



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 06/2018

DN 2.6 Paint and Dosing Valves

PV 100

DV 100

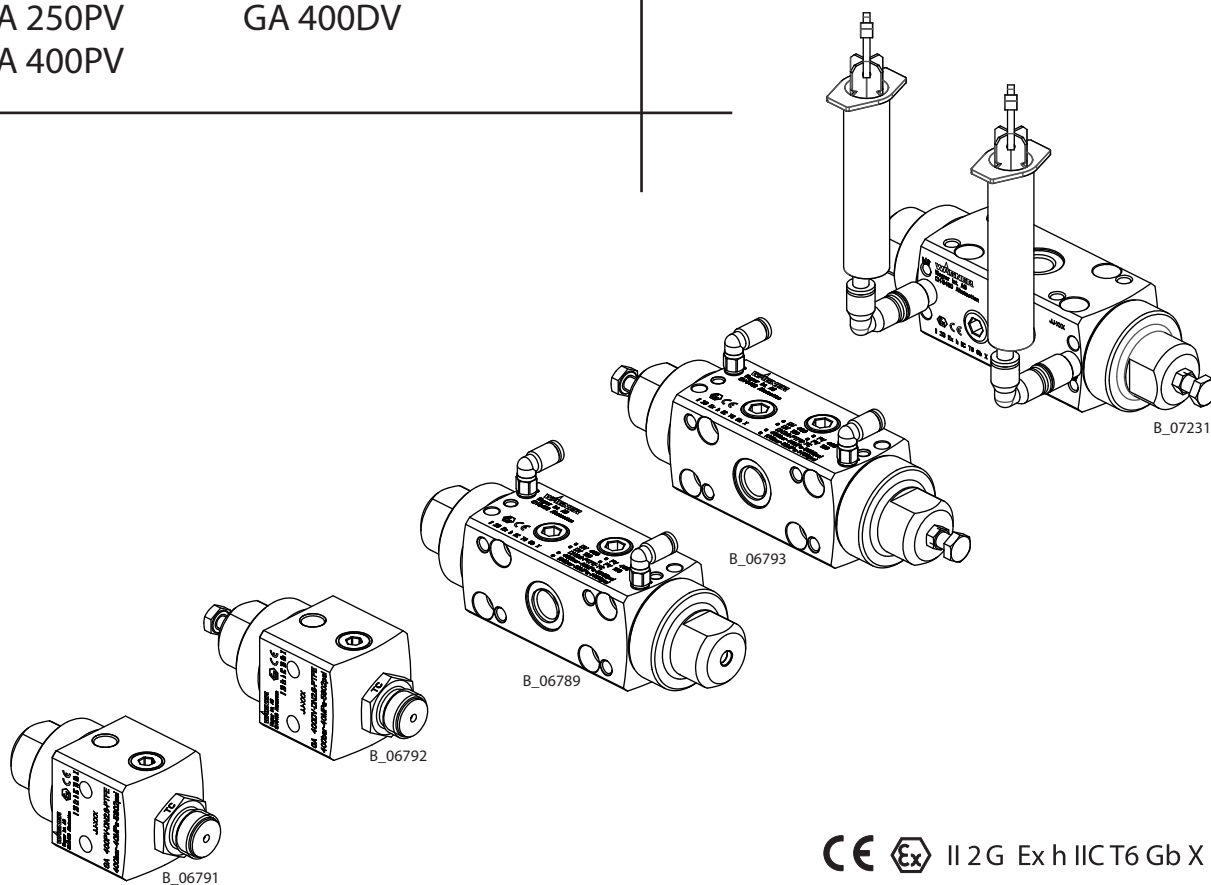
PV 400

DV 400

GA 250PV

GA 400DV

GA 400PV



CE Ex II 2G Ex h IIC T6 Gb X

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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 may 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

This **DN 2.6 paint and dosing valve operating manual** is available in the following languages:

Language	Order No.	Language	Order No.	Language	Order No.
German	2343270	English	2343275	Spanish	2343278
French	2343276	Italian	2343277	Turkish	2372044

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

1.3.1 ABBREVIATIONS

Stk	Number of pieces
Pos	Position
K	Marking in the spare parts lists
Order No.	Order number
SW	Wrench size
GA	Single valve
PV	Paint valve
DV	Dosing valve

Materials	
PTFE	Polytetrafluorethylene
FFKM	Perfluoroelastomer
SSt	Stainless steel
TC	Carbide
1.4404	Stainless steel 1.4404

1.4 TERMINOLOGY FOR THE PURPOSE OF THIS MANUAL

Cleaning/Flushing	
Cleaning	Manual cleaning of devices and device parts with cleaning agent.
Flushing	Internal flushing of paint-wetted parts with flushing agent.
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 and experience in 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 TYPE

- | | | | |
|------------------------|---------------------|--------------------|----------------------|
| a) GA 250PV / GA 400PV | Single paint valves | c) GA 400DV | Single dosing valve |
| b) PV 100 / PV 400 | Double paint valves | d) DV 100 / DV 400 | Double dosing valves |

2.2 TYPE OF USE

The pneumatically operated valves are suitable for switching and dosing liquid products, in particular coating or process products for surface technology and similar products. The paint valve (PV) is used to switch coating products (paints) and flushing agents. When working with multi-component products, a dosing valve (DV) must be used for the dosing of hardener product. Dosing valves have an adjustable stroke limitation.

Double valves with shared inputs or outputs

The flow of product can take place in both directions (mixing or splitter valve). The valves can be used individually or screwed together in rows to form valve blocks.

TC: Valves with the type designation "TC" may not be used for processing products that are corrosive to tungsten carbide binders.

WAGNER explicitly prohibits any other use!

The device may only be operated under the following conditions:

- Only operate device in a room with manual or mechanical ventilation.
- 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.

- Follow the instructions in the operating manual.

2.3 FOR USE IN POTENTIALLY EXPLOSIVE AREAS

The valves can be used in areas subject to explosion hazards. (See Explosion Protection Identification Chapter [3](#)).



2.4 PROCESSIBLE WORKING MATERIALS

All coating or surface technology process products as well as similar products. Please contact your local WAGNER dealer and the lacquer manufacturer in the event of application problems.

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.

3 IDENTIFICATION

3.1 CE EXPLOSION PROTECTION IDENTIFICATION

As defined in the Directive 2014/34/EU the valves are suitable for use in areas subject to explosion hazards.

Device type: Paint valves PV 100, PV 400, GA 250PV, GA 400PV
Dosing valves DV 100, DV 400, GA 400DV

Manufacturer: Wagner International AG
9450 Altstätten
Switzerland



CE II 2 G Ex h IIC T6 Gb X

CE	CE mark (European Communities)
	Explosion-proof equipment
II	Device class II (not mining)
2	Category 2 (zone 1)
G	Ex-atmosphere gas

Ex	Device corresponds to ignition protection type
h	Ignition protection for non-electrical devices
IIC	Device class (Gas) IIC
T6	Temperature class T6: maximum surface temperature 85 °C; 185 °F
Gb	Device protection level (EPL), suitable for use in Zone 1
X	There are special instructions to ensure safe operation. See the following Chapter "Identification X".

3.1.1 IDENTIFICATION X

Ignition temperature of the coating product

→ Ensure that the ignition temperature of the coating product is above the maximum surface temperature (85 °C; 185 °F).

Ambient temperature

→ Permissible ambient temperature: +5 °C to +40 °C; +41 °F to +104 °F.

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.

3.2 USE IN AREAS SUBJECT TO EXPLOSION HAZARDS

Safe Handling of WAGNER Spray Devices

Mechanical sparks can form if the device comes into contact with metal.

In an explosive atmosphere:

- Do not knock or push the device or components and tools against steel or rusty iron.
- Do not drop the device or components and tools.



National regulations

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

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 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.
- 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: Persons belonging to a risk group according to EMF guideline 2013/35/EU (e.g., carriers of 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.
- Ensure that the working pressure does not exceed the maximum value shown on the type plate.
- 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 needed, the liquid ejection devices must be checked by experts (e.g., WAGNER service technician) at least every 12 months for their work-safe condition in accordance with DGUV regulation 100-500 Chapter 2.29 and Chapter 2.36.
 - For shut down devices, the examination can be suspended 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 cause 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.
- Make sure that the ground and potential equalization of all system parts are performed reliably and continuously and can withstand the expected stress (e.g., mechanical stress, corrosion).
- 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 HOSES****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 hoses 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 or
 - on hot surfaces.
- Ensure that the hoses are never run over by vehicles (e.g., fork lifts), 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 items of equipment.
- Only electrically conductive tanks may be used for cleaning and flushing agents.
- The tanks must be grounded.



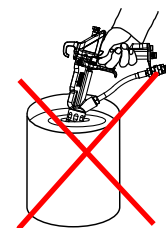
An explosive gas/air mixture forms in closed tanks.

- 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 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 insulating, antistatic, 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".
- | | |
|--------------------|-------------------|
| Instruction label: | Order no. 9998910 |
| Protection label: | Order no. 9998911 |
- 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.
- Do not change or modify the device; if change is necessary, contact WAGNER.
- Only repair and replace parts that are listed in Chapter 12 and Chapter 13 that are assigned to the unit.
- Do not use any defective components.
- Exclusively use accessories listed in Chapter 12 and that are assigned to the device.
- Before all work on the device and in the event of work interruptions:
 - Switch off the energy and compressed air supply.
 - Relieve the pressure from the spray gun and device.
 - Secure the spray gun against actuation.
- 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!

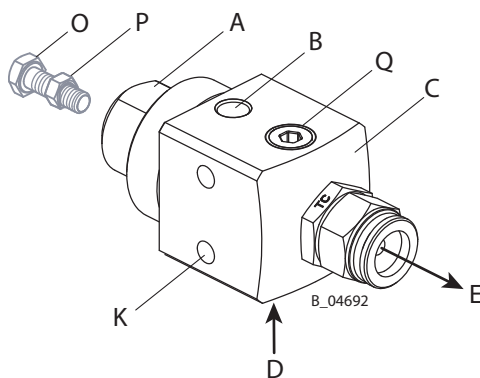
Danger to life and equipment damage.

- 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

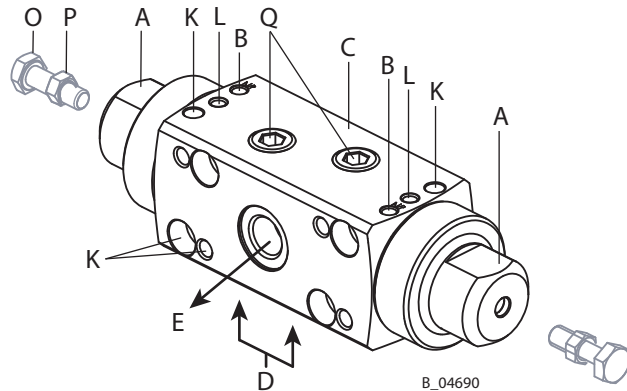
5.1 COMPONENTS

Single valves



Pos	Designation
A	Clamping nut
B	Control air connection
C	Valve housing
D	Product inlet
E	Product outlet
G	Valve rod (see Chapter 5.2)
H	Pressure spring (see Chapter 5.2)
I	Set of seals (see Chapter 5.2)

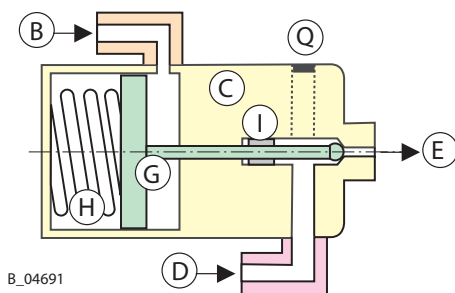
Double valves



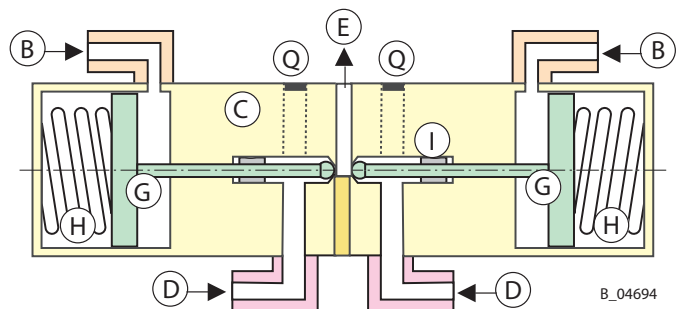
Pos	Designation
K	Mounting holes/threads for valve block mounting
L	Leakage hole (PTFE valves) or connection for separating agent supply (FFKM valves)
O	Adjusting screw (for dosing valves only)
P	Lock nut (for dosing valves only)
Q	Product connection closed (open for circulation operation)

5.2 MODE OF OPERATION

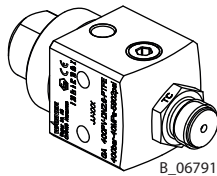
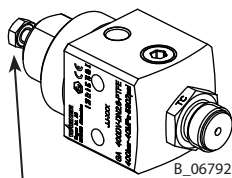
Single valves



Double valves



- In the case of double valves, two valves are located in a valve housing (C).
- All valves are switched individually by means of the control air (B).
- The control piston positioned on the valve rod (G) in the valve's housing (C) is pressurized and thus opens the passageway to the product outlet (E).
- Closing is effected by means of a pressure spring (H) after the control air pressure (B) has dropped.
- The set of seals (I) prevents product from flowing into the housing (C).
- Securing the valve: Remove the control air line from the control air connection (B).

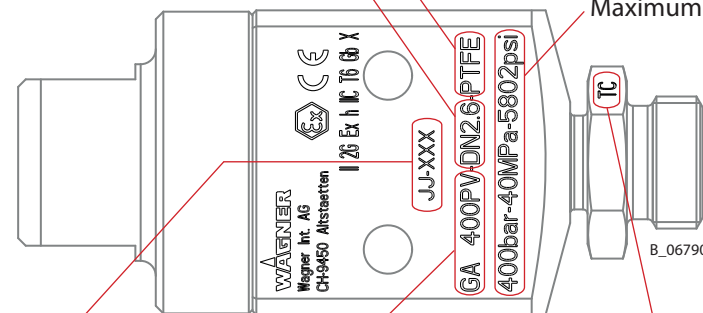
5.3 TYPE DESCRIPTION AND CHARACTERISTICS**5.3.1 SINGLE VALVES (GA)****Paint valve
(GA ...PV)****Dosing valve
(GA ...DV)**

with adjusting screw

Nominal diameter in
mm

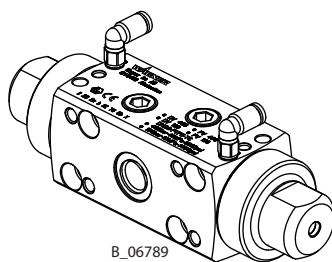
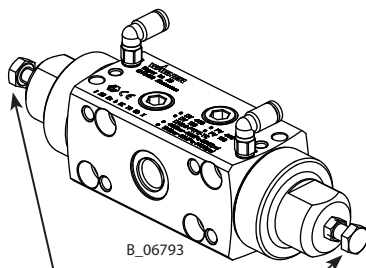
Material of the valve rod seal

Maximum product pressure

Year of manufacture –
serial number

Type description

Labeling	Valve seat	Valve ball	Housing
TC	Carbide	Carbide	Stainless steel
SSt	Stainless steel	Stainless steel	Stainless steel

5.3.2 DOUBLE VALVES (PV, DV)**Paint valve (PV)****Dosing valve (DV)**

with adjusting screws

DN2.6 = nominal diameter in mm

Labeling	Valve rod seal
PTFE	Polytetrafluorethylene
FFKM	Perfluoroelastomer

JJ-XXX

Year of manufacture – serial number

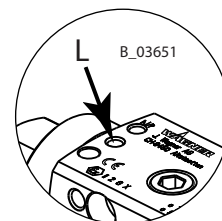
Type description
according to embossingMaximum product pressure
according to embossing

Labeling	Valve seat	Valve ball	Housing
TC	Carbide	Carbide	Stainless steel
SSt	Stainless steel	Stainless steel	Stainless steel
TC 1.4404	Carbide	Carbide	Stainless steel 1.4404

5.4 PROTECTIVE AND MONITORING EQUIPMENT

The following functions are provided for monitoring airtightness and product leaks.

- PTFE valves: leakage holes (L).
- FFKM valves: connection for separating agent supply (L).



5.5 SCOPE OF DELIVERY

Available DN 2.6 valve types

Order No.	Valve type	Designation
2343364	Paint valve	GA-250PV-DN2.6-PTFE-TC
2343360	Paint valve	GA 400PV-DN2.6-PTFE-TC
2343359	Dosing valve	GA 400DV-DN2.6-PTFE-SSt
2343362	Dosing valve	GA 400DV-DN2.6-PTFE-TC
2342809	Paint valve (double)	PV 100-DN2.6-PTFE-SSt
2342811	Paint valve (double)	PV 100-DN2.6-PTFE-TC
2342810	Dosing valve (double)	DV 100-DN2.6-PTFE-SSt
2342812	Dosing valve (double)	DV 100-DN2.6-PTFE-TC
2342804	Paint valve (double)	PV 400-DN2.6-PTFE-SSt
2342807	Paint valve (double)	PV 400-DN2.6-PTFE-TC
2342806	Dosing valve (double)	DV 400-DN2.6-PTFE-SSt
2342808	Dosing valve (double)	DV 400-DN2.6-PTFE-TC
2370685	Dosing valve (double)	DV 400-DN2.6-PTFE-TC-1.4404 (for acidic hardeners)
2332666	Dosing valve FFKM (double)	DV 400-DN2.6-FFKM-SSt (with separating agent supply)
2332670	Dosing valve FFKM (double)	DV 400-DN2.6-FFKM-TC (with separating agent supply)

The scope of delivery of a valve includes:

Order No.	Designation
384923	Declaration of Conformity
2343299	Brief instructions are available in the German and English languages.

The delivery note shows the exact scope of delivery.

5.6 DATA

5.6.1 MATERIALS OF PAINT-WETTED PARTS

	Materials in direct contact with the products				
PTFE valves	Stainless steel*	Carbide	PTFE	PE (UHMWPE)	
FFKM valves	Stainless steel	Carbide	PTFE	PE (UHMWPE)	FFKM

* Valve DV 400-DN2.6-PTFE-TC-1.4404 for acidic hardeners: stainless steel 1.4404

WARNING

Acidic hardeners!

Risk of burns and injury for skin, tissue and organs.

- Observe the lacquer manufacturer's safety data sheets and take prescribed safety measures.



5.6.2 TECHNICAL DATA**WARNING****Exhaust air containing oil!**

Risk of poisoning if inhaled.

→ Provide compressed air free from oil and water.

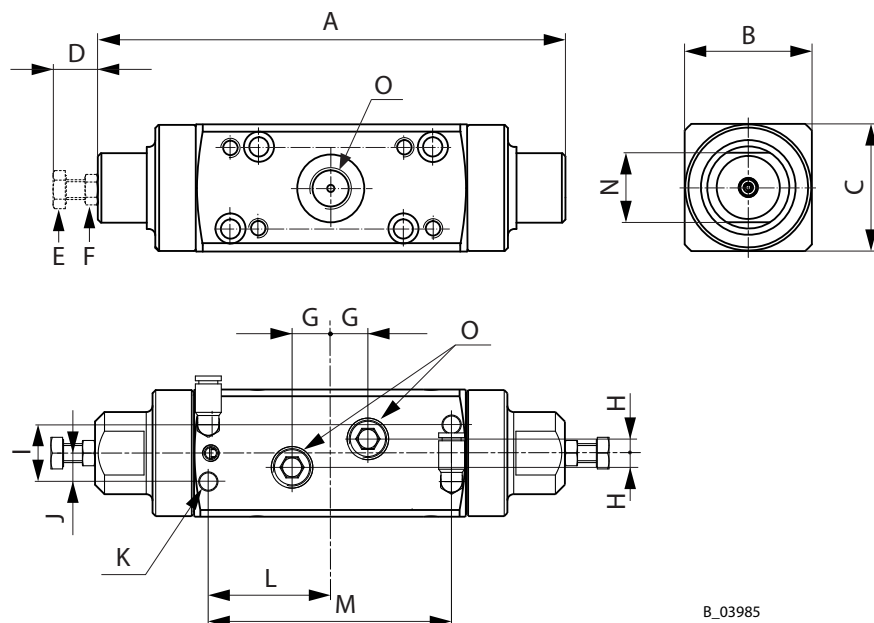
**5.6.2.1 VALVES 10–25 MPA; 100–250 BAR; 1450–3625 PSI**

Properties		PV 100-DN2.6-...	DV 100-DN2.6-...	GA 250PV-DN2.6-...
Maximum product pressure		10 MPa; 100 bar; 1450 psi		25 MPa; 250 bar; 3625 psi
Control air pressure		0.35–0.8 MPa 3.5–8 bar 51–116 psi		0.5–0.8 MPa 5–8 bar 73–116 psi
Air pressure quality: free from oil and water		Quality standard 7: Particle concentration 5 – 10 mg/m ³ 7.5.4 according to ISO 5: Humidity: pressure dew point ≤ +7 °C 8573.1, 2010 4: Oil content ≤ 5 mg/m ³		
Product viscosity		20–2000 mPa·s		
Product pH value		3.5–9		
Product temperature		+5 °C ... +80 °C +41 °F ... +176 °F		
Maximum surface temperature		+85 °C +185 °F		
Ambient temperature	Operation	+5 °C ... +40 °C +41 °F ... +104 °F		
	Assembly	0 °C ... +40 °C +32 °F ... +104 °F		
	Storage	-20 °C ... +60 °C -4 °F ... +140 °F		
Relative humidity		10–95% (without condensation)		
Maximum switching frequency		3 Hz	3–5 Hz	3 Hz
Sound level		< 65 dB(A)		
Weight		1049 g 37.00 oz	1057 g 37.29 oz	545 g 19.22 oz

5.6.2.2 VALVES 40 MPA; 400 BAR; 5800 PSI

Properties		PV 400-DN2.6-...	DV 400-DN2.6-...	GA 400PV-DN2.6-...	GA 400DV-DN2.6-...
Maximum product pressure		40 MPa; 400 bar; 5802 psi			
Control air pressure		0.5–0.8 MPa 5–8 bar 73–116 psi			
Air pressure 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		
Product viscosity		20–2000 mPa·s			
Product pH value		3.5–9*			
Product temperature		+5 °C ... +80 °C +41 °F ... +176 °F			
Maximum surface temperature		+85 °C +185 °F			
Ambient temperature	Operation	+5 °C ... +40 °C +41 °F ... +104 °F			
	Assembly	0 °C ... +40 °C +32 °F ... +104 °F			
	Storage	-20 °C ... +60 °C -4 °F ... +140 °F			
Relative humidity		10–95% (without condensation)			
Maximum switching frequency		3 Hz	3–5 Hz	3 Hz	3–5 Hz
Sound level		< 65 dB(A)			
Weight		1070g 37.74 oz	1078g 38.03 oz	547g 18.93 oz	545 g 19.22 oz

* Valve DV 400-DN2.6-PTFE-TC-1.4404: check products for compatibility (see Chapter [5.6.1](#))

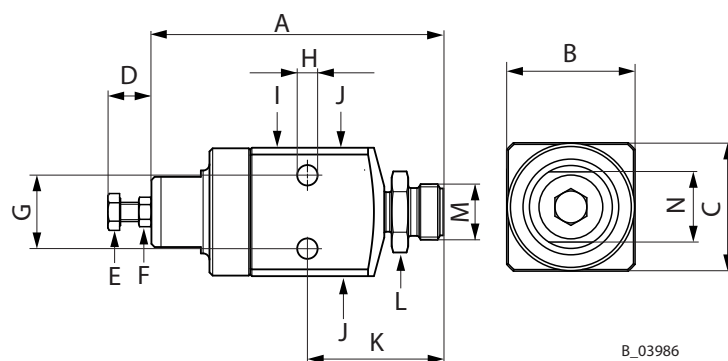
5.6.3 DIMENSIONS**Double valves**

B_03985

Pos	mm	inch
A	149	5.87
B	40.25	1.585
C	40.25	1.585
D	14.3–16.9	0.56–0.67
E	SW 8	

Pos	mm	inch
F	SW 8	
G	12	0.47
H	4.5	0.18
I	18	0.71
J	9	0.354

Pos	mm	inch
K	5.5	0.22
L	38.5	1.516
M	77	3.03
N	22	0.87
O	G 1/4"	

Single valves

B_03986

Pos	mm	inch
A	91.5	3.60
B	40.25	1.585
C	40.25	1.585
D	14.3–16.9	0.56–0.67
E	SW 8	

Pos	mm	inch
F	SW 8	
G	23	0.906
H	6.4	0.25
I	G 1/8"	
J	G 1/4"	

Pos	mm	inch
K	42.25	1.67
L	SW 22	
M	11/16" UN	
N	22	0.87

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 AND INSTALLATION 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.

For ambient temperature and air humidity, see Chapter [5.6.2](#).

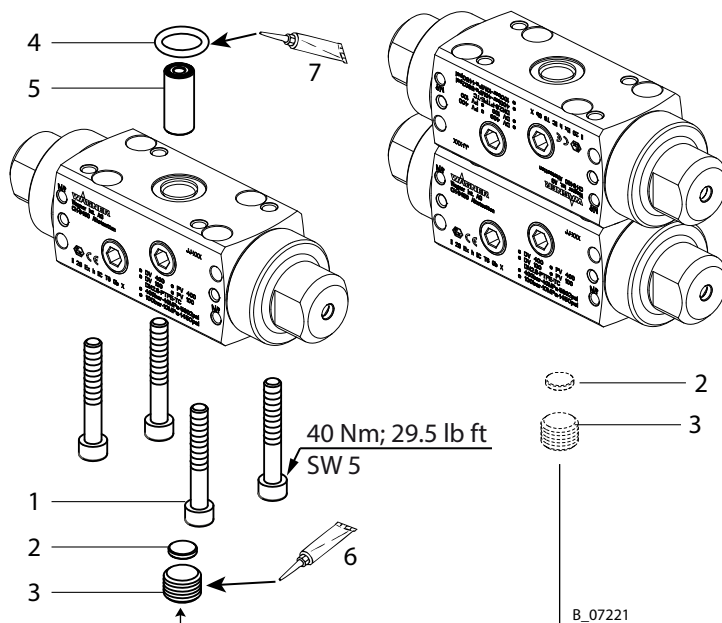
6.3 ASSEMBLY AND INSTALLATION

The pneumatically operated paint valves and dosing valves are suitable for operation in Explosion Zone 1.

Double valves

A double valve is comprised of two single valves with a shared input or output. The flow of product can take place in both directions (mixing or splitter valve).

6.3.1 VALVE EXTENSION



Individual double valves can be extended to form valve rows.

- Mount valves alternately the right way up and upside down.
- Before screwing together, grease (7) the O-ring (4) and insert it together with the filler part (5).
- Screw together with screws (1).

If necessary, seal one product outlet with a screw plug (3) and a plug (2).

Pos	Order No.
1–7	See Chapter 12

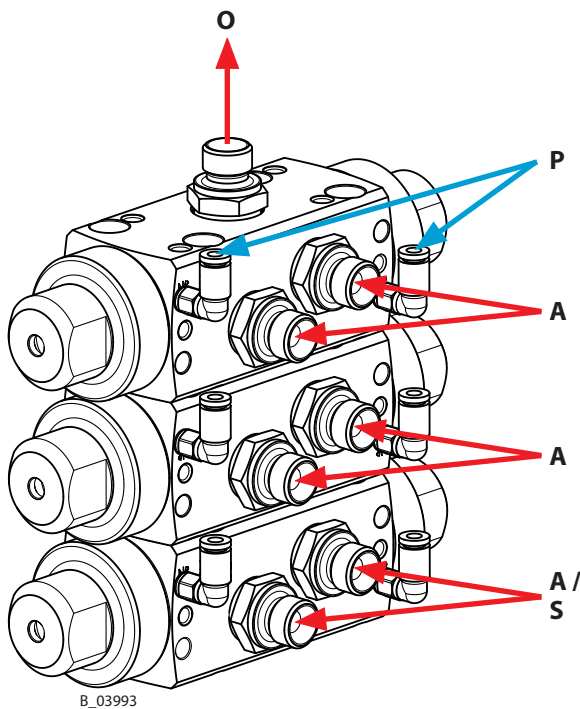
6.3.2 CONNECTIONS

Connect valves and supplementary components in accordance with the system diagram.

- Tighten all product fittings with 40 Nm; 29.5 lbs/ft.
- Control air connections: Tighten M5 threaded elbow fitting with 0.16 Nm; 0.11 lbft.
- Connection of the pneumatic hoses (outside Ø 4 mm; 0.16 inch).
- Further components:
Mount pressure gauges, pipe elbow, circulation connection, high-pressure hoses.
- Screw the completely pre-mounted valve blocks to the provided holder in accordance with the superordinate operating manual.

Example: valve block as mixing head valve

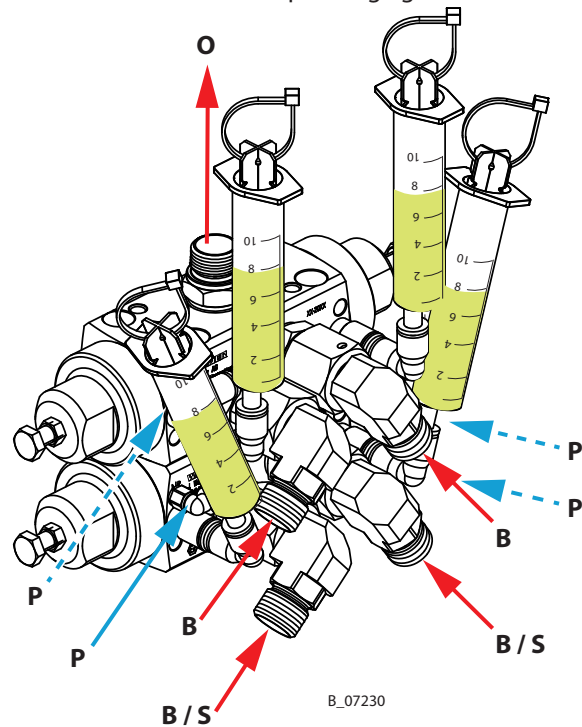
Paint valve block/dosing valve block
PTFE valves



Pos	Designation
A	Product inlet (lacquer)
B	Product inlet (hardener)
O	Product outlet

Dosing valve block

FFKM valves with separating agent containers



Pos	Designation
P	Control air connection
S	Product inlet (flushing agent)

! NOTICE

Interchange of the two components A and B!

Device damage due to hardened product.

→ Label device components and paint tank so that the components A and B are not mixed up.

6.4 GROUNDING THE SYSTEM

DANGER

Discharge of electrostatically charged components in atmospheres containing solvents!

Explosion hazard from electrostatic sparks or flames.

→ Connect the valve to the ground potential via the screws.



A conductive connection (potential equalization cable) must be established between original tank and the equipment.

6.5 PRE-CLEANING

The function of all the valves is checked with water or emulsifying oil after factory mounting. Before being commissioned, the remainder of this liquid has to be flushed out thoroughly using solvent (flushing agent).

WARNING

Incompatibility of the solvent with the product used!

Risk of explosion and danger of poisoning by toxic gases.

→ Examine the compatibility of the solvent when in contact with the used products on the basis of the safety data sheets.



Notice:

The flushing agent must be compatible with the products to be used later. We therefore recommend contacting the product suppliers.

6.6 COMMISSIONING

When commissioning and for all work, read and follow the operating manual and safety regulations for the additionally required system components.

6.6.1 PRESSURE TIGHTNESS TEST

WARNING

Overpressure!

Risk of injury from bursting components.

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



Before the tightness check:

- Vent all the product and hardener circuits under low-pressure via the gun until clean flushing agent is emitted.

Tightness check of the entire system:

- Check all the product circuits consecutively with flushing agent.
- Increase the pressure slowly, step-by-step until the maximum permissible pressure has been reached.

The following points are to be observed:

- The pressure has to be compatible with the maximum pressure of the entire system.
- Examine the entire system for possible leaks.
- The maximum pressure has to be maintained for at least 2 minutes.
- Any leaks occurring have to be eliminated immediately.

After the check has been completed:

- Switch off the air pressure of all the pumps.
- Relieve the pressure of pumps and of the whole system.

7 OPERATION

7.1 TRAINING THE OPERATING PERSONNEL

- The operating personnel must be qualified to operate the entire system. Read and follow the operating manuals and safety regulations for the additionally required system components.
- 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 TASKS

General notices:

- The specified technical data may never be exceeded.
- Before a longer standstill (e.g. holiday/vacation) the valves have to be rinsed and the flushing agent left in the system until it is started up again.

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:

- risk to health from inhaling solvent vapors,
- use of unsuitable cleaning tools and aids.

8.1.2 CLEANING INSTRUCTIONS

From Chapter 3.1.1 (identification X):

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.

DANGER

Explosive powder/air mixes!

Danger to life and equipment damage.

- Before starting cleaning or other manual work, the high voltage must be shut down and locked to prevent it from being switched back on!
- The spray gun must be separated from the high-voltage supply before any cleaning work is started!
- Use only electrically conductive tanks for cleaning liquids! Ground the tank!
- Preference should be given to non-ignitable cleaning fluids.
- Only cleaning agents of explosion class IIA may be used (maximum ignition energy 0.24 mJ).
- The cleaning agent's flash point must be at least 15 K above the ambient temperature.
- Ensure that no electric component is cleaned with or immersed into solvent.



The cleaning agent used for cleaning must be suitable for the coating product.

WARNING

Incompatibility of the solvent with the product used!

Risk of explosion and danger of poisoning by toxic gases.

- Examine the compatibility of the solvent when in contact with the used products on the basis of the safety data sheets.



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:

- risk to health 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 MAINTENANCE INSTRUCTIONS

DANGER

Incorrect maintenance/repair!

Danger to life and equipment damage.

- Repair or replacement of devices or parts of devices are only allowed to be performed outside the hazard area by qualified personnel.



WARNING

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.
- Only repair and replace parts that are listed in the "Spare parts" chapter and that are assigned to the device.
- Before all work on the device and in the event of work interruptions:
 - Relieve pressure from spray guns, high-pressure hoses and all devices.
 - Secure spray guns 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

- Cleaning and flushing the device.

After maintenance

- Put the system into operation and check for leaks.
- Carry out safety checks in accordance with Chapter [8.2.3](#).
- Have the device checked for safe condition by an authorized person.

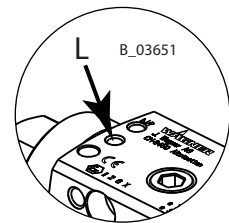
8.2.3 SAFETY CHECKS AND MAINTENANCE INTERVALS**⚠ WARNING****Heavy paint mist in the case of leaking!**

Danger of poisoning.

- Comply with maintenance intervals (tightness check).
- Examine the compatibility of the cleaning agents and working media on the basis of the safety data sheets.

**Every day**

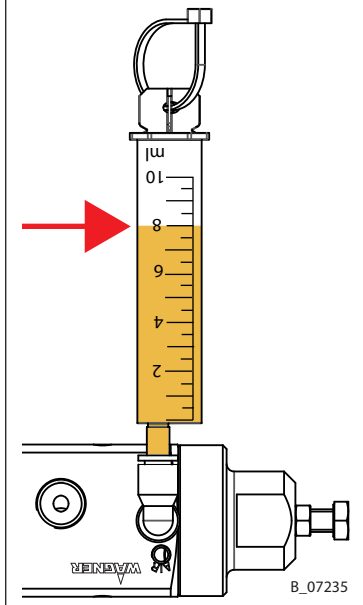
- PTFE valves: check leakage holes (L).
 - In case air or paint is emitted at the leakage holes:
 - Seals defective, replace (see Chapter 10).
- FFKM valves: Check separating agent (see Chapter 8.2.4).
 - In the case of soiled separating agent or foam formation/air bubbles:
 - Replace separating agent and replace valve rod seals.
 - Top up separating agent as necessary.
- Check hoses, tubes and couplings: see Chapter 8.2.5.

**Yearly or as required**

- In accordance with DGUV regulation 100-500 Chapter 2.29 and Chapter 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.

8.2.4 FFKM DOSING VALVE: TOPPING UP OR CHANGING SEPARATING AGENT**Normal filling level**

At a normal filling level, the separating agent level in the tank has to lie at the "8" mark.

**Topping up separating agent**

In case of level deviations, pull the piston out of the separating agent container. Top up separating agent and reinsert piston.

Changing the separating agent

In the case of soiled separating agent or if foam caused by air bubbles is observed or when the separating agent container's piston is pushed out/falls down:

→ Replace separating agent and valve rod seals:

1. Empty the separating agent container.
2. Completely unscrew the separating agent supply.
3. Dismount the valve in accordance with Chapter [9.5.2](#).
4. Cleaning in accordance with Chapter [9.6](#).
5. Assembly in accordance with Chapter [9.7.3](#).
6. Use the spray device to fill separating agent directly into the leakage holes. Move the valve rod briefly backwards and forwards.
7. Completely mount the separating agent supply.
8. Fill separating agent in the separating agent container to level "8". Reinsert piston.

8.2.5 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.
- 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.
- Undamaged complete hoses are to be replaced at the latest when 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 (if present)	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

9 REPAIRS

9.1 REPAIR PERSONNEL

Repair work should be undertaken carefully by qualified and trained personnel. They should be informed of specific hazards during their training.

The following hazards may arise during repair work:

- risk to health 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.

9.2 SAFETY INSTRUCTIONS

DANGER

Incorrect maintenance/repair!

Danger to life and equipment damage.

- Repair or replacement of devices or parts of devices are only allowed to be performed outside the hazard area by qualified personnel.



WARNING

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.
- Only repair and replace parts that are listed in the "Spare parts" chapter and that are assigned to the device.
- Before all work on the device and in the event of work interruptions:
 - Relieve pressure from spray guns, high-pressure hoses and all devices.
 - Secure spray guns 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

- Cleaning and flushing the device.

After Repair Work

- Put the system into operation and check for leaks.
- Carry out safety checks in accordance with Chapter [8.2.3](#).
- Have the device checked for safe condition by an authorized person.

9.3 ASSEMBLY AIDS

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

→ Use torques, greases and glues in accordance with the following chapters.

Assembly Aids

Order No.	Quantity	Designation	Smaller tanks
9992511	1 pc $\triangleq$ 50 ml	Loctite® 243	
9992831	1 pc $\triangleq$ 50 ml	Loctite® 542	
9998808	1 pc $\triangleq$ 18 kg!	Mobilux® EP 2 grease	400 g tube $\triangleq$ Order No. 2355418
9992616	1 pc $\triangleq$ 1 kg can	Molykote® DX grease	50 g tube $\triangleq$ Order No. 2355419
2342273	1 pc 390 g	Mobil SHC Polyrex™ 222 grease	

Brand notice

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

Tools

- Torque wrench
- Allen wrench SW 5; SW 6
- Wrench SW 2; SW 5; SW 5.5; SW 9; SW 10 and SW 22
- Countersunk chipboard screw (order no. 2344261, included in the scope of delivery of the service set)

9.4 SERVICE AND SEAL SETS

A) Service set

Order no. and scope of delivery, see Chapter 13.

b) PTFE seal set: order no. 2342336

→ A seal set is sufficient for 5 double valves or 10 single valves.

Scope of delivery:

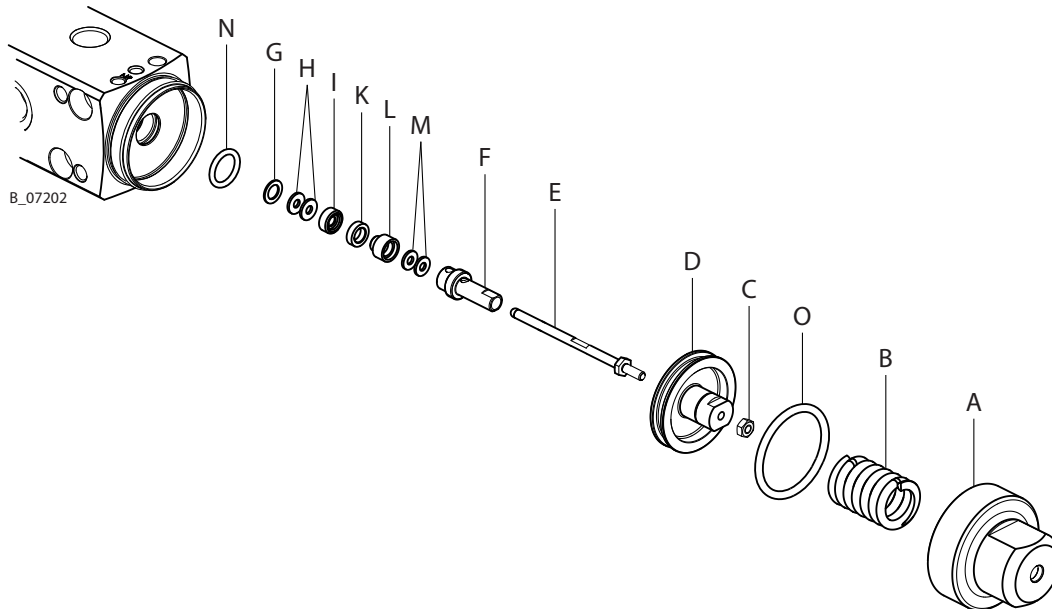
Pos	Stk	Order No.	Designation
1	20	2342204	Sealing ring at front
2	10	2342206	Sealing collar
3	20	2342208	Sealing ring at rear

C) FFKM sets

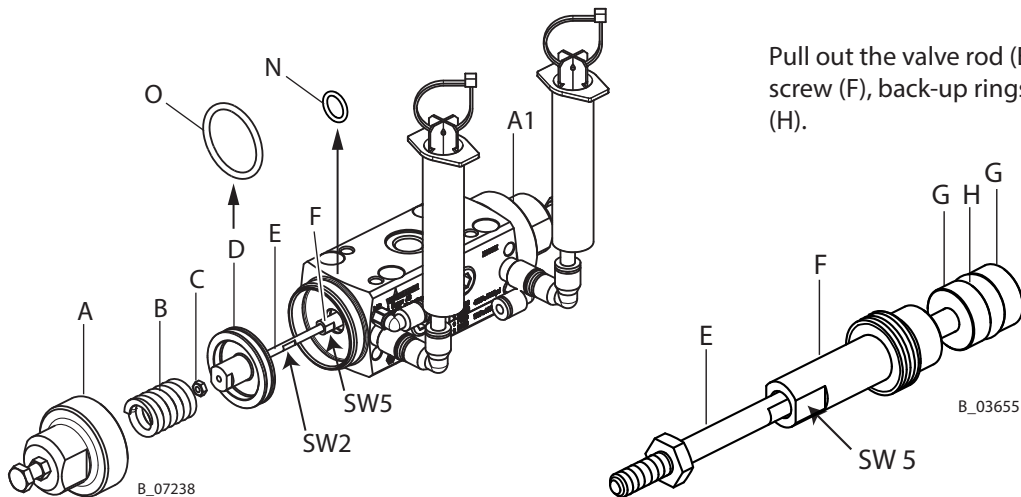
- **FFKM seal set:** order no. 384954
 - **Set for converting PTFE dosing valves to FFKM dosing valves:** order no. 2367232
- For every double valve, two sets are needed, for every single valve, one set is needed.

Scope of delivery:

			FFKM seal set	Set for converting PTFE dosing valves to FFKM dosing valves
Pos	Stk	Designation	Order No.	Order No.
1	2	Back-up ring		384454
2	1	O-ring		9974264
3	1	O-ring		2308324
4	1	Separating agent supply	/	389064

9.5 DISASSEMBLING**9.5.1 PTFE VALVES: REMOVING VALVE ROD WITH SEALING PACKAGE**

1. Take system out of operation and relieve the pressure.
Remove and clean valve.
2. Unscrew the tension nut (A) that is under spring pressure. Remove pressure spring (B).
3. Carefully pull out valve rod (E) on piston (D).
Remove O-ring (O) from piston (D).
4. Use a size 5 wrench to loosen sealing screw (F) and unscrew it.
5. Carefully pull all parts of the sealing package (G, H, I, K, L, M) out of housing with the help of the wood screw (included in scope of delivery) of the service set.
6. Remove O-ring (N) from the groove.
7. If the valve rod (E) or piston (D) is damaged:
 - Hold valve rod (E) using a size 2 wrench and unscrew nut (C).
 - Unscrew valve rod (E) out of the piston (D).
8. Check parts for damage.
 - The PTFE seals at the front (H) and rear (M) as well as the sealing collar (K) should be replaced in all cases.
 - O-rings and seal sets are preferably to be replaced.

9.5.2 FFKM VALVES: REMOVING VALVE ROD AND SEALING PACKAGE

Pull out the valve rod (E) with sealing screw (F), back-up rings (G) and O-ring (H).

1. Take system out of operation and relieve the pressure.
Remove and clean valve.
Empty separating agent supply.
2. Unscrew the tension nut (A or A1) that is under spring pressure.
Remove pressure spring (B).
3. Pull out the valve rod at piston (D) carefully until the flattened surfaces on the valve rod (E) are visible.
4. Hold valve rod (E) using a size 2 wrench and unscrew nut (C).
5. Pull the piston (D) from the valve rod (E).
6. Remove O-ring (O) from piston (D).
7. Completely loosen sealing screw (F) with a size 5 wrench.
8. Pull out the valve rod (E) with sealing screw (F), back-up rings (G) and O-ring (H).
→ If parts get caught in the drilled hole, they can be pulled out by using a ring bolt.
9. Remove O-ring (N) from the valve housing groove.
10. Check parts for damage.
→ Replace defective parts.

9.6 CLEANING THE PARTS AFTER DISASSEMBLY**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.
- After the cleaning, blow out the valve housing with air.
- Spare parts may have safety-relevant properties.
Only repair and replace parts that are listed in the "Spare parts" chapter and that are assigned to the device.
- Defective parts must always be replaced.

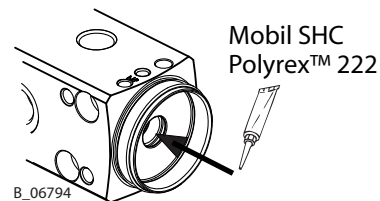
⚠ WARNING**Incompatibility of cleaning agent and working medium!**

Risk of explosion and danger of poisoning by toxic gases.

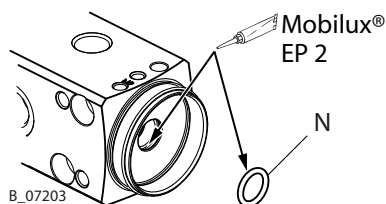
- Examine the compatibility of the cleaning agents and working media on the basis of the safety data sheets.

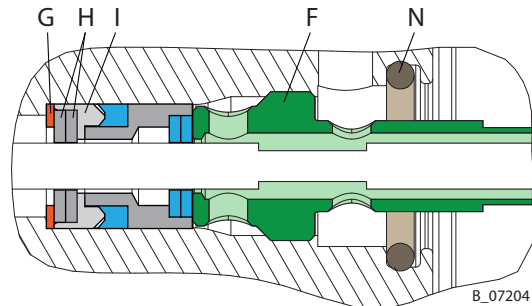
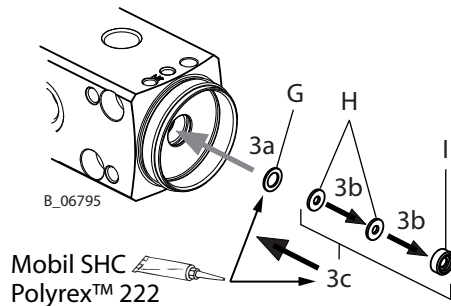
**9.7 ASSEMBLY****9.7.1 PTFE VALVES: INSTALLING THE VALVE ROD SEALING PACKAGE**

1. Grease the sealing package spaces (G, H, I, K, L, M) with Mobil SHC Polyrex™ 222.

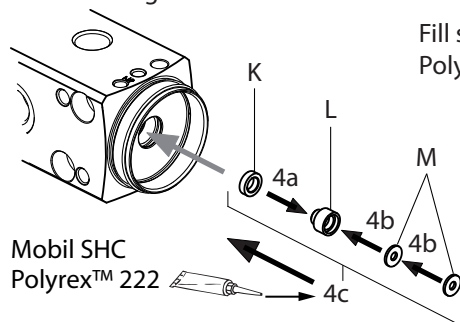


2. Grease groove with Mobilux® EP2.
Insert O-ring (N) in groove.
Grease O-ring (N) with Mobilux® EP2.

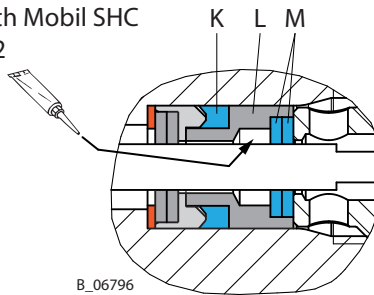




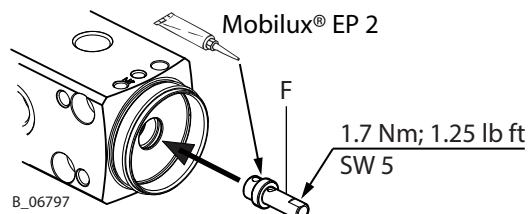
- 3a. Grease stop ring (G) with Mobil SHC Polyrex™ 222. Slide stop ring (G) into valve housing.
- 3b. Grease front sealing rings (H) and support ring (I) with Mobil SHC Polyrex™ 222. Insert front sealing rings (H) in support ring (I).
- 3c. Apply Mobil SHC Polyrex™ 222 grease to assembled parts (H, I). Slide parts (H+I) into valve housing.



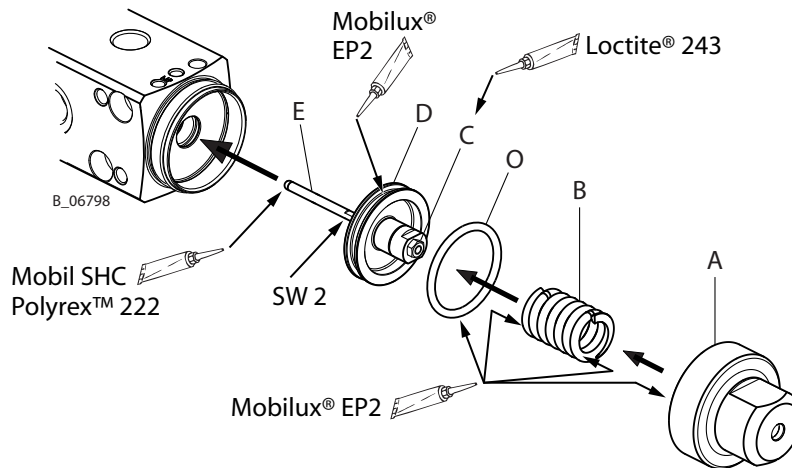
Fill space with Mobil SHC Polyrex™ 222



- 4a. Attach sealing collar (K) on sealing sleeve (L) such that the V-contour is facing in the direction of installation.
Fill space in sealing sleeve (L) with Mobil SHC Polyrex™ 222 (see figure).
- 4b. Grease rear sealing rings (M) and sealing sleeve (L) with Mobil SHC Polyrex™ 222. Insert rear sealing rings (M) in sealing sleeve (L).
- 4c. Apply Mobil SHC Polyrex™ 222 grease to outside of assembled parts (K, L, M) and slide into valve housing.



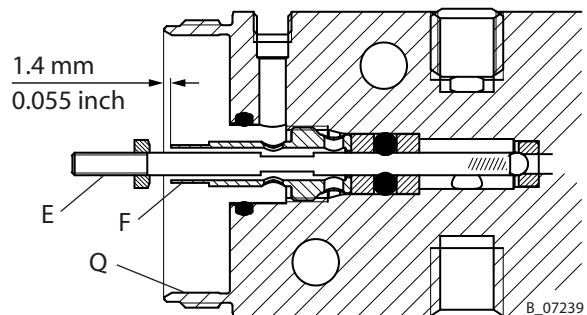
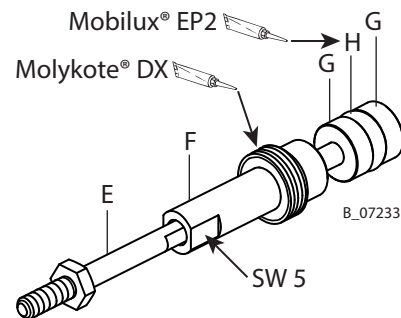
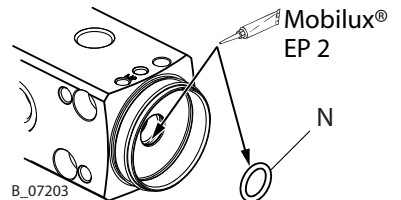
5. Grease sealing screw (F) with Mobilux® EP 2 grease.
Screw in sealing screw and tighten to 1.7 Nm; 1.25 lb ft.

9.7.2 PTFE VALVES: INSTALLING VALVE ROD

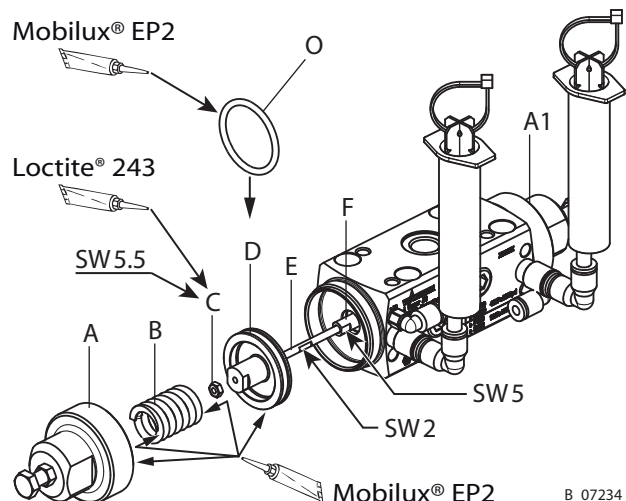
1. If the valve rod (E) from piston (D) is removed:
 - Screw piston (D) and valve rod (E) together until stop.
 - Secure nut (C) with Loctite® 243.
 - Hold the valve rod (E) using a size 2 wrench, screw on nut (C) and tighten.
2. Apply Mobil SHC Polyrex™ 222 grease to the tip of valve rod (E).
3. Piston (D): Generously grease groove with Mobilux® EP2.
Insert O-ring (O) in groove (D).
4. Slide valve rod with piston into valve housing.
5. Grease the already inserted O-ring (O) with Mobilux® EP2.
6. Grease front surface of the pressure spring (B) with Mobilux® EP2.
Attach pressure spring (B) to piston (D).
7. Apply Mobilux® EP2 grease to thread and internal space of tension nut (A).
Screw on tension nut (A) and tighten.

9.7.3 FFKM VALVES: INSTALLING VALVE ROD AND SEALING PACKAGE

1. Grease groove with Mobilux® EP2.
Insert O-ring (N) in groove.
Grease O-ring (N) with Mobilux® EP2.
2. Grease O-ring (H) with Mobilux® EP2.
Slide the sealing screw (F), back-up rings (G) and O-ring (H) onto the valve rod (E).
→ Arrangement of sealing package in accordance with figure.
3. Grease sealing screw (F) with Molykote® DX grease.
Insert valve rod with sealing screw and sealing package in the valve housing.
4. Screw in sealing screw (F) and tighten it carefully until it is 1.4 mm; 0.055 inches lower than the valve housing.



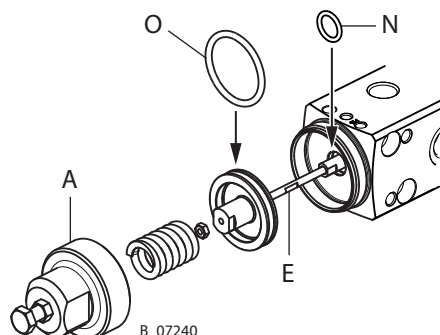
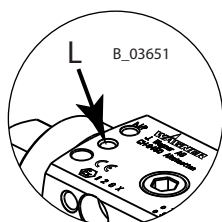
5. Mounting piston:
 - Screw piston (D) and valve rod (E) together until stop.
 - Secure nut (C) with Loctite® 243.
6. Piston (D): Generously grease groove with Mobilux® EP2.
Insert O-ring (O) in groove (D).
7. Grease the already inserted O-ring (O) with Mobilux® EP2.



8. Grease front surface of the pressure spring (B) with Mobilux® EP2.
Attach pressure spring (B) to piston (D).
9. Apply Mobilux® EP2 grease to thread and internal space of tension nut (A).
Screw on tension nut (A) and tighten.
10. Fill separating agent in the separating agent container. Reinsert piston.

10 TROUBLESHOOTINGTROUBLESHOOTING

Leakage hole (L):



Malfunction	Cause	Remedy
No product transportation	Valve does not open.	Check the control air hoses. Replace piston seals (O).
	Travel adjustment set too low (dosing valve).	Increase the travel adjustment.
Contamination	Valve clogged by product.	Dismantling and cleaning.

Leakage	Cause	Remedy
Product flow at closed valve setting.	Valve does not close.	Have valve rod (E) and valve seat replaced by the WAGNER Service Department.
Air emission on tension nut (A).	Piston seal defective.	Replace O-ring (O).

PTFE valves

Leakage	Cause	Remedy
Product emission from leakage hole (L).	Valve rod seals defective.	Replace valve rod seals. Dosing valves: Use FFKM seals as necessary (see Chapter 10.1).
Air emission from leakage hole (L).	O-ring (N) defective.	Replace O-ring (N).

FFKM valves

Leakage	Cause	Remedy
Separating agent contaminated.	Valve rod seals defective.	Replace separating agent and valve rod seals: (see Chapter 8.2.4). Use PTFE seals as necessary (see Chapter 10.1). Replace O-ring (N).
The piston is pushed out of/ falls out of the separating agent container.	In the case of contaminated separating agent: valve rod seals defective.	
	In the case of foam formation/air bubbles: O-ring (N) defective.	
Foam formation/air bubbles in separating agent.	O-ring (N) defective.	

10.1 DOSING VALVES: CHANGING BETWEEN PTFE/FFKM

In the case of repeated valve rod leaks, a switch from PTFE to FFKM seals (or the other way around) can be tried out.

- PTFE to FFKM: with dosing valve conversion set PTFE to FFKM (see Chapter [9.4](#)).
- FFKM to PTFE: with corresponding PTFE service set (see Chapter [13](#)).

11 DISPOSAL

When the equipment must be scrapped, please differentiate the disposal of the waste materials.

The following materials have been used:

- Steel
- Aluminum
- Elastomers
- Plastics
- Carbide

Consumable products

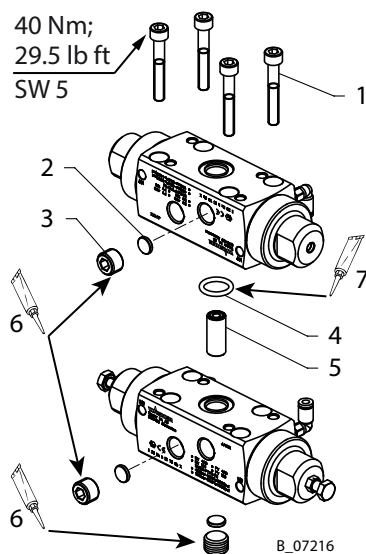
Consumable products (lacquers, adhesives, flushing and cleaning agents) must be disposed of in accordance with all applicable legal requirements.

12 ACCESSORIES

Fittings for product inlets and product outlets

→ see operating documents of the higher-level system

Valve extension for double valve



Example with two double valves

Assembly, see Chapter [6.3.1](#)

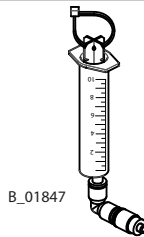
Pos	K	Stk	Order No.	Designation
1		4	9900336	Hexagon socket head cap screw, M6x40
2		0–5	**	Plug
3		0–5	**	Screw plug
4	◆★	1	9974164	O-ring
5		1	384329	Filler part
6		1	9992831	Loctite® 542
7		1	9998808	Mobilux® EP 2 grease

◆ = Wearing parts

★ = Included in the service set (order no., see Chapter [13](#)).

** = Order no., see Chapter [13](#).

FFKM valves

Order No.	Designation	
389064	Separating agent supply	
9992504	Separating agent 250 ml; 250 cc	

13 SPARE PARTS

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.
- Only repair and replace parts that are listed in the "Spare parts" chapter and that are assigned to the device.
- Before all work on the device and in the event of work interruptions:
 - Relieve pressure from spray guns, high-pressure hoses and all devices.
 - Secure spray guns 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.



13.1 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:

- address for the invoice,
- 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

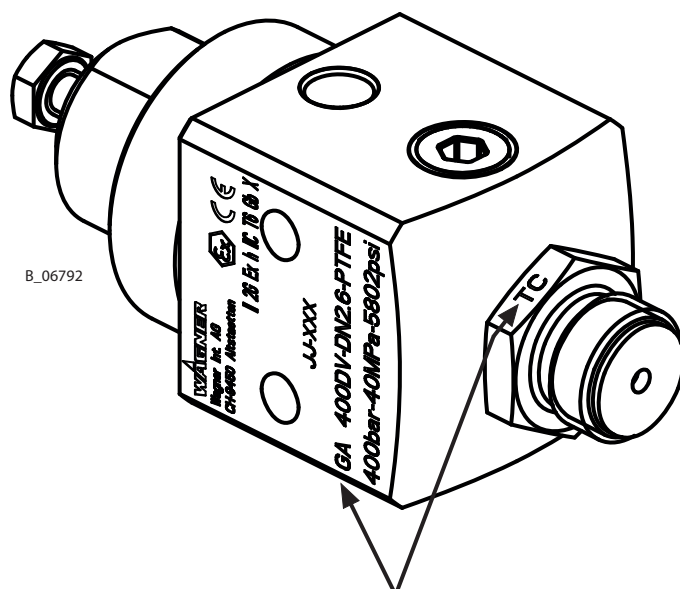
Explanation of column "**K**" (labeling) in the following spare parts lists:

- ◆ Wearing parts/ Wearing parts are not included in the warranty terms.
- ★ Included in service set
- Not part of standard equipment, available, however, as additional extra.

Explanation of Order No. column:

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

13.2 SINGLE VALVE VARIANTS

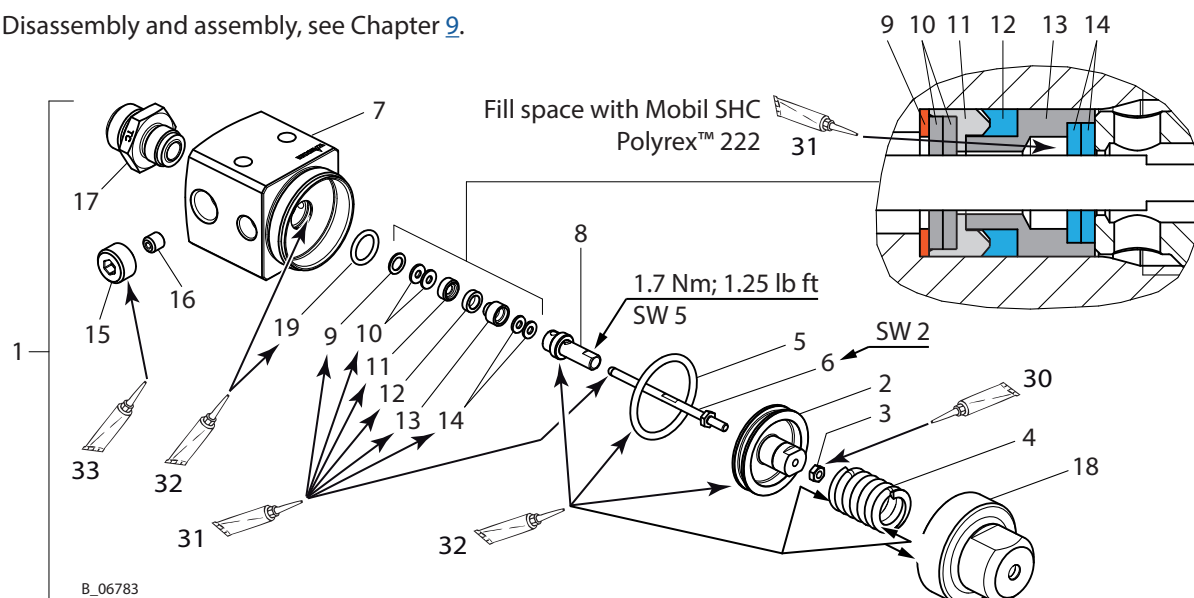


Check type description

Type description	Spare parts list chapter
GA 250PV-DN2.6-PTFE-TC	13.2.1
GA 400PV-DN2.6-PTFE-TC	
GA 400DV-DN2.6-PTFE-SSt	13.2.2
GA 400DV-DN2.6-PTFE-TC	

13.2.1 VALVES GA 250PV-DN2.6-PTFE-TC AND GA 400PV-DN2.6-PTFE-TC

Disassembly and assembly, see Chapter 9.



Pos	K	Stk	Designation	GA 250PV	GA 400PV
				Order No.	Order No.
1		1	Paint valve GA...-DN2.6-PTFE-TC	2343364	2343360
2		1	Piston	2330264	
3		1	Hexagon nut	9913014	
4		1	Pressure spring	350498	350482
5	◆ ★	1	O-ring	9974187	
6	◆ ★	1	Valve rod, complete	350884	
7		1	Valve housing	**	**
8	◆ ★	1	Sealing screw	350485	
9	◆ ★	1	Stop ring	2342203	
10	◆ ★	2	Sealing ring at front	2342204	
11	◆ ★	1	Support ring	2342205	
12	◆ ★	1	Sealing collar	2342206	
13	◆ ★	1	Sealing sleeve	2342207	
14	◆ ★	2	Sealing ring at rear	2342208	
15		1	Screw plug	350488	
16		1	Plug	350418	
17	◆ ★	1	Spacer, complete	350161	
18		1	Clamping nut	350490	
19	◆ ★	1	O-ring	9974065	
30		1	Loctite® 243	9992511	
31		1	Mobil SHC Polyrex™ 222 grease	2342273	
32		1	Mobilux® EP 2 grease	9998808	
33		1	Loctite® 542	9992831	
	●	1	Service set, GA DN2.6-PTFE-TC	2343816	
	●	1	Seal set (scope of delivery, see Chapter 9.4)	2342336	

◆ = Wearing parts

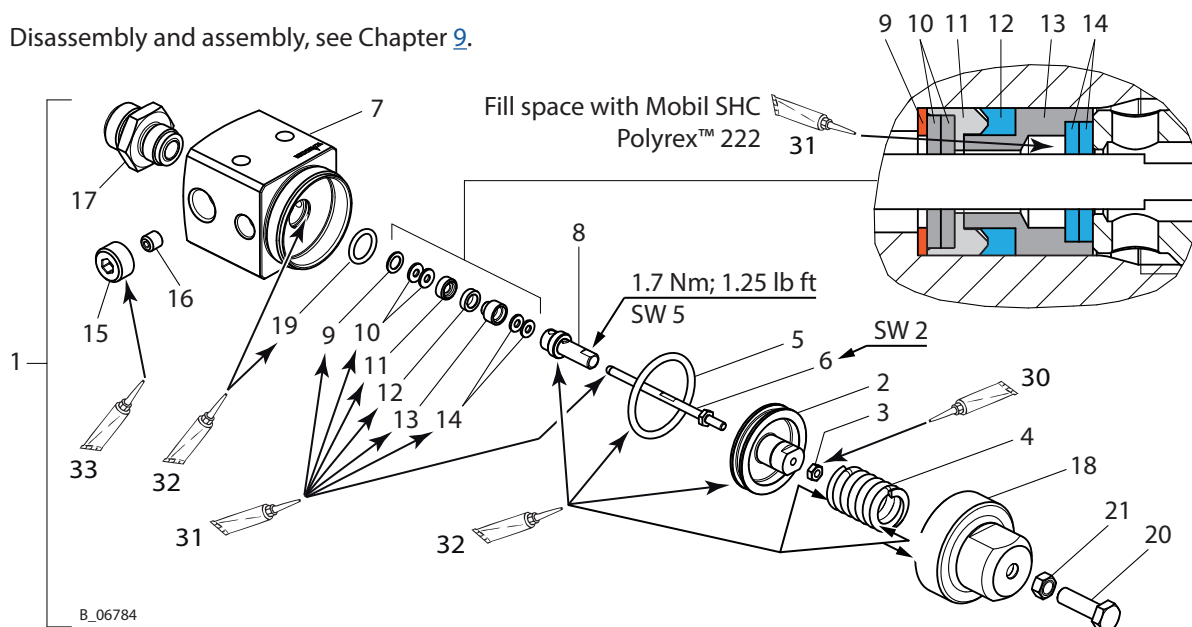
★ = Included in service set.

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

** = The valve housing can only be ordered from the WAGNER Service Department.

13.2.2 VALVES GA 400DV-DN2.6-PTFE

Disassembly and assembly, see Chapter 9.



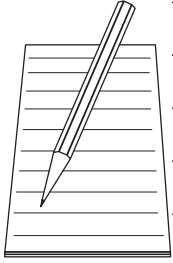
Pos	K	Stk	Designation	SSt	TC
				Order No.	Order No.
1		1	Dosing valve GA 400DV-DN2.6-PTFE-...	2343359	2343362
2		1	Piston	2330264	
3		1	Hexagon nut	9913014	
4		1	Pressure spring 400 bar; 40 MPa; 5802 psi	350482	
5	◆ ★	1	O-ring	9974187	
6	◆ ★	1	Valve rod, complete	2343834	350884
7		1	Valve housing	**	
8	◆ ★	1	Sealing screw	350485	
9	◆ ★	1	Stop ring	2342203	
10	◆ ★	2	Sealing ring at front	2342204	
11	◆ ★	1	Support ring	2342205	
12	◆ ★	1	Sealing collar	2342206	
13	◆ ★	1	Sealing sleeve	2342207	
14	◆ ★	2	Sealing ring at rear	2342208	
15		1	Screw plug	350488	
16		1	Plug	350418	
17	◆ ★	1	Spacer, complete	2343005	350161
18		1	Clamping nut	350490	
19	◆ ★	1	O-ring	9974065	
20		1	Hexagon screw	9907250	
21		1	Hexagon nut	9913058	
30		1	Loctite® 243	9992511	
31		1	Mobil SHC Polyrex™ 222 grease	2342273	
32		1	Mobilux® EP 2 grease	9998808	
33		1	Loctite® 542	9992831	
	●	1	Service set	2343817	2343816
	●	1	Seal set (scope of delivery, see Chapter 9.4)	2342336	

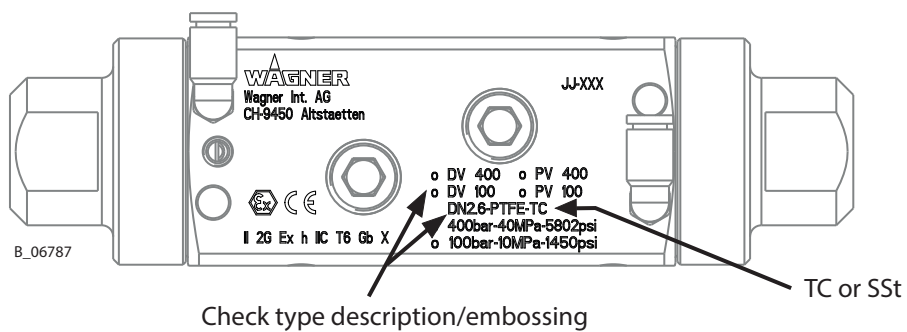
◆ = Wearing parts

★ = Included in service set.

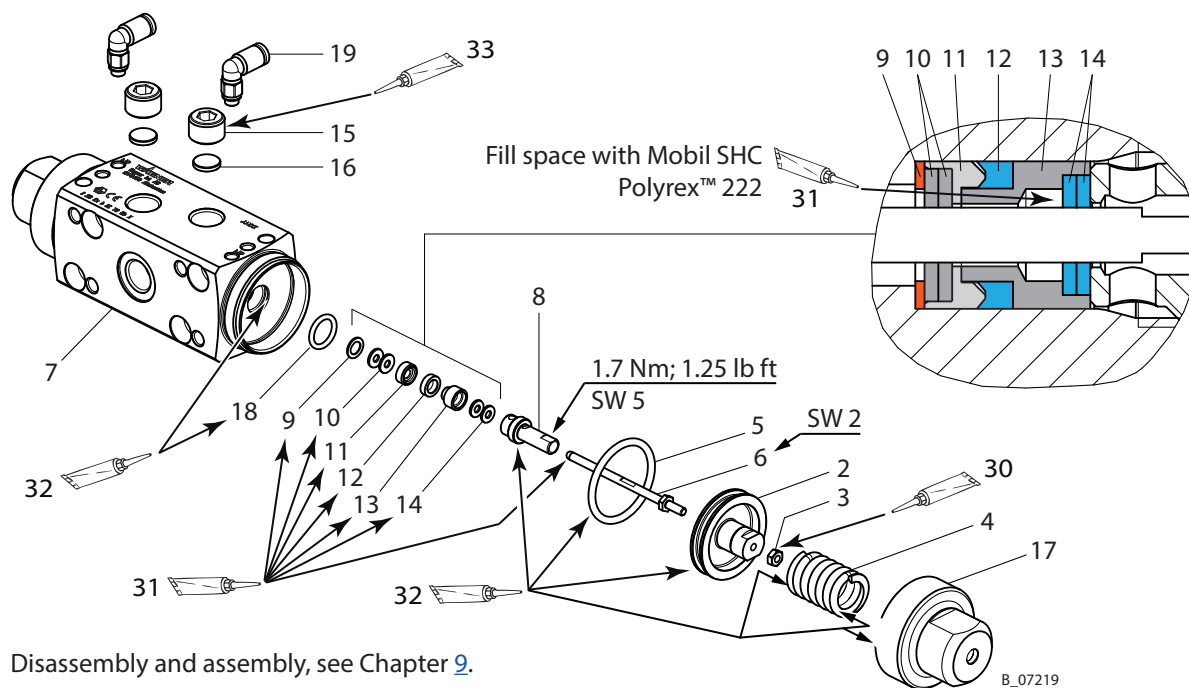
● = Not part of the standard equipment but available as a special accessory.

** = The valve housing can only be ordered from the WAGNER Service Department.



13.3 DOUBLE VALVE VARIANTS

Type description	Spare parts list chapter
PV 100-DN2.6-PTFE-SSt	13.3.1
PV 100-DN2.6-PTFE-TC	
DV 100-DN2.6-PTFE-SSt	13.3.2
DV 100-DN2.6-PTFE-TC	
PV 400-DN2.6-PTFE-SSt	13.3.3
PV 400-DN2.6-PTFE-TC	
DV 400-DN2.6-PTFE-SSt	13.3.4
DV 400-DN2.6-PTFE-TC	
DV 400-DN2.6-PTFE-TC-1.4404	13.3.5
DV 400-DN2.6-FFKM-SSt	
DV 400-DN2.6-FFKM-TC	

13.3.1 VALVES PV 100-DN2.6-PTFE

Valves PV 100-DN2.6-PTFE

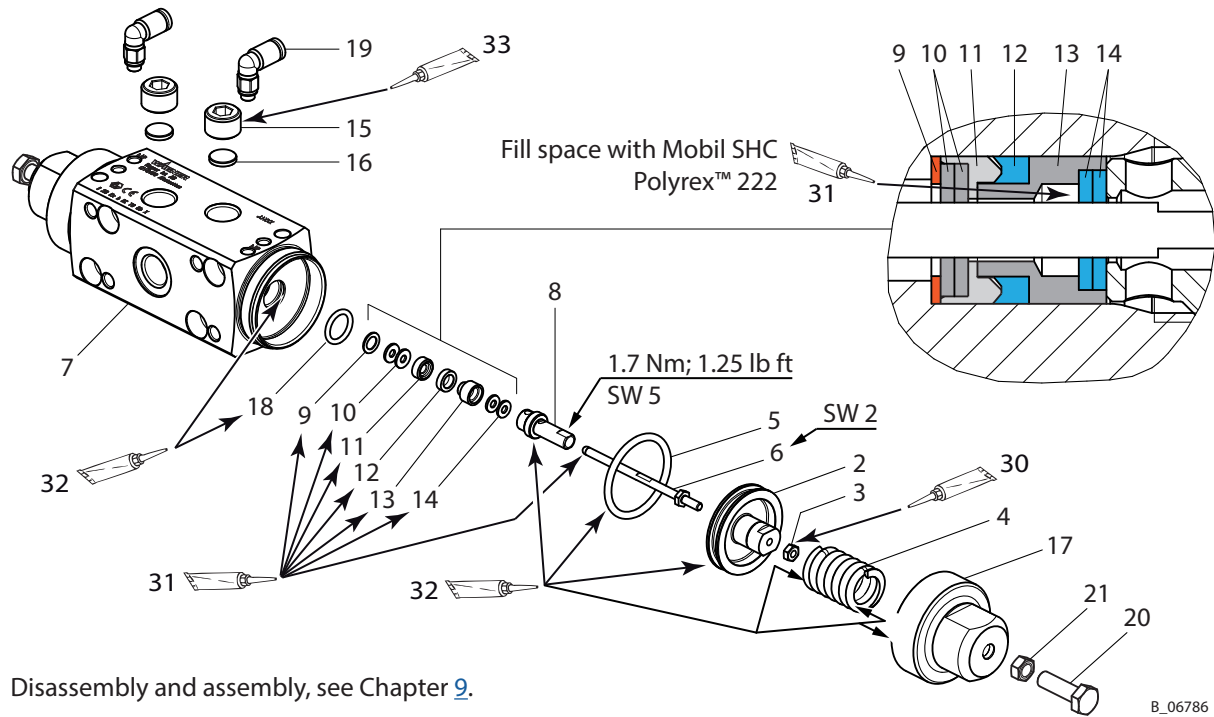
Pos	K	Stk	Designation	SSt	TC
				Order No.	Order No.
1		1	Paint valve PV 100-DN2.6-PTFE	2342809	2342811
2		2	Piston	2330264	
3		2	Hexagon nut	9913014	
4		2	Pressure spring 100 bar; 10 MPa; 1450 psi	2302997	
5	◆ ★	2	O-ring	9974187	
6	◆ ★	2	Valve rod, complete	2342838	384120
7		1	Valve housing	**	**
8	◆ ★	2	Sealing screw	350485	
9	◆ ★	2	Stop ring	2342203	
10	◆ ★	4	Sealing ring at front	2342204	
11	◆ ★	2	Support ring	2342205	
12	◆ ★	2	Sealing collar	2342206	
13	◆ ★	2	Sealing sleeve	2342207	
14	◆ ★	4	Sealing ring at rear	2342208	
15		2	Screw plug	104376	
16		2	Plug	384323	
17		2	Clamping nut	350490	
18	◆ ★	2	O-ring	9974065	
19		2	Male stud elbow	9992724	
30		1	Loctite® 243	9992511	
31		1	Mobil SHC Polyrex™ 222 grease	2342273	
32		1	Mobilux® EP 2 grease	9998808	
33		1	Loctite® 542	9992831	
	●	1	Service set	2342839	2342335
	●	1	Seal set (scope of delivery, see Chapter 9.4)	2342336	

◆ = Wearing parts

★ = Included in service set.

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

** = The valve housing can only be ordered from the WAGNER Service Department.

13.3.2 VALVE DV 100-DN2.6-PTFE

Valve DV 100-DN2.6-PTFE

Pos	K	Stk	Designation	SSt	TC
				Order No.	Order No.
1		1	Dosing valve DV 100-DN2.6-PTFE	2342810	2342812
2		2	Piston	2330264	
3		2	Hexagon nut	9913014	
4		2	Pressure spring 100 bar; 10 MPa; 1450 psi	2302997	
5	◆ ★	2	O-ring	9974187	
6	◆ ★	2	Valve rod, complete	2342838	384120
7		1	Valve housing	**	**
8	◆ ★	2	Sealing screw	350485	
9	◆ ★	2	Stop ring	2342203	
10	◆ ★	4	Sealing ring at front	2342204	
11	◆ ★	2	Support ring	2342205	
12	◆ ★	2	Sealing collar	2342206	
13	◆ ★	2	Sealing sleeve	2342207	
14	◆ ★	4	Sealing ring at rear	2342208	
15		2	Screw plug	104376	
16		2	Plug	384323	
17		2	Clamping nut	350490	
18	◆ ★	2	O-ring	9974065	
19		2	Male stud elbow	9992724	
20		2	Hexagon screw	9907250	
21		2	Hexagon nut	9913058	
30		1	Loctite® 243	9992511	
31		1	Mobil SHC Polyrex™ 222 grease	2342273	
32		1	Mobilux® EP 2 grease	9998808	
33		1	Loctite® 542	9992831	
	●	1	Service set	2342839	2342335
	●	1	Seal set (scope of delivery, see Chapter 9.4)	2342336	

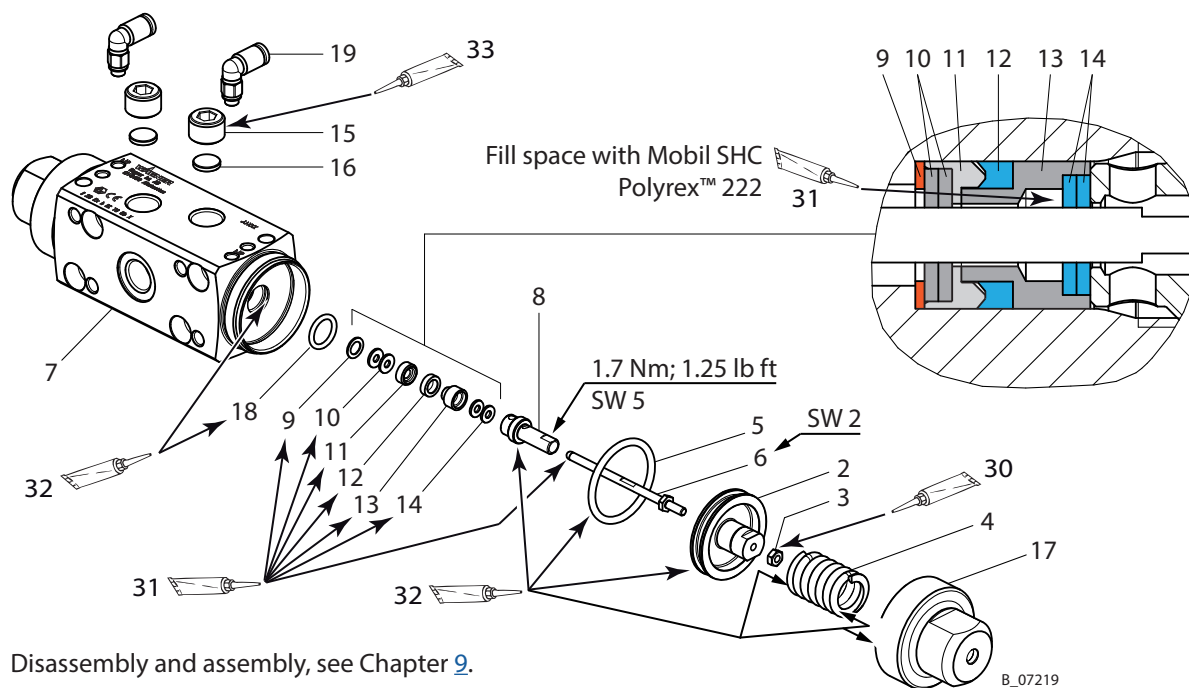
◆ = Wearing parts

★ = Included in service set.

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

** = The valve housing can only be ordered from the WAGNER Service Department.

13.3.3 VALVES PV 400-DN2.6-PTFE



Valves PV 400-DN2.6-PTFE

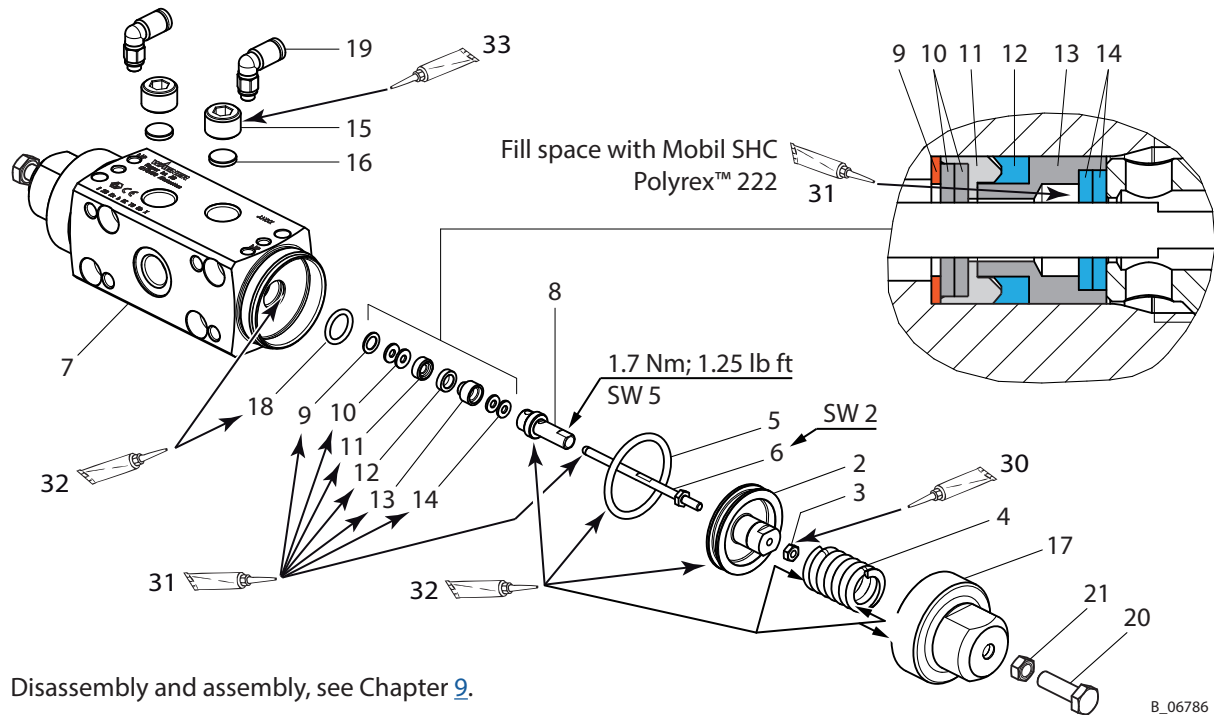
Pos	K	Stk	Designation	SSt	TC
				Order No.	Order No.
1		1	Paint valve PV 400-DN2.6-PTFE	2342804	2342807
2		2	Piston	2330264	
3		2	Hexagon nut	9913014	
4		2	Pressure spring 400 bar; 40 MPa; 5802 psi	350482	
5	◆ ★	2	O-ring	9974187	
6	◆ ★	2	Valve rod, complete	2342838	384120
7		1	Valve housing	**	**
8	◆ ★	2	Sealing screw	350485	
9	◆ ★	2	Stop ring	2342203	
10	◆ ★	4	Sealing ring at front	2342204	
11	◆ ★	2	Support ring	2342205	
12	◆ ★	2	Sealing collar	2342206	
13	◆ ★	2	Sealing sleeve	2342207	
14	◆ ★	4	Sealing ring at rear	2342208	
15		2	Screw plug	104376	
16		2	Plug	384323	
17		2	Clamping nut	350490	
18	◆ ★	2	O-ring	9974065	
19		2	Male stud elbow	9992724	
30		1	Loctite® 243	9992511	
31		1	Mobil SHC Polyrex™ 222 grease	2342273	
32		1	Mobilux® EP 2 grease	9998808	
33		1	Loctite® 542	9992831	
	●	1	Service set	2342839	2342335
	●	1	Seal set (scope of delivery, see Chapter 9.4)	2342336	

◆ = Wearing parts

★ = Included in service set.

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

** = The valve housing can only be ordered from the WAGNER Service Department.

13.3.4DV 400-DN2.6-PTFE VALVES

Valves DV 400-DN2.6-PTFE

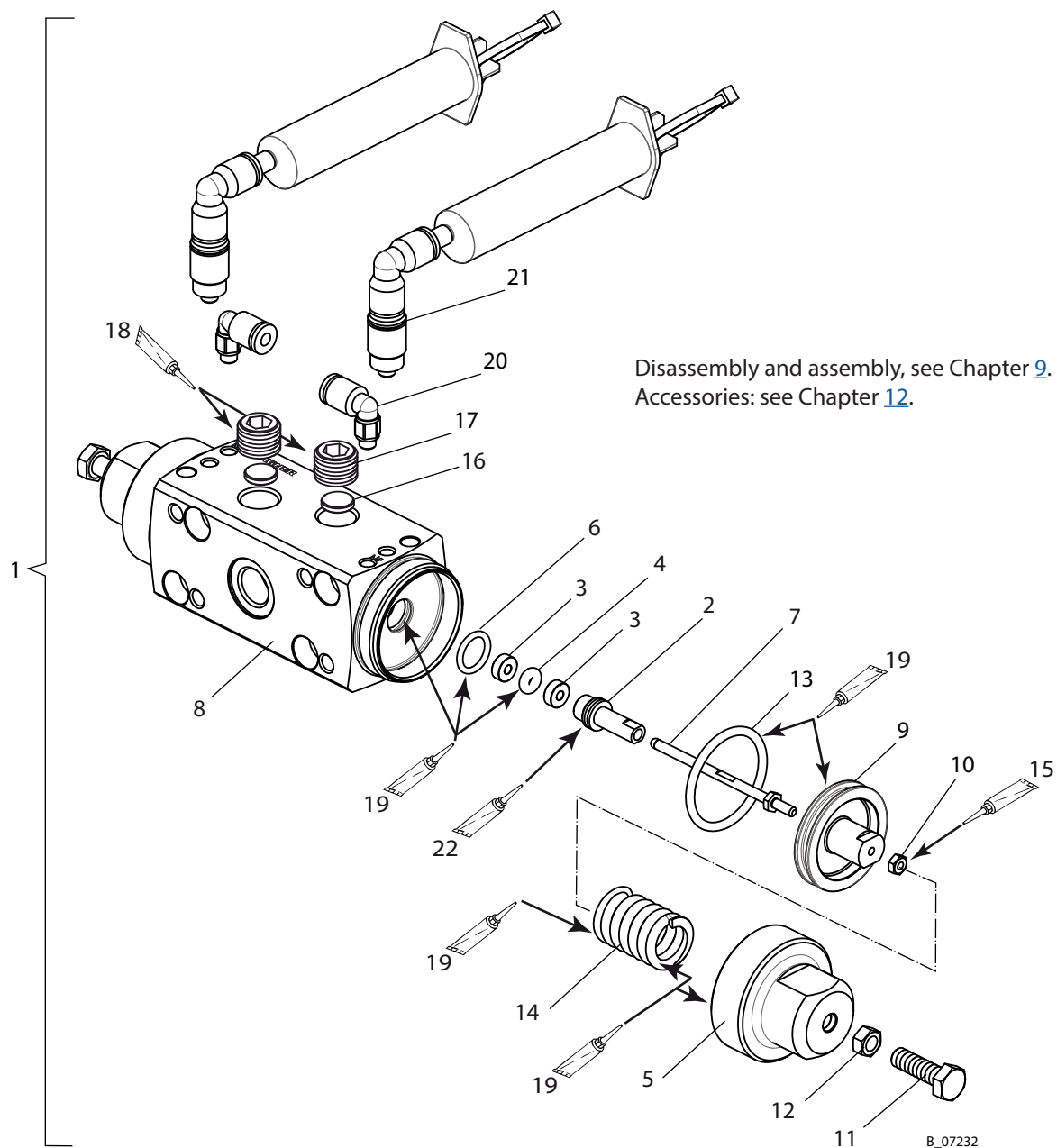
Pos	K	Stk	Designation	SSt	TC	TC-1.4404
				Order No.	Order No.	Order No.
1		1	Dosing valve DV 400-DN2.6-PTFE	2342806	2342808	2370685
2		2	Piston		2330264	
3		2	Hexagon nut		9913014	
4		2	Pressure spring 400 bar; 40 MPa; 5802 psi		350482	
5	◆ ★	2	O-ring		9974187	
6	◆ ★	2	Valve rod, complete	2342838	384120	2371829
7		1	Valve housing	**	**	**
8	◆ ★	2	Sealing screw		350485	
9	◆ ★	2	Stop ring	2342203		2370229
10	◆ ★	4	Sealing ring at front		2342204	
11	◆ ★	2	Support ring		2342205	
12	◆ ★	2	Sealing collar		2342206	
13	◆ ★	2	Sealing sleeve		2342207	
14	◆ ★	4	Sealing ring at rear		2342208	
15		2	Screw plug		104376	
16		2	Plug	384323		2370230
17		2	Clamping nut		350490	
18	◆ ★	2	O-ring		9974065	
19		2	Male stud elbow		9992724	
20		2	Hexagon screw		9907250	
21		2	Hexagon nut		9913058	
30		1	Loctite® 243		9992511	
31		1	Mobil SHC Polyrex™ 222 grease		2342273	
32		1	Mobilux® EP 2 grease		9998808	
33		1	Loctite® 542		9992831	
	●	1	Service set	2342839	2342335	2371830
	●	1	Seal set (scope of delivery, see Chapter 9.4)		2342336	

◆ = Wearing parts

★ = Included in service set.

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

** = The valve housing can only be ordered from the WAGNER Service Department.

13.3.5 VALVES DV 400-DN2.6-FFKM

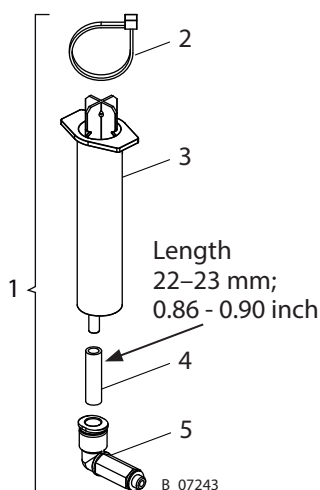
Spare parts list for dosing valve DV 400-DN2.6-FFKM				SSt	TC
Pos	K	Stk	Designation	Order No.	Order No.
1		1	Dosing valve DV 400-DN2.6-FFKM	2332666	2332670
2	◆ *	2	Sealing screw	350485	
3	◆ *	4	Back-up ring	384454	
4	◆ *	2	O-ring	9974264	
5		2	AL tension nut	350490	
6	◆ *	2	O-ring	2308324	
7	◆ *	2	Valve rod, completely assembled	2309633	384120
8		1	Valve housing, pre-assembled	**	**
9		2	Piston	2330264	
10		2	Hexagon nut	9913014	
11		2	Hexagon screw without shaft	9907250	
12		2	Hexagon nut	9913058	
13	◆ *	2	O-ring	9974187	
14		2	Spiral spring	350482	
15		1	Loctite® 243	9992511	
16		2	Plug	384323	
17		2	Screw plug	104376	
18		1	Loctite® 542	9992831	
19		1	Mobilux® EP 2 grease	9998808	
20		2	Male stud elbow	9992724	
21		2	Separating agent supply	389064	
22		1	Molykote® DX grease	9992616	
	●	1	Service set	2323038	2323037
	●	1	Seal set (scope of delivery, see Chapter 9.4)	384954	

◆ = Wearing parts

★ = Included in service set.

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

** = The valve housing can only be ordered from the WAGNER Service Department.

13.3.5.1 SEPARATING AGENT SUPPLY

Pos	K	Stk	Order No.	Designation
1		1	389064	Separating agent supply
2		1	9950615	Cable tie
3		1	389444	One-way syringe
4		0.023 m	9987004	Hose, D6
5		1	2337400	QSMLL L-long push-in fitting

◆ = Wearing parts

14 EU DECLARATION OF CONFORMITY

Herewith we declare that the supplied version of:

Paint valves and dosing valves with the type descriptions:

PV 100	PV 400	GA 250PV	GA 400PV
DV 100	DV 400	GA 400DV	

complies with the following guidelines:

2006/42/EC
2014/34/EU

Applied standards, in particular:

EN ISO 12100:2010
EN ISO 13732-1:2008
EN 1127-1:2011
EN ISO 80079-36:2016
EN ISO 80079-37:2016
EN ISO/IEC 80079-34:2011

Applied national technical standards and specifications, in particular:

TRGS 727

Identification:   II 2 G Ex h IIC T6 Gb X

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: 384923



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