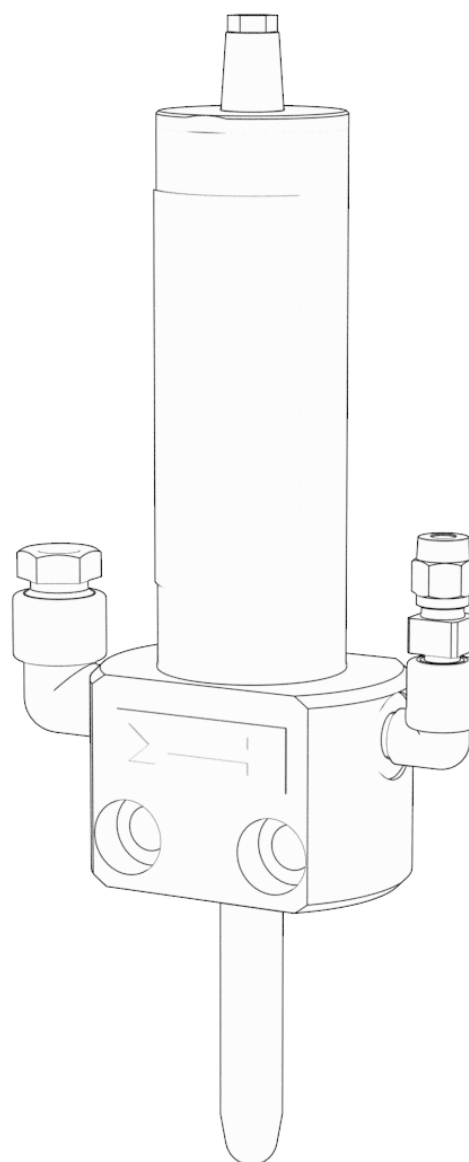


Operation and maintenance manual

Original instructions



*Manual drafted in compliance
with directive 2006/42*

C2310IE – WK 23/19

www.dropsa.com

DropsA products can be purchased at DropsA branches and authorised distributors,
go to www.dropsa.com/contact or write to sales@dropsa.com

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1. INTRODUCTION

This operating and maintenance manual refers to the piston pump 3420001.

The most recent version can be obtained by requesting it from the Sales Technical Office or online at <http://www.dropsa.com>.

This operation and maintenance manual contains important information for the health and safety protection of the personnel who intends to use this equipment.

This manual must be read carefully and kept so that it is always available to the operators who want to consult it.

2. GENERAL DESCRIPTION

The 3420001 piston pump is particularly suited for those applications that require lubrication on points such as reducers, guides, chains, etc. It can also be used in applications that require maintaining the lubricant at constant pressure.

The 3420001 pump is an inverse drive piston pump, in other words, suction occurs when the piston is driven, whereas the pressurisation phase is ensured by a spring placed inside the cylinder.

The pumping element is driven by a cam or by another device that is part of the machine on which the pump is installed. It is therefore important that the installation is carried out in such a way so that during operation, the drive stroke foreseen in the design is observed.

3. IDENTIFYING THE MACHINE

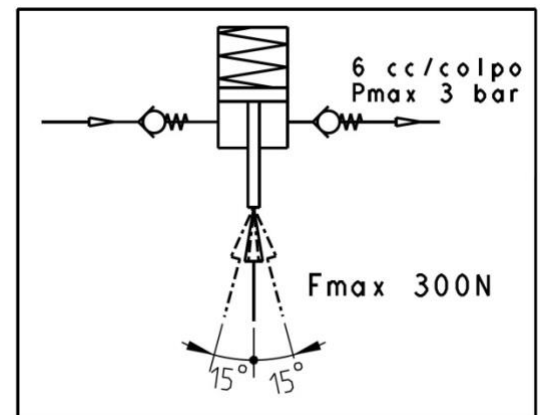
A yellow label is located on the front part of the pump that indicates the product code and its basic characteristics.

PRODUCT IDENTIFICATION	
PART NUMBER 3420001	
REVERSE PISTON PUMP 6CC	
FLOW	6 CC/CYCLE
PRESSURE	3 BAR MAX
OIL	MIN 32 MAX 220 CST
WO: 1044716	0001
 AN ISO 9001 APPROVED COMPANY	 Dropsa Spa Milan, IT Year: 2019 MADE IN ITALY
Scan for Info Scannen für Info Telechargez-Info Info Prodotto 扫描产品信息 сканер штрих-кода	
L100000	www.DropsA.com

4. TECHNICAL SPECIFICATIONS

GENERAL SPECIFICATIONS	
Empty weight	0.5 Kg
TECHNICAL SPECIFICATIONS	
Operating Type	Cam
Pumping system	Piston
Max. operating pressures	3 bar (44.1 psi)
Flow rate	6 cc/stroke
Travel	min 10 mm
Max x min No. pumping operations	5 strokes/min
Inlet connection	Pipe Ø6
Outlet connection	Pipe Ø4
Temperature of use	+ 5 ÷ + 40°C
Permitted lubricants	Mineral lubricating oil min. 32 cSt/ max 220 cSt
Max operating force	300 N
Storage temperature	-20 ÷ +65°C

HYDRAULICS



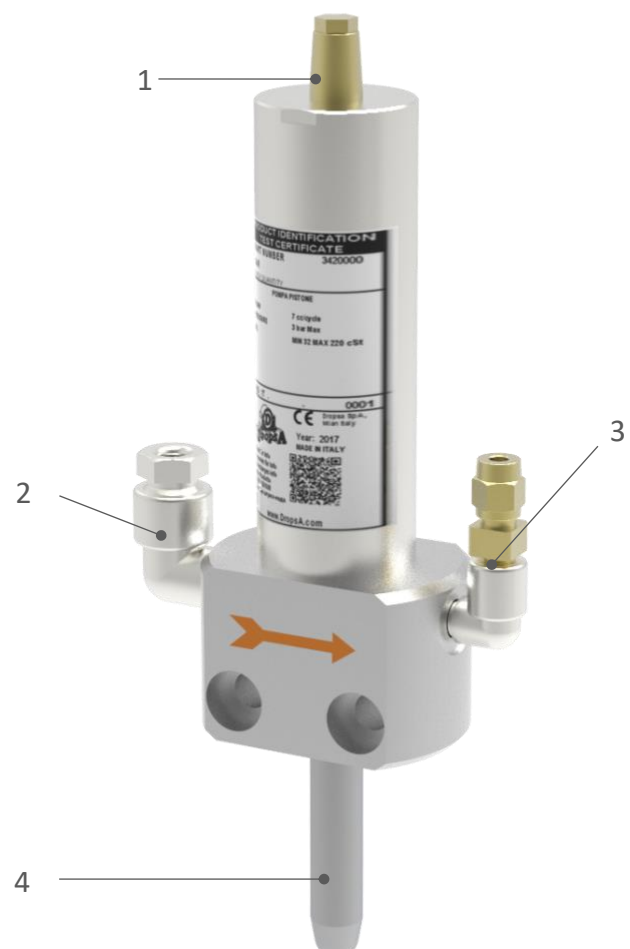
Note: The axis of the driving force can be inclined a maximum of 15° with respect to the axis of the cylinder

Note: The following characteristics refers to an operating temperature of +20°C (+68 °F)

* If a different product is used, you must ask DropsA S.p.A. if it is suitable for use.

5. MACHINE COMPONENTS

PUMP COMPONENTS	
1	Air filter
2	Oil suction
3	Oil delivery
4	Control shaft



6. UNPACKING AND INSTALLATION

6.1 UNPACKING

Once the suitable location for installation has been identified, open the packing and remove the pump. Ensure that no damage occurred during transport and storage. The packing material does not require special disposal precautions as it is in no way dangerous or pollutant. For disposal, refer to local regulations.

6.2 INSTALLATION

No pump installation operations are required.

Provide adequate space for installation, leaving a minimum perimeter space of 100 mm (3.93 in.).

For wall mounting, adequate spaces must be provided (as per the installation diagram). Subsequently, the pump must be hydraulically connected. During the dismantling phase, disconnect the hydraulic part.

7. OPERATING INSTRUCTIONS

7.1 PRELIMINARY CHECKS

1. Check the integrity of the pump. (The unit can be opened and repaired only by specialized personnel.)
2. Ensure that the hydraulic connection has been carried out correctly.
3. Use impurity-free lubricant.

7.2 USE OF THE PUMP

The pump is activated mechanically by the alternative motion of the machine. It is important that the activation system allows observance of the design technical specifications (stroke, max No. of pumping elements, etc.). The pump has inverse operation. When the piston is pushed, the suction phase occurs, whereas when it is released, the oil is sent to the delivery points.

We recommend carrying out a few cycles to bleed the air from the system.

1. Using the pump submerged in fluids or in a particularly aggressive or explosive/flammable environment is prohibited unless it has been prepared ahead of time by the supplier for this purpose.
2. Use gloves and eye protection as required by the oil lubricant safety data sheet.
3. DO NOT use lubricants that are aggressive to NBR gaskets. If you are unsure, contact the technical office.
4. Never ignore health hazards and always follow sanitary regulations.

8. PROBLEMS AND SOLUTIONS

PROBLEM	CAUSE	SOLUTION
The pump does not dispense the prescribed quantity.	The pump is suctioning air because the reservoir* is empty	Fill the reservoir* and bleed the air from the system
	The fittings are loose	Carefully tighten all the fittings, ensuring that there are no leaks
The pump does not dispense at the prescribed pressure.	Deteriorated pump	Replace the pump
The pump does not dispense and has difficult suctioning oil from the reservoir	The suction check valve may be dry after a long period of disuse	Disassemble the suction fitting and allow a few drops of oil to fall on the 90° valved fitting. During the first pumping operations, force the suction phase, making it longer than the release phase, in order to allow the pump to repressurise and fill the suction pipe more quickly

* The reservoir is not included in the supply

- 1.

9. MAINTENANCE PROCEDURES

The pump has been designed and built in a way to require minimum maintenance.

In order to simplify maintenance, we recommend installation in a position that is easy to reach. Periodically check the joints of the piping and always keep the pump clean to detect any leaks or defects.

The machine does not require special tools for any check and/or maintenance operations. It is recommended to use suitable equipment and personal protective equipment (gloves) that are in good condition in accordance with applicable regulations to avoid damage to people or parts of the machine.



ATTENTION: ensure that the hydraulic feed is disconnected before carrying out any maintenance operations.

In the event of doubts and/or irresolvable problems, do not search for the fault by disassembling parts of the machine, but rather contact the DROPSA Technical Office S.p.A.

10. DISPOSAL

During maintenance on the machine, or in the event of its demolition, do not dispose of contaminated parts into the environment. See local regulations for their correct disposal. Upon demolition of the machine, the identification label and any other document must be destroyed.

11. ORDER INFORMATION

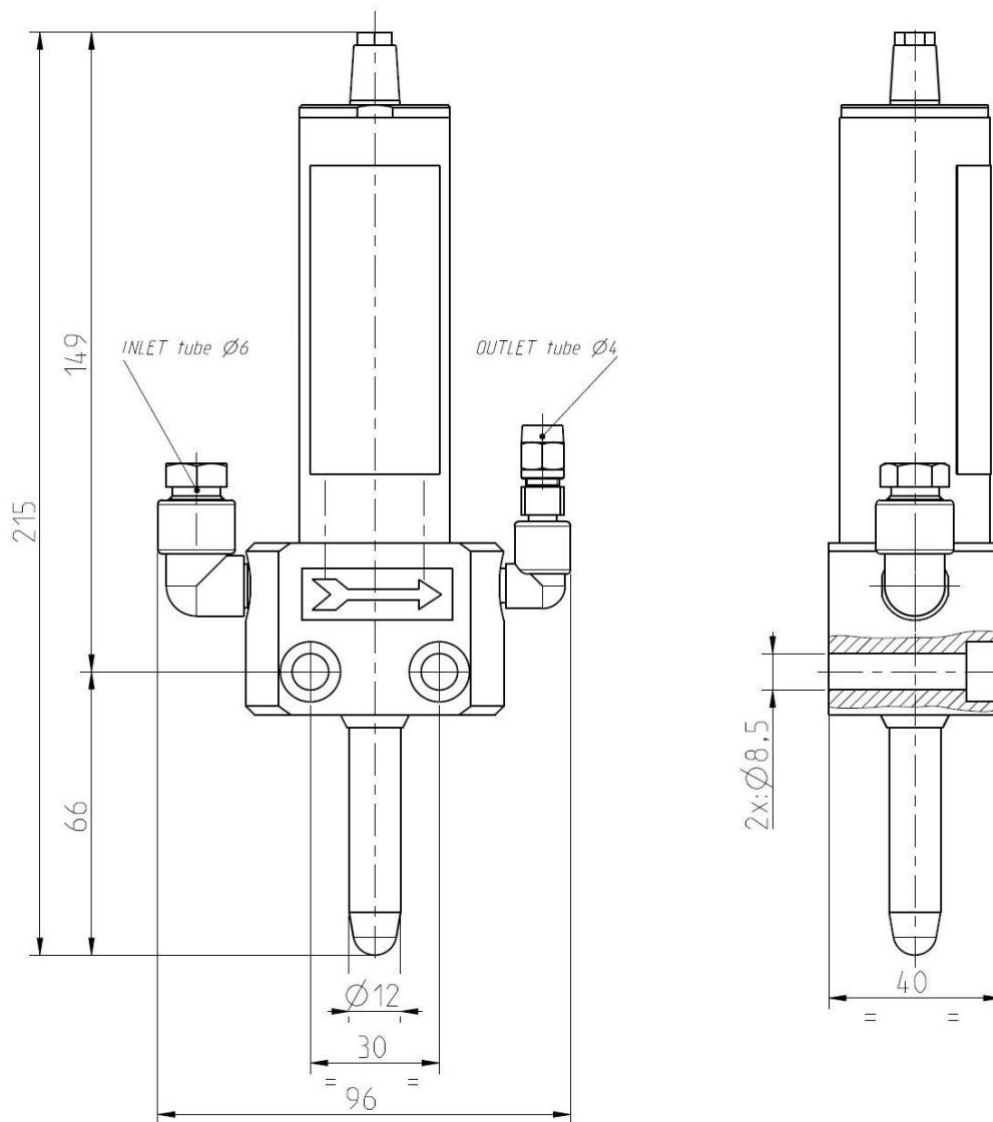
11.1 STANDARD VERSIONS

ITEM	Flow rate	PART NUMBER
PISTON PUMP	6 cc/stroke	3420001

11.2 SPARE PARTS

ITEM	PART NUMBER
CHECK VALVE and FITTING Ø6 1/8" BSP [suction]	0094136 + 0092014 + 0093006
CHECK VALVE 5/16 – 24 NF and FITTING Ø4 [delivery]	1111000 + 0093004 + 0094007 + 0911005

12. DIMENSIONS



13. HANDLING AND TRANSPORT

Before shipment, the pumps are carefully packed inside a cardboard box. During transport and storage of the equipment, pay attention to the direction indicated on the box. Upon receipt, check that the packaging is not damaged and store the equipment in a dry place.



Lift the equipment bearing in mind the direction indicated on the box.

The components of the pump can withstand temperatures during storage from -20°C to $+65^{\circ}\text{C}$. However, in order to prevent damage, running operation must take place when the pump has reached a temperature of $+5^{\circ}\text{C}$.

14. PRECAUTIONS FOR USE

The warnings on risks that using a lubricant pump implies must be carefully read.

The operator must be familiar with the functionality and clearly understand the dangers connected with pumping greases under pressure.

We therefore recommend:

1. **Checking the chemical compatibility of the pump construction materials with the fluid that you intend to pump (see the table at the end of paragraph 14). An incorrect choice could cause, in addition to damage to the pumps and the lines, serious risk to personnel (leaking of products that are irritants and harmful to the health) and to the environment.**
2. **Use only original spare parts.**
3. **If you must replace components with others, ensure that they are suitable to function at the pump's maximum operating pressure.**



ATTENTION: Never try to stop or deviate any leaks with your hands or other parts of the body.

Note: Personnel must use protection equipment, clothing and tools that comply with the prevailing regulations in relation to the location and the use of the pump both during operation and maintenance.



ATTENTION: The warnings on risks that using a lubricant pump implies must be carefully read. The user must be familiar with operation through the Operation and Maintenance Manual.

Flammability

The lubricant used in the lubrication circuits is a fluid that is not normally flammable. In any case, all possible measures must be taken to prevent it coming into contact with very hot parts or naked flames.

Pressure

Before any operation, check for the absence of any residual pressure in all branches of the lubricant circuit, that could cause spurts of oil in the event that fittings or components are disassembled. After long periods of inactivity, check the seal on all the parts subject to pressure. Do not subject the fittings, pipes and the parts under pressure to violent impact. A damaged hose or fitting is DANGEROUS. Replace it. We recommend using only original spare parts.



Note:

The pump is designed to work with maximum 220 cSt grade lubricants. Use NBR gasket compatible lubricants. The lubricant used for assembling and testing possibly remaining inside is 32 cSt oil.

15. OPERATING INDICATIONS

The pump does not have any particular contraindications except for the following points:

- **Contact of the operator with the lubricant** due to rupture/opening of the piping or during the maintenance/reservoir filling procedures. Protection against direct and indirect contact must be provided by the user: *the operator must have suitable PPE (tit. VIII – 626).*
- **Use of unsuitable lubricant.** Main prohibited fluids:

Fluid	Hazard
Lubricants with abrasive additives	High wear of the contaminated parts
Lubricants with silicon additives	Seizing of the pump
Petrol – solvents – flammable liquids	Fire – explosion – damage to the gaskets
Corrosive substances	Corrosion of the pump – damage to personnel
Food substances	Contamination of the same