D981-KM8	Tuerca Ranurada KM8 M40x150	3
31		020-D5406-MB8	Arandela de bloqueo MB8 D40	3
32		020-D913-M10X40	ESPARRAGO ALLEN DIN 913 M10X50	2

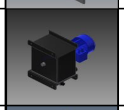
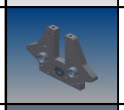
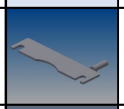
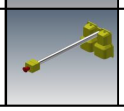
Elemento	Miniatura	Nº de pieza	Descripción	CTDAD
33		020-D913-M10X35	ESPIGA ALLEN DIN 913 M10X35	2
34		120-08-02-00060	FLECHA INDICADORA	1
35		120-08-02-00152	Placa Montaje electrico - MC200	1
36		120-08-02-00033-01	EJE PRINCIPAL Z15	1
37		030-D6885A-00001	CHAVETA PARALELA DIN 6885A 10X8X110	1
38		120-08-02-00038	SEPARADOR REDUCTOR	3
39		020-D912-M10X20	Tornillo Allen DIN912 M10X20	8
40		020-D934-M20	Tuerca DIN 934 M20	4
41		050-RT-00002	Reductor MRT85 B3 1:40 G6/35	1
42		120-08-02-00035	ARANDELA FIJACION REDUCTOR	1
43		020-D912-M8X20	TORNILLO ALLEN DIN912 M8X20	5
44		120-08-02-00182	TAPA TRASERA	1
45		120-08-02-00027	VARILLA REGULACION RULINA	4
46		120-08-01-00045	Hexagono Varilla Niveladora Rulina	4
47		120-08-02-00062	TAPA CAJA DE BORNES	1
48		050-ME-00019	Motor Eléctrico 1.1 Kw a 900 rpm Brida B5	1

Elemento	Miniatura	Nº de pieza	Descripción	CTDAD
49		030-DP-00013	Dolla Partida SD-1 D30XD34X30 Plateada	1
50		030-D471-00005	Circlip de Eje DIN 471 D40	1
51		120-08-01-00090	GRUESO BRONCE PIÑON CENTRAL	2
52		030-DP-00017	DOLLA PARTIDA D40XD44X50	1
53		120-08-01-00092	ENGRANAJE Z45 REENVIO	1
54		120-08-02-00032	ENGRANAJE Z45	2
55		030-D6885A-00004	CHAVETA PARALELA DIN 6885A 12X8X45	2
56		120-08-02-00041	EJE REENVIO	1
57		020-D985-M12	Tuerca Autoblocante DIN 985 M12	2
58		020-I7380-M8X30	TORNILLO ALLEN CABEZA REDONDA ISO 7380 M8X30	4
59		020-D912-M10X60	Tornillo Allen DIN 912 M10 X60	6
60		020-D933-M12X20	TORNILLO HEXAGONAL DIN 933 M12X20	1
61		120-08-02-00169	PLACA BASE	1
62		120-08-02-00117	ARANDELAS DE GRUESO - Ø24xØ12.5x4	2
63		020-D933-M12X30	Tornillo Hexagonal DIN 933 M12x30	2
64		031-CLT-00001	CIERRE DE LENGÜETA CON TRIANGULO 8 M20	1

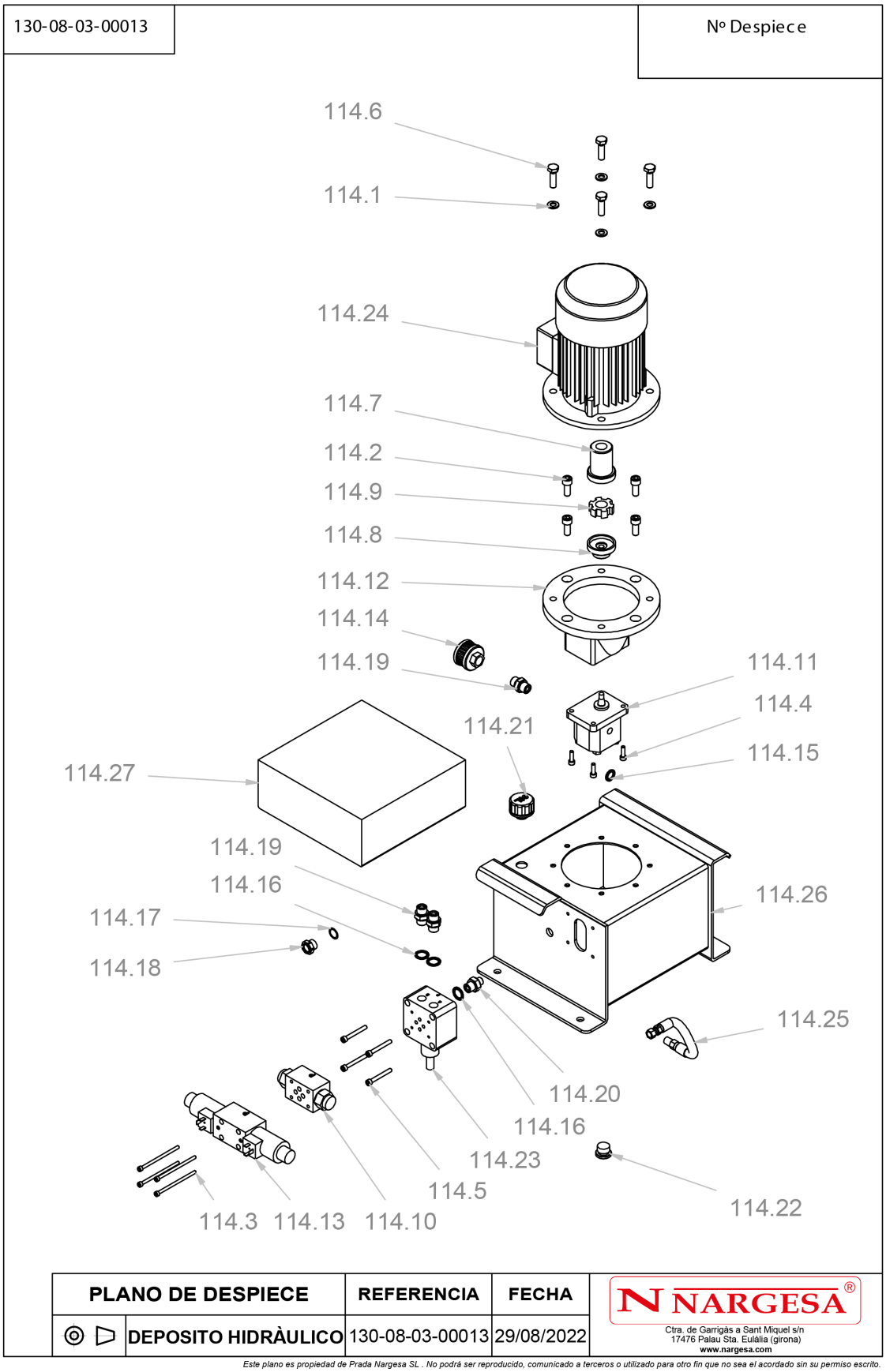
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65		020-D7991-M6X12	Tornillo Allen Avellanado DIN7991 M6X12	4
66		120-08-01-00016	CABEZA RULINA VERTICAL	4
67		030-DP-00010	Casquillo Bronce D16xD22x20	4
68		120-08-01-00019	EJE RULINA VERTICAL	2
69		120-08-01-00018	RODILLO	2
70		120-08-02-00072	Regla Aluminio Serigrafiada Milimetrada 0 - 12 MC200	2
71		020-D7337-4X10	REMACHE DE CLAVO DIN 7337 Ø4X10 ALUMINIO	6
72		122-PLC-0000-001	Placa Caracteristicas General	1
73		050-PE-00003	Prensaestopa GFPT 212 50043 M20X150 PG13.5	3
74		020-D9021-M8	ARANDELA ANCHA DIN9021 PARA M8	10
75		020-D934-M8	TUERCA HEXAGONALI DIN934 M8	9
76		020-I7380-M6X10	Tornillo Allen Abombado ISO 7380 M6X10	4
77		120-08-02-00151	Posicionador Prens-estopes - MC200	1
78		120-08-02-00184	PLACA REDUCTOR	1
79		020-D933-M10X30	TORNILLO HEXAGONAL DIN 933 M10X30	1
80		120-08-02-00178	SOPORTE INFERIOR PLACA REDUCTOR MC200	1

Elemento	Miniatura	Nº de pieza	Descripción	CTDAD
81		020-D933-M10X20	TORNILLO HEXAGONAL DIN 933 M10X20	2
82		031-BP-00001	BISAGRA DE PLASTICO 30 ENTRE CENTROS	2
83		120-08-03-00023	ARANDELA GRUESO D18XD6.5X3	1
84		031-POMH-00001	POMO HEMBRA MATE EN ESTRELLA M6 Ø40 ALTO 20	1
85		020-D913-M6X20	ESPARRAGO ALLEN DIN 913 M6X20	1
86		020-D934-M4	Tuerca Hexagonal DIN934 M4	2
87		020-D912-M4X10	TORNILLO ALLEN DIN 912 M4X10	2
88		040-TES-014	TORNILLO PARA ESFERA DE 1/4"	1
89		020-D933-M8X12	TORNILLO HEXAGONAL DIN 933 M8X12	2
90		050-MAN-00001	MANDO FUNCIONAMIENTO	1
91		120-08-03-00024	SUJECIÓN MANDOS	1
92		120-08-02-00154	TAPA INSTALACION HIDRAULICA	1
93		040-RMM-00002	Racor 1/4" Macho Macho	1
94		120-02-01-00063	PIEZA 2 SOPORTE MICRO	1
95		120-02-01-00064	PIEZA 1 SOPORTE MICRO	1
96		120-08-03-00022	ANILLA SUJECCION CABLES	1

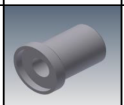
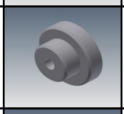
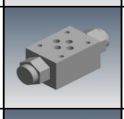
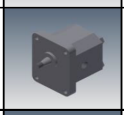
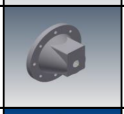
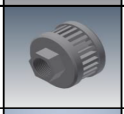
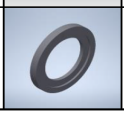
Elemento	Miniatura	Nº de pieza	Descripción	CTDAD
97		120-08-03-00020	ARANDELA TOPE D39XD6.6X2	1
98		120-08-03-00019	VARILLA TOPE	1
99		020-D933-M22X60	TORNILLO HEXAGONAL DIN 933 M22X60	2
100		050-PE-00002	Prensaestopa PG9 Negro	1
101		CABLE ELECTRICO	Manguera	53,748 in
102		120-08-03-00126	Manguera Hidràulica 1/4" - Bola 1/4" - Colze 90 T Giratoria 3/8". Long:1700mm, 250 bars, Conexions a 180°	1
103		120-08-03-00127	Manguera Hidràulica 1/4" - Colze 90 T Giratoria 1/4" - Colze 90 T Giratoria 3/8". Long:1850mm, 250 bars, Conexions a 180°.	1
104		122-CAL-1101-002	Calca MC, CC i NOA	1
105		020-D985-M10	TUERCA AUTOBLOCANTE DIN 985 M10	6
106		120-08-02-00128	DISCO DE APOYO	1
107		020-D580-M12-ZN	CANCAMO MACHO DIN 580 M12 ZINCADO	1
108		050-IG-00001	Interruptor General Kg10Ak300	1
109		122-ADH-00005	Adhesivo Triangulo 400V De 110mmx90mm	1
110		031-LLT-00001	LLAVE PARA CIERRE TRIANGULO DE 8 FLOTANTE NIQUELADA	1
111		020-D934-M6	Tuerca Hexagonal DIN934 M6	4
112		040-JMG-00002	Junta Metal Goma 1/4' Gas	4

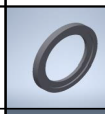
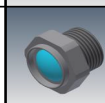
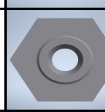
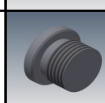
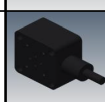
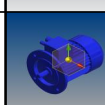
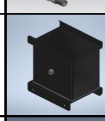
Elemento	Miniatura	Nº de pieza	Descripción	CTDAD
113		120-08-02-00173	PUERTA ARMARIO	1
114		130-08-03-00013	DEPOSITO HIDRÀULICO	1
115		130-08-02-00040	ESTRUCTURA PIE	1
116		130-08-03-00008	CILINDRO HIDRAULICO MC200	1
117		130-08-02-00043	CONJUNTO PLACA PRINCIPAL	1
118		130-08-02-00003	PLACA ELEVACION	1
119		130-08-03-00007	CONJUNTO TAPA DELANTERA	1
120		130-08-02-00021	CONJUNTO SOPORTE VARILLA POSICION	1
121		050-PED-00010	PEDAL DOBLE CON PARO DE EMERGENCIA	1

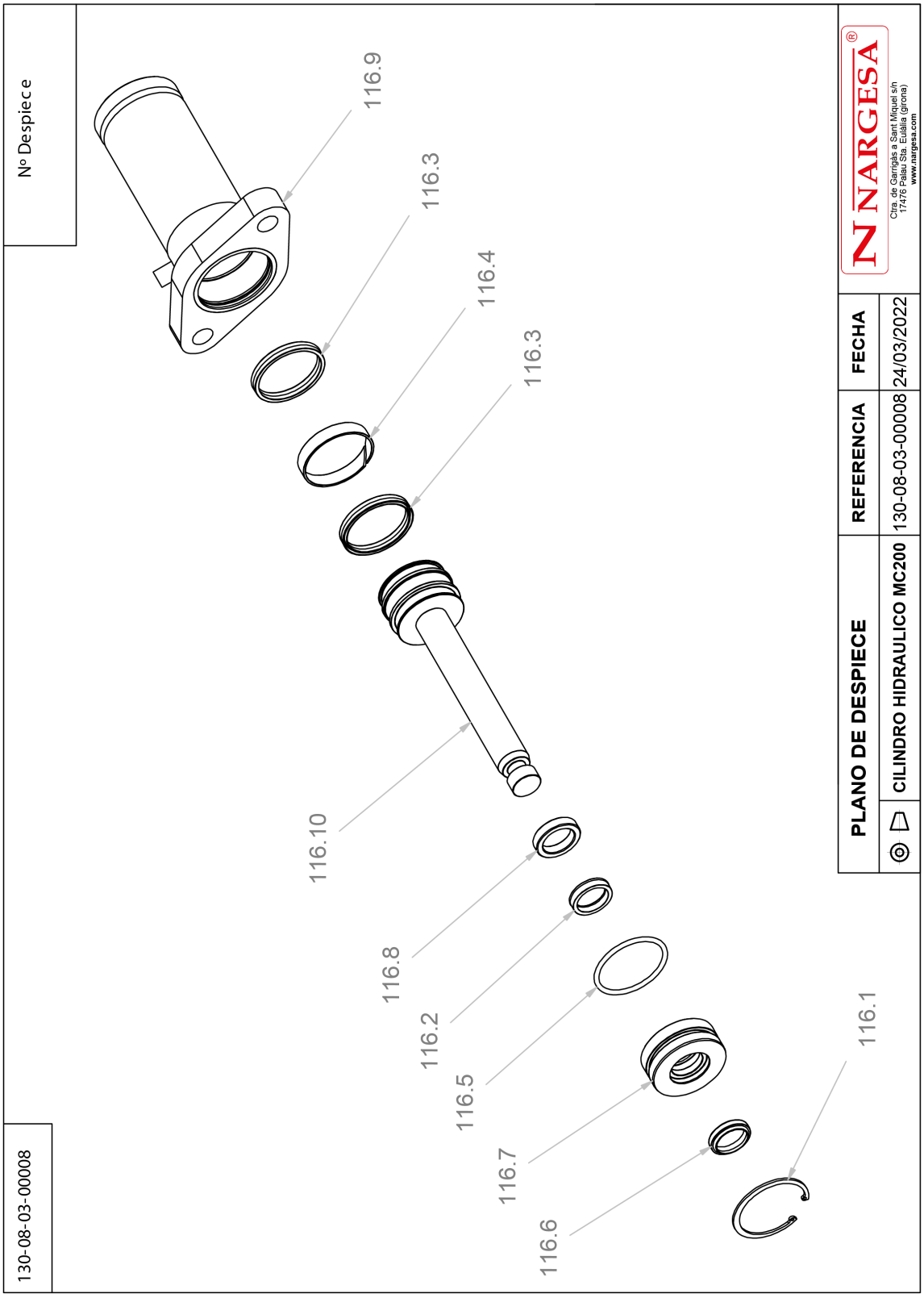
A2. hydraulic group parts diagram

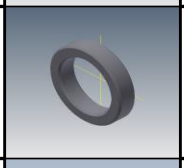


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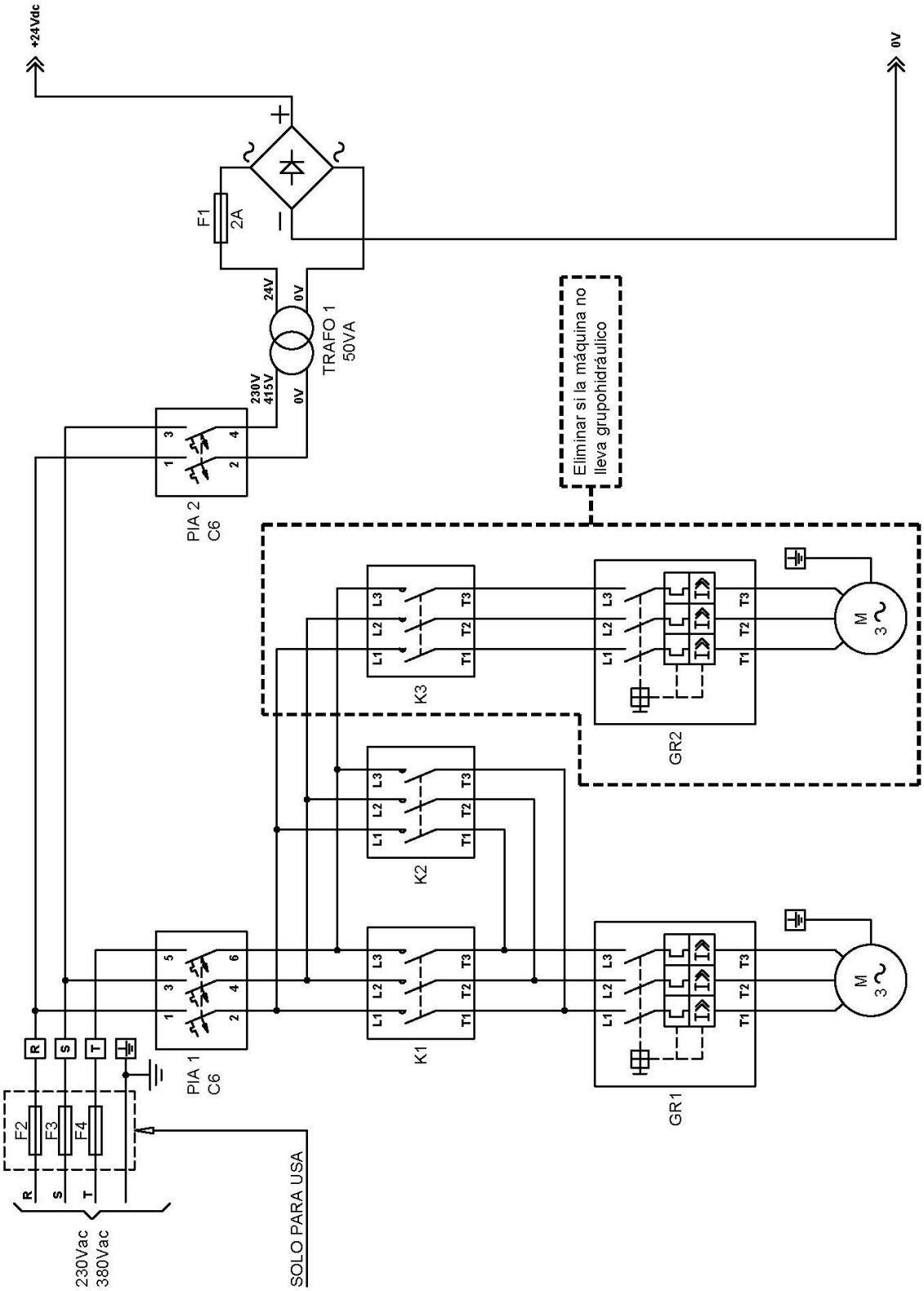
Elemento	Miniatura	Nº de pieza	Descripción	CTDAD
114.1		020-D125B-M10	Arandela Biselada DIN125B Para M10	4
114.2		020-D912-M10X25	Tornillo Allen DIN912 M10X25	4
114.3		020-D912-M5X90	TORNILLO ALLEN DIN 912 M5X90	4
114.4		020-D912-M6X20	TORNILLO ALLEN DIN912 M6X20	4
114.5		020-D912-M6X50	TORNILLO ALLEN DIN912 M6X50	4
114.6		020-D933-M10X35	TORNILLO HEXAGONAL DIN 933 M10x35	4
114.7		040-AE-00011	ACOPLAMIENTO LADO MOTOR 0.75 Kw BOMBA LO	1
114.8		040-AE-00012	ACOPLAMIENTO LADO BOMBA LO	1
114.9		040-AE-00013	ESTRELLA ACOPLAMIENTO 0.75KW BOMBA LO	1
114.10		040-ARPD-00002	Antirretorno Pilotado Doble TN-6 1/4"	1
114.11		040-BH-00004	BOMBA HIDRAULICA DE ALUMINIO DE 1.5 L	1
114.12		040-CA-00003	CAMPANA ACOPLAMIENTO BOMBA LO MOTOR 0.75/1 CV (SIN ROSCA)	1
114.13		040-ELV-00012	Electrovalvula Doble Bobina 5EVP3D1C02D24	1
114.14		040-FL-00004	Filtro De Aspiracion 3/8' Corto de 40	1
114.15		040-JMG-00002	Junta Metal Goma 1/4' Gas	1

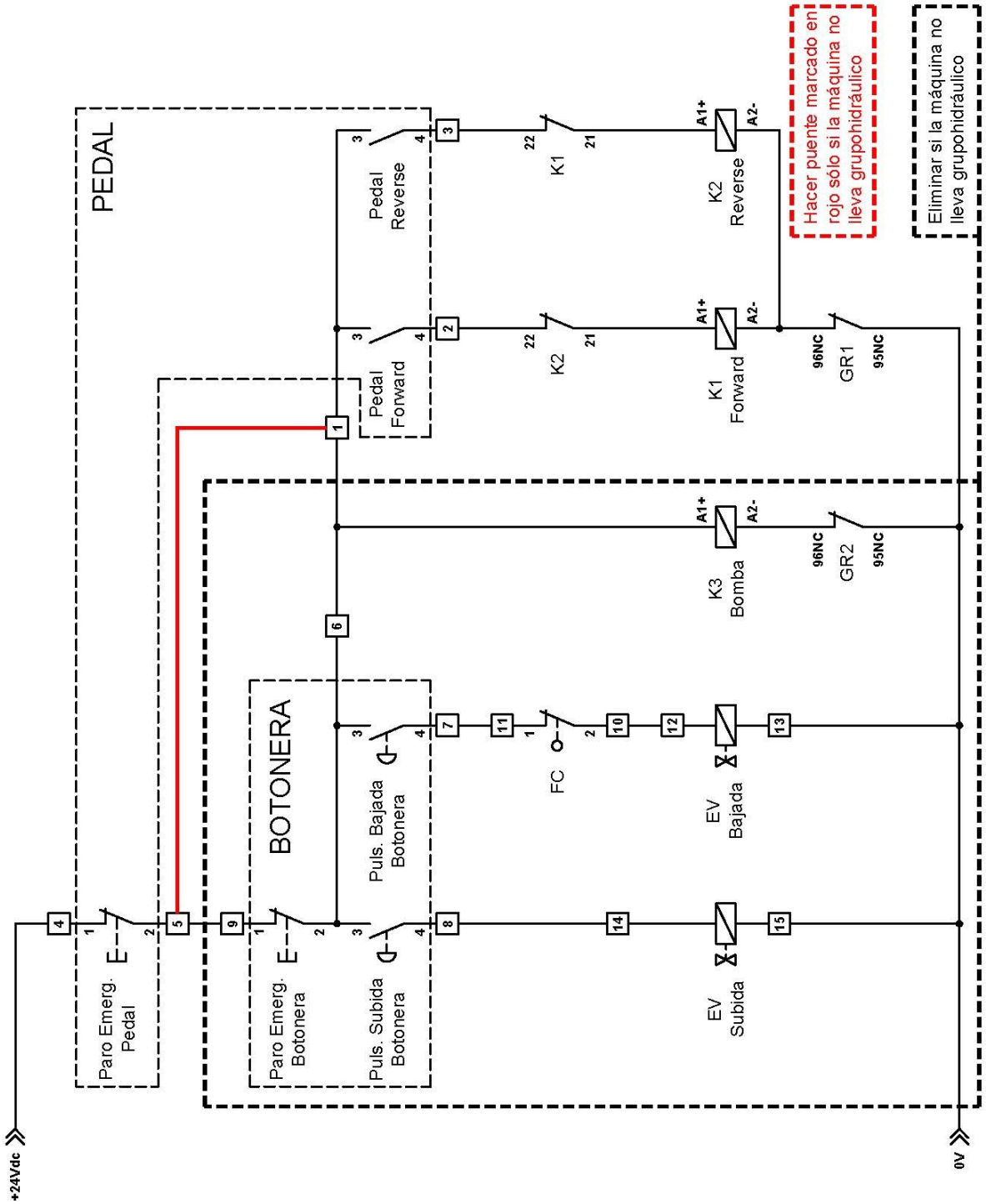
Elemento	Miniatura	Nº de pieza	Descripción	CTDAD
114.16		040-JMG-00004	Junta Metal Goma 3/8' Gas	3
114.17		040-JNA-038	JUNTA PAPEL "CLICHERI" NIVEL ACEITE 3/8" (incluida en el pack del nivel)	1
114.18		040-NA-00001	Visor Nivel Aceite De 3/8' Gas	1
114.19		040-RMM-00003	Racor 3/8" Macho Macho	3
114.20		040-RRMM-00002	Racor Reducido 3/8'-1/4' Macho Macho	1
114.21		040-TLL-00003	Tapon Llenado De 1/2' Doble Respiradero Y Filtro	1
114.22		040-TVA-00001	Tapon Allen 1/2'	1
114.23		040-VLP-00002	Valvula Limitadora Presion 5Rll02P2F/03 -T210 tarada a 210 Bares	1
114.24		050-ME-00007	MOTOR ELECTRICO .75KW A 1400 rpm BRIDA B5	1
114.25		120-08-03-00028	Manguera Hidráulica 1/4" TG1/4" - Macho 1/4" Long:400mm 250 bars	1
114.26		130-08-03-00001	DEPOSITO HIDRAULICO MC200H	1
114.27		ACEITE HIDRAULICO KIT MC200	ACEITE HIDRAULICO HM68 8 LITROS	1


Nº Despiece
130-08-03-00008
116.9
116.3
116.4
116.3
116.10
116.8
116.2
116.5
116.7
116.6
116.1
PLANO DE DESPIECE
REFERENCIA
FECHA
CILINDRO HIDRAULICO MC200
130-08-03-00008
24/03/2022
NARGESA®
Ctra. de Garrigàs a Sant Miquel s/n
17476 Palau Sta. Eulàlia (girona)
www.nargesa.com
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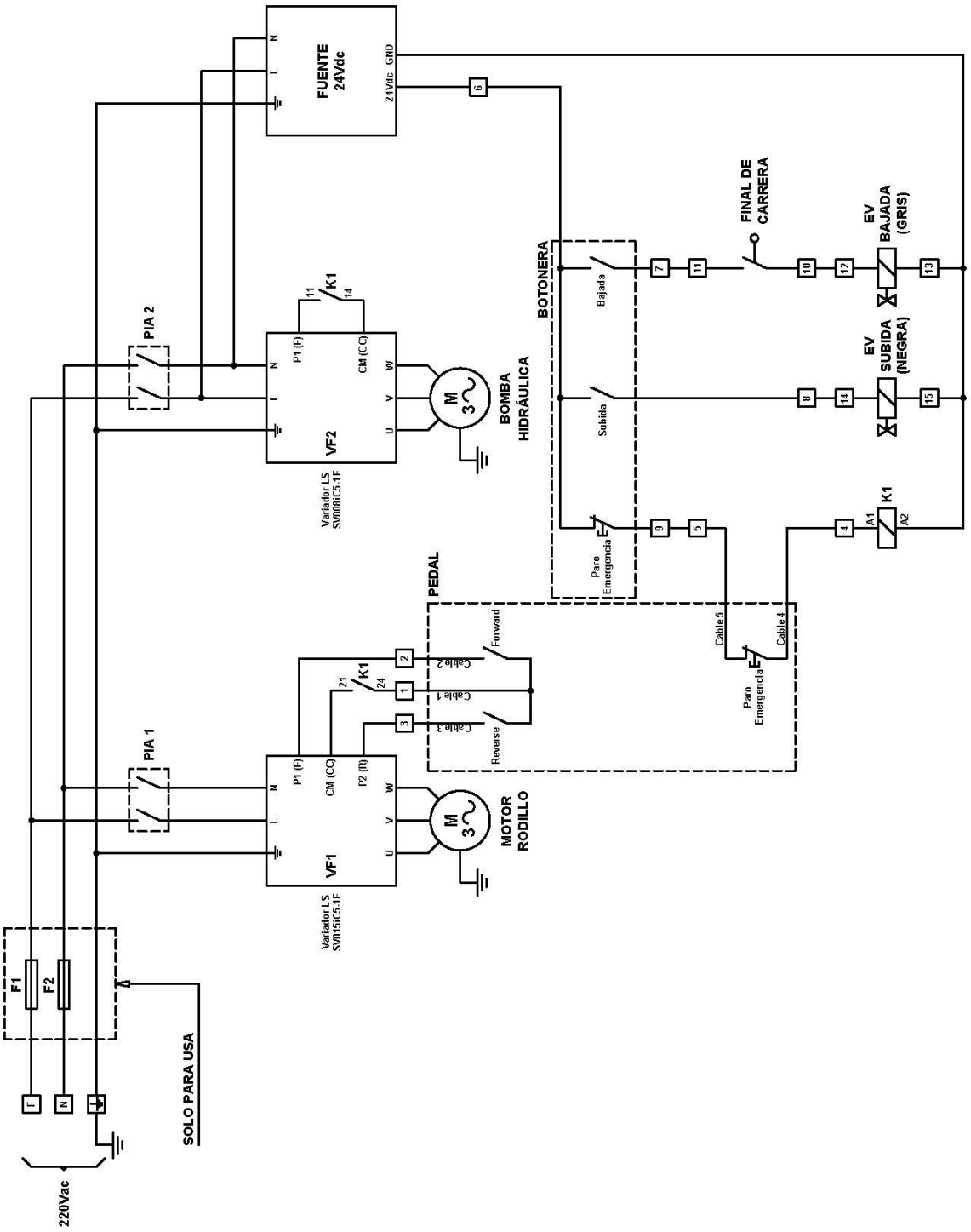
Elemento	Miniatura	Nº de pieza	Descripción	CTDAD
116.1		030-D472-00009	CIRCLIP AGUJERO DIN 472 D82X2.5	1
116.2		040-BA-00004	COLLARIN BA D35XD45X10	1
116.3		040-BA-00009	COLLARIN CILINDRO D80XD70X10	2
116.4		040-GUI-00001	GUIA 80-75-15	1
116.5		040-JT-00020	JUNTA TORICA D73X5 90 Shore	1
116.6		040-RAS-00002	RASCADOR D35XD45X7-10	1
116.7		120-08-03-00011	DOLLA DE BRONCE	1
116.8		120-08-03-00012	SEPARADOR CILINDRO	1
116.9		130-08-03-00004	CAMISA CILINDRO HIDRAULICO	1
116.10		130-08-03-00005	CONJUNTO VASTAGO CILINDRO HIDRAULICO	1

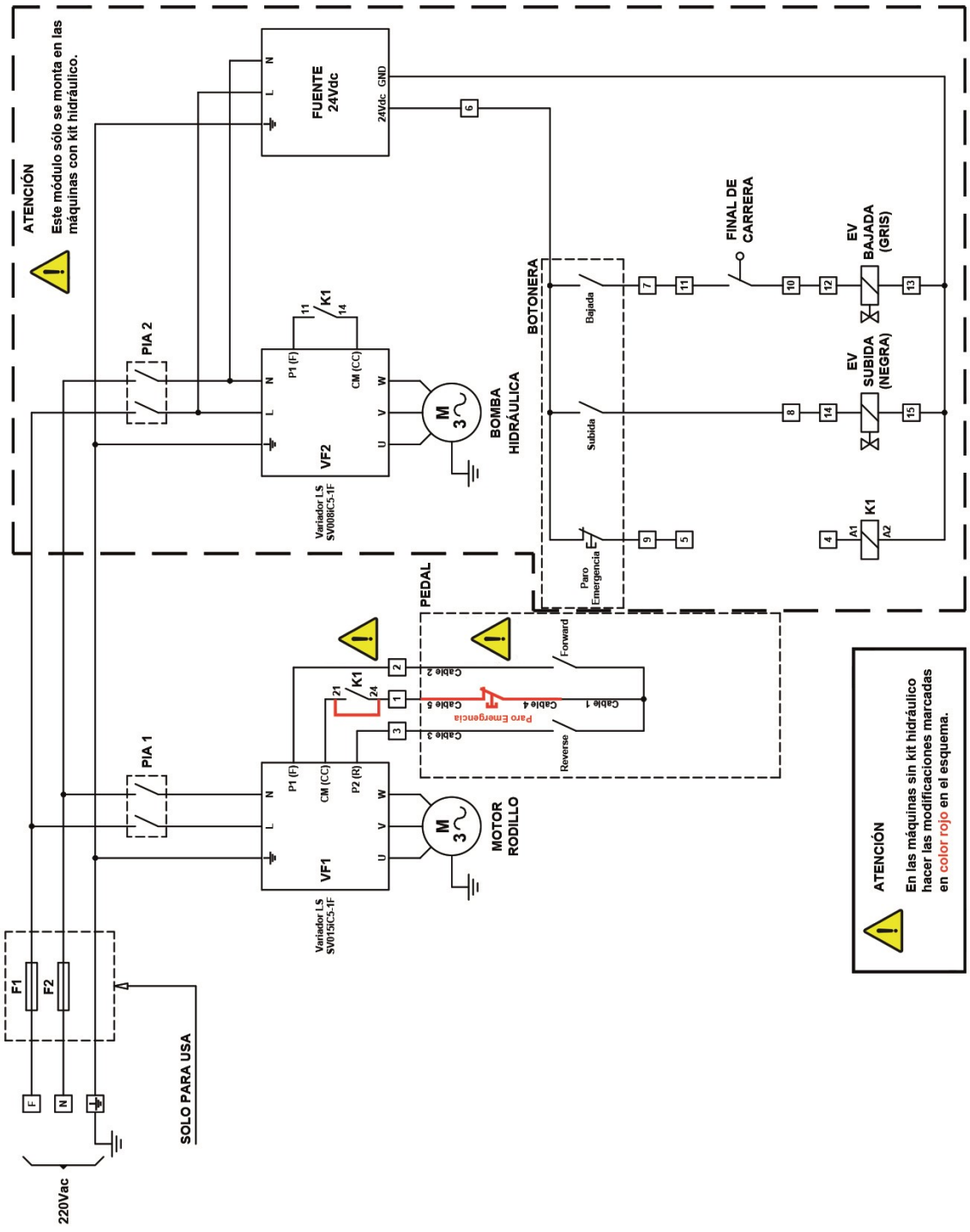
A3. Electric maps · THREEPHASE MACHINE



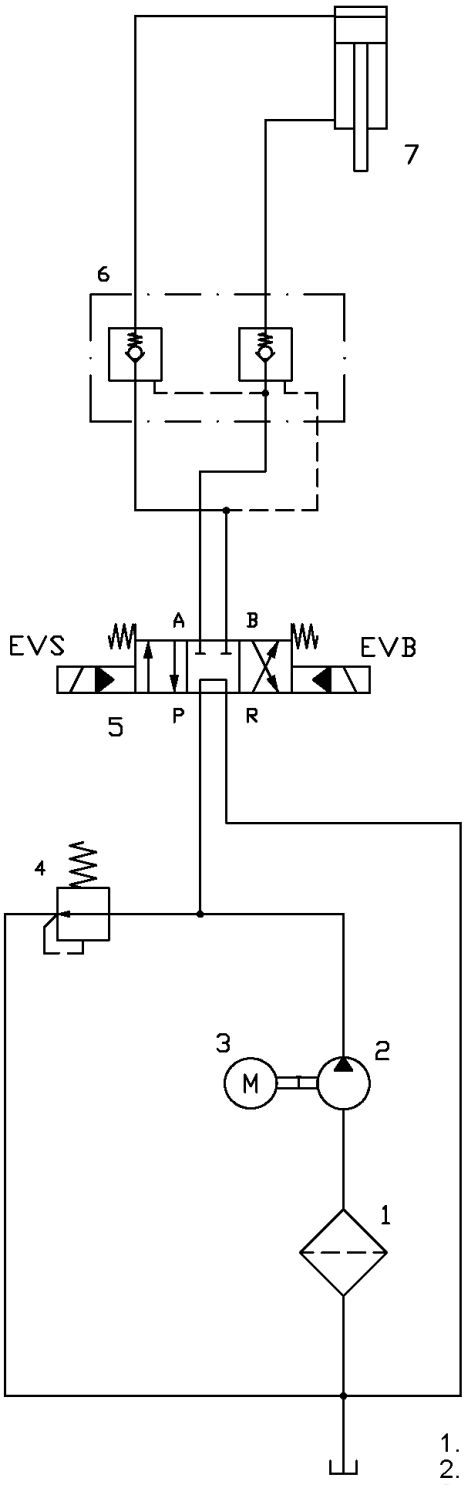

PEDAL
BOTONERA
Paro Emerg. Pedal
Pedal Forward
Pedal Reverse
Paro Emerg. Botonera
Puls. Bajada Botonera
Puls. Subida Botonera
FC
EV Bajada
EV Subida
K1 Forward
K2 Reverse
K2
K1
GR1
K3 Bomba
GR2
Hacer puente marcado en rojo sólo si la máquina no lleva grupohidráulico
Eliminar si la máquina no lleva grupohidráulico
+24Vdc
0V

A4. Electric maps · SINGLEPHASE MACHINE




ATENCIÓN
Este módulo sólo se monta en las máquinas con kit hidráulico.
FUENTE 24Vdc
24Vdc GND
PIA 2
PIA 1
K1
VF2
VF1
Variador LS SV008iC5-1F
Variador LS SV015iC5-1F
BOMBA HIDRÁULICA
MOTOR RODILLO
BOTONERA
Bajada
Subida
Paro Emergencia
FINAL DE CARRERA
EV BAJADA (GRIS)
EV SUBIDA (NEGRA)
PEDAL
Forward
Reverse
Cable 1
Cable 2
Cable 3
Cable 4
Cable 5
Para Emergencia
F1
F2
F
N
220Vac
SOLO PARA USA
ATENCIÓN
En las máquinas sin kit hidráulico hacer las modificaciones marcadas en color rojo en el esquema.

A5. Hydraulic scheme



1. Filtro De Aspiracion 3/8'
2. Bomba Hidráulica 1.5 L
3. Motor Electrico 0.75KW A 1400 rpm
4. Limitadora de presión 210bar
5. Electroválvula 4/3 Centro con Circulación
6. Válvula antiretorno pilotado doble
7. Cilindro posición rodillo

OUR RANGE OF MACHINERY



IRON WORKERS



SECTION BENDING MACHINES



NON-MANDREL PIPE BENDER



HORIZONTAL PRESS BRAKE



TWISTING/SCROLL BENDING MACHINES



HYDRAULIC PRESS BRAKES



HYDRAULIC SHEAR MACHINES



GAS FORGES



IRON EMBOSSING MACHINES



END WROUGHT IRON MACHINES



BROACHING MACHINES



POWER HAMMERS



PRESSES FOR LOCKS