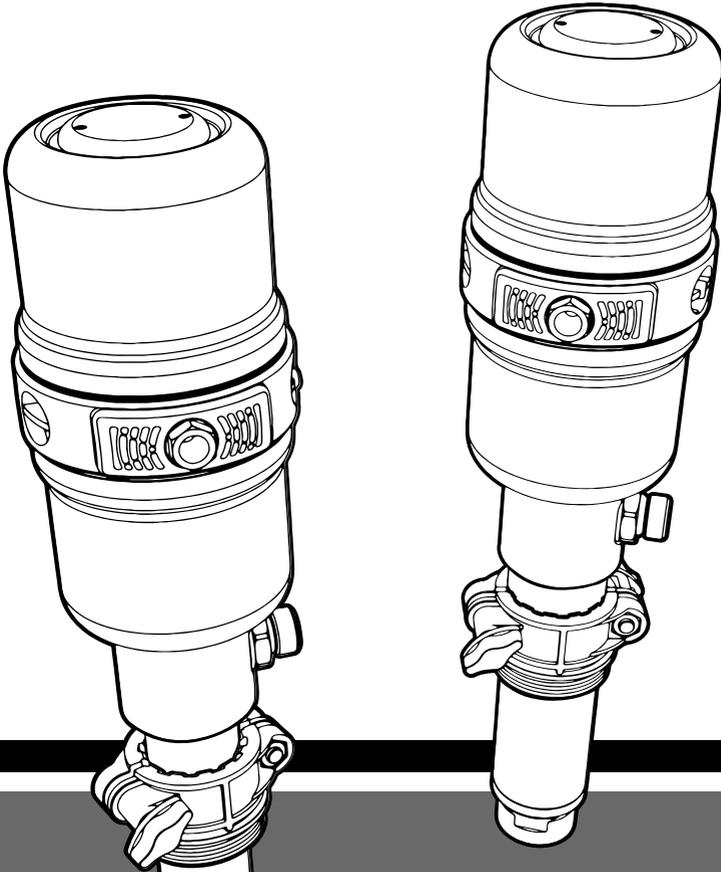


PIUSI

*Fluid Handling
Innovation*

**PIUSI
P 3.5
P 5.5**



**MADE
IN
ITALY**

Installation, use and maintenance manual **EN**
Manuel d'installation, utilisation et entretien **FR**
Installation, Verwendung und Wartungshandbuch **DE**
Manuale di Installazione, uso e manutenzione **IT**
Manual de instalación, uso y mantenimiento **ES**
manual de instalação, uso e manutenção **PT**

BULLETIN MO352 B ML _ 01

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1. EU DECLARATION OF CONFORMITY

The undersigned:

PIUSI S.p.A.

Via Pacinotti 16/A z.i. Rangavino
46029 Suzzara - Mantova - Italy

HEREBY STATES

under its own responsibility, that the equipment described below:

Description: double-acting pneumatic pump for oil dispensing

Model: **PIUSI P 3.5 - PIUSI P 5.5**

Serial number: refer to Serial Number shown on CE stamp on the product

Year of manufacture: refer to Serial Number shown on CE stamp on the product

is in conformity with the legal provisions indicated in the directives:

· Machine Directive 2006/42/CE

The documentation is at the disposal of the competent authority following motivated request at PIUSI S.p.A. or following request sent to the email address: doc_tec@piusi.com

The person authorised to compile the technical file and draw up the declaration is *Otto Varini* as legal representative.

Suzzara, 10/2022

Otto Varini
legal representative



2. GENERAL WARNINGS

Warnings

To ensure operator safety and to protect the system from potential damage, workers must be fully acquainted with this instruction manual before attempting to operate the system.

Symbols used in the manual

The following symbols will be used throughout the manual to highlight safety information and precautions of particular importance:

 <p>WARNING</p> <p>This symbol indicates a hazardous situation which, if not avoided, could result in death or serious injury.</p>	 <p>ATTENTION</p> <p>This symbol indicates that there is risk of damage to the equipment and/ or its components.</p>	 <p>NOTE</p> <p>This symbol indicates <i>useful information</i>.</p>
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Manual preservation

This manual should be complete and legible throughout. It should remain available to end users and specialist installation and maintenance technicians for consultation at any time.

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3. SAFETY INSTRUCTIONS AND WARNINGS

Preliminary checks before installation

Before proceeding, make sure you can install the product in a ventilated area, free from hazards for operators and equipment.



WARNING

Poor ventilation, naked flames and sparks can give rise to hazardous conditions, and cause fires, explosions and serious injuries.

The device is NOT anti-explosive type.

The device must be installed outside areas at risk of explosion.

Do not install in areas where inflammable vapors may be present.

Make sure that hoses are not routed close to high-traffic areas, sharp edges, moving parts or hot surfaces. Use hoses within a temperature range of -40°C to +82°C.

Maintenance control

Before carrying out any inspection or maintenance operations, always shut off the air and discharge the pressure from the circuit by following the decompression and draining procedure.

Prohibitions



WARNING

It is strictly forbidden to hold or transport the system by means of the hoses connected to it.

The device is designed to pump fluid at high pressures. Directing the flow towards any part of the body is strictly prohibited and may cause severe injury.

4. FIRST AID RULES

Contact with the product

In the event of problems deriving from INJECTION, INHALATION, INGESTION or contact of the handled product with the EYES or SKIN, consult the respective SAFETY DATA SHEET.

Hazardous fluids and toxic fumes can cause serious or fatal injuries.

Fluid injection hazard

There is a risk that the handled fluid could be accidentally injected into the operator's body as a result of leaks, damaged components or improper use. Should this happen, the victim must receive immediate emergency medical attention from qualified personnel. Inform medical personnel of the exact nature of the injected fluid.



NOTE

Refer to the safety data sheets of the fluid in question.



WARNING

Do not treat the area into which the fluid was injected as a simple wound. Call for emergency medical attention.

5. GENERAL SAFETY RULES



WARNING

Do not operate the device when tired or under the influence of drugs or alcohol. Do not leave the work area while the device is operating. Do not alter or modify the device. Alterations or modifications to the device may invalidate its type-approval and result in dangers to safety. Keep children and animals far from the work area. Observe all applicable safety regulations.

Essential protective equipment characteristics

Personal protective equipment that must be worn

Wear protective equipment according to the info below:

- suited to the operations that need to be performed;
- resistant to cleaning products.



safety shoes



protective gloves



close-fitting clothing



safety goggles



Use *Instruction Manual*

Protective gloves Prolonged contact with the treated product may cause skin irritation; always wear protective gloves during dispensing.

! WARNING

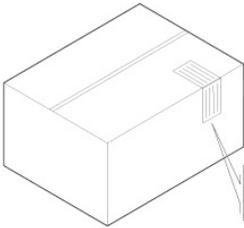
Moving parts hazard



The device comprises moving parts capable of crushing, cutting and amputation. Operate with care at all times.

- Do not approach moving parts during start-up or use of the device.
- Do not operate the device without its protective casings.

6. DISPENSING SYSTEM PACKAGING

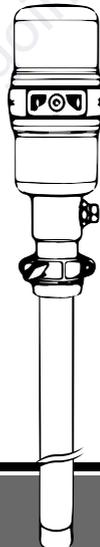


The dispensing system comes packed in a cardboard box bearing a **label** containing all the information relating to the equipment (model, weight, etc.).

7. PACKAGE CONTENTS/PRE-INSPECTION



model
PIUSI P 3.5 - ST
PIUSI P 5.5 - ST
 Wall-mounting pump unit.



model
PIUSI P 3.5 - 940
PIUSI P 5.5 - 940
 Pump unit with pick-up hose for drum-mounting.

To open the cardboard packaging, use a pair of scissors or a cutter, being careful not to damage the dispensing system or its components. Open the packaging and check that the components provided as part of the equipment are available.

! WARNING

Check that the data on the plate correspond to the desired specifications. In the event of any anomaly, contact the supplier immediately, indicating the nature of the defects. Do not use equipment which you suspect might not be safe.

+ NOTE

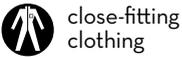
In the event that one or more of the components described below are missing from inside the package, please contact PIUSI S.p.A. technical support.

8. POSITION OF IMPORTANT INFORMATION

An adhesive label showing the operator the most important information is affixed to the dispensing system. Check that this label does not deteriorate over time or come off. The label shows the following information relating to use:

+ NOTE

If all or part of the label deteriorates or comes off, please contact our customer care department to ask for a replacement.



! WARNING Do not exceed the maximum air pressure of the pump. Not for use with windshield washer fluid, petrol or other explosive liquids.	MADE IN ITALY	ATTENTION Wear appropriate protective equipment to help prevent serious injury. Indossare dispositivi di protezione adeguati per prevenire gravi infortuni.	
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Stamp on the bottom of the pump, or on the pick-up hose, showing information about the device.

PIUSI SPA - MADE IN ITALY
PIUSI P 5.5 - ST FOO21401A
SERIAL N. O123456789
CE EAC UKCA

9. MACHINE AND MANUFACTURER IDENTIFICATION

The dispensing system comes with an identification stamp attached to the pump and contains the following information:

- *type*;
- *product ID code*;
- *serial number*.



WARNING

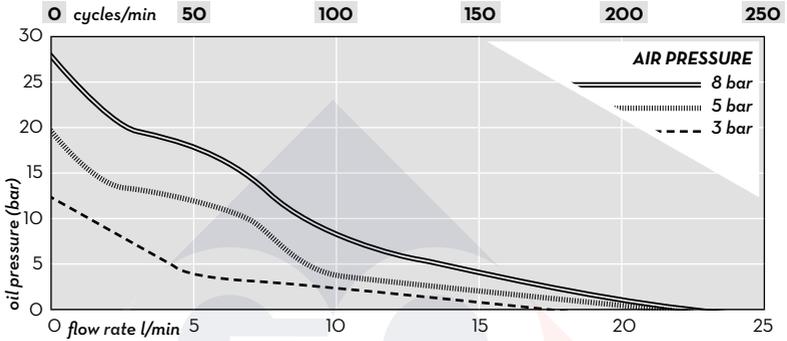
Before installing, always make sure the type of dispensing system is correct.

10. TECHNICAL SPECIFICATIONS

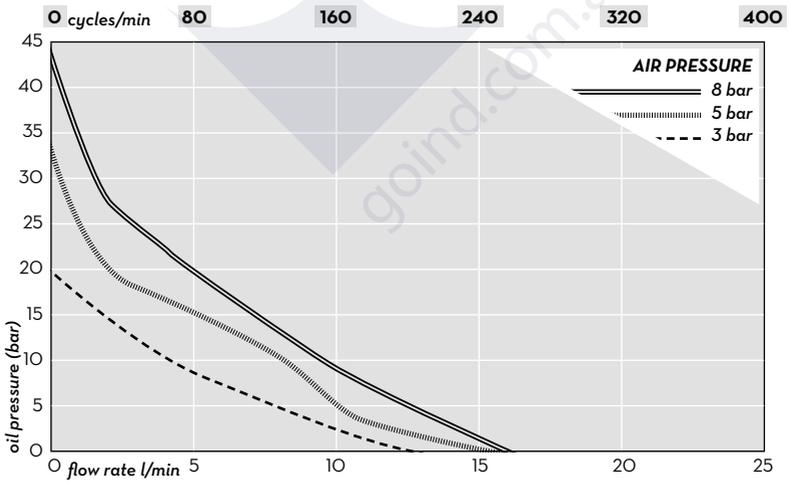
	P 3.5 - ST FOO214000	P 3.5 - 940 FOO214020	P 5.5 - ST FOO214010	P 5.5 - 940 FOO214030
Compression ratio	3.5:1	3.5:1	5.5:1	5.5:1
Air pressure	3-7 bar 43.5-101.5 psi	3-7 bar 43.5-101.5 psi	3-7 bar 43.5-101.5 psi	3-7 bar 43.5-101.5 psi
Air intake thread	1/4" G	1/4" G	1/4" G	1/4" G
Oil intake thread	1" G	1" G	1" G	1" G
Oil outlet thread	1/2" G	1/2" G	1/2" G	1/2" G
Flow rate with free outlet (8 bar)	21,5 l/min 5.7 USgal/min	21,5 l/min 5.7 USgal/min	15,5 l/min 4.1 USgal/min	15,5 l/min 4.1 USgal/min
Pick-up hose diameter	-	42 mm	-	50 mm
Pick-up hose length	175 mm	940 mm	175 mm	940 mm
Total length	445 mm	1210 mm	445 mm	1210 mm
Retaining ring nut	2" G	2" G	2" G	2" G

P 3.5 - ST P 3.5 - 940

**SAE 20 (ISO VG68) OIL
t=18°C**



P 5.5 - ST P 5.5 - 940



11. INTENDED USE

Intended use

The “**PIUSI P 3.5 - PIUSI P 5.5**” dispensing system is designed and manufactured for the sole purpose of dispensing lubricating oil.

Conditions of use

The “**PIUSI P 3.5 - PIUSI P 5.5**” dispensing system must be used in accordance with the following conditions:

- *intake air pressure: 3-7 bar;*
- *maximum operating pressure: 55 bar;*
- *make sure that the pump operates within its nominal operating parameters.*

Flammable liquids and explosive atmosphere



WARNING

The system “**PIUSI P 3.5 - PIUSI P 5.5**” was not designed for dispensing of diesel, petrol, flammable liquids with flash point 55°C (131°F), or for operation in environments with potentially explosive atmosphere. The use in the above mentioned conditions is forbidden.

Unintended use

Do not operate the system for any purpose other than the purpose described within this manual; all other use is considered “IMPROPER” and will result in PIUSI S.p.A. disclaiming any responsibility for damage to property, people, animals or to the system itself.

12. INSTALLATION

Foreword

The “**PIUSI P 3.5 - PIUSI P 5.5**” dispensing system is designed and predisposed for wall-mounting (ST versions) or mounting directly on the oil drum (940 versions). In both cases, however, it must be mounted in a secure, stable manner.

Authorised installation personnel

All installations must be carried out by authorised and competent personnel only. Authorised persons must:

- install the system in dry and well-ventilated place;
- ensure the correct installation of equipment required for the correct functioning of the pump.



WARNING

Altering or modifying the dispensing device is strictly forbidden. PIUSI S.p.A. accepts no responsibility for damage to persons, property or the environment caused by failure to comply with this requirement. The installer is responsible for equipping the system with the required accessories for safe and correct operation of the device. The selection of accessories unsuitable for use may cause serious damage/injury to the device and/or individuals. Do not use the device if important parts of the device, accessories or safety devices are damaged. Make the necessary replacements and repairs immediately.



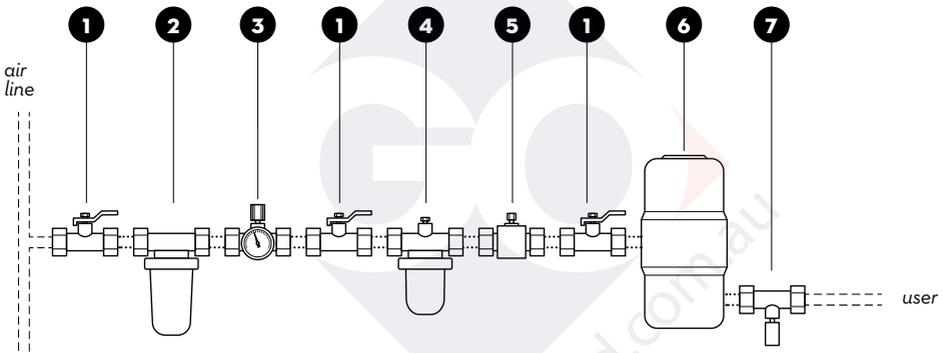
ATTENTION

- The “**PIUSI P 3.5 - PIUSI P 5.5**” dispensing system is for professional use only.
- According to the current legislation, the “**PIUSI P 3.5 - PIUSI P 5.5**” dispensing system must be installed in premises that are sufficiently well-lit.
- It is compulsory to adhere completely to the safety and fire regulations in force in the place of installation.

Installation example

The diagram below provides an example of a possible configuration for the installation of the “**PIUSI P 3.5 - PIUSI P 5.5**” system. For support in designing a system, you need to consult qualified personnel.

- 1 · Bleed ball valve
- 2 · Filter
- 3 · Pressure regulator with pressure gauge - **Set to max. 7 bar** (mandatory)
- 4 · Lubricator
- 5 · Safety valve (mandatory)
- 6 · Pump casing
- 7 · Max. pressure safety valve



Fixing the dispensing system

Fix the pump casing securely to the wall (ST version) using a suitable bracket, or fix it to the lid of the drum (94O version), inserting it completely with pick-up hose and tightening the fixing screws. Then connect the pump to the air line, making sure that the components shown in the figure are present.



WARNING

- The air accessories must be fitted with suitable support brackets. The pump unit fittings can be damaged by the weight of the accessories in the line.
- Installations which fail to comply with diagram do not guarantee correct operation of the pump.
- Air delivery pressures over 7 bar may damage the pump and system.

Accessories required for safe use

For correct operation of the pump unit and to ensure operator safety, it is obligatory to fit devices designed to reduce the risk of injury by fluid injection, splashing, etc.

Bleed ball valve (necessary)



1 The circuit **MUST, OF NECESSITY**, be equipped with bleed ball valves upstream of the pump unit. These devices make it possible to close stretches of line and discharge the compressed air trapped in them. Trapped air can cause the pump to start suddenly and unexpectedly, with the consequent risk of severe injuries.

Max. pressure safety valve



7 The circuit **MUST NECESSARILY** be equipped with a max. pressure safety valve on the oil distribution system, immediately after the pump unit. The system makes it possible to discharge hazardous excess pressure caused by the thermal expansion of the fluid.

Pressure regulator with pressure gauge Safety valve

3 We recommend that you fit a pressure regulator with pressure gauge, so that you can monitor pump speed and pressure with complete ease.

5 Running the pneumatic motor too fast can cause serious damage. The presence of a safety valve ensures that the flow can be shut off if the set pressure is exceeded.

Lubricator

4 For applications involving intensive use, we recommend that you fit an automatic lubricator in the line so as to maximise the service life of the pneumatic motor. Use only oil for pneumatic tools or SAE10 engine oil. Set the lubricator to dispense a maximum of one drop every 10 minutes.

Filter

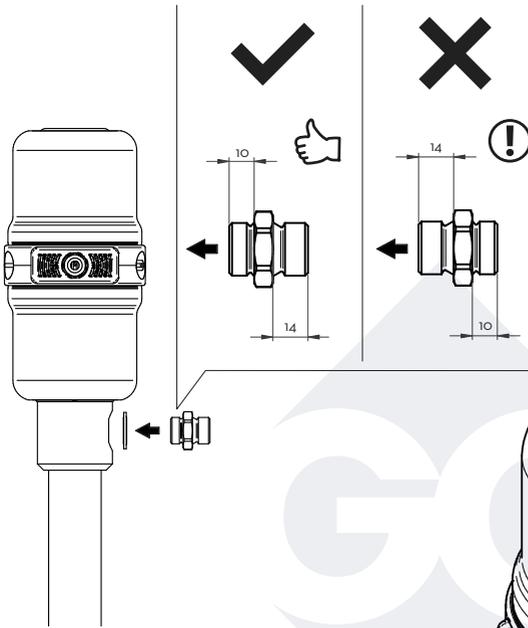
2 The presence of an air filter upstream of the pump unit helps remove dirt and contaminants, thus extending the service life of the pneumatic motor.



WARNING

Never operate the pump if it is not correctly installed and fixed. Doing so can cause serious damage to the device and fittings.

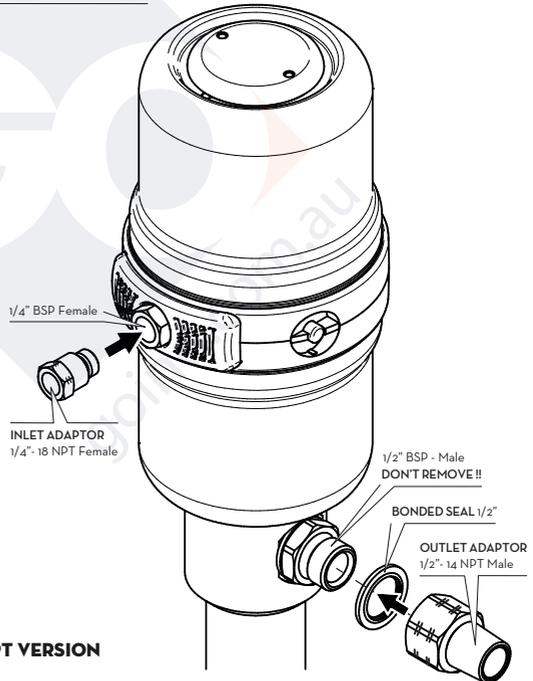
■ CORRECT NIPPLE ASSEMBLY



! WARNING

It is absolutely forbidden to replace the oil delivery nipple with other commercial connectors

■ NPT VERSION



13. OPERATION

First use

To make optimum use of the pneumatic pump, we strongly recommend that you follow the procedure set out below. This reduces risks for the operator. After installation of the product, the starting state must involve closure of all the ball valves in the air line, and closure of the dispensing device and the pressure regulator with pressure gauge.

Opening the air line

Keeping the pressure regulator in the closed position, open the air line ball valves in sequence. Then keep the dispensing valve open over a suitable metal container to receive the fluid from it once the system is primed. Take extreme care and keep the dispensing nozzle in contact with the wall of the container. We also recommend that you wear personal protective equipment.

Opening the pressure and priming

Slowly open the pressure regulator with pressure gauge, as gradually as possible. Monitor the pressure by means of the pressure gauge indicator and wait until you hear the pneumatic pump come into operation to allow priming. As soon as all the air in the fluid line has been expelled and the dispensing valve has started dispensing, close the dispensing valve.



NOTE

After initial priming, if the air line is open, opening the dispensing valve will immediately start the pneumatic pump. Closing the dispensing valve will stop the pneumatic pump.

Normal use

We recommend that you adjust the pressure to the minimum quantity of air necessary to obtain the desired dispensing results. Take the utmost care when adjusting the pressure.



WARNING

The system supplies fluids at high pressure, such a pressure as to be a source of danger for the operator. Supply with caution the first time, and in conditions of maximum safety, in order to acquire a correct perception of the operation of the system.
Interrupt supply immediately if there are sparks or electrical discharge.



ATTENTION

Using the pump unit in a dry state, i.e. with no fluid or with insufficient fluid, can damage it irreparably. Dry pumping increases the operating speed of the pneumatic motor, resulting in overheating and possible failure.

If operating at low temperatures, we recommend that you use systems to protect against the formation of ice.

Don't shut off the air supply while the pump is working. For its correct working never go down below the declared pressure.

14. MAINTENANCE

Safety instructions The system is designed and manufactured to require minimal maintenance. Before carrying out any maintenance operation, it is imperative to decompress the dispensing system with the aid of the bleed ball valves. It is strictly forbidden to carry out any maintenance operation if the circuit contains compressed air capable of causing the pump to start suddenly.
 Personal protective equipment (PPE) must be worn when carrying out maintenance work.
 Take account of the following minimum recommendations for correct operation of the pump.

Authorised maintenance personnel

All maintenance must be performed by qualified personnel. *Tampering can lead to performance degradation, danger to persons and/or property and may result in the warranty being voided.*

Measures to be taken

Make sure that the label affixed to the dispensing system does not deteriorate over time or come off.

EVERY DAY:

- check that the hoses are in sound condition.

ONCE A YEAR:

- check the components of the air circuit.

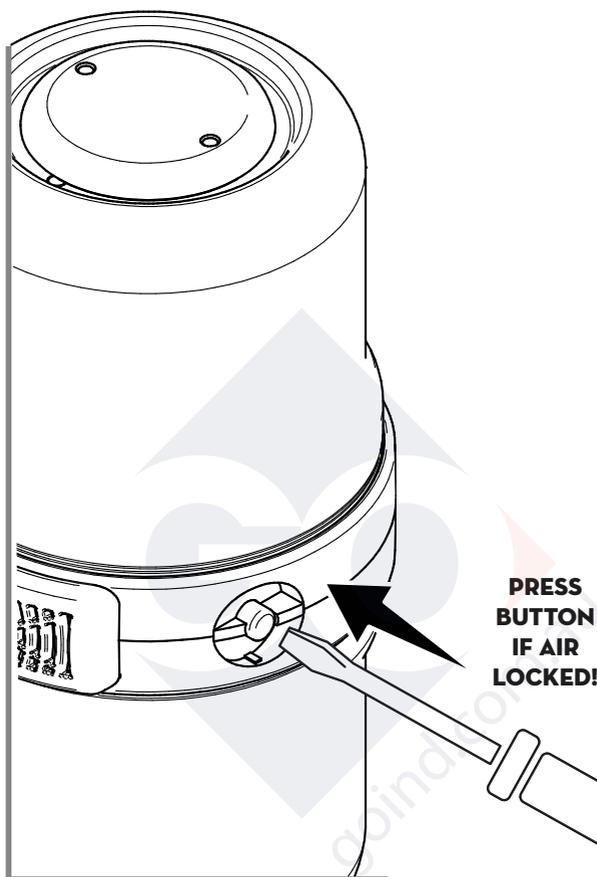
15. TROUBLESHOOTING



ATTENTION

Before carrying out any inspection or maintenance operations, shut off the air and discharge the pressure from the circuit by following the decompression procedure.

Problem	Possible cause	Corrective action
Pump does not work	Intake air pressure too low	Increase intake air pressure
	Air lines obstructed	Clean air lines
	Dispensing valves closed or obstructed	Open or clean dispensing valves
	Fluid lines or other components obstructed	Check that fluid lines and components are clean
	No fluid left in tank	Fill tank
Pump runs irregularly	Pneumatic motor damaged	Repair pneumatic motor
	Piston gaskets are worn	Replace worn gaskets
Continuous air leakage	No fluid left in tank	Fill tank
	Motor gaskets not sealing properly	Clean or replace motor gaskets
The pump does not start up and releases air from silencers	Pump stalled	Push the button RESET (see diagram after the table)



16. DEMOLITION AND DISPOSAL

Foreword	If the system needs to be disposed, the parts which make it up must be delivered to companies that are specialized in the recycling and disposal of industrial waste. Inappropriate disposal of this waste may harm the environment and human health. Contravention of applicable legislation may result in sanctions.
Disposing of packing materials	The packaging consists of biodegradable cardboard which can be delivered to companies for normal recycling of cellulose.
Metal parts disposal	The metal parts, including painted parts, can normally be recovered by specialist scrap metal dealers.
Miscellaneous parts disposal	Other components, such as hoses, rubber gaskets, plastic parts and wires, must be disposed of by companies specialising in the disposal of industrial waste.

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