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Manuale Cod. 150148

# VEGA 45:1 EXT

Airless pneumatic  
pump for extrusion



INSTRUCTION MANUALL



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

# VEGA 45:1 EXT

Airless pneumatic pump for extrusion

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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"> <li>• Read this operator’s manual carefully before using the equipment.</li> <li>• An improper use of this machine can cause injuries to people or things.</li> <li>• Do not use this machine when under the influence of drugs or alcohol.</li> <li>• Do not modify the equipment under any circumstances.</li> <li>• Use products and solvents that are compatible with the various parts of the equipment, and read the manufacturer’s warnings carefully.</li> <li>• See the Technical Details for the equipment given in the Manual.</li> <li>• Check the equipment for worn parts once a day. If any worn parts are found, replace them using <b>ONLY</b> original spare parts.</li> <li>• Keep children and animals away from work area.</li> <li>• Comply with all safety standards.</li> </ul>
	<ul style="list-style-type: none"> <li>• It indicates an accident risk or serious damage to equipment if this warning is not followed.</li> </ul>
	<p><b>FIRE AND EXPLOSION HAZARD</b></p> <ul style="list-style-type: none"> <li>• Solvent and paint fumes in work area can ignite or explode.</li> <li>• <b>To help prevent fire and explosion:</b> <ul style="list-style-type: none"> <li>- Use equipment <b>ONLY</b> in well ventilated area.</li> <li>- Eliminate all ignition sources, such as pilot lights, cigarettes and plastic drop cloths (potential static arc).</li> <li>- Ground equipment and conductive objects.</li> <li>- Use only grounded hoses.</li> <li>- 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.</li> <li>- Do not form connections or switch light switches on or off if the air contains inflammable fumes.</li> </ul> </li> <li>• If electrical shocks or discharges are encountered the operation being carried out using the equipment <b>must be stopped immediately</b>.</li> <li>• Keep a fire extinguisher at hand in the immediate vicinity of the work area.</li> </ul>
	<ul style="list-style-type: none"> <li>• It indicates wound and finger squashing risk due to movable parts in the equipment.</li> <li>• Keep away from moving parts.</li> <li>• Do not use the equipment without the proper protection.</li> <li>• 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.</li> </ul>
	<ul style="list-style-type: none"> <li>• Report any risk of chemical reaction or explosion if this warning has not been given.</li> <li>• (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, <b>IMMEDIATELY</b> contact a doctor, indicating the type of product injected.</li> <li>• (IF PROVIDED) Do not spray before the guard has been placed over the nozzle and the trigger on the spray gun.</li> <li>• (IF PROVIDED) Do not put your fingers in the spray gun nozzle.</li> <li>• Once work has been completed, before carrying out any maintenance, complete the decompression procedure.</li> </ul>
	<ul style="list-style-type: none"> <li>• It indicates important recommendations about disposal and recycling process of products in accordance with the environmental regulations.</li> </ul>
	<ul style="list-style-type: none"> <li>• Mark any clamps attached to earth cables.</li> <li>• Use <b>ONLY</b> 3-wire extension cords and grounded electrical outlets.</li> <li>• Before starting work make sure that the electrical system is grounded and that it complies with safety standards.</li> <li>• High-pressure fluid from gun, hose leaks, or ruptured components will pierce skin.</li> <li>• <b>To help prevent injection, always:</b> <ul style="list-style-type: none"> <li>- (IF PROVIDED) Engage trigger lock when not spraying.</li> <li>- (IF PROVIDED) Do not put your hand over the spray tip. Do not stop or deflect leaks with your hand, body or other.</li> <li>- (IF PROVIDED) Do not point gun at anyone or at any part of the body.</li> <li>- (IF PROVIDED) Never spray without tip guard.</li> <li>- Do pressure relief if you stop spraying or being servicing sprayer and before any maintenance operations.</li> <li>- Do not use components rated less than sprayer Maximum Working Pressure.</li> <li>- Never allow children to use this unit</li> <li>- (IF PROVIDED) Brace yourself; gun may recoil when triggered.</li> </ul> </li> <li>• <b>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.</b></li> </ul>
	<ul style="list-style-type: none"> <li>• It is obligatory to wear suitable clothing as gloves, goggles and face shield.</li> <li>• Wear clothing that complies with the safety standards in force in the country in which the equipment is used.</li> <li>• Do not wear bracelets, earrings, rings, chains, or anything else that may hinder the operator’s work.</li> <li>• 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.</li> </ul>

## B WORKING PRINCIPLE

The **VEGA 45:1** pump is a high-pressure pneumatic pump to be used for the transfer of non-corrosive viscous liquids. The pump is essentially composed of an air motor and a structure known as “Product Pumping Unit”, or simply the “Pumping Unit”. In the pneumatic motor, the compressed air causes the vertical reciprocating movement of the motor piston; this movement is transmitted through a connecting rod to the product pumping piston.

This allows the pump to suck the product and to feed it towards the outlet.

The ratio 45:1 means that the outlet pressure of the product is 45 times higher than the pump feed air pressure.

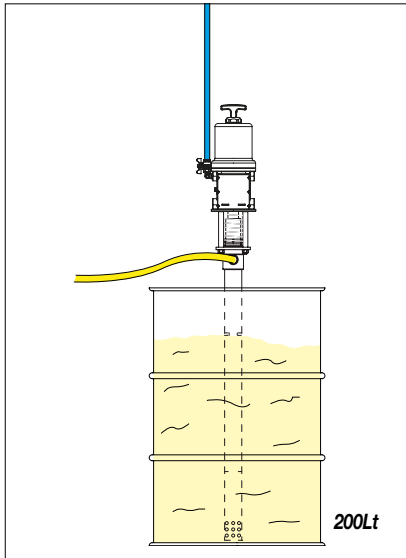


Fig. 1 - Long version

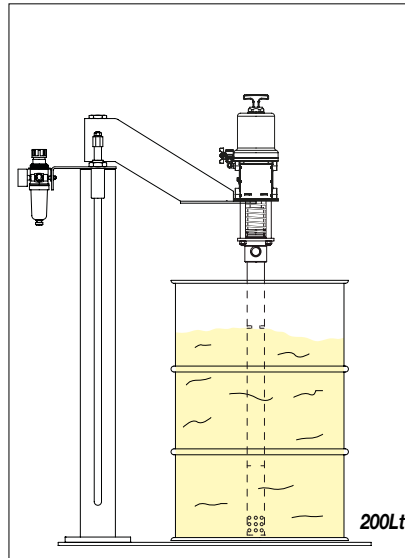


Fig. 2 - Long version

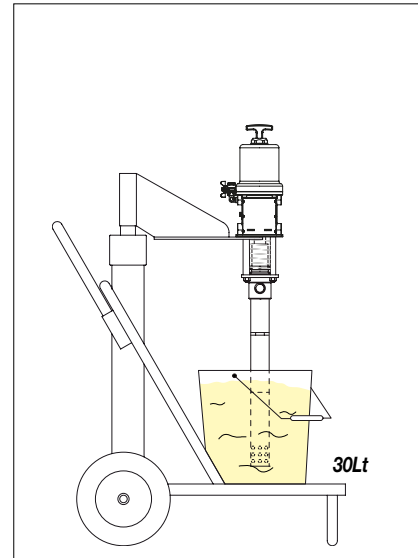


Fig. 3 - Medium version

## C TECHNICAL DATA

VEGA 45:1	
Maximum product pressure	360 bar (5200 psi)
Air pressure range	3-8 bar (40-120 psi)
Delivery per cycle	13 cm <sup>3</sup>
Delivery at 60 cycles per minute	0,8 l/min
Air inlet thread	3/8" BSPP (F)
Fluid outlet thread	3/8" BSPP (F)
Lower pump material	Galvanized steel
Plunger material	INOX AISI 420B
Seals material	PTFE+PE 1000
Air motor piston diameter and stroke	Ø 3"-3" / Ø 75 mm -75 mm



These notes shall be kept in consideration in case you need to evaluate the compatibility of a product to be used or when you need to dispose one or more components of the pump, in order to schedule a suitable recycling of the single component according to environment standards.

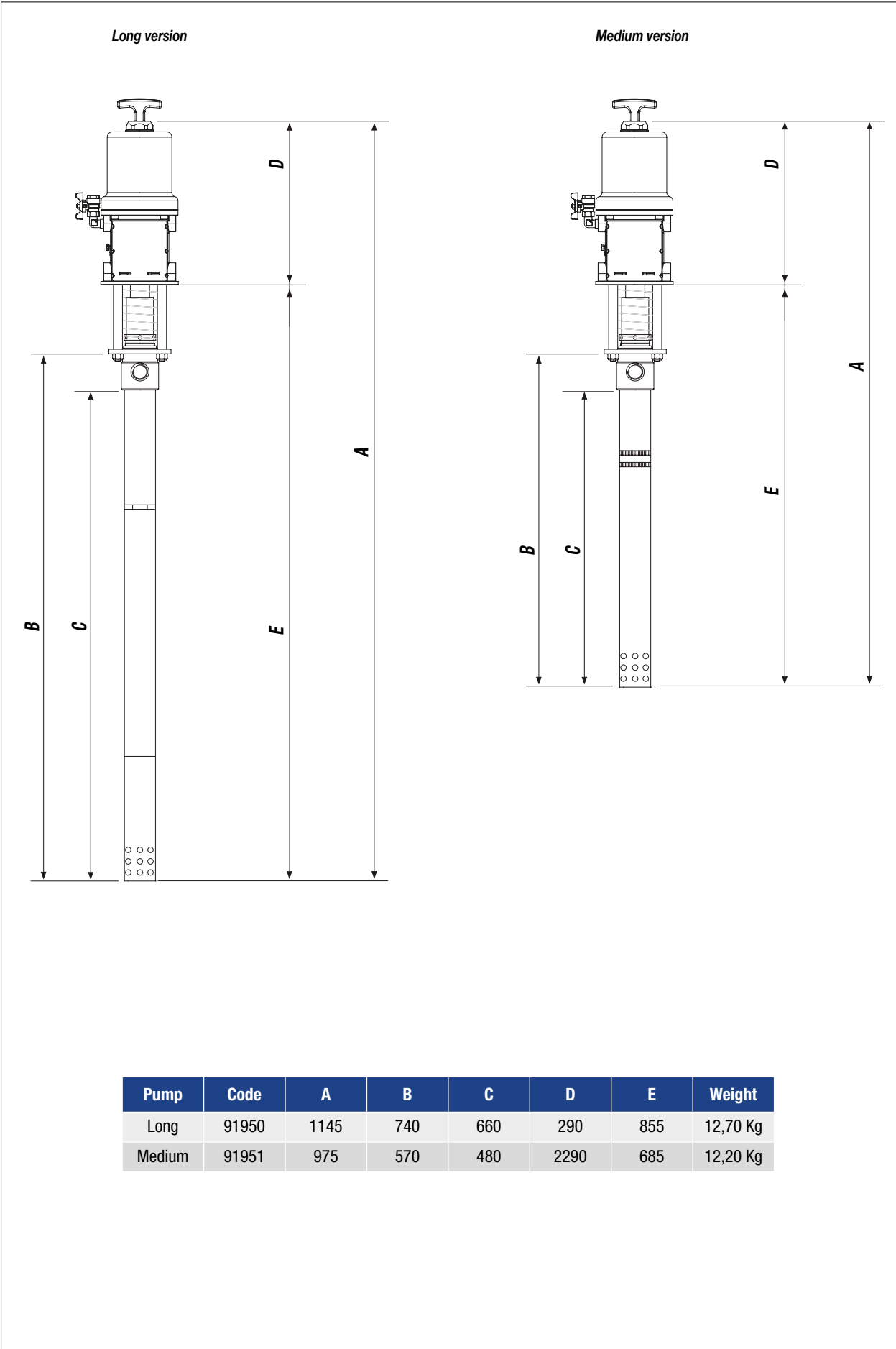


Fig. 1C

## D DESCRIPTION OF THE EQUIPMENT

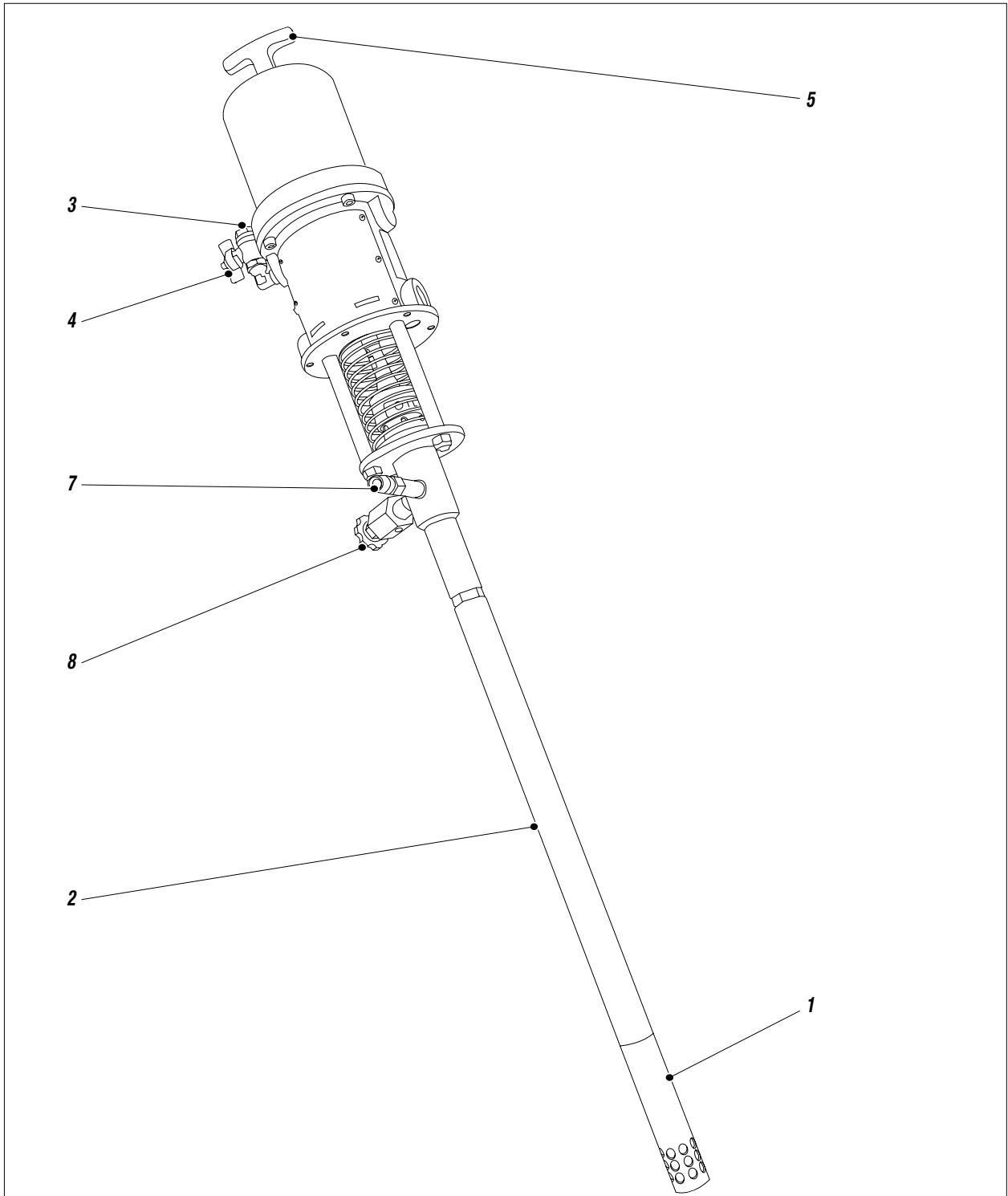


Fig. 1

Pos.	Description
1	Suction hose
2	Fluid pumping tube
3	Pump feed air inlet
4	Opening-closing valve for air passage

Pos.	Description
5	Handle
6	Pneumatic motor
7	Material outlet
8	Drain valve

## 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.



## H CONNECTIONS

### CONNECT THE FEEDING AIR HOSE

For pump feed use a tube with an internal diameter no lower than 8 mm.



Install at the inlet of the pump an air pressure regulator (*it is suggested complete with condensate filter and lubricator*). The outlet pressure of the material is 45 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 FLUID OUTLET HOSE

Connect the high pressure hose to the outlet of the pump. It is recommended to tighten the fittings.

### WASHING OF THE BRAND NEW EQUIPMENT

The pump has been tested at our factory with light mineral oil, left inside the pumping element as protection. Before sucking the fluid, wash with diluent. To wash the equipment follow the procedure "*Cleaning at the end of the work*".

## I OPERATION



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

- Dip the fluid pumping hose (I1) into the product tank (I2).
- Make the compressed air flow into the pump. It is advisable to adjust air pressure to minimum value necessary for its continuous working.
- When the product chamber is full, pump will start working and then stop. Pump will start working again every time the trigger of the spray gun is pressed or the delivery valve is opened.



Absolutely avoid running the pump empty: this could cause serious damage to the pneumatic motor and ruin the sealing gaskets.

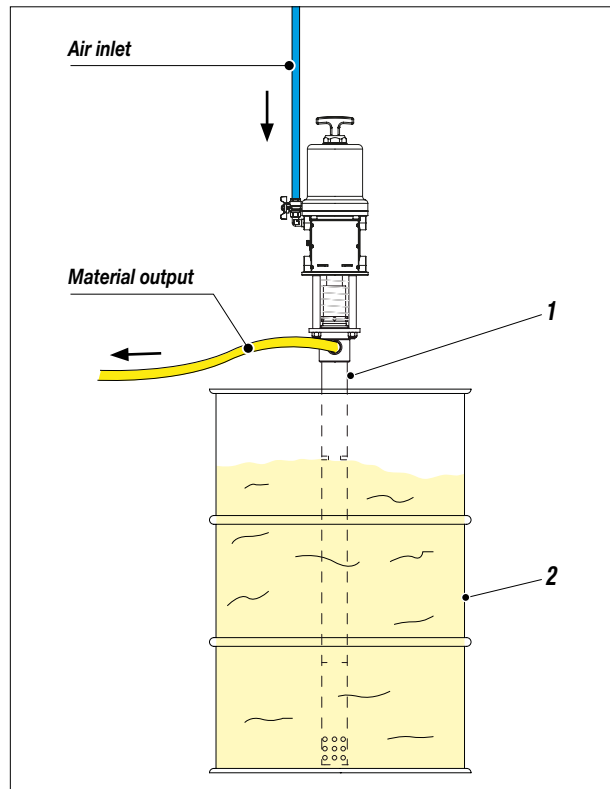


Fig. 1

## J CLEANING AT END OF WORK

- Stop the air supply to the pump.
- Lift the suction pipe from the product tank and immerse it in the solvent tank.
- Make compressed air flow into the pump. It is advisable to adjust the air pressure to minimum value necessary to its continuous working.
- Point the spray gun or the delivery valve at a collecting tank and drain all the product left inside the pump till a clean washing product comes out.
- Now stop the air supply to the pump and release the residual pressure.
- In case of long activity, 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.

## K EARTHING



Electrostatic energy conditions can arise during operation of the pump.



- Before using the pump, it is required to provide an earth connection.
- The pump is equipped with a suitable clamp and the relevant grounding cable (K1).

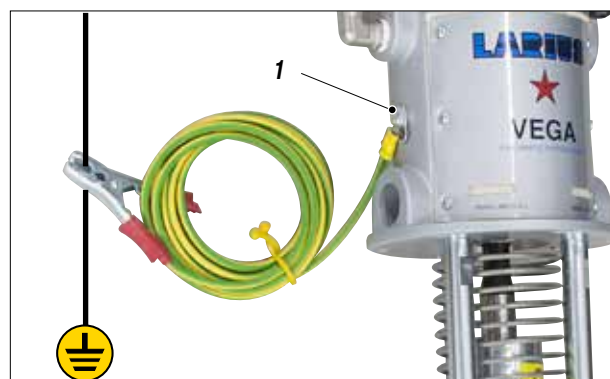


Fig. 1

## L ROUTINE MAINTENANCE



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

Periodically check the air supply line to the pump. Make sure that the air is always clean and lubricated.

- Daily check (and every time the pump is operated after a long storage) the packing nut (1) is not loosened, causing otherwise the coming out of the product. To tighten the packing nut use a metal rod (2) (see the illustration). The packing nut must be tightened so as to avoid the seizure of the pumping piston and the excessive wear of sealing gaskets..
- To prevent the product from drying up on the piston rod, keep the oil tank (3) filled with lubricant.
- Periodically check the air supply to the pump. Ensure the air is always clean and lubricated.



Fig. 2

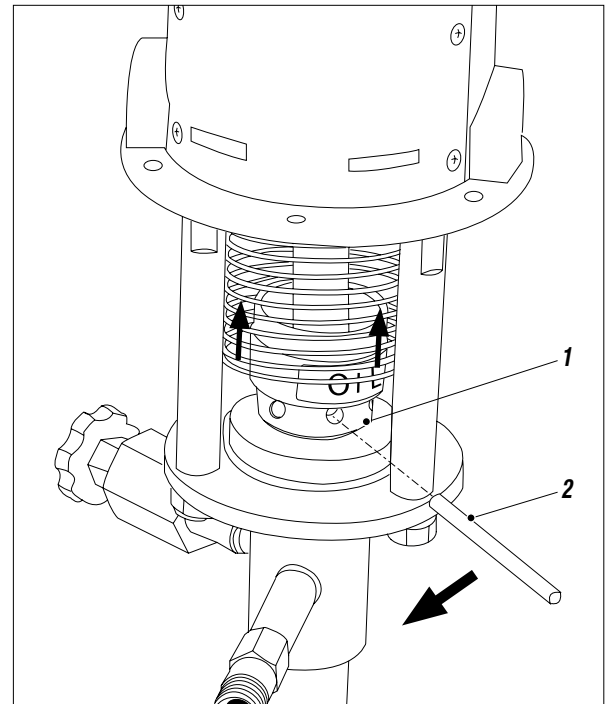


Fig. 1



## M TROUBLESHOOTING

Inconveniente	Causa	Soluzione
<b>The pump does not start</b>	Feed air not sufficient	Controllare la linea di fornitura dell'aria. Aumentare il diametro del tubo di alimentazione;
	Outlet product line clogged	Pulire. Staccare il tubo di uscita del prodotto. Alimentare la pompa al minimo della pressione e verificare se senza il tubo di uscita la pompa parte;
	Inlet product line clogged	Pulire il tubo di aspirazione;
	Pneumatic motor blocked at the upper or lower stroke end (Dead Center)	Ridurre la pressione di alimentazione; Ripristinare manualmente il motore pneumatico;
	Crosspiece screws failure of the pneumatic motor	Sostituire le viti;
<b>Accelerated working and no pressure of the pump</b>	Lack of product	Add product.
	The pumps sucks air	Check the flexible suction hose;
	Worn pumping seals;	Replace the lower gaskets
<b>Perdita di materiale dal foro di scarico</b>	The motor body seals are worn;	Tighten the gaskets ring nut
		Replace the gaskets;
<b>The pump works but the flow of product is not sufficient</b>	Air feed pressure is too low	Air feed pressure is too low
	Gaskets of the pumping rod worn	Replace the gaskets;
<b>The pump runs but stops when the chamber is full (the pumping element slowly continues to go up/down)</b>	Worn gaskets;	Replace the gaskets;
	The pumping element balls do not "close" perfectly;	Disassemble the pumping element and clean;
	The product is too fluid.	Use a denser product.



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 MANUAL RESET OF THE PNEUMATIC MOTOR

- The feed air pressure of the pump must never be higher than the maximum value indicated in the technical data (see p. 3). Exceed this value can block the valves of the pneumatic motor in the upper or lower position (*Dead Center*).
- To start again a blocked motor, close the air supply and release pressure in the circuit. This operation should allow the recovery of the valves.
- In case the motor is blocked, proceed as follows:



**Close the air supply to the pump and release the residual pressure in the plant.**

- Unscrew the handle plug (1) and pull it upwards together with the guide rod (2) so allowing the manual release of the stroke reversal group.
- Screw again the plug.

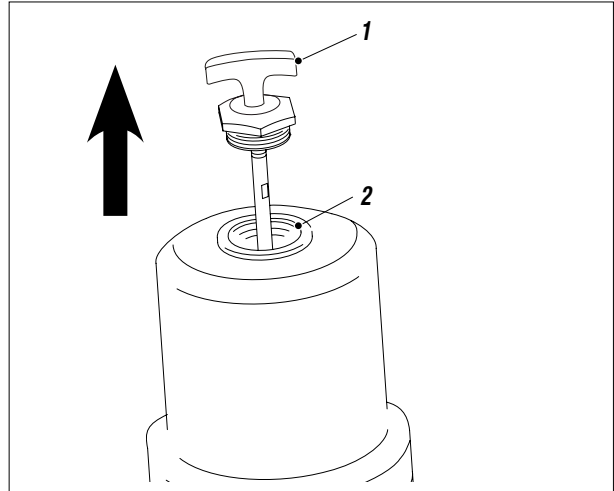


Fig. 1

## O DISASSEMBLY OF THE PNEUMATIC MOTOR



**Close the compressed air supply to the pump and release the residual pressure in the plant.**

- Unscrew the handle plug (1) and pull it upwards together with the guide rod (2).
- Hold the guide rod and remove the plug (*using two wrenches*).



**Immediately replace the plug with a usual M8 nut before the guide rod slides into the cylinder (see illustration below).**

- Remove the screws (3) and carefully extract the motor cylinder (4).

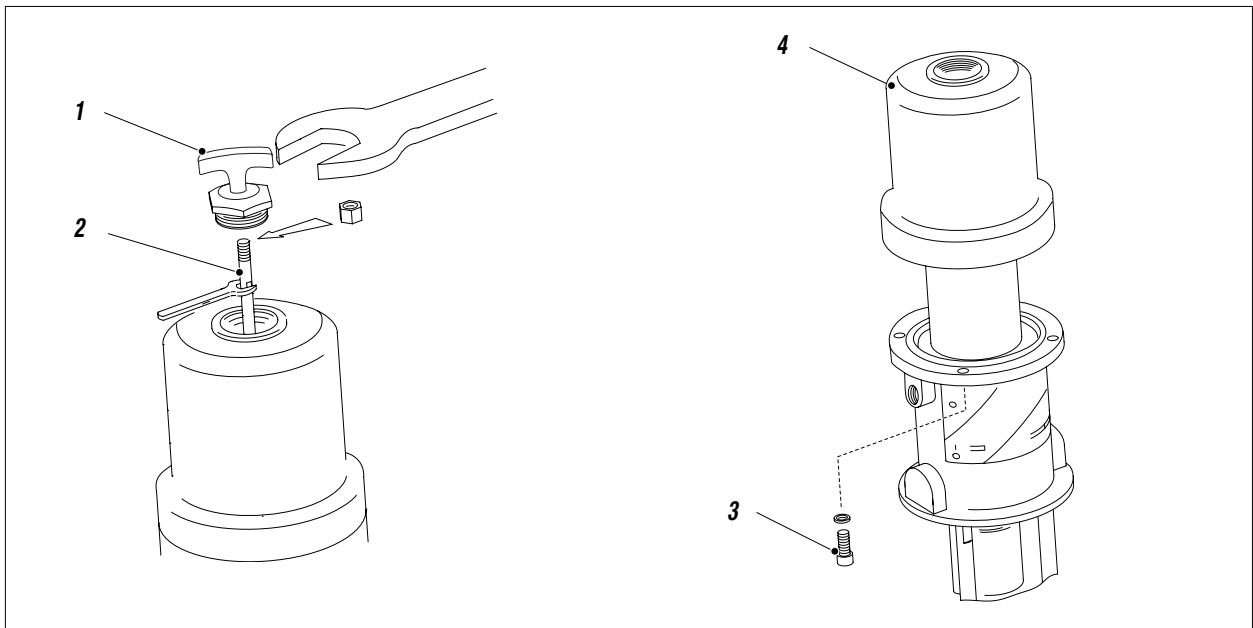


Fig. 1

- Check the condition of every part of the motor.
- For any replacement of the screws (5) of the crosspiece, for their reassembly and correct adjustment see the drawing below and the exploded view on page 24.

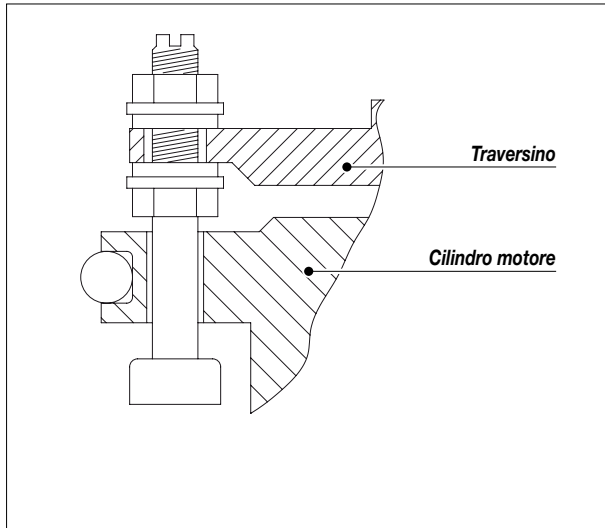


Fig. 2

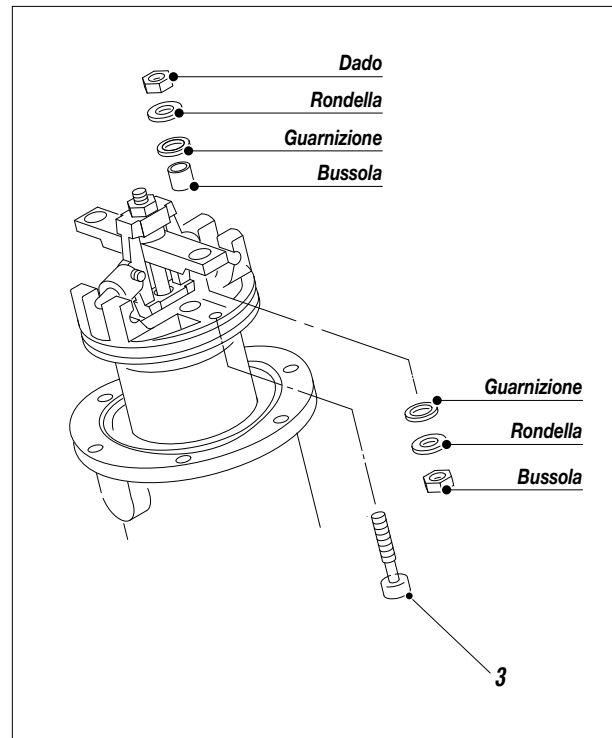


Fig. 3

## P DISASSEMBLY OF THE MOTOR FROM THE PUMPING UNIT

1

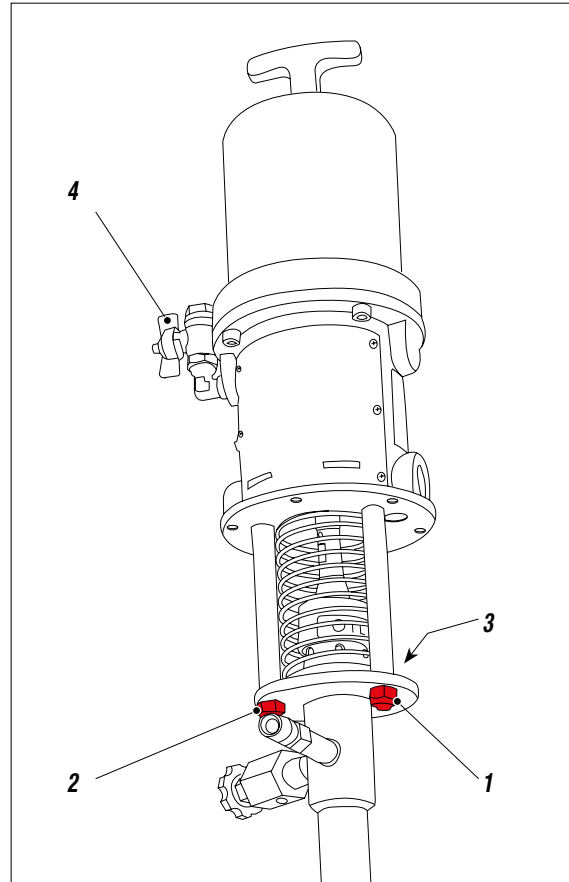
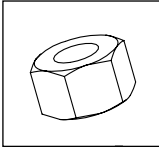
Necessary tools and equipment



**Always close the compressed air supply and release the pressure in the plant**

Procedure

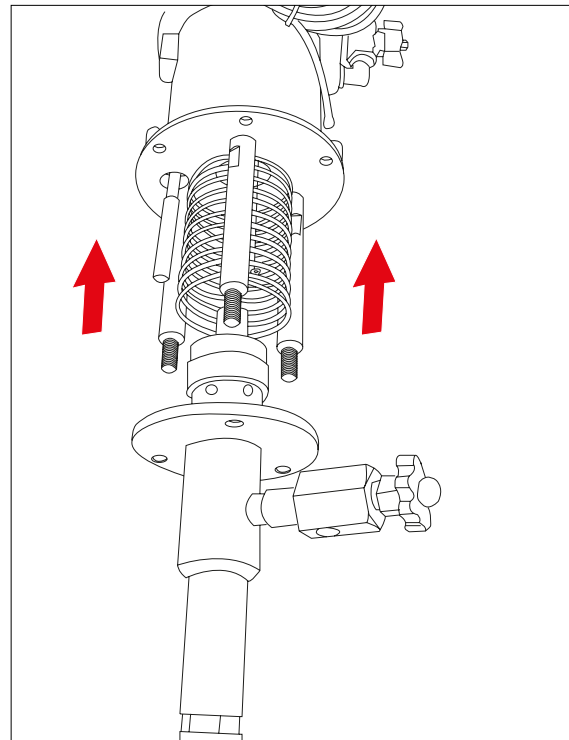
1.1 Remove the three screws (1), (2) e (P3).



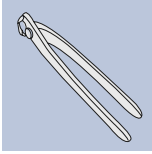
2

Procedure

2.1 Lift the motor from the pumping unit

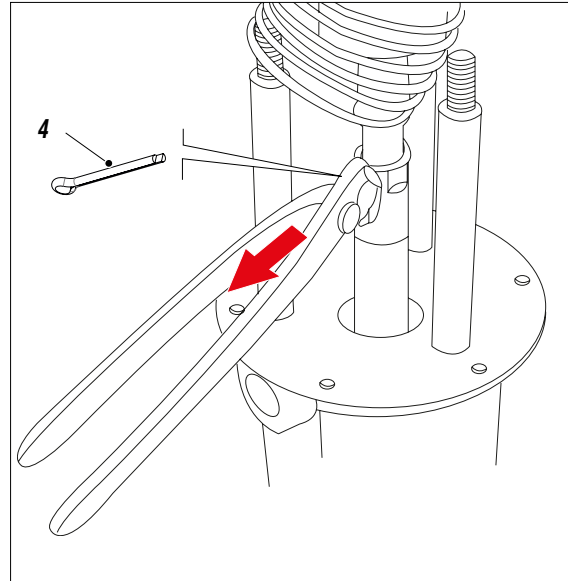


**3** Necessary tools and equipment



Procedure

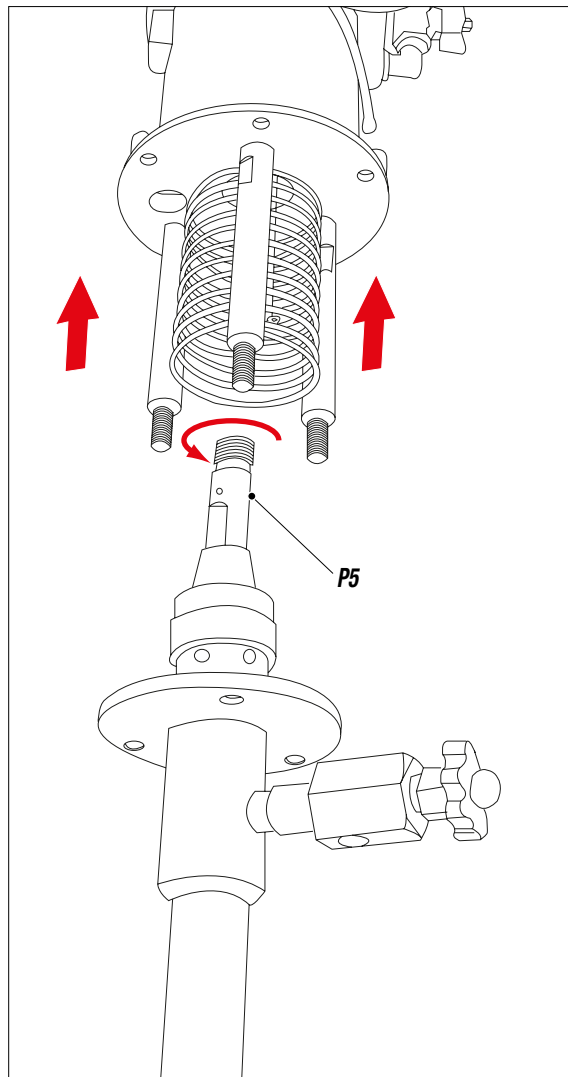
- 3.1 Lift the spring
- 3.2 Remove the split pin (P4)



**4**

Procedure

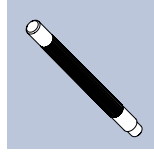
- 4.1 Unscrew the stem (P5)
- 4.2 Remove the motor



## Q DISASSEMBLY OF THE PUMPING UNIT AND REPLACEMENT OF GASKETS

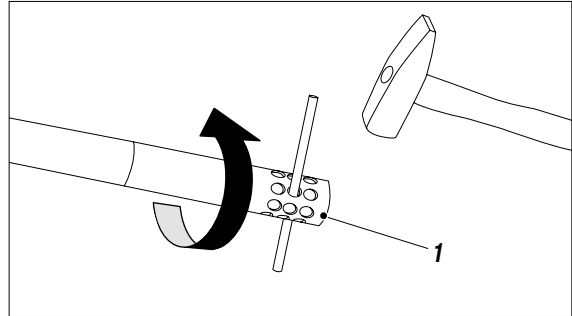
1

Necessary tools and equipment



Procedure

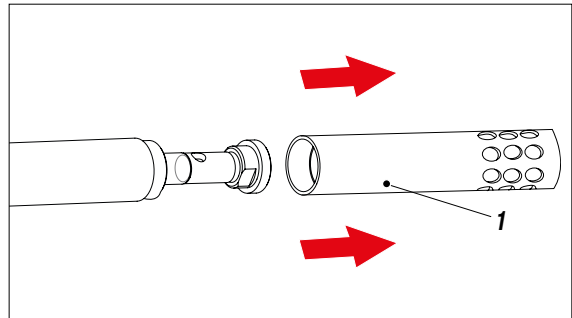
1.1 Unscrew material cylinder (1)



2

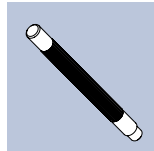
Procedure

2.1 Remove material cylinder (1)



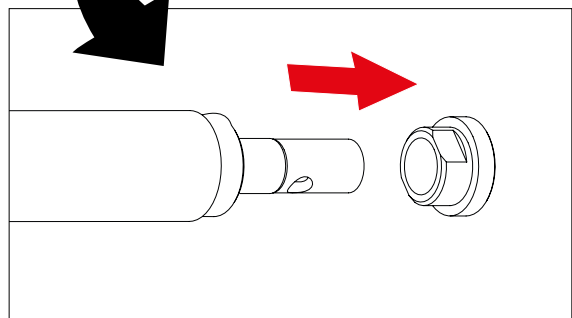
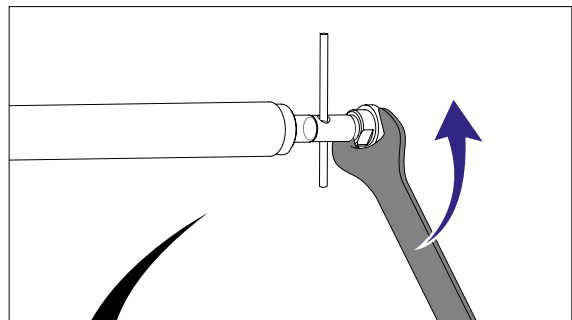
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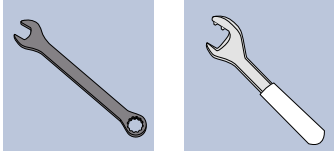
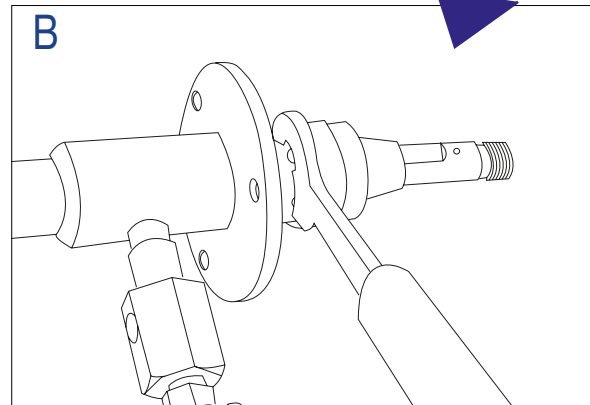
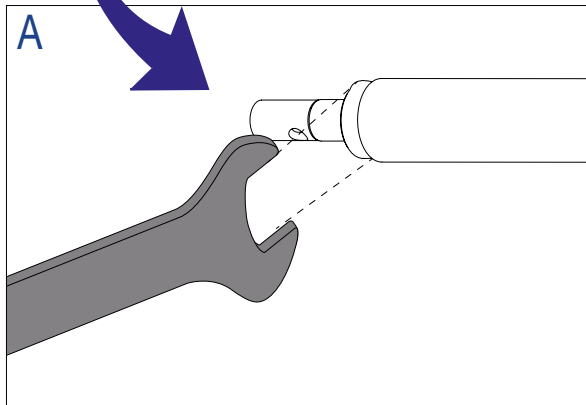
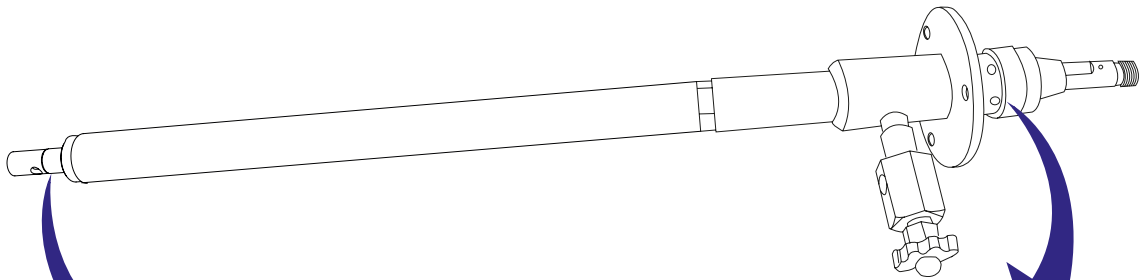
Necessary tools and equipment



Procedure

3.1 Remove the injection tube unscrewing from the stem with the key.



**4**Necessary tools and equipmentProcedure**4.1** Loosen the two ends A and B

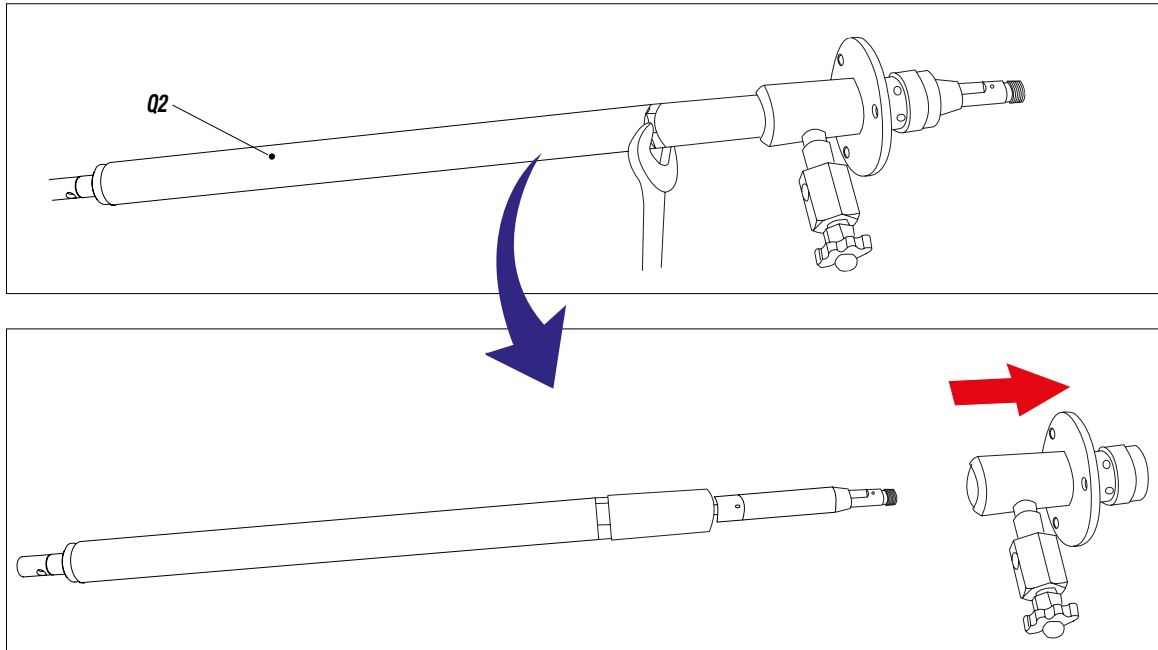
**5**

Necessary tools and equipment



Procedure

**5.1** Unscrew the stem (2), with keys of 30 and remove it.



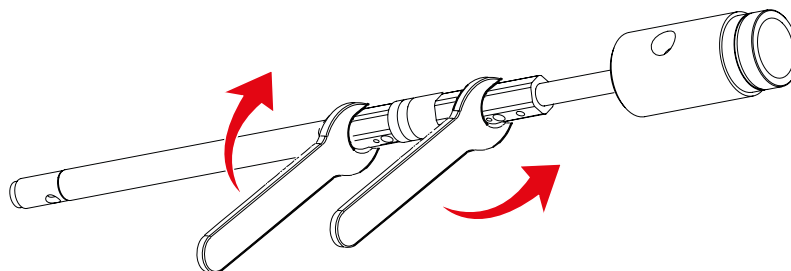
**6**

Necessary tools and equipment



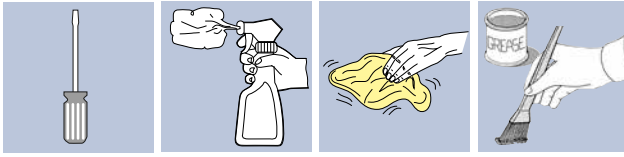
Procedure

**5.1** Unscrew the gasket holder connection using two keys for substitute the stem gaskets.



## 7

## Necessary tools and equipment

Procedure

**7.1** Clean and lubricate the gasket housings and replace them with new spare part.

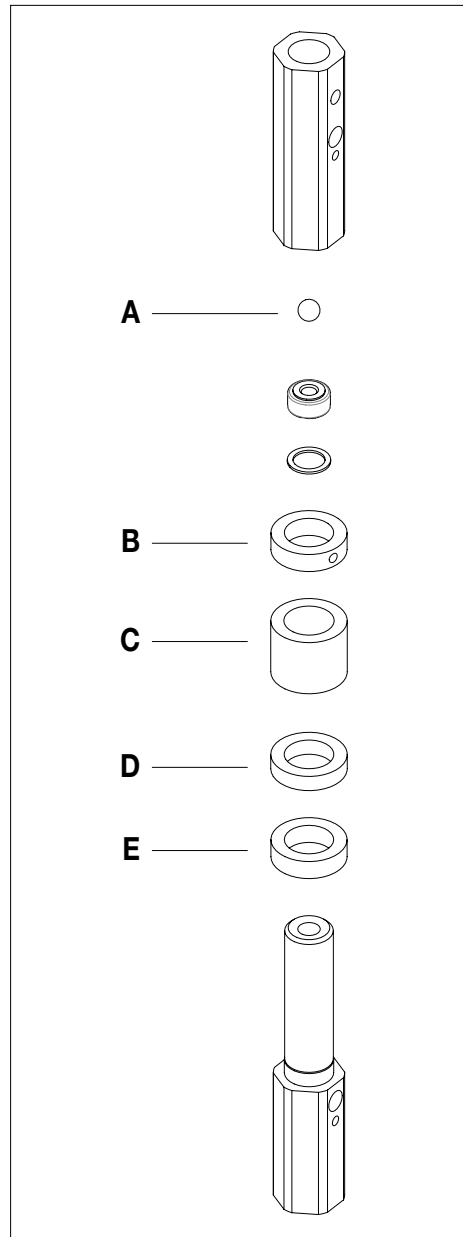
**A:** Ball Code 91915

**B:** Ring Code 91918

**C:** Gasket for pumping unit Code 91919

**D:** Ring Code 91921

**E:** Lower ring Code 91922



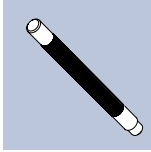
 **NOTE**

*Follow the rotation direction of the gaskets*

## R REPLACEMENT OF THE UPPER GASKETS

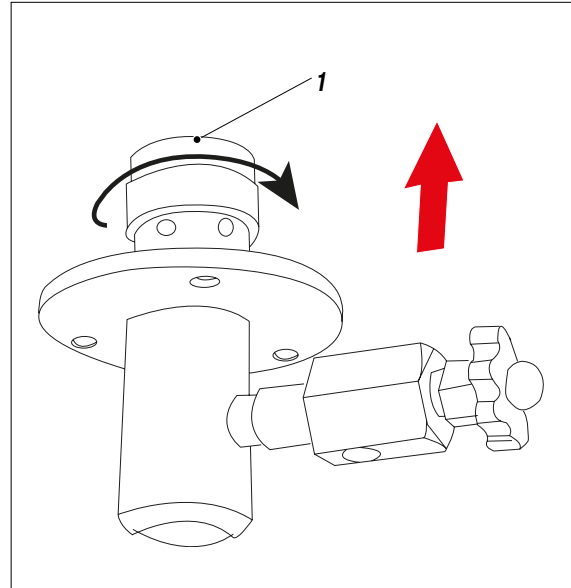
1

### Necessary tools and equipment



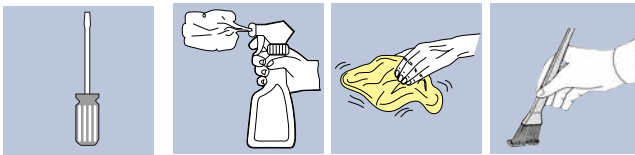
### Procedure

- 1.1 After having disassembled the motor from the pumping unit, unscrew and remove the oil cup (1)



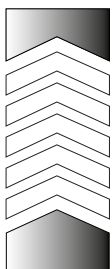
2

### Necessary tools and equipment



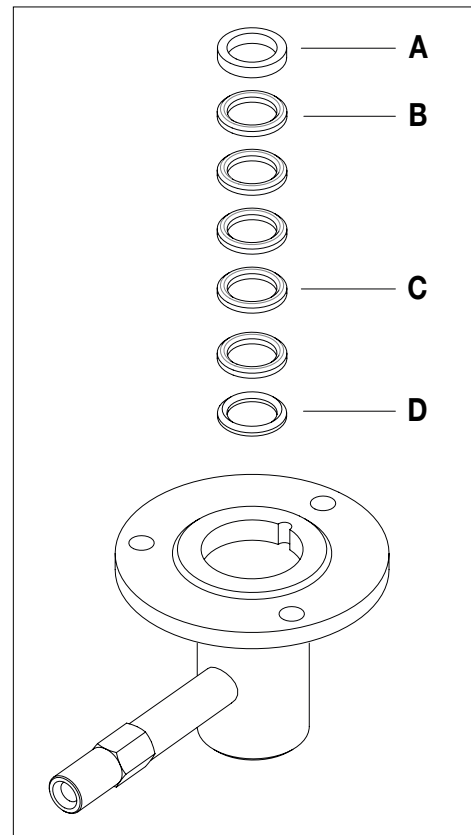
### Procedure

- 2.1 Remove the complete gasket pack  
2.2 Clean and lubricate the gasket housings and replace them with new spare part.



Direction  
of assembly

- A:** Male ring Cod. 98360  
**B:** V Gasket PTFE Cod. 96074  
**C:** V Gasket Cod. 96071  
**D:** Female ring Cod. 98358

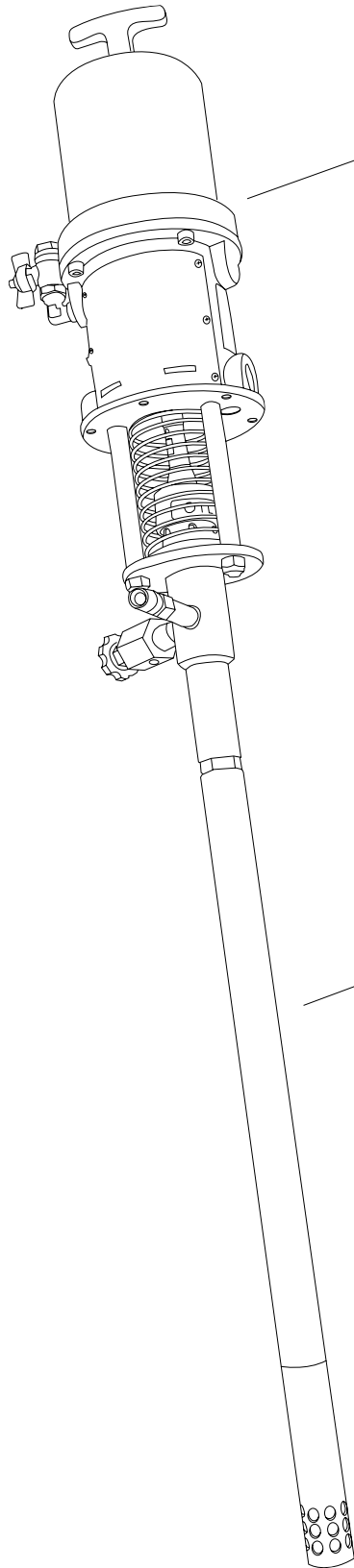


**NOTE**

Follow the rotation direction of the gaskets

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## SPARE PARTS



**P** Pump complete pneumatic motor  
Page 24

**Q** Pump complete pumping unit  
Page 26

# S PUMP COMPLETE PNEUMATIC MOTOR

**WARNING:** always indicate code and quantity for every part required.

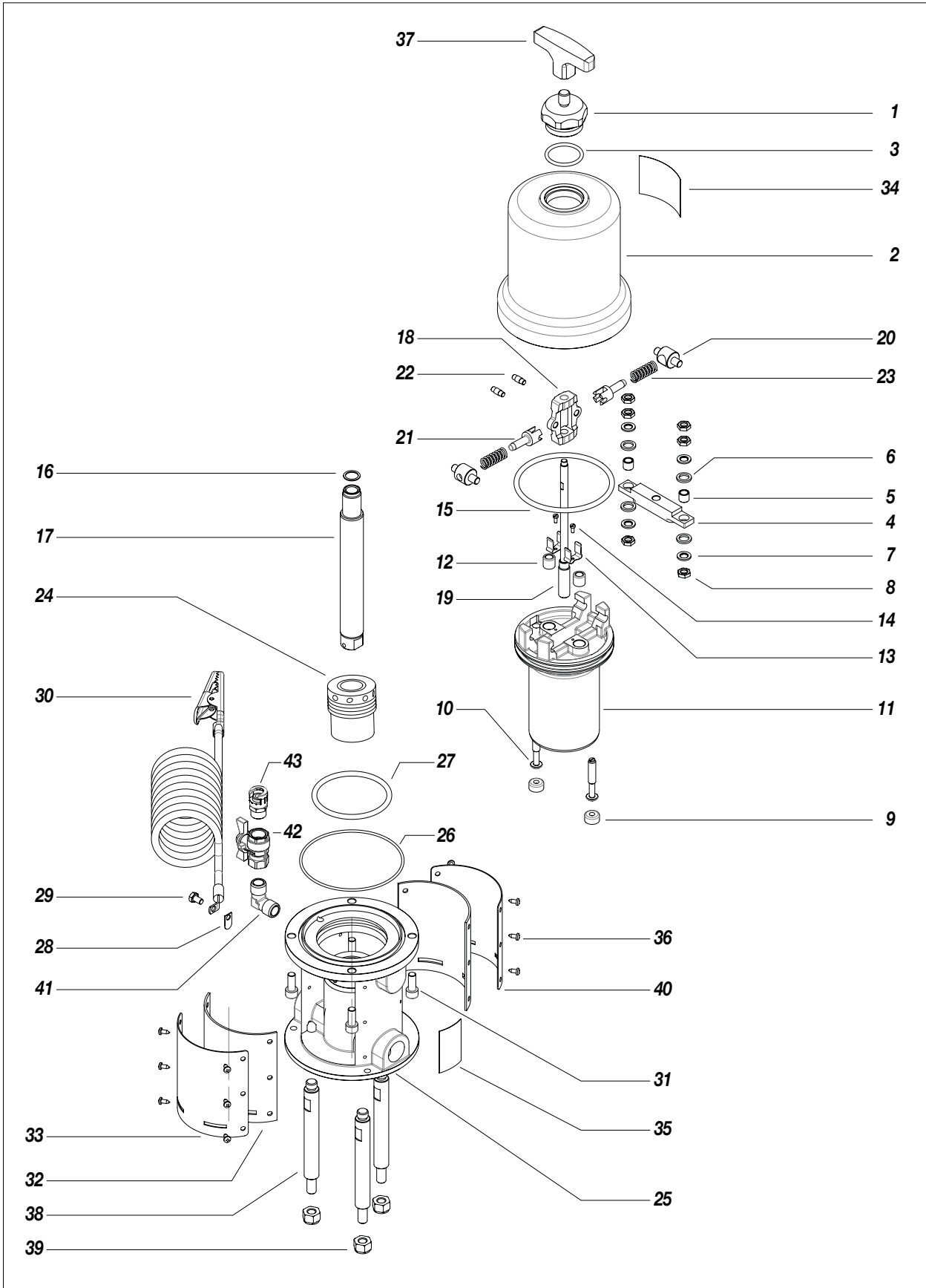


Fig. 1

Pos.	Code	Descripcion	Q. ty
	<b>91952</b>	<b>Pneumatic motor VEGA 45:1 EXT</b>	1
1	91603	Handle plug	1
2	91028	Motor cylinder	1
3	95075	O-Ring	1
4	91029	Traverse	1
5	96112	Bush	2
6	96111	Crossbar washer	4
7	32024	Washer	4
8	4108	Nut	6
9	96014	Rubber valve	2
10	96015	Screw	2
11	91035	Motor piston	1
12	96009	Rubber valve	2
13	91032	Spring	2
14	91030	Screw	2
15	91034	O-Ring	1
16	91036	Copper washer	1
17	91050	Piston rod	1
18	96008	Rocker	1
19	91033	Guiding rod	1
20	96005	Roll	2
21	96007	Fork	2

Pos.	Code	Descripcion	Q. ty
22	96024	Fork pin	2
23	96006	Spring	2
24	96017/2	Bushing for bush	1
25	91042	Motor support	1
26	91038	O-Ring	1
27	91037	O-Ring	1
28	96210	Ground plate	1
29	96211	Screw	1
30	5010	Grounding cable	1
31	34008	Screw	4
32	96340	Seal gasket	2
33	91039	Front name plate	1
34	19557	ATEX plate	1
35	8045	Attention plate	1
36	56444	Screw	12
37	91602	Handle	1
38	96072	Tie rod	3
39	96080	Self blocking ring nut	3
40	91941	Technical data plate	1
41	96214	Elbow 3/8"	1
42	91101	Butterfly ball valve	1
43	10103	Bayonet coupling nut	1

# T PUMP COMPLETE PUMPING UNIT

**WARNING:** always indicate code and quantity for every part required.

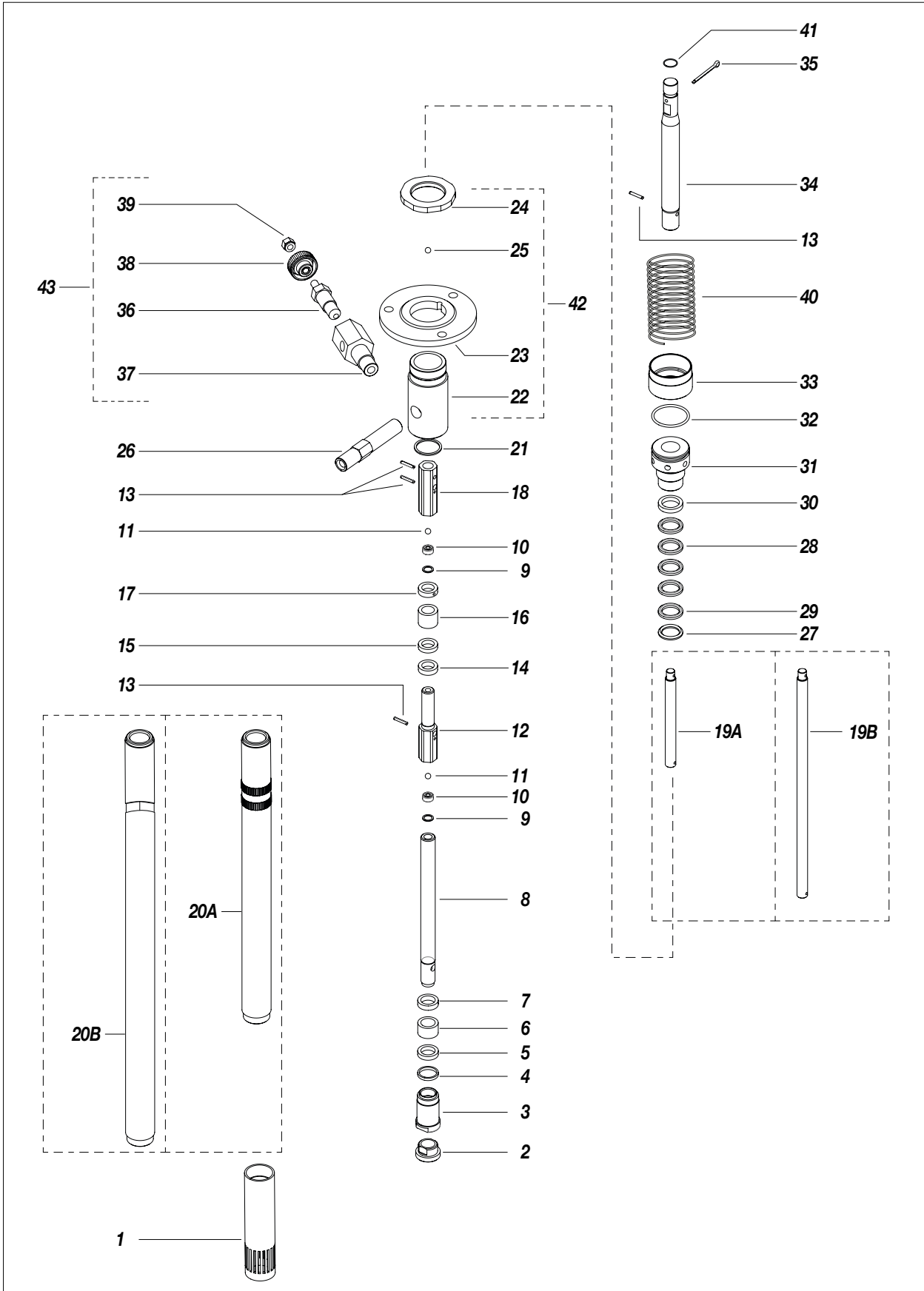


Fig. 1

Pos.	Code	Descripcion	Q. ty
	<b>91948</b>	<b>Medium pumping group</b>	1
	<b>91947</b>	<b>Long pumping group</b>	1
1	91931	Injection tube	1
2	91930	Pumping injector	1
3	91929	Injector tube guide fitting	1
4	91928	Gasket	4
5	91927	Thick ring	1
6	91926	Gasket	1
7	91925	Pipe guide ring	1
8	91924	Injector holder tube	1
9	91917	Ball seat gasket	2
10	91916	Ball seat	2
11	91915	Ball	2
12	91920	Gasket holder connection	1
13	98077	Pin	4
14	91922	Lower ring	1
15	91921	Thick ring	1
16	91919	Gasket for pumping unit	1
17	91918	Ring	1
18	91914	Coupling bush	1
19A	91946	Medium tie rod	1
19B	91939	Long tie rod	1
20A	91944	Medium material cylinder	1

Pos.	Code	Descripcion	Q. ty	
20B	91932	Long material cylinder	1	
21	91622	Copper gasket	1	
not separately sold	22	91942	Removable housing	1
	23	98503	Flange	1
	24	98502	Flange locking ring nut	1
	25	4050/1	Ball	1
26	98378	Filter fitting	1	
27	98360	Male ring	1	
28	96071	V Gasket	2	
29	96074	V Gasket PTFE	3	
30	98358	Female ring	1	
31	98501	New packing nut	1	
32	3429	O-Ring	1	
33	91001/1	Cup	1	
34	91943	Piston rod	1	
35	3323	Split pin	1	
not separately sold	36	95721/1	Bleed plug	1
	37	95721/2	Bush for bleed plug	1
	38	95721/4	Bleed plug knob	1
	39	3637	Nut	1
40	96023	Finger protection spring	1	
41	96073	O-Ring	1	

Pos.	Descripcion	Q. ty	
<b>42</b>	<b>COD. 91945 - Assembled housing</b>	<b>1</b>	
not separately sold	22	Removable housing	1
	23	Flange	1
	24	Flange locking ring nut	1
	25	Ball	1

Pos.	Descripcion	Q. ty	
<b>43</b>	<b>COD. 95721 - Bleed valve</b>	<b>1</b>	
not separately sold	36	Bleed plug	1
	37	Bush for bleed plug	1
	38	Bleed plug knob	1
	39	Nut	1

## U ORDERING INFORMATION

PUMP CODE	DESCRIPTION
91950	VEGA 45:1 extrusion pump, long
91951	VEGA 45:1 extrusion pump, medium

KIT COD.	DESCRIPTION
40401	VEGA 45:1 extrusion pump motor exchange kit
40040	VEGA 45:1 pump motor seals kit
40402/1	VEGA 45:1 pump gaskets kit
40042	VEGA 45:1 pump motor felt gaskets kit

## V ACCESSORIES

PUMP CODE	DESCRIPTION
510 650	Single post, double effect Power Ram for 30 l drum
510 090	Double post, double effect Power Ram for 30 l drum
510 600	Single post, double effect mobile Power Ram for 30 l drum
510 770	Single gasket follower plate for 30 l drum
7030	Stainless steel high pressure flow regulator 30 - 210 bar for low viscosity products
7040	Stainless steel high pressure flow regulator 30 - 210 bar for high viscosity products
91107	Air pressure filter - regulator 3/8" BSPP

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# ATEX CERTIFICATION

**SAFETEY INSTRUCTIONS FOR THE USE OF  
PISTON PNEUMATIC TRANSFER PUMPS VEGA SERIES  
IN POTENTIALLY EXPLOSIVE ENVIRONMENTS  
IN PRESENCE OF GAS OR VAPOURS.**

## W DESCRIPTION

This safety instructions refer to the installation, use and maintenance of **VEGA** series piston pneumatic transfer pumps for the use in potentially explosive areas in presence of gas or vapours.



**VEGA** series piston pneumatic transfer pumps are mechanical equipment belonging to group II, for the use in areas in presence of gas which are classified as IIB (*category 2 G*). They have been designed and manufactured in compliance with the directive ATEX94/9/CE, according to european standards EN 1127-1, EN 13463-1ed EN 13463-5.



These instructions should be followed in addition to the instructions provided in the use and maintenance manual.

## X TECHNICAL FEATURES

The main characteristics of piston pneumatic transfer pumps **VEGA** serie are indicated in the table below:

Type		Ratio	Supplied pressure	Ø Air inlet	Ø Product feeding	Ø Product outlet	Max operation pressure	Max rate
Standard	St. steel							
91360	91362	5:1	3 ÷ 8 bar	GC 3/8"	Ball valve	GC 3/4"	40 bar	10 l/min
91365	91361	5:1	3 ÷ 8 bar	GC 3/8"	Ball valve	GC 3/4"	40 bar	10 l/min
91368	91363	5:1	3 ÷ 8 bar	GC 3/8"	Ball valve	GC 3/4"	40 bar	10 l/min
91501	91503	23:1	3 ÷ 8 bar	GC 3/8"	Ball valve	GC 3/8"	184 bar	2,6 l/min
91910	-	45:1	3 ÷ 8 bar	GC 3/8"	Washer	GC 3/8"	360 bar	1 l/min
91911	-	45:1	3 ÷ 8 bar	GC 3/8"	Washer	GC 3/8"	360 bar	1 l/min
91912	-	45:1	3 ÷ 8 bar	GC 3/8"	Washer	GC 3/8"	360 bar	1 l/min

**Max number of cycles per minute:** 60

**Room temperature:** -20°C ÷ +60°C

**Fluid max temperature:** [°C]: 60°C

## Y MARKING

CE II 2 G c IIB T6 T<sub>amb</sub>: -20°C ÷ + 60°C T<sub>max. fluid</sub>: 60°C Tech. File: VEGA/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)

Correspondence between dangerous areas, substances and grade

DANGEROUS AREA		GRADE ACCORDING TO DIRECTIVE 94/9/CE
Gas, vapour or mist	Area 0	1G
Gas, vapour or mist	Area 1	2G or 1G
Gas, vapour or mist	Area 2	3G, 2G or 1G

## Z SAFETY INSTRUCTIONS FOR THE INSTALLATION IN DANGEROUS AREAS



**Before installation please read carefully the use and maintenance manual. All maintenance operations must be carried out as reported in the manual.**

- The grounding cable of these pumps must be connected by means of suitable electrical connector.
- The feeding and suction hoses should be metal pipes, or plastic pipes with metal braid or plastic pipes with textile braid equipped with a suitable grounding conductor.
- Pumps must be installed on containers made of metal or antistatic material, duly grounded.
- Gas or vapour rising from flammable liquids shall belong to the group IIB.
- The user must periodically control the presence of foulings, the cleaning and wear conditions and the proper operation of the pump, according to the type and use of the product

- The user should periodically clean the suction filter in order to prevent foreign matters entering into the pump. The air used to supply power to the pump must be filtered and come from a safe area (SAFE AREA).



**The pneumatic piston pumps VEGA series must not run dry.**



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


**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 atmosfere 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 VEGA

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 : VEGA/ATX/08 dated 2008-12-15

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

La documentazione tecnica di riferimento : VEGA/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 021760/19.

no INERIS-EQEN 021760/19.

n° INERIS-EQEN 021760/19.

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,

**Thierry HOUEIX**  
 Délégué Certification ATE  
 Ex Certification Officer

The Chief Executive Officer of  
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 By delegation,

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IM-142148 - Mise en application : 20/04/2016



## CE DECLARATION OF CONFORMITY



### Company



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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:

### **VEGA 45:1 EXT** **Airless pneumatic** **pump for extrusion**

complies with the directives:

- EC Directive 2006/42 Machinery Directive
- EU Directive 2014/30 Electromagnetic Compatibility (EMC)
- EU Directive 2014/35 Low Voltage (LVD)

furthermore to the  
harmonized standards:

- UNI EN ISO 12100-1/-2  
**Machinery safety, basic concepts, general principles of design. Basic terminology, methodology. Technical principles.**

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, 17 June 2024  
Location / Date

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INSTRUCTION MANUAL AVAILABLE IN:		
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	EN	<a href="https://www.larius.com/wp-content/uploads/VEGA45_UK.pdf">https://www.larius.com/wp-content/uploads/VEGA45_UK.pdf</a>
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