

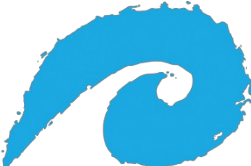
**OWNER'S MANUAL
SPARE PARTS & MAINTENANCE
ACCESSORIES**

Caretech Spraypump 10:1

Wash pump

Pneumatic



MARINE  **CARE**

Revision	0	Document number	MAN-09-31
Date of issue	17-02-2026	Page	2 of 23

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Symbols used in this manual



Read carefully before operating the machine



Risk for persons



Environmental protection



Risk for the machine



Tips & Hints

Safety Instructions



Before using the Caretech Spraypump 10:1, ensure this operations manual is fully read and understood.

Always keep this manual in a safe place within reach, near to the spraypump.



Only qualified people should operate the spraypump. You should never allow children or people who are not properly instructed on its use, to operate the machine. Use of the spraypump is subject to the applicable local regulations and provisions.



Before operating, check and ensure the machine and all its accessories are in good & proper working condition & free of defects. In case you observe any abnormal noise, leakage, malfunction or defect, stop the machine, unplug the air supply and have the machine serviced.



Never direct the jet towards yourself, other people, animals, electrical installations or the machine itself. You should never attempt to clean your clothes or footwear with the machine. Do not attempt to clean delicate parts, in order to prevent their damage and to ensure the cleaning operation will not result in dangerous substances being washed off the object, harming the environment. Always wear appropriate clothing and eye protectors.



High-pressure discharge hoses must be thoroughly inspected before start-up. The maximum permissible pressure and temperature are printed on the high-pressure hose. In case of damage, replace immediately with original hoses approved by the manufacturer.



Do not cover the machine and ensure adequate air circulation. Always store the machine in places where it will not be exposed to frost. Do not operate the machine without liquid, as such shortages may result in damage of the pump.



You should carry out only the maintenance works described in this manual and use only original parts approved by the manufacturer. Do not make any modifications to the machine and ensure it is regularly serviced as per its maintenance schedule. Repair works to be carried out by qualified personnel only.

USER OPERATION MANUAL

Description

Caretech Spraypump 10:1 is a low and medium pressure pneumatic pump for professional use to be used for cleaning liquid.

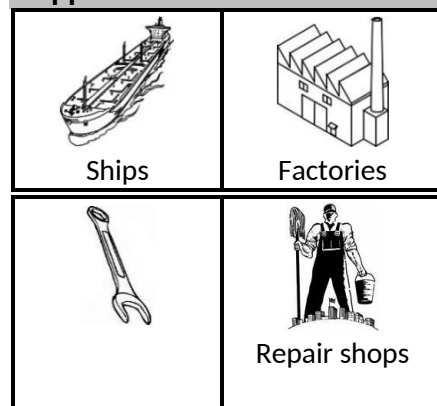
The pump is essentially constituted of an air motor and a structure called «pumping group» .

In the pneumatic motor, compressed air causes the vertical reciprocating movement of the motor piston; this movement is transmitted through a connecting rod to the material pumping piston which allows to suck liquid.

The ratio 10:1 means that the outlet pressure of liquid is 10 times higher than the pump feed air pressure.

The Spraypump is equipped with, 3 different size of lances, spraygun, FLR set (filter, lubricator, reducer) nozzle set & 30mtr spray hose.

Application fields



Technical specification

Model / Type		Caretech Spraypump 10:1	
Maximum working pressure	Bar - Psi	70	1015
Pump air pressure	Bar - Psi	3-7	40-100
Air let size	BSPP	½"	
Cycles	Per litre	5	
Maximum number of cycles per minute	C Per Litre	60	
Fluid outlet	BSPP	¾"	
Length complete pump	Mm		
Max water temp	db(A)	90°	
Dimensions packaging	mm	L1800 x W400 x H350	
Weight	kg	97	

Components overview

Pneumatic wash pump 10:1

Our Spraypump set is equipped with one of the most reliable European high-pressure wash pump pumps.



Air treatment set (FRL)

FRL Filter, Lubricator & Reducer to guarantee the efficiency and durability of the pneumatic spray pump.



Spray hose

30 mtr high quality spray hose with stainless steel swivels



Spay gun

Stainless steel high pressure spray gun



Spraying nozzles

Complete with a set of 3 stainless steel spraying nozzles.



Lance set

Complete stainless steel lance set with 3 different lengths.

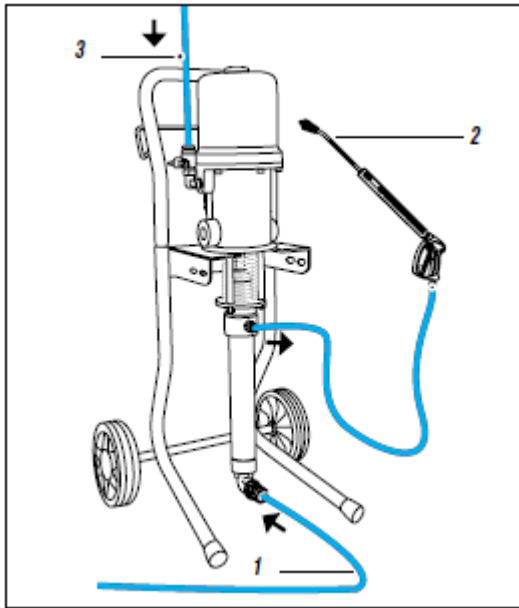


Operating the machine

1. Inspect the general condition of the machine. Check high-pressure hoses, hose & pipe connections, and spray gun & lance whether damaged or worn.
2. Allow the water to flow to the previously connected inlet hose.
3. Make the compressed air flow into the pump. It is advisable to adjust air pressure to minimum necessary for its continuous working.
4. When the product chamber is full, pump will start working and stopping. Pump will start working again any time the trigger of the spraying nozzle is pressed or the delivery valve is open.
5. Check that the gasket pressing ring nut has not loosened causing liquid to escape from the upper part of the pump. To tighten the ring nut, follow the instructions given in the "Routine maintenance" paragraph.

After using the machine

1. Close the liquid supply .
2. Drain the liquid from the pumping circuit by pressing the spray gun.
3. Shut off the compressed air supply to the pump.
4. Discharge the residual pressure present inside the pump.

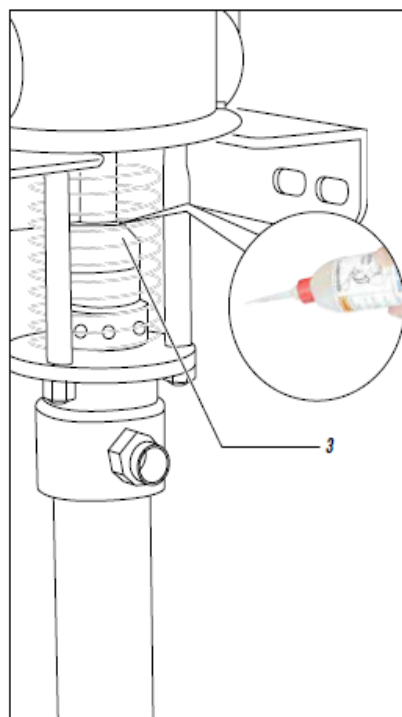
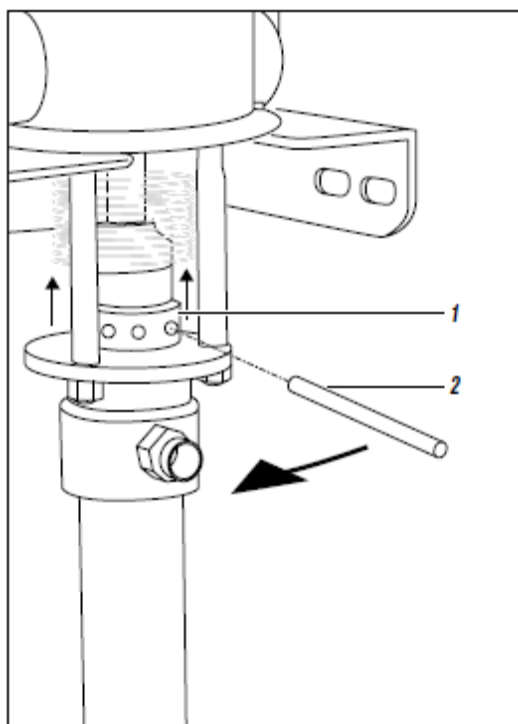


Routine maintenance



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

- 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) with a diameter of 6 mm (*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.
In case of persistent coming out of product, provide for the replacement of the upper sealing gaskets.
- Keep the cup (3) that covers the packing ring nut filled with lubricating liquid in order to prevent the product from drying on the piston rod.
- Check periodically the air supply to the pump. Ensure the air is always clean and lubricated.



Troubleshooting

MALFUNCTION	POSSIBLE CAUSE	SOLUTION
Pump is not starting	Feeding air is not enough	Check the air supply. Increase the diameter of the feeding hose
	Outlet water line clogged	Clean. Disconnect the outlet liquid pipe. Feed pump at minimum pressure and check if the pump starts without the outlet pipe
	Inlet water line clogged	Clean the suction pipe
	Pneumatic motor blocked at the upper or lower stroke end (Dead Center)	Reduce feed pressure and manually reset the pneumatic motor
	Parts failure of the pneumatic motor	Disassemble the motor and check
Accelerated working and no pressure of the pump	There is no liquid	Add liquid
	The pump sucks air	Open the exhausting valve.
	Feeding air is not enough	Increase the feeding air pressure
	Suction valve worn or partially clogged	Disassemble the suction valve. Clean and/ or replace if necessary the worn parts
	Outlet valve worn or partially clogged	Disassemble the outlet valve. Clean and/ or replace if necessary the worn parts
	Gaskets of the pumping rod worn	Replace the lower gaskets
	The ball of the suction valve does not perfectly "close"	Disassemble the suction valve and clean

The pump works, but the product is not flowing enough	Suction valve worn or partially clogged	Disassemble the suction valve. Clean and/ or replace the worn parts
	Outlet water line clogged	Clean. Disconnect the outlet liquid pipe. Feed pump at minimum pressure and check if delivery increases without the outlet pipe
	The feed air pressure is too low	Increase air pressure
	Gaskets of the pumping rod worn	Replace the lower gaskets
	Inlet water line clogged	Clean the suction pipe
	The ball of the suction valve does not perfectly "close"	Disassemble the suction valve and clean
Leakage of water from the lubricating cup	Upper gaskets worn	Tighten the packing nut. In case of persistent waste of product, replace the upper gaskets of the pumping unit



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

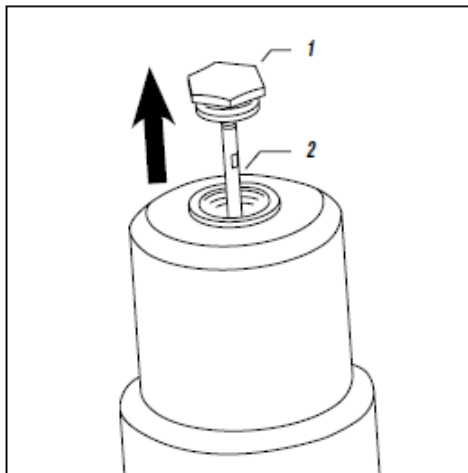
Manual reset of the pneumatic motor

- The feed air pressure of the pump must never be higher than the maximum value indicated in the technical data. 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.



Disassembly of the pneumatic motor



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).
- 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).
- Carefully extract the motor cylinder (4) from the pump.
- Check the condition of every part of the motor.
- For any replacement of the screws (5) of the crosspiece (6), for their reassembly and correct adjustment see the drawing below and the exploded view on page 16.

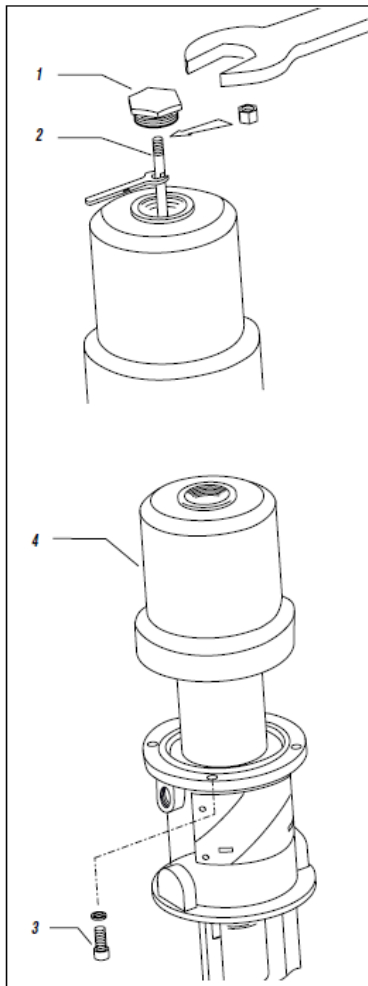


Fig. 1

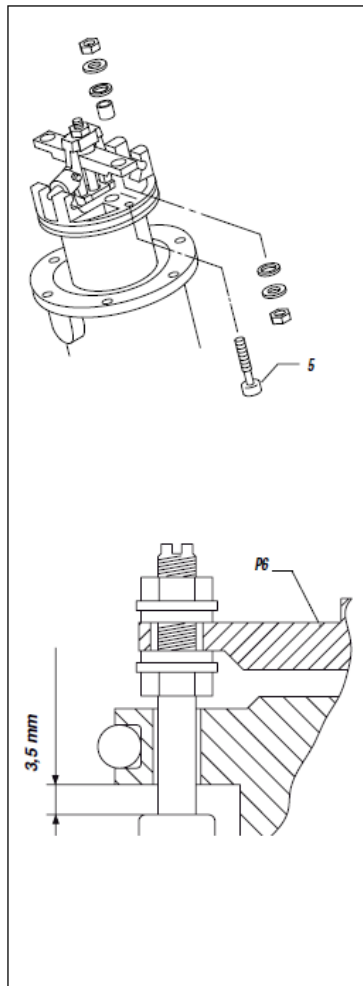


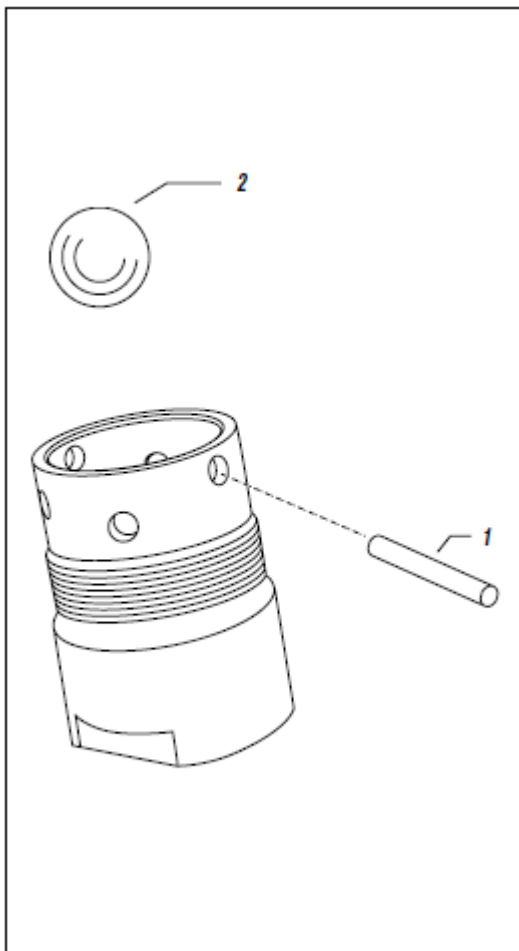
Fig. 2

Disassembly of the suction valve



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

- Lift the pump from the fluid tank.
- Unscrew the suction valve.
- Remove the stop ball pin (1) and the ball (2). Check that ball housing and ball are not ruined: then clean and/or replace the parts.
- Insert again the ball and the stop ball pin. Adjust the ball stroke according to the type of product being used. For thick products, the maximum of the stroke (*place the stop ball pin in connection with the upper holes of the suction valve*). For very fluid products, the contrary.



Replacement of the lower gaskets



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

- Unscrew and remove the fluid cylinder (1).
- Hold the bush (2) with a wrench and with the other wrench unscrew the fitting (3).
- Extract the necessary lower gaskets (4), supplied as spare parts.
- For the reassembling of the gaskets, respect the order as shown in the drawing.
- Carefully screw again the fluid cylinder (it is suggested to lay a slight film of vaseline grease on the internal walls of the fluid cylinder).

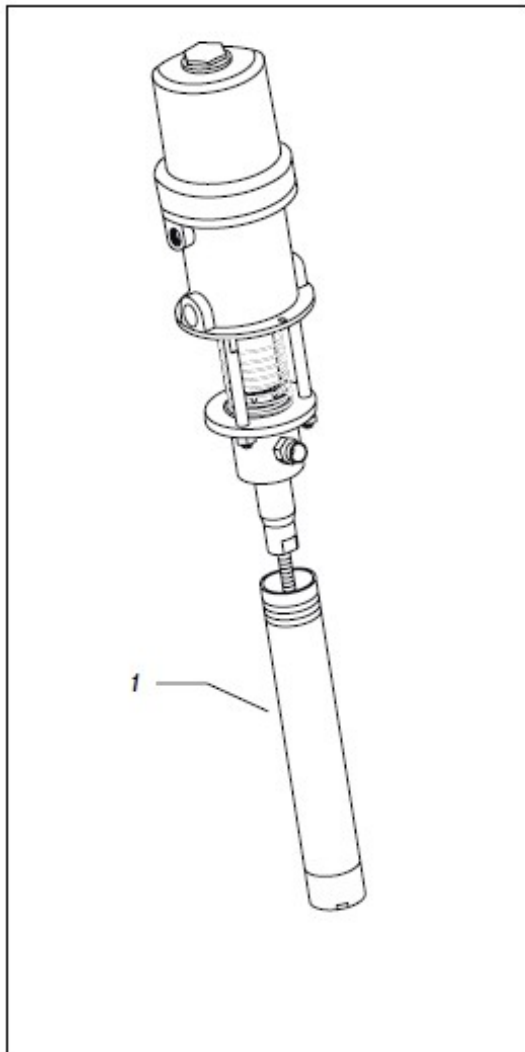


Fig. 1

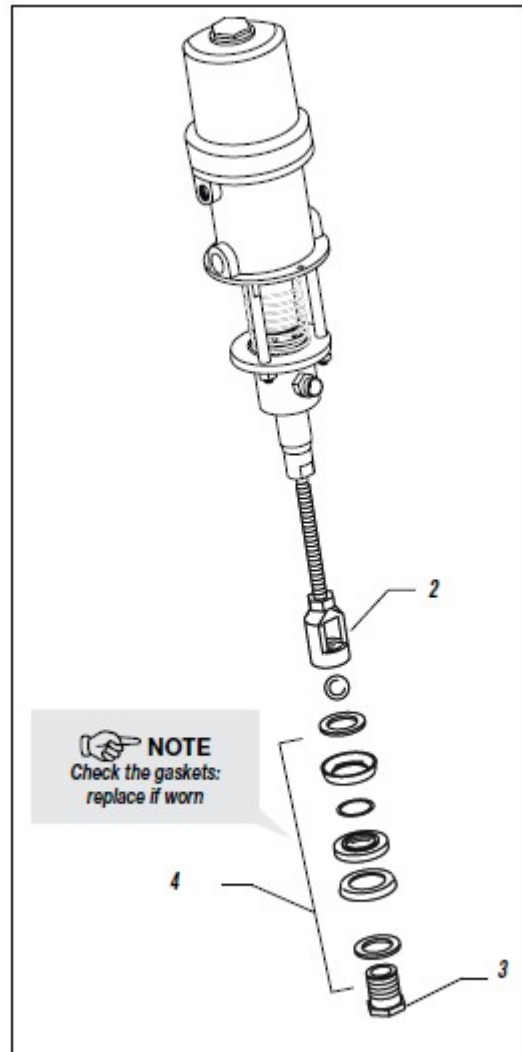


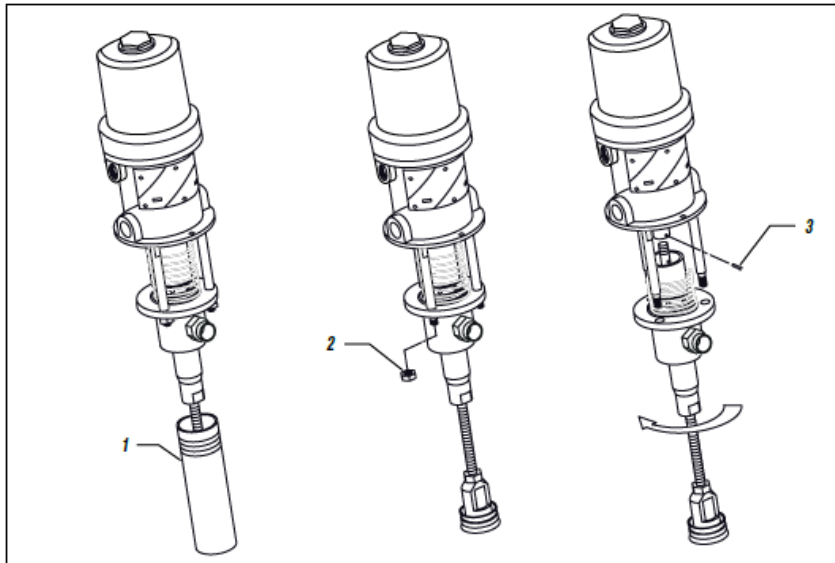
Fig. 2

Replacement of the upper gaskets



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

- Unscrew and extract the fluid cylinder (1).
- Unscrew the three nuts (2).
- Remove the split pin (3) and unscrew the piston rod from the pneumatic motor. Disconnect the pumping group from the pneumatic motor.



- Extract the piston rod from the housing.
- Unscrew the packing nut (4) (use a metal rod with an internal diameter of 6 mm).
- Remove the gaskets and packing glands.
- For the correct reassembling of the gaskets see spare part list.

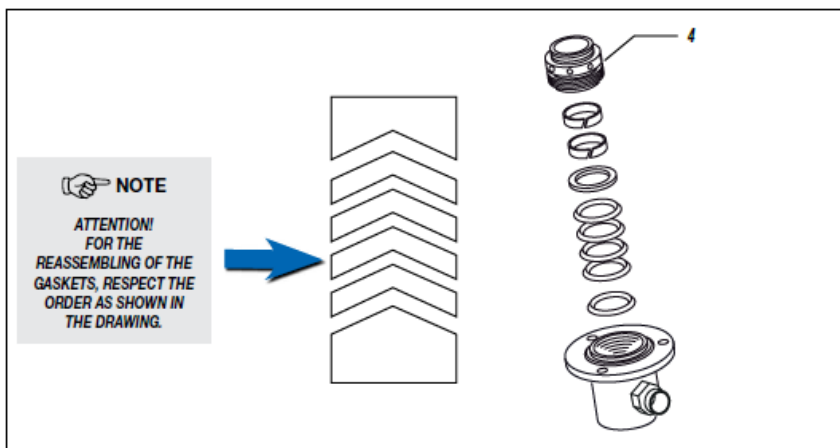


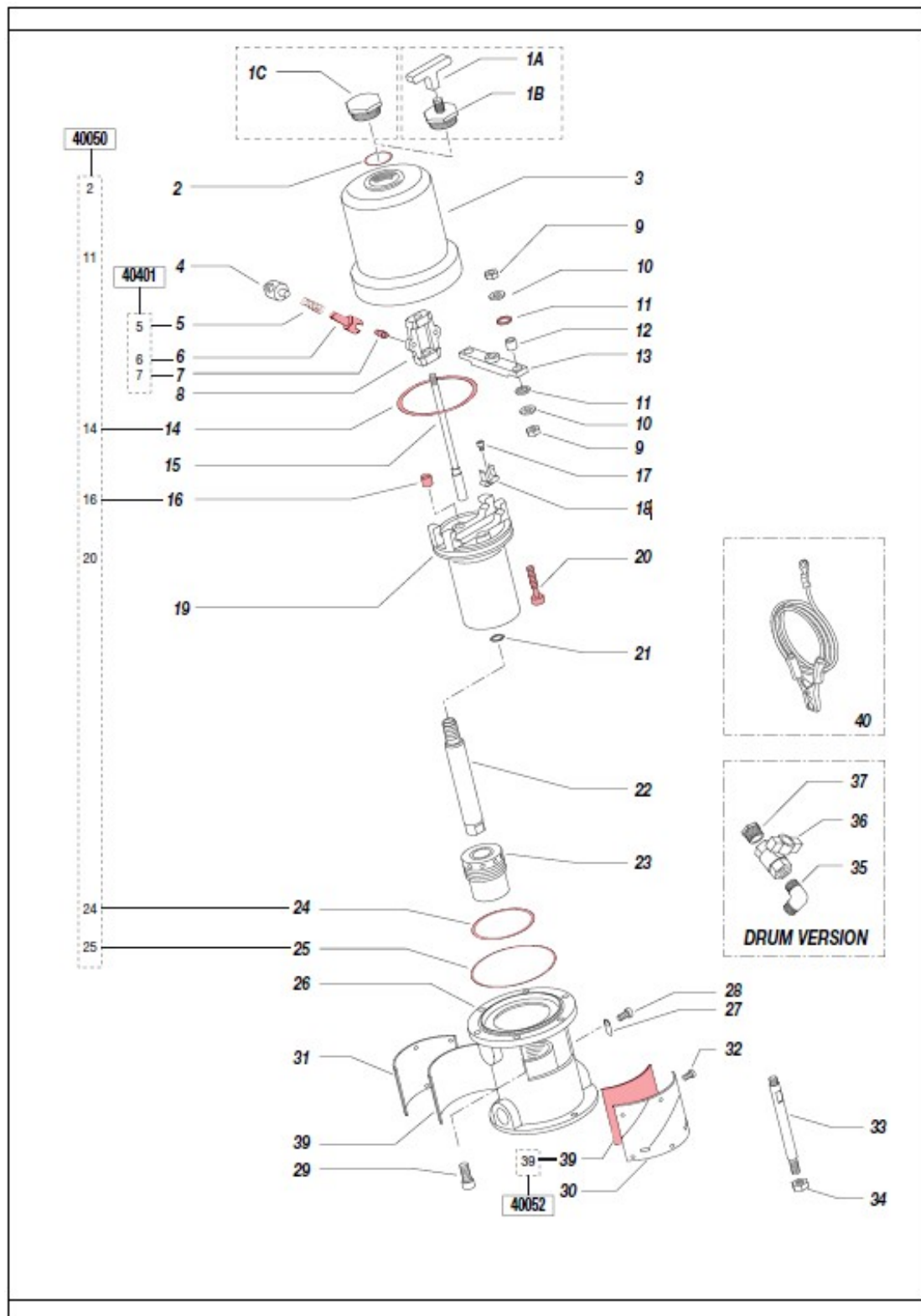
Fig. 2



Tighten the packing nut only after inserting again the piston rod into the housing (it is suggested to insert the piston rod from the top to avoid to ruin the gaskets).

Spare parts – Complete pneumatic motor

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



Pos.	Code	Description	Q. ty	Pos.	Code	Description	Q. ty
	96663	Complete motor - trolley version		19	96013	Motor piston	1
	96663/1	Complete motor - wall version		20	96027	Complete valve screw	2
	96669	Complete motor - drum version		21	33031	Washer	1
1A	91602	Handle - drum version	1	22	96016	Piston rod	1
1B	391602	Handle plug - drum version	1	23	96017	Complete bush	1
1C	96001	Plug - Trpiley/wall version	1	24	96020	O-Ring	1
2	95075	O-Ring	1	25	96018	O-Ring	1
3	96003	Motor cylinder	1	26	96021	Motor support	1
4	96005	Roller	2	27	96210	Ground plate	1
5	96006	Spring	2	28	96211	Screw M6	2
6	96007	Fork	2	29	96031	Screw M8	6
7	96024	Fork pin	2	30	96022	Front name plate	1
8	96008	Rocker	1	31	96609	Back name plate	1
9	4108	Nut M8	4	32	56444	Screw M4	12
10	32024	Washer	4	33	96072	Tie rod	3
11	96111	Crossbar washer	4	34	96080	Nut M10	3
12	96112	Bush	2	35	96213	Elbow - drum version	1
13	96110	Traverse	1	36	96253	Valve - drum version	1
14	96012	O-Ring	1	37	96261	Reduction - drum version	1
15	96010	Guiding rod	1	38	8045	Cut attention plate	1
16	96009	Rubber valve	2	39	96022/1	Felt seal	2
17	96025	Screw M4	2	40	5010	Grounding cable	1
18	96011	Traverse guide spring	2	41	19556	Label	1



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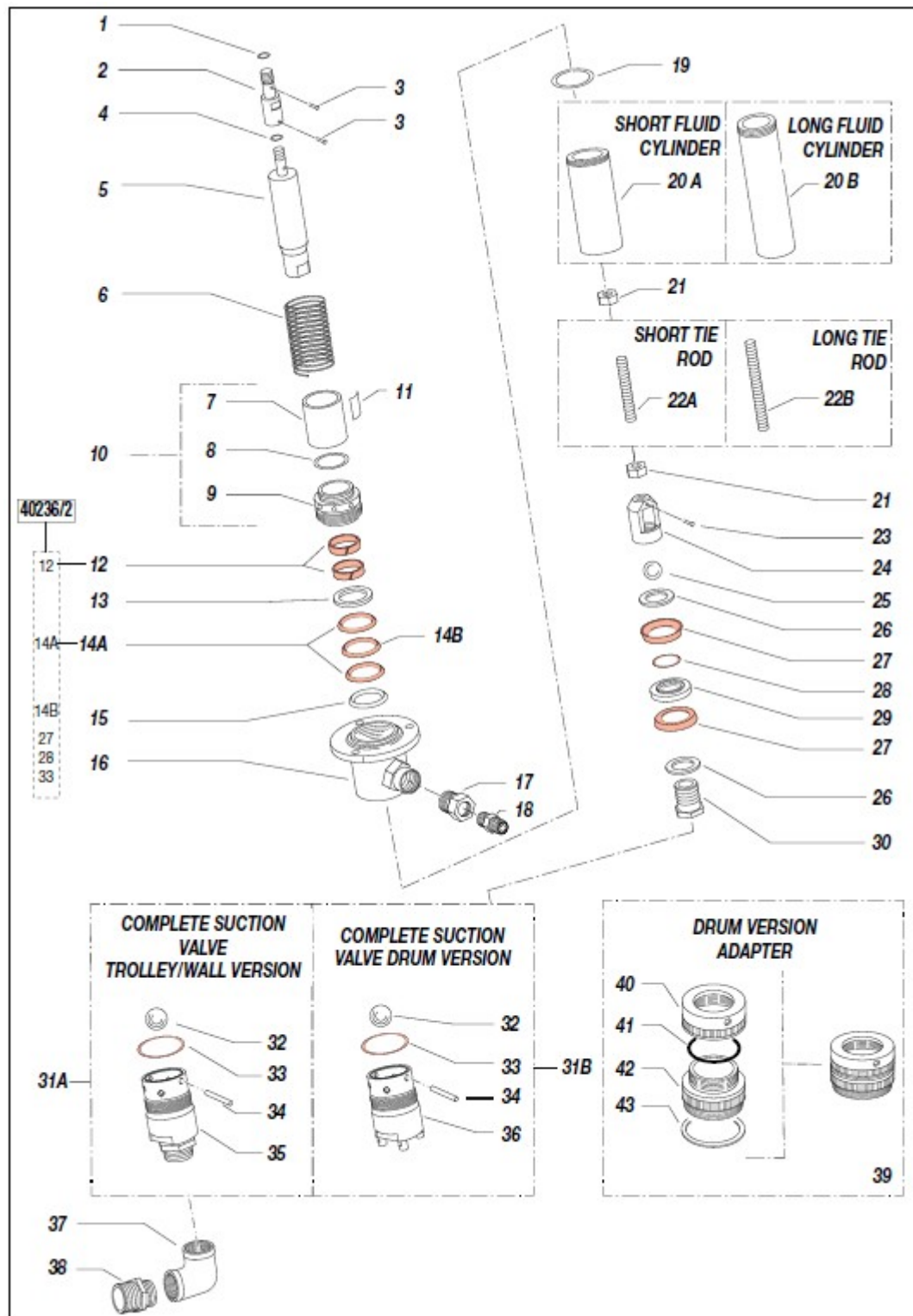
LARCO RAMBA Via A. Stoppani, 10-23011 Calolziocorte (CR) - Italy	
DESCRIZIONE:	
PART No:	PRESSURE RATIO:
YEAR:	AIR PRESS. RANGE:
SERIAL No:	MAX. FLUID PRESSURE:
MADE IN EU	CE UK EAC

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Cod. kit	Position	Description
40050	2, 4x (11), 14, 2x(16), 2x (20), 24, 25	Motor gasket kit
40401	2x (5), 2x (6), 2x (7)	Motor movement inversion device kit
40052	2x (39)	Felt gasket kit

Spare parts - Complete pumping group

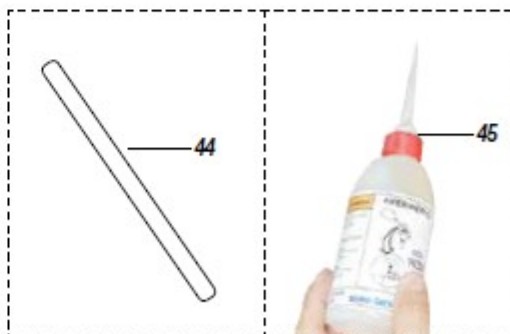
WARNING: always indicate code and quantity for every part required.



Pos.	Codice	Descrizione	Q.tà
	98051/3	Short - pumping group - trolley/wall version	
	98050/1	Long- pumping group - drum version	
1	96073	O-Ring	1
2	96670	Pin	1
3	3323	Split pin	2
4	91008	O-Ring	1
5	98010	Piston rod	1
7	96023	Finger protection spring	1
8	91001/1	Oil tank	1
7	3429	O-Ring	1
9	91371/2	Tank ring nut	1
10	91371	Packing nut	1
11	96233	'Oil' label	1
12	91372	PTFE ring	2
13	98018	Female V ring	1
14A	91375	Gasket	1
14B	91378	Gasket	2
15	98011	Male V ring	1
16	98012	Gaskets housing	1
17	3558/1	Nipple	1
18	6149	Nipple	1
19	91380	Gasket	1
20A	98021	Short fluid cylinder - Trolley/wall version	1
20B	98019	Long fluid cylinder - drum version	1
21	3806	Nut M12	2

Pos.	Codice	Descrizione	Q.tà
22A	98061	Short tie rod - Trolley/wall version	1
22B	98060	Long tie rod - drum version	1
23	3805	Split pin - Trolley/wall version	1
24	98005	Bush	1
25	95021	Ball Ø 7/8"	1
26	98006	Washer	2
27	91386	Poliuretano gaskets	2
28	91338	O-Ring	1
29	98008	Ring	1
30	98009	Fitting	1
31A	98032	Complete 3/4" suction valve- Trolley/wall version	1
31B	98016	Complete suction valve- Drum version	1
32	95027	Ball Ø 1.1/4"	1
33	3397	O-Ring	1
34	98023	Stop ball pin	1
35	98029	Suction valve - Trolley/wall version	1
36	98027	Suction valve - Drum version	1
37	98374	Elbow	1
38	8373/1	Nipple	1
39	3470	Drum version adapter	1
40	3472	Ring nut	1
41	3464	Gasket	1
42	3473	Fitting	1
43	3461	Ring	1

Pos.	Code	Description	Q. ty
44	16135	Adjustment pin	1
45	16340	Oil bottle	1



Cod. kit	Position	Description
40236/2	2x (12), 1x (12A), 2x (14B), 2x (27), 28, 33	Gasket kit

Atex Certification



These instructions, along with the indications provided in the user and maintenance manual, must be fully respected.



The Caretech pneumatic piston pumps are group II mechanical devices for use in areas where gasses classified as IIB (category 2 g) are present. They are designed and built in accordance with the 94/9/EC ATEX directive, based on the following European standards: EN 1127-1, EN 13463-1 and EN 13463-5.

MARKINGS

CE  II 2G c IIB T6 T_{amb}: -20°C ÷ +60°C T_{max. fluid}: 90°C Tech. File: GHIBLI/ATX/08

II =	Group II (surfaces)
2 =	Category 2 (zone 1)
G =	Explosive atmosphere containing gasses, vapours or mists
c =	Design safety "c"
T6 =	Temperature class T6
- 20°C ÷ + 60°C	Room temperature
90°C	Maximum process fluid temperature
xxxx/AA	Serial number or lot number (xxxx = PROGRESSIVE / year = AA)

NOTE

** Fluid temperature can be 90° maximum only with water or water based products*

Correspondence between hazardous areas, substances and categories

HAZARDOUS AREAS		CATEGORIES ACCORDING TO THE 94/9/CE DIRECTIVE
Gasses, vapours or mists	Zone 0	1G
Gasses, vapours or mists	Zone 1	2G or 1G
Gasses, vapours or mists	Zone 2	3G, 2G or 1G



Read the indications provided in the user and maintenance manual carefully prior to installation.

All of the maintenance operations must be performed according to the indications provided in the manual.

- The grounding wire for the pumps indicated above must be grounded using an appropriate anti-loosening connection.
 - The tubes used to connect the delivery and suction lines must be either metallic, plastic with metallic braid, or plastic with fabric braid and a suitable grounding conductor.
 - The pumps must be installed on properly grounded metallic or antistatic drums.
 - The gases or vapours of any flammable liquids present must belong to group IIB.
 - Based on the type of use and the substances employed, the user must periodically check for any encrustations and must verify the cleanliness, the wear status and the correct functionality of the pump on a regular basis.
 - The user must periodically clean the suction filter in order to prevent any solid materials from entering the pump.
- The air used to power the pump must be filtered and must come from a SAFE AREA.



Caretech pneumatic wash pumps cannot work without material.

All of the 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 atmosfera potenzialmente esplosiva

Directive 2014/34/UE
 Directive 2014/34/EU / Direttiva 2014/34/UE

ACCUSÉ DE RECEPTION D'UN DOSSIER TECHNIQUE

ACKNOWLEDGE RECEIPT OF TECHNICAL DOCUMENTATION

AVVISO DI RICEVIMENTO DEL FASCICOLO TECNICO

Appareils / Equipment / Apparecchiatura :

PNEUMATIC TRANSFER & EXTRUSION PUMPSType(s) / Type(s) / Tipo(i) : **Series GHBLI**

Marquage / Marking / Marcatura :



Dépositaire / Applicant / Richiedente :

LARIUS S.r.l.
Via Stoppani, 21

I- 23801 Calziocorte (LC)

L'INERIS, organisme notifié et
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 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
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 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
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 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.

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Dans le cadre de cet enregistrement,
 INERIS n'a pas examiné le contenu
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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 :
2029.03.11Validity completion date :
2029.03.11Data di fine di validità :
2029.03.11

Verneuil-en-Halatte, le 2019.03.11

Le Directeur Général de
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Par délégation,

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

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Institut national de l'environnement industriel et des risques

Etablissement public à caractère industriel et commercial - RCS Compagnie B 381 984 434 - Siret 381 984 431 00019 - APE 7220B - TVA Intracom FR 77 381 984 432

30-1-2018 - Mise en application: 20/04/2019

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