

GHIBLI 30:1/40:1:1

CERTIFICATA ATEX

 II 2 G c IIB T4

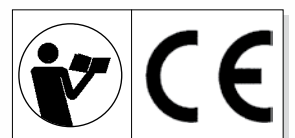


OPERATING AND MAINTENANCE INSTRUCTION

LARIUS

PAINT SPRAYING EQUIPMENT

ENGLISH



Due to a constant product improvement programme, the factory reserves the right to modify technical details mentioned in this manual without prior notice.

This manual is to be considered as an English language translation of the original manual in Italian. The manufacturer shall bear no responsibility for any damages or inconveniences that may arise due to the incorrect translation of the instructions contained within the original manual in Italian.

LARIUS

AIRLESS PNEUMATIC PUMPS FOR SPRAY PAINTING

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**WE ADVISE THE USE OF THIS EQUIPMENT ONLY BY PROFESSIONAL OPERATORS.
ONLY USE THIS MACHINE FOR USAGE SPECIFICALLY MENTIONED IN THIS MANUAL.**

Thank you for choosing a **LARIUS S.R.L.** product. As well as the product purchased, you will receive a range of support services enabling you to achieve the results desired, quickly and professionally.

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intentionally

WARNINGS

The table below provides the meaning of the symbols used in this manual in relation to using, earthing, operating, maintaining, and repairing of this equipment.

	<p>Read this operator's manual carefully before using the equipment. An improper use of this machine can cause injuries to people or things. Do not use this machine when under the influence of drugs or alcohol. Do not modify the equipment under any circumstances. Use products and solvents that are compatible with the various parts of the equipment, and read the manufacturer's warnings carefully. See the Technical Details for the equipment given in the Manual. Check the equipment for worn parts once a day. If any worn parts are found, replace them using ONLY original spare parts. Keep children and animals away from work area. Comply with all safety standards.</p>
	<p>It indicates an accident risk or serious damage to equipment if this warning is not followed.</p>
	<p>It indicates a fire or explosion risk if this warning is not followed. Eliminate all ignition sources such as pilot lights, cigarettes, portable electric lamps and plastic drop cloths. Keep work area free of debris. ONLY use this equipment in a well ventilated area. EARTH ALL THE EQUIPMENT LOCATED IN THE WORK AREA. Do not form connections or switch light switches on or off if the air contains inflammable fumes. If electrical shocks or discharges are encountered the operation being carried out using the equipment must be stopped immediately. Keep a fire extinguisher at hand in the immediate vicinity of the work area.</p>
	<p>It indicates wound and finger squashing risk due to movable parts in the equipment. Tenersi lontano dalle parti in movimento. Do not use the equipment without the proper protection. Before any inspection or maintenance of the equipment, carry out the decompression procedure explained in this manual, and prevent any risk of the equipment starting unexpectedly.</p>
 	<p>Report any risk of chemical reaction or explosion if this warning has not been given. There is a risk of injury or serious lesion related to contact with the jet from the spray gun. If this should occur, IMMEDIATELY contact a doctor, indicating the type of product injected. Do not spray before the guard has been placed over the nozzle and the trigger on the spray gun. Do not put your fingers in the spray gun nozzle. Once work has been completed, before carrying out any maintenance, complete the decompression procedure explained in this manual.</p>
	<p>It indicates important recommendations about disposal and recycling process of products in accordance with the environmental regulations.</p>
	<p>Report any danger of electric shock if the warning and presence of live electrical parts has not been indicated. Store in a dry place and do not expose to the rain. Check that the cables are in good condition. Switch off the equipment and discharge any electricity before cleaning or maintaining the equipment.</p>
	<p>Mark any clamps attached to earth cables. Use ONLY 3-wire extension cords and grounded electrical outlets. Before starting work make sure that the electrical system is earthed and that it complies with safety standards.</p>
   	<p>It is obligatory to wear suitable clothing as gloves, goggles and face shield. Wear clothing that complies with the safety standards in force in the country in which the equipment is used. Do not wear bracelets, earrings, rings, chains, or anything else that may hinder the operator's work. Do not wear clothing with wide sleeves, scarves, ties, or any other piece of clothing that could get tangled up in moving parts of the equipment during the work, inspection, or maintenance cycles.</p>

A WORKING PRINCIPLE

GHIBLI 30:1 and **40:1** pumps are pneumatic pumps for high pressure painting without the use of compressed air (AIRLESS). The stainless steel version is particularly suitable for use with water-based paints. The Ghibli pump is essentially comprised of an air motor and a structure known as the "Material Pumping Unit", or simply the "Pumping Unit".

In the pneumatic motor, compressed air causes the vertical reciprocating movement of the motor piston; this movement is transmitted through a connecting rod to the material pumping piston.

This allows for the material to be aspirated and pushed towards the outlet. The unit comes complete with a transportation trolley, a high-pressure material filter, an air supply regulator for the pump, a material suction tube (complete with filter) and a recirculation tube.

The ratio 30:1 or 40:1 means that the outlet pressure of material is 30 or 40 times higher than the pump feed air pressure.

B TECHNICAL DATA

	GHIBLI 30:1	GHIBLI 40:1
PUMP FEED AIR PRESSURE	3-7 bar	3-7 bar
MAXIMUM PRESSURE OF THE PRODUCT	210 bar	280 bar
*FEED AIR INLET	1/2" GAS (F)	1/2" GAS (F)
MATERIAL ENTRY	3/4" GAS C (M)	3/4" GAS C (M)
MATERIAL EXIT	3/8" GAS C (F)	3/8" GAS C (F)
MAXIMUM DELIVERY	3.8 l/min	3.8 l/min
AIR CONSUMPTION at 3 bar	400 l/min	400 l/min
at 5 bar	800 l/min	800 l/min
at 7 bar	850 l/min	850 l/min
MOTOR DIAMETER	108 mm (3")	108 mm (3")
PISTON STROKE	102 mm (3")	102 mm (3")
MAX NO. OF CYCLES PER MINUTE	60	60
NO. OF CYCLES PER LITRE	15	20
SEALS	TEFLON	TEFLON
DIMENSIONS height	930 mm	930 mm
width	450 mm	450 mm
depth	450 mm	450 mm
WEIGHT	25 Kg	25 Kg
NOISE PRESSURE LEVEL	<80 dB (A)	<80 dB (A)

*N.B. The pump is supplied with a bayonet connection.

Parts of the pump in contact with the material

Pumping group: galvanised carbon steel and aluminium or stainless steel (based on the versions)

Sealing balls: stainless steel AISI 420B

Gaskets: Teflon

Other parts of the pump

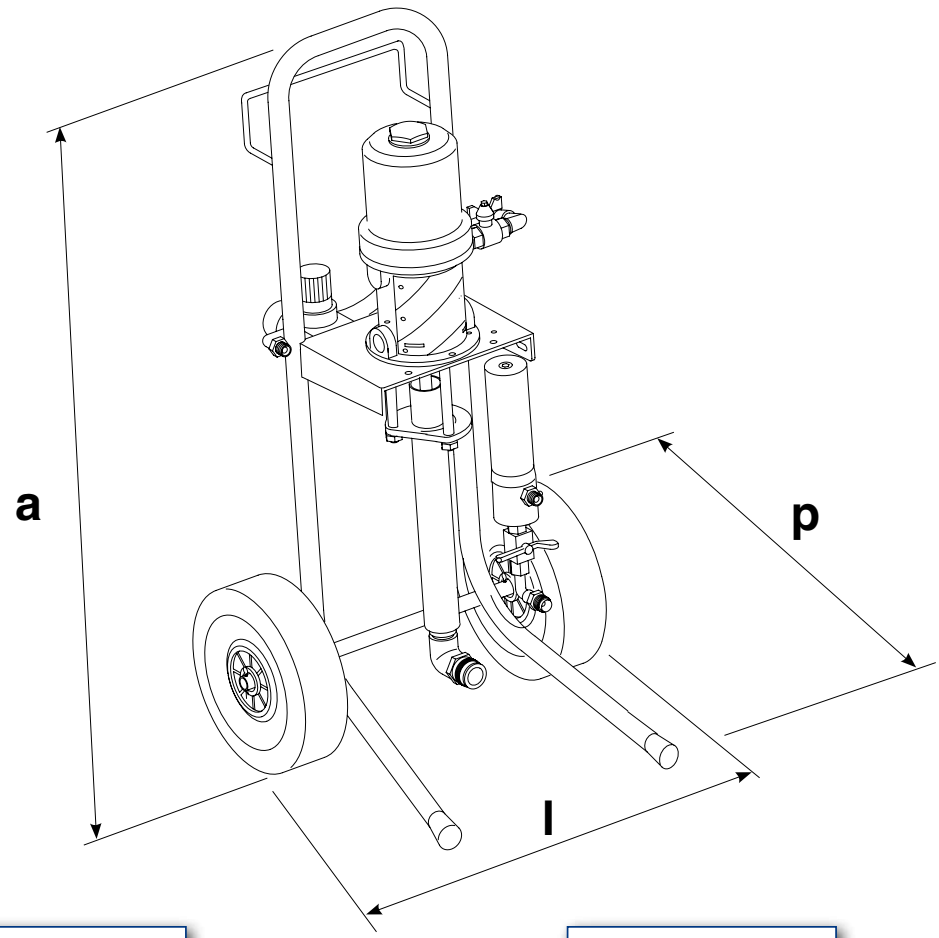
Motor casing and motor piston: aluminium

Pneumatic motor piston rod: stainless steel

Trolley structure: painted sheet metal



Always observe these instructions carefully when evaluating the product compatibility and in case of disposal of some parts of the pump no more usable, in order to meet the environmental regulations on recycling process.

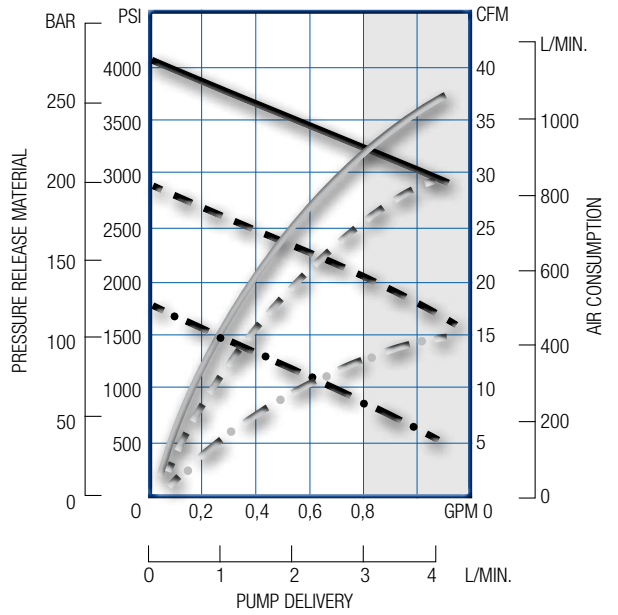
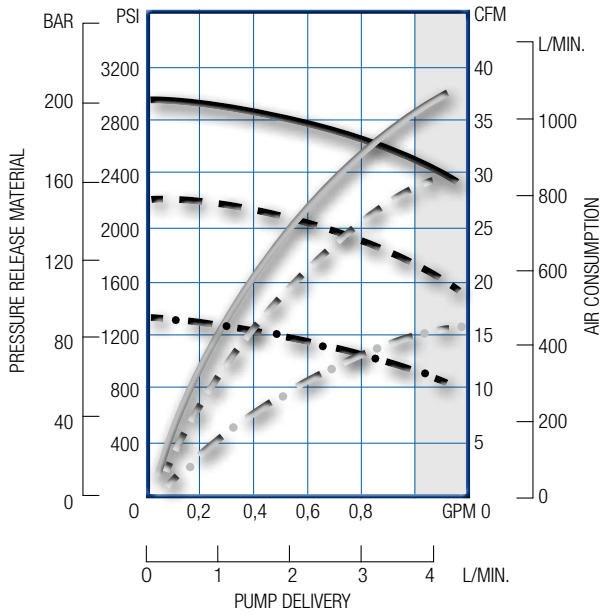


GHIBLI 30:1

GHIBLI 40:1

The pump can operate continuously when the flow is limited to the white area. Outside of this area, the speed must be intermittent.

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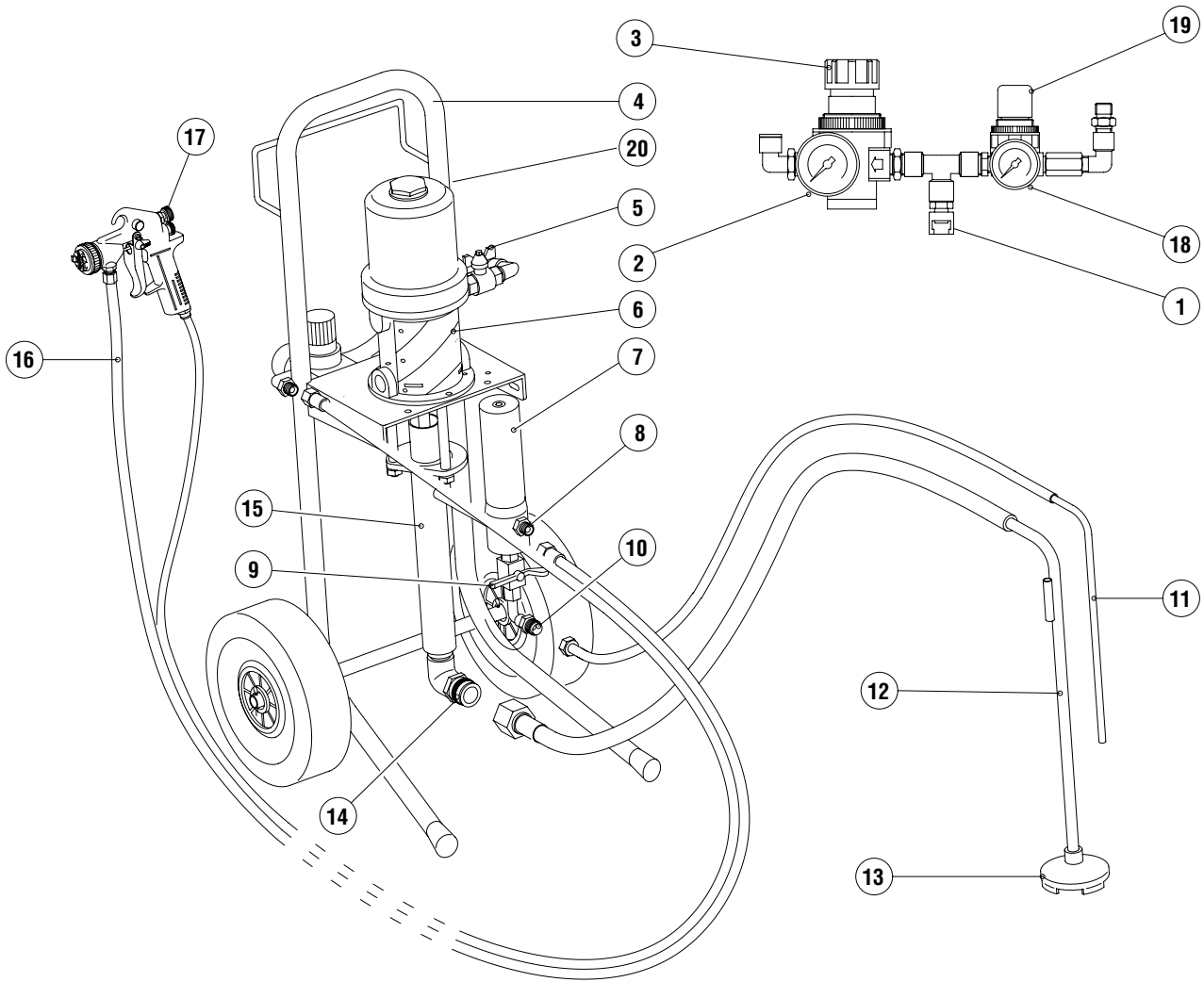
BLACK CURVE: PRESSURE RELEASE MATERIAL
GRAY CURVE: AIR CONSUMPTION

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— 7 bar (100 psi) - - 5 bar (70 psi) - . - . 3 bar (40 psi)

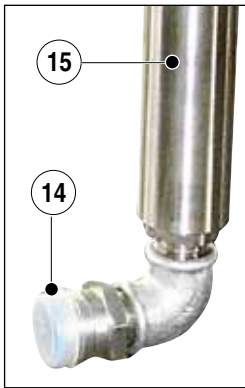
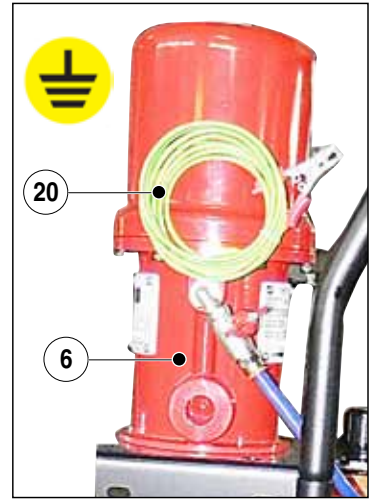
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C DESCRIPTION OF THE EQUIPMENT

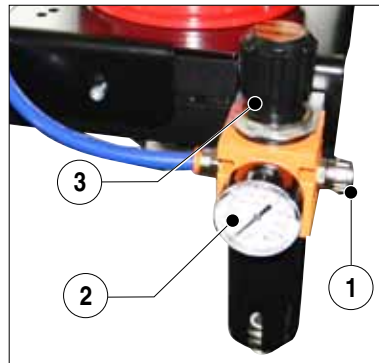


POS.	Description
1	Compressed air inlet
2	Manometer reading air pressure alim. pump
3	Feed air pressure regulator. pump
4	Trolley transport equipment
5	Valve opening and closing air alim. pump
6	Pneumatic motor pump
7	Filtro alta pressione uscita materiale
8	High pressure filter out material
9	Recirculating cock
10	Recirculation pipe fitting fixing
11	Fluid recirculation pipe

POS.	Description
12	Material suction pipe
13	Material suction filter
14	Fitting pipe fitting intake
15	Material pumping group
16	Air-material flexible pipe
17	Air-mix spray technology
18	Atomizing air pressure gauge reading
19	Atomizing air pressure regulator
20	Cable grounding with gripper
21	AT250 Gun
22	L91 Gun



Airless version



Mistless version





Gun AT250



Gun L91

D TRANSPORT AND UNPACKING

- The packed parts should be handled as indicated in the symbols and markings on the outside of the packing.
- Before installing the equipment, ensure that the area to be used is large enough for such purposes, is properly lit and has a clean, smooth floor surface.
- The user is responsible for the operations of unloading and handling and should use the maximum care so as not to damage the individual parts or injure anyone. To perform the unloading operation, use only qualified and trained personnel (*truck and crane operators, etc.*) and also suitable hoisting equipment for the weight of the installation or its parts. Follow carefully all the safety rules. The personnel must be equipped with the necessary safety clothing.
- The manufacturer will not be responsible for the unloading operations and transport to the workplace of the machine.
- Check the packing is undamaged on receipt of the equipment. Unpack the machine and verify if there has been any damage due to transportation. In case of damage, call immediately **LARIUS** and the Shipping Agent. All the notices about possible damage or anomalies must arrive timely within 8 days at least from the date of receipt of the plant through Registered Letter to the Shipping Agent and to **LARIUS**.
- The disposal of packaging materials is a customer's competence and must be performed in accordance with the regulations in force in the country where the plant is installed and used. It is nevertheless sound practice to recycle packaging materials in an environment-friendly manner as much as possible.

E SAFETY RULES

- THE EMPLOYER SHALL TRAIN ITS EMPLOYEES ABOUT ALL THOSE RISKS STEMMING FROM ACCIDENTS, ABOUT THE USE OF SAFETY DEVICES FOR THEIR OWN SAFETY AND ABOUT THE GENERAL RULES FOR ACCIDENT PREVENTION IN COMPLIANCE WITH INTERNATIONAL REGULATIONS AND WITH THE LAWS OF THE COUNTRY WHERE THE PLANT IS USED.

THE BEHAVIOUR OF THE EMPLOYEES SHALL STRICTLY COMPLY WITH THE ACCIDENT PREVENTION AND ALSO ENVIRONMENTAL REGULATIONS IN FORCE IN THE COUNTRY WHERE THE PLANT IS INSTALLED AND USED.



Read carefully and entirely the following instructions before using the product. Please save these instructions in a safe place.



The unauthorised tampering/replacement of one or more parts composing the machine, the use of accessories, tools, expendable materials other than those recommended by the Manufacturer can be a danger of accident. The Manufacturer will be relieved from tort and criminal liability.

- KEEP YOUR WORK PLACE CLEAN AND TIDY. DISORDER WHERE YOU ARE WORKING CREATES A POTENTIAL RISK OF ACCIDENTS.
- ALWAYS KEEP PROPER BALANCE AVOIDING UNUSUAL STANCE.
- BEFORE USING THE TOOL, ENSURE THERE ARE NOT DAMAGED PARTS AND THE MACHINE CAN WORK PROPERLY.
- ALWAYS FOLLOW THE INSTRUCTIONS ABOUT SAFETY AND THE REGULATIONS IN FORCE.
- KEEP THOSE WHO ARE NOT RESPONSIBLE FOR THE EQUIPMENT OUT OF THE WORK AREA.
- **NEVER** EXCEED THE MAXIMUM WORKING PRESSURE INDICATED.
- **NEVER** POINT THE SPRAY GUN AT YOURSELVES OR AT OTHER PEOPLE. THE CONTACT WITH THE CASTING CAN CAUSE SERIOUS INJURIES.
- IN CASE OF INJURIES CAUSED BY THE GUN CASTING, SEEK IMMEDIATE MEDICAL ADVICE SPECIFYING THE TYPE OF THE PRODUCT INJECTED. **NEVER** UNDERVALUE A WOUND CAUSED BY THE INJECTION OF A FLUID.
- ALWAYS DISCONNECT THE SUPPLY AND RELEASE THE PRESSURE IN THE CIRCUIT BEFORE PERFORMING ANY CHECK OR PART REPLACEMENT OF THE EQUIPMENT.
- NEVER MODIFY ANY PART IN THE EQUIPMENT. CHECK REGULARLY THE COMPONENTS OF THE SYSTEM. REPLACE THE PARTS DAMAGED OR WORN.
- TIGHTEN AND CHECK ALL THE FITTINGS FOR

CONNECTION BETWEEN PUMP, FLEXIBLE HOSE AND SPRAY GUN BEFORE USING THE EQUIPMENT.

- ALWAYS USE THE FLEXIBLE HOSE SUPPLIED WITH STANDARD KIT.
- THE USE OF ANY ACCESSORIES OR TOOLING OTHER THAN THOSE RECOMMENDED IN THIS MANUAL, MAY CAUSE DAMAGE OR INJURE THE OPERATOR.
- THE FLUID CONTAINED IN THE FLEXIBLE HOSE CAN BE VERY DANGEROUS. HANDLE THE FLEXIBLE HOSE CAREFULLY. DO NOT PULL THE FLEXIBLE HOSE TO MOVE THE EQUIPMENT. NEVER USE A DAMAGED OR A REPAIRED FLEXIBLE HOSE.



The high speed of travel of the product in the hose can create static electricity through discharges and sparks. It is suggested to earth the equipment. The pump is earthed through the earth cable of the supply.

The gun is earthed through the high pressure flexible hose. All the conductors near the work area must be earthed.

- NEVER SPRAY OVER FLAMMABLE PRODUCTS OR SOLVENTS IN CLOSED PLACES.
- NEVER USE THE TOOLING IN PRESENCE OF POTENTIALLY EXPLOSIVE GAS.



Always check that the product is compatible with the materials composing the equipment (*pump, spray gun, flexible hose and accessories*) with which it can come into contact. Never use paints or solvents containing Halogen Hydrocarbons (*as the Methylene Chloride*). If these products come into contact with aluminium parts can provoke dangerous chemical reactions with risk of corrosion and explosion.



Avoid approaching too much to the pump piston rod when the pump is working or under pressure. A sudden movement of the piston rod can cause wounds or finger squashing.



IF THE PRODUCT TO BE USED IS TOXIC, AVOID INHALATION AND CONTACT BY USING PROTECTION GLOVES, GOGGLES AND PROPER FACE SHIELDS.

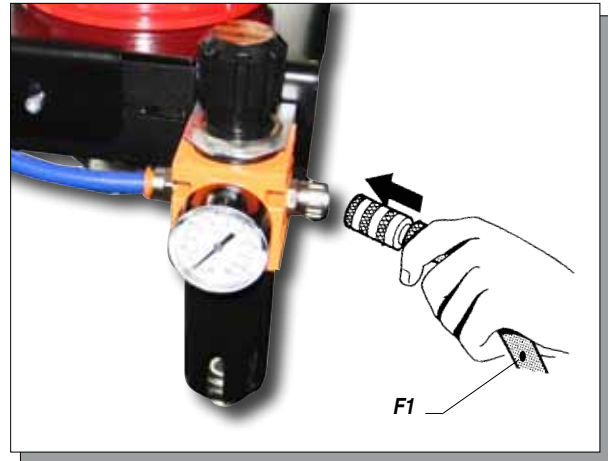


TAKE PROPER SAFETY MEASURES FOR THE PROTECTION OF HEARING IN CASE OF WORK NEAR THE PLANT.

F SETTING-UP

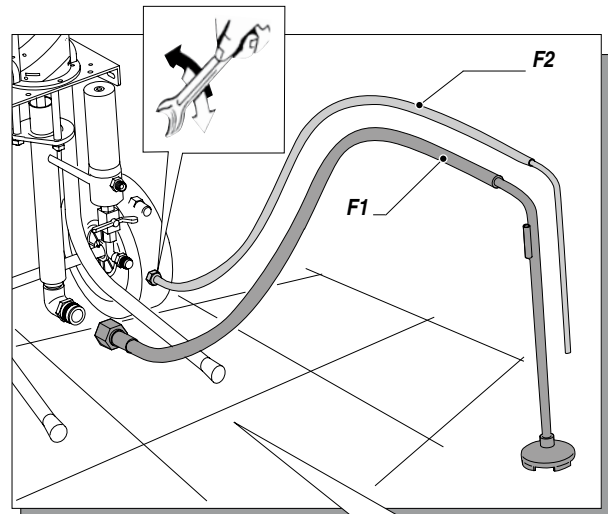
CONNECTION TO THE FEED AIR

For pump feed use a hose (F1) with an internal diameter no lower than 10 mm.



CONNECTION OF SUCTION AND RECIRCULATING PIPES

- Connect the suction and recirculating pipes to the pump. The suction hose can be locked finger tight (F1). Use a spanner to tighten the recirculating pipe (F2). In both cases do not use sealant agents for fitting threads.

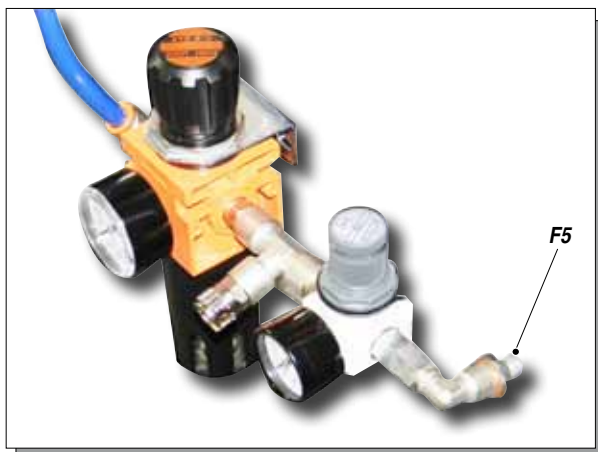
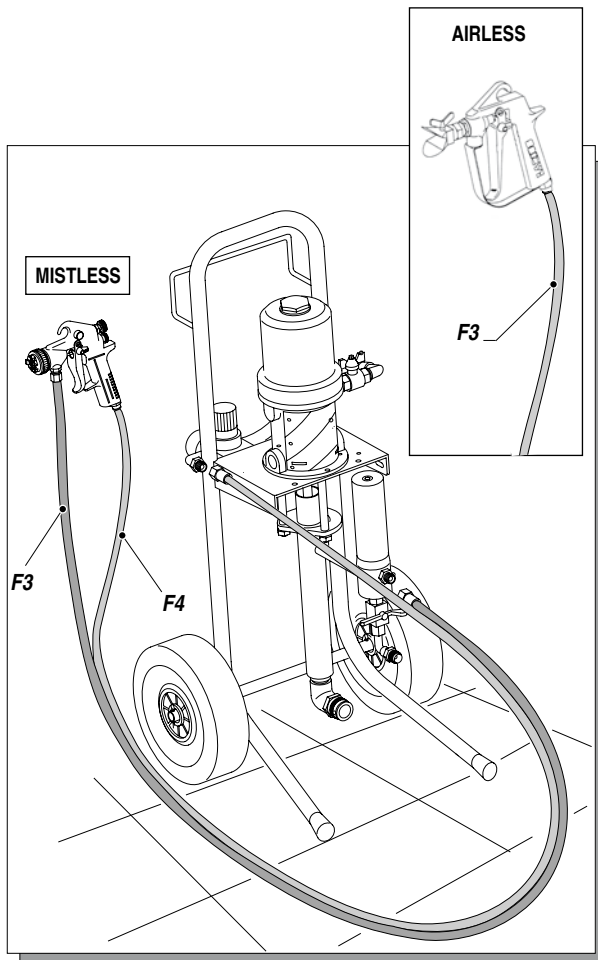


CONNECTION OF SUCTION AND RECIRCULATING PIPES AIRLESS version

- Connect the high pressure flexible hose (F3) to the pump and to the spray gun, paying attention to tighten the fittings strongly (*the use of two spanners is suggested*). Do not use sealant agents for fitting threads.
- Make sure the spray gun is without the atomization nozzle.

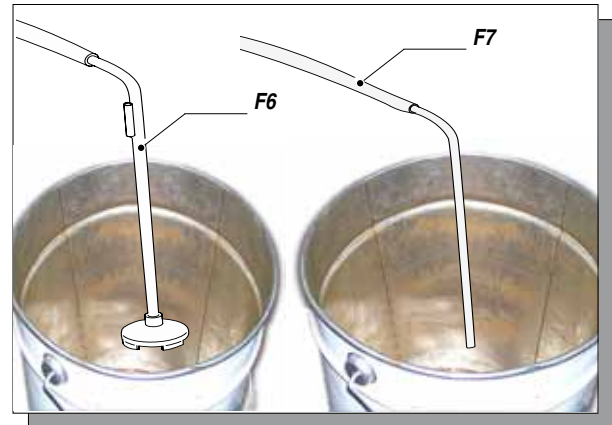
MISTLESS version

For the MISTLESS version, connect tube F3, as well as the air supply hose (F4), to the air reducer unit (F5).

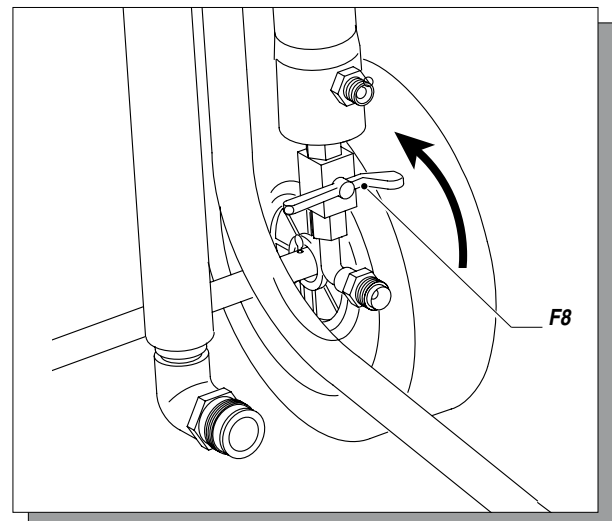


WASHING OF THE BRAND-NEW EQUIPMENT

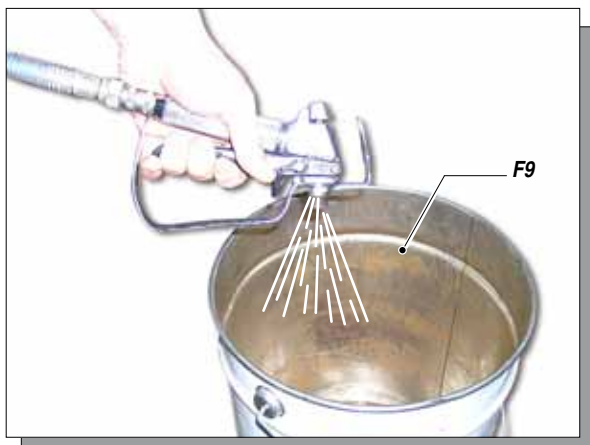
- The equipment has been tested at our plant with light mineral oil left inside of the pumping element as protection. Therefore, before sucking the product, carry out a washing using a diluent.
- Dip the suction hose (F6) into the tank of the washing.
- Insert the recirculating pipe (F7) into a container (*a metal container is suggested*).



- Open the recirculating cock (F8).



- Set the pump feed pressure at about 3 bar and open the air passage valve.
- The pump will start working and will drain oil from the recirculating pipe. Close the recirculating cock as soon as the clean solvent has come out.
- Lift the solvent tank's suction tube.
- Lean the spray gun against the rim of the container (F9) and drain the residual oil pressing the trigger. Release the trigger as soon as the clean solvent comes out.
- Point the spray gun at the tank of the solvent and press the trigger so as to recover the clean solvent left inside the pump.
- As an accelerated working of the pump (*the pump "idles"*) appears, close the air passage valve.



PREPARATION OF THE PAINT

- Ensure the product is suitable to be used with a spray gun.
- Mix and filter the product before using it. For filtration, the use of close-mesh (Ref. 214) and large-mesh (Ref. 215) LARIUS METEX braids is suggested.



Make sure the product to be used is compatible with the materials employed for manufacturing the equipment. For this reason, please contact the supplier of the product.

G WORKING

- Use the machine after carrying out all the setting-up operations described in the previous paragraph.



Check all the fittings for connection of the different components (pump, flexible hose, spray gun, etc.) before using the equipment.

- Use the supplied lubricant (G1 - ref. 16325) to facilitate the sliding of the piston inside the seal packing and to interpose the oil within the air.



At the start of each working day, make sure that the ring nut is filled with hydraulic oil (ref. 16325); the oil facilitates the sliding of the piston and prevents any material which may have leaked out of the seals from drying once the equipment has been shut off.

- Fix the atomization nozzle on the spray gun. Select the right nozzle according to the characteristics of the material to be used and to the type of work to be performed.
- Dip the suction and recirculating pipes into the tank of the product.
- Open the recirculating cock.
- Set the pump feed pressure at about 3-4 bar and open the air passage valve.
- Allow the product to circulate for a few seconds. Then close the recirculating cock. The pump will keep on working until the high pressure flexible hose is full of product up to the spray gun. Then the pump will stop automatically.
- Increase pump feed pressure so as to reach a pressure value to guarantee a good atomization of the product.
- An irregular and marked spray on the sides indicates a low working pressure. On the contrary, a too high pressure causes a high fog ("overspray") and waste of product.
- In order to avoid overthick ness of paint, let the gun advance sideways (*right-left*) when spraying.
- Always paint with regular parallel bands coats.
- Keep a safety and constant distance between the spray gun and the support to be painted and keep yourselves perpendicular to it.



Never point the spray gun at your selves or at other people. The contact with the cating can cause serious injuries.

H CLEANING AT THE END OF THE WORK

- Lift the suction hose from the tank of the product.
- Reduce the pump feed pressure to about 3-4 bar and open te recirculating cock so as to recover the product left inside the equipment.
- Close the air passage valve for pump feed.
- Point the spray gun at the tank of the solvent and press the trigger so as to recover the clean solvent left inside the pump.
- Remove the nozzle from the spray gun (*Do not forget to clean it using a solvent!*).

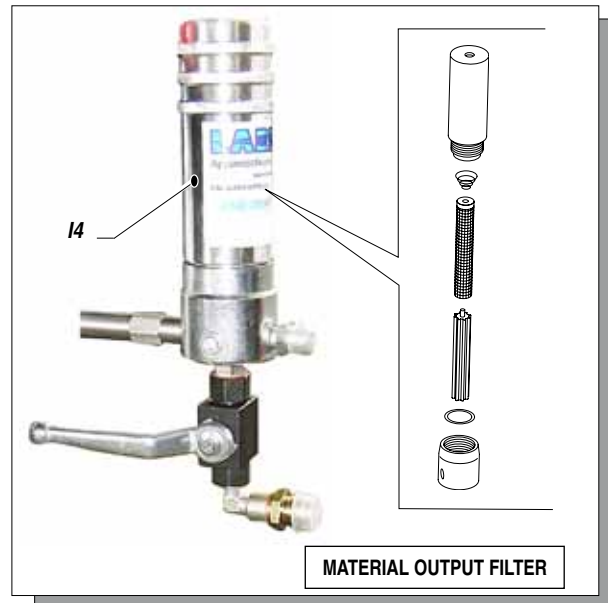
- Dip the suction hose into the tank of the washing solvent (*ensure it is compatible with the product being used*).
- Insert the recirculating hose into a container (*a metal container is recommended*).
- Open the recirculating cock.
- Open the air passage valve in order to start up the pump.
- Close the recirculating cock as soon as a clean solvent comes out.
- Lift the solvent tank's suction tube.
- Point the spray gun at the tank of the solvent and press the trigger so as to recover the clean solvent left inside the pump.
- As an accelerated working of the pump (*the pump "idles"*) appears, close the air passage valve .
- In case of long storage, we recommend you to suck and to leave light mineral oil inside the pumping group and the flexible hose.
- In this case, please follow the washing procedure described on page 8 before using the tooling.



Store possible dangerous fluids in proper containers. Their disposal must be performed in accordance with the regulations in force about the industrial waste goods.

To tighten the packing nut (11) use wrench supplied (12). The packing nut must be tightened so as to avoid wastes of product, but not excessively to avoid the seizure of the pumping piston and the wear of seals. In case of persistent coming out of product, replace the seals.

- Remove and clean the material suction filter (13).
- Remove and clean the high pressure filter for material outlet (14).



ROUTINE MAINTENANCE



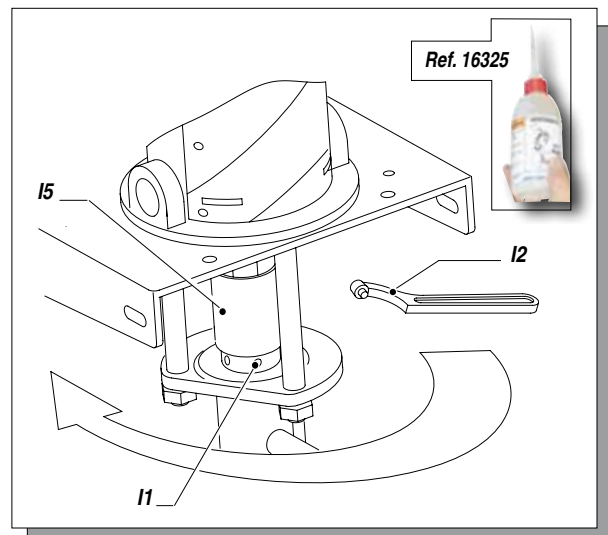
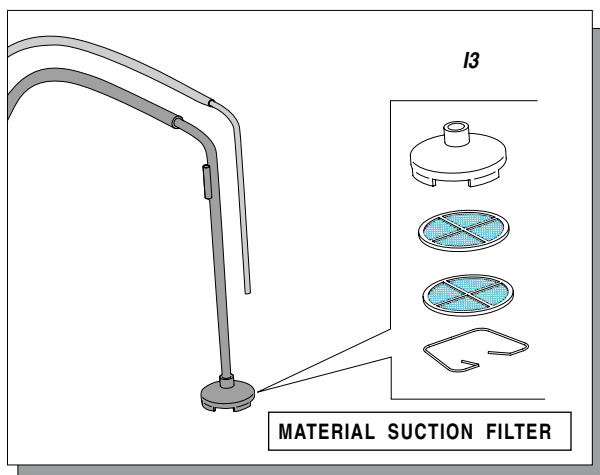
Always close the compressed air supply and release the pressure in the plant before performing any check or maintenance of the pump.



At the start of each working day, make sure that the ring (15) nut is filled with hydraulic oil (ref. 16325); the oil facilitates the sliding of the piston and prevents any material which may have leaked out of the seals from drying once the equipment has been shut off.

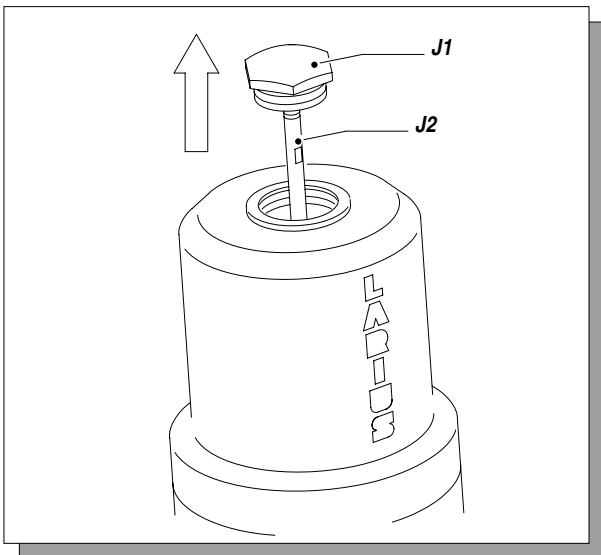
- Check periodically (*and every time the pump is operated after a long storage*) the packing nut is not loosened, causing otherwise the coming out of the product.

- Check periodically the air supply to the pump. Ensure the air is always clean and lubricated.



J MANUAL RESET OF THE PNEUMATIC MOTOR

- The feed air pressure of the pump must never be higher than the maximum value indicated in the technical data. Exceed this value can block the valves of the pneumatic motor in the intermediate position of the cycle reversal.
- To start again a blocked motor, close the air supply and release pressure in the plant. This operation should allow the recovery of the valves.
- In case the motor is blocked, proceed as follows:
 - Close the air supply to the pump and release the residual pressure in the plant;
 - unscrew the motor cap (J1) and pull it upward along with the guide rod (J2) so as to manually trigger the stroke inversion unit;
 - screw again the plug.



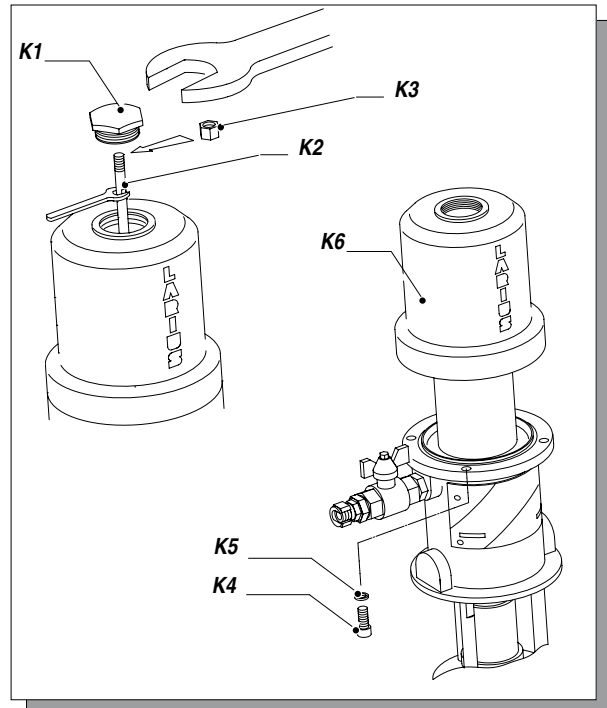
K DISASSEMBLY OF THE PNEUMATIC MOTOR

- Close the compressed air supply to the pump and release the residual pressure in the plant.
- Unscrew the motor cap (K1) and pull it upwards together with the guide rod (K2).
- Hold the guide rod (K2) and remove the plug (K1) (using two wrenches).

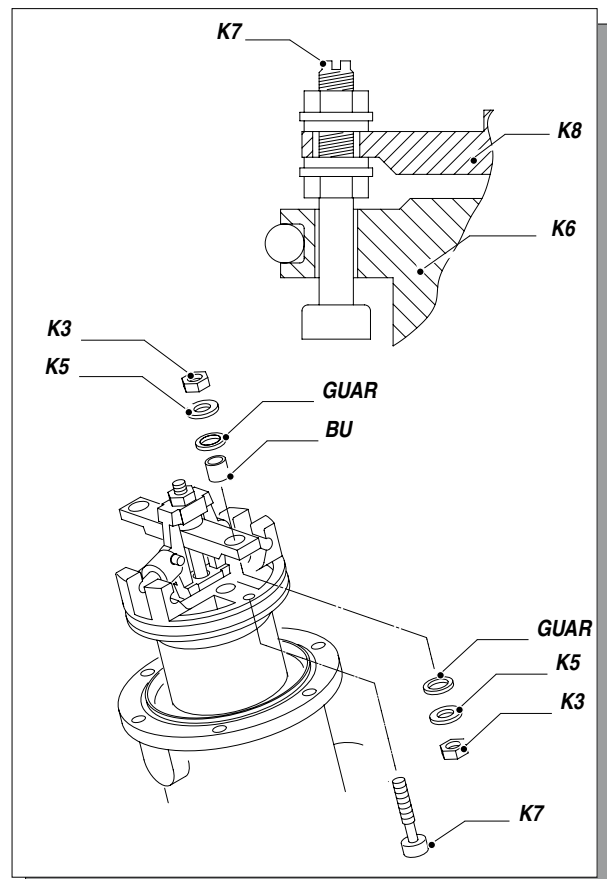


Replace immediately the plug with a usual M8 (K3) nut before the guide rod slides into the cylinder (see the figure)

- Remove the screws (K4) and the washers (K5).
- Carefully extract the motor cylinder (K6) from the pump.

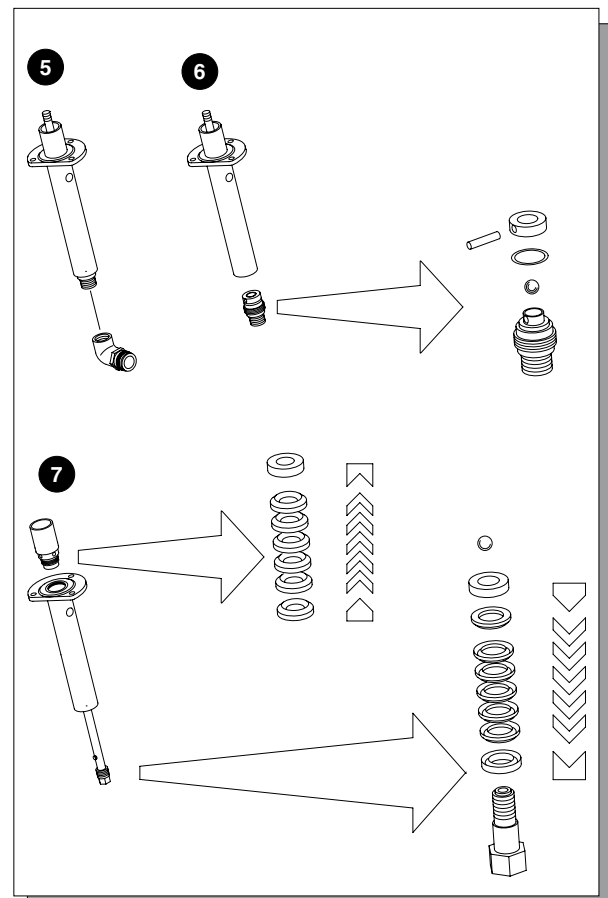
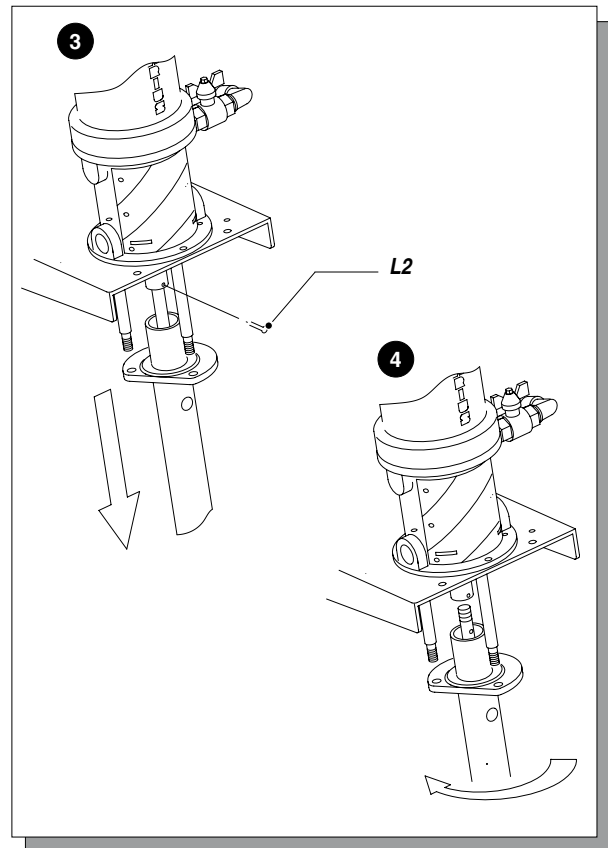
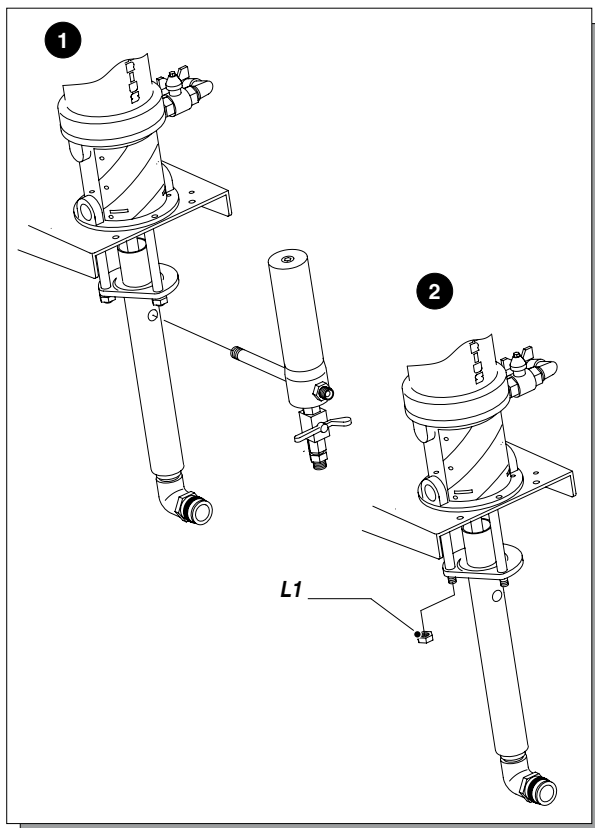


- Check the condition of each part of the motor.
- For any eventual replacement of the screws (K7) of the traverse (K8), for their reassembly and correct adjustment.



L DISASSEMBLY OF THE PUMPING GROUP

- Follow the end of work cleaning procedure before disassembling the pumping unit.
- Remove the suction tube, the recirculation tube, the high-pressure tube that connects to the spray gun and the compressed air supply line's connection tube
- **1** Unscrew the high pressure filter unit from the pump.
- **2** Unscrew the nuts (L1).
- **3** Pull the pumping unit towards yourself so that the split pin (L2) can be extracted (*leaving the air valve open will facilitate this operation*).
- **4** At this point, unscrew the piston rod from the pneumatic motor so that the entire pumping unit can be removed.
- **5** Unscrew the suction elbow and suction valve. Clean and/or replace the specific parts wherever necessary.
- **6** Unscrew the seal compression ring.
- **7** Extract the piston rod from below.
- Remove the piston rod and replace the worn seals.
- Remove the upper seals for replacement, if necessary.
- See the diagram below the drawings for the correct reassembly procedure.



M PROBLEMS AND SOLUTION

Problem	Possible cause	Solution
<ul style="list-style-type: none"> The pump does not start 	<ul style="list-style-type: none"> Feed air not sufficient; Outlet product line clogged; Clogged product intake line; Pneumatic motor blocked in the cycle reversal position; Parts failure of the pneumatic motor; 	<ul style="list-style-type: none"> Check on the air supply line. Increase the diameter of the feed hose; Open the recirculation tap to check whether the pump starts up. Unscrew the high pressure filter and clean/replace the filter sieve. Clean/replace the spray gun's filter. Clean the suction filter; Reduce feed air pressure; Manually reset the pneumatic motor; Disassemble the motor and verify;
<ul style="list-style-type: none"> Accelerate working and no pressure of the pump 	<ul style="list-style-type: none"> There is no product; The pump sucks air; Gaskets of the pumping rod worn; Suction valve worn or partially clogged; Suction filter clogged; Suction filter too fine; 	<ul style="list-style-type: none"> Add the product; Check the flexible suction tube; Replace the lower gaskets; Disassemble the suction valve. Clean and/or replace, if possible, the parts worn; Clean/replace the suction filter's two disks; Remove the fine disk, leaving only the larger one inside;
<ul style="list-style-type: none"> The pump functions, but doesn't stop when the chamber is full (the pump continues slowly, increasing and/or decreasing) 	<ul style="list-style-type: none"> Pumping rod seals worn; Suction valve worn or partially clogged; Delivery valve worn or partially obstructed; Upper gaskets worn. 	<ul style="list-style-type: none"> Replace the lower seals Disassemble the suction valve. Clean and/or replace, if possible, the parts worn; Remove the delivery valve and clean/replace any worn parts; Tighten the packing nut.
<ul style="list-style-type: none"> The pressure of the material is significantly reduced when the trigger is pressed 	<ul style="list-style-type: none"> The spray gun's nozzle is too large or worn The spray gun's filter and the material output filter's sieve are too fine 	<ul style="list-style-type: none"> Replace it with a smaller one Replace them with filters of a larger mesh size



Always close the compressed air supply and release the pressure in the plant before performing any check or replacement of parts of the pump.

SPARE PARTS

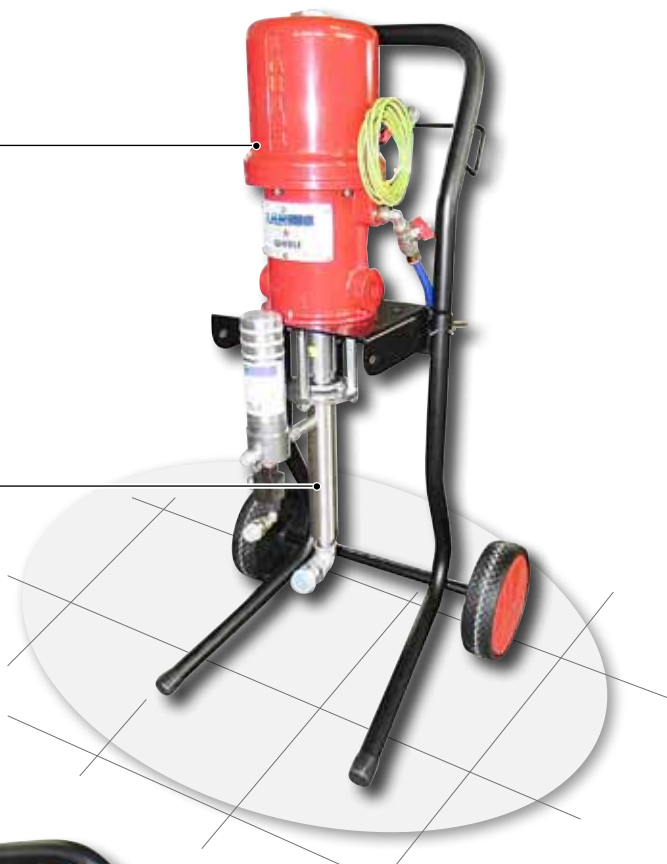
N Complete pneumatic motor pump Ghibli SPLIT VERSION 30:1 / 40:1 pag. 16

O-P Complete pumping pump Ghibli Split version and stainless steel 30:1 / 40:1 pag. 18-20

T Complete trolley pag. 25

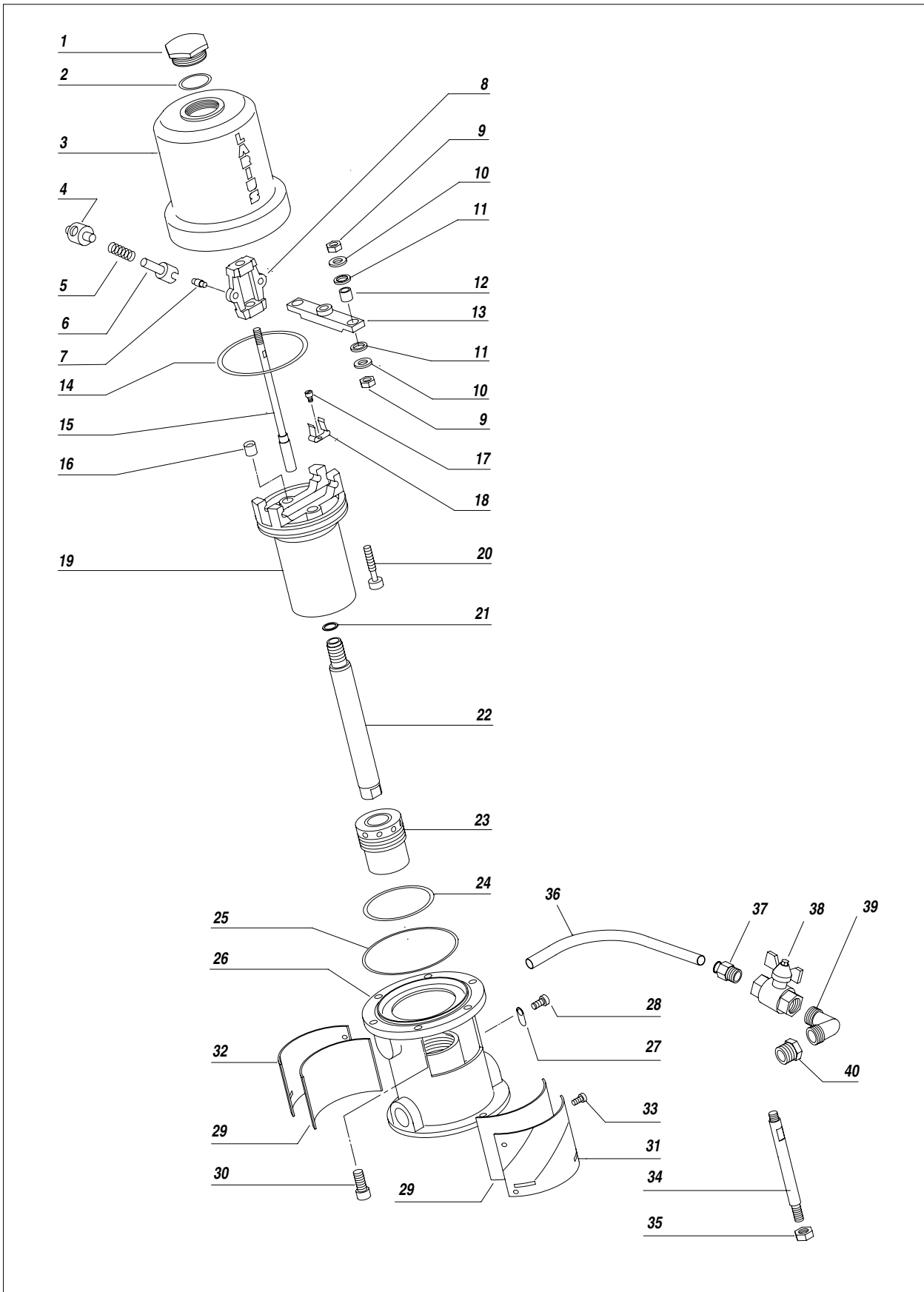
Q-R Air regulation group AIRLESS - MISTLESS version pag. 22-23

S Paint suction system pag. 24



N COMPLETE PNEUMATIC MOTOR PUMP GHIBLI SPLIT VERSION 30:1 / 40:1

WARNING: always indicate code and quantity for each part required.



30:1 VERSION Ref. 96550

40:1 VERSION Ref. 96551

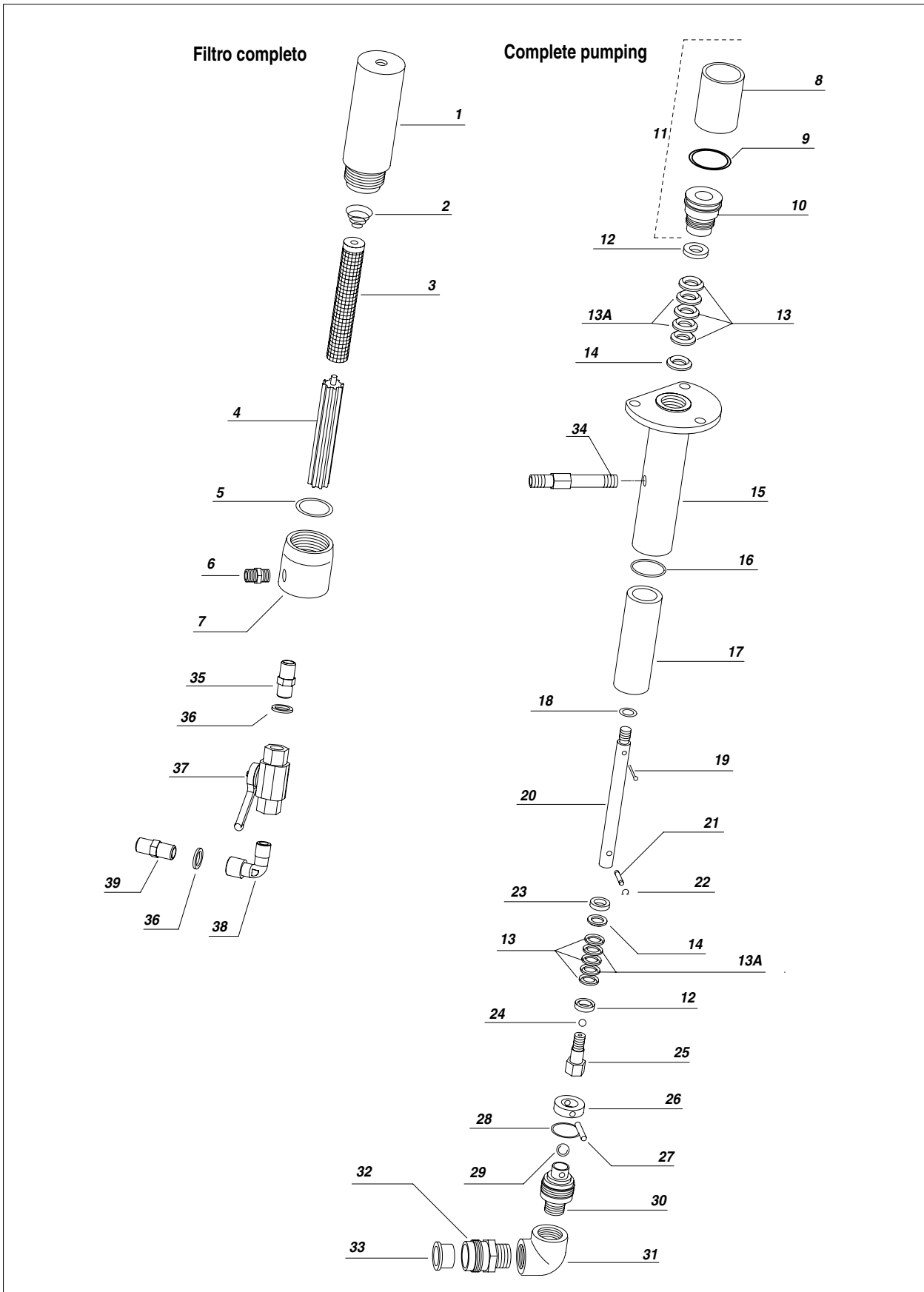
Pos.	Code	Description	Q.ty	Pos.	Code	Description	Q.ty
	96550	Complete motor	-		96551	Complete motor	-
1	96001	Plug	1	1	96001	Plug	1
2	95075	O-ring	1	2	95075	O-ring	1
3	96003	Motor cylinder	1	3	96003	Motor cylinder	1
4	96005	Roller	2	4	96005	Roller	2
5	96006	Spring	2	5	96006	Spring	2
6	96007	Fork	2	6	96007	Fork	2
7	96024	Fork pin	2	7	96024	Fork pin	2
8	96008	Rocker lever	1	8	96008	Rocker lever	1
9**	4108	Nut	4	9**	4108	Nut	4
10**	32024	Washer	4	10**	32024	Washer	4
11**	96111	Gasket	4	11**	96111	Gasket	4
12**	96112	Bush	2	12**	96112	Bush	2
13	96110	Crosspiece	1	13	96110	Crosspiece	1
14	96012	O-ring	1	14	96012	O-ring	1
15	96010	Guide rod	1	15	96010	Guide rod	1
16**	96009	Valve	2	16**	96009	Valve	2
17	96025	Screw M4	2	17	96025	Screw M4	2
18	96011	Crosspiece guide spring	2	18	96011	Crosspiece guide spring	2
19	96013	Piston	1	19	96013	Piston	1
20	96027	Screw Valve completa	2	20	96027	Screw Valve completa	2
21	33031	Washer	1	21	33031	Washer	1
22	96016	Piston rod	1	22	96016	Piston rod	1
23**	96017	Bush	1	23**	96017	Bush	1
24*	96020	O-ring	1	24*	96020	O-ring	1
25	96018	O-ring	1	25	96018	O-ring	1
26	96021	Motor support	1	26	96021	Motor support	1
27	96210	Earthing plate	1	27	96210	Earthing plate	1
28	96211	Screw M6	1	28	96211	Screw M6	1
29	96022/1	Gasket	2	29	96022/1	Gasket	2
30	96031	Screw M8	6	30	96031	Screw M8	6
31	96022	Front plate	1	31	96022	Front plate	1
32	96032	Back plate	1	32	96036	Back plate	1
33	96028	Screw M4	12	33	96028	Screw M4	12
34	96072	Tie rod	3	34	96072	Tie rod	3
35	96080	Nut M10	3	35	96080	Nut M10	3
36	96217	Tube Ø 12/10 mm	1	36	96217	Tube Ø 12/10 mm	1
37	96215	Tube fitting	1	37	96215	Tube fitting	1
38	91101	Valve	1	38	91101	Valve	1
39	96214	Elbow	1	39	96214	Elbow	1
40	9626 1	Reduction	1	40	96261	Reduction	1

*Motor gaskets kit Code 40050

**Traverse screws kit Code 40401

0 COMPLETE PUMPING PUMP GIBLI SPLIT VERSION 30:1 / 40:1

WARNING: always indicate code and quantity for each part required.



30:1 VERSION Ref. 96220

40:1 VERSION Ref. 96220

Pos.	Code	Description	Q.ty
	96220	Complete filter	-
1	96201	Filter tank	1
2	96202	Sieve spring	1
3	95221	Filter sieve 200M	1
	95220	Filter sieve 100M	1
	95219	Filter sieve 60M	1
4	96207	Sieve support	1
5	96203	O-ring	1
6	96206	Nipple 1/4" GAS 16x1,5	1
7	96204	Filter base	1
35	96208	Adapter 1/4 con-cil	1
36	33012	Copper gasket 1/4	2
37	33013/1	Ball valve 1/4	1
38	5255	Elbow MF 1/4	1
39	33015	Adapter 1/4 - M20x2	2

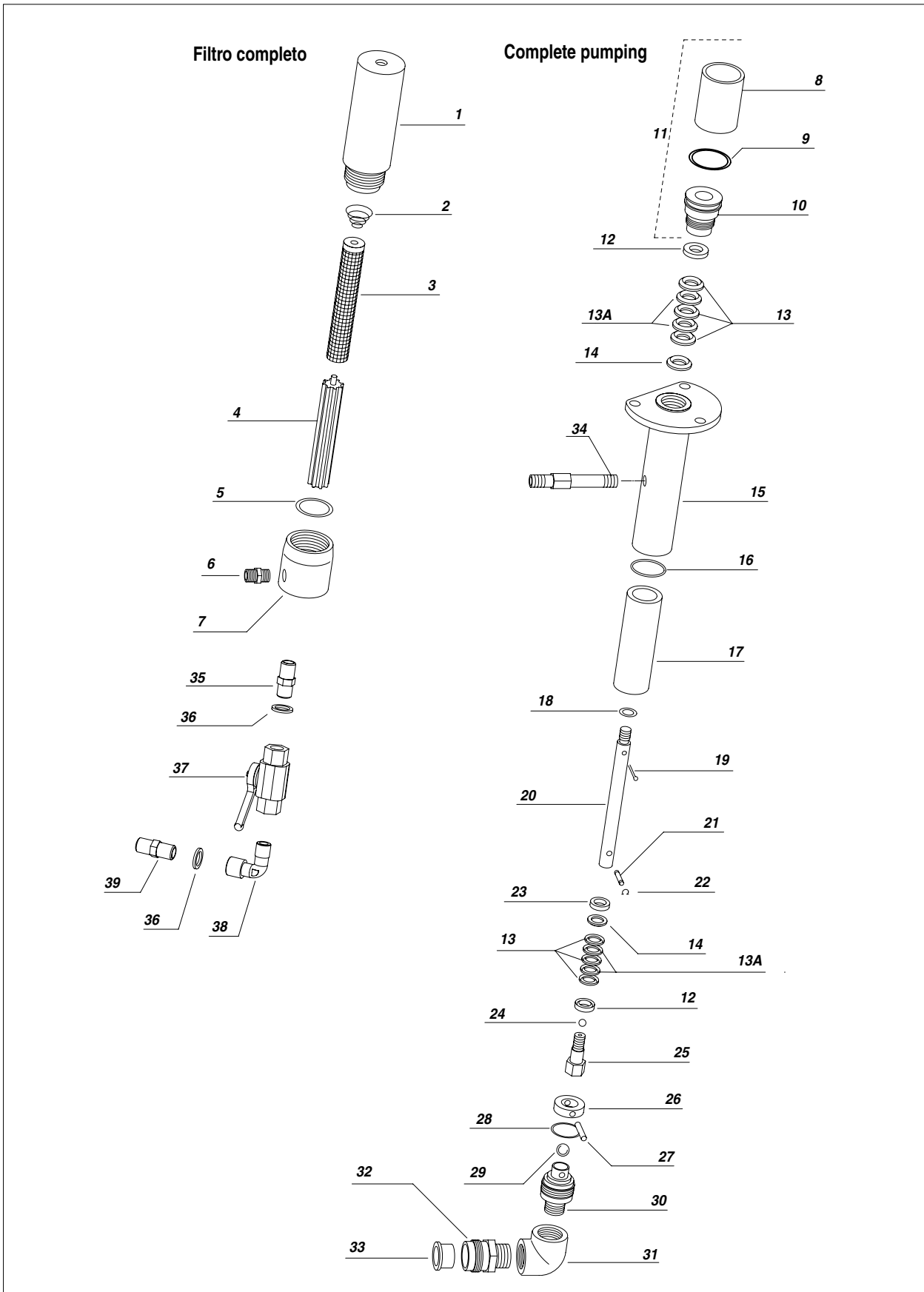
30:1 VERSION Ref. 96070

40:1 VERSION Ref. 96500

Pos.	Code	Description	Q.ty	Pos.	Code	Description	Q.ty
-	96070	Complete pumping	-	-	96500	Complete pumping	-
8	91001/1	Oil tank	1	8	91001/1	Oil tank	1
9	3429	O-ring	1	9	3429	O-ring	1
10	98501	Gaskets ring nut	1	10	98506	Gaskets ring nut	1
11	96075	Complete tank	1	11	96502	Complete tank	1
12	98358	V female ring	2	12	98406	V female ring	2
13	96074	Teflon gasket	6	13	96512	Teflon gasket	6
13A	96071	Polyethylene gasket	4	13A	96513	Polyethylene gasket	4
14	98360	V male ring	2	14	98408	V male ring	2
15	98353	Pumping group	1	15	98403	Pumping group	1
16	96083	Gasket	1	16	96083	Gasket	1
17	98350	Sleeve	1	17	98416	Sleeve	1
18	96073	O-ring	1	18	96073	O-ring	1
19	3323	Washer	1	19	34005	Washer	1
20	98356	Piston rod	1	20	98404	Piston rod	1
21	98362	Pin	1	21	96507	Pin	1
22	96087	Elastic ring	2	22	96087	Elastic ring	2
23	96089	Washer	1	23	96508	Washer	1
24	96090	Ball ø5/16"	1	24	96090	Ball ø5/16"	1
25	98367	Pumping piston	1	25	96509	Pumping piston	1
26	96092	Ring	1	26	96092	Ring	1
27	98370	Pin	1	27	98370	Pin	1
28	96093	O-ring	1	28	96093	O-ring	1
29	96094	Ball ø 1/2"	1	29	96094	Ball ø 1/2"	1
30	98373	Suction valve	1	30	98373	Suction valve	1
31	95089	Elbow	1	31	95089	Elbow	1
32	96098	Suction hose fitting	1	32	96098	Suction hose fitting	1
33	96099	Sleeve	1	33	96099	Sleeve	1
34	98378	Filter fitting	1	34	98378	Filter fitting	1

*Spare part kit Code 40055

*Spare part kit Code 40060

P COMPLETE PUMPING PUMP GHIBLI SPLIT VERSION STAINLESS 30:1/40:1**WARNING:** always indicate code and quantity for each part required.

INOX 30:1 VERSION Ref. 98388

INOX 40:1 VERSION Ref. 98388

Pos.	Code	Description	Q.ty
	98388	Complete filter	-
1	98384	Filter tank	1
2	96202	Sieve spring	1
3	95221	Filter sieve 200M	1
4	95220	Filter sieve 100M	1
	95219	Filter sieve 60M	1
	96207	Sieve support	1
5	96203	O-ring	1
6	98383	Nipple 1/4" GAS 16x1,5	1
7	98380	Filter base	1
35	3110	Adapter 1/4 con-cil	1
36	32012	Copper gasket 1/4	2
37	98325	Ball valve 1/4	1
38	98377	Elbow MF 1/4	1
39	96065	Adapter 1/4 - M20x2	2

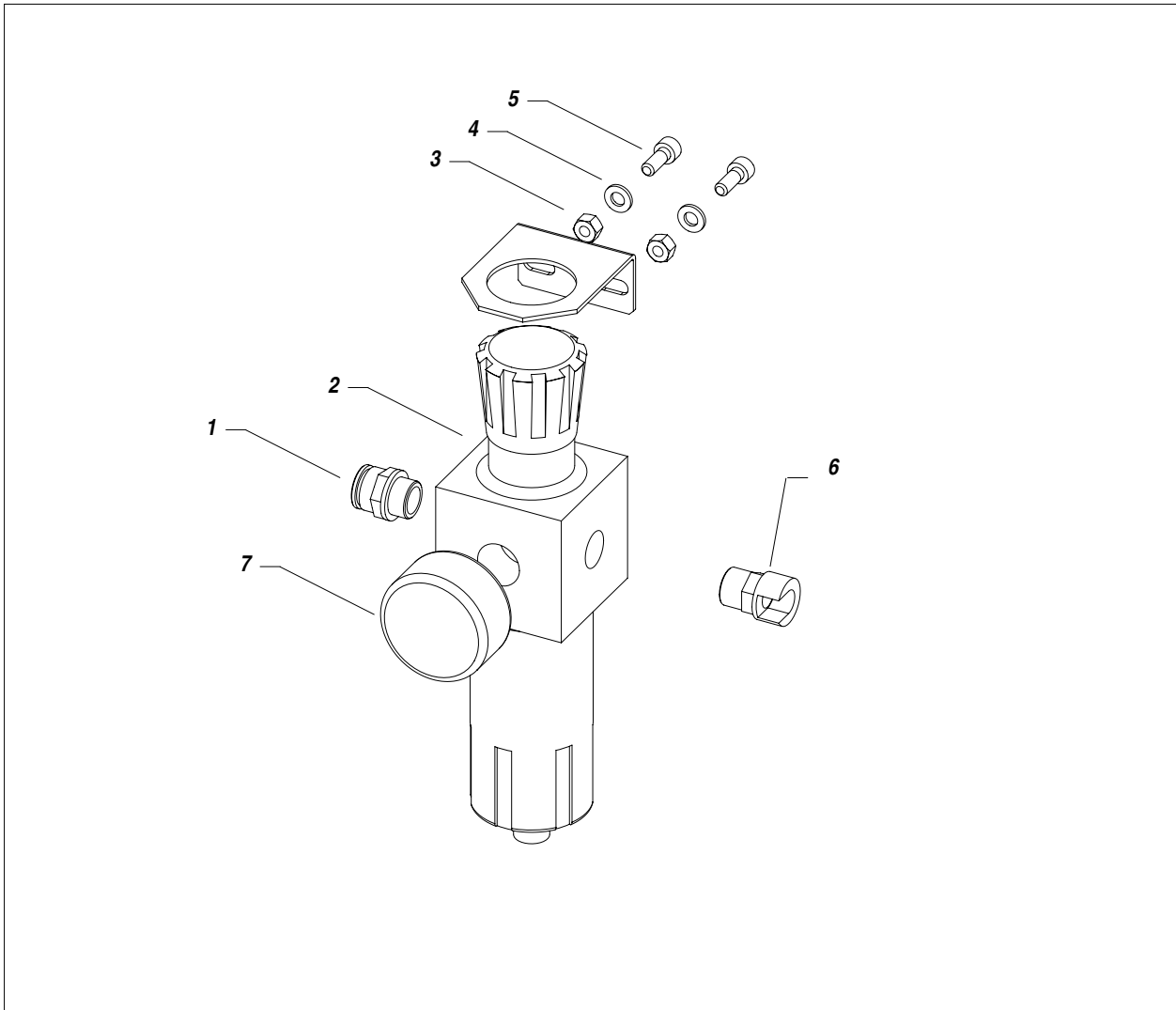
INOX 30:1 VERSION Ref. 98340

INOX 40:1 VERSION Ref. 98400

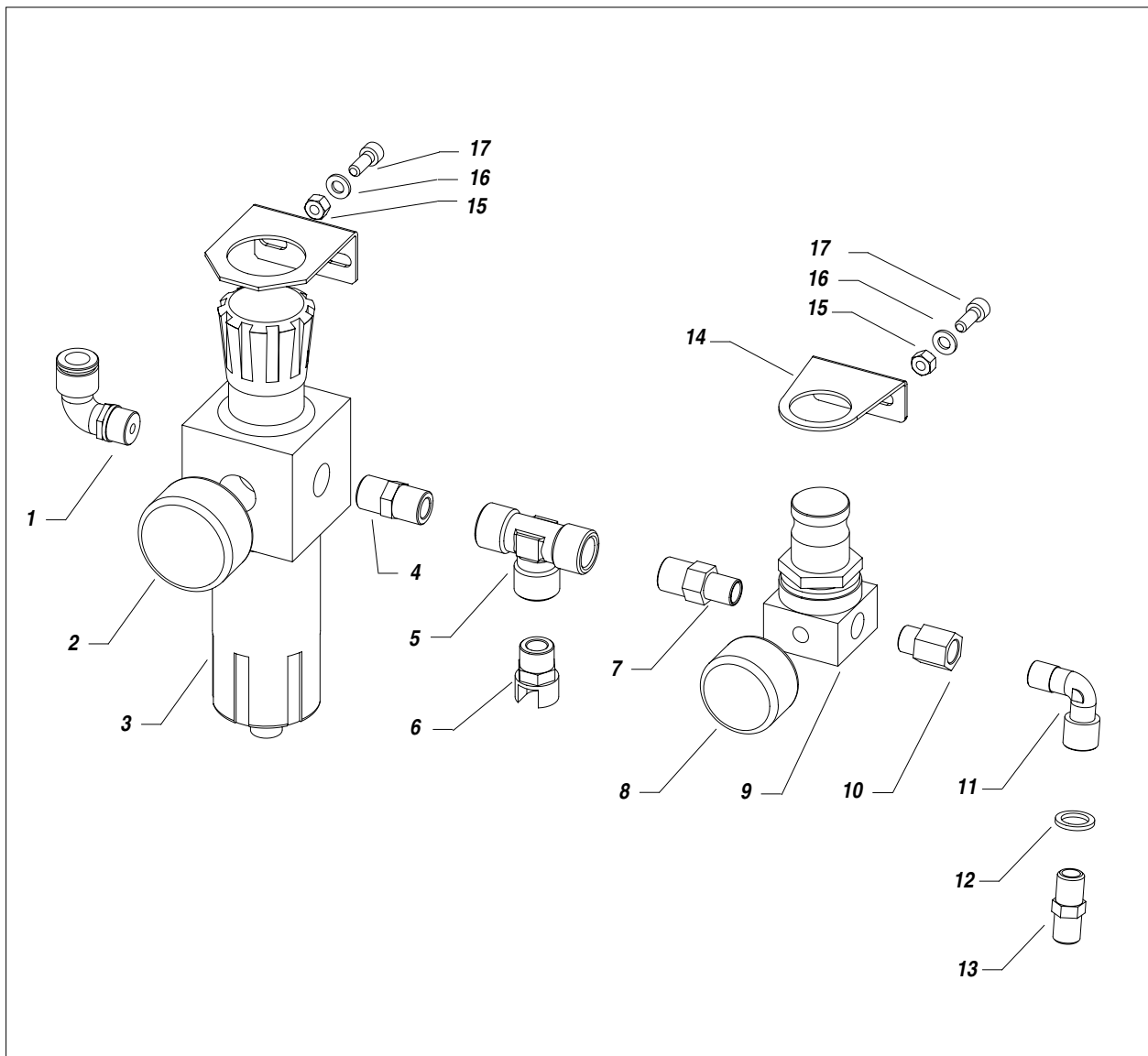
Pos.	Code	Description	Q.ty	Pos.	Code	Description	Q.ty
-	98340	Complete pumping	-	-	98400	Complete pumping	-
8	91001/1	Oil tank	1	8	91001/1	Oil tank	1
9	3429	O-ring	1	9	3429	O-ring	1
10	98501	Gaskets ring nut	1	10	98506	Gaskets ring nut	1
11	96075	Complete tank	1	11	96502	Complete tank	1
12	98358	V female ring	2	12	98406	V female ring	2
13	96074	Teflon gasket	6	13	96512	Teflon gasket	6
13A	96071	Polyethylene gasket	4	13A	96513	Polyethylene gasket	4
14	98360	V male ring	2	14	98408	V male ring	2
15	98353	Pumping group	1	15	98403	Pumping group	1
16	96083	Gasket	1	16	96083	Gasket	1
17	98350	Sleeve	1	17	98416	Sleeve	1
18	96073	O-ring	1	18	96073	O-ring	1
19	3323	Washer	1	19	34005	Washer	1
20	98356	Piston rod	1	20	98404	Piston rod	1
21	98362	Pin	1	21	98410	Pin	1
22	96087	Elastic ring	2	22	96087	Elastic ring	2
23	98364	Washer	1	23	98412	Washer	1
24	96090	Ball ø5/16"	1	24	96090	Ball ø5/16"	1
25	98367	Pumping piston	1	25	98415	Pumping piston	1
26	98368	Ring	1	26	98368	Ring	1
27	98370	Pin	1	27	98370	Pin	1
28	96093	O-ring	1	28	96093	O-ring	1
29	96094	Ball ø 1/2"	1	29	96094	Ball ø 1/2"	1
30	98373	Suction valve	1	30	98373	Suction valve	1
31	98374	Elbow	1	31	98374	Elbow	1
32	98376	Suction hose fitting	1	32	98376	Suction hose fitting	1
33	96099	Sleeve	1	33	96099	Sleeve	1
34	98378	Filter fitting	1	34	98378	Filter fitting	1

*Spare part kit Code 40055

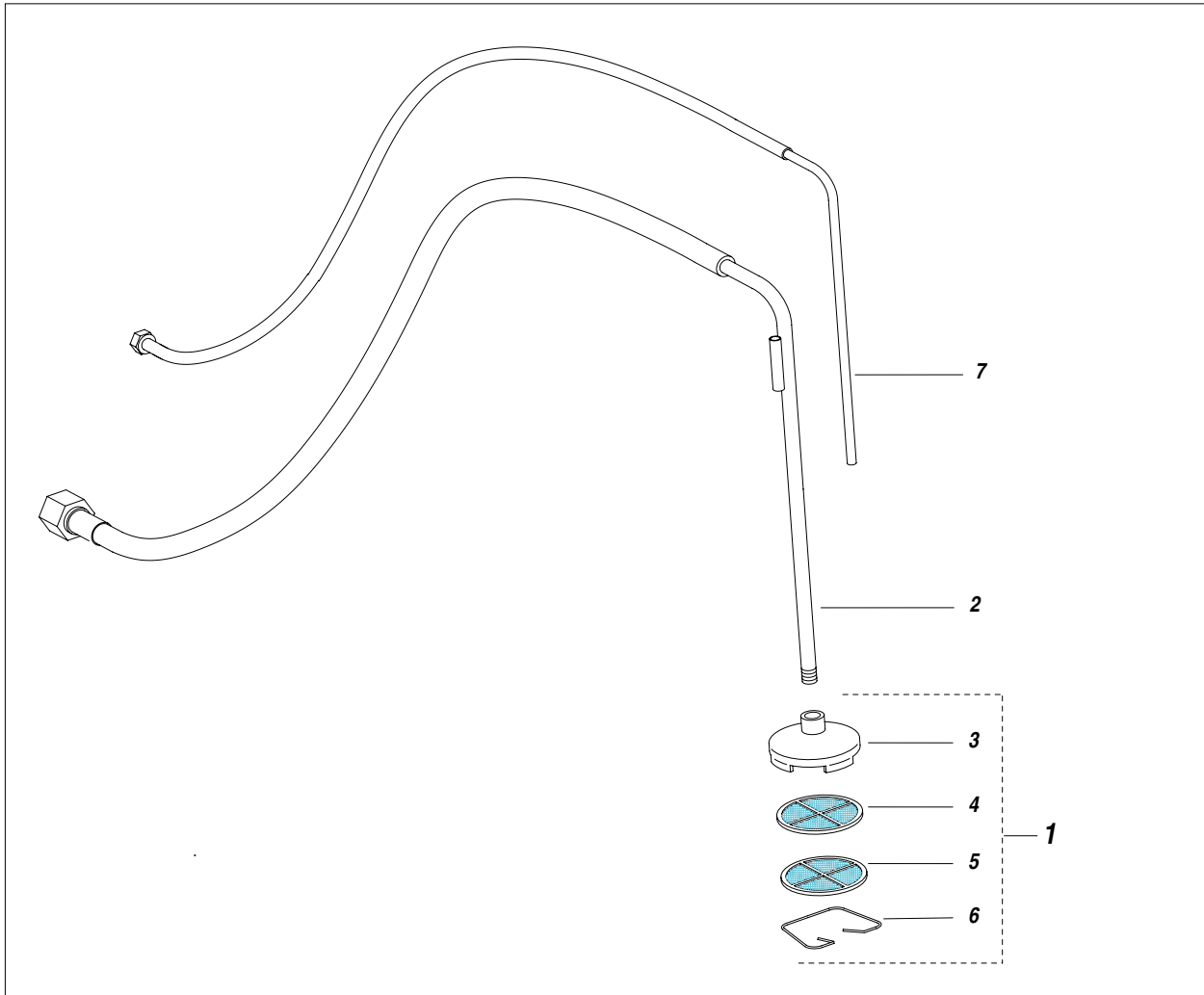
*Spare part kit Code 40060

Q AIR REGULATION GROUP AIRLESS VERSION Ref. 96250**WARNING:** always indicate code and quantity for each part required.

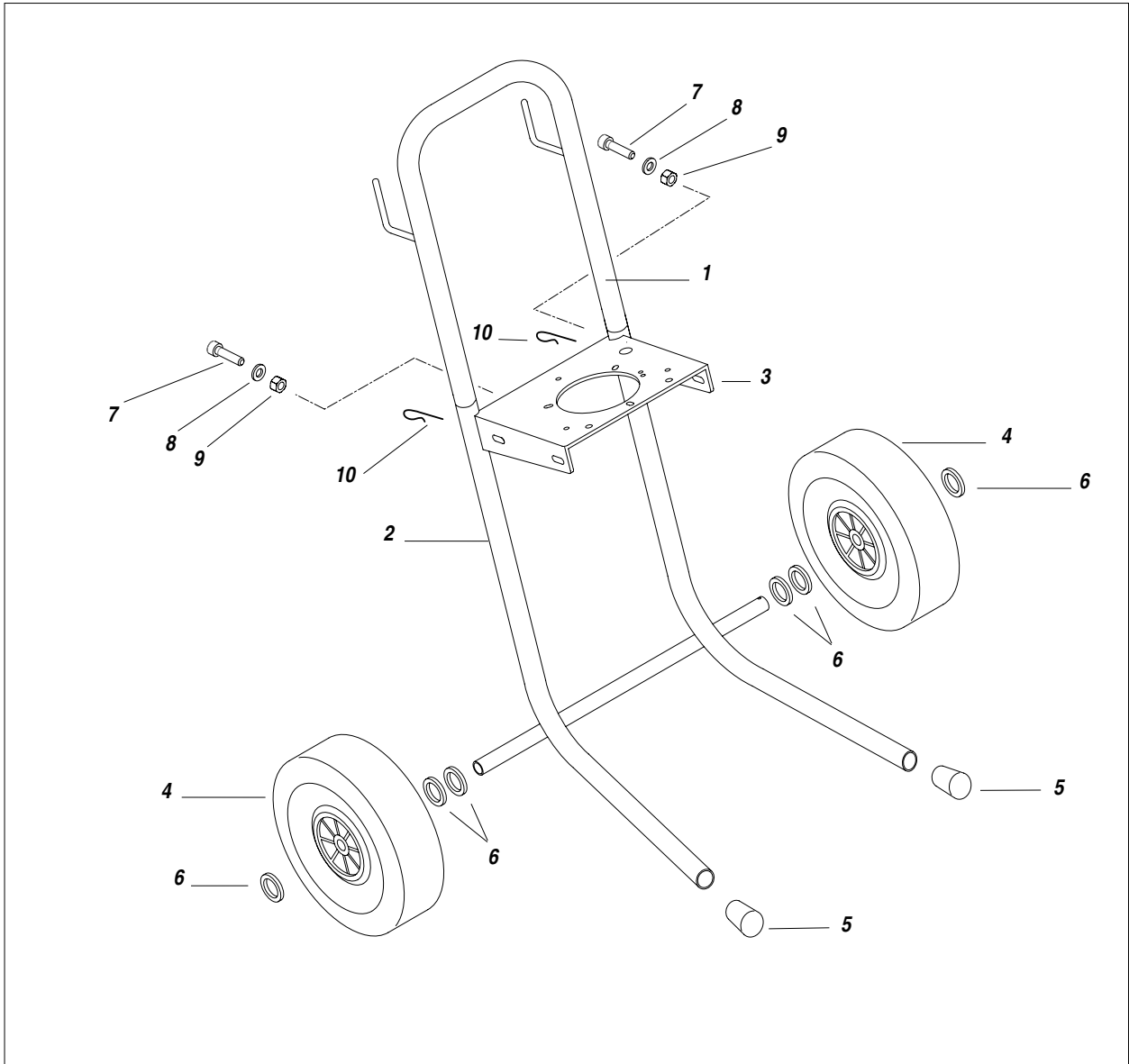
Pos.	Code	Description	Q.ty	Pos.	Code	Descrizione	Q.ty
	96250	Complete group	-	4	95063	Washer Ø 6	2
1	96015	Rapid coupling 3/8 Tube Ø 12	1	5	8047	Screw TCE UNI 5931 M6x22	2
2	91107	FR group	1	6	10103	Bayonet fitting	1
3	91026	UNI 5588 M6 Nut	2	7	96259	Manometer	1

R AIR REGULATION GROUP MISTLESS VERSION Ref. 96262**WARNING:** always indicate code and quantity for each part required.

Pos.	Code	Description	Q.ty	Pos.	Code	Descrizione	Q.ty
	96262	Complete group	-	9	3344	Air regulator	1
1	96216	Rapid coupling 3/8 Tube Ø 12	1	10	8055/1	Adapter 1/4 MF	1
2	96259	Manometer	1	11	5255	Elbow MF 1/4	1
3	91107	RL 3/8 group + bracket	1	12	33012	Copper gasket 1/4	1
4	91020	Adapter 3/8 mm CON	1	13	3289	Adapter 1/4 mm	1
5	3379	T female fitting 3/8	1	14	510510	Bracket for manometer	1
6	10103	Bayonet fitting	1	15	91026	UNI 5588 M6 Nut	2
7	3560	Adapter 3/8 1/4 mm CON-CON	1	16	95063	Washer Ø 6	2
8	8167	Manometer	1	17	8047	Screw TCE UNI5931 M6x22	2

S PAINT SUCTION SYSTEM SPLIT VERSION Ref. 16610**STAINLESS STEEL VERSION Ref. 16611****WARNING:** always indicate code and quantity for each part required.

Pos.	Code	Description	Q.ty	Pos.	Code	Description	Q.ty
	16610	Paint suction system with suction pipes SPLIT VERSION	-		16611	Paint suction system with suction pipes in STAINLESS STEEL	-
1	35020	Bottom filter assembly	1	1	35020	Bottom filter assembly	1
2	16608	Suction pipe complete with filter with suction device in Split version	1	2	16612	Suction pipe complete with filter with suction device in stainless steel	1
3	35005/1	Filter bell	1	3	35005/1	Filter bell	1
4	35006	Close-mesh filter disk (80 mesh)	1	4	35006	Close-mesh filter disk (80 mesh)	1
5	35007/1	Large-mesh filter disk (25 mesh)	1	5	35007/1	Large-mesh filter disk (25 mesh)	1
6	35008	Spring	1	6	35008	Spring	1
7	16609	Recirculating pipe Split version	1	7	16613	Recirculating pipe stainless steel	1

T COMPLETE TROLLEY Ref. 96320**WARNING:** always indicate code and quantity for each part required.

Pos.	Code	Description	Q.y	Pos.	Code	Description	Q.ty
-	96320	Complete trolley		6	91047	Wheel washer	6
1	16271	Trolley handle	1	7	8047	Screw	2
2	16272	Trolley frame	1	8	95063	Washer	2
3	16954	Bracket	1	9	91026	Nut	2
4	91023	Wheel	2	10	84007	Split pin	2
5	37403	Feed	2				

U ACCESSORIES



Code 11250: AT 250 1/4"
Code 11200: AT 250 M16x1,5



Code 11090: AT 300 1/4"
Code 11000: AT 300 M16x1,5



Code 11131: L91X 1/4"
Code 11130: L91X M16x1,5



PISTON GUNSTOCK FILTERS
Code 11039: Green (30M) - **Art. 11038:** White (60M)
Code 11037: Yellow (100M) - **Art. 11019:** Red (200M)



FILTRO
Code 95218: TAMIS 30M
Code 95219: TAMIS 60M
Code 95220: TAMIS 100M
Code 95221: TAMIS 200M



FITTING WITH MANOMETER
Code 147: M16x1,5
Code 150: 1/4"



Code 91044: PNEUMATIC MIXER

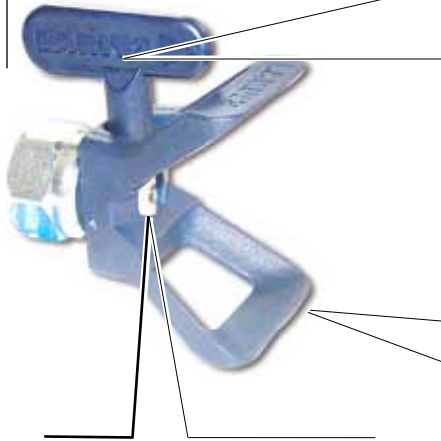


Code 7030: HP FLOW REGULATOR



Code 6099: HEATER

SUPER FAST-CLEAN



SUPER FAST-CLEAN TIP

Nozzle code		
SFC07-20	SFC19-60	SFC29-80
SFC07-40	SFC21-20	SFC31-40
SFC09-20	SFC21-40	SFC31-60
SFC09-40	SFC21-60	SFC31-80
SFC11-20	SFC23-20	SFC33-40
SFC11-40	SFC23-40	SFC33-60
SFC13-20	SFC23-60	SFC33-80
SFC13-40	SFC25-20	SFC39-40
SFC13-60	SFC25-40	SFC39-60
SFC15-20	SFC25-60	SFC39-80
SFC15-40	SFC27-20	SFC43-40
SFC15-60	SFC27-40	SFC43-60
SFC17-20	SFC27-60	SFC43-80
SFC17-40	SFC27-80	SFC51-40
SFC17-60	SFC29-20	SFC51-60
SFC19-20	SFC29-40	SFC51-80
SFC19-40	SFC29-60	

Code 18280: GASKET



Code 18270: SUPER FAST-CLEAN base UE 11/16x16

GUN EXTENSION

Code 153: cm 30 - Code 153: cm 40
Code 155: cm 60 - Code 158: cm 80 - Code 156: cm 100



Code 96200: LINE FILTER galvanized
Code 98387: LINE FILTER stainless steel



Code 16610: SUCTION SYSTEM
Code 16611: SUCTION SYSTEM inox



ANTIPULSE HOSE 1/4" - M16x1,5 max pressure 250 bar

Code 35013: 5 mt
Code 35014: 7,5 mt
Code 35017: 10 mt
Code 18026: 15 mt



ANTISTATIC HOSE 3/16" - M16x1,5 max pressure 210 bar

Code 6164: 5 mt
Code 55050: 7,5 mt
Code 35018: 10 mt



HIGH PRESSURE HOSE 3/8" - M16x1,5 max pressure 425 bar

Code 18063: 7,5 mt
Code 18064: 10 mt
Code 18065: 15 mt

ATEX CERTIFICATION

Safety instructions for using GHIBLI series pneumatic piston transfer pumps in high risk environments where potentially explosive gasses or vapours are present.

V DESCRIPTION

These safety instructions refer to the installation, use and maintenance of LARIUS GHIBLI series pneumatic piston transfer pumps in high risk environments where potentially explosive gasses or vapours are present.



These instructions, along with the indications provided in the user and maintenance manual, must be fully respected.



LARIUS GHIBLI SERIES PNEUMATIC PISTON PUMPS ARE GROUP II MECHANICAL DEVICES FOR USE IN AREAS WHERE GASSES CLASSIFIED AS IIB (CATEGORY 2 G) ARE PRESENT. THEY ARE DESIGNED AND BUILT IN ACCORDANCE WITH THE 94/9/EC ATEX DIRECTIVE, BASED ON THE FOLLOWING EUROPEAN STANDARDS: EN 1127-1, EN 13463-1 ED EN 13463-5.

W TECHNICAL CHARACTERISTICS

The main characteristics of the GHIBLI series pneumatic piston pumps are provided in the table below

Type Standard	INOX	Rapport	Pressure alimetation	Ø Air inlet	Ø Input matetial	Ø Output material	Max working pressure	Max flow
96700	96710	3:1	3 ÷ 7 bar	GC 1/2"	Valve Ball	GC 1"	21 bar	45 l/min
96701	96755	3:1	3 ÷ 7 bar	GC 1/2"	Valve Ball	GC 1"	21 bar	45 l/min
96705	96715	3:1	3 ÷ 7 bar	GC 1/2"	Valve Ball	GC 1"	21 bar	45 l/min
96660	96661	10:1	3 ÷ 7 bar	GC 1/2"	Valve Ball	GC 3/4"	70 bar	12 l/min
96665	96666	10:1	3 ÷ 7 bar	GC 1/2"	Valve Ball	GC 3/4"	70 bar	12 l/min
96668	96667	10:1	3 ÷ 7 bar	GC 1/2"	Valve Ball	GC 3/4"	70 bar	12 l/min
96870	-	24:1	3 ÷ 7 bar	GC 1/2"	Piattello	GC 3/4"	168 bar	4 l/min
96805	-	24:1	3 ÷ 7 bar	GC 1/2"	Piattello	GC 3/4"	168 bar	4 l/min
96050	96056	30:1	3 ÷ 7 bar	GC 3/4"	Valve Ball	GC 3/8"	210 bar	3,8 l/min
96055	96057	40:1	3 ÷ 7 bar	GC 3/4"	Valve Ball	GC 3/8"	280 bar	3 l/min

Maximum number of cycles per minute: 60

Room temperature: -20°C to +60°C

Maximum fluid temperature [°C]: 60°C

X MARKINGS

CE  II 2 G c IIB T6 T_{amb}: -20°C ÷ + 60°C T_{max. fluido}: 60°C Tech. File: GHIBLI/ATX/08

II	Group II (surfaces)
2	Category 2 (zone 1)
G	Explosive atmosphere containing gasses, vapours or mists
c	Design safety "c"
T6	Temperature class T6
- 20°C ÷ + 60°C	Room temperature
60°C	Maximum process fluid temperature
xxxxx/AA	Serial number or lot number (xxxxx = PROGRESSIVE / year = AA)

Correspondence between hazardous areas, substances and categories

HAZARDOUS AREAS		CATEGORIES ACCORDING TO THE 94/9/EC DIRECTIVE
Gasses, vapours or mists	Zone 0	1G
Gasses, vapours or mists	Zone 1	2G or 1G
Gasses, vapours or mists	Zone 2	3G, 2G or 1G

Y SAFETY INSTRUCTIONS FOR INSTALLATION IN HAZARDOUS AREAS



Read the indications provided in the user and maintenance manual carefully prior to installation. All of the maintenance operations must be performed according to the indications provided in the manual.

- The grounding wire for the pumps indicated above must be grounded using an appropriate anti-loosening connection.
- The tubes used to connect the delivery and suction lines must be either metallic, plastic with metallic braid, or plastic with fabric braid and a suitable grounding conductor.
- The pumps must be installed on properly grounded metallic or antistatic drums.
- The gases or vapours of any flammable liquids present must belong to group IIB.

- Based on the type of use and the substances employed, the user must periodically check for any encrustations and must verify the cleanliness, the wear status and the correct functionality of the pump on a regular basis.
- The user must periodically clean the suction filter in order to prevent any solid materials from entering the pump. The air used to power the pump must be filtered and must come from a SAFE AREA.



GHIBLI series pneumatic piston transfer pump cannot work without material.



All of the installation and maintenance operations must be performed by qualified personnel.

Z EXAMPLE OF INSTALLATION



The diagram shows a typical example of the installation of series pneumatic piston transfer pump.

AA DECLARATION OF CONFORMITY

We Larius S.r.l.
Via Stoppani, 21
23801 Calolziocorte (LC)

declare under our sole responsibility that the product:

GHIBLI series pneumatic piston transfer pump.

to which this declaration relates complies with the following directives:

- Directive 94/9/EC (ATEX)

The conformity are under observance of the following

standards or standards documents:

- EN 1127-1 - EN 13463-5
- EN 13463-1

Markings

CE ^{Ex} II 2 G c IIB T6 Tamb.: -20°C ÷ 60°C Tmax. fluido: 60°C

Tech. File: GHIBLI/ATX/08

Technical dossier kept on file c/o: INERIS (0080)

Calolziocorte- LC

Signature (LARIUS)

AIRLESS PNEUMATIC PUMPS

OMEGA AIRLESS Art.-Nr. 7300
OMEGA MISTLESS Art.-Nr. 7340



OMEGA ZINC Rif. 7430



GHIBLI ZINC Rif. 96900



NOVA Rif. 95040



SUPERNOVA 45:1 Rif. 65100
SUPERNOVA 68:1 Rif. 65102
SUPERNOVA 80:1 Rif. 65104



VEGA AIRLESS Art.-Nr. 91500
VEGA MISTLESS Art.-Nr. 91400



GHIBLI MIX 2K 40:1 INOX Rif. 24561



MANUFACTURER:

LARIUS

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