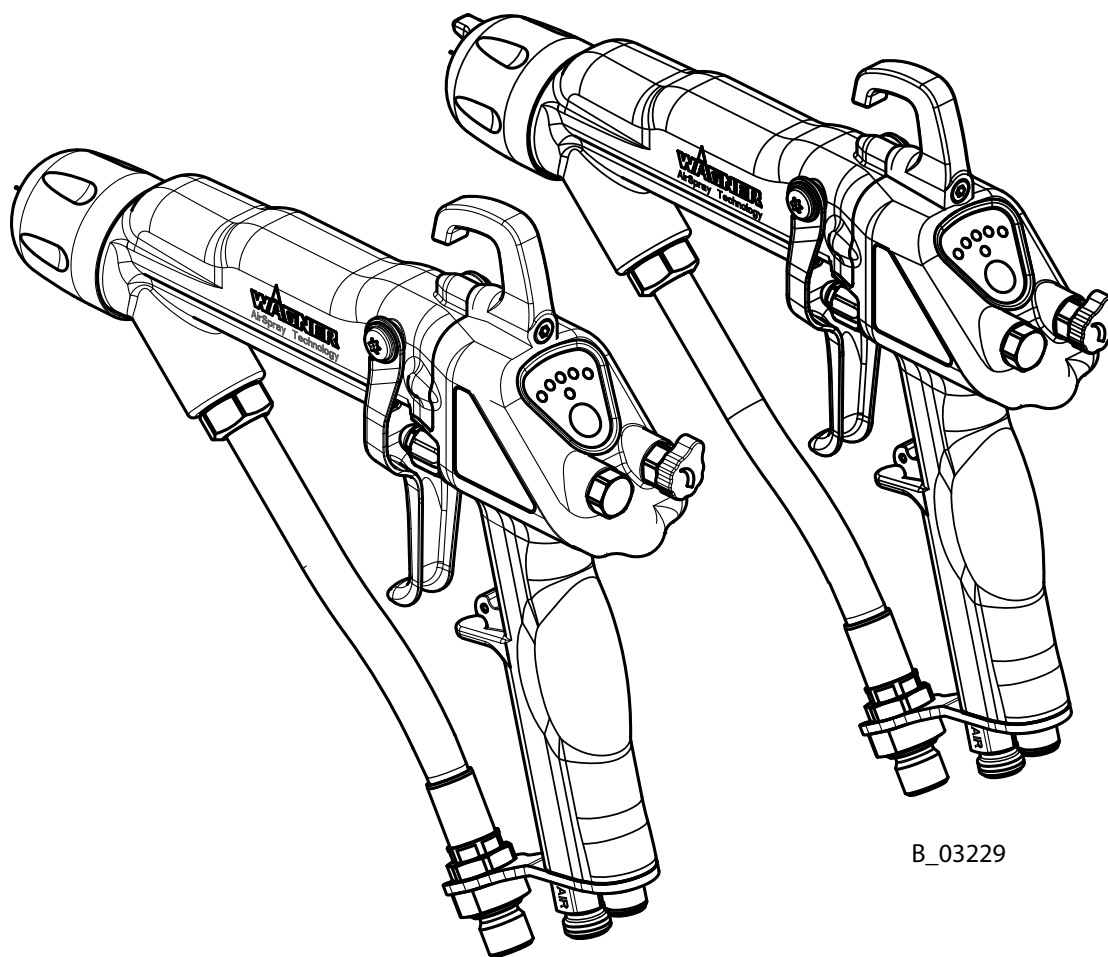




B_03229

Electrostatic manual spray gun (AirSpray)

GM 5000EA

Original Operating Manual

UK
CA 0518  II 2 G 0.24 mJ

For professional use.

Always observe the information in this manual, particularly the safety instructions and the warning instructions. Store the manual in a safe place.

Edition: 01/2025

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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 danger. Non-observance may result in death or serious injury.
	CAUTION	Potentially dangerous situation. Non-observance may result in minor injury.
	NOTICE	Potentially dangerous situation. Non-observance may result in damage to property.
	Info	Provides information about particular characteristics and how to proceed.

Explanation of warning notice:

WARNING

This notice warns you of a danger!

Possible consequences of not observing the warning notice.

- ▶ The measures for preventing the hazard and its consequences.



1.3 GENERAL CHARACTERS AND SYMBOLS

The characters and symbols in this operating manual indicate the following:

- ✓ Requirement that must be fulfilled before an action can be performed.

1. Step 1 of an action to be performed with several action steps.

- ▶ Second level action step

2. Step 2

- ⇒ Intermediate result of an action

- ⇒ Result of a complete action

- ▶ Action to be performed with an action step

1. Numbered list, first level

- Numbered list, second level

- Non-numbered list, first level
- Non-numbered list, second level

[▶▶ 8] = cross-reference on page

◆ = wearing parts

* = included in service set

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

1.4 LANGUAGES

This GM 5000EA operating manual is available in the following languages:

Original operating manual

Language	Order no.
English	2432029

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

1.5 ABBREVIATIONS

Order no.	Order number
ET	Spare part
K	Marking in the spare parts lists
Pos	Position
Stk	Number of pieces
EA	Electrostatic Airspray
GM	Manual gun
Low R	Low-resistance
SW	Wrench size

Materials

SSt	Stainless steel
PEEK	Polyether ether ketone (high temperature resistant thermoplastic plastic)

1.6 TERMINOLOGY FOR THE PURPOSE OF THIS MANUAL

Cleaning

Cleaning	Manual cleaning of devices and device parts with cleaning agent.
Flushing	Internal flushing of paint-wetted parts with flushing agent.
Product pressure generator	Pump or pressure tank.

Personnel qualifications

Trained person	Is instructed in the tasks assigned to him/her, the potential risks associated with improper behavior as well as the necessary protective devices and measures.
Electrically trained person	Is instructed by an electrician about the tasks assigned to him/her, the potential risks associated with improper behavior as well as the necessary protective devices and measures.
Electrician	Can assess the work assigned to him/her and detect possible hazards based on his/her technical training, knowledge and experience in relevant provisions.
Skilled person	A person who, based on his/her technical training, experience and recent vocational experience, has sufficient technical knowledge in the area of electrostatic coating 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. Additional requirements for skilled persons: Expert knowledge in the areas of protection against excessive pressure, electrical hazards, and explosion protection (where applicable).

2 USING IN ACCORDANCE WITH THE INSTRUCTIONS

2.1 DEVICE TYPE

Electrostatic manual spray gun for manual coating of grounded work pieces.

2.2 TYPE OF USE

The GM 5000EA electrostatic manual spray gun is suitable for spraying liquid products, particularly coating products, using the air atomizing method.

Coating products may be processed which contain components of substances of explosion group IIA and IIB (maximum ignition energy 0.24 mJ).

WAGNER explicitly prohibits any other use!

The device may only be operated under the following conditions:

- ▶ Use the device only to work with the materials 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 GM 5000EA electrostatic manual spray gun is suitable for coating electrically conductive objects with liquid coating products and can be used in potentially explosive areas.

(See Explosion Protection Identification in chapter Explosion Protection Identification [►► 11].)



2.4 PROCESSIBLE WORKING MATERIALS

- ▶ Lacquers whose ingredients contain substances of explosion class IIA and IIB (maximum ignition energy 0.24 mJ) can be processed with the GM 5000EA spray gun.
- ▶ The basic spray gun version is suitable for processing sprayed substances with an electrical resistance of $> 150 \text{ k}\Omega$ (according to the WAGNER scale).
Equipped with a special product hose for low-resistance sprayed substances (available as an accessory), you can also successfully process sprayed substances with an electrical resistance $> 50 \text{ k}\Omega$ (according to the WAGNER scale).
- ▶ The application effectiveness is always dependant on the composition of the product being used, e.g., pigments or resin.

Conversion of paint resistance

There are paint resistance measuring devices available on the market that do not directly measure the specific paint resistance.

Multiplying the result of the measurement with the device-specific cell constant (K), we obtain the specific resistance value of the product.

Example:

With WAGNER's paint resistance measuring device, the cell constant is K 123.

Measured value according to the WAGNER scale $R = 500 \text{ k}\Omega$

Specific resistance (RS) $RS = R \times K = 500 \text{ k}\Omega \times 123 = 61.5 \text{ M}\Omega \text{ cm}$

Note:

When using sprayed substances with too low of an electrical resistance, the application of electrostatics does not show any effect, i.e. there is no "paint wrap around" on the object to be sprayed.

The suitability of the spray product, with regard to the charging ability, can be read from the actual values for high voltage (kV) and for the spray current (μ A) shown in the illuminated displays either on the VM 5000 or EPG 5000 control unit or on the spray gun.

High kV value, low μ A value = ok

Low kV value, high μ A value = excessive conductivity of the paint

▶ no wrap-around

Info

Contact your local WAGNER dealer and the lacquer manufacturer if you encounter 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. It is important to note that the device's materials are not food-safe.

3 IDENTIFICATION

3.1 EXPLOSION PROTECTION IDENTIFICATION

The device is designed as defined by statutory requirement SI 2016/1107. The device is suitable for use in potentially explosive areas.

Device type	GM 5000EA electrostatic manual spray gun
Manufacturer	Wagner International AG 9450 Altstätten Switzerland



UKCA
0518  II 2 G 0.24 mJ
CSAE 21 UKEX 5231 X
CSAE 21 UKEX 5232 X

UKCA	UK Conformity Assessed
0518	Notified body: CSA UK
Ex	Explosion-proof equipment
II	Device group II (not mining)
2	Category 2 device (suitable for zone 1)
G	Ex-atmosphere gas
0.24 mJ	Maximum ignition energy
CSAE .. UKEX X	Number of type examination certificate "X": see chapter Identification "X" [►► 11].



Temperature notes

- Maximum surface temperature: 85 °C; 185 °F
- Maximum permissible product temperature: 50 °C; 122 °F
- Permissible ambient temperature: 0 to +40 °C; +32 to +104 °F

3.2 IDENTIFICATION "X"

Notice: CSAE 21 UKEX 5231 X

The EC Type Examination Certificate covers the following:

- The use of the spray gun in Zone 1
- The use of the VM 5000 or VM 500 control units as related equipment for the spray gun

The VM 5000 or VM 500 control unit may be used in zone 2. This usage is certified by the manufacturer (see operating manual of the control unit).

Notice: CSAE 21 UKEX 5232 X

The EC Type Examination Certificate covers the following:

- The use of the spray gun in Zone 1
- The use of the EPG 5000 control unit as related equipment for the spray gun.

Cable connections

Only cables assigned to the device may be used (see chapter Accessories [►► 73]).

Permissible device combinations

The GM 5000EA manual spray gun may only be connected to the control units listed below:

- VM 500
- VM 5000

– EPG 5000

⚠ WARNING

Incorrect use!

Risk of injury and damage to the device.

- ▶ Connect the GM 5000EA manual spray gun only to original WAGNER control units.

3.3 USE IN AREAS SUBJECT TO EXPLOSION HAZARDS

Electrostatic surface spraying

- ▶ Never spray device parts using electrostatic equipment (electrostatic spray gun)!



Cleaning

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

1. Remove deposits from the surfaces to maintain conductivity.
2. Use only a damp cloth to clean the device.



3.4 TYPE PLATE

1 

WAGNER
Wagner International AG
CH-9450 Allstatten

2 **GM 5000EA**

3 Art. Nr.: 2309822

4 high voltage: max. 80kV DC

5 current: max. 100µA DC

6 max. mat. pressure: 0.8MPa; 8bar; 116psi

7 max. air pressure: 0.8MPa, 8bar; 116psi

B_06423

UK CA 0518 CE 2813

8  II 2 G 0.24 mJ

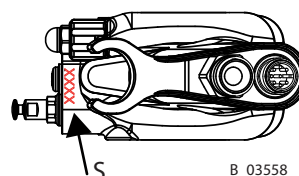
9 CSAE 21 UKEX 5231 X
CSAE 21 UKEX 5232 X
SIRA 11 ATEX 5374 X
SIRA 16 ATEX 5290 X
BS EN 50050-1:2013
EN 50050-1:2013

10 For Electro. Fin. Appl. CL. I, GP. D, Spray Matl.
Ta = 0 °C – 40 °C, Temp code = T6

1	Warning: danger of injuries caused by high-pressure jet	6	Maximum product pressure
2	Device type	7	Maximum air pressure
3	Article number	8	Do not dispose of used electrical equipment with household refuse.
4	Maximum high voltage	9	Identification and test centre
5	Maximum current	10	For electrostatic finishing applications using class I, group D, spray product

Serial number

The serial number (S) on the underside of the handle.



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 statutory provisions concerning occupational safety and accident prevention regulations.



4.1.1 Electrical devices and equipment

Danger of electric shock!

Danger to life from electric shock:

- ▶ Place and operate device in accordance with the existing 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.
- ▶ Do not disconnect any plug connections during operation.
- ▶ Label plug connections with the warning "Do not disconnect when energized".
- ▶ Must be repaired immediately in the event of problems.
- ▶ Decommission if device poses a danger or is damaged.
- ▶ Disconnect the power supply before starting maintenance or repair work on the device.
 - ▶ Secure the device against being switched back on without authorization.
 - ▶ 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

Danger due to dangerous fluids or vapors!

Severe or fatal injuries due to explosion danger or inhalation, swallowing or contact with the skin or eyes.

- ▶ Ensure that the floor in the working area is static dissipative in accordance with BS EN 1081:2018+A1:2020 or BS EN 61340-4-1:2004+A1:2015 (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 is available and is used.



- ▶ Make sure that all people within the work area wear static dissipative shoes. The footwear must correspond to BS EN ISO 20344:2011. The measured insulation resistance must not exceed 100 MΩ.
- ▶ Ensure that during spraying, persons wear static dissipative gloves. The grounding takes place via the spray gun's handle or its trigger.
- ▶ Protective clothing including gloves, must correspond to BS EN 1149-5:2018. 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. Do not smoke.
- ▶ 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.
- ▶ Ensure that maintenance and safety checks are performed regularly.
- ▶ In the event of defects, immediately bring the device or system to a stop and arrange to have repairs carried out immediately.

4.1.3 Personnel qualifications

Danger 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 observe the information in this manual, particularly the safety instructions and the warning instructions.
- ▶ Always follow statutory provisions concerning occupational safety and accident prevention regulations.

Danger due to high-voltage field!

Danger to life from malfunction of active implants.

- ▶ Persons belonging to a risk group as defined by the UK statutory requirement SI 2016 No. 588 (EMF) (e.g., carriers of active implants), must not enter the high-voltage area.



4.2.1 Personal Safety Equipment

Danger 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.
- ▶ Implement the prescribed safety measures, in particular the wearing of safety glasses, safety clothing and protective gloves as well as the use of protective hand cream.
- ▶ 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

Danger 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.
- ▶ Perform the following measures 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
 - ▶ Securing 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 chapter on troubleshooting and rectification.
- ▶ 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 device

Danger due to electrostatic charge!

Risk of injury, 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).
- ▶ Earth the workpieces being painted.
- ▶ 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's handle or its trigger.

4.2.4 Product hoses

Danger 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
 - ▶ 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 device.
- ▶ 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.



4.2.5 Cleaning and flushing

Danger due to cleaning and flushing!

Explosion hazard and damage to the device.

- ▶ Non-ignitable cleaning agents and flushing agents should preferably be used.
- ▶ 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 devices containing aluminium or galvanized/zinc-plated parts. They may react chemically thus producing an explosion danger.
- ▶ Take measures for workplace safety.



- ▶ It should be noted that when the device is put into operation or emptied: depending on the coating product used, depending on the rinsing agent (solvent) used, there may briefly be a mixture inside the pipes and equipment which can ignite.
- ▶ Only use electrically conductive tanks for cleaning and flushing agents.
- ▶ The tanks must be grounded.

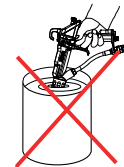
An explosive gas/air mixture forms in closed tanks.

- ▶ 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

Danger due to hot surfaces because of hot coating products!

Risk of burn injuries

- ▶ Only touch hot surfaces if you are wearing protective gloves.
- ▶ When operating the device with a coating product with a temperature of $> 43^{\circ}\text{C}$; 109°F , apply a warning label to the device that says "Warning - Hot Surface."



Instruction label: Order no. 9998910

Protection label: Order no. 9998911

Info

Order the two labels together.



4.2.7 Maintenance and repair

Danger 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.
- ▶ Repair or replacement of devices or parts of devices are only allowed to be performed outside the hazard area by qualified personnel.
- ▶ Use only WAGNER original spare parts and accessories.
- ▶ Do not change or modify the device; if change is necessary, contact WAGNER.
- ▶ Only repair and replace parts that are listed in Chapters Accessories [► 73] and Spare parts and that are assigned to the device.
- ▶ Do not use any defective components.
- ▶ Before all work on the device and in the event of work interruptions:
 - ▶ Relieve the pressure from the spray gun, product hoses and all devices.
 - ▶ Secure the spray gun against actuation.

- ▶ Switch off the energy and compressed air supply.
- ▶ Disconnect the control unit from the mains.
- ▶ Observe the operating and service manual for all work.

4.2.8 Protective and monitoring equipment

Danger 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.

4.2.9 Safety-Relevant Information about Discharges

The plastic parts of the spray gun are charged electrostatically by the high-voltage field. In case of contact with plastic parts, harmless discharges (brush discharges) may occur. They are completely non-hazardous for human health.

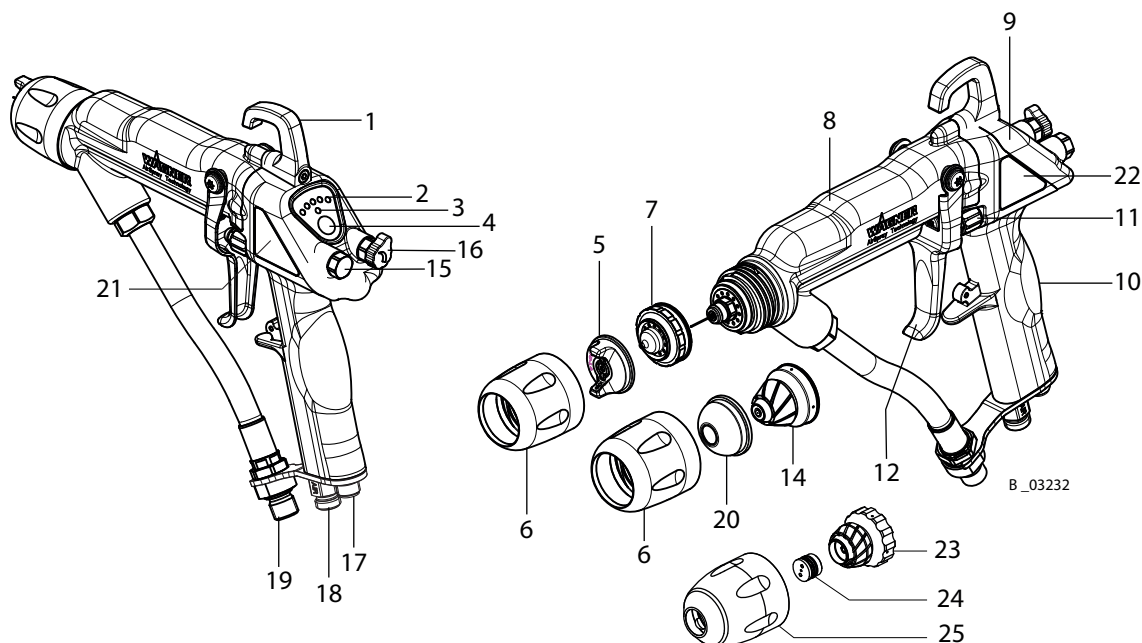
When keeping a distance of 4 to 10 mm; 0.15 to 0.4 inch between the spray gun and the object to be sprayed, the corona discharge at the end of the electrode is visible in the dark.

5 DESCRIPTION

5.1 STRUCTURE (BASIC VERSION)

Note:

The nozzle parts (pos. 5; 7; 14 and 20) do not belong to the basic equipment of the spray gun. The different design variants can be found in chapter Accessories [►► 73].



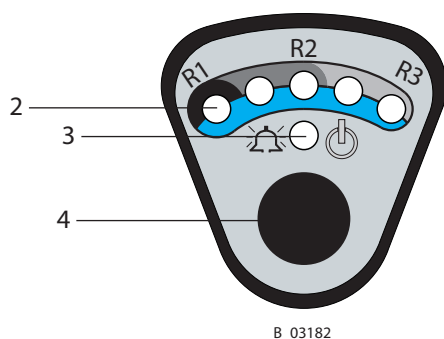
1	Suspension hook	14	Nozzle, AR 5000 (see chapter Accessories [►► 73])
2	Display (spray current and recipe)	15	Sealing plug
3	Display standby and fault	16	Air regulation
4	Operating button (standby and recipe change)	17	Electric cable connection
5	Air cap, "Air" (see chapter Accessories [►► 73])	18	Atomizing air connection
6	Union nut	19	Product connection
7	Flat jet nozzle, EAF 5000 x.x (see chapter Accessories [►► 73])	20	Air cap, AR 5000 (see chapter Accessories [►► 73])
8	Adapter	21	Type plate*, left
9	Cover	22	Type plate*, right
10	Handle	23	Nozzle insert, EARV
11	Adjusting screw (stop)	24	Nozzle, EARV
12	Trigger lever	25	Union nut, EARV

* For information on the type plate and serial number, see chapter Type Plate [►► 12]

5.2 FUNCTIONING

Recipe display

When the spray gun is connected to the control unit and the control unit is switched on, the pre-defined recipe (R1, R2 or R3) is shown on the gun display (2) as follows.



Recipe 1 → ●○○○○ R1

Recipe 2 → ●●●○○ R2

Recipe 3 → ●●●●● R3

Recipe R1 → R2 → R3 → R1

Press the operating button (4) and hold the button pressed for at least 2 seconds to go forward 1 recipe.

Display (2) → ●●○○○ = Recipe values changed temporarily:

If the operating key (4) is pressed for 2 seconds, the saved recipe values for the previously selected recipe number will be reloaded from the memory.

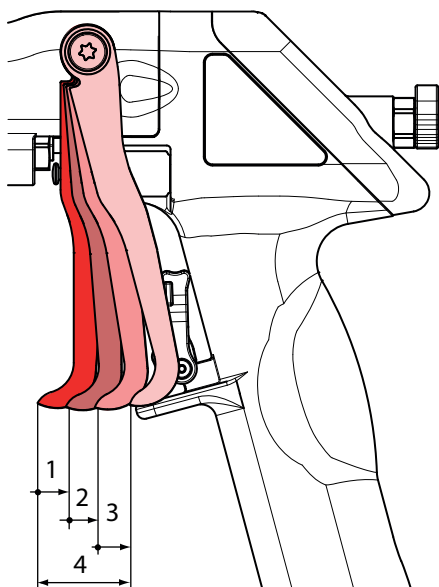
Status display during spraying mode

During spraying mode (trigger lever pressed), the status is shown in the display (2) by LEDs.

LED display	Description
LEDs 1 - 3 light up green	The spray gun is working in an optimal high-voltage spray current range.
One or both right-hand LEDs light up in orange. (Warning display: You can continue working without any limitations.)	Spray current too high. Possible causes: – Spray gun too close to the work piece – Contamination of the spray gun – Paint conductivity too high

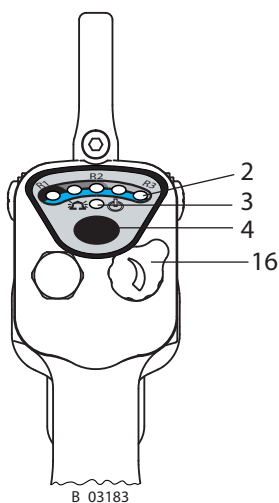
Trigger functions

The trigger can be used to activate, one after the other, the various functions of the spray gun.



B_03157

Distance	Description
1	Atomizing air opens.
2	Atomizing air open and electrostatically (high voltage) activated. – Display (2) for [Spray current] on the spray gun ●○○○○ to ●●●●● activated.
3	Atomizing air open, electrostatics (high voltage) activated and product valve open.
4	Total trigger path.



B_03183

- An increase in the force needed to pull the trigger back will be perceived at the position where the product valve opens.
- For spraying without high voltage, the high voltage can be switched off using the operating button (4). Press the operating button (4) briefly: High voltage is switched off. The [StandBy] display (3) lights up.

- In the event of a malfunction the spray gun switches to [StandBy] operating mode and the display (3) flashes.
- The relationship between shaping air / atomizing air is set using the **air regulation** (16).

5.3 EXTENT OF DELIVERY

Stk	Order no.	Designation
1	2309870	GM 5000EA spray gun Without control unit, product and air hose, electric cable, air cap and nozzle.

Each spray gun includes the following as standard equipment:

Stk	Order no.	Designation
1	2309368	Valve needle assembly tool
1	2325263	Clamping screw assembly tool
1	2319653	Protection gloves against spray mist
1	2310487	Declaration of Conformity
1	2310480	Operating manual, in German
1	see chapter Languages [►► 7]	Operating manual in local language

The basic spray gun version can be adapted optimally to any application depending upon the requirements and the desired accessories with the help of the spray gun configurator. The delivery note shows the exact scope of delivery.

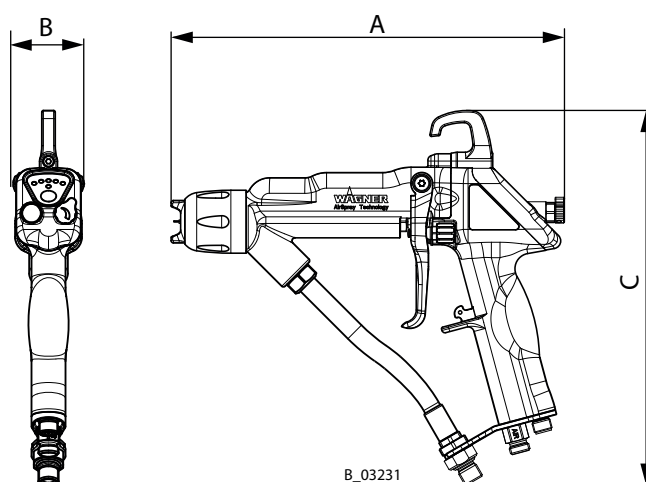
5.4 TECHNICAL DATA

Description	Units	GM 5000EA
Maximum air pressure	MPa bar psi	0.8 8 116
Maximum product pressure	MPa bar psi	0.8 8 116
Product connection	inch	G 1/4" A
Air connection	inch	G 1/4" A
Weight (without hose set)	g	630 (incl. union nut, nozzle and air cap)
Input voltage, maximum	Vpp	20
Input current, maximum	A AC	1.0
Output voltage, maximum	kV DC	80
Output current, maximum	µA DC	100
Operating temperature range	°C °F	0–40 32–104
Maximum permissible product temperature:	°C °F	50 122
Maximum surface temperature	°C °F	85 185

Description	Units	GM 5000EA
Compressed air quality: free from oil and water	Quality standard 6.5.2 according to ISO 8573.1, 2010	
	mg/m ³	6: Particle density ≤ 5
	°C	5: Humidity: pressure dew point ≤ +7
	mg/m ³	2: Oil content ≤ 0.1
Sound level at 0.3 MPa; 3 bar; 43.5 psi air pressure and 0.3 MPa; 3 bar; 43.5 psi product pressure *	dB(A)	73

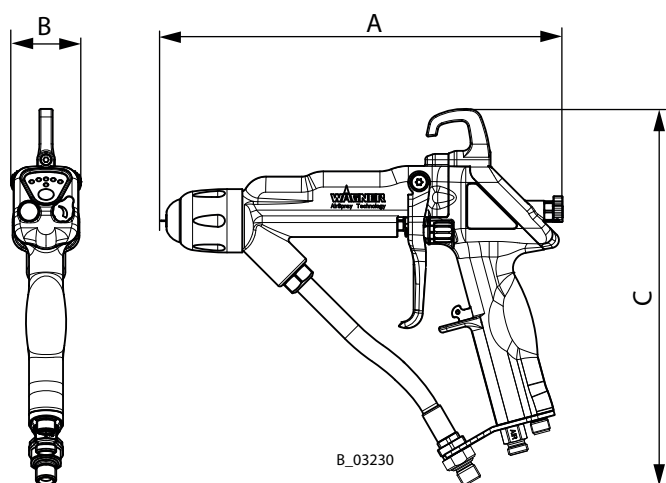
* A-rated emission sound pressure level measured at 1 m distance, LpA 1m, according to BS EN 14462:2015.

5.4.1 Dimensions of GM 5000EA



Dimensions of **GM 5000EA F** with flat jet nozzle

Pos	mm	inch
A	261	10.28
B	46	1.81
C	245	9.65



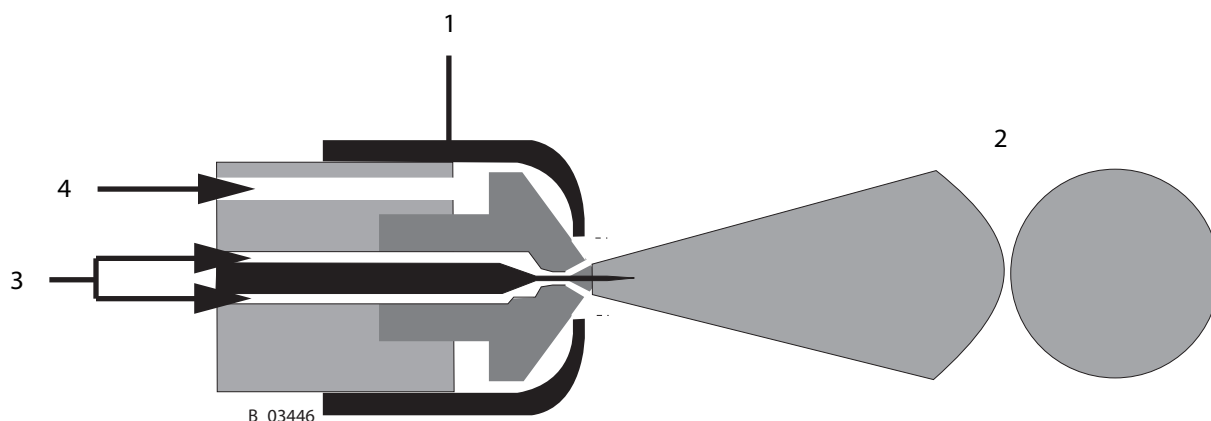
Dimensions of **GM 5000EA R** with round jet nozzle

Pos	mm	inch
A	261	10.28
B	46	1.81
C	245	9.65

5.5 SPRAYING PROCEDURE

5.5.1 Spraying Procedure with Round Jet Nozzle

In this process, the spray product is fed to the nozzle with a pressure of approx. 0.05–0.2 MPa; 0.5–2 bar; 7–29 psi. The atomizing air at approx. 0.25–0.4 MPa; 2.5–4 bar; 36–58 psi produces a soft spray jet, which largely eliminates the problem of overlapping boundaries at the edges. There are various nozzles and air caps available as accessories for the respective spray product and the discharge quantities.



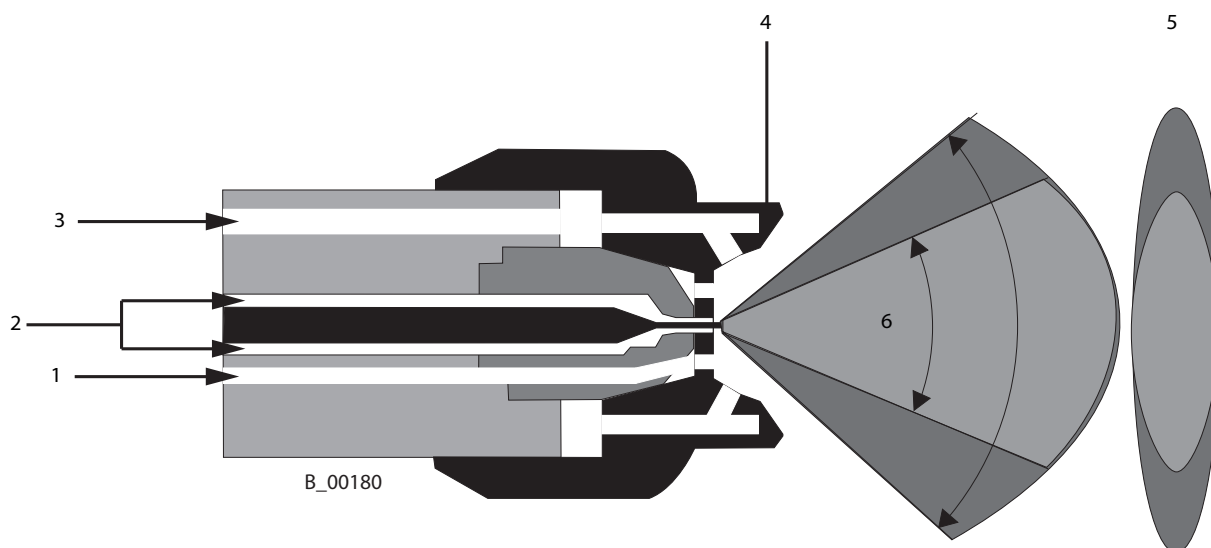
1	Union nut	3	Spray product
2	Spray pattern	4	Atomizing air

Advantages

- Thin layers
- Uniform coating thickness
- Excellent finish

5.5.2 Spray process with Flat Jet Nozzle

In this process, the spray product is fed to the nozzle with a pressure of 0.05–0.2 MPa; 0.5–2 bar; 7–29 psi. The atomizing air at approx. 0.25–0.4 MPa; 2.5–4 bar; 36–58 psi produces a soft spray jet, which largely eliminates the problem of overlapping boundaries at the edges. The shaping air allows modification of the spray jet. There are various nozzles and air caps available as accessories for the respective spray product and the discharge quantities.



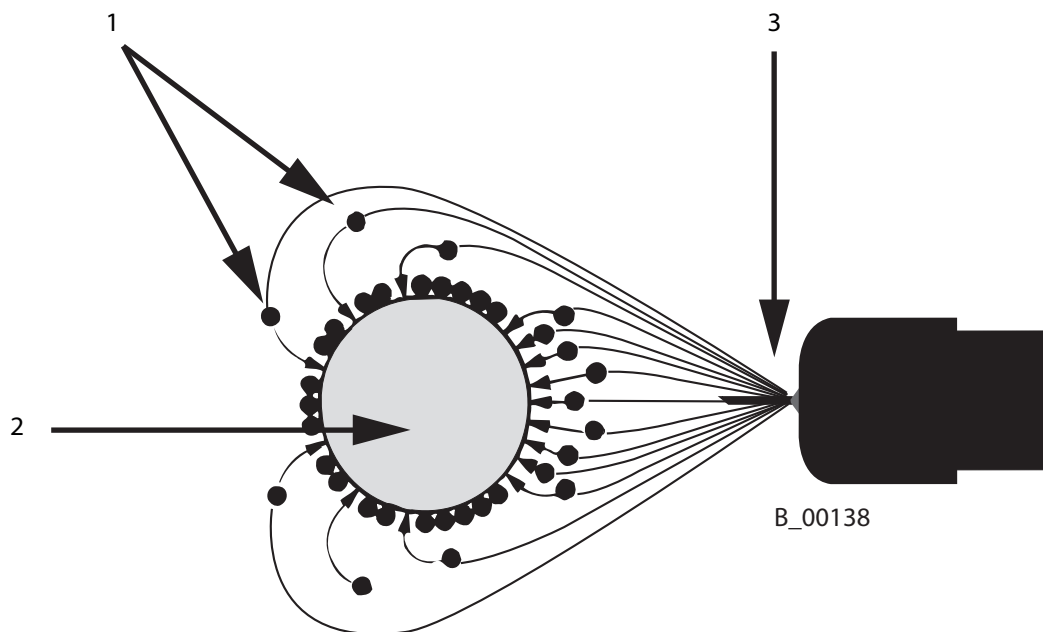
1	Atomizing air	4	Air cap
2	Spray product	5	Spray pattern
3	Shaping air	6	Spray angle

Advantages

- Large range of adjustment of the spray jet
- Thin layers
- Uniform coating thickness
- Excellent finish

5.5.3 The Electrostatic Effect

The spray gun produces an electrostatic field by means of the high-voltage electrode. As a result, the paint particles atomized by the spray gun are carried to the grounded work piece by kinetic and electrostatic energy, where they adhere finely dispersed to the object to be sprayed.



1	Paint particle	3	Electrode
2	Object to be sprayed is conductive and grounded		

Advantages

- Very high application effectiveness
- Low over spray
- Coating of entire circumferences due to the electrostatic effect
- Savings in working time

5.6 THE WAGNER ELECTROSTATIC AIR SPRAYING SYSTEM

The nozzle range (Accessories [►► 73] chapter) provided by WAGNER allows optimum coating results for any application.

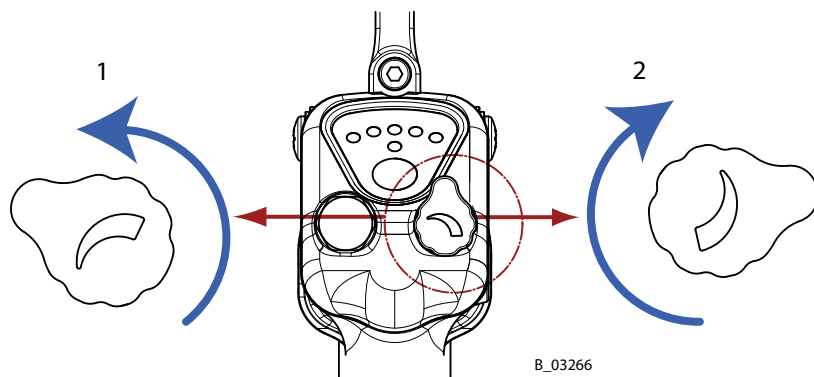
General criteria for selection of nozzles

Flat jet → parts with large surfaces

Round jet → for smaller delicate parts

Options for influencing the jet spray / spray pattern:

Description		Modification
Stop screw product valve	A_{MV}	From open to closed
Product pressure	P_{MAT}	+ or -
Atomising air pressure	P_{ZL}	+ or -
Air regulation	L_{FL}	From open to closed
Nozzle sizes	DS	Flow rate
Electrostatics	ES	+ or - or off



1	Air regulation (L_{FL}) closed	2	Air regulation (L_{FL}) opened
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5.6.1 Pressure Settings for Round Jet Nozzles

There are 4 nozzle sizes, D8, D12, EARV LV and EARV HV available. The air cap and nozzle are matched to each other according to size and may not be swapped. During the calibration of the product pressure (P_{PROD}) and the atomizing air pressure, (P_{AA}) the air control lever must be in a central position as shown in the photo.

Pressure setting	Nozzle D8 (small)	Nozzle D12 (large) /EARV
Product pressure (P_{MAT})	0.8 bar to 1.2 bar	0.8 bar to 1.6 bar
Atomizing air pressure (P_{ZL})	2.0 bar to 2.3 bar	2.3 bar to 3.0 bar

The table contains default values. Depending on the product, conditions and the desired result different values are possible or necessary.

5.6.2 Pressure Settings for Flat Jet Nozzles

There are 8 flat jet nozzle sizes from 0.6 up to 2.0 available. There are 2 air cap types (s = small, w = wide) with 3 different nozzle sizes each. Each air cap can be used in combination with 2 or 3 nozzles sizes. Only matching nozzle components may be used.

Pressure settings	Air cap 0.6-0.8	Air cap 1.0-1.4	Air cap 1.6-2.0
Product pressure (P_{MAT})	0.5 bar to 1.0 bar	1.0 bar to 2.0 bar	1.0 bar to 3.0 bar
Atomizing air pressure (P_{ZL})	1.0 bar to 3.0 bar	1.5 bar to 4.0 bar	1.5 bar to 5.0 bar

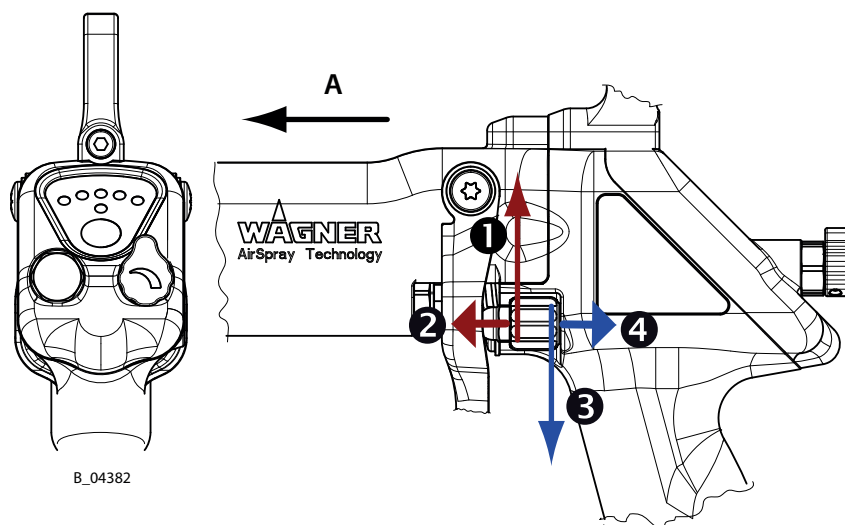
The table contains default values. Depending on the product, conditions and the desired result different values are possible or necessary.

Air cap type	Suitable nozzle sizes
0.4-0.8S / 0.4-0.8W	0.6 / 0.8
1.0-1.4S / 1.0-1.4W	1.0 / 1.2 / 1.4
1.6-2.0S / 1.6-2.0W	1.6 / 1.8 / 2.0

5.6.3 Adjusting Screw

By turning the adjusting screw (A_{MV}) (on the side of the gun) the outlet cross-section can be adjusted on the product valve. This cross-section is minimized by turning the screw upwards. With the same pressure settings, this results in a reduction of the flow rate and finer atomization.

Note: The spray pattern is reduced with this setting.



A	Spraying direction
---	--------------------

Reducing cross-section

1. Turn adjusting screw upwards (1)
2. Stop (A_{MV}) to the front (2)

Increasing cross-section

1. Turn adjusting screw downwards (3)
2. Stop (A_{MV}) to the rear (4)

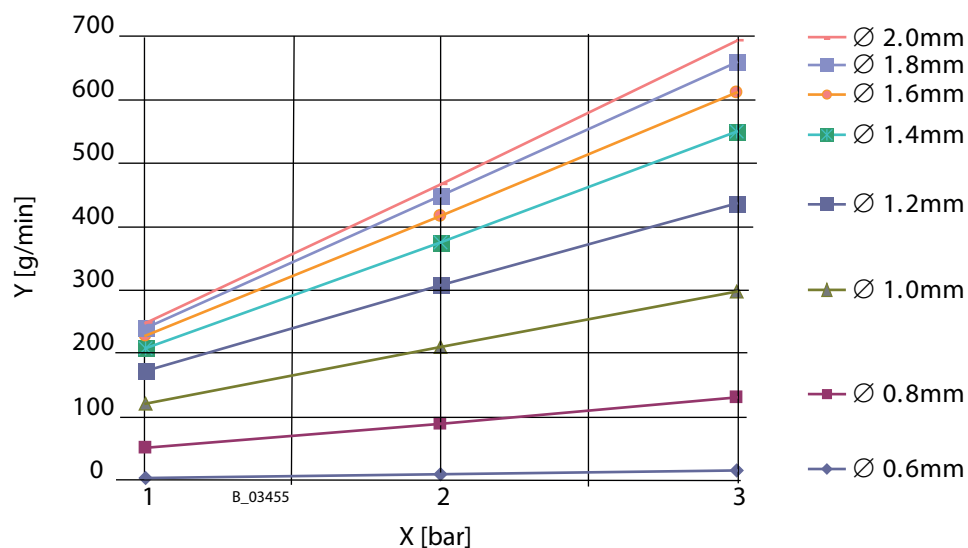
5.6.4 Electrostatic and Atomization

The electrostatic charging of the spray cloud produces a more homogeneous distribution of paint particles on the object (see also chapter The Electrostatic Effect [►► 25]).

5.6.5 Discharge Quantity Measurements

Flat jet nozzles

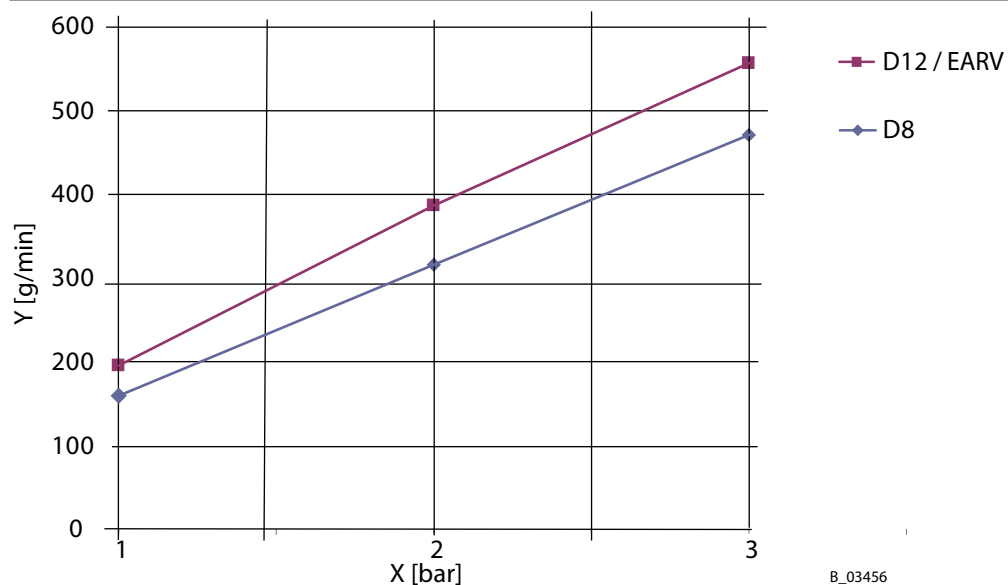
Device	GM 5000EA / flat jet nozzle
Viscosity	22 DIN/4 seconds
Product hose	Length: 7.5 m; 24.6 ft
	Inside diameter: 6 mm; 0.24 inch



X	Product pressure [bar]	Y	Discharge quantity [g/min]
---	------------------------	---	----------------------------

Round Jet Nozzles

Device	GM 5000EA / round jet nozzle
Viscosity	22 DIN/4 seconds
Product hose	Length: 7.5 m; 24.6 ft
	Inside diameter: 6 mm; 0.24 inch



X	Product pressure [bar]	Y	Discharge quantity [g/min]
---	------------------------	---	----------------------------

5.7 PROTECTIVE AND MONITORING EQUIPMENT

WARNING

Protective and monitoring equipment

Risk of injury and damage to the device.

- ▶ 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.



The following functions are provided for safety:

- Electrical monitoring of high voltage and spray current (maximum ignition energy 0.24 mJ) → No ignition danger and no danger to persons.
- Electrical ground monitoring of the spray gun

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 assembled and commissioned.

6.2 STORAGE CONDITIONS

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

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

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

6.3 INSTALLATION CONDITIONS

The air temperature at the installation site must be in a range between 0 and 40 °C; 32 and 104 °F.

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

6.4 TRANSPORTATION

Protect valve needle with protection cap (order no. 2315709).

6.5 ASSEMBLY AND INSTALLATION

Check the scope of delivery according to the delivery note. Become familiar with the function of the spray gun and all the other components used. Carefully read the accompanying operating manual.

Note the special requirements of the designated electrostatic air spray procedure.

Diagram illustrating the complete system assembly, showing the connection between the control unit, the pump assembly, and the spray gun. The diagram includes numbered callouts (1-15) and labels (L_{FL} , P_{ZL} , P_{MAT}) for various components. A power source symbol is shown at the bottom left.

1	Pressure tank	9	VM 5000 control unit
2	Stop valve	10	Product hose
3	Air pressure regulator tank	11	Compressed air main
4	Air pressure regulator with air filter	12	GM 5000EA Spray Gun
5	Grounding cable	13	Tank for return flow
6	Air hose	14	Protective hose
7	Air regulation	15	Mains cable
8	Gun cable		

Order number 2432029 | Edition 01/2025

6.5.2 Ventilation of the Spray Booth

The electrostatic spraying equipment may only be operated in defined spraying areas and in accordance with the BS EN 16985:2018 standard or under comparable ventilation conditions.

The electrostatic spraying equipment must be locked to the technical ventilation so that the coating product supply and the high voltage are not effective as long as the technical ventilation is not operated with the minimum exhaust air volume flow or a larger exhaust air volume flow.

Ensure that the excess coating product (overspray) will be collected up safely.

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 unit on an appropriate spraying wall with the ventilation (extraction) switched on.
- ▶ Observe national and local regulations for the outgoing air speed.



6.5.3 Air Supply Lines

WARNING

Hose connections!

Risk of injury and damage to the device.

- ▶ Do not mix up hose connections of product hose and air hose.
- ▶ Ensure that only dry, clean atomizing air is used in the spray gun! Dirt and moisture in the atomizing air worsens the spraying quality and spray pattern.



6.5.4 Product Supply Lines

! NOTICE

Impurities in the spraying system

Spray gun blockage, products harden in the spraying system.

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

! DANGER

Bursting hose, bursting threaded joints!

Danger to life from injection of product.

- ▶ Ensure that the hose material is chemically resistant to the sprayed products.
- ▶ Ensure that the spray gun, fittings and product hose between the device and the spray gun are suitable for the pressure generated in the device.
- ▶ Ensure that the following information can be seen on the high-pressure hose:
 - ▶ Manufacturer
 - ▶ Permissible operating pressure
 - ▶ Date of manufacture



6.5.5 Grounding

During normal operation, perfect grounding of all conductive parts such as floors, walls, roofs, barriers, work pieces, transport devices, coating product tank, coating product supply or construction parts in the spray area, with exception of the high-voltage parts, is important for work safety and optimum coating.

Parts of the booth must be grounded in accordance with BS EN 16985:2018.

! DANGER

Discharge of electrostatically charged components in atmospheres containing solvents!

Explosion hazard from electrostatic sparks or flames.

- ▶ Earth all unit components.
- ▶ Earth the workpieces being painted.
- ▶ Use only a damp cloth to clean the device.



! WARNING

Heavy paint mist if grounding is insufficient!

Risk of poisoning.

Insufficient paint application quality

- ▶ Earth all unit components.
- ▶ Earth the workpieces being painted.



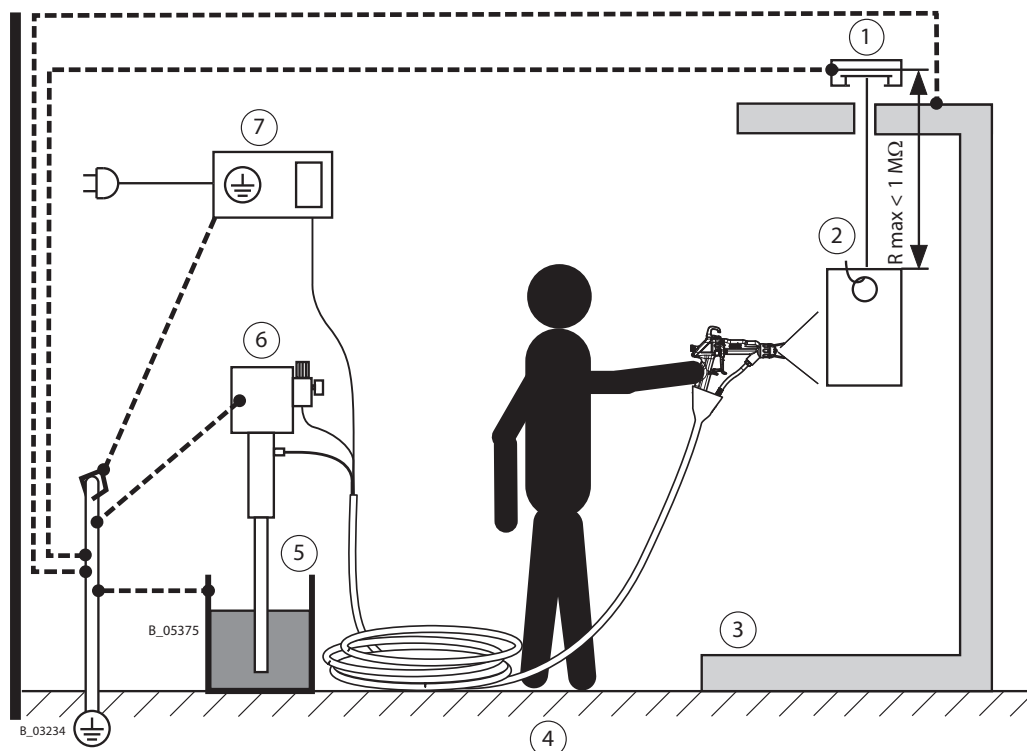
A poorly grounded work piece causes:

- Very bad wrap around
- Uneven coating

- Back spraying to the spray gun (contamination) and coater

Prerequisites for perfect grounding and coating of a work piece are:

- Electroconductive suspension for the work piece that is to be coated
- Grounding of spray booth, conveyor system and suspension equipment on the building side in accordance with the operating manuals or the manufacturer's information.
- Grounding of all conductive parts within the working area.
- That a grounding resistance of the work piece of 1 MΩ is not exceeded (resistance to ground measured at 500 V or 1000 V)
- Connect the control unit to the signal ground.
- Connect all grounding cables using a short and direct route.
- Safety shoes and gloves, if used, must be static dissipative.



Earthing schema (example)

Pos	Part / workstation	Minimum cable cross section
1	Conveyor	16 mm ² / AWG 6
2	Work piece	—
3	Spraying stand Alternative: Spray booth	16 mm ² / AWG 6
4	Floor, static dissipative	—
5	Paint tank	4 mm ² / AWG 12
6	Product pressure generator	4 mm ² / AWG 12
7	Control unit	4 mm ² / AWG 12

Grounding of spray gun

The spray gun is grounded via the spray gun's cable.

- The GM 5000EA spray gun must be connected to the VM 500, VM 5000 or EPG 5000 control unit via the spray gun cable.

Notice for the coater

Safety shoes and gloves, if used, must be static dissipative.

6.6 LACQUER PREPARATIONS

The viscosity of the lacquer is of great importance. Adjust the viscosity according to the application. The best spraying results are obtained with values between 15 and 30 DIN/4 seconds (measured in immersion flow cup DIN 4 mm; 0.16 inch).

In the case of application problems contact the lacquer manufacturer.

6.6.1 Viscosity Conversion Table

Millipascal × sec mPa s	Centipoise cP	Poise P	DIN cup 4 mm sec	ISO cup			Ford cup Number 4 sec	Zahn cup Number 2 sec
				4 mm sec	5 mm sec	6 mm sec		
10	10	0.1	--	14	--	--	5	16
15	15	0.15	--	17	--	--	8	17
20	20	0.2	--	20	--	--	10	18
25	25	0.25	14	23	--	--	12	19
30	30	0.3	15	26	--	--	14	20
40	40	0.4	17	33	--	--	18	22
50	50	0.5	19	40	--	--	22	24
60	60	0.6	21	47	--	--	26	27
70	70	0.7	23	54	--	--	28	30
80	80	0.8	25	62	28	--	31	34
90	90	0.9	28	70	31	--	32	37
100	100	1	30	78	34	--	34	41
120	120	1.2	33	90	40	--	41	49
140	140	1.4	37	105	46	--	45	58
160	160	1.6	43	--	52	--	50	66
180	180	1.8	46	--	58	28	54	74
200	200	2	49	--	63	31	58	82
220	220	2.2	52	--	69	34	62	--
240	240	2.4	56	--	75	37	65	--
260	260	2.6	62	--	82	40	68	--
280	280	2.8	65	--	89	43	70	--
300	300	3	70	--	95	46	74	--
320	320	3.2	--	--	--	48	--	--
340	340	3.4	--	--	--	51	--	--
360	360	3.6	80	--	--	54	--	--
380	380	3.8	--	--	--	57	--	--
400	400	4	90	--	--	60	--	--

6.7 START UP

! NOTICE

Impurities in the spraying system

Spray gun blockage, products harden in the spraying system.

- ▶ Flush the spray gun and paint supply with a suitable flushing agent before commissioning.
1. Make sure that all other conductive parts within the work area are grounded, see chapter Grounding [▶▶ 34].
 2. Connect the product hose to the spray gun and the product pump or the pressure tank.
 3. Check that all product-conveying connections are correctly connected.
 4. Connect air hose to spray gun and to supply of oil-free dry air, approx. 0.25 MPa; 2.5 bar; 36 psi, see compressed air quality in chapter Technical Data [▶▶ 22].
 5. Check that all air-conveying connections are correctly connected.
 6. Connect the electric cable to the spray gun and to the VM 500, VM 5000 or EPG 5000 control unit, see chapter Gun Cables and Gun Cable Extensions [▶▶ 37].
 7. Visually check the permissible pressures for all the system components.
 8. Check the level of the separating agent in the pump and fill up if necessary.
 9. Provide product tank, tanks for flushing agent and an empty tank for return flow.
 10. Connect the system to the air and power supply.
 11. A basic flushing of system must be carried out before commissioning. Make sure that no nozzle is inserted into the gun.

6.7.1 Gun Cables and Gun Cable Extensions

! DANGER

Sparks form when the plug is removed!

Explosion hazard.

- ▶ When using the spray gun in potentially explosive areas:
The cable connection on the gun and the connection to any cable extensions may not be disconnected or connected in this area.



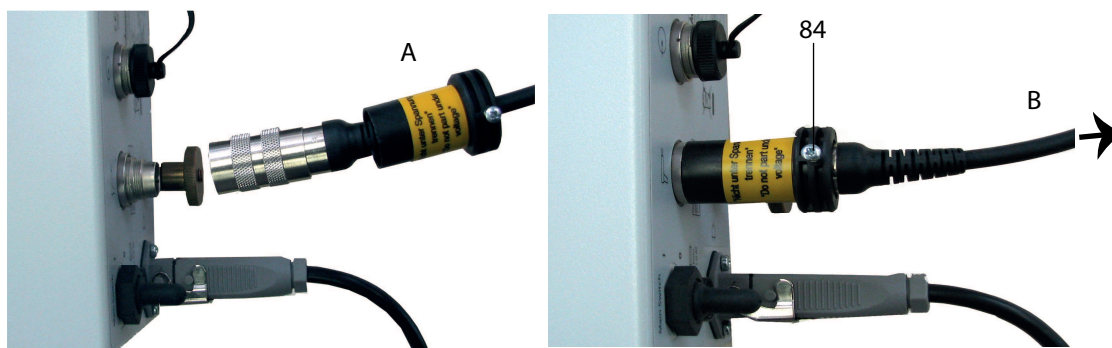
The following points must be noted:

- The cable connection to the gun and the connection to a cable extension may not be disconnected or connected in a potentially explosive area.
- Only disconnect or connect all cable extensions from the gun cable and the cable extension when the control unit is switched off.
- In order for the GM 5000EA spray gun to be grounded, it must be connected via the VM 500, VM 5000 or EPG 5000 control unit.

Gun cable is available in various lengths. For order numbers, see chapter Gun Cables and Gun Cable Extensions [▶▶ 79].

Attention: gun cable to control unit

Secure the cover sleeve with the warning sign with the screw (84) on the connector.



B_03691

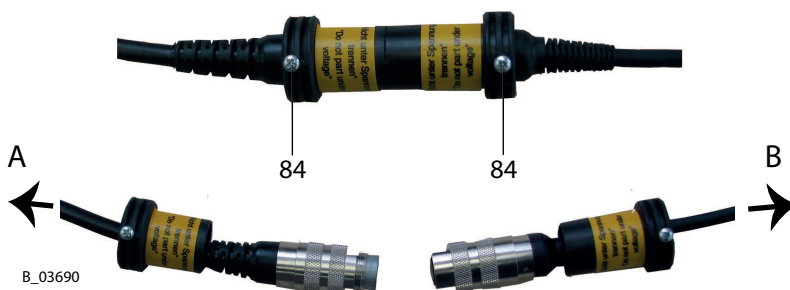
A	Warning notice: "Do not disconnect under voltage"	B	GM 5000E gun cable
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Attention: guns with electric extension cable

Secure the cover sleeves with the warning sign with the screws (84) on the connectors.

Power loss

In order to prevent power losses, keep the cable length as short as possible. The maximum power is available with the standard cable length of 10 m. An extension of the gun cable to a total length of up to 40 m will cause a power loss of up to 10%. The gun cable can be extended to a total length of 80 m. However, a power loss of up to 30% will be caused.



B_03690

A	Extension cable to the control unit	B	GM 5000E gun cable
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6.7.2 Verifying a Safe Operational Condition

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

This includes:

- Safety checks in accordance with chapter Safety Checks and Maintenance Intervals [►► 51].
- Function test in accordance with chapter Function Test after Repair Work [►► 69].

6.8 SAFETY CHECKS

- Safety checks in accordance with chapter Safety Checks and Maintenance Intervals [►► 51].

7 OPERATION

7.1 TRAINING THE OPERATING PERSONNEL

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

7.2 TASKS

DANGER

High-voltage field!

Danger to life from malfunction of heart pacemakers. Make sure that persons with pacemakers:

- ▶ do not work with the electrostatic spray gun,
- ▶ don't stay inside the area of the electrostatic spray gun/work piece.



WARNING

Discharge of electrostatically charged components in atmospheres containing solvents!

Explosion hazard from electrostatic spark-over.

- ▶ Use spray gun only with fitted nozzle, air cap and union nut.



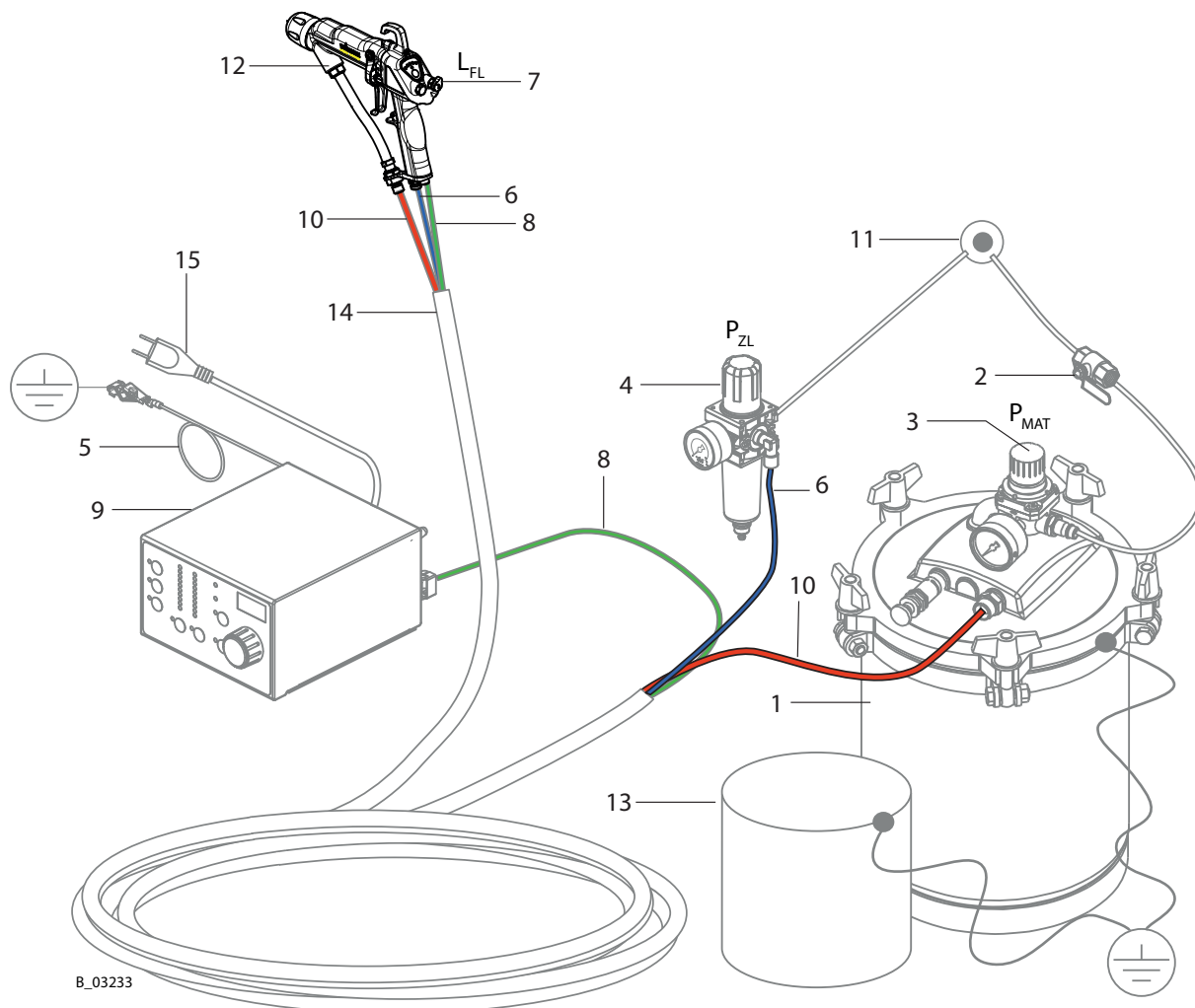
1. Ensure that:
 - ▶ the control unit was not opened;
 - ▶ the regular safety checks are carried out in accordance with chapter Safety Checks and Maintenance Intervals [▶▶ 51];
 - ▶ commissioning is carried out in accordance with chapter Assembly and commissioning [▶▶ 31].

7.2.1 Emergency Deactivation

In the case of unforeseen occurrences, proceed as follows:

1. Switch off control unit.
2. Close the compressed air supply.
3. Relieve pressure according to the operating manual of the product pressure generator.
4. Point the spray gun toward the grounded collecting tray.
5. Pull the trigger of the spray gun until no further pressure is present.

7.3 FILLING WITH WORKING PRODUCT



Example: Spraying system with pressure tank

1. Provide an empty tank (13) for return flow.
2. Put the tank with working product into the pressure tank (1) and close the pressure tank.
3. Open stop valve (2).
4. Adjust to approx. 0.05 to 0.15 MPa; 0.5 to 1.5 bar; 7 to 22 psi on the pressure regulator (3).
5. Point the gun, without nozzle, into the tank (13) and pull the trigger.
6. Close stop valve (2) as soon as pure working product without any air inclusions is flowing.
7. Close the gun if the pressure tank is depressurized.
8. Dispose of the contents of the tank (13) according to the local regulations.

7.4 CHECKING THE SPRAY PATTERN (WITHOUT ELECTROSTATICS)

Starting air-spraying (without electrostatics)

1. Switch off control unit. (The grounding of the spray gun is maintained via the gun cable.)

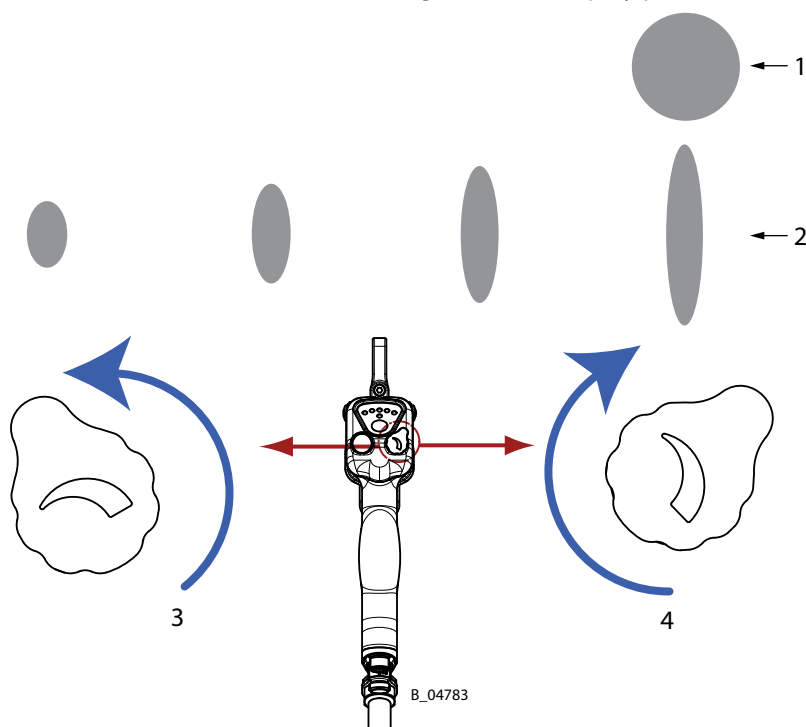
2. Start up with product pressure generator set to approx. 0.05 to 0.15 MPa; 0.5 to 1.5 bar; 7 to 22 psi operating pressure. See corresponding operating manual.
3. Set atomizing air regulator (4) to approx. 1-4 bar.
4. Open air regulator at the rear of the gun.
5. Spray (actuate trigger) and check the product atomization.
6. Set the spray pressure on the product pressure generator until good product atomization is achieved.
7. Adjust the atomizing air regulator until optimal atomization is achieved.
8. Flat jet process: with the air adjustment on the gun, set the ratio of shaping air/atomizing air so as to achieve an optimum spray pattern.

Changing the flow rate

1. Adapt product pressure.
2. Use a different nozzle (see chapter Accessories [►► 73]).
3. Limit the valve needle stroke with the adjustment screw on the side of the gun.

Spray pattern and air regulation

The spray pattern can be optimally adjusted to suit the object being sprayed using the air regulator. The illustration shows the influence of the regulator on the spray pattern. Other nozzle sizes can be used to obtain larger or smaller spray patterns.



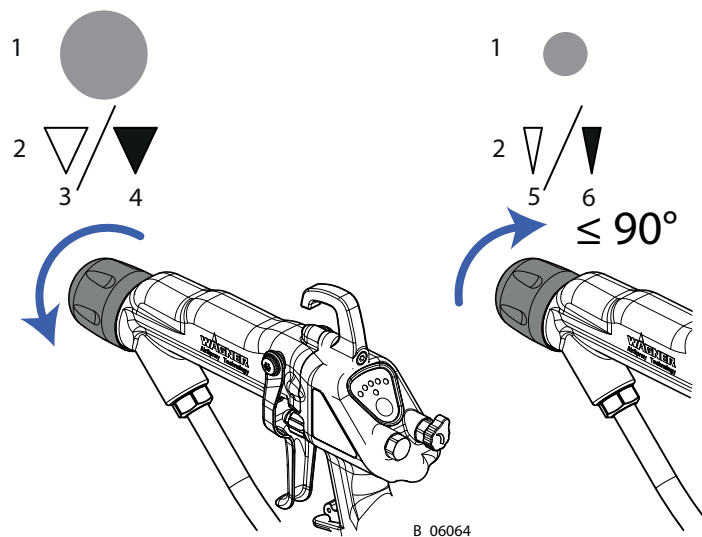
1	Round-jet method: Open air regulation	3	Air regulation closed.
2	Flat-jet method	4	Air regulation fully opened.

7.4.1 Adjustable EARV 5000 Round Jet Nozzle

EARV 5000

By turning the union nut, the spray pattern can be adjusted to suit the object being sprayed. The illustration shows the influence of the rotation on the spray pattern.

1. Set the union nut as far as the stop.
2. Open maximum 1/4 turn. The atomizing is good in this area.
 - ▶ The union nut should not protrude beyond the nozzle body.
 - ▶ Always fully open the shaping air regulation.



7.5 SPRAYING

1. Insert the desired nozzle into the spray gun.
2. Turn on the control unit. See corresponding operating manual.
3. Start up with product pressure generator set to approx. 0.05 to 0.15 MPa; 0.5 to 1.5 bar; 7 to 22 psi operating pressure. See corresponding operating manual.
4. Set atomizing air regulator (4) to approx. 1-4 bar.
5. Open air regulator at the rear of the gun.
6. Spray on a test object (pull trigger).
 - ⇒ Pressing the trigger on the spray gun switches the high-voltage supply on
7. Adjust the product pressure and atomizing air in accordance with the nozzle and object.

Rule of thumb: Set atomizing air pressure approx. three times higher than the product pressure.

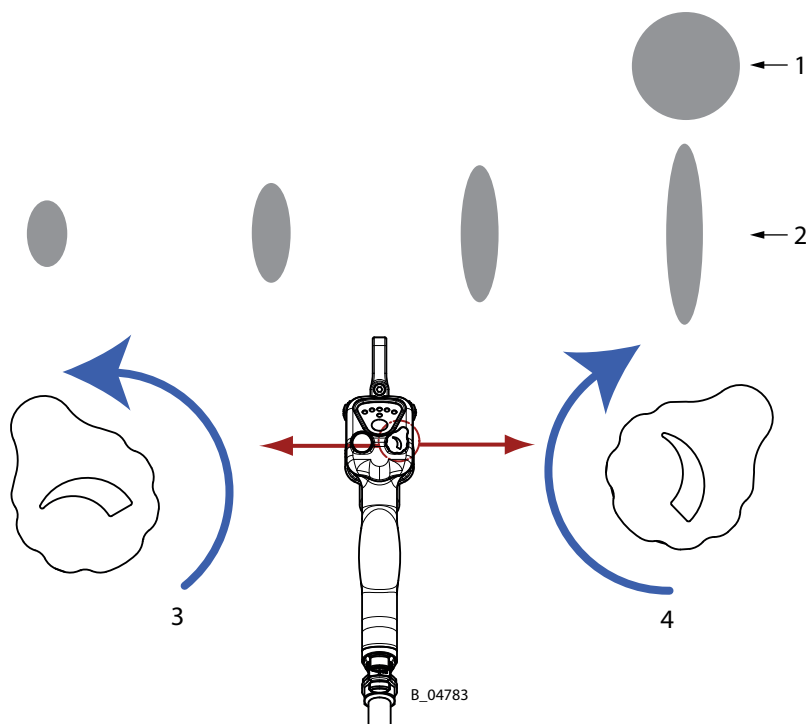
Round-jet method

- ▶ Open air regulation.
- ⇒ The size of the air cap should match with the nozzle size.
- ▶ Changing the EARV 5000 spray jet width: Switch off high voltage. Turning the union nut in accordance with chapter Checking the Spray Pattern (Without Electrostatics) [▶ 40].

Flat-jet method: Changing the spray jet width

- ▶ Change the width of the spray jet by turning the air regulator (at the rear of the spray gun, see illustration) or by appropriate selection of the nozzle.

Flow rate



1	Round-jet method: Open air regulation	3	Air regulation closed.
2	Flat-jet method	4	Air regulation fully opened.

Flow rate may be able to be reduced by:

1. Minimizing the product pressure.
2. Using a different nozzle size (see chapter Accessories [►► 73]).
3. Limit the valve needle stroke with the adjustment screw on the side of the gun.

7.6 PRESSURE RELIEF / WORK INTERRUPTION

The pressure must always be relieved:

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

Observe general safety instructions in chapter Basic safety instructions [►► 13].

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 immediately.
- ▶ Wear the appropriate protective clothing, gloves, eyewear, and respirator.



Depressurizing the spray gun

1. Switch off control unit.
2. Close the compressed air supply.
3. Relieve pressure according to the operating manual of the product pressure generator.
4. Point the spray gun toward the grounded collecting tray.
5. Pull the trigger of the spray gun until no further pressure is present.

7.7 CHANGING FROM AIR ROUND JET TO AIR FLAT JET

NOTICE

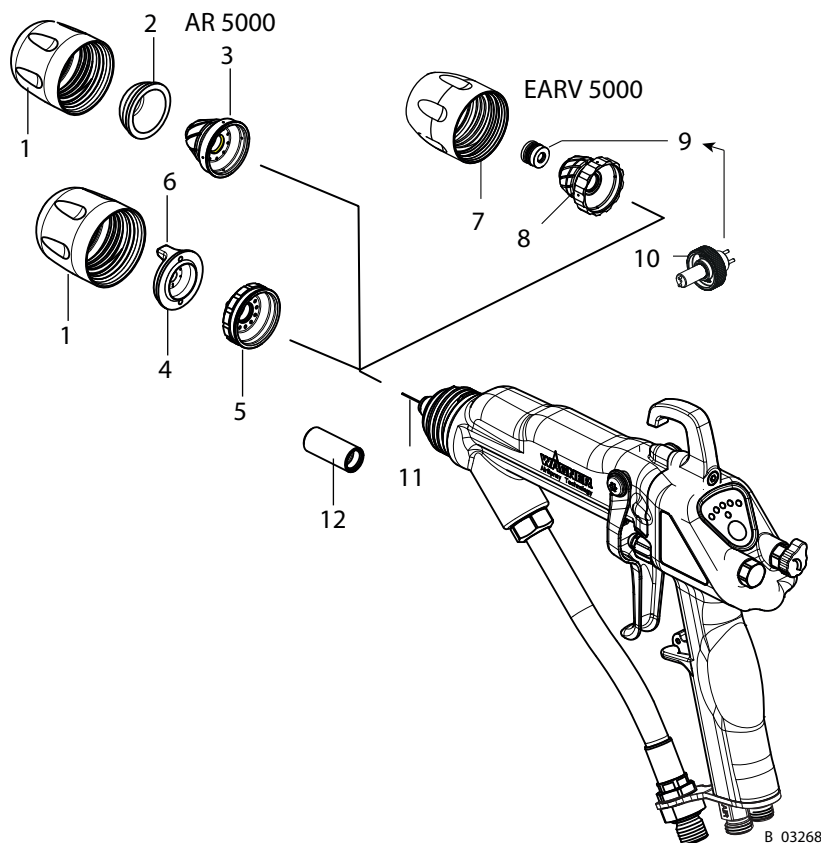
Defective electrode!

Material damage due to functional faults.

- ▶ Do not damage the electrode.

Flushing spray gun

1. Switch off control unit.
2. Relieve pressure (see chapter Pressure Relief / Work Interruption [▶▶ 43]).
3. Connect the system to the flushing agent supply.
4. Set product pressure. Close atomizing air regulator.
5. Thoroughly flush out the spray gun.
6. Relieve pressure (see chapter Pressure Relief / Work Interruption [▶▶ 43]).



Dismounting the nozzle

– Flat jet

1. Unscrew the union nut (1) by hand.
2. Remove EAF 5000 air cap (4).
3. Unscrew and remove EAF 5000 flat jet nozzle (5) by hand.
4. Clean the spray gun front carefully with damp cloth. Pay attention to the electrode (11). Use protective cap (12).

– AR 5000 – round jet

1. Unscrew the union nut (1) by hand.
2. Remove AR 5000 air cap (2). Unscrew AR 5000 nozzle (3) by hand and remove it.
3. Clean the spray gun front carefully with damp cloth. Pay attention to the electrode (11). Use protective cap (12).

– EARV 5000 – round jet

1. Unscrew the EARV union nut (7) by hand.
2. Unscrew and remove EARV nozzle (8) by hand.
3. Unscrew nozzle insert (9) from nozzle (8) using air nozzle wrench (10).
4. Clean the spray gun front carefully with damp cloth. Pay attention to the electrode (11). Use protective cap (12).

Mount nozzle

– Flat jet

1. Screw in and slightly tighten EAF 5000 flat jet nozzle (5) by hand.
2. Put the EAF 5000 air cap (4) in place. Screw the union nut (1) onto the spray gun body.

3. Set the desired flat jet level with the air cap horns (6) and then slightly tighten the union nut by hand.
 - **AR 5000 – round jet**
1. Screw on and slightly tighten AR 5000 nozzle (3) by hand.
2. Position AR 5000 air cap (2). Screw the union nut (1) onto the spray gun body and slightly tighten by hand.
 - **EARV 5000 – round jet**
1. Screw on EARV nozzle insert (9) into nozzle (8) using air nozzle wrench (10).
 - ⇒ Nozzle insert and nozzle body must be flush, subsequently do not continue turning.
2. Screw on and slightly tighten EARV nozzle (8) by hand.
3. Select EARV union nut (7) depending on the viscosity: HV or LV.
4. Screw the union nut onto the spray gun body and turn fully backwards by hand in order to achieve a large spray jet diameter.
5. Unscrew the nozzle nut no more than 90° in order to achieve a small spray jet diameter.

7.8 CLEANING OF THE NOZZLE PARTS

The nozzle parts (2, 3, 4, 5, 6, 8 and 9) may only be immersed into a cleaning solvent recommended by the lacquer manufacturer and must be removed again immediately. They may only remain in a cleaning solvent for a short time.

Clean these parts with a brush and dry them with a cloth or a blow gun.

7.9 CHANGING THE VALVE HOUSING

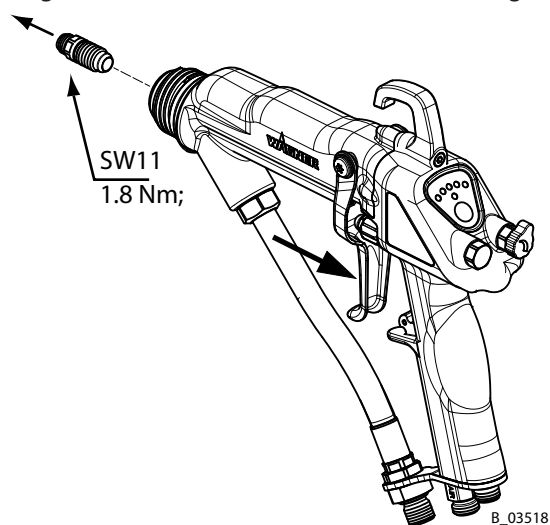
! NOTICE

Changing the valve housing!

Damage to the device.

- ▶ Activate the trigger when changing the valve housing.

To prevent damage to the gun (valve seat rubs on the valve needle, valve needle may loosen), activate the spray gun trigger when changing the valve housing. Use a socket or ring wrench (not a combination wrench) to tighten the valve housing.



Valve housing and valve tip are available in various materials:

	Valve housing (Valve seat material)	Valve tip (Material)
Standard version	Steel	PEEK
Special accessories	PEEK	Steel

When wear-related problems occur, the valve housing and/or valve tip can be replaced (see chapter Accessories [►► 73]).

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 Safety Instructions

DANGER

Explosive powder/air mixes!

Danger to life and equipment damage.

- ▶ Before starting cleaning, flushing, 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.
- ▶ Only electrically conductive tanks may be used for cleaning and flushing agents. Ground the tank.
- ▶ Preference should be given to non-ignitable cleaning and flushing agents.
- ▶ If ignitable solvents are used, the cleaning and flushing agent's flash point must be at least 15 K above the ambient temperature.
- ▶ Ignitable solvents and solvent gases must be completely removed, before the system can be recommissioned.
- ▶ Ensure that no electric component is cleaned with or immersed into solvent.



NOTICE

Damage to electrical devices!

Never immerse the spray gun in cleaning agent.

8.1.3 Cleaning and flushing the device

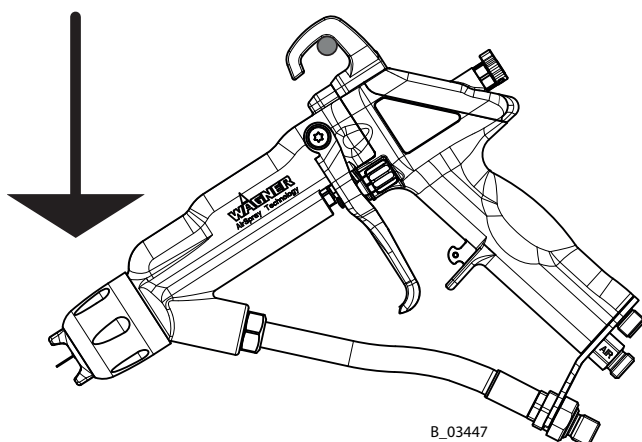
! NOTICE

Liquid in air tube!

Functional faults caused by swollen seals.

Discharge current to ground → No high voltage.

- ▶ Always point the spray gun down when cleaning.
- ▶ Ensure that neither lacquers nor cleaning or flushing agent enters the air duct.
- ▶ When taking a break from work or when stored for a longer period, the spray gun should be positioned with the adapter pointing downwards.



Regular flushing

1. The spraying system and the spray gun must be cleaned and flushed daily.
2. The cleaning and flushing agents used must be compatible with the working material.

! WARNING

Incompatibility of cleaning/flushing agent and working medium!

Risk of explosion and danger of poisoning by toxic gases.

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



Flushing procedures

1. Switch off control unit.
2. Carry out pressure relief in accordance with chapter Pressure Relief / Work Interruption [▶ 43].
3. Close air pressure regulator.
4. Remove nozzle and clean separately in accordance with chapter Cleaning of the Nozzle Parts [▶ 46]
5. Connect spraying system to flushing agent supply in accordance with operating manual for the product pressure generator.
6. Direct the spray gun into the collecting tray and actuate the trigger. Flush the gun thoroughly as soon as clean flushing agent emerges.
7. Remove flushing agent supply.

8. Close pump pressure regulator. Switch on compressed air supply and open air pressure regulator.
9. Press the trigger of the spray gun and thoroughly blow out the air passages.
10. Switch off the compressed air supply.
11. Clean the gun body and remaining components of the spraying system with a cleaning agent recommended by the lacquer manufacturer.
12. Dry with a cloth or a blow gun.

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

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

8.2.2 Safety Instructions

DANGER

Incorrect maintenance/repair!

Danger to life and equipment damage.

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



Prior to maintenance

- ▶ Flush and clean the system according to chapter Cleaning and flushing the device [▶▶ 49].

After maintenance

1. Carry out safety checks in accordance with chapter Safety Checks and Maintenance Intervals [▶▶ 51].
2. Put the system into operation in accordance with chapter Start Up [▶▶ 37] and check for leaks in accordance with chapter Product Pressure Test [▶▶ 71].
3. Carry out functional check in accordance with chapter Function Test after Repair Work [▶▶ 69].

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

8.2.3 Safety Checks and Maintenance Intervals

For the safe operation of electrostatic manual coating systems for ignitable liquid coating products, intervals for periodical inspections are defined as follows:

Inspection point	Inspection interval	Remarks
Spray gun cleaning, spray gun flushing	Every day	Spray gun operating manual, see chapter Cleaning and maintenance [▶▶ 48]
Hoses, tubes, couplings	Every day	
Grounding measures	Weekly	Chapter Grounding the device [▶▶ 15], chapter Grounding [▶▶ 34]
Inspection for damage	Weekly	Chapter Cleaning and maintenance [▶▶ 48], chapter Troubleshooting and Rectification [▶▶ 53]
Locking of the technical ventilation with the electrostatic spraying equipment	Annually	Chapter Ventilation of the Spray Booth [▶▶ 33]

The above recommended intervals are maximum values and may be modified by the operator depending on the local and operational conditions and the contamination.

Damaged devices must be decommissioned and repaired immediately.

8.2.4 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.

1. Check hoses, pipes, and couplings every day and replace if necessary.
2. Before every commissioning, check all connections for leaks.
3. 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.
4. Replace the complete hose if one of the following two periods is 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

* = If available, possibly without imprint for low pressure!

9 TROUBLESHOOTING AND RECTIFICATION

9.1 FAULTS IN THE SYSTEM

Functional fault	Cause	Rectification
Insufficient product output	Nozzle too small.	Flat jet: Select larger nozzle (see chapter Accessories [►► 73]).
	Product pressure too low.	Increase product pressure.
	Product viscosity too high.	Thin spray product in accordance with the manufacturer's instructions.
	Filter in paint supply clogged.	Clean or replace filter.
	Nozzle clogged.	Clean or replace nozzle.
	Product valve travel set too small.	Increase product valve travel by turning the stop screw.
Poor spray pattern	Atomizing air incorrectly adjusted.	Readjust atomizing air.
	Unfavorable nozzle size.	Select a different nozzle (see chapter Accessories [►► 73]).
	The product viscosity is too high.	Thin product in accordance with the spray product manufacturer's instructions.
	Product pressure too high/too low.	Adapt product pressure.
	Damaged nozzle.	Attach new nozzle.
Poor wrap-around	Poor grounding at object.	Check grounding of object or hanger with ohmmeter.
	Lacquer resistance too high/too low.	Check lacquer resistance (see chapter Processible Working Materials [►► 9]).
	Spraying pressure too high.	Adjust spraying pressure.
No wrap-around	No high voltage.	Switch on high voltage at the control unit. / Repair malfunction as explained in the control unit operating manual.
		Connect gun and gun cable/check for defect.
		Check lacquer resistance (see chapter Processible Working Materials [►► 9]).
	Seal in end piece defective.	Repair by WAGNER service department.
	Air-passages damp.	Clean and dry air passages.

Functional fault	Cause	Rectification
Back-spray	Object not grounded.	Check grounding.
	Distance between spray gun and work piece too great.	Reduce distance between spray gun and work piece.
	High voltage set incorrectly (too high).	Adapt high voltage to product.
	Loosen the nozzle union nut for round jet method.	Slightly tighten union nut by hand.
Product emission at nozzle when the gun is closed	Valve seat leaks, valve seat or valve tip worn.	Replace valve seat or valve tip.
Product emission from gun	Valve rod packing leaks/damaged.	Replace the packing (see chapter Repairs [►► 55]).

10 REPAIRS

10.1 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. A function test should be performed.

10.2 REPAIR NOTES

DANGER

Incorrect maintenance/repair!

Danger to life and equipment damage.

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



Before repair work

- ▶ Flush and clean the system according to chapter Cleaning and flushing the device [▶▶ 49].

After repair work

1. Carry out safety checks in accordance with chapter Safety Checks and Maintenance Intervals [▶▶ 51].
2. Put the system into operation in accordance with chapter Start Up [▶▶ 37] and check for leaks in accordance with chapter Product Pressure Test [▶▶ 71].
3. Carry out functional check in accordance with chapter Function Test after Repair Work [▶▶ 69].
4. Have the system checked for safe condition by a skilled person.
5. In accordance with DGUV regulation 100-500, chapters 2.29 and 2.36:
 - ▶ The liquid ejection devices should be checked by an expert (e.g., WAGNER service technician) for their safe working conditions as required and at least every 12 months.
 - ▶ For shut down devices, the examination can be suspended until the next start-up.

10.3 ASSEMBLY AIDS

In chapter Spare Parts [►► 82] 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 chapter Spare Parts [►► 82]. Spray gun in accordance with chapter Spray Gun [►► 56].

Brand notice:

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

10.4 SPRAY GUN

Plastic parts

Gently handle all plastic parts.

10.4.1 Tools

For disassembling and assembling the spray gun, the following tools are required:

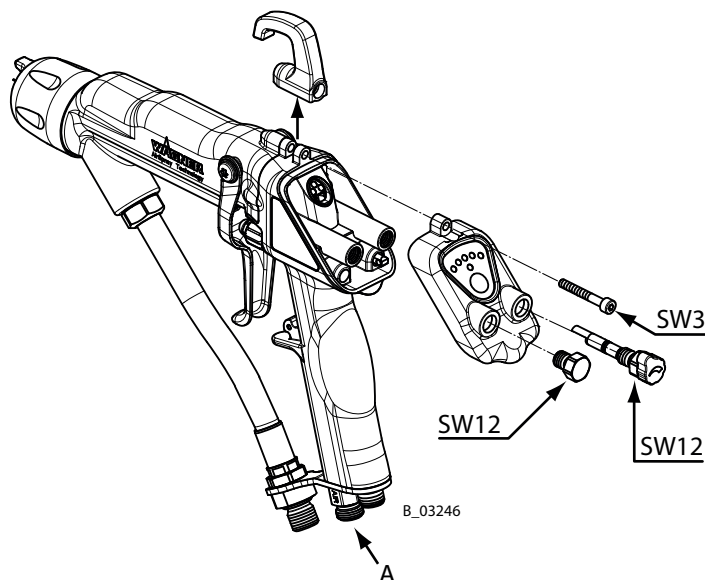
- | | |
|---|---|
| – Allen wrench, wrench size (SW) 2 | – Combination wrench, wrench size (SW) 14 |
| – Allen wrench, wrench size (SW) 3 | – Combination wrench, wrench size (SW) 19 |
| – Allen wrench, wrench size (SW) 5 | – Ring wrench, wrench size (SW) 9 |
| – Combination wrench, wrench size (SW) 5 | – Ring wrench, wrench size (SW) 11 |
| – Combination wrench, wrench size (SW) 6 | – Torx® wrench 20 |
| – Combination wrench, wrench size (SW) 8 | – Torx® wrench 25 |
| – Combination wrench, wrench size (SW) 11 | – Screwdriver No. 1 |
| – Combination wrench, wrench size (SW) 12 | – Slide gauge |
| – Valve needle assembly tool, order no. 2309368 | – Clamping screw assembly tool, order no. 2325263 |

Only as required:

- Handle seal assembly tool (order no. 2342334, not included in scope of delivery)

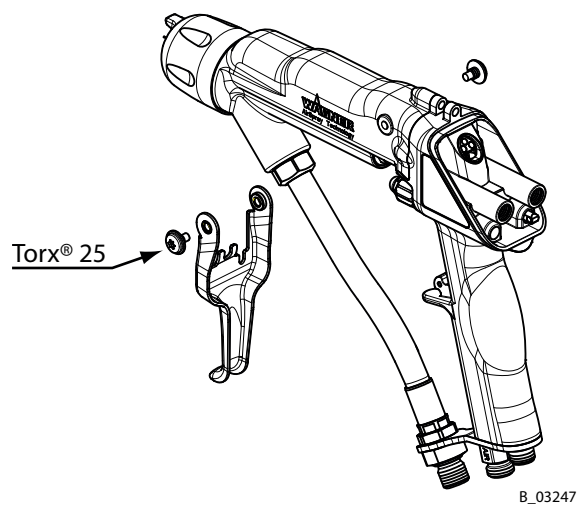
10.4.2 Dismantling the Spray Gun

1

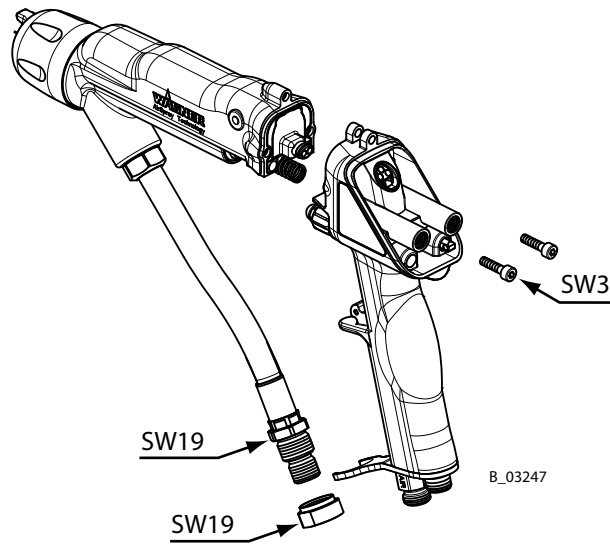


A Air hose:
When unscrewing the air hose, a second open-end/ring wrench must be used for counterholding.

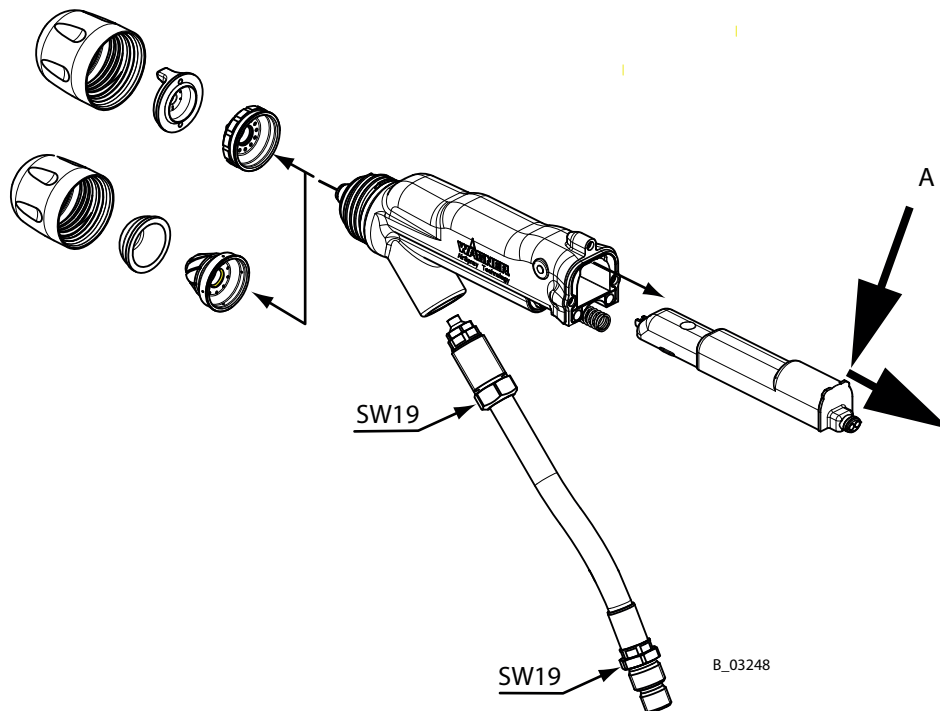
2



3

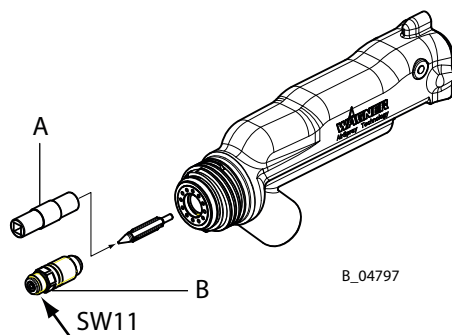


4



A Carefully release the cascade without pliers

5

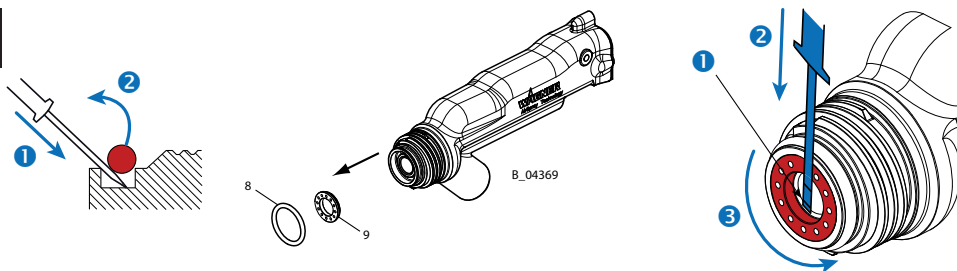


A	Valve needle assembly tool, order no. 2309368	B	Use a socket or ring wrench (not a combination wrench)
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Valve tip air:

- Loosen valve tip by hand using the valve needle assembly tool (order no. 2309368).

6



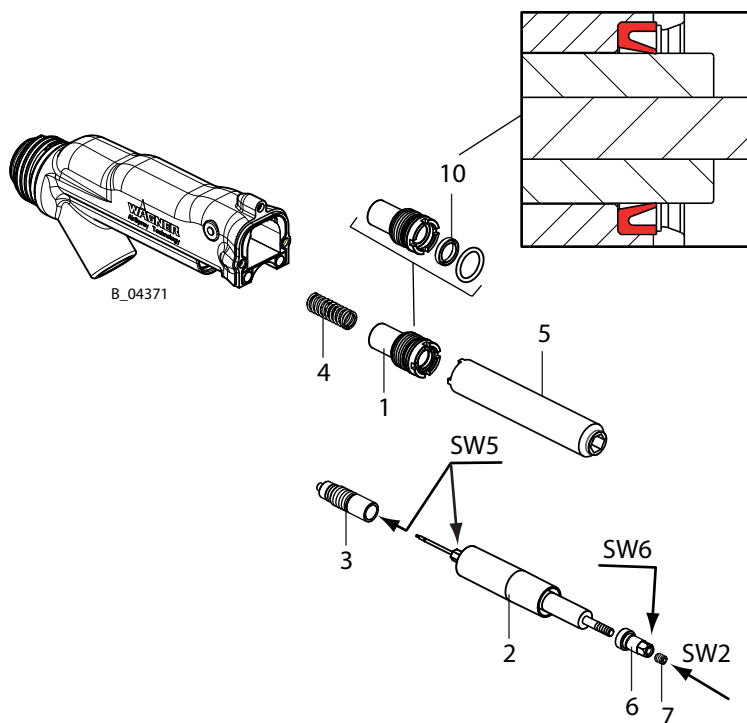
O-ring (8)

1. Use screwdriver no. 1 to press under the O-ring.
2. Push up the O-ring and remove it.

Air manifold ring (9)

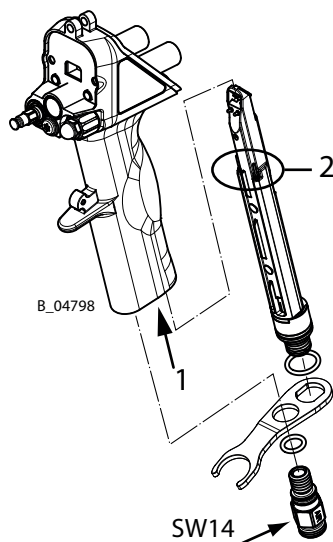
1. Locate the start of the thread for recessed internal threading.
2. Push under the air distribution ring directly in front of the start of the thread using screwdriver no. 1.
3. As soon as the ring disengages, carefully loosen it on all sides.

7



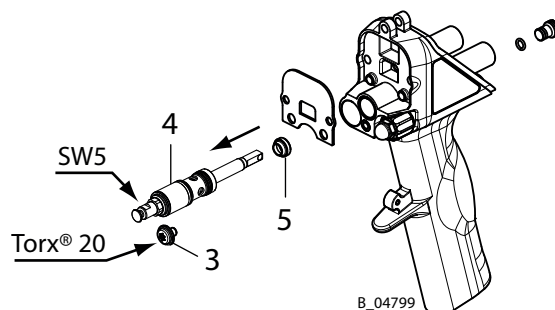
1. Remove pressure spring (4).
2. Loosen clamping screw (1) with assembly tool (5).
3. Unscrew valve rod unit (2, 6, 7). The packing (3) is also unscrewed and removed.
4. **Only as necessary:** Remove rod seal (10). Do not damage the housing in the process.

8



Two gold contact sleeves either remain in the handle (1) or are seated on the two gold pins (2).
Do not lose them!

9



1. Loosen the fillister head screw (3).
2. Pull the air valve (4) out off the drilled hole. Do not turn! Do not damage the cylindrical surfaces. Ideally, press on the tappet from behind using a transversely held screwdriver.
3. **Only as necessary:** Press out seal (5) using a handle seal assembly tool (order no. 2342334, not included in scope of delivery).

10.4.3 Cleaning the Parts after Disassembly

Please note:

1. All reusable parts (except for the parts conducting high voltage such as adapter etc.) should be cleaned thoroughly using a suitable cleaning agent.
2. The adapter, plug, inside handle and all dismantled parts must 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.
3. 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.
4. Defective parts, O-rings and seal sets 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.



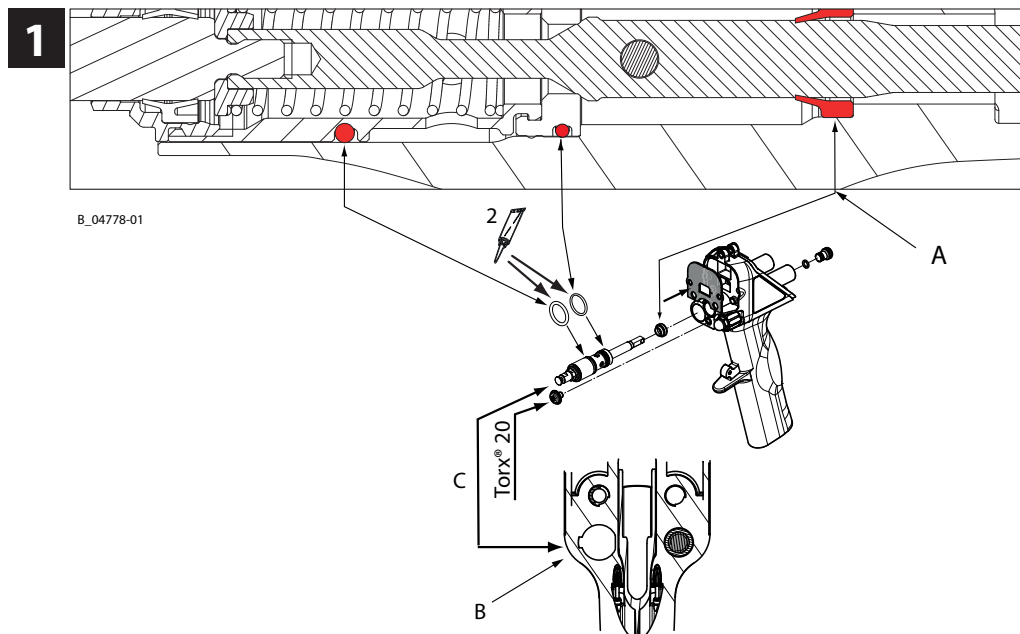
In chapter Spare Parts [► 82] the order numbers for gun spare parts can be found as well as for wearing parts such as seals.

10.4.4 Assembling the Spray Gun

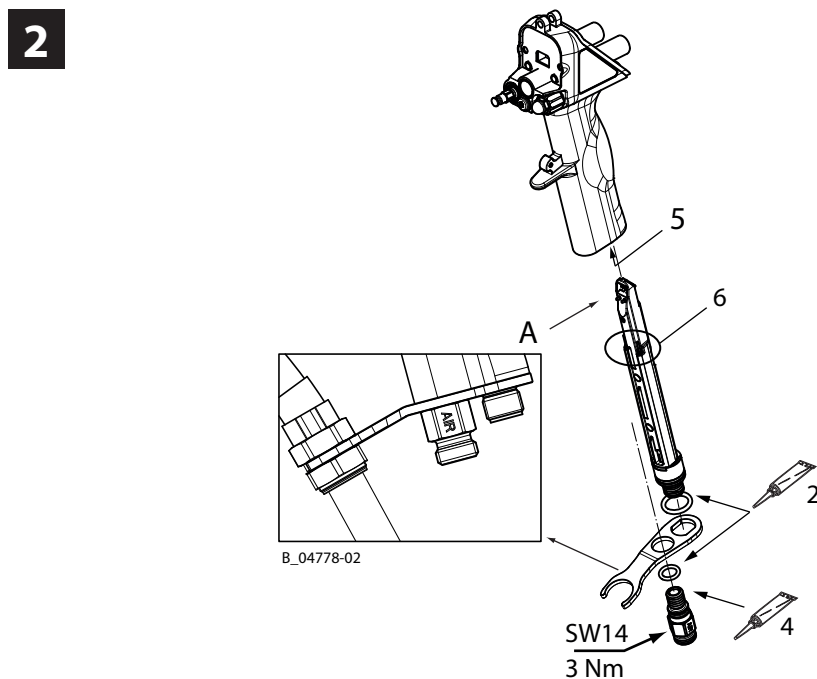
Assembly aids

Pos	Order no.	Description
2 *	9992698	Vaseline white, PHHV II
4	9992511	Loctite® 243

* Use Vaseline sparingly



A	Only as necessary (if the seal was removed): Press in seal using a handle seal assembly tool (order no. 2342334, not included in scope of delivery).	C	Ensure the correct installation position!
B	Hold the recess for the air valve pin so that the pin points to the left.		

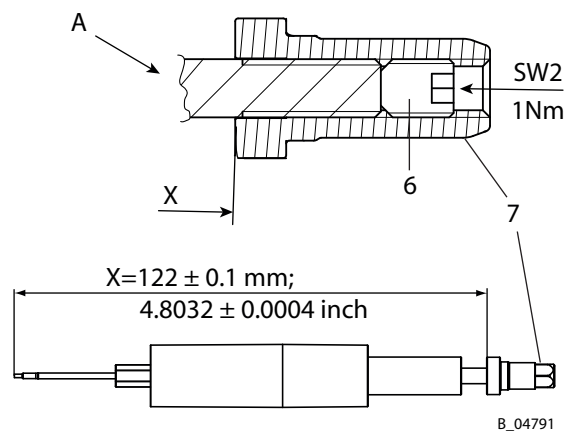


A	Ensure the correct installation position!
---	---

Gold contact sleeves

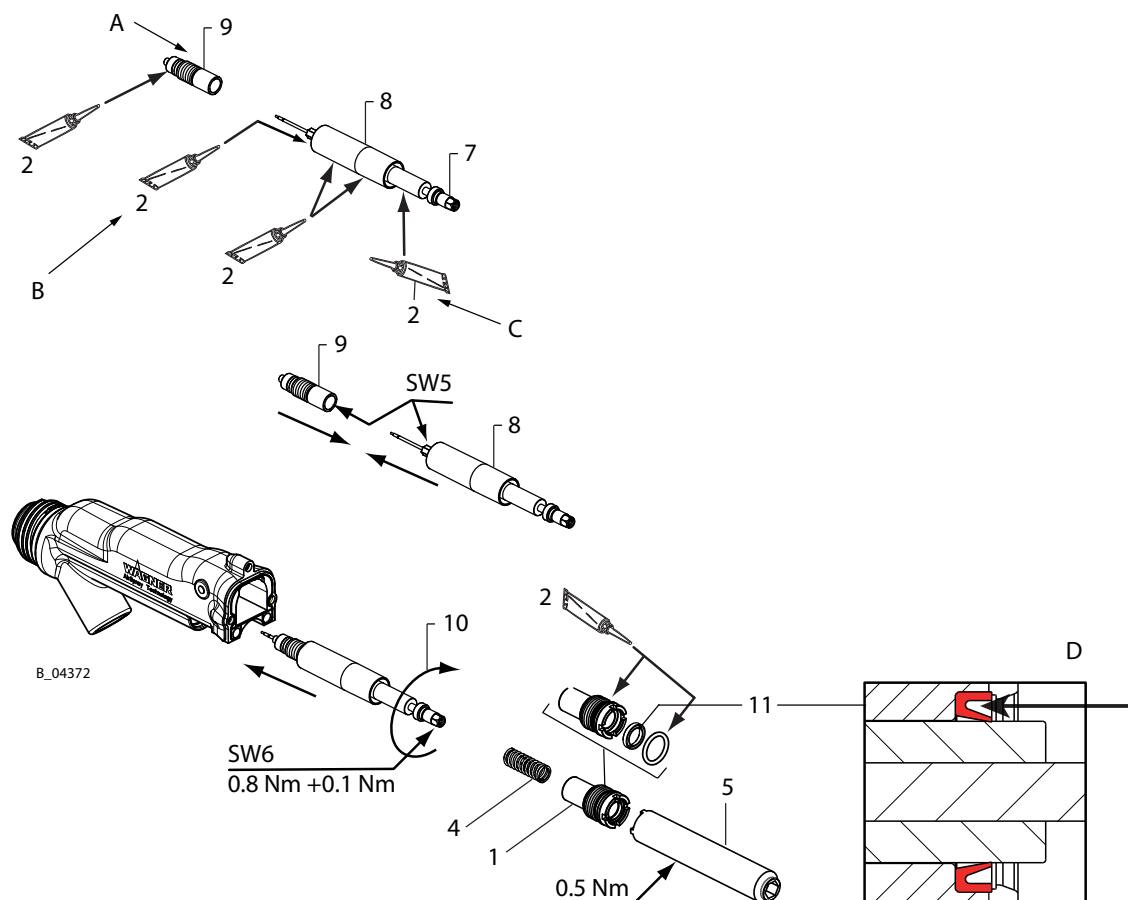
- Check whether the two gold contact sleeves are in the handle (5). Otherwise, insert the sleeves onto the two gold pins of the plug (6). Slide plug into handle.

3



A	Valve rod unit: Set length adjusting measure X with withdrawal nut (7) and then fasten the threaded pin (6) using a size 2 Allen wrench.
---	--

4

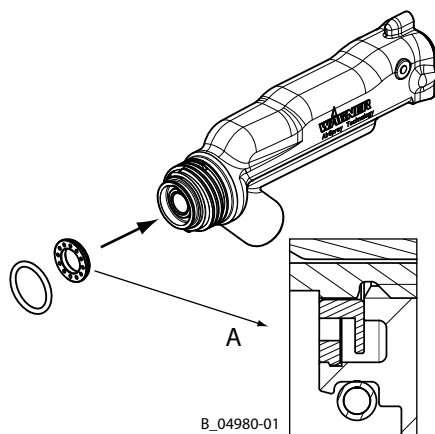


A	The outside thread of the packing (9) must be free of lacquer.	C	Sparingly
B	Coat the hollow section with a brush. Note: Do not coat the pin and hexagon.	D	Only as required (if the rod seal was removed): Press in rod seal (11). In the process, press only on the lowest area of the rod seal.

Wear gloves!

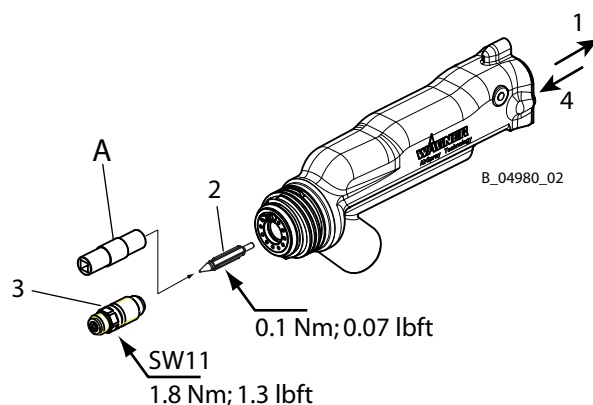
- ✓ The outside thread of the packing (9) must be free of lacquer.
- 1. Valve rod unit (8) and packing (9):
 - ▶ grease,
 - ▶ slide together,
 - ▶ screw together (10).
- 2. Grease clamping screw (1) and mount using assembly tool (5).
- 3. Insert spring (4).

5



A Ensure the correct installation position!

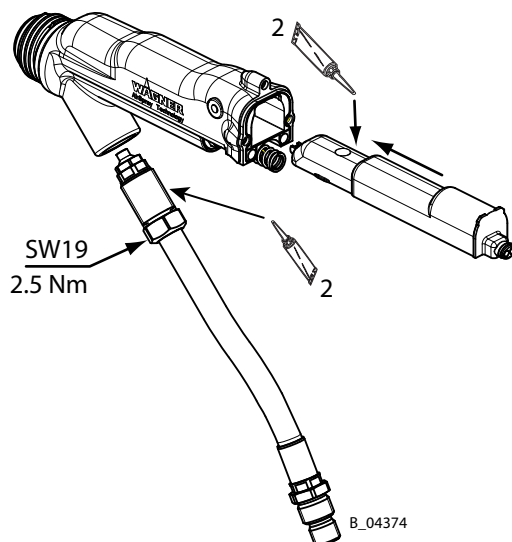
6



A Valve needle assembly tool, order no. 2309368

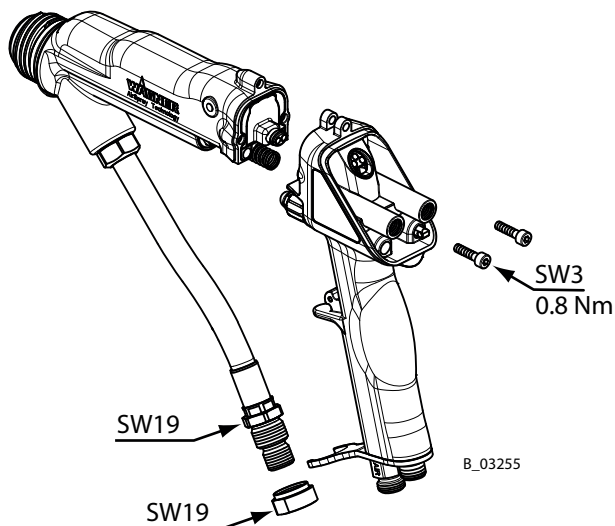
1. Move the valve rod to the rear position so that the sealing area does not become scratched (1).
2. Very slightly tighten valve tip (2) using an assembly tool with three fingers.
3. Use a socket or ring wrench (not a combination wrench) to tighten the valve seat (3).
4. Slide the valve rod to the forward position (on the valve seat) (4).

7



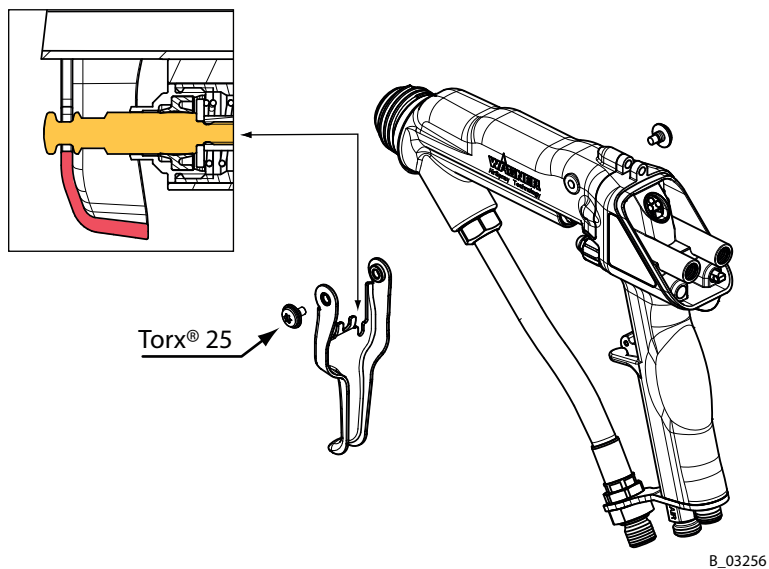
- Clean and degrease the inside of the adapter, then grease the cascade surface with Vaseline.

8

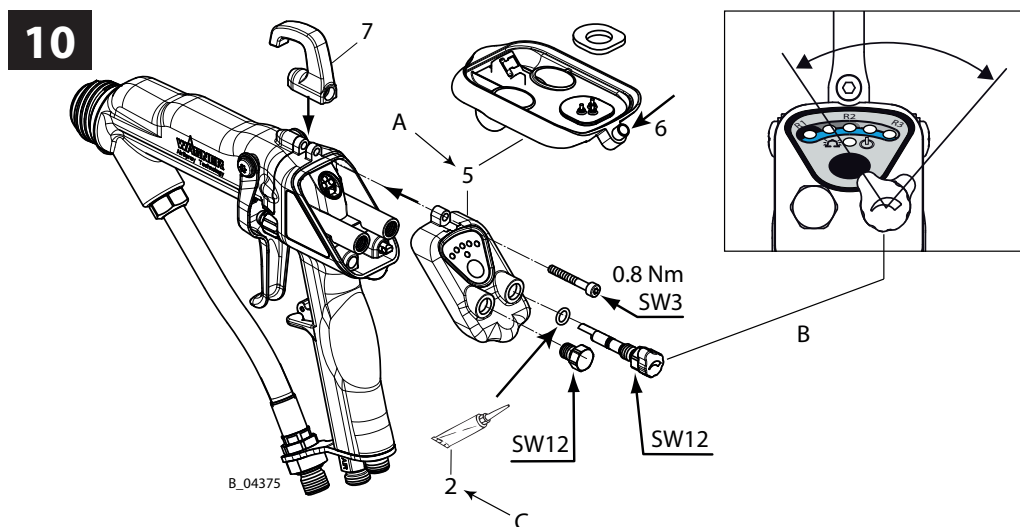


1. Ensure that the spring is inserted in the adapter.
2. Ensure that the flat gasket is inserted in the handle.

9



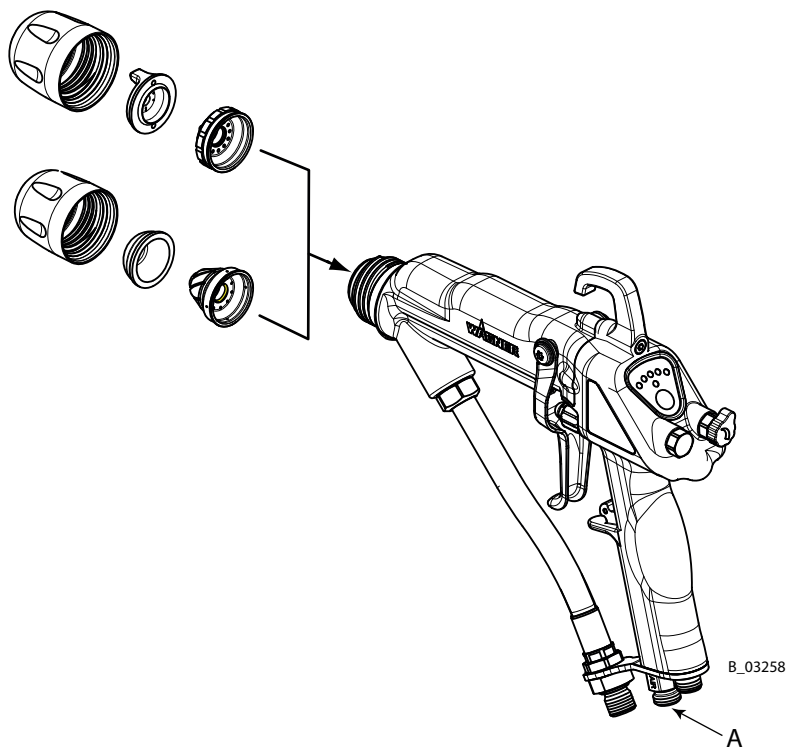
1. Push the trigger upward into the air valve piston.
 - The recess in the trigger must engage correctly in the indentation of the piston.



A	Cover (5): The cover must be handled carefully and not be twisted or distorted in any way.	C	Sparingly
B	Ensure the correct installation position!		

1. Press metal sleeve (6) back in cover (5) (e.g., press on table). In the process, only exert counter pressure on the sleeve bracket and not on the entire cover.
2. Position cover straight and level, and carefully press in. Use only minimal force, gently rocking from side to side if necessary.
3. Ensure that the cover is flush mounted on all sides.
4. Press back on metal sleeve for a flush fit (e.g., press on table).
5. Position bracket (7).
6. Mount screw, plug, and air regulation.

11



A	Air hose: When screwing on the air hose, a second open-end/ring wrench must be used for counterholding.
---	--

Flat jet nozzle

Diverse nozzle sizes, see chapter Flat jet nozzles [▶▶ 74].

Round jet nozzle

Diverse nozzle sizes, see chapter Air Caps and Nozzles [▶▶ 73].

11 FUNCTION TEST AFTER REPAIR WORK

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

11.1 CHECK HIGH VOLTAGE

Required test equipment:

VM 500, VM 5000 or EPG 5000 control unit und HV 200 high-voltage tester.

High-voltage measurement on spraying gun.

Connect gun cable to control unit. Take the spray gun in your hand and hold it in an empty space. Switch on control unit and actuate trigger.

The high voltage should be 60 to 65 kV in dry ambient air. The value can be checked with the display on the control unit (VM 5000, EPG 5000).

Notes:

- The gun must be clean and dry and must not have any paint or cleaning agent residues.
- In the case of ambient air with a high air humidity, the measured value can reduce to 50 to 55 kV.

High-voltage measurement with high-voltage tester

Place the ball of the high-voltage tester on the gun electrode and turn on the high voltage. The measured value should be 70 to 80 kV.

Notes:

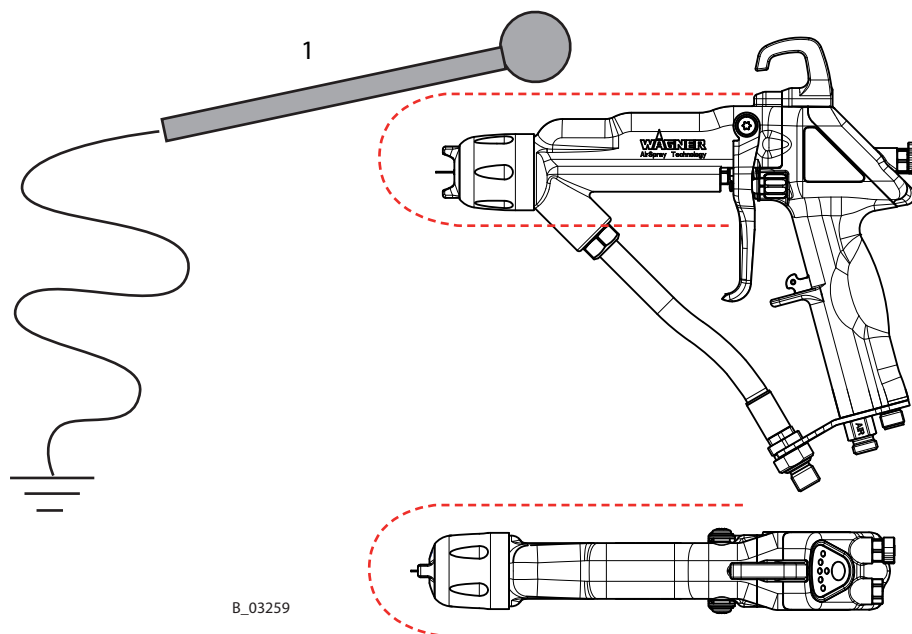
- When measuring the high voltage the gun and the measuring device should be held at arms length as far from the body as possible.
- There should be no chargeable objects within a radius of 1 m; 3.28 ft of the place where the measurements are taken.
- The placing of the measuring ball of the high-voltage measuring device reduces the spraying of the high-voltage electrode. As a result, the high-voltage value increases compared to spraying in an empty space.

Disruptive discharge test

Check to see if the gun is grounded using the grounding rod. No sparks should form.

Notes:

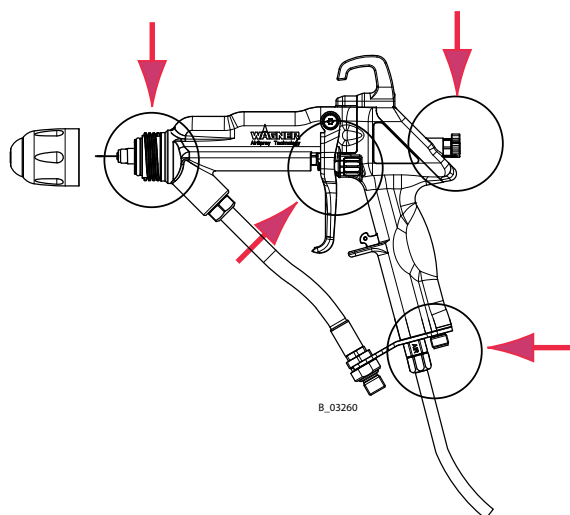
- In the vicinity of the electrode, harmless corona discharges can occur.



1	Grounding rod, order no. 175519
---	---------------------------------

11.2 FUNCTION TESTS FOR SPRAY GUN

11.2.1 Air Tests



1. Connect test or air hose to spray gun.
2. The following air tests are to be carried out twice each:
 - ▶ at 0.1 MPa; 1 bar; 14.5 psi
 - ▶ at 0.8 MPa; 8 bar; 116 psi

Checking the air valve

- ▶ The air valve must switch on and off correctly.

Air seal

- ▶ Without activating the trigger, test for air seal at the points marked in the illustration.

11.2.2 Product Pressure Test

Connect the product hose to the spray gun.

Test the seal of the spray gun with suitable medium (e.g., flushing agent or Marcol 52) and a maximum pressure of 0.8 MPa; 8 bar; 116 psi. Increase the pressure gradually while doing so.

Observe the following gun components:

- Product connection
- Nozzle body
- Product valve (no post-spraying)

DANGER

Exploding gas / air mixture!

Danger to life from flying parts and burns.

- ▶ Never spray into a closed tank.
- ▶ Ground the tank.



11.2.3 Check Spray Pattern

Check spray pattern in accordance with chapter Checking the Spray Pattern
(Without Electrostatics) [▶▶ 40]

12 DISPOSAL

12.1 DEVICE

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

The following materials have been used:

- Stainless steel
- Carbide
- Aluminium
- Elastomers
- Plastics

! NOTICE

Do not dispose of used electrical equipment with household refuse!

This product may not be disposed of with the household refuse, but must be recycled in an environmentally correct manner.

- ▶ WAGNER or one of our dealers will take back your used WAGNER electric or electronic equipment and will dispose of it for you in an environmentally-friendly way.
- ▶ Please contact one of our service points, one of our representatives or us directly.



12.2 CONSUMABLE PRODUCTS

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

13 ACCESSORIES

13.1 VALVE SEATS / VALVE TIPS

Order no.	Designation		
<u>2312179</u>	Valve seat, Air, complete (steel)	Standard	 B_03697
<u>2312176</u>	Valve seat, Air, complete (PEEK)		
<u>2312184</u>	Valve tip, Air, complete (PEEK)	Standard	 B_03698
<u>2428574</u>	Air valve tip, complete (PEEK, stiff)		
<u>2312185</u>	Valve tip, Air, complete (steel)		

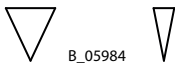
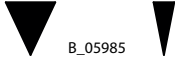
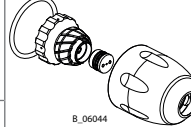
13.2 ROUND JET NOZZLES

13.2.1 Air Caps and Nozzles

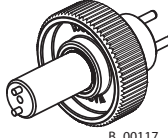
Order no.	Designation	
<u>2310557</u>	Air cap, AR 5000 (D8)	 B_03239
<u>2315049</u>	Air cap, AR 5000 (D12)	
<u>2310558</u>	AR 5000 (D8) Nozzle	 B_03238
<u>2315050</u>	AR 5000 (D12) Nozzle	

Discharge quantity measurements: see chapter Discharge Quantity Measurements [►► 28].

13.2.2 Nozzle Sets

Order no.	Designation	Markings on union nut	
<u>2361290</u>	Nozzle set, EARV 5000 LV suitable for low viscosity products	 B_05984	
<u>2365979</u>	Nozzle set, EARV 5000 HV suitable for high viscosity products	 B_05985	 B_06044

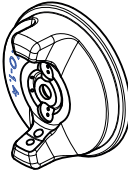
Mounting tool:

<u>353210</u>	Air nozzle wrench	 B_00117
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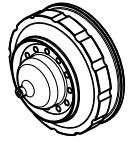
Note: The air nozzle wrench must be ordered separately!

13.3 FLAT JET NOZZLES

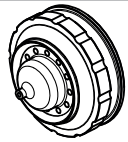
13.3.1 EAF 5000 air caps

Order no.	Designation	 B_03240
<u>2310506</u>	Air cap, EAF 5000 – 0.4–0.8S	
<u>2310507</u>	Air cap, EAF 5000 – 1.0–1.4S	
<u>2310508</u>	Air cap, EAF 5000 – 1.6–2.0S	
<u>2314255</u>	Air cap, EAF 5000 – 0.4–0.8W (wide)	
<u>2314256</u>	Air cap, EAF 5000 – 1.0–1.4W (wide)	
<u>2314258</u>	Air cap, EAF 5000 – 1.6–2.0W (wide)	

13.3.2 EAF 5000 flat jet nozzles

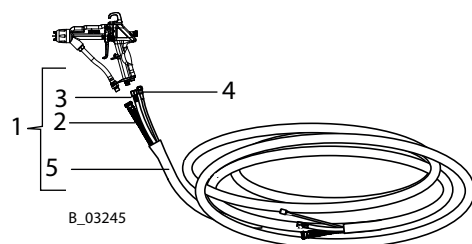
Order no.	Designation	 B_03241
<u>2310539</u>	Nozzle, EAF 5000 – 0.6 mm (black)	
<u>2310540</u>	Nozzle, EAF 5000 – 0.8 mm (yellow)	
<u>2310541</u>	Nozzle, EAF 5000 – 1.0 mm (red)	
<u>2310542</u>	Nozzle, EAF 5000 – 1.2 mm (green)	
<u>2310543</u>	Nozzle, EAF 5000 – 1.4 mm (brown)	
<u>2310544</u>	Nozzle, EAF 5000 – 1.6 mm (white)	
<u>2310545</u>	Nozzle, EAF 5000 – 1.8 mm (blue)	
<u>2310546</u>	Nozzle, EAF 5000 – 2.0 mm (black)	

Note: As of 2022, the flat jet nozzles are all manufactured black with the nozzle size laser engraved (e.g., 0.8). The flat jet nozzles manufactured before 2022 have several colors (see information in parentheses in the above table) and have no laser engraving.

Order no.	Designation	 B_03241
<u>2449611</u>	Nozzle, EAF 5000 PEEK – 1.6 mm	

13.4 HOSES AND CABLES

13.4.1 Standard Hose Sets and Components

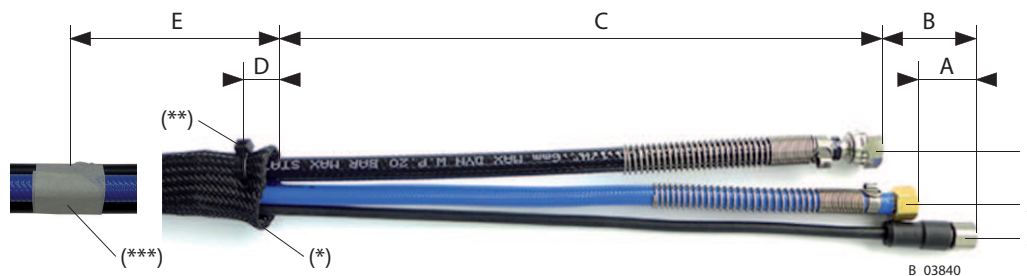


Product hose	
Nominal pressure	2 MPa; 20 bar; 290 psi
Inside diameter	6 mm; 0.24 inches
Inner hose material	PA

7.5 m; 24.6 ft			
Pos	Stk	Order no.	Designation
1	1	<u>2339167</u>	Hose set, GM 5000EA (7.5 m; 24.6 ft)
Consists of:			
2	1	<u>2339130</u>	Low-pressure hose, DN6-PN20-G1/4"-7.5 m-PA
3	1	<u>2345340</u>	Air hose, DN 8, complete (8.0 m; 24.6 ft)
4	1	<u>2339157</u>	Gun cable, GM 5000E (10 m; 32.8 ft)
5	8 m	<u>3676437</u>	Protective hose mesh, PP30 (8 m; 26.2 ft)
10 m; 32.8 ft			
Pos	Stk	Order no.	Designation
1	1	<u>2339168</u>	Hose set, GM 5000EA (10 m; 32.8 ft)
Consists of:			
2	1	<u>2339131</u>	Low-pressure hose, DN6-PN20-G1/4"-10 m-PA
3	1	<u>2345341</u>	Air hose, complete DN8 (10.5 m; 34.4 ft)
4	1	<u>2339158</u>	Gun cable, GM 5000E (15 m; 49.2 ft)
5	10.5 m	<u>3676437</u>	Protective hose mesh, PP30 (10.5 m; 34.4 ft)
15 m; 49.2 ft			
Pos	Stk	Order no.	Designation
1	1	<u>2339169</u>	Hose set, GM 5000EA (15 m; 49.2 ft)
Consists of:			
2	1	<u>2339132</u>	Low-pressure hose, DN8-PN17-G1/4"-15 m-PA
3	1	<u>2345342</u>	Air hose, complete DN8 (15.5 m; 50.8 ft)
4	1	<u>2339159</u>	Gun cable, GM 5000E (20 m; 65.6 ft)
5	15.5 m	<u>3676437</u>	Protective hose mesh, PP30 (15.5 m; 50.8 ft)
20 m; 65.6 ft			
Pos	Stk	Order no.	Designation
1	1	<u>2339170</u>	Hose set, GM 5000EA (20 m; 65.6 ft)
Consists of:			
2	1	<u>2339133</u>	Low-pressure hose, DN8-PN17-G1/4"-20 m-PA
3	1	<u>2345343</u>	Air hose, DN 8, complete (20.5 m; 67.2 ft)
4	1	<u>2339160</u>	Gun cable, GM 5000E (25 m; 82 ft)
5	20.5 m	<u>3676437</u>	Protective hose mesh, PP30 (20.5 m; 67.2 ft)
In the large WAGNER accessories catalogue for wet coating you will also find reduction and material fittings.			
Hose colors			
Product hose		Black	
Air hose		Blue	

Dimensions		
	Inside diameter	Nominal pressure
Air hose	8 mm; 0.32 inch	
Product hose, 7.5 m und 10 m	6 mm; 0.24 inch	2 MPa; 20 bar; 290.07 psi
Product hose, 15 m und 20 m	8 mm; 0.32 inch	1.7 MPa; 17 bar; 246.56 psi

Material of product hose: PA



1	Product hose	2	Air hose
3	Electrical cable		

Order no.	GM 5000EA hose set	A [mm]	B [mm]	C [mm]	D [mm]	E [mm]
2339167	7.5 m; 24.6 ft	29±2	47±2	300±10	20±10	1500 ⁺¹⁰⁰
2339168	10 m; 32.8 ft	29±2	47±2	300±10	20±10	1500 ⁺¹⁰⁰
2339169	15 m; 49.2 ft	29±2	47±2	300±10	20±10	1500 ⁺¹⁰⁰
2339170	20 m; 65.6 ft	29±2	47±2	300±10	20±10	1500 ⁺¹⁰⁰

(*) Melt the hose ends at both sides (gun/pump) and turn approx. 5 cm of each hose end to the inside.

(**) Fix the protective hose with cable ties on both sides only once at the product hose (internally).

(***) Fix the hose set within the protective hose approx. once per meter by means of adhesive tape, starting at distance "E".

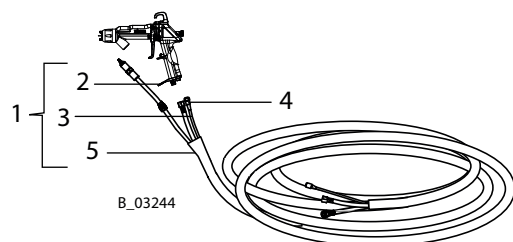
No cable ties are permitted except at the protective hose ends (see **).

(****) If the air swivel joint (order no. 2324766) is used, the hose set has to be adapted accordingly.

Dimension A becomes 60±2 mm!



13.4.2 Hose Sets for Low-Resistance Products



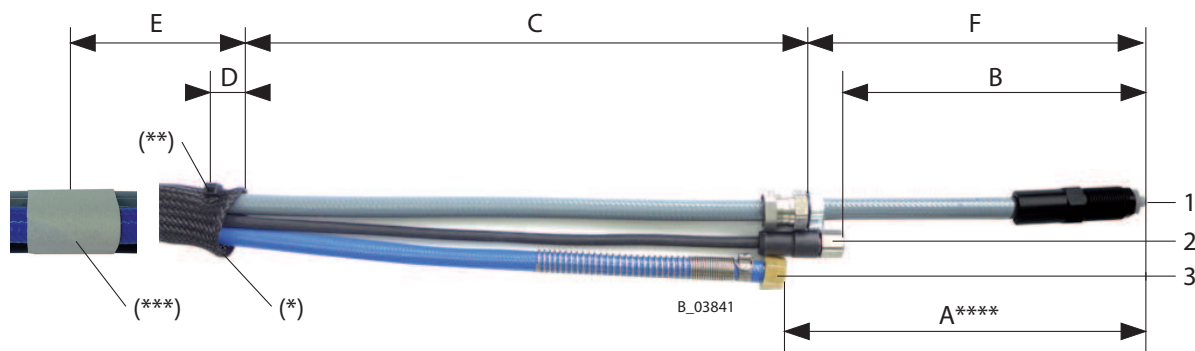
Product hose			
Nominal pressure		2 MPa; 20 bar; 290 psi	
Inside diameter		6 mm; 0.24 inch	
Inner hose material		FEP	
7.5 m; 24.6 ft			
Pos	Stk	Order no.	Designation
1	1	2339175	Hose set, GM 5000EA (7.5 m; 24.6 ft), Low R
Consists of:			
2	1	2310464	Product hose, EA, complete (7.5 m) Low R
3	1	2345340	Air hose, DN 8, complete (8.0 m; 24.6 ft)
4	1	2339157	Gun cable, GM 5000E (10 m; 32.8 ft)
5	8 m	3676437	Protective hose mesh, PP30 (8 m; 26.2 ft)
10 m; 32.8 ft			
Pos	Stk	Order no.	Designation
1	1	2339176	Hose set, GM 5000EA, complete (10.0 m), Low R
Consists of:			
2	1	2310465	Product hose, EA, complete (10.0 m) Low R
3	1	2345341	Air hose, complete DN8 (10.5 ; 34.4 ft)
4	1	2339158	Gun cable, GM 5000E (15 m; 49.2 ft)
5	10.5 m	3676437	Protective hose mesh, PP30 (10.5 ; 34.4 ft)
15 m; 49.2 ft			
Pos	Stk	Order no.	Designation
1	1	2339177	Hose set, GM 5000EA (15 m; 49.2 ft), Low R
Consists of:			
2	1	2310466	Product hose, EA, complete (15.0 m) Low R
3	1	2345342	Air hose, complete DN8 (15.5 m; 50.8 ft)
4	1	2339159	Gun cable, GM 5000E (20 m; 65.6 ft)
5	15.5 m	3676437	Protective hose mesh, PP30 (15.5 m; 50.8 ft)

20 m; 65.6 ft			
Pos	Stk	Order no.	Designation
1	1	<u>2339178</u>	Hose set, GM 5000EA (20 m; 65.6 ft), Low R
Consists of:			
2	1	<u>2310467</u>	Product hose, EA, complete (20.0 m) Low R
3	1	<u>2345343</u>	Air hose, DN 8, complete (20.5 m; 67.2 ft)
4	1	<u>2339160</u>	Gun cable, GM 5000E (25 m; 82 ft)
5	20.5 m	<u>3676437</u>	Protective hose mesh, PP30 (20.5 m; 67.2 ft)

In the large WAGNER accessories catalogue for wet coating you will also find reduction and material fittings.

Hose colors		
Product hose	Gray	
Air hose	Blue	
Dimensions		
	Inside diameter	Nominal pressure
Air hose	8 mm; 0.32 inch	
Product hose	6 mm; 0.24 inch	2 MPa; 20 bar; 290.07 psi

Material of product hose: FEP



1	Product hose	2	Air hose
3	Electrical cable		

Order no.	GM 5000EA hose set	A [mm]	B [mm]	C [mm]	D [mm]	E [mm]	F [mm]
<u>2339175</u>	7.5 m; 24.6 ft, Low R	200±2	171±2	300±10	20±10	1500 ⁺¹⁰⁰	182±1
<u>2339176</u>	10 m; 32.8 ft, Low R	200±2	171±2	300±10	20±10	1500 ⁺¹⁰⁰	182±1
<u>2339177</u>	15 m; 49.2 ft, Low R	200±2	171±2	300±10	20±10	1500 ⁺¹⁰⁰	182±1
<u>2339178</u>	20 m; 65.6 ft, Low R	200±2	171±2	300±10	20±10	1500 ⁺¹⁰⁰	182±1

(*) Melt the hose ends at both sides (gun/pump) and turn approx. 5 cm of each hose end to the inside.

(**) Fix the protective hose with cable ties on both sides only once at the product hose (internally).

(***) Fix the hose set within the protective hose approx. once per meter by means of adhesive tape, starting at distance "E".

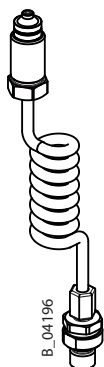
No cable ties are permitted except at the protective hose ends (see **).

(****) If the air swivel joint (order no. 2324766) is used, the hose set has to be adapted accordingly.

Dimension A becomes 231±2 mm!.



13.4.3 Spiral Hose



Pos	Stk	Order no.	Designation
1	1	<u>2355046</u>	Spiral hose, complete (length = 216 mm)

The spiral hose can only be used along with standard hose set.

Application:

This hose is used primarily for processing of metallic lacquers. Due to the spiral the conductive bridges will be interrupted by sedimentation of the metallic particles.

For details on how to assemble the spiral hose, refer to the supplied assembly manual

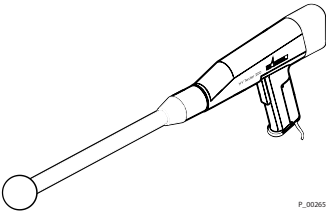
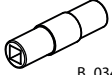
13.4.4 Gun Cables and Gun Cable Extensions

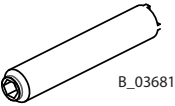
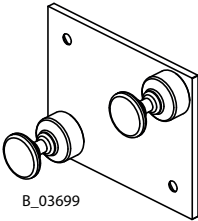
GM 5000E gun cable						
Length	10 m; 32.8 ft	15 m; 49.2 ft	20 m; 65.6 ft	25 m; 82.0 ft	32 m; 105 ft	62 m; 203 ft
Order no.	<u>2339157</u>	<u>2339158</u>	<u>2339159</u>	<u>2339160</u>	<u>2344995</u>	<u>2344996</u>
GM 5000E extension cable						
Length	0.5 m; 1.6 ft	10 m; 32.8 ft	20 m; 65.6 ft			
Order no.	<u>2432286</u>	<u>2339161</u>	<u>2339162</u>			

Use a short extension cable of 0.5 m; 1.6 ft between the gun and the actual gun cable if there is a risk that the gun cable plug can be torn off. In the event of damage, replacing the short extension cable is easier than replacing the gun cable in the hose set.

Max. total length of 80 m; 262 ft (see chapter Gun Cables and Gun Cable Extensions [►► 37])

13.4.5 Miscellaneous

Order no.	Designation	
<u>2319653</u>	Gun protective cover	 B_03693
<u>2476562</u>	Gun protective cover with window	 B_08407
<u>259010</u>	High-voltage tester, HV 200 N	 P_00265
<u>2326041</u>	Paint resistance meter	 B_03692
<u>999080</u>	Wet film thickness gauge	 B_03225
<u>50342</u>	Viscosity cup, DIN/4 (4 mm; 0.16 inch)	 B_03224
<u>2309368</u>	Valve needle assembly tool	 B_03451

Order no.	Designation	
<u>2325263</u>	Clamping screw assembly tool	 B_03681
<u>2326485</u>	Wall mount, GM 5000E (left/right)	 B_03699
<u>2324766</u>	Swivel joint air	 B_03720

14 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.
- ▶ Use only WAGNER original spare parts and accessories.
- ▶ Only repair and replace parts that are listed in the spare parts chapter and that are assigned to the device.
- ▶ Before all work on the device and in the event of work interruptions:
 - ▶ Relieve the pressure from the spray gun, product hoses and all devices.
 - ▶ Secure the spray gun against actuation.
 - ▶ Switch off the energy and compressed air supply.
 - ▶ Disconnect the control unit from the mains.
- ▶ Observe the operating and service manual for all work.



14.1 HOW TO ORDER SPARE PARTS

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

Order number, designation and quantity

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

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

- Billing address
- 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" (marking) in the following spare parts lists:

◆ Wearing parts. Wearing parts are not included in the warranty.

★ Included in service set

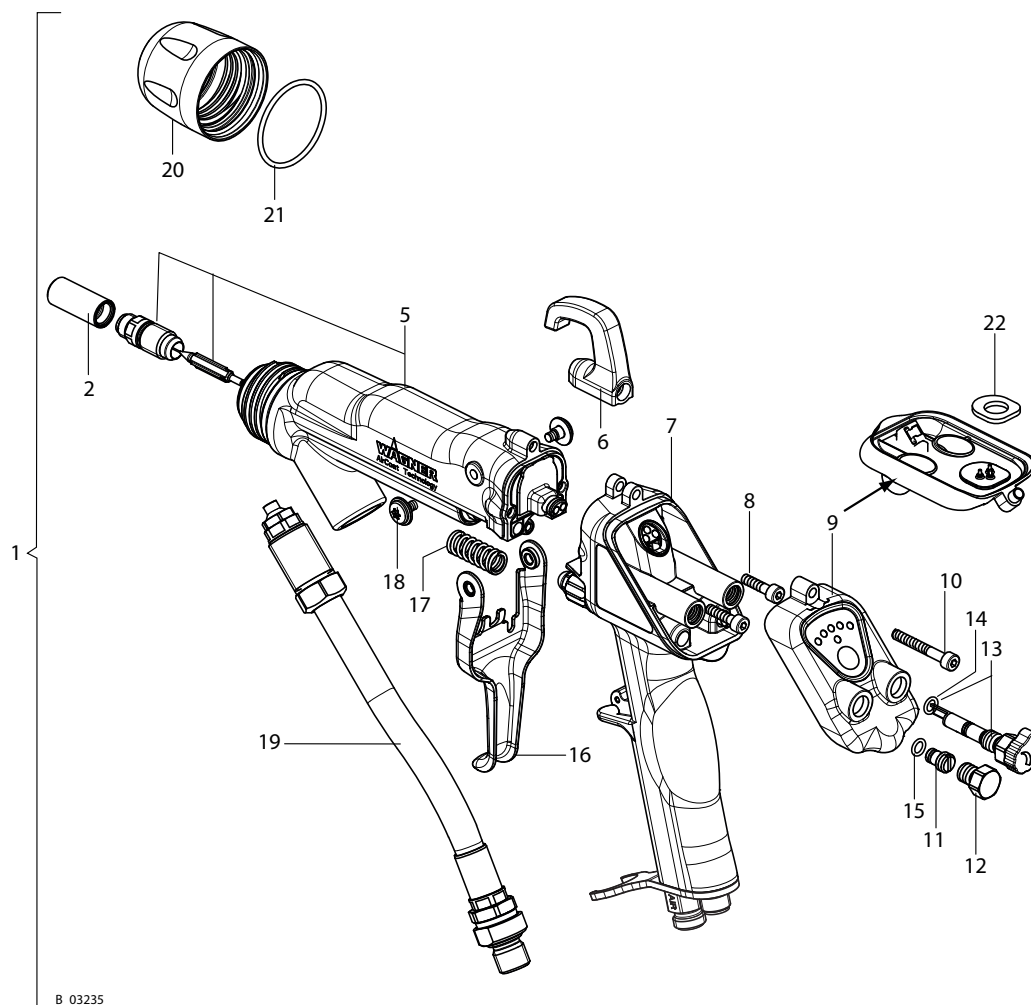
● Not part of the standard equipment but available as a special accessory

Explanation of order no. column:

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

14.2 GM 5000EA SPRAY GUN

14.2.1 GM 5000EA - Basic Version



Dismantling and assembling in accordance with chapter Repairs [►► 55]

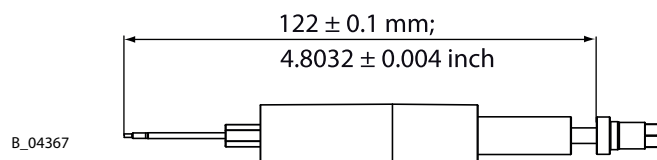
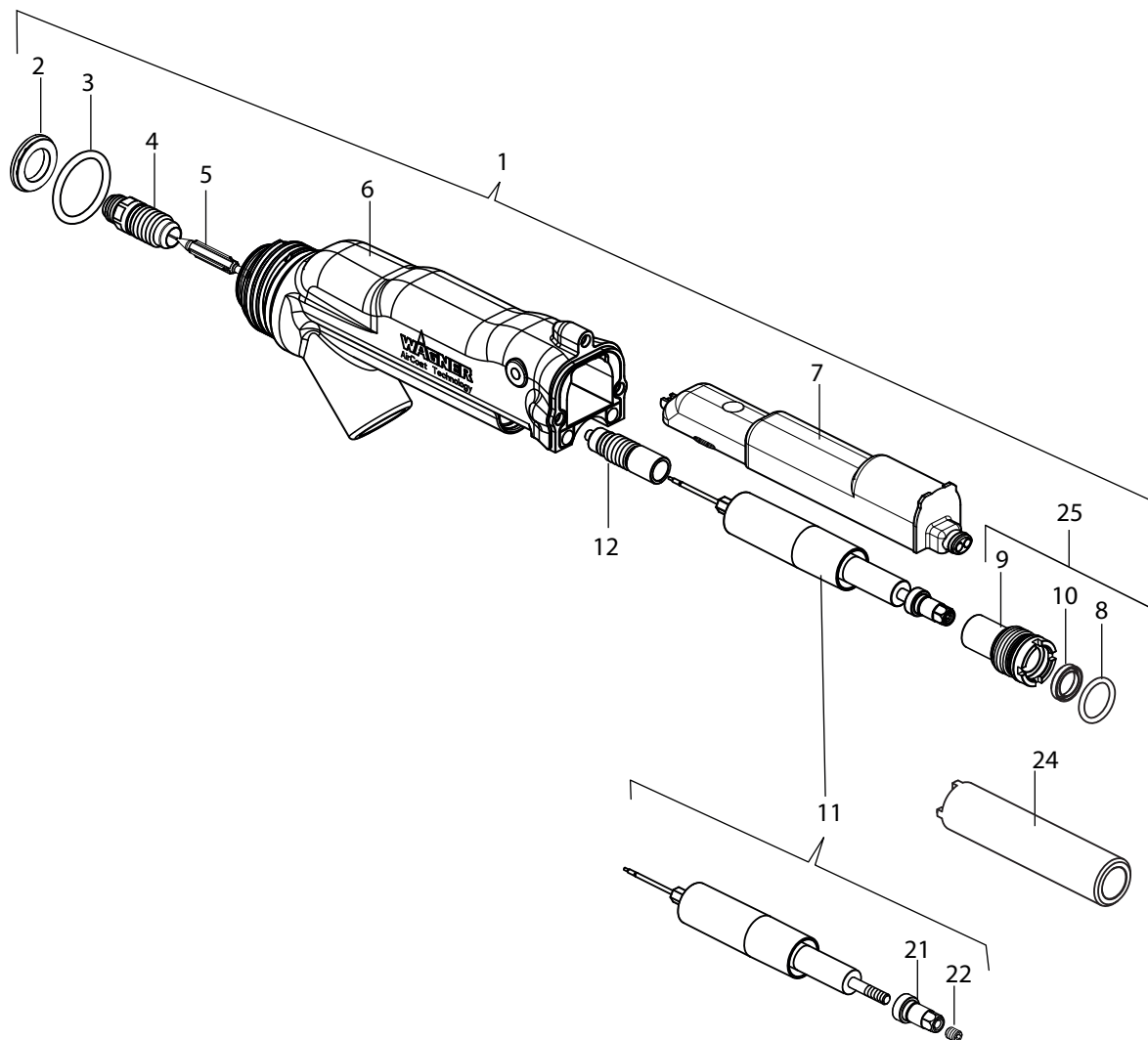
Pos	K	Stk	Order no.	Designation
1		1	<u>2309870</u>	GM 5000EA, basic version
2		1	<u>2315709</u>	Protection cap, valve needle
5		1	--	Adapter, GM 5000EA, complete For details, see chapter GM 5000EA - Adapter [►► 85]
6	◆	1	<u>2314361</u>	Hook
7		1	--	Handle, complete, ES 5000 Air For details, see chapter GM 5000EA - Handle [►► 87]
8		2	<u>9900308</u>	Hexagon socket head cap screw
9		1	<u>2312183</u>	Cover, complete (including pos. 22)
10		1	<u>9900386</u>	Hexagon socket head cap screw
11		1	<u>2311970</u>	Sealing plug
12		1	<u>2307104</u>	Screw plug

Pos	K	Stk	Order no.	Designation
13		1	<u>2312180</u>	Air regulation, complete (including pos. 14)
14	◆ ★	1	<u>9971182</u>	O-ring
15	◆ ★	1	<u>9971182</u>	O-ring
16	◆	1	<u>2314360</u>	Trigger
17		1	<u>2311849</u>	Cylindrical helical spring
18		2	<u>2310617</u>	Fillister head screw with hexagon socket
19	◆	1	<u>2314358</u>	Product hose, Air, complete
20		1	<u>2307039</u>	Union nut
21	◆ ★	1	<u>2311217</u>	O-ring
22	◆ ★	1	<u>2308699</u>	Cover seal
		1	<u>2326335</u>	Service set, GM 5000EA

◆ = wearing parts

★ = included in service set

14.2.2 GM 5000EA - Adapter



Dismantling and assembling in accordance with chapter Repairs [►► 55]

Pos	K	Stk	Order no.	Designation
1		1	--	Adapter, GM 5000EA, complete
2	★	1	<u>2309391</u>	Air manifold ring, Air
3	◆ ★	1	<u>2307180</u>	O-ring, sheathed
4	◆ ★	1	<u>2312179</u>	Valve housing, Air, complete (steel)
	◆ ●	1	<u>2312176</u>	Valve housing, Air, complete (PEEK)
5	◆ ★	1	<u>2312184</u>	Valve tip, Air, complete (PEEK)
	◆ ●	1	<u>2428574</u>	Air valve tip, complete (PEEK, stiff)

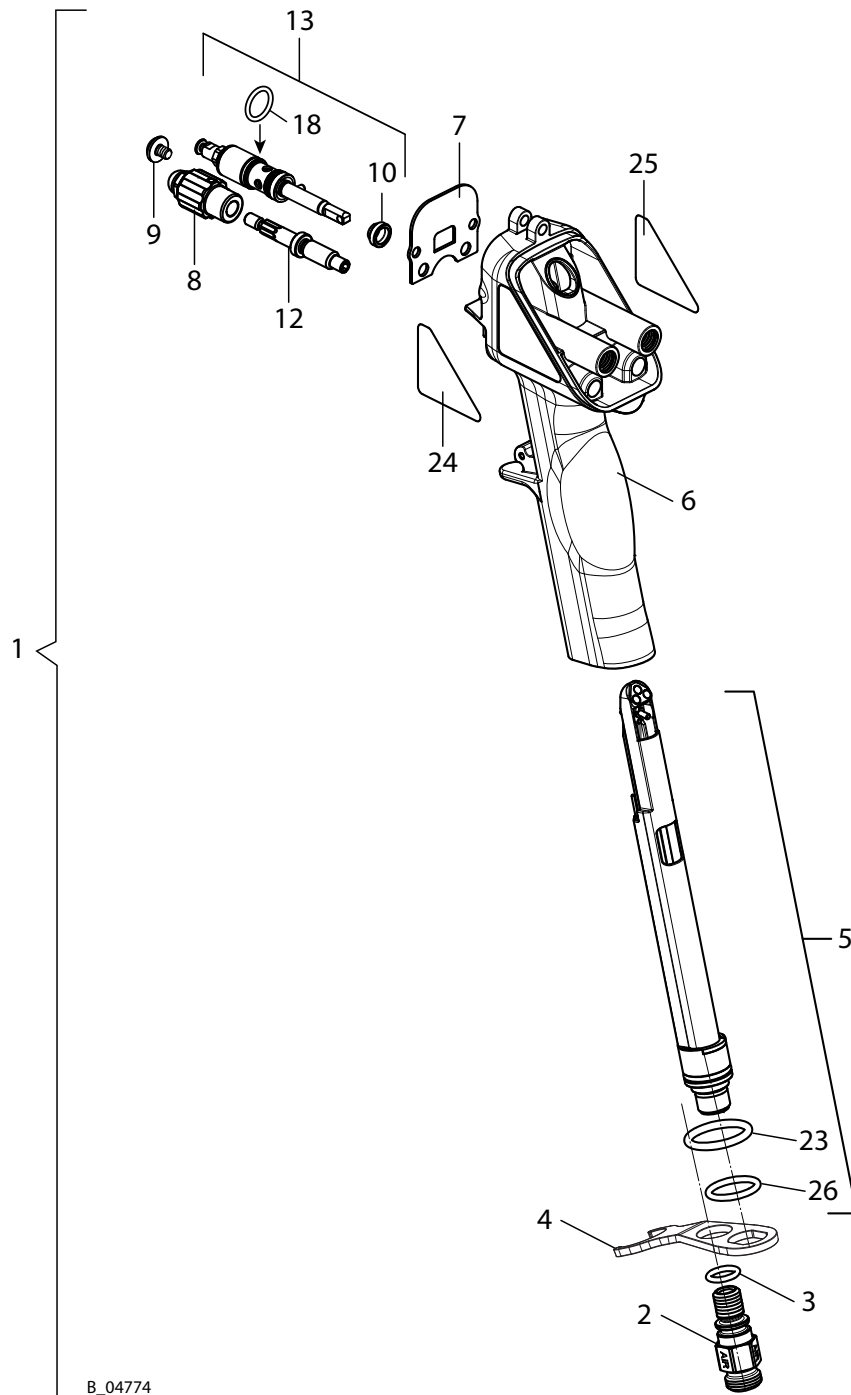
Pos	K	Stk	Order no.	Designation
	◆ ●	1	<u>2312185</u>	Valve tip, Air, complete (steel)
6		1	<u>2314271</u>	GM 5000EA Adapter
7		1	<u>2312181</u>	Cascade, complete
8	◆ *	1	<u>9974166</u>	O-ring
9		1	<u>2307062</u>	Clamping screw valve rod
10	◆ *	1	<u>2311562</u>	Rod seal
11	◆ *	1	<u>2312177</u>	Valve rod unit, Air
12	◆ *	1	<u>2357106</u>	Packing, complete
21		1	<u>2307059</u>	Trigger nut
22		1	<u>9901411</u>	Threaded pin with hexagon socket
24		1	<u>2325263</u>	Clamping screw assembly tool
25		1	<u>2357665</u>	Clamping screw valve rod, complete
		1	<u>2326335</u>	Service set, GM 5000EA

◆ = wearing parts

* = included in service set

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

14.2.3 GM 5000EA - Handle



Dismantling and assembling in accordance with chapter Repairs [►► 55]

Pos	K	Stk	Order no.	Designation
1		1	--	Handle, GM 5000EA, complete
2		1	<u>2307288</u>	Fitting
3	◆ *	1	<u>9971025</u>	O-ring
4		1	<u>2307290</u>	Hose holder
5		1	<u>2312182</u>	Plug, complete (including pos. 23)

Pos	K	Stk	Order no.	Designation
6		1	<u>2314270</u>	Handle, complete
7	★	1	<u>2307232</u>	Adapter seal
8		1	<u>2325789</u>	Adjusting screw complete
9		1	<u>2309825</u>	Fillister head screw with hexagon socket
10	◆ ★	1	<u>2310692</u>	Gasket
12		1	<u>2307281</u>	Threaded bolt
13		1	<u>2312189</u>	Air valve
18	◆ ★	1	<u>9974218</u>	O-ring
23	◆ ★	1	<u>9974166</u>	O-ring
24		1	<u>2309809</u>	Type plate, left, GM 5000EA*
25		1	<u>2309810</u>	Type plate, right, GM 5000E*
26	◆	1	<u>9971364</u>	O-ring
		1	<u>2326335</u>	Service set, GM 5000EA

◆ = wearing parts

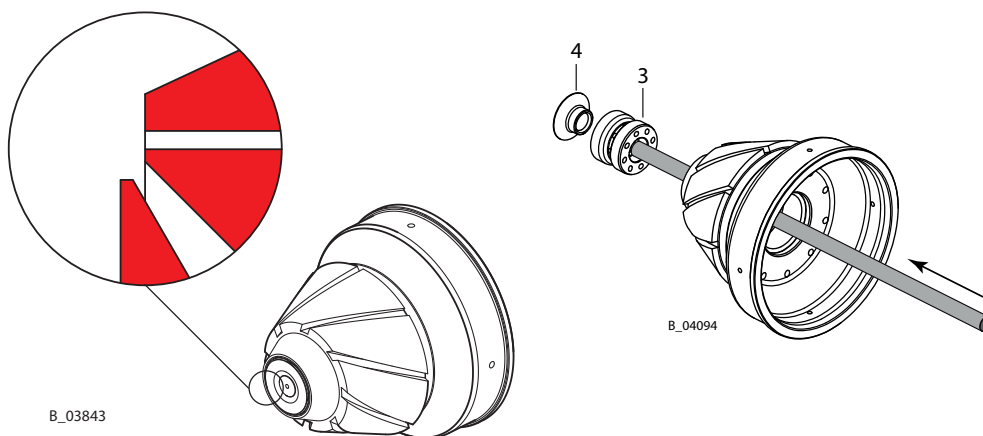
★ = included in service set

Note:

* Type plates may only be replaced by WAGNER staff or a skilled person!

14.3 ACCESSORIES SPARE PARTS LISTS

14.3.1 AR 5000 Round Jet Nozzles



Info

Parts 3 and 4 can be pushed out of the nozzle with a suitable pin ($\varnothing$ 2.0-2.3 mm; 0.08-0.09 inch).



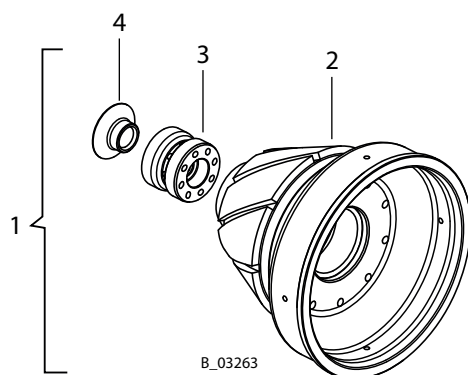
! NOTICE

Incorrect assembly!

Damage to the parts or device.

- Do not damage the edges of the parts (see detail) during assembly (press parts carefully up to stop).

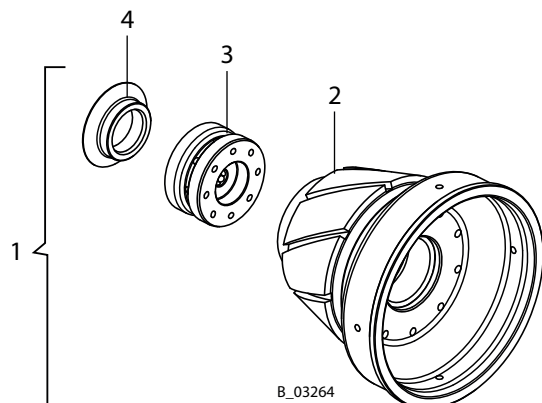
14.3.1.1 AR 5000 (D8) Nozzle



Pos	K	Stk	Order no.	Designation
1		1	<u>2310558</u>	Nozzle, AR 5000, complete (D8)
2	◆	1	<u>2327658</u>	Nozzle, AR (D8)
3	◆	1	<u>2327659</u>	Nozzle attachment, AR (D8)
4	◆	1	<u>2327660</u>	Air diffuser, AR (D8)

◆ = wearing parts

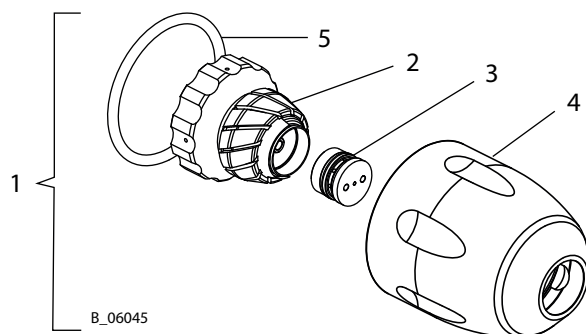
14.3.1.2 AR 5000 (D12) Nozzle



Pos	K	Stk	Order no.	Designation
1		1	<u>2315050</u>	Nozzle, AR 5000, complete (D12)
2	◆	1	<u>2327661</u>	Nozzle, AR (D12)
3	◆	1	<u>2327662</u>	Nozzle attachment, AR (D12)
4	◆	1	<u>2327663</u>	Air diffuser, AR (D12)

◆ = wearing parts

14.3.1.3 Nozzle set, EARV 5000



Pos	K	Stk	LV - for low-vis- cosity products	HV - for high-vis- cosity products	Designation
			Order no.		
1		1	<u>2361290</u>	<u>2365979</u>	Nozzle set, EARV 5000
2	◆	1	<u>2361273</u>		Nozzle, EARV
3	◆	1	<u>2361274</u>		Nozzle insert, EARV
4		1	<u>2361272</u>	<u>2365978</u>	Union nut, EARV
5	◆ ★	1	2311217		O-ring, sheathed

◆ = wearing parts

* = included in service set

15 DECLARATION OF CONFORMITY

15.1 UK DECLARATION OF CONFORMITY

UK Declaration of Conformity as defined by the UK statutory requirement UK SI 2016 No. 1107.

Herewith we declare that the supplied version of:

Electrostatic spraying system		
VM 500	GM 5000EA	GA 5000EA
VM 5000	GM 5000EAC	GA 5000EAC

complies with the following provisions applying to it:

SI 2016/1597	SI 2016/1107	SI 2016/1091	SI 2012/3032
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Applied standards, in particular:

BS EN ISO 12100:2010	BS EN 50176:2009
BS EN 1953:2013	BS EN IEC 61000-6-2:2019
BS EN IEC 60204-1:2019	BS EN IEC 61000-6-4:2019
BS EN 60529:1992+A2:2013	BS EN IEC 63000:2018
BS EN 50050-1:2013	--

Type examination certificate:

CSAE 21 UKEX 5231 X

Quality certificate for the quality assurance system:

CSAE 23 UKQAN 0119

Identification:

Control unit

UK
CA 0518  II 3(2) G
CSAE 21 UKEX 5231 X

Spray gun:

UK
CA 0518  II 2 G 0.24 mJ
CSAE 21 UKEX 5231 X

Declaration of conformity

The 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: 2310487



Order number 2432029
Edition 01/2025

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Version G



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