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Cod. 98900
200lt hoist version



Cod. 98901
30lt hoist version

NOVA 55:1 V2 EXT

Airless pneumatic
pump for extrusion



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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 program, the factory reserves the right to modify technical details mentioned in this manual without prior notice.

NOVA 55:1 V2 EXT

Airless pneumatic pump for extrusion

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

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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 **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.

	<ul style="list-style-type: none"> • 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.
	<ul style="list-style-type: none"> • It indicates an accident risk or serious damage to equipment if this warning is not followed.
   	<p>FIRE AND EXPLOSION HAZARD</p> <ul style="list-style-type: none"> • Solvent and paint fumes in work area can ignite or explode. • To help prevent fire and explosion: <ul style="list-style-type: none"> - 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.
	<ul style="list-style-type: none"> • 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.
 	<ul style="list-style-type: none"> • 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.
	<ul style="list-style-type: none"> • It indicates important recommendations about disposal and recycling process of products in accordance with the environmental regulations.
    	<ul style="list-style-type: none"> • 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: <ul style="list-style-type: none"> - (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.
   	<ul style="list-style-type: none"> • 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 PRINCIPLE OF OPERATION

The **NOVA 55:1 V2 EXT** pump is a pneumatic high pressure pump to be used for transferring high viscosity products.

NOVA is essentially constituted of an air motor and a structure defined as the “*material pumping unit*” or simply the “*pumping unit*”. The compressed air in the pneumatic motor generates vertical alternative motor piston movement: this movement is transmitted through a connecting rod to the material pumping piston ending with a follower plate that allows for the suction of very viscous products.

The 55:1 ratio indicates that the material output pressure is 55 times the pump supply air pressure.

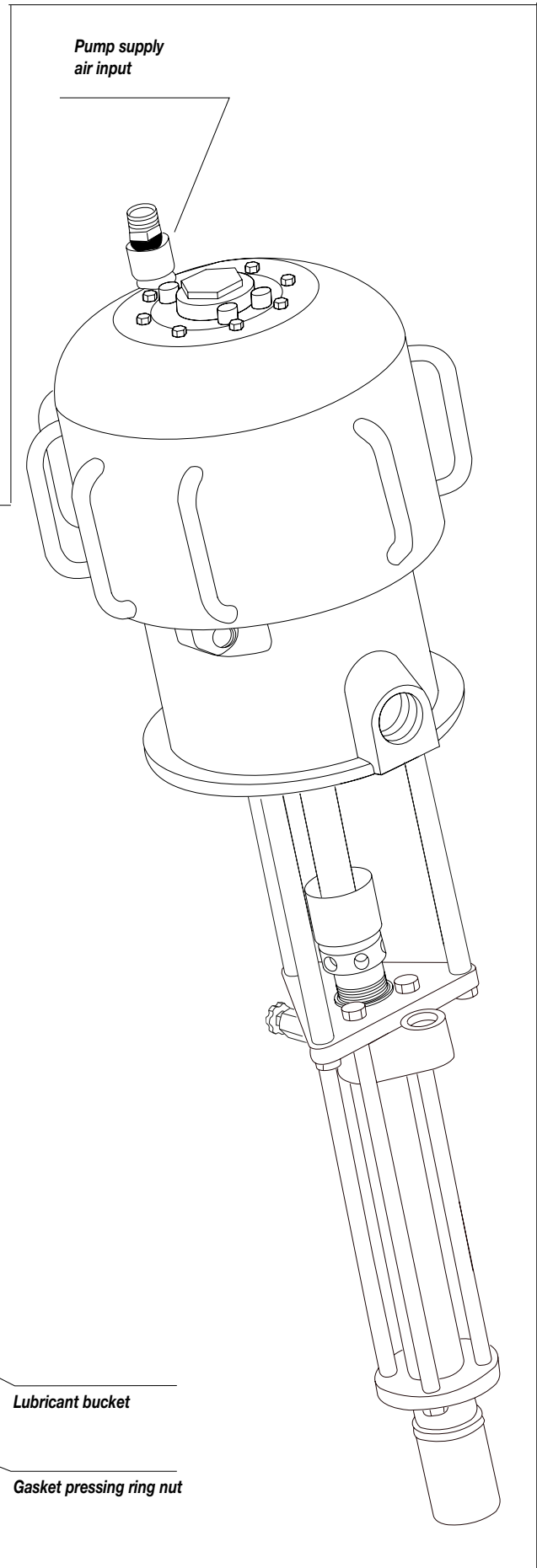


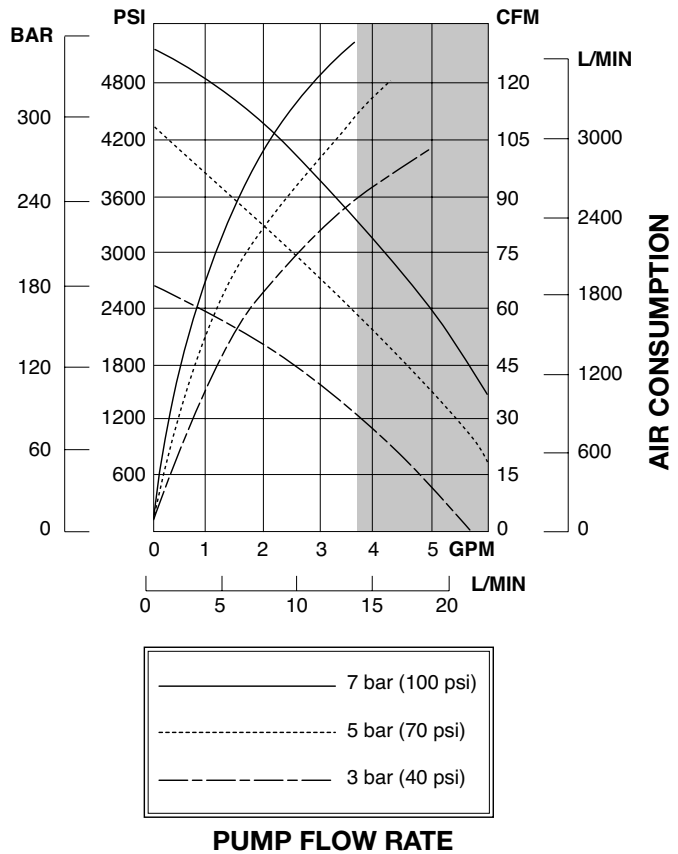
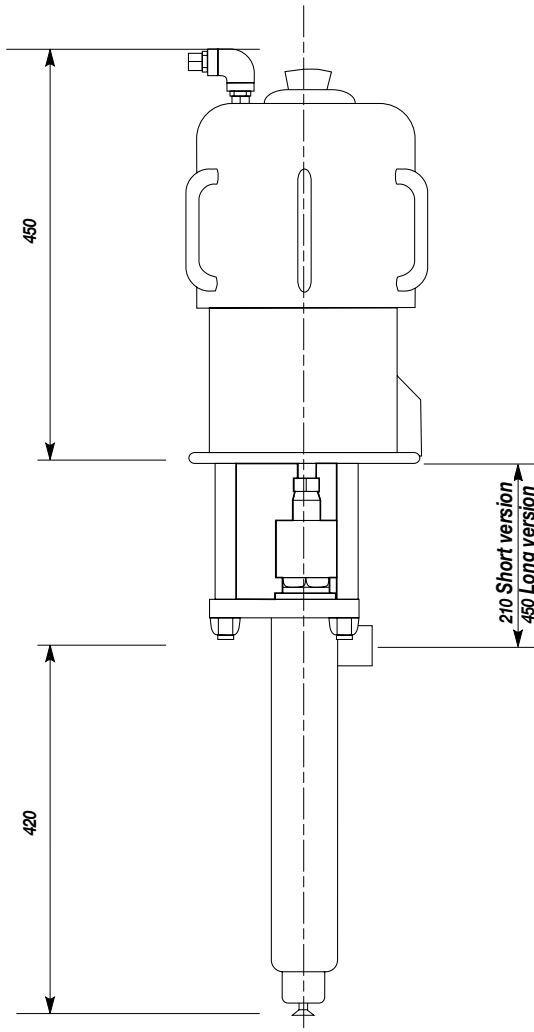
Fig. 1

C TECHNICAL DATA

NOVA 55:1 V1 EXT	
Air pressure range	3-7 bar 40-100 psi
Maximum fluid outlet pressure	380 bar 5.510 psi
Delivery per cycle	200 cm ³
Delivery at 60 cycles per minute	3 bar 198 l/min 5 bar 330 l/min 7 bar 462 l/min
Air inlet thread	3/4" BSPP (M)
Fluid outlet thread	1" BSPP (F)
Lower pump material	CArbon steel
Plunger material	INOX 420B
Seals material	PTFE + PE 1000
Air motor piston diameter and stroke	Ø 10" - 4 3/4" Ø 250 mm - 120 mm

CODE	DESCRIPTION
98901	NOVA 55:1 extrusion pump for 30 lt hoist.
98900	NOVA 55:1 extrusion pump for 200 lt hoist.

Always observe these notes when assessing the compatibility of products to be used and when eliminating one or more pump components that are no longer usable in order to plan the recycling of individual components in an environmentally safe manner.



D DESCRIPTION OF THE MACHINE

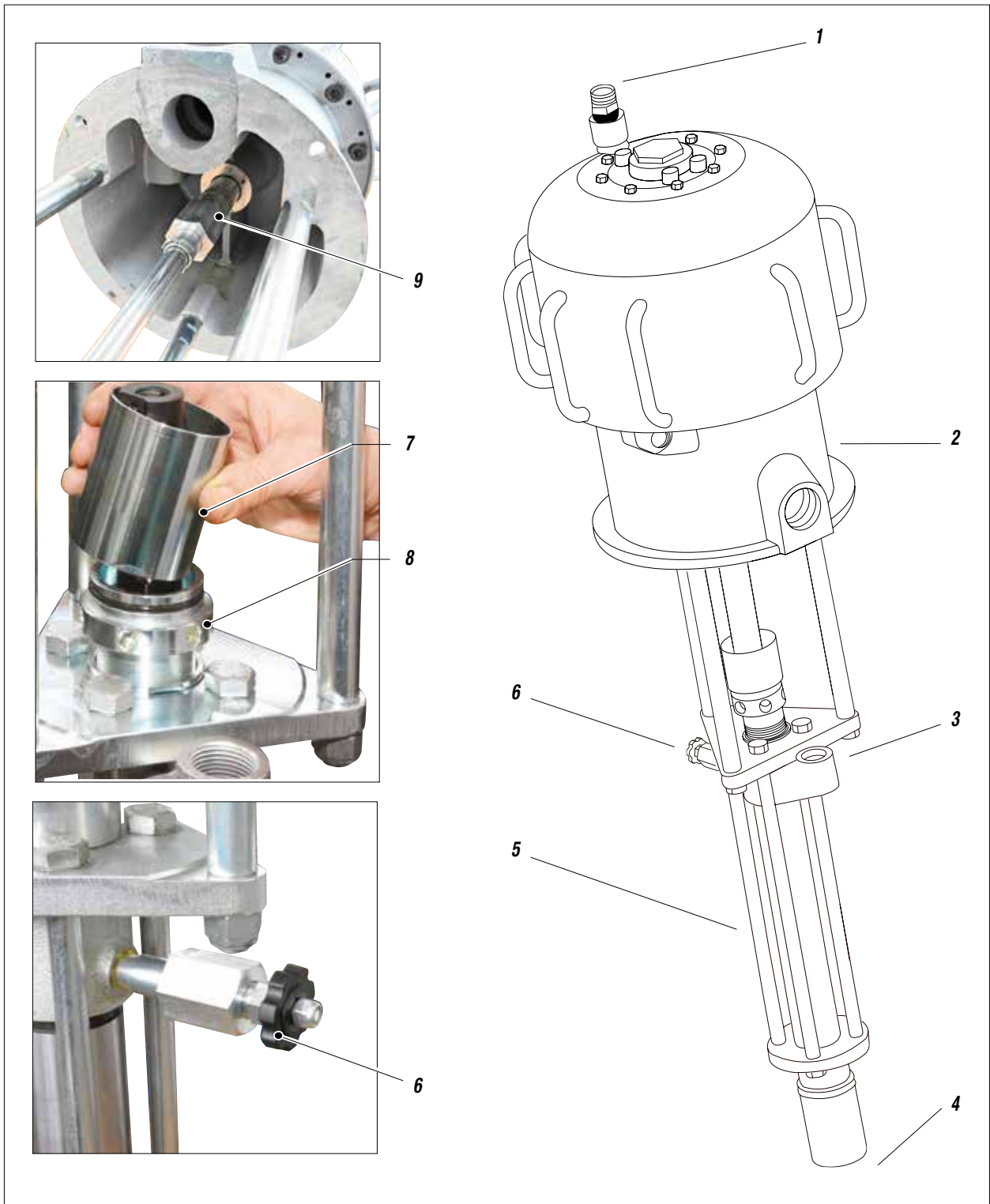


Fig. 1

Pos.	Description
1	Pump supply air inlet
2	Pneumatic motor
3	Material outlet
4	Material input
5	Material pumping unit

Pos.	Description
6	Bleed valve
7	Lubricant bucket
8	Gasket pressing ring nut
9	Conjunction sleeve

E 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 to the 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.

F 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.



G SAFETY RULES

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.

- 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.
- 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.
- (IF PROVIDED) **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.
- (IF PROVIDED) 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.

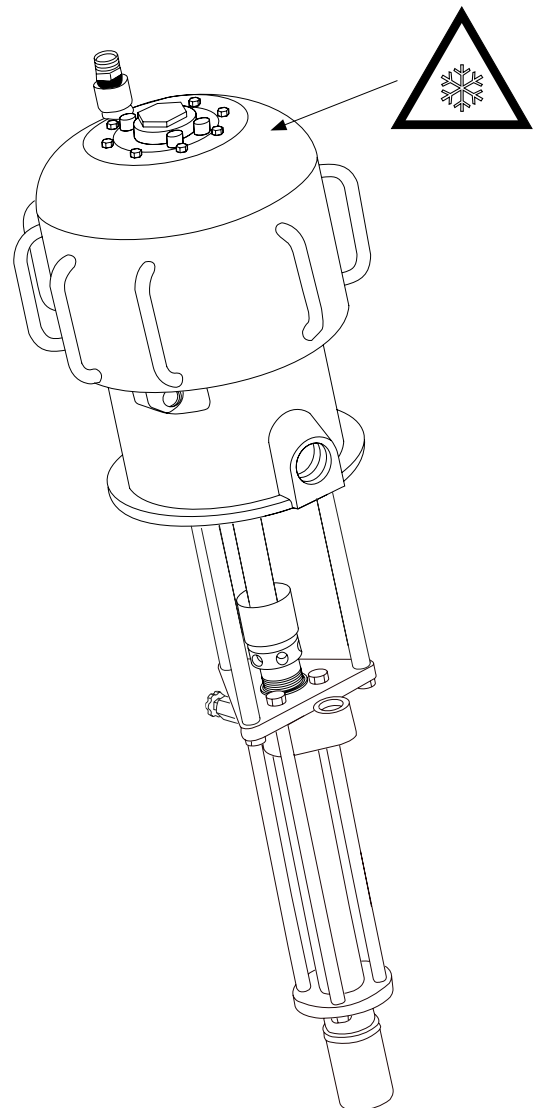
Take proper safety measures for the protection of hearing in case of work near the plant.



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.



H TYPICAL INSTALLATION

The **NOVA 55:1** pump can be installed on the pneumatic extrusion ram with follower plate (see figure).

Pneumatic extrusion rams allow for the product to be suctioned directly by the drum and allow for quick replacement of the drum itself. The plate, fastened to the pump base, compresses the material, ensuring a constant flow of product. Furthermore, it protects material that has not yet been suctioned from contact with dust and humidity and from drying caused by contact with air.

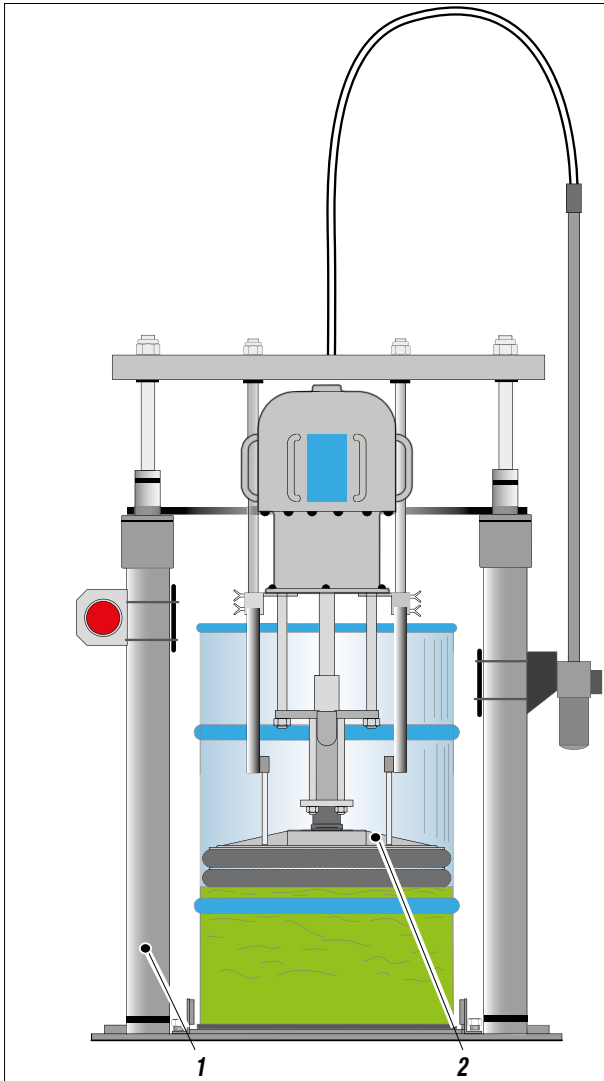


Fig. 1H

Pos.	Code	Description
1	510000	200-litre pneumatic extrusion ram
2	510100	Cast iron follower plate complete with dual gasket

I TUNING

SECURING THE PUMP TO THE EXTRUSION RAM

For correct pump securing on the extrusion ram, follow the procedure described in the pneumatic extrusion ram use and maintenance manual.

CONNECTING SUPPLY AIR

Use a hose with an internal diameter of no less than 20 mm for pump supply.



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 55 times the inlet pressure of the pump feed air. Therefore, it is extremely important to adjust the value of the feed air pressure.

CONNECTING THE MATERIAL OUTPUT HOSE

Connect the high pressure hose to pump output. Thoroughly tighten fittings.

J OPERATION



Check all connection fittings on the different components (pump, flexible hose, etc.) before using the machine.

- Immerse the material pumping hose in the product tank (if the pump is secured on the pneumatic extrusion ram, follow the procedure described in the pneumatic extrusion ram use and maintenance manual).
- The pump is switched on (and subsequently switched off) by means of the electric/pneumatic valve. Have compressed air flow to the pump. Adjust air pressure to minimum value necessary for continuous operation.
- The pump will begin operation and will stop when the entire product chamber is full. The pump will re-start operation every time the dispensing valve opens.
- The pump has been tested at the factory with light mineral oil which may remain somewhat inside the pump. Direct the dispensing valve against a container and drain all product left inside the pump until the material to be used comes out.



Never operate the pump without a load. This could cause serious damage to the pneumatic motor and ruin sealing gaskets.

- If long pauses during machine use are foreseen (for example, all night at the end of a working day), ensure that the product you are using and different hoses can be left inside the pump without drying.

If this risk does not exist, then simply cut off pump air supply and discharge circuit pressure on the dispensing valve or the pump bleed valve before an operating pause.

K END OF WORK CLEANING

End of work cleaning is intended as the cleaning to be carried out whenever you wish to use a different product or when a long period of machine inactivity is foreseen.

- Close the air supply to the pump.
- Immerse the material pumping hose in the washing solvent tank (ascertain its chemical compatibility with the product you are using).
- Have compressed air flow to the pump. Adjust air pressure to minimum value necessary for continuous operation.
- Direct the dispenser against a container and drain all product left inside the pump until the clean solvent comes out.
- At this point, close the air supply to the pump and discharge residual pressure.
- If a long period of machine inactivity is foreseen, suction and leave light mineral oil inside the pumping unit.



Store possible dangerous fluids in suitable containers. They must be disposed of in accordance with regulations regarding the disposal of industrial waste.

L ROUTINE MAINTENANCE



Always close the compressed air supply and discharge the pressure in the system before inspecting or carrying out any maintenance work on the pump.

- Periodically check (*and check whenever re-starting the pump after a long period of inactivity*) that the gasket pressing ring nut (2) has not become loose, causing product to leak out. To tighten the ring nut, lift the lubricant bucket (1). The ring nut (2) must be tightened so as to avoid leaks but not excessively to cause the seizure of the pumping piston and gasket wear. If product leaking persists, replace gaskets.
- Keep the lubricant bucket (1) full (*compatible with the product being used*) in order to prevent the product from drying on the piston shaft.
- Periodically check the air supply line to the pump. Make sure that the air is always clean and lubricated- If a lubricator has been installed on the air supply line to the pump, it is recommended that its cup be kept full with a mixture of water and anti-freeze liquid (*dilution ratio 4:1*).

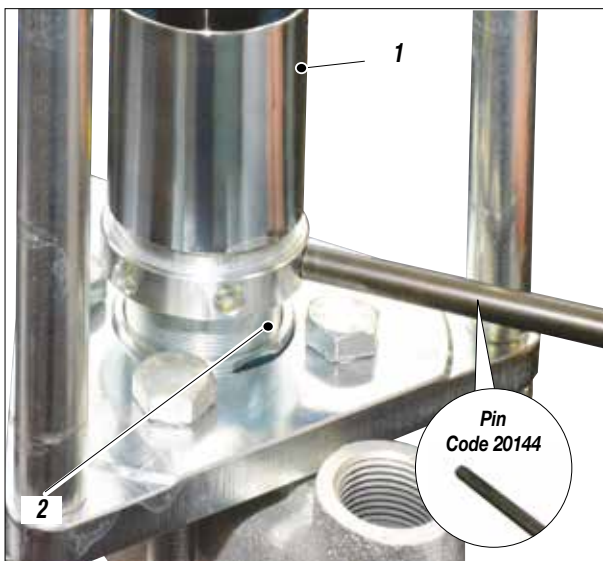


Fig. 1

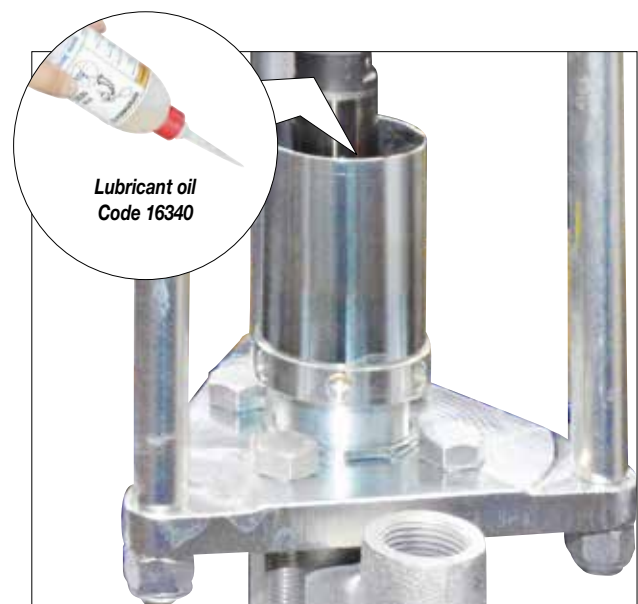


Fig. 2

M TROUBLESHOOTING

Problem	Possible 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.



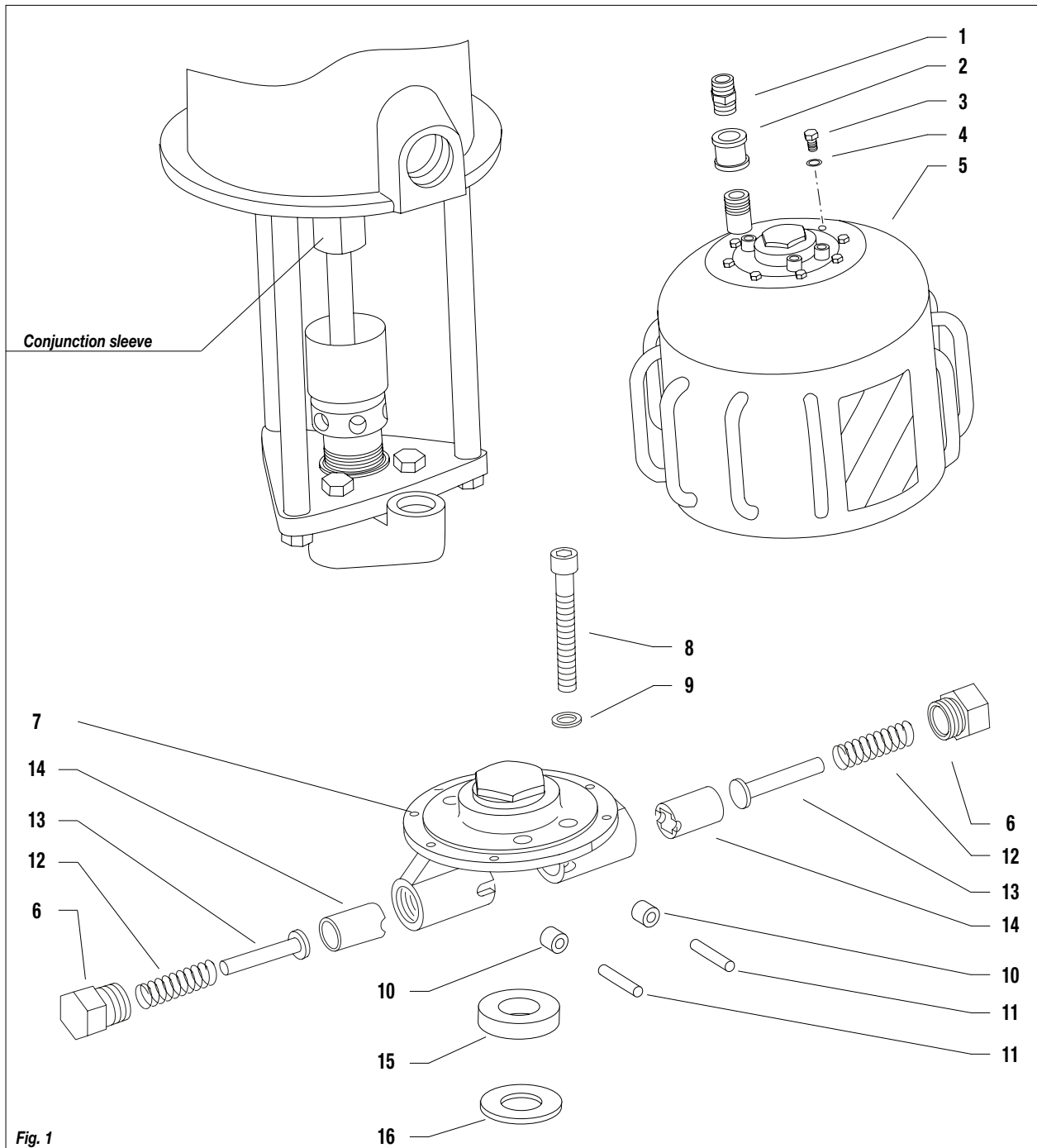
Always close the compressed air supply and release the pressure in the plant before performing any check or replacement of parts of the pump.

N DISASSEMBLY OF THE PNEUMATIC MOTOR

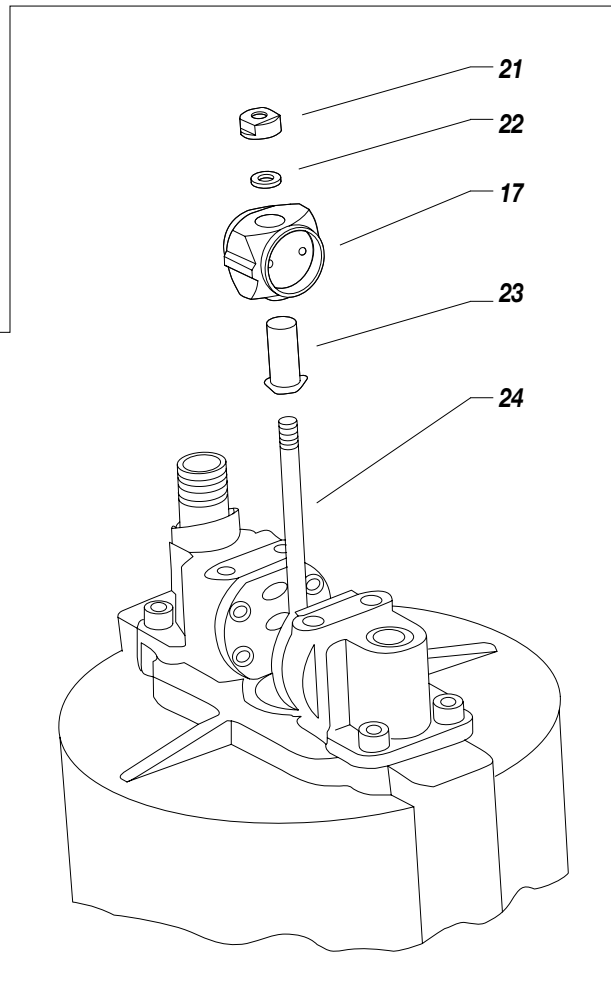
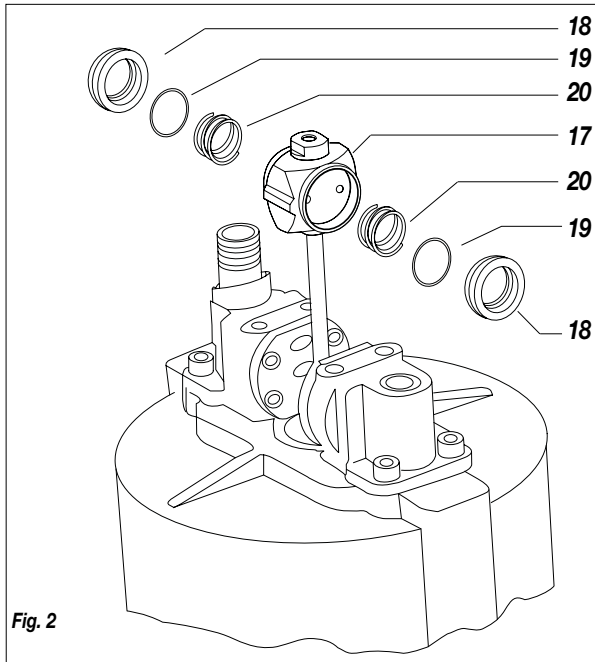


Always close compressed air supply and discharge pressure before dismantling the pneumatic motor from the pump.

- Unscrew the joint sleeve to remove the pumping unit from the motor.
- Disconnect the air supply hose from the pump.
- Unscrew the fitting (1) and the sleeve (2).
- Unscrew the screws (3) [be careful of washers (4)] and remove the cover (5).
- Unscrew the two ring nuts (6) from the support (7).
- Unscrew the screws(8) [be careful of washers (9)] and remove the support (7) together with the rollers (10) and the pins (11).
- Remove the spring (12), the spring guide rod (13) and the roller pushing piston (14). Make sure that the spring slides freely on the guide rod, that the guide rod slides freely on the roller pushing piston and that the latter slides freely inside the support hole.
- Check conditions on the roller (10)and the pin (11). Replace if damaged.
- Remove and check the shock absorber (15)and the washer (16).



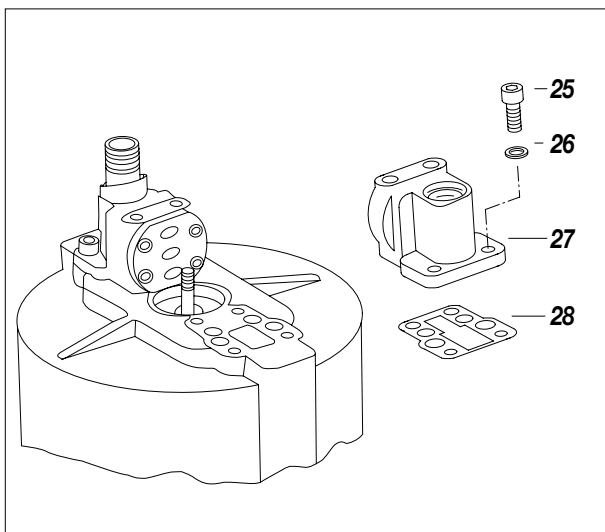
- Pull housing upward (17) in order to remove valves (18), O-ring (19) and springs (20) (clean and/or replace worn components).
- Unscrew the counter-nut (21) [being careful of the washer (22)] and keeping the bush locked with a wrench (23).
- Remove the housing (24) from the rod (17).
- Unscrew the bush (23) (if necessary, keep the rod locked (24) on the threaded part with pliers whose grippers are wrapped in a rag to avoid damaging threading).



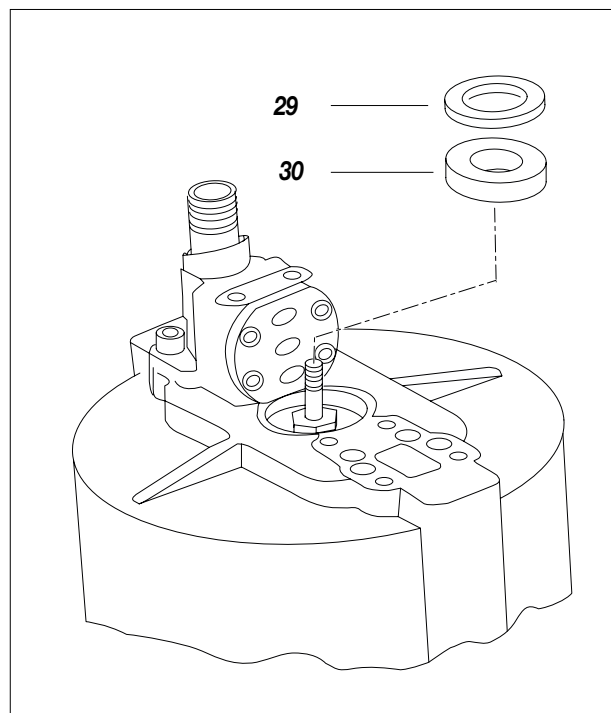
- Remove screws (25) [careful of washers (26)] and remove a collector (27) and the gasket (28).



Handle the collector with care. The edges of the plate secured to it are very sharp. Important: do not remove the other collector unless strictly necessary (this will facilitate subsequent securing of the removed collector).



- With the help of a screwdriver, remove the washer (29) and the shock absorber (30).



- Unscrew the rod guide screw (31) [careful of the washer (32)] and make sure that the sealing gasket inside the screw (31) has not become ruined.
- Remove the screws (33) [careful of the washers (34)] and carefully remove the cylinder (35) (do not tilt it excessively during extraction to avoid the motor piston from damaging the internal surface of the cylinder).

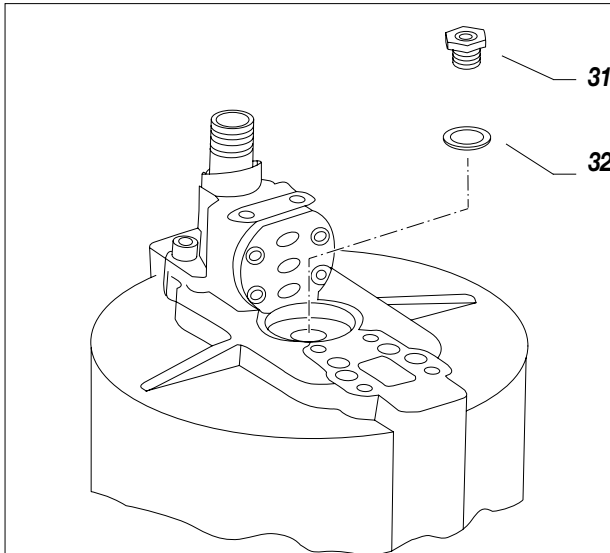
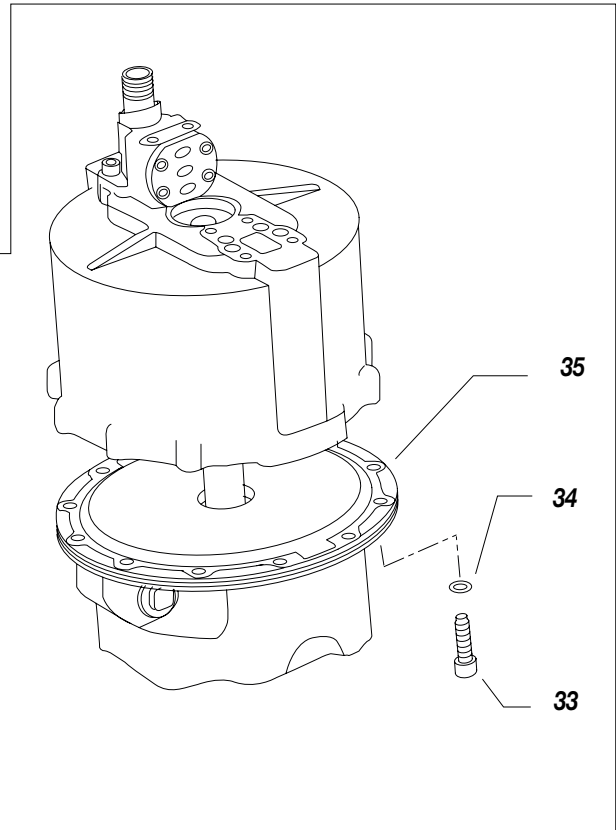


Fig. 5



- Remove the piston from the motor support (36).
- Check O-ring conditions (37).
- Use pliers to tighten the lower edge of the piston rod (see figure) and use a wrench to loosen the fittings (38).
- Remove the motor rod (39) and make sure it is not damaged.
- Spread Vaseline grease on the motor rod (39) before inserting it in the piston rod cavity.
- Use pliers to re-tighten the lower edge of the piston rod and tighten the fitting (38) (apply a liquid sealant on the threads).

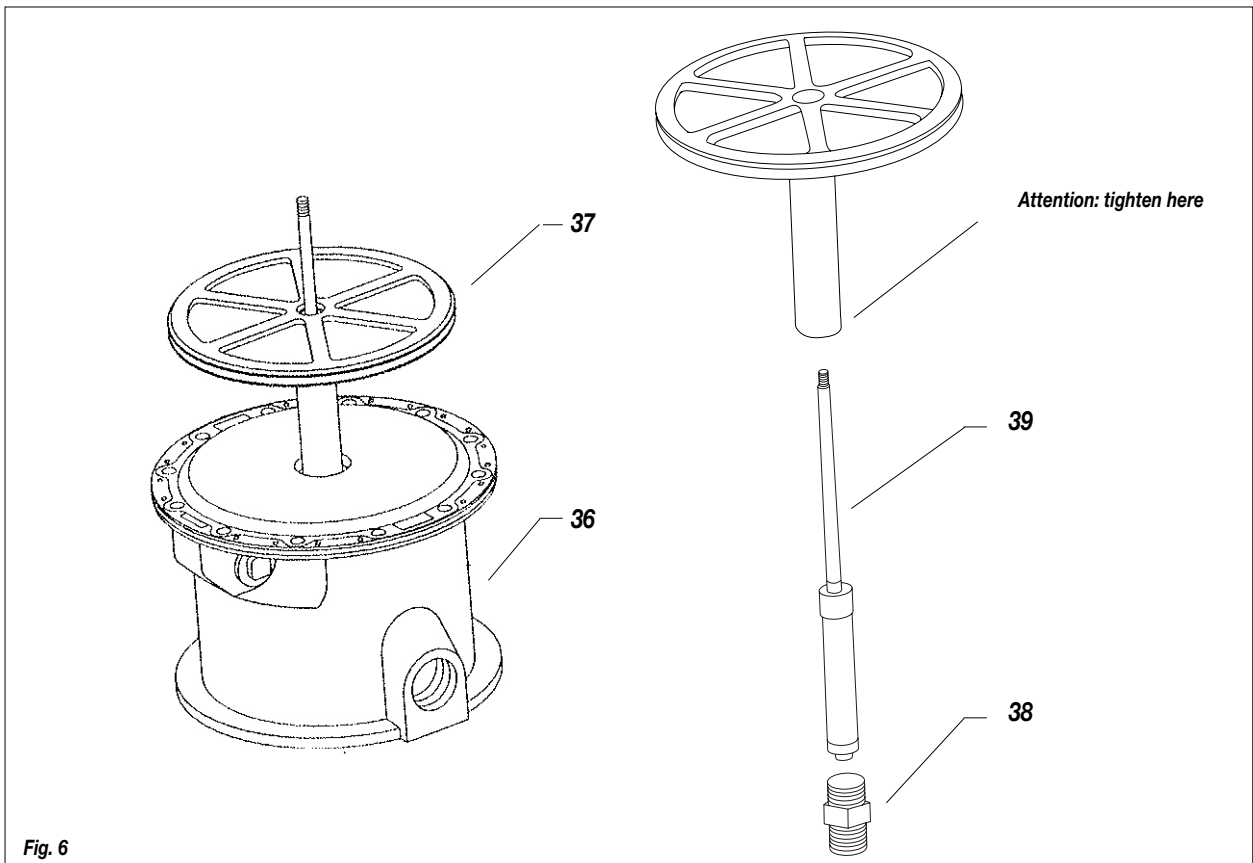
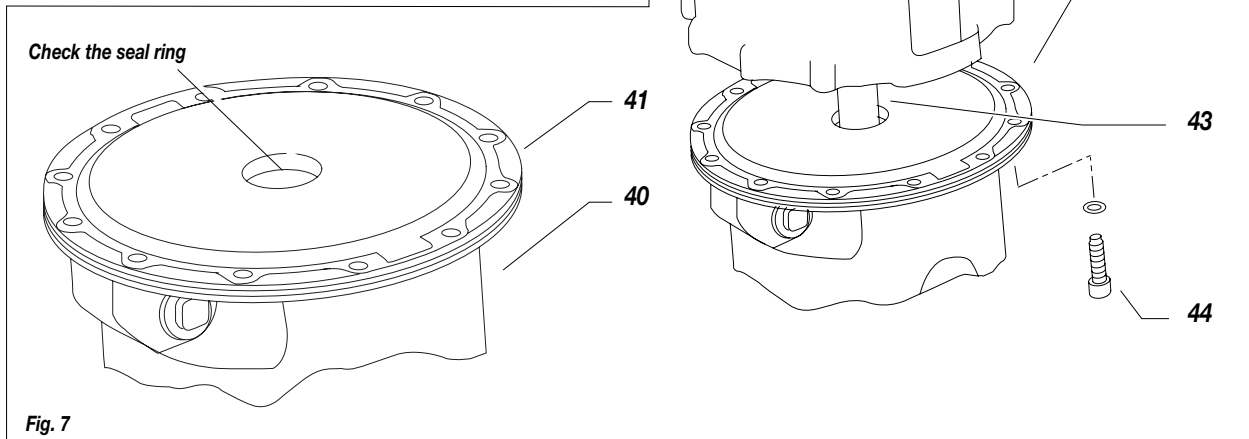


Fig. 6

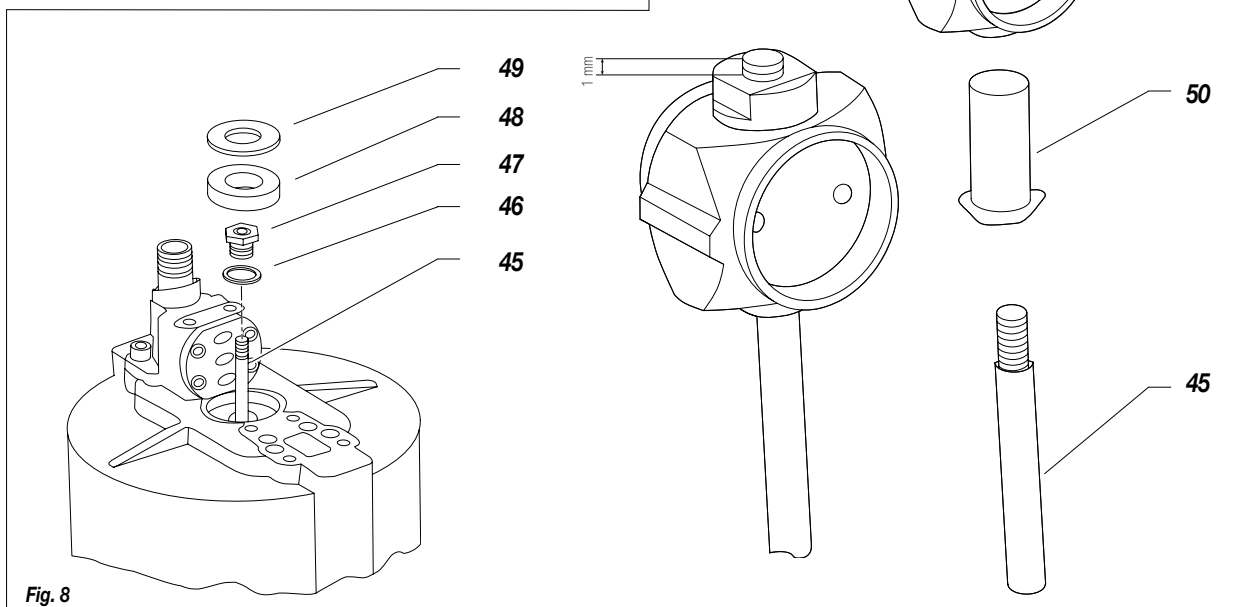
- Check the conditions of the sealing ring inside the support (40).
- Verify the conditions and exact position of the gasket (41).
- Spread a thin layer of Vaseline grease on the inner walls of the cylinder (42).
- Very carefully insert the motor piston (43) in the cylinder (40).
- Fasten the cylinder (42) on the support (40) (*comply with positioning*) and simultaneously insert the motor rod in the support.
- Tighten screws (44).



- Insert the washer (45) on the motor rod (46).
- Very carefully insert the rod guide screw on the motor rod (47) (*having it slowly turn following the direction of the rod threading*) and tighten it on the cylinder (42).
- Insert the shock absorber (48) and the washer (49).
- Tighten the bush (50) on the motor rod (45), insert the housing (51), the washer (52) and tighten the counter-nut (53).



Adjust the bush and the counter-nut so that the rod (44) pushes out about 1 mm from the counter-nut (see figure).



- Insert the springs (54) and the valves (55) in the housing (56), position the housing on the pump support and rest the collector against the housing (57) [remember the gasket (58)].
- Fasten the collector with screws (do not tighten for now) ensuring it is perfectly parallel to the other collector and that the distance between the two collectors is 46 mm (see figure). The distance between the collector walls and the edge of the housing must be about 0.8 mm.

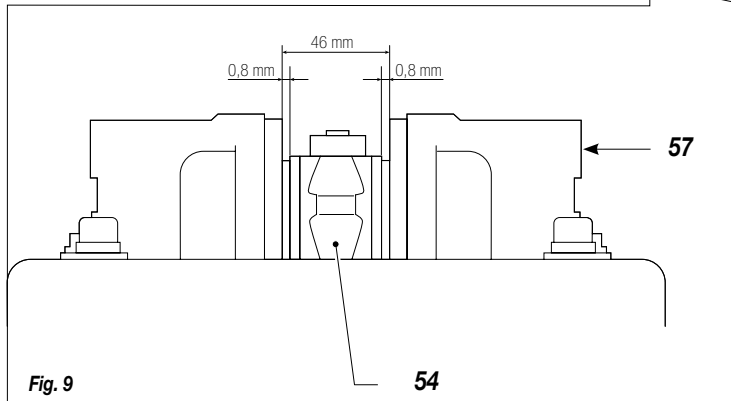
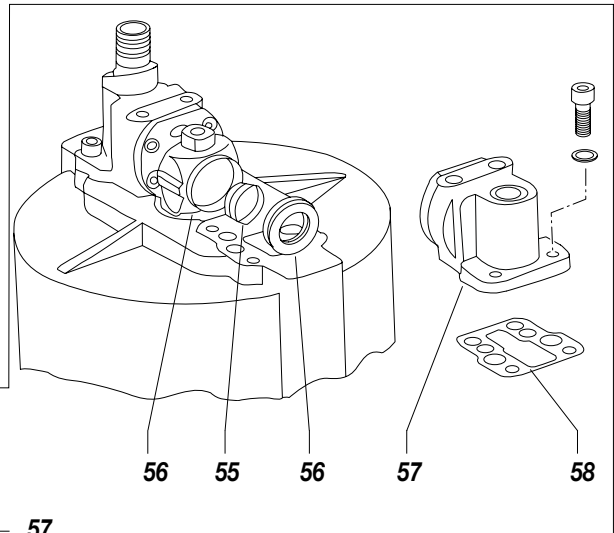


Fig. 9

- Spread Vaseline grease on the rollers (59) and pins (60) and insert them in the support (61).
- Spread Vaseline grease on the shock absorber (62) and on the washer (63) and insert them in the support (61).
- Grease the roller pushing pistons (64), the spring guide (65) and the spring (66) and insert them in the support (61).
- Fasten the ring nuts without tightening them (67) on the support (61).
- Fasten the support on the collectors and tighten the screws (69) [remember the washers (68)].
- Tighten the ring nuts (N67) and the screws (70).
- Replace the cover and the various air supply line fittings.

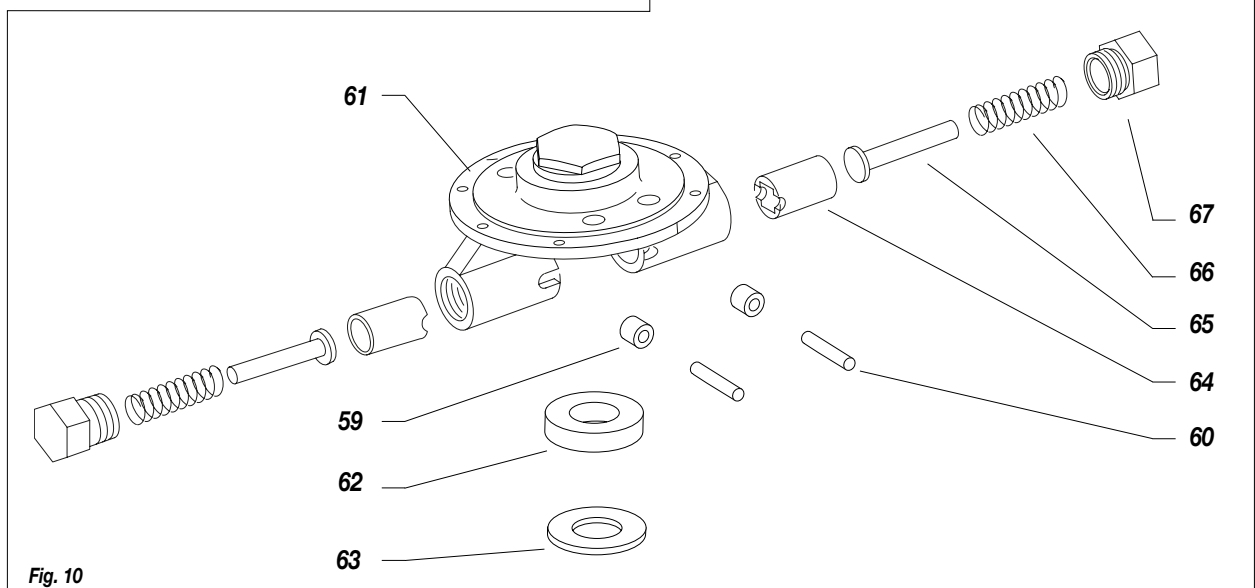
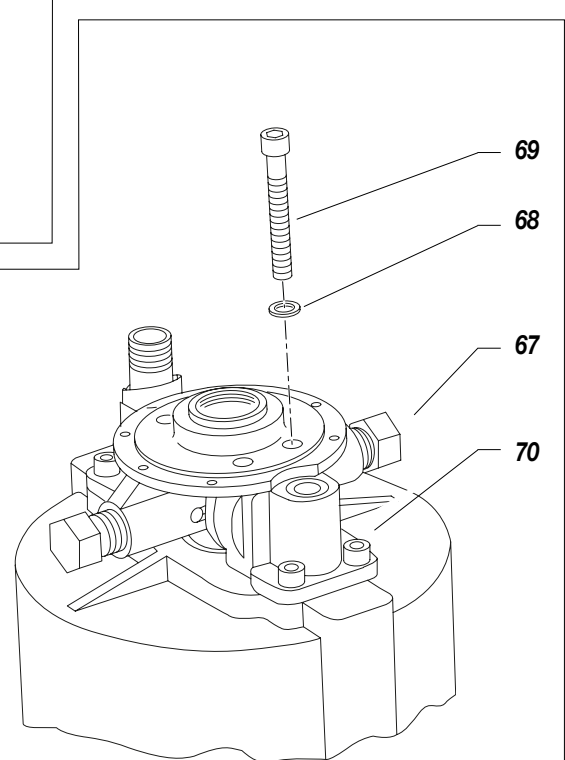


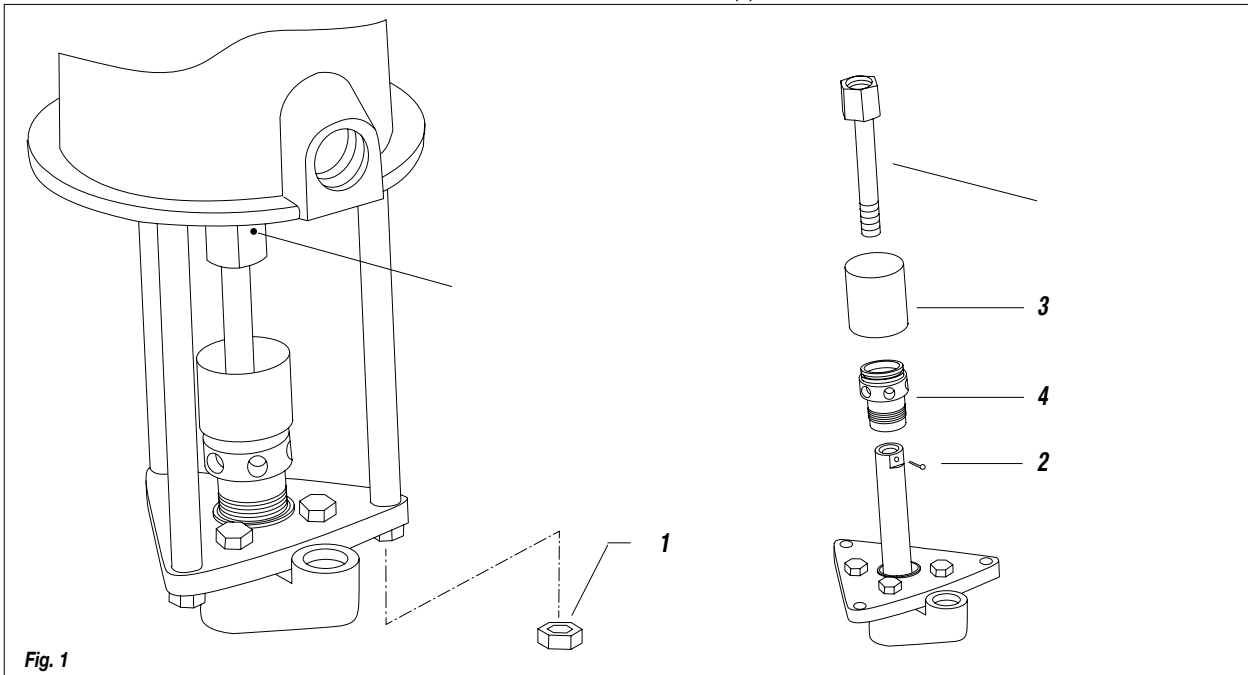
Fig. 10

0 DISASSEMBLY OF THE PUMPING GROUP

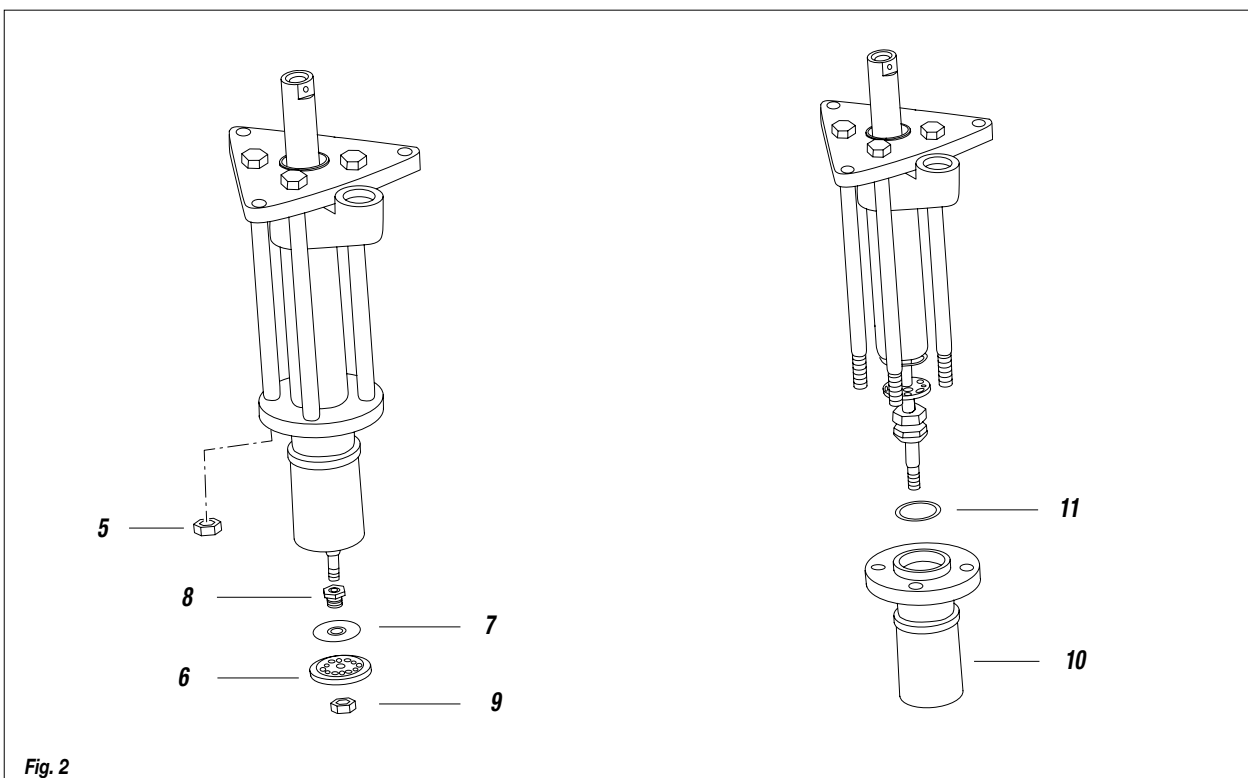


Always close the compressed air supply and release the pressure in the plant before carrying out the disassembly of the pumping group.

- Unscrew the coupling sleeve so as to disconnect the pumping unit from the motor.
- Remove the nuts (1) and disconnect the pumping unit.
- Remove the split pin (2) and remove the connecting rod.
- Remove the cup (3) and unscrew the gasket pressing ring nut (4).



- Push downwards the motor piston rod till the shovel plate comes out from the housing. Unscrew the nut (5), the plates (6) and (7) and the bush (8).
- Remove the nuts (9) and disconnect the housing (10) [take care of the washer (11)].



- Extract the complete shutter group from the rod, the lock (12), the washer (11) and the cylinder (13).
- Disassemble the shutter group and carry out the replacement of the gaskets (refer to the exploded view).
- Extract the tie rods (14) from the top.
- Unscrew the fitting (15) and remove the ball (16), the ring (17), the gaskets (18), the ring (19) and the washer (20) (sostituire i particolari usurati).

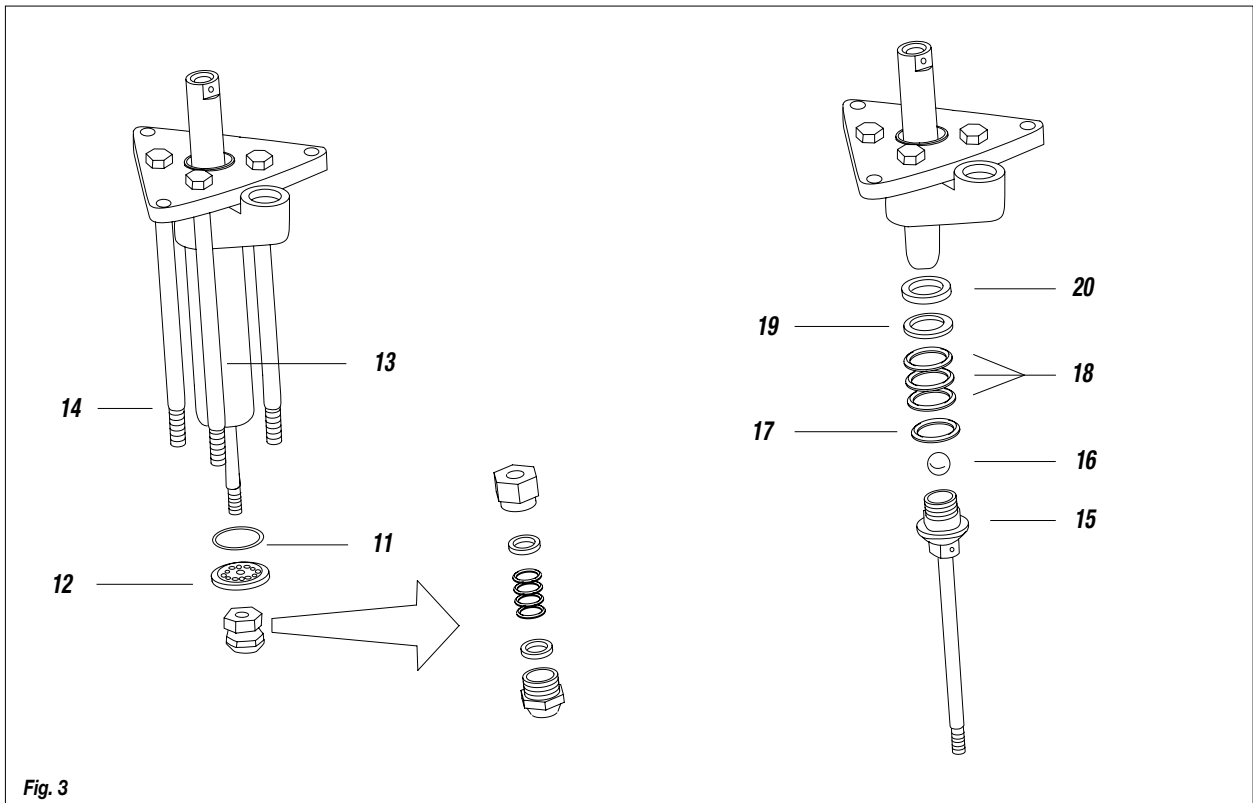


Fig. 3

- Take out the upper gasket pack: the ring (21), the gaskets (22) and the ring (23). replace the worn parts.
- For the correct reassembling of the parts and of the complete pumping group, refer to the exploded view.

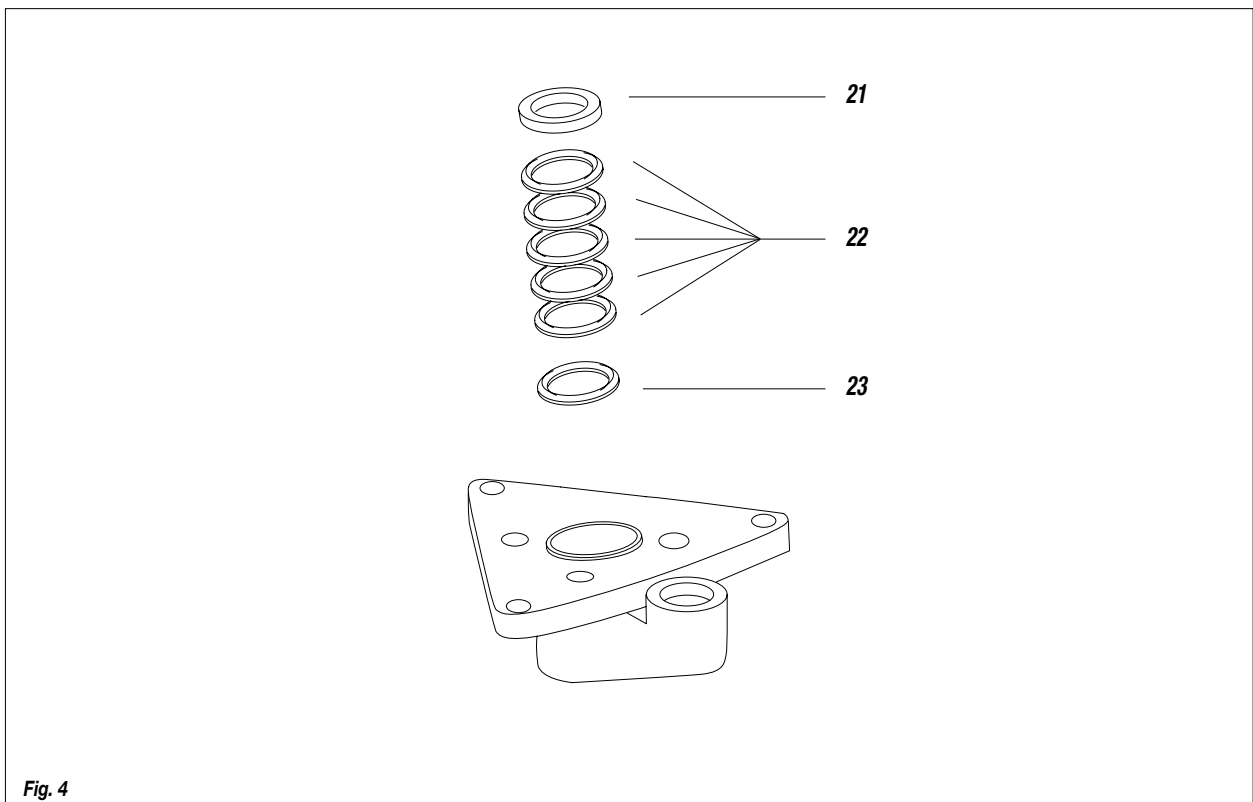


Fig. 4

P EXPLODED VIEW FOR PUMPING GROUP

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

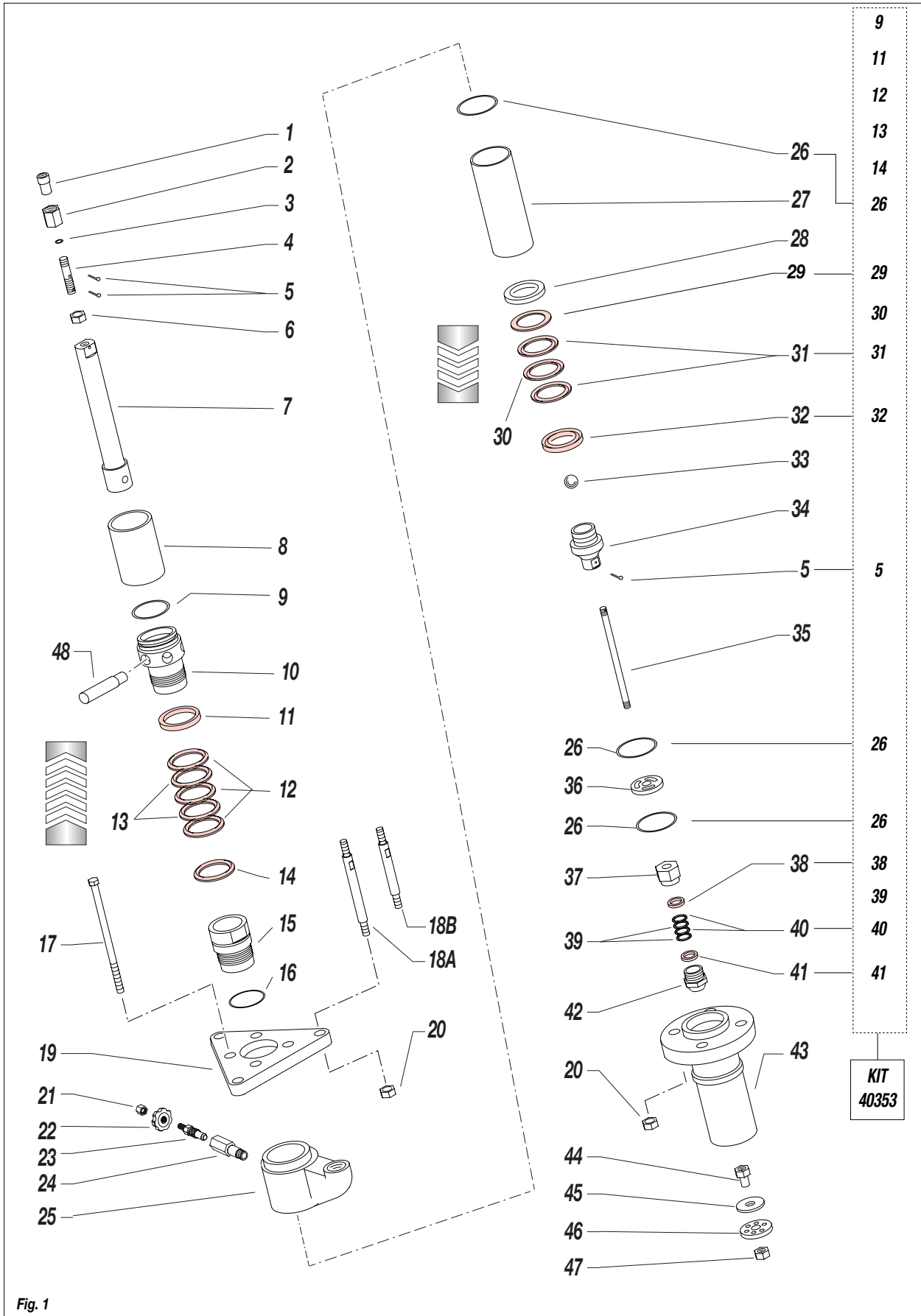


Fig. 1

Pos.	Code	Description	Q.ty
1	95003	Bush	1
2	95004	Sleeve	1
3	95005	O-ring	1
4	95942	Short tie rod vers. 200L	1
	95006	Long tie rod vers. 30L	1
5	95015	Split pin	3
6	95007	Nut	1
7	98975/0	Piston rod	1
8	95912	Wet cup	1
9	95915	O-ring	1
10	98963	Press gasket	1
11	98966	Female ring	1
12	98968	PTFE "V" gasket	3
13	98970	Upper "V" gasket	2
14	98967	Male ring	1
15	98969	Gasket housing fitting	1
16	95917	Gasket	1
17	95914	Screw	4
18A	95943	Tie rod vers. 200 lt	3
18B	95943/2	Tie rod vers. 30 lt	3
19	95918	Upper flange	1
20	95013	Nut	7
21	3637	Nut M8	1
22	95721/4	Knob	1
23	95721/1	Bleeder valve	1

Pos.	Code	Description	Q.ty
24	95721/2	Bleeder valve bush	1
25	95919	Upper pumping part	1
26	95925	Washer	3
27	95921	Material cylinder	1
28	95922	Washer	1
29	98212	Male ring	1
30	95138	PE "V" gasket	1
31	95010	PTFE "V" gasket	2
32	95936	Female ring	1
33	95021	Ball 7/8"	1
34	95907	Valve group fitting	1
35	98961	Injection piston stem	1
36	98962	Suction valve stop	1
37	98964	Gasket stuffing nut	1
38	98971	Female ring	1
39	98974	Shutter "V" gasket	2
40	98973	PTFE "V" gasket	2
41	98972	Male ring	1
42	98976/0	Complete shutter	1
43	95909	Complete seat	1
44	95939	Bush	1
45	95938	Plate	1
46	95935	Injection plate	1
47	96893	Nut	1
48	20144	Locking pin	1

COMPLETE VALVE CODE 95721 Complete replacement recommended - To be purchased already assembled

Pos.	Description	Q. ty
21	Nut M8	1
22	Knob	1

Pos.	Description	Q. ty
23	Bleeder valve	1
24	Bleeder valve bush	1

Cod. KIT 40353 Gaskets		
Pos.	Description	Q. ty
5	Split pin	3
9	O-ring	1
11	Female ring	1
12	PTFE "V" gasket	3
13	Upper "V" gasket	2
14	Male ring	1
26	Washer	3
29	Male ring	1

Cod. KIT 40353 Gaskets		
Pos.	Description	Q. ty
30	PE "V" gasket	1
31	PTFE "V" gasket	2
32	Female ring	1
38	Female ring	1
39	Shutter "V" gasket	2
40	PTFE "V" gasket	2
41	Male ring	1

EXPLODED MOTOR UNIT VIEW

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

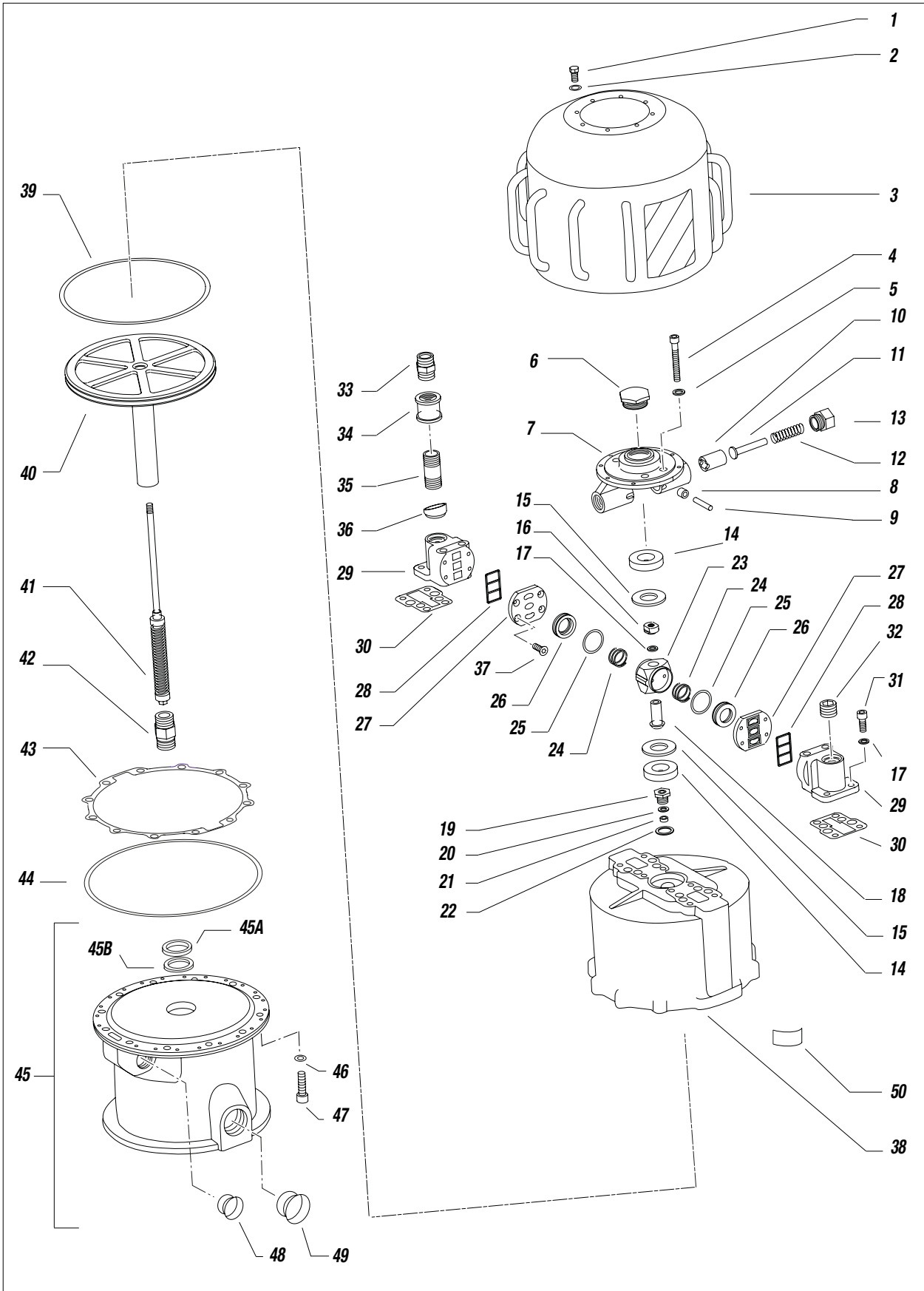


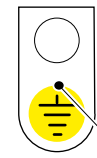
Fig. 1

Pos.	Code	Description	Q.ty
1	95062	Screw	8
2	95063	Washer	8
3	95064	Cover	1
4	95065	Screw	4
5	95066	Washer	4
6	96001	Plug	1
7	95109	Support	1
8	95092	Roller	2
9	95091	Pin	2
10	95084	Roller pushing piston	2
11	95085	Spring guide	2
12	95086	Spring	2
13	95087	Ring nut	2
14	95093	Shock absorber	2
15	95094	Washer	2
16	95095	Counter-nut	1
17	95096	Washer	5
18	95098	Bush	1
19	95078	Rod guide screw	1
20	95079	Leather ring	1
21	95080	Sealing gasket	1
22	33031	Copper washer	1
23	95097	Valve housing	1
24	95077	Spring	2
25	95075	O-ring	2
26	95076	Stroke inversion valve	2
27	95073	Plate on collector	2
28	95071	Gasket on plate	2
29	95070	Collector	2

Pos.	Code	Description	Q.ty
30	95072	Collector gasket	2
31	95068	Screw	4
32	95067	Cap 3/4"	1
33	95094	Nipple	1
34	95944	Sleeve 3/4"	1
35	95088	Extension	1
36	95099	Seal ring	1
37	95074	Screw	8
38	95100	Motor cylinder	1
39	95101	O-ring	1
40	95102	Motor piston	1
41	95103	Motor rod	1
42	95104	Fitting	1
43	95105	Gasket	1
44	95106	O-ring	1
45	95107	Complete motor support	1
45A	3314	Seal ring	1
45B	95082	Leather ring	2
46	95114	Washer	12
47	95083	Screw	12
48	95159	Plug	1
49	95229	Plug	1
50	96259	Technical data plate	1
51	95658	Warning plate	1
52	19256	Atex plate	1
53	95136	Adhesive tape	1
54	5010	Grounding cable	1
55	96210	Grounding plate	1

WARNING		ATTENZIONE	
NEVER	<ul style="list-style-type: none"> NEVER POINT THE SPRAY GUN AT ANYONE OR AT ANY PART OF THE BODY. NEVER EXCEED INDICATED WORKING WORKING PRESSURE. NEVER DRY FLAMMABLE MATERIALS OR TOXIC/IRRITANT. NEVER ALTER OR MODIFY ANY PART OF THE EQUIPMENT. NEVER REPAIR THE EQUIPMENT WHEN IT IS UNDER PRESSURE. NEVER ALLOW ANOTHER PERSON TO USE THE EQUIPMENT UNLESS HE IS THOROUGHLY INSTRUCTED ON ITS USE AND OPERATION. 	MAI	<ul style="list-style-type: none"> NON SPREDERE MAI LA PIETOLA VERSO SE STESSO O ALTRE PERSONE. NON ESPANDERE MAI LE PRESSIONI MASSIME DI SPRENGENDO MERCATO. NON SPREZZARE MAI STRUCCI SPANNIBILI O SOLIDIFICI IN AMBIENTI CALDI. NON MODIFICARE MAI NESSUN PARTICOLARE DELL'APPARECCHIATURA. NON RIPARARE MAI L'APPARECCHIATURA QUANDO È SOTTO PRESSIONE. NON PERMETTERE MAI AD UN'ALTRA PERSONA DI USARE L'APPARECCHIATURA SE NON DOPO ADEGUATE ISTRUZIONI.
ALWAYS	<ul style="list-style-type: none"> ALWAYS READ INSTRUCTION MANUAL. ALWAYS USE GROUNDED HIGH PRESSURE PUMP HOSE. ALWAYS CONNECT TO THE GROUNDING THE EQUIPMENT AND THE OBJECTS TO BE PAINTED. ALWAYS CHECK ALL THE FLUID CONNECTIONS AMONG THE PUMP THE FLUID HOSE AND THE SPRAY GUN. 	SEMPRE	<ul style="list-style-type: none"> LEGGERE SEMPRE E MANIARLE BENE ATTENZIONE SEMPRE PER IL FLUIDO IN TUBO. ALTA PRESSIONE CHE HA COMPLESSO. COLLEGARE SEMPRE A TERRA L'APPARECCHIATURA E GLI OGGETTI DA TRATTARE. CONTROLLARE SEMPRE TUTTI I RACCORDI DI COLLEGAMENTO TRA POMPA TUBO FLESSIBILE E VERNICIA.

LARIUS SAMOA Group		Via A. Stoppani, LC-23801 Calozziocorte ITALY - www.larius.eu	
DESCRIPTION: <input type="text"/>			
PART No: <input type="text"/>	PRESSURE RATIO: <input type="text"/>		
YEAR: <input type="text"/>	AIR PRESS. RANGE: <input type="text"/>		
SERIAL No: <input type="text"/>	MAX. FLUID PRESSURE: <input type="text"/>		
MADE IN EU	NOVA/ATX/08 II 2 G c 118 T6		



GASKETS KIT MOTOR - CODE 40065

Pos.	Description	Q.ty
20	Leather ring	1
21	Sealing gasket	1
22	Copper washer	1
25	O-ring	2
26	Stroke inversion valve	2
30	Collector gasket	2
39	O-ring	1
43	Gasket	1
44	O-ring	1
45A	Seal ring	1
45B	Leather ring	1

MOTOR MOVEMENT INVERSION DEVICE - CODE 40066

Pos.	Description	Q.ty
8	Roller	2
9	Pin	2
10	Roller pushing piston	2
25	O-ring	2
26	Stroke inversion valve	2
30	Manifold gasket	2

R ATEX CERTIFICATE

DESCRIPTION

These safety instructions refer to the installation, use and maintenance of **NOVA** 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.



NOVA 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 and EN 13463-5.

TECHNICAL CHARACTERISTICS

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

Rapport	Pressure alimentation	Ø Air Inlet	Input material	Ø Output material	Max. working pressure	Max. flow
20:1	3 ÷ 6 bar	CG 3/4"	Ball	CG 1. 1/2"	120 bar	32 l/min
45:1	3 ÷ 6 bar	CG 3/4"	Ball	CG 1. 1/2"	270 bar	14 l/min
55:1	3 ÷ 6 bar	CG 3/4"	shovel plate	CG 1"	330 bar	12 l/min
60:1	3 ÷ 6 bar	CG 3/4"	Ball	CG 1"	360 bar	12 l/min
68:1	3 ÷ 6 bar	CG 3/4"	Ball	CG 3/4"	410 bar	11 l/min

Maximum number of cycles per minute: 60

Room temperature: -20°C to +60°C

Maximum fluid temperature [°C]: 60°C

MARKINGS

II 2 G c IIB T6 • **T_{amb}: -20°C ÷ + 60°C** • **T_{max. fluido}: 60°C** • **Tech. File: NOVA/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
xxxx/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/CE 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

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.

NOVA series pneumatic piston transfer pump cannot work without material. All of the installation and maintenance operations must be performed by qualified personnel.

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

declare under our sole responsibility that the product:

NOVA 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

II 2 G c IIB T6 **T_{amb}: - 20°C ÷ 60°C** **T_{max. fluido}: 60°C**
 Tech. File: **NOVA/ATX/08**
 Technical dossier kept on file c/o: **INERIS (0080)**

Calolziocorte- LC, 15/12/2008

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 :



Dépositaire / Applicant / Richiedente :

LARIUS S.r.l.
 Via Stoppani, 21

I- 23801 Calozziocorte (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 chapter 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

The technical documentation referenced : NOVA/ATX/08 dated 2008-12-15

La documentazione tecnica di riferimento : NOVA/ATX/08 dated 2008-12-15

est consignée sous le numéro d'enregistrement :

is consigned under the reference :

è depositata con il numero di registrazione :

n° INERIS-EQEN 021759/19.

no INERIS-EQEN 021759/19.

n° INERIS-EQEN 021759/19.

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

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

Nel quadro di questa registrazione, INERIS non ha esaminato 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



Le Directeur Général de
 l'INERIS,
 Par délégation,

The Chief Executive Officer of
 INERIS,
 Thierry HOUEIX
 Délégué Certification ATEX
 Ex Certification Officer

Il Direttore generale
 dell' INERIS,
 Per Delega,

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IM-142348 - Mise en application : 20/04/2016



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 responsibility that the product:

NOVA 55:1 V2 EXT **Airless pneumatic pump for extrusion**

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 exclusively 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

Pierangelo Castagna
Managing Director

Calolziocorte, 20 September 2024
Location / Date



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INSTRUCTION MANUAL AVAILABLE IN:		
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	DE	https://www.larius.com/wp-content/uploads/NOVA_55_EXT_V2_D.pdf
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