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Parts Manual

Proportioning Unit

Laboratory Machine

Monobloc Pumps

Issue 1.3 06/02/17
Ref. NR-00090-ENG

Before installing the unit and starting it up, carefully read all the technical and safety documentation included in this manual. Pay special attention to the information to know and understand the handling and the conditions of use of the unit. All of the information is aimed at enhancing User Safety and avoiding possible breakdowns derived from the incorrect use of the unit.

WARRANTY

GARRAF MAQUINARIA, S. A. (hereinafter "GAMA") provides this **LIMITED WARRANTY** (hereinafter "Warranty") to the original purchaser (hereinafter "Customer") covering this equipment and the original GAMA manufactured accessories delivered with the equipment (hereinafter "Product") against defects in material or workmanship of the Product (hereinafter "Defect" or "Defective") for a period of two (2) years from the date of first purchase as shown on the original GAMA invoice (hereinafter "Warranty Period").

If during the Warranty Period under normal use, the Product is suspected by Customer to be Defective in material or workmanship, it is Customer's responsibility to contact GAMA and return the Product to GAMA as directed by GAMA, freight prepaid. If GAMA determines that the Product is Defective and that such Defect is covered by this Warranty, GAMA will credit Customer for the reasonable freight charges incurred by Customer in returning the Defective Product to GAMA, and GAMA (or its authorized agent) will, at GAMA's option, repair or replace the Product, subject to the following:

Original Invoice: The original invoice must be kept as proof of the date of first sale and the Product serial number. The Warranty does not cover any Product if the Original Invoice appears to have been modified or altered, or when the serial number on the Product appears to have been altered or defaced.

Product Maintenance: It is the Customer's responsibility to maintain the Product properly. See your maintenance schedule and owner's manual for details. The Warranty does not cover an improperly maintained Product.

Non-GAMA Components and Accessories: Non-GAMA manufactured components and accessories that are used in the operation of the Product are not covered by this Warranty. Such components and accessories shall be subject to the warranty offered to the Customer, if any, by the original manufacturer of such component or accessory.

Other Warranty Exclusions: The Warranty does not cover any Product that GAMA determines has been damaged or fails to operate properly due to misuse, negligence, abuse, carelessness, neglect, or accident. By way of example only, this includes:

- Normal wear and tear.
- Improper or unauthorized installation, repair, alteration, adjustment or modification of the Product.
- Use of heating devices, pumping equipment, dispensers, or other parts or accessories with the Product that have not been approved or manufactured by GAMA.
- Failure to follow the operating instructions and recommendations provided by GAMA.
- Cosmetic damage.
- Fire, flood, "acts of God," or other contingencies beyond the control of GAMA.

THE WARRANTY DESCRIBED HEREIN IS THE EXCLUSIVE REMEDY FOR THE CUSTOMER AND IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS, IMPLIED, STATUTORY OR OTHERWISE, AND THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE AND ALL OTHER WARRANTIES ARE HEREBY DISCLAIMED. TO THE FULLEST EXTENT PERMITTED BY LAW, GAMA SHALL NOT BE RESPONSIBLE, WHETHER BASED IN CONTRACT, TORT (INCLUDING, WITHOUT LIMITATION, NEGLIGENCE), WARRANTY OR ANY OTHER LEGAL OR EQUITABLE GROUNDS, FOR ANY CONSEQUENTIAL, INDIRECT, INCIDENTAL, LOST PROFITS, SPECIAL, PUNITIVE OR EXEMPLARY DAMAGES, WHETHER TO PERSON OR PROPERTY, ARISING FROM OR RELATING TO THE PRODUCT, EVEN IF GAMA HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH LOSSES OR DAMAGES.

Non-Warranty Service by GAMA: If GAMA determines that the suspected Defect of the Product is not covered by this Warranty, disposition of the Product will be made pursuant to the terms and conditions of GAMA's written estimate on a time and materials basis.

Continuing Warranty for Products Repaired or Replaced under Warranty: Following the repair or replacement of a Product covered by this Warranty, such Product will continue to be subject to the original Warranty for the remainder of original Warranty Period or for three (3) months from the repair or replacement date, whichever is longer.

No Rights Implied: Nothing in the sale, lease or rental of any Product by GAMA shall be construed to grant any right, interest or license in or under any patent, trademark, copyright, trade secret or other proprietary right or material owned by anyone; nor does GAMA encourage the infringement of same.

Exclusive Warranty: This writing is the final, complete, and exclusive expression of the Warranty covering the Product. Any statements made by GAMA, its employees or agents that differ from the terms of this Warranty shall have no effect. It is expressly understood that Customer's acceptance of this Warranty, by performance or otherwise, is upon and subject solely to the terms and conditions hereof, and any additional or different terms and conditions proposed or expressed by Customer or anyone, whether in writing or otherwise, are null and void unless specifically agreed to in writing by an Officer of GAMA.

All information provided in this manual is assumed to be correct; although this does not constitute any implicit or explicit liability or guarantee. GAMA reserves the right at any time and without prior warning to make all improvements and modifications necessary to this manual, in order to rectify any possible typographical errors, supplement the information contained or insert changes predicated by the performance or use of the unit.

SAFETY AND HANDLING

This chapter contains information on the safety, handling and use of the proportioning unit.

Before installing the unit and starting it up, read all the technical and safety documentation included in this manual carefully. Pay special attention to the information to know and understand the operation and the conditions of use of the unit. All of the information is aimed at enhancing User Safety and avoiding possible breakdowns derived from the incorrect use of the unit.

WARNING! establishes information to alert on a situation that might cause serious injuries if the instructions are not followed.

CAUTION! establishes information that indicates how to avoid damage to the unit or how to avoid a situation that could cause minor injuries.

NOTE: is relevant information on a procedure being carried out.

Careful study of this manual will enable the operator to know the characteristics of the unit and the operating procedures. By following the instructions and recommendations contained herein, you will reduce the potential risk of accidents in the installation, use or maintenance of the unit; you will provide a better opportunity for incident-free operation for a longer time, greater output and the possibility of detecting and resolving problems fast and simply.

Keep this Service Manual for future consultation of useful information at all times. If you lose this manual, ask for a new copy from your **GAMA** local distributor or directly contact **Garraf Maquinaria, S.A.**

WARNING! The design of the proportioning unit does not allow its use in potentially explosive atmospheres or to exceed the pressure and temperature limits described in the technical specifications of this manual.

When working with the unit, it is recommended that the operator wear suitable clothing and elements of personal protection, including, without limitation, gloves, protective goggles, safety footwear and face masks. Use breathing equipment when working with the machine in enclosed spaces or in areas with insufficient ventilation. The introduction and follow-up of safety measures must not be limited to those described in this manual. Before starting up the machine, a comprehensive analysis must be made of the risks derived from the products to be dispensed, the type of application and the working environment.

To prevent all possible bodily harm caused by incorrect handling of the raw materials and solvents used in the process, carefully read the safety information provided by your supplier.

Deal with the waste caused according to current regulations.

Disconnect the unit from the power supply before carrying out any operation inside the electrical console.

The electrical maintenance of the machine must only be performed by a qualified electrician.

To avoid damage caused by the impact of pressurized fluids, do not open any connection or perform maintenance work on components subject to pressure until the pressure has been completely eliminated.

Use suitable protection when operating, maintaining or remaining in the operating area of the unit. This includes, but is not limited to, the use of masks, protective goggles, gloves, shoes and safety clothing.

The unit includes components that reach temperatures that are liable to cause burns. The hot parts of the unit must not be handled until they have cooled.

To prevent serious harm by crushing or loss of limbs, do not work with the unit without the safety guards installed on all moving parts. Make sure that all of the safety protections are correctly reinstalled after all repair or maintenance work is completed.

CHARACTERISTICS

This proportioning unit has been designed and built for the application of Polyureas, chemical systems for polyurethane foaming, and some two-component Epoxy systems.

Its reduced size allows easy transport to site. It's easy operation (simply turn one switch and push the START button) reverts into time saving during set up and application.

Principal Heating System

Consists of two independent heaters integrated in the tanks. Each heater has one 1000 W heating element.

Proportioning Pumps

Comprises two positive displacement piston pumps, driven by a pneumatic motor. The system includes two pressure regulators that allow the working pressures to be equalized in the two directions of pump movement, compensating for the imbalance of pressure caused by the difference between the upper and the lower side of the air motor, and the effect of the additional pressure of the transfer pumps.

Product Tanks

Composed of two separate heated and pressurized containers with a capacity of 2 liters each.

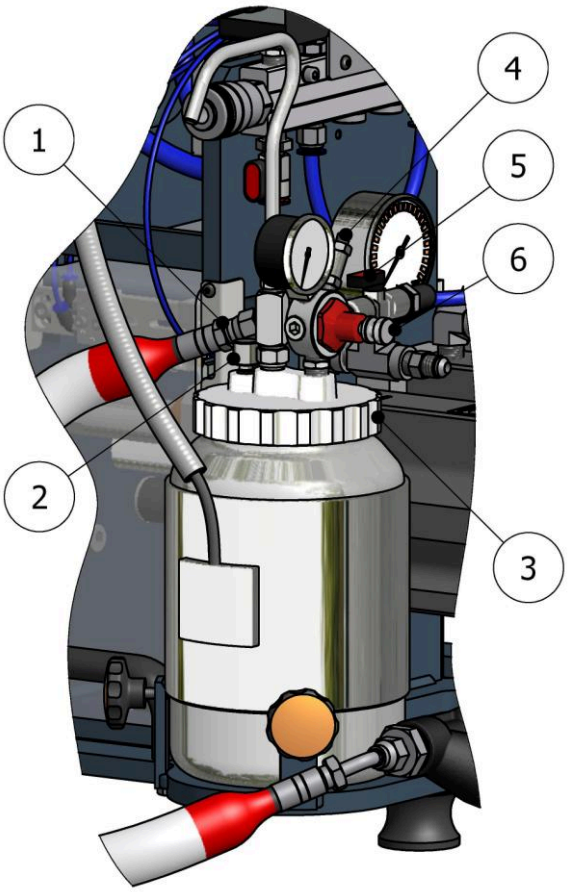
***WARNING!* Handle in a correct way the pressurized tank, considering its design limitations:**

- Maximum pressure 3 bar
- Working temperature 0ºC / +50ºC
- Fluid Group Group 2

- Do not use sharp objects or corrosives products to clean the tank.
- Do not lift the lid and maintain the tank in vertical position on a level surface when is under pressure and / or with product inside.
- Relief pressure before any servicing.
- No welding work near the tank is allowed.
- Do not leave the product for a long time within the tank.
- Do not use the equipment for operations for which has not been designed.
- All closures will be done by hand, not using any external tool.
- Never connect the tank to an air intake supplying more than 325 liters per minute.
- Do not use 1,1,1-trichloroethane, methylene chloride, other halogenated hydrocarbon solvents or fluids containing such solvents in pressurized aluminum equipment. Such use can cause serious chemical reaction and equipment rupture, and result in death, serious injury, and property damage.

- You must wear appropriate protective equipment when operating, servicing, or when in the operating area of the equipment to help protect you from serious injury, including eye injury, inhalation of toxic fumes, burns, and hearing loss. This equipment includes but is not limited to:
  - Protective eyewear.
  - Clothing and respirator as recommended by the fluid and solvent manufacturer.
  - Gloves.
  - Hearing protection.

Tank Components Description



Item	Description	Qty.
1	Product outlet	1
2	Pressure Relieve Valve	1
3	Tank Lid	1
4	Security Valve	1
5	Air Intake Valve	1
6	Air regulator	1

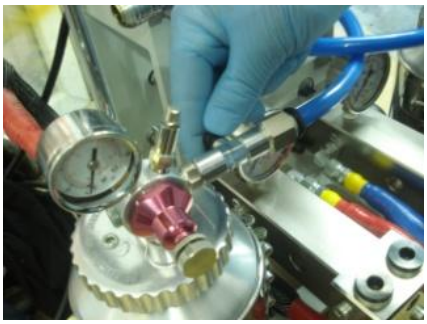
Quantities for each Unit.

Figure 1. Pressurized & Heated Tank, Parts List.

Pressure Relief Procedure

Pressure tanks remain pressurized until pressure is manually relieved.					

1. Shut off the electrical and air supply to the tank

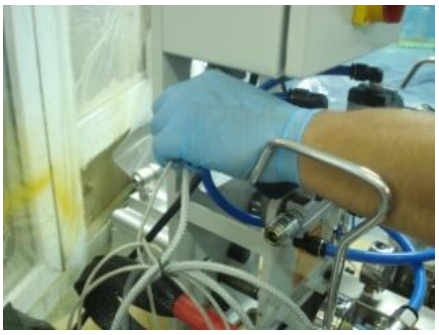


2. Unscrew the pressure relief valve slowly (***item 2, Figure 1, pag.6***).
3. When no air is scaping through the valve (pressure gauge showing 0 Bar), unscrew the tank and remove the cover.

4. Leave the pressure relief valve open until you have reinstalled the cover.

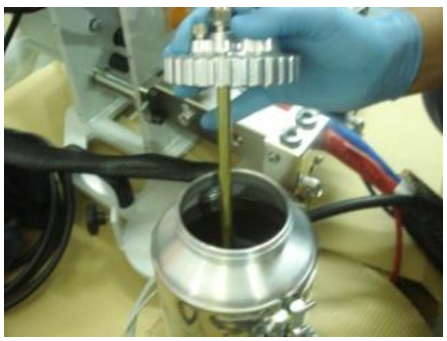
Fill the Tank

1. Follow the manufacturer´s recommendation to prepare the chemical product.
2. Turn the Main Switch OFF and disconnect the tank power supply cable from the cabinet.



3. Follow the ***Pressure Relief Procedure*** (see ***page 7***).
4. Unscrew and remove the cover

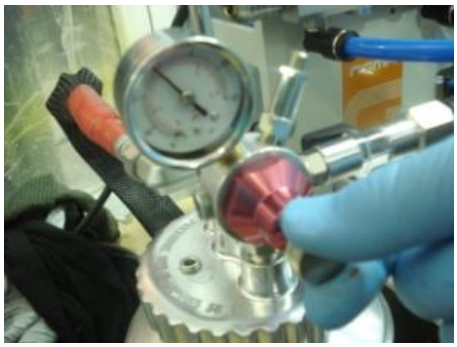
5. Fill the tank with the product. Leave at least 30mm between the product level and the tank cover.
6. Install the tank cover and evenly hand tighten the cover. Overtightening may cause the gasket below the cover to squeeze out. The gasket is needed to properly seal the cover and tank.



Adjust Air Regulators

To reduce the risk of over pressurizing the tank, which could result in component rupture and cause serious injury, never exceed 3 Bar maximum air input to the tank					

1. Turn the airs regulators counter clockwise all the way to off.



2. Ensure that the relief valve (see ***Pos.2, Fig.1, page 6***) is closed.
3. Turn on the master air supply. Adjust the air regulators to the required pressure. Always use the lowest pressure necessary to obtain the desired results.

REGULATOR OF TEMPERATURE HEATERS

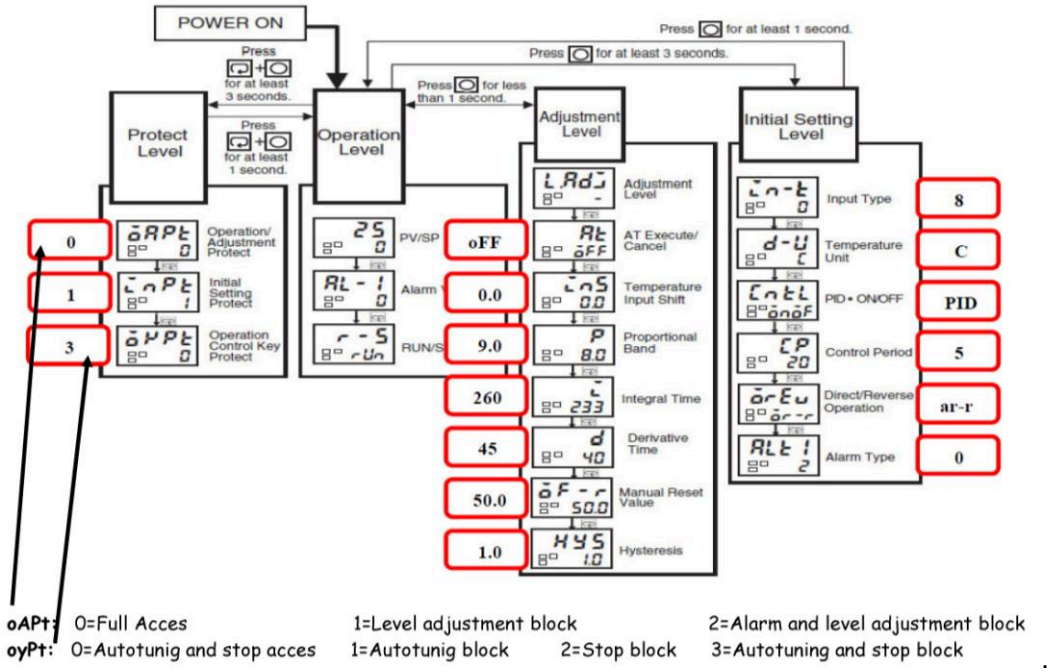
This machine equips each heater with separate temperature regulators.

Instructions

When the power is connected to the machine, the displays will show the current temperature values.

To modify the values press ▲ or ▼ as required.

For more details about the settings, follow the instructions from the manufacturer's manual attached.



TECHNICAL SPECIFICATIONS 100 MOTOR

Electrical

Main Voltage: _____ 230 V
Frequency: _____ 50/60 Hz
Electrical Consumption: _____ 8.7 A (1NPE, 2PE~230 V)
Total Active Power: _____ 2 Kw
Heater Power: _____ (2 x 1 Kw) 2 Kw

Mechanical

Maximum Working Pressure (air supply 6 bar): _____ 150 Kgf/cm² (15 MPa) / 2175 psi
Diameter of Pneumatic Motor: _____ 100mm
Diameter of Product Pump: _____ 19.8mm
Effective Hub of Pneumatic Motor: _____ 76.2mm
Capacity of Tanks “A” & “R”: _____ 2l + 2l
Max. Nº of Cycles: _____ 27 cycles/min
Maximum Production Ratio 1:1: _____ 1.5 kg/min / 3.3 lb/min
Air intake (Air Motor + Pressurized Tanks): _____ 198 l/min
Approximate weight: _____ 66 kg /146 lbs
Dimensions: _____ H: 852 mm (33.5 inch.) / A: 550 mm (21.6 inch.) / L: 565 mm (22.25 inch.)

TECHNICAL SPECIFICATIONS 125 MOTOR

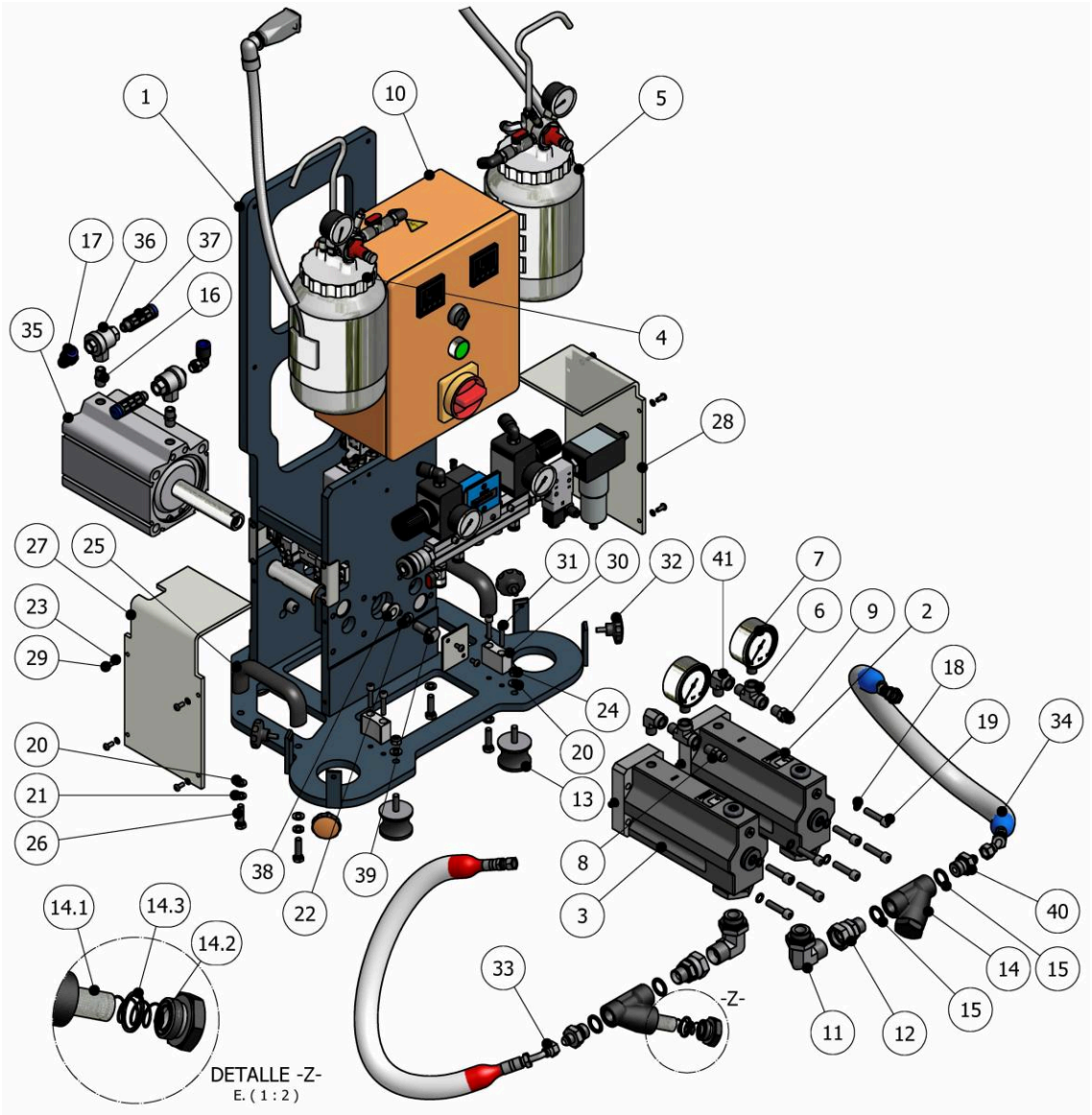
Electrical

Main Voltage: _____ 230 V
Frequency: _____ 50/60 Hz
Electrical Consumption: _____ 8.7 A (1NPE, 2PE~230 V)
Total Active Power: _____ 2 Kw
Heater Power: _____ (2 x 1 Kw) 2 Kw

Mechanical

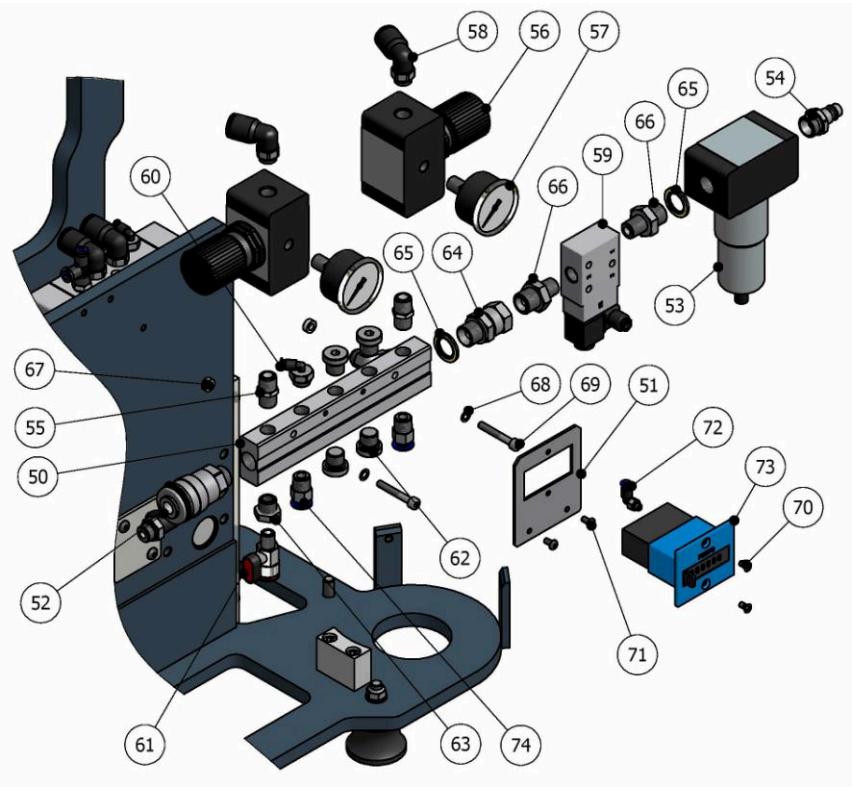
Maximum Working Pressure (air supply 6 bar): _____ 200 Kgf/cm² (20 MPa) / 2900 psi
Diameter of Pneumatic Motor: _____ 125mm
Diameter of Product Pump: _____ 19.8mm
Effective Hub of Pneumatic Motor: _____ 76.2mm
Capacity of Tanks “A” & “R”: _____ 2l + 2l
Max. Nº of Cycles: _____ 27 cycles/min
Maximum Production Ratio 1:1: _____ 1.5 kg/min / 3.3 lb/min
Air intake (Air Motor + Pressurized Tanks): _____ 260 l/min
Approximate weight: _____ 66 kg /146 lbs
Dimensions: _____ H: 852 mm (33.5 inch.) / A: 550 mm (21.6 inch.) / L: 590 mm (23.2 inch.)

UNIT COMPONENTS WITH 100 MOTOR



Note:

All Components except items 35, 36, 37, 38, 39, 22, 16 y 17 are the same as the items for 125 Motor Assembly. If you want to see the specific components for this assembly see Table 2.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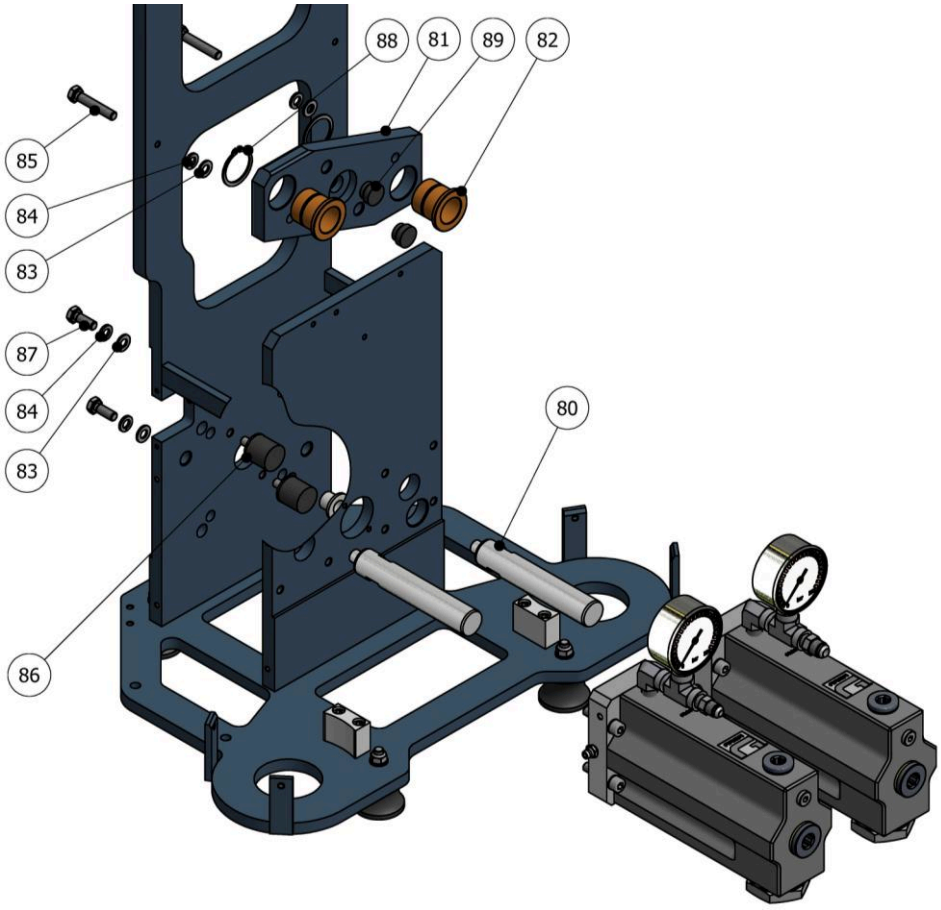
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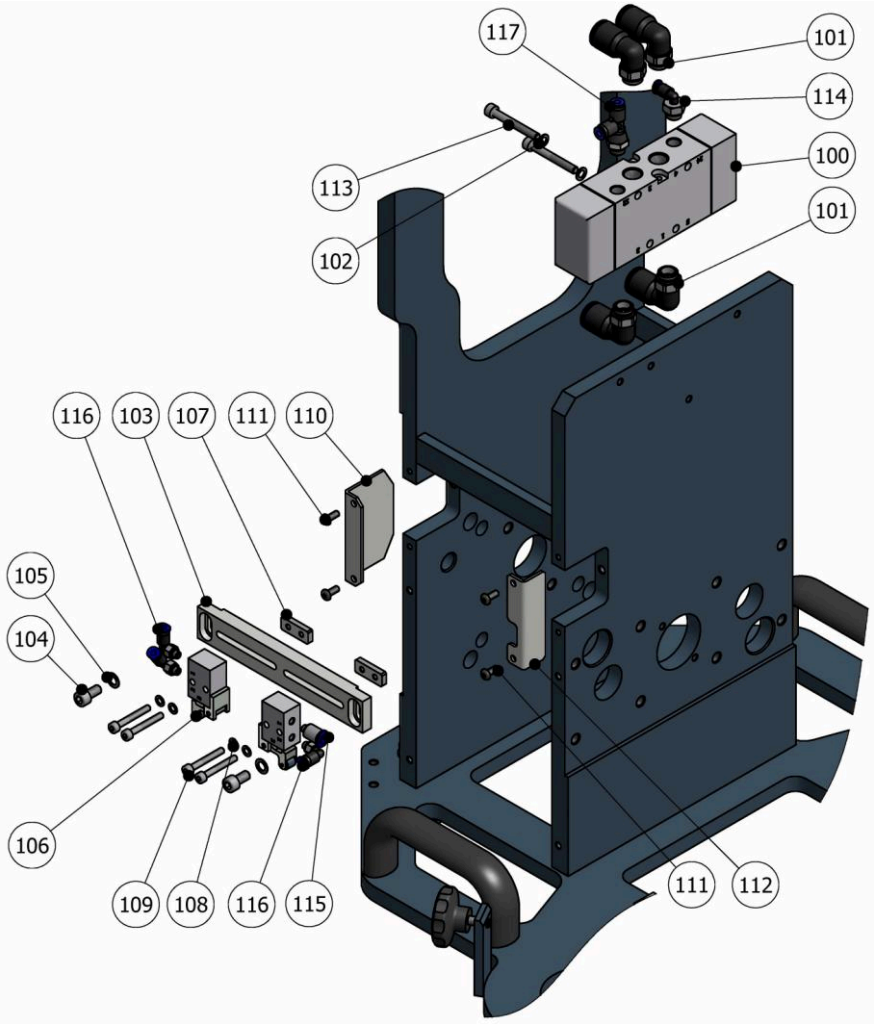

Table 1. Unit Components with 100 Motor, Parts List

Item	Description	Part Number	Qty.
1	Support Assembly for Monobloc Pumps	MQ-17001-00M	1
2	“R” POL Pump #0.24	PU-08101-024	1
3	“A” ISO Pump #0.24	PU-08101-024	1
4	“A” ISO Tank 2Lt Heated	BI-00023-ISO	1
5	“R” POL Tank 2Lt Heated	BI-00023-POL	1
6	Adapted “T”	RA-00018	2
7	Pressure Display	HI-00019	2
8	Hex. Nipple	RA-00146	1

Continued on next page.

Item	Description	Part Number	Qty.
9	Hex. Nipple	RA-00147	1
10	Electrical Console	EL-00227	1
11	Elbow	RA-00072	2
12	Reducer	RA-00141	2
13	Machine Foot	TN-00406	4
14	“Y” Filter Assebly	RA-00443-00	2
14.1	Filter 30 Mesh (included in item 14)	RA-00443-03-30	1x2
14.2	Spring Filter (included in item 14)	SP-00029	1x2
14.3	O-Ring (Included in item 14)	RA-00443-06	1x2
15	Bi-material Ring	OR.00023	4
16	Connector Straight	RA-00048	2
17	Elbow	RA-00046	2
18	AET Washer	TN-00038	8
19	Allen Screw	TN-00245	8
20	Flat Washer	TN-00119	8
21	Glower Washer	TN-00028	4
22	Glower Washer	TN-00039	1
23	AET Washer	TN-00017	8
24	Block Nut	TN-00283	4
25	Handle	TN-00408	2
26	Hex. Screw	TN-00054	4
27	Left Protection	MQ-17012-LH	1
28	Right Protection	MQ-17011-LH	1
29	“ULS” Screw	TN-00159	8
30	Stopper Tank	MQ-17007	2
31	Allen Screw	TN-00014	4
32	Round Handle	TN-00350	4
33	“A” ISO Hose	MA-00174-ISO	1
34	“R” POL Hose	MA-00174-POL	1
35	Pneumatic Cylinder Diameter 100x105	NE-00029	1
36	Exhaust Valve	NE-00002C	2

Continued on next page.

Item	Description	Part Number	Qty.
37	Silencer	NE-00005	2
38	Bearing	MQ-17017	1
39	Hex. Screw	TN-00060	1
40	Connector Straight	RA-00317	2
41	Elbow	RA-00021	2
42			
43			
44			
45			
46			
47			
48			
49			
50	Pneumatic Ditributor	MQ-17015	1
51	Counter Support	MQ-17014-F	1
52	Quick Connect	RA-00207	1
53	Inlet Filter	NE-00034	1
54	Air Connector	RA-00096	1
55	Connector Straight	RA-00048	2
56	Pressure Regulator	NE-00032	2
57	Pressure Display	NE-00033	2
58	Elbow	RA-00046	2
59	Directional Valve	NE-00036	1
60	Elbow	RA-00233	1
61	Ball Valve	RA-00221	1
62	Plug	RA-00013	4
63	Reducer	RA-00371	1
64	Swivel Union	RA-00089	1
65	Bi-material Ring	OR-00018	2
66	Reducer	RA-00186	2
67	Thick Washer	MQ-17008	2

Continued on next page.

Item	Description	Part Number	Qty.
68	AET Washer	TN-00017	2
69	Allen Screw	TN-00298	2
70	Screw	TN-00121	2
71	“ULS” Screw	TN-00031	2
72	Elbow	RA-00223	1
73	Pneumatic Counter	NE-00070	1
74	Nipple	RA-00150	2
75			
76			
77			
78			
79			
80	Slide Guide	MQ-17003	2
81	Drive Plate	MQ-17002-LH	1
82	Guide	MQ-17013	2
83	Flat Washer	TN-00119	4
84	Glower Washer	TN-00028	4
85	Hex. Screw	TN-00425	2
86	Rubber Stopper	TN-00413	2
87	Hex. Screw	TN-00187	2
88	Seeger Ring	TN-00070	2
89	Rubber Stopper	NR-00002-20	2
90			
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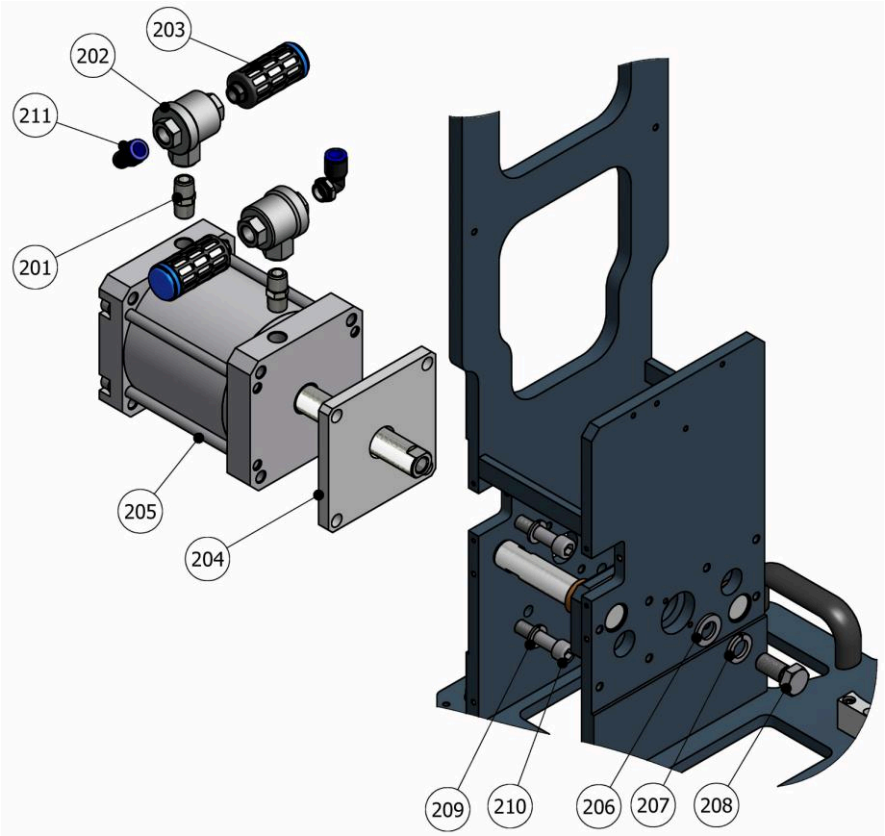
Continued on next page.

Item	Description	Part Number	Qty.
99			
100	Pneumatic Directional Valve	NE-00057	1
101	Elbow	RA-00046	4
102	AET Washer	TN-00017	2
103	Switch Support	MQ-17005	1
104	Allen Screw	TN-00409	2
105	AET Screw	TN-00048	2
106	Pneumatic Switch Valve	NE-00051	2
107	Switch Nut	MQ-17006	2
108	AET Washer	TN-00019	4
109	Allen Screw	TN-00294	4
110	Rear Switch Cover	MQ-17010-LH	1
111	“ULS” Screw	TN-00239	4
112	Front Switch Cover	MQ-17009-LH	1
113	Allen Screw	TN-00198	2
114	Elbow	RA-00222	1
115	Connector Straight	RA-00422	1
116	Elbow	RA-00223	3
117	“L” Pneumatic Fitting	RA-00445	1

UNIT COMPONENTS WITH 125 MOTOR



Note:

Rest of components are common with the 100 Motor assembly (see Table 1).

Table 2. Components with 125 Motor, Parts List

Item	Description	Part Number	Qty.
201	Connector Straight	RA-00054	2
202	Exhaust Valve	NE-00060	2
203	Silencer	NE-00056	2
204	Cylinder Plate	MQ-17016	1
205	Pneumatic Cylinder 125x105	NE-00059	1
206	Flat Washer	TN-00045	1
207	Glower Washer	TN-00044	1
208	Hex. Screw	TN-00426	1
209	Glower Washer	TN-00039	4
210	Allen Screw	TN-	4
211	Elbow	RA-00085	2

ELECTRICAL CONSOLE COMPONENTS

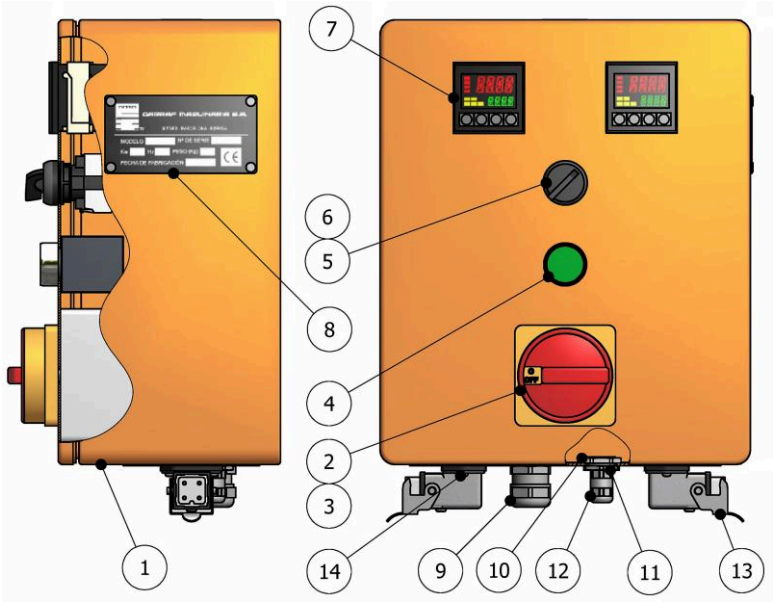


Figure 2. Electrical Console Components

Table 3. Electrical Console Components, Parts List

Item	Description	Part Number	Qty.
1	Assembly Body Electrical Console	EL-00158-02M	1
2	Main Switch	EL-00107-06	1
3	Main Switch Body	EL-00107-13	1
4	Start Push-Button	EL-00131-38	1
5	2 Position Head Switch	EL-00131-40	1
6	Body Switch	EL-00131-42	2
7	Temperature Controller	EL-00147-06	2
8	Identification Plate	MQ-01010	1
9	Strain Relief	EL-00088-02	1
10	Brass Nut	EL-00090-01	2
11	Port Reducer	EL-00091-02	1
12	Strain Relief	EL-00088	1
13	Female Connector	EL-00096-04 EL-00096-37	2
14	Screw	TN-00128	4

COMPONENTS HEATED TANK

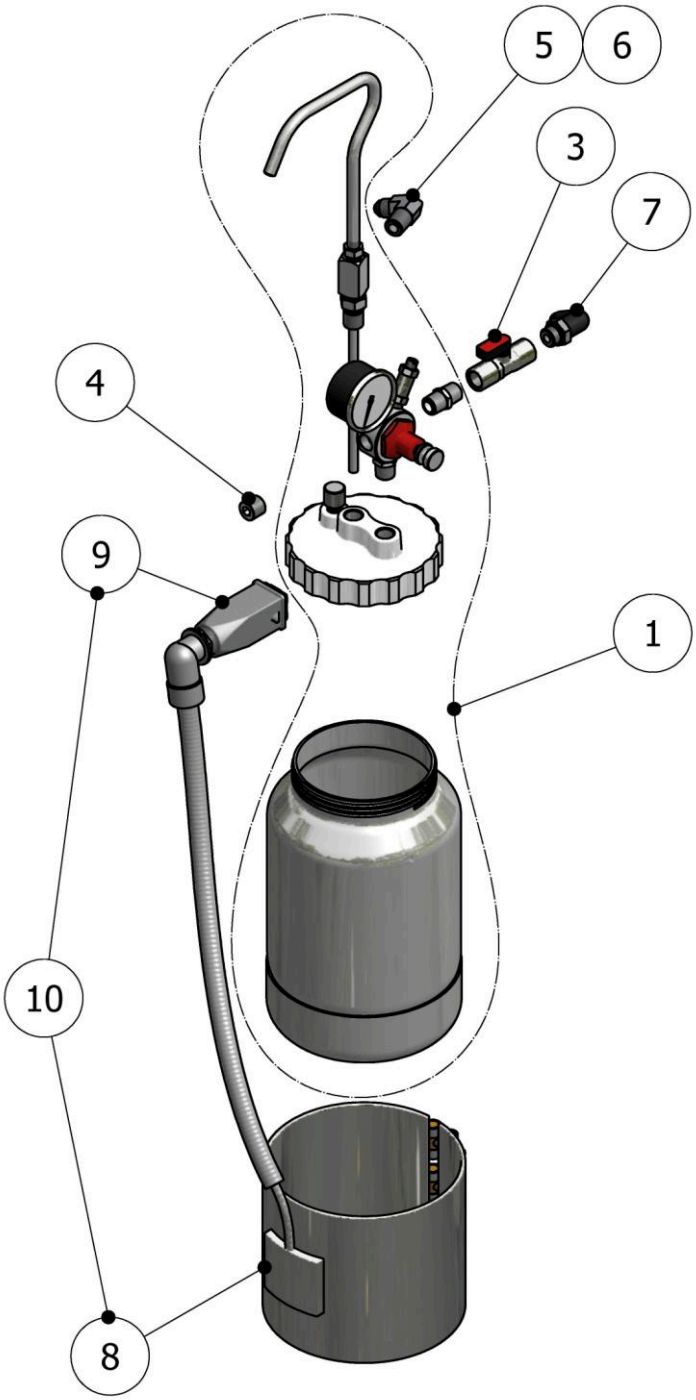


Figure 3. Heated Tank

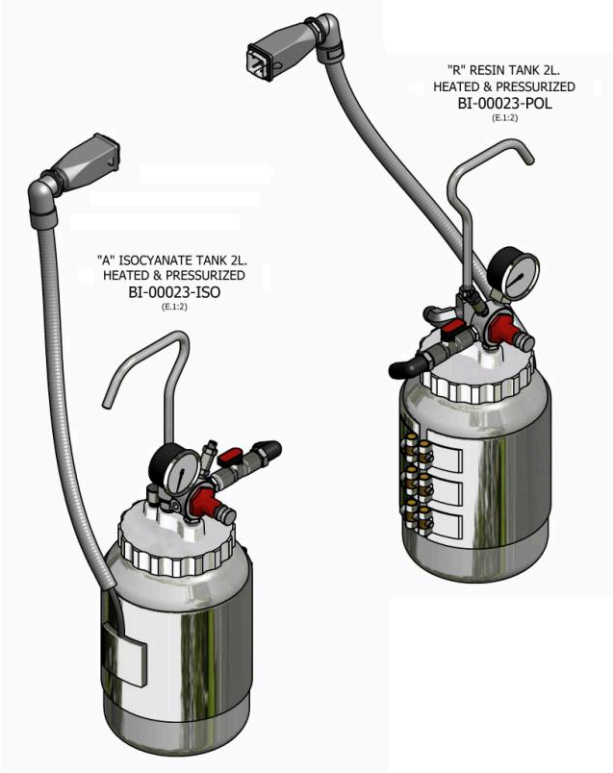
Table 4. Heated Tank, Parts List

Item	Description	Part Number	Qty.
1	Tank Assembly	BI-00007-2	1
2			
3	Ball Valve	RA-00133	1
4	Plug	RA-00120	1
5	Elbow 90º (ISO Tank)	RA-00254	1
6	Elbow 90º (POL Tank)	RA-00044	1
7	Elbow 90º	RA-00235	1
8	Heating Band (without connector)	MA-00067-3	1
9	Male Connector	EL-00096-06 EL-00096-38	1
10	Heating Band Assy. Include Item 8 & 9	MA-00067-30	1

Note:

Both tanks (ISO and POL), include the same number of parts assembled in a different position, except the item 5 (1x ISO) & item 6 (1xPOL).

Unitary Quantity for one tank.



PROPORTIONING PUMPS

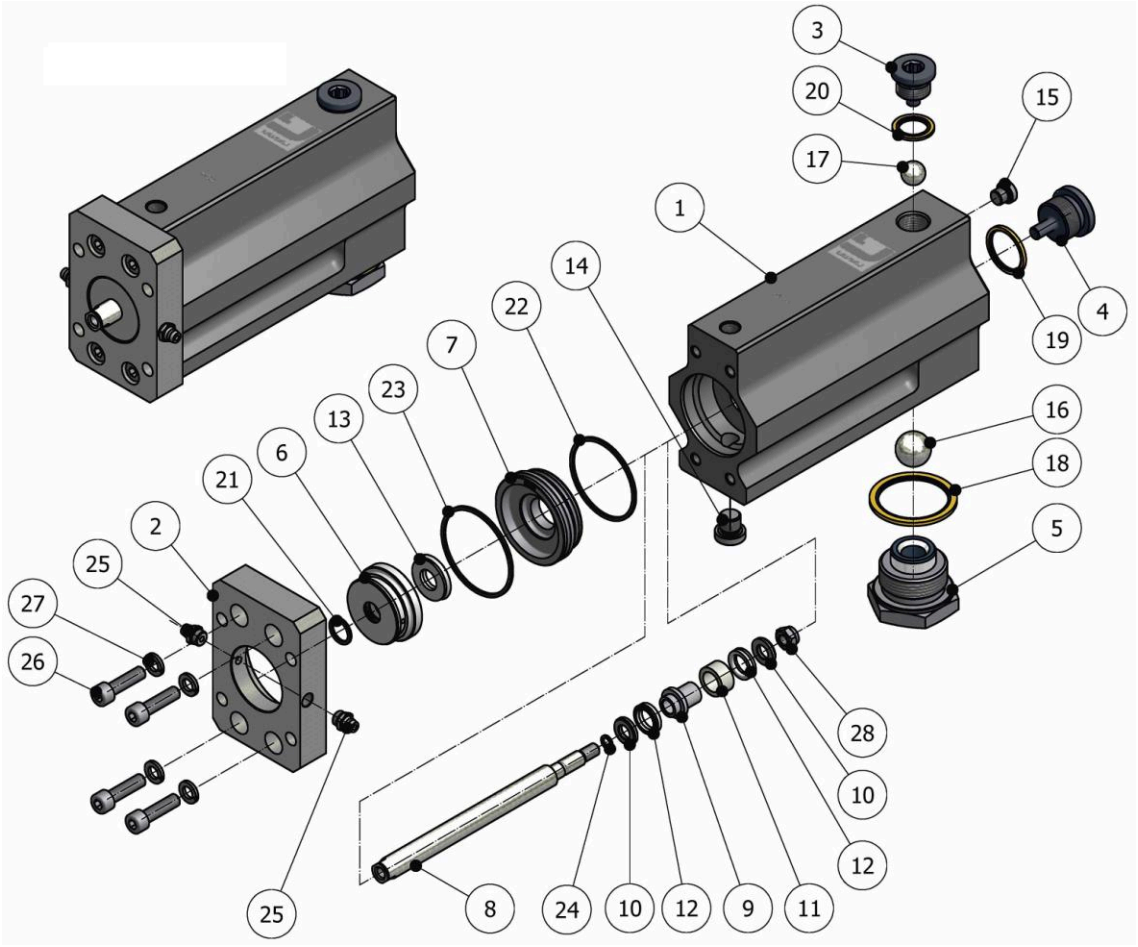


Figure 4. Proportioning Pumps, Exploded View.

Table 5. Proportioning Pumps, Parts List.

Item	Description	Part Number	Qty.
1	Body Pump	PU-06001-024	1
2	Front Flange ISO/POL Monobloc Laboratory	PU-06005-LB	1
3	Plug Upper Ball	PU-01003-0F	1
4	Plug Side Pump	PU-01003-0E	1
5	Inlet Ball Seat Assembly	PU-01003-0J	1
6	Bearing Gudie	PU-06008-024	1 (*)
7	Seat Seal	PU-06009-024	1
8	Piston Rood	PU-02010-06LB	1
9	Piston Head	PU-02010-07	1
10	Cover Piston Head	PU-02010-08	2
11	Piston Guide	OR-00145	1 (*)
12	Piston Seal Wiper Ring	OR-00146	2 (*)
13	Body Pump Seal Wiper Ring	OR-00144	1 (*)
14	Plug	RA-00013	1
15	Plug	RA-00211	1
16	Lower Ball	TN-00013	1
17	Upper Ball	TN-00012	1
18	Bi-material Ring	OR-00088	1
19	Bi-material Ring	OR-00082	1
20	Bi-material Raing	OR-00023	1
21	O-Ring	OR-00140	1 (*)
22	O-Ring	OR-00009	1 (*)
23	O-Ring	OR-00115	1 (*)
24	O-Ring	OR-00024	1 (*)
25	Greaser Fitting	TN-00073	2
26	Allen Screw	TN-00062	4
27	Glower Washer	TN-00028	4
28	Block Nut	TN-00283	1

(*) The items marked with (*) are included in the Repair Seal Kit, see Table 6.

Las bomba de ISO y la de POL son iguales. La tabla indica las cantidades unitarias por cada bomba.

Table 6. Repair Seal Kit for Monobloc ISO & POL Pumps

KT-00000		
Item	**PartNumber**	**Qty.**
Body Pump Seals		
21	OR-00140	1
6	PU-06008-024	1
13	OR-00144	1
23	OR-00115	1
22	OR-00009	1
Piston Rood Seals		
24	OR-00024	1
12	OR-00146	2
11	OR-00145	1

This kit include the necessary parts to replace in 1 product pump.

ELECTRICAL SCHEMATIC DIAGRAM 2 x 230v.

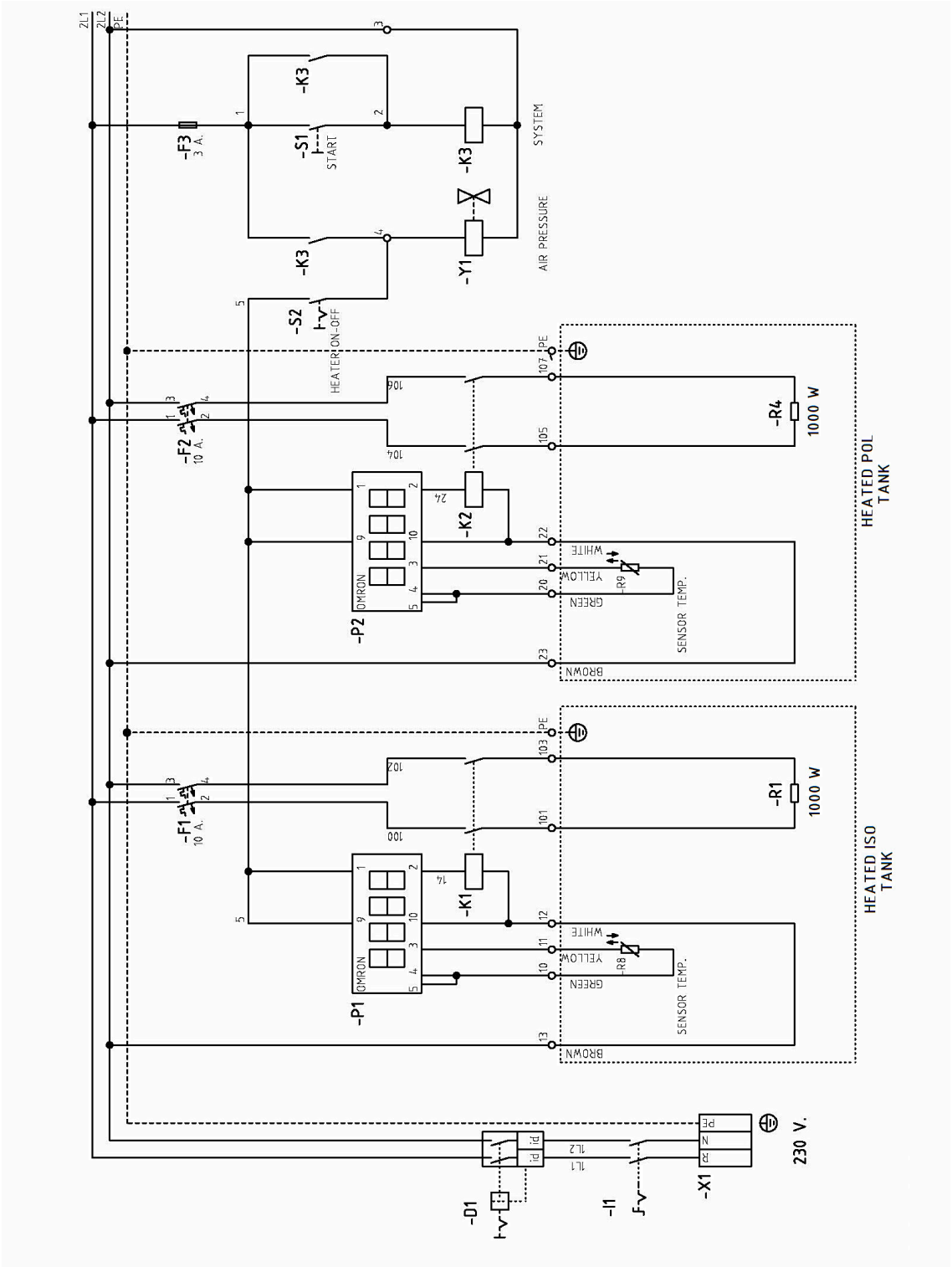


Figure 5. Electrical Schematic Diagram 2 x 230v

Table 7. Electrical Schematic Diagram 2 x 230v., Parts List

item.	Description	Part Number	Qty.
D1	Differential	EL-00108-02	1
F1	Circuit Breaker	EL-00112-10	1
F2	Circuit Breaker	EL-00112-10	1
I1	Switch	EL-00107-07	1
I1	Switch Control	EL-00107-06	1
K1	Relay	EL-00163-00	1
K2	Relay	EL-00163-00	1
K3	Relay	EL-00163-00	1
P1	Regulator	EL-00147-06	2

PNEUMATIC SCHEMATIC DIAGRAM

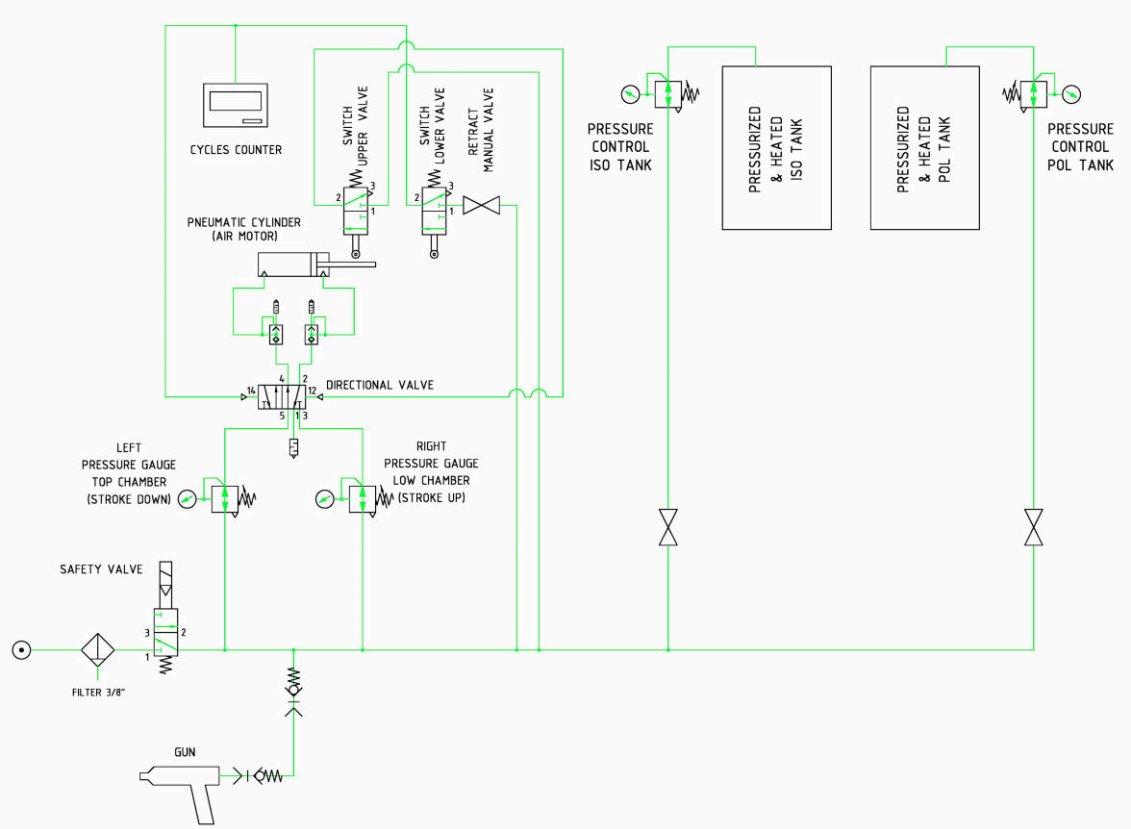


Figure 6. Pneumatic Schematic Diagram

FUNCTIONING SCHEMATIC DIAGRAM

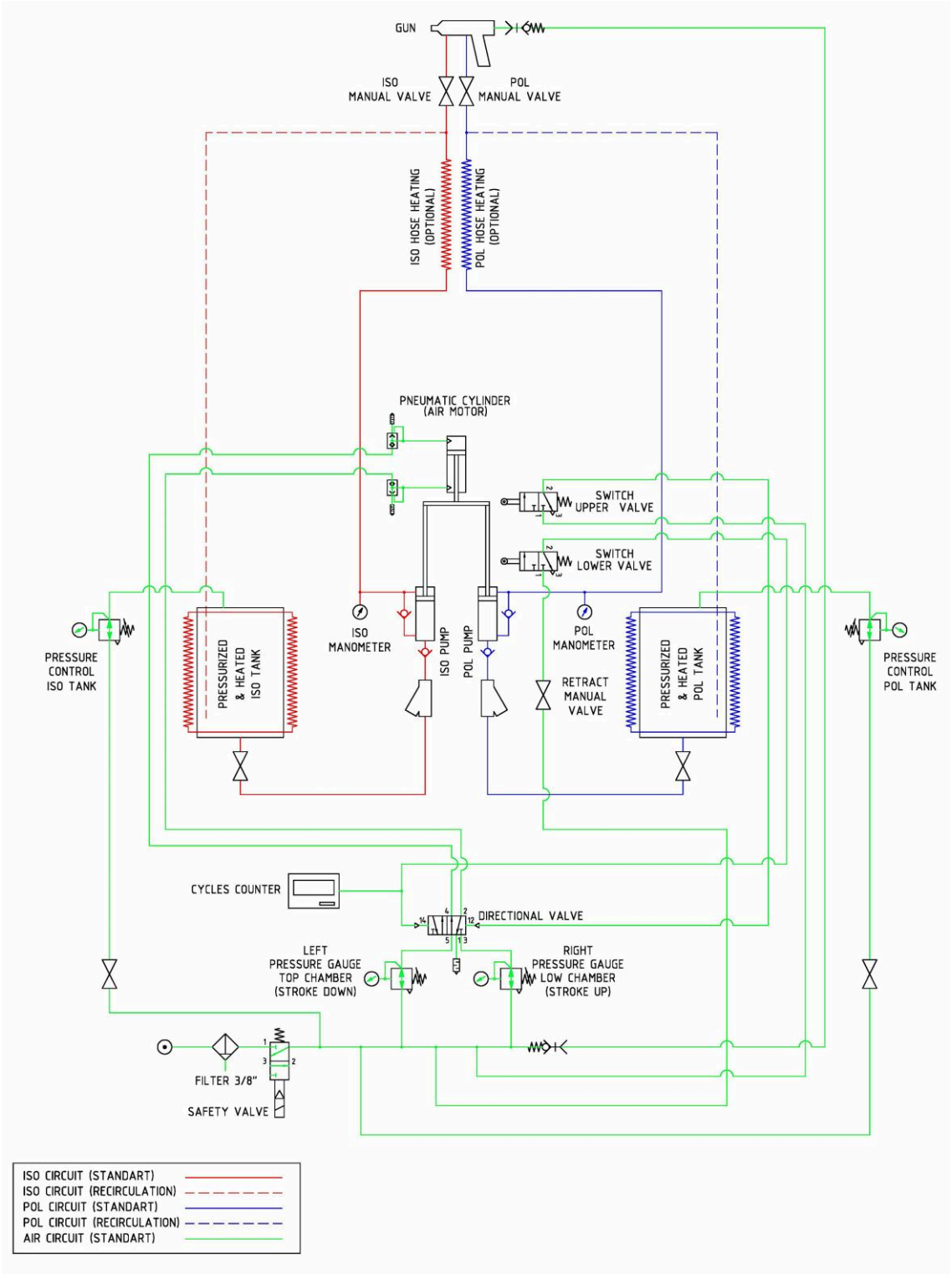


Figure 7. Functioning Schematic Diagram

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