WAGNER

Translation of the Original Operating Manual

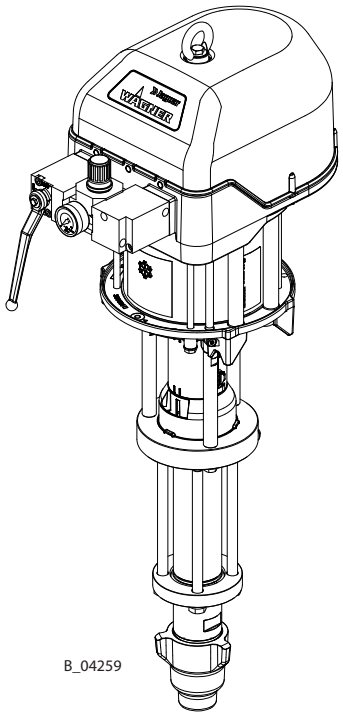
For professional use.
Always follow the information in this manual, particularly the safety instructions and the warning instructions. Store the manual in a safe place.

Version 02/2018

Jaguar 75-150
Jaguar 55-200
PROTEC 60-240
Tiger 72-300

Icebreaker Piston Pumps Protective Coating (PC)

Flow rate 150 cm^3 – 300 cm^3



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CE Ex II 2 G Ex h IIB T3/T4 Gb X

Contents

1 ABOUT THESE INSTRUCTIONS

1.1 PREFACE

The operating manual contains information about safely operating, maintaining, cleaning and repairing the device. The operating manual is part of the device and must be available to the operating and service personnel.
The device may only be operated by trained personnel and in compliance with this operating manual. Operating and service personnel should be instructed according to the safety instructions. This equipment can be dangerous if it is not operated according to the instructions in this operating manual.

1.2 WARNINGS, NOTICES AND SYMBOLS IN THESE INSTRUCTIONS

Warning instructions in this manual highlight particular dangers to users and to the device and state measures for avoiding the hazard. These warning instructions fall into the following categories:

⚠ **DANGER**	Immediate risk of danger. Non-observance will result in death or serious injury.
⚠ **WARNING**	Potential risk. Non-observance can result in death or serious injury.
⚠ **CAUTION**	Potentially hazardous situation. Non-observance may result in minor injury.
ⓘ **NOTICE**	Potentially hazardous situation. Non-observance may result in damage to property.
Notice	Provides information about particular characteristics and how to proceed.

Explanation of warning notice:

⚠ **LEVEL OF DANGER**

This notice warns you of a hazard!
Possible consequences of not observing the warning notice.
→ The measures for preventing the hazard and its consequences.

1.3 LANGUAGES

The operating manual is available in the following languages:
Original operating manual

Language	Order no.
German	2340281

Translation of the original operating manual

Language	Order no.
English	2340282
French	2340285
Italian	2340284
Spanish	2340286
Finnish	2391504

Language	Order no.
Russian	2351798
Turkish	2386997
Japanese	2359824
Dutch	2367470
Swedish	2391503

Additional languages on request or at: www.wagner-group.com

1.4 SERVICE MANUAL

The service manual is available in the following languages:

Language	Order no.
German	2335993

Language	Order no.
English	2335994

Additional languages on request or at: www.wagner-group.com

1.5 CONTINUOUS-FLOW HEATER OPERATING MANUAL

The operating manual Continuous-flow heater is available in the following languages:

Language	Order no.
German	65860
French	65860

Language	Order no.
English	65860
Italian	65860

Additional languages on request or at: www.wagner-group.com

1.6 ABBREVIATIONS

Stk	Number of pieces
Pos	Position
K	Marking in the spare parts lists
Order no.	Order number
UHMWPE	Ultra-high molecular weight polyethylene
PTFE	Polytetrafluorethylene
TG	PTFE with graphite
PC	Protective Coating: Heavy duty corrosion protection

DH	Double stroke
DN	Nominal diameter
PN	Nominal pressure
2K	Two components
T	PTFE
SSt	Stainless steel
PE	Polyethylene
L	Leather

1.7 TERMINOLOGY FOR THE PURPOSE OF THIS MANUAL

Cleaning	
Cleaning	Manual cleaning of devices and device parts with cleaning agent.
Flushing	Internal flushing of paint-wetted parts with flushing agent.
Product pressure generator	Pump or pressure tank.
Personnel qualifications	
Trained person	Is instructed in the tasks assigned to him/her, the potential risks associated with improper behavior as well as the necessary protective devices and measures.
Electrically trained person	Is instructed by an electrician about the tasks assigned to him/her, the potential risks associated with improper behavior as well as the necessary protective devices and measures.
Electrician	Can assess the work assigned to him/her and detect possible hazards based on his/her technical training, knowledge, experience and knowledge of the relevant provisions.
Skilled person in accordance with TRBS 1203 (2010/Revision 2012)	A person, who, based on his/her technical training, experience and recent vocational experience, has sufficient technical knowledge in the areas of explosion protection, protection from pressure hazards and electric hazards (if applicable) and is familiar with the relevant and generally accepted rules of technology so that he/she can inspect and assess the status of devices and coating systems based on workplace safety.

2 CORRECT USE

2.1 DEVICE TYPES

Pneumatic pump with spraypack:

Jaguar	PROTEC	Tiger
75-150	60-240	72-300
55-200	--	--

2.2 TYPE OF USE

The device is suitable for processing liquid products like paints and lacquers:
- Non-ignitable products.
- Products in accordance with their classification in explosion class IIB.

WAGNER explicitly prohibits any other use!

The device may only be operated under the following conditions:
- → Use the device only to work with the products recommended by WAGNER.
- → Do not deactivate safety fixtures.
- → Use only WAGNER original spare parts and accessories.
- → The operating personnel must be trained on the basis of this operating manual.

2.3 FOR USE IN POTENTIALLY EXPLOSIVE AREAS

The device can be employed in explosion hazard zones (Zone 1) (see Chapter 3).

2.4 PROCESSIBLE WORKING MATERIALS

→ Fluid materials like paints and lacquers.

Application	Jaguar 75-150 / 55-200	PROTEC 60-240	Tiger 72-300
Water-dilutable products	↗	↗	↗
Solvent-based products	↗	↗	↗
Primers	↗	↗	↗
Epoxy and polyurethane lacquers, phenolic lacquers	↗	↗	↗
Underside protection, fire protection materials	↗	↗	↗

↗ recommended ➟ limited suitability ↘ not suitable

NOTICE

Abrasive working materials and pigments!

Greater wear of product-wetted parts.

→ Use the application-oriented model (flow rate/cycle, product, valves, etc.) as indicated in Chapter 5.5.

→ Check if the fluids and solvents used are compatible with the pump construction materials as indicated in Chapter 5.5.1.

→ Use suitable combinations of devices (packings, valves etc.)

Wear caused by abrasive working materials is not covered by the warranty.

Typical applications

Application	Jaguar 75-150 / 55-200	PROTEC 60-240	Tiger 72-300
Steel-processing industry	↗	↗	↗
Rail vehicle	↗	↗	↗
Shipbuilding	↗	↗	↗
Tank construction	↗	↗	↗
Pipeline construction	↗	↗	↗
Wind energy	↗	↗	↗

↗ recommended ➟ limited suitability ↘ not suitable

2.5 MISUSE

Misuse can lead to physical injury and/or property damage!
Special attention must be paid that:

→ No dry coating products, e.g., powder are processed.

→ no food, medicine or cosmetics are processed.
It is important to note that the device's materials are not food-safe.

3 IDENTIFICATION

3.1 EXPLOSION PROTECTION IDENTIFICATION

As defined in the Directive 2014/34/EU (ATEX), the device is suitable for use in potentially explosive areas.

Device types: **IceBreaker piston pump**
Jaguar 75-150
Jaguar 55-200
PROTEC 60-240
Tiger 72-300

Manufacturer: Wagner International AG
CH-9450 Altstätten, Switzerland

CE Ex II 2 G Ex h IIB T3/T4 Gb X

CE:	European Communities
Ex:	Symbol for explosion protection
II:	Device class II
2:	Category 2 (zone 1)
G:	Ex-atmosphere gas
Ex	Explosion protection
h	Ignition protection for non-electrical devices
IIB:	Explosion group
T3:	Maximum surface temperature < 200 °C; 392 °F (without drying protection active)
T4	Maximum surface temperature < 135 °C; 275 °F (with drying protection active)
Gb	High safety level
X	There are special instructions to ensure safe operation. → See the following Chapter "Identification X".

3.2 IDENTIFICATION "X"

The maximum surface temperature corresponds to the permissible product temperature. This and the permissible ambient temperature can be found in Chapter 5.5.3 and 5.5.5 (Technical data regarding the Jaguar, Tiger and PROTEC pumps).

Safe Handling of WAGNER Spray Devices
Mechanical sparks can form if the device comes into contact with metal.
In an explosive atmosphere:
- → knocking or pushing metal against metal is to be avoided;
- → Do not drop the device or components.

Maximum surface temperature
The maximum surface temperature of the piston pump can be reached if it runs dry.
- → Ensure that the piston pump is filled with sufficient working or flushing agent.
- → Ensure that the separating agent tank is filled with sufficient separating agent.

Ignition temperature of the coating product
- → Ensure that the ignition temperature of the surrounding gases (pumping product, cleaning agents) is higher than the maximum permitted surface temperature of the device.

Ambient temperature
- → The permissible ambient temperature range is: 5 °C to 50 °C; 41 °F to 122 °F.

Medium supporting atomizing

→ To atomize the product, use only weakly oxidizing gases, e.g., air.

Surface spraying, electrostatics

→ Do not spray device parts using electrostatic equipment.

Cleaning

If there are deposits on the surfaces, the device may form electrostatic charges. Flames or sparks can form during discharge.

→ Remove deposits from the surfaces to maintain conductivity.

→ Use only a damp cloth to clean the device.

Air in the pump fluid

Ignitable gas mixtures can form if air enters the pump fluid.

→ Prevent the pump from taking in air and running dry.

→ If air has been taken in, fix the leak. Then, fill slowly and in a controlled manner until the air has escaped.

Air in the pumped fluid can be caused by damaged packings.

→ Avoid operating the pump with damaged packing.

→ Ensure that the separating agent tank is filled with sufficient separating agent.

→ Periodically check that the pump is working smoothly, paying special attention to the presence of air in the pumped fluid.

Filling and emptying

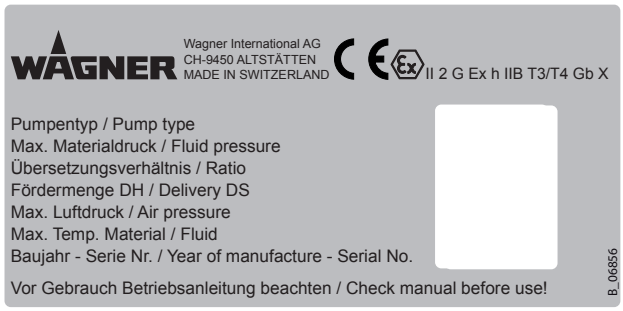
Ignitable gas mixtures can form in the fluid section or product hoses if the pump must be emptied for maintenance and/or repair purposes.

→ Empty and fill the device slowly and in a controlled manner.

→ Avoid potentially explosive atmosphere in the surroundings.

3.3 TYPE PLATES

Pos	Designation
1	Manufacturer and CE Identification
2	Pump type
3	Maximum product pressure
4	Pump ratio
5	Flow rate per double stroke
6	Maximum air inlet pressure
7	Maximum product temperature
8	Model year - serial number
9	Read the operating manual before use



4 BASIC SAFETY INSTRUCTIONS

4.1 SAFETY INSTRUCTIONS FOR THE OPERATOR

→ Keep this operating manual at hand near the device at all times.
→ Always follow local regulations concerning occupational safety and accident prevention.

4.1.1 ELECTRICAL DEVICES AND EQUIPMENT

Electric shock hazard!
Danger to life from electric shock
→ Prepare device in accordance with the local safety requirements with regard to the operating mode and ambient influences.
→ May only be maintained by skilled electricians or under their supervision. With open housings, the mains voltage poses a danger.
→ Operate device in accordance with the safety regulations and electrotechnical regulations.
→ Must be repaired immediately in the event of problems.
→ Decommission if it poses a hazard or is damaged.
→ Must be de-energized before work is commenced. Inform personnel about planned work. Observe electrical safety regulations.
→ Ground all devices to a common grounding point.
→ Only operate the device with a properly installed socket with a protective ground wire connection.
→ Keep liquids away from electrical devices.

4.1.2 A SAFE WORK ENVIRONMENT

Hazard due to dangerous fluids or vapors!
Severe or fatal injuries due to explosion hazard or inhalation, swallowing or contact with the skin or eyes.
→ Ensure that the floor in the working area is static dissipative in accordance with EN 61340-4-1 (resistance must not exceed 100 MΩ).
→ Paint mist extraction systems/ventilation systems must be fitted on site according to local regulations.
→ Make sure that the ground connection and potential equalization of all system parts are reliable and continuous and can withstand the expected stress (e.g. mechanical stress, corrosion).
→ Ensure that product hoses / air hoses adapted to the working pressure are used.

→ Ensure that personal protective equipment (see Chapter 4.2.1) is available and is used.
→ Ensure that all persons within the working area wear static dissipative shoes. Footwear must comply with EN 20344. The measured insulation resistance must not exceed 100 MΩ.
→ Ensure that during spraying, persons wear electrically conductive gloves. The grounding takes place via the spray gun handle or the trigger.
→ Protective clothing, including gloves, must comply with EN 1149-5. The measured insulation resistance must not exceed 100 MΩ.
→ Ensure that there are no ignition sources such as naked flames, sparks, glowing wires, or hot surfaces in the vicinity. No smoking.

→ Ensure that the pipe joints, hoses, equipment parts and connections are permanently, technically leak-proof:
- Periodic preventative maintenance and service (replacing hoses, checking tightness strength of the connections etc.).
- Regular monitoring of leaks and defects via visual inspection and odor testing, e.g., daily before commissioning, at the end of work or weekly.

→ Ensure that maintenance and safety checks are performed regularly.

→ In the event of defects, immediately bring the device or system to a stop and arrange to have repairs carried out immediately.

4.1.3 PERSONNEL QUALIFICATIONS

Hazard due to incorrect use of device!

Risk of death due to untrained personnel.

→ Ensure that the operating personnel has been instructed by the operator in accordance with the operating manual and the operating instructions. The device must only be operated, maintained and repaired by trained personnel. Refer to the operating instructions for information about the required personnel qualifications.

4.2 SAFETY INSTRUCTIONS FOR THE PERSONNEL

→ Always follow the information in this manual, particularly the safety instructions and the warning instructions.

→ Always follow local regulations concerning occupational safety and accident prevention.

→ In electrostatics applications: anyone who belongs to a risk group according to EMF Directive 2013/35/EU (e.g. those with active implants), must not enter the high-voltage area.

4.2.1 PERSONAL SAFETY EQUIPMENT

Hazard due to dangerous fluids or vapors!

Serious or fatal injuries due to inhalation, swallowing or contact with the skin or eyes.

→ When preparing or working with lacquer and when cleaning the device, follow the working instructions of the manufacturer of the lacquers, solvents, and cleaning agents being used.

→ Take the specified protective measures. In particular wear safety goggles, protective clothing and gloves, as well as hand protection cream if necessary.

→ Use a mask or breathing apparatus if necessary.

→ For sufficient health and environmental safety: Operate the device in a spray booth or on a spraying wall with the ventilation (extraction) switched on.

→ Wear suitable protective clothing when working with hot products.

4.2.2 SAFE HANDLING OF WAGNER SPRAY DEVICES

Hazard due to injection of lacquer or flushing agent into the skin!
The spray jet is under pressure and can cause dangerous injuries. Avoid injection of lacquer or flushing agents:

- → Never point the spray gun at people.
- → Never reach into the spray jet.
- → Before any work on the device, in the event of work interruptions and malfunctions:
  – Switch off the energy/compressed air supply.
  – Relieve the pressure from the spray gun and device.
  – Secure the spray gun against actuation.
  – Disconnect the control unit from the mains.
  – In the event of functional faults, remedy the fault as described in the "Troubleshooting" chapter.
- → If necessary or at least every 12 months, the liquid ejection devices must be checked for safe working conditions by an expert (e.g. WAGNER Service Technician) in accordance with the guidelines for liquid ejection devices (ZH 1/406 and DGUV 100-500 Chapters 2.29 and 2.36).
  – For shut-down devices, the check can be postponed until the next start-up.

In the event of skin injuries caused by lacquer or flushing agents:

- → Note the lacquer or flushing agent that you have been using.
- → Consult a doctor immediately.

Danger due to recoil forces!
Actuating the trigger can causes strong recoil forces. Thereby, the user can lose his balance and injure himself when falling.
Avoid risk of injury from recoil forces:

- → Ensure that you have firm footing when operating the spray gun.

4.2.3 GROUNDING THE UNIT

Hazard due to electrostatic charge!
Explosion hazard and damage to the device.
Friction, flowing liquids and air or electrostatic coating processes create charges. Flames or sparks can form during discharge.
Correct grounding of the entire spraying system prevents electrostatic charges.

- → Ensure that all devices and tanks are grounded before each spraying process.
- → Ground the work pieces to be coated.
- → Ensure that all persons inside the working area are grounded, e.g., that they are wearing static dissipative shoes.
- → Wear static dissipative gloves when spraying. The grounding takes place via the spray gun handle or the trigger.

4.2.4 PRODUCT HOSE

Hazard due to bursting of product hose!

The product hose is under pressure and may cause dangerous injuries.

- → Ensure that the hose material is chemically resistant to the sprayed products and the flushing agents used.
- → Ensure that the product hose and the fittings are suitable for the pressure generated.
- → Ensure that the following information can be seen on the high-pressure hose:
  - – manufacturer
  - – permissible operating pressure
  - – date of manufacture
- → Make sure that the hoses are laid only in suitable places. Hoses should not be laid in the following places under any circumstances:
  - – in high-traffic areas
  - – on sharp edges
  - – on moving parts
  - – on hot surfaces
- → Ensure that the hoses are never run over by vehicles (e.g., fork lift trucks), or that the hoses are never put under pressure from the outside in any other way.
- → Ensure that the hoses are never kinked. Observe maximum bending radii.
- → Ensure that no work is ever performed with a damaged hose.
- → Make sure that the hoses are never used to pull or move the equipment.
- → The electrical resistance of the product hose, measured at both valves, must be less than 1 MΩ.
- → Suction hoses may not be subjected to pressure.

Several liquids have a high expansion coefficient. In some cases, their volume can rise with consequent damage to pipes, fittings, etc. and cause fluid leakage.
When the pump sucks liquid from a closed tank, ensure that air or a suitable gas can enter the tank. Thus a negative pressure is avoided. The vacuum could implode the tank (squeeze) and can cause it to break. The tank would leak and the liquid would flow out.
The pressure created by the pump is a multiplication of the inlet air pressure.

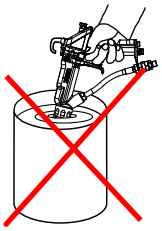
4.2.5 CLEANING AND FLUSHING

Hazard due to cleaning and flushing!
Explosion hazard and damage to the device.
- → Preference should be given to non-ignitable cleaning and flushing agents.
- → When carrying out cleaning work with flammable cleaning agents, make sure that all equipment and resources (e.g., collection tank, funnel, transport cart) are conductive or static dissipative and grounded.
- → Observe the specifications of the lacquer manufacturer.
- → Ensure that the flash point of the cleaning agent is at least 15 K above the ambient temperature or that cleaning is undertaken at a cleaning station with technical ventilation.

- → Never use chloride or halogenated solvents (such as trichloroethane and methylene chloride) with units containing aluminium or galvanized and zinc-plated parts. They may react chemically thus producing an explosion danger.
- → Take measures for workplace safety (see Chapter 4.1.2).
- → When commissioning or emptying the device, please note that:
  –depending upon the coating product used,
  –depending on the flushing agent (solvent) used.
  an explosive mixture may temporarily exist inside the lines and components of equipment.
- → Only electrically conductive tanks may be used for cleaning and flushing agents.
- → The tanks must be grounded.

An explosive gas/air mixture forms in closed tanks.
- → Never spray into a closed tank when using solvents for flushing.

External Cleaning
When cleaning the exterior of the device or its parts, also observe the following:



- → Relieve the pressure from the device.
- → De-energize the device electrically.
- → Disconnect the pneumatic supply line.
- → Use only moistened cloths and brushes. Never use abrasive agents or hard objects, and never spray cleaning agents with a spray gun. Cleaning the device must not damage it in any way.
- → Ensure that no electric component is cleaned with or immersed into solvent.

4.2.6 TOUCHING HOT SURFACES

Hazard due to hot surfaces because of hot coating products!
Risk of burn injuries
- → Only touch hot surfaces if you are wearing protective gloves.
- → When operating the device with a coating product with a temperature of > 43 °C; 109 °F:
  – Identify the device with a warning label "Warning – hot surface".
  Part no.
  9998910 instruction label
  9998911 protection label
  Note: Order the two stickers together.

4.2.7 MAINTENANCE AND REPAIR

Hazard due to improper maintenance and repair!
Danger to life and equipment damage.

- → Only a WAGNER service center or a suitably trained person may carry out repairs and replace parts.
- → Use only WAGNER original spare parts and accessories.
- → Do not change or modify the device; if change is necessary, contact WAGNER.
- → Only repair and replace parts that are listed in Chapter 13 and Chapter 14 that are assigned to the unit.
- → Do not use any defective components.
- → Exclusively use accessories listed in Chapter 13 and that are assigned to the unit.
- → Before all work on the device and in the event of work interruptions:
  - Relieve the pressure from the spray gun, high-pressure hoses and all devices.
  - Secure the spray gun against actuation.
  - Switch off the energy and compressed air supply.
  - Disconnect the control unit from the mains.
- → Observe the operating and service manual for all work.

4.2.8 PROTECTIVE AND MONITORING EQUIPMENT

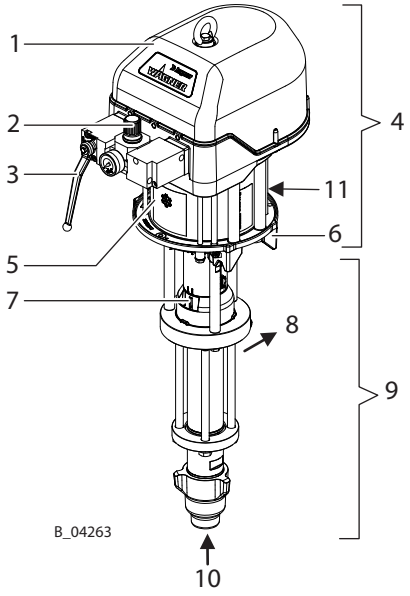
Hazard due to removal of protective and monitoring equipment!
Danger to life and equipment damage.

- → Protective and monitoring equipment must not be removed, modified or rendered unusable.
- → Regularly check for perfect functioning.
- → If defects are detected on protective and monitoring equipment, the system must not be operated until these defects are remedied.

5 DESCRIPTION

5.1 COMPONENTS

Pos	Designation
1	Control housing with integrated silencer
2	Air pressure regulator
3	Ball valve
4	Air motor
5	Compressed air inlet
6	Mounting flange
7	Separating agent cup
8	Product outlet
9	Fluid section
10	Product inlet
11	Grounding connection



5.2 MODE OF OPERATION

The piston pump is driven with compressed air (2). This compressed air moves the air piston up and down in the air motor (4) and it also moves the associated pump piston up and down in the fluid section (9).
In the control housing (1), the air pressure is redirected at the end of each stroke with the help of the reversing valve. The working material is sucked up during the upwards stroke and is continuously conveyed towards the product outlet (8) in both stroke directions.

5.2.1 AIR MOTOR

The air motor (4) with its pneumatic reverse (1) does not require pneumatic oil.
The compressed air is fed to the motor via the air regulator (2) and the ball valve (3).
The air motor (4) is fitted with a safety valve in accordance with Chapter 5.3.

5.2.2 FLUID SECTION

The fluid section (9) has been designed as a piston pump with exchangeable ball valves. The hard chrome-plated pump piston runs in two fixed packings which are self-adjusting by means of a pressure spring, thus resulting in a long service life.
Between the air motor (4) and the fluid section (9) there is a separating agent cup (7) for holding the separating agent.

5.3 PROTECTIVE AND MONITORING EQUIPMENT

⚠ WARNING

Overpressure!
Danger to life from bursting device components.

→ Never change the safety valve setting.

The air motor is fitted with a safety valve. The safety valve has been set and sealed at the factory. In case of pressures over and above the permissible operating pressure, the valve, which is held with a spring, automatically opens and releases the excess pressure.

5.4 INCLUDED ITEMS

Consists of:	
–	Fluid section
–	Air motor
–	Connection elements
–	Air pressure regulator for air motor

The standard equipment includes:

Stk	Order no.	Designation
1	9992504	Separating agent 250 ml; 250 cc
1	see Chapter 15	Declaration of Conformity
1	2340281	Operating manual, in German
1	see Chapter 1.3	Operating manual in the local language

The delivery note shows the exact scope of delivery. Accessories: see Chapter 13.

5.5 DATA

5.5.1 MATERIALS OF PAINT-WETTED PARTS

Paint-wetted part	Product
Housing	Stainless steel
Piston	Stainless steel and hard chrome
Valve balls	Stainless steel
Valve seats	Carbide
O-rings	PTFE
Packings	Standard PE/ TG

PE = Ultra high molecular weight polyethylene
TG = PTFE with graphite

5.5.2 RECOMMENDED PACKINGS

WAGNER packings are manufactured in four different materials:

Code	Product	Color
L	Leather	dark brown
TG	PTFE with graphite	black
PE	Ultra high molecular weight polyethylene	transparent
T	PTFE	white

Each product has the following properties, which influence the packings:

Designation	L	TG	PE	T
Mechanical stability	poor	good	good	poor
Friction coefficient	poor	very good	good	very good
Sealing force	good*	good	good	good
Chemical resistance	poor	good	very good	very good
Temperature resistance	good	poor - good	very good	poor

* for abrasive products

Standard combinations	
Standard pumps:	PE/TG
Heavy duty (high-pressure) pumps:	PE/L
Hardener pumps in 2K systems:	PE/T

5.5.3 TECHNICAL DATA FOR JAGUAR AND PROTEC

Pump ratio		75:1	55:1	60:1
Volume flow per double stroke (DH)	cm³; cc	150	200	240
Maximum operating overpressure	MPa bar psi	53 530 7687	44 440 6382	48 480 6962
Maximum possible strokes in operation	DH/min.	60		
Maximum recommended strokes per minute in continuous operation	DH/min.	40		
Minimum/maximum air inlet pressure	MPa bar psi	0.25–0.71 2.5–7.1 36–103	0.25–0.80 2.5–8.0 36–116	
Compressed air quality: free from oil and water	Quality standard 7.5.4 according to ISO 8573.1, 2010 7: Particle concentration 5 – 10 mg/m³ 5: Humidity: pressure dew point ≤ 7 °C 4: Oil content ≤ 5 mg/m³			
ø Air inlet (inside thread)	inch	G1"		
Minimum ø of the compressed air supply line	mm; inch	25; 0.98		
Air consumption at 0.6 MPa; 6 bar; 87 psi per double stroke	nl scf	79.9 2.82		103.1 3.64
Air motor piston diameter	mm; inch	220; 8.7		250; 9.8
Air motor piston stroke	mm; inch	150; 6		
Sound pressure level at maximum permissible air pressure*	dB(A)	83		83
Sound pressure level at 0.6 MPa; 6 bar; 87 psi air pressure*	dB(A)	81		80
Sound pressure level at 0.4 MPa; 4 bar; 58 psi air pressure*	dB(A)	69		76
Product inlet (inside thread)	mm	G1½"		
Product outlet (outside thread)	mm	M24×1.5		
Weight	kg; lb	53; 117		60.5; 133.5
Product pH value	pH	3.5–9		
Maximum product pressure at pump inlet	MPa bar psi	2 20 290		
Product temperature	°C; °F	5–80; 41–176		
Ambient temperature – Construction and assembly	°C; °F	5–50; 41–122		
Ambient temperature – Storage	°C; °F	-20–60; -4–140		
Relative humidity	%	10–95 (without condensation)		
Allowable inclination for operation	<) °	± 10		

* A-rated sound pressure level measured at 1 m distance, LpA1m, according to DIN EN 14462: 2005. Reference measurements have been made by SUVA (Swiss Accident Insurance Institute).

⚠ WARNING

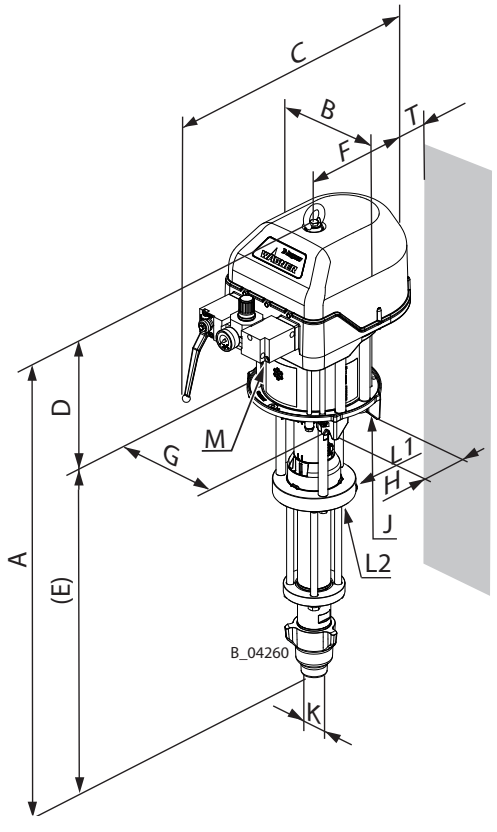
Exhaust air containing oil!

Risk of poisoning if inhaled.

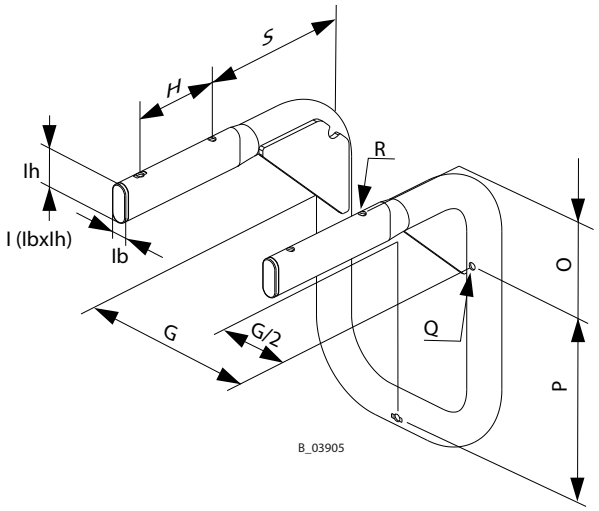
→ Provide compressed air free from oil and water.

5.5.4 DIMENSIONS AND CONNECTIONS FOR JAGUAR AND PROTEC

Pos	Jaguar 75-150 mm; inch	Jaguar 55-200 mm; inch	PROTEC 60-240 mm; inch
A	1145; 45.0	1157; 45.5	1169; 46.0
B	304; 12		
C	~ 582; 22.9		
D	470; 18.5		483; 19.0
E	675; 26.6	687; 27.0	
F	244; 9.6		
G	230; 9.1		
H	110; 4.3		
I	20×48; 0.8×1.9		
J	M8		
K	G1½" (internal thread)		
L1	M24×1.5 (external thread)		
L2	G3/8"	G1/2"	
M	G1"		
O	135.5; 5.3		
P	238; 9.4		
Q	ø 9; ø 0.35		
R	ø 9; ø 0.35		
S	206; 8.1		
T	17; 0.67		



Jaguar / PROTEC wall mount



5.5.5 TECHNICAL DATA FOR TIGER

Pump ratio			72:1
Volume flow per double stroke (DH)		cm^3; cc	300
Maximum operating overpressure		MPa; bar; psi	53; 530; 7687
Maximum possible strokes in operation		DH/min.	40
Maximum recommended strokes per minute in continuous operation		DH/min.	30
Minimum/maximum air inlet pressure		MPa; bar; psi	0.25–0.74; 2.5–7.4; 36–107
Compressed air quality: free from oil and water		Quality standard 7.5.4 according to ISO 8573.1, 2010 7: Particle concentration 5 – 10 mg/m^3 5: Humidity: pressure dew point ≤ 7 °C 4: Oil content ≤ 5 mg/m^3	
ø Air inlet (inside thread)		inch	G 1"
Minimum Ø of the compressed air supply line		mm; inch	25; 1.0
Air consumption at 0.6 MPa; 6 bar; 87 psi per double stroke		nl; scf	170; 6
Air motor piston diameter		mm; inch	300; 11.8
Air motor piston stroke		mm; inch	150; 5.9
Sound pressure level at maximum permissible air pressure*		dB(A)	82
Sound pressure level at 0.6 MPa; 6 bar; 87 psi air pressure*		dB(A)	80
Sound pressure level at 0.4 MPa; 4 bar; 58 psi air pressure*		dB(A)	75
Product inlet (inside thread)		mm	G1 1/2"
Product outlet (outside thread)		mm	M24×1.5
Weight		kg; lb	80; 176
Product pH value		pH	3.5–9
Maximum product pressure at pump inlet		MPa; bar; psi	2; 20; 290
Product temperature		°C; °F	5–80; 41–176
Ambient temperature	Construction and assembly	°C; °F	5–50; 41–122
	Storage	°C; °F	-20–60; -4–140
Relative humidity		%	10–95 (without condensation)
Allowable inclination for operation		∢°	± 10

* A-rated sound pressure level measured at 1 m distance, L pA1m, according to DIN EN 14462: 2005. Reference measurements have been made by SUVA (Swiss Accident Insurance Institute).

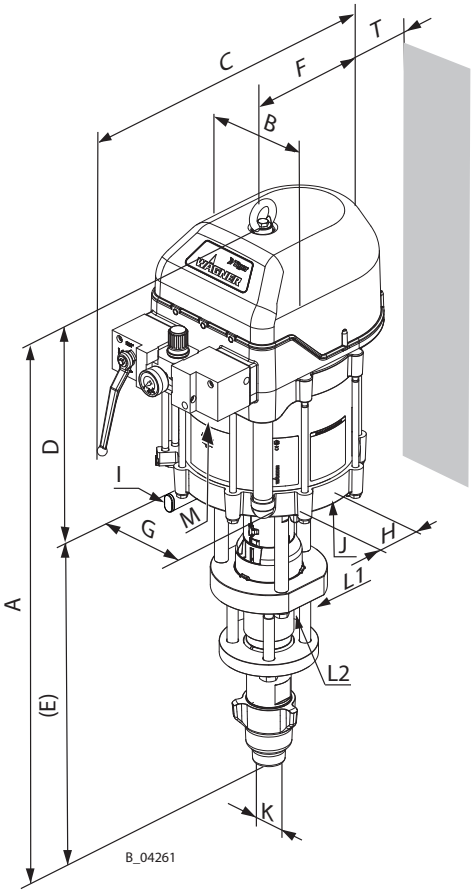
⚠ WARNING

Exhaust air containing oil!
Risk of poisoning if inhaled.

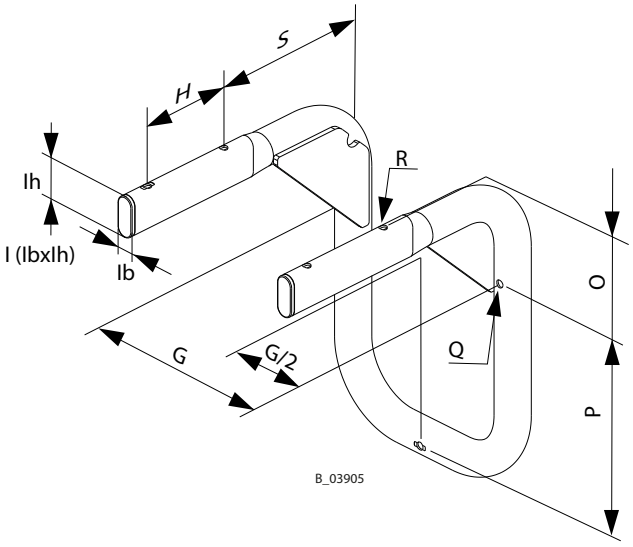
→ Provide compressed air free from oil and water.

5.5.6 DIMENSIONS AND CONNECTIONS FOR TIGER

Pos	Tiger 72-300 mm; inch
A	1106; 43.5
B	340; 13.4
C	562; 22.1
D	518; 20.4
E	588; 23.1
F	244; 9.6
G	230; 9.1
H	110; 4.3
I	20×48; 0.8×1.9
J	M8
K	G1 1/2"
L1	M24×1.5
L2	G3/4"
M	G 1"
O	135; 5.3
P	238; 9.4
Q	ø 9; ø 0.35
R	ø 9; ø 0.35
S	206; 8.1
T	32; 1.3



Wall mount



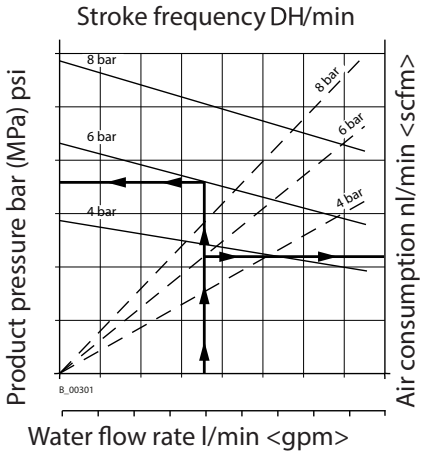
5.5.7 VOLUME FLOW

Wagner AL nozzles			Volume flow* in l/min				Maximum ranges for continuous operation at 40 DH/min (Jaguar, PROTEC) or 30 DH/min (Tiger)
ø inch	**ø mm**	**Spray angle**	**7 MPa 70 bar 1015 psi**	**10 MPa 100 bar 1450 psi**	**15 MPa 150 bar 2175 psi**	**20 MPa 200 bar 2900 psi**	
0.007	0.18	40°	0.17	0.20	0.21	0.22	
0.009	0.23	20-30-40-50-60°	0.21	0.25	0.31	0.36	
0.011	0.28	10-20-30-40-50-60°	0.30	0.35	0.43	0.50	
0.013	0.33	10-20-30-40-50-60-80°	0.45	0.53	0.62	0.68	
0.015	0.38	10-20-30-40-50-60-80°	0.58	0.67	0.81	0.91	
0.017	0.43	20-30-40-50-60-70°	0.73	0.79	1.06	1.23	
0.019	0.48	20-30-40-50-60-70-80°	0.93	1.09	1.37	1.47	
0.021	0.53	20-40-50-60-80°	1.14	1.36	1.69	1.78	
0.023	0.58	20-40-50-60-70-80°	1.37	1.59	2.01	2.24	
0.025	0.64	20-40-50-60-80°	1.62	1.91	2.40	2.60	
0.027	0.69	20-40-50-60-80°	1.83	2.13	2.68	3.12	
0.029	0.75	60°	2.19	2.51	3.17	3.63	
0.031	0.79	20-40-50-60°	2.40	2.77	3.49	4.00	
0.035	0.90	20-40-50-60°	3.22	3.74	4.69	5.14	Jaguar 75-150
0.043	1.10	20-50°	5.07	6.04	7.46	7.84	Jaguar 55-200 PROTEC 60-240
0.052	1.30	50°	5.12	6.10	7.52	8.06	Tiger 72-300

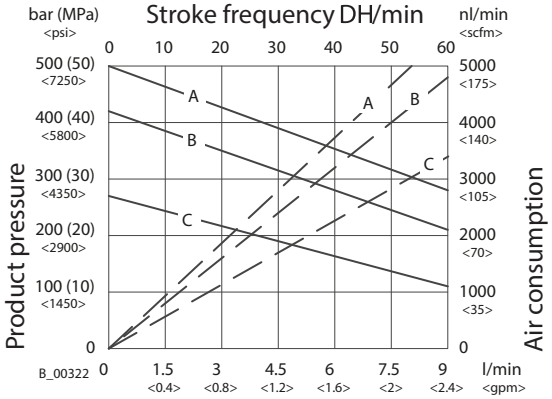
* Volume flow refers to water.

5.5.8 PERFORMANCE DIAGRAMS

Example diagram

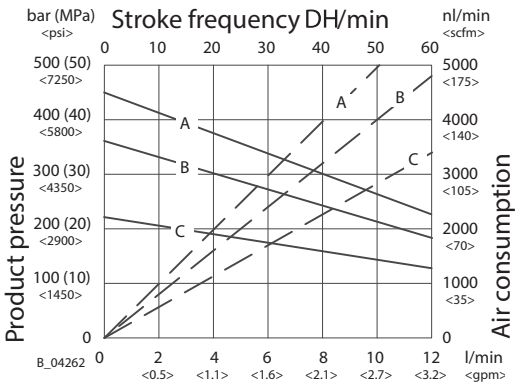


JAGUAR 75-150



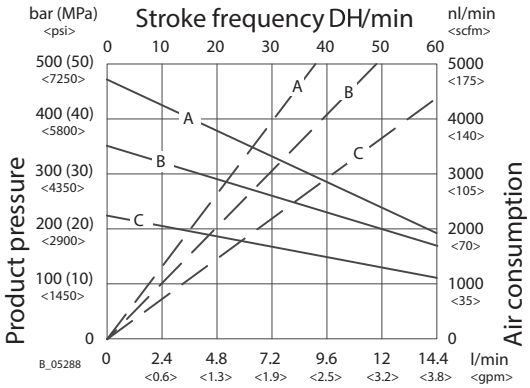
Flow rate (water)
A = 7.1 bar; 0.71 MPa; 103 psi air pressure
B = 6 bar; 0.6 MPa; 87 psi air pressure
C = 4 bar; 0.4 MPa; 58 psi air pressure

JAGUAR 55-200



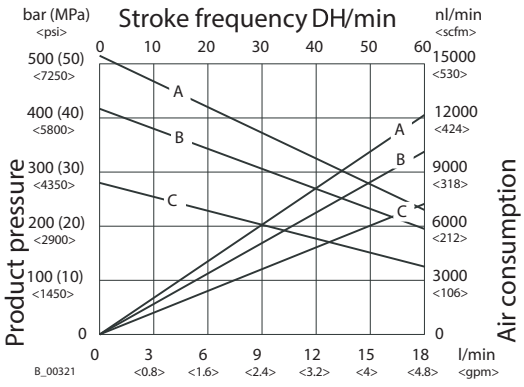
Flow rate (water)
A = 8 bar; 0.8 MPa; 116 psi air pressure
B = 6 bar; 0.6 MPa; 87 psi air pressure
C = 4 bar; 0.4 MPa; 58 psi air pressure

PROTEC 60-240



Flow rate (water)
A = 8 bar; 0.8 MPa; 116 psi air pressure
B = 6 bar; 0.6 MPa; 87 psi air pressure
C = 4 bar; 0.4 MPa; 58 psi air pressure

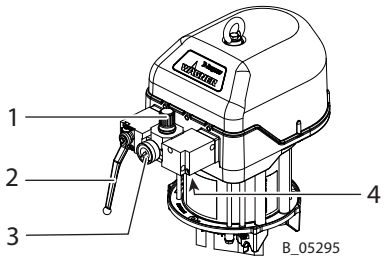
TIGER 72–300



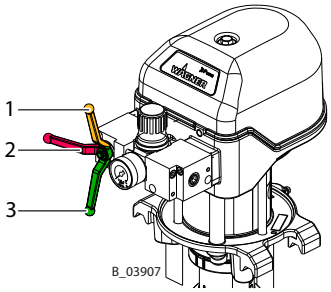
Flow rate (water)
A = 7.4 bar (0.74 MPa; 107 psi) air pressure
B = 6 bar (0.6 MPa; 87 psi) air pressure
C = 4 bar (0.4 MPa; 58 psi) air pressure

5.6 OPERATING ELEMENTS

5.6.1 PRESSURE REGULATOR UNIT



Pos	Designation
1	Pressure regulator
2	Ball valve
3	Pressure gauge
4	Compressed air inlet



Pos	Positions of the ball valve
1	Closed: working pressure in the air motor will be relieved (control pressure is still present).
2	Closed: The air motor may still be under pressure.
3	Open: working position

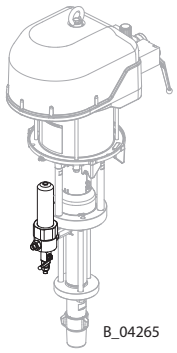
5.7 PRODUCT FILTER AND RETURN LINE

So that complete pressure relief of the pump can be performed (see Chapter 7.4), a high-pressure filter with a return line or a relief combination, is mandatory.

5.7.1 HIGH-PRESSURE FILTER (OPTION)

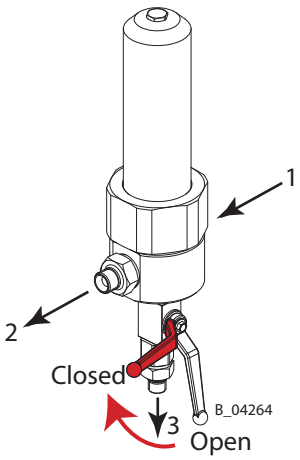
To ensure problem-free operation it is recommended that a WAGNER high-pressure filter be used. These have been developed especially for WAGNER pneumatic pumps. The filter inserts can be exchanged depending on the product to be used. The high-pressure filter, which corresponds to the device, can be found in Chapter 13. The compatible filter inserts can be found in Chapter 14.

Preferred
Filter installation position



53 MPa; 530 bar; 7687 psi

Pos	Designation
1	Fluid section connection
2	Product outlet
3	Return line

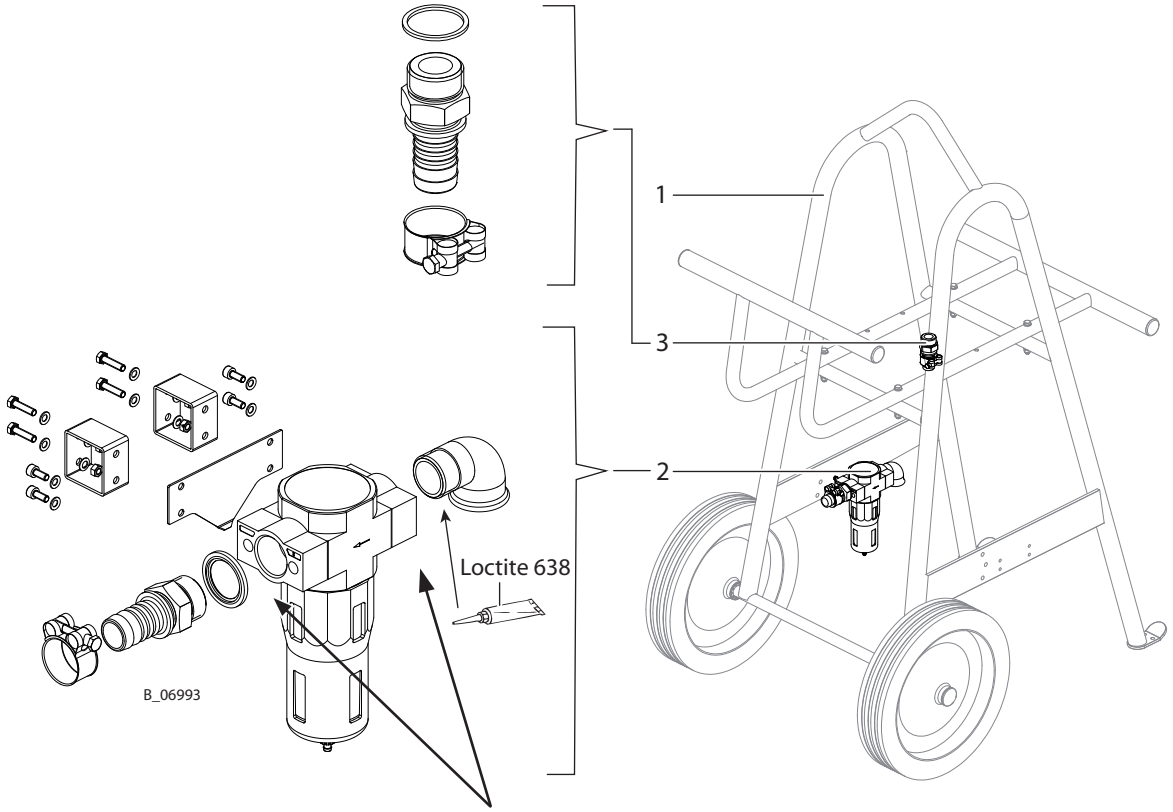


5.8 PC AIR FILTER SET (OPTION)

The air filter serves to filter the inlet's compressed air.

Assembly of the PC air filter set on the heavy-duty PC trolley (1):

1. Mount the air filter (2).
2. Mount the air filter (2) on trolley (1).
3. Mount the air connection (3) on the air motor.
4. Mount the air hose between (2) and (3).



If necessary, turn the adaptor plate by 180° so that the air filter can be mounted on the trolley. Observe the air filter's flow direction.

5.9 PC HEATER SET (OPTION)

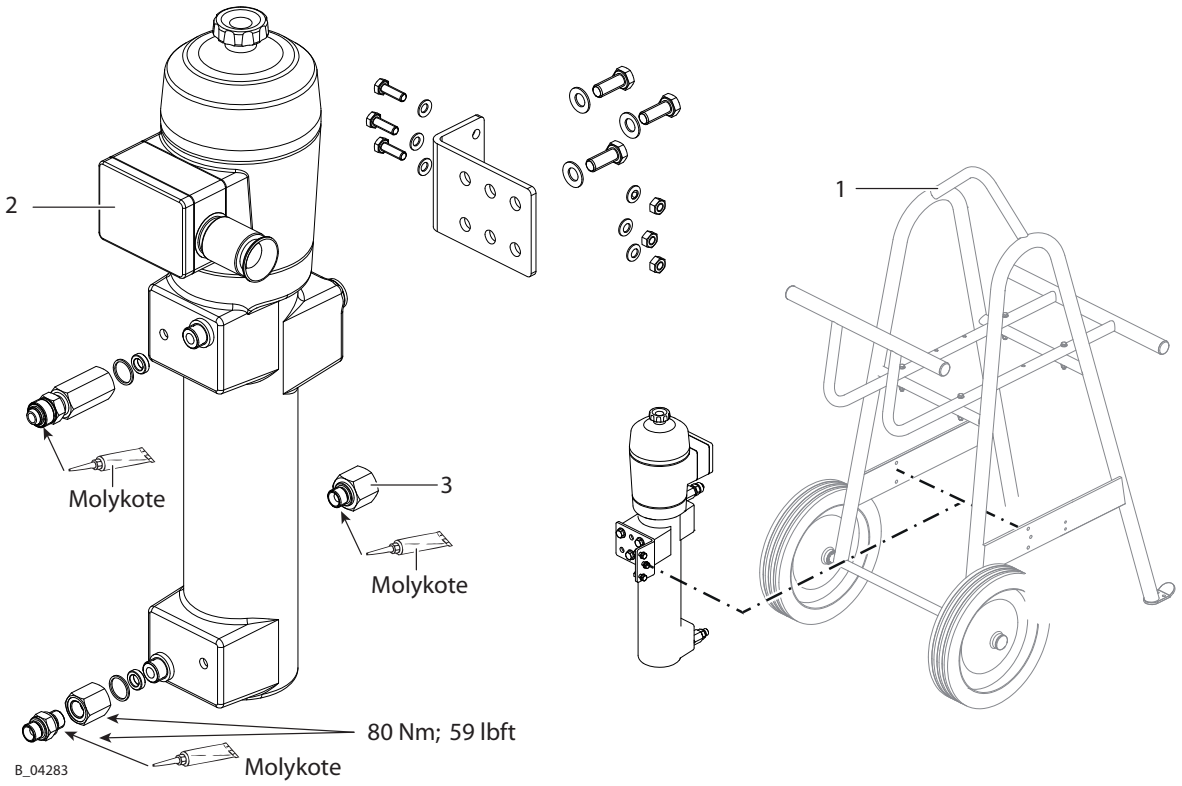
The electric, continuous-flow heater with explosion protection is downstream of the pump. The coating product can only be heated to maximum 80 °C. The continuous-flow heater is fitted with a temperature limiter.
The temperature is set using the temperature regulator. The coating product temperature can be read off the thermometer on the coating product output.

Description of heater and thermometer

→ see heater operating manual (order no. 65860).

Assembly of the PC heater set on the heavy-duty PC trolley:

1. Mount heater (2).
2. Mount heater (2) on trolley (1).
3. Connect heater in accordance with the operating manual.
4. Mount enclosed fitting (3) on the fluid section's outlet fitting.



5.10 FEED PUMP (OPTION)

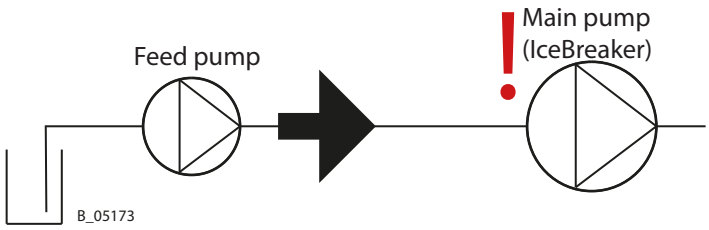
A feed pump can be used with high-viscosity products or longer feed lines.

Dimensioning of the feed pump

→ The IceBreaker piston pumps pump the working product to the product output with up and down strokes but only draw in new product on the up stroke. The feed pump therefore has to pump twice the volumetric flow.

Main pump protection

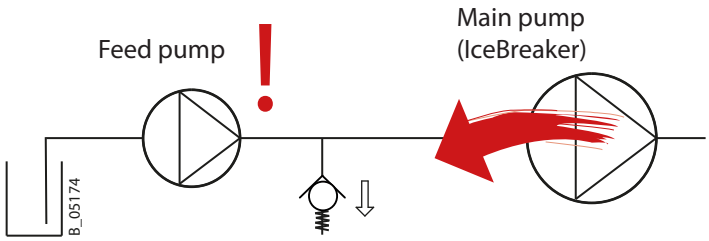
→ The maximum product pressure at the pump inlet of the IceBreaker pump may not be exceeded.



Protection of feed pump

→ If the maximum pressure of the feed pump is lower than the maximum pressure of the main pump, this could be exceeded if the main pump malfunctions. The feed pump and connection line must therefore be protected from excessive overpressure. An overpressure valve must then be installed between the feed pump and main pump.

→ Observe the flow direction during installation.



Pressure relief valve

→ The pressure-relief valve must be cleaned regularly and after each activation: Flush with solvent.

Installation sets and compatible feed pumps

→ See assembly manual "Feed pump installation sets", order no. 2357584.

6 ASSEMBLY AND COMMISSIONING

6.1 TRAINING OF ASSEMBLY/COMMISSIONING PERSONNEL

→ The assembly and commissioning personnel must have the technical skills to safely commission the device.

→ When assembling, commissioning and carrying out all work, read and follow the operating manuals and safety regulations for the additionally required system components.

A skilled person must check to ensure that the device is in a reliable state after it is installed and commissioned.

6.2 STORAGE CONDITIONS

Until the point of assembly, the device must be stored in a dry location, free from vibrations and with a minimum of dust. The device must be stored in closed rooms.

The air temperature at the storage location must be between -20 °C and 60 °C (-4 °F and 140 °F).

The relative air humidity at the storage location must be between 10 and 95% (without condensation).

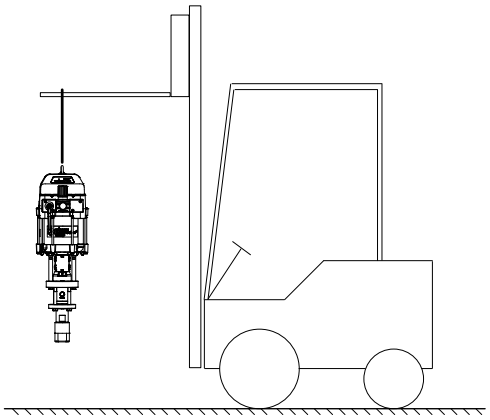
6.3 INSTALLATION CONDITIONS

The air temperature at the installation site must be in a range between 5 °C and 50 °C (41 °F and 122 °F).

The relative air humidity at the installation site must be between 10 and 95% (without condensation).

6.4 TRANSPORTATION

The pump must be moved on a trolley (heavy-duty PC trolley) or with lifting equipment or a crane.
Only the pump, without trolleys, may be lifted by the lifting eye nut or lifting eye bolt (see accessories) and transported short distances.



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6.5 **ASSEMBLY** AND INSTALLATION

⚠ WARNING

Inclined ground!

Risk of accidents if the device rolls away/falls.

→ Position the trolley with the double diaphragm pump horizontally.

→ If the floor is inclined, position the feet of the trolley towards the gradient.

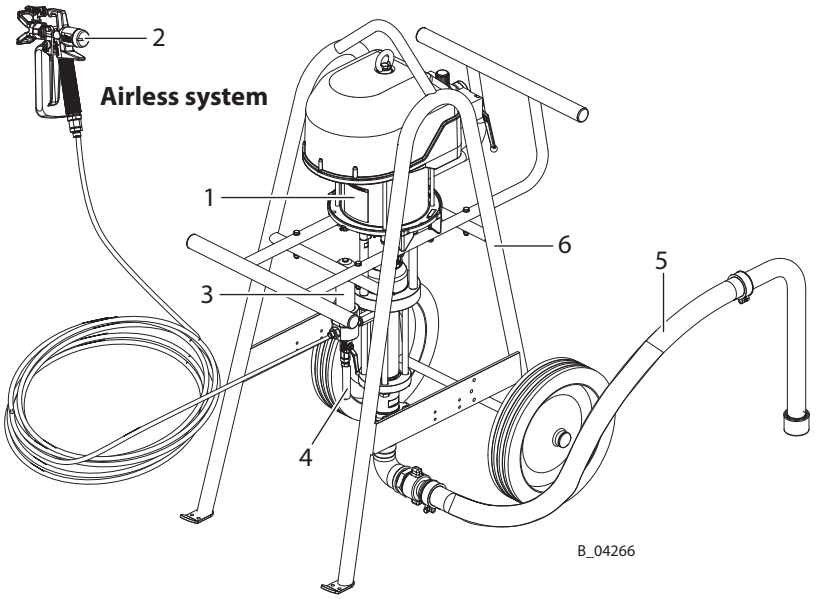
→ Secure the trolley.

National regulations

→ Ensure that the national explosion prevention rules and regulations are observed when setting up the device.

This pump can be used as part of a spraying system for Airless applications. The individual components are shown in the accessories, or can be arranged with a spraypack configurator. The nozzles must be selected according to the spray gun operating manual. In the case of spraypack orders, the pump (1) is already pre-mounted on the trolley (6) at the factory.

1. Mount pump (1) on frame, trolley (6), or wall mount. When using a wall mount, the fluid section must be turned by 180°.
2. Mount high-pressure filter (3).
3. Fit suction system (5).
4. Mount return tube (4) or return hose.
5. Connect high-pressure hose and spray gun (2) according to the operating manual for the spray gun.



6.5.1 **VENTILATION** OF THE SPRAY BOOTH

→ Operate the device in a spray booth approved for the working materials.
- or -
→ Operate the device on an appropriate spraying wall with the ventilation (extraction) switched on.
→ Observe national and local regulations for the exhaust air speed.

6.5.2 AIR SUPPLY LINES

Ensure that only dry, clean atomizing air is used in the spray gun! Dirt and moisture in the atomizing air worsens the spraying quality and spray pattern.

⚠ WARNING

Hose connections!
Risk of injury and damage to the device.
→ Do not mix up hose connections of product hose and air hose.

6.5.3 PRODUCT SUPPLY LINES

⚠ DANGER

Bursting hose, bursting threaded joints!
Danger to life from injection of product.
→ Ensure that the hose material is chemically resistant to the sprayed products.
→ Ensure that the spray gun, fittings and product hose between the device and the spray gun are suitable for the pressure generated in the device.
→ Ensure that the following information can be seen on the high-pressure hose:
- manufacturer
- permissible operating pressure
- date of manufacture

6.6 GROUNDING

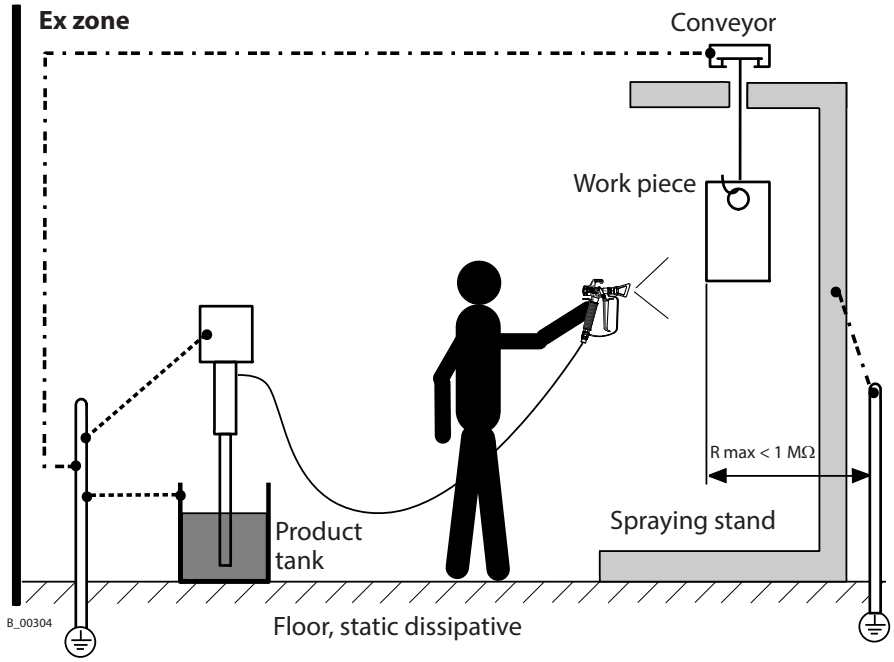
⚠ WARNING

Discharge of electrostatically charged components in atmospheres containing solvents!
Explosion hazard from electrostatic sparks.
→ Clean the pump only with a damp cloth.

⚠ WARNING

Heavy paint mist if grounding is insufficient!
Danger of poisoning.
Insufficient paint application quality.
→ Ground all device components.
→ Ground the work pieces to be coated.

Grounding scheme (example)

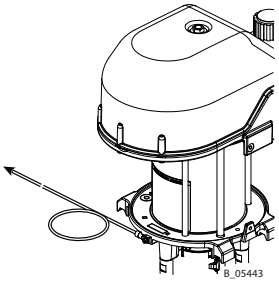


Part / workstation	Cable cross section
Pump	4 mm²; AWG 12
Product tank	6 mm²; AWG 10
Conveyor	16 mm²; AWG 6
Booth	16 mm²; AWG 6
Spraying stand	16 mm²; AWG 6

Safe operation of the IceBreaker pump is only guaranteed with a grounding connection. Connect all grounding cables using a short and direct route.

Procedure:

1. Screw on grounding cable with eyelet.
2. Clamp the grounding cable clip to a grounding connection on site.
3. Ground the product tank to an on-site grounding connection.
4. Ground the other parts of the system to an on-site grounding connection (16 mm2; AWG 6).



Ex zone

All devices and equipment must be suitable for use in potentially explosive areas.

→ All paints, flushing agents and waste tanks have to be electrically conductive.

→ All tanks must be grounded.

6.7 COMMISSIONING

⚠ WARNING

Gas mixtures can explode if there is an incompletely filled pump!

Danger to life from flying parts.

→ Ensure that the pump and suction system are always completely filled with flushing agent or working medium.

→ Do not spray the device empty after cleaning.

⚠ NOTICE

Impurities in the spraying system!

Spray gun blockage.

→ Flush the spray gun and paint supply with a suitable flushing agent before commissioning.

→ Emergency stop, see Chapter 7.2.

Preparation

Before every start-up, the following points should be observed as laid down in the operating manual:

– Secure spray gun with safety lever.
– Check the permissible pressures.
– Check all connections for leaks.
– Check hoses for damage in accordance with Chapter 8.2.3.
– Fill the separating agent in accordance with Chapter 8.2.3.1.

Fill the pump with flushing agent

The devices are tested during manufacturing with emulsifying oil, pure oil or solvent. Possible residues must be flushed out of the circuits with a solvent (flushing agent) before commissioning.

– Fill the empty device with flushing agent in accordance with Chapter 8.2.5.

Pressure tightness test

⚠ WARNING

Overpressure!

Risk of injury from bursting components.

→ The operating pressure must not exceed the value shown on the type plate.

– Gradually increase the pressure in pump with the pressure regulator until maximum pressure is reached. Maintain the pressure for 3 minutes and check all connection points for leaks.
– Depressurization in accordance with Chapter 7.4.

Verifying a Safe Operational Condition

A skilled person must check to ensure that the device is in a reliable state after it is installed and commissioned.
This includes:

– Carry out safety checks in accordance with Chapter 8.2.3.

Filling with Working Material

– According to Chapter 8.2.5.

7 OPERATION

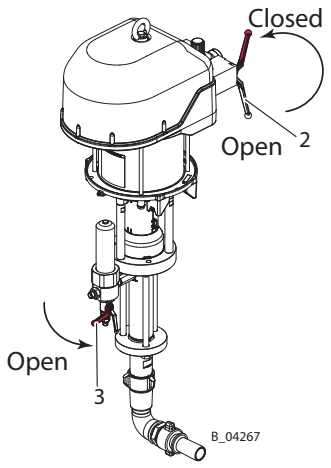
7.1 TRAINING THE OPERATING PERSONNEL

→ The operating personnel must be qualified to operate the entire system.

→ The operating staff must be familiar with the potential risks associated with improper behavior as well as the necessary protective devices and measures.
→ Before work commences, the operating personnel must receive appropriate system training.

7.2 EMERGENCY STOP

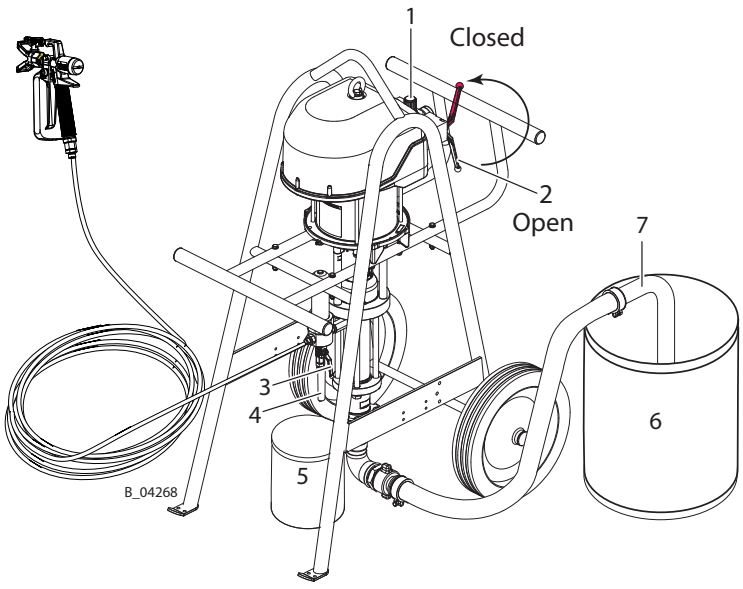
In the case of unforeseen occurrences:
– Close ball valve (2);
– Open return valve (3).



7.3 TASKS

Ensure that:
→ commissioning is carried out in accordance with Chapter 6.7.

1. Visual check: personal safety equipment, grounding and all devices ready to use.
2. Secure spray gun and insert nozzle into the spray gun.
3. Close return valve (3).
4. Slowly open the ball valve (2).
5. Set required working pressure on the pressure regulator (1).
6. Optimize spray pattern in accordance with the spray gun's operating manual.
7. Start work process.



7.4 **PRESSURE RELIEF /** WORK INTERRUPTION

The pressure must always be relieved when:

- after the spraying tasks are finished,
- before servicing or repairing the spraying system,
- before carrying out cleaning tasks on the spraying system,
- Before moving the spraying system to another location.
- before something must be checked on the spraying system,
- before the nozzle or the filter is removed from the spray gun.

The components for pressure relief on a CE-compliant spraying system include:

- Air cock with pressure relief hole mounted between compressed air source and pneumatic pump.
- Outlet equipment (return valve) mounted between pump and spray gun.

Process for relieving pressure

1. Close the spray gun.
2. Close ball valve (2).
3. Release the system of pressure by opening the spray gun.
   → Attention: If a blocked nozzle is preventing relief, first carry out the additional steps 4 and 5, then clean the nozzle.
4. Close and secure the spray gun.
5. Open and close the return valve (3) slowly to completely depressurize the system.

If the system will process 2K products:

NOTICE

Hardened working material in the spraying system when 2K product is processed!
Destruction of pump and injection system.
→ Observe the manufacturer's processing rules, particularly in regards to the pot life.
→ Flush thoroughly before the end of the pot life.
→ The pot life is decreased by warmth.

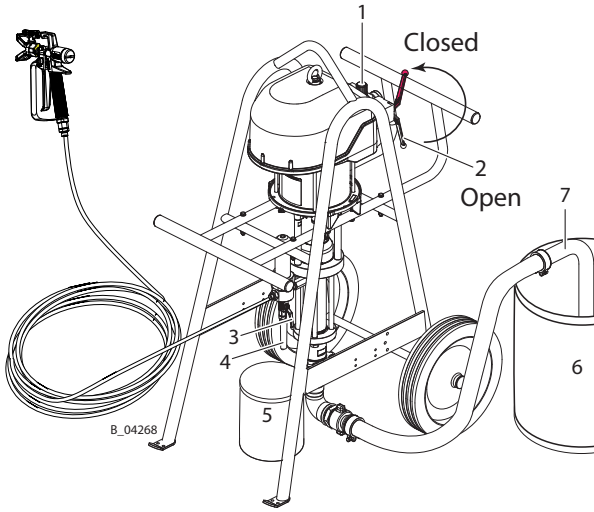
7.5 BASIC FLUSHING

Regular flushing

→ Regular flushing, cleaning and maintenance ensures the pump's high pumping and extraction capacity.
→ The cleaning and flushing agents used must be compatible with the working material.
→ Do not flush hardener pumps with water. Only flush them using suitable flushing agents (solvents).

⚠ WARNING

Incompatibility of flushing / cleaning agent with the working medium!
Risk of explosion and danger of poisoning by toxic gases.
→ Examine the compatibility of the flushing and cleaning agents and working media on the basis of the safety data sheets.



Flushing procedures

1. Visual check: personal safety equipment, grounding and all devices ready to use.
2. Place an empty, grounded collection tank (5) under the return tube (4).
3. Place the suction hose (7) in the grounded tank with flushing agent (6).
4. Adjust the pressure regulator (1) to approx. 0.05 MPa; 0.5 bar; 7.25 psi.

Flushing via the return valve

5. Open return valve (3).
6. Slowly open the ball valve (2).
7. Adjust the air pressure on the pressure regulator (1) so that the pump runs smoothly.
8. Flush the system until clean flushing agent flows into the tank (5).
9. Close ball valve (2).
10. As soon as there is no pressure remaining in the system, close the return valve (3).

Flushing via spray gun

11. Point the spray gun, without nozzle, into the tank (5) and open it.
12. Slowly open the ball valve (2).
13. Rinse until clean flushing agent flows from the spray gun.
14. Close ball valve (2).
15. As soon as there is no pressure remaining in the system, close the spray gun.
16. Secure the spray gun.
17. Dispose of the contents of the tank (5) according to the local regulations.

External Cleaning

18. Clean the outside of the system.
19. Fully assemble the system.
20. Relieve the pump's pressure according to Chapter 7.4.
21. Dispose of the contents of the tank (5) according to the local regulations.

7.5.1 FILLING WITH WORKING MATERIAL

After basic flushing, the system can be filled with working product.
Proceed according to Chapter 8.2.5, but use working material instead of flushing agent.

8 CLEANING AND MAINTENANCE

8.1 CLEANING

8.1.1 CLEANING PERSONNEL

Cleaning work should be undertaken regularly and carefully by qualified and trained personnel. They should be informed of specific hazards during their training. The following hazards may arise during cleaning work:

- Health hazard from inhaling solvent vapors.
- Use of unsuitable cleaning tools and aids.

8.1.2 DECOMMISSIONING AND CLEANING

The device should be cleaned for maintenance purposes, etc. Ensure that no remaining product dries on and sticks to the device.

Procedure

1. Carry out work interruption → Chapter 7.4.
2. Carry out the basic flushing → Chapter 7.5.
3. Empty system in a controlled manner → Chapter 8.2.4.
4. Service spray gun in accordance to its operating instructions.
5. Clean and check the suction system and the suction filter.
6. When using a product filter, check filter insert and filter housing and clean or replace them. → Chapter 8.2.6
7. Clean the outside of the system.
8. Fully assemble the system.
9. Check fill level of the separating agent → Chapter 8.2.3.1.
10. Fill the system with flushing agent in accordance with Chapter 8.2.5.

8.1.3 LONG-TERM STORAGE

When storing the device for longer periods of time, it is necessary to thoroughly clean it and protect it from corrosion. Replace the water or solvent in the product pump with a suitable preservative, fill separating agent cup with separating agent.

Procedure

1. Perform points 1 to 8 in Chapter 8.1.2.
2. Fill the system with preservative in accordance with Chapter 8.2.5.
3. Empty the system in a controlled manner in accordance with Chapter 8.2.4 and seal the openings.

8.2 MAINTENANCE

8.2.1 MAINTENANCE PERSONNEL

Maintenance work should be undertaken regularly and carefully by qualified and trained personnel. They should be informed of specific hazards during their training. The following hazards may arise during maintenance work:

- Health hazard from inhaling solvent vapors.
- Use of unsuitable tools and aids.

An authorized person must ensure that the device is checked for being in a reliable state after maintenance work is completed.

8.2.2 SAFETY INSTRUCTIONS

⚠ DANGER

Incorrect maintenance/repair!

Danger to life and equipment damage.

→ Only a WAGNER service center or a suitably trained person may carry out repairs and replace parts.
→ Use only WAGNER original spare parts and accessories.
→ Only repair and replace parts that are listed in the "Spare parts" chapter and that are assigned to the unit.
→ Before all work on the device and in the event of work interruptions:
- Relieve the pressure from the spray gun, high-pressure hoses and all devices.
- Secure the spray gun against actuation.
- Switch off the energy and compressed air supply.
- Disconnect the control unit from the mains.
→ Observe the operating and service manual for all work.

Prior to Maintenance

It should be ensured that the device is in the following state before carrying out any work on it:

- Flush and clean the system. → Chapter 8.1.2
- Interrupt the air supply.

After maintenance

- Carry out safety checks in accordance with Chapter 8.2.3.
- Put the system into operation and check for leaks as described in Chapter 6.7.
- Have the system checked for safe condition by an authorized person.
- Function test in accordance with Chapter 11.

8.2.3 SAFETY CHECKS AND MAINTENANCE WORK

Every day

→ Check grounding: see Chapter 6.6.
→ Check hoses, tubes and couplings: see Chapter 8.2.3.2
→ Check the level of separating agent in the separating agent tank and top up, if necessary, in accordance with Chapter 8.2.3.1.
→ For each decommissioning, the process according to Chapter 8.1.2 must be followed.
→ If the pump has to be emptied for maintenance work, proceed according to Chapter 7.5 and Chapter 8.2.4.

Weekly

→ Check system for damage.
→ Check that the safety fixtures function properly (see Chapter 5.3).

Yearly or as required

→ In accordance with DGUV regulation 100-500 Chapter 2.29 and 2.36:
  – The liquid ejection devices should be checked by an expert (e.g., WAGNER service technician) for their safe working conditions as required and at least every 12 months.
  – For shut down devices, the examination can be suspended until the next start-up.

8.2.3.1 FILLING WITH SEPARATING AGENT

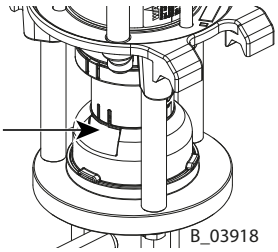
NOTICE

Piston pump dry run!
High wear/damage to the packings.
Paint or solvent can escape if the seals are dry.
→ Ensure that the separating agent tank is filled with sufficient separating agent.

Pour the supplied separating agent into the intended opening.

Filling level: 1 cm; 0.4 inch under the cup edge.

Separating agent: Order no. 9992504



Inclination angle of the pump

Maximum permissible inclination of pump for moving, transportation, etc. after filling it with separating agent ± 30°.
The pump must be vertical during operation.

8.2.3.2 PRODUCT HOSES, PIPES AND COUPLINGS

The service life of the complete hoses between product pressure generator and application device is reduced due to environmental influences even when handled correctly.

- → Check hoses, pipes, and couplings every day and replace if necessary.
- → Before every commissioning, check all connections for leaks.
- → Additionally, the operator must regularly check the complete hoses for wear and tear as well as for damage at intervals that he/she has set. Records of these checks must be kept.
- → The complete hose is to be replaced as soon as one of the two following intervals has been exceeded:
  –6 years from the date of the hose crimping (see fitting embossing).
  –10 years from the date of the hose imprinting.

Fitting embossing	Meaning
xxx bar	Pressure
yymm	Crimping date (year/month)
XX	Internal code

Hose imprinting	Meaning
Wagner	Name / Manufacturer
yymm	Date of manufacture (year/month)
xxx bar (xx MPa) e.g., 270 bar (27 MPa)	Pressure
XX	Internal code
DNxx (e.g., DN10)	Nominal diameter

8.2.4 EMPTYING PUMP

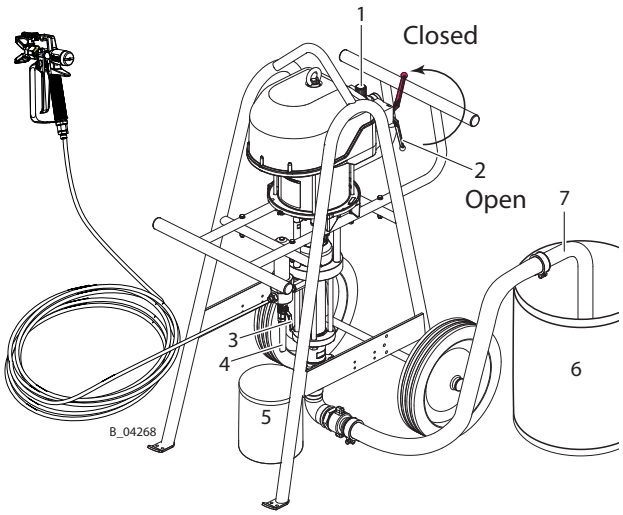
⚠ WARNING

Gas mixtures can explode if there is an incompletely filled pump!

Danger to life from flying parts.
Ignition of potentially explosive surrounding atmosphere.
→ Empty the device slowly and in a controlled manner.
→ Avoid potentially explosive atmosphere in the surroundings.

→ If the pumping product becomes heated, switch off all heaters and let the product cool off.

1. Place an empty, grounded collection tank (5) under the return tube (4).
2. Place the suction hose (7) in an empty, grounded tank (6).
3. Close pressure regulator (1) (0 MPa; 0 bar; 0 psi).



Emptying via return line

4. Open return valve (3).
5. Slowly open the ball valve (2).
6. Slowly turn air pressure up on the pressure regulator (1) and only until the pump is running normally (approx. 0.05 MPa; 0.5 bar; 7.25 psi).
7. Be ready for the switch from working material to air. Turn down pressure regulator (1) far enough that the pump is still running normally (approx. 0–0.05 MPa; 0–0.5 bar; 0–7.25 psi).
8. As soon as working material is no longer flowing from the return tube (4), close the ball valve (2).
9. Close return valve (3).

Emptying up to the spray gun

10. Point the spray gun, without nozzle, into the tank (5) and pull the trigger.
11. Slowly open the ball valve (2). Be ready for the switch from working material to air.
12. As soon as working material is no longer flowing from the return tube, close the ball valve (2).
13. Close and secure the spray gun.
14. Depressurization in accordance with Chapter 7.4.
15. Dispose of the contents of the tank (5) according to the local regulations.

8.2.5 FILLING THE EMPTY PUMP

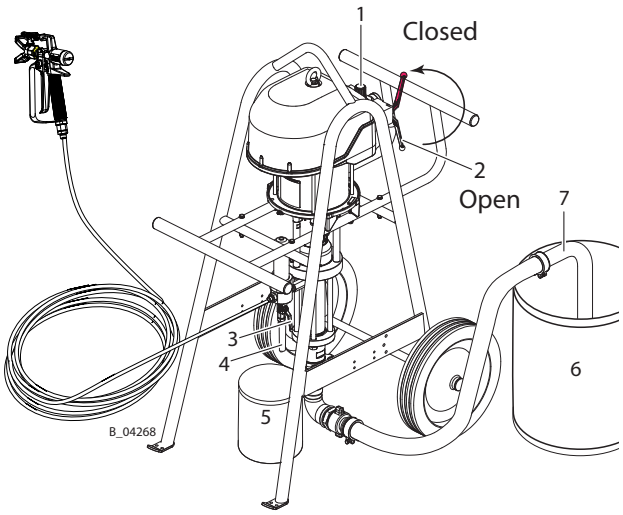
⚠ WARNING

Gas mixtures can explode if there is an incompletely filled pump!

Danger to life from flying parts.
Ignition of potentially explosive surrounding atmosphere.
→ Fill the device slowly and in a controlled manner.
→ Avoid potentially explosive atmosphere in the surroundings.

Before each filling, the nozzle must be removed from the spray gun. Here, the specifications in the spray gun operating manual must be followed.

1. Visual check: personal safety equipment, grounding and all devices ready to use.
2. Place an empty, grounded collection tank (5) under the return tube (4).
3. Place the suction hose (7) in a grounded tank with working material (6).
   Notice:
   If the pump is equipped with a rigid suction system, it should only be dipped in into the working product up to the middle of the inlet housing at the maximum!
4. Close pressure regulator (1) (0 MPa; 0 bar; 0 psi).
5. Open return valve (3).
6. Slowly open the ball valve (2).
7. Slowly turn the air pressure up on the pressure regulator (1) and only until the pump is running normally (approx. 0–0.05 MPa; 0–0.5 bar; 0–7.25 psi). Be ready to switch from air to working material and prevent back spray.

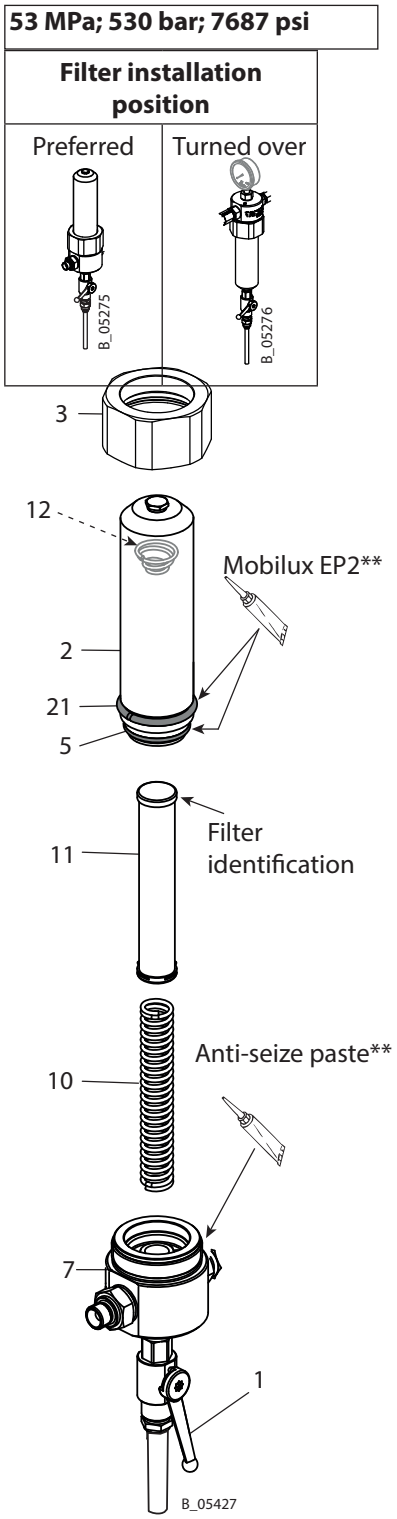


8. Close ball valve (2) as soon as pure working product starts coming from the return tube (4).
9. Close return valve (3).
10. Point the spray gun, without nozzle, into the tank (5) and open it.
11. Slowly open the ball valve (2). Be ready to switch from air to working material and prevent back spray.
12. As soon as pure working material without air bubbles is flowing, close the ball valve (2).
13. Close and secure the spray gun.
14. Depressurization in accordance with Chapter 7.4.
15. Dispose of the contents of the tank (5) according to the local regulations.

8.2.6 CLEANING AND REPLACING THE HIGH-PRESSURE FILTER

1. Flush the pump and HP filter in accordance with Chapter 7.5, and while doing so:
   – At the preferred filter installation position: Flush via the return valve (1). This produces a large flow. As a result, the flushing agent also flows through the upper part of the filter cartridge (11). Pressure regulator approx. 0.15 MPa; 1.5 bar; 22 psi.
   – With a reversed filter installation position: Flush using the spray gun. This is required, in the case of a reversed installation position, so that the flushing agent flows through the filter cartridge (11). Maximize the flow (remove the nozzle, open the dosing valve if necessary).
2. Empty the pump in a controlled manner in accordance with Chapter 8.2.4.
3. Place the grounded collection tank under the high-pressure filter.
4. Open ball valve (1).
5. Loosen union nut (3) with a size 70 wrench.
6. Unscrew the union nut (3) and lift slightly so that it does not get dirty in the next step.
7. Remove the filter housing (2) with the union nut (3). The cone spring (12) remains in the filter housing (2). If the O-ring (5) is not damaged, it remains on the filter housing (2).
8. Remove the filter cartridge (11) and filter socket (10) from the filter housing (2).
9. Clean all parts:
   – Place the filter cartridge (11) and filter support (10) in solvent. Clean using brush.
   – Fill the filter housing (2) approx. 1/3 full with solvent. Close, wearing a glove, and shake well.
   – Clean the distribution housing (7) using a brush.
10. If necessary, replace the O-ring (5) and/or filter cartridge (11). Order No., see Chapter 14.5.
11. Assemble all parts in reverse order. While doing so:
    – Coat the thread of the distribution housing (7) with anti-seize paste**.
    – Coat the O-ring (5) and pressure ring (21) with Mobilux® EP2**.
    – Observe the installation position of the filter cartridge (11): Push the closed end with the filter identification ahead into the filter housing (2).
    – Make sure that the cone spring (12) is in the filter housing (note the installation position). Press on the cone spring after inserting the filter cartridge (11) and filter support (10); the spring action must be noticeable.
    – Tighten the union nut (3) by hand.
12. Close ball valve (1).
13. Fill the pump in accordance with Chapter 8.2.5.

** Order no., see Chapter 10.5.



9 TROUBLESHOOTING AND RECTIFICATION

The pump does not work.	Air motor does not work or stops.	Open and close ball valve on the pressure regulator unit or briefly disconnect compressed air supply.
	No pressure indication on the pressure gauge (air pressure regulator defective).	Disconnect compressed air supply briefly or repair or change pressure regulator.
	Spray nozzle is clogged.	Clean the nozzle according to the instructions.
	Insufficient compressed air supply.	Check compressed air supply.
	Filter insert in spray gun or high-pressure filter is clogged.	Clean the parts and use a suitable working material.
	Fluid section or high-pressure hose are blocked (e.g., 2K product hardened).	Dismount and clean fluid section, replace high-pressure hose.
	Grease in spool and sleeve assembly.	Degrease spool and sleeve assembly.
	Occasionally, the pump stops at the reversal point.	Check detent element (see service manual).
Poor spray pattern	See operating manual of spray gun.	
Irregular operation of product pump: spray jet collapses (pulsation)	Viscosity is too high.	Thin spraying product.
	Spraying pressure is too low.	Increase incoming air pressure. Use a smaller nozzle.
	Valves are clogged.	Clean pump. If necessary, leave it to soak in cleaning agent.
	Foreign body in suction valve.	Dismantle suction valve housing, clean and check valve seat.
	Diameter of compressed air line too small.	Assemble a larger incoming line -> Technical Data, Chapter 5.5.3.
	Valves, packings, or pistons are worn out.	Replace the parts.
	Control air filter or work air filter is clogged.	Check and clean it if necessary.
The pump runs smoothly but does not suck in any product.	The suction system's union nut is loose; the pump is taking in air.	Tighten union nut.
	Suction filter is clogged.	Clean filter.
	Ball in suction or piston valve is stuck.	Clean ball and valve seats.
The pump is working with a closed spray gun.	Packings, valves, or pistons are worn out.	Replace the parts.
The air motor is iced up	There is a lot of condensation water in the air supply.	Install a water separator.

If none of the causes of malfunction mentioned are present, the defect can be remedied by a WAGNER Service Center.

10 REPAIR WORK

10.1 REPAIR PERSONNEL

Repair work must be carried out carefully and by qualified and trained personnel. They should be informed of specific hazards during their training.
The following hazards may arise during repair work:

- Health hazard from inhaling solvent vapors.
- Use of unsuitable tools and aids.

A skilled person must check to ensure that the device is in a reliable state after it is repaired.
Carry out function test in accordance with Chapter 11.

10.2 REPAIR NOTES

⚠ DANGER

Incorrect maintenance/repair!

Danger to life and equipment damage.

→ Only a WAGNER service center or a suitably trained person may carry out repairs and replace parts.
→ Use only WAGNER original spare parts and accessories.
→ Only repair and replace parts that are listed in the "Spare parts" chapter and that are assigned to the unit.
→ Before all work on the device and in the event of work interruptions:
- Relieve the pressure from the spray gun, high-pressure hoses and all devices.
- Secure the spray gun against actuation.
- Switch off the energy and compressed air supply.
- Disconnect the control unit from the mains.
→ Observe the operating and service manual for all work.

Before Repair Work

- Flush and clean the system. → Chapter 8.1.2
- Interrupt the air supply.

After Repair Work

- Carry out safety checks in accordance with Chapter 8.2.3.
- Put the system into operation and check for leaks as described in Chapter 6.7.
- Have the system checked for safe condition by an authorized person.
- Function test in accordance with Chapter 11.

10.3 TOOLS

The following tools are required for assembling and disassembling the device (if possible, always bring entire tool sets with you):

- Open-end wrenches, size 3; 5; 7; 8; 10; 12; 13; 14; 15; 16; 17; 18; 19; 22; 24; 27; 36; 50.
- Allen wrench, size 10.
- Screwdriver, size 3.
- Torque wrench 40 Nm; 29.5 lbft.

10.4 **CLEANING** THE PARTS AFTER DISASSEMBLY

⚠ WARNING

Incompatibility of cleaning agent and working medium!

Risk of explosion and danger of poisoning by toxic gases.

→ Examine the compatibility of the cleaning agents and working media on the basis of the safety data sheets.

Please note:

→ Thoroughly clean all reusable parts with a suitable cleaning agent.

→ All dismantled parts have to be clean and dry after cleaning. Care should be taken that these parts remain free of solvents, grease or sweat from the hands (salt water). Perform cleaning and mounting tasks wearing gloves.

10.5 ASSEMBLY OF THE DEVICE

In Chapter 14 the order numbers for device spare parts can be found, as well as for wearing parts such as seals.

→ Defective parts, O-rings and seal sets must always be replaced.

→ Use greases and glues in accordance with Chapter 14.

→ Observe torque specifications in Chapter 14.

Assembly Aids

Order no.	Quantity	Designation	Smaller tanks
9992590	1 pc ≙ 50 ml	Loctite® 222	
9992511	1 pc ≙ 50 ml	Loctite® 243	
9992528	1 pc ≙ 150 g	Loctite® 270	
9992831	1 pc ≙ 50 ml	Loctite® 542	
9999042	1 pc ≙ 50 ml	Loctite® 638	
9998808	1 pc ≙ 18 kg!	Mobilux® EP 2 grease	400 g tube ≙ Order No. 2355418
9992616	1 pc ≙ 1 kg can	Molykote® DX grease	50 g tube ≙ Order No. 2355419
9992609	1 pc ≙ 100 g	Anti-seize paste	
9992816	1 pc ≙ 70 g	Miranit contact adhesive	
Z102.00	1 pc ≙ 1000 ml	Tecni oil 1000 ml	125 cc ≙ order no. Z101.00
9992698	1 pc. ≙ 200 g can	Vaseline white, PHHV II	

Brand notice

The brands specified in this document are property of the respective owners. Loctite®, for example, is a registered brand of Henkel.

11 FUNCTION TEST AFTER REPAIR WORK

After all repairs, the device must be checked for safe condition before recommissioning. The necessary scope of inspection and testing depends on the repair carried out and must be documented by the repair personnel.

1.1 Filling with separating agent → See Chapter 8.2.3.1.	
1.2 EX-relevant inspections – Check grounding connection between ground connection of the pump and the frame/trolley and between the individual components of the frame/trolley: < 1MΩ – Check conductivity between piston and grounding connection: < 1MΩ These inspections are  - relevant!	Ohmmeter (measurement voltage 500...1000 VDC)
1.3 Testing for leaks – Connect the air motor to the air supply 7 bar. To perform a leak test on the device, the product pressure with the flushing agent is slowly increased in increments until the maximum pressure indicated on the type plate is reached. Close pump outlet. In each position (forward stroke and reverse stroke), let sit for 0.5-1 minutes and listen for audible blowing off. When the air supply is turned off, a drop in pressure must be watched for. Check seal of following modules: – fluid section – mounted fittings and regulators	Air motor: Test medium compressed air Leak spray Fluid section: Test medium: suitable Flushing agent
1.4 General inspections – Check tightening torque of various screws. See Chapter 14. – Check all fittings. – Empty device in a controlled manner (Chapter 8.2.4) and depressurize (Chapter 7.4). – Check function of frame or transport trolley.	Torque wrench Visual check

12 DISPOSAL

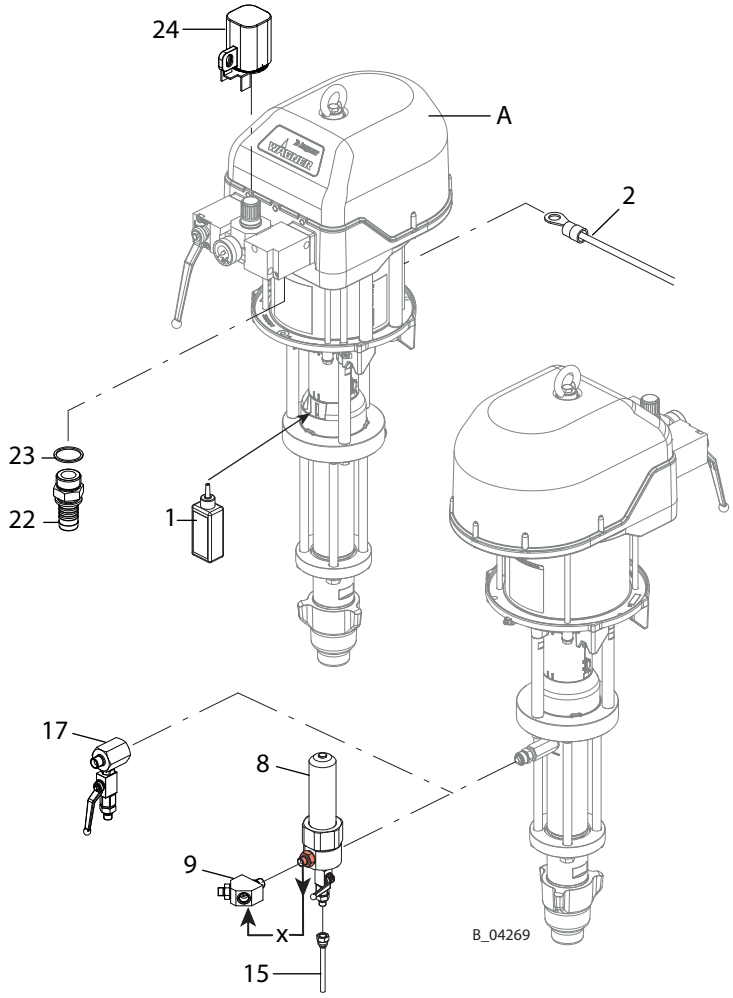
When the equipment must be scrapped, please differentiate the disposal of the waste materials.
The following materials have been used:

→ Stainless steel
→ Aluminum
→ Elastomers
→ Plastics
→ Carbide

Consumable products
Consumable products (lacquers, adhesives, flushing and cleaning agents and solvents) must be disposed of in accordance with all legal requirements and provisions.

13 ACCESSORIES

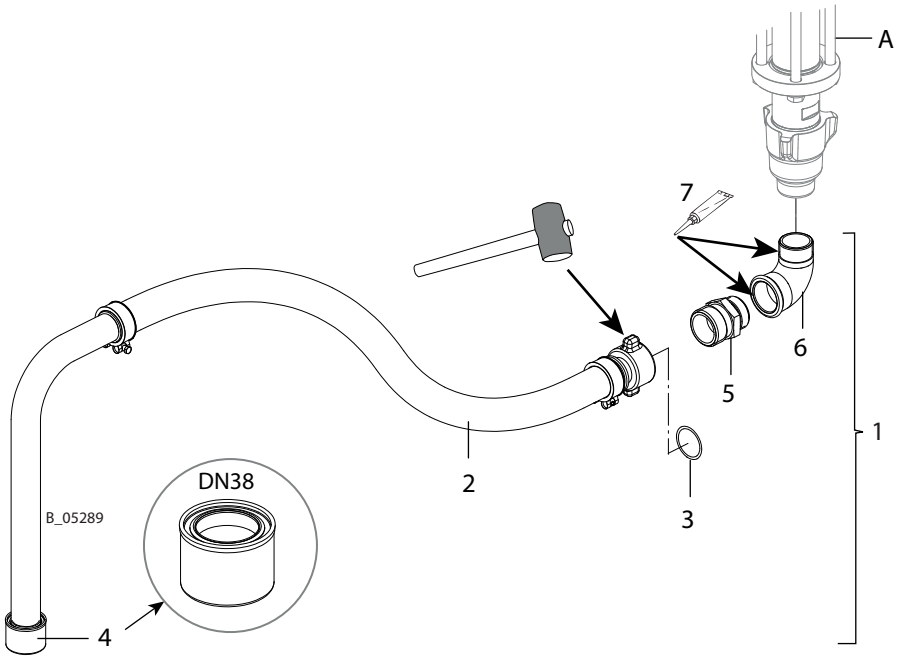
13.1 ACCESSORIES FOR PRODUCT OUTLET



A	2339845	2339846	2351205	2339847	Piston pump PE/TG (Tiger: PE/L)
1	9992504				Separating agent 250 ml; 250 cc
2	236219				Grounding cable 3 m; 9.8 ft
8	2339900				HP filter DN12 PN530-SSt with carbon steel ball valve
9	2339850				Y-distributor M3/8"NPS, complete
15 ◆	2331752				Return tube DN6-G1/4"-100mm-PE
17 ◆	2347275				Relief combination PC
22	9985671				Outside thread grommet 1"-NW25
23	9974135				Sealing ring 1"
24	2334958				Regulator lock

13.2 ACCESSORIES FOR PRODUCT INLET

13.2.1 SUCTION HOSE



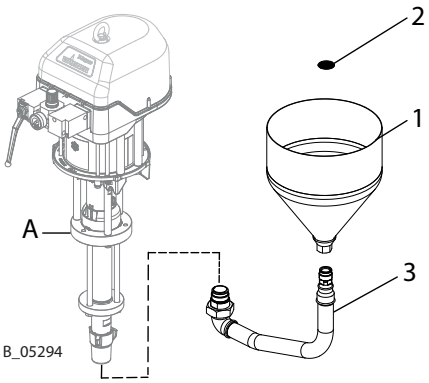
For trouble-free suction, use hoses which are as short as possible. The maximum hose length is dependent upon the viscosity of the product, the suction height, and the nominal diameter of the hose.

Pos 2: For the assembly or disassembly of the nut, hit the cam with a rubber mallet.

Pos 6: Before assembling the suction bend, check if the inlet housing is screwed on firmly. Set the desired orientation of the suction bend during assembly.

A		2339845	2339846	2351205	2339847	Piston pump PE/TG (Tiger: PE/L)
1		2352549				Suction hose set DN38-PC-G11/2
2	◆	2325815				Suction hose DN38-PC (including Pos 3, 4) For details, see Chapter 14.6
3	◆	367525				O-ring for suction hose quick coupler
4	◆	2329596				Suction filter DN38-12.8 mesh-SSt
5		2336489				Fitting DF-MM-G1 1/2-Rd55x1/6-PN25-CS
6		2329019				Fitting EF-FM-G1 1/2-G1 1/2-PN25-TG
7		9992833				Loctite® 638

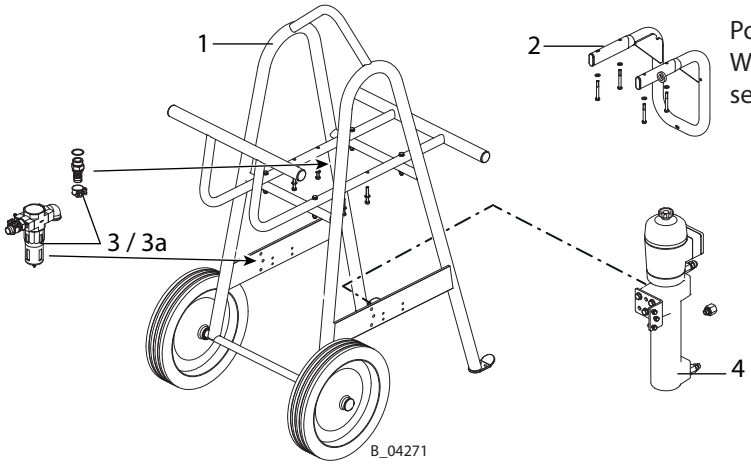
13.2.2 20 LITER TANK



Pos K	Jaguar 75-150 Order no.	Jaguar 55-200 Order no.	PROTEC 60-240 Order no.	Tiger 72-300 Order no.	Designation
A	2339845	2339846	2351205	2339847	Piston pump PE/TG (Tiger: PE/L)
1	2341278				20 liter tank
2	2348279				Coarse sieve
3	2348257				Suction tube PC, complete. For details, see Chapter 14.7

◆ = Wearing part

13.3 ACCESSORIES FOR TROLLEY AND WALL MOUNT



Pos 2:
When using a wall mount, the fluid section must be turned by 180°.

Pos K	Jaguar 75-150 Order no.	Jaguar 55-200 Order no.	PROTEC 60-240 Order no.	Tiger 72-300 Order no.	Designation
A	2339845	2339846	2351205	2339847	Piston pump PE/TG (Tiger: PE/L)
1	2339705				Heavy-duty PC trolley, complete. For details, see Chapter 14.8
2	369020				Wall mount 9“, complete
3	2339851				Air filter set PC (For details, see Chapter 14.8.1)
3a ◆	2347890				Filter cartridge
4	2339728				Heater set PC (For details, see Chapter 14.8.2)

◆ = Wearing part

14 SPARE PARTS

14.1 HOW CAN SPARE PARTS BE ORDERED?

Always supply the following information to ensure delivery of the right spare part:

Order number, designation and quantity
The quantity need not be the same as the number given in the quantity column "**Stk**" on the list. This number merely indicates how many of the respective parts are used in each component.

The following information is also required to ensure smooth processing of your order:

- billing address
- address for delivery
- name of the person to be contacted in the event of any queries
- type of delivery (normal mail, express delivery, air freight, courier etc.)

Identification in spare parts lists
Explanation of column "**K**" (labeling) in the following spare parts lists:

◆ Wearing parts Wearing parts are not included in the warranty terms.
★ Included in service set

Notice
These parts are not covered by warranty terms.

● Not part of standard equipment, available, however, as additional extra.

Identification in the order no. column.

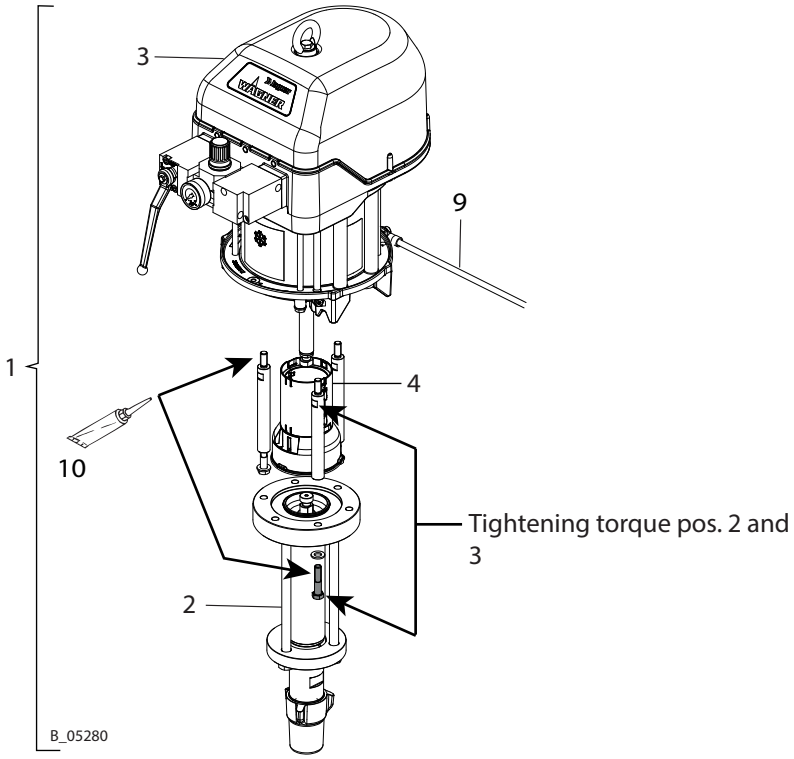
-- Item not available as spare part.
/ Position does not exist.

⚠ DANGER

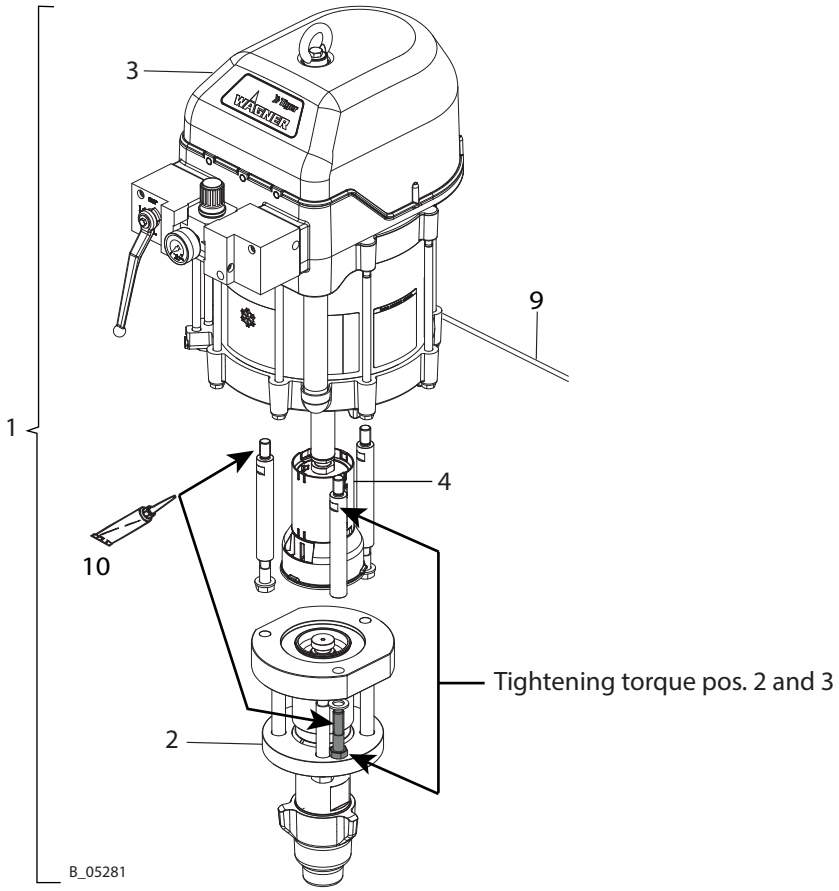
Incorrect maintenance/repair!
Danger to life and equipment damage.

→ Only a WAGNER service center or a suitably trained person may carry out repairs and replace parts.
→ Use only WAGNER original spare parts and accessories.
→ Only repair and replace parts that are listed in the "Spare parts" chapter and that are assigned to the unit.
→ Before all work on the device and in the event of work interruptions:
- Relieve the pressure from the spray gun, high-pressure hoses and all devices.
- Secure the spray gun against actuation.
- Switch off the energy and compressed air supply.
- Disconnect the control unit from the mains.
→ Observe the operating and service manual for all work.

14.2 OVERVIEW OF THE COMPONENTS



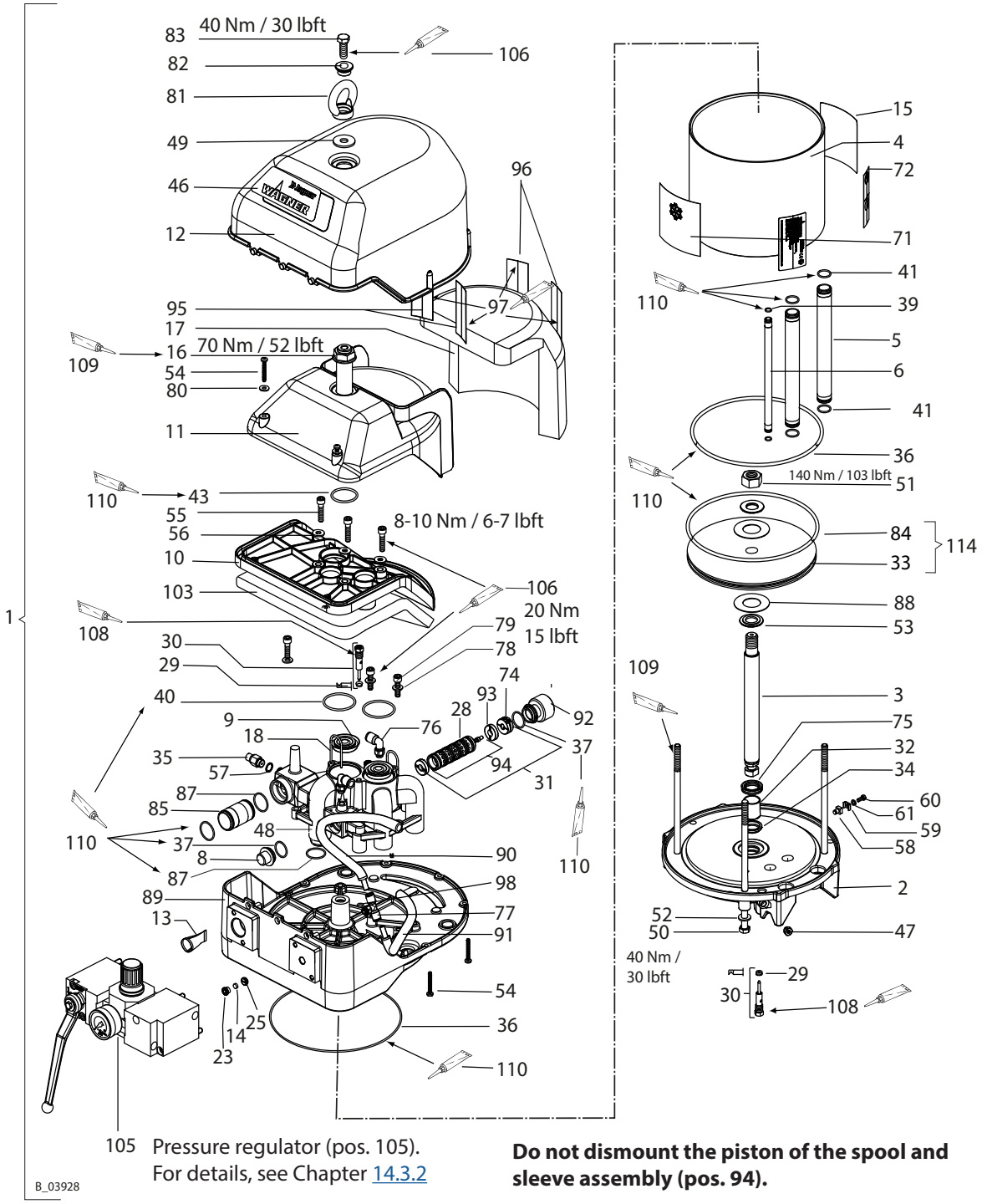
Pos	Designation	Jaguar 75-150 PE/TG Order no.	Jaguar 55-200 PE/TG Order no.	PROTEC 60-240 PE/TG Order no.
1	Piston pump	2339845	2339846	2351205
2	Fluid section	2340007	2340008	2349152
3	Air motor	2329625	2342487	2351208
4	Connection set for air motor - fluid section	2350033	2350036	2351190
9	Grounding cable, complete	236219		
10	Molykote® DX grease	9992616		
Tightening torque for air motor/fluid section		50 Nm; 37 lbft	70 Nm; 52 lbft	70 Nm; 52 lbft



Pos	Designation	Tiger 72-300 PE/L Order no.
1	Piston pump	2339847
2	Fluid section	2340009
3	Air motor	2329627
4	Connection set for air motor - fluid section	2350037
9	Grounding cable, complete	236219
10	Molykote® DX grease	9992616
Tightening torque for air motor/fluid section		70 Nm; 52 lbft

14.3 AIR MOTORS

14.3.19" JAGUAR AIR MOTOR



105 Pressure regulator (pos. 105). For details, see Chapter 14.3.2

Do not dismount the piston of the spool and sleeve assembly (pos. 94).

Pos	K	Stk	Jaguar 75-150 Order no.	Jaguar 55-200 Order no.	Designation
1		1	2329625	2342487	Air motor
2		1	369316		Flange
3	◆	1	368402		Piston rod
4		1	369403		Cylinder pipe
5		2	368404		Compressed air pipe
6		1	367405		Control air pipe
8		1	369307		Sealing plug
9	◆ ★	2	369312		Outlet seal
10		1	369309		Connecting part
11		1	369310		Silencer
12		1	369311		Hood
13	◆ ★	1	369313		Compressed air filter
14	◆ ★	1	367314		Control air filter
15		1	2332082		Fluid warning label
16		1	369318		Shoulder screw
17	◆	1	369319		Sound deadening pad 9
18		2	369320		Cotter pin
23		1	367324		Filter holder
25		1	367325		Throttle
28	◆	6	9974143		O-ring
29	◆	2	9974217		Rod seal
30	◆	2	369290		Pilot valve
31	◆	1	9943131		Spool-sleeve combination assembly, ISO3
32	◆	1	9962019		Permaglide bushing
33		1	369385		Piston 9
34	◆ ★	1	9974125		Seal wiper ring
35		1	368286	/	Safety valve, 7.5 bar
		1	/	368288	Safety valve, 8.4 bar
36	◆ ★	2	9974133		O-ring
37	◆ ★	2	9971056		O-ring
39	◆ ★	2	9974089		O-ring
40	◆ ★	2	9974132		O-ring
41	◆ ★	4	9971137		O-ring
43	◆ ★	1	9974165		O-ring
46		1	2330372		Label, WAGNER
47		2	9998675		Threaded plug
48		1	369315		Control housing
49		1	9925034		Washer
50		4	9907137		Hexagon screw
51		1	2386161		Self-locking hexagon nut (new)
		1	9910605		Hexagon nut, secured with Loctite® 243 (old version!)
52		4	9920106		Washer
53		2	369303		Washer
54		7	9907125		SFS screw
55		3	9900314		Socket cap screw
56		3	9925029		Washer
57	◆ ★	1	9970149		Sealing ring

◆ = Wearing part

★ = Included in service set

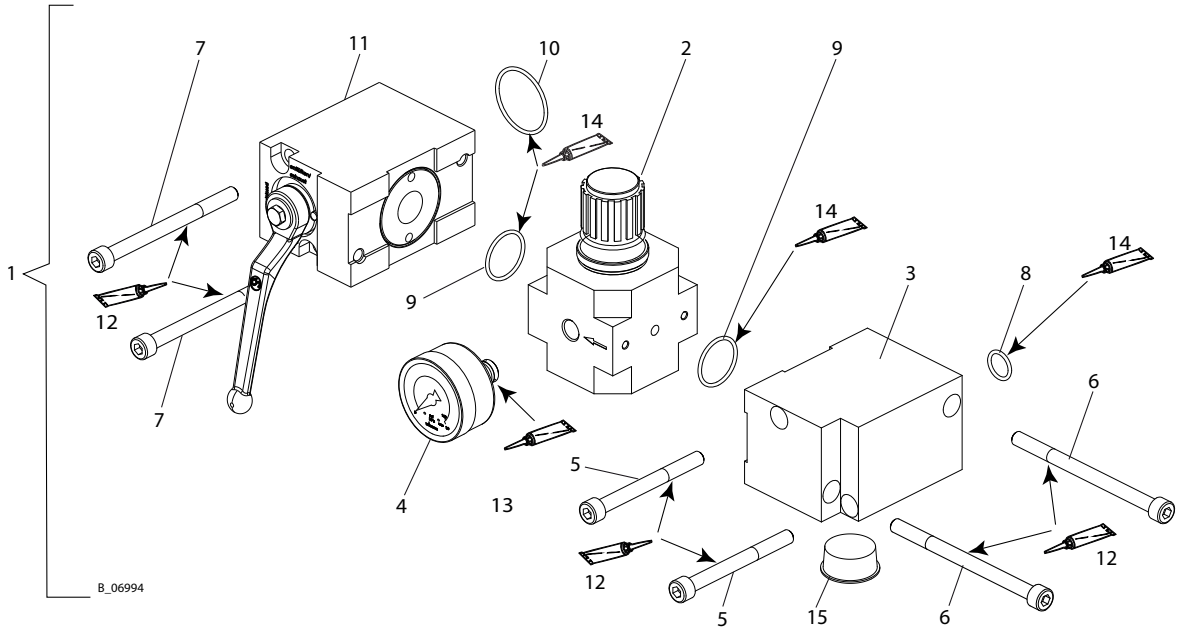
Pos	K	Stk	Jaguar 75-150 Order no.	Jaguar 55-200 Order no.	Designation
58		1	9952668		Base
59		1	9952667		Clamping bracket
60		1	9900701		Socket cap screw
61		1	9921505		Spring ring
71		1	2330382		IceBreaker label
72		1	2332077		Warning label
74	◆	1	369027		Detent body
75	◆ ★	1	9974124		Rod seal profile E5
76		2	9992757		Threaded elbow fitting
77		1	9992758		Screw connector T
78		4	9920102		Washer
79		4	9900313		Socket cap screw
80		2	9925031		Washer
81		1	369325		Lifting eye nut
82		1	369324		Shoulder ring
83		1	9900150		Hexagon screw
84	◆ ★	1	9974262		O-ring
85		1	369306		Air pipe
87	◆ ★	3	9971004		O-ring
88		2	369304		Damping washer
89		1	369317		Control flange
90		1	369026		Air hose, rear
91		1	369025		Air hose, front
92		1	369326		Lock space 9
93	◆	2	369329		Damper ISO3
94	◆	1	9943131		Spool & sleeve assembly, ISO3
95	◆	1	9999151		Velcro fastener adhesive part
96	◆	1	9999152		Velcro fastener coating part
97		1	9992816		Miranit contact adhesive
98	◆	1	9971372		Viton B O-ring
103	◆	1	369330		Sound absorbing mat 9/12"
105		1	2328609		Pressure regulator unit 9, complete (For details, see Chapter 14.3.2)
106		1	9992590		Loctite® 222 50 ml; 50cc
108		1	9992831		Loctite® 542 50 ml; 50cc
109		1	9992616		Molykote® DX grease
110		1	9998808		Mobilux® EP 2 grease
114	●	1	369971		Piston 9 with SOFT O-ring
		1	369987		9" air motor service set
		1	9992511		Loctite® 243 50 ml; 50cc

◆ = Wearing part

★ = Included in service set

● = Not part of the standard equipment but available as a special accessory.

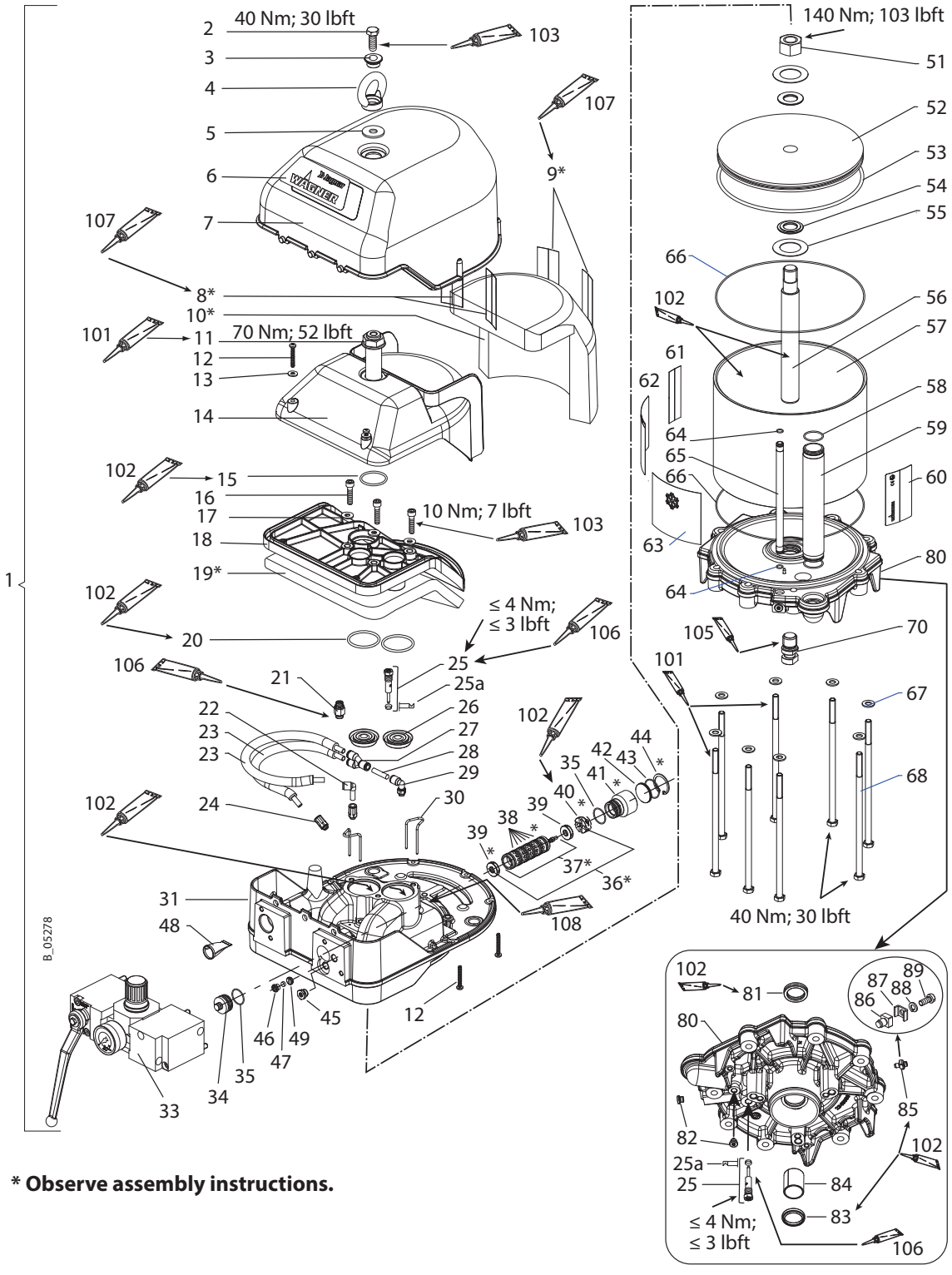
14.3.2 AIR MOTOR REGULATOR FOR JAGUAR AND PROTEC



Pos	K	Stk	Jaguar 75-150 / 55-200 Order no.	PROTEC 60-240 Order no.	Designation
1		1	2328609		Pressure regulator unit, complete
2	◆	1	2309974		Pressure regulator valve 9"
3		1	2346229		Distribution piece
4	◆	1	9998725		Pressure gauge 0-10 bar (d50)
5		2	9900360		Hexagon socket cylinder head screw
6		2	9907087		Hexagon socket cylinder head screw
7		2	9900356		Hexagon socket cylinder head screw
8	◆	1	9974166		O-ring
9	◆	2	3105540		O-ring
10	◆	1	9971405		O-ring
11	◆	1	2371922		Edge ball valve, 9“
12		1	9992616		Molykote® DX grease
13		1	9992831		Loctite® 542, 50 ml; 50cc
14		1	9998808		Mobilux® EP 2 grease
15		1	9990543		Cone plug - GPN600

◆ = Wearing part

14.3.3 10" PROTEC AIR MOTOR



*** Observe assembly instructions.**

Assembly instructions

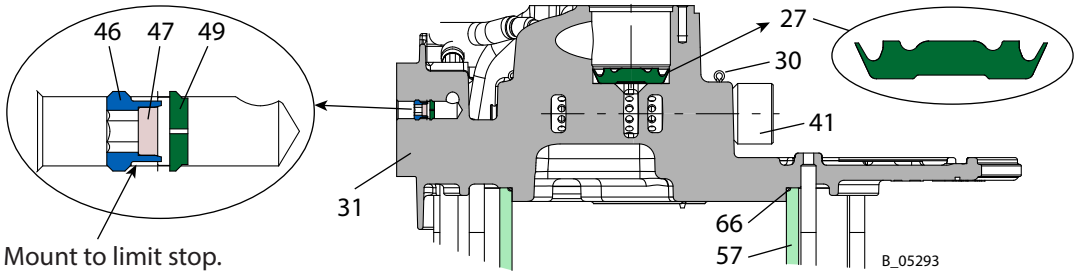
Pos	Procedure
8	Stick hook part (velcro) to inside of hood. 'Miranit' adhesive (pos. 107).
9	Stick loop part (velcro) to fleece side of the deadening pad. 'Miranit' adhesive (pos. 107).
10	Insert the deadening pad into the hood so that it has a tight fit. Fleece side outwards.
19	Stick the entire deadening pad to the connecting part with the fleece side outwards. 'Miranit' adhesive (pos. 107).
36–44	Before assembling apply a little Tecni oil (pos. 108) to the housing bore of pos. 31. Do not dismount the piston of the spool and sleeve assembly (pos. 37).
Grease all O-rings with Mobilux® EP2 (Pos 102)	
→	Do not dismount the piston of the spool and sleeve assembly (pos. 37).

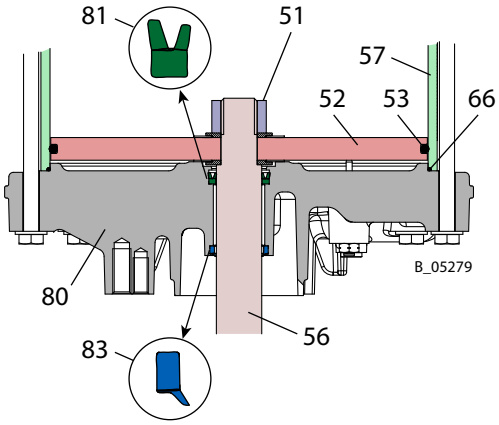
Spare parts list

Pos	K	Stk	PROTEC 60-240	Designation
1		1	2351208	Air motor 10", complete
2		1	9900150	Hexagon screw without shaft
3		1	369324	Shoulder ring
4		1	369325	Lifting eye nut
5		1	9925034	Washer
6		1	2353725	Wagner Protec 10 label
7		1	369311	Hood 9
8	◆	2	9999151	Velcro fastener adhesive part
9	◆	2	9999152	Velcro fastener coating part
10	◆	1	369319	Sound deadening pad 9
11		1	369318	Shoulder screw 9
12		7	9907125	Screw SFS Plastite 45
13		2	9925031	Washer 6,4
14		1	369310	Silencer 9
15	◆ ★	1	9974165	O-ring
16		3	9900314	Socket cap screw; hexagon socket, M8X35
17		3	9925029	Washer 8,4
18		1	369309	Connecting part 9
19	◆	1	369330	Sound deadening pad 9/12"
20	◆ ★	2	9974132	O-ring
21		1	368288	Safety valve, 8.4 bar
22		1	9992718	Angular plug connection
23		2	369026	Air hose
24		2	9998993	Straight screw-in fittings
25	◆	2	369290	Pilot valve
25a	◆	2	9974217	Rod seal
26	◆ ★	2	369312	Outlet seal 9
27		1	3159464	Y-plug connection
28		1	9982078	Hose 8x1 L=42mm
29		1	9992757	Male stud elbow, 8-1/8
30		2	2355809	Cotter pin
31		1	2345960	Control-flange 10
33		1	--	Pressure regulator unit 10": see Chapter 14.3.2
34		1	2354547	Plug 10

◆ = Wearing part
★ = Included in service set
● = Not part of the standard equipment but available as a special accessory.

Detail view





Pos	K	Stk	PROTEC 60-240	Designation
35	◆ ★	2	2310252	O-ring
36	◆	1	369907	Spool-sleeve combination assembly, ISO3
37	◆	1	9943131	Spool & sleeve assembly, ISO3
38	◆	6	9974143	O-ring
39	◆	2	369329	Damper ISO3
40	◆	1	369027	Detent element, complete ISO 3
41		1	2354548	Lock space 10
42		1	2354549	Cover
43		1	9971375	O-ring
44		1	9999360	Securing ring
45		1	9998274	Threaded plug G1/4"
46		1	367324	Filter holder
47	◆ ★	1	367314	Control air filter
48	◆ ★	1	369313	Compressed air filter 9
49		1	367325	Throttle
51		1	2386162	Self-locking hexagon nut (new)
		1	9913051	Hexagon nut, secured with Loctite® 243 (old version!)
52		1	2347028	Piston 10
53	◆ ★	1	2347183	O-ring
54		2	370303	Piston disk 12
55		2	370304	Damping disk 12
56	◆	1	2348760	Piston rod 10

◆ = Wearing part
★ = Included in service set
● = Not part of the standard equipment but available as a special accessory.

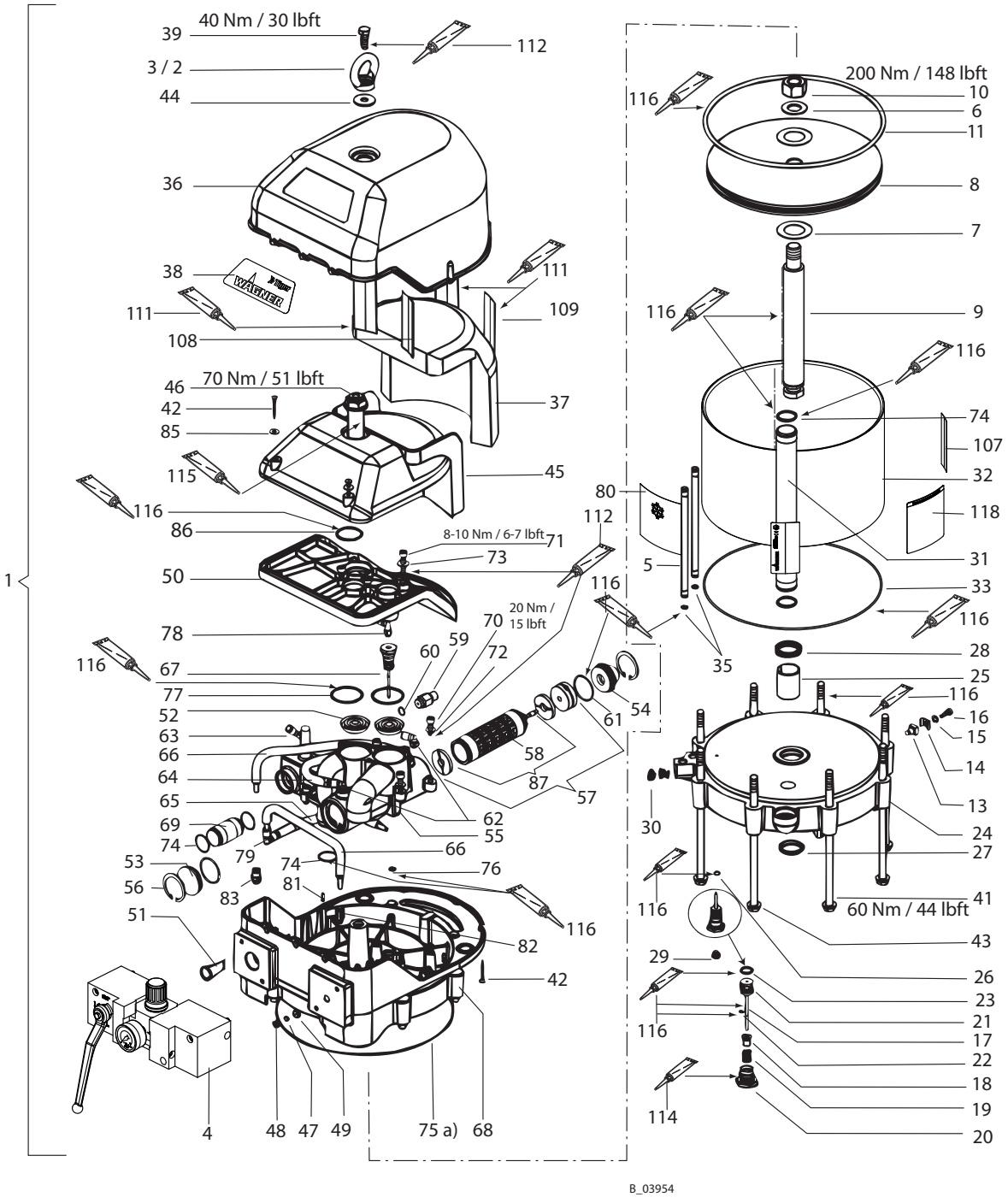
Pos K	Stk	PROTEC 60-240	Designation
57	1	2347029	Tube 10
58 ◆ ★	2	9971004	O-ring
59	1	2347257	Compressed air tube 10
60	1	--	Type plate PP3000
61	1	2332077	Warning label
62	1	2332082	Fluid warning label
63	1	2330382	IceBreaker label
64 ◆ ★	2	9974089	O-ring
65	1	367405	Control air pipe 150
66 ◆ ★	2	2347178	O-ring
67	8	9920106	Washer
68	8	9907137	Hexagon screws
70	1	2348761	Connection - fluid section
80	1	2345964	Flange 10
81 ◆ ★	1	2347218	Rod seal
82	2	9998675	Threaded plug G1/8"
83 ◆ ★	1	2347211	Scraper ring
84 ◆	1	2347187	Permaglide bushing
85	1	367258	Grounding, complete
86	1	--	Base
87	1	9952667	Clamping bracket
88	1	9921505	Spring washer
89	1	9900701	Socket cap screw with slit
101	1	9992616	Molykote® DX grease
102	1	9998808	Mobilux® EP 2 grease
103	1	9992590	Loctite® 222
105	1	9992528	Loctite® 270
106	1	9992831	Loctite® 542
107	1	9992816	Miranit contact adhesive
108	1	Z102.00	Tecni oil 1000 ml
	1	2353088	10" air motor service set
	1	9992511	Lock screw - Loctite® 243

◆ = Wearing part

★ = Included in service set

● = Not part of the standard equipment but available as a special accessory.

14.3.412" TIGER AIR MOTOR



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Do not dismount the piston of the spool and sleeve assembly (pos. 87).

Pos	K	Stk	Tiger 12 Order no.	Designation
1		1	2329627	Air motor, complete
2		1	369324	Shoulder ring
3		1	369325	Lifting eye nut
4	◆	1	2328610	Pressure regulator unit 12 (incl. Pos. 40)
5		2	367405	Control air pipe 150
6		1	370303	Piston disk 12
7		2	370304	Damping disk 12
8		1	370385	Piston 12
9	◆	1	370402	Piston rod 12/150
10		1	2386162	Self-locking hexagon nut (new)
		1	9913051	Hexagon nut, secured with Loctite® 243 (old version!)
11	◆ ★	1	9974261	O-ring
13		1	9952668	Base
14		1	9952667	Clamping bracket
15		1	9921505	Spring washer
16		1	9900701	Socket cap screw with slit
17		1	370307	Gauging pin
18		2	370309	Valve cover
19		2	370310	Spiral spring
20		2	370311	Screw plug
21	◆	2	370312	Valve body
22		2	9922724	Lock washer
23	◆	2	9974102	O-ring
24		1	370316	Flange 12
25	◆	1	9962026	Permaglide bushing
26	◆	1	9971446	O-ring
27	◆ ★	1	9974158	Scraper ring D35
28	◆ ★	1	9974159	Rod seal D35
29		1	9998675	Threaded plug
30		2	9998274	Threaded plug
31		1	370306	Air tube 12
32		1	370403	Cylinder tube 12/150
33	◆ ★	1	9971129	O-ring
35	◆ ★	4	9974089	O-ring
36		1	369311	Hood 9
37	◆	1	369319	Sound absorbing mat 9
38		1	2330374	Wagner 12 Tiger label
39		1	9900150	Hexagon screw
41		8	9907208	Hexagon screw
42		5	9907125	Screw
43		8	9920107	Washer
44		1	9925034	Washer
45		1	369310	Silencer 9
46		1	369318	Shoulder screw 9
47	◆ ★	1	367314	Control air filter
48		1	367324	Filter holder
49		1	367325	Throttle
50		1	369309	Connecting part 9

◆ = Wearing part

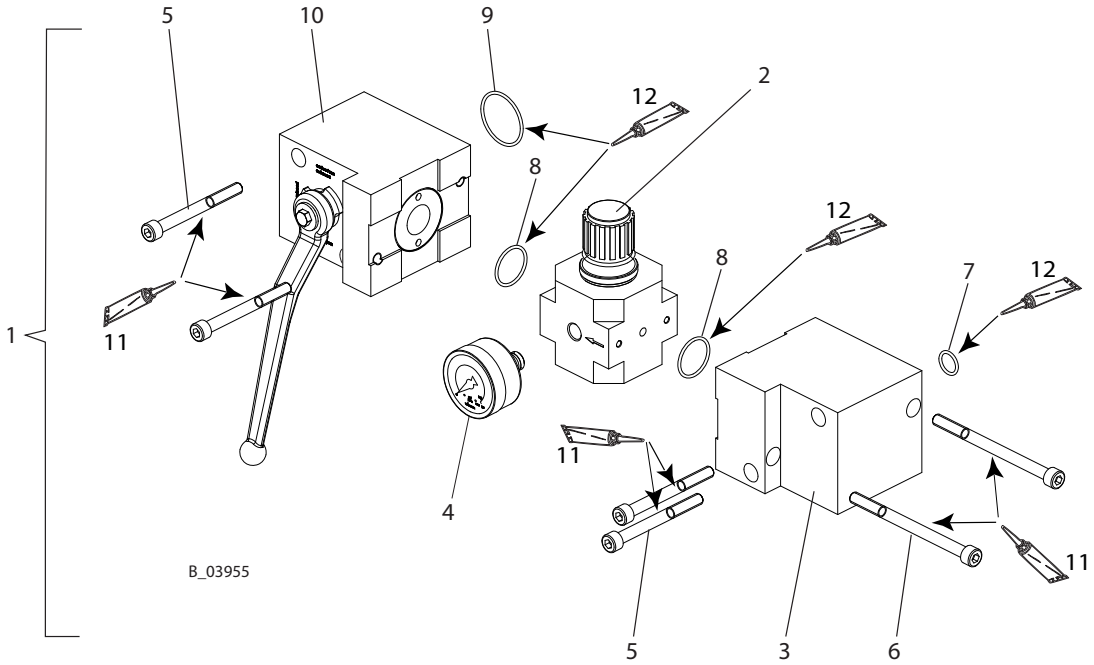
★ = Included in service set

Pos	K	Stk	Tiger 12 Order no.	Designation
51	◆ ★	1	369313	Compressed air filter 9
52	◆ ★	2	369312	Outlet seal DE 50
53		1	370313	Stop plate 12
54		1	370314	Sealing plug 12
55		1	370315	Control housing 12
56		2	370330	Securing ring
57	◆	1	9943121	Spool and sleeve assembly
58	◆	6	9974160	O-ring
59		1	2302480	Safety valve, 7.8 bar
60	◆ ★	1	9970149	Sealing ring
61	◆ ★	2	9974092	O-ring
62		2	9998253	Threaded elbow fitting, 8-1/4"
63		2	9992757	Threaded elbow fitting, 8-1/8"
64		1	370233	Air hose, front
65		1	370234	Air hose, rear
66		2	370235	Air hose, below
67		1	370308	Gauging pin
68		1	370317	Control-flange 12
69		1	370404	Compressed air tube 12
70		4	9900313	Socket cap screw
71		3	9900314	Socket cap screw
72		4	9920102	Washer
73		3	9925029	Washer
74	◆	5	9971004	O-ring
75	◆ ★	1	9971129	O-ring
76	◆	1	9971372	O-ring
77	◆ ★	2	9974132	O-ring
78		1	9992757	Threaded elbow fitting, 8-1/8"
79		1	9998613	Fitting L
80		1	2330382	IceBreaker label
81		2	370318	Pin for control flange
82		1	9992744	Straight threaded fitting
83		1	9992743	Straight threaded fitting
84		2	9907125	Screw SFS Plastite 45
85		2	9925031	Washer
86	◆ ★	1	9974165	O-ring
90		1	370323	Elbow ball valve housing 12
107		1	2332077	Warning label
108	◆	1	9999151	Velcro fastener adhesive part
109	◆	1	9999152	Velcro fastener coating part
111		1	9992816	Miranit contact adhesive
112		1	9992590	Loctite® 222 50 ml; 50 cc
114		1	9992831	Loctite® 542 50 ml; 50 cc
115		1	9992616	Molykote® DX grease
116		1	9998808	Mobilux® EP 2 grease
118		1	2332082	Fluid warning label
		1	370987	12" air motor service set
		1	9992511	Loctite® 243 50 ml; 50 cc

◆ = Wearing part

★ = Included in service set

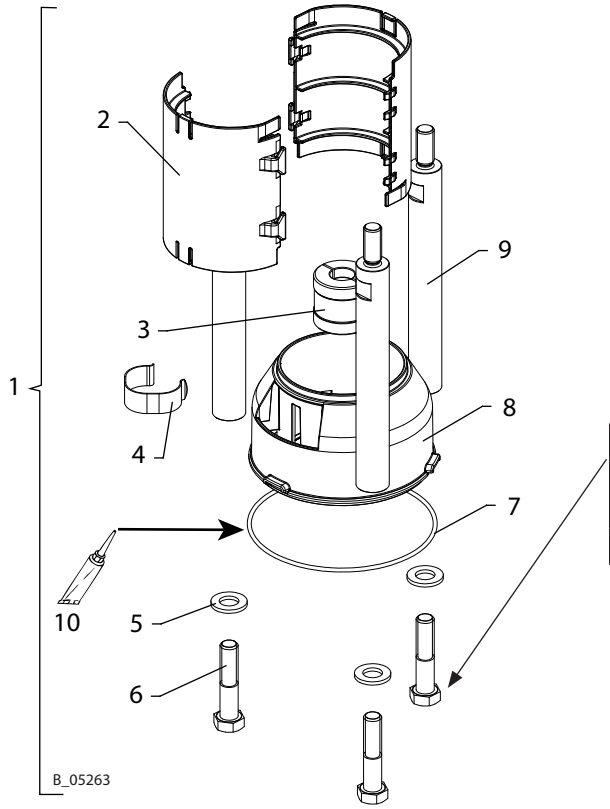
14.3.5 TIGER AIR MOTOR REGULATOR



Pos	K	Stk	Order no.	Designation
1		1	2328610	Pressure regulator unit 12", complete
2	◆	1	2309974	Pressure regulator valve 12"
3		1	2310588	Distribution piece LR-D Maxi 12
4	◆	1	9998725	Pressure gauge 0-10 bar (d50)
5		4	9900360	Hexagon socket cylinder head screw
6		2	9907087	Hexagon socket cylinder head screw
7	◆	1	9974166	O-ring
8		2	3105540	O-ring
9	◆	1	9971405	O-ring
10	◆	1	2310638	Elbow ball valve LR-D Maxi 12
11		1	9992616	Molykote® DX grease
12		1	9998808	Mobilux® EP 2 grease

◆ = Wearing part

14.3.6 CONNECTION SETS



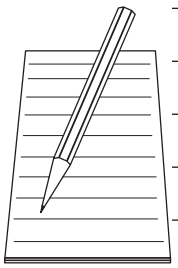
Tightening torque			
Jaguar 75-150	**Jaguar 55-200**	**PROTEC 60-240**	**Tiger 72-300**
50 Nm; 37 lbft	70 Nm; 52 lbft		

Assembly with air motor and fluid section: see Chapter 14.2

Pos	K	Stk	Jaguar 75-150 Order no.	Jaguar 55-200 Order no.	PROTEC 60-240 Order no.	Tiger 72-300 Order no.	Designation
1		1	2350033	2350036	2351190	2350037	Connection set, LM-FS
2		2	368532				Coupling cover stroke 150
3		1	368529	2337924	2337929	370529	Coupling
4		1	368530	370530			Spring
5		3	9920107			9925011	Washer, A12, DIN 125-1
6		3	9900157			9907209	Hexagon screws
7	◆ ★	1	9974116				O-ring
8		1	368531				Separating agent cup, stroke 150
9		3	368533		2359164	370533	Threaded bolt
10		1	9998808				Mobilux® EP 2 grease

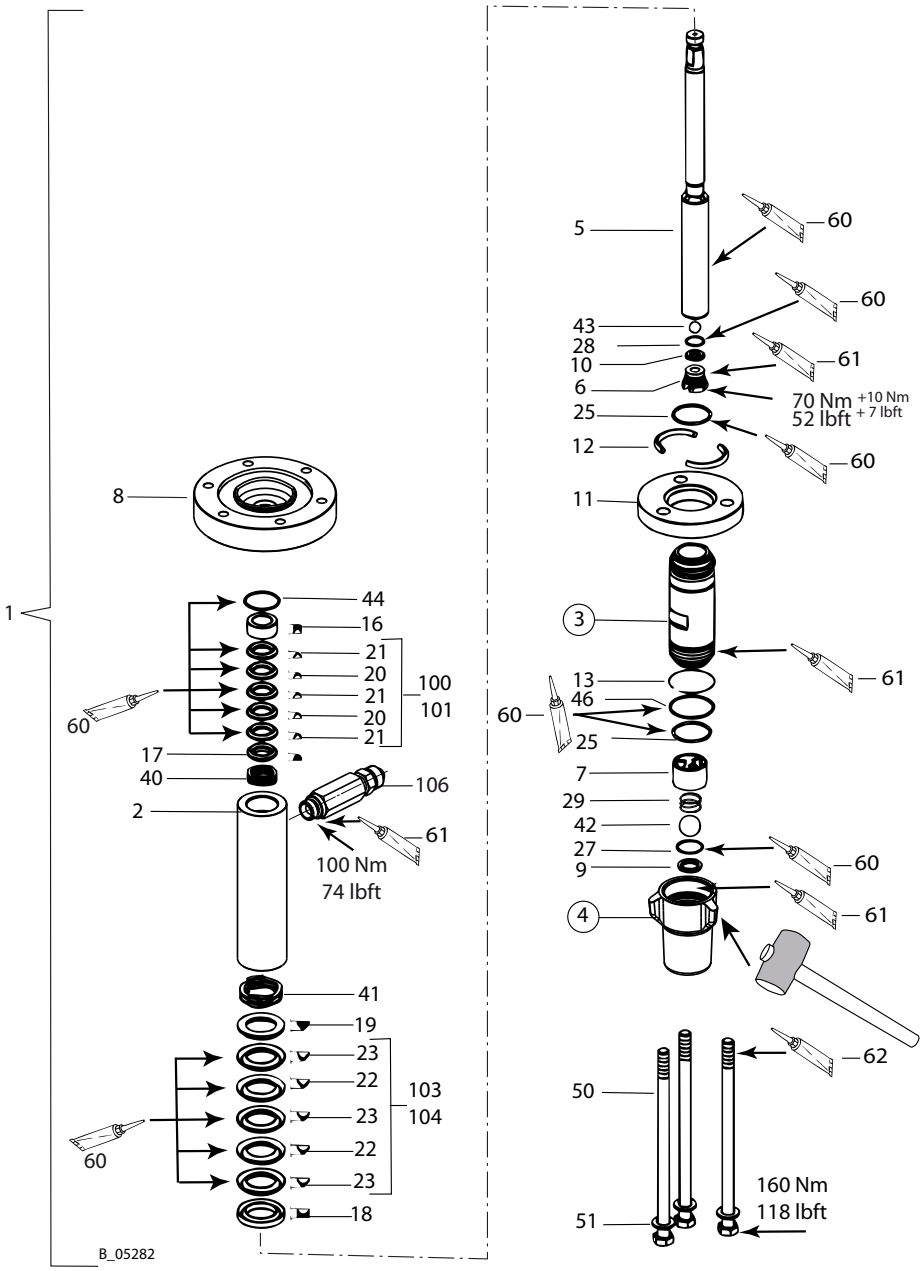
◆ = Wearing part

★ = Included in the service set of the fluid section PE/TG or PE/T or PE/L (see Chapter 14.4).



14.4 FLUID SECTIONS

14.4.1 FLUID SECTION 150 CM³



Regarding position 4:
Tighten by hand on block.
If necessary, hit the cam with a rubber mallet and use a spanner to hold position 3.

Fluid section 150 cm³

Pos	K	Stk	PE/TG Order no.	PE/L Order no.	PE/T - only 2K Order no.	Designation
1		1	2340007	/	/	Fluid section
2		1	368552			Pipe
3		1	368553			Cylinder
4		1	2338688			Inlet housing 150-PC
5	◆	1	368555			Piston

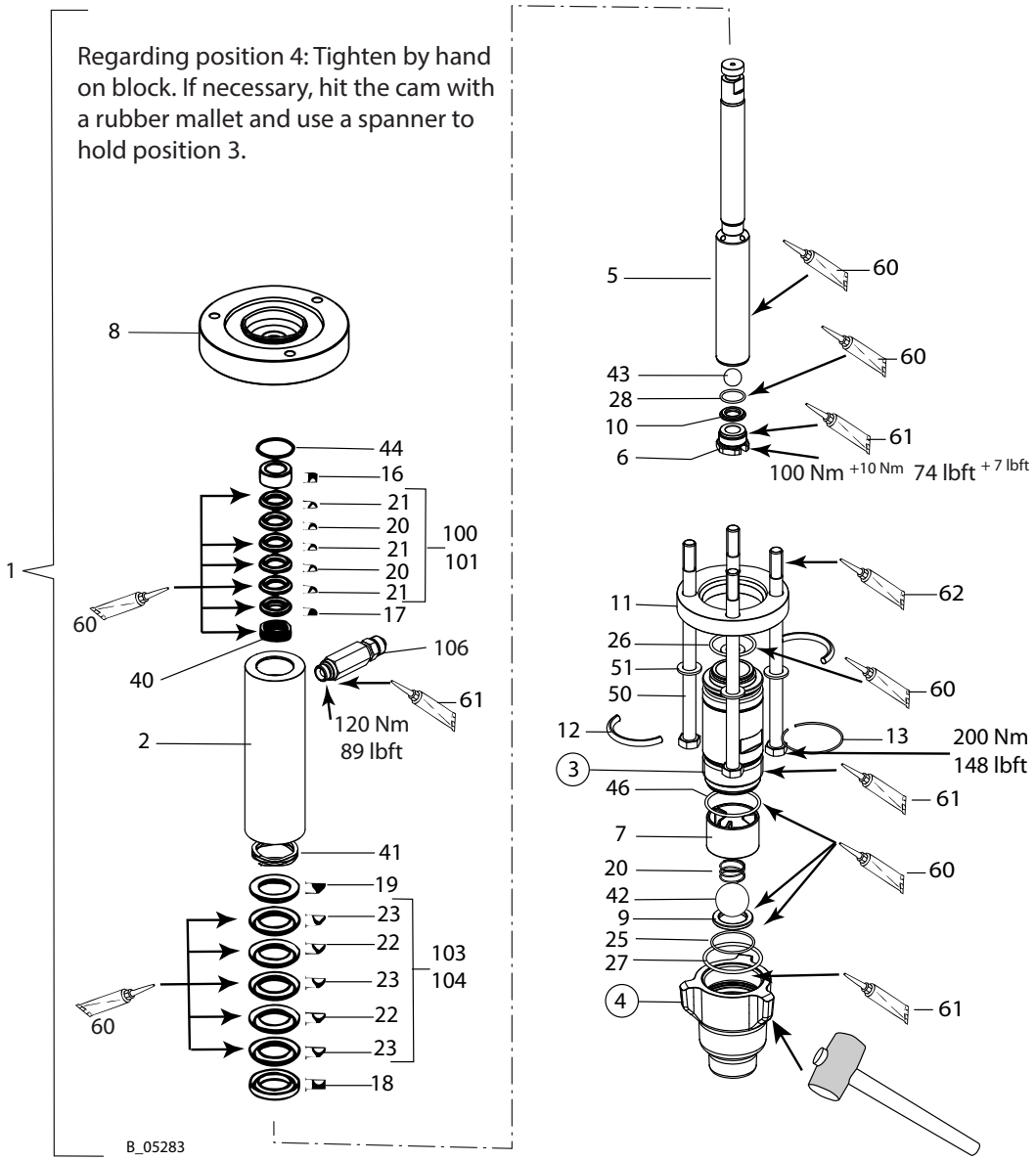
◆ =Wearing part.
★ = Included in service set. (For more parts, see Chapter 14.3.6.)

Pos	K	Stk	PE/TG Order no.	PE/L Order no.	PE/T - only 2K Order no.	Designation
6		1	368506			Valve screw
7	◆ ★	1	2352729			Ball guide, inlet
8		1	368551			Connecting flange
9	◆	1	368509			Valve seat, inlet
10	◆	1	368510			Valve seat, outlet
11		1	368561			Snap ring flange
12		2	368512			Snap ring half
13		1	368513			Securing ring
16		1	368516			Support ring
17		1	367519			Pressure ring
18		1	368518			Support ring
19		1	368519			Pressure ring
100	◆	1	367991	/	/	Packing PE/TG, complete (small)
	◆	1	/	367993	/	Packing PE/L, complete (small)
101	◆ ●	1	/	/	367992	Packing PE/T, complete (small)
20	◆ ★	2	367522	/	/	Sealing collar TG (small)
	◆ ★	2	/	367922		Sealing collar L (small)
	◆ ★	2	/	/	367900	Sealing collar T (small)
21	◆ ★	3	367523			Sealing collar PE (small)
103	◆	1	368991	/	/	Packing PE/TG, complete (large)
	◆	1	/	368993	/	Packing PE/L, complete (large)
104	◆	1	/	/	368992	Packing PE/T, complete (large)
22	◆ ★	2	368522	/	/	Sealing collar TG (large)
	◆ ★	2	/	368922	/	Sealing collar L (large)
	◆ ★	2	/	/	368900	Sealing collar T (large)
23	◆ ★	3	368523			Sealing collar PE (large)
25	◆ ★	2	368525			O-ring
27	◆ ★	1	368527			O-ring
28	◆ ★	1	368528			O-ring
29	◆ ★	1	9999229			Pressure spring
40	◆ ★	1	9998670			Wave spring (small)
41	◆ ★	1	9998671			Wave spring (large)
42	◆ ★	1	9943082			Ball (large)
43	◆ ★	1	9941512			Ball (small)
44	◆ ★	1	9974092			O-ring
46	◆ ★	1	9974107			O-ring
50		3	9907142			Hexagon screw
51		3	9925011			Washer
60		1	9998808			Mobilux® EP 2 grease
61		1	9992609			Anti-seize paste tube
62		1	9992616			Molykote® DX grease
106		1	2329922			Fitting SF-MM-G3/8"-M24x1.5-PN530-SSt
Service-Sets						
		1	368990	/	/	Service set PE/TG
		1	/	2342071	/	Service set PE/L
		1	/	/	368994	Service set PE/T

◆ =Wearing part.

★ = Included in service set. (For more parts, see Chapter 14.3.6.)

14.4.2 FLUID SECTION 200 CM³ – 240 CM³



Pos	K	Qty	200 cm³ PE / TG Order no.	200 cm³ PE/L Order no.	200 cm³ PE/T Order no.	240 cm³ PE / TG Order no.	240 cm³ PE/L Order no.	240 cm³ PE/T Order no.	Designation
1		1	2340008	/	/	2349152	/	/	Fluid section
2		1	2336658			2346793			Pipe
3		1	2336669			2346786			Cylinder
4		1	2338107						Inlet housing
5	◆	1	2336666			2346787			Piston
6		1	2336692						Valve screw
7		1	2386282						Ball guide, inlet
8		1	2336661						Connecting flange
9	◆	1	369509						Valve seat, inlet

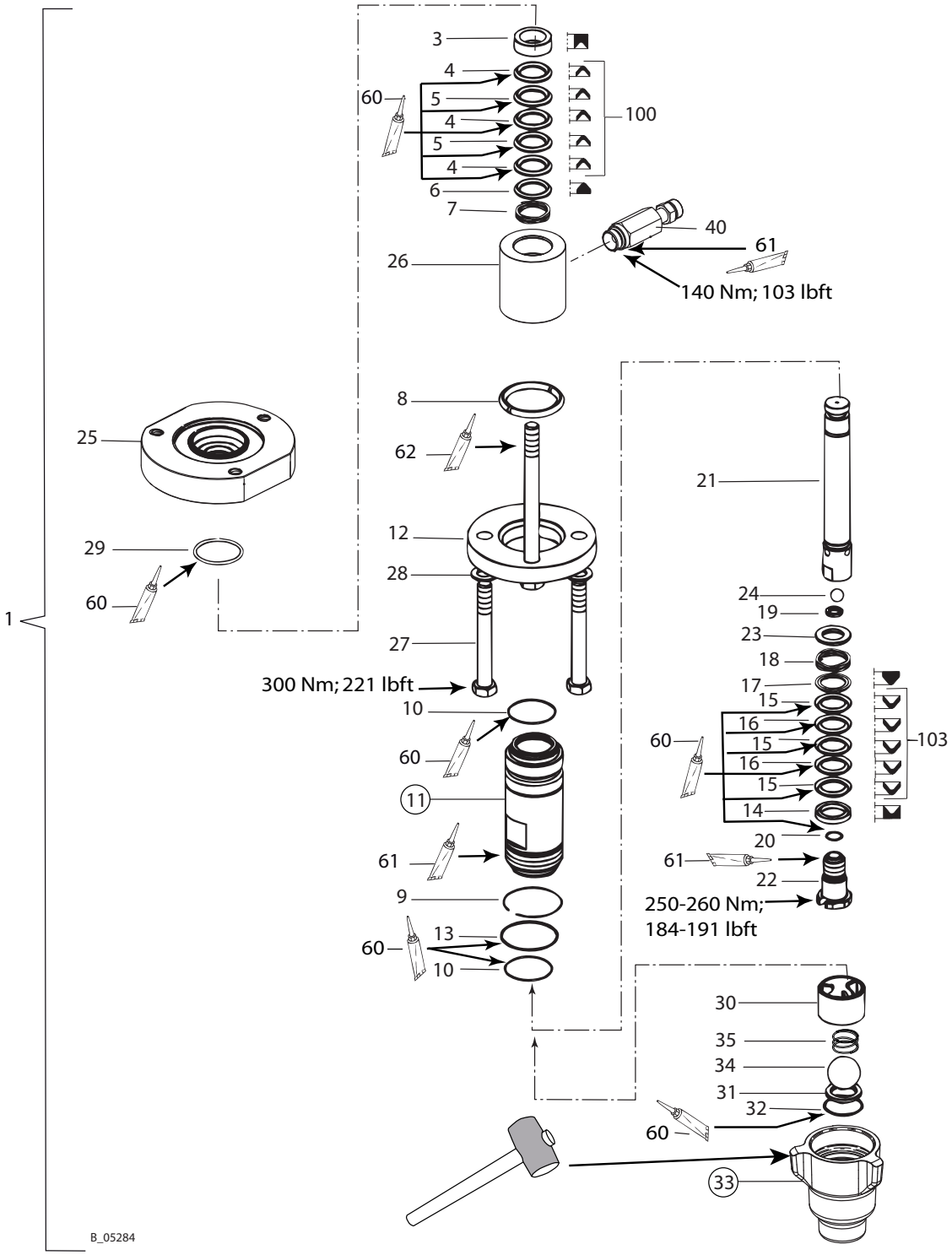
◆ = Wearing part
★ = Included in service set. (For more parts, see Chapter 14.3.6.)

Pos	K	Qty	200 cm³ PE / TG Order no.	200 cm³ PE/L Order no.	200 cm³ PE/T Order no.	240 cm³ PE / TG Order no.	240 cm³ PE/L Order no.	240 cm³ PE/T Order no.	Designation
10	◆	1	2336695						Valve seat, outlet
11		1	2336689						Snap ring flange
12		2	2336785						Snap ring half
13		1	2336690						Securing ring
16		1	2336670			2346767			Support ring
17		1	2336680			2346789			Pressure ring
18		1	2336686			2346780			Support ring
19		1	2336694			2346774			Pressure ring
20	◆ ★	1	2386283						Pressure spring
100	◆	1	2341473	/	/	2353071	/	/	Packing PE/TG, complete (small)
	◆	1	/	2342073	/	/	2353072	/	Packing PE/L complete (small)
101	◆	1	/	/	2345985	/	/	2353074	Packing PE/T, complete (small)
20	◆ ★	2	2336679	/	/	2346790	/	/	Sealing collar TG (small)
	◆ ★	2	/	2341945	/	/	2353078	/	Sealing collar L (small)
	◆ ★	2	/	/	2343776	/	/	2348802	Sealing collar T (small)
21	◆ ★	3	2336674			2346791			Sealing collar PE (small)
103	◆	1	2341474	/	/	2353075	/	/	Packing PE/TG, complete (large)
	◆	1	/	2342074	/	/	2353076	/	Packing PE/L, complete (large)
104	◆	1	/	/	2345986	/	/	2353077	Packing PE/T, complete (large)
22	◆ ★	2	2336688	/	/	2346778	/	/	Sealing collar T (large)
	◆ ★	2	/	2341943	/	/	2353079	/	Sealing collar (large)
	◆ ★	2	/		2343775	/		2348801	Sealing collar T (large)
23	◆ ★	3	2336687			2346779			Sealing collar PE (large)
25	◆ ★	1	369527						O-ring
26	◆ ★	1	2336684			2346782			O-ring
27	◆ ★	1	9974194						O-ring
28	◆ ★	1	2338256						O-ring
40	◆ ★	1	2338091						Wave spring (small)
41	◆ ★	1	2338092						Wave ring (large)
42	◆ ★	1	9943086						Ball (large)
43	◆ ★	1	9941513						Ball (small)
44	◆ ★	1	9974132						O-ring
46	◆ ★	1	2336683						O-ring
50		3	9907142						Hexagon screw
51		3	9925011						Washer
60		1	9998808						Mobilux EP 2 grease
61		1	9992609						Anti-seize paste
62		1	999261®						Molykote DX grease
106		1	2337413						Fitting SF-MM-G1/2"-M24-PN530-SSt
Service sets:									
		1	2341476	/	/	2352899	/	/	Service set PE/TG
		1	/	2342072	/	/	2353053	/	Service set PE/L
		1	/	/	2345981	/	/	2353055	PE/T service set

◆ = Wearing part

★ = Included in service set. (For more parts, see Chapter 14.3.6.)

14.4.3 FLUID SECTION 300 CM³

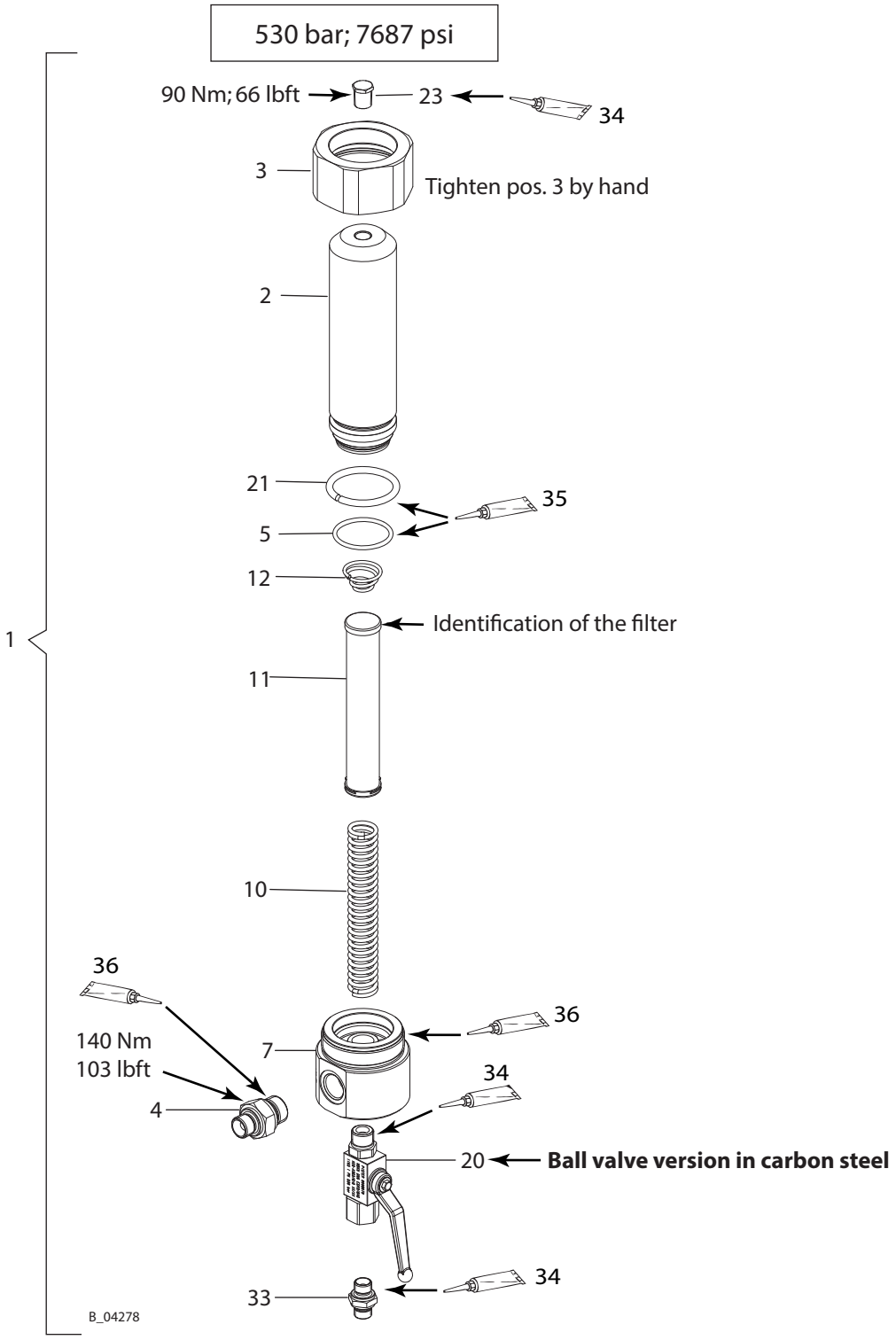


Regarding position 33: Tighten by hand on block.
If necessary, hit the cam with a rubber mallet and use a spanner to hold position 11.

Pos	K	Stk	300 cm³ PE/L Order no.	300 cm³ PE/T - 2K Order no.	Designation
1		1	2340009	--	Fluid section 300 cm³
3		1	369516		Support ring 35.8/52-300
4	◆ ★	3	368523		Sealing collar PE 35.8/52
5	◆ ★	2	368922		Sealing collar L 35.8/52
	◆ ★	2	/	368900	Sealing collar T 35.8/52
6		1	368519		Pressure ring 35.8/52
7	◆ ★	1	9998671		Spiral wave spring, crest-to-crest 35.8/52
8		2	369512		Snap ring half 300
9		1	369513		Retaining ring 300
10	◆ ★	2	369525		O-ring
11	◆	1	370503		Cylinder 300
12		1	370511		Snap ring flange 300
13	◆ ★	1	9974118		O-ring
14		1	369518		Support ring 34/50-300
15	◆ ★	3	369523		Sealing collar PE 34/50
16	◆ ★	2	369922	/	Sealing collar L 34/50
	◆ ★	2	/	369900	Sealing collar T 34/50
17		1	369519		Pressure ring 34/50
18	◆ ★	1	9998671		Spiral wave spring, crest-to-crest 35.8/52
19	◆	1	369510		Valve seat outlet 300
20	◆ ★	1	9971470		O-ring
21	◆	1	370505		Piston 300
22		1	370506		Valve screw 300
23		1	370514		Shoulder ring 300
24	◆ ★	1	9941505		Ball
25		1	370501		Connecting flange
26		1	370502		Tube 300
27		4	9907210		Hexagon screw
28		4	9920110		Washer
29	◆ ★	1	9974117		O-ring
30	◆ ★	1	2386282		Ball guide
31	◆	1	369509		Valve seat inlet 300
32	◆ ★	1	369527		O-ring
33		1	2338595		Inlet housing 300
34	◆ ★	1	9943086		Ball
35	◆ ★	1	2386283		Pressure spring
40		1	2329923		Rotary connection G3/4"
60		1	9998808		Mobilux® EP 2 grease
61		1	9992609		Anti-seize paste tube
62		1	9992616		Molykote® DX grease
Packing, upper:					
100	◆	1	368993	/	Packing PE/L, complete
	◆	1		368992	Packing PE/T, complete
Packing, lower:					
103	◆	1	369993		Packing PE/L, complete
	◆	1	/	369992	Packing PE/T, complete
Service sets:					
			370989	/	Service set 300 PE/L
			/	369964	Service set 300 PE/T

◆ = Wearing part
★ = Included in service set. (For more parts, see Chapter 14.3.6.)

14.5 HIGH-PRESSURE FILTER

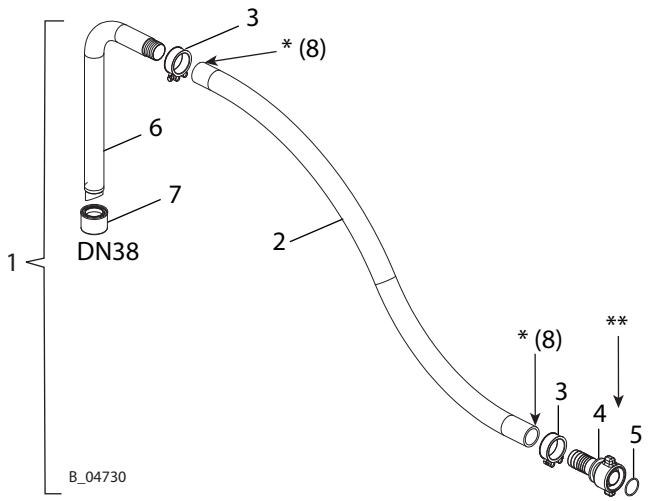


Pos	K	Stk	Order no.	Designation
1		1	2339900	HP filter DN12-PN530, complete
2		1	2324542	Filter housing
3		1	2324543	Union nut
4		1	2330781	Fitting DF-MM-G1/2-3/8NPSM-530 bar-SSt
5	◆	1	9955863	O-ring
7		1	2324670	Distribution housing for ball valve
10		1	9894245	Filter support
11	◆	1		Filter cartridge *
	◆		291564	* Filter sieve, 20 mesh per inch (rough)
	◆ ●		3514069	* Filter sieve, 50 mesh per inch (rough)
	◆ ●		3514068	* Filter sieve, 100 mesh per inch (medium)
	◆ ●		295721	* Filter sieve, 200 mesh per inch (fine)
12	◆	1	3514058	Cone spring
20	◆	1	9998679	Ball valve
21		1	2325562	Pressure ring d45
23		1	2323718	Hexagon plug
33		1	2325826	Double connector
34		1	9992831	Loctite® 542 50 ml; 50 cc
35		1	9998808	Mobilux® EP2 grease
36		1	9992609	Anti-seize paste tube

◆ = Wearing part

● = Not part of the standard equipment but available as a special accessory.

14.6 DN38 SUCTION HOSE



For trouble-free suction, use hoses which are as short as possible. The maximum hose length is dependent upon the viscosity of the product, the suction height, and the nominal diameter of the hose.

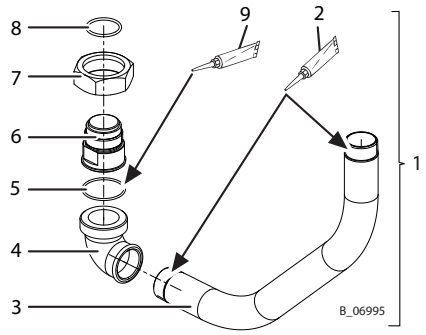
* In the case or assembly difficulties with the hinge bolt clamps, apply a small amount of Vaseline to the outside of both ends of the hose.
Align the clamps' clamping screw downwards.

** Remove the supplied O-ring.

Pos	K	Order no.	Designation
1	◆	2325815	Suction hose DN38-PC, complete
2	◆	2329134	LP hose DN38-PN10-EPDM
3		2329591	Heavy duty clamp 48-51 mm
4		2336488	Cone coupling ID38
5	◆	367525	O-ring
6		--	Suction tube DN38
7	◆	2329596	Suction filter DN38-12.8 mesh-SSt
8		9992698	Vaseline white, PHHV II

◆ = Wearing part Assembly on the pump (see Chapter 13.2.1)

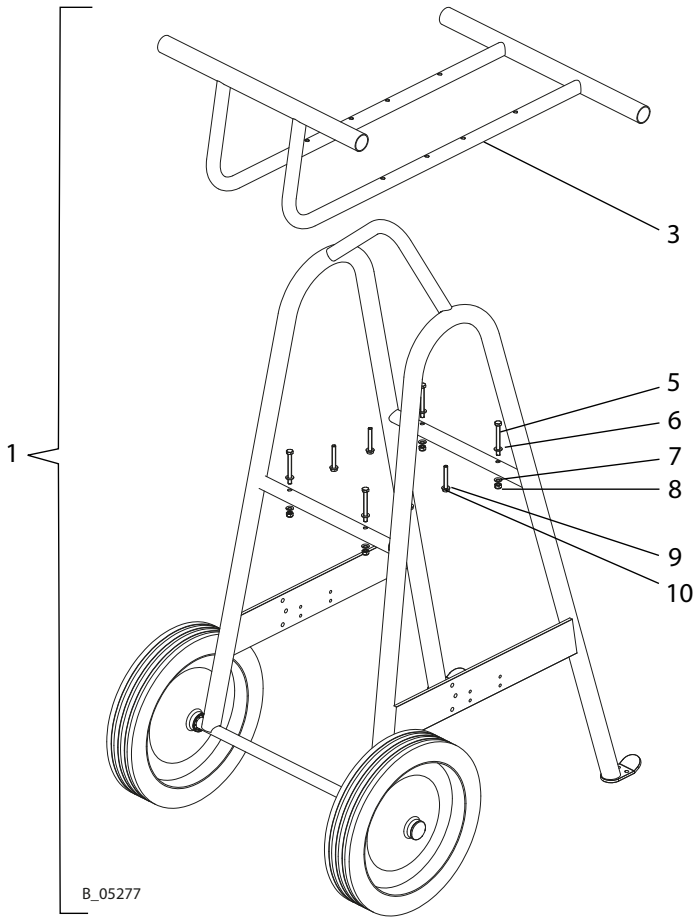
14.7 PC SUCTION TUBE



Pos	K	Order no.	Designation
1		2348257	Suction tube PC, complete
2		9992804	Loctite 648
3		2348142	Tube R1 1/4
4		2348212	Screwed plug GF-95 ET
5	◆	369527	O-ring
6		2348094	Suction adapter PC
7		2348210	Union nut GF-374
8	◆	9955863	O-ring
9		9998808	Mobilux EP 2 grease

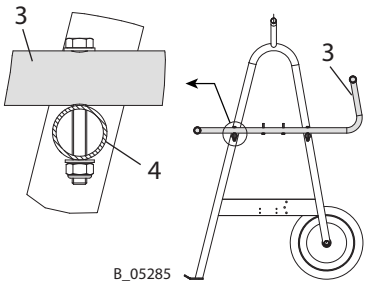
◆ = Wearing part Assembly on the pump and 20 liter tank (see Chapter 13.2.2)

14.8 PC HEAVY DUTY TROLLEY



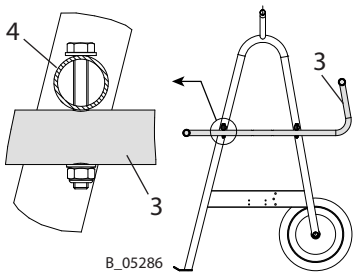
Assembly for Jaguar and PROTEC

Mount bracket holder (3) above the crossbar (4).



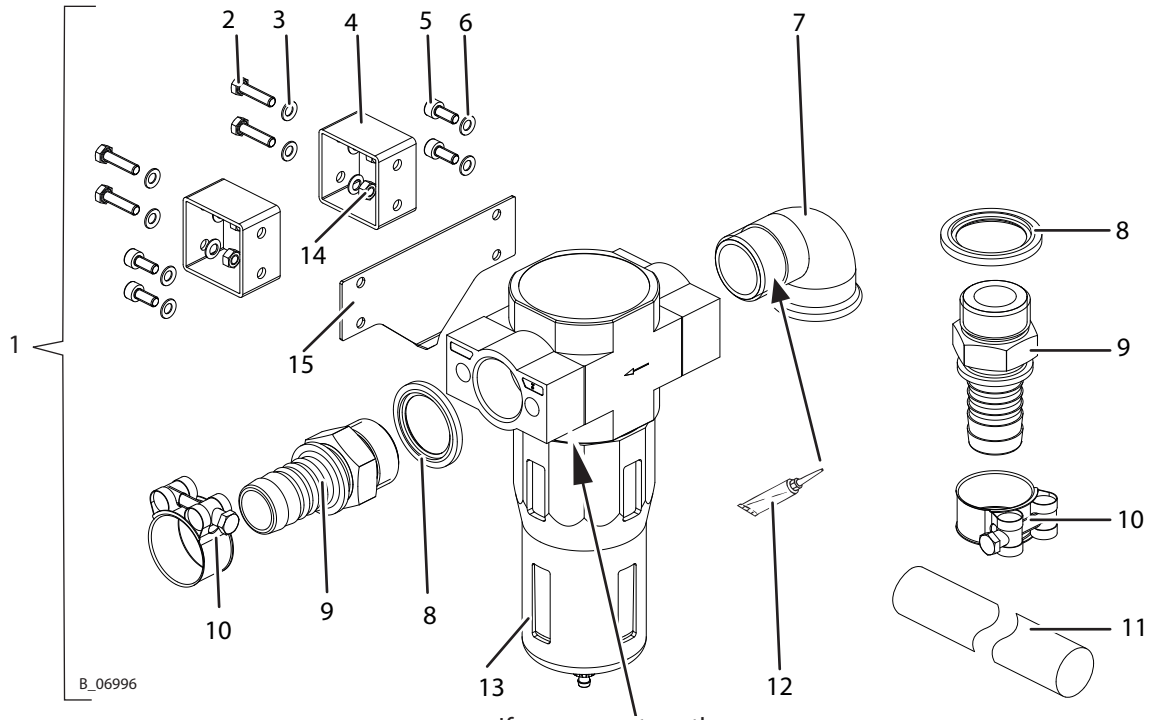
Assembly for Tiger

Mount bracket holder (3) below the crossbar (4).



Pos K	Stk	Order no.	Designation
1	1	2339705	PC heavy duty trolley
3	1	--	Bracket holder
5	4	9900246	Hexagon screw
6	4	9920102	Washer, A8.4
7	4	3155404	Contact washer, M8
8	4	9910208	Self-locking hexagon nut, M8
9	4	9920102	Washer, A6.4 or A8.4
10	4	9900130	Hexagon screw

14.8.1 PC AIR FILTER SET

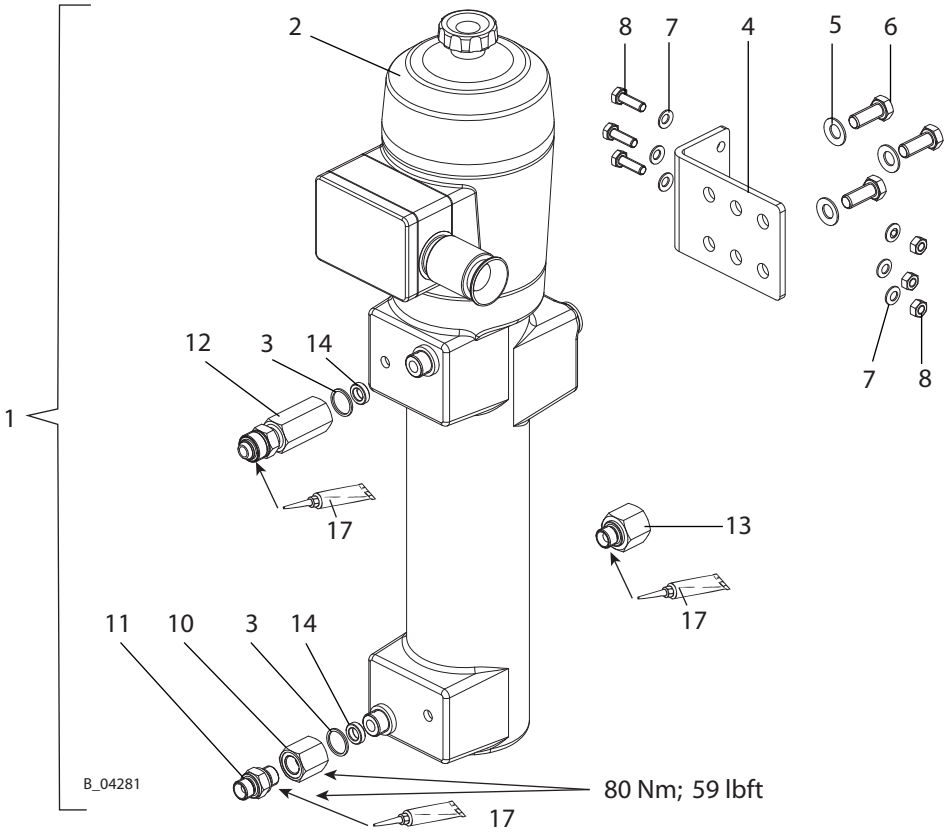


If necessary, turn the adaptor plate by 180° so that the air filter can be mounted on the trolley. Observe the air filter's flow direction.

Pos	K	Stk	Order no.	Designation
1		1	2339851	Air filter set PC. For installation, see Chapter 13.3.
2		4	9900240	Hexagon screw without shaft
3		10	9955841	Contact washer
4		2	2395578	Connection profile
5		4	9900344	Hexagon socket cylinder head screw
6		4	9955841	Contact washer
7		1	9985613	Elbow 90° GF-92
8		2	2365695	Composite seal G1
9		2	9985671	Hose fitting G1"- NW25
10		2	2336526	Heavy duty clamp
11		1 m	2323474	LP hose DN25-PN10-EPDM
12		1	9999042	Loctite® 638
13	◆	1	2330030	Filter LF-1-D-Maxi
	◆	1	2347890	Filter cartridge 40 µm
14		2	9910106	Hexagon nut
15		1	2391486	Contact plate

◆ = Wearing part

14.8.2 PC HEATER SET



Pos	K	Stk	Order no.	Designation
1		1	2339728	PC heater set (For installation, see Chapter 13.3.)
2	◆	1	65021	Heater (for details and spare parts, see the operating manual, continuous-flow heater, order no. 65860.)
3	◆	2	9970110	Sealing ring
4		1	393369	Elbow
5		3	3306773	Contact washer
6		3	9900150	Hexagon screw without shaft
7		6	3155404	Contact washer, M08
8		3	9910107	Hexagon nut, M8
9		3	9900109	Hexagon screw without shaft
10		1	2333393	Fitting RF-FF-M20x1.5-G3/8-PN530-SSt
11		1	2330775	Fitting DF-MM-G3/8-G3/8-PN530-SSt
12		1	2339609	Fitting SF-FM-M20-M24-PN530-SSt
13		1	2339606	Fitting RF-FM-M24-G3/8-PN530-SSt
14	◆	2	2339756	Filler part
15	◆	1	2334063	HPP hose DN10-PN550 PA W-G 0.735 m
16		1	9998808	Mobilux® EP 2 grease
17		1	9992616	Molykote® DX grease
18		1	65860	Continuous-flow heater operating manual

◆ = Wearing part

15 EU DECLARATION OF CONFORMITY

Herewith we declare that the supplied version of pneumatic pumps and their spraypacks:

Jaguar 75-150
Jaguar 55-200
PROTEC 60-240
Tiger 72-300

complies with the following guidelines:

2006/42/EC	2014/34/EU

Applied standards, in particular:

DIN EN ISO 12100: 2010	DIN EN ISO 13732-1: 2008	EN ISO 80079-36:2016
DIN EN 809: 1998+A1: 2009+AC: 2010	DIN EN 14462:2015	EN ISO 80079-37:2016
DIN EN ISO 4413: 2010	DIN EN 12621: 2006+A1: 2010	EN ISO/IEC 80079-34:2011
DIN EN ISO 4414: 2010	DIN EN 1127-1: 2011	

Applied national technical standards and specifications, in particular:

DGUV regulation 100-500 (BGR 500 Chapter 2.29 and 2.36)	TRGS 727

Identification: CE Ex II 2 G Ex h IIB T3/T4 Gb X

T3: without dry running protection.

T4: with dry running protection.

EU Declaration of Conformity
The EU Declaration of Conformity is enclosed with this product. If needed, further copies can be ordered through your WAGNER dealer by specifying the product name and serial number.

Order number: 2302304

Order no. 2340282
Edition 02/2018

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