ED. 17 - 11/2024

SAMOA®

LEADING THROUGH INNOVATION

EN

Manuale Cod. 150167

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MANUALE DI ISTRUZIONI

Pneumatic pump

Nova 68:1

ATEX Ex II 2 G c IIB T6 certified pump

LA95181	NOVA 68:1 Stainless steel pneumatic pump
LA95184	NOVA 68:1 Pneumatic pump

IT https://www.larius.com/wp-content/uploads/NOVA68_I.pdf

EN https://www.larius.com/wp-content/uploads/NOVA68_GB.pdf

FR https://www.larius.com/wp-content/uploads/NOVA68_F.pdf

ES https://www.larius.com/wp-content/uploads/NOVA68_E.pdf

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.

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

ED. 16 - 02/2024 - Cod. 150167

NOVA 68:1

Pneumatic pump

INDEX

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 **SAMOA** 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.

A 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.

- 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.

- It indicates an accident risk or serious damage to equipment if this warning is not followed.

FIRE AND EXPLOSION HAZARD
- Solvent and paint fumes in work area can ignite or explode.
- **To help prevent fire and explosion:**
  - Use equipment ONLY in well ventilated area.
  - Eliminate all ignition sources, such as pilot lights, cigarettes and plastic drop cloths (potential static arc).
  - Ground equipment and conductive objects.
  - Use only grounded hoses.
  - Do not use trichloroethane, methylene chloride, other halogenated hydrocarbon solvents or fluids containing such solvents in pressurized aluminium equipment. Such use can cause serious chemical reaction and equipment rupture, and result in death, serious injury, and property damage.
  - 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.

- 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.

- Report any risk of chemical reaction or explosion if this warning has not been given.
- (IF PROVIDED) 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.
- (IF PROVIDED) Do not spray before the guard has been placed over the nozzle and the trigger on the spray gun.
- (IF PROVIDED) Do not put your fingers in the spray gun nozzle.
- Once work has been completed, before carrying out any maintenance, complete the decompression procedure.

- It indicates important recommendations about disposal and recycling process of products in accordance with the environmental regulations.

- 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 grounded and that it complies with safety standards.
- High-pressure fluid from gun, hose leaks, or ruptured components will pierce skin.
- **To help prevent injection, always:**
  - (IF PROVIDED) Engage trigger lock when not spraying.
  - (IF PROVIDED) Do not put your hand over the spray tip. Do not stop or deflect leaks with your hand, body or other.
  - (IF PROVIDED) Do not point gun at anyone or at any part of the body.
  - (IF PROVIDED) Never spray without tip guard.
  - Do pressure relief if you stop spraying or being servicing sprayer and before any maintenance operations.
  - Do not use components rated less than sprayer Maximum Working Pressure.
  - Never allow children to use this unit
  - (IF PROVIDED) Brace yourself; gun may recoil when triggered.

If high pressure fluid pierces your skin, the injury might look like "just a cut", but it is a serious wound!
Get immediate medical attention.

- 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.

B 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 the manufacturer 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 tothe manufacturer.
- 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.

C CONDITIONS OF GUARANTEE

The conditions of guarantee do not apply in the following situations:
- improper washing and cleaning of components causing malfunction, wear or damage to the equipment or any of its parts;
- improper use of the equipment;
- use that does not conform with applicable national legislation;
- incorrect or faulty installation;
- modifications, interventions and maintenance that have not been authorised by the manufacturer;
- use of non-original spare parts or parts that do not correspond to the specific model;
- total or partial non-compliance with the instructions provided.

D 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 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.

E WORKING PRINCIPLE

NOVA pump ***68:1*** is a pneumatic pump to be used in the high pressure painting without air *(Airless)* or for transferring of fluids in case of more stations of usage.
NOVA pump is essentially constituted of an air motor and a structure called «material pumping group» or simply «pumping group».
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.
So doing the pump sucks the fluid and pushes it to the outlet.
The ratio 68:1 means that the outlet pressure of fluid is 68 times higher than the pump feed air pressure.

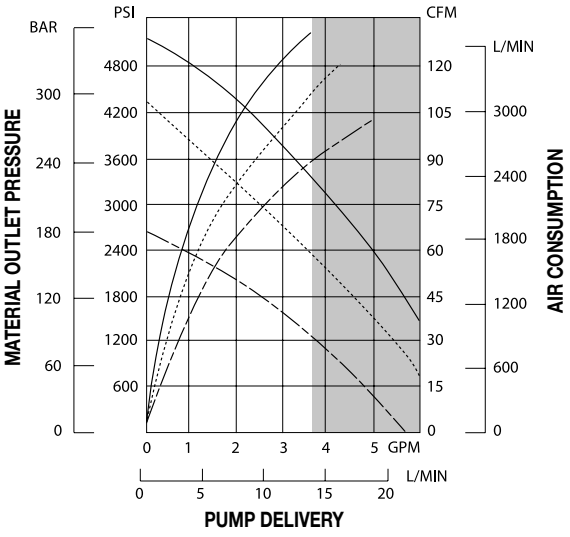
F TECHNICAL DATA

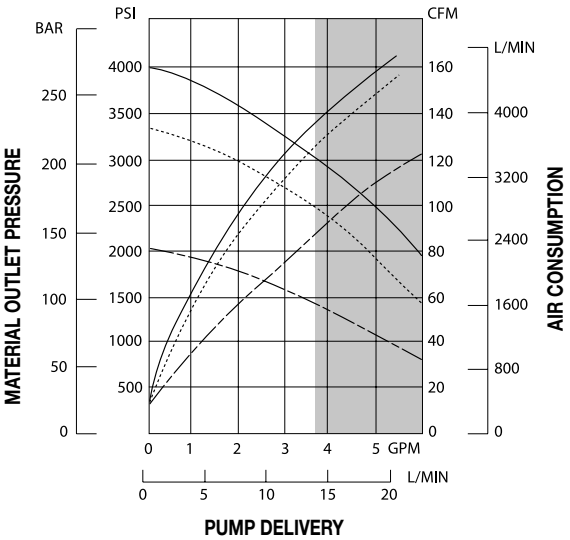
Parts of the pump in contact with the material
Pumping group: galvanized carbon steel and cast iron or stainless steel AISI 303 and 420B
Sealing balls: stainless steel AISI 420B
Gaskets: teflon or nitrile or delrin or vulkollan

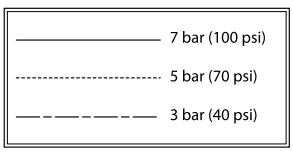
Other parts of the pump
Support and cylinder for pneumatic motor: aluminium
Covering: sheet FE37
Motor piston and roller pushing mount: cast iron

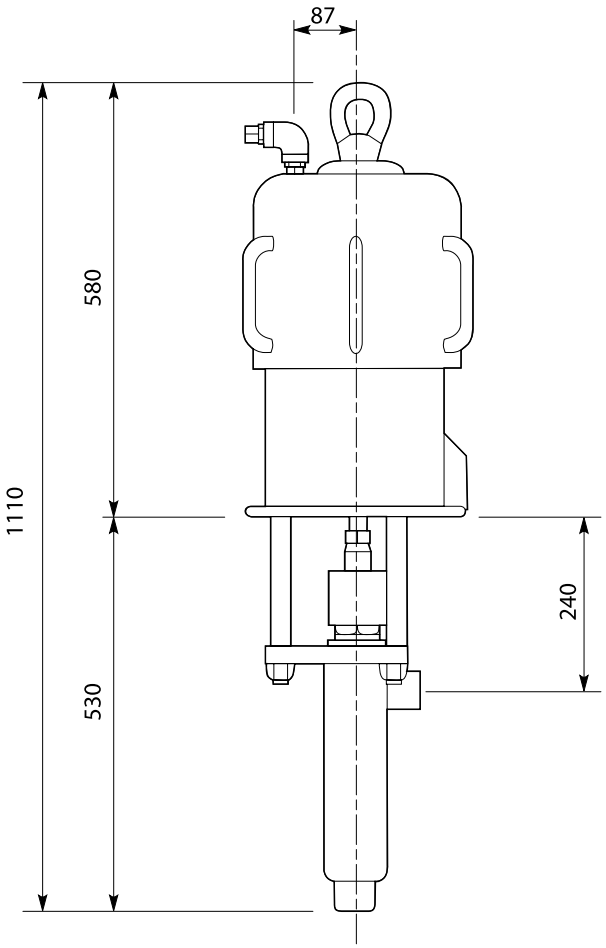
Always observe these instructions carefully when evaluating the product compatibility and in case of disposal of some parts of the pump no more usable, in order to meet the environmental regulations on recycling process.

NOVA 68:1	
Pump pressure ratio	68:1
Max. qqir pressure range	6,5 bar - 94 psi
Maximum fluid pressure	450 bar 6.525psi
Delivery per cycle	180 cm^3
Max. delivery	11 l/min
Air inlet	1” BSPP (F)
Fluid inlet	1" NPSM (M)
Fluid outlet	3/8" NPSM (M)
Seals material	PTFE + Polyethylene
Weight	112 Kg
Sound pressure level	<90 dB (A)
Piston stroke	120 mm (4 3/4")
Motor diameter	254 mm (10")





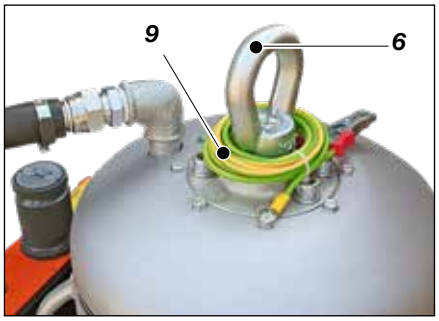


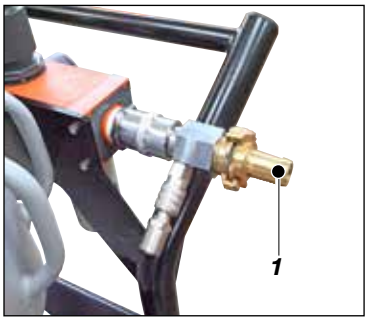


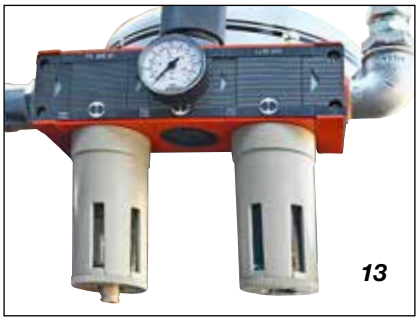
Black curve: Material outlet pressure
Gery curve: Air consumption

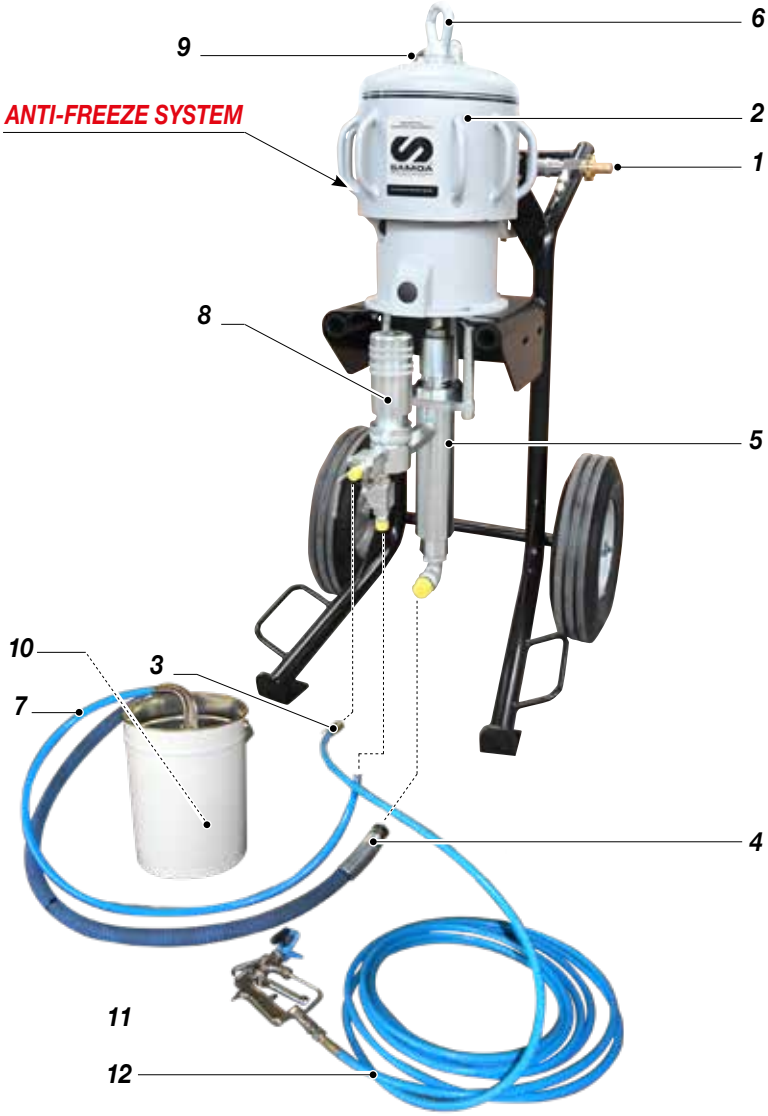
The pump can work in continuity when the delivery is limited to the white zone. Out of this zone the speed must be intermittent.

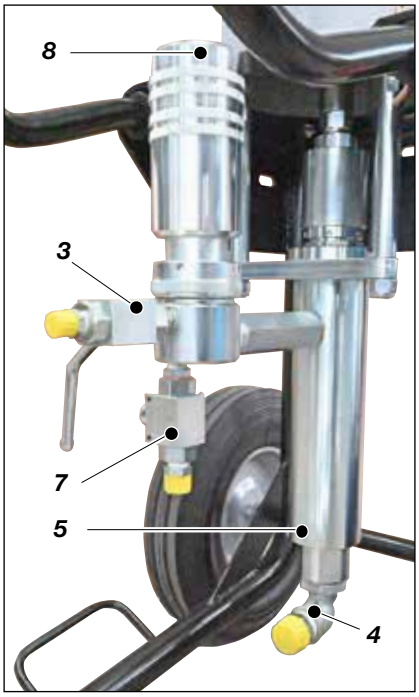
G DESCRIPTION OF THE EQUIPMENT











POS.	DESCRIPTION
1	Pump feeding air inlet
2	Pneumatic motor
3	Material output
4	Material inlet
5	Material pumping group
6	Eyebolt for pump transport
7	Material recirculation hose

POS.	DESCRIPTION
8	Filter
9	Grounding cable
10	Suction filter
11	Spraying gun
12	High pressure hose
13	Air treatment group

H ANTIFREEZE SYSTEM

The machine is equipped with an anti-freeze system that allows it to work even at very low temperatures. However, after a few minutes of operation, the upper metal outer surface cools dramatically.
Avoid touching the area indicated.

Contact of the skin with the low-temperature area may cause frostbite. Common working clothes and leather gloves provide adequate protection.

Fig. 1

In cold weather conditions it is necessary to add antifreeze liquid (1) in the FRL group (2).

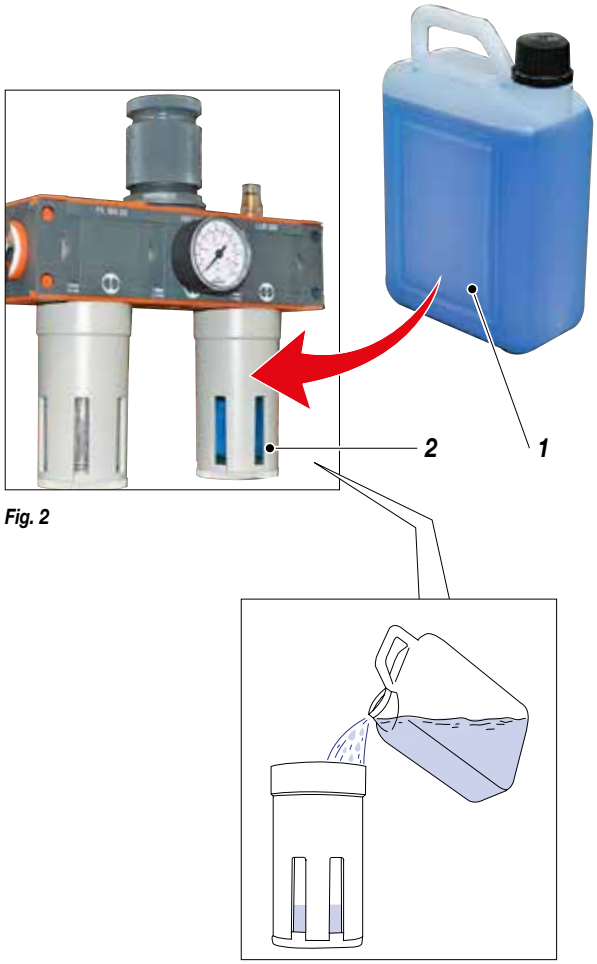


Fig. 2

If 100% pure antifreeze liquid is used, it is recommended the dilution shown in the table.

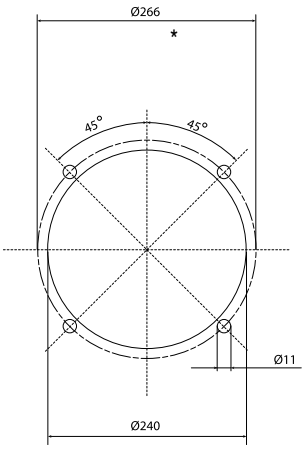
DILUITION RECOMMENDED FOR PURE PRODUCT	
% water diluition	°C, environmental temperature
10%	-5
20%	-10
30%	-20
40%	-25
50%	-37
60%	-50

NOTE

When the pump is used in places with higher temperatures, the phenomenon indicated above may not occur and therefore it is not necessary to use antifreeze.

I TYPICAL INSTALLATION

The **NOVA** pump is generally supplied on support for wall fastening or on trolley or on double post ram.
For the correct fastening of the pump on other structures use the 4 holes placed at the base of the pneumatic motor *(see the illustration for dimensions)*.



*Int. holes

J SETTING-UP

PUMP FASTENING ON THE HOIST
For the correct fastening of the pump on the hoist, follow the procedure described in the manual for use and maintenance of the air hoist.

CONNECTION TO THE FEED AIR
For pump feed use a hose with an internal diameter higher than 20 mm.

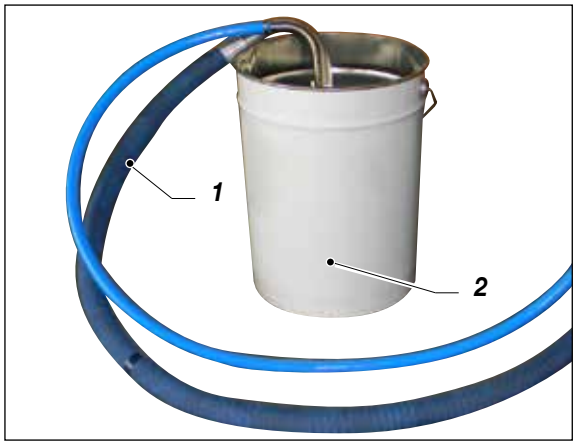
Install at the pump inlet an air pressure regulator *(it is suggested complete with condensate filter and lubricator)*. The outlet pressure of the material is 68 times the inlet pressure of the pump feed air. Therefore, it is extremely important to adjust the value of the feed air pressure.

CONNECTION OF THE MATERIAL OUTLET HOSE
Connect the high pressure hose at the outlet of the pump.
It is recommended to tighten the fittings.

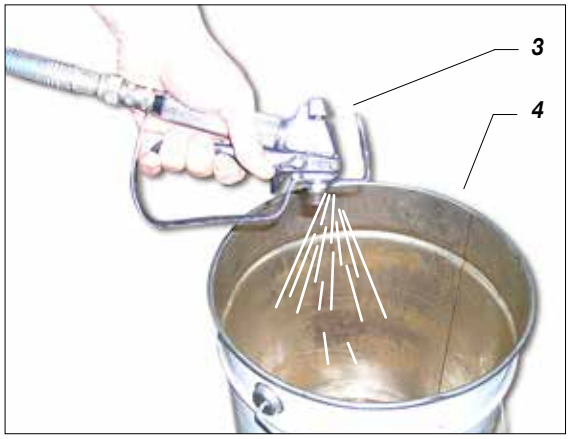
K WORKING

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

- Dip the material pumping hose (**1**) into the product tank (**2**) *(if the pump is fixed on the double post ram, follow the procedure described in the manual of use and maintenance of the double post ram)*.



- Make the compressed air flow into the pump. It is advisable to adjust air pressure to minimum necessary for its continuous working.
- When the product chamber is full, pump will start working and stopping. Pump will start working again any time the trigger of the spray gun is pressed or the delivery valve is open.
- The pump has been adjusted at our factory with light mineral oil and a part of it could be left inside the pumping element. Point the spray gun (**3**) or the delivery valve at the tank (**4**) and drain the product left inside the pump till the material to be used has come out.



Always avoid pump idling: this operation could damage the pneumatic motor and the seals.

- In case of long inactivity during the use with the plant *(for example, all night long at the end of the working day)*, ensure the product you are using can be left inside the pump and the different pipes without drying.
  In this case, it is enough to stop the air supply to the pump and drain the residual pressure in the circuit acting on the delivery valve or on the pump bleeder valve.

L CLEANING AT THE END OF THE WORK

By "cleaning at the end of the work" is meant the cleaning to carry out in case of use with a different product or if a long period of storage is foreseen.

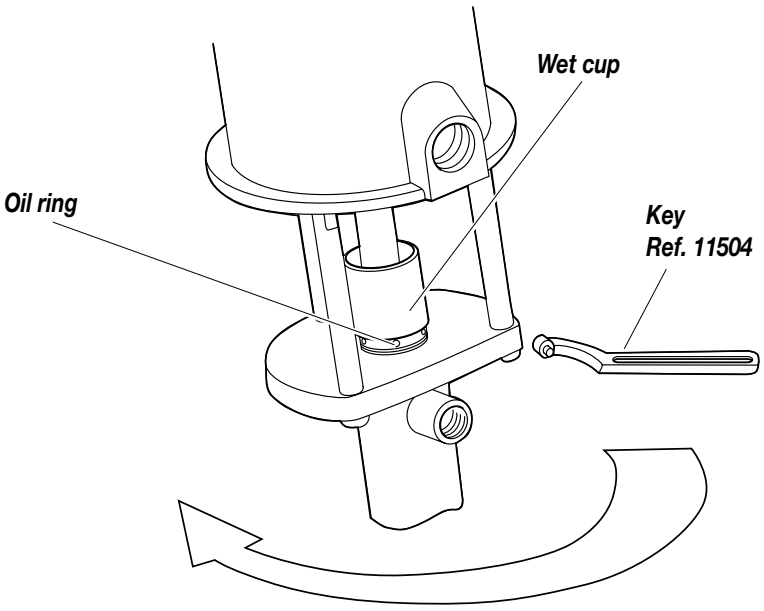
- Stop the air supply to the pump.
- Dip the material pumping hose into the washing solvent tank *(check its chemical compatibility with the product being used)*.
- Make compressed air flow into the pump. It is advisable to adjust the air pressure to minimum necessary to its continuous working.
- Point the spray gun or the delivery valve at a container and drain all the product left inside the pump till a clean solvent comes out.
- Now, stop the air supply to the pump and drain the residual pressure.
- In case of long inactivity, the operations of sucking and leaving light mineral oil inside the pumping element are suggested.

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

M ROUTINE MAINTENANCE

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

- Check periodically *(and each time the pump is operated after a long storage)* the packing nut is not loosened, causing otherwise the coming out of the product. To tighten the packing nut, lift the wet cup *(see illustration below)*.
  Use the wrench supply *(ref. 11504)*. The packing nut must be tightened so as to avoid wastes of product, but not excessively to provoke pumping piston seizure and seals wear. In case of persistent coming out of product, replace the seals.
- To prevent the product from drying up on the piston rod, refill the cup with lubricant *(compatible with the product used)*.
- Check periodically the air supply to the pump. Ensure the air is always clean and lubricated. In case of installation of a lubricator on the air supply to the pump, it is advisable to keep its cup full of a mixture of water and antifreeze liquid *(dilution ratio 4:1)*.



N PROBLEMS AND SOLUTIONS

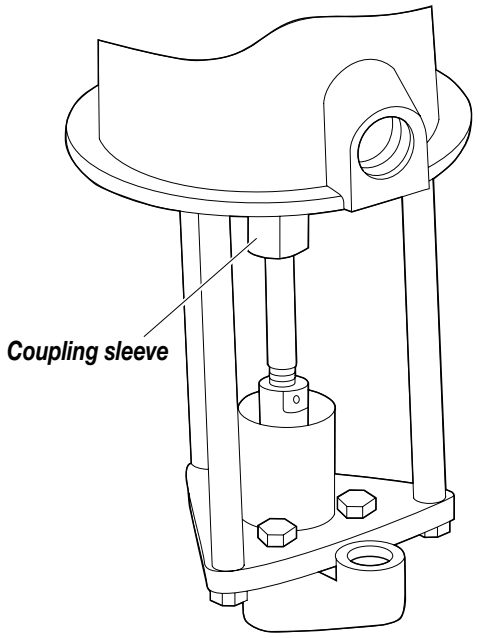
Problem	Cause	Solution
The pump does not start	Feeding air is not enough	Check the air supply. Increase the diameter of the feeding hose;
	Outlet product line clogged	Clean. Disconnect the outlet product pipe. Feed pump at minimum pressure and check if the pump starts without the outlet pipe
	Dried product inside the pumping element	Disassemble the pumping group and clean
	Pneumatic motor blocked in the cycle reversal position	Turn the plug counterclockwise and push downwards the valve body. Use a metal rod and a mallet
	Parts failure of the pneumatic motor	Disassemble the motor and check
Accelerated working and no pressure of the pump	There is no product	Add product
	The pump sucks air	Open the exhausting valve. For the version on air hoist, follow the instructions in the relevant manual
	Feeding air is not enough	Increase the feeding air pressure
	Suction valve worn or partially clogged	Disassemble the suction valve. Clean and/or replace if necessary the worn parts
	Outlet valve worn or partially clogged	Disassemble the outlet valve. Clean and/or replace if necessary the worn parts
The pump works, but the product is not flowing enough	Suction valve worn or partially clogged	Disassemble the suction valve. Clean and/or replace the worn parts
	Outlet product line clogged	Clean. Disconnect the outlet product pipe. Feed pump at minimum pressure and check if delivery increases without the outlet pipe
	The feed air pressure is too low	Increase air pressure
Leakage of product from the lubricating cup	Upper gaskets worn	Tighten the packing nut. In case of persistent waste of product, replace the upper gaskets of the pumping unit.

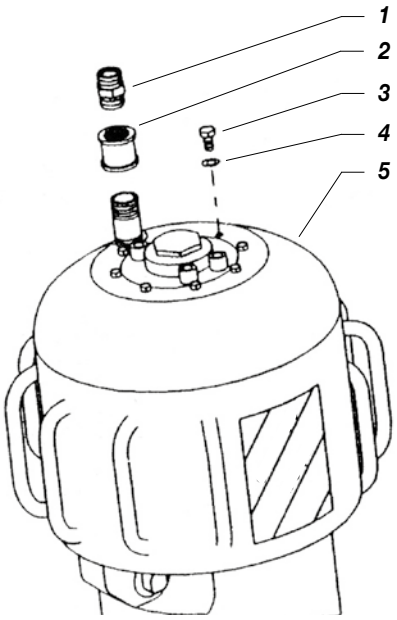
Always close the compressed air supply and release the pressure in the plant before performing any check or replacement of parts of the pump.

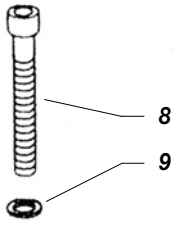
O DISASSEMBLY OF THE PNEUMATIC MOTOR

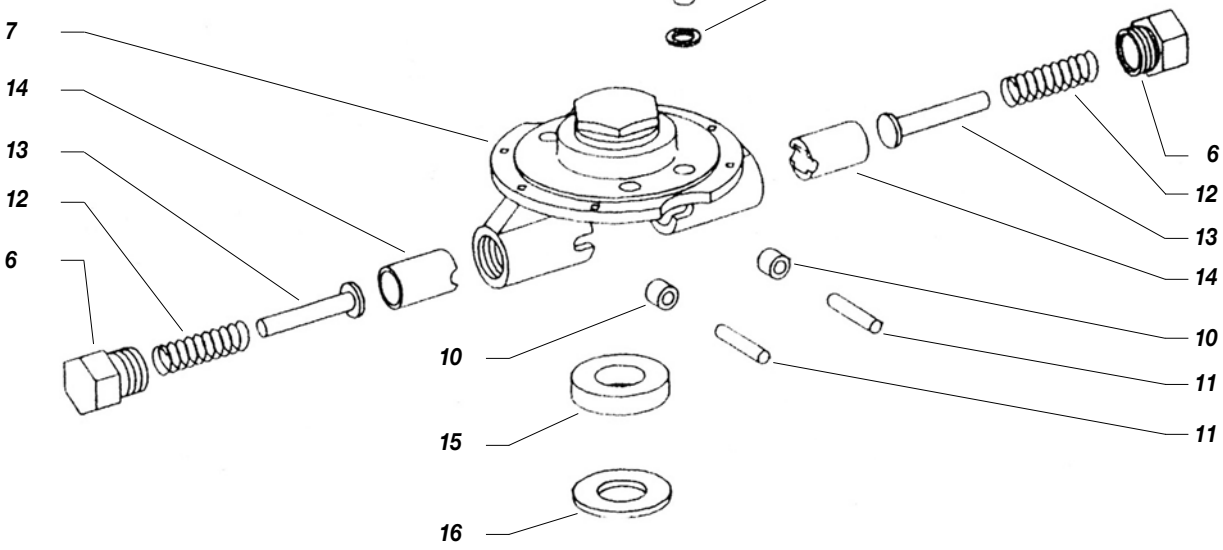
Always close the compressed air supply and release the pressure in the plant before disassembling the pneumatic motor of the pump.

- Unscrew the coupling sleeve so as to disconnect the pumping group from the motor.
- Disconnect the air feed pipe to the pump.
- Unscrew the fitting (1) and the sleeve (2).
- Turn counterclockwise the screws (3) [take care of the washers (4)] and remove the covering (5).
- Unscrew the two ring nuts (6) from the mount (7).
- Turn counterclockwise the screws (8) [take care of the washers (9)] and extract the mount (7) together with the rollers (10) and the pins (11).
- Extract the spring (12), the spring guide rod (13) and the roller pushing piston (14). Ensure the spring slides freely on the guide rod, the guide rod slides into the roller pushing piston and this last slides into the mount hole. Replace possible damaged parts.
- Check the roller (10) and the pin (11) are undamaged. Replace them if damaged.
- Remove and check the rubber pad (15) and the washer (16).

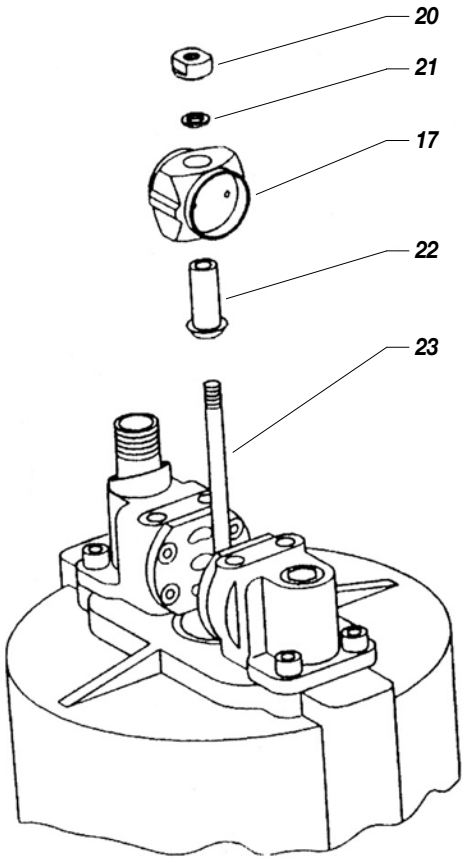


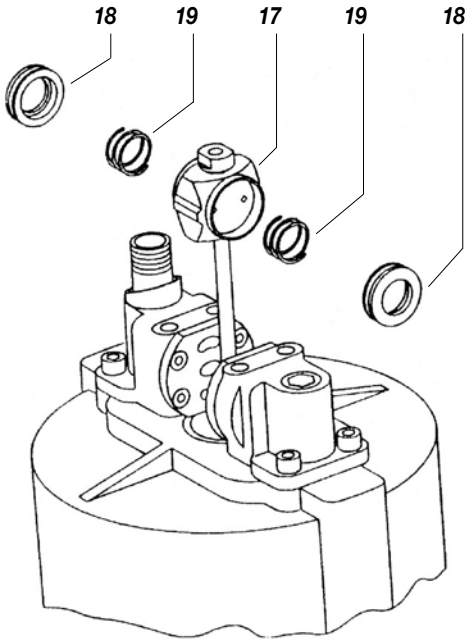






- Pull upwards the seat (**17**) so as to take out the valves (**18**) and the springs (**19**) *(clean and/or replace the worn parts)*.
- Unscrew the lock nut (**20**) [take care of the washer (**21**)] by keeping the bush (**22**) blocked using a key.
- Extract the seat (**17**) from the rod (**23**).
- Unscrew the bush (**22**) *(if necessary, keep the rod* (**23**) *blocked on the threaded part using pliers with the bits wrapped in rags to avoid damage to thread)*.

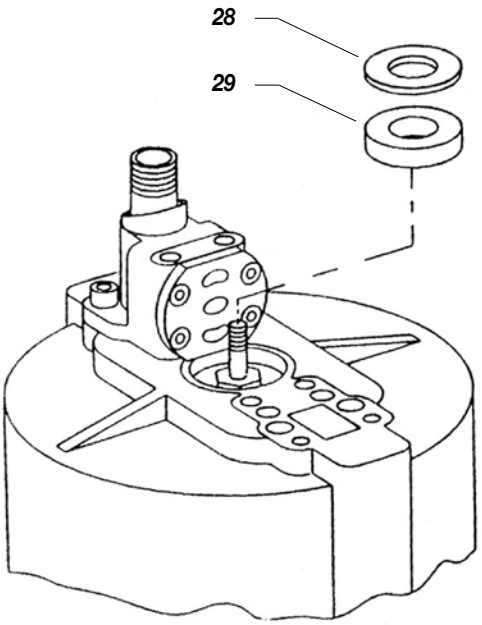


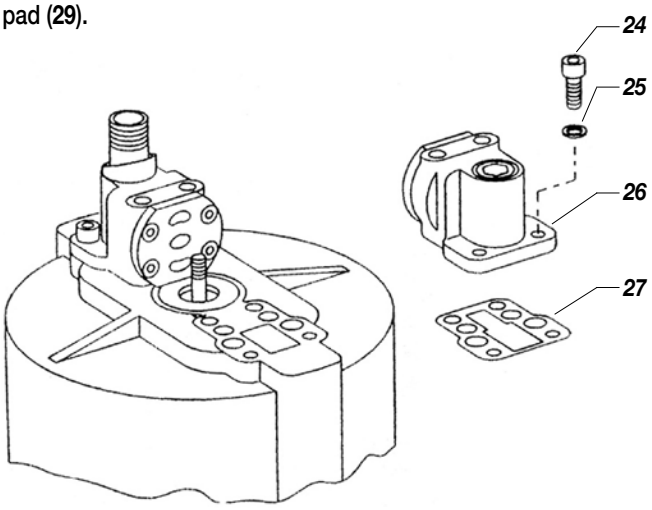


- Remove the screws (**24**) [take care of the washers (**25**)], a manifold (**26**) and the gasket (**27**).

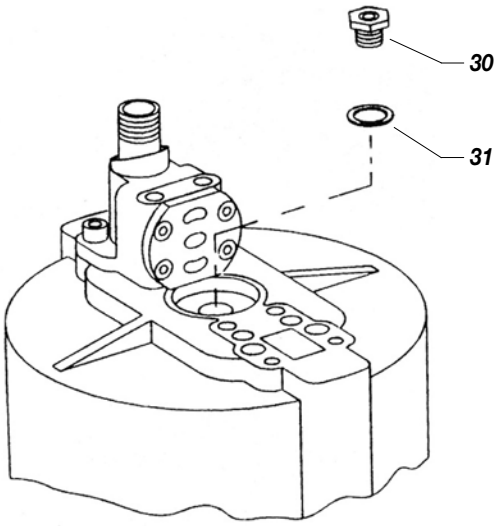
Handle with care the manifold. The edges of its plate are very sharp.
Important: do not remove the other manifold if not necessary *(it will facilitate the fastening of the manifold removed)*.

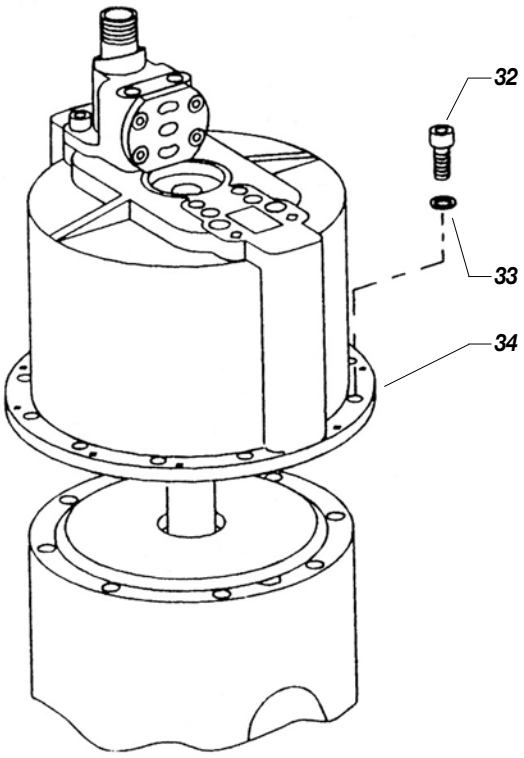
- Using a screwdriver, extract the washer (**28**) and the rubber pad (**29**).



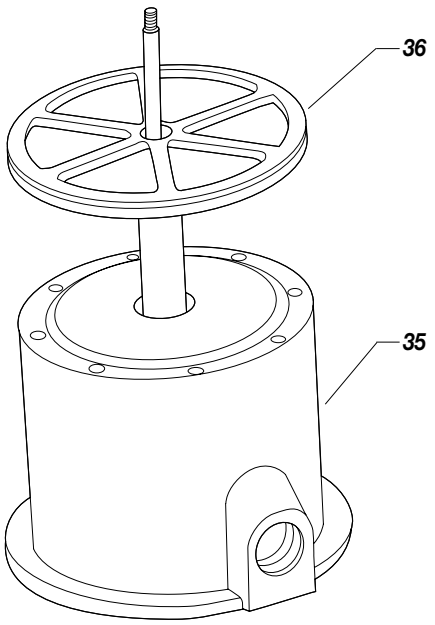


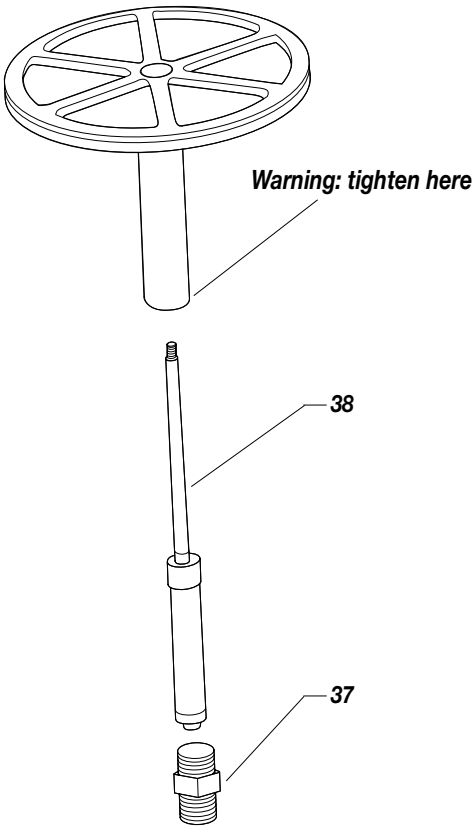
- Turn counterclockwise the trip rod bearing (30) [take care of the washer (31)] and check the seal inside the screw (30) is undamaged.
- Take out the screws (32) [take care of the washers (33)] and remove carefully the cylinder (34) *(do not bend it during extraction in order to avoid that motor piston may damage the internal surface of the cylinder)*.



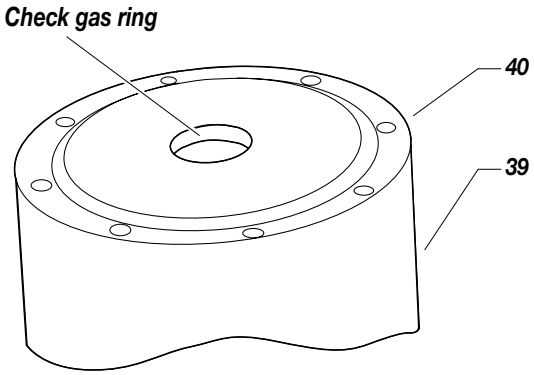


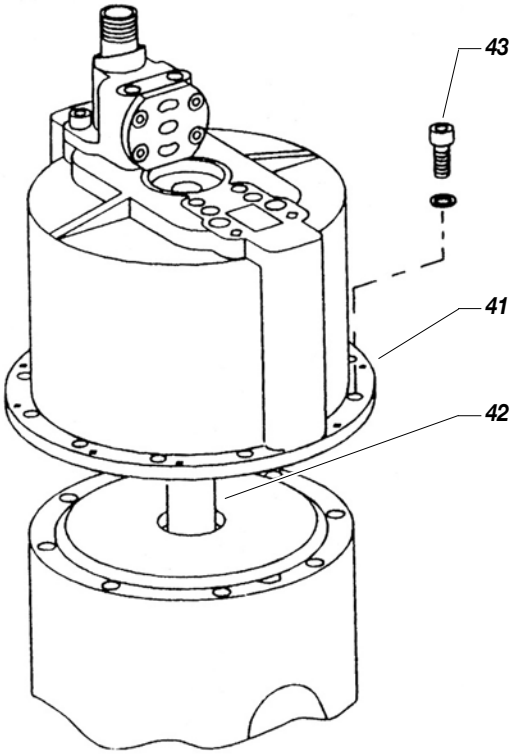
- Extract the motor piston from the motor support (35).
- Verify the O-ring (36) is undamaged.
- Tighten the lower edge of the piston rod using pliers *(see illustration)* and unscrew the fitting (37) with a key.
- Remove the motor rod (38) and check it is undamaged.
- Rub the motor rod (38) with vaseline grease before inserting it into the housing of the piston rod.
- Tighten again with pliers the lower edge of the piston rod and screw the fitting (37) *(application of a sealant on the thread is advisable)*.





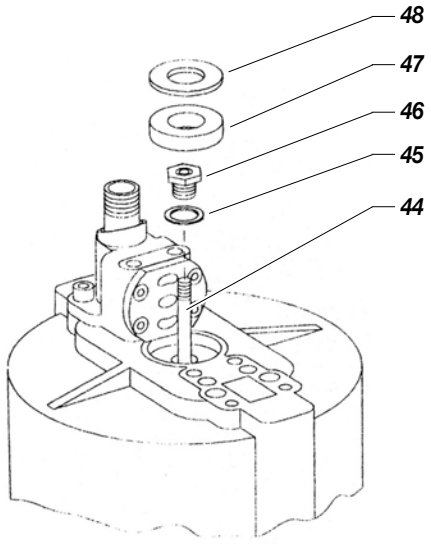
- Check the gas ring inside the support (**39**) is undamaged.
- Check the gasket (**40**) is undamaged and correctly positioned.
- Coat the inner walls of the cylinder (**41**) with a thin layer of vaseline grease.
- Insert the motor piston (**42**) into the cylinder (**41**) carefully.
- Fasten the cylinder (**41**) on the support (**39**) *(respect the position)* and at the same time insert the piston rod into the support.
- Turn clockwise the screws (**43**).

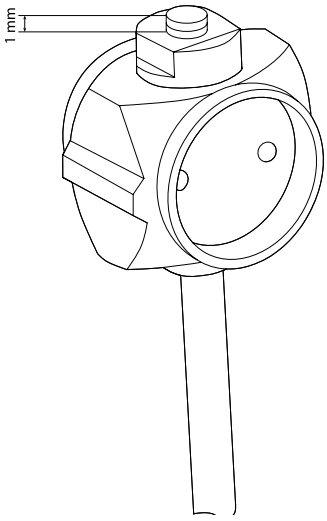


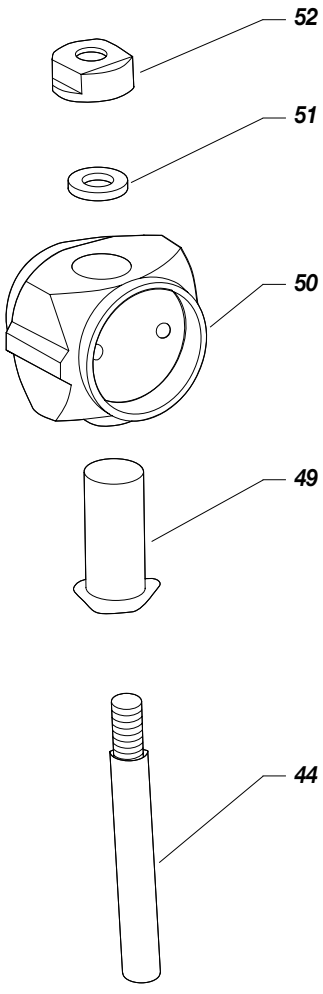


- Insert into the motor rod (**44**) the washer (**45**).
- **Carefully insert** the trip rod bearing (**46**) into the motor rod *(turn it slowly following the direction of the thread)* and screw it on the cylinder (**41**).
- Insert the rubber pad (**47**) and the washer (**48**) into the support.
- Screw the bush (**49**) on the motor rod (**44**). Insert the seat (**50**), the washer (**51**) and screw the lock nut (**52**).

Adjust bush and lock nut so as the rod (N44) just out of about 1 mm from the lock nut *(see illustration)*.

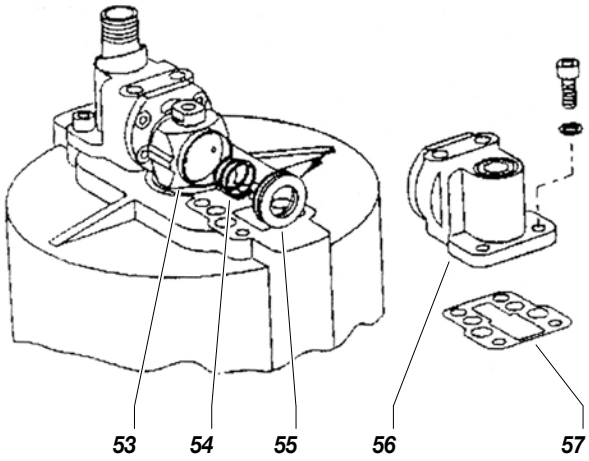


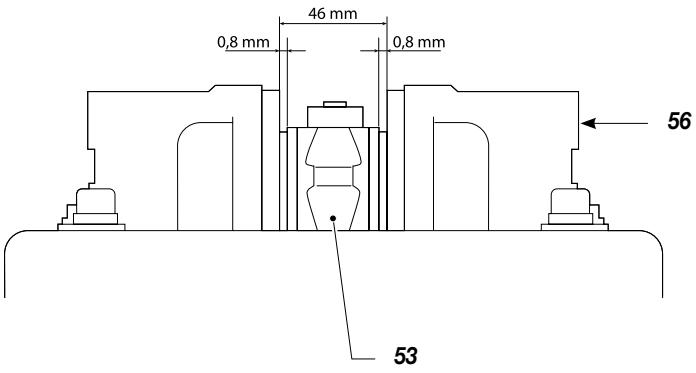




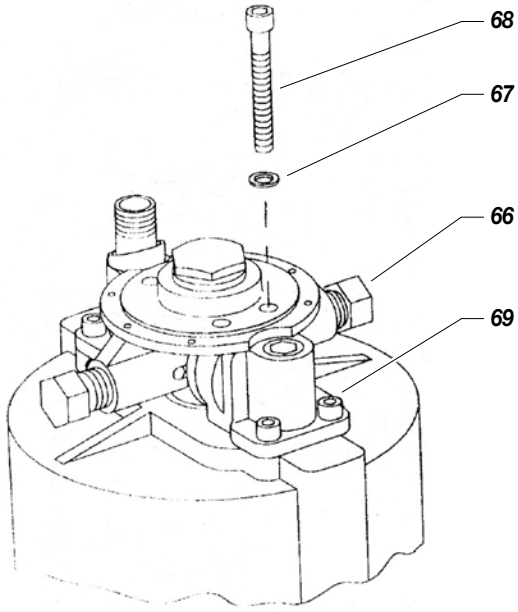
- Insert the springs (**54**) and the valves (**55**) into the seat (**53**). Position the seat on the pump support and lay the manifold (**56**) on the seat [do not forget the gasket (**57**)].
- Fasten the manifold with screws *(do not tighten)* ensuring it is perfectly parallel to the other manifold and the distance between them is 46 mm *(see illustration)*.

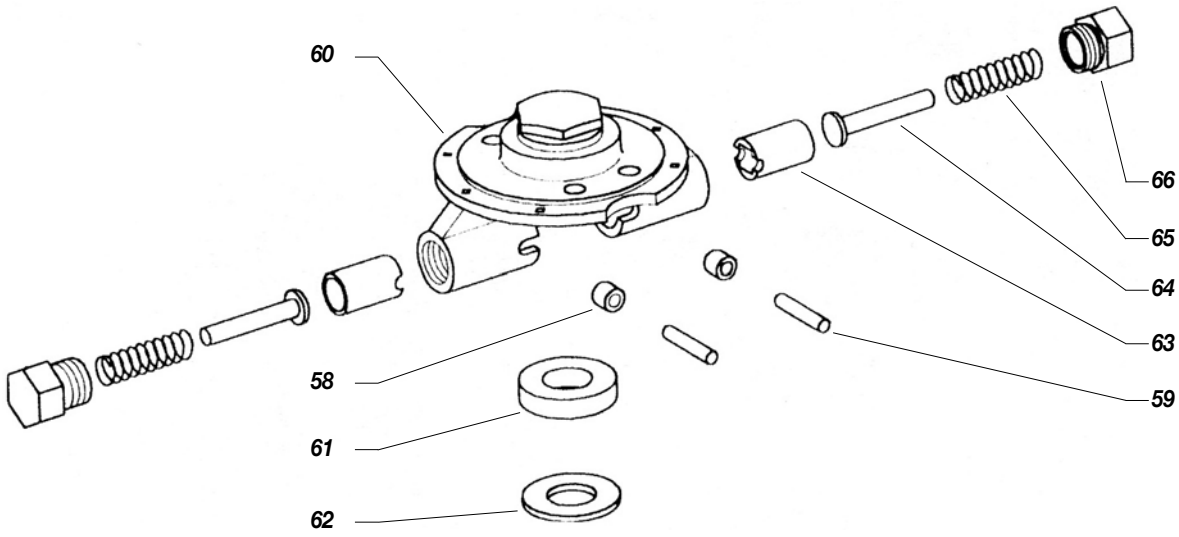
  The distance between the walls of the manifold and the edge of the seat must be about 0,8 mm.





- Rub the rollers (**58**) and the pins (**59**) with vaseline grease and insert them into the mount (**60**).
- Rub the rubber pad (**61**) and the washer (**62**) with vaseline grease and insert them into the mount (**60**).
- Grease the roller pushing pistons (**63**), the spring guide rods (**64**), the springs (**65**) and insert them into the mount (**60**).
- Fasten without tightening the ring nuts (**66**) on the mount (**60**).
- Fasten the mount on the manifolds and tighten the screws (**68**) [do not forget of washer (**67**)].
- Tighten the ring nuts (**66**) and the screws (**69**).
- Assemble again the covering and all the fittings of the air supply line.

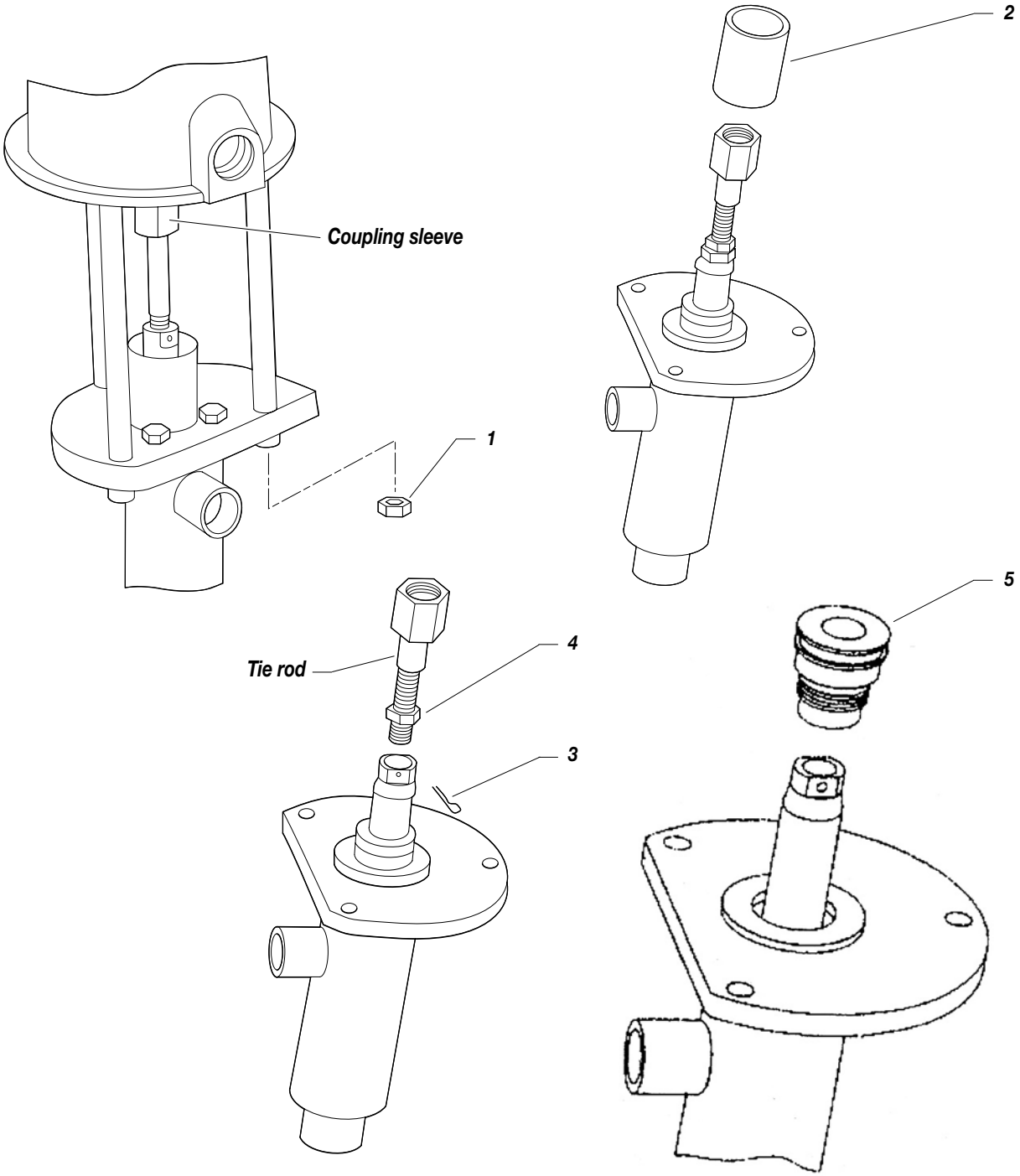




P DISASSEMBLY OF THE PUMPING GROUP

Chiudere la fornitura di aria compressa e scaricare la pressione nell'impianto prima di procedere allo smontaggio del gruppo pompante. Se il prodotto che si sta utilizzando è tossico si consiglia di seguire la procedura di pulizia di pag. 8, onde evitare il contatto con il prodotto durante lo smontaggio del pompante.

- Disconnect the suction pipe and the outlet tube of the product from the pumping group.
- Unscrew the coupling sleeve so as to disconnect the pumping group from the motor.
- Remove the nuts (1) and take out the pumping group.
- Remove the wet cup (2).
- Remove the split pin (3), loosen the nut (4) and unscrew the tie rod from the piston rod.
- Unscrew the packing nut (5).



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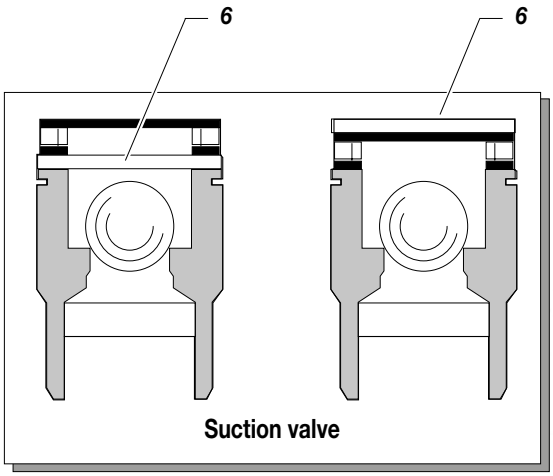
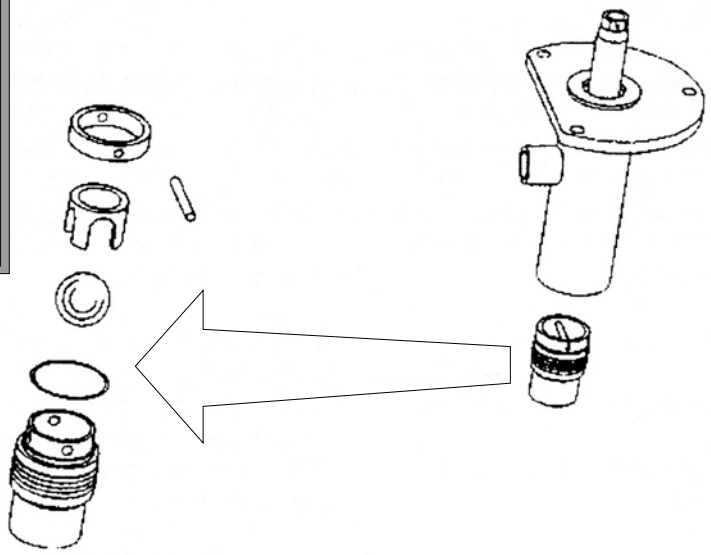
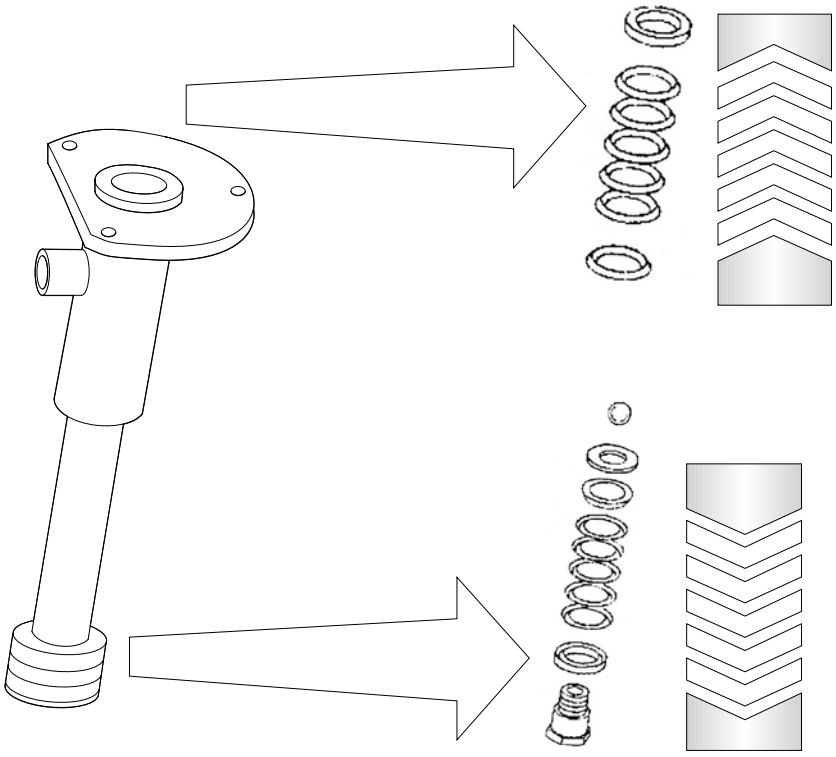
- Unscrew the suction valve. Clean and/or replace its parts, if necessary.



It is possible to increase the suction valve ball stroke placing the stop ball pin (6) on the upper holes of the suction valve. This modification is suggested in case of very viscous products. The same operation can be performed on the piston rod.

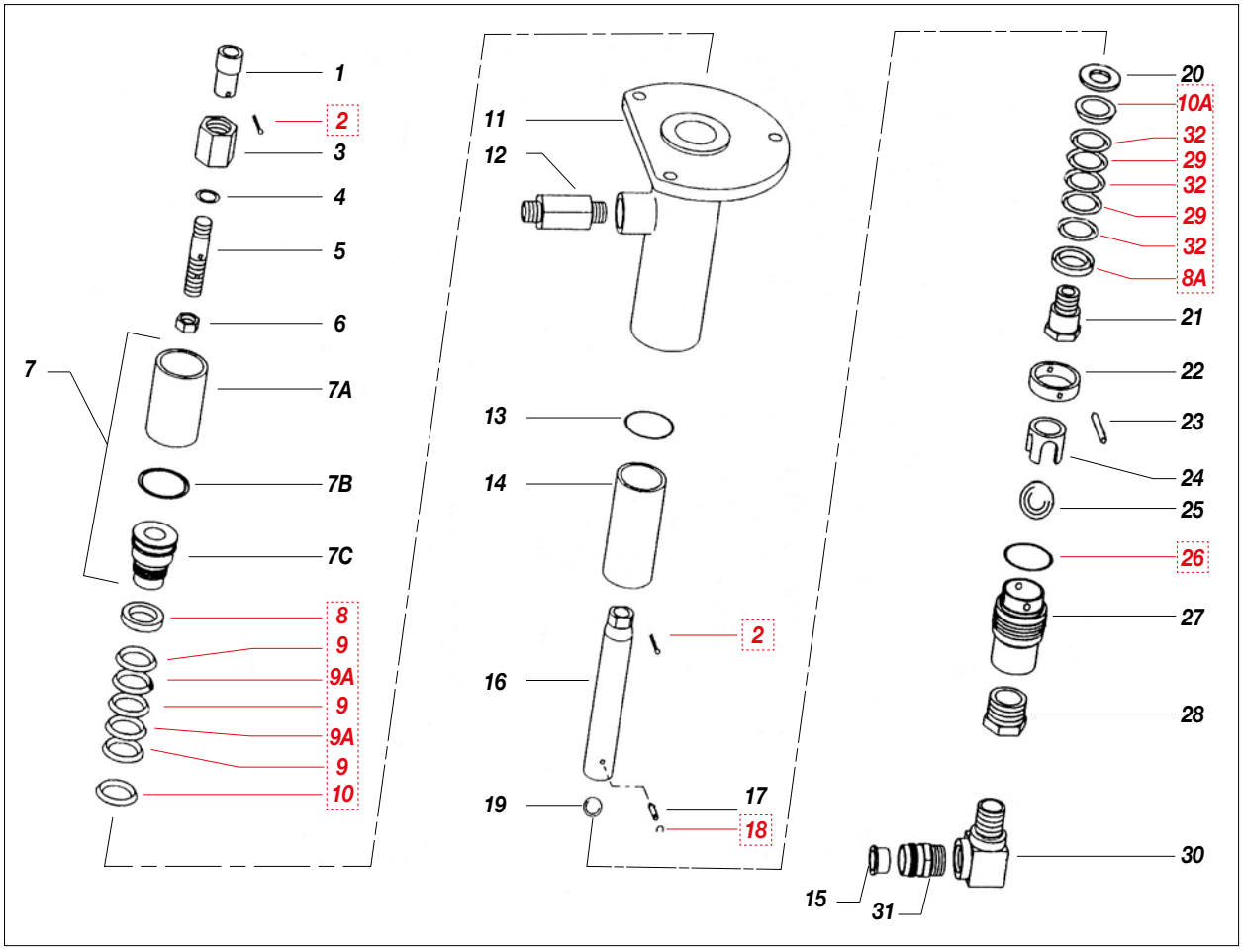


- Extract the piston rod from the bottom.
- Disassemble the piston rod and replace the gaskets worn.
- Remove the upper gaskets, if necessary, to be replaced.
- For the correct reassembling see illustration and the exploded view on page 17.



Q EXPLODED VIEW FOR STAINLESS STEEL PUMPING GROUP

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



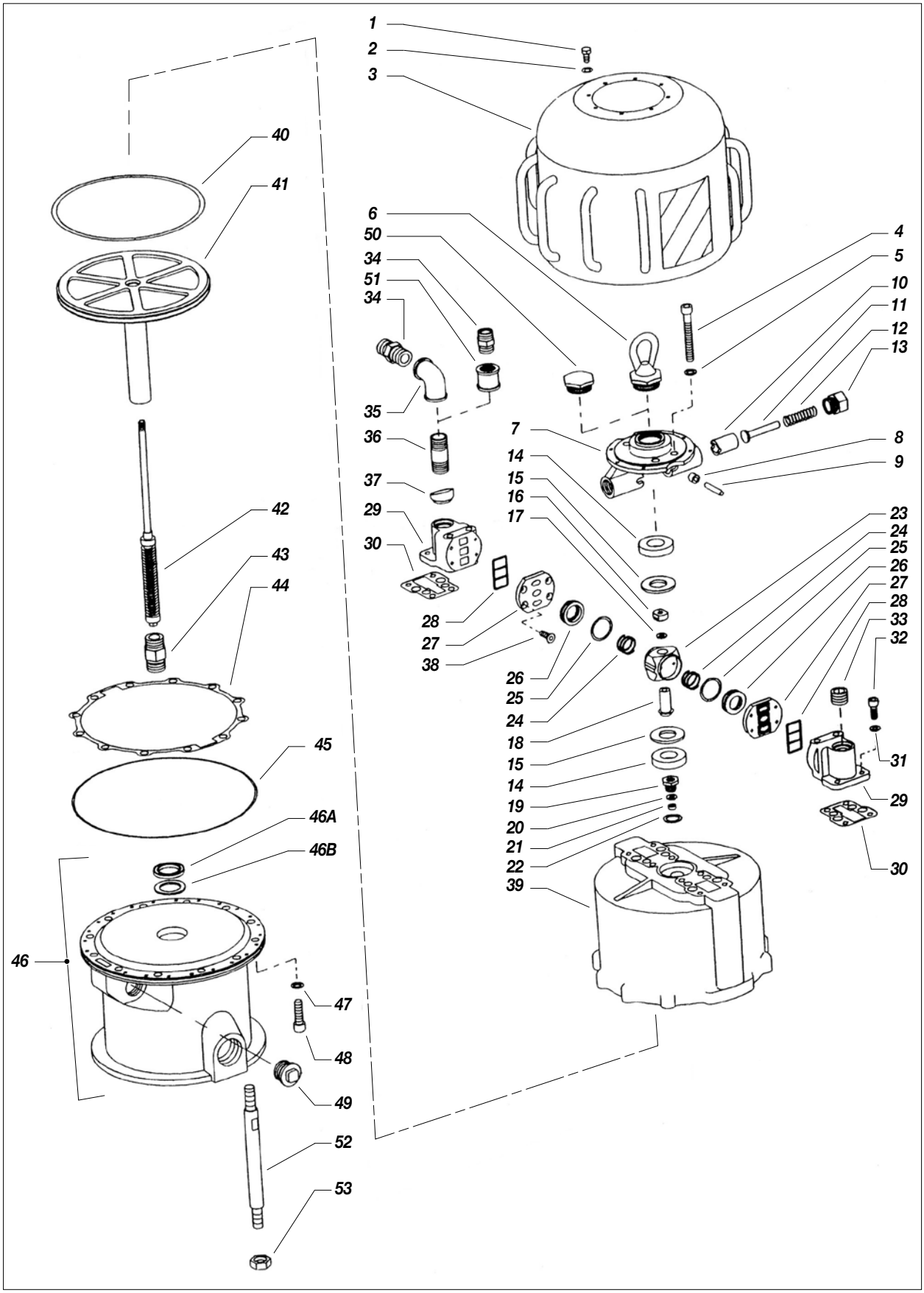
Pos.	Code	Description
1	LA95003	Bush
2	LA95015	Split pin
3	LA95004	Sleeve
4	LA95005	O-ring
5	LA95006	Tie rod
6	LA95007	Nut
7	LA95502	Cup complete with packing
7A	LA95008/1	Cup
7B	LA95008/3	O-ring
7C	LA95008/2	Packing nut
8	LA98203	Upper female ring
8A	LA98213	Lower female ring
9	LA95504	Upper PTFE "V" gasket
9A	LA95514	Upper polyethilene "V" gasket
10	LA98204	Upper male ring
10A	LA98221	Lower male ring
11	LA98210	Pumping group housing
12	LA98126	Filter fitting
13	LA95016	Gasket

Pos.	Code	Description
14	LA98211	Sleeve
15	LA33025	Bush
16	LA98202	Piston rod
17	LA98205	Stop ball pin
18	LA98219	Elastic ring
19	LA98053	Ball Ø7/8"
20	LA98228	Packing nut
21	LA98216	Piston valve
22	LA98224	Ring
23	LA98225	Stop ball pin
24	LA98226	Ball guide
25	LA95027	Ball Ø1-1/4"
26	LA95028	O-ring
27	LA98229	Suction valve
28	LA98230	M-F reduction
29	LA95516	Polyethylene "V" gasket
30	LA98231	Elbow M-F 1"GAS"
31	LA98232	Suction pipe fitting
32	LA95515	PTFE "V" gasket

Cod. KIT GASKET LA40300		
Pos.	**Description**	**Q.ty**
2	Split pin	2
8	Upper female ring	1
8A	Lower female ring	1
9	Upper PTFE "V" gasket	3
9A	Upper polyethilene "V" gasket	2
10	Upper male ring	1
10A	Lower male ring	1
18	Elastic ring	2
26	O-ring	1
29	Polyethylene "V" gasket	2
32	PTFE "V" gasket	3

R EXPLODED VIEW FOR MOTOR GROUP

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



Pos.	Code	Description
1	LA95062	Screw
2	LA95063	Washer
3	LA95064	Cover
4	LA95065	Screw
5	LA95066	Washer
6	LA95066	Eyebolt
7	LA95109	Support
8	LA95092	Roller
9	LA95091	Pin
10	LA95084	Roller piston
11	LA95085	Spring guide
12	LA95086	Spring
13	LA95087	Ring nut
14	LA95093	Schock absorber
15	LA95094	Washer
16	LA95095	Lock nut
17	LA95096	Washer
18	LA95098	Bush
19	LA95078	Rod guide screw
20	LA95079	Leather ring
21	LA95080	Sealing gasket
22	LA33031	Copper washer
23	LA95097	Valve housing
24	LA95077	Spring
25	LA95075	O-Ring
26	LA95076	Direction control valve
27	LA95073	Manifold plate
28	LA95071	Plate gasket

Pos.	Code	Description
29	LA95070	Manifold
30	LA95072	Manifold gasket
31	LA95096	Washer
32	LA95068	Screw
33	LA95067	Plug 3/4" GAS conical
34	LA95090	Fitting
35	LA95089	Elbow 3/4" GAS
36	LA95088	Extention
37	LA95099	Sealing ring
38	LA95074	Screw
39	LA95100	Motor cylinder
40	LA95101	O-Ring
41	LA95102	Motor piston
42	LA95103	Motor rod
43	LA95104	Fitting
44	LA95105	Gasket
45	LA95106	O-Ring
46	LA95107	Complete motor support
46A	LA3314	Sealing ring
46B	LA95082	Leather ring
47	LA95114	Washer
48	LA95083	Screw
49	LA95108	Plug 1" GAS
50	LA510040	Plug
51	LA95944	Sleeve 3/4" GAS
52	LA95002	Tie rod
53	LA95013	Nut

GASKETS KIT MOTOR - CODE LA40065

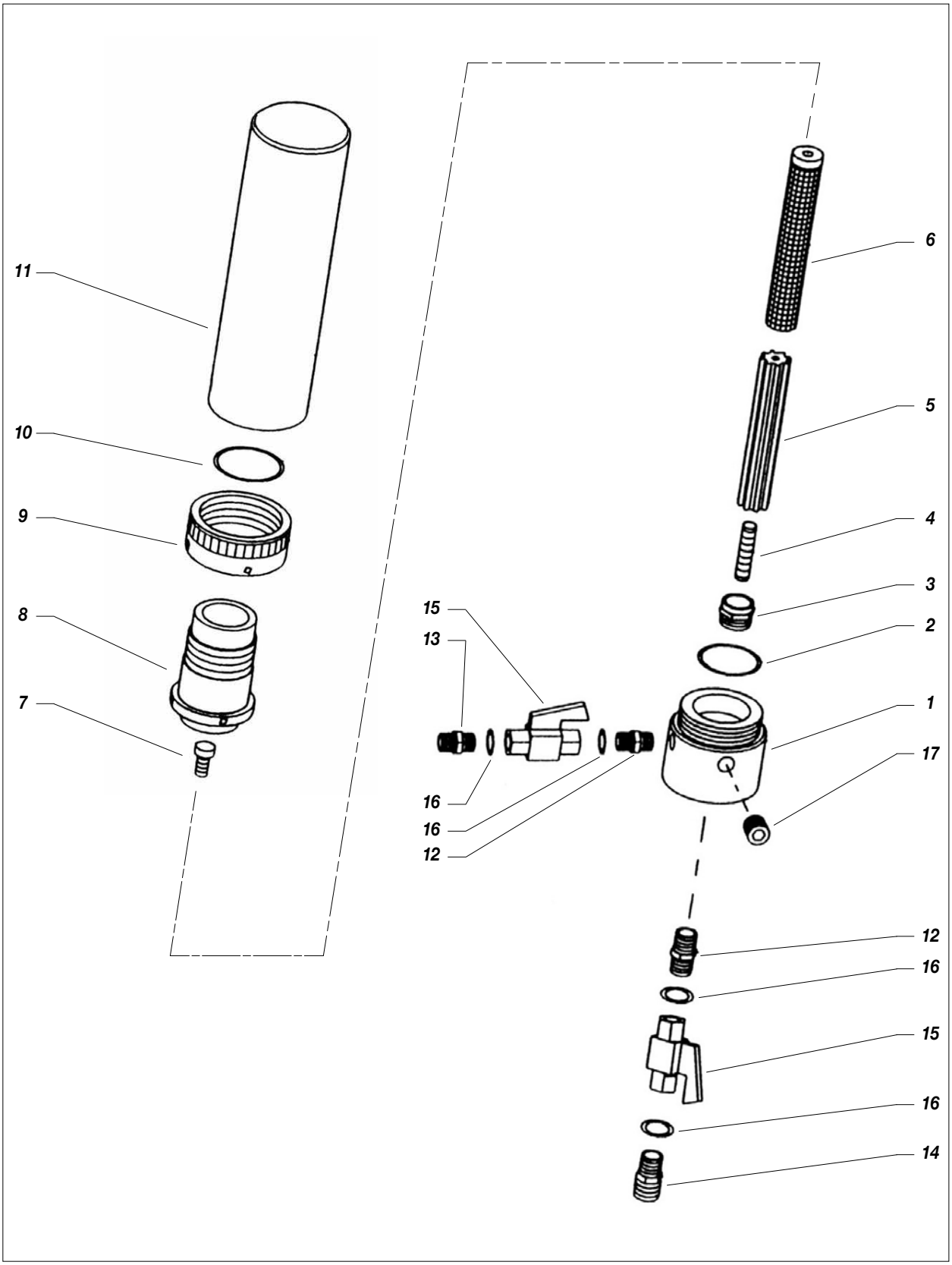
Pos.	Description	Q.ty
20	Leather ring	1
21	Sealing gasket	1
22	Copper washer	1
25	O-Ring	2
26	Direction control valve	2
30	Manifold gasket	2
40	O-Ring	1
44	Gasket	1
45	O-Ring	1
46A	Sealing ring	1
46B	Leather ring	1

MOTOR MOVEMENT INVERSION DEVICE - CODE LA40066

Pos.	Description	Q.ty
8	Roller	2
9	Pin	2
10	Roller piston	2
25	O-Ring	2
26	Direction control valve	2
30	Manifold gasket	2

S EXPLODED VIEW FOR HIGH PRESSURE FILTER

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

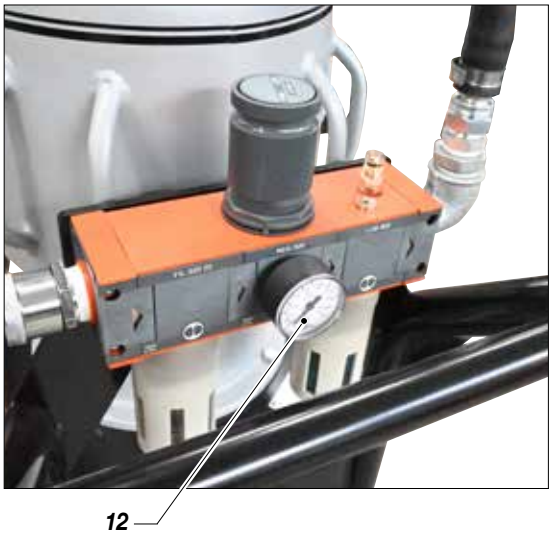


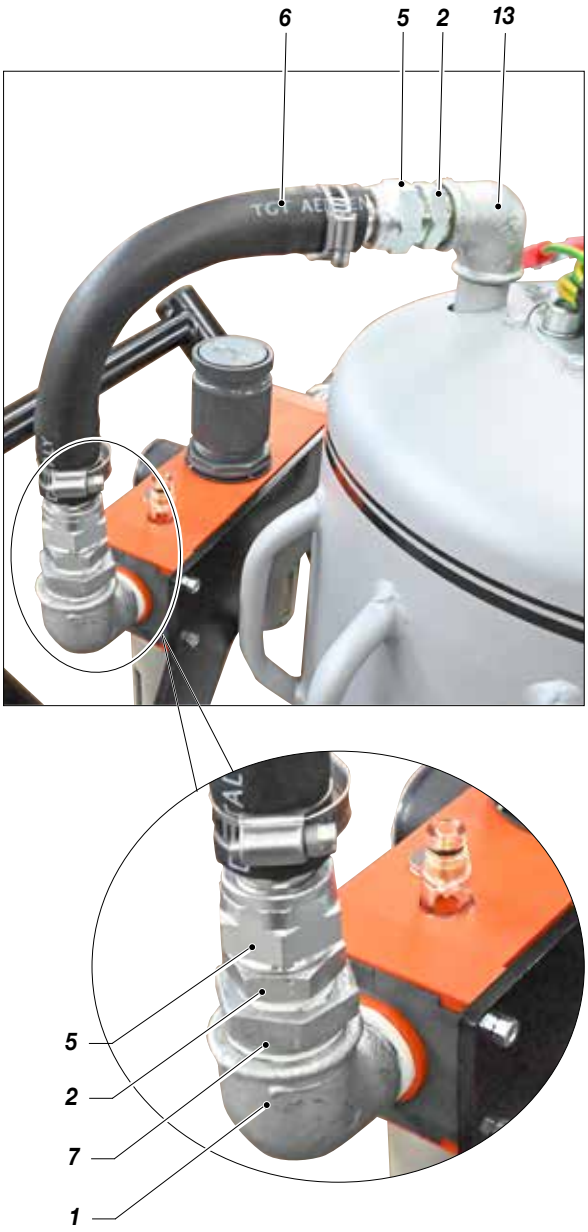
Version INOX
Nova 68:1

Pos.	Code	Description
	LA98300	**Stainless steel complete line filter**
1	LA98301	Filter base
2	LA95202	O-ring
3	LA98303	Sieve fitting
4	LA98304	Hex socket set screw
5	LA95205	Sieve support
6	LA95218	Filter sieve 30 MESH
6	LA95219	Filter sieve 60 MESH
6	LA95220	Filter sieve 100 MESH
6	LA95221	Filter sieve 200 MESH
7	LA98306	Screw

Pos.	Code	Description
8	LA98307	Intermediate fitting
9	LA95208	Ring nut
10	LA95209	O-ring
11	LA98090	Filter container
12	LA6149	Rac Fitting cordo 3/8" - 3/8"
13	LA6148	Fitting 3/8" G-M16x1,5
14	LA3385	Fitting 3/8" G-M20x2
15	LA33037	High pressure ball valve 3/8"
16	LA33010	Washer
17	LA98385	Plug 3/8" GAS

T AIR GROUP COMPLETE





Pos.	Code	Description
	LA95145	**Complete air treatment group**
1	LA95031	Elbow M.F. 1" -MF92
2	LA95090	Adapter 3/4 (NGE 3/4)
3	LA95301	Quick coupling C/for rubber hose skg 25
4	LA95302	Quick coupling 1"male
5	LA95308	Female fitting (FB 3/4X19)
6	LA95309	Hose tor/20NL 71N 19x29

Pos.	Code	Description
7	LA95313	Reduction 1" -3/4" MF
8	LA95318	Quick coupling 8x17
9	LA95319	Quick coupling m. 1/4"
10	LA95323	Valve 1"
11	LA95350	F.R.L. Group
12	LA96259	Manometer
13	LA95089	Elbow F-F 3/4"

U COMPLETE HANDTRUCK

Pos.	Code	Description
0	**LA65380**	**Complete handtruck**
1	LA65381	Handtruck
2	LA20304	Plug
3	LA18902	Split pin
4	LA65382	Handle

Pos.	Code	Description
5	LA4461	Wheel
6	LA4492	Cover
7	LA8371	Screw
8	LA65383	Bushing

V WALL MUNTING BRACKET Ref. LA65085

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

Code	Description	Q.ty
LA65085	Wall mounting bracket	1

X DESCRIPTION FOR EXPLOSIVE AREAS

These safety instructions refer to the installation, use and maintenance procedures for ***NOVA*** series pneumatic piston pumps for decanting. These pumps are designed for use in potentially explosive areas where gas or vapours are present.

These instructions must be followed in addition to the warnings given in the user and maintenance manual.

NOVA series pneumatic piston pumps are group II mechanical devices for use in the presence of gas in zones classified as IIB (category 2 G). They have been designed and constructed in accordance with ATEX Directive 94/9/EC and the European standards: EN 1127-1, EN 13463-1ed EN 13463-5.

TECHNICAL FEATURES

The main characteristics of ***NOVA*** series pneumatic piston pumps are indicated in the table below:

Ratio	Ø Air intake	Ø Air intake	Ø Material intake	Ø Material outlet	Max working pressure	Max capacity
20:1	3 ÷ 6 bar	GC 3/4"	Valvola a sfera	CG 1 1/2”	120 bar	32 l/min
45:1	3 ÷ 6 bar	GC 3/4"	Valvola a sfera	CG 1 1/2”	270 bar	14 l/min
55:1	3 ÷ 6 bar	GC 3/4"	Piattello	CG 1”	330 bar	12 l/min
60:	3 ÷ 6 bar	GC 3/4"	Valvola a sfera	CG 1”	360 bar	12 l/min
68:1	3 ÷ 6 bar	GC 3/4"	Valvola a sfera	CG 3/4"	410 bar	11 l/min

• **Environment temperature:** -20°C ÷ +60°C • **Max. fluid temperature:** 60°C • **Maximum number of cycles per minute:** 60

MARKING

CE Ex **II 2 G c IIB T6** • **E environment temp.: -20°C ÷ + 60°C** • **M fluid temperature: 60°C** • **Tech. File: NOVA/ATX/08**

II =	Group II (surface)
2 =	Grade 2 (zone 1)
G =	Explosive environment with gas, vapour or mist
c =	Constructive safety "c"
T6 =	Class of temperature T6
- 20°C ÷ + 60°C	Room temperature
60°C	Max temperature of process fluid
xxxxx/AA	Series number or lot number (xxxxx = PROGRESSIVE / year = AA)

Relation between hazardous areas, products and categories

HAZARDOUS AREA		CATEGORIES ACCORDING TO 94/9/CE DIRECTIVE
Gas, vapours or mists	Zone 0	1G
Gas, vapours or mists	Zone 1	2G o 1G
Gas, vapours or mists	Zone 2	3G, 2G o 1G

SAFETY INSTRUCTIOINS FOR ONSTALLATIONS IN HAZARDOUS AREAS

Before proceeding with the installation carefully read the use and service manual. All the service operations must be carried out as stated in the manual.

- The M.T. cable of the above mentioned pumps must be grounded by means of an appropriate anti-loosening connection element.
- The pipes used to connect suction and delivery must be metallic, or plastic with metallic braid or plastic with fabric braid with suitable earthing cable.
- The pumps must be installed upon grounded barrels made from metallic or anti-static materials.
- Gas and vapour of flammable liquids must belong to the group IIB.
- According with the nature of the operations and products, the operator must regularly check the presence of deposit, the cleaning, the wearing and the correct pump's functioning.
- The user must periodically clean the filter located upon the suction unit in order to prevent solids from reaching the pump's internal elements. The air feeling the pump needs to be filtered and originated by a safe area. (SAFE AREA).

The NOVA series pneumatic piston pumps must not be made to run without a proper load.

All the operations, installation and service, must be carried out by qualified operators.

EXAMPLE OF INSTALLATION

The diagram illustrates a typical installation example of a pneumatic piston pump for decanting.

SAMPLE DECLARATION OF CONFORMITY

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

declare under our sole responsibility that the product

NOVA series pneumatic piston pumps for decanting

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 13463-1
- EN 13463-5

Marking

CE Ex II 2 G c IIB T6 • Eanvironment temp.: -20°C ÷ + 60°C
• M. fluid temperature: 60°C • Tech. File: NOVA/ATX/08

Technical file: **NOVA/ATX /08**

Technical file c/o: **INERIS (0080)**

Calolziocorte- LC Signature (LARIUS)

INERIS

Appareil non électrique destiné à être utilisé en atmosphères explosibles
Non electrical equipment intended for use in potentially explosive atmospheres
Apparecchi destinati ad essere utilizzati in atmosfera potenzialmente esplosiva

Directive 2014/34/UE
Directive 2014/34/EU / Direttiva 2014/34/UE

ACCUSÉ DE RECEPTION D'UN DOSSIER TECHNIQUE
ACKNOWLEDGE RECEIPT OF TECHNICAL DOCUMENTATION
AVVISO DI RICEVIMENTO DEL FASCICOLO TECNICO

Appareil / Equipment / Apparecchiatura :

PNEUMATIC TRANSFER & EXTRUSION PUMPS

Type(s)/ Type(s) / Tipo(i) : **Series NOVA**

Marquage/ Marking / Marcatura : Ex II 2G

Dépositaire / Applicant / Richiedente : **LARIUS S.r.l.**
Via Stoppani, 21

I- 23801 Calolziocorte (LC)

L'INERIS, organisme notifié et identifié sous le numéro 0080, conformément aux articles 17 et 21 de la Directive du Conseil 2014/34/UE du 26 février 2014, accuse réception du dossier conformément à la procédure décrite au chapitre 3, article 13 1) b) ii) de la Directive.

INERIS, notified body and identified under number 0080, in accordance with articles 17 and 21 of Council Directive 2014/34/EU of the 26 february 2014, acknowledges receipt of file according to the procedure described chapiter 3, article 13 1) b) ii) of the Directive.

L'INERIS, organismo notificato e identificato con il n.0080 conformemente agli articoli 17 e 21 della Direttiva 2014/34/UE del Consiglio dell'Unione Europea del 26 febbraio 2014, conferma il ricevimento del fascicolo in conformità alla procedura prevista nella rubrica 3, articolo 13 1) b) ii) della Direttiva.

La documentation technique référencée : NOVA/ATX/08 dated 2008-12-15 est consignée sous le numéro d'enregistrement : **n° INERIS-EQEN 021759/19.**

Dans le cadre de cet enregistrement, l'INERIS n'a pas examiné le contenu de la documentation technique.

The technical documentation referenced : NOVA/ATX/08 dated 2008-12-15 is consigned under the reference : **no INERIS-EQEN 021759/19.**

Within the scope of the recording, INERIS did not examine the contain of the technical documentation.

La documentazione tecnica di riferimento : NOVA/ATX/08 dated 2008-12-15 è depositata con il numero di registrazione : **n° INERIS-EQEN 021759/19.**

Nel quadro di questa registrazione, INERIS non ha examinato il contenuto della documentazione tecnica.

Date de fin de validité : **2029.03.11**

Validity completion date : **2029.03.11**

Data di fine di validità : **2029.03.11**

Verneuil-en-Halatte, le 2019.03.11

ATMOSPHERES EXPLOSIVES – ORGANISME NOTIFIE – INERIS – NOTIFIED BODY – EXPLOSIVE ATMOSPHERES

Le Directeur Général de l'INERIS, Par délégation, **Thierry HOUEIX** Délégué Certification ATEX / Ex Certification Officer

The Chief Executive Officer of INERIS, By delegation,

Il Direttore generale dell' INERIS, Per Delega,

IM-1-01AB - Mise en application : 20/04/2016

Parc Technologique Alata BP 2 F-60550 Verneuil-en-Halatte
tél +33(0)3 44 55 66 77 fax +33(0)3 44 55 66 99 internet www.ineris.fr
Institut national de l'environnement industriel et des risques
Etablissement public à caractère industriel et commercial - RCS Compiègne B 381 984 924 - Siret 381 984 921 00019 - APE 7120B - TVA Intracom FR 73 381 984 921

CE DECLARATION OF CONFORMITY

Company

LARIUS srl
Via Antonio Stoppani 21 - 23801 Calolziocorte (LC) ITALY
Tel: +39 0341 621152
Fax: +39 0341 621243
E-mail: larius@larius.com

Declares under his owns resonsibility that the product:

NOVA 68:1
Pneumatic pump for spray painting

complies with the directives:	**- EC Directive 2006/42 Machinery Directive** **- Directive 2014/34/EU** **- Directive ATEX**
furthermore to the harmonized standards:	**- EN 13463-1** **- UNI EN ISO 12100-1/-2** **Machinery safety, basic concepts, general principles of design. Basic terminology, methodology. Technical principles.** **- UNE EN ISO 80079-36:2017** **- EN 809:1999+A1** **- EN 1127+1**

This declaration relates exclusevely to the product in the state in which it was placed on the market, and excludes components or modifications which are added or carried out subsequently by end user.

Signature

Calolziocorte, 15 November 2024
Location / Date

Pierangelo Castagna
Managing Director

SAMOA
LEADING THROUGH INNOVATION

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INSTRUCTION MANUAL AVAILABLE IN:		
	IT	https://www.larius.com/wp-content/uploads/NOVA68_I.pdf
	EN	https://www.larius.com/wp-content/uploads/NOVA68_GB.pdf
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