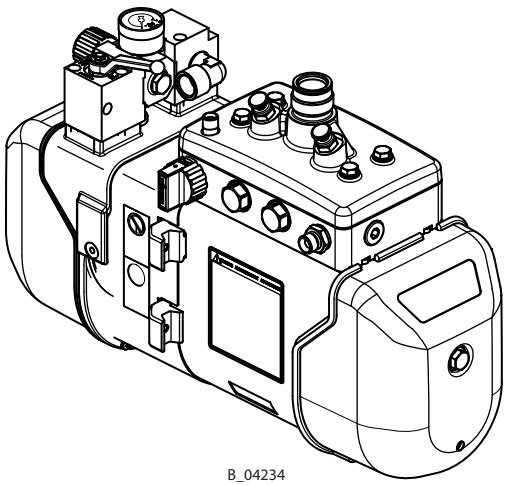
WAGNER

**Translation of the Original Operating Manual**

# Cobra 40-10

Version 10/2013

## High-pressure Double Diaphragm Pumps



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# Table of Contents

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# 1 ABOUT THIS OPERATING MANUAL

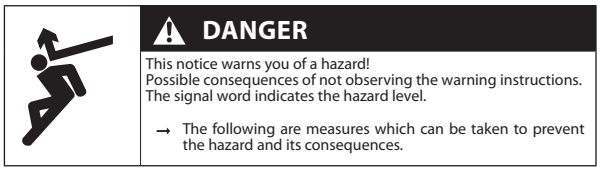
## 1.1 PREFACE

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 operating and service staff.
Operating and service staff should be instructed according to the safety instructions.
The device may only be operated in compliance with this operating manual.
This equipment can be dangerous if it is not operated according to the instructions in this operating manual.

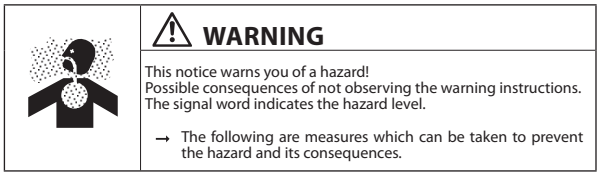
## 1.2 WARNINGS, NOTICES, AND SYMBOLS IN THIS OPERATING MANUAL

Warning instructions in this operating 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:

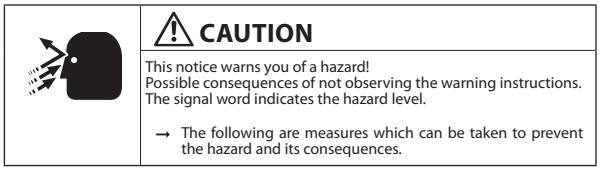
**Danger** - immediate risk of danger.
Non-observance will result in death or serious injury.



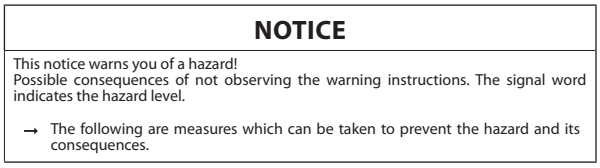

**Warning** - possible imminent danger.
Non-observance may result in death or serious injury.




**Caution** - a possibly hazardous situation.
Non-observance may result in minor injury.




**Notice** - a possibly hazardous situation.
Non-observance may result in material damage.




**Note** - provides information about particular characteristics and how to proceed.

## 1.3 LANGUAGES

The operating manual is available in the following languages:

| Language | Order No. | Language | Order No. |
|---|---|---|---|
| German | 2303152 | English | 2303675 |
| French | 2303676 | Dutch | 2303677 |
| Italian | 2303678 | Spanish | 2303679 |
| Danish | 2303680 | Swedish | 2303682 |
| Portuguese | 2343519 | | |

## 1.4 ABBREVIATIONS IN THE TEXT

| | |
|---|---|
| **Stk** | Number of pieces |
| **Pos** | Position |
| **K** | Marking in the spare parts lists |
| **Order No.** | Order number |
| **DH** | Double stroke |
| **SSt** | Stainless steel |
| **2K** | Two components |

# 2 CORRECT USE

## 2.1 DEVICE TYPES

Double diaphragm pump and spray pack:

| |
|---|
| Cobra 40-10 |

## 2.2 TYPE OF USE

The device is suitable for processing liquid materials like paints and lacquers in accordance with the classification into explosion classes IIA or IIB.

## 2.3 USE IN AN EXPLOSION HAZARD AREA

The double diaphragm pump can be employed in explosion hazard areas (Zone 1).

## 2.4 SAFETY PARAMETERS

WAGNER accepts no liability for any damage arising from incorrect use.

- → Use the device only to work with the products recommended by WAGNER.
- → Only operate the device as a whole.
- → Do not deactivate safety fixtures.
- → Use only WAGNER original spare parts and accessories.

The double diaphragm pump may only be operated under the following conditions:

- → The operating staff must be trained on the basis of this operating manual.
- → The safety regulations listed in this operating manual must be observed.
- → The operating, maintenance, and repair information in this operating manual must be observed.
- → The statutory requirements and accident prevention regulation standards in the country of use must be observed.

## 2.5 PROCESSIBLE WORKING MATERIALS

→ Fluid products such as paints and lacquers.

| Application | Cobra 40-10 |
|---|---|
| Water-dilutable products | ↗ |
| Solvent-based lacquers and paints | ↗ |
| Two-component coating products | ↗ |
| Emulsions | ↗ |
| UV lacquers | ↗ |
| Primers | → |
| Epoxy and polyurethane lacquers, phenolic lacquers | ↗ |
| Liquid plastics | → |
| Wax-based underside protection | ↗ |
| Shear-sensitive lacquers | ↗ |

**Legend**
↗ recommended ➟ limited suitability ↘ less suitable

## NOTICE

**Abrasive working materials and pigments!**
Greater wear of parts carrying the product.

→ Use the application-oriented model (flow rate/cycle, product, valves, etc.) as indicated in Chapter 5.2.2.
→ Check if the fluids and solvents used are compatible with the pump construction materials as indicated in Chapter 5.2.1.

### 2.5.1 RECOMMENDED APPLICATION AREAS

| Application | Cobra 40-10 |
|---|---|
| Furniture industry | ↗ |
| Kitchen manufacturers | ↗ |
| Joinery | ↗ |
| Window factories | → |
| Steel-processing industry | → |
| Construction of vehicles | ↗ |
| Shipbuilding | ↘ |

**Legend**
↗ recommended ➟ limited suitability ↘ less suitable

## 2.6 REASONABLY FORESEEABLE MISUSE

The following is prohibited:
- → coating work pieces which are not grounded,
- → unauthorized conversions and modifications to the double diaphragm pump,
- → processing dry or similar coating products, and
- → using defective components, spare parts, or accessories other than those described in Chapter 10 of this operating manual.

The forms of misuse listed below may result in health issues and/or material damage:
- → use of powder as coating product and
- → incorrectly set values for processing.

Wagner double diaphragm pumps are not designed for pumping food.

## 2.7 RESIDUAL RISKS

Residual risks are risks which cannot be excluded even in the event of correct use.
If necessary, warning and prohibition signs at the relevant points of risk indicate residual risks.

| Residual risk | Source | Consequences | Specific measures | Lifecycle phase |
|---|---|---|---|---|
| Skin contact with lacquers and cleaning agents | Handling of lacquers and cleaning agents | Skin irritations,<br><br>allergies | Wear protective clothing,<br>observe safety data sheets | Operation,<br><br>maintenance,<br><br>disassembly |
| Paint in air outside the defined working area | Painting outside the defined working area | Inhalation of substances which are hazardous to health | Observe working and operating instructions | Operation,<br><br>maintenance |

# 3 IDENTIFICATION

## 3.1 EXPLOSION PROTECTION IDENTIFICATION

As defined in Directive 94/9/EC (ATEX 95), the device is suitable for use in potentially explosive areas.

 II 2G IIB c X

| | |
|---|---|
| CE: | European Communities |
| Ex: | Symbol for explosion protection |
| II: | Device class II |
| 2: | Category 2 (Zone 1) |
| G: | Ex-atmosphere gas |
| IIB: | Explosion group |
| c: | Constructional safety |
| X: | Special Notes (see Chapter 3.2) |

## 3.2 IDENTIFICATION X

X The maximum surface temperature corresponds to the permissible product temperature. This and the permissible ambient temperature can be found in the "Technical Data" chapter.

**Maximum surface temperature**

→ The maximum surface temperature of the pump depends on the operating conditions (heated product) and not on the device (frictional heat).

**Ignition temperature of the coating product**

→ Ensure that the ignition temperature of the coating product is above the maximum surface temperature.

**Ambient temperature**

→ The permissible ambient temperature is: +10 °C to +60 °C; +50 °C to 140 °F.

**Medium supporting atomizing**

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

# 4 GENERAL SAFETY INSTRUCTIONS

## 4.1 SAFETY INSTRUCTIONS FOR THE OPERATOR

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

### 4.1.1 ELECTRICAL EQUIPMENT

Electrical devices and equipment
→ To be provided 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.
→ Must be operated in accordance with the safety regulations and electrotechnical regulations.
→ Must be repaired immediately in the event of problems.
→ Must be decommissioned if they pose a hazard.
→ Must be de-energized before work is commenced on active parts. Inform staff about planned work. Observe electrical safety regulations.

### 4.1.2 STAFF QUALIFICATIONS

→ Ensure that the device is operated and repaired only by trained persons.

### 4.1.3 SAFE WORK ENVIRONMENT

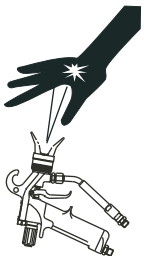
→ Ensure that the floor in the working area is static dissipative in accordance with EN 61340-4-1 (resistance must not exceed 100 MOhm).
→ Ensure that all persons within the working area wear static dissipative shoes. Footwear must comply with EN 20344. The measured insulation resistance must not exceed 100 Mohm.
→ Ensure that during spraying, persons wear static dissipative gloves. The grounding takes place via the spray gun handle.
→ If protective clothing is worn, including gloves, it has to comply with EN 1149-5. The measured insulation resistance must not exceed 100 Mohm.
→ Paint mist extraction systems must be fitted on site according to local regulations.
→ Ensure that the following components of a safe working environment are available:
– Product/air hoses adapted to the working pressure.
– Personal safety equipment (breathing and skin protection).
→ Ensure that there are no ignition sources such as naked flames, sparks, glowing wires, or hot surfaces in the vicinity. Do not smoke.

## 4.2 SAFETY INSTRUCTIONS FOR STAFF

→ Always follow the information in these instructions, particularly the general safety instructions and the warning instructions.
→ Always follow local regulations concerning occupational safety and accident prevention.

### 4.2.1 SAFE HANDLING OF WAGNER SPRAY DEVICES

The spray jet is under pressure and can cause dangerous injuries.
Avoid injection of paint or cleaning agents:



→ Never point the spray gun at people.
→ Never reach into the spray jet.
→ Before all work on the device, in the event of work interruptions and functional faults:
  – Switch off the energy/compressed air supply.
  – Relieve the pressure from the spray gun and device.
  – Secure the spray gun against actuation.
  – In the event of functional faults: remedy the fault as described in the "Troubleshooting" chapter.
→ The liquid ejection devices are to be checked for safe working conditions by an expert (e.g. Wagner Service Technician) as often as necessary or at least every 12 months, in accordance with the guidelines for liquid emitters (ZH 1/406 and BGR 500 Part 2 Chapter 2.36).
  – For devices that have been shut down, the inspection can be postponed until the next commissioning.
→ Carry out the work steps as described in the "Pressure Relief/Work Interruptions" chapter:
  – if pressure relief is required.
  – if the spraying work is interrupted or stopped.
  – before the device is cleaned on the outside, checked, or serviced.
  – before the spray nozzle is installed or cleaned.

In the event of skin injuries caused by paint or cleaning agents:
→ Note down the paint or cleaning agent that you have been using.
→ Consult a doctor immediately.

Avoid danger of injury through recoil forces:
→ Ensure that you have firm footing when operating the spray gun.
→ Only hold the spray gun briefly in a position.

### 4.2.2 GROUNDING THE DEVICE

In order to avoid electrostatic charging of the device, the device must be grounded.
Friction, flowing liquids, and air or electrostatic coating processes create charges. Flames or sparks can form during discharge.

- → Ensure that the device is grounded for every spraying operation.
- → 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 dissipative gloves when spraying. The grounding takes place via the spray gun handle.

### 4.2.3 PRODUCT HOSES

- → Ensure that the hose material is chemically resistant to the sprayed products.
- → Ensure that the product hose is suitable for the pressure generated in the device.
- → Ensure that the following information can be seen on the high-pressure hose:
  - – Manufacturer
  - – Permissible operating overpressure
  - – Date of manufacture
- → Make sure that the hoses are laid only in suitable places. In no case, should hoses be laid in the following places:
  - – in high-traffic areas,
  - – on sharp edges,
  - – on moving parts, or
  - – on hot surfaces
- → Make sure that the hoses are never used to pull or move the device.
- → The electrical resistance of the complete high-pressure hose must be less than 1 Mohm.

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 suitable gas can enter the tank to avoid a vacuum being generated in the tank itself. 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.

### 4.2.4 CLEANING

→ De-energize the device electrically.
→ Disconnect the pneumatic supply line.
→ Relieve the pressure from the device.
→ Ensure that the flash point of the cleaning agent is at least 5 K above the ambient temperature.
→ To clean, use cloths and brushes moistened with solvent. Never use hard objects or spray on cleaning agents with a gun.
→ Preferably, non-combustible cleaning agents should be used.

**An explosive gas/air mixture forms in closed tanks.**
→ When cleaning devices with solvents, never spray into a closed tank.
→ Only use electrically conductive tanks for cleaning liquids.
→ The tanks must be grounded.

### 4.2.5 HANDLING HAZARDOUS LIQUIDS, LACQUERS AND PAINTS

→ 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, make sure that you wear safety goggles, protective clothing, and gloves, as well as skin protection cream if necessary.
→ Use a mask or a 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.

### 4.2.6 TOUCHING HOT SURFACES

→ Only touch hot surfaces if you are wearing protective gloves.
→ When operating the device with a coating product with a temperature of > 43 °C; 109.4 °F:
- Identify the device with a warning label "Warning - hot surface".

| **Order No.** | |
|---|---|
| 9998910 | Instruction label |
| 9998911 | Protection sticker |

**Note:** Order the two stickers together.

## 4.3 USE IN AREAS SUBJECT TO EXPLOSION HAZARDS

The pneumatic pump may be used in potentially explosive areas. The following safety regulations must be observed and followed.

### 4.3.1 SAFETY REGULATIONS

**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 against steel or rusty iron.
→ Do not drop the device.
→ Only use tools that are made of a permitted material.

**Ignition temperature of the pumped product**
→ Check that the ignition temperature of the pumped product is higher than the max. allowable surface temperature.

**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.
→ Only use a damp cloth to clean the device.

### 4.3.2 OPERATION WITHOUT FLUID

Avoid running the pump so that it sucks in air (without fluid inside). The air, combined with the vapor of flammable fluids, can generate internal areas with an explosion hazard.
Periodically check that the pump is working smoothly, paying special attention to the presence of air in the pumped fluid, which may be caused by damaged packings.
→ Avoid operating the pump with damaged packings.
→ Ensure that the separating agent tank is filled with sufficient separating agent.

# 5 DESCRIPTION

## 5.1 SCOPE OF DELIVERY

| Order No. | Stk | Designation |
|---|---|---|
| 2301858 | 1 | Frame-mounted diaphragm pump Cobra 40-10 consisting of:<br>Fluid section, air motor, connection elements |
| **The standard equipment includes:** | | |
| 322981 | 1 | Sign |
| 236219 | 1 | Grounding cable, complete |
| 341434 | 1 | Double open-end wrench |
| See Chapter 12.3 | 1 | Conformity certificate GM2000W |
| 2303152 | 1 | Operating manual, German |
| see Chapter 1 | 1 | Operating manual in the local language |

The delivery note shows the exact scope of delivery.
Accessories: see Chapter 10.

## 5.2 DATA

### 5.2.1 MATERIALS OF PAINT-WETTED PARTS

| | |
|---|---|
| Inlet housing | Consital® (aluminum alloy) |
| Fluid section | Consital® (aluminum alloy) |
| Valve balls | Stainless steel |
| Valve seats/valve cone | Carbide |
| Diaphragms | Resistant PA |
| Valve fitting | 1.4104 |

### 5.2.2 TECHNICAL DATA

| Description | Devices | Cobra 40-10 |
|---|---|---|
| Pump ratio | | 40:1 |
| Volume flow per double stroke (DH) | $cm^3$<br>cu inch | 10<br>0.6 |
| Maximum operating overpressure | MPa<br>bar<br>psi | 25<br>250<br>3626 |
| Maximum possible strokes in operation | DH/min | 200 |
| Minimum/maximum air inlet pressure | MPa<br>bar<br>psi | 0.25-0.6<br>2.5-6<br>36.3-87 |

| Description | Devices | Cobra 40-10 |
|---|---|---|
| Ø Air inlet (inside thread) | inch | G 1/2 |
| Minimum Ø of the compressed air supply line | mm<br>inch | 13<br>0.51 |
| Air consumption at 0.6 MPa; 6 bar; 87 psi per double stroke | NL | 3.5 |
| Sound pressure level at maximum permissible air pressure* | dB(A) | 74 |
| Sound pressure level at 0.45 MPa; 4.5 bar; 65.27 psi air pressure* | dB(A) | 72 |
| Sound pressure level at 0.3 MPa; 3 bar; 43.5 psi air pressure* | dB(A) | 69 |
| Air motor piston diameter | mm<br>inch | 80<br>3.15 |
| Product inlet (outside thread) | mm | M36x2 |
| Product outlet connection (inside thread) | inch | G 3/8" |
| Product outlet (outside thread) | inch | G 1/4" |
| Weight | kg; lb | 19; 41.9 |
| Product pH value | pH | 3.5-9 |
| Maximum product pressure at pump inlet | MPa<br>bar<br>psi | 2<br>20<br>290 |
| Product temperature | °C<br>°F | +10 ÷ +80<br>+50 ÷ +176 |
| Ambient temperature | °C<br>°F | +10 ÷ +60<br>+50 ÷ +140 |
| Allowable inclination for operation | ∠° | ±10 |
| Hydraulic oil filling amount (approximate) | L<br>cu inch | 0.110<br>6.71 |

* A-rated sound pressure level measured at 1 m distance, LpA1m, in accordance with DIN EN 14462: 2005.

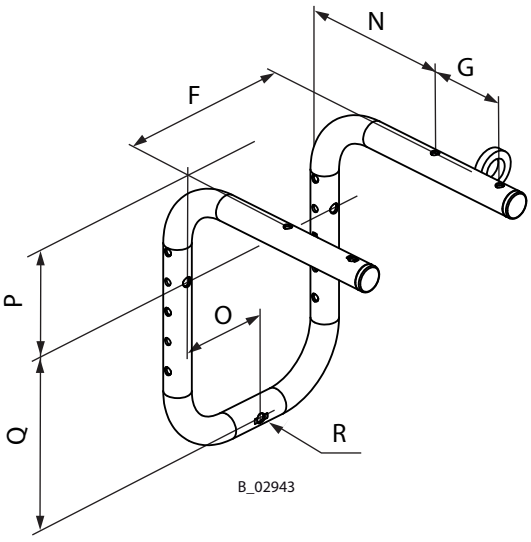
Reference measurements have been made by SUVA (Swiss Accident Insurance Institute).

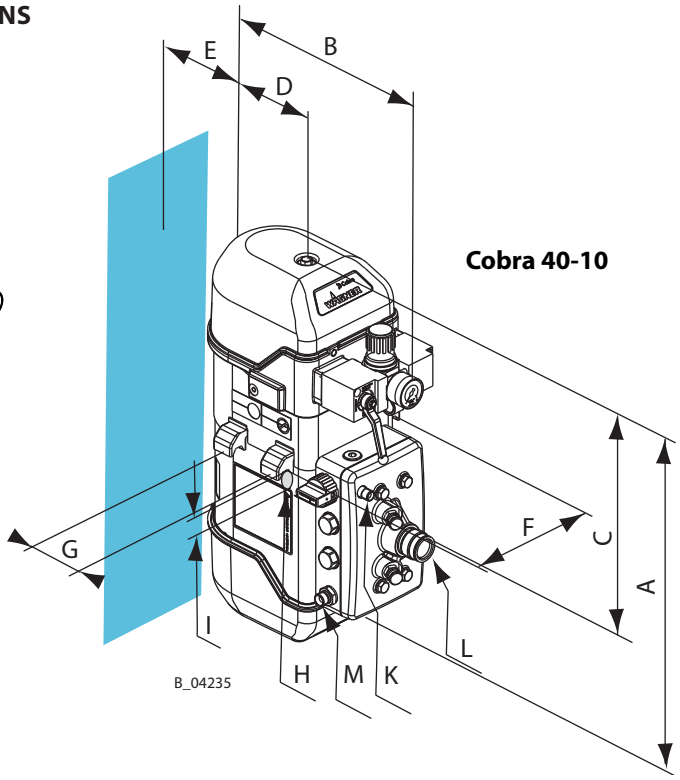
## ⚠ WARNING

**Outgoing air containing oil!**
Risk of poisoning if inhaled.

→ Provide compressed air free from oil and water (quality standard 5.5.4 according to ISO 8573.1) 5.5.4 = 40 µm / +7 / 5 mg/m³.

### 5.2.3 MEASUREMENTS AND CONNECTIONS




| Measurement | Cobra 40-10 mm; inch |
|---|---|
| A | 505; 19.88 |
| B | 313; 12.32 |
| C | 322; 12.68 |
| D | 134; 5.28 |
| E | 55; 2.16 |
| F | 182; 7.16 |
| G | 80; 3.15 |
| H | M6 |
| I | ø25; ø0.98 |
| K | G1/4" |
| L | M36x2 |
| M | NPSM1/4-18 |
| N | 149; 5.87 |
| O | 91; 3.58 |
| P | 107; 4.21 |
| Q | 175; 6.89 |
| R | ø7; ø0.28 |

## 5.2.4 VOLUME FLOW

| Wagner AL nozzles | | | Volume flow in l/min.* | | | |
|---|---|---|---|---|---|---|
| ø inch | ø mm | Spray angle | at 7 MPa 70 bar 1015 psi | at 10 MPa 100 bar 1450 psi | at 15 MPa 150 bar 2175 psi | |
| 0.007 | 0.18 | 40° | 0.1650 | 0.2000 | 0.2400 | |
| 0.009 | 0.23 | 20-30-40-50-60° | 0.2060 | 0.2500 | 0.3090 | |
| 0.011 | 0.28 | 10-20-30-40-50-60° | 0.2950 | 0.3450 | 0.4260 | |
| 0.013 | 0.33 | 10-20-30-40-50-60-80° | 0.4530 | 0.5280 | 0.6600 | |
| 0.015 | 0.38 | 10-20-30-40-50-60-80° | 0.5770 | 0.6720 | 0.8130 | |
| 0.017 | 0.43 | 20-30-40-50-60-70° | 0.7310 | 0.7860 | 1.0640 | |
| 0.019 | 0.48 | 20-30-40-50-60-70-80° | 0.9260 | 1.0920 | 1.3700 | |
| 0.021 | 0.53 | 20-40-50-60-80° | 1.1430 | 1.3600 | 1.6900 | |
| 0.023 | 0.58 | 20-40-50-60-70-80° | 1.3700 | 1.5900 | 2.0100 | Cobra 40-10 |
| 0.025 | 0.64 | 20-40-50-60-80° | 1.6200 | 1.9100 | 2.4000 | |
| 0.027 | 0.69 | 20-40-50-60-80° | 1.8300 | 2.1300 | 2.6800 | |
| 0.029 | 0.75 | 60° | 2.1900 | 2.5100 | 3.1700 | |
| 0.031 | 0.79 | 20-40-50-60° | 2.4000 | 2.7700 | 3.4900 | |
| 0.035 | 0.90 | 20-40-50-60° | 3.2200 | 3.7400 | 4.6900 | |
| 0.043 | 1.10 | 20-50° | 5.0700 | 6.0400 | 7.4600 | |
| 0.052 | 1.30 | 50° | 5.1200 | 6.5000 | 7.5200 | |

* Volume flow refers to water.

**Maximum ranges for continuous operation at 200 DH/min.**

## 5.2.5 PERFORMANCE DIAGRAMS

Example

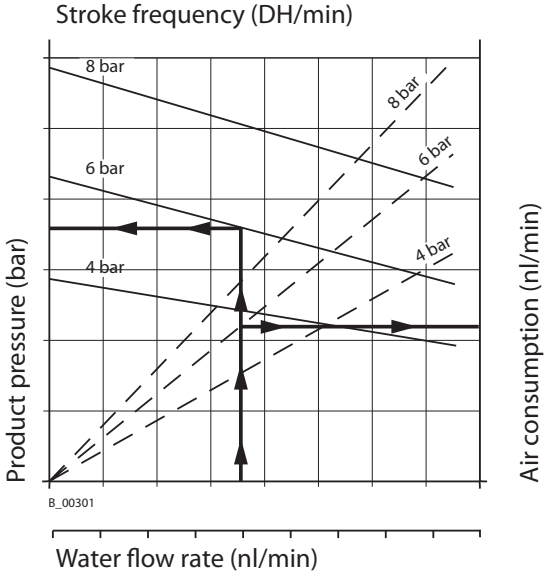
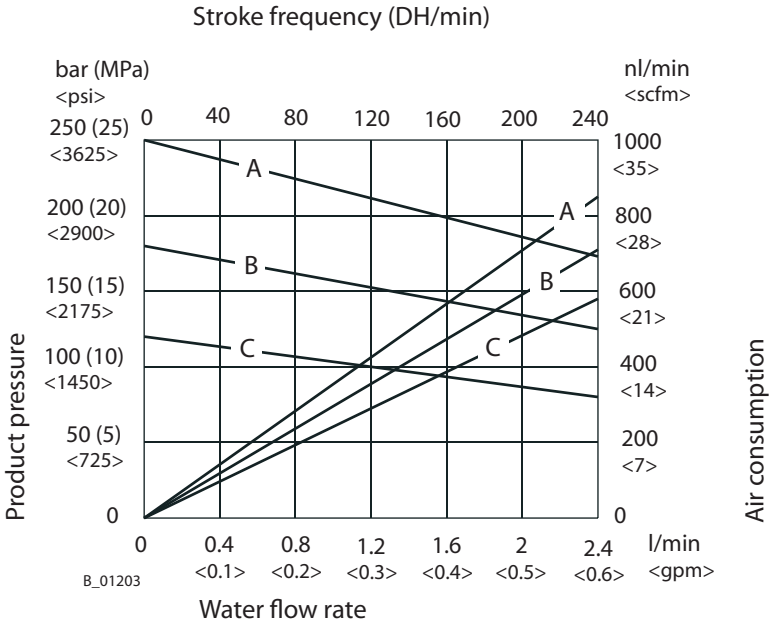


**Diagram for Cobra 40-10**

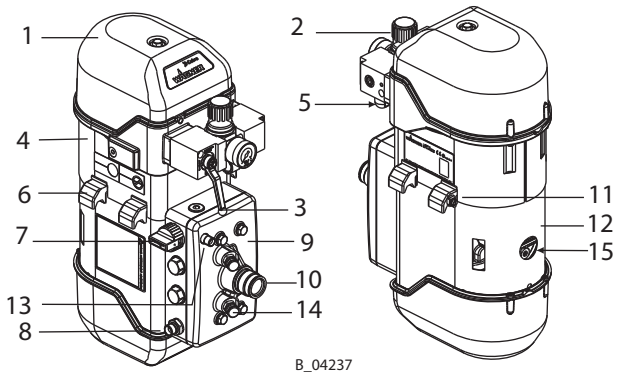



A = 6 bar (0.6 MPa; 87 psi) air pressure
B = 4.5 bar (0.45 MPa; 65 psi) air pressure
C = 3 bar (0.3 MPa; 44 psi) air pressure

## 5.3 FUNCTION

### 5.3.1 PUMP

**Cobra 40-10**




1 Control housing with integrated silencer
2 Air pressure regulator
3 Ball valve
4 Air motor
5 Compressed air inlet
6 Mounting flange
7 Relief valve
8 Product outlet
9 Fluid section
10 Product inlet
11 Grounding connection
12 Pressure stage casing
13 Return socket
14 Valve depressor
15 Exhaust air cap

**General information**
The double diaphragm pump is driven with compressed air. This compressed air moves the air piston in the air motor (4), and consequently the piston rod in the pressure stage (9), up and down. At the end of each stroke the compressed air is redirected by a reversing valve and the control piston. The up-and-down movement of the 2 diaphragms within the fluid section is produced by hydraulic oil, which is moved by the piston in the pressure stage. With every stroke of the piston rod, working material is sucked in and delivered to the spray gun at the same time.

**Air motor (4)**
The air motor with its pneumatic reverse (1) does not require pneumatic oil.
The compressed air is fed to the motor via the air pressure regulator (2) and the ball valve (3).

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.

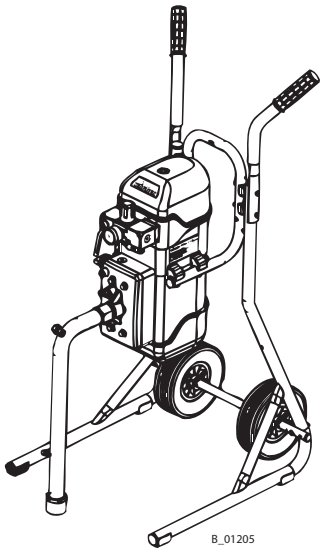
## ⚠ WARNING

**Overpressure!**
Risk of injury from bursting components.

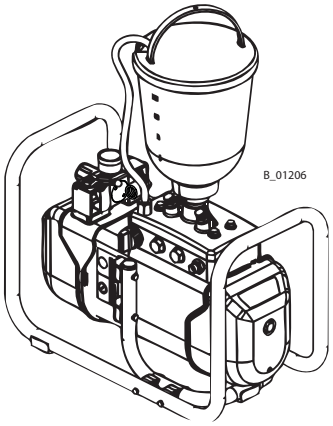
→ Never change the safety valve setting.

**Fluid section (9)**
The fluid section has been designed as a double diaphragm pump with exchangeable inlet and outlet valves. Change between "spraying mode" and "circulation mode" using the relief valve (7).

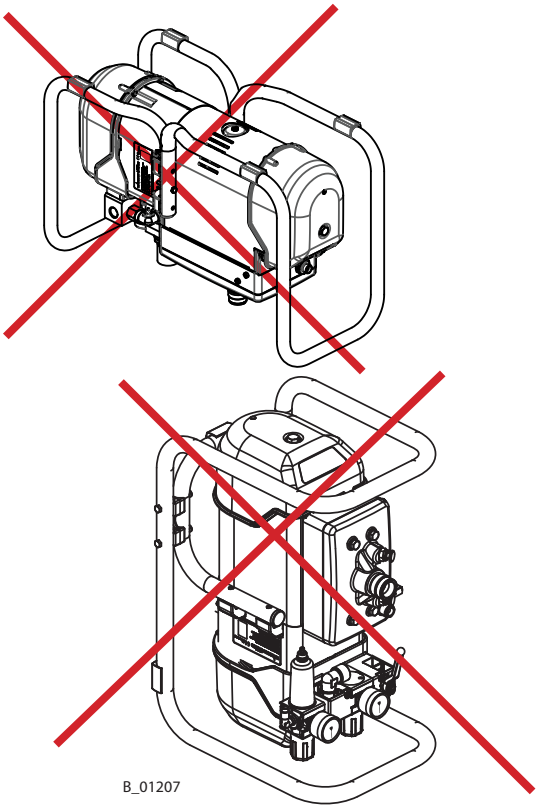
**Positioning**
The Cobra pump may only be operated in a horizontal or vertical position as shown in the diagrams. Overhead operation is not permitted.




Vertical positioning




Horizontal positioning




Overhead positioning

## NOTICE

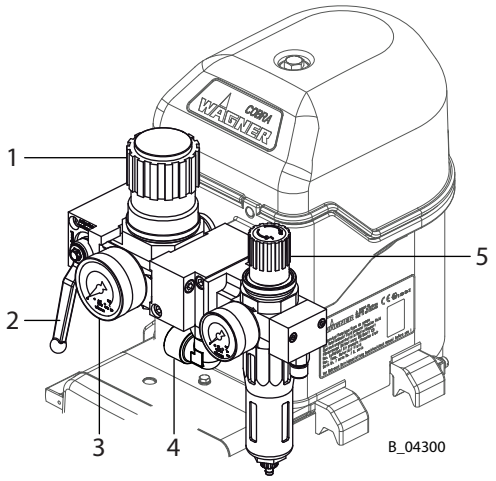
**Overhead operation or storage (air motor with pressure regulator below)**
Air could get into the hydraulic circuit, causing a malfunction.

→ Avoid overhead operation or storage at all costs.
→ Vent, see service manual.

## 5.3.2 PRESSURE REGULATOR UNIT FOR COBRA

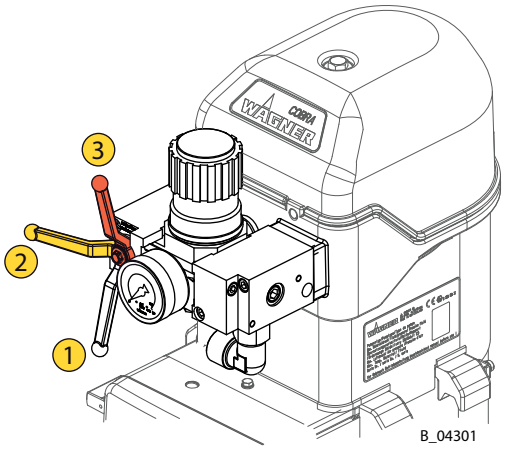
1 Pressure regulator
2 Ball valve
3 Pressure gauge
4 Compressed air inlet
5 AirCoat filter regulator Cobra (accessories)

The AirCoat filter regulator must be mounted vertically in all installation positions for the diaphragm pump (see assembly manual for Filter Regulator, order number 2328614).




**Positions of the ball valve**

1 **Open**: working position
2 **Closed:** The air motor can still be under pressure.
3 **Vent:** Operating pressure in the air motor is vented (control pressure is still present).



# 6 ASSEMBLY AND COMMISSIONING

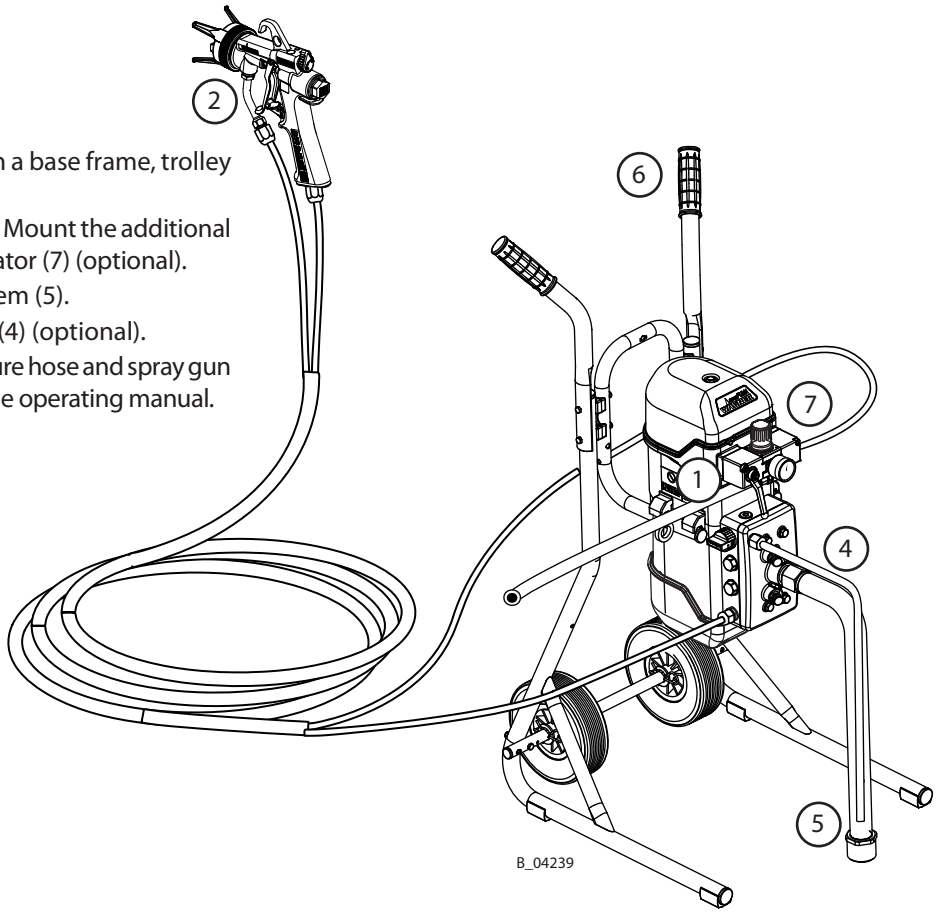
## 6.1 INSTALLATION AND CONNECTION

### 6.1.1 INSTALLING THE PUMP

**Note:**
This pump can be used as part of a spraying system for Airless or AirCoat applications. The components can be found in the accessories list, provided that the system was not obtained as a spray pack.
The nozzles must be selected according to the gun instructions.

**Procedure:**

1 Mount the pump on a base frame, trolley (6), or wall mount.
2 For AirCoat systems: Mount the additional filter pressure regulator (7) (optional).
3 Mount suction system (5).
4 Mount return hose (4) (optional).
5 Connect high-pressure hose and spray gun (2) as described in the operating manual.




| | |
|---|---|
| | **⚠ WARNING** |
| | **Inclined ground!**<br>Risk of accidents if the device rolls away/falls.<br><br>→ Position the trolley with the piston pump horizontally.<br>→ If the surface is inclined, position the feet of the trolley towards the gradient.<br>→ Secure the trolley. |

### 6.1.2 GROUNDING

**⚠ WARNING**

**Discharge of electrostatically charged components in atmospheres containing solvents!**
Explosion hazard from electrostatic sparks.

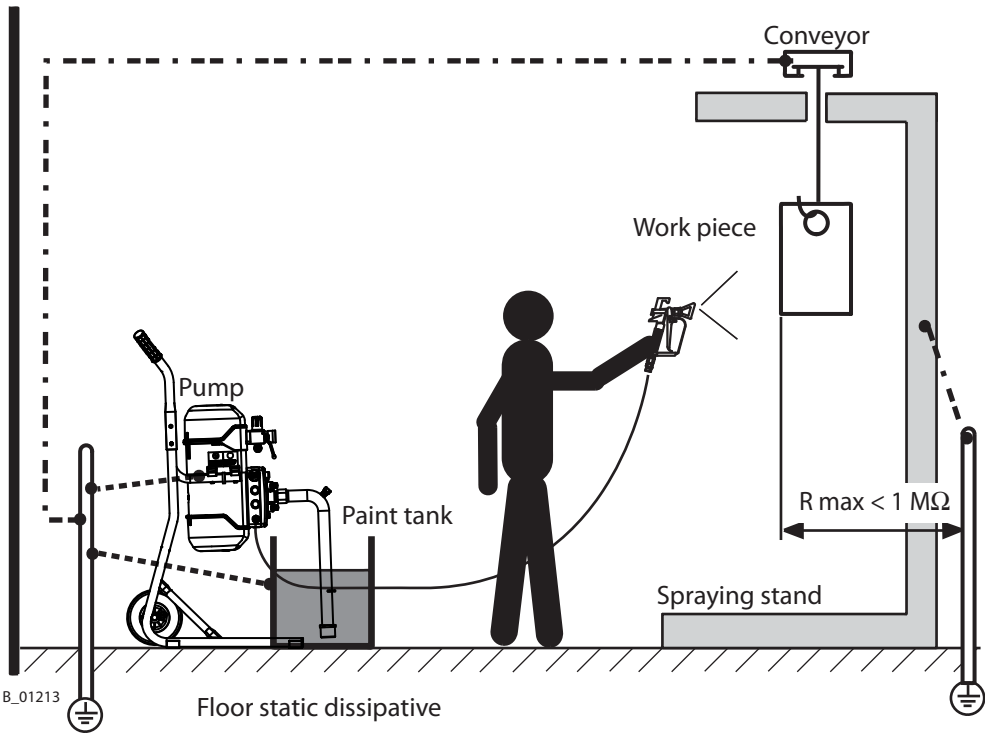
→ Only use a damp cloth to clean the piston pump.

**⚠ 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)**

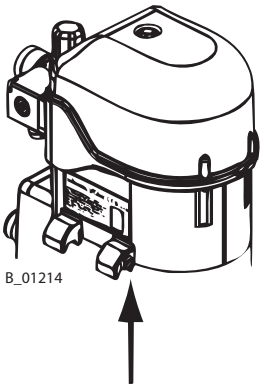


**Cable cross sections**

| | |
|---|---|
| Pump | 4 $mm^2$; AWG11 |
| Paint tank | 6 $mm^2$; AWG10 |
| Conveyor | 16 $mm^2$; AWG5 |
| Booth | 16 $mm^2$; AWG5 |
| Spraying stand | 16 $mm^2$; AWG5 |

**Procedure:**

1 Screw on grounding cable with eye.
2 Clamp the grounding cable clip to a grounding connection on site.
3 Ground the product (paint) tank to an on-site grounding connection.
4 Ground the other parts of the system to an on-site grounding connection.

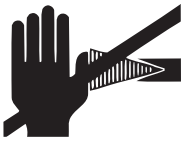


## 6.2 COMMISSIONING

### 6.2.1 SAFETY INSTRUCTIONS

Every time before starting up, the following points should be observed as laid down in the operating manual:

- Observe all safety regulations in accordance with Chapter 4.
- Carry out commissioning properly.



**⚠ WARNING**

**High-pressure spray jet!**
Danger to life from injecting paint or solvent.

→ Never reach into the spray jet.
→ Never point the spray gun at people.
→ Consult a doctor immediately in the event of skin injuries caused by paint or solvent. Inform the doctor about the paint or solvent used.
→ Never seal defective high-pressure parts; instead relieve the pressure from them and replace them.

**⚠ WARNING**

**Toxic and/or flammable vapor mixtures!**
Risk of poisoning and burns.

→ 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 outgoing air speed.

**⚠ WARNING**

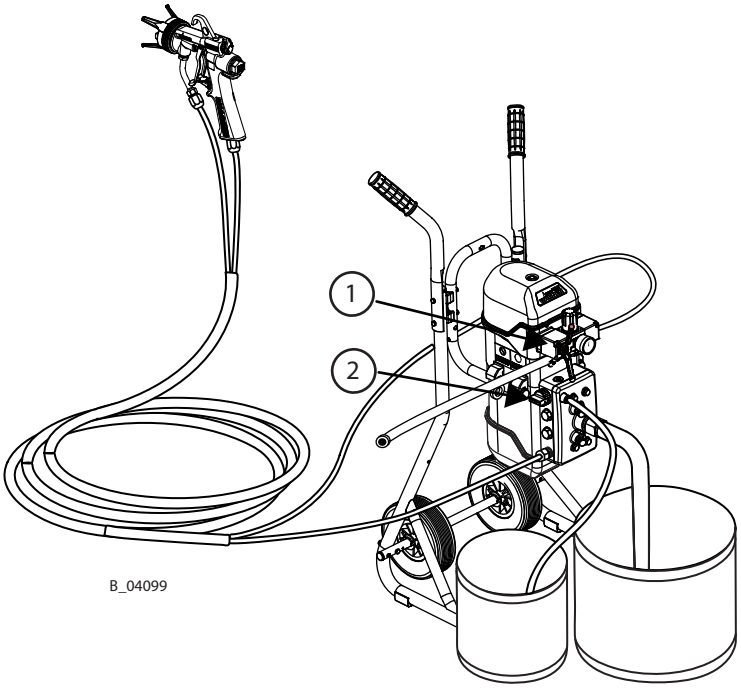
**Gas mixtures can explode if there is an incompletely filled pump!**
Danger to life from flying parts.

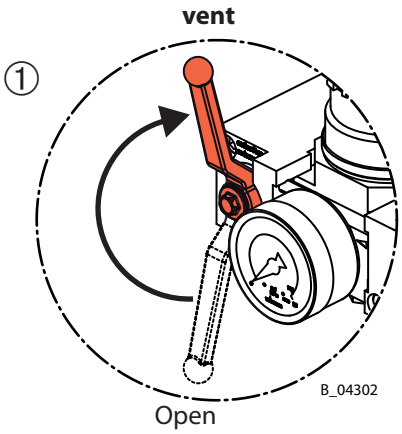
→ Ensure that the pump and suction system are always completely filled with cleaning agent or working medium.
→ Do not spray the device empty after cleaning.

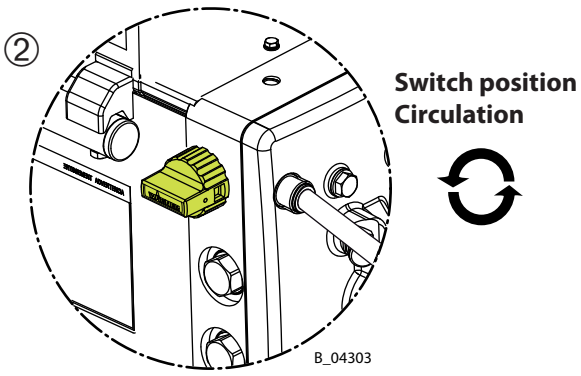
Before every start-up, the following points should be observed:
- Secure gun with safety clip.
- Check the permissible pressures.
- Check all connecting parts for leaks.
- Check hoses for damage.

It should be ensured that the device is in the following state before carrying out any work on it:
- The pressure should be released from the pump and high-pressure hose with gun.
- The gun should be secured with the safety clip.
- The air supply should be interrupted.

**Cobra EMERGENCY STOP**
In the event of unforeseen occurrences, the ball valve (1) should be **vented** immediately and the relief valve (2) opened.

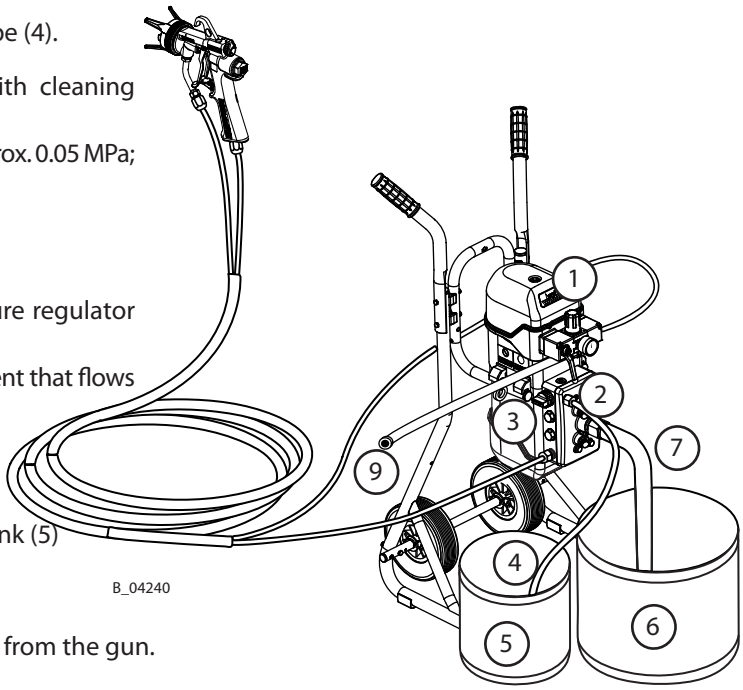


## 6.2.2 BASIC FLUSHING

1 Place empty tank (5) under return tube (4).
2 Place suction hose (7) in a tank with cleaning agent (6).
3 Adjust the pressure regulator (1) to approx. 0.05 MPa; 0.5 bar; 7.25 psi.
4 Open relief valve (3).
5 Slowly open the ball valve (2).
6 Adjust the air pressure on the pressure regulator (1) so that the pump runs smoothly.
7 Rinse the system until the cleaning agent that flows into the tank (5) is clean.
8 Close ball valve (2).
9 Reverse the relief valve (3).
10 Point the gun, without nozzle, into tank (5) and open it.
11 Slowly open the ball valve (2).
12 Flush until clean flushing agent flows from the gun.
13 Close ball valve (2).
14 When there is no pressure remaining in the system, close the gun.
15 Secure the gun.
16 Dispose of the contents of the tank (5) according to the local regulations.



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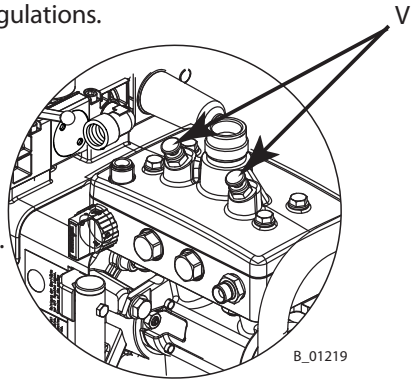
**Note:**
During the flushing procedure, briefly press both valve depressors (V).



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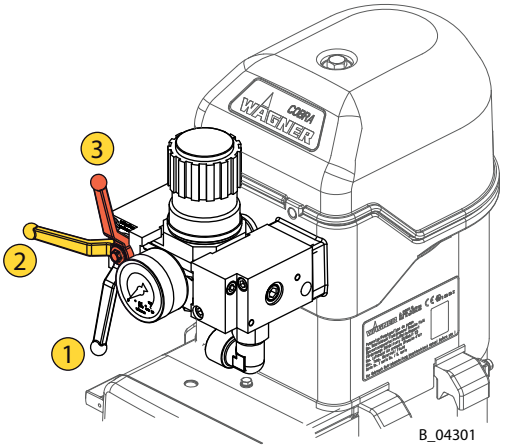
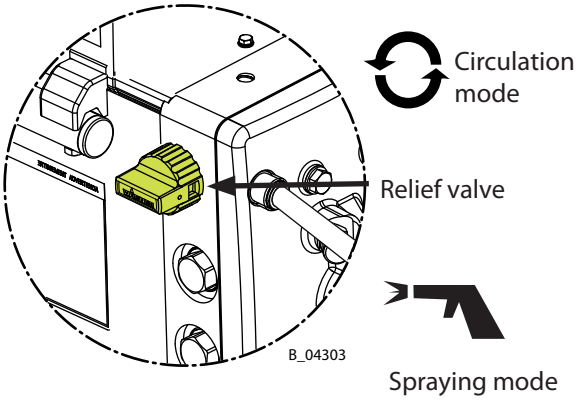
## 6.2.3 FILLING WITH WORKING MATERIAL

**Positions of the ball valve**

1 **Open**: working position
2 **Closed:** The air motor can still be under pressure.
3 **Vent:** Operating pressure in the air motor is vented (control pressure is still present).




1 Place suction hose (7) and return tube (4) into the tank with the working material (6).
2 Adjust the pressure regulator (1) to approx. 0.05 MPa; 0.5 bar; 7.25 psi.
3 Open relief valve (3).
4 Slowly open the ball valve (2).
5 Adjust the air pressure on the pressure regulator (1) so that the pump runs smoothly.
6 Close ball valve (2) as soon as pure working material starts coming from the return tube (4).
7 Set relief valve (3) to "spray".
8 Point the gun, without nozzle, into tank (5) and open it.
9 Slowly open the ball valve (2).
10 Close ball valve (2) as soon as pure working material starts coming from the gun.
11 When there is no pressure remaining in the system, close the gun.
12 Secure the gun.

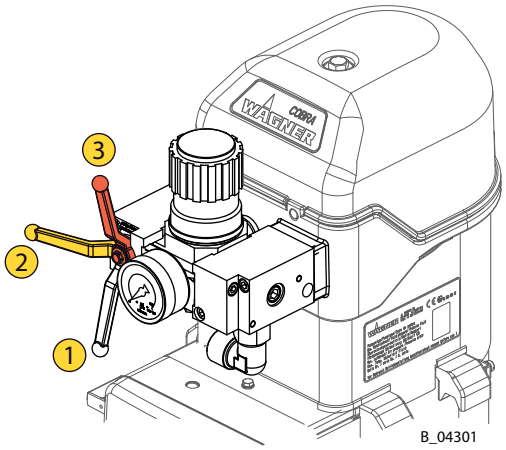


# 7 OPERATION

## 7.1 SPRAYING

**Positions of the ball valve**

1 **Open**: working position
2 **Closed:** The air motor can still be under pressure.
3 **Vent:** Operating pressure in the air motor is vented (control pressure is still present).




1 Secure gun and place nozzle in the gun.
2 Slowly open the ball valve.
3 Set the required working pressure on the pressure regulator.
4 Optimize the spraying results as laid down in the gun instructions.
5 Start work process.

**Note:** Depending on the function, the pump may continue running for 1 - 6 DH/min. after the spray gun is closed.

## 7.2 WORK INTERRUPTION

1 Close gun.
2 Close ball valve.
3 Release the system by opening the gun.
4 Close and secure gun.

If the system has been used with 2K products:

**NOTICE**

**Hardened working material in the spraying system when 2K product is processed!**
Destruction of pump and injection system.

→ Follow the manufacturer's processing rules, particularly regarding the pot life.
→ Flush thoroughly before the end of the pot life.

## 7.3 DECOMMISSIONING AND CLEANING

**Note:**
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 -> refer to Chapter 7.2.
2 Carry out basic flushing -> refer to Chapter 6.2.2.
3 Maintain the gun according to the operating manual.
4 Clean and check the suction system and the suction filter.
6 Clean the outside of the system.
7 Put the whole system back together.
8 Fill the system with cleaning agent as described in Chapter 6.2.3 "Filling with working material".

**⚠ WARNING**

**Brittle filter pressure regulator!**
The tank on the filter pressure regulator becomes brittle through contact with solvents and can burst.
Flying parts can cause injury.

→ Do not clean the tank on the filter pressure regulator with solvent.

**⚠ 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 cleaning agent or working medium.
→ Do not spray the device empty after cleaning.

## 7.4 LONG-TERM STORAGE

If storing the system for a prolonged period of time, thorough cleaning and corrosion protection are necessary. Replace the water or solvent in the material pump with a suitable preserving oil and fill the separating agent cup with separating agent.

**Procedure:**
1 Carry out points 1 through 7 in Chapter 7.3 "Decommissioning and Cleaning".
2 Flush with preservative according Chapter 6.2.2.

# 8 TROUBLESHOOTING, MAINTENANCE, AND REPAIR

## 8.1 TROUBLESHOOTING AND RECTIFICATION

| Problem | Cause | Remedy |
|---|---|---|
| **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 gage (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 is blocked (e.g. 2K product hardened). | Dismount and clean fluid section, replace high-pressure hose. |
| | Grease in spool and sleeve assembly.<br>Pump stops at the stroke end occasionally. | Degrease spool and sleeve assembly.<br>Check detent body. |
| **Poor spray pattern.** | See gun instructions. | |
| **Irregular operation of product pump: spray jet collapses (pulsation)** | Viscosity is too high. | Thin spraying product. |
| | Spraying pressure is too low. | Increase air inlet pressure.<br>Use a smaller nozzle. |
| | Valves are clogged. | Press valve depressor.<br>Clean product pump and leave to soak in cleaning agent if necessary. |
| | Foreign body in suction valve. | Dismount suction valve housing, clean, and check valve seat. |
| | Diameter of compressed air line too small. | Assemble a larger supply line<br>-> Technical data, see Chapter 5.2.2. |
| | Valves, packings, or pistons are worn out. | Replace the parts. |
| | Control air filter or work air filter is clogged. | Check filter and clean it if necessary. |
| **Strongly irregular operation of material pump.** | Diaphragms "blocked" because suction is too fast. | Operate pump with ball valve opened a minimal amount for a while. |
| **The pump runs evenly, does not however, suck up product.** | The suction system's union nut is loose; the pump is taking in air. | Tighten. |
| | Suction filter is clogged. | Clean filter. |
| | Valves are clogged. | Press valve depressor.<br>Clean product pump and leave to soak in cleaning agent if necessary. |

| Problem | Cause | Remedy |
|---|---|---|
| **Pump runs fast when the spray gun is closed.** | Valves worn. | Replace the parts. |
| **Loss of power due to severe icing.** | 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.

# 9 MAINTENANCE

**⚠ WARNING**

**Incorrect maintenance/repair!**
Danger to life and damage to the device.

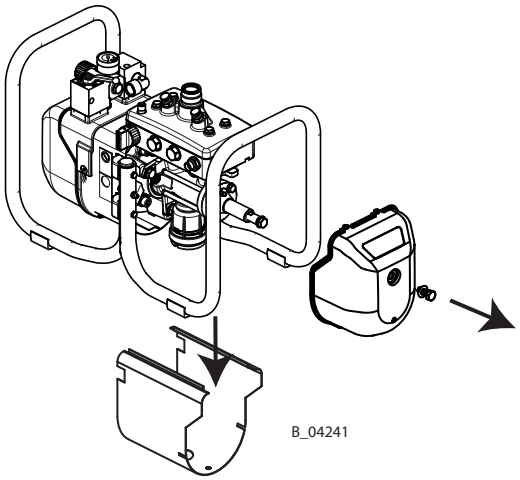
→ Only a WAGNER service center or a suitably trained person may carry out repairs and replace parts.
→ Only repair and replace parts that are listed in the "Spare Parts Catalogue" chapter and that are assigned to the device.
→ Before all work on the device and in the event of work interruptions:
- Disconnect the control unit from the mains.
- Relieve the pressure from the spray gun and device.
- Secure the spray gun against actuation.
→ Observe the operating manual and service instructions at all times when carrying out work.

1 Check and clean the high-pressure filter every day or as required.
2 Each decommissioning procedure should be carried out as described in Chapter 7.3.
3 Check hoses, pipes, and couplings every day and replace if necessary.

WAGNER recommends having all spraying devices checked annually by a technical expert (e.g. WAGNER service technician) for safety reasons.

## 9.3 HYDRAULIC STAGE MAINTENANCE

Dismount the device onto a stand as shown in the picture and turn it upside down.
Observe the fill level marking (X) on the oil tank.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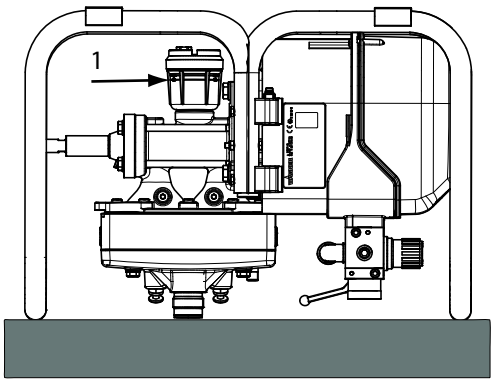

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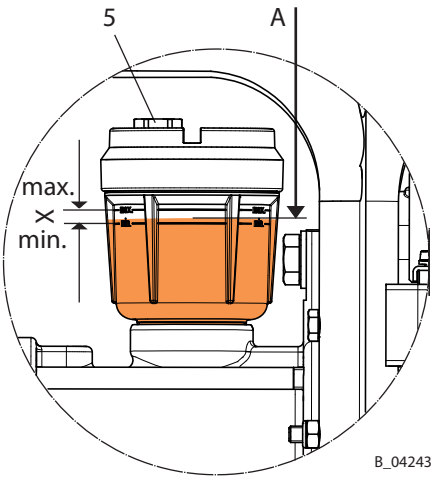
### 9.3.1 CHECKING THE OIL LEVEL

1 Start up the pump for a short time without any product.
2 Then read oil level A.

Dismount the device onto a stand as shown in the picture and turn it upside down.
Observe the fill level marking (X) on the oil tank.

Oil level A in the oil tank (1) has to be within the specified markings (X).
If the level deviates from these markings, the hydraulic oil must be topped up.



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**Procedure:**

1 Unscrew and remove threaded plug (5).
2 Top up oil to level A = middle of marking X.
3 Start up the pump for a short time without any product and check for air bubbles.
4 Screw in threaded plug (5) and tighten with 2 Nm; 1.5 lbft.

## NOTICE

**Using hydraulic oil**
Using the wrong hydraulic oil can cause a malfunction.

→ Use only original hydraulic oil - Wagner Order No. 322912 (250 ml or 15 cu inch).

### 9.3.2 CHANGING THE OIL

The oil should be changed after 500 service hours or once a year.

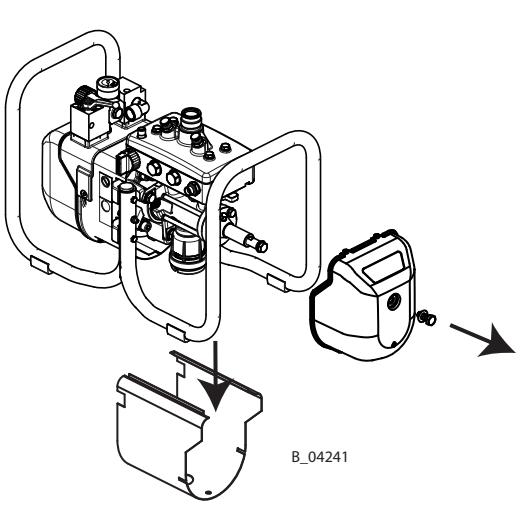
Necessary accessories:
Order No. 322911 Oil filling set

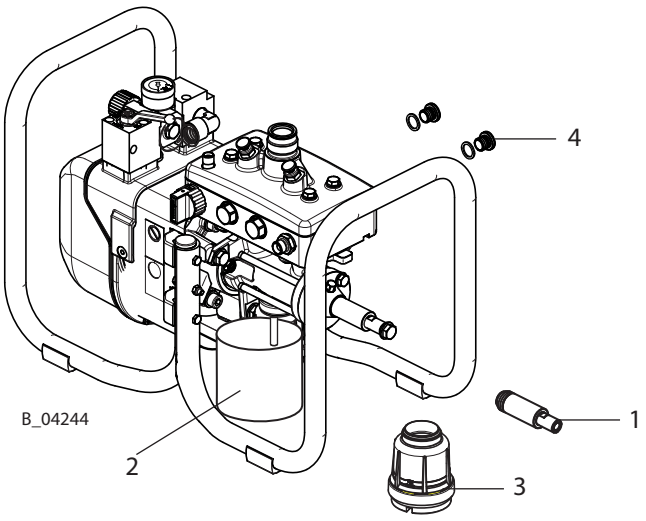
| NOTICE |
| --- |
| **Using hydraulic oil**<br>Using the wrong hydraulic oil can cause a malfunction.<br><br>→ Use only original hydraulic oil - Wagner Order No. 322912 (250 ml or 15 cu inch). |

**Discharging oil**

**Procedure:**

1 Decommission and clean the device -> follow Chapter 7.3 up to and including point 6.
2 Position device as shown in the picture and dismount the hood and casing.
3 Unscrew piston cover (1).
4 Place empty oil collector (2) under the oil tank.
5 Unscrew oil tank (3) and drain contents.
6 Unscrew and remove locking screws (4) and seals.
7 Slowly start up the pump until no oil flows out of the oil suction fitting.
8 Screw in clean oil tank (3) and seal.



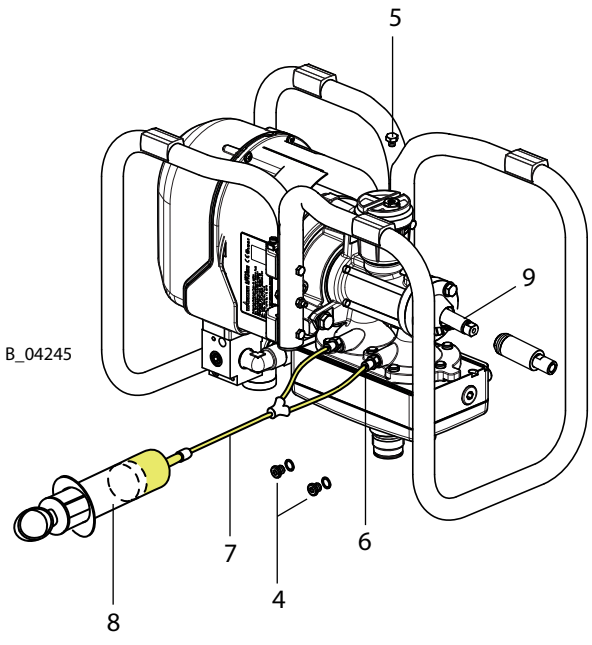
## ⚠ CAUTION

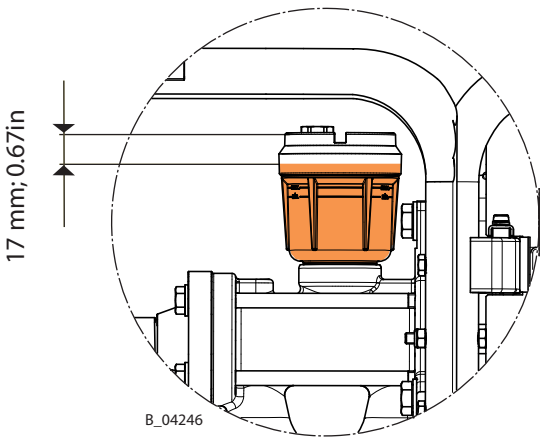
**Environmental pollution caused by waste oil!**
Waste oil in the sewage network or spilled on the ground causes severe environmental damage.
Groundwater pollution is liable to prosecution.
→ Collect waste oil and bring it to a collection point.
→ Waste oil is taken back by the seller when purchasing hydraulic oil.

**Filling hydraulic stage with oil**

**Procedure:**

1 Turn pump (mounted on the base frame) upside down.
2 Unscrew and remove threaded plug (5).
3 Unscrew 2 locking screws (4) and replace with 2 screw fittings (6) from the oil filling set.
4 Connect hoses with Y-pieces (7).
5 Fill syringe (8) with hydraulic oil and insert into hose.
6 Move piston (9) into front end position. Use the syringe to fill the hydraulic stage until the oil flows out of the suction fitting into the oil tank (3) with no air bubbles.
7 Move piston (9) into rear end position. Use the syringe to fill the hydraulic stage until the oil flows out of the suction fitting into the oil tank (3) with no air bubbles.
8 Continue to top up the oil until the level before venting is approx. 17 mm; 0.67 inches below the upper edge of the oil tank.
9 Screw in threaded plug (5) and tighten gently. Put pump on its side and dismount oil filling set. Seal the filler openings tightly with 2 locking screws (4).

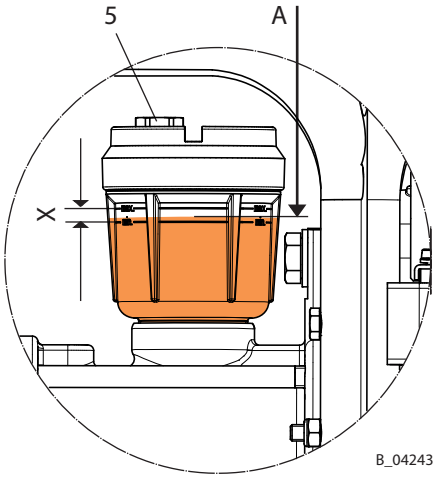


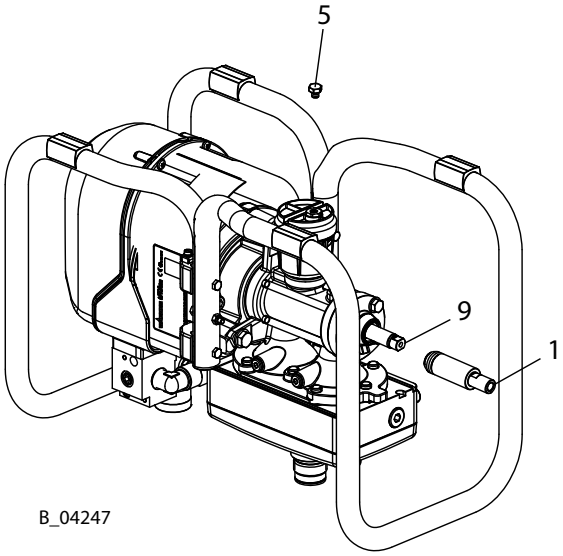



**Vent**

**Procedure:**

1 Turn the pump upside down. Remove the threaded plug (5).
2 Slowly start up (vent) the pump until no air bubbles appear from the oil suction fitting.
3 Oil level A in the oil tank has to be within the specified markings (X).
4 Screw in threaded plug (5) and tighten with 2 Nm; 1.5 lbft.
5 Mount piston cover (1) and hood with casing.
6 The device is ready for operation again.



# 10 ACCESSORIES

## 10.1 COBRA 40-10 ACCESSORIES

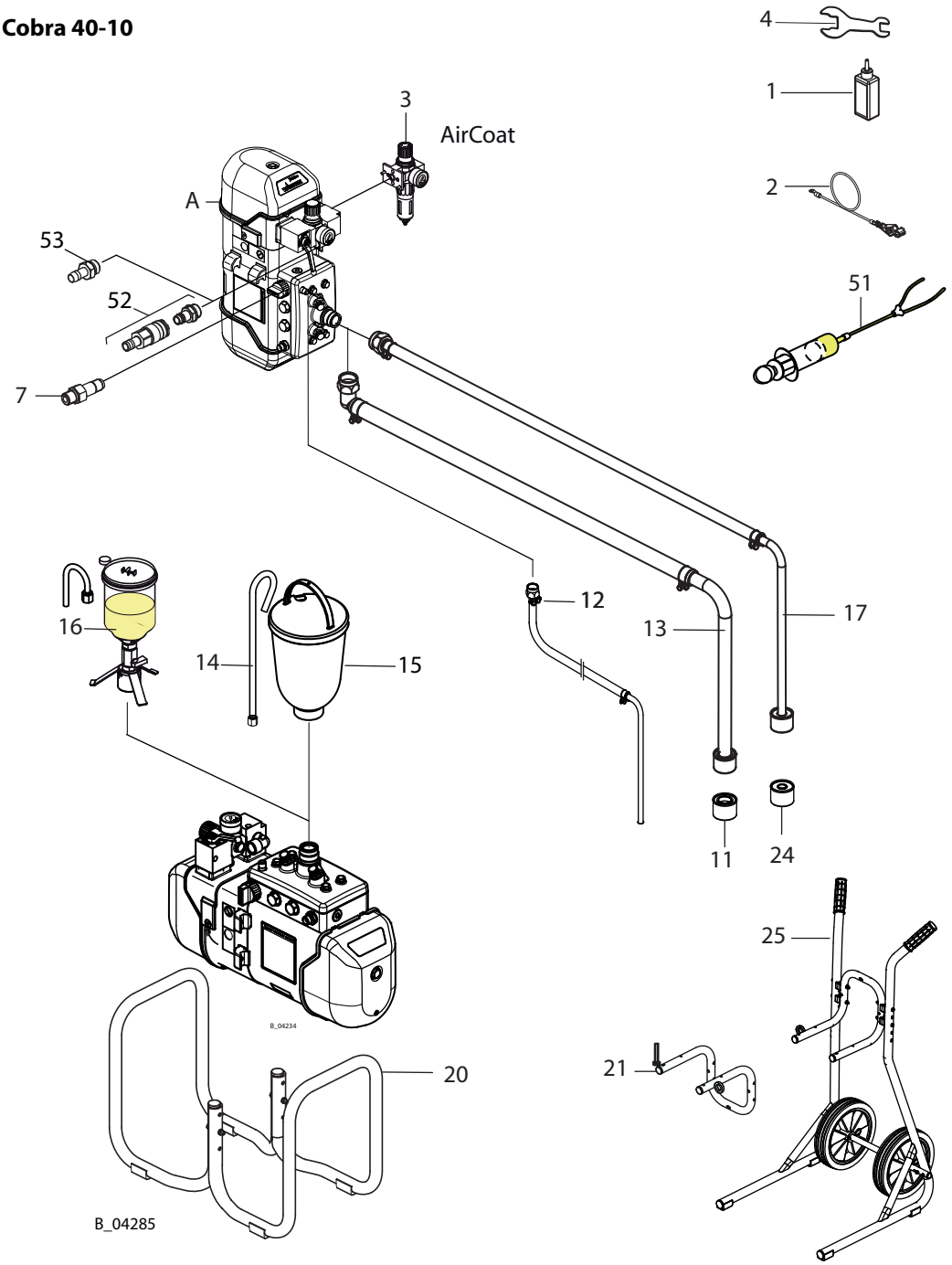
**Accessories list for Cobra 40-10**

| Pos | K | Order No. | Designation |
|---|---|---|---|
| A | | 2301858 | Diaphragm pump Cobra 40-10 |
| 1 | ◆ | 322912 | Hydraulic oil (for pressure stage) 250 ml; 250 cc |
| 2 | ◆ | 236219 | Grounding cable 3 m; 9.8 ft |
| 3 | | 2333479 | AirCoat filter pressure regulator |
| 4 | | 341434 | Double open-end wrench |
| 7 | | 2325343 | Fitting DF-MM-R1/4"-M12-PN270-SSt |
| 11 | | 2323325 | Air suction filter DN25 |
| 12 | | 2329046 | Return hose DN6-PN310-G1/4"-PA |
| 13 | | 2324116 | Suction hose DN25 |
| 14 | | 2333163 | Return tube for item 15 |
| 15 | | 341267 | Hopper set Ex 5 L; 1.3 gal |
| 16 | | 2321424 | Small quantity cup |
| 17 | | 2324110 | Suction hose DN16 |
| 20 | | 322052 | Frame, complete |
| 21 | | 2332143 | Wall mount 4", complete |
| 24 | | 2323396 | Air suction filter DN16 |
| 25 | | 2325901 | Trolley 4", complete |
| 51 | ◆ | 322911 | Oil filling set with 100 ml; 100 cc syringe |
| 52 | ◆ | 322916 | Air coupling set DN 10 mm; 0.39 inch |
| 53 | ◆ | 9985619 | Hose connector with sealing ring |

◆ = Wearing parts

Regarding position 7:
Fitting (7) can be screwed in instead of the relief valve. In this case, the required ball valve must be provided by the customer. The return hose can no longer be connected to the "return socket" output.

**Cobra 40-10**


4
1
3
AirCoat
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A
53
52
51
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25
B_04234
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21
B_04285

# 11 SPARE PARTS

## 11.1 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 "**Stk**" column in the lists. 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
- Delivery address
- 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
**Note**: No liability is assumed for wearing parts.

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

**⚠ WARNING**

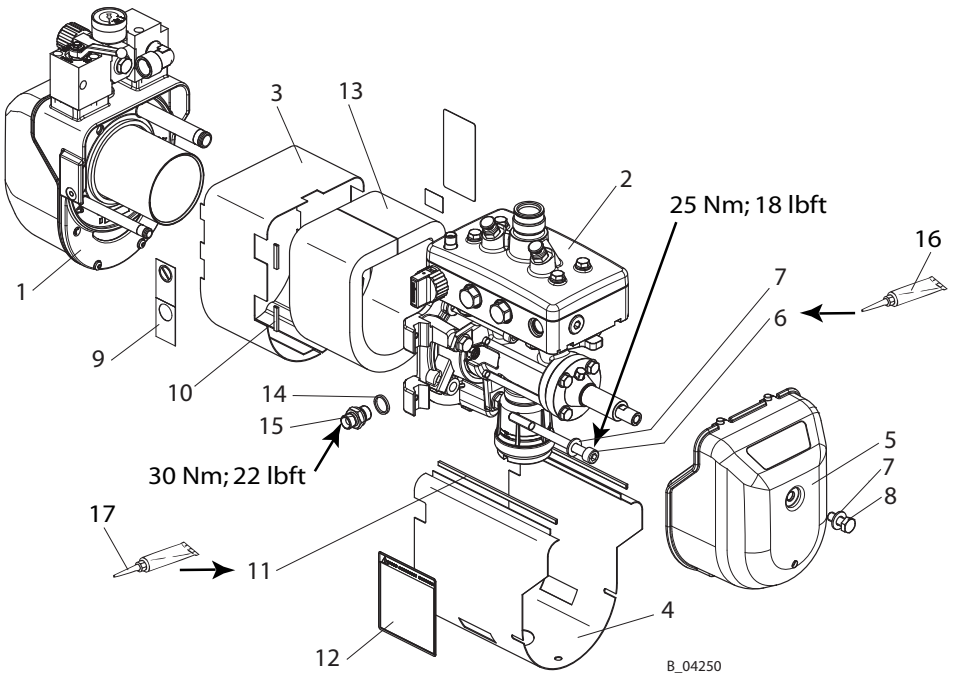
**Incorrect maintenance/repair!**
Risk of injury and damage to the device.

→ Have repairs and part replacements carried out only by specially trained staff or a WAGNER service center.
→ Before all work on the device and in the event of work interruptions:
- Switch off the energy/compressed air supply.
- Relieve the pressure from the spray gun and device.
- Secure the spray gun against actuation.
→ Observe the operating manual and service instructions at all times when carrying out work.

## 11.2 OVERVIEW OF THE COBRA 40-10 COMPONENTS

| Pos | K | Stk | Order No. | Designation |
|---|---|---|---|---|
| 1 | | 1 | - | Air motor 3/53 |
| 2 | | 1 | - | Preassembled Cobra 40-10 fluid section |
| 3 | | 1 | 322436 | Air motor casing |
| 4 | | 1 | 322437 | Pressure stage casing |
| 5 | | 1 | 322235 | Hood 4 with air outlet |
| 6 | | 3 | 9907224 | Hexagon socket head cap screw |
| 7 | | 4 | 9920106 | Washer |
| 8 | | 1 | 9900107 | Hexagon screw |
| 9 | | 1 | 2332077 | Warning label |
| 10 | | 4 | 9999211 | Edge protection profile 30 mm; 1.18 inch |
| 11 | | 2 | 9999211 | Edge protection profile 164 mm; 6.46 inch |
| 12 | | 1 | 2332082 | Fluid warning label |
| 13 | | 1 | 322438 | Cylinder noise insulation |
| 14 | ◆ | 1 | 9974112 | Sealing ring |
| 15 | | 1 | 367913 | Fitting-DF-MM-G3/8"-M16x1.5-PN530-SSt |
| 16 | | 1 | 9992616 | Molykote DX grease |
| 17 | | 1 | 9992699 | Loctite 406 |

◆ = Wearing parts



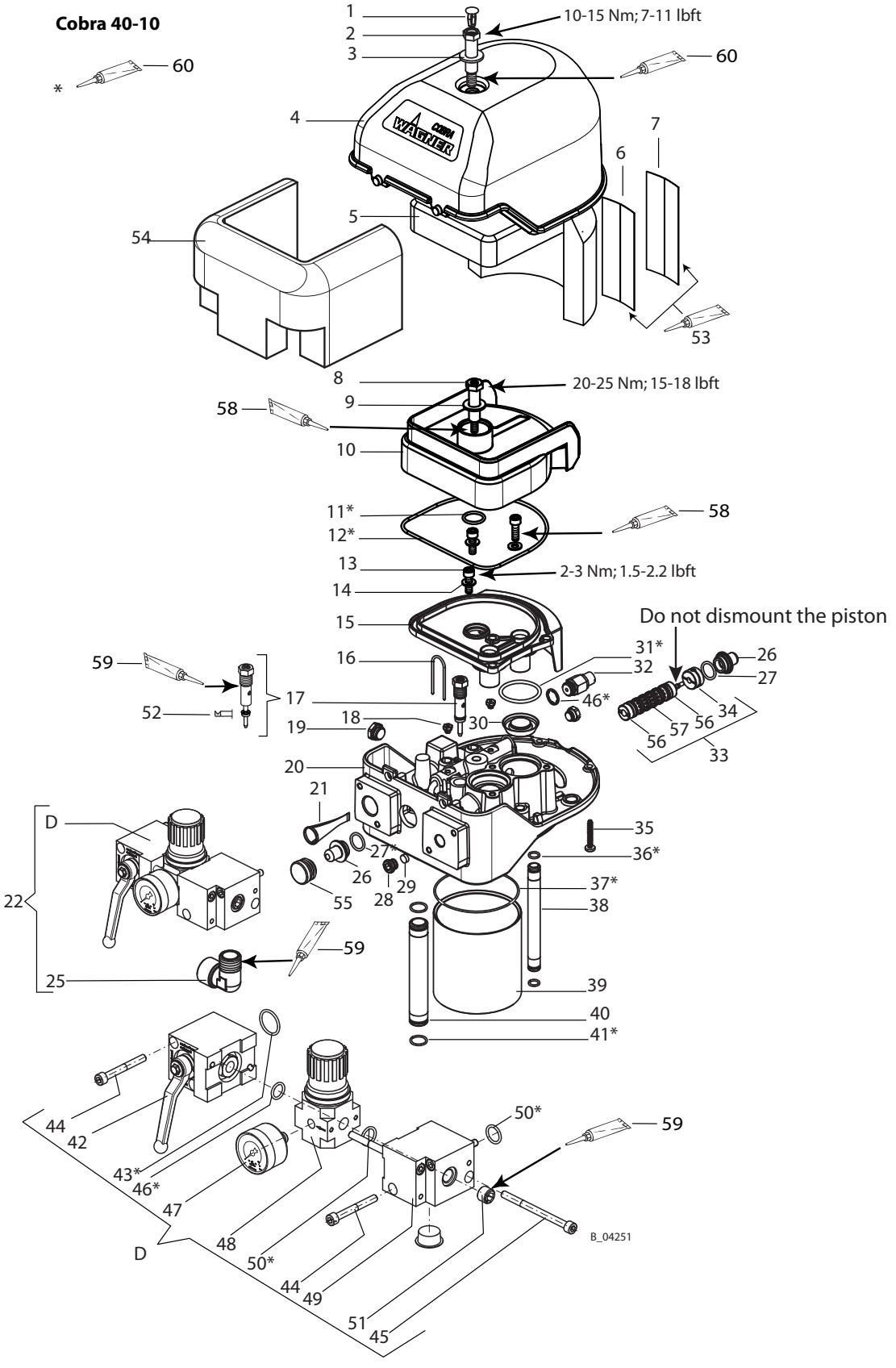
## 11.3 COBRA 40-10 AIR MOTOR

| Pos | K | Stk | Order No. | Designation |
|---|---|---|---|---|
| 1 | | 1 | 9998718 | Drive fastener |
| 2 | | 1 | 367318 | Shoulder screw 4 |
| 3 | | 1 | 9925033 | Washer |
| 4 | | 1 | 367311 | Hood 4 |
| 5 | ◆ | 1 | 367319 | Sound absorbing mat 4 |
| 6 | | 1 | 9999152 | Velcro fastener coating part |
| 7 | | 1 | 9999151 | Velcro fastener adhesive part |
| 8 | | 1 | 367318 | Shoulder screw 4 |
| 9 | | 1 | 9925033 | Washer |
| 10 | | 1 | 367310 | Silencer 4 |
| 11 | ◆ ★ | 1 | 9974098 | O-ring |
| 12 | ◆ ★ | 1 | 9974097 | O-ring |
| 13 | | 3 | 9900325 | Socket cap screw |
| 14 | | 3 | 9920103 | Washer A6.4 |
| 15 | | 1 | 367309 | Connecting part 4 |
| 16 | | 2 | 367320 | Cotter pin |
| 17 | ◆ | 1 | 369290 | Pilot valve |
| 18 | | 2 | 9998674 | Threaded plug |
| 19 | | 1 | 9998274 | Threaded plug |
| 20 | | 1 | 367315 | Control housing 4 |
| 21 | ◆ ★ | 1 | 367313 | Compressed air filter 4/6 |
| 22 | | 1 | 2328606 | Pressure regulator unit 4 |
| 25 | | 1 | 9999228 | Threaded connector L |
| 26 | | 2 | 367307 | Sealing plug 4/6 |
| 27 | ◆ ★ | 2 | 9974085 | O-ring |
| 28 | | 1 | 367324 | Filter holder |
| 29 | ◆ ★ | 1 | 367314 | Control air filter |
| 30 | ◆ ★ | 1 | 322910 | Cobra outlet seal set (consisting of 2 seals) |
| 31 | ◆ ★ | 2 | 9974095 | O-ring |
| 32 | | 1 | 368285 | Safety valve 0.63 MPa; 6.3 bar; 91 psi |
| 33 | ◆ | 1 | 9943080 | Spool and sleeve assembly, complete |
| 34 | ◆ | 1 | 368038 | Detent body, complete, ISO 1/2 |
| 35 | | 2 | 9907126 | Screw SFS Plastite 45 |
| 36 | ◆ ★ | 2 | 9974089 | O-ring |
| 37 | ◆ ★ | 2 | 9974115 | O-ring |
| 38 | | 1 | 322432 | Control air pipe |
| 39 | | 1 | 322430 | Cylinder pipe |
| 40 | | 1 | 322431 | Compressed air pipe |
| 41 | ◆ ★ | 2 | 9971448 | O-ring |
| 42 | ◆ | 1 | 2310635 | Edge ball valve mini 4 |

◆ = Wearing parts

★ = Included in service set

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


Cobra 40-10
1
2
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4
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7
8
9
10
11*
12*
13
14
15
16
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46*
47
48
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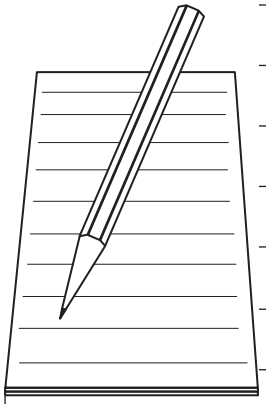
50*
51
52
53
54
55
56
57
58
59
60
10-15 Nm; 7-11 lbft
20-25 Nm; 15-18 lbft
2-3 Nm; 1.5-2.2 lbft
Do not dismount the piston
D
B_04251

| Pos | K | Stk | Order No. | Designation |
|---|---|---|---|---|
| 43 | ◆ ★ | 1 | 9971137 | O-ring |
| 44 | | 4 | 9900316 | Hexagon socket head cap screw M6x50 |
| 45 | | 2 | 9907039 | Hexagon socket head cap screw M6x80 |
| 46 | ◆ ★ | 1 | 9971313 | O-ring |
| 47 | ◆ | 1 | 2341175 | Manometer with air regulator 0-10 bar, G1/8" |
| 48 | ◆ | 1 | 9998676 | Pressure regulator |
| 49 | | 1 | - | Distributor piece mini 4 |
| 50 | ◆ ★ | 2 | 9974166 | O-ring |
| 51 | | 1 | 9904407 | Locking screw R1/4 |
| 52 | ◆ | 1 | 9974217 | Rod seal |
| 53 | | 1 | 9992816 | Adhesive |
| 54 | ◆ | 1 | 322439 | Air motor noise insulation |
| 55 | | 1 | 9990861 | Ribbed plug |
| 56 | ◆ | 2 | 368313 | Damper ISO1 and ISO2 |
| 57 | ◆ | 6 | 9971123 | O-ring |
| 58 | | 1 | 9992590 | Loctite 222 50 ml; 50 cc |
| 59 | | 1 | 9992831 | Loctite 542 50 ml; 50 cc |
| 60 | | 1 | 9992616 | Molykote DX grease |
| | | | 2341627 | Cobra 40-10 air motor service set |

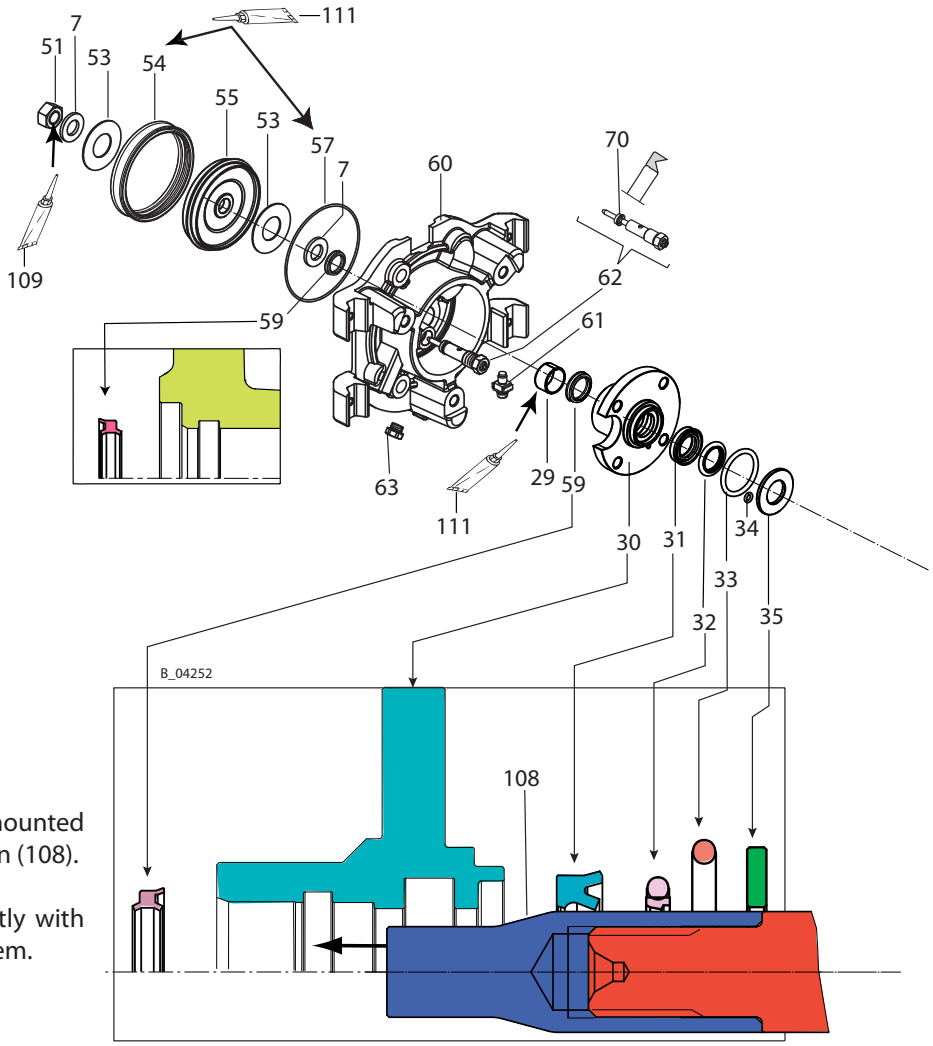
◆ = Wearing parts

★ = Included in service set

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



## 11.4 COBRA 40-10 FLUID SECTION




**Notes:**
The piston rod (25) may only be mounted with the screwed-on assembly pin (108).

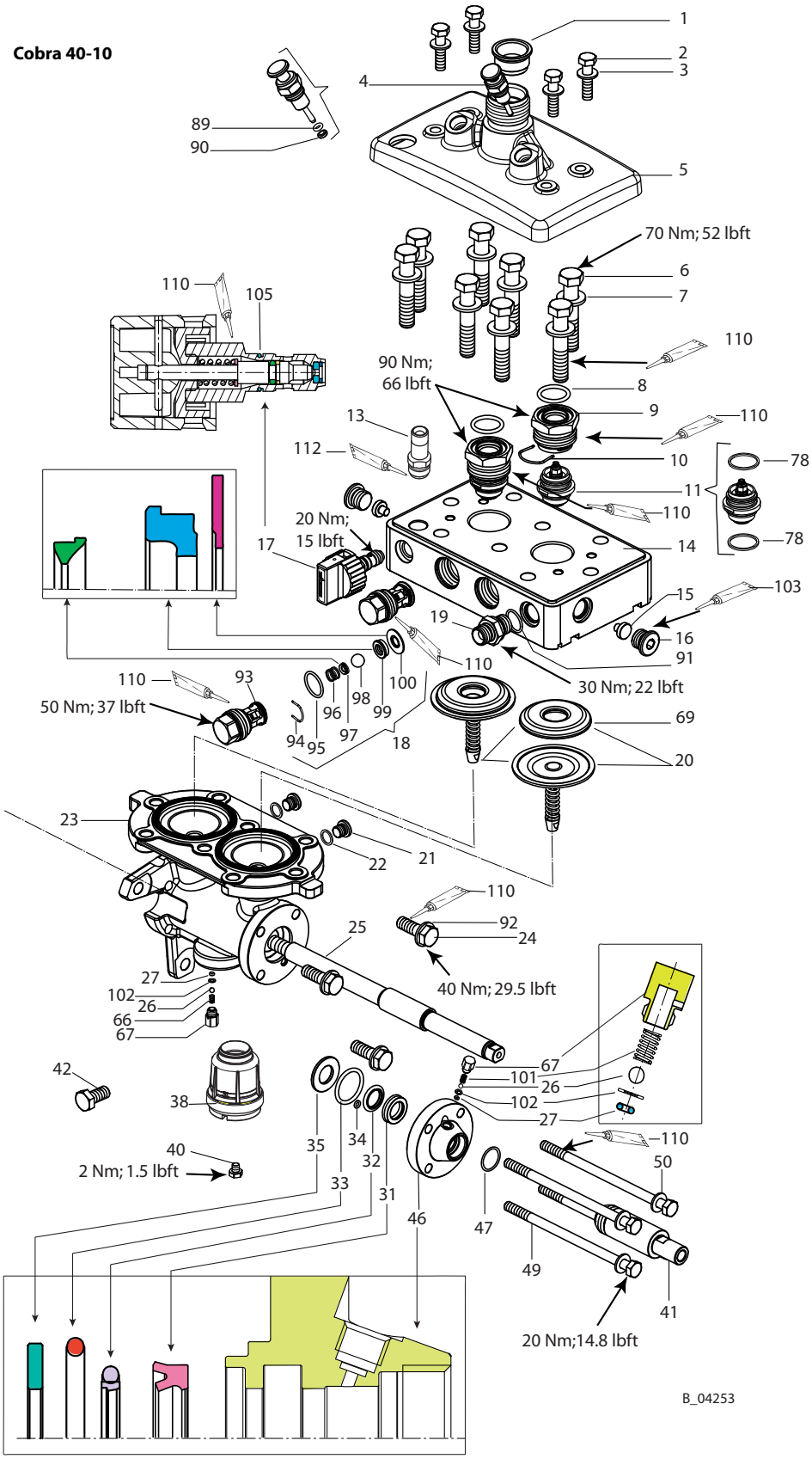
Grease all o-rings and seals lightly with grease (111) before mounting them.

**Cobra 40-10 fluid section**

| Pos | K | Stk | Order No. | Designation |
|---|---|---|---|---|
| 1 | | 1 | 2329898 | Sealing sleeve |
| 2 | | 4 | 9900204 | Hexagon screw |
| 3 | | 4 | 9920102 | Washer |
| 4 | | 2 | 341241 | Inlet valve depressor, complete, see Chapter 11.10 |
| 5 | | 1 | 2330764 | Inlet housing |

◆ = Wearing parts
★ = Included in the service set for Cobra 40-10 fluid section
●= Not part of the standard equipment but available as a special accessory.

**Cobra 40-10**


1
2
3
4
5
89
90
70 Nm; 52 lbft
6
7
110
105
90 Nm;
66 lbft
8
9
110
13
112
10
78
11
110
20 Nm;
15 lbft
17
14
78
15
103
19
16
91
110
30 Nm; 22 lbft
110
93
50 Nm; 37 lbft
94
95
96
97
98
99
100
18
69
20
23
22
21
110
92
24
25
40 Nm; 29.5 lbft
27
102
26
66
67
42
38
67
101
26
102
27
110
50
40
2 Nm; 1.5 lbft
35
34
32
33
31
46
47
49
41
20 Nm;14.8 lbft
B_04253

**Cobra 40-10 fluid section**

| Pos | K | Stk | Order No. | Designation |
|---|---|---|---|---|
| 6 | | 8 | 9907234 | Hexagon screw |
| 7 | | 10 | 9920107 | Washer |
| 8 | ◆ ★ | 2 | 9974184 | O-ring |
| 9 | | 2 | 322411 | Valve fitting |
| 10 | | 2 | 341336 | Clasp |
| 11 | ◆ ★ | 1 | 322914 | Inlet valve set, complete (comprising 2 valves), see Chapter 11.9 |
| 13 | | 1 | 2330810 | Connection piece |
| 14 | | 1 | 322410 | Fluid section |
| 15 | | 2 | 322412 | Plug |
| 16 | | 2 | 9904311 | Screw plug |
| 17 | ◆ | 1 | 169248 | Relief valve, complete, see Chapter 11.11 |
| 18 | ◆ ★ | 1 | 322915 | Outlet valve set, complete (spare parts for 2 valves) |
| 19 | | 1 | 367913 | Double connector M16x1.5 -G3/8" |
| 19 | | 1 | 367555 | Double connector NPSM1/4" -G3/8" |
| 20 | ◆ ★ | 1 | 322913 | Complete diaphragm set with insert (comprising 2 diaphragms) |
| 21 | | 2 | 9904306 | Screw plug |
| 22 | ◆ | 2 | 9970127 | Sealing ring |
| 23 | | 1 | 322401 | Pressure stage D19/53 |
| 24 | | 3 | 9907041 | Hexagon screw |
| 25 | | 1 | 322402 | Piston rod D19/53 |
| 26 | | 2 | 9941502 | Ball |
| 27 | ◆ | 2 | 9971189 | O-ring |
| 29 | | 1 | 9962028 | Permaglide bushing |
| 30 | | 1 | 322403 | Pressure stage flange |
| 31 | ◆ | 2 | 9974182 | Rod sealing profile BS |
| 32 | ◆ | 2 | 9974183 | Rod sealing set |
| 33 | ◆ | 2 | 9974186 | O-ring |
| 34 | ◆ | 2 | 9971446 | O-ring |
| 35 | | 2 | 322405 | Pressure disk |
| 36 | | 1 | 2339250 | Oil suction fitting |
| 37 | ◆ | 1 | 115944 | O-ring |
| 38 | | 1 | 2333498 | Oil tank, complete |
| 40 | | 1 | 9998274 | Threaded plug M7x1 |
| 41 | | 1 | 322435 | Piston cover |
| 42 | | 1 | 2334842 | Pressure relief valve |
| 46 | | 1 | 322404 | Pressure stage cover disk |
| 47 | ◆ | 1 | 9974074 | O-ring |
| 49 | | 4 | 9907233 | Hexagon screw |
| 50 | | 4 | 9920102 | Washer |
| 51 | | 1 | 9910101 | Hexagon nut |

◆ = Wearing parts

★ = Included in the service set for Cobra 40-10 fluid section

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

**Cobra 40-10 fluid section**

| Pos | K | Stk | Order No. | Designation |
|---|---|---|---|---|
| 53 | ◆ | 2 | 322427 | Damping washer |
| 54 | ◆ | 1 | 9974181 | Piston sealing profile Z5 |
| 55 | | 1 | 322426 | Piston air motor 3 |
| 57 | ◆ | 1 | 9974115 | O-ring |
| 59 | ◆ | 2 | 9974185 | Seal wiper ring, profile EM |
| 60 | | 1 | 322425 | Air motor flange |
| 61 | | 1 | 367258 | Grounding, complete |
| 62 | ◆ | 1 | 369290 | Pilot valve |
| 63 | | 1 | 9998675 | Threaded plug |
| 66 | | 1 | 9998780 | Pressure spring |
| 67 | | 2 | 322407 | Oil valve screw |
| 68 | ◆ | 3 | 9971162 | O-ring |
| 69 | | 2 | 322415 | Insert |
| 70 | ◆ | 1 | 9974217 | Rod seal |
| 78 | ◆ | 4 | 341331 | Sealing ring |
| 89 | ◆ ★ | 2 | 9971486 | O-ring (solvent-resistant) |
| 90 | ◆ | 2 | 341316 | Scraper |
| 91 | ◆ | 1 | 9974112 | Sealing ring |
| 92 | | 3 | 9920106 | Washer |
| 93 | | 2 | 341325 | Valve guide |
| 94 | | 2 | 341328 | Clasp |
| 95 | ◆ | 2 | 9971470 | O-ring |
| 96 | | 2 | 341326 | Pressure spring |
| 97 | | 2 | 253405 | Spring support ring |
| 98 | ◆ | 2 | 9941501 | Ball 11 HM |
| 99 | ◆ | 2 | 341327 | Outlet valve seat |
| 100 | ◆ | 2 | 341347 | Sealing ring |
| 101 | | 1 | 9994237 | Pressure spring |
| 102 | ◆ | 2 | 322408 | Oil valve pressure ring |
| 103 | | 1 | 9992590 | Loctite 222 50 ml; 50 cc |
| 104 | | 1 | 9992831 | Loctite 542 50 ml; 50 cc |
| 105 | ◆ ★ | 1 | 9971395 | O-ring 10x1.25 |
| 106 | | 1 | 2312288 | Service set for Cobra 40-10 fluid section |
| 107 | | 1 | 322917 | Service set for Cobra 40-10 piston (incl. items 25, 31, 32, 33, 59, and 108) |
| 108 | | 1 | 322930 | Piston rod assembly pin |
| 109 | | 1 | 9992511 | Loctite 243 50 ml; 50 cc |
| 110 | | 1 | 9992616 | Molykote DX grease |
| 111 | | 1 | 9998808 | Mobilux EP 2 grease |
| 112 | | 1 | 9992528 | Loctite 270 50 ml; 50 cc |

◆ = Wearing parts

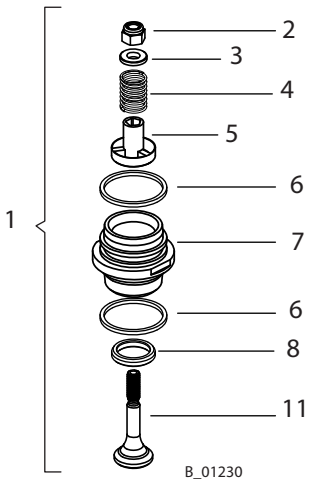
★ = Included in the service set for Cobra 40-10 fluid section

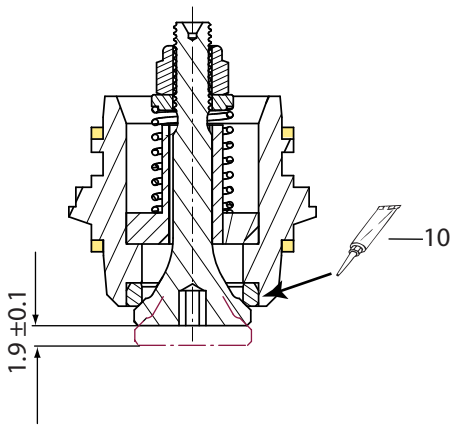
●= Not part of the standard equipment but available as a special accessory.

## 11.9 COBRA 40-10 INLET VALVE

| Pos | K | Stk | Order No. | Designation |
|---|---|---|---|---|
| 1 | ◆ | 1 | 322914 | Complete Cobra 40-10 inlet valve set |
| 2 | | 2 | 9912100 | Hexagon nut with clamp |
| 3 | | 2 | 344334 | Spring guide |
| 4 | | 2 | 190304 | Pressure spring |
| 5 | | 2 | 158333 | Guide |
| 6 | ◆ | 4 | 341331 | Sealing ring |
| 7 | | 2 | 344322 | Valve housing |
| 8 | ◆ | 2 | 340346 | Valve seat |
| 10 | ◆ | 1 | 9992528 | Loctite 270 50 ml; 50 cc |
| 11 | | 2 | 340342 | Valve cone |

◆ = Wearing parts



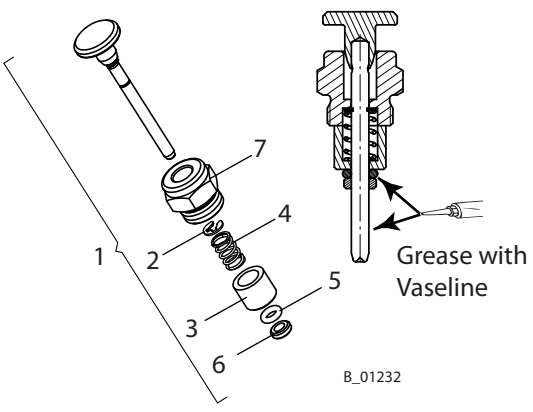




**Note:**
Item 8 -> adhesive area:
Pretreated with fast cleaner
Loctite type 7063.

## 11.10 INLET VALVE DEPRESSOR

| Pos | | Stk | Order No. | Designation |
|---|---|---|---|---|
| 1 | | 1 | 341241 | Inlet valve depressor, complete |
| 2 | | 1 | 9922724 | Lock washer 3.2 |
| 3 | | 1 | 341377 | Sleeve |
| 4 | | 1 | 9994275 | Pressure spring |
| 5 | ◆ | 1 | 9971486 | O-ring 4x2 |
| 6 | ◆ | 1 | 341316 | Scraper |
| 7 | | 1 | 341375 | Screw plug |

◆ = Wearing parts

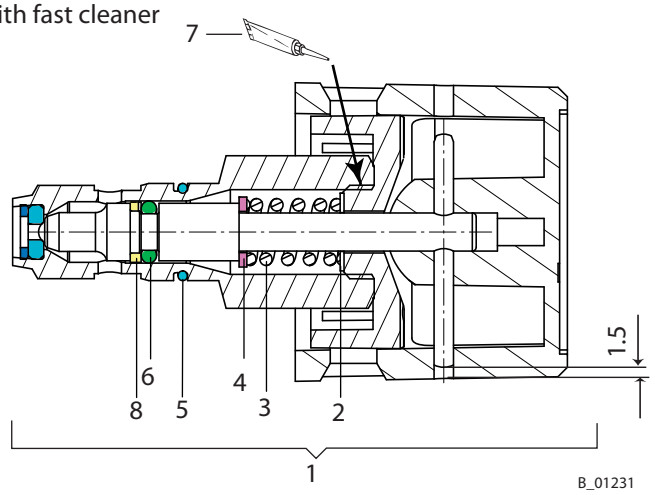


## 11.11 RELIEF VALVE

| Pos | K | Stk | Order No. | Designation |
|---|---|---|---|---|
| 1 | ◆ | 1 | 169248 | Relief valve, complete |
| 2 | | 1 | 9920602 | Adjusting washer |
| 3 | | 1 | 169346 | Pressure spring |
| 4 | | 1 | 9920202 | Washer |
| 5 | ◆ | 1 | 9971395 | O-ring 10x1.25 |
| 6 | ◆ | 1 | 9971486 | O-ring 4x2 |
| 7 | | 1 | 9992528 | Loctite 270 50 ml; 50 cc |
| 8 | ◆ | 1 | 9971367 | Spiral baking ring 4.78x1.78 |

◆ = Wearing parts

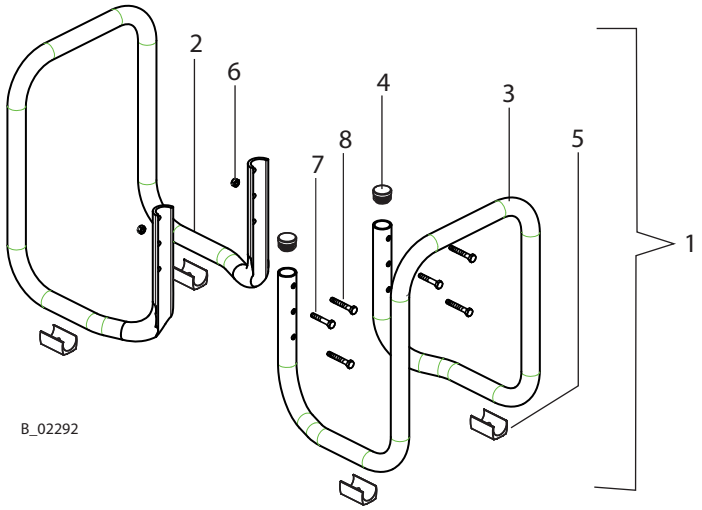
Thread: Pretreated with fast cleaner
Loctite type 7063.



## 11.12 COBRA 40-10 FRAME, COMPLETE

| Pos | K | Stk | Order No. | Designation |
|---|---|---|---|---|
| 1 | | 1 | 322052 | Base frame Cobra 40-10 |
| 2 | | 1 | 322442 | Base frame pressed |
| 3 | | 1 | 322443 | Frame pipe |
| 4 | | 2 | 9990861 | Plug |
| 5 | ◆ | 4 | 9999209 | Saddle feet for round tubes |
| 6 | | 2 | 9910204 | Self-locking hexagon nut, M6 |
| 7 | | 2 | 9900202 | Hexagon screw M6x40 |
| 8 | | 4 | 9900126 | Hexagon screw M6x45 |

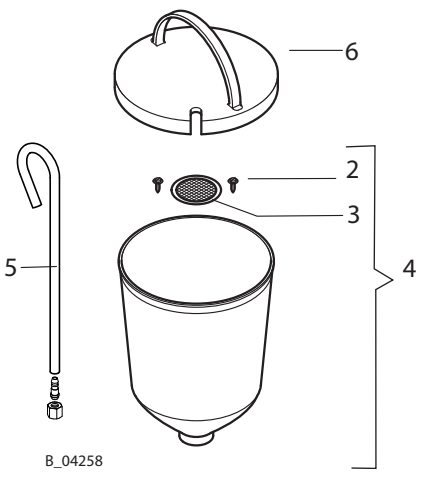
◆ = Wearing parts



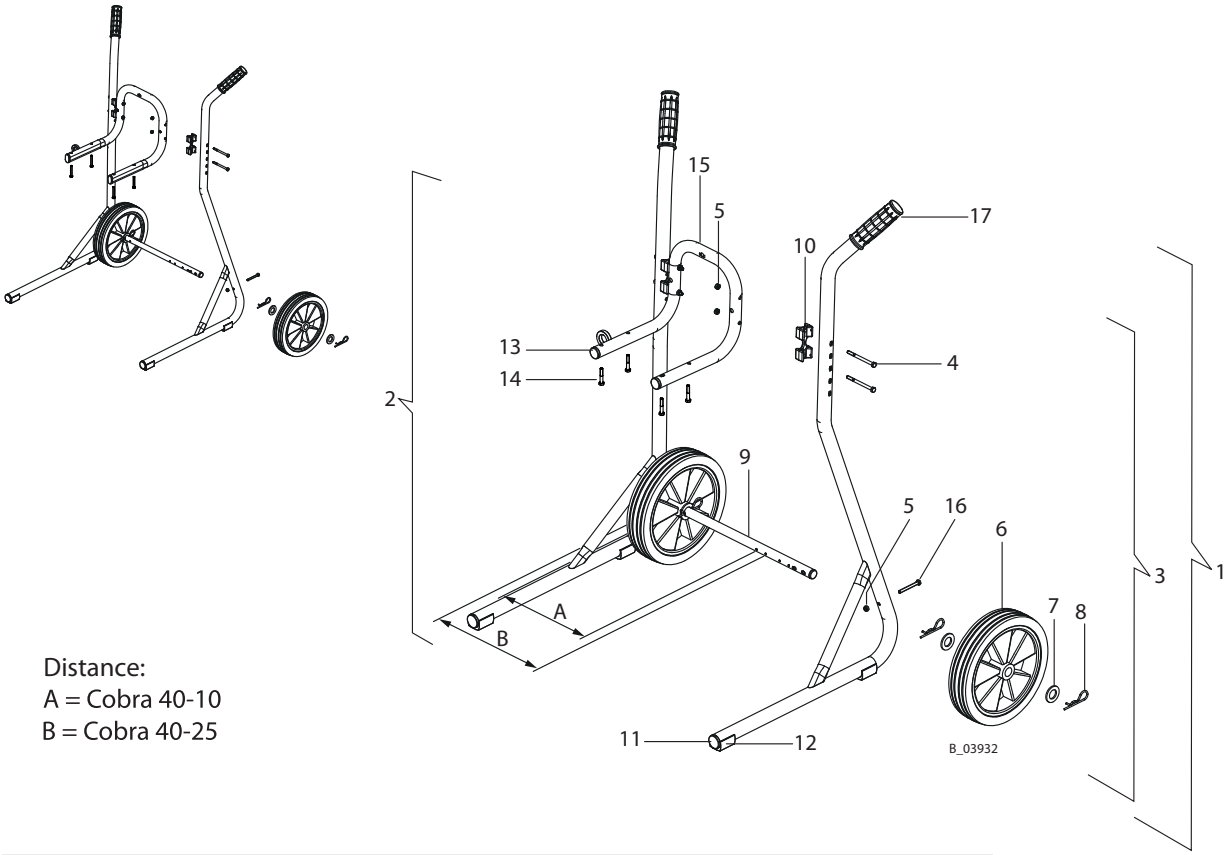

## 11.13 HOPPER, COMPLETE

| Pos | K | Stk | Order No. | Designation |
|---|---|---|---|---|
| 1 | ◆ | 1 | 341267 | Hopper set Ex, 5 L; 1.3 gal |
| 2 | | 2 | 9902306 | Combination tapping screw |
| 3 | ◆ | 1 | 3756 | Filter disk, mesh 0.4 mm; 0.02 inch |
| 3a | ◆ | 1 | 37607 | Filter disk, mesh 0.8 mm; 0.03 inch |
| 4 | ◆ | 1 | 340265 | Hopper Ex |
| 5 | ◆ | 1 | 2333163 | Relief tube 5 L, complete |
| 6 | ◆ | 1 | 340429 | Cover |

◆ = Wearing parts



## 11.14 TROLLEY




Distance:
A = Cobra 40-10
B = Cobra 40-25

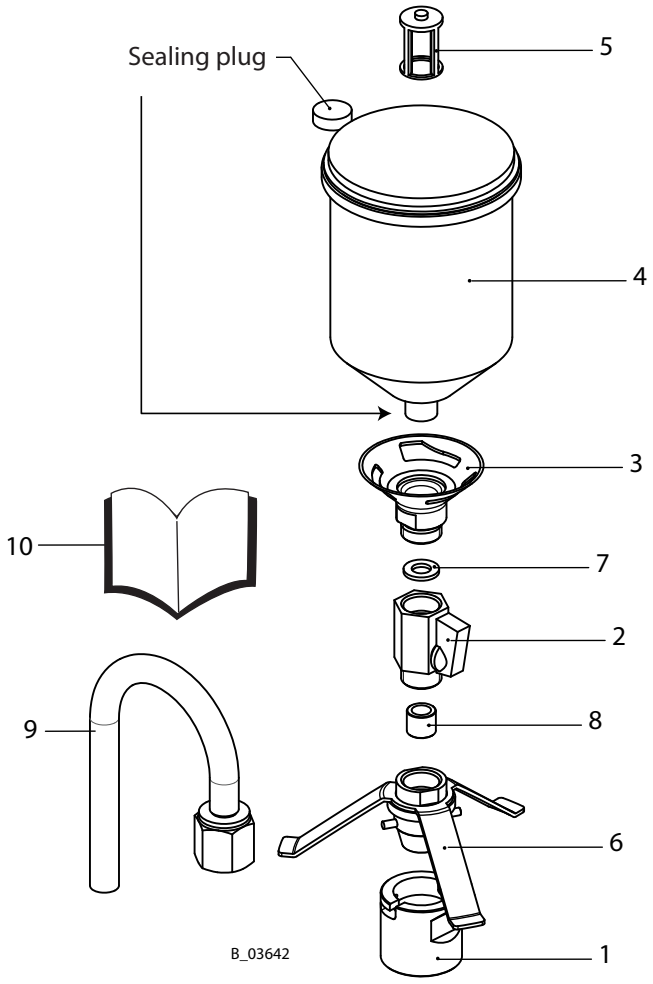
| Pos | K | Stk | Order No. | Designation |
|---|---|---|---|---|
| 1 | | 1 | 2325901 | Trolley, complete |
| 2 | | 1 | -- | Stand, left, 4"-6" (welded) |
| 3 | | 1 | -- | Stand, right, 4"-6" (welded) |
| 4 | | 4 | 9907140 | Hexagon screw DIN931 M6x75 |
| 5 | | 6 | 9910204 | Self-locking hexagon nut, M6 |
| 6 | ◆ | 2 | 2304440 | Wheel, D250 |
| 7 | | 4 | 340372 | Washer |
| 8 | | 4 | 9995302 | Cotter pin |
| 9 | | 1 | -- | Wheel axle 4"-6" |
| 10 | ◆ | 2 | 367943 | Connecting part 4"-6" |
| 11 | | 2 | -- | Tube plug, ribbed |
| 12 | | 2 | -- | Saddle feet for round tubes |
| 13 | | 2 | -- | Plug |
| 14 | | 4 | 9900218 | Hexagon screw |
| 15 | | 1 | 2332143 | Wall mount |
| 16 | | 2 | 3061695 | Hexagon screw without shaft M6x55 |
| 17 | ◆ | 2 | 9998747 | Handle |

◆ = Wearing parts

## 11.16 SMALL QUANTITY CUP

| Pos | K | Stk | Order No. | Designation |
|---|---|---|---|---|
| | | 1 | 2321424 | Small quantity cup |
| 1 | | 1 | 2320844 | Union nut with bayonet |
| 2 | ◆ | 1 | 2321426 | Low-pressure mini ball valve G1/2 |
| 3 | ◆ | 1 | 2320841 | Gravity feed cup adapter HSM |
| 4 | ◆ | 2 | 2321427 | Gravity feed cup SPA easy line TA |
| 5 | ◆ | 2 | 2321676 | Sieve insert SPA easy line |
| 6 | | 1 | 2320888 | Cone connector preassembled |
| 7 | ◆ | 1 | 2320870 | Sealing washer |
| 8 | ◆ | 1 | 2320922 | Sealing sleeve |
| 9 | ◆ | 1 | 2322857 | Relief tube 0.5 L, complete |
| 10 | | 1 | 2322671 | Assembly manual |

◆ = Wearing parts



# 12 3+2 YEARS GUARANTEE FOR PROFESSIONAL FINISHING

## 12.1 SCOPE OF GUARANTEE

All Wagner professional colour application devices (hereafter referred to as products) are carefully inspected, tested, and subject to strict checks under Wagner quality assurance. Wagner exclusively issues extended guarantees to commercial or professional users (hereafter referred to as "customer") who have purchased the product in an authorized specialist shop, and which relate to the products listed on the Internet at www.wagner-group.com/profi-guarantee.
The buyer's claim for liability for defects from the purchase agreement with the seller and statutory rights are not impaired by this guarantee.
We provide a guarantee in that we decide whether to replace or repair the product or individual parts, or take the device back and reimburse the purchase price. The costs for products and working hours are our responsibility. Replaced products or parts become our property.

## 12.2 GUARANTEE PERIOD AND REGISTRATION

The guarantee period amounts to 36 months. For industrial use or equal wear, such as shift operations in particular, or in the event of rentals, it amounts to 12 months.
Systems driven by petrol or air are also guaranteed for a 12 month period.
The guarantee period begins with the day of delivery by the authorized specialist shop. The date on the original purchase document is authoritative.
For all products bought in authorized specialist shops from 2009-02-01 the guarantee period is extended to 24 months providing the buyer of these devices registers in accordance with the following conditions within 4 weeks of the day of delivery by the authorized specialist shop.
Registration can be completed on the Internet at www.wagner-group.com/profi-guarantee
The guarantee certificate is valid as confirmation, as is the original purchase document that carries the date of the purchase. Registration is only possible if the buyer agrees to the data that is entered during registration being stored.
When services are carried out under guarantee the guarantee period for the product is neither extended nor renewed.
Once the guarantee period has expired, claims made against the guarantee or from the guarantee can no longer be enforced.

## 12.3 HANDLING

If defects can be seen in the materials, processing, or performance of the device during the guarantee period, guarantee claims must be made immediately, or at the latest within a period of 2 weeks.
The authorized specialist shop that delivered the device is entitled to accept guarantee claims. Guarantee claims may also be made to the service centers named in the operating manual. The product has to be sent without charge or presented together with the original purchase document that includes details of the purchase date and the name of the product. In order to claim for an extension to the guarantee, the guarantee certificate must be included.
The costs as well as the risk of loss or damage to the product in transit or by the center that accepts the guarantee claims or who delivers the repaired product, are the responsibility of the customer.

## 12.4 EXCLUSION OF GUARANTEE

Guarantee claims cannot be considered
- for parts that are subject to wear and tear due to use or other natural wear and tear, as well as defects in the product that are a result of natural wear and tear, or wear and tear due to use. This includes in particular cables, valves, packings, nozzles, cylinders, pistons, means-carrying housing components, filters, pipes, seals, rotors, stators, etc. Damage due to wear and tear that is caused in particular by sanded coating products, such as dispersions, plasters, putties, adhesives, glazes, quartz foundation.
- in the event of errors in devices that are due to non-compliance with the operating instructions, unsuitable or unprofessional use, incorrect assembling and/or commissioning by the buyer or by a third party, utilization other than is intended, abnormal ambient conditions, unsuitable coating products, the influence of chemical, electrochemical, or electrical agents, unsuitable operating conditions, operation with the incorrect mains voltage supply/frequency, overload, or defective servicing or care and/or cleaning.
- for errors in the device that have been caused by using accessory parts, additional components, or spare parts that are not original Wagner parts.
- for products to which modifications or additions have been carried out.
- for products where the serial number has been removed or is illegible.
- for products to which attempts at repairs have been carried out by unauthorized persons.
- for products with slight deviations from the target properties, which are negligible with regard to the value and usability of the device.
- for products that have been partially or fully taken apart.

## 12.5 ADDITIONAL REGULATIONS

The above guarantees apply exclusively to products that have been bought from authorized specialist shops in the EU, CIS, Australia and are used within the reference country.

If an inspection finds damage not covered by the present guarantee, repairs are carried out at the expense of the buyer.
The above regulations manage the legal relationship to us concludingly. Additional claims, in particular for damages and losses of any type, which occur as a result of the product or its use, are excluded from the product liability act except with regard to the area of application.
Claims for liability for defects to the specialist trader remain unaffected.
German law applies to this guarantee. The contractual language is German. In the event that the meaning of the German and a foreign text of this guarantee deviate from one another, the meaning of the German text has priority.

J. Wagner GmbH
Professional Finishing Division
Otto Lilienthal Strasse 18
88677 Markdorf
Germany

Wagner professional guarantee
(As of 2009-02-01)

## 12.3 CE DECLARATION OF CONFORMITY

We hereby declare that the supplied version of diaphragm pumps and spray packs:

| |
|---|
| Cobra 40-10 |

CE

complies with the following guidelines:

| |
|---|
| 2006/42/EC |
| 94/9/EC (ATEX Directive) |

Applied standards, in particular:

| | |
|---|---|
| DIN EN ISO 12100: 2011 | DIN EN 1127-1: 2011 |
| DIN EN ISO 4413: 2011 | DIN EN 13463-1: 2009 |
| DIN EN ISO 4414: 2011 | DIN EN 13463-5: 2011 |
| DIN EN 809: 2012 | DIN EN ISO 13732-1: 2008 |
| DIN EN 12621: 2011 | DIN EN 14462: 2010 |

Applied national technical standards and specifications, in particular:

| | |
|---|---|
| BGR 500 Part 2 Chapter 2.29 and Chapter 2.36 | TRBS 2153 |

Identification:

CE Ex II 2G IIB c X

**CE Certificate of Conformity**
The CE certificate 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:** 2302350

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(14 cents/minute when calling from the German
landline network; mobile charge no more than 42 cents/min.)

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