



**Translation of the Original
Operating Manual**

AquaCoat 5010 / 5020

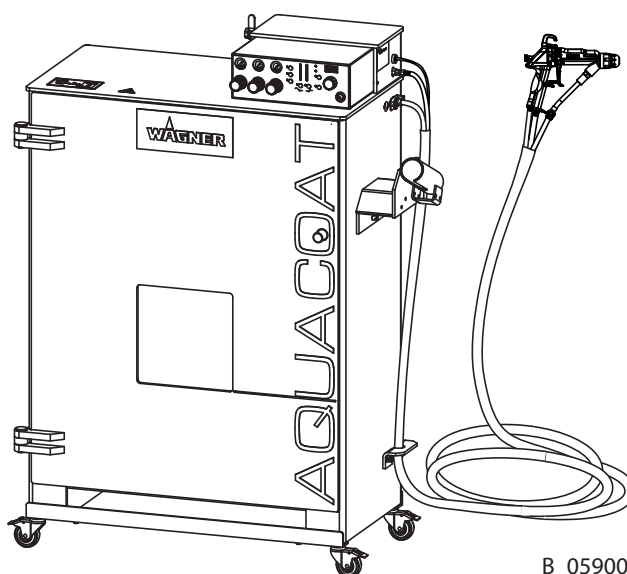
GM 5020EACW

High pressure

Manual

Version 02/2016

**AirCoat Spraying System
for
Non-flammable Liquids**



B_05900

CE

Table of Contents

1	ABOUT THESE INSTRUCTIONS	7
1.1	Preface	7
1.2	Warnings, Notices and Symbols in these Instructions	7
1.3	Languages	8
1.3.1	Operating Manuals for the Individual Components	8
1.4	Abbreviations	9
1.5	Terminology for the Purpose of this Manual	9
2	CORRECT USE	10
2.1	Device Type	10
2.2	Type of Use	10
2.3	Use in an Explosion Hazard Area	10
2.4	Safety Parameters	10
2.5	Processible Working Materials	11
2.6	Reasonably Foreseeable Misuse	12
2.7	Residual Risks	12
3	IDENTIFICATION	13
3.1	CE Identification	13
3.2	Type Plates	13
3.3	Safety Signage	14
4	GENERAL SAFETY INSTRUCTIONS	15
4.1	Safety Instructions for the Operator	15
4.1.1	Electrical Equipment	15
4.1.2	Personnel Qualifications	15
4.1.3	Safe Work Environment	15
4.2	Safety Instructions for Staff	16
4.2.1	Safe Handling of WAGNER Spray Devices	16
4.2.2	Grounding the Device	17
4.2.3	Product Hoses	17
4.2.4	Cleaning and Flushing	18
4.2.5	Handling Hazardous Liquids, Varnishes and Paints	19
4.2.6	Touching Hot Surfaces	19
4.3	Protective and Monitoring Equipment	19
4.4	Safety-Relevant Information about Discharges	19
5	DESCRIPTION	20
5.1	Components	20
5.2	Mode of Operation	23
5.3	Protective and Monitoring Equipment	24
5.4	Scope of Delivery	26
5.4.1	Basic Sets	27
5.5	Technical Data	28
5.5.1	VM 5020W Control Unit	29
5.5.2	Product Pressure Generator	29
5.5.3	GM 5020EACW Spray Gun	30
5.5.4	Electric Block Diagram, AquaCoat	31

Table of Contents

5.6	Controls	32
5.6.1	VM 5020W Control Unit	32
5.6.1.1	Operating Elements, Front Side	32
5.6.1.2	Connections on the Rear Side	35
5.6.2	Product Pressure Generator	36
5.6.2.1	Puma 28-40 PE+TG Pneumatic Piston Pump	36
5.6.2.2	Cobra 40-10 Double Diaphragm Pump	37
5.6.2.3	EvoMotion 20-30 Piston Pump	38
5.6.2.4	Working in Accordance with Pump's Operating Manual	38
5.6.3	GM 5020EACW Spray Gun	39
5.6.3.1	Securing the Spray Gun Against Actuation	40
5.6.3.2	Functioning of the Spray Gun	40
5.6.3.3	Spraying Procedure for AirCoat Round Spray	42
5.6.3.4	Spraying Procedure for AirCoat Fan Spray	42
5.6.3.5	Electrostatic Effect	43
6	ASSEMBLY AND COMMISSIONING	44
6.1	Training Assembly/Commissioning Staff	44
6.2	Storage Conditions	44
6.3	Installation Conditions	44
6.4	Transportation	45
6.5	Assembly and Installation	45
6.5.1	Assembling the AquaCoat System	46
6.5.2	Ventilation of the Spray Booth	48
6.5.3	Air Supply	48
6.5.4	Product Supply	49
6.6	Grounding	50
6.7	Safety Checks	52
6.8	Preparation of Water-Based Lacquer	52
6.8.1	Viscosity Conversion Table	52
6.9	Commissioning	53
6.9.1	Safety Instructions	53
6.9.2	Preparation	53
6.9.3	Commissioning	54
6.9.3.1	AquaCoat with Puma 28-40 or EvoMotion 20-30	54
6.9.3.2	AquaCoat with Cobra 40-10 Double Diaphragm Pump	56
6.9.4	Verifying a Safe Operational Condition	57
7	OPERATION	58
7.1	Training the Operating Staff	58
7.2	Safety Instructions	58
7.2.1	Emergency Deactivation for Puma	59
7.2.2	Emergency Deactivation for Cobra	60
7.2.3	Emergency Deactivation for EvoMotion	61
7.2.4	General Rules for Making Adjustments to the Spray Gun	62
7.2.4.1	Electrical Discharge	63

Table of Contents

7.3	Working	64
7.3.1	Checking the Spray Pattern (Without Electrostatics)	64
7.3.2	Starting the System	66
7.3.3	Spraying	67
7.3.4	Pressure Relief/Work Interruption	68
7.3.5	Flushing Out Clogged Round Jet Nozzles	69
7.3.6	Replacing Round Jet Nozzle's Nozzle Insert	69
7.3.7	Changing from AirCoat Round Jet to AirCoat Flat Jet	70
7.3.8	Replacing the AirCoat Flat Jet Nozzles	73
7.3.9	Cleaning of the Nozzle Parts	73
7.3.10	Eliminate Nozzle Clogging	74
7.3.11	VM 5020W Control Unit Start Up	76
7.3.12	Setting and Saving Recipes	77
7.3.13	Setting the High Voltage	78
7.3.14	Setting the Current Limitation	79
7.3.15	Display During Spraying	80
7.3.16	Standby Mode	81
7.3.17	Operating Hours Counter/Service Display	82
7.3.18	Service Display Setup	83
7.3.19	"Carry Out Service" Display	84
7.4	Device Configuration	85
7.4.1	Overview of Parameters	85
7.4.2	Access to the Device Configuration Mode	86
7.4.3	Setting Example "Parameter C13"	87
7.5	External Interface	89
8	CLEANING AND MAINTENANCE	91
8.1	Cleaning	91
8.1.1	Cleaning Staff	91
8.1.2	Safety Instructions	91
8.1.3	Flushing and Cleaning the System	92
8.2	Maintenance	94
8.2.1	Maintenance Staff	94
8.2.2	Safety Instructions	94
8.2.3	Safety Checks	95
8.2.3.1	Grounding Check	95
8.2.3.2	Inspecting the Safety Elements	95
8.2.3.3	Product Hoses, Tubes and Couplings	96
8.2.4	Changing the Spray Gun With Hose Set	97
8.2.5	Changing the Product Hose and/or Air Hose	98
8.2.6	Cleaning and Replacing the Filter	98
9	TROUBLESHOOTING AND RECTIFICATION	99
9.1	Error Displays at the VM 5020W Control Unit	99
9.2	Faults in the System	101
10	REPAIR WORK	102
10.1	Repair Personnel	102
10.2	Safety Instructions	102
10.3	Mounting Materials	103

Table of Contents

10.4	Spray Gun	103
10.4.1	Tools	103
10.4.2	Disassembly of the Spray Gun	104
10.4.3	Cleaning the Parts After Disassembly	107
10.4.4	Assembling the Spray Gun	108
10.5	Disassembling VM 5020W Control Unit	114
10.6	Opening the Control Unit	114
11	FUNCTION TEST AFTER THE REPAIR	115
11.1	Function Tests for Spray Gun	117
11.1.1	Air Test	117
11.1.2	Product Pressure Test	117
11.1.3	Test of Spray Pattern	117
12	DISPOSAL	118
13	ACCESSORIES	119
13.1	Round Spray Nozzles	119
13.1.1	AirCoat Round Jet Nozzle Inserts	119
13.2	ACF Air Caps (Flat Jet)	119
13.2.1	ACF5000 AirCoat Flat Jet Nozzles	120
13.3	Hoses and Gun Cables	122
13.4	Miscellaneous	124
14	SPARE PARTS	126
14.1	How Can Spare Parts Be Ordered?	126
14.2	AquaCoat Basic device	127
14.2.1	VM 5020W Control Unit	132
14.3	Pump Sets	138
14.3.1	Puma 28-40 Set for AquaCoat	138
14.3.2	Cobra 40-10 Set for AquaCoat	140
14.3.3	EvoMotion 20-30 Set for AquaCoat	142
14.3.3.1	Distributor for EvoMotion	143
14.3.4	Relief Combination, 270 bar	144
14.3.5	Angled Inline Filter, 530 bar	145
14.4	GM 5020EACW Spray Gun	146
14.4.1	GM 5020EACW Adapter	148
14.4.2	GM 5000EAC Handle	150
14.5	Accessories Spare Parts Lists	152
14.5.1	Fan Spray Nozzles	152
14.5.2	ACR5000 Round Jet Nozzle Adapter	152
14.5.3	Underframe with Rolls	153
14.5.4	Hose Holder	154
14.5.5	Gun Holder	154
14.5.6	Level Monitor With Alarm Horn	155
14.5.7	D350 Drum Cover	156
15	WARRANTY AND CONFORMITY DECLARATIONS	157
15.1	Important Notes Regarding Product Liability	157
15.2	Warranty Claim	157
15.3	CE Declaration of Conformity	158
15.4	Notes on National Regulations and Guidelines	158

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



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

	 DANGER
	<p>This notice warns you of a hazard! Possible consequences of not observing the warning instructions. The signal word indicates the hazard level.</p> <p>→ The measures for preventing the danger and its consequences.</p>

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

	 WARNING
	<p>This notice warns you of a hazard! Possible consequences of not observing the warning instructions. The signal word indicates the hazard level.</p> <p>→ The measures for preventing the danger and its consequences.</p>

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

	 CAUTION
	<p>This notice warns you of a hazard! Possible consequences of not observing the warning instructions. The signal word indicates the hazard level.</p> <p>→ The measures for preventing the danger and its consequences.</p>

Notice - a possibly hazardous situation.
Non-observance may result in damage to property.

NOTICE
<p>This notice warns you of a hazard! Possible consequences of not observing the warning instructions. The signal word indicates the hazard level.</p> <p>→ The measures for preventing the danger and its consequences.</p>

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

1.3 LANGUAGES

The **AquaCoat GM 5020EACW** operating manual is available in the following languages:

Language	Order No.	Language	Order No.
German	2363958	English	2366600
French	2366598	Italian	2366601
Spanish	2366599		

1.3.1 OPERATING MANUALS FOR THE INDIVIDUAL COMPONENTS

Puma 28-40 PE+TG piston pump operating manual

Language	Order No.	Language	Order No.
German	2333537	English	2333538
French	2333539	Italian	2333540
Spanish	2333541		

→ **AquaCoat compressed air connection** for Puma: Refer to Chapter 5.6.2.1.

Double diaphragm pump Cobra 40-10 operating manual

Language	Order No.	Language	Order No.
German	2340850	English	2340851
French	2340852	Italian	2340853
Spanish	2340854		

→ **AquaCoat compressed air connection** for Cobra: Refer to Chapter 5.6.2.2.

EvoMotion 20-30 piston pump operating manual

Language	Order No.	Language	Order No.
German	2333552	English	2333553
French	2333554	Italian	2333555
Spanish	2333556		

→ **AquaCoat compressed air connection** for EvoMotion: Refer to Chapter 5.6.2.3.

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

1.4 ABBREVIATIONS

Order No.	Order number	PE	Ultra high molecular weight polyethylene
ET	Spare part	TG	PTFE with graphite
K	Marking in the spare parts lists	Pos	Position
AC	AirCoat	Stk	Number of pieces
EACW	AirCoat electrostatic, water-based	SW	Wrench size
GM	Manual gun	LV	Low viscosity
HS	High voltage	HV	High viscosity
HP	High pressure		
SSt	Stainless steel		

1.5 TERMINOLOGY FOR THE PURPOSE OF THIS MANUAL

Cleaning	Manual cleaning of devices and device parts with cleaning agent
Flushing	Internal flushing of paint-wetted parts with flushing agent

Staff qualifications

Trained person	Is instructed in the tasks assigned to him/her, the potential risks associated with improper behavior as well as the necessary protective devices and measures.
Electrically trained person	Is instructed by an electrician about the tasks assigned to him/her, the potential risks associated with improper behavior as well as the necessary protective devices and measures.
Electrician	Can assess the work assigned to him/her and detect possible hazards based on his/her technical training, knowledge and experience in relevant provisions.
Skilled person In the context of TRBS 1203 (2010 / Revision 2012)	A person who, based on his/her technical training, experience and recent vocational experience, has sufficient technical knowledge 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 are given in the TRBS 1203 (2010/Revision 2012): Expert knowledge in the areas of protection against excessive pressure, electrical hazards, and explosion protection (where applicable).

2 CORRECT USE

2.1 DEVICE TYPE

Electrostatic spraying unit for manual coating of grounded work pieces using the AirCoat process.

AquaCoat 5010/5020 systems are equipped with the AquaCoat 5010/5020 cabinet, the VM 5020W control unit, a GM 5020EACW AirCoat spray gun and matching hose set, a high-voltage generator, all safety devices and one of the following spray product supplies:

- Piston pump, Puma 28-40 PE/TG (in accordance with the spare parts catalog)
- Double diaphragm pump, Cobra 40-10 (in accordance with the spare parts catalog)
- Piston pump, EvoMotion 20-30 (in accordance with the spare parts catalog)

2.2 TYPE OF USE

AquaCoat 5010/5020 GM 5020EACW can be used to spray liquid, non-flammable products, in particular non-flammable coating products in accordance with Chapter 2.5.

WAGNER forbids any other use!

2.3 USE IN AN EXPLOSION HAZARD AREA

The device is **not** suitable for use in potentially explosive areas.
(See Chapter 3.1 "CE Identification".)

2.4 SAFETY PARAMETERS

The system may only be used as described in this operating manual. In particular, no conversions are permitted on the system otherwise the warranty ceases to apply and WAGNER is not liable for any claims.



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

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

The device may only be operated under the following conditions:

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

The electrostatic spray unit may only be operated if all parameters are set and all measurements/safety checks are carried out correctly.

2.5 PROCESSIBLE WORKING MATERIALS

Water-dilutable lacquers are in principle divided into 3 groups:

- **Green** Non-flammable lacquers.
- Yellow** Lacquers with low flammability.
- Red** Flammable lacquers.

Only non-flammable (non-combustible) liquid spray products (**green** group) can be processed with the present spray system. The specific resistance of the spray product must be between 0.5 kΩ cm and 1 MΩ cm.

The following recipe can be used to determine whether the product is non-flammable:

$$\text{Gew. \% H}_2\text{O} > \frac{63}{37} \times \text{Gew. \% LM} + \frac{49}{51} \times \text{Gew. \% ORG}$$

Where:

Gew. % Weight percent

H₂O Water

LM Liquid organic phase; main components: Higher glycol esters in a mixture with max. 1:1 of propanol.

ORG Solid organic phase; main components: Binding agents and pigments.

Such lacquers behave like water in liquid form (liquid phase) and in sprayed form.

Thinners must also be non-flammable.

If the cleaning and flushing agents also align with this category, the system may be used.

Example of non-combustible liquid:

No more than 35 weight percent, 1:1 butylglycol/n-propanol, rest water.

- Please contact your local WAGNER dealer and the lacquer manufacturer if you encounter application problems.

2.6 REASONABLY FORESEEABLE MISUSE

The forms of misuse listed below may result in physical injury or property damage:

- coating work pieces which are not grounded;
- unauthorized conversions or modifications to the system;
- working with combustible coating products;
- processing dry or similar coating products, e.g., powder;
- using defective components, spare parts or accessories other than those described in the "Accessories" chapter of this operating manual;
- continuing work with a defective or kinked product hose;
- working with incorrectly set values;
- processing food.

2.7 RESIDUAL RISKS

Residual risks are risks which cannot be ruled out even in the event of correct use.

If necessary, warning and prohibition signs at the relevant points of risk indicate residual risks.

Residual risk	Source	Consequences	Specific measures	Lifecycle phase
Skin contact with lacquers and cleaning agents	Handling of lacquers and cleaning agents	Skin irritations, allergies	Use personal safety equipment. Observe safety data sheets	Operation, maintenance, disassembly
Lacquer in air outside the defined working area	Lacquering outside the defined working area	Inhalation of substances hazardous to health	Observe work and operation instructions. Use personal safety equipment	Operation, maintenance



3 IDENTIFICATION



3.1 CE IDENTIFICATION

The device may **not** be used in potentially explosive areas.



3.2 TYPE PLATES


AquaCoat cabinet

		J. WAGNER AG Industriestrasse 22 CH-9450 ALTSTÄTTEN MADE IN SWITZERLAND	
		AquaCoat	
1	Gerätetyp / Type:		
2	Eingangsspannung / Voltage input	115 - 230VAC, 50Hz / 60Hz	
3	Eingangsleistung / Power input	max. 40 W	
4	Ausgangshochspannung / High voltage output	max. 70 kV DC	
5	Ausgangsstrom / Current output	max. 100 µA DC	
6	Norm / Standard	EN 50059	
7	Luftdruck max. / Air pressure max.	0.8 MPa,	116 psi
8	Temperatur Material max. / Fluid temp. max.	+50°C,	+122°F
9	Temperatur Umgebung / Temperatur area	+5 / +40°C,	+41 / +104°F
10	Serie Nr. / Serial No.	<input type="text"/>	
11	Vor Gebrauch Betriebsanleitung beachten / Check manual before use!		

- 1 Device type
- 2 Input voltage
- 3 Input power
- 4 Output high voltage
- 5 Output current
- 6 Standard
- 7 Maximum air pressure
- 8 Maximum product temperature
- 9 Ambient temperature
- 10 Serial number
- 11 Read operating manual before use!

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VM 5020W control unit

9	Spannung: max. 20Vpp Voltage:	
10	Strom: max. 1,0A Current:	
		
J. WAGNER AG Industriestrasse 22 CH - 9450 Altstätten Made in Switzerland		
1	Typ / Type:	VM 5020W
2	Artikel Nr.: Article No.:	2360060
3	Baujahr: Year of manufacture:	
4	Serie Nr.: Serial No.:	
5	Spannung: Voltage:	115 - 230VAC 50Hz / 60Hz
6	Eingangsleistung: Line Power:	max. 40W
7	Schutzart: IP Code:	IP 40
8	Norm: Standard:	EN 50059

- 1 Type
- 2 Article number
- 3 Year of manufacture
- 4 Serial number
- 5 Input voltage
- 6 Maximum input power
- 7 Protection class
- 8 Standard
- 9 Maximum output voltage
- 10 Maximum output current

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GM 5020EACW spray gun

B_05877

1 **GM 5020EACW**

2 Art. Nr.: 2362837

3 max. high voltage: 70kV / 350mJ

4 max. mat. pressure: 25MPa; 250bar; 3626psi

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

- 1 Gun type
- 2 Article number
- 3 Maximum high voltage / Energy
- 4 Maximum product pressure
- 5 Maximum air pressure
- 6 In compliance with EN 50059
- 7 For electrostatic application of water-based lacquers

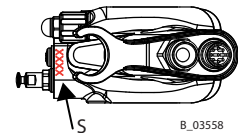
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6 CE
geprüft nach EN 50059

7 For Waterborne Electrostatic Finishing Applications

Serial number

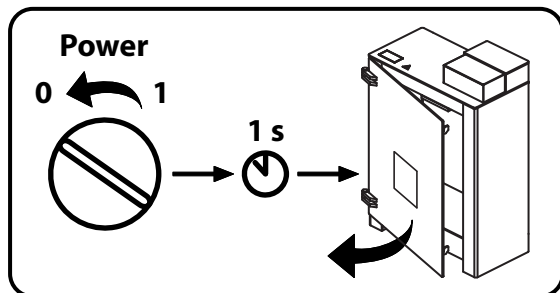
The serial number (S) on the underside of the handle.



3.3 SAFETY SIGNAGE

AquaCoat cabinet	GM 5020EACW spray gun	GM 5020EACW spray gun VM 5020W control unit
Warning: Hazardous voltage	Warning: Danger of becoming injured by high-pressure jet	Do not dispose of used electrical equipment with household refuse. → See Chapter 12

AquaCoat cabinet



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Door lock

One second after the control unit has been switched off, the system is grounded and the door lock opened.

4 GENERAL SAFETY INSTRUCTIONS

4.1 SAFETY INSTRUCTIONS FOR THE OPERATOR

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



4.1.1 ELECTRICAL EQUIPMENT

Electrical devices and equipment

- To be provided in accordance with the local safety requirements with regard to the operating mode and ambient influences.
- May only be maintained by skilled electricians or under their supervision. With open housings, there is a danger from line voltage.
- Must be operated in accordance with the safety regulations and electrotechnical regulations.
- Must be repaired immediately in the event of problems.
- Must be decommissioned if they pose a hazard or are damaged.
- Must be de-energized before work is commenced on active parts. Inform staff 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 PERSONNEL QUALIFICATIONS

- Ensure that the device is only operated, maintained and repaired by trained persons.

4.1.3 SAFE WORK ENVIRONMENT

- Ensure that the floor in the working area is static dissipative in accordance with EN 61340-4-1 (resistance must not exceed 100 megohms).
- Paint mist extraction systems/ventilation systems must be fitted on site according to local regulations.
- Ensure that product / air hoses adapted to the working pressure are used.
- Ensure that personal protective equipment is available and is used (breathing and skin protection).
- Ensure that all persons within the working area wear static dissipative shoes. Footwear must comply with EN 20344. The measured insulation resistance must not exceed 100 megohms.
- Ensure that during spraying, persons wear static dissipative gloves. The grounding takes place via the spray gun handle or the trigger guard.



- Protective clothing, including gloves, must comply with EN 1149-5. The measured insulation resistance must not exceed 100 megohms.
- 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 and connections, etc.)
 - Regular monitoring of leaks and defects via visual inspection and odor testing, e.g., daily before commissioning, at the end of work or weekly.
- In the event of defects, immediately bring the device or system to a stop and arrange to have repairs carried out immediately.

Grounding

- 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).

4.2 SAFETY INSTRUCTIONS FOR STAFF

- Always follow the information in this manual, particularly the general safety instructions and the warning instructions.
- Always follow local regulations concerning occupational safety and accident prevention.
- In electrostatics application: Anyone fitted with a pacemaker must not enter the high-voltage area!

**4.2.1 SAFE HANDLING OF WAGNER SPRAY DEVICES**

The spray jet is under pressure and can cause dangerous injuries.

Avoid injection of paint or flushing agents:

- Never point the spray gun at people.
- Never reach into the spray jet.
- Before all work on the device, in the event of work interruptions and functional faults:
 - Switch off the energy/compressed air supply.
 - Relieve pressure from spray guns and devices.
 - Secure spray guns against actuation.
 - In the event of functional faults, remedy the fault as described in the "Troubleshooting" chapter.
- If needed, the liquid ejection devices must be checked by experts (e.g., WAGNER service technician) at least every 12 months to ensure they are safe for work in accordance with the DGUV regulation 100-500.
 - For shut down devices, the examination can be suspended until the next start-up.
- Carry out the work steps as described in the "Pressure Relief" chapter:
 - If pressure relief is required.
 - If the spraying work is interrupted or stopped.
 - Before the device is cleaned on the outside, checked or serviced.
 - Before the spray nozzle is installed or cleaned.



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

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

Avoid risk of injury from recoil forces:

- Ensure that you have firm footing when operating the spray gun.
- Only hold the spray gun briefly in a position.

4.2.2 GROUNDING THE DEVICE

Friction, flowing liquids and air or electrostatic coating processes create charges. Flames or sparks can form during discharge. Grounding prevents electrostatic charging.

- Ensure that the device is grounded. → See chapter "Grounding".
- Ground the work pieces to be coated.
- Ensure that all persons inside the working area are grounded, e.g., that they are wearing static dissipative shoes.
- Wear static dissipative gloves when spraying. The grounding takes place via the spray gun handle or the trigger guard.

**4.2.3 PRODUCT HOSES**

- Ensure that the hose material is chemically resistant to the sprayed products and the flushing agents used.
- Ensure that the product hose is suitable for the pressure generated.
- Ensure that the following information can be seen on the high-pressure hose:
 - Manufacturer
 - Permissible operating pressure
 - Date of manufacture
- Make sure that the hoses are laid only in suitable places. Hoses should not be laid in the following places under any circumstances:
 - in high-traffic areas,
 - on sharp edges,
 - on moving parts or
 - on hot surfaces.
- Ensure that the hoses are never run over by vehicles (e.g., fork lifts), or that the hoses are never put under pressure from the outside in any other way.
- Ensure that the hoses are never kinked. Observe maximum bending radii.
- Make sure that the hoses are never used to pull or move the equipment.
- The electrical resistance of the product hose outer sheath, measured over the entire length of the outer sheath, must be less than 1 megohm.
- Suction hoses may not be subjected to pressure.



Several liquids have a high expansion coefficient. In some cases their volume can rise with consequent damage to pipes, fittings, etc. and cause fluid leakage.

When the pump sucks liquid from a closed tank, ensure that air or a suitable gas can enter the tank. Thus a negative pressure is avoided. The vacuum could implode the tank (squeeze) and can cause it to break. The tank would leak and the liquid would flow out.

The pressure created by the pump is a multiplication of the inlet air pressure.

4.2.4 CLEANING AND FLUSHING

- Relieve the pressure from the device.
- De-energize the device electrically.
- Preference should be given to non-flammable cleaning and flushing agents.
- When carrying out cleaning work with flammable cleaning agents, make sure that all equipment and resources (e.g., collection tank, funnel, transport cart) are conductive or static dissipative and grounded.
- Observe the specifications of the lacquer manufacturer.
- Ensure that the flash point of the cleaning agent is at least 15 K above the ambient temperature or that cleaning is undertaken at a cleaning station with technical ventilation.
- Take measures for workplace safety (see Chapter 4.1.3).
- When commissioning or emptying the device, please note that an explosive mixture may temporarily exist inside the lines and components of equipment:
 - depending on the coating product used,
 - depending on the flushing agent (solvent) used,
 explosive mixture inside the lines and items of equipment.
- Only electrically conductive tanks may be used for cleaning and flushing agents.
- The tanks must be grounded.

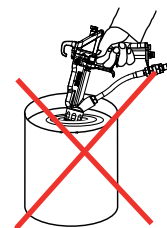
An explosive gas/air mixture forms in closed tanks.

- Never spray into a closed tank when using solvents for flushing.

External cleaning

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

- 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.
- Which cleaning agent is used to clean the spray gun depends on which parts of the spray gun have to be cleaned and which product has to be removed. When cleaning the spray gun, only use **non-polar cleaning agents** to prevent conductive residues on the surface of the spray gun. Should it however, be necessary to use a polar cleaning agent, all residues of this cleaning agent have to be removed by using a non-conductive and non-polar cleaning agent, once the cleaning is finished.



4.2.5 HANDLING HAZARDOUS LIQUIDS, VARNISHES AND PAINTS

- When preparing or working with lacquer and when cleaning the device, follow the working instructions of the manufacturer of the lacquers, solvents and cleaning agents being used.
- Take the specified protective measures. In particular, use personal protective equipment: safety goggles, protective clothing and gloves, as well as respiratory protection and skin protection cream if necessary.
- Use a mask or breathing apparatus if necessary.
- For sufficient health and environmental safety: Operate the device in a spray booth or on a spraying wall with the ventilation (extraction) switched on.
- Wear suitable protective clothing when working with hot products.



4.2.6 TOUCHING HOT SURFACES

- Only touch hot surfaces if you are wearing protective gloves.
- When operating the device with a coating product with a temperature of $> 43\text{ }^{\circ}\text{C}$; $109\text{ }^{\circ}\text{F}$: identify the unit with a warning label that says "Warning - Hot Surface".
 - Instruction label Order no. 9998910
 - Protection label Order no. 9998911**Note:** Order the two stickers together.



4.3 PROTECTIVE AND MONITORING EQUIPMENT

- 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.

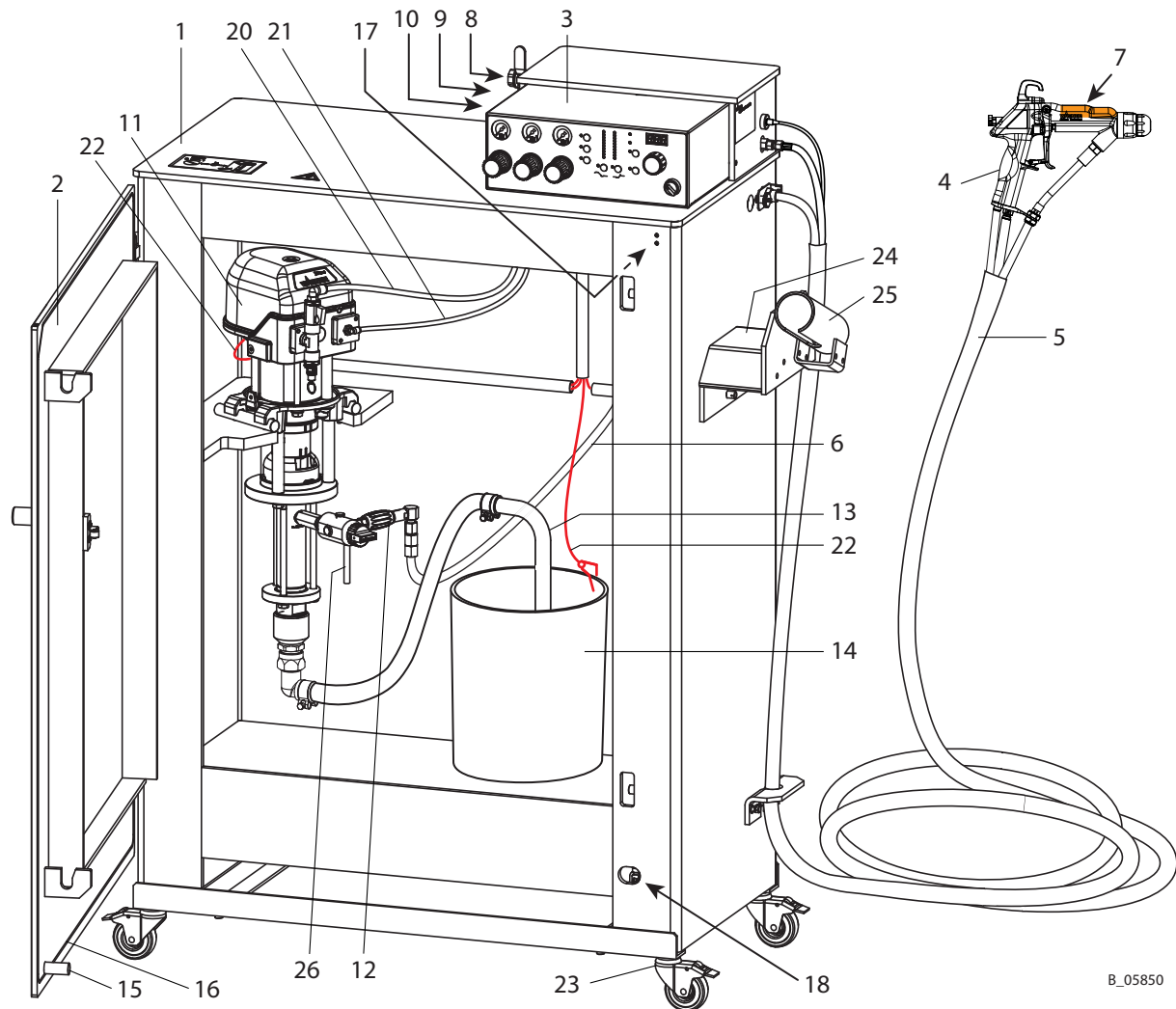
4.4 SAFETY-RELEVANT INFORMATION ABOUT DISCHARGES

The plastic parts of the cabinet are charged electrostatically by the high-voltage field. Contact with plastic parts harmless discharges (brush discharges) may occur. They are completely non-hazardous for human health.

5 DESCRIPTION

5.1 COMPONENTS

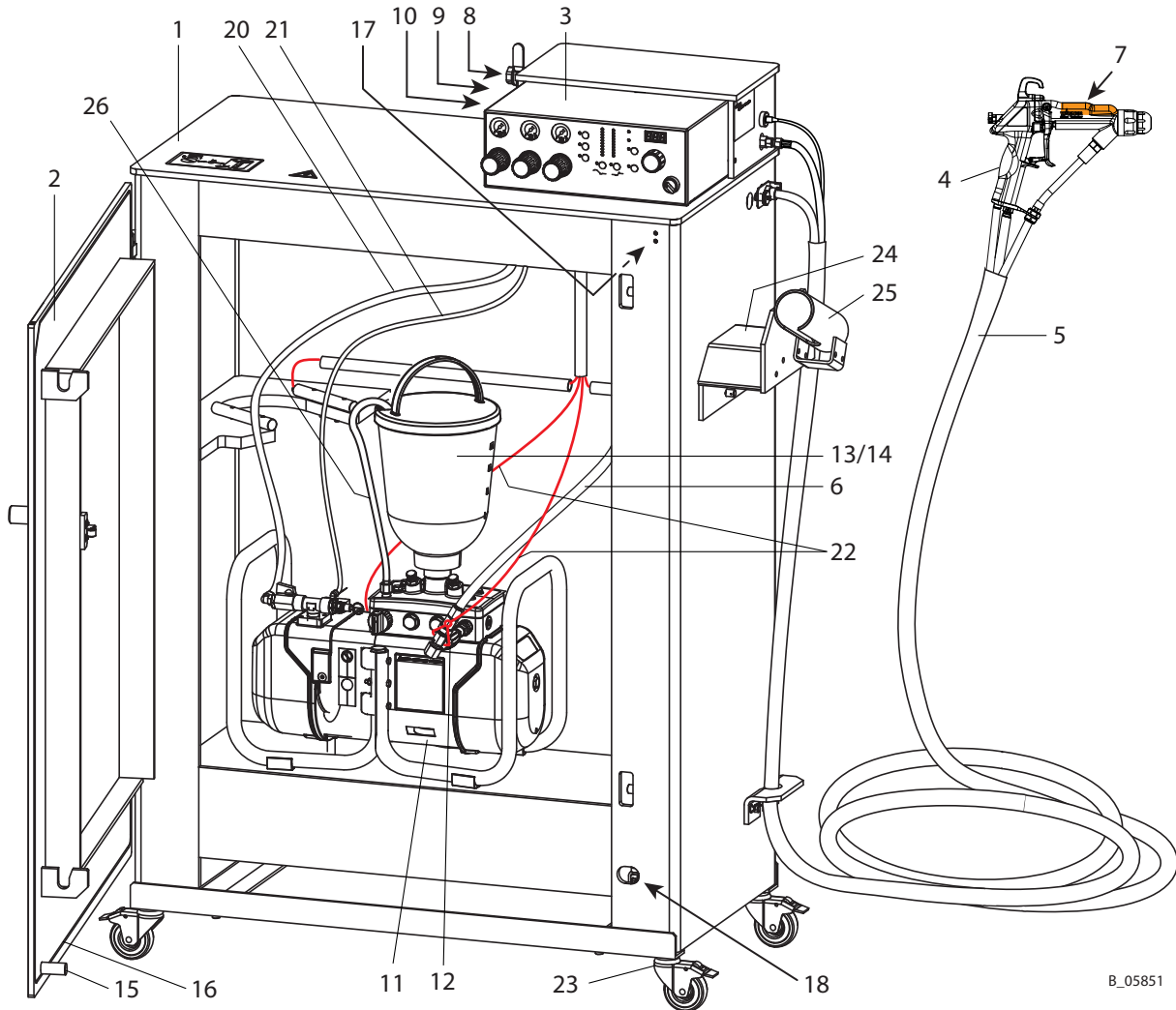
AquaCoat with Puma 28-40 piston pump



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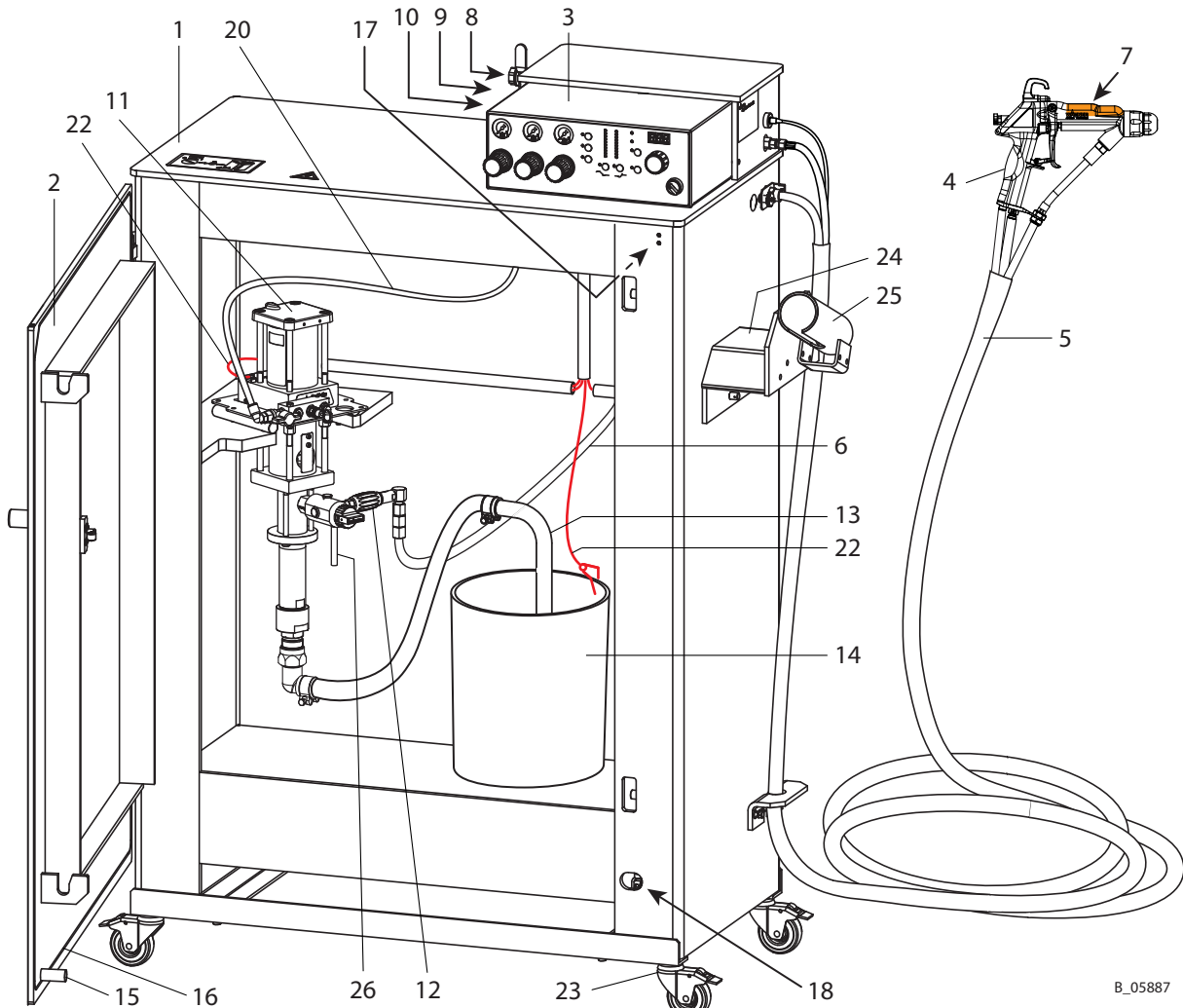
Pos	Designation
1	AquaCoat cabinet
2	Cabinet door
3	VM 5020W control unit
4	GM 5020EACW spray gun
5	Hose set EACW
6	Product hose (Puma: from high-pressure filter to spray gun; Cobra: from high-pressure filter to potential equalization connection (33))
7	High-voltage generator (high-voltage cascade)
8	Air inlet with ball valve
9	Inlet for mains cable
10	Grounding terminal (input: grounding cable)

AquaCoat with Cobra 40-10 double diaphragm pump



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Pos	Designation
11	Product pressure generator (pump)
12	High-pressure filter
13	Suction system
14	Product tank (Puma: metallic product tank; Cobra: hopper)
15	Grounding bolt on the cabinet door
16	Grounding band in the cabinet door
17	Electrical door switch
18	Pneumatic door switch
20	Air hose (pump air supply)
21	Air hose (for the air motor reversing valve)
22	Potential equalization lines, orange (4 pieces)
23	Underframe with rolls (available, however, as special accessory)
24	Hose holder (available, however, as special accessory)
25	Gun holder (available, however, as special accessory)
26	Return line

AquaCoat with EvoMotion 20-30 piston pump

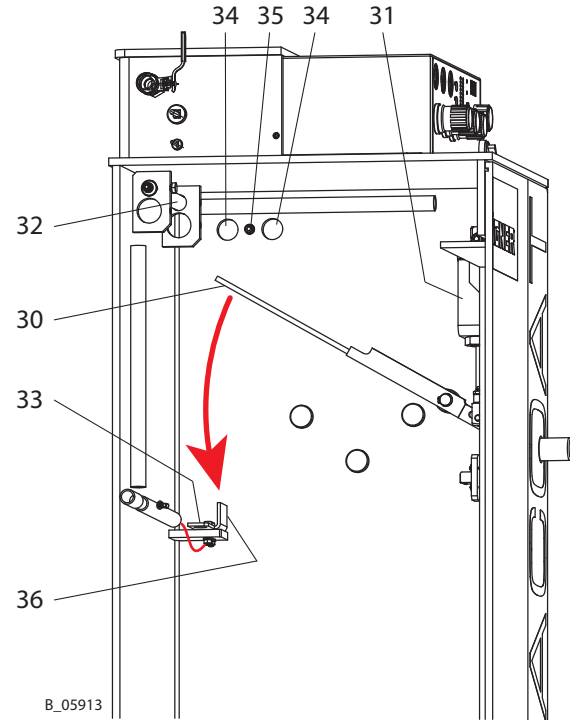
B_05887

Pos	Designation
1	AquaCoat cabinet
2	Cabinet door
3	VM 5020W control unit
4	GM 5020EACW spray gun
5	Hose set EACW
6	Product hose (from high-pressure filter to spray gun)
7	High-voltage generator (high-voltage cascade)
8	Air inlet with ball valve
9	Inlet for mains cable
10	Grounding terminal (input: grounding cable)
11	Product pressure generator (pump)
12	High-pressure filter
13	Suction system

Pos	Designation
14	Metallic product tank
15	Grounding bolt on the cabinet door
16	Grounding band in the cabinet door
17	Electrical door switch
18	Pneumatic door switch
20	Air hose (pump air supply)
22	Potential equalization lines, orange (4 pieces)
23	Underframe with rolls (available, however, as special accessory)
24	Hose holder (available, however, as special accessory)
25	Gun holder (available, however, as special accessory)
26	Return line

AquaCoat cabinet RH side wall (from the inside)

Pos	Designation
30	Grounding switch
31	Grounding cylinder
32	Leakage resistance 3 GOhm
33	Potential equalization connection of the stripped part of the product hose (for Cobra)
34	Passageway for product hose
35	Connection for grounding cable for grounding the conductive sheath of the product hose.
36	Grounding point





5.2 MODE OF OPERATION

The AquaCoat spray system is designed for processing non-combustible liquids (water-based lacquers) in accordance with the AirCoat method.

The spray product is regulated via the trigger guard on the gun (4) and the VM 5020W (3) control unit. It is drawn in in the sealed off inner chamber of the AquaCoat cabinet (1) with a product pressure generator (11) via a suction system (13), electrostatically charged and sprayed in the nozzle of the spray gun using the AirCoat process.

The product pressure generator and spray gun are connected by the shielded, high-pressure product hose.

5.3 PROTECTIVE AND MONITORING EQUIPMENT

	 WARNING
	<p>Protective and monitoring equipment! Risk of injury and damage to the device.</p> <ul style="list-style-type: none"> → 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.

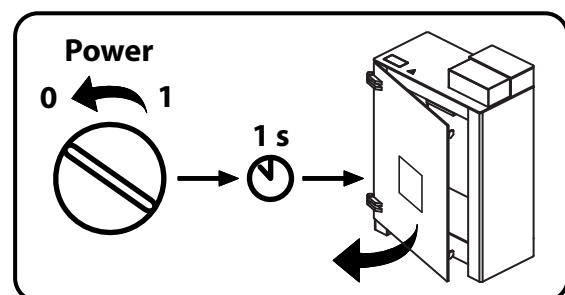
The following elements are provided for system safety:

Safety element	Function
Grounding switch (30)	Grounding the potential equalization lines and pump support (for Puma / EvoMotion) or the stripped part of the product hose (for Cobra).
Electrical door switch (17)	The grounding switch is closed with an open cabinet door (potential equalization lines are grounded).
Pneumatic door switch (18)	
Leakage resistance (32)	Reduces the high voltage in a controlled manner.
Door lock	Cabinet door can not be opened when the control unit is switched on.
Grounding band (16) in the cabinet door.	The grounding band is grounded over the pneumatic door switch with a closed cabinet door.
Trigger lock	Locks the trigger of the spray gun.
Anti-contact guard for flat jet nozzle	Helps prevent accidental touching of the nozzle.

Door lock

Only open or close the cabinet door (2) when the control unit (3) is switched off.

One second after the control unit (3) has been switched off, the system is grounded and the door lock opened.



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AquaCoat cabinet

To achieve an optimal application efficiency, the lacquer supply (lacquer tank and pump) is brought to high-voltage potential in an insulated cabinet. The interior of the cabinet, connected to high voltage, is protected by double (redundant) safety elements before touching. Before the cabinet door can be opened, the system is grounded abruptly by pneumatic grounding switch. A direct discharge of the system to the user is not possible in the area of lacquer supply system. However, the plastic surface of the cabinet can charge, which results in small discharges (brush discharges) when touching the cabinet. These discharges are perceptible but harmless and they are completely non-hazardous for human health.

Product hose

The product hose directs the coating product, which is under high voltage, to the spray gun. The product hose is designed on one hand high voltage resistant and on the other hand, there is the outer shell of the product hose from a conductive, grounded plastic sheath. Even of an electrical breakdown of the product hose, there is no danger to the user, since the current would flow through the grounded sheath.

Manual spray gun

The coating product under high voltage is sprayed on the manual spray gun. If you touch during coating the nozzle area, it results in a system discharge to the grounded user. Such a discharge is weaker, because of the dampening effect of the product hose as a discharge during lacquer supply and according to standard EN 50059 the discharge must not exceed a maximum energy of 350 mJ. Such a discharge can still be fierce and painful, but it is not hazardous to health. Soon as the coating process is interrupted and the trigger is released, the system will be discharged slowly via a discharge resistor of 3 Gohm. This process can take up to 20 seconds, which means that during this period the nozzle area of the spray gun should not be touched. The system is intentionally not abruptly discharged, so that the high voltage does not have to power up from zero again at very short coating intervals.

5.4 SCOPE OF DELIVERY

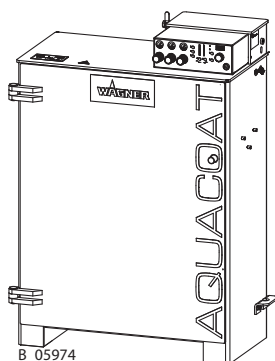
AquaCoat basic device	Basic device			
	5020	5010	5020G	5010G
Designation	Order No.	Order No.	Order No.	Order No.
AquaCoat basic device: Cabinet including VM 5020W control unit	2363292	2363401	2363734	2363736

The scope of delivery of a basic device includes:

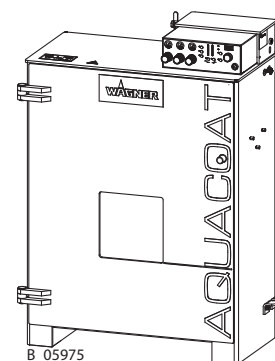
AquaCoat GM 5020EACW Operating manual, German	2363958
Operating manual in the local language	see Chapter 1.3
CE Declaration of Conformity, AquaCoat	see Chapter 15.3

Without window

Example:
AquaCoat 5020

**With window (G)**

Example:
AquaCoat 5020G



Pump set	Pump set		
	Puma 28-40	Cobra 40-10	EvoMotion 20-30
Designation	Order No.	Order No.	Order No.
Pump set	2363746	2363747	2363946

The scope of delivery of a pump set includes:

Pump operating manual, German	2333537	2340850	2333552
Operating manual pump in the local language	see Chapter 1.3.1		

Spray gun

Designation	Spray gun GM 5020EACW
	Order No.
Spray gun	2363958

The scope of delivery of a spray gun includes:

AquaCoat GM 5020EACW Operating manual, German	2363958
Operating manual in the local language	see Chapter 1.3.1
CE Declaration of Conformity, AquaCoat	see Chapter 15.3

The delivery note shows the exact scope of delivery.



5.4.1 BASIC SETS

Pos	System component	Order No.				
			Basic set	Order No.		
			AQ 5010 GM 5020EACW Evo 20-30	2364017		
			AQ 5020 GM 5020EACW Evo 20-30	2364020		
			AQ 5020 GM 5020EACW Puma 28-40	2364021		
			AQ 5020 GM 5020EACW Cobra 40-10	2364022		
AquaCoat cabinet with VM 5020W control unit						
1	AquaCoat 5020 manual basic device	2363292		✓	✓	✓
2	AquaCoat 5010 manual basic device	2363401	✓			
3	AquaCoat 5020G manual basic device	2363734				
4	AquaCoat 5010G manual basic device	2363736				
Pump set						
5	Puma 28-40 set for AquaCoat	2363746			✓	
6	Cobra 40-10 set for AquaCoat	2363747				✓
7	EvoMotion 20-30 set for AquaCoat	2363946	✓	✓		
Spray gun						
8	GM 5020EACW	2362841	✓	✓	✓	✓
Hose set						
	→ see Chapter 13.3					
Nozzles and air caps						
	→ see Chapters 13.1 / 13.2					
Additional Accessories						
	→ see Chapter 13.4					

Designations	Meaning
5020	The cabinet is 100 cm; 39.4 inch wide
5010	The cabinet is 80 cm; 31.5 inch wide
5020G	The cabinet is 100 cm; 39.4 inch wide. With window in the cabinet door.
5010G	The cabinet is 80 cm; 31.5 inch wide. With window in the cabinet door.
AQ	AquaCoat

5.5 TECHNICAL DATA

Air pressure inlet	0.4 – 0.8 MPa 4 – 8 bar 58 – 116 psi
Compressed air quality: free from oil and water	Quality standard 6.5.2 according to ISO 8573.1, 2010 6: Particle density $\leq 5 \text{ mg/m}^3$ 5: Humidity: pressure dew point $\leq +7 \text{ }^\circ\text{C}$ 2: Oil content $\leq 0.1 \text{ mg/m}^3$
Operating temperature range	5 °C – 40 °C 41 °F – 104 °F
Maximum product temperature	50 °C 122 °F
Sound pressure level	<i>When the cabinet is open:</i> Dependent on the installed pump, data can be found in the enclosed operating manual.
	<i>When the cabinet is closed:</i> The values are 10 – 12 dB(A) lower.
Weight (without product tank and pump)	AquaCoat 5010: 62 kg; 136.7 lb AquaCoat 5020: 70 kg; 154.3 lb

Dimensions

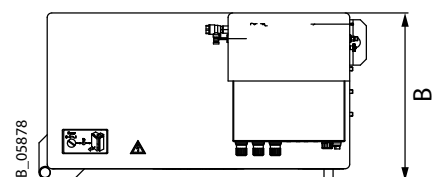
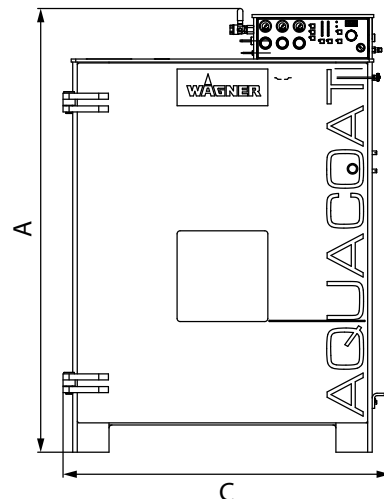
	AquaCoat 5010		AquaCoat 5020	
	mm	inch	mm	inch
A	1,467	57.76	1,467	57.76
B	556	21.89	556	21.89
C	882	34.72	1,082	42.60

Including underframe with rolls:

A	1,572	61.89	1,572	61.89
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Including hose holder and gun holder:

C	1,028	40.47	1,228	48.35
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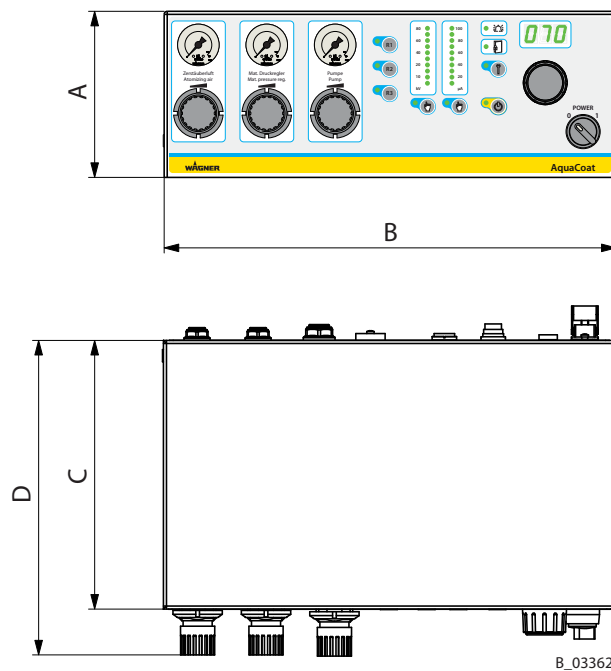


5.5.1 VM 5020W CONTROL UNIT

Input voltage	115 VAC–230 VAC 50 Hz/60 Hz
Input power	Max. 40 W
Output voltage	Max. 20 Vpp
Output current	Max. 1.0 A AC
High voltage	Max. 70 kV DC
Spray current	Max. 100 µA DC
Operating temperature range	5 – 40 °C 41 – 104 °F
Protection class	IP 40
Weight (without cables)	6.2 kg; 13.7 lb

Dimensions

	mm	inch
A	136	5.35
B	370	14.57
C	220	8.66
D	252	9.92



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5.5.2 PRODUCT PRESSURE GENERATOR

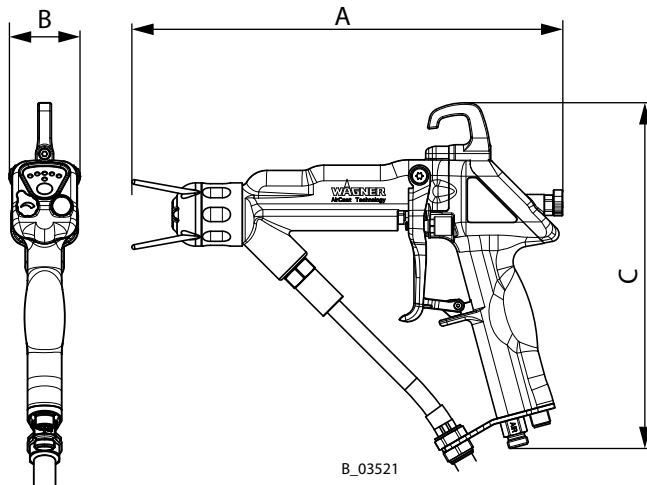
Product pressure generator	Technical data	Order No.
Puma 28-40 PE+TG pneumatic piston pump	in the IceBreaker operating manual	see Chapter 1.3.1
Cobra 40-10 double diaphragm pump	in the Cobra operating manual	
EvoMotion 20-30 pneumatic piston pump	in the EvoMotion operating manual	

5.5.3 GM 5020EACW SPRAY GUN

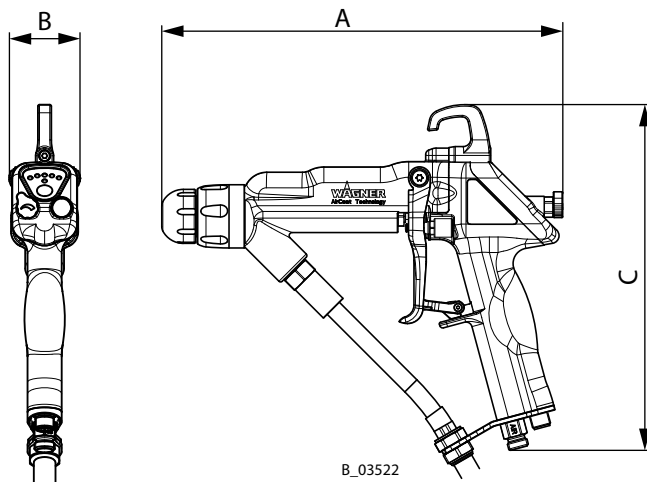
Maximum air pressure	0.8 MPa; 8 bar; 116 psi
Maximum product pressure	25 MPa; 250 bar; 3,626 psi
Fluid inlet	NPSM 1/4"-18
Air connection	G 1/4" A
Weight (without hose set)	700 g; 1.54 lb (incl. union nut, nozzle, and air cap)
Operating temperature range	5 °C up to 40 °C; 41 °F up to 104 °F
Maximum product temperature	50 °C; 122 °F
Flow rate	Depending on nozzle size (see nozzle table in "Accessories" chapter)
Sound level at 0.3 MPa; 3 bar; 43.5 psi air pressure and 11 MPa; 110 bar; 1,549 psi product pressure	73 dB (A) *

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

Dimensions

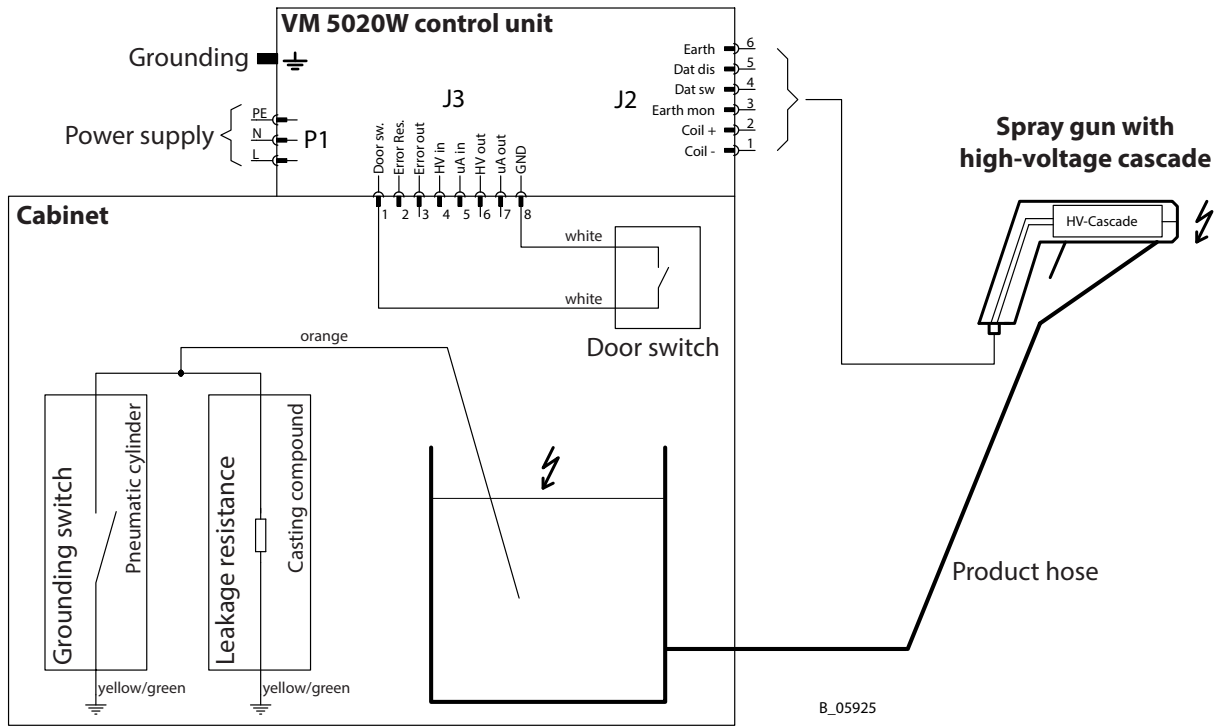


GM 5020EACW F with flat jet nozzle		
	mm	inch
A	280	11.02
B	46	1.81
C	225	8.86



GM 5020EACW R with round jet nozzle		
	mm	inch
A	264	10.39
B	46	1.81
C	225	8.86

5.5.4 ELECTRIC BLOCK DIAGRAM, AQUACOAT



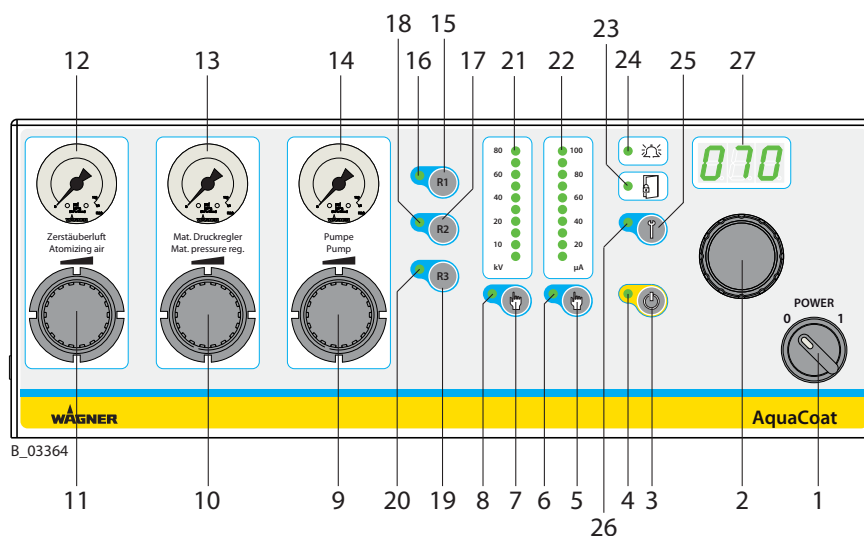
Connection	Function
J2	Gun connection
J3	External interface, see Chapter 7.5

5.6 CONTROLS

5.6.1 VM 5020W CONTROL UNIT

The assembled spray system can be operated and regulated with the VM 5020W control unit.

5.6.1.1 OPERATING ELEMENTS, FRONT SIDE



1 Selector (mains supply)

- 0 = Control unit switched off.
- 1 = Control unit switched on.

2 Universal control dial

- Dynamic digital control dial with 32 positions per revolution.
- Adjustment speed is proportional to rotational speed.
- Used to adjust high voltage and spray current.
- For setting parameter values in configuration mode.

3 Push button "Standby"

For switching to standby mode.

4 Illuminated display "Standby"

Lights up when the device is in standby mode.

5 Push button "Spray current"

For activating the function.

The current limitation is set with the rotary controller (2) and is indicated in the LED display (27).

- Adjusting range: 10–100 μ A.
- Resolution: 1 μ A.

6 Illuminated display "Spray current"**7 Push button: "High voltage"**

For activating the function.

The high voltage is set with the control dial (2) and is indicated in the LED display (27).

- Adjusting range: 5–70 kV.
- Resolution: 1 kV.

8 Illuminated display "High voltage"**9 Regulator: "Pump pressure"**

Pressure regulator for pump pressure.

- Adjusting range based on the pump ratio.

10 Regulator: "Product pressure"

The "product pressure" regulator is not operative for AirCoat systems.

11 Regulator: "Atomizing air"

Pressure regulator for air supply (shaping and atomizing air) to the spray gun.

- Adjusting range 0–1.0 MPa; 0–10 bar; 0–145 psi.

12 Pressure gauge: "Atomizing air"

Air pressure display for the spray gun.

- Display range 0–1.0 MPa; 0–10 bar; 0–145 psi.

13 Pressure gauge: "Product pressure"

The "product pressure" pressure gauge is not operable for AirCoat systems.

14 Pressure gauge: "Pump pressure"

Pressure display for the pump pressure.

- Display range 0–1.0 MPa; 0–10 bar; 0–145 psi.

The display is multiplied by the pump ratio:

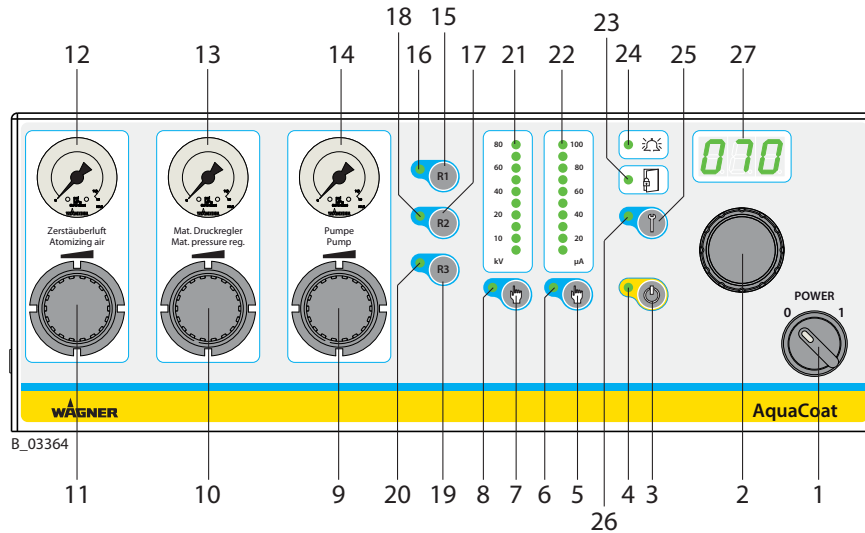
- Puma 28-40	Product pressure = display x 28
- Cobra 40-10	Product pressure = display x 40
- EvoMotion 20-30	Product pressure = display x 20

15 Push button "Recipe 1"**16 Illuminated display "Recipe 1"**

Illuminates if recipe 1 is used.

17 Push button "Recipe 2"**18 Illuminated display "Recipe 2"**

Illuminates if recipe 2 is used.



19 Push button "Recipe 3"

20 Illuminated display "Recipe 3"

Illuminates if recipe 3 is used.

21 Illuminated display "High voltage"

- Illuminates in green.
- Display range: 0–70 kV.
- Single LED display: Nominal voltage.
- Bar display: Working voltage.

22 Illuminated display "Spray current"

- Illuminates in green.
- Display range: 0–100 μ A.
- Single display: Spraying current limit.
- Bar display: Actual spraying current.

23 Illuminated display: "Door control"

- Illuminates in green when the cabinet door is closed.

24 Illuminated display "Fault"

- Illuminates if there is a fault in the system.

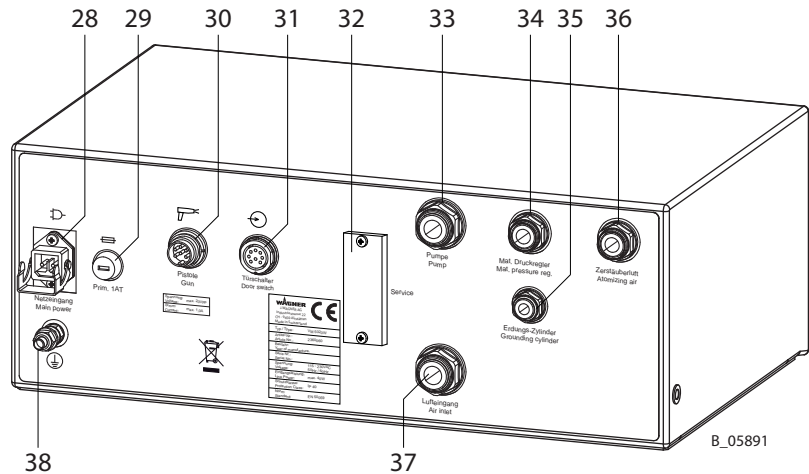
25 Push button "Service"

26 Illuminated display "Service"

27 LED display: 7 segments, three-digit number

- Indicates the target and actual values of high voltage and spray voltage.
- Display of error number about warnings and malfunctions.
- Information about the parameter setting.

5.6.1.2 CONNECTIONS ON THE REAR SIDE



28 Mains input terminal

Connection for mains cable with safety clip.

29 Primary fuse

1.0 Ampere slow-acting.

30 Gun connection

To connect a spray gun.

31 Door switch connection

Connection for the door switch cable.

32 Cover of the service connection

For WAGNER service personnel only!

33 Connection pump air

Hose connector \varnothing 10 mm; 0.39 inches.

34 Product pressure regulator connection (not used for AirCoat systems)

Hose connector \varnothing 8 mm; 0.32 inches.

35 Grounding switch air connection

Hose connector \varnothing 6 mm; 0.24 inches.

36 Atomizing air connection

Hose connector \varnothing 8 mm; 0.32 inches.

37 Compressed air inlet

Hose connector \varnothing 10 mm; 0.39 inches.

38 Grounding (self-locking nut)

Connection for the grounding cable (signal ground).

5.6.2 PRODUCT PRESSURE GENERATOR

5.6.2.1 PUMA 28-40 PE+TG PNEUMATIC PISTON PUMP

→ The pump is equipped with a special AquaCoat compressed air connection (see below).
All other relevant information can be found in the IceBreaker-operating manual (Order No. see Chapter 1.3.1).

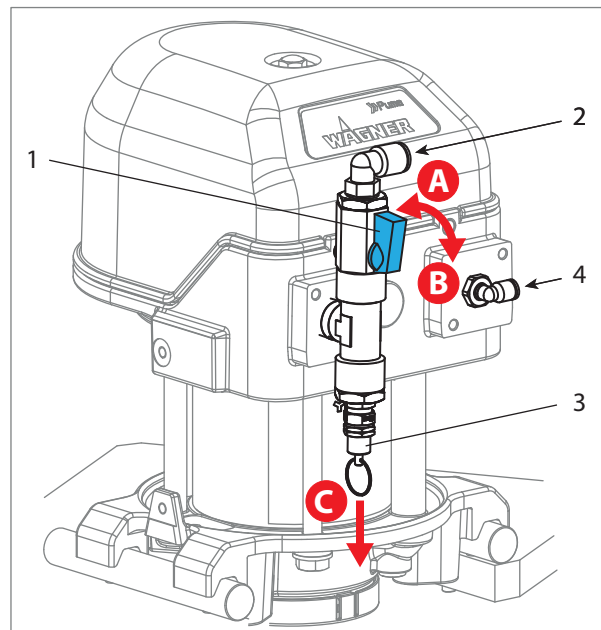
AquaCoat compressed air connection for Puma

The AquaCoat control unit controls the pressure air ("Pump pressure" regulator, see Chapter 5.6.1.1).

- 1 Ball valve
- 2 Compressed air inlet
- 3 Safety valve
- 4 Compressed air input for the air motor reversing valve (mains pressure)

Positions of the ball valve

- A** Open: Working position.
- B** Closed: The air motor may still be under pressure.
- C** Vent: Pull the ring on the safety valve to vent. Operating pressure in the air motor is vented (control air pressure is still present).



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5.6.2.2 COBRA 40-10 DOUBLE DIAPHRAGM PUMP

→ The pump is equipped with a special AquaCoat compressed air connection (see below).
All other relevant information can be found in the Cobra operating manual (Order No., see Chapter 1.3.1).

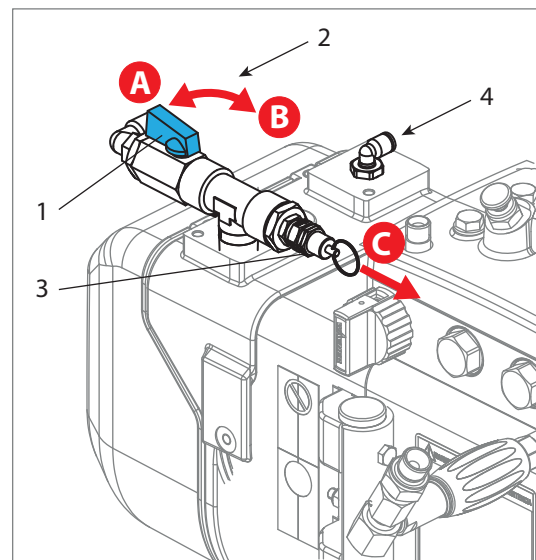
AquaCoat compressed air connection for Cobra

The AquaCoat control unit controls the pressure air ("Pomp pressure" regulator, see Chapter 5.6.1.1).

- 1 Ball valve
- 2 Compressed air inlet
- 3 Safety valve
- 4 Compressed air input for the air motor reversing valve (mains pressure)

Positions of the ball valve

- A** Open: Working position
- B** Closed: The air motor may still be under pressure.
- C** Vent: Pull the ring on the safety valve to vent. Operating pressure in the air motor is vented (control air pressure is still present).



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5.6.2.3 EVOMOTION 20-30 PISTON PUMP

- The pump is equipped with a special AquaCoat compressed air connection (see below).
All other relevant information can be found in the EvoMotion operating manual (Order No., see Chapter 1.3.1).

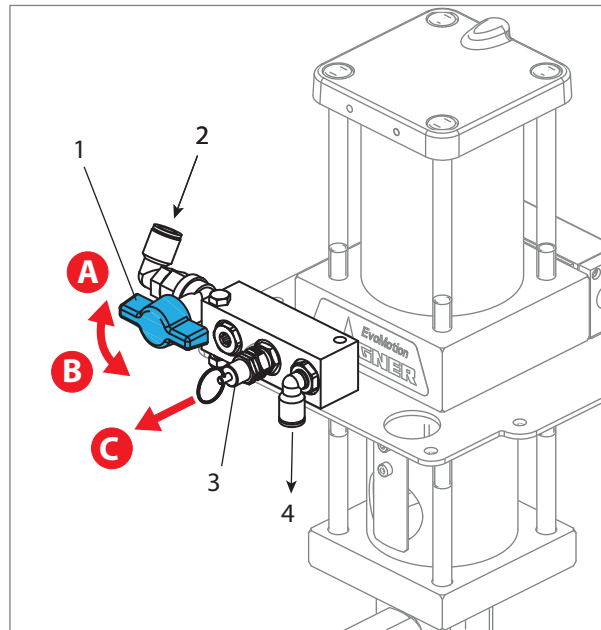
AquaCoat compressed air connection for EvoMotion

The AquaCoat control unit controls the pressure air ("Pomp pressure" regulator, see Chapter 5.6.1.1).

- 1 Ball valve
- 2 Compressed air inlet
- 3 Safety valve
- 4 Compressed air output to the air motor / reversing valve (mains pressure)

Positions of the ball valve

- A** Open: Working position
- B** Closed: The air motor may still be under pressure.
- C** Vent: Pull the ring on the safety valve to vent. Operating pressure in the air motor is vented.

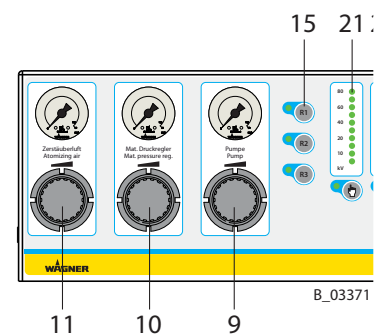


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5.6.2.4 WORKING IN ACCORDANCE WITH PUMP'S OPERATING MANUAL

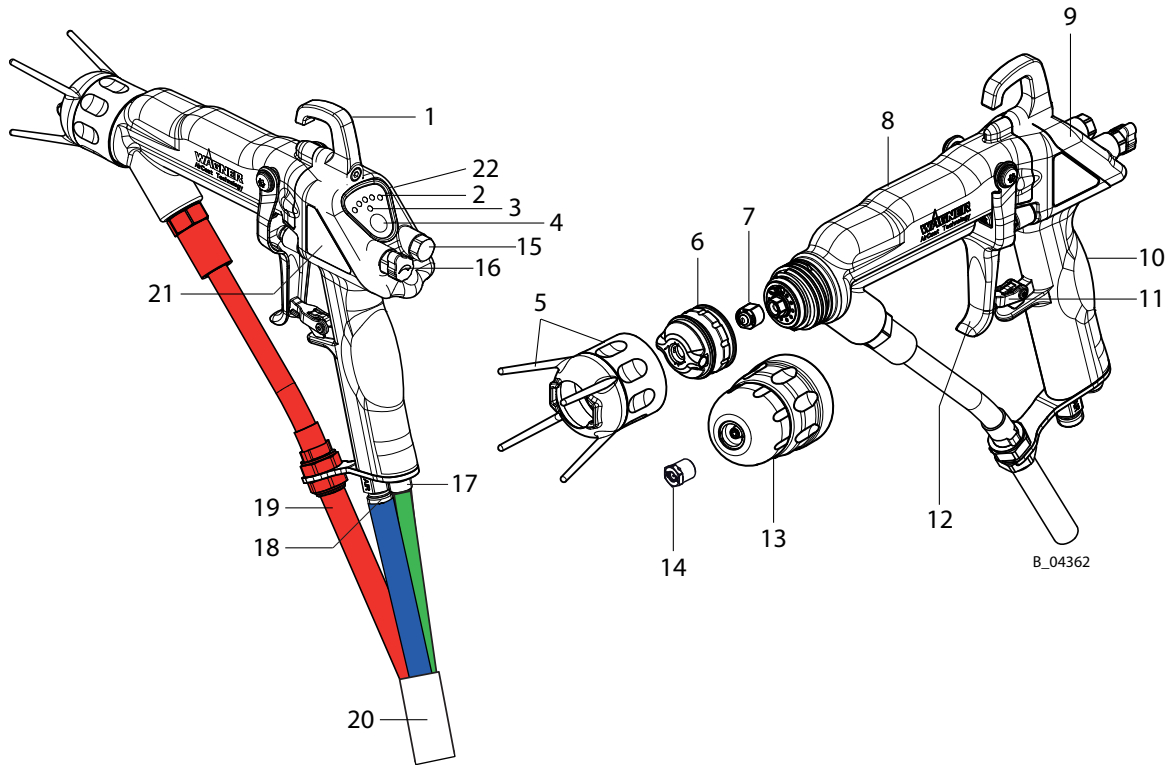
For preparation, commissioning and maintenance work at the pump, proceed as follows:

1. Switch off control unit. (The pressure regulators continue to function.)
2. Open the cabinet door.
3. Work in accordance with pump's operating manual. While doing so:
 - Puma and EvoMotion: Only metal tanks may be used for product and flushing agents. Ground the tank with the AquaCoat cabinet's potential equalization.
 - Use the pump pressure regulator (9) as air pressure regulator on the switched off control unit.
 - Use the ball valve (1) as air motor ball valve in Chapters 5.6.2.1 to 5.6.2.3. Pull the ring on the safety valve (3) to vent the air motor.



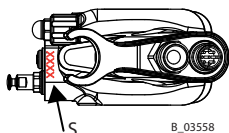
B_03371

5.6.3 GM 5020EACW SPRAY GUN



Pos	Description
1	Suspension hook
2	Display (spray current and recipe)
3	Display standby and fault
4	Operating button (standby and recipe change)
5	Union nut with protection against contact
6	Air cap for flat jet nozzle (see accessories in Chapter 13.2)
7	ACF 5000 flat jet nozzle (see accessories in Chapter 13.2.1)
8	Adapter
9	Cover
10	Handle

Pos	Description
11	Trigger lock
12	Trigger lever
13	Round jet nozzle adapter (see accessories in Chapter 13.1)
14	Round jet nozzle insert (see accessories in Chapter 13.1.1)
15	Sealing plug
16	Air regulation
17	Electric cable connection
18	Atomizing air connection
19	Product connection
20	Protective hose
21	Type plate left
22	Type plate right



Note:

The gun type (T) is specified on the type plate and the serial number (S) is specified on the underside of the handle.

5.6.3.1 SECURING THE SPRAY GUN AGAINST ACTUATION

Secure the spray gun against actuation:

→ **Use the trigger lock (11) to engage the trigger (12).**

Note: To secure the entire system, pressure must be relieved as described in Chapter 7.3.4.

5.6.3.2 FUNCTIONING OF THE SPRAY GUN

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.

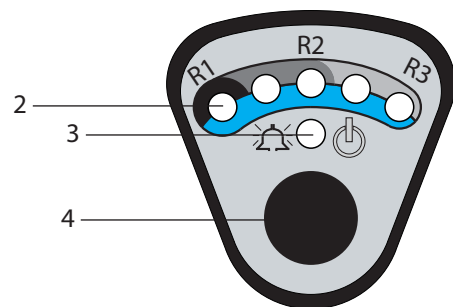
Recipe 1 → ●○○○○ R1

Recipe 2 → ●●●○○ R2

Recipe 3 → ●●●●● R3

Recipe change R1 → R2 → R3 → R1

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



B_03182

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

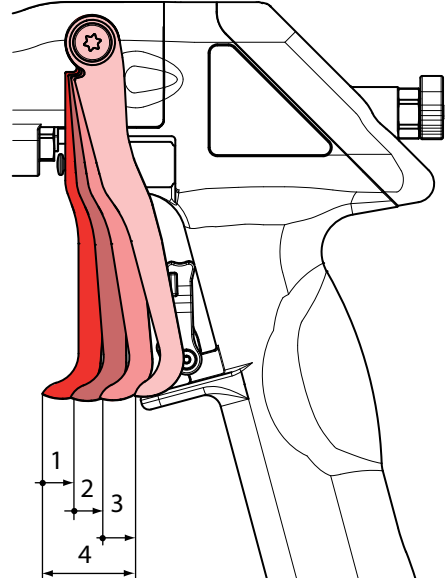
If the operating key (4) is pressed for 2 seconds, the saved recipe values for the previously selected recipes numbers will be reloaded from the memory.

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 illuminate 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

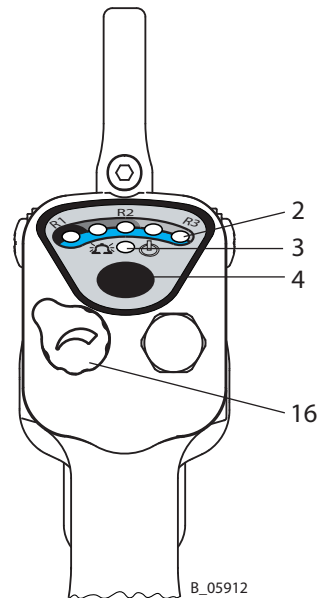
The trigger can be used to activate, one after the other, the various functions of the spray gun.

Distance	Description
1	AirCoat air opens.
2	AirCoat air opened and electrostatic (high voltage) activated. → Display (2) for "spray current" on the spray gun ●○○○○ to ●●●●● activated.
3	AirCoat air opened and electrostatic (high voltage) activated and product valve opened.
4	Overall way of trigger.



B_03157

- 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) illuminates.
- In the event of a malfunction the spray gun switches to "standby" operating mode and the display (3) illuminates.
- The relationship between forming air and atomizing air is set using the **air regulator** (16).



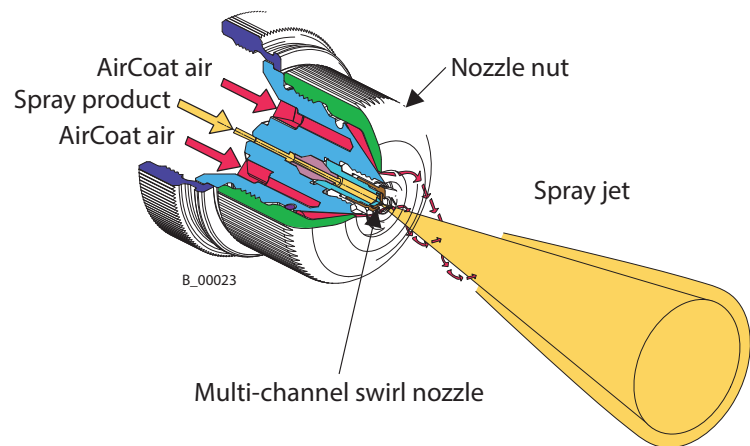
B_05912

5.6.3.3 SPRAYING PROCEDURE FOR AIRCOAT ROUND SPRAY

In the AirCoat procedure, the spray product is atomized at a pressure of 3 - 15 MPa; 30 - 150 bar; 435 - 2,176 psi. The air at 0-0.25 MPa; 0-2.5 bar; 0-36 psi produces a soft jet. The spray jet diameter can be adjusted by turning the nozzle nut.

Advantages

- Large application volume
- Low fogging tendency
- Good finish
- High viscosity products can easily be applied
- High endurance of the nozzles
- Jet width adjustment

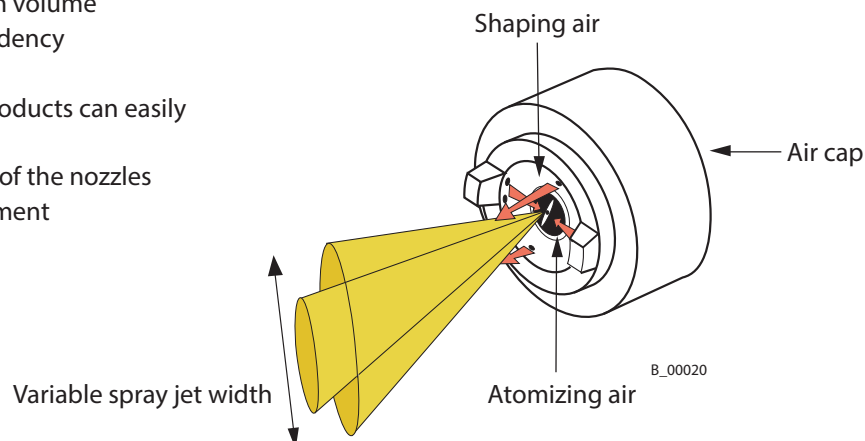


5.6.3.4 SPRAYING PROCEDURE FOR AIRCOAT FAN SPRAY

In the AirCoat procedure, the spray product is atomized at a pressure of 3 - 15 MPa; 30 - 150 bar; 435 - 2,176 psi. With the help of the AirCoat air, with a pressure of 0-0.25 MPa; 0-2.5 bar; 0-36 psi, a soft, flat spray jet is produced which largely eliminates the problem of overlapping in the peripheral zones. With shaping air, there is the possibility of reducing the width of the spray jet.

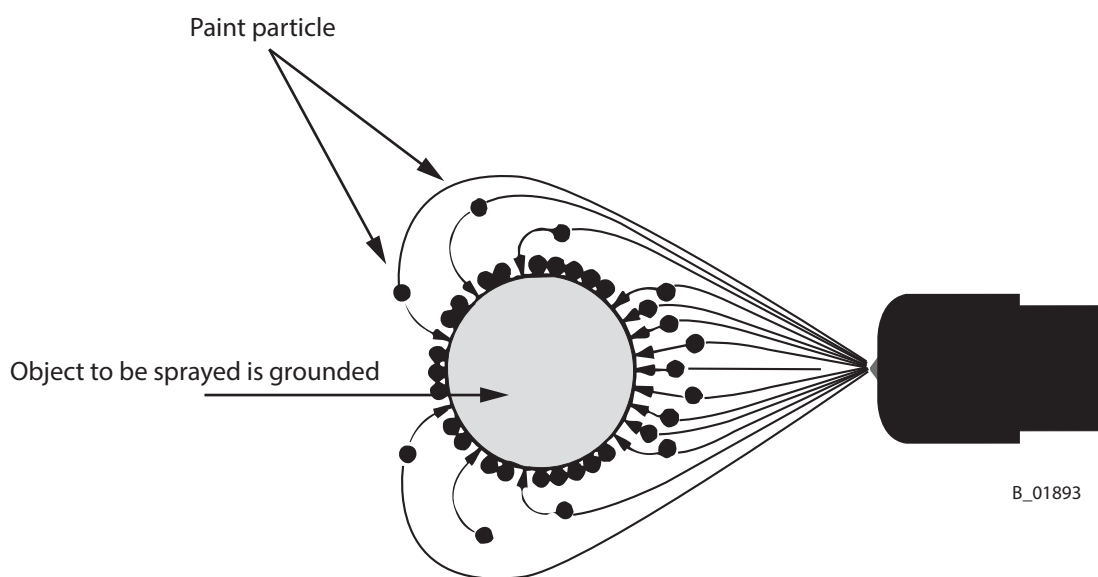
Advantages:

- Large application volume
- Low fogging tendency
- Good finish
- High viscosity products can easily be applied
- High endurance of the nozzles
- Jet width adjustment



5.6.3.5 ELECTROSTATIC EFFECT

The in-system electrically loaded paint particles atomized by the spray gun are transported to the grounded object by kinetic and electrostatic energy where they adhere, finely distributed on the object being sprayed.





Advantages

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

6 ASSEMBLY AND COMMISSIONING

6.1 TRAINING ASSEMBLY/COMMISSIONING STAFF

	 WARNING
	<p>Incorrect installation/operation! Risk of injury and damage to the device.</p> <ul style="list-style-type: none"> → The assembly and commissioning staff must have the technical skills to safely commission the device. → When assembling, commissioning and carrying out all work, read and follow the operating manuals and safety regulations for the additionally required system components.

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

6.2 STORAGE CONDITIONS

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

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

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

6.3 INSTALLATION CONDITIONS

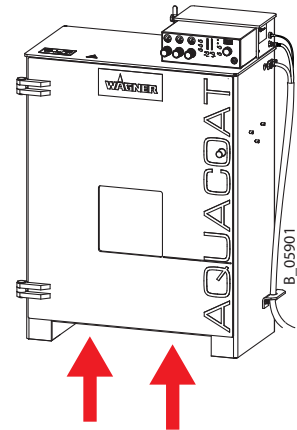
The air temperature at the installation site must be in a range between 0 °C and 40 °C; 32 °F and 132 °F.



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

6.4 TRANSPORTATION

For underframe with rolls: The device can be moved on the rollers for short distances.

Without underframe: The device can be transported using a pallet jack. Use the recessed area on the underside of the cabinet for this purpose.



	 WARNING
	<p>Inclined ground! Risk of accidents if the device rolls away/falls.</p> <ul style="list-style-type: none"> → Place the device on horizontal floor. → The wheels should be fixed or replaced by levelling feet and secured. → Do not tilt the device during shifting / transporting.

6.5 ASSEMBLY AND INSTALLATION

Check the individual components of the AquaCoat spraying system against the consignment note. Familiarize yourself with the mode of functioning of the individual components, reading the enclosed operating manuals thoroughly. Note the special requirements of the designated electrostatic AirCoat spray procedure.

6.5.1 ASSEMBLING THE AQUACOAT SYSTEM

Accessories (option)

1. - Mount underframe with rolls, according to the assembly manual 2367143.
 - Mount hose holder in accordance with Chapter 14.5.4.
 - Mount gun holder in accordance with Chapter 14.5.5.
 - Place tub insert into AquaCoat cabinet.

Pump set

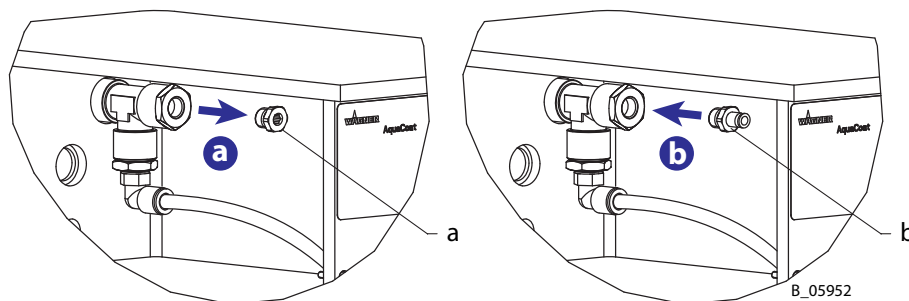
All required parts are included in the scope of delivery of the pump set (see Chapter 14.3).

The cabinet contains two air hoses:

- The air hose \varnothing 10 mm; 0.39 inch is connected with the control unit, pump air connection.
- The air hose \varnothing 8 mm; 0.32 inch is not used for AirCoat-systems.

Procedure:

2. - Puma: Screw the pump onto pump support in accordance with Chapter 14.3.1.
 - Cobra: Place the pump onto the frame in the cabinet (product outlet to front).
 - EvoMotion: Screw the pump onto pump support in accordance with Chapter 14.3.3.
3. Screw the orange potential equalization line (see Chapter 5.1) onto pump's grounding connection. (Grounding connection see pump's operating manual.)
 - Cobra: Pull potential equalization line out of the left tube on the rear panel and use this cable.
4. - Puma / EvoMotion: Mount suction hose on pump inlet.
 - Cobra: Mount hopper and return tube.
5. Pump's air supply: Connect air hose \varnothing 10 mm; 0.39 inch (see Chapter 5.1) to pump's compressed air inlet. (Compressed air inlet see Chapter 5.6.2.)
6. Dismount the VM 5020W control unit in accordance with Chapter 10.5.
7. Puma / Cobra:
 - a. Unscrew threaded plug G1/4" (a) at the air inlet.
 - b. Screw in the Screw-in fitting 6-1/4 (b) (Order No. 9992742).
 - c. With air hose \varnothing 6 mm; 0.24 inch (Order No. 9982079): Connect connection (b) with compressed air input for the air motor reversing valve. (Compressed air inlet for reversing valve see Chapter 5.6.2.)



8. Cobra:

Mount inside the cabinet on the RH side wall in accordance with Chapter 14.3.2:

- Pos. 15: Fitting-DF-MM-G3/8-G1/4-530 bar-SSt – Order No. 2364802
- Pos. 16: Hexagon nut, 0.5 d – Order No. 9910109
- Pos. 17: Fitting-RF-FM-G1/4-1/4NPSM-530 bar-SSt – Order No. 2332619
- Pos. 14: HPP hose DN10-PN530 FEP W-G 0.73 m – Order No. 2332865

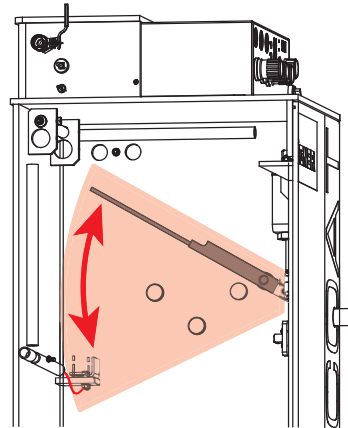
Hose set

9. Mount hose set on the cabinet in accordance with Chapter 8.2.4 (assembly).

Secure cables and hoses

10. Secure all cables and hoses with cable ties in the AquaCoat cabinet.

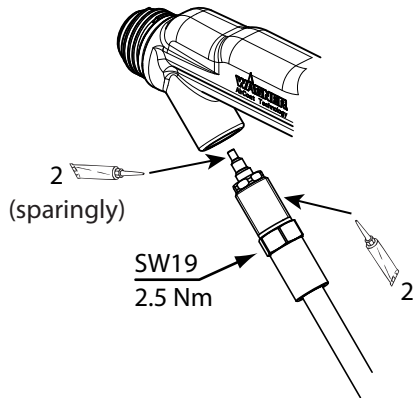
→The door switch moves up and down on the RH cabinet wall. It must be ensured that no cables and hoses are located within the travel of the door switch.



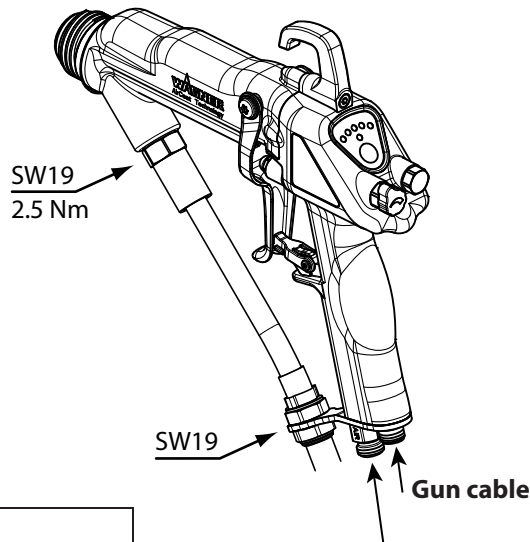
B_05954

Spray gun

11. Mount product hose, air hose and gun cable to spray gun.



B_05953



Air hose

When screwing on the air hose, a second open-ended/ring spanner must be used for bracing.

Pos	Order No.	Description
2 *	9992698	Vaseline white PPHV II

* Use Vaseline sparingly

Control unit

12. Carefully push the VM 5020W control unit back again to the limit stop. Pay attention to connecting lines and connecting cables at the back of the control unit!

13. Screw the VM 5020W control unit on the cabinet.



Additional Accessories (option)

14. Mount additional Accessories, if available.

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 EN 12215 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
	<p>Toxic and/or flammable vapor mixtures! Risk of poisoning and burns.</p> <ul style="list-style-type: none"> → Operate the device in a spray booth approved for the working materials. <li style="text-align: center;">-or- → Operate the device on an appropriate spraying wall with the ventilation (extraction) switched on. → Observe national and local regulations for the exhaust air speed.

6.5.3 AIR SUPPLY

You must 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 spraying pattern.

	 WARNING
	<p>Hose connections! Risk of injury and damage to the device.</p> <ul style="list-style-type: none"> → Do not exchange hose connections of product hose and air hose.

6.5.4 PRODUCT SUPPLY

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.

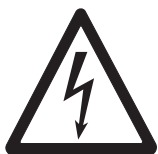


DANGER

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, threaded joints 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



WARNING



Electrical discharges!

Danger due to electrically charged product lines.

- The conductive sheath of the product hose must not be removed and the connections to the ground potential must not be loosened:
 - Gun side: Do not disconnect the product hose from the hose holder.
 - Cabinet side: Do not loosen the cabinet's knurled nut and the grounding cable in the cabinet.

6.6 GROUNDING

It is important for systems safety and to achieve an optimum coating that all system components such as work pieces, conveyors, paint supply, control unit and booth or spraying stand are perfectly grounded.

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

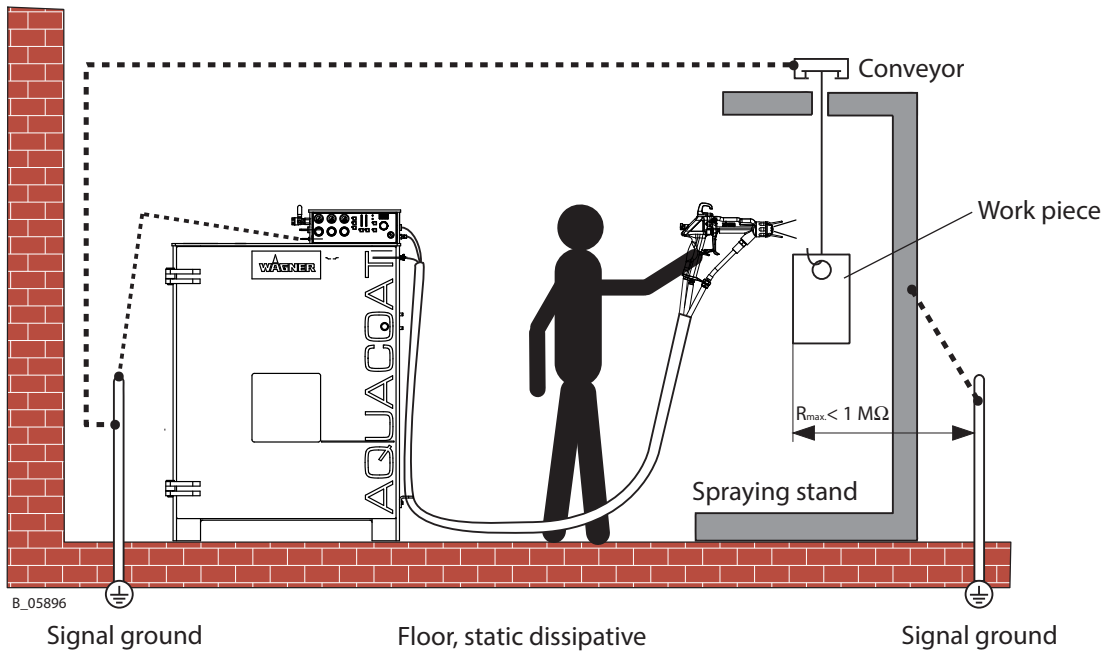
A poorly grounded work piece causes:

- very poor wrap-around,
- uneven coating,
- back spraying to the spray gun, i.e., contamination.

Prerequisites for perfect grounding and coating are:

- Clean work piece suspension.
- Grounding of spray booth, conveyor system and suspension on the building side in accordance with the operating manuals or the manufacturer's information.
- Grounding of all conductive parts within the working area.
- The grounding resistance of the work piece may not exceed 1 M Ω (megaohm) (ground leakage resistance measured at 500 V or 1000 V).
- Connect the AquaCoat cabinet to the signal ground.
- Connect all ground cables using a short and direct route.
- Safety shoes and gloves, if used, must be static dissipative.

Grounding scheme (example)



Minimum cable cross-section

AquaCoat cabinet	4 mm ² ; AWG 12
Conveyor	16 mm ² ; AWG 6
Spray booth	16 mm ² ; AWG 6
Spraying stand	16 mm ² ; AWG 6

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

Tank

- All paints, flushing agents and waste tanks have to be made of metal.
- All tanks in the cabinet must be connected to the potential equalization. All further tanks must be grounded.

6.7 SAFETY CHECKS

→ Carry out safety checks in accordance with Chapter 8.2.3.

6.8 PREPARATION OF WATER-BASED LACQUER

The viscosity of the lacquer is of great importance. The best spraying results are obtained with values between 25 and 40 DIN/4 seconds (measured in immersion flow cup DIN 4 mm; 0.16 inches).

Processing of up to 60 DIN/4 seconds is generally possible without problem if high coating thicknesses are required.

In the case of application problems contact the paint producer.

6.8.1 VISCOSITY CONVERSION TABLE

mPa s	Centipoise	Poise	DIN Cup 4 mm 0.16 inch	Ford Cup 4	Zahn 2
10	10	0.1		5	16
15	15	0.15		8	17
20	20	0.2		10	18
25	25	0.25	14	12	19
30	30	0.3	15	14	20
40	40	0.4	17	18	22
50	50	0.5	19	22	24
60	60	0.6	21	26	27
70	70	0.7	23	28	30
80	80	0.8	25	31	34
90	90	0.9	28	32	37
100	100	1	30	34	41
120	120	1.2	33	41	49
140	140	1.4	37	45	58
160	160	1.6	43	50	66
180	180	1.8	46	54	74
200	200	2	49	58	82
220	220	2.2	52	62	
240	240	2.4	56	65	
260	260	2.6	62	68	
280	280	2.8	65	70	
300	300	3	70	74	
320	320	3.2			
340	340	3.4			
360	360	3.6	80		
380	380	3.8			
400	400	4	90		

6.9 COMMISSIONING

6.9.1 SAFETY INSTRUCTIONS

- Observe the safety instructions in Chapter 4, Chapter 7.2 and Chapter 8.1.2.
- Only metal tanks may be used for product and flushing agents, no plastic tanks.

6.9.2 PREPARATION

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

- Secure gun with safety clip.
- For underframe with rolls (option): Lock all four swivel rollers with the footbrake.
- Check the permissible pressures.
- Check all connections for leaks.
- Check hoses for damage in accordance with Chapter 8.2.9.

Connect the compressed air

Connect the AquaCoat system to the compressed air source (8).

Fill the devices with flushing agent

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

- Puma and EvoMotion: Fill separating agent in accordance with pump's operating manual.
- Fill the empty device with flushing agent in accordance with pump's operating manual.

NOTICE

Impurities in the spraying system!

Spray gun blockage.

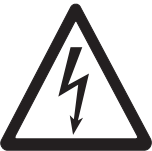

- Flush the spray gun and paint supply with a suitable flushing agent before commissioning.

6.9.3 COMMISSIONING

6.9.3.1 AQUACOAT WITH PUMA 28-40 OR EVOMOTION 20-30

Check the unit for leaks

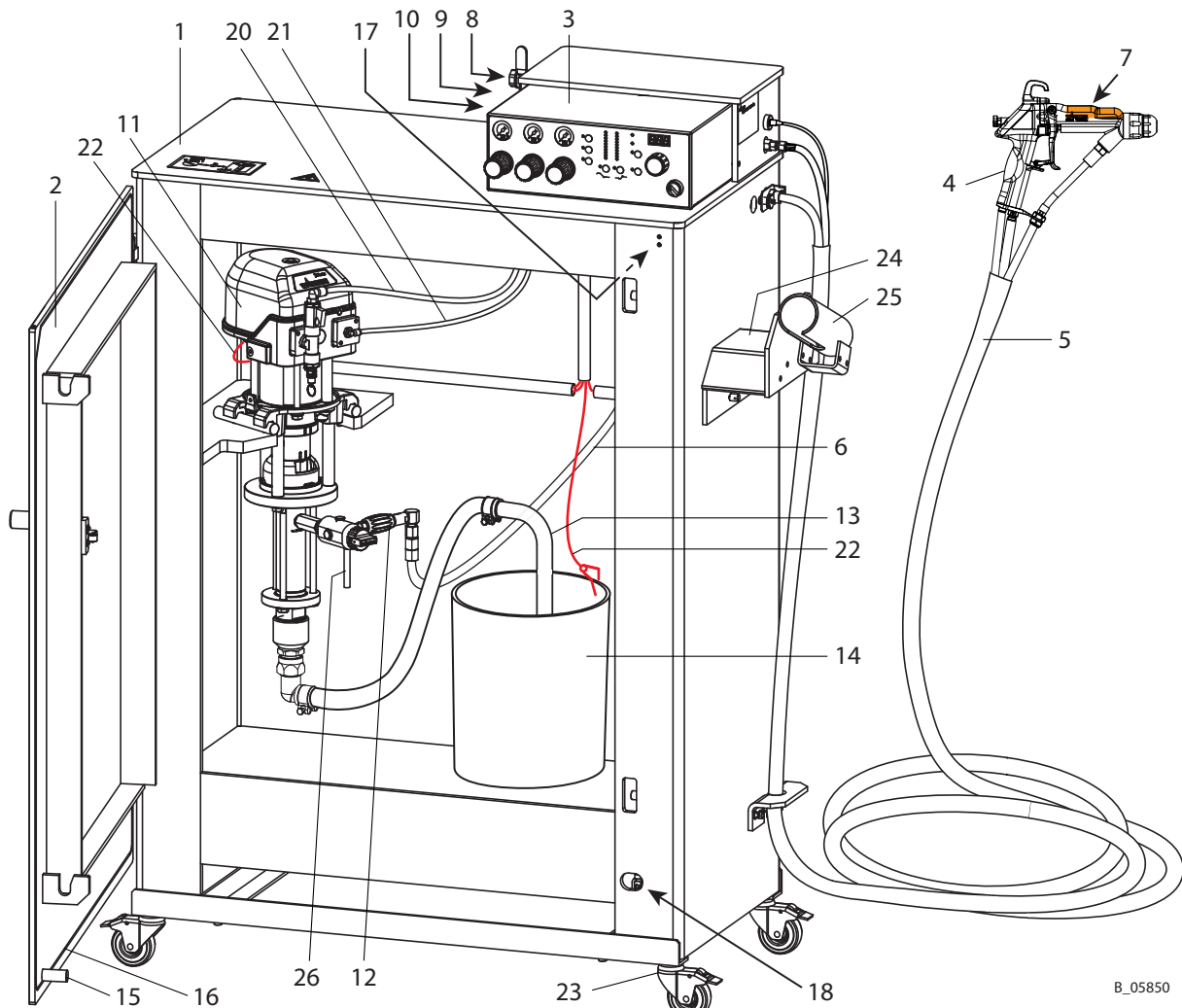
1. Place metal tank (14) containing a suitable medium (e.g., flushing agent or water) in the AquaCoat cabinet.
2. Immerse in tank the suction system (13).
3. Clamp the potential equalization line (22) to the product tank (14).
4. To perform a leak test on the entire installation, the pressure is slowly increased step by step until the maximum pressure as indicated on the type plate for the system and product pressure generator fitted is reached.
 - Puma 28-40: "Pump pressure" regulator up to 0.8 MPa; 8 bar; 116 psi
 - EvoMotion 20-30: "Pump pressure" regulator up to 0.67 MPa; 6.7 bar; 97 psi
5. Maintain the pressure for 5 minutes and check all connecting parts for leaks.
6. Reduce the pressure, when the seal of the system has been ascertained.
7. Flush system through well → Chapter 8.1.3.
8. Relieve system pressure → Chapter 7.3.4.
9. Secure the spray gun (4) using the trigger lock.
10. Remove flushing agent.

	 CAUTION
	<p>Electrical discharge when using coated product tanks! Risk of injury; product charge not optimal.</p> <p>→ Ensure that the metal part of the tank is connected to the potential equalization line (e.g., remove coating from around the connection point).</p>

Preparation for spraying

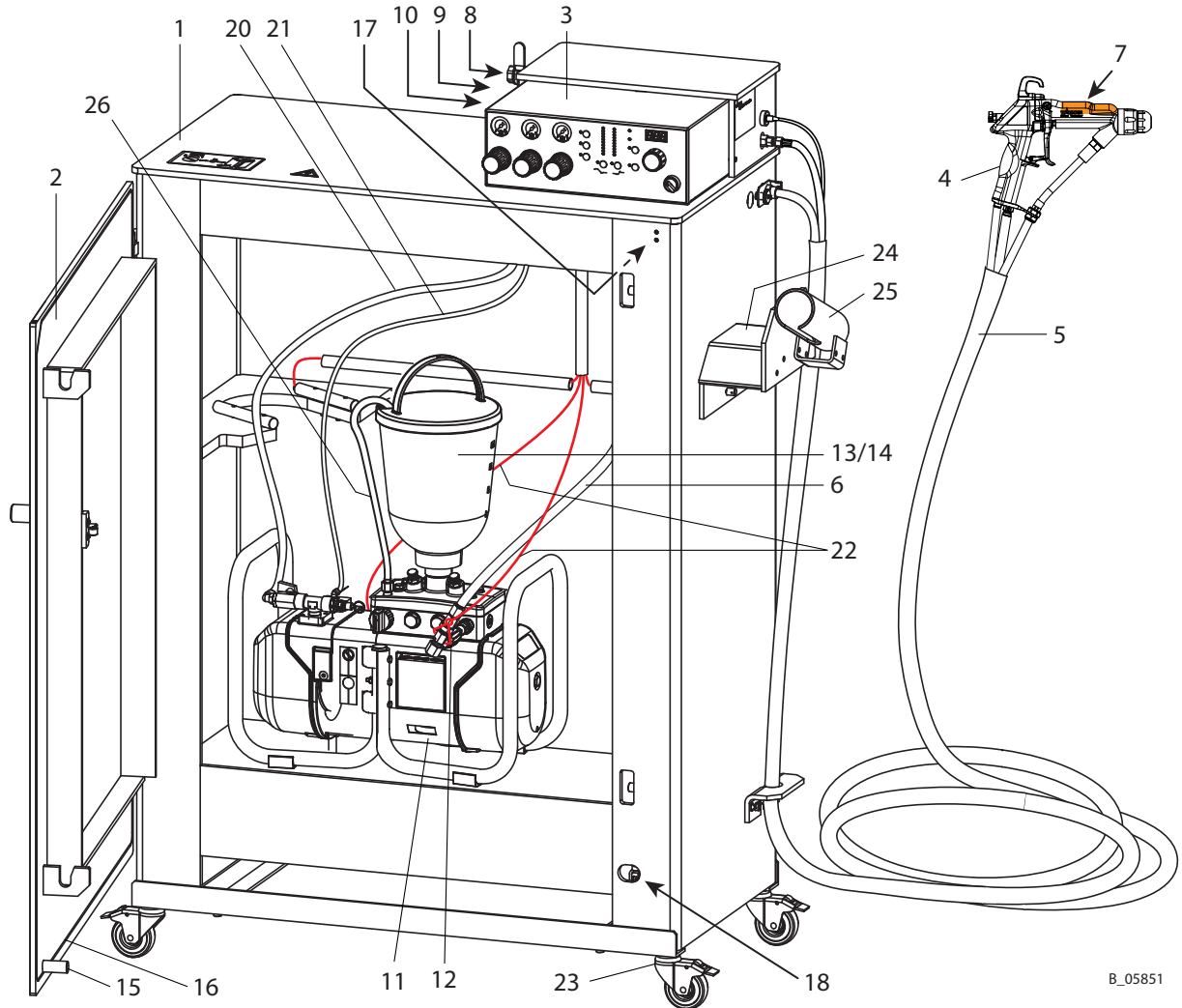
1. Fill the metal product tank (14) with lacquer and place in the cabinet.
2. Immerse in tank the suction system (13).
3. Clamp the potential equalization line (22) to the product tank (14).
4. Connect the AquaCoat system to the electric socket with the electric cable (9).
5. Close the cabinet door (2).
6. Switch on mains switch on the VM 5020W.
7. The system is ready for use.

Example for Puma 28-40



B_05850

6.9.3.2 AQUACOAT WITH COBRA 40-10 DOUBLE DIAPHRAGM PUMP



B_05851

	CAUTION
	<p>Electrical discharge when using coated product tanks! Risk of injury; product charge not optimal.</p> <p>→ Ensure that the metal part of the tank is connected to the potential equalization line (e.g., remove coating from around the connection point).</p>

Check the unit for leaks

1. Clamp the potential equalization line (22) to pump's product connection.
2. Fill the upper tank (14) with a suitable medium (e.g., flushing agent or water).
3. Guide return hose (26) into upper tank.
4. To perform a leak test on the entire installation, the pressure is slowly increased step by step until the maximum pressure as indicated on the type plate for the system and product pressure generator fitted is reached.
→ AquaCoat with Cobra 40-10: "Pump pressure" regulator up to 0.6 MPa; 6 bar; 87 psi
5. Maintain the pressure for 5 minutes and check all connecting parts for leaks.
6. Reduce the pressure, when the seal of the system has been ascertained.
7. Flush system through well → Chapter 8.1.3.
8. Relieve system pressure → Chapter 7.3.4.
9. Secure the spray gun (4) using the trigger lock.
10. Remove flushing agent.

Preparation for spraying

1. Fill upper tank (14) with lacquer.
2. Clamp the potential equalization line (22) to pump's product connection.
3. Connect the AquaCoat system to the electric socket with the electric cable (9).
4. Close the cabinet door (2).
5. Switch on mains switch on the VM 5020W.
6. The system is ready for use.

6.9.4 VERIFYING A SAFE OPERATIONAL CONDITION

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



This includes:

- Carry out a safety checks in accordance with Chapter 8.2.3.
- Function test in accordance with Chapter 11.





7 OPERATION



7.1 TRAINING THE OPERATING STAFF

	 WARNING
	<p>Incorrect operation! Risk of injury and damage to the device.</p> <ul style="list-style-type: none"> → The operating staff 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 staff must receive appropriate system training.

7.2 SAFETY INSTRUCTIONS

→ Observe safety instructions in Chapter 4.

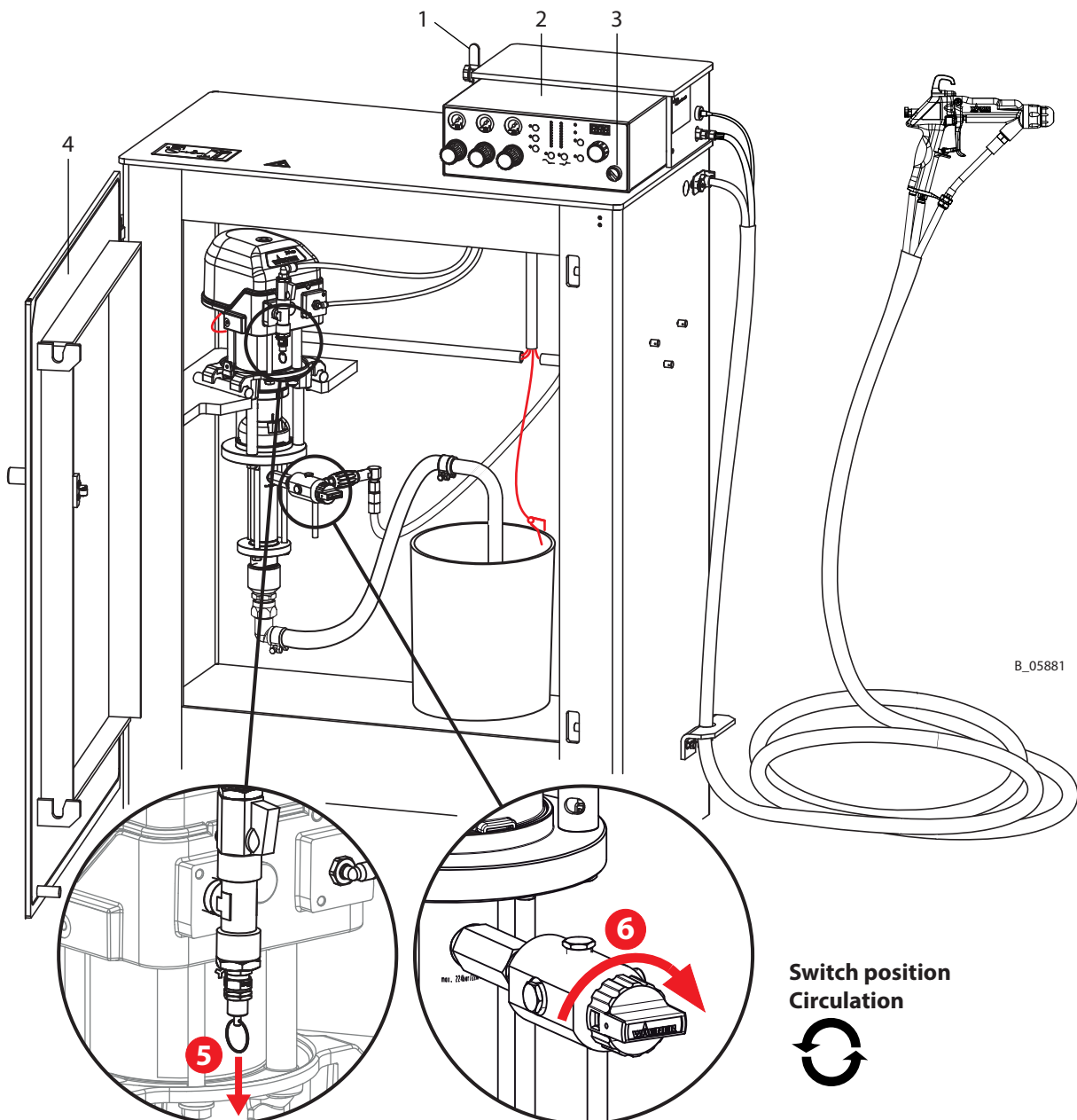
	 WARNING
	<p>Incorrect operation! Risk of injury and damage to the device.</p> <ul style="list-style-type: none"> → If contact with lacquers or cleaning agents causes skin irritation, appropriate precautionary measures must be taken, e.g., wearing protective clothing. → The footwear worn by operating staff must comply with EN ISO 20344. The measured insulation resistance must not exceed 100 megohms. → The protective clothing, including gloves, must comply with EN ISO 1149-5. The measured insulation resistance must not exceed 100 megohms.

	 WARNING
	<p>Unintentional putting into operation! Risk of injury.</p> <p>Before any work on the device, in the event of work interruptions and malfunctions:</p> <ul style="list-style-type: none"> → Switch off the energy/compressed air supply. → Relieve the pressure from the spray gun and unit. → Secure the spray gun against actuation. → In the event of functional faults: remedy the fault as described in the "Troubleshooting" chapter.

7.2.1 EMERGENCY DEACTIVATION FOR PUMA

In the case of unforeseen occurrences, proceed as follows:

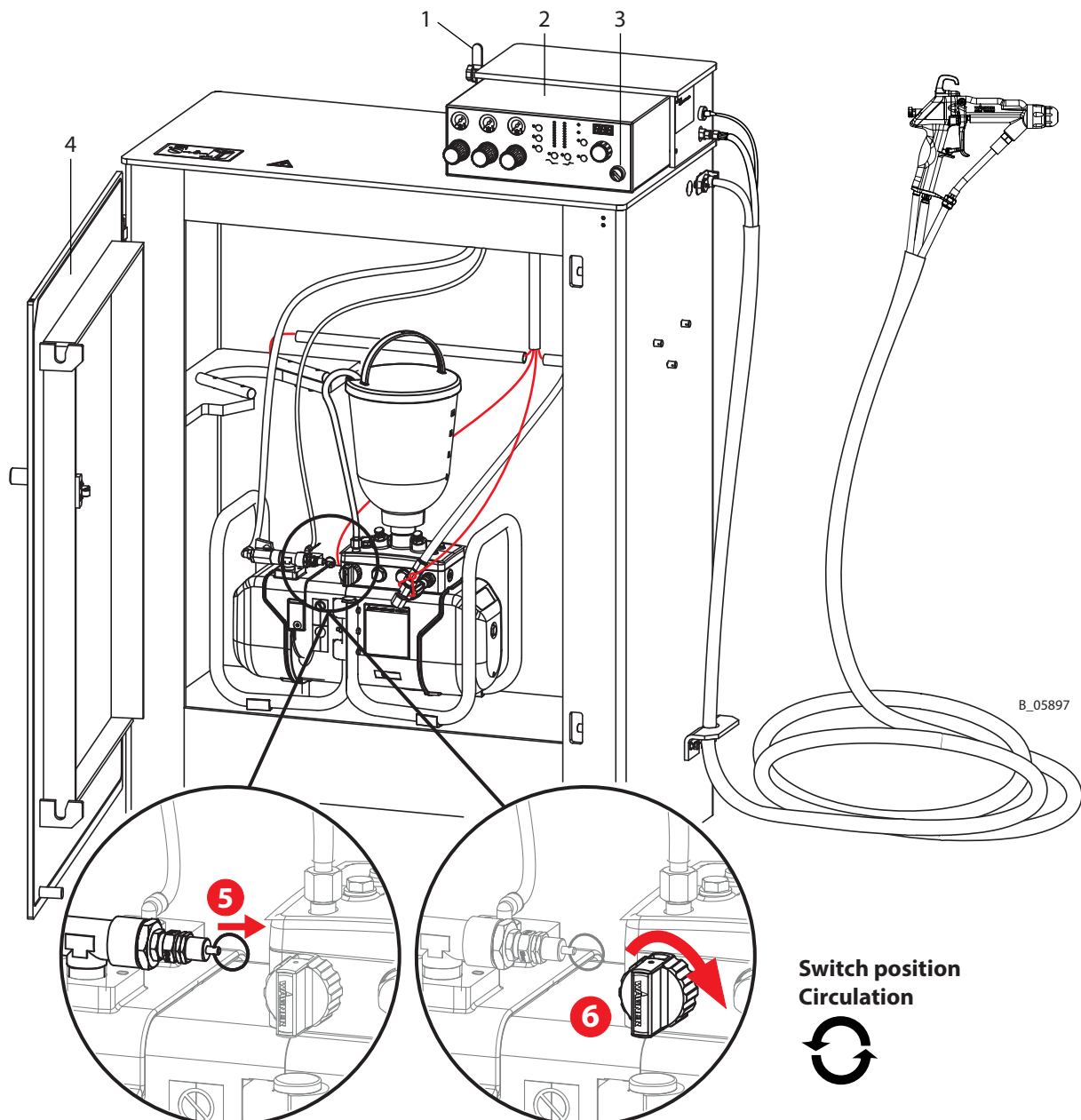
1. Close main tap (1).
2. Switch off control unit (2) at main switch (3).
3. Open cabinet door (4).
4. Vent air motor by pulling ring on safety valve (5).
5. Vent product pressure by turning relief valve (6) on fluid section:
Switch position Circulation.



7.2.2 EMERGENCY DEACTIVATION FOR COBRA

In the case of unforeseen occurrences, proceed as follows:

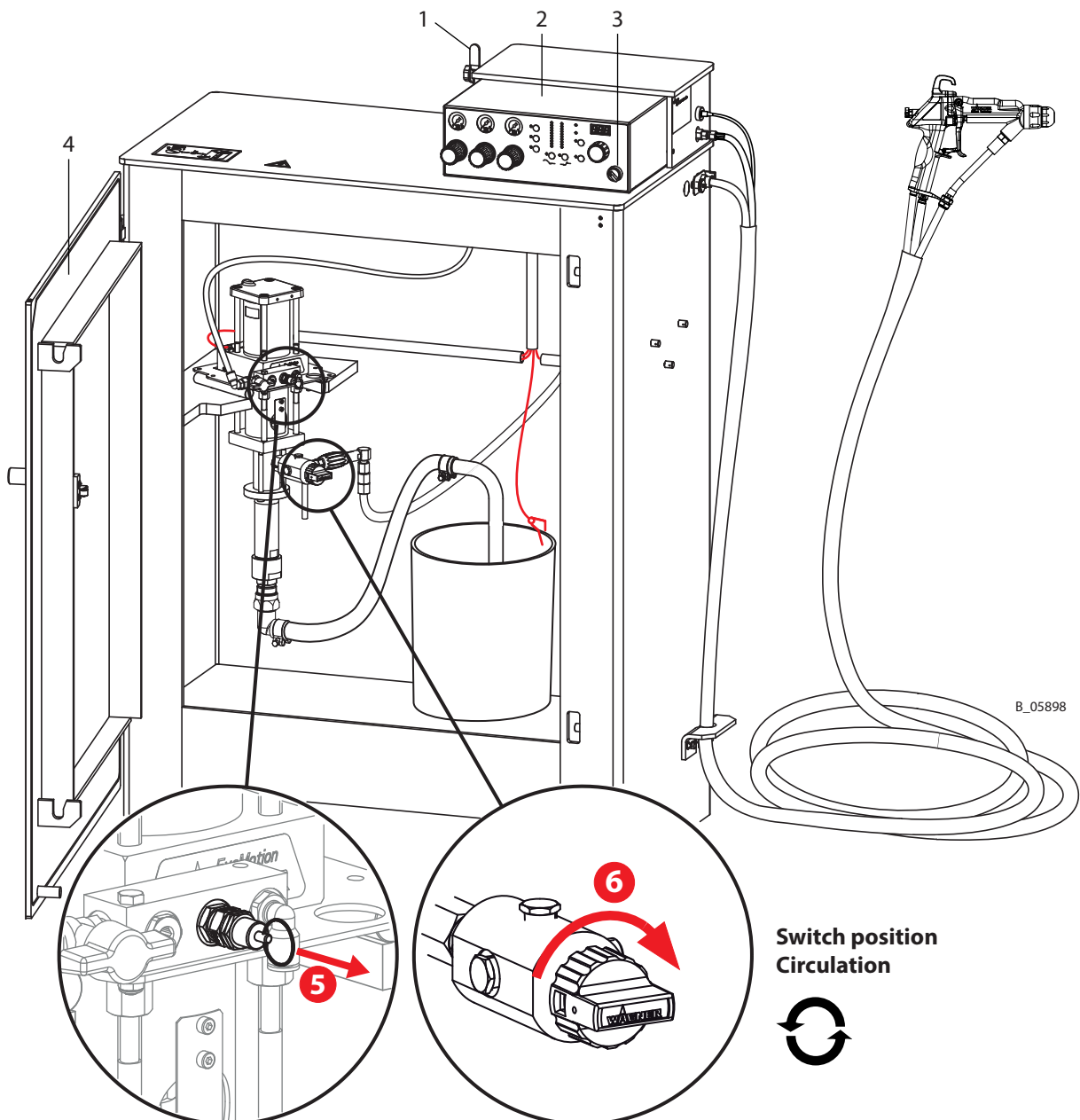
1. Close main tap (1).
2. Switch off control unit (2) at main switch (3).
3. Open cabinet door (4).
4. Vent air motor by pulling ring on safety valve (5).
5. Vent product pressure by turning relief valve (6) on fluid section:
Switch position Circulation.




7.2.3 EMERGENCY DEACTIVATION FOR EVOMOTION

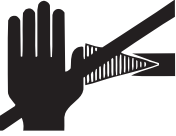
In the case of unforeseen occurrences, proceed as follows:

1. Close main tap (1).
2. Switch off control unit (2) at main switch (3).
3. Open cabinet door (4).
4. Vent air motor by pulling ring on safety valve (5).
5. Vent product pressure by turning relief valve (6) on high-pressure filter: Switch position Circulation.



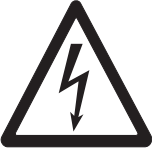

7.2.4 GENERAL RULES FOR MAKING ADJUSTMENTS TO THE SPRAY GUN

	<p>⚠ DANGER</p> <p>High-voltage field! Danger to life from malfunction of heart pacemakers.</p> <p>Make sure that persons with pacemakers:</p> <ul style="list-style-type: none"> → Do not work with the electrostatic spray gun. → Do not enter the high-voltage area.
---	---

	<p>⚠ WARNING</p> <p>High-pressure spray jet! Danger to life from injecting paint or solvent.</p> <ul style="list-style-type: none"> → 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. → Wear the appropriate protective clothing, gloves, eyewear and respiratory protection.
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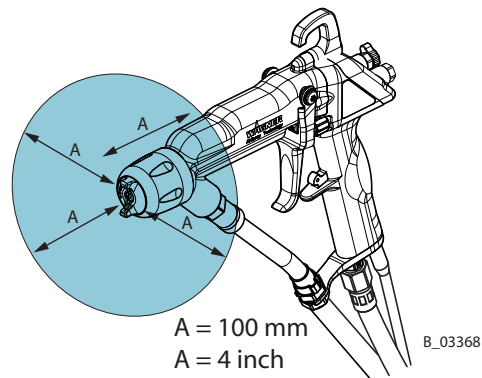
7.2.4.1 ELECTRICAL DISCHARGE

In the nozzle area of the spray gun electrical discharges can occur. They are completely non-hazardous for human health. However, they can cause a shock reaction.

	 CAUTION
	<p>Electrical discharge! Shock reaction.</p> <p>→ Maintain a safety distance of 100 mm; 4 inches from the nozzle area of the spray gun during the spraying process and at least 20 seconds after the end of the spraying process.</p>

Danger zone

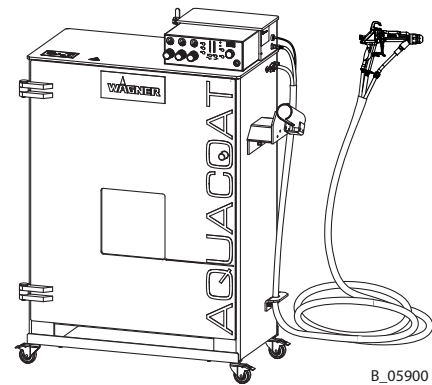
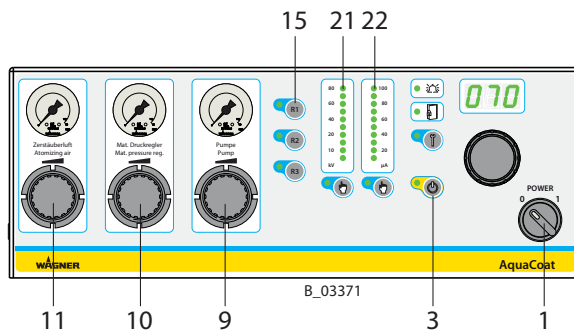
In order to avoid electrical discharges, a distance of 100 mm or 4 inches must be maintained from the work piece and other grounded objects during and after the spraying process for at least 20 seconds.



7.3 WORKING

Ensure that:

- the regular safety checks are carried out in accordance with Chapter 8.2.3,
- commissioning is carried out in accordance with Chapter 6.9.



7.3.1 CHECKING THE SPRAY PATTERN (WITHOUT ELECTROSTATICS)

1. Switch off control unit. (The pressure regulators continue to function.)
2. Start up with product supply set to approx. 8 MPa; 80 bar; 1160 psi operating pressure (10).

Flat-jet method:

AirLess spraying (without electrostatics)

3. Turn atomizing air regulator (11) all the way down.
4. Spray (release locking device and pull trigger) and at the same time, check the atomization.
5. Use the product pressure regulator (10) to set the spray pressure to a point where good product atomization is achieved.

For round and flat-jet method:

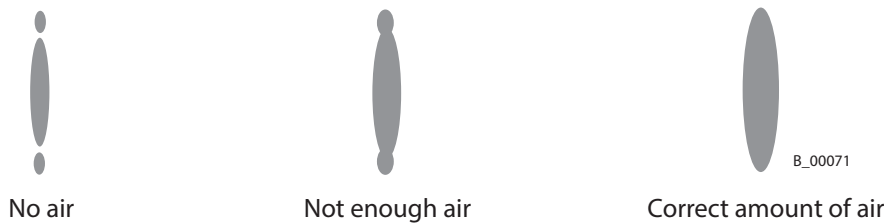
AirCoat spraying (without electrostatics)

6. Adjust the atomizing air regulator (11) until optimal atomization is achieved.
 - See below, "Adjusting the spray pattern with the atomizing air regulator"
 7. With the air adjustment on the gun, set the ratio of shaping air/atomizing air so as to achieve an optimum spray pattern.
 - See below, "Spray pattern and air regulation"
- Repeat points 6 and 7 until the optimum spray pattern is reached (iterative process).

Flat jet method

Setting the Spray Pattern Using the Atomizing Air Regulator (11)

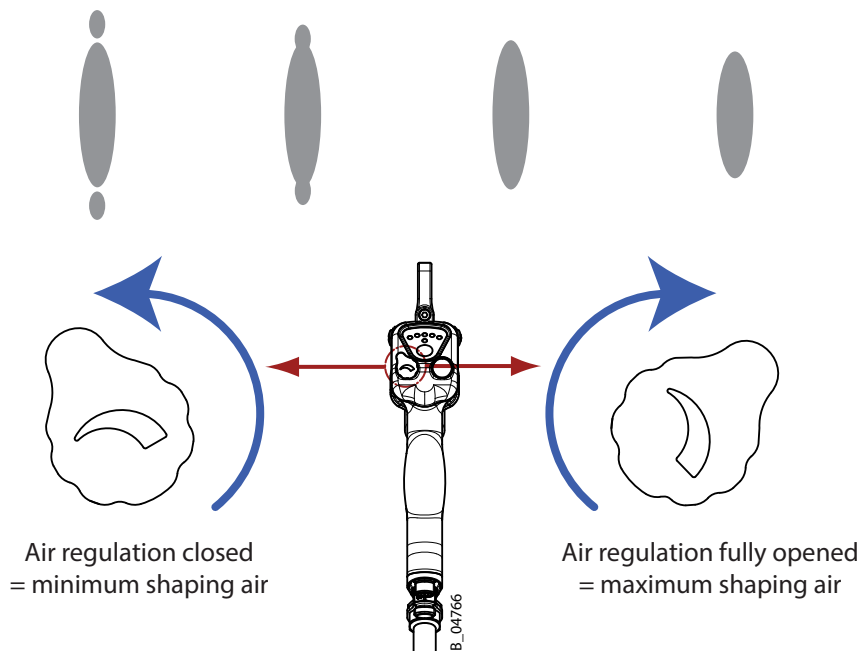
The atomizing air regulator regulates the air supply (shaping and atomizing air) to the gun.



Spray pattern and air regulation

Air regulation regulates the ratio of shaping/atomizing air. The spray pattern can then be adjusted to suit the object being sprayed. The illustration shows the influence of the regulator on the spraying pattern.

Other nozzle sizes can be used to obtain larger or smaller spraying patterns.



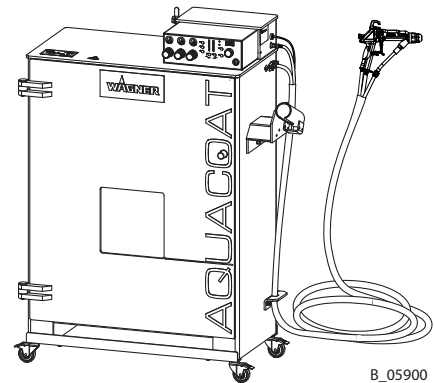
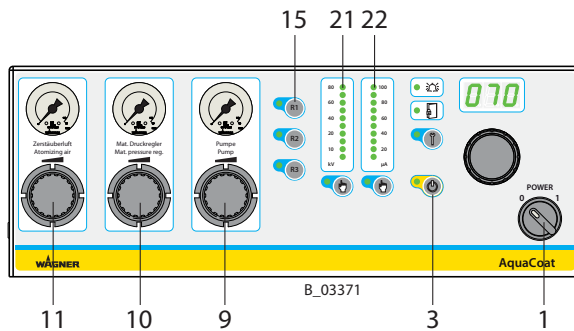
Changing the Flow Rate

- Adapt product pressure
- Use a different fan spray nozzle (see Chapter 13).

Changing the Spray Jet Width

- Use a different fan spray nozzle (see Chapter 13).

7.3.2 STARTING THE SYSTEM



VM 5020W control unit

1. Set the main switch (1) to position 1.
→ During the start-up phase, the device automatically performs an internal function test and then automatically switches to recipe 1 (15).
2. Set the desired recipe.
→ See Chapter 7.3.11 and the following for information on how to operate the control unit.

Product supply

3. Open the compressed air supply.
4. Adjust the product supply to approximately 8 MPa; 80 bar; 1160 psi of operating pressure (10).

Spray gun

5. Open atomizing air regulator (11) (approximately 0.05-0.25 MPa; 0.5-2.5 bar; 7-36 psi).
6. Release the spray gun.
7. Spray on a test object (pull trigger).
→ If the trigger guard is now actuated at the spray gun, the high voltage is switched on and both displays (21) and (22) change from dot to bar display, i.e. the actual value of the high voltage (21) and the actual value of the spray current (22) are displayed.
→ The high voltage can be switched on and off with the push button (3).
8. Adjust the pump pressure regulator (9) and atomizing air regulator (11) with respect to the nozzle and object → see Chapter 7.3.3.
9. Secure the spray gun with the trigger lock.

7.3.3 SPRAYING

1. Secure gun with trigger lock and insert the desired nozzle.
2. Commissioning the system → see Chapter 7.3.2.

AirLess spraying

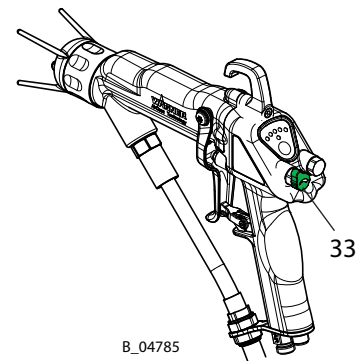
3. Turn atomizing air regulator (11) all the way down.
4. Spray on a test object (pull trigger).
5. Adjust the spray pressure at the product pressure regulator (10) according to the nozzle and object being sprayed.

AirCoat spraying

6. Open the atomizing air regulator (11) (approx. 0.05 - 0.25 MPa; 0.5 - 2.5 bar; 7 - 36 psi) and adjust for optimal atomization.

Flat-jet method: Changing the spray jet width

7. Change the spray jet width by selecting the appropriate nozzle.
By turning the air regulation (33), the spray jet can additionally be adjusted.



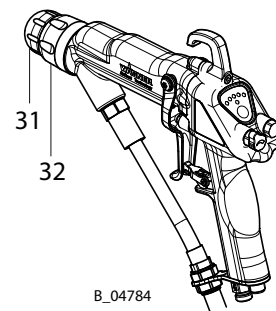
Round-jet method

7. By gently turning the nozzle nut (31), the atomizing air jet can additionally be adjusted.

→ Do not fully tighten the nozzle nut:

Do not turn the nozzle nut (31) until it is flush with the nozzle body (32). There must be play for the atomizing air between the nozzle nut and the nozzle body.

The air adjustment (33) at the back of the spray gun does not affect the spray pattern in this process.



Flow rate


8. Product quantity may be able to be reduced by:
 - Minimizing the product pressure.
 - Using a different size of nozzle (see Accessories).

7.3.4 PRESSURE RELIEF/WORK INTERRUPTION

The pressure must always be relieved when:

- The spraying tasks are finished.
- Servicing the system.
- Carrying out cleaning tasks on the system.
- Moving the system to another location.
- Something needs to be checked on the system.
- The nozzle is removed from the gun.

→ Observe general safety instructions in Chapter 4.

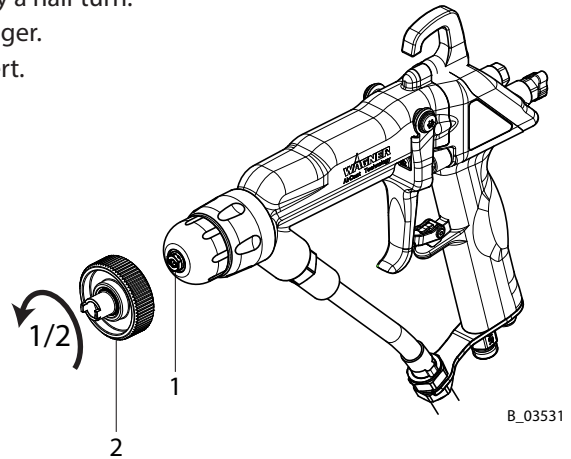
	 WARNING
	<p>High-pressure spray jet! Danger to life from injecting paint or solvent.</p> <ul style="list-style-type: none"> → Never reach into the spray jet. → Never point the spray gun at people. → Consult a doctor immediately in the event of skin injuries caused by paint or solvent. Inform the doctor about the paint or solvent used. → Never seal defective high-pressure parts; instead relieve the pressure from them and replace them. → Wear the appropriate protective clothing, gloves, eyewear and respiratory protection.

Process for relieving pressure

1. Secure the spray gun with the trigger lock.
2. Switch off control unit.
3. Close the compressed air supply.
4. Open the cabinet door.
5. Relieve pressure according to the operating manual of the product pressure generator.
6. Point the spray gun toward the grounded collecting tray and release.
7. Pull the trigger of the spray gun until no further pressure is present.
8. Secure the spray gun with the trigger lock.
9. Close cabinet door again.

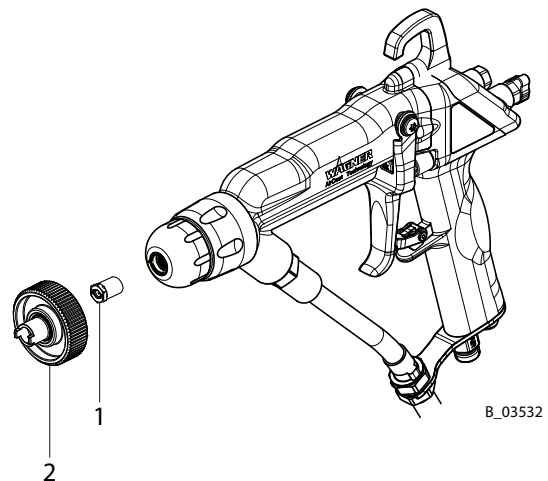
7.3.5 FLUSHING OUT CLOGGED ROUND JET NOZZLES

1. Use nozzle spanner (2) to loosen nozzle insert (1) by a half turn.
2. Remove the nozzle spanner and briefly actuate trigger.
3. After flushing the nozzle, re-tighten the nozzle insert.



7.3.6 REPLACING ROUND JET NOZZLE'S NOZZLE INSERT

1. Remove nozzle insert (1) using nozzle spanner (2).
2. Assembling new nozzle insert.



7.3.7 CHANGING FROM AIRCOAT ROUND JET TO AIRCOAT FLAT JET

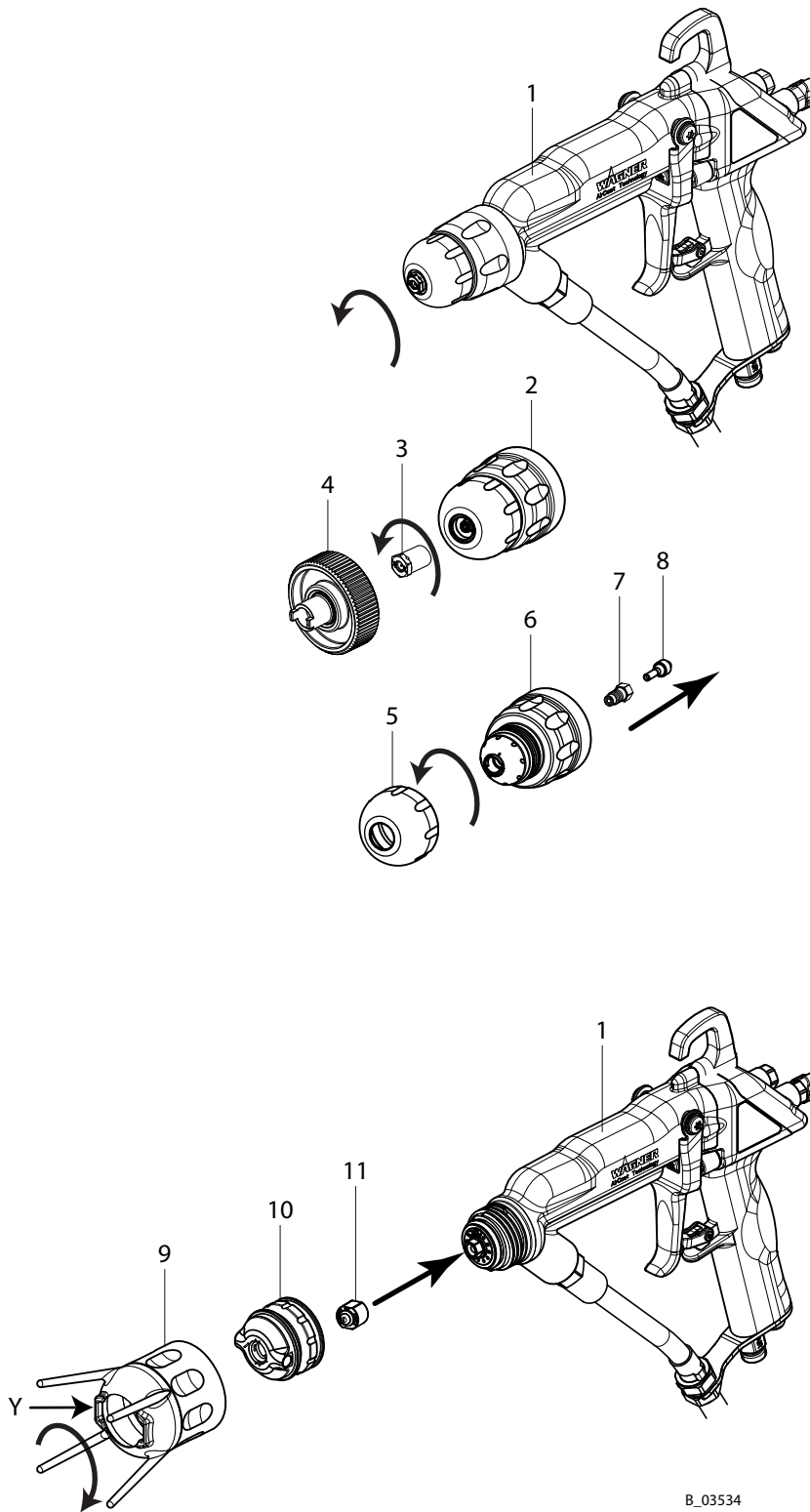
1. Thoroughly flush the spray gun (1) with flushing agent → Chapter 8.1.3.
2. Relieve pressure → Chapter 7.3.4.
3. Secure the spray gun (1) using the trigger lock.

Changing from round jet to flat jet

4. Unscrew round jet nozzle cap (2) incl. nozzle insert (3).
5. Unscrew nozzle insert (3) using nozzle spanner (4).
6. Unscrew nozzle nut (5). Remove nozzle screw joint (7) and sealing fitting (8) from the nozzle body (6). Thoroughly clean all parts.
7. Insert desired ACF5000 nozzle (11) into the valve housing.
8. Put the air cap (10) on the nozzle (11) and pay attention to the position of the guide surfaces.
9. Screw union nut with attached nozzle guard (9) to the gun body and make sure that the air cap horns lie in the designated recess (Y).
10. Before tightening with the air cap horns (Y), set the desired jet level and then tighten the union nut to stop by hand.

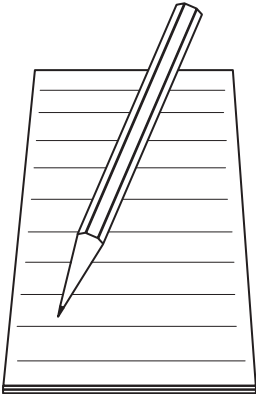
Changing from flat jet to round jet

4. Unscrew union nut (9) with air cap (10) and ACF5000 nozzle (11).
5. Remove air cap (10).
6. Press ACF5000 nozzle (11) out of air cap (10) by hand. Thoroughly clean all parts.
7. Insert nozzle screw connection (7) and sealing fitting (8) into nozzle body (6).
8. Screw nozzle nut (5) onto nozzle body (6).
Do not screw on nozzle nut completely. There must be play for the atomizing air between the nozzle nut and the nozzle body.
9. Screw on nozzle insert (3) using nozzle spanner (4).
10. Screw round jet nozzle cap (2) with nozzle insert (3) onto spray gun and tighten by hand.



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OPERATING MANUAL



A series of horizontal lines for writing notes, starting from the top right of the notepad icon and extending across the page.

7.3.8 REPLACING THE AIRCOAT FLAT JET NOZZLES

1. Switch off control unit.
2. Relieve pressure → Chapter 7.3.4.
3. Secure the spray gun (1) using the trigger lock (14).
4. Unscrew union nut completely (12) and remove air cap (10).
5. Remove and clean the ACF5000 AirCoat nozzle (11).

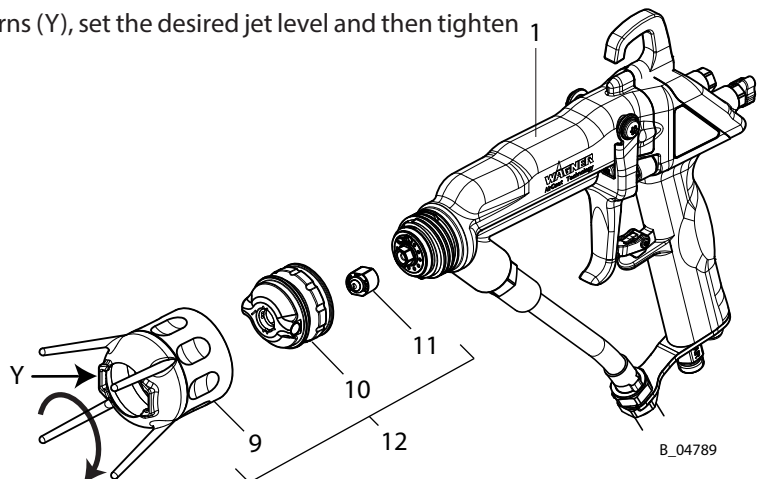
NOTICE

Defective AirCoat nozzle!

Insufficient paint application quality.

→ Do not use sharp-edged objects to treat carbide on the AirCoat nozzle.

6. Insert new ACF5000 nozzle (11) into the valve housing.
7. Put the air cap (10) on the nozzle (11) and pay attention to the position of the guide surfaces.
8. Screw union nut with attached nozzle guard (9) to the gun body and make sure that the air cap horns lie in the designated recess (Y).
9. Before tightening with the air cap horns (Y), set the desired jet level and then tighten the union nut to stop by hand.



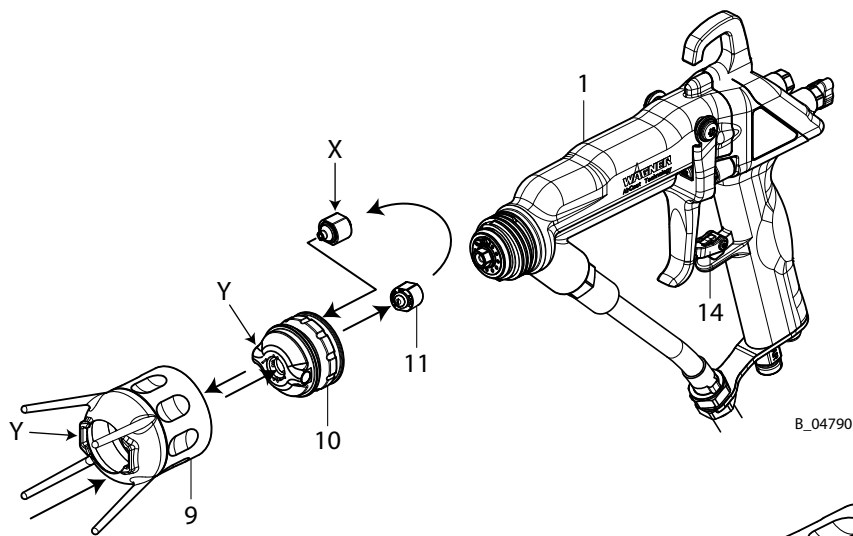
7.3.9 CLEANING OF THE NOZZLE PARTS

The AirCoat ACF5000 nozzles (11), the nozzle inserts (3) and the nozzle screw connection (7) can be placed in a cleaning solvent recommended by the lacquer manufacturer.

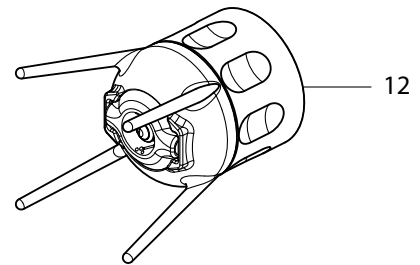
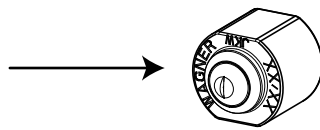
All other nozzle parts may not be put into cleaning solvent. Clean these parts with a cleaning solvent recommended by the lacquer manufacturer and dry with a cloth or blow gun.

7.3.10 ELIMINATE NOZZLE CLOGGING

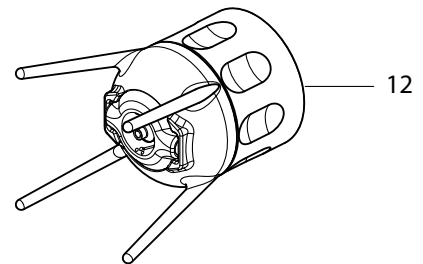
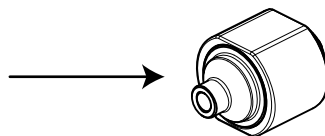
1. Switch off control unit.
2. Relieve pressure → Chapter 7.3.4.
3. Secure the spray gun (1) using the trigger lock (14).
4. Unscrew union nut (12) with air cap (10) and ACF5000 nozzle (11).
5. Remove air cap (10).
6. Push ACF 5000 nozzle (11) out of air cap (10) by hand, reverse it and put it into the air cap (10) with the nozzle tip towards the rear. Pay attention to the position of the guide surfaces (X).
7. Insert air cap (10) with integrated ACF 5000 nozzle (11) into the union nut (9). Make sure that the air cap horns (Y) lie in the recess of the nozzle guard.
8. Screw preassembled union nut (12) to gun (1) and tighten by hand.
9. Switch the product pressure back on.
10. Turn the trigger lock (14) to the spraying position and briefly pull the trigger.
11. When the blockage has been flushed out, secure the gun with trigger lock (14).
12. Relieve pressure → Chapter 7.3.4.
13. Unscrew union nut (12) completely.
14. Remove air cap (10) and push ACF 5000 nozzle (11) out of the air cap by hand. Clean ACF5000 nozzle and insert it in spraying position into the valve housing.
15. Put the air cap (10) on the nozzle (11) and pay attention to the position of the guide surfaces (X).
16. Screw union nut with attached nozzle guard (9) to the gun body and make sure that the air cap horns lie in the designated recess (Y).
17. Before tightening with the air cap horns (Y), set the desired jet level and then tighten the union nut to stop by hand.
18. Switch the product pressure and the air pressure back on.
19. Switch on the control unit.



ACF5000 nozzle in **spray position**

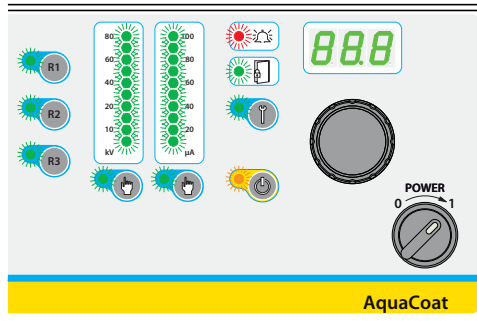


ACF5000 nozzle in **cleaning position**



7.3.11 VM 5020W CONTROL UNIT START UP

1. Turn switch to position 1.
2. All LEDs on the control unit illuminate for approximately 1 second.



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3. The hardware version and the software version are shown on the display alternately in succession.



Hardware version



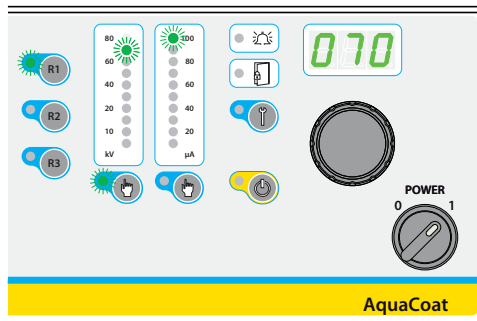
Software version

B_03373

4. After a few seconds, the control unit is ready for operation.

Note:

Each starting sequence is concluded by allocating the saved set data in recipe "R1".



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7.3.12 SETTING AND SAVING RECIPES

Nominal values for the high voltage (kV) and for the spray current limiter (μA) are stored in a recipe. As standard, the following values are saved in the factory in the 3 storage places available for recipes:

Recipe No.	Set value - high voltage in kV	Target spray current limiter in μA
R1	70	100
R2	60	100
R3	40	80

Recipes 1-3 can be selected and saved directly with the program buttons "R1", "R2" and "R3". Once the recipe required has been called up, the individual coating parameters can be called up and changed using the corresponding selection buttons (see Chapters 7.3.13, 7.3.14). When a parameter is changed, the LED on the left of the program button goes out and indicates to the user that a parameter value has been changed.

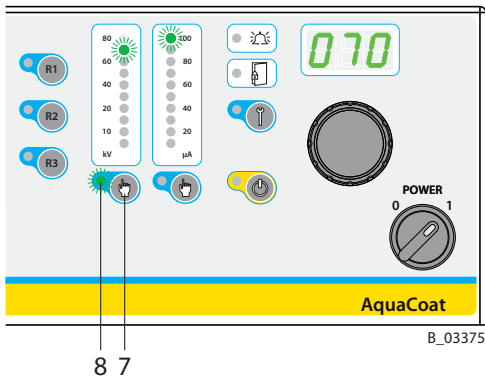
Rejecting parameter values

To reuse the originally set values, press the program button briefly. The modified values are not taken over.

Saving parameter values

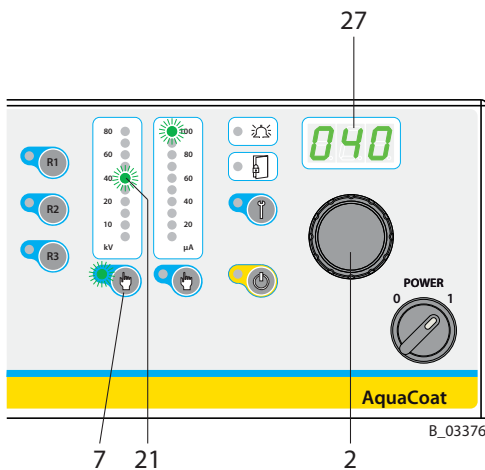
However, if the modified values should be saved, press and hold the corresponding program button for approx. 2 seconds until the LED beside the button starts to flash quickly. The modified values are then saved.

7.3.13 SETTING THE HIGH VOLTAGE



Procedure:

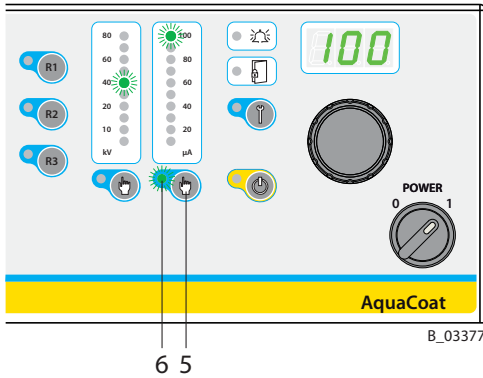
1. Press the "High-voltage" button (7) to adjust the high voltage. The LED (8) indicates that high voltage is selected.



2. The high voltage can now be adjusted using the universal rotary controller (2) between 5 to 70 kV with a resolution of 1 kV. The corresponding value is indicated in the LED display (27).

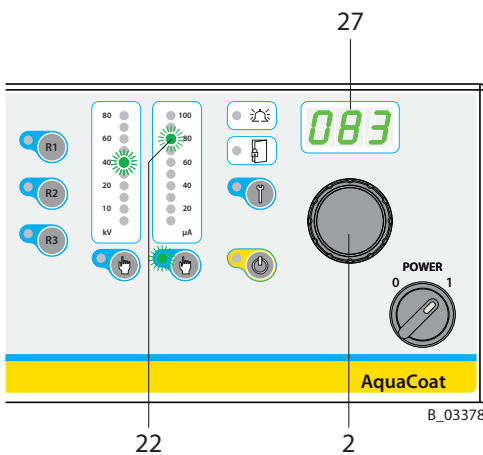
Above the "High-voltage" button (7) is the "High-voltage" bar graph display (21). If the control unit is in the ready position, this light strip shows the set value as a dot.

7.3.14 SETTING THE CURRENT LIMITATION



Procedure:

1. Press the "Current Limitation" button (5) to adjust the limitation of the spray current. The LED (6) indicates that current limitation is selected.



2. The current limitation can now be adjusted using the universal rotary controller (2) between 10 - 100 μA with a resolution of 1 μA . The corresponding value is indicated in the LED display (27).

Above the "Current Limitation" button (5) is the "Current Limitation" bar graph display (22). If the control unit is in the ready position, this light strip shows the set value as a dot. The current limitation is an adjustable threshold. If this threshold is exceeded, for example, by the spray gun having approached the object being sprayed, the high voltage is adjusted downwards until the threshold is no longer exceeded.

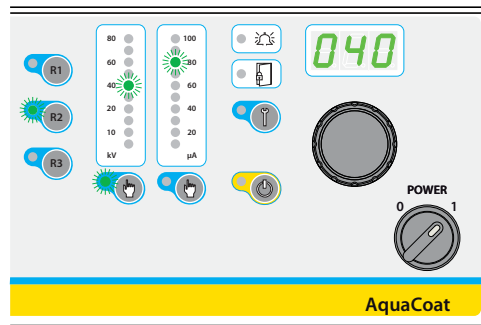
The set values for high voltage (40 kV) and for spray current limitation (83 mA) that are shown in the examples are saved in R2 by pressing and holding for a longer time the recipe push button (for > 2 seconds).

7.3.15 DISPLAY DURING SPRAYING

Ready to spray using R2 recipe (see picture below).

Control unit in standby position.

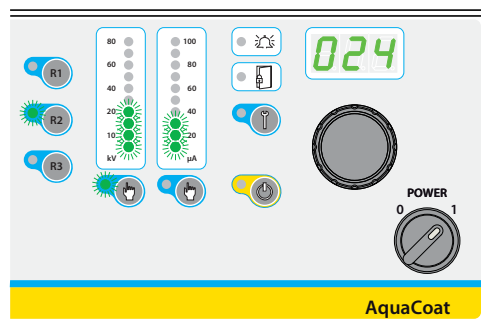
The nominal value LEDs illuminate as dots and the high-voltage value is digitally displayed in the LED display. If you press the current limiter push button, the set nominal value for the spray current limiter is digitally displayed in the LED display.



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Spraying using recipe R2:

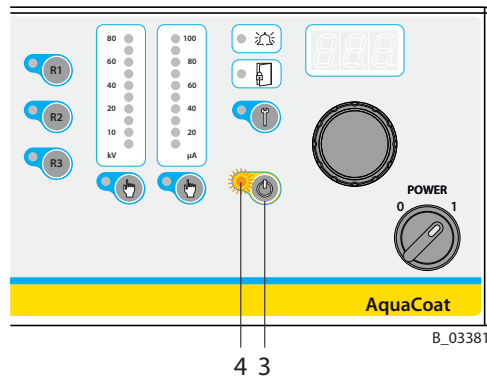
High voltage is created by pressing the trigger on the spray gun. The LEDs then illuminate as bar displays and show the actual values. The current actual value of the activated push button for the high voltage (kV) is digitally displayed on the LED display. If the push button for the spray current limiter is pressed, the relevant LED lights up and the corresponding actual value in μA appears in the LED display.



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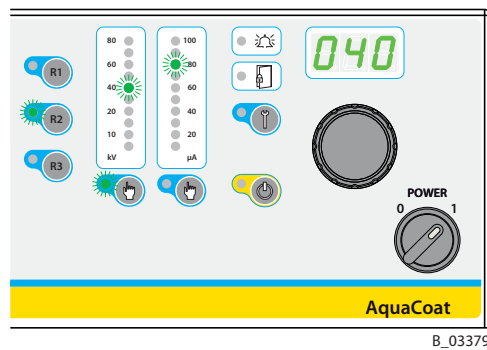
7.3.16 STANDBY MODE

If you want to spray without high voltage, select standby mode. Briefly press the "Standby" push button (3), LED (4) will illuminate. All other LEDs are extinguished.



Press push button (3) to return from this standby mode to the previously saved standby mode (see figure below).

Note:
This function can be activated and used from the gun.



7.3.17 OPERATING HOURS COUNTER/SERVICE DISPLAY

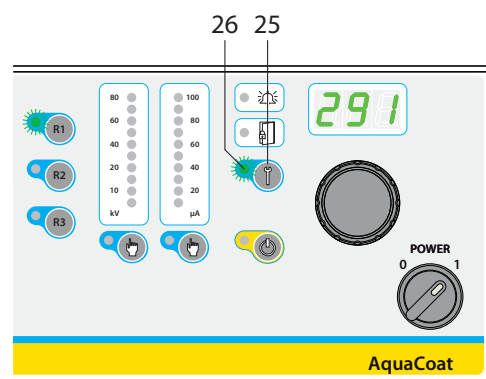
Two hour counters are integrated into the control unit. The absolute counter measures the ongoing hours of operation of the spray gun and with the maintenance hours counter, maintenance intervals can be determined and monitored for the spray gun.

Push button "Service"

Press the "Service" button (25) to go from the standby position of the control unit to the service menu display.

Structure of the service menu (LED display 26 illuminates):

Push button	Description of display
R1	Display of the spray gun's absolute accrued operating hours. Display format: Counter reading < 999 hours: 001 = 1 hour; 291 = 291 hours. Counter reading > 1,000 hours: 1.23 = 1,230 hours; 45.2 = 45,200 hours. Maximum display value = 99.9 = 99,900 h Flashing lines are then displayed.
R2	Display of temporary maintenance counter and resetting this counter (see Chapter 7.3.18).
R3	Set maintenance interval in hours, activate or lock this function (see Chapter 7.3.18).

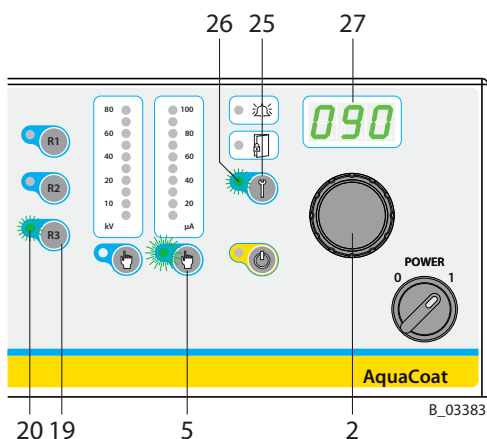


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7.3.18 SERVICE DISPLAY SETUP

When the device is first used, the function for the service interval is deactivated. This function can be activated with the "R3" push button (19). The maintenance interval limit can be set within a range of 0 to 999 hours.

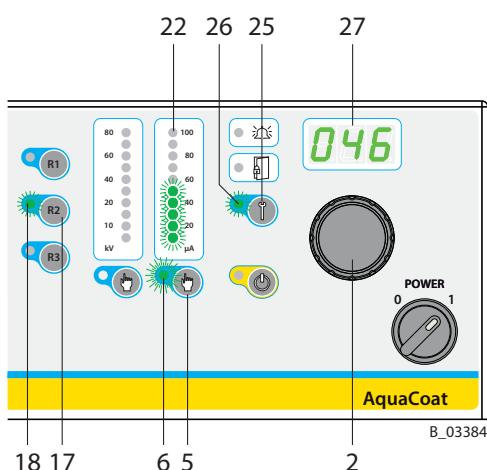
Setting and saving the maintenance interval limit in hours



Procedure

1. Press the "Service" button (25) to access the service menu. LED (26) lights up.
2. Actuate the push button R3 (19) for a short time, the LED (20) display lights up.
3. Use the control dial (2) to set the maintenance interval limit you want (e.g., 90 hours).
4. Check setting in the LED display (27).
5. The value is saved by pressing down the "Spray current" push button (5) until the LED display (27) starts to flash.

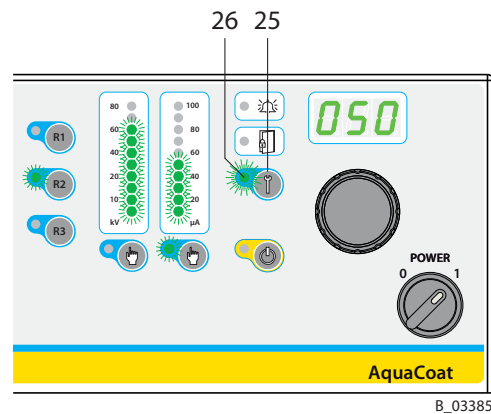
Review counter status since last service carried out on gun



Procedure

1. Press the "Service" button (25) to access the service menu. LED (26) lights up.
2. Actuate the push button R2 (17) for a short time; the LED (18) display lights up.
3. Read off display in the LED display (27). In the example, 46 hours have passed since realization of the last spray gun service. The bar display on the left (22) indicates that 50% of the set interval time has passed.
4. By keeping push button (5) pressed down, the display in the LED display (27) can be set to "0" (reset after expiry of the set interval limit).

7.3.19 "CARRY OUT SERVICE" DISPLAY



Prerequisite

The "Service interval limit" function is activated (see Chapter 7.3.18).

"Service spray gun"

Once the time for the defined maintenance interval has expired, the LED display (26) starts to flash.

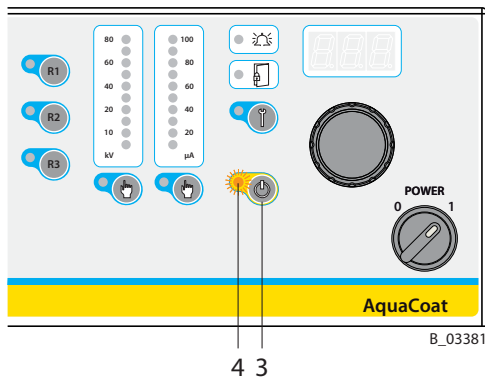
The flashing service display merely acts as a warning. You can continue working without any limitations.

7.4 DEVICE CONFIGURATION

7.4.1 OVERVIEW OF PARAMETERS

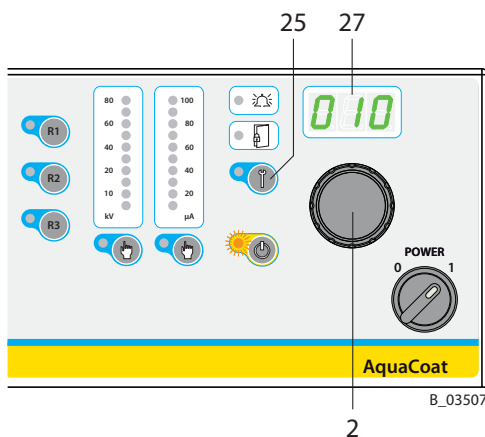
Parameter		Value	Description
C12	External set value specification	off (factory setting)	The target values for high voltage in kV and current limitation in μ A are adjusted at the front control panel of the control unit.
		on	<ul style="list-style-type: none"> - The set values for high voltage in kV and current limitation in μA are predefined using the interface's two analog power inputs. Application example: Set value specification by a superordinate controller (PLC). - Set values can no longer be adjusted at the front control panel. All recipe functions (save, call up recipe, etc.) are locked.
C13	Lock	off (factory setting)	Lock is deactivated.
		on	Operating inhibit is activated. <ul style="list-style-type: none"> - You can select recipes and control functions. - The set values (kV and μA) cannot be adjusted.
		pro	Lock pro (program). <ul style="list-style-type: none"> - You can select recipes and control functions. - The target values (kV and μA) can be adjusted but cannot be saved in the recipes.
C19	Reset recipes	no (factory setting)	No reaction
		res	All programs are set to delivery condition, if "res" is saved with the "Service" button.
C20	Reset configuration	no (factory setting)	No reaction
		res	All configuration parameters are set to delivery condition (factory setting), if "res" is saved with the "Service" button.

7.4.2 ACCESS TO THE DEVICE CONFIGURATION MODE

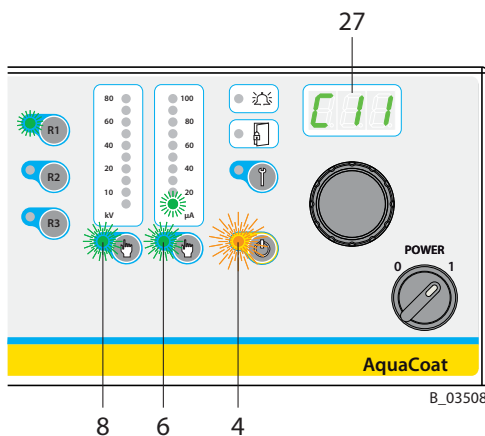


Procedure:

1. Switch device to "Standby" by pressing the "Standby" key (3).
The "Standby" LED (4) lights up yellow.



2. Press and hold the "Service" push button (25).
3. Turn the universal control dial (2) with the other hand until the LED display (27) shows the number "10". Then release the "Service" button (25). The running text "configuration" is displayed in the LED display (27).
The device is now in configuration mode.



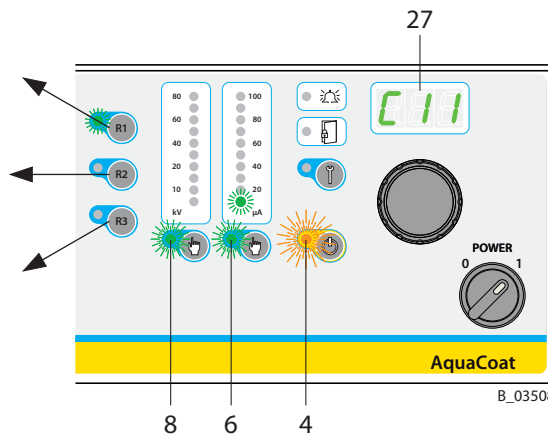
4. The first configuration parameter C11 is now displayed in the LED display (27). The two LED displays "Spray Current" (6) and "High Voltage" (8) flash at the same time.
The "Standby" (4) LED display flashes quickly.

Note:

The C11 parameter can be changed, but this will not have any effect.

For ease of operation, the configuration settings are divided into three groups. The first group is for the end user; the other two groups, protected by a password, are reserved for WAGNER Service and the WAGNER production sites or the WAGNER Service Center, which have the necessary infrastructure.

- Group 1:
Parameters C11 to C20
(End user)
- Group 2:
Parameters C21 to C30
(WAGNER Service)
- Group 3:
Parameters C31 to C40
(Production plant, service center)



7.4.3 SETTING EXAMPLE "PARAMETER C13"

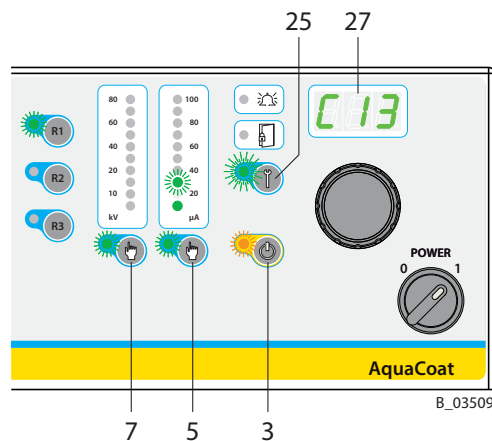
After getting started in configuration mode, the LED display (27) shows the parameter "C11" by default.

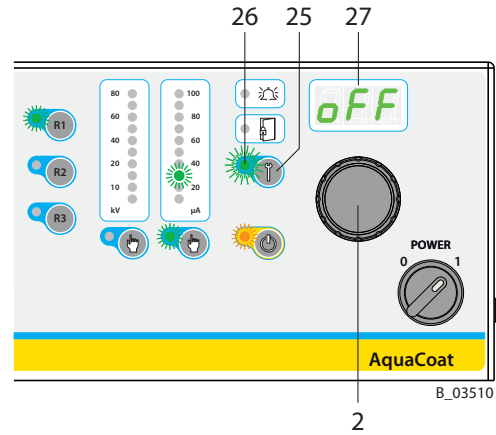
Selecting parameters

You can change to parameter "C13" by pressing the "Spray current" (5) or the "High-voltage" (7) button.

Changing parameter values

To change a selected parameter value (e.g., C13), press push button "Service" (25). The content of the parameter is displayed in the LED display (27).

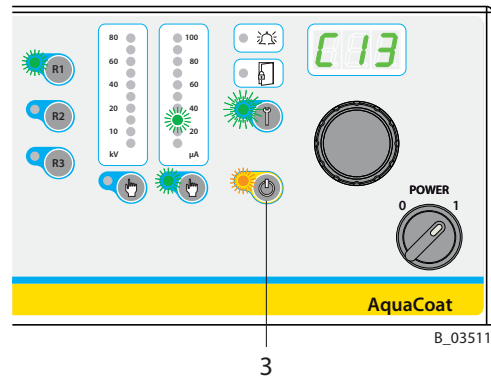




The flashing LED display "Service" (26) indicates that the parameter value "OFF" in the display (27) can be changed by the universal control dial (2). Possible values for parameter C13 are "on", "off" or "pro".

Saving a set parameter value

Press push button "Service" (25) for two seconds.



Returning to operation mode

Press the "Standby" key (3) to exit configuration mode.

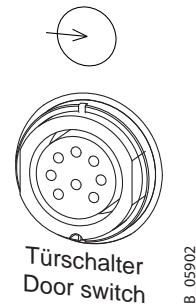


7.5 EXTERNAL INTERFACE

The control unit is equipped with an interface. The electrical door switch is wired as standard at the 8-pin socket on the back of the VM 5020W control unit (also refer to the J3 plug in the block diagram, Chapter 5.5.4).

This socket also offers the functions designated in the following illustration.

→ Before using it, you have to select the respective parameters in the device configuration.



Door switch

GND >> Release

Fault reset

neg. edge >> Reset

Fault output

24VDC >> Fault

High-voltage input

7 V >> 70 kV

µA input

10 V >> 100 µA

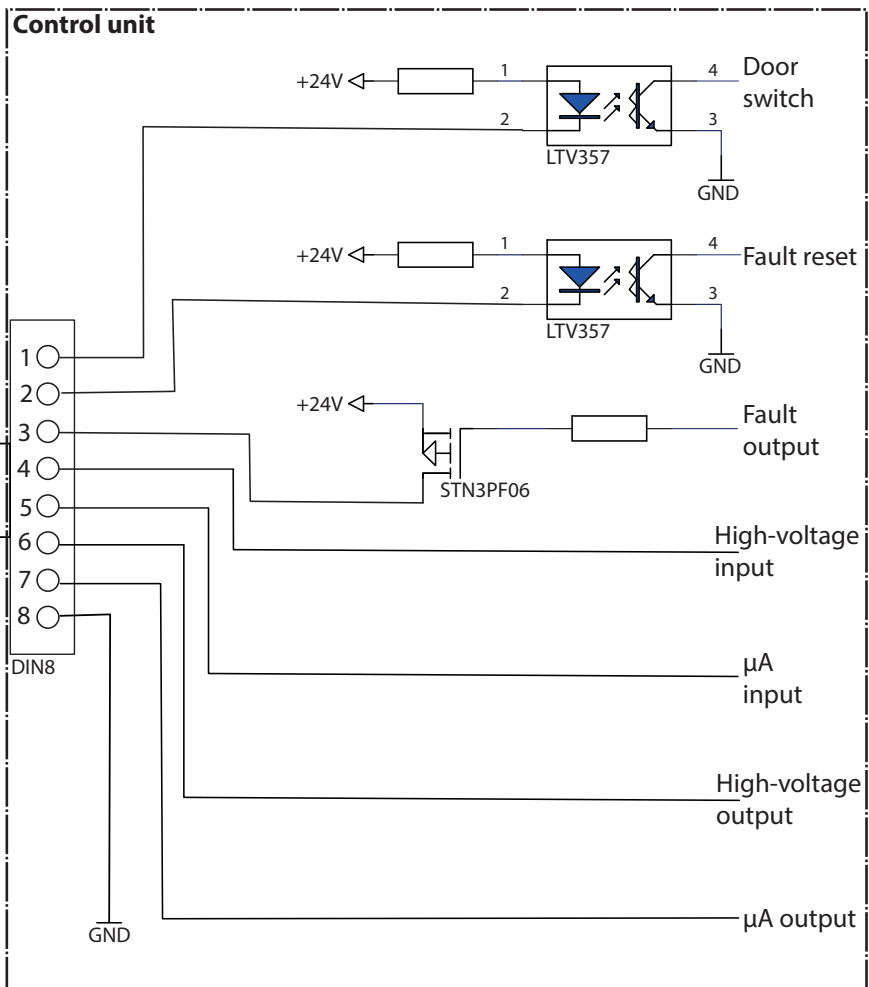
High-voltage output

7 V >> 70 kV

µA output

10 V >> 100 µA

Ground



Pin no.	Designation	Description
2 in	Fault reset	Potential-free contact (button) between pin 2 and pin 8 (ground) - If there is a fault, it can be acknowledged by pressing a button. - Acknowledgement is only given via the negative edge.
3 out	Fault output	If there is a fault, +24 V DC is issued at pin 3 in reference to pin 8 (ground). → Maximum current 0.5 A
4 in *	DC kV in	Set value specification for high voltage. * Analog d.c. voltage input at pin 4 in reference to pin 8 (ground). → 0.1 V corresponds to 1 kV → 7.0 V is a maximum specification and corresponds to 70 kV
5 in *	DC μ A in	Set value specification for spray current limitation * Analog d.c. voltage input at pin 5 in reference to pin 8 (ground) → 0.1 V corresponds to 1 μ A → 10.0 V is a maximum specification and corresponds to 100 μ A
6 out	DC kV out	Output of current actual voltage. Analog d.c. voltage output at pin 6 in reference to pin 8 (ground). → 0.1 V corresponds to 1 kV → 7.0 V is a maximum specification and corresponds to 70 kV
7 out	DC μ A out	Output of current actual spraying current. Analog d.c. voltage output at pin 7 in reference to pin 8 (ground). → 0.1 V corresponds to 1 μ A → 10.0 V is a maximum specification and corresponds to 100 μ A

* If the external set value specification function will be used, parameter C12 must be set to "on" at the VM 5020W control unit (see Chapter 7.4.1).

Analog output

→ The analog outputs are not power outputs, but merely **signal outputs**.

8 CLEANING AND MAINTENANCE

8.1 CLEANING



8.1.1 CLEANING STAFF

Cleaning work should be undertaken regularly and carefully by qualified and trained staff. They should be informed of specific hazards during their training.

The following hazards may arise during cleaning work:

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

8.1.2 SAFETY INSTRUCTIONS



	 DANGER
<p>Explosive powder/air mixes! Danger to life and equipment damage.</p> <ul style="list-style-type: none"> → Before starting cleaning, rinsing, 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-flammable cleaning and flushing agents. <p>If flammable solvents are used:</p> <ul style="list-style-type: none"> → The cleaning and flushing agent's flash point must be at least 15 K above the ambient temperature. → Flammable 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!

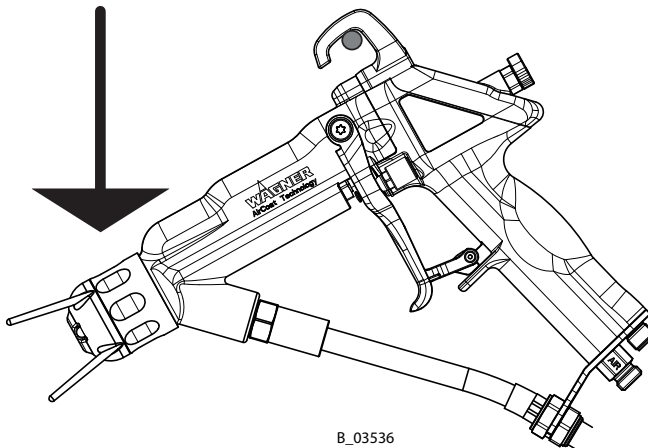
- Never immerse the spray gun in cleaning agent.

→ Observe safety instructions in Chapter 4.

	 DANGER
	<p>Incorrect maintenance/repair! Danger to life and equipment damage.</p> <ul style="list-style-type: none"> → Only a WAGNER service center or a suitably trained person may carry out repairs and replace parts. → Only repair and replace parts that are listed in the "Spare parts" chapter and that are assigned to the unit. → Before all work on the device and in the event of work interruptions: <ul style="list-style-type: none"> - Switch off the energy supply and the compressed air supply. - Relieve the pressure from the spray gun and device. - Secure the spray gun against actuation. → Observe the operating and service manual for all work.



8.1.3 FLUSHING AND CLEANING THE SYSTEM

<h2>NOTICE</h2>
<p>Liquid in air tube! Functional faults caused by swollen seals. Discharge current to ground → No high voltage.</p> <ul style="list-style-type: none"> → 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.



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The AquaCoat spray system must be cleaned and rinsed out every day. The cleaning and flushing agents must be compatible with the working material.

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

Flush system

1. Relieve pressure → Chapter 7.3.4.
2. Close atomizing air regulator.
3. Connect the system to the flushing agent supply.
4. Open the compressed air supply.
5. Have collecting tray close by and open relief valve.
6. Close the valve again as soon as clean flushing agent comes out.

With round jet nozzle fitted:

7. Use nozzle spanner to loosen nozzle insert by a half turn.
8. Point the spray gun toward the collecting tray and actuate the trigger. Flush the gun thoroughly as soon as clean flushing agent emerges.
9. Relieve pressure → Chapter 7.3.4.
10. Re-tighten the nozzle insert.
11. Remove flushing agent supply.

With flat jet nozzle fitted:

7. Dismount AirCoat nozzle and clean separately (see Chapter 7.3.8).
8. Point the spray gun toward the collecting tray and actuate the trigger.
9. Flush the gun thoroughly as soon as clean flushing agent emerges.
10. Relieve pressure → Chapter 7.3.4.
11. Remove flushing agent supply.

Blowing out the air passages of the spray gun

12. Close the pump pressure regulator, switch on the compressed air supply, and open the atomizing air regulator.
13. Actuate the trigger of the spray gun and thoroughly blow out the air passages.
14. Switch off the compressed air supply.

Clean the outside of the system

15. Clean the spray gun body and remaining AquaCoat components with a cleaning agent recommended by the lacquer manufacturer and dry with a cloth or blow gun.

Cleaning the nozzle parts → See Chapters 7.3.9 and 7.3.10

8.2 MAINTENANCE

8.2.1 MAINTENANCE STAFF

Maintenance work should be undertaken regularly and carefully by qualified and trained staff. They should be informed of specific hazards during their training.

The following hazards may arise during maintenance work:

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

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

8.2.2 SAFETY INSTRUCTIONS

→ Observe the safety instructions in Chapter 4 and Chapter 8.1.2.

Prior to maintenance

- Flush and clean the system → Chapter 8.1.3.

After maintenance

- Carry out a safety checks in accordance with Chapter 8.2.3.
 - Put the system into operation and check for leaks as described in Chapter 6.9.
 - Carry out a function test, if required, in accordance with Chapter 11.
- According DGUV regulation 100-500:
- 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.



DANGER

Incorrect maintenance/repair!

Danger to life and equipment damage.

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

8.2.3 SAFETY CHECKS

8.2.3.1 GROUNDING CHECK

Every day

Before starting work, carry out a visual check to ensure that the grounding connection is present in the AquaCoat cabinet and in all relevant components.

8.2.3.2 INSPECTING THE SAFETY ELEMENTS

Every day

- General visual inspection:
 - Check for damage or loose contacts:
 - black grounding band in the cabinet door,
 - black grounding bolt at the cabinet door (below),
 - grounding switch on the RH side wall,
 - all cables and connections.

Monthly

- Door switch test:
 - Open the cabinet door.
 - Switch on the control unit.
 - Switch air on.
 - Actuate the trigger on the spray gun.
 - Electrical door switch test:
 - The high voltage must remain switched off.
 - The control unit displays error E30.
 - Pneumatic door switch test:
 - The grounding switch must remain closed (below).
- Grounding switch test:
 - Close cabinet door.
 - Switch on the control unit.
 - Acoustically ascertain switch movement.
 - Check that the cabinet door is locked.
 - Switch off control unit.
 - Acoustically ascertain switch movement.

8.2.3.3 PRODUCT HOSES, TUBES AND COUPLINGS

	DANGER
	<p>Bursting hose, bursting threaded joints! Danger to life from injection of product and from flying parts.</p> <ul style="list-style-type: none"> → Ensure that the hose material is chemically resistant to the sprayed products and the used flushing agents. → Ensure that the spray gun, threaded joints, and product hose between the device and the spray gun are suitable for the generated pressure. → Ensure that the following information can be seen on the hose: <ul style="list-style-type: none"> - Manufacturer - Permissible operating pressure - Date of manufacture

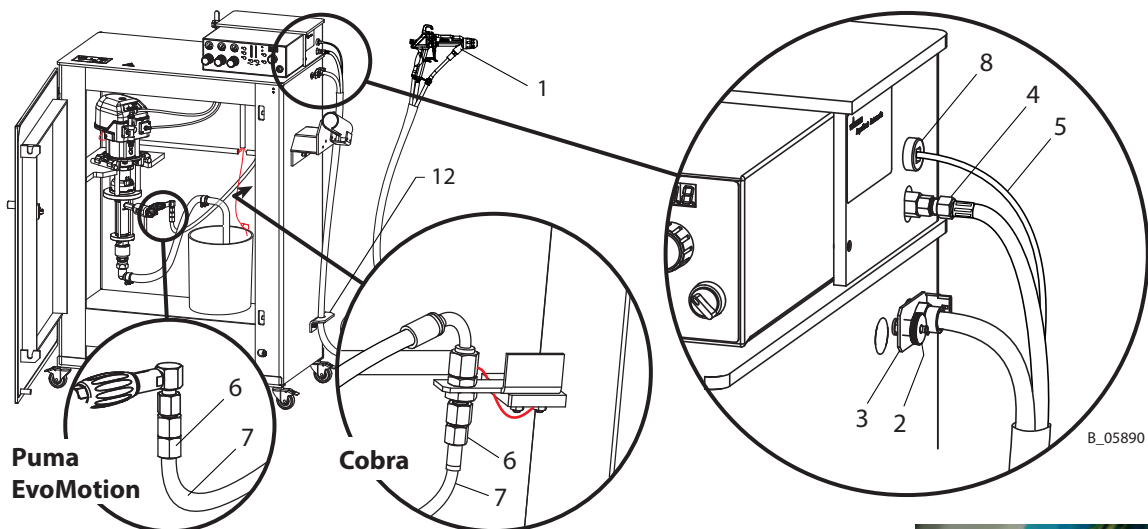
The service life of the complete hoses between product pressure generator and application device is reduced due to environmental influences even when handled correctly.

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

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

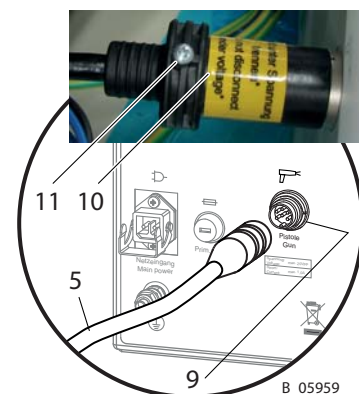
Hose imprinting	Meaning
WAGNER	Name/Manufacturer
yymm	Date of manufacture (year/month)
xxx bar (xx MPa) e.g., 270 bar (27 MPa)	Pressure
XX	Internal code
DNxx (e.g., DN10)	Nominal diameter

8.2.4 CHANGING THE SPRAY GUN WITH HOSE SET



Disassembly

1. Dismount the VM 5020W control unit as described in Chapter 10.5.
2. Rear of the control unit: Loosen the knurled nut on the gun cable (5) and remove plug.
3. Loosen the union nut (4) of the air hose at the AquaCoat cabinet.
4. Loosen the union nut (6) on the bared part of the product hose (7).
5. Unscrew knurled nut (2).
6. Carefully remove the gun (1) together with the hose set.



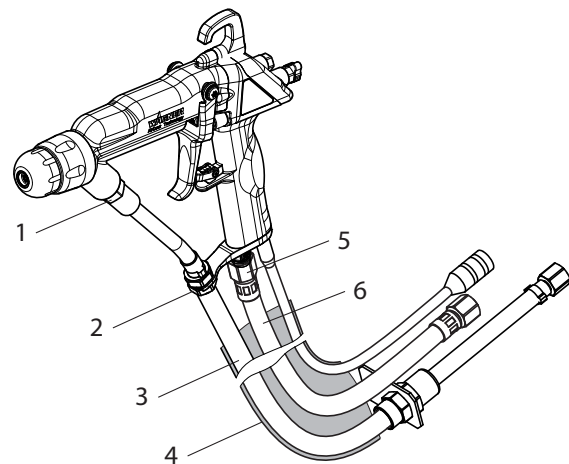
Assembly

The GM 5020EACW spray gun can be combined with different hose sets. The available hose sets are listed in the accessories (Chapter 13.3).

1. Push bared part of product hose approx. 1.25 m; 4.1 ft through the opening as far as the mounting plate.
2. Fasten mounting plate (3) to grounding screw with knurled nut (2).
3. Screw on stripped end of product hose (7) with union nut (6):
 - Puma / EvoMotion: To product filter.
 - Cobra: To potential equalization point of the grounding switch.
4. Screw air hose (4) to the AquaCoat cabinet.
5. Remove protective sleeve (10), insert gun cable (5) through the bushing (8), place protective sleeve (10) again. Connect gun cable (5) to control unit (gun connection (9)). Secure with knurled nut. Push protective sleeve (10) over the knurled nut and gently fasten using screw (11). Attach strain relief grommet (8).
6. Fasten the hose set using hose holder (12).
7. Carefully push the VM 5020W control unit back again to the limit stop. Pay attention to connecting lines and connecting cables at the back of the control unit!
8. Screw the VM 5020W control unit on the cabinet.

8.2.5 CHANGING THE PRODUCT HOSE AND/OR AIR HOSE

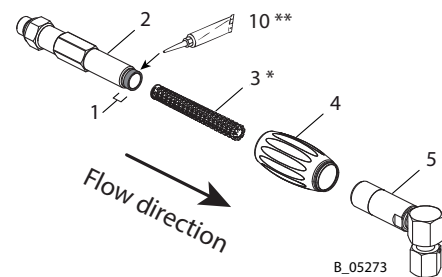
1. Loosen and unscrew clamping screw (1).
2. Loosen nut (2) and remove product hose from the attachment point.
3. Push protective hose (4) back.
4. Carefully remove product hose (3) from the protective hose (4).
5. Loosen union nut (5) at gun connection and carefully remove air hose (6) from the protective hose (4).



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8.2.6 CLEANING AND REPLACING THE FILTER

1. Flush the pump and inline filter in accordance with pump's operating manual. Flush using the gun so that the flushing agent flows through the inline filter. Maximize the flow (remove the nozzle, open the dosing valve if necessary).
2. Empty the pump in a controlled manner in accordance with pump's operating manual.
3. Place the grounded collection tank under the inline filter.
4. Unscrew the filter by turning the handle (4).
5. Remove the filter insert (3).
6. If the inline filter has any leaks, replace the seal (1).
7. Insert the new filter insert (3). Note the installation position: Closed end in direction of flow.
8. If necessary, coat the thread with anti-seize paste (10).
9. Assemble the turning handle (4), inlet housing (2) and outlet housing (5) and tighten by turning the handle.
10. Fill the pump in accordance with pump's operating manual.




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* Filter insert: Order No., see Chapter 14.3.5.

** Anti-seize paste: Order No., see Chapter 10.3.

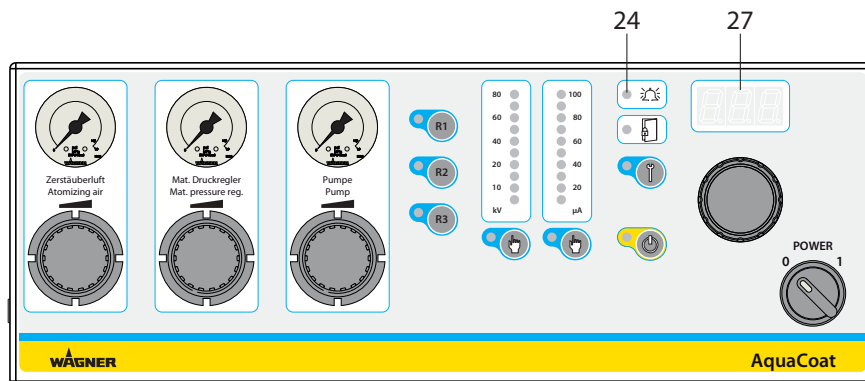
9 TROUBLESHOOTING AND RECTIFICATION



DANGER

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

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

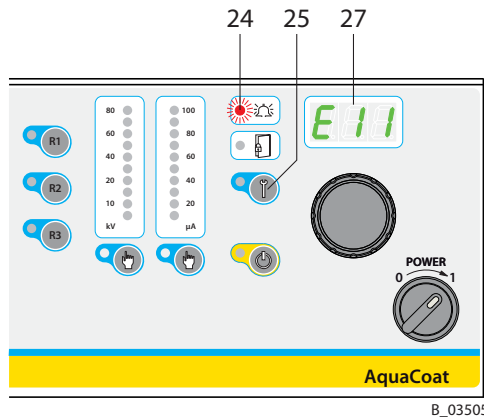


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9.1 ERROR DISPLAYS AT THE VM 5020W CONTROL UNIT

Functional fault	Cause	Remedy
No illuminated display lights up	<ul style="list-style-type: none"> - Mains supply not switched on - Fuses defective 	<ul style="list-style-type: none"> - Check and switch on mains supply - Replace fuses - Contact the WAGNER Service Team
No high voltage	<ul style="list-style-type: none"> - Spray gun cable not connected or defective - Spray gun not connected or defective 	<ul style="list-style-type: none"> - Connect spray gun cable - Contact the WAGNER Service Team
Fault LED (24) lights up Fault message in display (27)	<ul style="list-style-type: none"> - See the following table 	<ul style="list-style-type: none"> - See the following table

Faults are indicated by the "Fault" LED (24). In addition the error number is shown in the display (27). If a fault occurs, the high voltage is switched off immediately. The user can only continue to work once the fault has been remedied and acknowledged with push button "Service" (25).



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Code display	Malfunction	Cause	Remedy
E11	Ground monitoring	<ul style="list-style-type: none"> - Grounding cable is interrupted - Gun is not connected 	<ul style="list-style-type: none"> - Check/replace gun cable - Check/replace gun - Connect gun
E12	No coil current/ cascade interrupt	<ul style="list-style-type: none"> - The cascade is not connected - Cascade is interrupted → defective 	<ul style="list-style-type: none"> - Connect the cascade - Check or replace cascade
E13	Coil current too big	<ul style="list-style-type: none"> - The cascade is defective 	<ul style="list-style-type: none"> - Check or replace cascade
E21-E25	Exception error	<ul style="list-style-type: none"> - Hardware defect has occurred 	<ul style="list-style-type: none"> - If problem persists, contact the WAGNER Service Team
E30	Door switch	<ul style="list-style-type: none"> - Door open - Door switch defective 	<ul style="list-style-type: none"> - Close door - Check/replace door switch
E40-E43	Gun communication faulty	<ul style="list-style-type: none"> - Gun cable defective - Operating unit of spray gun defective - Control unit defective 	<ul style="list-style-type: none"> - Check/replace gun cable - WAGNER Service - WAGNER Service
E60	Password error	<ul style="list-style-type: none"> - Password not set 	<ul style="list-style-type: none"> - Password to be set by Service Center

9.2 FAULTS IN THE SYSTEM

Functional fault	Cause	Remedy
Insufficient product output	- Nozzle too small	- Flat jet: Select larger nozzle (see nozzle table).
	- 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 is clogged	- Clean or replace nozzle.
Poor spray pattern	- Wrongly adjusted atomizing air	- Readjust atomizing air.
	- Unfavorable nozzle size	- Select a different nozzle (see nozzle table).
	- Spray product viscosity too high	- Thin product in accordance with the 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 2.5).
	- Spraying pressure too high	- Readjust spraying pressure.
No wrap-around	- No high voltage	- Switch on high voltage using push button. - Connect gun and gun cable/check for defect. - Check lacquer resistance (see Chapter 2.5).
	- Seal in end piece defective	- Repair by WAGNER Service.
	- Air-passages damp	- Clean and dry air passages.
Back-spray	- Object not grounded	- Check grounding.
	- Distance between spray gun and object too large	- Reduce distance between spray gun and work piece.
	- High voltage set wrongly (too high)	- Adapt high voltage to product.
Valve rod leaks	- Valve rod seals damaged	- Replace the seals (see Chapter 10).

10 REPAIR WORK

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:

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

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

10.2 SAFETY INSTRUCTIONS

→ Observe the safety instructions in Chapter 4 and Chapter 8.1.2.

Before a Repair

- Flush and clean the system → Chapter 8.1.3.

After a Repair

- Carry out a safety checks in accordance with Chapter 8.2.3.
- Put the system into operation and check for leaks as described in Chapter 6.9.
- Function test in accordance with Chapter 11.

→ According DGUV regulation 100-500:

- 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.



DANGER

Incorrect maintenance/repair!

Danger to life and equipment damage.

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

10.3 MOUNTING MATERIALS

In Chapter 14 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 14. Spray gun in accordance with Chapter 10.4.

Mounting materials

Order No.	Quantity	Designation	Smaller tanks
9992511	1 pc \triangleq 50 ml	Loctite® 243	
9992528	1 pc \triangleq 150 g	Loctite® 270	
9992831	1 pc \triangleq 50 ml	Loctite® 542	
9992616	1 pc \triangleq 1 kg can	Molykote® DX grease	50 g tube \triangleq Order no. 2355419
9992609	1 pc \triangleq 100 g	Anti-seize paste	
9992698	1 pc \triangleq 200 g can	Vaseline white PHHV II	

Brand notice

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

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 SW 2
- Allen wrench SW 3
- Allen wrench SW 5
- Open-end wrench SW 5
- Open-end wrench SW 6
- Open-end wrench SW 8
- Open-end wrench SW 11
- Open-end wrench SW 12
- Open-end wrench SW 14
- Open-end wrench SW 19

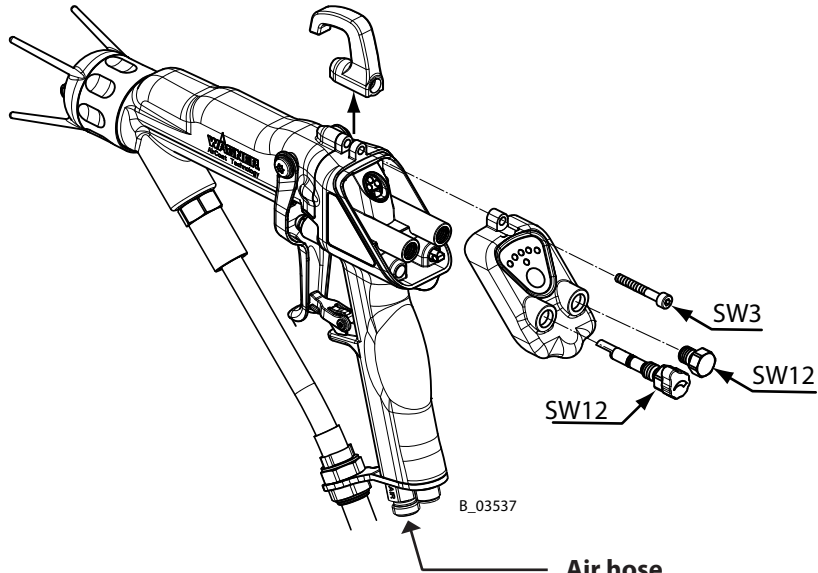
- Ring spanner SW9
- Ring spanner SW11
- Torx® wrench 20
- Torx® wrench 25
- Slide gauge
- Valve needle assembly tool, Order No. 2309368
- Clamping screw assembly tool, Order No. 2325263

Only as required:

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

10.4.2 DISASSEMBLY OF THE SPRAY GUN

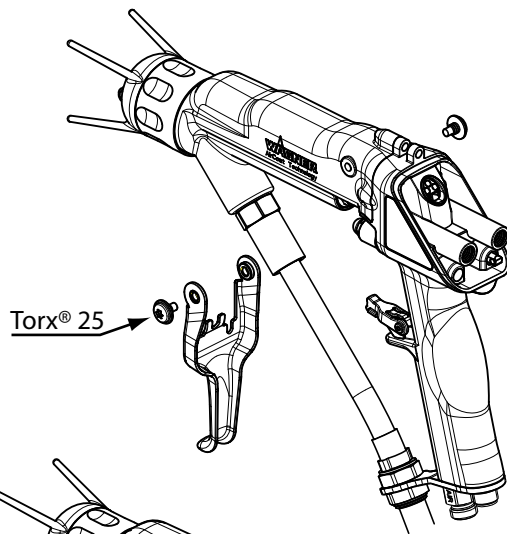
1



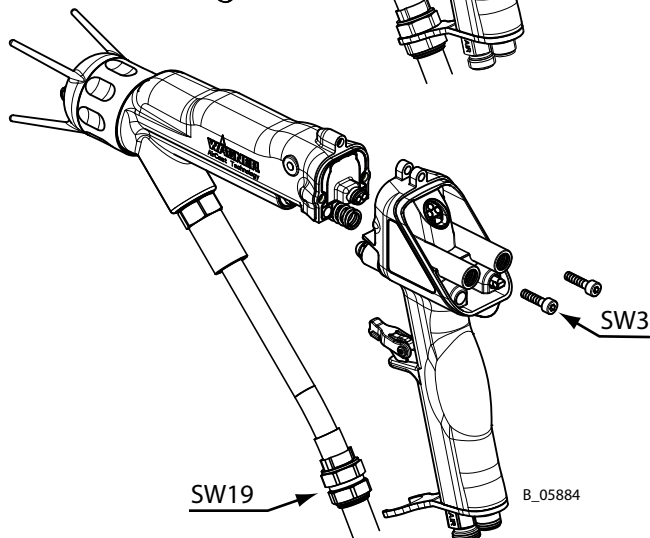
Air hose

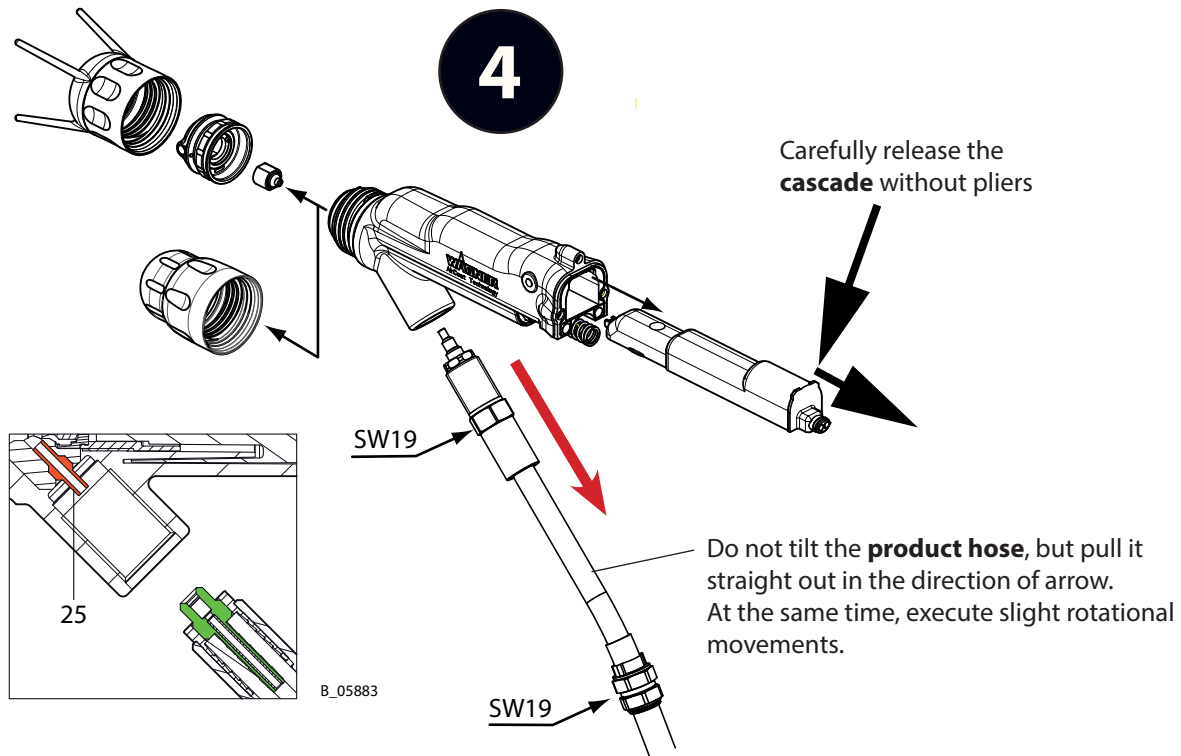
When unscrewing the air hose, a second open-ended/box wrench must be used for bracing.

2



3



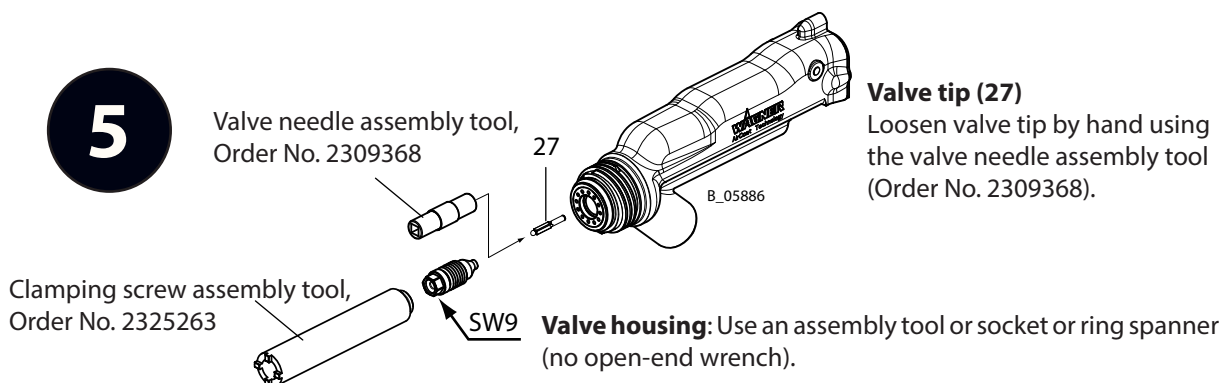


Fitting (25)

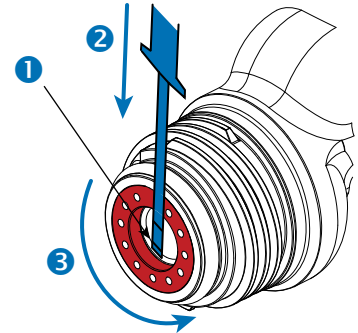
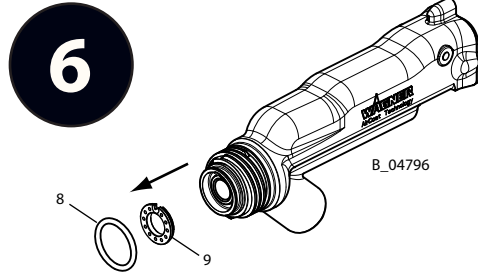
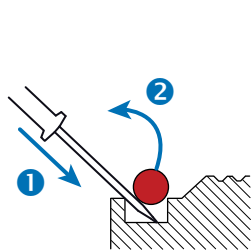
If the fitting (25) does not come out with the product hose, it must be removed from the gun adapter as follows:

- Screw the wood screw (Ø 3 mm; 0.12 inches, length 40 mm; 1.6 inches) into the fitting (25), max. 6 mm deep.
- Pull out straight with suitable pliers. Possibly rotate clockwise simultaneously.
- Thereafter, the fitting must be replaced.

If the fitting is broken in the gun adapter, WAGNER Service must be contacted.

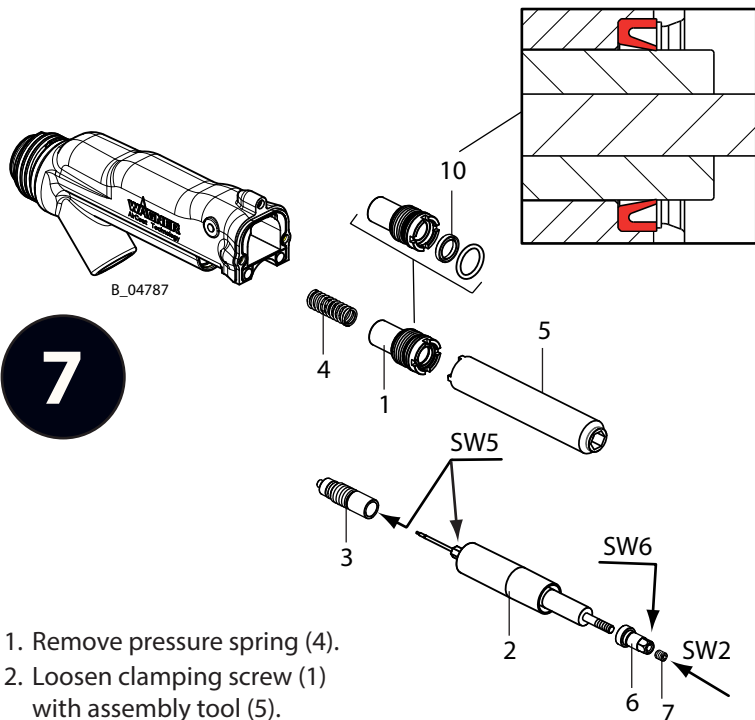


OPERATING MANUAL

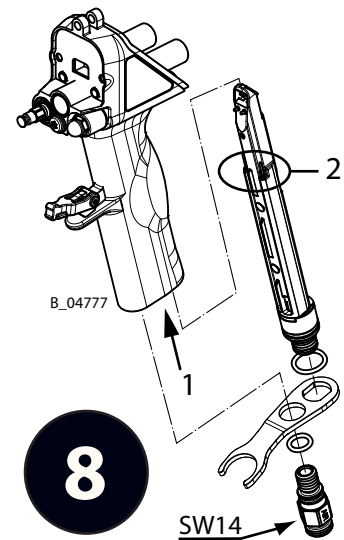


O-ring (8): 1. Use screwdriver no. 1 to press under the O-ring.
2. Lever up the O-ring and remove it.

Air distribution (9): 1. Locate the start of the thread for recessed internal threading.
2. Lever 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 undo it on all sides.



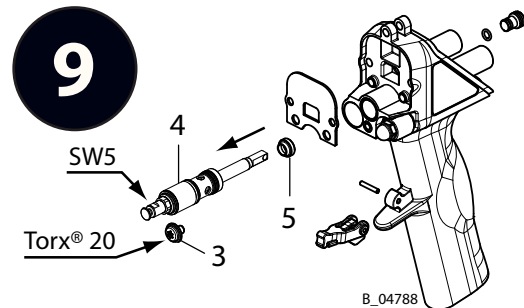
1. Remove pressure spring (4).
2. Loosen clamping screw (1) with assembly tool (5).
3. Unscrew valve rod unit (2, 6, 7). The packing (3) is also unscrewed and removed.
4. **Only as required:** Remove rod seal (10). Do not damage the housing in the process.



8

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

1. Loosen the oval 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, for example.
3. **Only as required:**
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

ATTENTION

Please note:

- All reusable parts (except for the electrical components) should be cleaned thoroughly using a suitable cleaning agent.
- 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). Clean and mount wearing gloves.
- 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 unit.
- Defective parts, O-rings and seal sets must always be re-placed.



WARNING

Incompatibility of cleaning agent and working medium!
Risk of explosion and danger of poisoning by toxic gases.

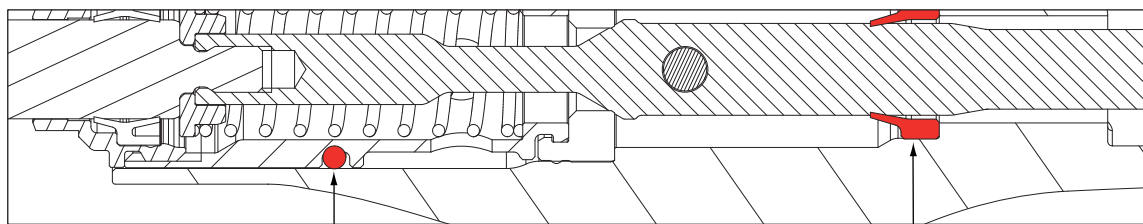
- Examine the compatibility of the cleaning agents and working media on the basis of the safety data sheets.

In Chapter 14 the part numbers for gun spare parts can be found as well as for wearing parts such as seals.

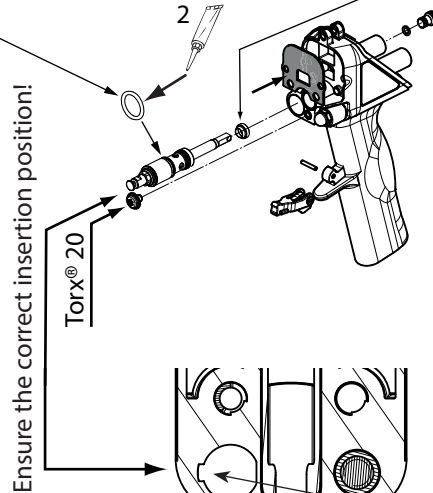
10.4.4 ASSEMBLING THE SPRAY GUN

Mounting materials		
Pos	Order No.	Description
2 *	9992698	Vaseline white PHHV II
4	9992511	Loctite® 243

* Use Vaseline sparingly

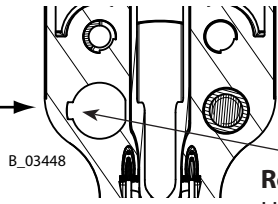
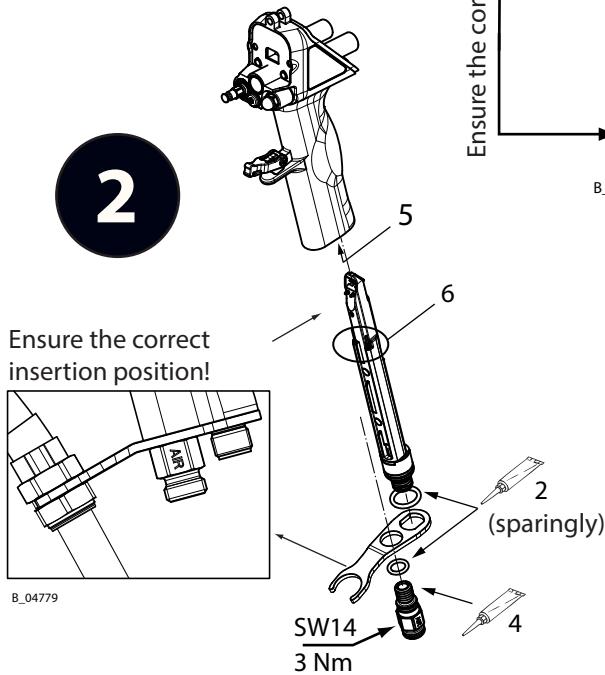


1



Only as required
(if the seal was removed):
press in using handle
seal assembly tool
(Order No. 2342334,
not included in scope of
delivery)

2



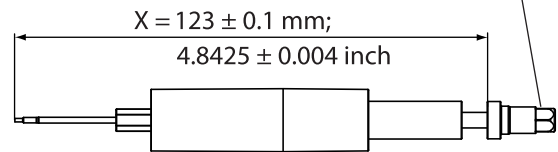
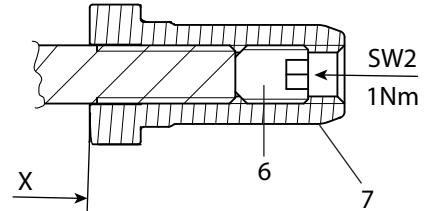
Recess for pin
Hold the air valve so that
the pin points to the left.

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.

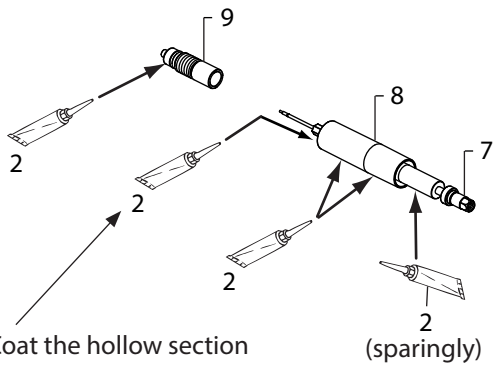
3

Valve rod unit

Set length adjusting measure X with withdrawal nut (7) and then fasten the threaded pin (6) using an Allen wrench SW2.



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Coat the hollow section with a brush.
Note: Avoid the pin and hexagon.

Wear gloves!

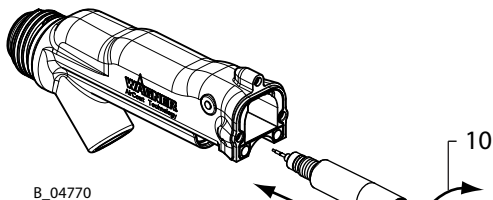
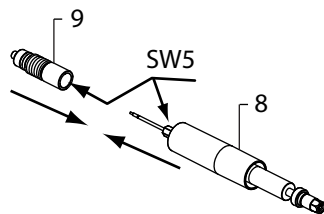
The outside thread of the packing (9) must be free of lacquer.

Valve rod unit (8) and packing (9):

- grease,
- slide together,
- screw together (10).

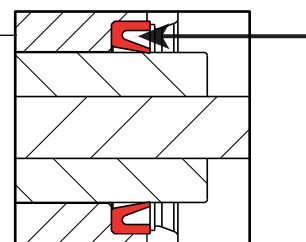
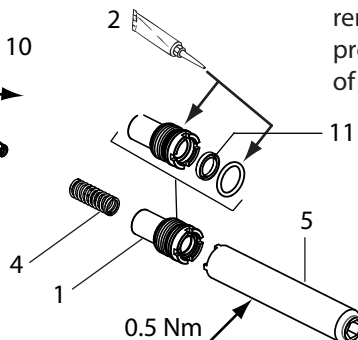
Grease clamping screw (1) and mount using assembly tool (5).

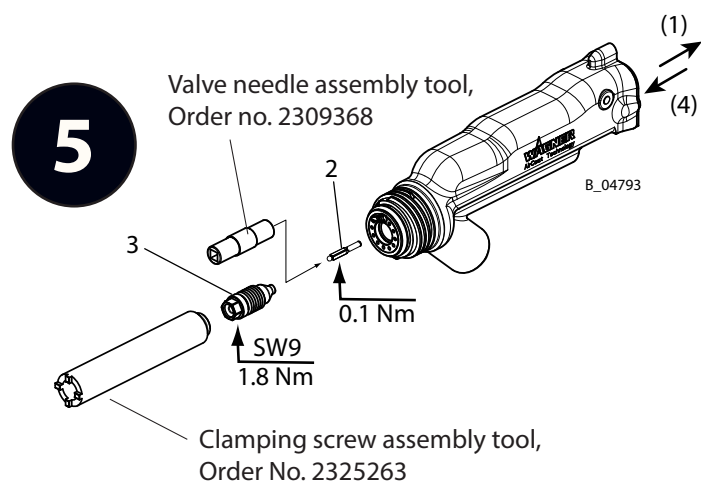
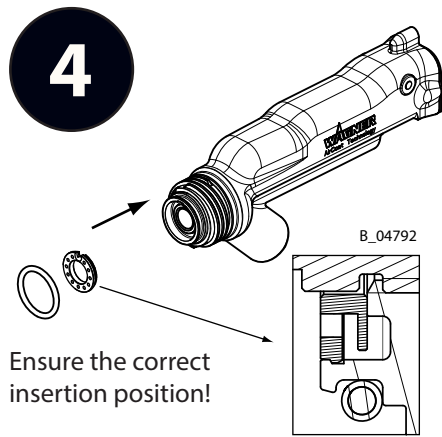
Insert spring (4).



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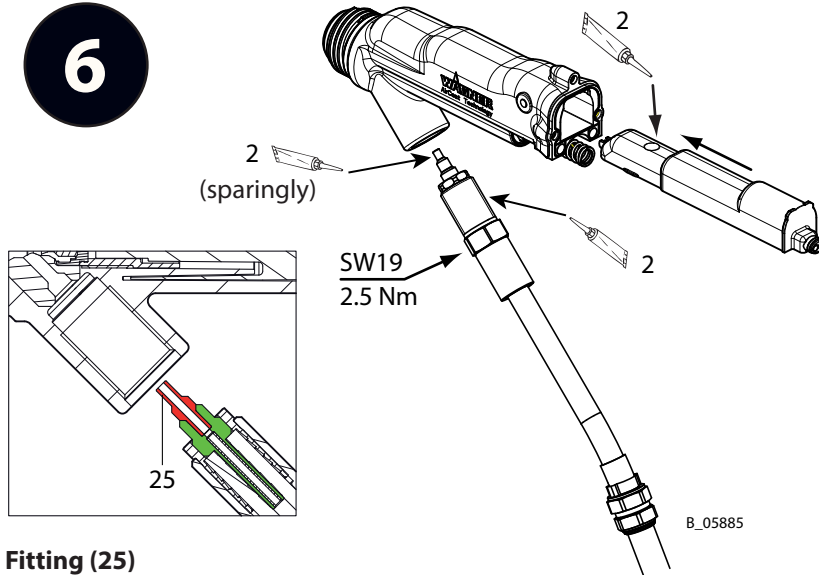
Only as required (if the rod seal was removed): Press in rod seal (11). In the process, press only on the lowest area of the rod seal.





1. Move the valve rod to the rear position so that the sealing area does not become scratched (1).
2. Slightly tighten AC valve tip (2) by hand (3 fingers) using an assembly tool.
3. Use assembly tool, socket or ring spanner (no open-end wrench) to tighten the valve housing (3).
4. Slide the valve rod to the forward position (at the valve seat) (4).

6



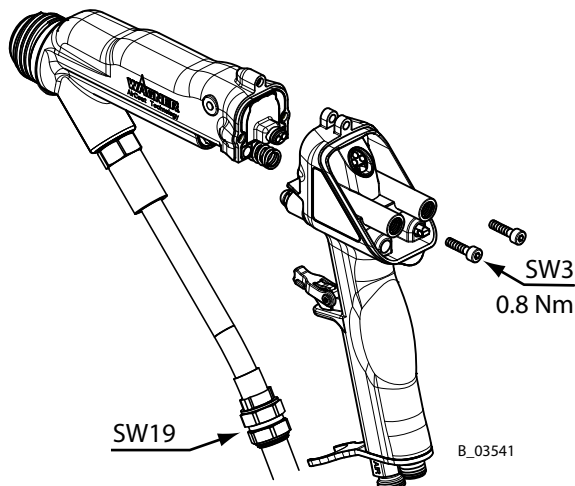
Clean and degrease the inside of the adapter and the cascade, then grease the cascade surface with Vaseline.

Fitting (25)

Before assembling the product hose, check that no fitting (25) is in the gun adapter!
Check the fitting for damage and replace if necessary (Order No. 2338853).

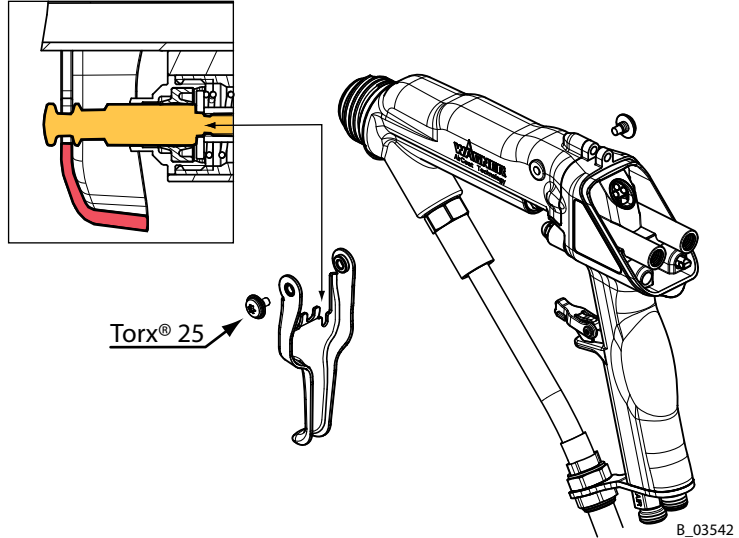
7

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



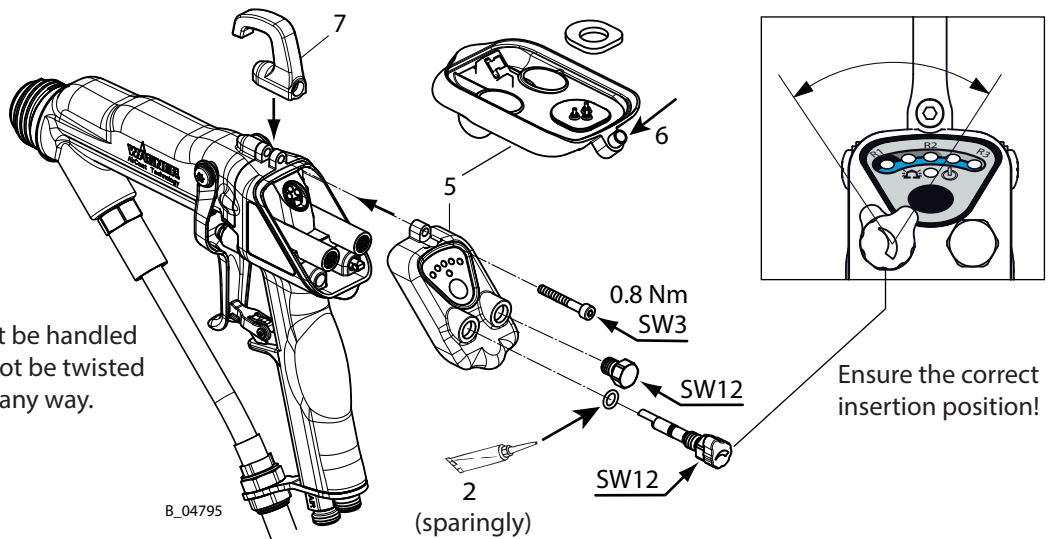
8

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



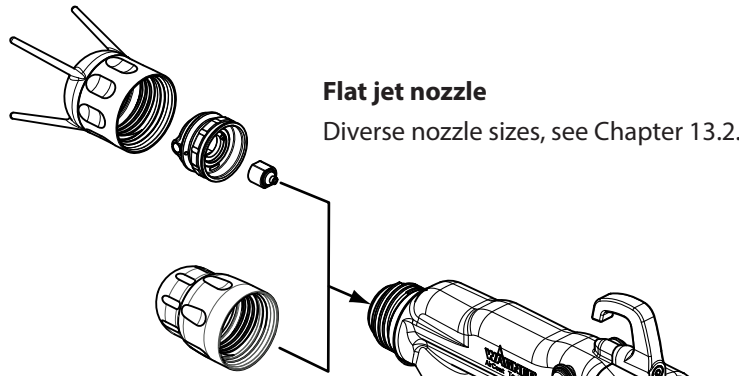
9

Cover (5)
The cover must be handled carefully and not be twisted or distorted in any way.



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.

10

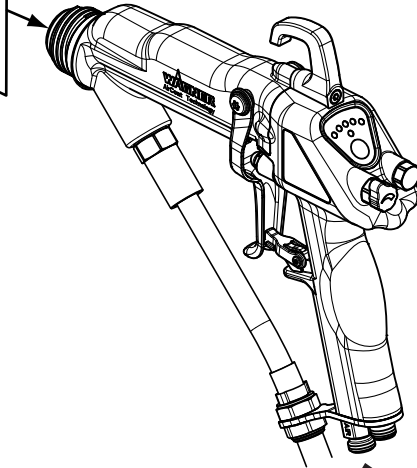
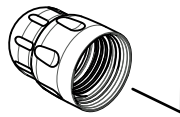


Flat jet nozzle

Diverse nozzle sizes, see Chapter 13.2.

Round jet nozzle

Diverse nozzle sizes, see Chapter 13.1.



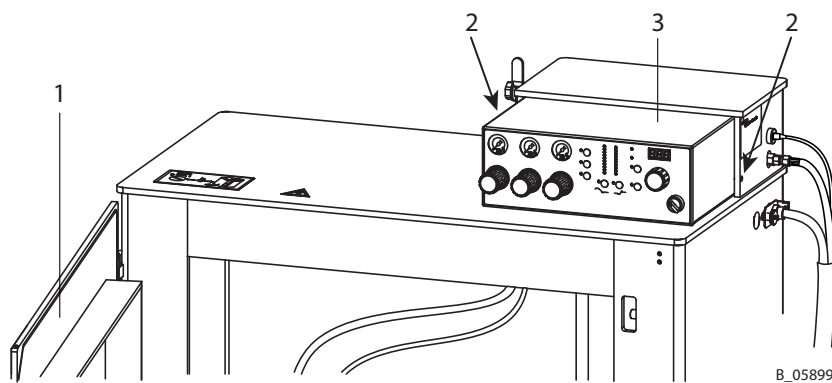
B_03544

Air hose

When screwing on the air hose, a second open-ended/ring spanner must be used for bracing.

10.5 DISASSEMBLING VM 5020W CONTROL UNIT

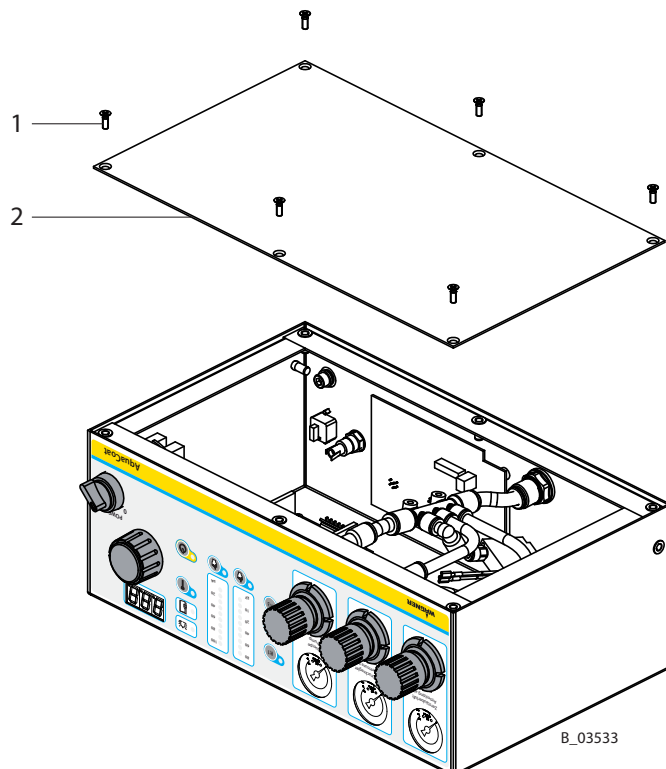
1. Switch off control unit and open cabinet door (1).
2. Lock the compressed air supply and decompress the system.
3. Loosen and unscrew screw (2).
4. Carefully remove control unit (3) forwards. Pay attention to connecting lines and connecting cables at the back of the control unit!



B_05899

10.6 OPENING THE CONTROL UNIT

1. Dismount the control unit from the AquaCoat system (see Chapter 10.5).
 2. Place control unit on a suitable surface.
 3. Loosen and unscrew screw (1).
 4. Remove cover (2) from housing.
 5. When the repair is complete, replace the cover (2) on the housing and fasten with the screws (1).
- Attention: Connect the grounding cable to the cover.



B_03533

11 FUNCTION TEST AFTER THE REPAIR

After all repairs, the AquaCoat system 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 staff.

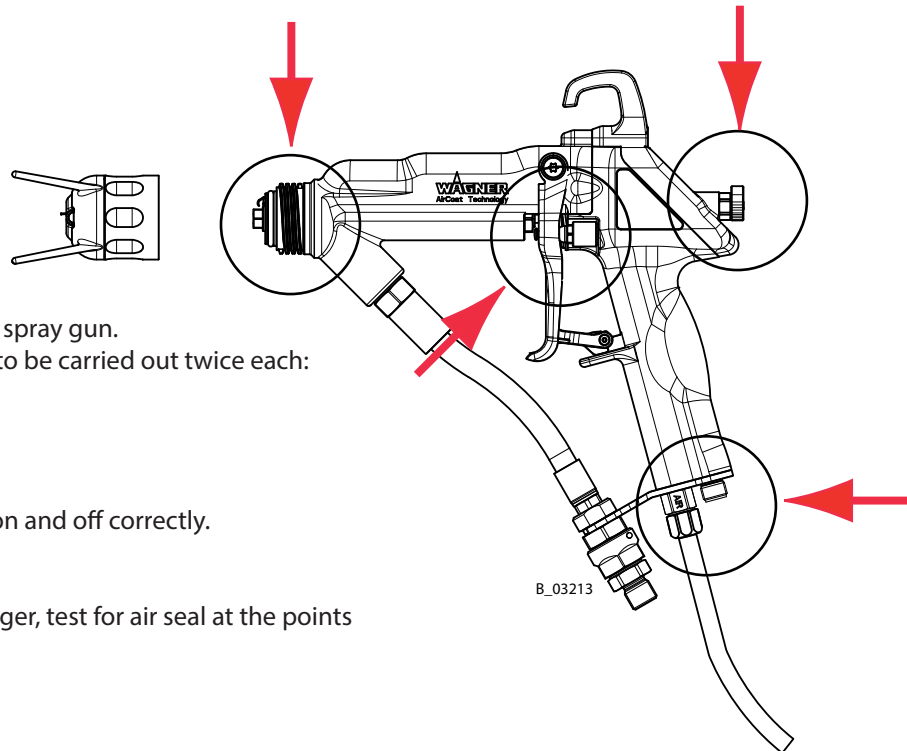
The system must not be filled with liquid for this function check. Empty pump in accordance with pump's operating manual.

Activities	Aid tools
1. Check connections <ul style="list-style-type: none"> - Check all product screw connections. - Check all air connections. - All electrical cables must be firmly secured. 	Visual check
"Safety-relevant check" 2. Check grounding connection <ul style="list-style-type: none"> - Measure resistance between grounding terminal and: <ul style="list-style-type: none"> - Handle of the gun (metal connections) - Pneumatic door switch - Product hose connection - Grounding switch → Set value: respective maximum 10 Ω. - Check visually the black grounding band in the cabinet door including the black grounding bolt. 	Multimeter
"Safety-relevant check" 3. Check potential equalization <ul style="list-style-type: none"> - Measure resistance between leakage resistance and: <ul style="list-style-type: none"> - Grounding point - Pump support - Potential equalization line at the pump - Connection terminal for product tank → Set value: respective maximum 10 Ω. 	Multimeter
4. Connect the device <ul style="list-style-type: none"> - Connect grounding cable. - Main tap closed. - Connect air supply (mains pressure 0.8 MPa; 8 bar; 116 psi). - Connect the mains. 	
5. Adjust alarm horn (only for level indication with alarm horn) <ul style="list-style-type: none"> - Loosen control unit and remove from mounting (see Chapter 10.5). - Switch air on. - Set alarm horn regulator to normal volume. - Switch air off and remount control unit in cabinet. 	Hexagon socket wrench 3 mm; 0.12 inch

Activities	Aid tools
<p>6. Check door switch</p> <ul style="list-style-type: none"> - Open the cabinet door. - Switch on the control unit. - Switch air on. - Actuate the trigger on the spray gun. → Electrical door switch test: <ul style="list-style-type: none"> - The high voltage must remain switched off. - The control unit displays error E30. → Pneumatic door switch test: <ul style="list-style-type: none"> - The grounding switch must remain closed (below). 	
<p>7. Test grounding switch</p> <ul style="list-style-type: none"> - Close cabinet door. - Air tap closed. - Remove gun → The "High-voltage" LED illuminates. - Voltage indicator 0 kV. - Current 80-100 µA. 	
<p>8. Test door lock</p> <ul style="list-style-type: none"> - Main switch off. - Air on. - Main switch on → Door locked. - Main switch off → Door unlocked. 	
<p>9. Test spraying</p> <ul style="list-style-type: none"> - Close cabinet door. - Main switch on. - Set high voltage to 5 kV. - Remove gun. - With the gun removed, gradually increase the high voltage up to maximum voltage (70 kV). <ul style="list-style-type: none"> → The spray current must not exceed 50 µA. - Main switch off. 	

11.1 FUNCTION TESTS FOR SPRAY GUN

11.1.1 AIR TEST



Connect test or air hose to spray gun.

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.



11.1.2 PRODUCT PRESSURE TEST

Connect high-pressure 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 25 MPa; 250 bar; 3,626 psi. Increase the pressure gradually while doing so.

Observe the following gun components:

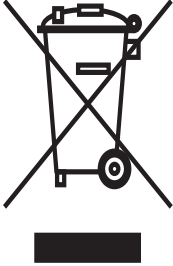
Product connection, nozzle body, product valve (no post-spraying).

	 DANGER
	<p>Exploding gas / air mixture! Danger to life from flying parts and burns.</p> <ul style="list-style-type: none"> → Never spray into a closed tank. → Ground the tank.

11.1.3 TEST OF SPRAY PATTERN

Check spray pattern in accordance with Chapter 7.3.2.

12 DISPOSAL

	<p style="text-align: center;">NOTICE</p> <p>Do not dispose of used electrical equipment with household refuse!</p> <p>In accordance with European Directive 2002/96/EC on the disposal of used electrical equipment and its implementation in national law, this product may not be disposed of with the household refuse, but must be recycled in an environmentally correct manner.</p> <p>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 to arrange this.</p>
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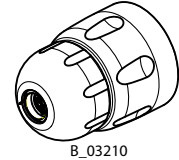
Consumable products

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

13 ACCESSORIES

13.1 ROUND SPRAY NOZZLES

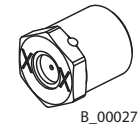
Order No.	Designation
2309902	ACWR 5000 round jet nozzle adapter (with nozzle spanner, without AC round jet nozzle insert) For details, see Chapter 14.5.2



13.1.1 AIRCOAT ROUND JET NOZZLE INSERTS

The round jet nozzles are especially suited to spray pipes, profiles and complex work pieces.

Order No.	Marking	Jet width ** mm; inch	Recommended gun filter
132720	11	approx. 250; 10	red (200 meshes)
132721	12	approx. 250; 10	
132722	13	approx. 250; 10	
132723	14	approx. 250; 10	
132724 *	15	approx. 250; 10	yellow (100 meshes)
132725	16	approx. 250; 10	
132726	17	approx. 250; 10	
132727	18	approx. 250; 10	white (50 meshes)
132728	19	approx. 250; 10	
132729	20	approx. 250; 10	
132730	21	approx. 250; 10	
132731	22	approx. 250; 10	

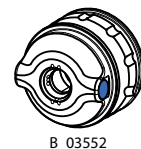
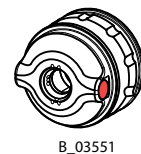


* Standard version

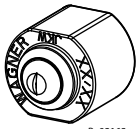
** Jet width at approx. 30 cm; 11.8 inches of distance and 10 MPa; 100 bar; 1,450 psi of pressure.


13.2 ACF AIR CAPS (FLAT JET)

Order No.	Designation
2309901	ACWF 5000 air cap - LV, complete, suitable for low-viscosity products (marked red)
2314204	ACWF 5000 air cap - HV, complete, suitable for high-viscosity products (marked blue)

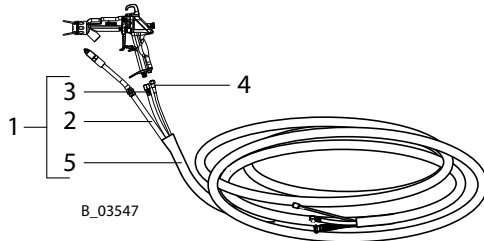


13.2.1 ACF5000 AIRCOAT FLAT JET NOZZLES

Order No.	Marking	Bore \varnothing mm; inch	Spray angle	Application
				 B 03163
395107 395207 395407	07/10 07/20 07/40	0.18; 0.007	10° 20° 40°	Natural lacquer
395109 395209 395309 395409 395509 395609	09/10 09/20 09/30 09/40 09/50 09/60	0.23; 0.009	10° 20° 30° 40° 50° 60°	Clear lacquer Oils
395111 395211 395311 395411 395511 395611 395811	11/10 11/20 11/30 11/40 11/50 11/60 11/80	0.28; 0.011	10° 20° 30° 40° 50° 60° 80°	Synthetic resin lacquer PVC lacquers
395113 395213 395313 395413 395513 395613 395813	13/10 13/20 13/30 13/40 13/50 13/60 13/80	0.33; 0.013	10° 20° 30° 40° 50° 60° 80°	Lacquers, undercoat Primer Filler
395115 395215 395315 395415 395515 395615 395815	15/10 15/20 15/30 15/40 15/50 15/60 15/80	0.38; 0.015	10° 20° 30° 40° 50° 60° 80°	Filler Rust proofing paints
395217 395317 395417 395517 395617 395817	17/20 17/30 17/40 17/50 17/60 17/80	0.43; 0.017	20° 30° 40° 50° 60° 80°	Rust proofing paints Latex paints

Order No.	Marking	Bore \varnothing mm; inch	Spray angle	Application
				 B 03163
395219	19/20	0.48; 0.019	20°	Rust proofing paints Latex paints
395319	19/30		30°	
395419	19/40		40°	
395419	19/50		50°	
395619	19/60		60°	
395819	19/80		80°	
395221	21/20	0.53; 0.021	20°	Mica paints Zinc rich paints Rust proofing paints Glue paints
395421	21/40		40°	
395521	21/50		50°	
395621	21/60		60°	
395821	21/80		80°	
395423	23/40	0.58; 0.023	40°	
395623	23/60		60°	
395823	23/80		80°	
395425	25/40	0.64; 0.025	40°	
395625	25/60		60°	
395825	25/80		80°	
395427	27/40	0.69; 0.027	40°	
395627	27/60		60°	
395827	27/80		80°	
395429	29/40	0.75; 0.029	40°	
395629	29/60		60°	
395829	29/80		80°	
395431	31/40	0.79; 0.031	40°	
395631	31/60		60°	
395831	31/80		80°	
395435	35/40	0.90; 0.035	40°	
395635	35/60		60°	
395835	35/80		80°	

13.3 HOSES AND GUN CABLES


Note:
Product hose

Inside diameter	DN 4
Product	FEP
Nominal pressure	25 MPa; 250 bar; 3,626 psi

7.5 m; 24.6 ft

Pos	Stk	Order No.	Designation
1	1	2339187	Hose set, GM 5000EACW (7.5 m; 24.6 ft)

Consists of:

2	1	2309468	Product hose EACW, complete (7.5 m; 24.6 ft)
3	1	2339148	Air hose, complete (7.5 m; 24.6 ft)
4	1	2339156	Gun cable, GM 5000E (7.5 m; 24.6 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	2339188	Hose set, GM 5000EACW (10 m; 32.81 ft)

Consists of:

2	1	2309887	Product hose EACW, complete (10 m; 32.81 ft)
3	1	2339149	Air hose, complete (10 m; 32.81 ft)
4	1	2339157	Gun cable, GM 5000E (10 m; 32.81 ft)
5	10.5 m	3676437	Protective hose mesh, PP30 (10.5 m; 34.4 ft)

15 m; 49.2 ft

Pos	Stk	Order No.	Designation
1	1	2339189	Hose set, GM 5000EACW (15 m; 49.2 ft)

Consists of:

2	1	2309888	Product hose EACW, complete (15 m; 49.2 ft)
3	1	2339150	Air hose, complete (15 m; 49.2 ft)
4	1	2339158	Gun cable, GM 5000E (15 m; 49.2 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	2339190	Hose set, GM 5000EACW (20 m; 65.62 ft)

Consists of:

2	1	2309889	Product hose EACW, complete (20 m; 65.62 ft)
3	1	2339151	Air hose, complete (20 m; 65.62 ft)
4	1	2339159	Gun cable, GM 5000E (20 m; 65.62 ft)
5	20.5 m	3676437	Protective hose mesh, PP30 (20.5 m; 67.2 ft)

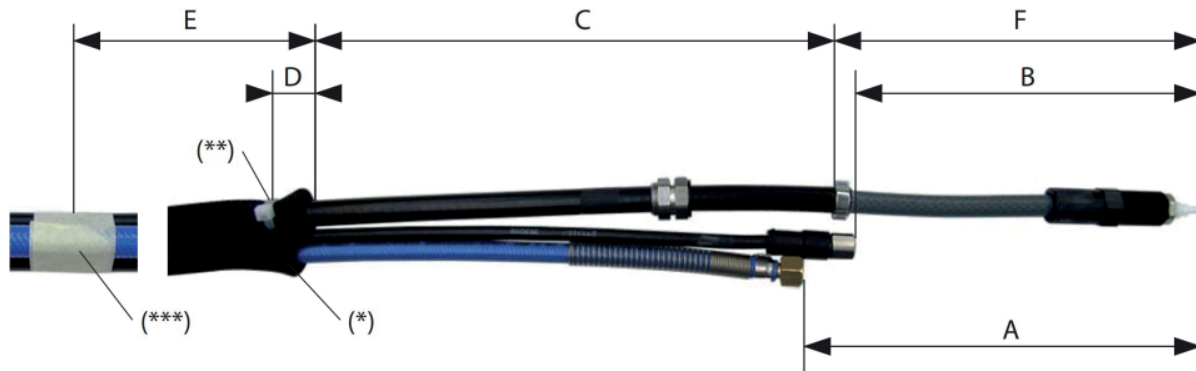
Pump side



Hose colors

Gray: Product hose
Blue: Air hose

Gun side



(*) Heat and fuse protective hose ends and bend inwards by approximately 5 cm; 2 inches.

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

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

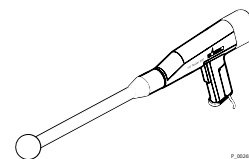
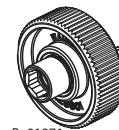
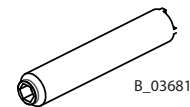
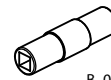
Note: Cable ties are not permitted in areas "C" and "E", except ().**

	A *	B *	C	D	E	F *
mm	206 +/- 2	177 +/- 2	300 +/-10	20 +/-10	1,500 +100	188 +/- 1
inch	8.11 +/- 0.08	6.97 +/- 0.08	11.8 +/- 0.4	0.8 +/- 0.4	59 + 4	7.40 +/- 0.04

* Use an assembly gauge for distances A, B and F!

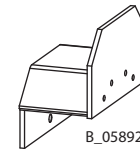
13.4 MISCELLANEOUS

Order No.	Designation
353702	High-voltage oil (10 ml; 10 cc) (for product hose → assembly)
2319653	Protective gun coating
2309368	Valve needle assembly tool
2325263	Clamping screw assembly tool
128901	Nozzle spanner, ACR
2324766	Swivel joint air
259010	High-voltage tester, HV 200 N
999080	Wet film thickness gauge
50342	Viscosity cup DIN/4 (4 mm; 0.16 inches)
241270	Mains cable Europe (Schuko) 3 m; 9.8 ft
2330628	Mains cable Europe (Schuko) 10 m; 32.8 ft
241271	Mains cable Switzerland 3 m; 9.8 ft
264626	Mains cable USA 2 m; 6.6 ft
264625	Mains cable Japan 3 m; 9.8 ft





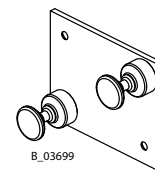
Order No.	Designation
353050	Hose holder
2359097	Gun holder. For assembly on hose holder 353050.
2326485	Wall mount, GM 5000E (left/right)
2359029	Underframe, 5020 with rolls
2364394	Underframe, 5010 with rolls
2364791	Tub insert, 5020
2364790	Tub insert, 5010
353053	Level monitor, incl. alarm horn
353054	Drum cover, D350 without agitator
353055	Drum cover, D350 with agitator



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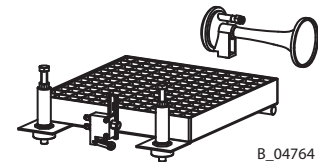
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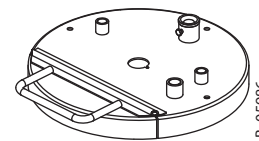
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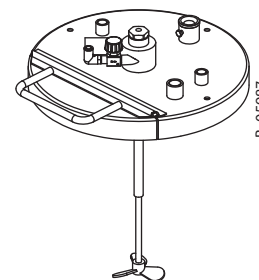
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14 SPARE PARTS

14.1 HOW CAN SPARE PARTS BE ORDERED?

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

Order number, designation and quantity

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

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

- Address for the invoice
- Address for delivery
- Name of the person to be contacted in the event of any queries
- Type of delivery (normal mail, express delivery, air freight, courier etc.)



Identification in spare parts lists.

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

- ◆ Wearing parts

Note: These parts are not covered by warranty terms.

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

	 DANGER
<p>Incorrect maintenance/repair! Danger to life and equipment damage.</p> <ul style="list-style-type: none"> → Only a WAGNER service center or a suitably trained person may carry out repairs and replace parts. → Only repair and replace parts that are listed in the "Spare parts" chapter and that are assigned to the unit. → Before all work on the device and in the event of work interruptions: <ul style="list-style-type: none"> - Switch off the energy supply and the compressed air supply. - Relieve the pressure from the spray gun and device. - Secure the spray gun against actuation. → Observe the operating and service manual for all work. 	

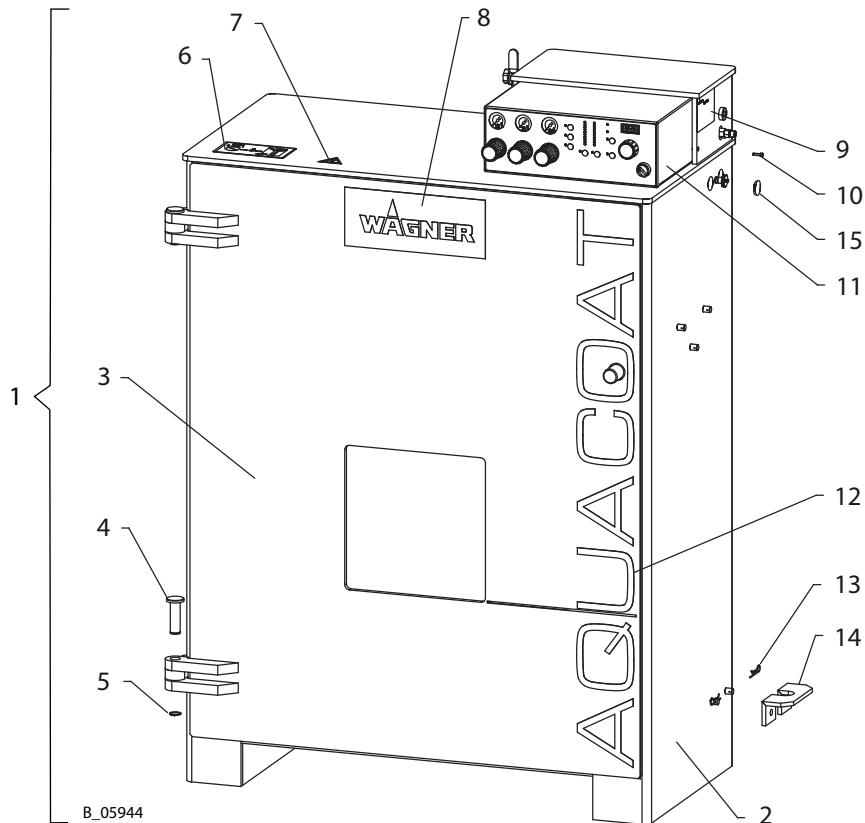
14.2 AQUACOAT BASIC DEVICE

AquaCoat basic sets: see Chapter 5.4.1

Spare parts list for AquaCoat basic device

Pos	K	Stk	Designation	5020 Order No.	5020G Order No.	5010 Order No.	5010G Order No.
1		1	Manual basic device, AquaCoat	2363292	2363734	2363401	2363736
2		1	Cabinet, AquaCoat	--		--	
3		1	Cabinet door, AquaCoat	2367567	2367570	2367569	2367571
4		2	Hinge bolt	2358921			
5		2	Securing ring	9922511			
6		1	Instruction label, AquaCoat 5020	2359298			
7		1	High-voltage warning sign, 50 mm	9952558			
8		1	WAGNER label	--			
9		1	Type plate, AquaCoat	--			
10		2	Hexagon socket cylinder head screw	9900308			
11		1	Control unit, VM 5020W	2362954			
12		1	Label AquaCoat	--			
13		2	Connection fields	9935049			
14		1	Hose holder, below	2358373			
15		1	Plug	R204.07			

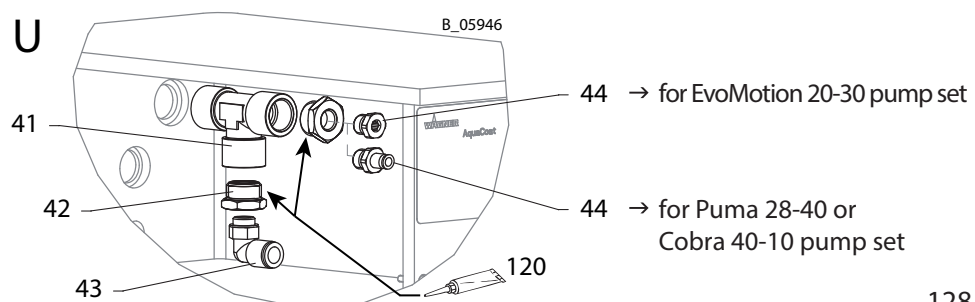
◆ = Wearing parts

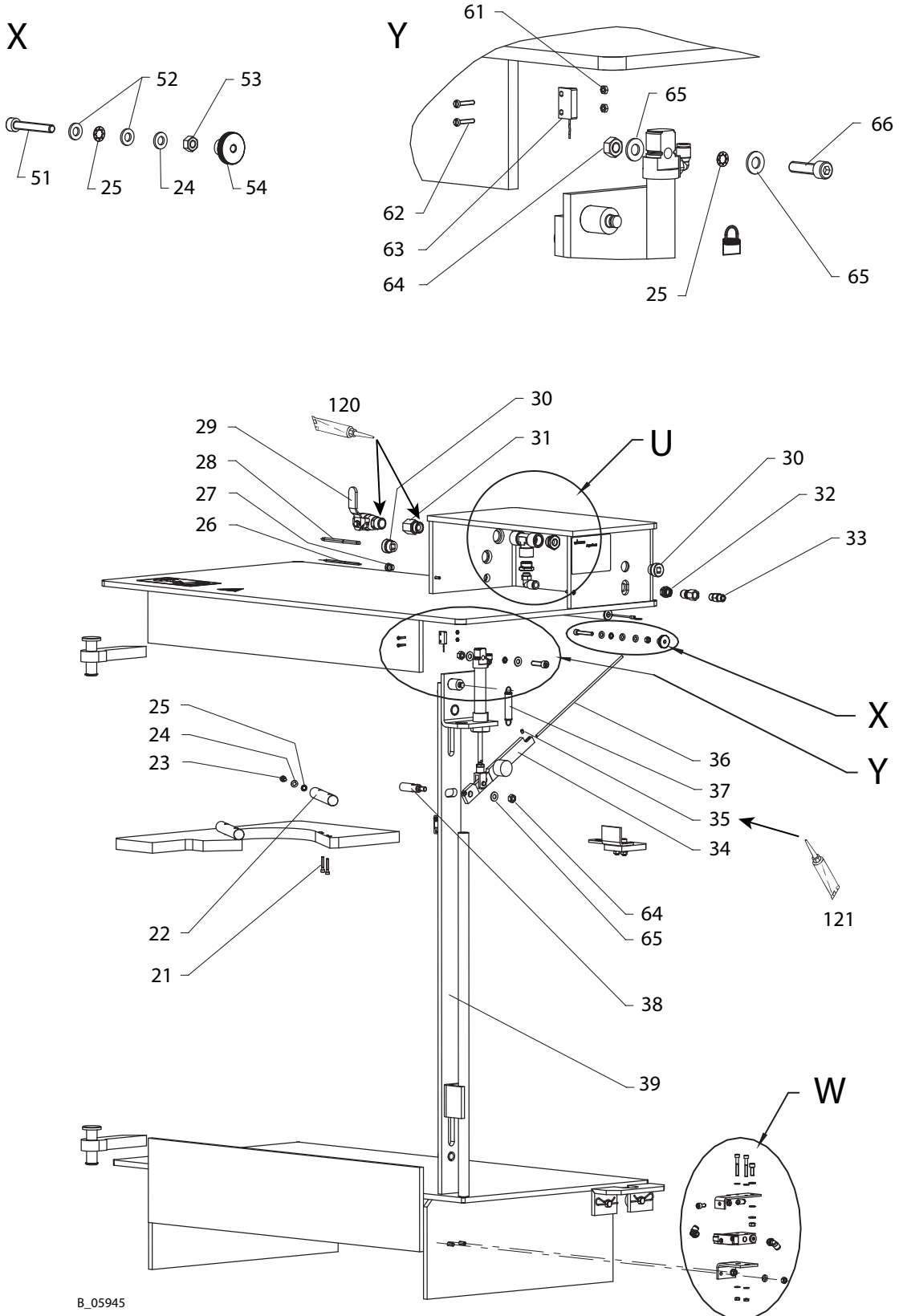


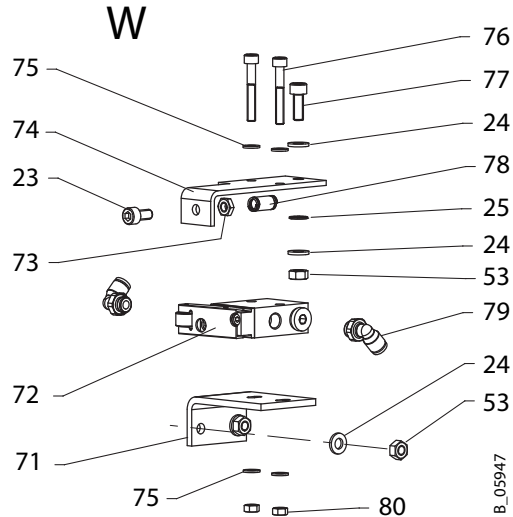
B_05944

Spare parts list for AquaCoat basic device				5020	5020G	5010	5010G
Pos	K	Stk	Designation	Order No.	Order No.	Order No.	Order No.
21		2	Hexagon socket cylinder head screw			9900365	
22		1	Pump support			2362723	
23		2	Hexagon socket cylinder head screw			9900346	
24		12	Washer			9920103	
25		6	Lock washer internal teeth			9922109	
26		1	Ground cable, 10 m			130215	
27		1	Strain relief grommet, DM4			9999438	
28		1	Mains cable (see Chapter 13.4)			--	
29	◆	1	Ball valve			9991523	
30		2	Strain relief grommet, DM7			9999437	
31		1	Fitting, G1/2 - G1/2A			9999440	
32		1	Straight hermetic plug connection, G inside			9992741	
33		1	Double fitting, G1/4-G1/4			9994627	
34		1	Interlock lever			2358914	
35		2	Grub screw			9901108	
36		1	Spring rod			2366942	
37	◆	1	Tension spring			2362850	
38		1	Driving pins			2358916	
39		1	Pushrod, welded			2358913	
41		1	Screw connector T			9999109	
42		2	Reducing fitting, A-G1/2 - I-G1/4			9985685	
43		1	Male stud elbow, 10-1/4			9999208	
44		1	Threaded plug, G1/4" (EvoMotion)			9998274	
			Screw-in fitting, 6-1/4 (Puma/Cobra)			9992742	
51		1	Hexagon socket cylinder head screw			9907050	
52		2	Washer			9920118	
53		6	Hexagon nut			9910102	
54		1	High knurled nut			9910522	
61		2	Hexagon nut			9910125	
62		2	Socket cap screw with slit			2311709	
63		1	Door switch, complete			2363036	
64		2	Hexagon nut			9910107	
65		3	Washer			9920102	
66		1	Hexagon socket cylinder head screw			9907079	
120		1	Loctite® 542			9992831	
121		1	Loctite® 243			9992511	

◆ = Wearing parts



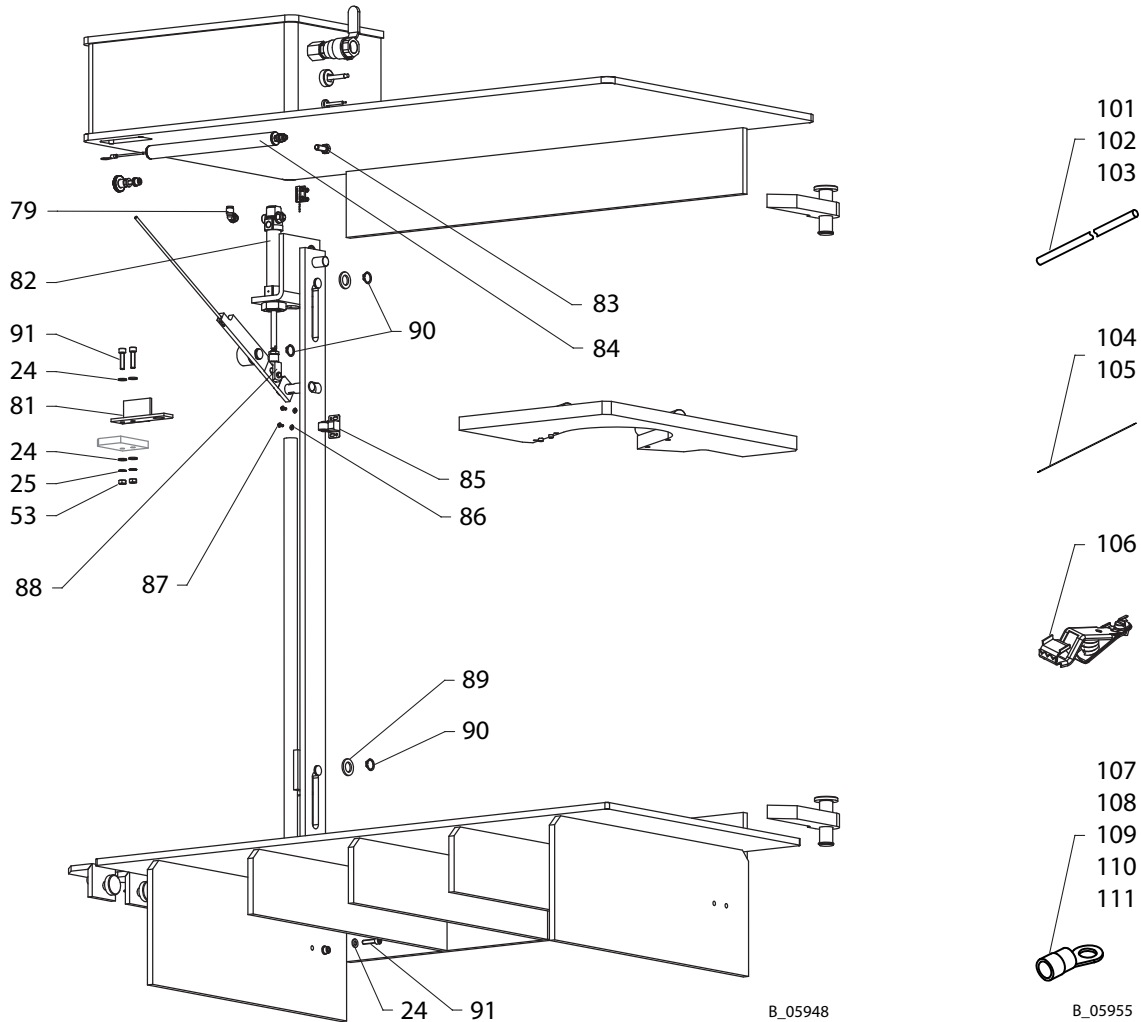




Spare parts list for AquaCoat basic device

Pos	K	Stk	Designation	5020	5020G	5010	5010G
				Order No.	Order No.	Order No.	Order No.
71		1	Valve holder			2362721	
72		1	Roller lever valve, RS-3-1/8			2362775	
73		1	Hexagon nut, 0.5 d			9911005	
74		1	Grounding plate			2362722	
75		4	Washer			9920101	
76		2	Hexagon socket cylinder head screw			9907001	
77		1	Hexagon socket cylinder head screw			9900325	
78	◆	1	Pressure spring, 1.0x8.0 L=17			123357	
79		3	Male stud elbow, 6-1/8 Ex			9998110	
80		2	Hexagon nut			9910106	
81		1	Shorting member			2358920	
82	◆	1	Standard cylinder, ESNU-20-50-P-A			2359249	
83		1	Hexagon screw without shaft			9907222	
84		1	AquaCoat resistor, 3 GOhm			353864	
85		1	Roll snapper			2362973	
86		2	Washer			9920114	
87		2	Pt-screws			9905504	
88		1	Rod clevis, SG-M8			2359255	
89		2	Washer			2358919	
90		3	Securing ring			9998144	
91		4	Hexagon socket cylinder head screw			9900315	
120		1	Loctite® 542			9992831	
121		1	Loctite® 243			9992511	

◆ = Wearing parts



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Spare parts list for AquaCoat basic device

Pos	K	Stk	Designation	5020	5020G	5010	5010G
				Order No.	Order No.	Order No.	Order No.
101		2 m	Hose, black Ø 10 mm; 0.39 inch		9987076		
102		1.9 m	Hose, black Ø 8 mm; 0.32 inch		9982078		
103		3.7 m	Hose, black Ø 6 mm; 0.24 inch		9982079		
104		3.4 m	Strand, yellow/green		9953082		
105		4.2 m	Strand, orange		9953415		
106		1	Battery clip		9950585		
107		1	Cable lug, 0.5–1.0 mm ² M4		9950606		
108		1	Cable lug, 0.5–1.0 mm ² M5		9950656		
109		8	Cable lug, 0.5–1.0 mm ² M6		9950616		
110		5	Cable lug, 1.5–2.5 mm ² M6		9955403		
111		1	Cable lug, 1.5–2.5 mm ² M8		9950646		
120		1	Loctite® 542		9992831		

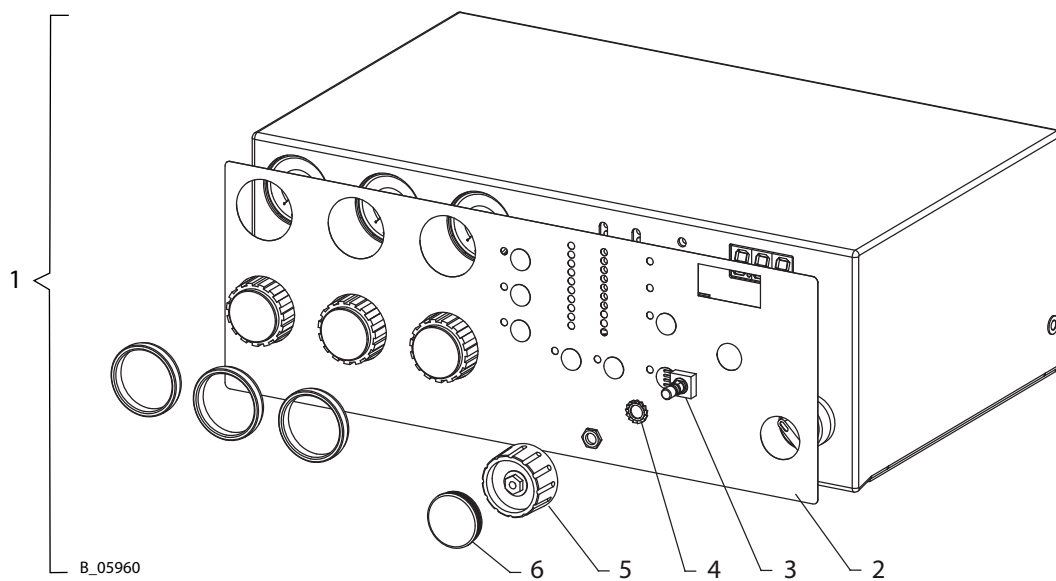
◆ = Wearing parts

14.2.1 VM 5020W CONTROL UNIT

Spare parts list for VM 5020W control unit

Pos	K	Stk	Order No.	Designation
1		1	2362954	Control unit, VM 5020W
2		1	--	Front panel, VM 5000W
3		1	2304459	Incremental encoder, type E33
4		1	2329441	Serrated lock washer, externally toothed
5		1	2304461	Rotary knob
6		1	2304462	Cover

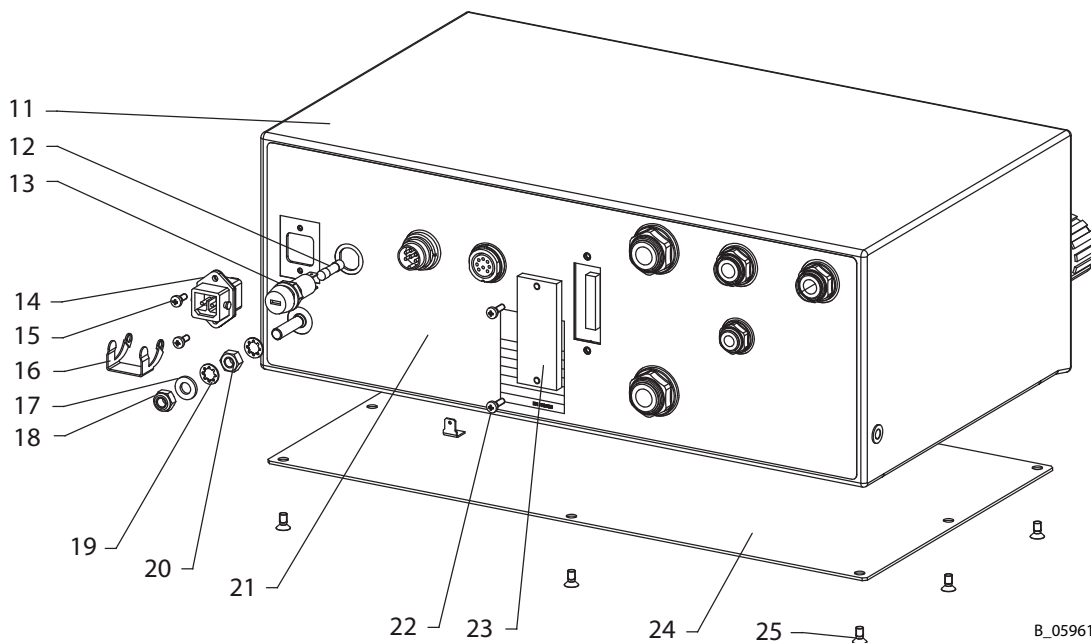
◆ = Wearing parts



Spare parts list for VM 5020W control unit

Pos	K	Stk	Order No.	Designation
11		1	--	Housing, VM 5020W
12		1	9951117	Delay-action fuse 1.0 AT
13		1	2348276	Fuse socket, FPG1 for 5x20 mm glass
14		1	--	Cable loom, VM 5020W
15		2	9903306	Recessed head raised fillister head screw, H form
16		1	9950330	Safety clip for device sockets
17		1	9920118	Washer
18		1	9910204	Self-locking hexagon nut
19		2	9922109	Lock washer internal teeth
20		1	9910102	Hexagon nut
21		1	--	Back sheet, VM 5020W
22		2	9903311	Recessed head raised fillister head screw, H form
23		1	241323	Cover, white
24		1	2353727	Cover
25		8	2306405	Recessed countersunk flat head screw, Z form

◆ = Wearing parts

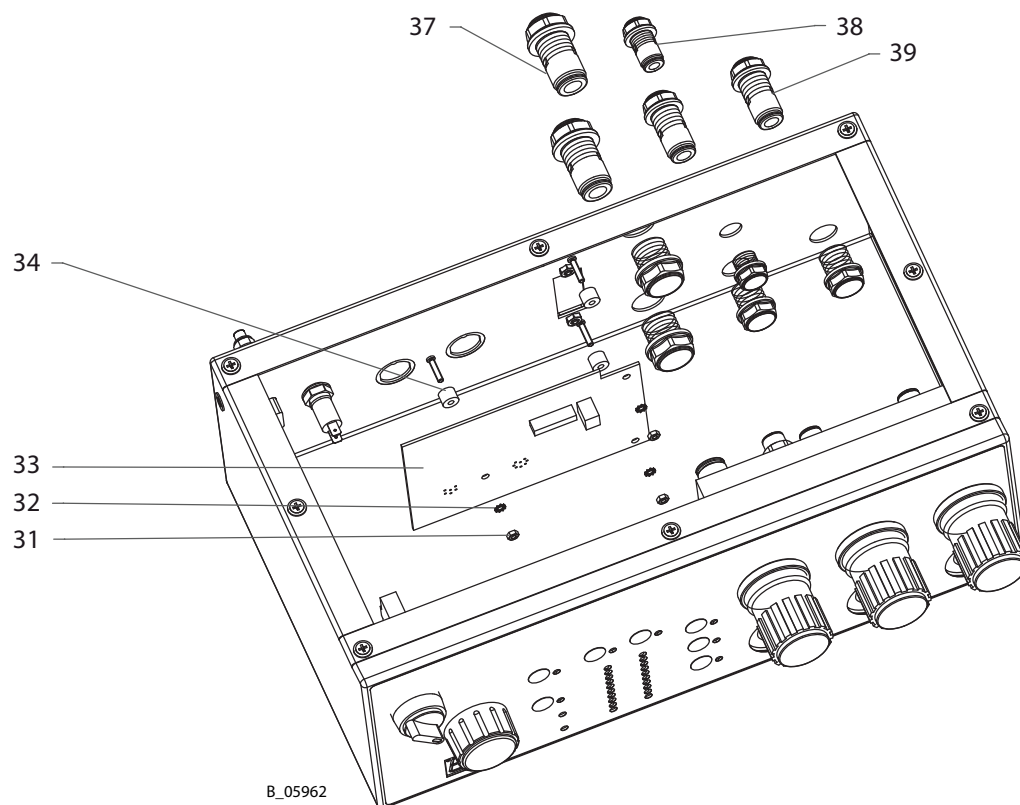


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Spare parts list for VM 5020W control unit

Pos	K	Stk	Order No.	Designation
31		3	9910103	Hexagon nut
32		7	9922011	Serrated lock washer, externally toothed
33		1	2365967	Print VM 5020W rear panel, complete Including connector plug and socket
34		3	263400	Distance bush
37		2	9998769	Straight hermetic plug connection, D=10
38		1	9998614	Straight hermetic plug connection, D = 6
39		2	9998615	Straight hermetic plug connection, D = 8

◆ = Wearing parts

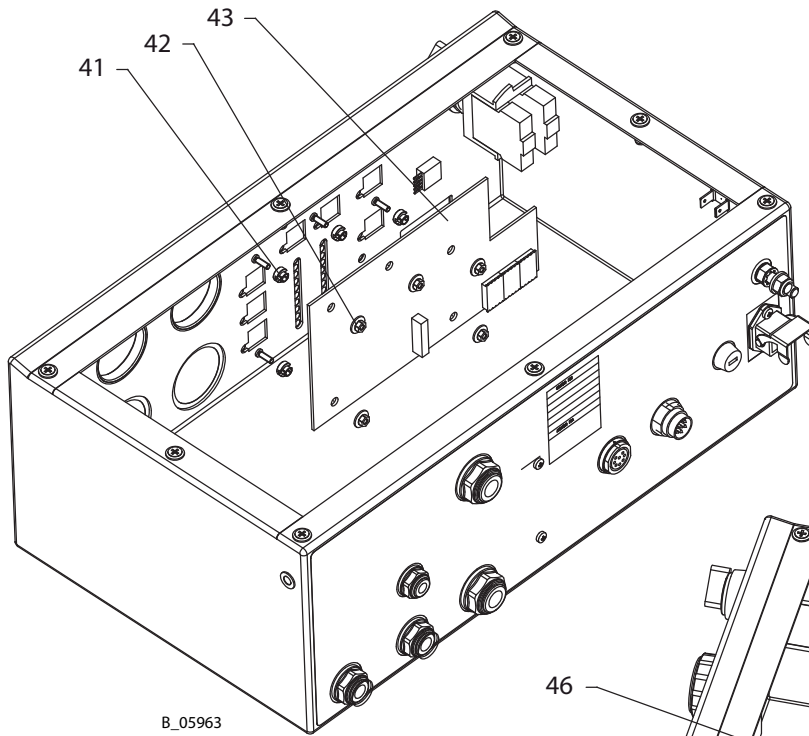


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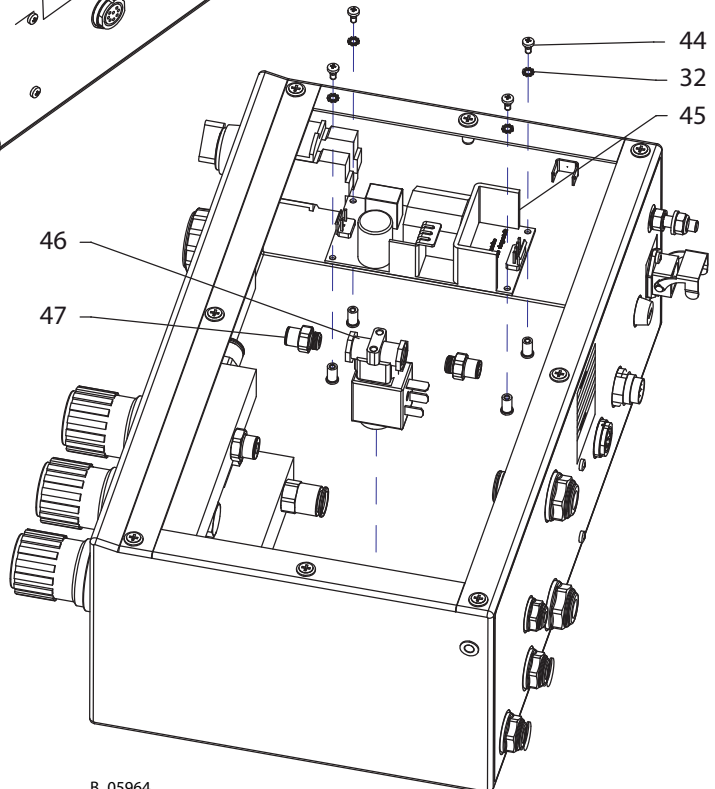
Spare parts list for VM 5020W control unit

Pos	K	Stk	Order No.	Designation
41		5	2309112	Spacer
42		5	2312348	Hexagon lock nut
43		1	2317539	Print complete VM 5000 display. Including pos. 3.
44		4	9903312	Recessed head raised fillister head screw, H form
45		1	2352818	Switching power supply, EPS-45-24
46		1	2360090	Solenoid valve, complete
47		2	9998090	Straight screw-in fitting

◆ = Wearing parts



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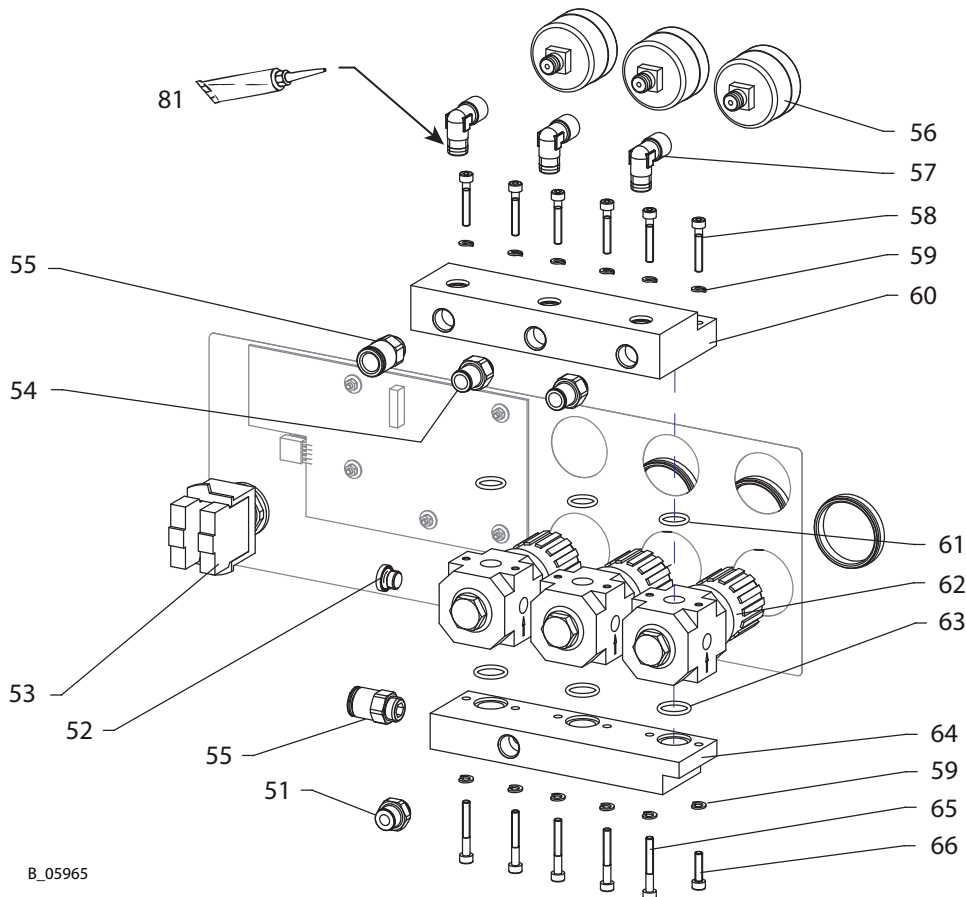
Spare parts list for VM 5020W control unit

Pos	K	Stk	Order No.	Designation
51		1	9998255	Straight threaded fitting
52		3	9998675	Threaded plug, G1/8"
53		1	9956178	Switch
54		2	9998254	Screw-in fitting, 8 mm - 1/4"
55		2	9998987	Threaded fitting, 10 mm - 1/4"
56	◆	3	9998677	Pressure gauge, 0-10 bar RF40 (d40)
57		3	9992289	Male stud elbow
58		6	9900365	Hexagon socket cylinder head screw
59		12	9921511	Spring washer
60		1	2335187	3-fold air outlet
61	◆	3	9971313	O-ring
62		3	2309972	Pressure regulator, LR-1/4-D-O-I-Mini
63	◆	3	9974166	O-ring
64		1	2335186	3-fold air inlet
65		5	9900386	Hexagon socket cylinder head screw
66		1	9900308	Hexagon socket cylinder head screw

Mounting materials

81		1	9992831	Loctite® 542
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◆ = Wearing parts

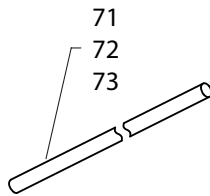


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Spare parts list for VM 5020W control unit

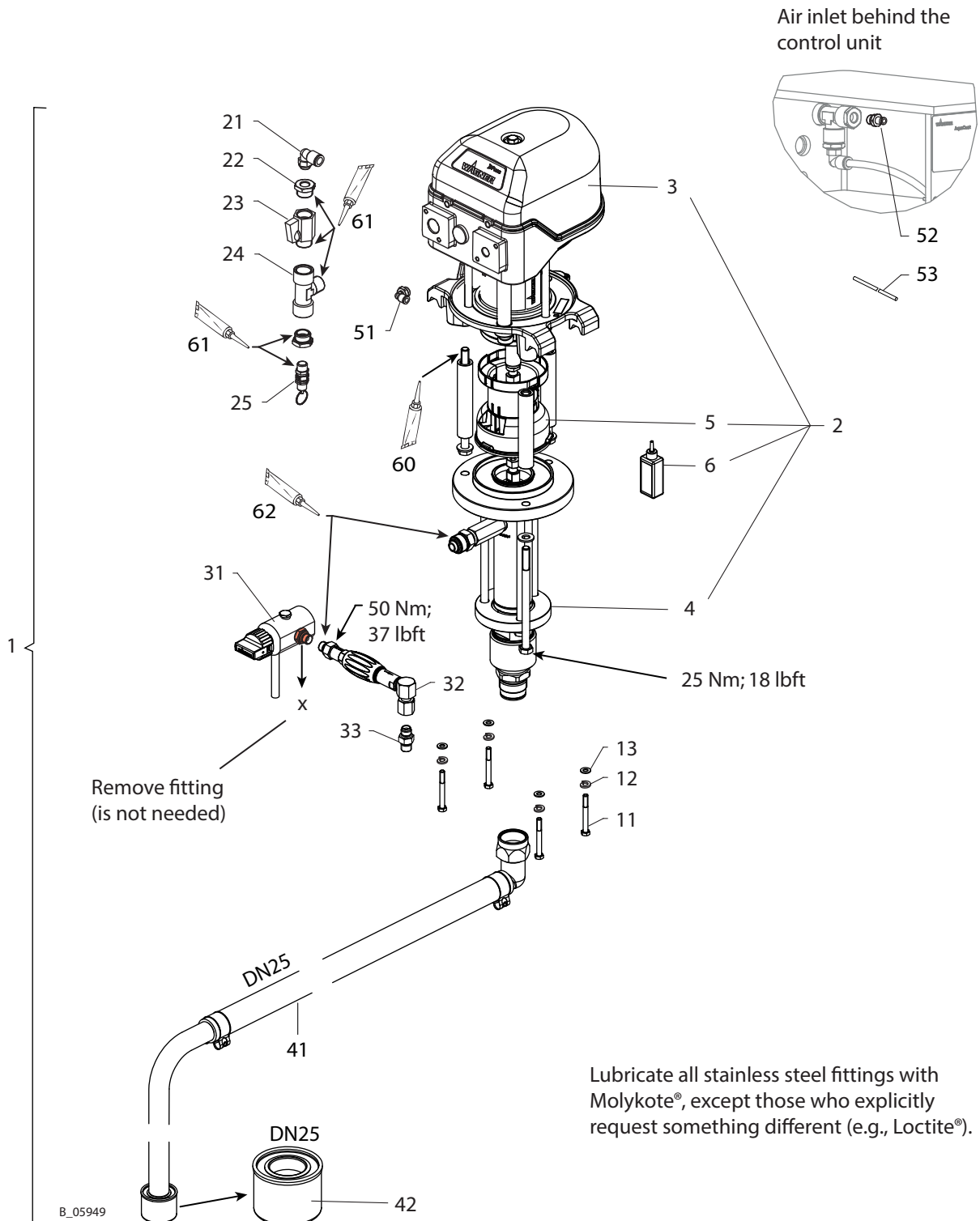
Pos	K	Stk	Order No.	Designation
71		0.45 m	9987076	Hose, black Ø 10 mm; 0.39 inch
72		0.30 m	9982078	Hose, black Ø 8 mm; 0.32 inch
73		0.16 m	9982079	Hose, black Ø 6 mm; 0.24 inch
74		1	2304487	Print connection cable

◆ = Wearing parts



14.3 PUMP SETS

14.3.1 PUMA 28-40 SET FOR AQUACOAT



OPERATING MANUAL



Spare parts list for Puma 28-40 piston pump set for AquaCoat

Pos	K	Stk	Order No.	Designation
1			2363746	Puma 28-40 set for AquaCoat

Piston pump

2		1	--	Piston pump, Puma 28-40 PE/TG REM (without pressure regulator unit) Refer to the pump operating manual for details
3		1	2335843	Air motor, Puma REM (without pressure regulator unit) Refer to the pump operating manual for details
4		1	2329641	Fluid section, 40 PE/TG Refer to the pump operating manual for details
5		1	2350028	Connection set, LM-FS 1 Refer to the pump operating manual for details
6		1	9992504	Release agent

Mount on pump support

11		4	9906036	Hexagon socket cylinder head screw
12		4	9921502	Spring washer
13		4	9920103	Washer

Air motor connection

21		1	9999208	Male stud elbow, 10-1/4
22		2	9985685	Reducing fitting, A-G1/2 - I-G1/4
23	◆	1	2321426	Low-pressure mini ball valve, G1/2
24		1	9985683	T-piece
25		1	P484.00C0	Safety valve 1/4", blue ring

Product outlet

31	◆	1	2329023	Relief combination, complete For details, see Chapter 14.3.4
32	◆	1	2329026	Inline filter HL DN6-PN530-G1/4"-SSt For details, see Chapter 14.3.5
33		1	2330774	Fitting-DF-MM-G1/4-1/4NPSM-530 bar-SSt

Product inlet

41	◆	1	2324116	Suction hose DN25-SSt, complete
42	◆	1	2323325	Suction filter, DN25-18mesh-SSt

Connection for the air motor reversing valve

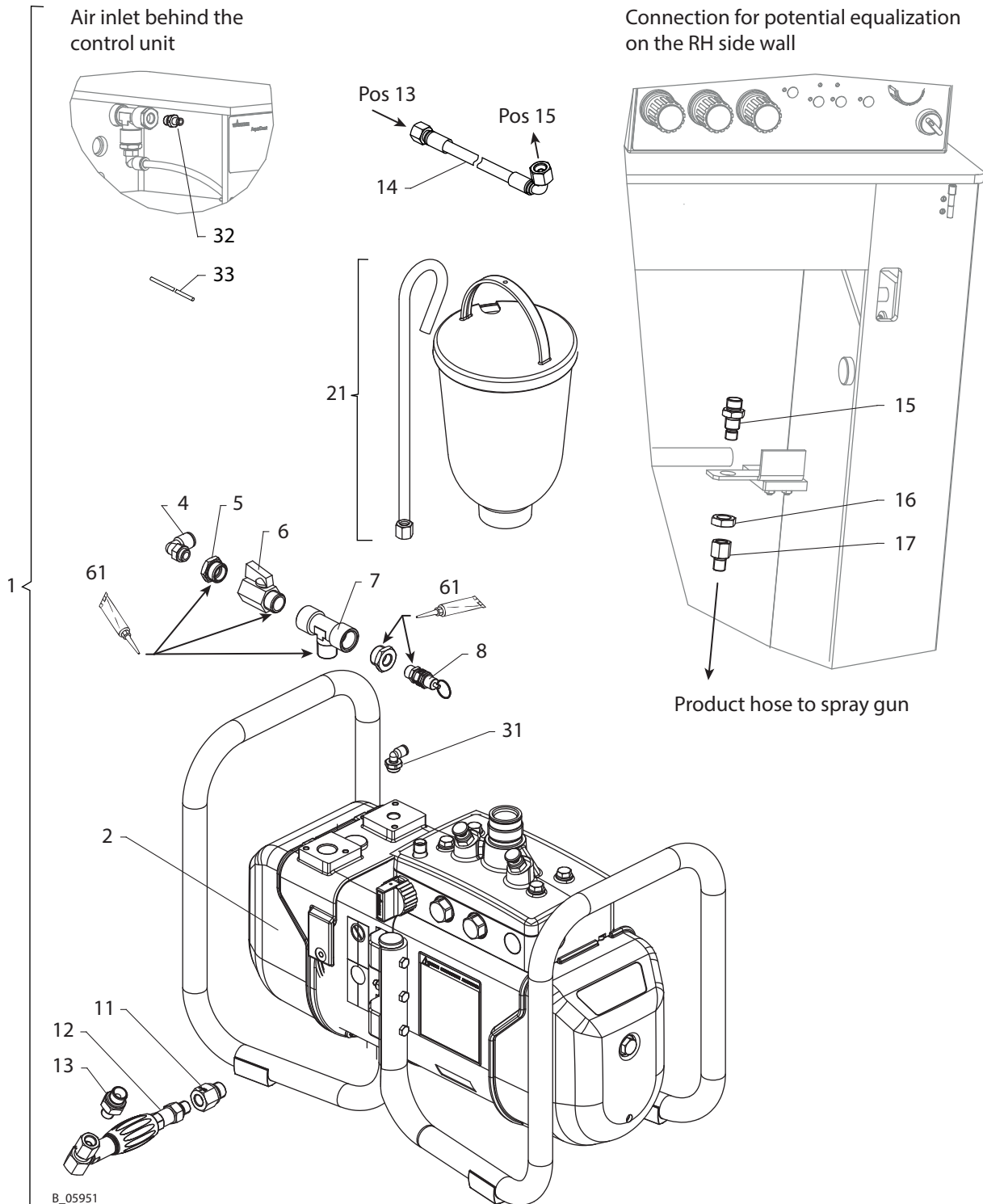
51		1	9998250	Male stud elbow, 6-1/4 Ex
52		1	9992742	Straight threaded fitting
53		1.3 m	9982079	Hose, black PEN 6/4

Mounting materials

60		1	9992616	Molykote® DX grease
61		1	9992831	Loctite® 542
62		1	9992609	Anti-seize paste

◆ = Wearing parts

14.3.2 COBRA 40-10 SET FOR AQUACOAT



Lubricate all stainless steel fittings with Molykote®, except those who explicitly request something different (e.g., Loctite®).

OPERATING MANUAL



Spare parts list for Cobra 40-10 piston pump set for AquaCoat

Pos	K	Stk	Order No.	Designation
1			2363747	Cobra 40-10 set for AquaCoat

Piston pump

2		1	--	Cobra 40-10 double diaphragm pump, REM frame Refer to the pump operating manual for details
4		1	9999208	Male stud elbow, 10-1/4
5		2	9985685	Reducing fitting, A-G1/2 - I-G1/4
6	◆	1	2321426	Low-pressure mini ball valve, G1/2
7		1	9985683	T-piece
8		1	P484.00C0	Safety valve 1/4", blue ring

Product outlet

11		1	2353265	Fitting-RF-FM-G1/4-G3/8-530 bar-SSt
12	◆	1	2329026	Inline filter HL DN6-PN530-G1/4"-SSt For details, see Chapter 14.3.5
13		1	2325826	Fitting-DF-MM-G3/8-G1/4-530 bar-SSt
14	◆	1	2332865	HPP hose DN10-PN530 FEP W-G 0.73m
15		1	2364802	Fitting-DF-MM-G3/8-G1/4-530 bar-SSt
16		1	9910109	Hexagon nut, 0.5 d
17		1	2332619	Fitting-RF-FM-G1/4-1/4NPSM-530 bar-SSt

Product inlet

21	◆	1	2344505	5-liter hopper set for Cobra Refer to the pump operating manual for details
----	---	---	---------	--

Connection for the air motor reversing valve

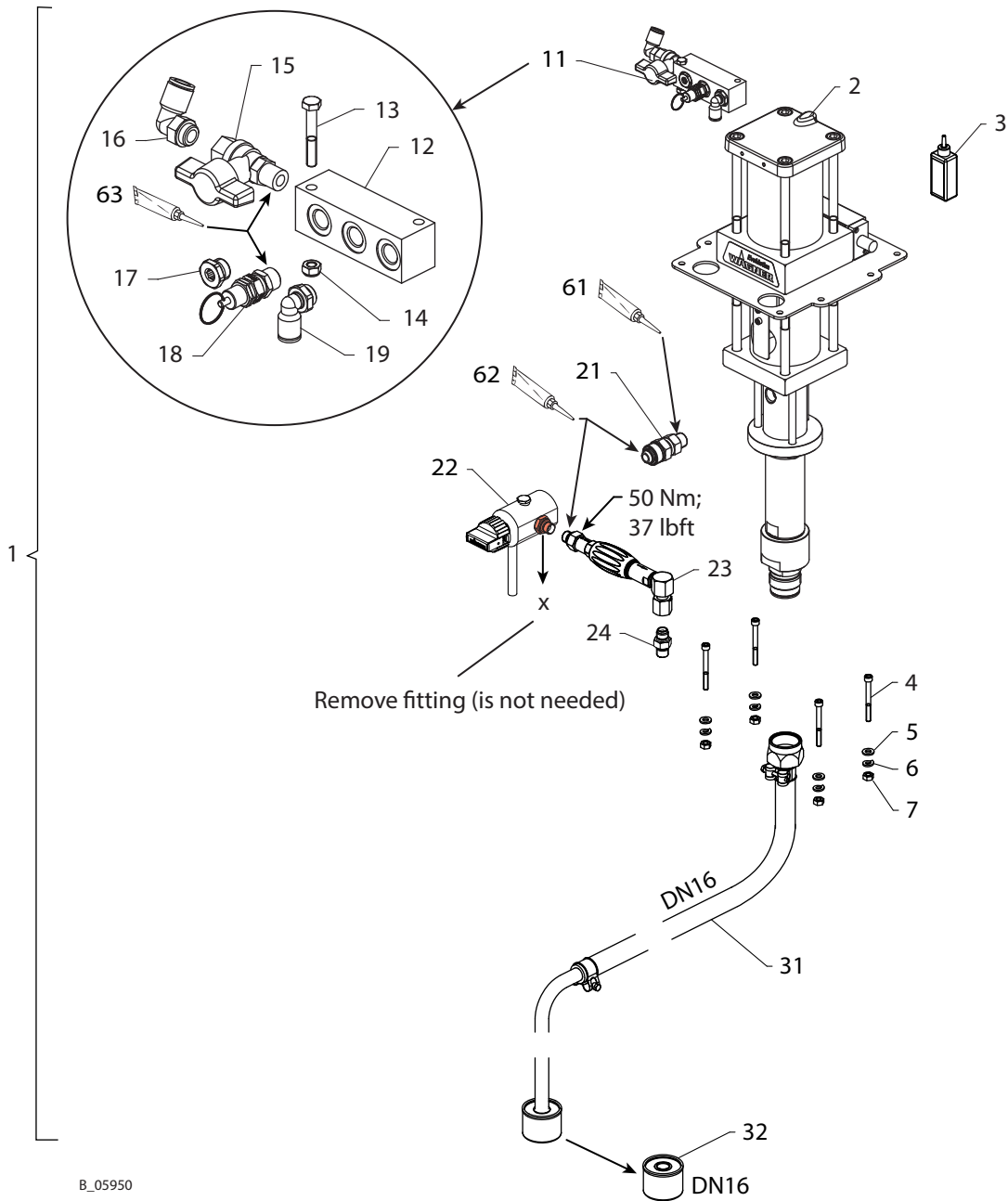
31		1	9998250	Male stud elbow, 6-1/4 Ex
32		1	9992742	Straight threaded fitting
33		1.5 m	9982079	Hose, black PEN 6/4

Mounting materials

60		1	9992616	Molykote® DX grease
61		1	9992831	Loctite® 542

◆ = Wearing parts

14.3.3 EVOMOTION 20-30 SET FOR AQUACOAT



Lubricate all stainless steel fittings with Molykote®, except those who explicitly request something different (e.g., Loctite®).

Spare parts list for EvoMotion 20-30 Set for AquaCoat

Pos	K	Stk	Order No.	Designation
1			2363946	EvoMotion 20-30 set for AquaCoat
2		1	--	Pistonp. EvoMotion 20-30 AQUA Refer to the pump operating manual for details
3		1	9992504	Release agent
4		4	9906036	Hexagon socket cylinder head screw
5		4	9920103	Washer
6		4	9921502	Spring washer
7		4	9910102	Hexagon nut
11		1	2364718	Distributor, complete For details, see Chapter 14.3.3.1

Product outlet

21		1	2333265	Fitting-SF-MM-R3/8-M24x1.5-530 bar-SSt
22	◆	1	2329023	Relief combination, complete For details, see Chapter 14.3.4
23	◆	1	2329026	Inline filter HL DN6-PN530-G1/4"-SSt For details, see Chapter 14.3.5
24		1	2330774	Fitting-DF-MM-G1/4-1/4NPSM-530 bar-SSt

Product inlet

31	◆	1	2324110	Suction hose DN16-SSt, complete
32	◆	1	2323396	Suction filter, DN16-18mesh-SSt

Mounting materials

60		1	9992616	Molykote® DX grease
61		1	9992528	Loctite® 270
62		1	9992609	Anti-seize paste

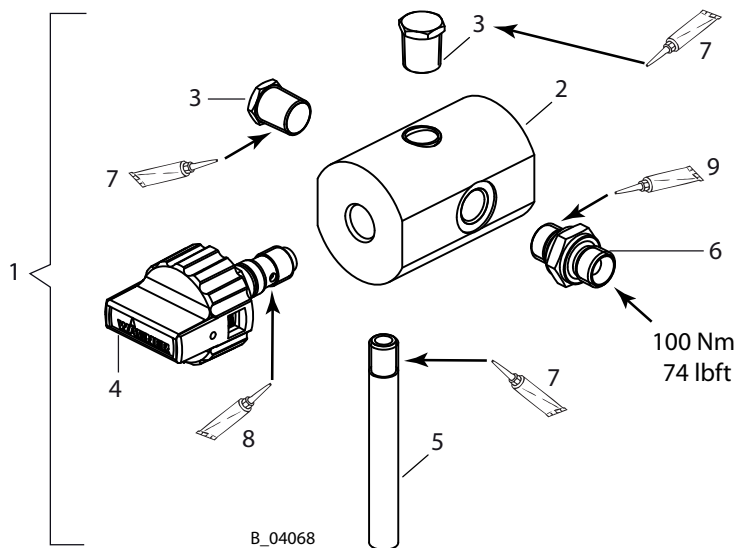
◆ = Wearing parts

14.3.3.1 DISTRIBUTOR FOR EVOMOTION

Pos	K	Stk	Order No.	Designation
11		1	2364718	Distributor, complete
12		1	3110805	Distribution piece, FR-4-1/4-C
13		1	9900202	Hexagon screw
14		1	9910204	Self-locking hexagon nut
15		1	M101.00	Ball valve, FM
16		1	9999208	Male stud elbow, 10-1/4
17		1	9998274	Threaded plug, G1/4"
18		1	P484.00C0	Safety valve 1/4", blue ring
19		1	9998253	Male stud elbow, 8-1/4 Ex
63		1	9992831	Loctite® 542

◆ = Wearing parts

14.3.4 RELIEF COMBINATION, 270 BAR



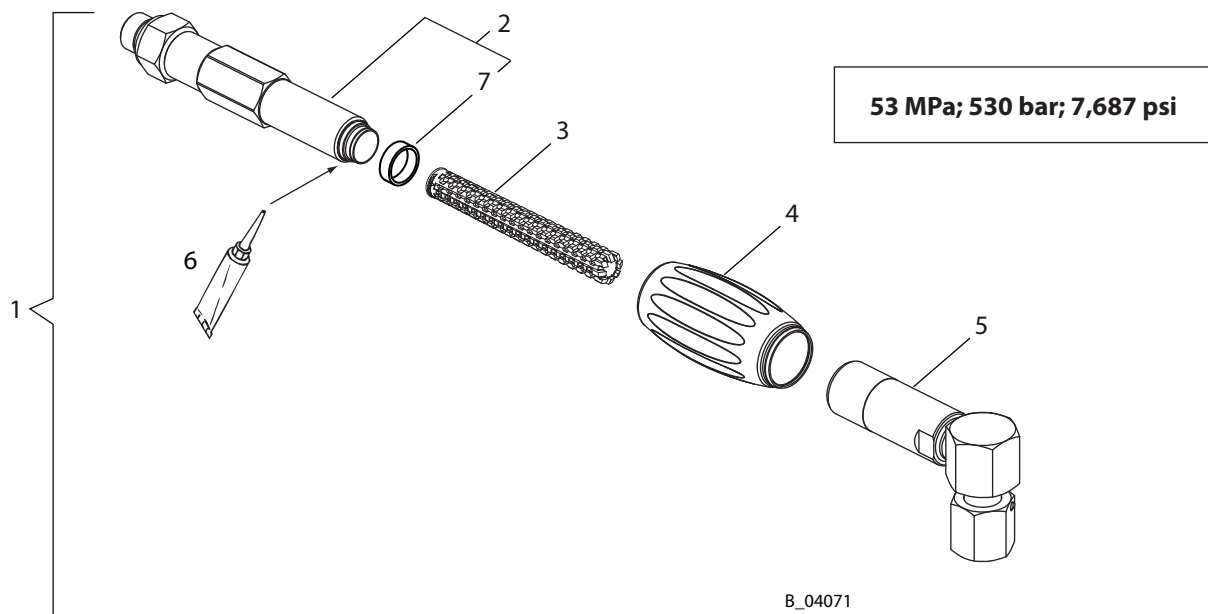
27 MPa; 270 bar; 3,916 psi

Spare parts list for relief combination 270 bar

Pos	K	Stk	Order No.	Designation
1		1	2329023	Relief combination
2		1	2324549	Relief housing
3		2	2323718	Hexagon plug
4	◆	1	169248	Relief valve, complete
5		1	2324552	Outlet pipe
6		1	3204611	Fitting-DF-MM-G1/4"-G1/4"-PN530-SSt
7		1	9992831	Loctite® 542, 50ml; 50cc
8		1	9992616	Molykote® DX grease
9		1	9992609	Anti-seize paste

◆ = Wearing parts

14.3.5 ANGLED INLINE FILTER, 530 BAR



Spare parts list for angled inline filter 270 bar

Pos	K	Stk	Order No.	Designation
1		1	2329026	Inline filter, HL DN6-PN530-G1/4"-SSt
2		1	2326045	Filter inlet housing, pre-assembled
3	◆	1	--	Filter insert, yellow (middle), 100 meshes per inch *
	◆ ●	1	2315723	* Filter insert, red (fine), 200 meshes per inch – 10 pieces
	◆ ●	1	2315724	* Filter insert, blue (middle), 150 meshes per inch – 10 pieces
	◆ ●	1	2315725	* Filter insert, yellow (middle), 100 meshes per inch – 10 pieces
	◆ ●	1	2315726	* Filter insert, white (coarse), 50 meshes per inch – 10 pieces
4		1	2311491	Turning handle
5		1	2325950	Filter outlet housing 90°, pre-assembled
6		1	9992609	Anti-seize paste
7	◆	1	128389	Seal

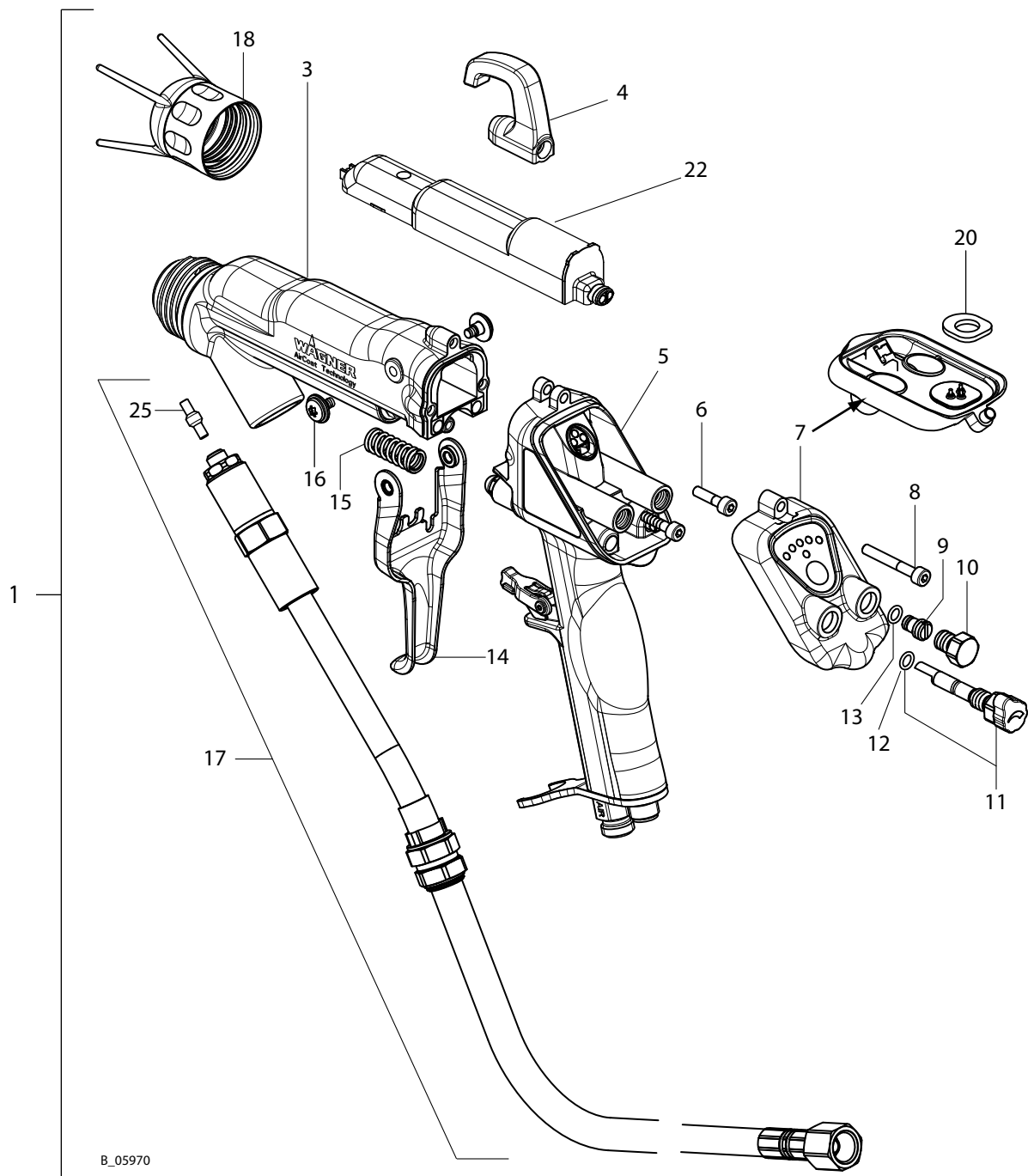
◆ = Wearing parts

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

14.4 GM 5020EACW SPRAY GUN

Dismantling and assembly

→ see Chapter 10



B_05970

Spare parts list for GM 5020EACW spray gun

Pos	K	Stk	Order No.	Designation
1		1	2362841	GM 5020EACW
3		1	--	Adapter GM 5000EACW, complete For details, see Chapter 14.4.1
4		1	2314361	Hook
5		1	--	Handle ES 5000AC, complete For details, see Chapter 14.4.2
6		2	9900308	Hexagon socket cylinder head screw
7		1	2312183	Lid complete
8		1	9900386	Hexagon socket cylinder head screw
9		1	2311970	Sealing plug
10		1	2307104	Screw plug
11		1	2312180	Air regulation complete
12	◆ ★	1	9971182	O-ring
13	◆ ★	1	9971182	O-ring
14	◆	1	2314360	Trigger
15		1	2307283	Cylindrical helical spring
16		2	2310617	Oval head screw with hexagon socket, round
17	◆	1	2309468	Product hose EACW, complete 7.5 m; 24.6 ft
			2309887	Product hose EACW, complete 10 m; 32.81 ft
			2309888	Product hose EACW, complete 15 m; 49.2 ft
			2309889	Product hose EACW, complete 20 m; 65.6 ft
18		1	2315775	Union nut For details, see Chapter 14.5.1
20	◆ ★	1	2308699	Cover seal
22		1	2312181	Cascade GM 5000E, complete
25	◆	1	2338853	Connecting fitting AC

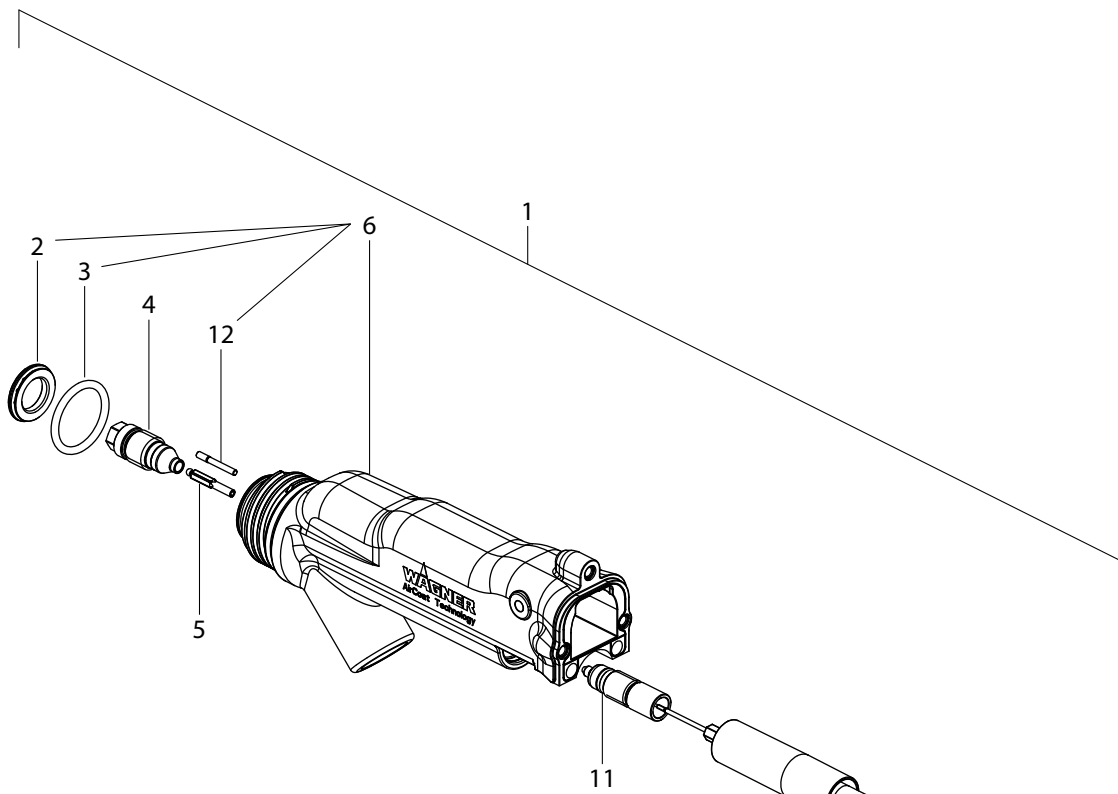
Service set

		1	2367118	Service set, GM 5020EACW
--	--	---	---------	--------------------------

◆ = Wearing part

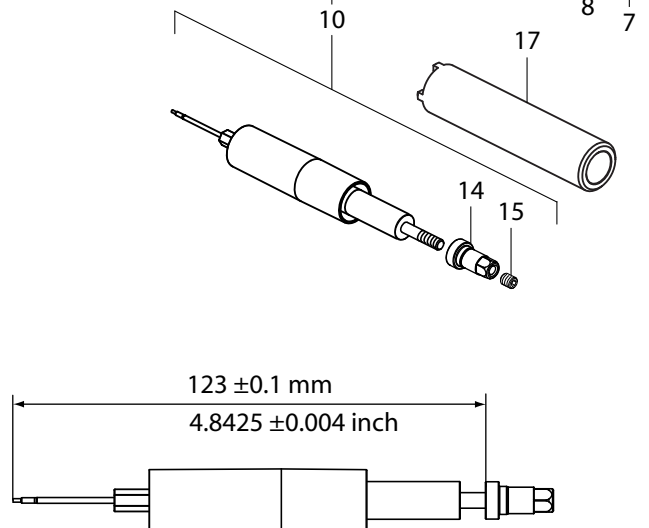
★ = Included in service set

14.4.1 GM 5020EACW ADAPTER



Dismantling and assembly

→ see Chapter 10



Spare parts list End-piece GM 5020EACW

Pos	K	Stk	Order No.	Designation
1		1	--	Adapter GM 5020EACW, complete
2	◆ ★	1	2309391	Air manifold ring, Air
3	◆ ★	1	2307180	O-ring, sheathed
4	◆ ★	1	2312175	Valve housing AC, complete
5	◆ ★	1	2312186	Valve needle AC, complete
6		1	2362840	Adapter, GM 5020EACW
7	◆ ★	1	9974166	O-ring
8	◆ ★	1	2311562	Rod seal
9		1	2307062	Clamping screw valve rod
10		1	2313639	Valve rod unit AC
11	◆ ★	1	2357106	Packing, complete
12		1	2309346	Plug
14		1	2307059	Withdrawal nut
15		1	9901411	Threaded pin with hexagon socket

Mounting tool

17		1	2325263	Clamping screw assembly tool
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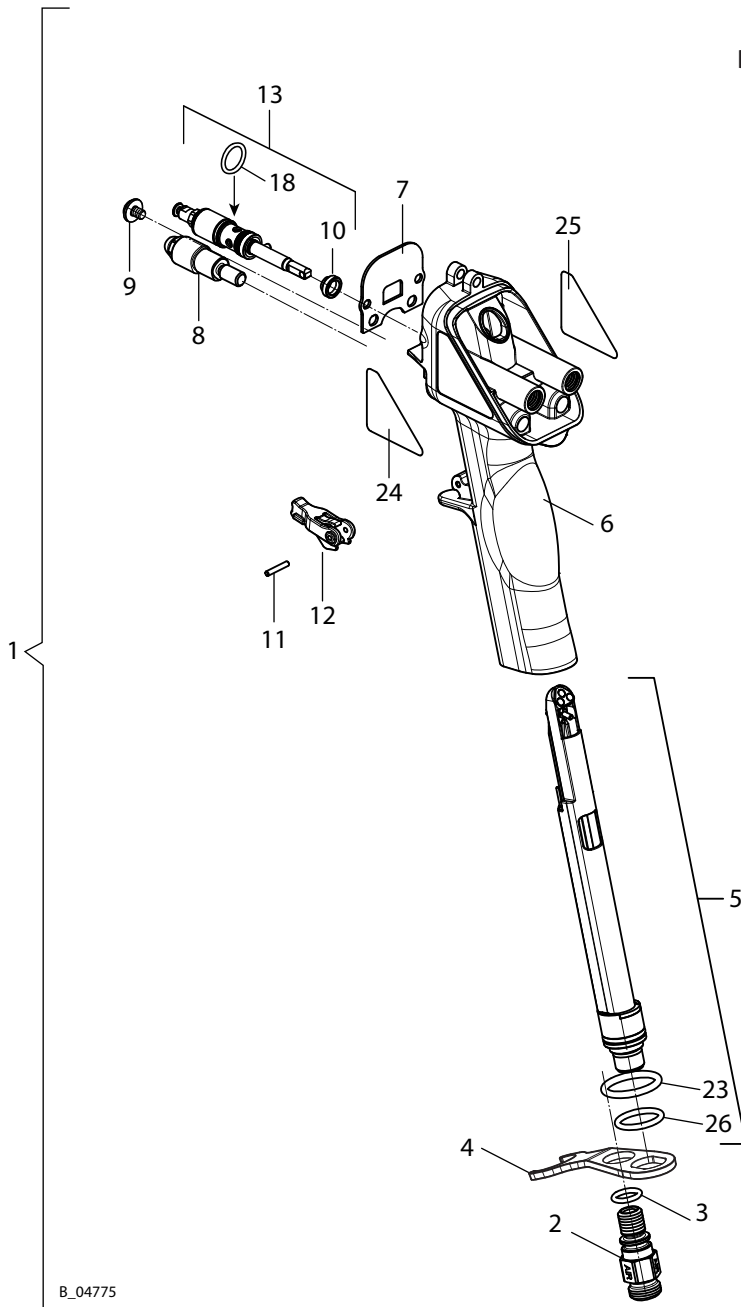
Service set

		1	2367118	Service set, GM 5020EACW
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◆ = Wearing part

★ = Included in service set

14.4.2 GM 5000EAC HANDLE



Dismantling and assembly

→ see Chapter 10

B_04775

Spare parts list for GM 5000EAC handle

Pos	K	Stk	Order No.	Designation
1		1	--	Handle GM 5000EAC, complete
2		1	2307288	Nipple
3	◆ ★	1	9971025	O-ring
4		1	2307290	Hose holder
5		1	2312182	Plug, complete
6		1	2314270	Handle, complete
7	◆ ★	1	2307232	Adapter seal
8		1	2311952	Stop screw
9		1	2309825	Oval head screw with hexagon socket
10	◆ ★	1	2310692	Seal
11		1	2311182	Parallel pin
12		1	2309400	Safety clip
13		1	2312189	Air valve
18	◆ ★	1	9974218	O-ring
23	◆ ★	1	9974166	O-ring
26	◆	1	9971364	O-ring

Service set

		1	2367118	Service set, GM 5020EACW
--	--	---	---------	--------------------------

◆ = Wearing part

★ = Included in service set

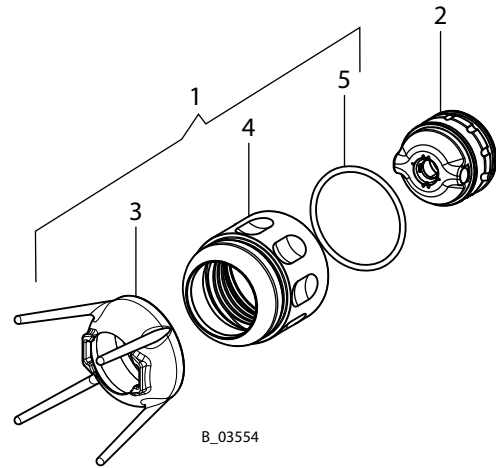
14.5 ACCESSORIES SPARE PARTS LISTS

14.5.1 FAN SPRAY NOZZLES

Flat jet nozzles spare parts list

Pos	K	Stk	Order No.	Designation
1		1	2315775	Union nut AC, complete
2		1	2309901	Air cap, ACWF 5000 - LV (red)
2		1	2314204	Air cap, ACWF 5000 - HV (blue)
3	◆	1	2311777	Nozzle guard AC
4		1	2311776	Union nut AC
5	◆	1	2311217	O-ring, sheathed

◆ = Wearing part



14.5.2 ACR5000 ROUND JET NOZZLE ADAPTER

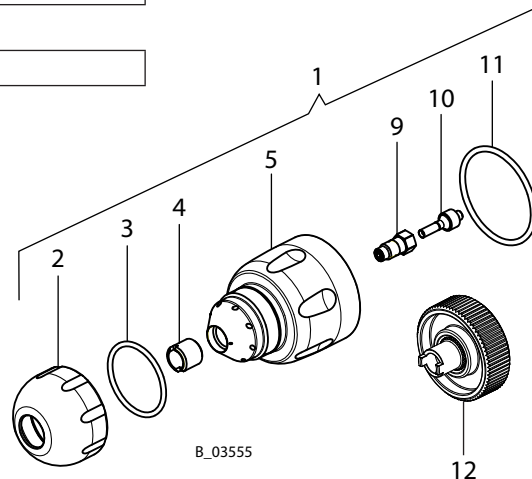
Spare parts list, round jet nozzle adapter EACW

Pos	K	Stk	Order No.	Designation
1		1	2309902	Round jet nozzle adapter, ACWR 5000
2		1	2307220	Nozzle nut
3	◆	1	2315310	O-ring
4		1	132351	Nozzle screwed connection holder
5		1	2307219	Nozzle body
9	◆	1	132516	Nozzle screw joint, complete
10	◆	1	2307216	Sealing fitting
11	◆	1	2311217	O-ring

Nozzle wrench

12		1	128901	Nozzle wrench, complete
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◆ = Wearing part

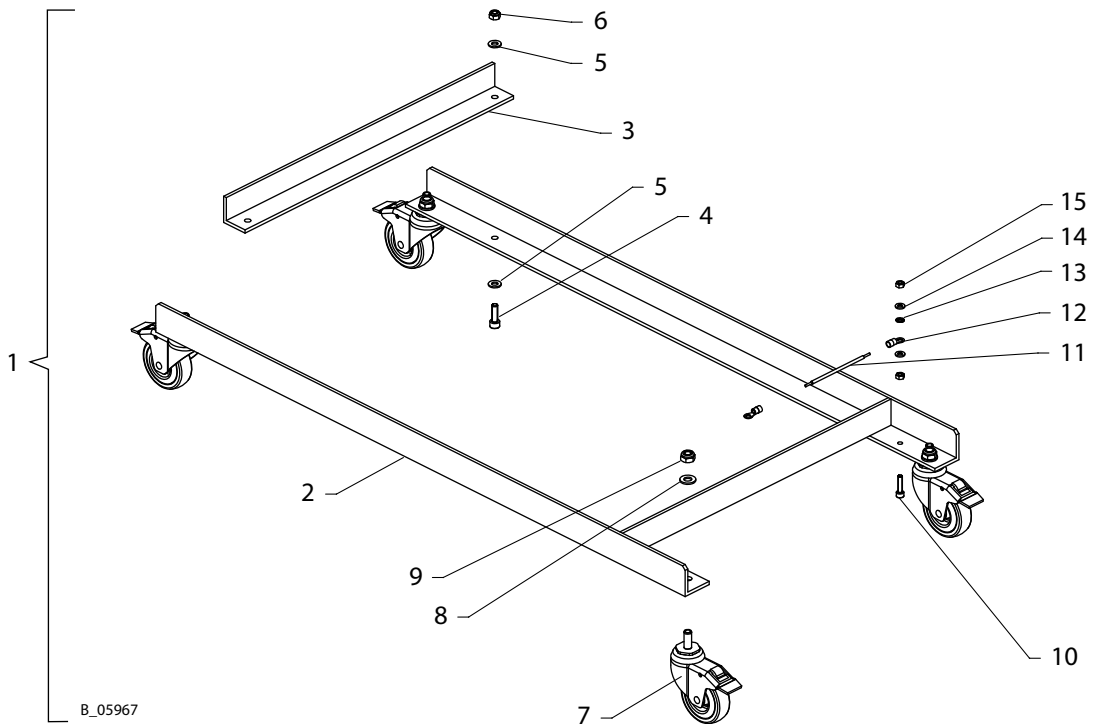


14.5.3 UNDERFRAME WITH ROLLS

Spare parts list for underframe with rolls

Pos	K	Stk	Designation	5020	5020G	5010	5010G
				Order No.	Order No.	Order No.	Order No.
1		1	Underframe with rolls	2359029		2364394	
2		2	Swivel castor support	--		--	
3		2	Crossbar		--		
4		4	Hexagon socket cylinder head screw		9900313		
5		8	Washer		9920102		
6		4	Self-locking hexagon nut		9910208		
7		4	Swivel castor with double stop		9994947		
8		4	Washer		9920106		
9		4	Hexagon nut with clamp		3055157		
10		1	Hexagon socket cylinder head screw		9900315		
11		0.6 m	Ground wire		9951211		
12		2	Cable lug		9950604		
13		1	Lock washer internal teeth		9922109		
14		2	Washer		9920118		
15		2	Hexagon nut		9910102		

◆ = Wearing parts



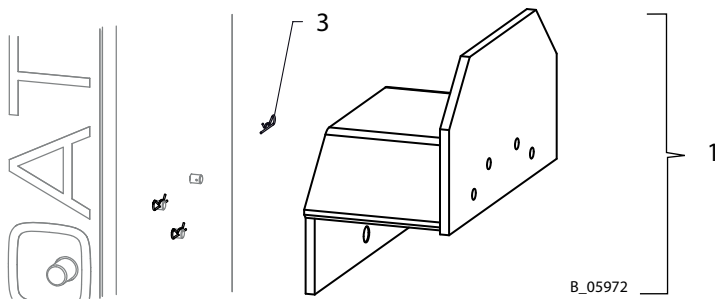
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14.5.4 HOSE HOLDER

Spare parts list for hose holder

Pos	K	Stk	Order No.	Designation
1		1	353050	Hose holder, complete
3		3	9935049	Connection fields

◆ = Wearing parts

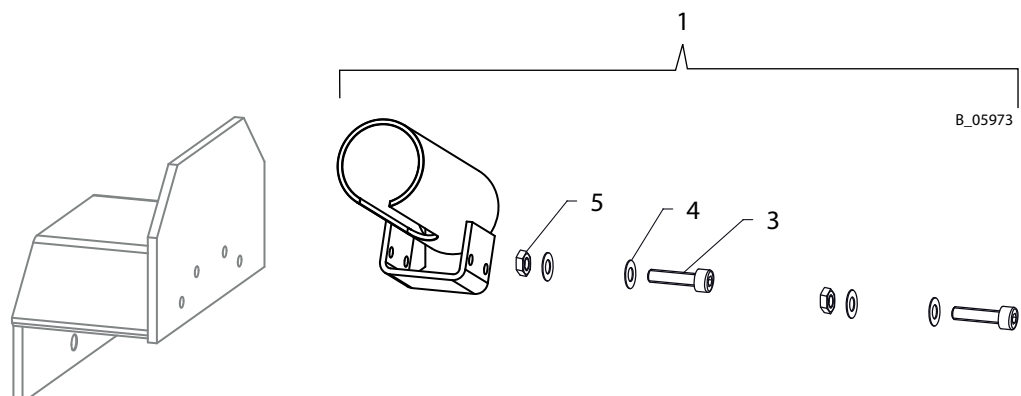


14.5.5 GUN HOLDER

Spare parts list for gun holder

Pos	K	Stk	Order No.	Designation
1		1	2359097	Gun holder, complete
3		2	9900313	Hexagon socket cylinder head screw
4		4	9920102	Washer
5		2	9910107	Hexagon nut

◆ = Wearing parts

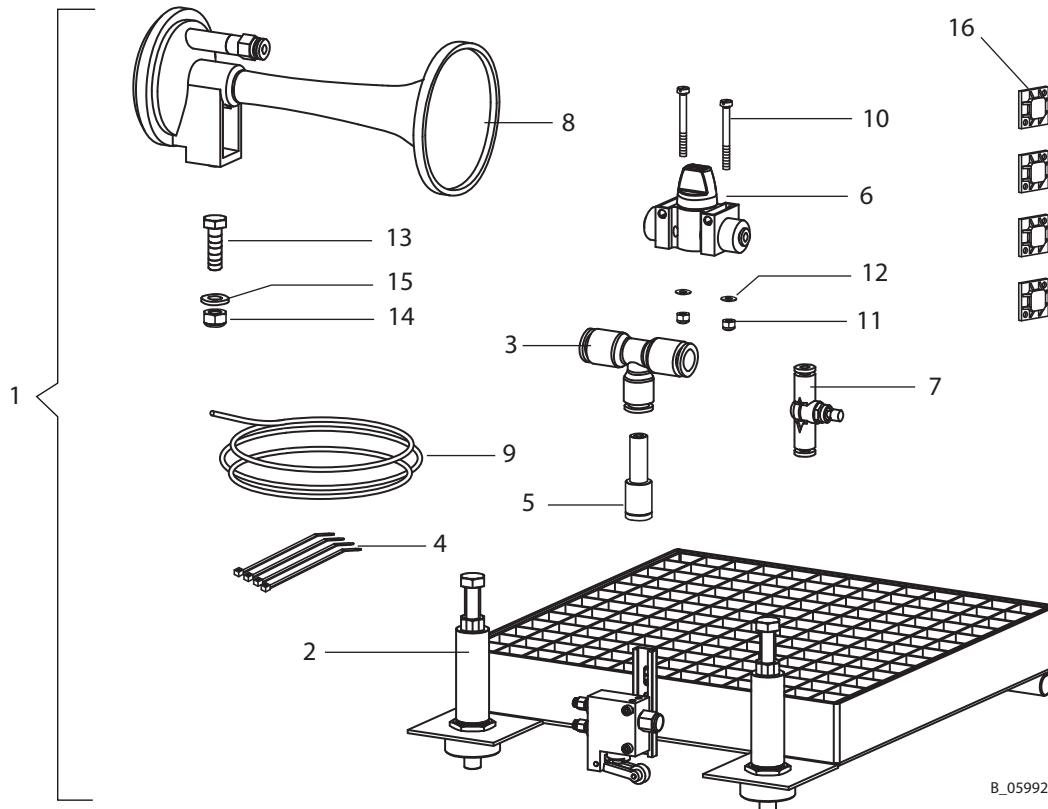


14.5.6 LEVEL MONITOR WITH ALARM HORN

Spare parts list for level monitor with alarm horn

Pos	K	Stk	Order No.	Designation
1		1	353053	Level monitor
2	◆	1	3207739	30-liter niveau compensator
3		1	9999435	T-connection
4	◆	4	9950615	Cable tie
5		1	3151777	Straight reduction
6	◆	1	9999441	2/2-way valve
7	◆	1	9943023	Adjustable check-valve
8	◆	1	R037.00	Pneumatic alarm horn
9		5 m	9982072	Hose
10		2	9900704	Socket cap screw with slit
11		2	9910211	Hexagon nut with clamp
12		2	9920114	Washer
13		1	9900108	Hexagon screw
14		1	9910204	Hexagon nut with clamp
15		1	9920103	Washer
16		4	9950385	Fixing element

◆ = Wearing parts



B_05992

14.5.7 D350 DRUM COVER

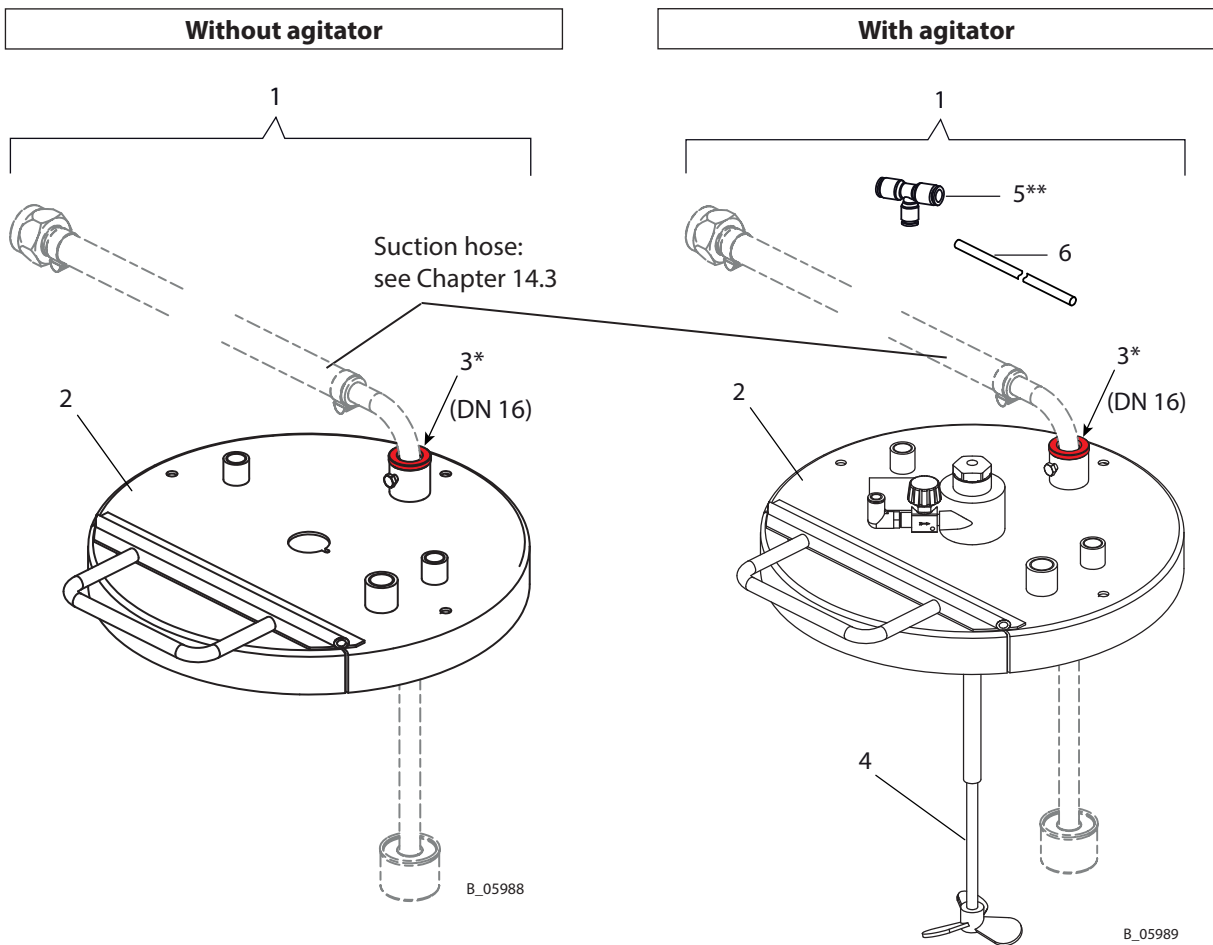
Spare parts list for D350 drum cover

Pos	K	Stk	Designation	Without agitator	With agitator
				Order No.	Order No.
1		1	Drum cover, D350	353054	353055
2		1	Cover, 365-A with plug	2304618	
3*		1	Bushing	2367311	
4	◆	1	Agitator, P300HS-L400x16-D100-M32		2304533
5**		1	T-connection		9999435
6		2 m	Hose, black PUR 8/5.5		9982078

◆ = Wearing parts

* Pos. 3: Only use with suction hose DN 16 (EvoMotion).

** Pos. 5: Air is branched off from air inlet to control unit.



15 WARRANTY AND CONFORMITY DECLARATIONS

15.1 IMPORTANT NOTES REGARDING PRODUCT LIABILITY

As a result of an EC regulation effective from January 1, 1990, the manufacturer shall only be liable for his product if all parts originate from him or are approved by him, and if the devices are properly mounted, operated and maintained.

The manufacturer will not be held liable or will only be held partially liable if third-party accessories or spare parts have been used.

With genuine WAGNER accessories and spare parts, you have the guarantee that all safety regulations are complied with.

15.2 WARRANTY CLAIM

Full warranty is provided for this device:

We will at our discretion repair or replace free of charge all parts which within 24 months in single-shift, 12 months in 2-shift or 6 months in 3-shift operation from date of receipt by the purchaser are found to be wholly or substantially unusable due to causes prior to the sale, in particular faulty design, defective materials or poor workmanship.

The type of warranty provided is such that the device or individual components of the device are either replaced or repaired as we see fit. The resulting costs, in particular shipping charges, road tolls, labour and material costs will be borne by us except where these costs are increased due to the subsequent shipment of the device to a location other than the address of the purchaser.

We do not provide warranty for damage that has been caused or contributed to for the following reasons:

Unsuitable or improper use, faulty assembly or commissioning by the purchaser or a third party, normal wear, negligent handling, defective maintenance, unsuitable coating products, substitute products and the influence of chemical, electrochemical or electrical agents, except when the damage is attributable to us.

Abrasive coating products such as red lead, emulsions, glazes, liquid abrasives, zinc dust paints and so forth reduce the service life of valves, packings, spray guns, nozzles, cylinders, pistons etc. Signs of wear traced back to these products are not covered by this warranty. Components that have not been manufactured by WAGNER are subject to the original warranty of the manufacturer.

Replacement of a component does not extend the period of warranty of the device.

The device should be inspected immediately upon receipt. To avoid losing the warranty, we or the supplier company are to be informed in writing about obvious faults within 14 days upon receipt of the device.

We reserve the right to have the warranty compliance met by a contracting company.

The services provided by this warranty are dependent on evidence being provided in the form of an invoice or delivery note. If the examination discovers that no warranty claim exists, the costs of repairs are charged to the purchaser.

It is clearly stipulated that this warranty claim does not represent any constraint on statutory regulations or regulations agreed to contractually in our general terms and conditions.

15.3 CE DECLARATION OF CONFORMITY

Herewith we declare that the supplied version of:

AquaCoat 5010/5020 AirCoat GM 5020EACW
--

complies with the following guidelines:

2006/42/EC	2014/30/EU	2002/96/EC
2014/35/EU	2011/65/EU	

Applied standards, in particular:

EN ISO 12100:2010
 EN 1953:2013
 EN 12621: 2006+A1: 2010
 EN 60204-1: 2006 +A1: 2009
 EN 50059:1990
 EN 61000-6-2: 2005 +B: 2011
 EN 61000-6-4: 2007 +A1:2011

Applied national technical standards and specifications, in particular:

BGI 740
 BGI 764

Identification:



EC Certificate of Conformity

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

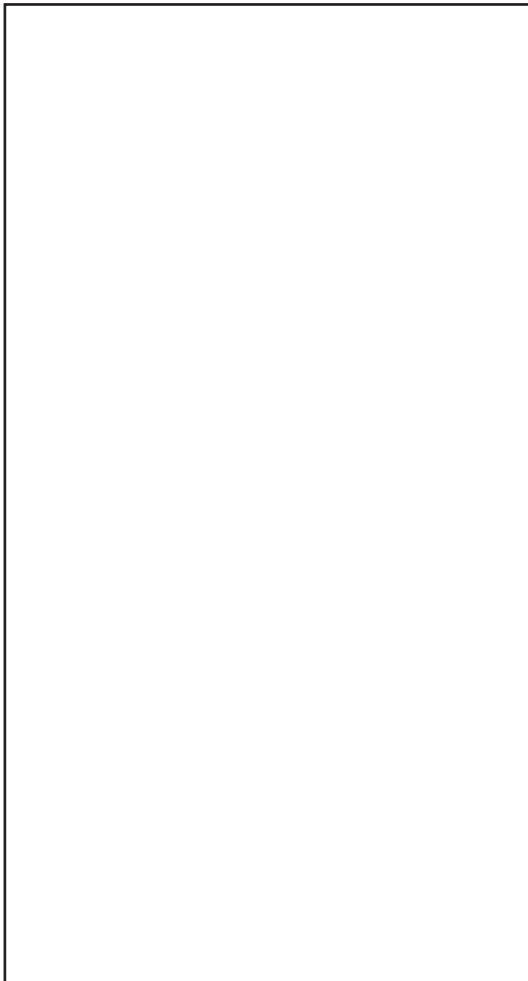
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15.4 NOTES ON NATIONAL REGULATIONS AND GUIDELINES

- | | |
|----------------------------|---|
| a) BGI 740 | Painting rooms and equipment |
| b) BGI 764 | Electrostatic coating |
| c) DGUV regulation 3 | Accident Prevention Regulation for Electrical systems and equipment |
| d) TRBS 2153 | Avoidance of ignition dangers due to electrostatic charges |
| e) DGUV regulation 109-010 | Equipment for cleaning work pieces with solvents |
| f) DGUV regulation 100-500 | Operating working materials |
| g) Betr.Sich.V. | Plant Safety Ordinance |

Note: All titles can be ordered from Heymanns Publishing House in Cologne, or they can be found on the Internet.

WAGNER



Order No. 2366600

Edition 02/2016

Germany

J. WAGNER GmbH

Otto-Lilienthal-Str. 18

Postfach 1120

D- 88677 Markdorf

Phone +49/ (0)7544 / 5050

Telefax +49/ (0)7544 / 505200

E-mail service.standard@wagner-group.com

Switzerland

J. WAGNER AG

Industriestrasse 22

Postfach 663

CH- 9450 Altstätten

Phone +41/ (0)71 / 757 2211

Telefax +41/ (0)71 / 757 2222

More contact addresses on the internet at:

www.wagner-group.com

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