ILC Srl
PAG-40 PAO-40 PA

Pneumatic pump for grease and oil

Original instructions

CE

All ILC products must be used exclusively for their intended purpose, as specified in this booklet and all accompanying instructions. If the product comes with operating instructions, the user must read and follow them. Not all lubricants are suitable for centralized lubrication systems.ILC lubrication systems or their components must not be used in combination with gases, liquefied gases, pressurized gases in solution, or liquids whose vapor pressure exceeds the normal atmospheric pressure (1013 mbar) by more than 0.5 bar. The maximum allowable temperature is +60°C.
Hazardous materials of any kind, particularly those classified as such under European Community Directive 67/548/EEC, Article 2(2), may only be used in ILC centralized lubrication systems or their components after consulting ILC and obtaining the company's written approval.

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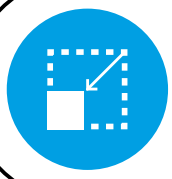
Features and Benefits

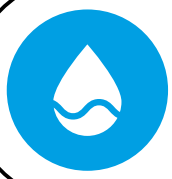
NGLI-2

A new pneumatic pump for dispensing grease up to NLGI-2 consistency.



SIZE

Compact solution for reduced space requirements compared to current models.



AIR-LUBRICANT RATIO

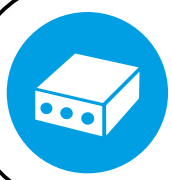
A lower air-lubricant ratio to prevent pipes and fittings from exceeding the operating value.

MATERIALS

An innovative solution made with a blend of next-generation composite material and steel.

APPLICATIONS

Ideal for lubrication systems on medium-sized industrial machinery.



DPX / DMX / DPL

Solution to be combined with DPX, DMX, or DPL progressive distributors.

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Table of Contents

REV08042025

1. Introduction

I.L.C S.r.l. has designed and manufactured this electrical equipment in compliance with the European Community Directive 2006/42/EC. The equipment is not hazardous to the operator if used according to the instructions provided by I.L.C S.r.l. and within the specified operating conditions. Additionally, safety devices must be kept in proper working order, and the prescribed maintenance operations must be carried out at the indicated intervals.

This manual must be retained for the entire lifespan of the equipment and must always be available to both the operator and the maintenance personnel. The information contained in this manual is the property of I.L.C S.r.l.

I.L.C S.r.l. reserves the right to modify the product specifications described in this manual without prior notice. The distribution and reproduction, even partial, of this manual without written authorization from I.L.C S.r.l. is strictly prohibited.

2. Conventions

Italicized text indicates the title of a chapter, section, paragraph, table, or figure in this manual or another reference publication. The combination of letters and numbers serves as a symbolic representation of a part of the machine.

Note. Notes contain important information highlighted separately from the main text to which they refer.

Caution. Caution statements indicate procedures that, if not fully or properly followed, may cause damage to the machine or the connected equipment.

Danger. Danger statements indicate procedures that, if not fully or properly followed, may result in injury or health hazards for the operator or exposed individuals.

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3. General Information

3.1 Manufacturer Identification Data

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3.2 Machine Identification Data

Designation	PAG-40 Pneumatic Grease Pump; PAO-40 Pneumatic Oil Pump; PA Pneumatic Pump.
Year of Manufacture	2024

Note. This publication consists of consecutively numbered pages. In case of any doubts regarding the content, please contact the technical support service.

Note. The provided documentation must be kept for the entire technical lifespan of the machine so that it is easily accessible if needed. In the event of a resale, the machine must be sold along with its documentation.

4. Intended Audience

The intended audience of this publication, generally referred to as "users," includes all individuals who, within their area of responsibility, need and/or are required to provide instructions or operate the machine. These individuals can be identified as follows:

- Operational area managers.
- Department managers.
- Operators directly involved in the transportation, storage, installation, use, and maintenance of the machine from its market release to decommissioning.
- Installers.
- Assemblers.

5. General Information on the Instruction Manual

This publication, hereinafter simply referred to as the "manual," contains all the necessary information for the installation, use, and maintenance of the machine.

The original text of this publication, written in Italian, is the only reference for resolving any interpretative disputes arising from translations into other European languages.

This publication is considered an integral part of the machine and must therefore be kept for future reference until the final dismantling and disposal of the equipment.

6. Purpose of the Manual

The purpose of this manual is to provide the designated personnel with the knowledge necessary to understand the equipment and use it safely and efficiently for its intended purpose. This includes taking all necessary precautions and making available all required human and material resources.

This publication has been prepared in accordance with section 1.7.4 of the European Directive 2006/42/EC.

The text also references laws, directives, and other regulations that the user is required to be familiar with and consult to achieve the objectives set forth in the manual.

7. Where and How to Store the Manual

This manual and all its attachments must be stored in a protected, dry place and must always be available for consultation. It is recommended to make a copy and keep it in an archive.

When exchanging information with the manufacturer or authorized service personnel, always refer to the nameplate data and the machine's serial number.

The manual and its attachments must be retained for the entire lifespan of the equipment. In case of necessity (e.g., damage compromising its readability), the user is required to obtain a new copy, which must be requested exclusively from the manufacturer or the authorized dealer who sold the equipment.

8. Manual Updates

This manual reflects the state of the art at the time the equipment was introduced to the market and complies with the laws, directives, and standards in force at that time. It cannot be considered obsolete simply because it has been updated based on new experiences.

Any modifications, adjustments, or enhancements made to equipment marketed later will be reflected in updates to this manual, which will always represent the latest available version.

Any supplementary documents that the manufacturer deems necessary to send to users must be kept together with this manual, as they form an integral part of it.

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9. Support

The Customer Technical Support Service provides information via phone or correspondence, as well as training and usage assistance. When requesting support, please specify the model, year of manufacture, and serial number of the machine, which can be found on the identification plate.

Technical Support Service
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10. Spare Parts

When ordering spare parts, refer to the identification of components from the provided drawings and spare parts lists.
Always specify the model, year of manufacture, and serial number of the machine, which can be found on the identification plate.

11. Operating Instructions

Compliance with the essential safety requirements and the provisions of the Machinery Directive has been verified through the completion of predefined checklists included in the technical file.

23.1 Checklists Used

- Risk Assessment (UNI EN ISO 14121-1).
- Compliance with Essential Safety Requirements (Machinery Directive – CE 06/42).

23.2 Hazards Not Eliminated but Deemed Acceptable

- Electrocution: Can only occur in cases of severe user negligence.
- Use of unsuitable lubricant: The following section lists fluids that are incompatible with the proper functioning of the pump.*
- Contact with harmful fluids.

23.3 Prohibited Fluids

Fluid	Danger
1. Lubricants with abrasive additives	Wear of internal pump components
2. Lubricants with silicone additives	Pump seizure
3. Gasoline – solvents – flammable liquids	Fire – explosion – seal damage
4. Corrosive products	Pump corrosion – risk of injury
5. Water	Pump oxidation
6. Food substances	Contamination

12. Warnings

The following warnings apply to the installation, use, grounding, maintenance, and repair of this equipment. The ejection point symbol indicates a general warning, while hazard symbols refer to specific procedural risks. When these symbols appear in this manual or on warning labels, refer to these warnings. Product-specific hazard symbols and warnings not covered in this section may appear throughout this manual where applicable.

SKIN INJECTION HAZARD

The high-pressure fluid from the dispensing device, hose leaks, or broken components can penetrate the skin. This may appear as a simple cut but is a serious injury that can lead to amputation. Seek immediate surgical treatment.

- Do not aim the dispensing device at anyone or any part of the body.
- Do not place your hand over the fluid outlet.
- Do not stop or divert leaks with your hand, body, glove, or cloth.
- Follow the pressure relief procedure when stopping dispensing and before inspecting or repairing the equipment.
- Tighten all fluid connections before using the equipment.
- Inspect hoses and fittings daily. Replace worn or damaged parts immediately.

PRESSURIZED EQUIPMENT HAZARD

Overpressurization can cause equipment failure and serious injuries.

- Do not exceed the maximum inlet air pressure.
- Fill slowly to avoid overpressurizing the tank.
- Use hoses, flexible tubes, and other components with pressure ratings equal to or higher than those of the pump.

DANGER: SOLVENTS FOR CLEANING PLASTIC PARTS

Many solvents can degrade plastic parts, causing failure, serious injury, or property damage.

- Use only water-based solvents compatible with structural or pressurized plastic parts.
- Refer to the Technical Data section in this and all other equipment instruction manuals.
- Read the Safety Data Sheets (SDS) and follow the recommendations of the fluid and solvent manufacturers.

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DANGER: ELECTRIC SHOCK HAZARD

THIS EQUIPMENT MUST BE GROUNDED. Improper use of the system can result in electric shock.

- Turn off and disconnect the main power supply before disconnecting any cables or performing maintenance on the equipment.
- Connect only to a grounded power source.
- All electrical wiring must be performed by a qualified electrician and comply with all local codes and regulations.

EQUIPMENT MISUSE HAZARD

- Do not use the unit when fatigued or under the influence of drugs or alcohol.
- Do not exceed the maximum operating pressure or the rated temperature of the system component with the lowest rating. Refer to the technical data in all equipment manuals.
- Use fluids and solvents compatible with the wetted parts of the equipment. Refer to the technical data in all equipment manuals. Read the warnings provided by the fluid and solvent manufacturer. For complete information about your material, consult your distributor.
- Turn off all equipment and follow the pressure relief procedure when the equipment is not in use.
- Inspect the equipment regularly. Repair or replace worn or damaged parts immediately using only original replacement parts.
- Do not modify the equipment. Alterations or modifications may void approvals and create safety hazards.
- Ensure all equipment is rated and approved for the environment in which it is used.
- Use the equipment only for its intended purpose. Contact your distributor for more information.
- Route hoses and cables away from traffic areas, sharp edges, moving parts, and hot surfaces.
- Do not bend or excessively flex hoses, nor use hoses to pull the equipment.
- Comply with all applicable safety regulations.

DANGER: MOVING PARTS

- Stay away from moving parts.
- Do not operate the equipment with guards or covers removed.
- Pressurized equipment may start unexpectedly. Before inspecting, moving, or repairing the equipment, follow the pressure relief procedure and disconnect all power sources.

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13. Transportation

I.L.C. Srl products are packaged according to standard commercial practices and in compliance with the regulations in force in the destination country. Safe handling is required during transport. The product must be protected against impacts. There are no restrictions for transportation by land, air, or sea.

Caution. Do not overturn or throw the product.

13.1 Delivery

After receiving the shipment, it is necessary to check the integrity of the products based on the accompanying documents. Packaging materials should be kept until any discrepancies have been clarified.

13.2 Storage

For I.L.C. Srl products, the following storage conditions apply:

Storage of Lubrication Units

- Environmental Conditions: Dry and dust-free environment, storage in a well-ventilated and dry location.
- Storage Period: Max. 24 months.
- Allowed Air Humidity: < 65%.
- Storage Temperature: -0°C ÷ +50° C°.
- Light: Avoid direct exposure to sunlight or UV rays, isolate from nearby heat sources.

Storage of Electronic and Electrical Equipment

- Environmental Conditions: Dry and dust-free environment, storage in a well-ventilated and dry area.
- Storage Period: Maximum 24 months.
- Allowed Air Humidity: < 65%.
- Storage Temperature: 0°C ÷ +50° C°.
- Light Exposure: Avoid direct sunlight or UV radiation; isolate from nearby heat sources.

General Storage Notes

- Protect stored devices from dust by covering them with plastic film.
- Prevent moisture from the floor by storing items on shelves or wooden structures.
- Before storage, apply a long-term anti-corrosion treatment to polished metal surfaces, especially friction components and mounting surfaces.
- Approximately every six months, check for any signs of corrosion. If corrosion is detected, remove it immediately and reapply the anti-corrosion treatment.
- Protect actuators from mechanical damage.

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14. Unpacking and Installation

14.1 Unpacking

Remove the pump and check that it has not been damaged during transport and storage. The packaging material does not require special disposal precautions, as it is neither hazardous nor polluting. For disposal, refer to local regulations.

14.2 Installation

- It is important to allow adequate space for installation, leaving a perimeter area of 100 mm for possible maintenance.
- If possible, install the PAG-40 pump in a position that prevents awkward operator postures or the risk of impacts.
- Do not install the pump in aggressive, explosive, or flammable environments, or on surfaces subject to vibrations.
- Use only the designated mounting bracket, which has two holes for Ø10 mm screws (place flat washers under the screws).
- For correct fastening, verify the center-to-center dimensions shown in the "Dimensions" section of the manual.
- The PAG-40 pump can be installed in either a vertical or horizontal position.

14.3 Filling the Tank

- Connect the filling hose to the valved grease fitting located at the front of the pump. This ensures that the lubricant passes through the load filter inside the base, reaching the tank free of impurities.
- Avoid air pockets during filling, as they can negatively impact pump operation.
- For the first fill, continue filling until the lubricant reaches the MAX-LIV hole on the side of the tank.
- Allow excess lubricant to escape until all trapped air under the press plate is purged.
- The pump is equipped with an air bleed valve. Open the valve after filling until lubricant flows out without air bubbles.

Note. It may take up to 20 cycles to prime the pump. This will depend on the viscosity of the lubricant and the ambient temperature.

14.4 Discharge Pipe Connection

The discharge port of the pump, where the piping must be connected, is located at the bottom of the pump body and is directly connected to the pressure gauge.

- Connect the air supply line using a 1/8" BSP fitting with quick-connect or pneumatic couplings.
- Pay close attention to the choice of piping: the PAG-40 pump can generate a discharge pressure up to 40 times the supplied air pressure (e.g., with 6 bar of air, the lubricant pressure can reach 240 bar).
- Plastic pipes such as nylon, Rilsan, or polyurethane are NOT allowed. Use only rigid or high-pressure flexible hoses.

The solenoid valve can be installed directly on the pump cylinder and/or on a flow/pressure regulator fitting.

Warning. Always include a 3-way control valve to allow for the interruption of the supply.

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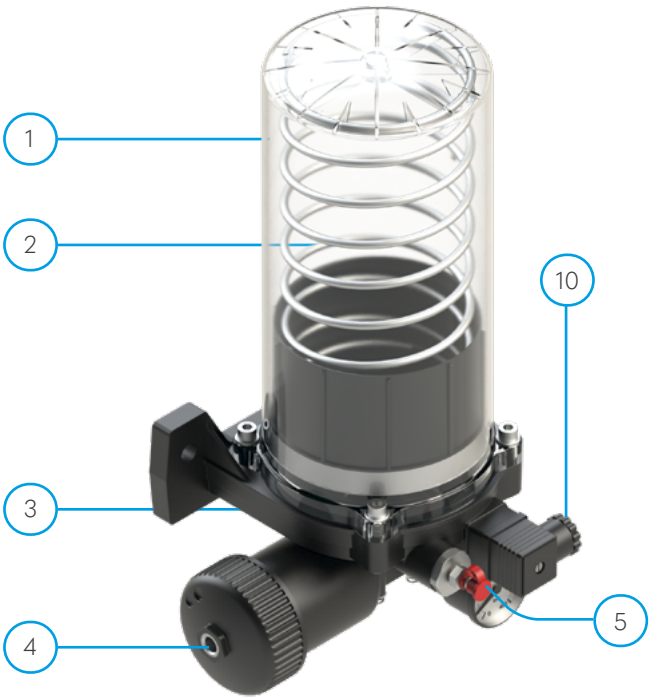
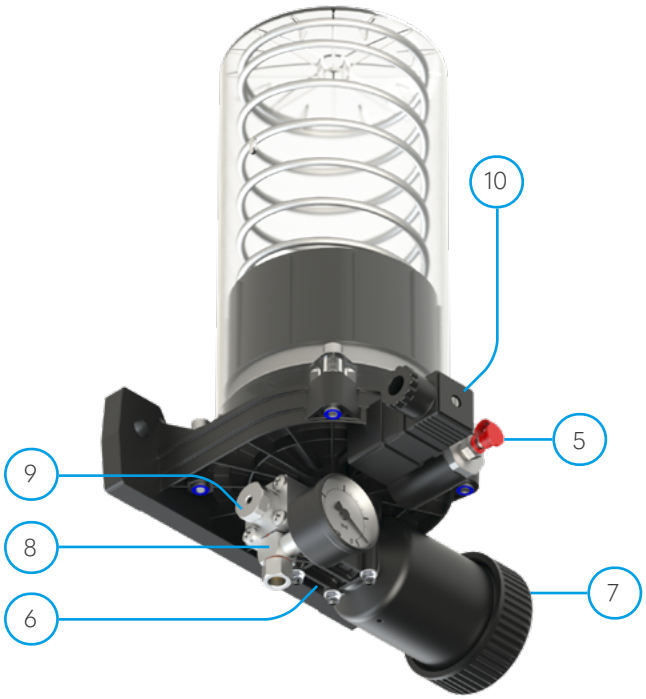
15. Main Components





1. **Lubricant Reservoir**
2. **Push Spring**
3. **Pressing Disk**
4. **Pneumatic Pump**
5. **Reservoir Filling Grease Fitting**
6. **Pump Body**
7. **Pneumatic Cylinder**
8. **Discharge Valve G 1/8"**
9. **Air Bleed Valve**
10. **Minimum Level Connection**

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16. Ordering Codes

16.1 PAG-40 (Grease pump)

90 . 3 . 5 . |0| . |0|
A B

A (Reservoir)		B (Flow Rate)	
0	1,5 Kg - Plastic	0	Fixed 2 cc
1	5 Kg - Metal	1	Adjustable
6	10 Kg - Metal		

16.2 PAO-40 (Oil pump)

90 . 3 . 6 . |0| . |0|
A B

A (Reservoir)		B (Flow Rate)	
0	3 lt - Plastic	0	Fixed 2 cc
1	6 lt - Plastic	1	Adjustable
2	5 lt - Metal		
3	8 lt - Metal		
4	12 lt - Metal		

16.3 PA-40 (No Reservoir)

90.350.2	Pneumatic Pump PA-40 Without Reservoir Fixed Flow Rate 2 cc
90.350.3	Pneumatic Pump PA-40 Without Reservoir Adjustable Flow Rate

Warning. For pumps equipped with G 1/4 (F) adapters, add the suffix 1/4G to the pump code, e.g., 90.350.0.1/4G.

Additional Options

Preloaded grease reservoir NLGI-0
Pump complete with pneumatic control solenoid valve

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17. General Description

The PA-PAG-PAO are pneumatic pumps designed to be powered by a compressed air circuit with an operating pressure range between 4 and 8 bar. For applications with different pressure values, it is advisable to consult our technical department.

Being a single-acting pump, it requires the installation of an upstream 3-way solenoid valve (line-cylinder-exhaust). The lubricant is dispensed instantly, ensuring precise and rapid dosing.

The pump can be integrated into progressive distribution systems using DPX, DMX, or DPL metering devices, or it can be used for free-flow dispensing of lubricant.

The standard configuration is the grease version of the pump, which includes a 1.5 kg reservoir equipped with a spring and press plate, allowing the use of lubricants with NLGI-2 density. The reservoir is made of transparent material, enabling constant monitoring of the lubricant level. The PAG-40 is equipped with a low-level sensor that sends a signal upon reaching the reserve level of 100 cc (equivalent to 50 cycles), ensuring reliable and continuous monitoring of pump operation.

17.1 Technical Specifications

Pumping System	Single-acting pneumatic piston
Control Air Supply Pressure	4-8 bar
Control Air Circuit	Filtered dry air
Control Air Connection	G 1/8 UNI - ISO 228/1
Reservoir Filling Connection	Grease fitting with valve UNI 7663
Load Filter	250 µ
Pump Outlet Connection	G 1/8 UNI - ISO 228/1
Compression Ratio	40:1
Fixed Flow Rate	2 cc/cycle
Adjustable Flow Rate	0.3 - 2 cc/cycle
Minimum Cycle Time	15 s
Compatible Lubricants	Grease min NLGI 000, max NLGI 2; Oils from 50 to 1000 Cst
Low-Level Contact	At minimum operating temperature: Is = 0.5 A - Vs = 175 V - Pmax = 10 W
Operating Temperature	20°C ÷ +80° C° (with lubricants suitable for the temperatures)
Storage Temperature	0°C ÷ +50° C°
Maximum Relative Humidity (without condensation)	90%
Sound Pressure Level	< 70 db (A)
Net Weight	3.3 kg with maximum reservoir level

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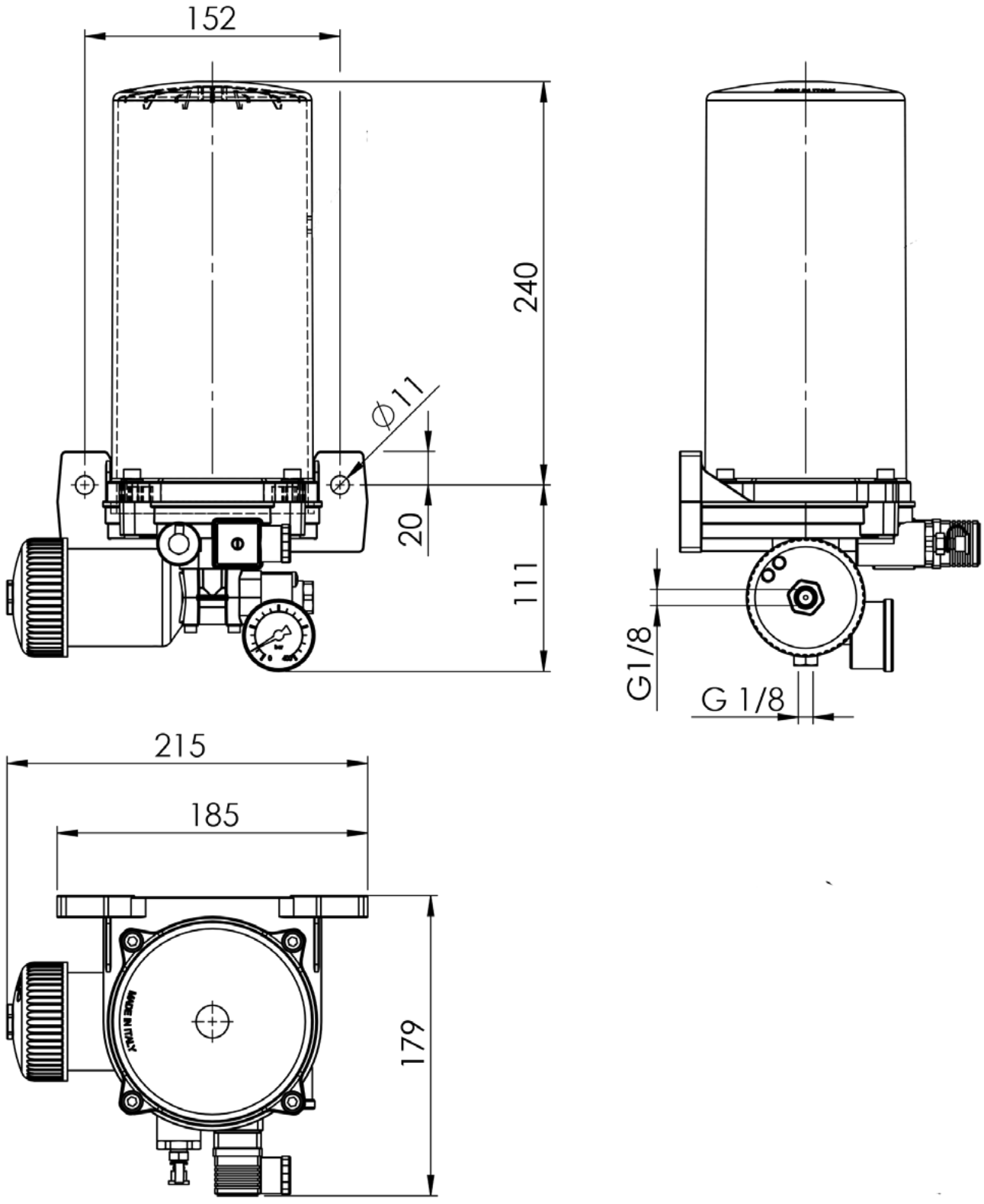
18. Dimensions



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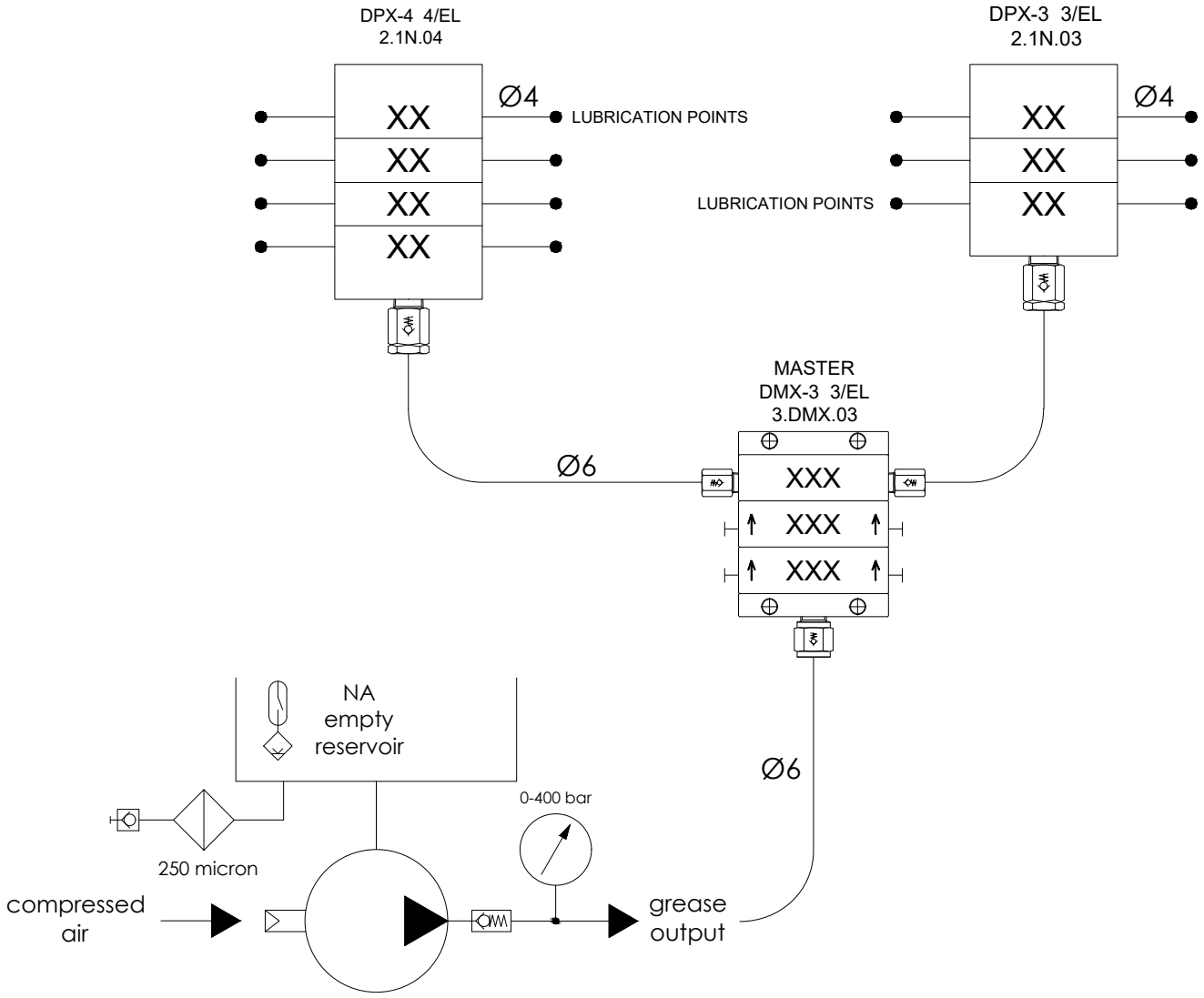
19. Hydraulic Scheme



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20. Operating principle

The operation of the pump can be described in two main phases: discharge and suction.

Discharge Phase

During the discharge phase, compressed air enters the pneumatic cylinder. The air pushes the piston, increasing the grease pressure inside the hydraulic cylinder. The grease is then forced out of the cylinder through the discharge valve. To complete the discharge cycle, compressed air must be maintained for a minimum of ten seconds.

Suction Phase

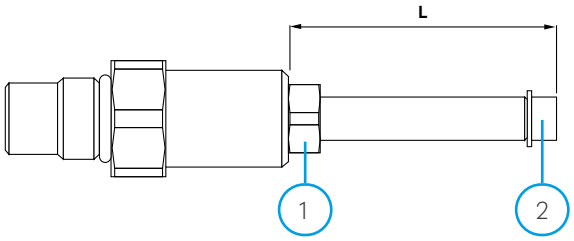
In the suction phase, when the compressed air is released, the piston is pushed back by the return spring. The piston's return creates a vacuum that forces the grease into the hydraulic cylinder. To complete the suction cycle, the compressed air must be released for a minimum of five seconds.

To ensure efficient operation, the pump requires an upstream device to regulate the compressed air flow. The pump is designed to operate at pressures between 4 and 8 bar: lower pressures will not properly activate the piston, while higher pressures risk damaging the integrity of the pump.

21. Adjustable flow rate

The pump can be ordered with a flow regulator, or the A70.0931222 regulator kit can be ordered separately at a later time. For the installation of the A70.0931222 regulator kit, follow the instructions provided in the maintenance section.

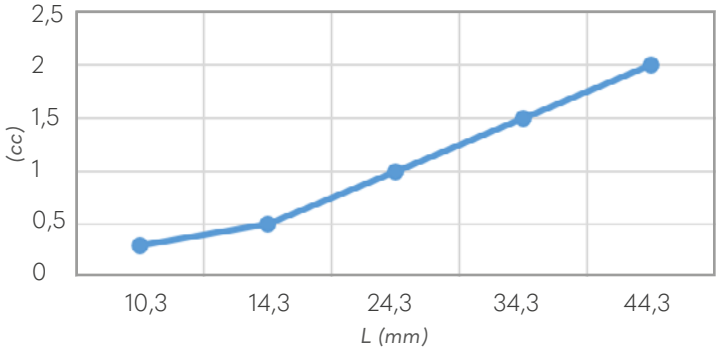
21.1 Adjusting the flow rate



To adjust the flow rate, loosen the nut (1) and turn the hex socket screw (2).

Turning clockwise decreases the flow rate down to a minimum of 0.3 cc/cycle. Turning counterclockwise increases the flow rate up to a maximum of 2 cc/cycle.

The relationship between the distance L between the two nuts and the flow rate is shown in the table below. After completing the adjustment, tighten the nut (1) again.



L (mm)	Flow rate (cc)
10,3	0,3
14,3	0,5
24,3	1
34,3	1,5
44,3	2

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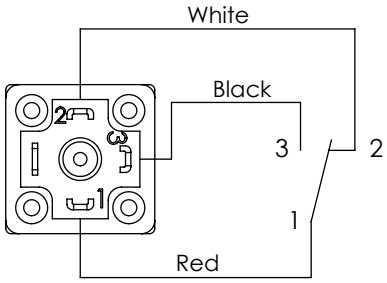
22. Electrical Connection (PAG-40 Only)

The PAG-40 pump is supplied with a 3-contact exchange level sensor, code A70.0941492, equipped with a DIN 43650-A 3P+T 27.5x27.5 connector. Figure 1 shows how to connect the minimum level. The wiring diagram and electrical specifications of the sensor are also provided on the pump label.



With a Full Tank

fig.1

23. Startup, Preliminary Actions, Usage

23.1 Startup

- The unit may only be used, opened, and repaired by qualified personnel.
- It is strictly forbidden to use the pump submerged in fluids or in particularly aggressive, explosive, or flammable environments unless it has been specifically designed for such use by the supplier.
- Wear gloves and safety goggles as indicated in the lubricant's safety data sheet.
- DO NOT use lubricants that may be aggressive towards NBR seals; in case of doubt, consult our technical department.
- Do not ignore health hazards and always follow hygiene regulations.
- Always use pipes suitable for the operating pressures.

23.2 Preliminary Actions

- Check the integrity of the pump.
- Fill the tank with a suitable lubricant.
- Ensure that the pump has reached the operating temperature and that the pipelines are free of air bubbles.
- Verify that the electrical connection to the level sensor is properly executed.
- Check the connection to the control panel and ensure proper operation.

23.3 Usage

- Check the pump control values set in the machine panel. [pause – operation]
- At pump startup, several cycles must be performed using the manual control of the solenoid valve or the machine panel, as the main pipelines, distributors, and subsequent secondary pipelines need to be filled.
- Once the pipelines and distributors are filled, verify proper lubrication of the machine.

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24. General Scheduled Maintenance

Pump Maintenance and Safety

Premature wear of the pump piston and other moving parts is caused by contaminated or dirty lubricants. Malfunctions in the distributors, preventing lubricant from reaching the required points, may result from air in the distribution network or contaminated lubricant. The unit does not require extraordinary maintenance as long as contaminated lubricants and air entry into the circuit are avoided. Before performing any intervention, ensure the power supply is disconnected.

Table 24.1 lists periodic checks, their frequency, and the necessary actions to maintain system efficiency over time. The unit is designed to require minimal maintenance. Diagnostic Table 24.2 highlights common faults, their causes, and solutions. If the issue cannot be resolved after consulting the table, contact the ILC technical department.

Pump Maintenance and Safety

The machine does not require special equipment for inspection and maintenance. However, it is recommended to use appropriate and well-maintained tools and personal protective equipment, in accordance with current regulations, to prevent harm to individuals or damage to machine components. The pump should be positioned for easy inspection.

Before performing any maintenance work, ensure that the electrical, pneumatic, and/or hydraulic power supply is disconnected and that the tank has been emptied. Wear the necessary personal protective equipment to avoid contact with the lubricant. If necessary, exercise extreme caution when removing the tank due to the highly loaded internal spring. It is strongly recommended to use impurity-free lubricants and to periodically clean the pump components thoroughly.

24.1 Inspection Schedule

Check	Frequency	Action
Complete Unit	500 hours (depending on work environment)	Keep the body and entire structure clean at all times.
Distribution	500 work cycles	Inspect pipes, fittings, and machine anchors.
Tank	1000 work cycles	Clean the tank cylinder.
Inlet Filter	1000 work cycles	Clean or replace the inlet filter.
Tank	1000 work cycles	Clean the bottom of the tank to remove deposits.
Lubricant	Based on system grease consumption	Check the level (for pumps without an electric indicator) and inspect the lubricant condition in the tank, paying attention to possible separation or abnormal hardening that could affect pump and progressive distributor functionality.

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24.2 Troubleshooting Table

Anomaly	Possible cause	Possible solutions
1. The pump does not dispense lubricant.	1.1 The lubricant level in the reservoir is below the minimum. 1.2 The delivery valve is dirty or damaged. 1.3 The control air pressure is below the required minimum or absent. 1.4 Faulty solenoid valve.	1.1 Check and restore the lubricant level. 1.2 Dismantle and clean the valve, replacing it if necessary. 1.3 Check the control air pressure value. 1.4 Check and replace the solenoid valve if necessary.
2. The pump does not dispense the expected amount of lubricant.	2.1 The delivery valve is dirty or damaged. 2.2 The work cycle is too short.	2.1 Dismantle and clean the valve, replacing it if necessary. 2.2 Check the solenoid valve excitation time and increase it if necessary.
3. The pump does not dispense lubricant at the prescribed pressure. 4. The pressure gauge returns to 0 during the pumping cycle.	3.1 Loose fittings. 3.2 Adjustment of the inlet control air pressure. 3.3 The delivery valve is dirty or damaged.	3.1 Securely tighten all fittings, ensuring there are no leaks. 3.2 Properly adjust the air pressure within the specified range, considering the compression ratio. 3.3 Dismantle and clean the valve, replacing it if necessary.

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25. Decommissioning

25.1 Temporary Decommissioning

A temporary decommissioning of the described product is carried out by disconnecting the electrical, pneumatic, and/or hydraulic power supply connections.

For extended decommissioning, refer to the information provided in the "Transport and Storage" chapter of these installation instructions.

For reactivation of the product, follow the guidelines outlined in the "General Information" and "Commissioning" chapters of these installation instructions.

25.2 Permanent Decommissioning

For the permanent decommissioning of the product, strictly comply with regional regulations and legal requirements for the disposal of contaminated operating materials.

Warning: Lubricants can contaminate soil and groundwater. Therefore, it is recommended to use and dispose of lubricants properly. Regional regulations and laws regarding lubricant disposal must be strictly followed.

25.3 Disposal

During machine maintenance or decommissioning, do not release pollutants into the environment. Refer to local regulations for proper disposal.

When dismantling the machine, it is necessary to destroy the identification plate and any related documents.

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29. Spare Parts

Item	Part Number	Description	Quantity
A	A72.079533	Complete Tank Assembly	1
B	90.352.0	Complete Pump Assembly	1

Item	Part Number	Description	Quantity
1	A78.129149	Grease Tank 1.5KG PAG-40	1
2	UNI5931-M6X35	TCE Screw UNI 5931 M6X35	4
3	UNI1734-D06	Washer UNI 1734 D.6	4
4	A93.086020	Grease Cartridge Filter 250 µ	1
5	A51.106107	Base Load Fitting PAG-50N	1
6	A92.127059	OR 3068-122 17.13X2.62 NBR 70 SH	1
7	A70.078422	Straight Grease Fitting R 1/8	1
8	A70.0941492	Electric Level Group PAG-40	1
9	A70.0931173	Flow Restrictor Cap	1
10	UNI7473-M06	Self-Locking Nut UNI 7473 M6	4
11	46.670.0	Pressure Gauge 0-400 BAR R 1/8	1

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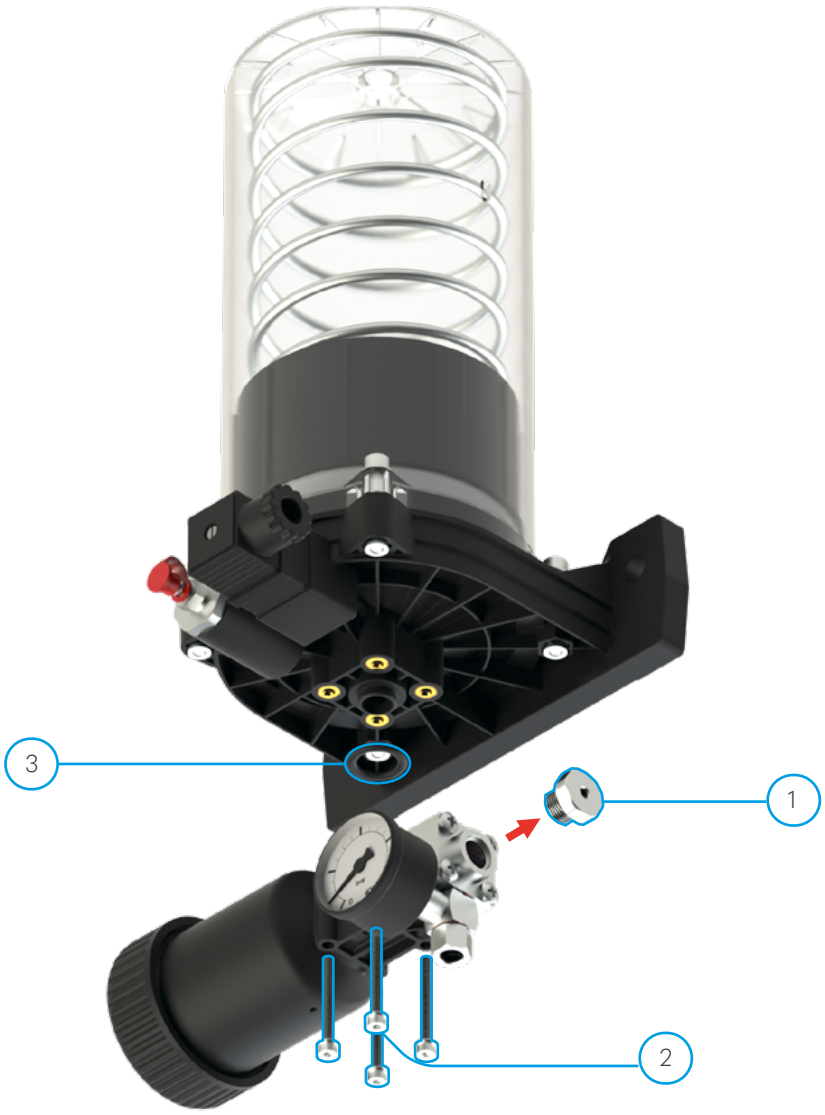
30. Maintenance Procedures

30.1 Pneumatic Pump Replacement Procedure



- Discharge the system pressure and disconnect the pneumatic supply.
- Remove the flow restrictor plug and the bleed screw (1) to allow the grease to drain quickly.
- Remove the 4 screws (2) securing the pump to the reservoir base using a 5 mm hex key.
- Extract the pump, paying attention to the O-ring housed in the pump body.
- Attach the new pump, ensuring it is aligned with the reservoir as shown in the figure. Check that the O-ring (3) is correctly seated in the pump body.
- Tighten the 4 screws (2) with a torque of 2 Nm.
- Reinstall the flow restrictor plug and the bleed screw (1) with a torque of 18 Nm.

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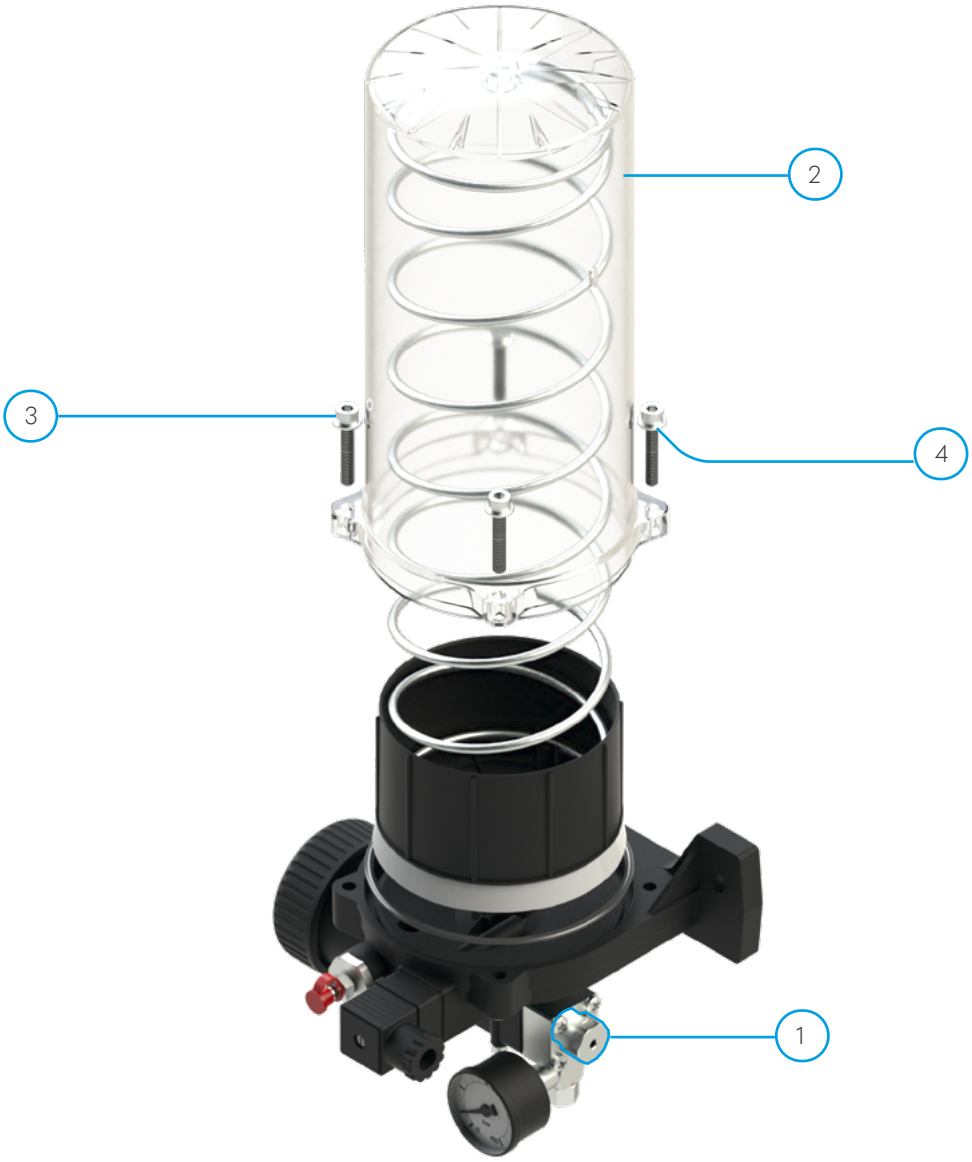
30.2 Replacement of the Reservoir Cylinder



- Release the system pressure and disconnect the pneumatic supply. Wear personal protective equipment (gloves and safety glasses).
- Remove the limiting cap and the bleed screw (1) to allow the grease to drain out. Wait until the tank is completely empty before proceeding.
- Remove the screws and washers (3-4). Be cautious: the spring inside the cylinder (2) is highly loaded; proceed carefully. Carefully extract the cylinder to avoid damaging the components.
- Position the new cylinder, aligning it correctly with its seat. Push it into place, ensuring it is properly inserted. Tighten the screws and washers (3-4) with a torque of 4 Nm.
- Restore the pneumatic supply. Check for leaks and ensure the pump is operating correctly.

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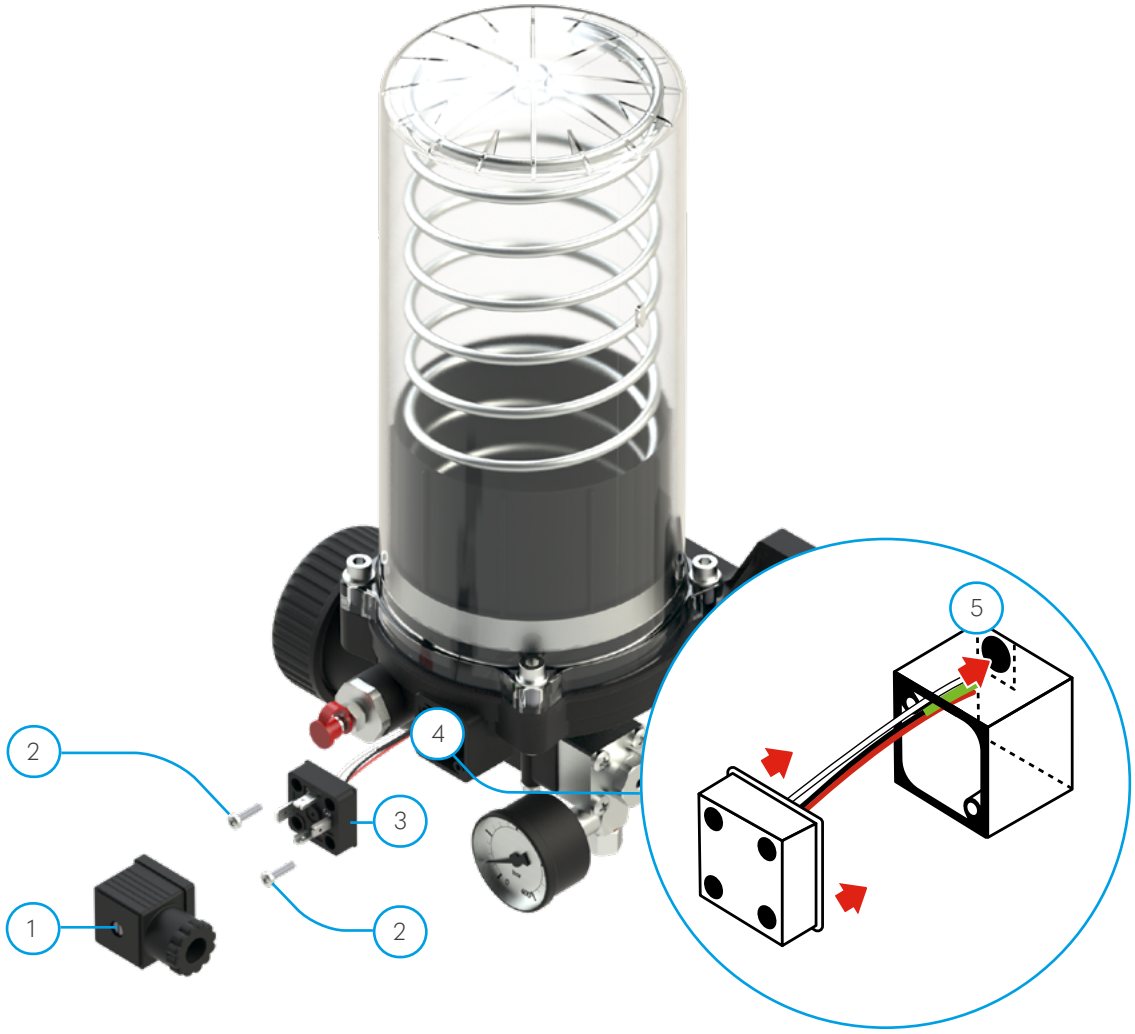
30.3 Replacement of the Grease Level Sensor



- Unscrew the standard connector screw (1) and remove the connector.
- Unscrew the two UNI6954 2.9x13 screws (2).
- Extract the base plate (3). The sensor is attached to the base plate.
- Replace the sensor (4). Do not bend the cables. Keep the cables positioned perpendicularly to the base plate, ensuring they are inserted into the designated hole in the pump housing (5).
- Tighten the two UNI6954 2.9x13 screws (2).
- Reinstall the connector and screw in the standard connector screw (1).

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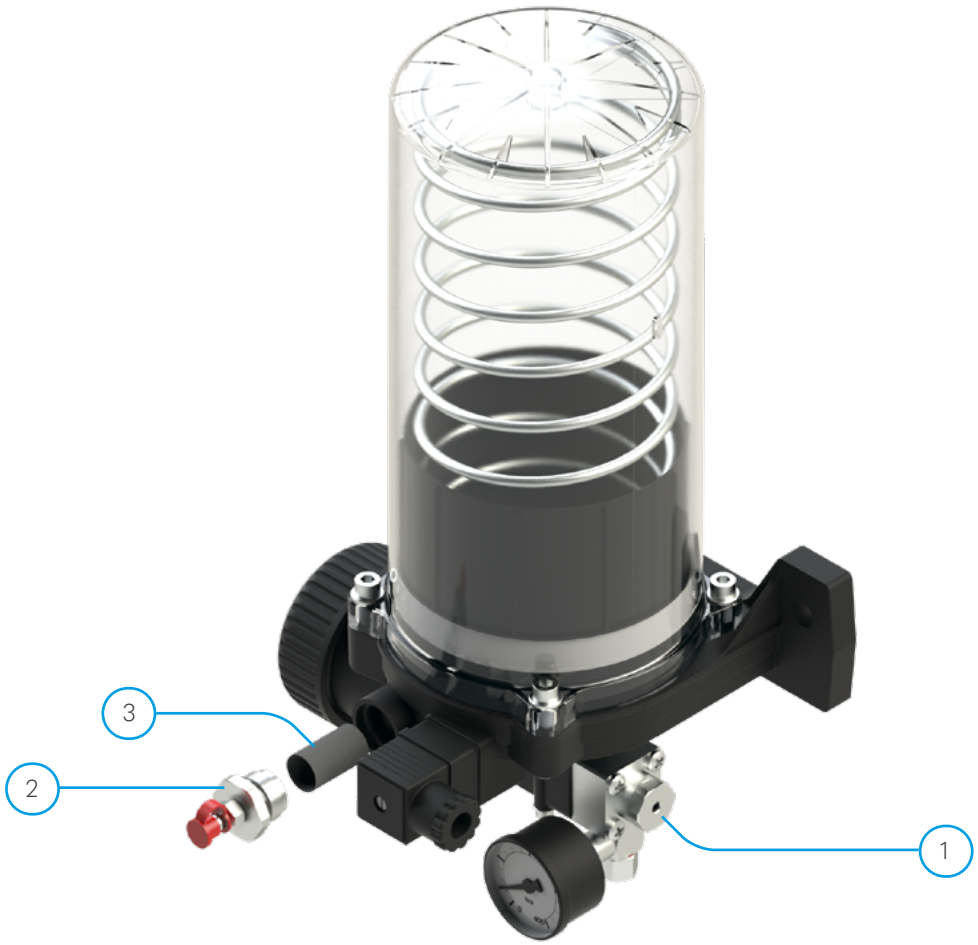
30.4 Cleaning and Replacement of the Grease Inlet Filter



- Release the system pressure and disconnect the pneumatic supply.
- Remove the flow restrictor plug and the bleed screw (1) to allow the grease to drain quickly. Wait until the reservoir is completely empty. Reinstall the flow restrictor plug and bleed screw at the end of the draining process.
- Position the pump horizontally to prevent grease leakage during the replacement or cleaning operation.
- Remove the grease inlet fitting (2) using a 24 mm wrench. It is not necessary to remove the grease nipple.
- Extract the cartridge filter (3). If replacement is needed, remove the worn filter and install the new one, ensuring that the closed end of the filter faces the inside of the pump. For cleaning, extract the filter and blow it with compressed air beforehand. Then, immerse it in a cleaning solution for metal parts. After this step, blow the filter again with compressed air to remove any remaining residues. Finally, reinsert the filter into its housing, making sure that the closed end is correctly positioned facing the inside of the pump.
- Tighten the grease inlet fitting using a 24 mm wrench with a tightening torque of 18 Nm.

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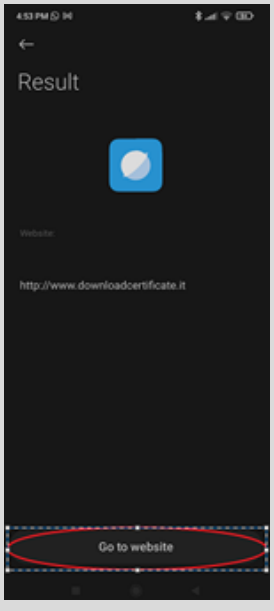
31. Download Pump Test Certificate

For all ILC pumps, the pump test certificate can be downloaded by scanning the QR code on the pump's label. Follow the steps below to download the certificate:

1. Scan the QR code on the pump's label using a smartphone.
2. On the "Result" page, press the "Go to website" button.
3. Enter the Serial Number (found on the pump's label) in the input field and press "Search Model."
4. The PDF certificate will be displayed and available for download.

1

2



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4

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32. Warranty

All ILC products come with a 24-month warranty from the date of delivery, covering manufacturing and material defects.

In the event of equipment malfunction, you must notify us of the detected issue, providing the product code, serial number (as shown in Fig.1), delivery and installation dates, and the operating conditions of the product.

Upon receiving this information, ILC will decide whether to:

- Provide technical assistance
- Refer you to the nearest service center
- Issue a return authorization number for repair

Once the equipment is received and thoroughly analyzed, ILC reserves the right to either repair or replace the product. If the warranty is still valid, we will cover the cost of repair or replacement.
If the product is found to be free of defects, ILC may charge for incurred costs (e.g., logistics).

This warranty will be void in cases of:

Damage or defects resulting from improper use

- Negligence
- Normal wear and tear
- Chemical corrosion
- Non-compliant installation or use contrary to manufacturer recommendations
- Tampering

Any modifications, tampering, or alterations to the equipment or its parts performed without ILC S.r.l.'s authorization will release ILC from any liability and void the warranty. Wear-and-tear components and perishable parts are not covered under the warranty. Any damages, injuries, or costs resulting from product defects that are not explicitly covered in this warranty are excluded.

The warranty conditions are considered implicitly accepted upon purchase of the component. Any changes to this warranty are only valid with prior written authorization from ILC.

ILC declines all liability for damages to persons or property resulting from non-compliance with this manual. Any modifications to system components or changes in intended use without written authorization from ILC will release the company from any responsibility for damages and void the warranty.

33. Machine Identification

On the front part of the pump reservoir, there is a yellow label (fig. 1) displaying the product code and its key characteristics.

fig.1

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DICHIARAZIONE DI CONFORMITÁ / DECLARATION OF COMPLIANCE WITH STANDARDS / DECLARATION DE CONFORMITE/KONFORMITÄTSERKLÄRUNG DES STANDARDS/DECLARACIÓN DE CONFORMIDAD/ DECLARAÇÃO DE CONFORMIDADE

La società ILC srl, con sede legale in Gorla Minore (VA), Via Garibaldi 149 - ILC srl, registered office in Gorla Minore (VA), Via Garibaldi 149 - ILC srl. au Siège Social à Gorla Minore (VA), Via Garibaldi 149 / ILC srl Gorla Minore (VA), Sitz in Via Garibaldi 149 - La sociedad ILC srl., con sede legal en Gorla Minore (VA), Via Garibaldi 149 - A ILC srl, com sede em Gorla Minore (VA), Via Garibaldi 149

DICHIARA / CERTIFIES / CERTIFIE / ZERTIFIZIERT / DASS / DECLARA / CERTIFICA

che il prodotto denominato/that the product called/ le produit appelè/ das Produkt mit dem Namen/ el producto que se llama/ o produto chamado:

Descrizione/ Description/ Description Beschreibung/ Descripción/ Descrição	**PNEUMATIC PUMP**
Nome Commerciale/ Product Name/ Dénomination Handelsname/ Denominación/ Denominação	**PAG-40 / PAO-40 / PA PNEUMATIC PUMP**
Versioni/ Versions/ Versions/ Versionen/ Versiones/ Versões	**ALL VERSION**
Codici/Part Number/Codes/Teile Nummer/Codigos/Codigos	**90.350.00, 90.360.00**

IT	è conforme alle condizioni previste dalle Direttive CEE
EN	has been constructed in conformity with the Directives of the Council of the European Community on the standardization of the legislations of member states
FR	a été construit en conformìté des Directives du Conseil des Communautés Européennes
DE	Entsprechend den Richtlinien des Rates Der Europäischen Union, für die Standarisierung der Legislative der Mitgliederstaaten, konstruiert wurde
ES	cumple con las condiciones establecidas por las directivas comunitarias/ foi construído em conformidade com as diretivas do Conselho das Comunidades Europeias
PT	foi construido em conformidade com as diretivas do Conselho das Comunidades Europeias

- 2006/42/CE Direttiva macchine /Machinery Directive/ Directive machines/ Maschinenrichtlinien/Maquinaria / Directiva Máquinas;
- 2014/30/UE Compatibilità elettromagnetica/ Electromagnetic compatibility/ Compatibilité électromagnétique/ Elektromagnetlschevertr glichkeit/ Compatibilldad electromagnética/ Compatibilidad eletromagnética
- 2014/35/UE Bassa tensione / Low Voltage Directive / Directive Basse Tension/ Niedrigspannungsrichtlinien/ Directiva de baja tensión/ Directiva de Baixa Tensão;
- RoHS 2011 / 65 / EU.

La persona autorizzata a costituire il Fascicolo Tecnico presso ILC srl
The person authorized to compile the Technical File care ILC srl
La personne autorisée à constituer le dossier technique à CIT srl
Die Person, die berechtigt, die technischen Unterlagen bei ILC srl zu kompilieren
La persona autorizada para configurar el Archivo Técnico en ILC srl
A pessoa autorizada a configurar o Arquivo Técnico na ILC srl

CE

Gorla Minore 10/01/2022

Ing. Stefano Ghiringhelli

Firmatario autorizzato/Authorized signatory/
Signataire autorisé/Zeichnungsberechligter/
Slgnatario autorizado/ Slgnatàrio autorizado

Il Legale Rappresentante
Maurizio Morelli

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