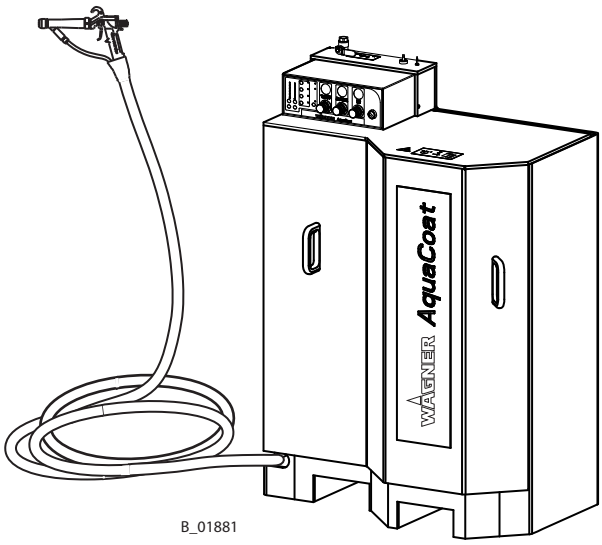
WAGNER

Translation of the original Operating manual

AquaCoat Air
-LDG20
-ZIP52
-3-130S
-VM 2900W

Edition 01/2008

AquaCoat air spray system for non-combustible liquids



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CE

Contents

Contents

1 ABOUT THESE INSTRUCTIONS

This operating manual contains information about the operation, repair and maintenance of the unit.
→ Always follow these instructions when operating the unit.
This equipment can be dangerous if it is not operated in accordance with this manual.
Electrostatic spray guns may be operated only by trained personnel.
Compliance with these instructions constitutes an integral component of the guarantee agreement.

1.1 LANGUAGES

This operating manual is available in the following languages:

Language:	Part No.	Language:	Part No.
German	353840	English	353841
French	353842	Dutch	--
Italian	353844	Spanish	353845
Danish	--	Swedish	--

1.2 WARNINGS, NOTES AND SYMBOLS IN THESE INSTRUCTIONS

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

Danger - imminent danger. Non-observance will result in death, serious injury and serious material damage.


SIHI_0100_GB

⚠ DANGER

This line warns of the hazard!
Possible consequences of failing to observe the warning instructions. The signal word points out the hazard level.

→ The measures for preventing the hazard and its consequences.

Warning - possible danger. Non-observance can result in death, serious injury and serious material damage.


SIHI_0103_GB

⚠ WARNING

This line warns of the hazard!
Possible consequences of failing to observe the warning instructions. The signal word points out the hazard level.

→ The measures for preventing the hazard and its consequences.

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


SIHI_0101_GB

⚠ CAUTION

This line warns of the hazard!
Possible consequences of failing to observe the warning instructions. The signal word points out the hazard level.

→ The measures for preventing the hazard and its consequences.

Caution - a possibly hazardous situation. Non-observance can cause material damage.

SIHI_0102_GB

CAUTION

This line warns of the hazard!
Possible consequences of failing to observe the warning instructions. The signal word points out the hazard level.

→ The measures for preventing the hazard and its consequences.

Note - provide information on particular characteristics and how to proceed.

2 GENERAL SAFETY INSTRUCTIONS

2.1 SAFETY INSTRUCTIONS FOR THE OPERATOR

→ Keep these operating instructions to hand near the unit at all times.
→ Always follow local regulations concerning occupational safety and accident prevention.

2.1.1 ELECTRICAL EQUIPMENT

Electrical plant and unit
→ To be provided in accordance with the local safety requirements with regard to the operating mode and ambient influences.
→ May only be maintained by skilled electricians or under their supervision.
→ Must be operated in accordance with the safety regulations and electrotechnical regulations.
→ Must be repaired immediately in the event of problems.
→ Must be put out of operation if they pose a hazard.
→ Must be de-energized before work is commenced on active parts. Inform staff about planned work, observe electrical safety regulations.

2.1.2 PERSONNEL QUALIFICATIONS

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

2.1.3 A SAFE WORK ENVIRONMENT

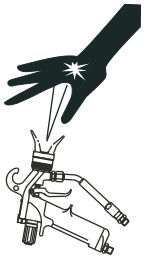
→ Ensure that the floor of the working area is anti-static in accordance with EN 50053 Part 1, §7-2, measurement in accordance with DIN 51953.
→ Ensure that all persons within the working area wear anti-static shoes, e.g. shoes with leather soles.
→ Ensure that during spraying, persons wear anti-static gloves so that they are earthed via the handle of the spray gun.

→ Customer to provide paint mist extraction systems conforming to local regulations.
→ Ensure that the following components of a safe working environment are available:
  – Material/air hoses adapted to the working pressure
  – Personal safety equipment (breathing and skin protection)
→ Ensure that there are no ignition sources such as naked flame, glowing wires or hot surfaces in the vicinity. Do not smoke.

2.2 SAFETY INSTRUCTIONS FOR STAFF

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

2.2.1 SAFE HANDLING OF WAGNER SPRAY UNITS



The spray jet is under pressure and can cause dangerous injuries.
Avoid injection of paint or cleaning agents:
- → Never point the spray gun at people.
- → Never reach into the spray jet.
- → Before all work on the unit, in the event of work interruptions and functional faults:
  - – Switch off the energy/compressed air supply.
  - – Secure the spray gun against actuation.
  - – Relieve the pressure from the spray gun and unit.
  - – By functional faults: Identify and correct the problem, proceed as described in chap. „Trouble shooting".

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

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

2.2.2 EARTH THE UNIT

Electrostatic charges can occur on the unit due to the electrostatic charge and the flow speed involved in spraying. These can cause sparks and flames upon discharge.
- → Ensure that the unit is always earthed.
- → Earth the work pieces to be coated.
- → Ensure that all persons inside the working area are earthed, e.g. that they are wearing antistatic shoes.
- → When spraying, wear antistatic gloves to earth yourself via the spray gun handle.

2.2.3 PAINT HOSES

- → Ensure that the hose material is chemically resistant to the sprayed materials.
- → Ensure that the material hose is suitable for the pressure generated in the unit.
- → Ensure that the following information is visible on the high-pressure hose:
  - – Manufacturer
  - – Permissible operating overpressure
  - – Date of manufacture.
- → The electrical resistance of the complete high-pressure hose must be less than 1 MOhm.

2.2.4 CLEANING

- → De-energize the unit electrically.
- → Disconnect the pneumatic supply line.
- → Relieve the pressure from the unit.
- → Ensure that only non-combustible detergents are used.
- → To clean, use only cloths and brushes. Never use hard objects or spray on cleaning agents a gun.

2.2.5 HANDLING HAZARDOUS LIQUIDS, VARNISHES AND PAINTS

- → When preparing or working with paint and when cleaning the unit, follow the working instructions of the manufacturer of the paints, solvents and cleaning agents being used.
- → Take the specified protective measures, in particular wear safety goggles, protective clothing and gloves, as well as hand protection cream if necessary.
- → Use a mask or breathing apparatus if necessary.
- → For sufficient health and environmental safety: Operate the unit in a spray booth or on a spraying wall with the ventilation (extraction) switched on.
- → Wear suitable protective clothing when working with hot materials.

2.2.6 TOUCHING HOT SURFACES

- → Touch hot surfaces only if you are wearing protective gloves.
- → When operating the unit with a coating material with a temperature of >43°C; 109.4°F:
  - Identify the unit with a warning label that says „Warning - hot surface“.

Order No.
9998910 Information label
9998911 Safety label

2.3 CORRECT USE

WAGNER accepts no liability for any damage arising from incorrect use.
- → Use the unit only to work with the materials recommended by WAGNER.
- → Operate the unit only as an entire unit.
- → Do not deactivate safety equipment.
- → Use only WAGNER original spare parts and accessories.

2.4 SAFETY-RELEVANT INFORMATION ABOUT DISCHARGES

The plastic parts of the cabinet are charged electrostatically by the high-voltage field. Harmless discharges (brush discharges) are possible after contact with plastic parts. They are completely harmless for people.

3 PRODUCT LIABILITY AND WARRANTY

3.1 IMPORTANT NOTES ON PRODUCT LIABILITY

As a result of an EC regulation, effective as from January 1, 1990, the manufacturer shall only be liable for his product if all parts come from him or are approved by him, and if the devices are properly fitted , operated and maintained.
If other makes of accessory and spare parts are used, the manufacturer's liability could be fully or partially null and void.
The usage of original WAGNER accessories and spare parts guarantees that all safety regulations are observed.

3.2 WARRANTY

This unit is covered by our warranty on the following terms:
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 terms of the warranty are met at our discretion by the repair or replacement of the unit or parts thereof. 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 unit to a location other than the address of the purchaser.

This warranty does not cover damage caused by:
Unsuitable or improper use, faulty installation or commissioning by the purchaser or a third party, normal wear, negligent handling, defective maintenance, unsuitable coating products, substitute materials and the action of chemical, electrochemical or electrical agents, except when the damage is attributable to us.

Abrasive coating products such as redlead, emulsions, glazes, liquid abrasives, zinc dust paints and similar reduce the service life of valves, packings, spray guns, nozzles, cylinders, pistons etc. Any wear resulting from the aforementioned causes is not covered by this warranty.

Components not manufactured by Wagner are subject to the warranty terms of the original maker.
The replacement of a part does not extend the warranty period of the unit.
The unit should be inspected immediately upon receipt.
To avoid loss warranty, aniy apparent defect should be notified to us or the dealer in writing within 14 days from date of sale of the unit.

The right to commission warranty services to a third party is reserved.
Warranty claims are subject to proof of purchase by submitting an invoice or delivery note.
If an inspection finds damage not covered by the present warranty, the repair will be carried out at the expense of the purchaser.

Note that this warranty does not in any way restrict legally entitled claims or those contractually agreed to in our general terms and conditions.

J. Wagner AG

3.3 CE-CONFORMITY

Herewith we declare that the supplied version of

353010	Spraypack AquaCoat Air spray
353020	Spraypack AquaCoat LDG20
353021	Spraypack AquaCoat ZIP52
353022	Spraypack AquaCoat 3-130S
353040	AquaCoat with VM 2900W

Complies with the following guidelines:
- 98/37/EG
- 73/23/EWG
- 89/336/EWG
- 2002/95/EG
- 2002/96/EG

Applied standards, in particular:
- EN 12100-1
- EN 12100-2
- EN 1050
- EN 1953
- EN 563
- EN 60204-1
- EN 50059
- EN 61000-6-1
- EN 61000-6-2
- EN 61000-6-3
- EN 61000-6-4

Applied national technical standards and specifications, in particular:
- BGI 740
- BGI 764
- BGR 500

Marking:

CE

CE Certificate of Conformity
The certificate is enclosed with this product. The certificate of conformity can be reordered from your WAGNER representative, quoting the product and serial number.

Part number:
353890

3.4 GERMAN REGULATIONS AND GUIDELINES

a)	BGV A2	Electrical units and equipment
b)	BGR 500	Part 2, Chap. 2.36 Working with liquid ejection devices
c)	BGR 500	Part 2, Chap. 2.29 Using coating materials
d)	CHV 9	Regulations on flammable liquids
e)	CHV 11	Regulations on electrical equipment in Ex areas
f)	BGR 104	Explosion protection rules
g)	BGR 132	Avoiding ignition risks
h)	BGR 180	Setting up for cleaning with solvents for cleaning workpieces with solvents
i)	ZH 1/406	Guidelines for liquid ejection devices
j)	BGI 740	Painting rooms and equipment
k)	BGI 764	Electrostatic coating

Note: All titles can be ordered from Heymanns Publishing House in Cologne or download from Internet.

4 DESCRIPTION

4.1 FIELDS OF APPLICATION, USING IN ACCORDANCE WITH THE INSTRUCTIONS

AquaCoat Spray Packs are equipped ready-for-use with the VM 2900W control unit, a GM 2900EAW air spray gun and matching hose set, a high voltage generator, all safety devices and spray material supply, and are therefore suitable for air atomizing applications.

4.1.1 PROCESSIBLE MATERIALS

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

Green	Non-flammable (non-combustible) paints
Yellow	Paints with low flammability
Red	Flammable paints

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

The following formula can be used to determine whether the spray material is non-flammable:

Weight % H_2O > 1.70 x Weight % LM + 0.96 x Weight % ORG

Where:

Weight %	weight percent
H_2O	water
LM	liquid organic phase (solvent mainly consisting of higher ethylene glycol esters)
ORG	solid organic phase (solids mainly consisting of binding agents and pigments)

Such paints behave like water in respect of flammability in liquid form (liquid phase) and in sprayed form. Cleaners and thinners must also be non-flammable. A possible cleaner and thinner is, e.g. water with less than 37 weight percent 1:1 butylene glycol/N-propanol.

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

4.2 EXTENT OF DELIVERY

AquaCoat Air spray Spray Packs can be assembled according to requirement and the desired accessories with the help of the Spray Pack configuration.
All devices are assembled ready-for-use in the factory on the basis of the resulting configuration number.

The scope of supply of each system includes:

Part No.	Description
	AquaCoat Spraypack consisting of: - AquaCoat cabinet - Spray gun GM 2900EAW - Control unit VM 2900W - Pump or pressure tank and - Accessories
353840	Operating manual German
see chapter 1	Operating manual for the other language
	Operating manual pump or pressure tank German
	Operating manual pump or pressure tank for the other language
see chapter 3.3	CE-Declaration AquaCoat

The delivery note shows the exact scope of delivery.

4.2.1 SPRAYPACK-CONFIGURATION

To order the AquaCoat Spray Pack, please use model identification *2304604-ABCDEFGHI* together with the following tables.

	Table ->	A	B	C	D	E	F	G	H	I
Example ->	2304604 -	1	3	1	1	4	2	1	2	2

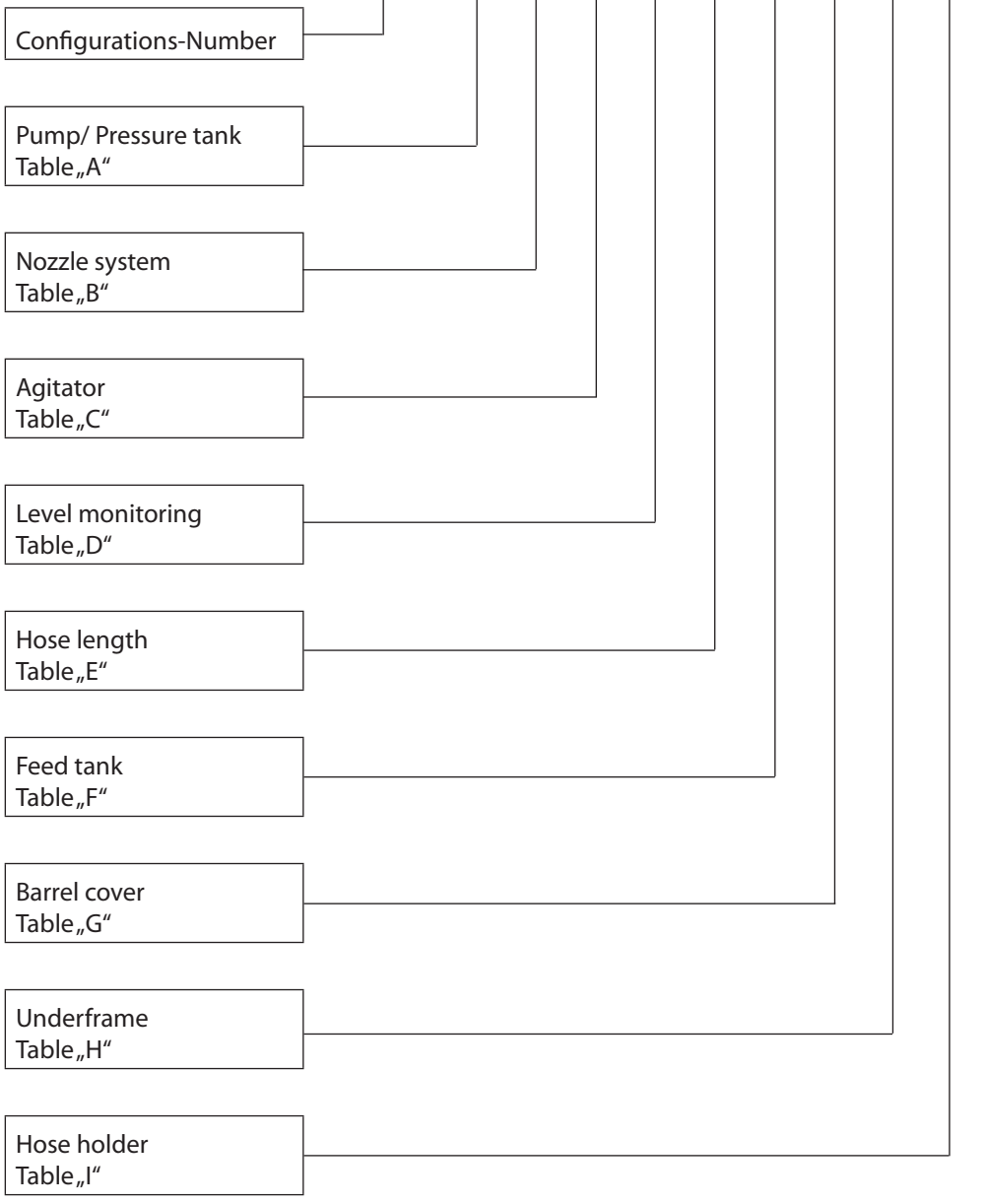


Table "A" - Pump/ Pressure tank	
Number	Type
1	Pressure tank LDG 5
2	Pressure tank LDG 10
3	Pressure tank LDG 20
4	Pressure vessel MDG 45
5	Pressure vessel MDG 60
6	Double diaphragm pump ZIP52
7	Pneumatic pump 3-130S

Table "B" - Nozzle system	
Number	Description
1	Flat jet incl. nozzle set 0.6
2	Flat jet incl. nozzle set 0.8
3	Flat jet incl. nozzle set 1.0
4	Flat jet incl. nozzle set 1.2
5	Flat jet incl. nozzle set 1.4
6	Flat jet incl. nozzle set 1.6
7	Flat jet incl. nozzle set 1.8
8	Flat jet incl. nozzle set 2.0
9	Round jet

Table "C" - Agitator	
Number	Type
1	not Agitator
2	Agitator

Table "D" - Level monitoring	
Number	Description
1	no
2	yes

Table "E" - Hose length	
Number	Type
1	7.5 m; 24.6 ft
2	10 m; 32.8 ft
3	15 m; 49.2 ft
4	20 m; 65.6 ft

Table "F" - Feed tank	
Number	Description
1	no
2	yes

Table "G" - Barrel cover	
Number	Type
1	no
2	Ø 350 mm; Ø 13.8 inch

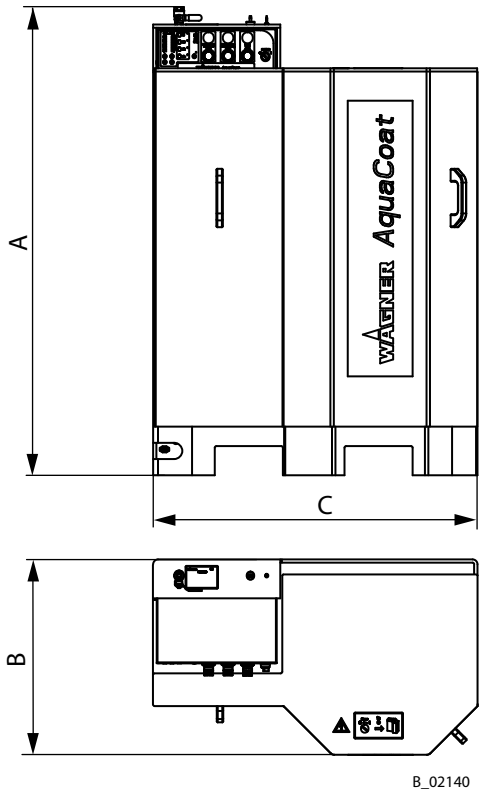
Table "H" - Underframe	
Number	Description
1	no
2	yes

Table "I" - Hose holder	
Number	Description
1	no
2	yes

4.3 TECHNICAL DATA

Weight (without Paint container and pump)	70 kg; 154 lb
Working temperature range	5-40 °C; 41-104 °F
Maxi. material temperature	60 °C; 140 °F
Sound pressure level	*When the cabinet is open:* Dependent on the installed pump; data can be found in the enclosed operating instructions. *When the cabinet is closed:* The values are 10 - 12 dB(A) lower.

Dimensions



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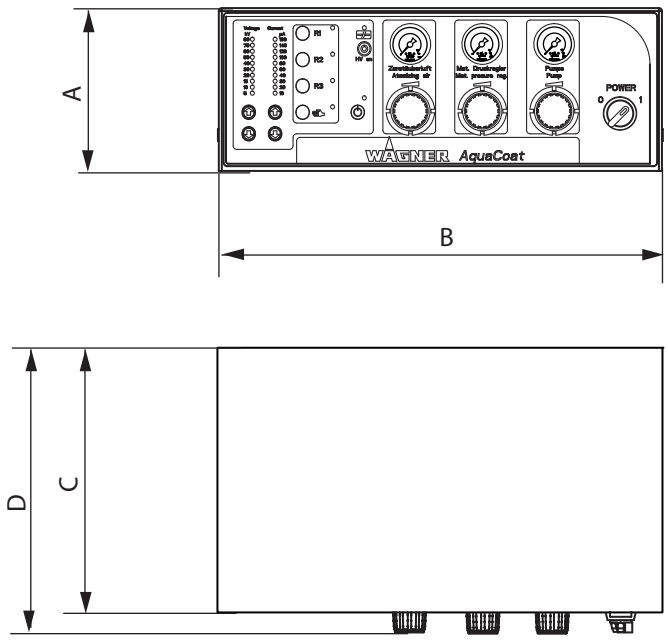
	mm	inch
A =	1390	54.72
B =	616	24.25
C =	1000	39.37

4.3.1 CONTROL UNIT VM 2900W

Description	Date	
Input voltage	85-264 VAC 47-440 Hz	
Input power	maxi. 25 W	
Output voltage	maxi. 22 Vpp	
Output current	maxi. 1.2 A	
High voltage limiter	70 kV DC	
Spraying current limit	120 µA DC	
Polarity	for positive and negative high voltage generator	
Weight (without cable)	6.2 kg	13.67 lb
Working temperature range	5-40 °C	41-104 °F

Dimensions



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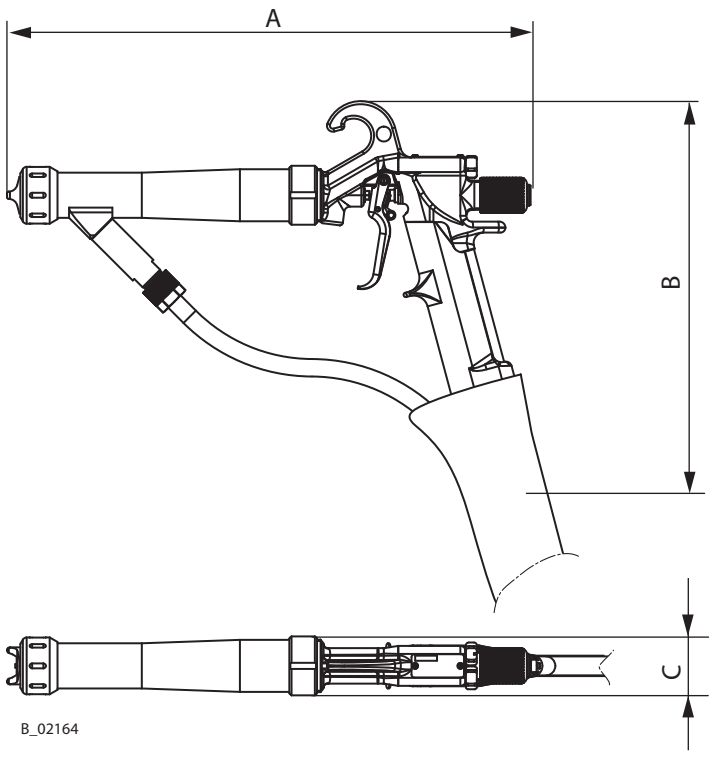
	mm	inch
A =	136	5.35
B =	370	14.57
C =	220	8.66
D =	252	9.92

4.3.2 SPRAY GUN GM 2900EAW

Description	Date		
Maxi. air pressure	0.8 MPa	8 bar	116 psi
Maxi. material pressure	0.8 MPa	8 bar	116 psi
Paint connection (mm/inch)	Aø 12 -Iø 6/ Oø 0.47 -Iø 0.24		
Air connection	R 1/4“		
Hose set lengths	7.5 m	24.6 ft	
	10 m	32.8 ft	
	15 m	49.2 ft	
	20 m	65.6 ft	
Weight (without cables)	0.7 kg	1.54 lb	
Working temperature range	5-40 °C	41-104 °F	
Maxi. material temperature	60 °C	140 °F	
Paint output volume	According to nozzle sizes (See nozzle list on accessories)		
Sound power at 0.2 MPa; 2 bar; 29 psi air pressure (depending on nozzle used)	65 - 79 dB(A)		

Dimensions



	mm	inch
A =	347	13.66
B =	255	10.04
C =	40	1.58

4.3.4 MATERIAL PRESSURE TANK LDG20

See separate operating instructions

4.3.5 DOUBLE DIAPHRAGM PUMP ZIP52

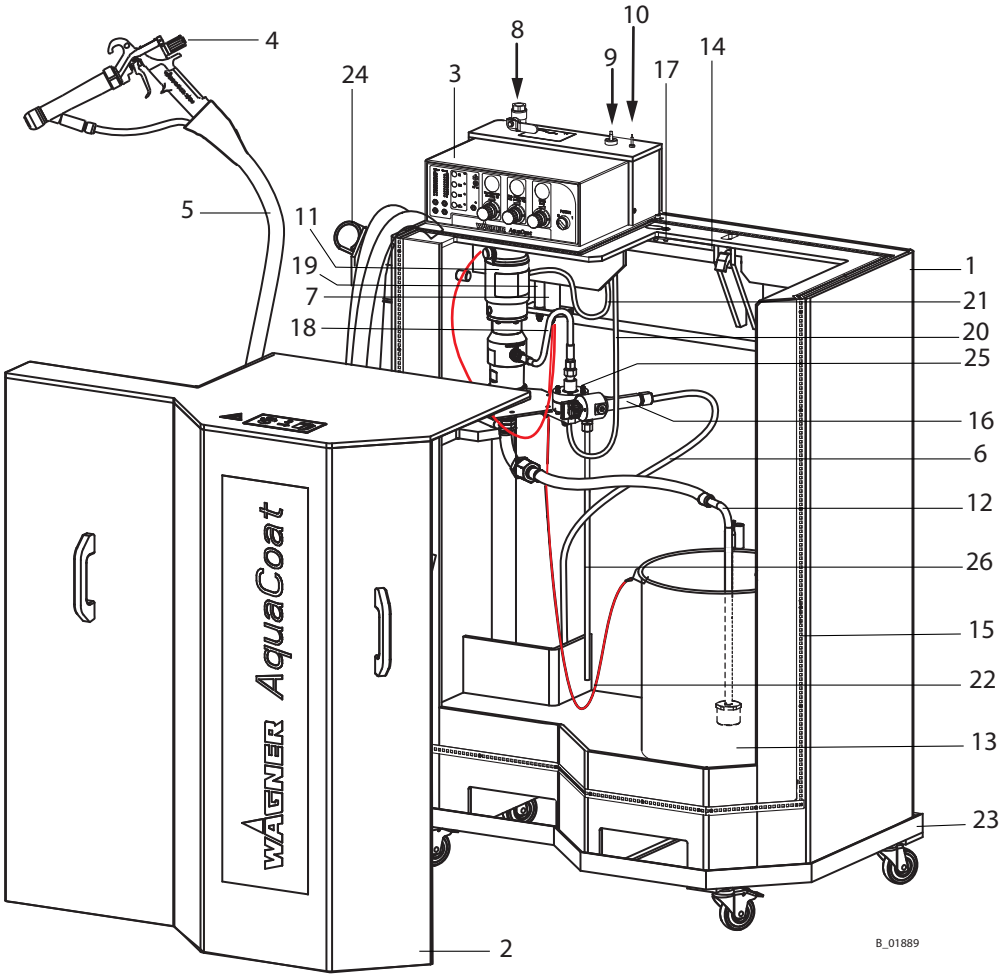
See separate operating instructions

4.3.6 PISTON PUMP 3-130S PE+TG

See separate operating instructions

4.4 FUNCTIONAL DESCRIPTION

4.4.1 DESIGN OF THE UNIT AND FUNCTION



Pos	Description
1	Cabinet AquaCoat assembly.
2	Front panel with 2 handles
3	Control unit VM 2900W
4	Spray gun GM 2900EAW
5	Hose set EAW
6	Paint hose (Filter-relief combination for spray gun)
7	Cascade AquaCoat
8	Air inlet assy. with ball valve
9	Inlet for mains cable
10	Earthing cable
11	Material pressure generator such as pneumatic pump or double membrane pump

Pos	Description
12	Suction system assy.
13	Paint reservoir or material pressure tank
14	Earthing switch (cylinder AquaCoat)
15	Earthing band
16	Filter-relief combination
17	Door switch
18	Paint hose (pump for material pressure regulator)
19	Resistor AquaCoat
20	Air hose (material pressure regulator)
21	Air hose (Material pressure generator)
22	HV-cable
23	Base frame assy. (Available, however, as additional extra)
24	Hose holder assy. (Available, however, as additional extra)
25	Material pressure regulator
26	Return tube

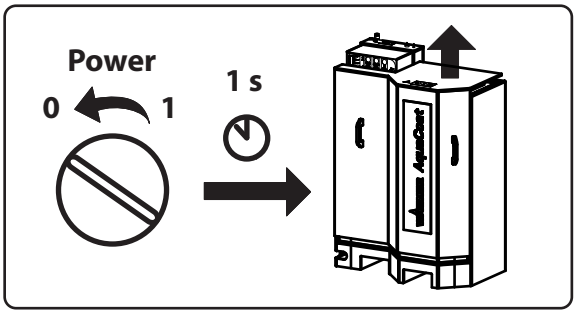
The AquaCoat spray system is designed for processing non-combustible liquids in accordance with the air spraying method.

The spray product is regulated via the trigger guard on the spray gun (4) and by the VM 2900W control unit (3), pressurized in the pressure tank or drawn in with a material pressure generator (11) via a suction system (12), electrostatically charged in the sealed off inner chamber of the AquaCoat cabinet (1) and sprayed in the nozzle of the spray gun with the help of atomizing air.

The pressure tank or material pressure generator and spray gun are connected by the shielded material hose.

The following functions are provided for system safety:
The earthing switch (14), the door switch (17), the earthing strip (15) and the integrated AquaCoat resistor (19).

Note:
Only mount or remove the front panel (2) when the control unit (3) is switched off. 1 second after the control unit (3) has been switched off, the system is earthed and the door lock opened.



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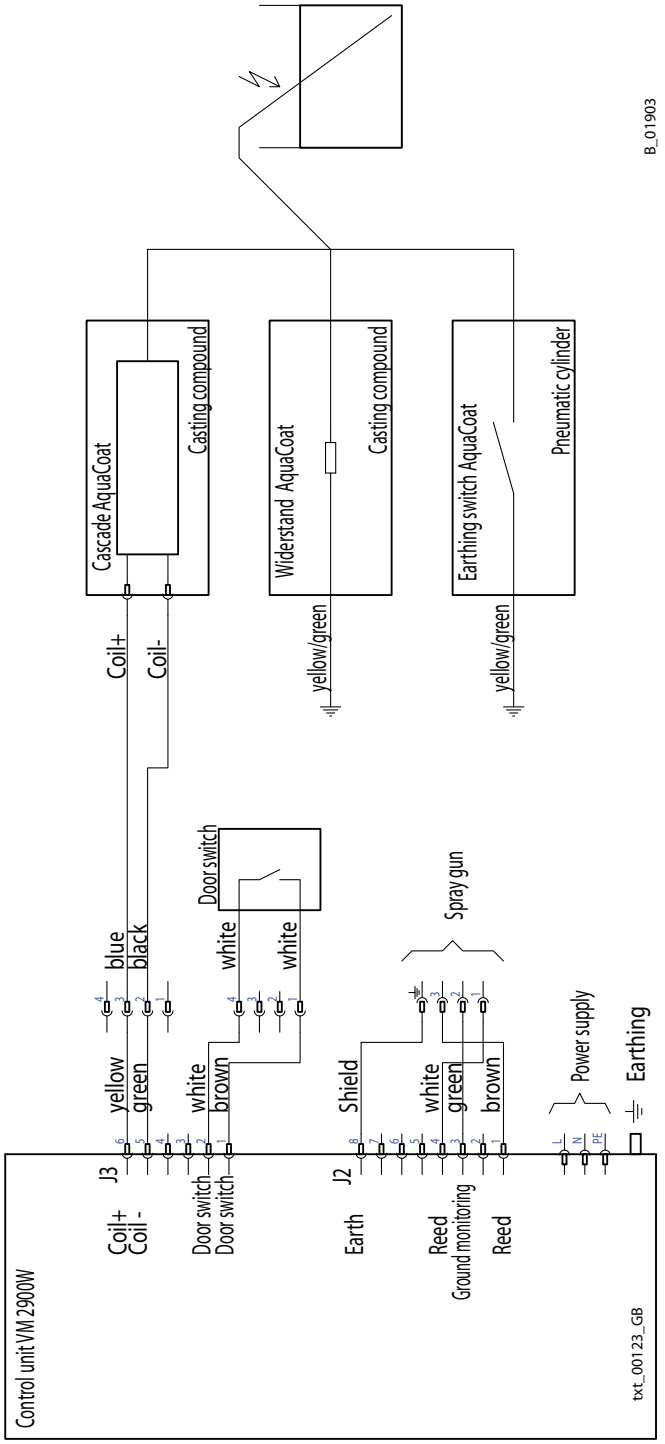
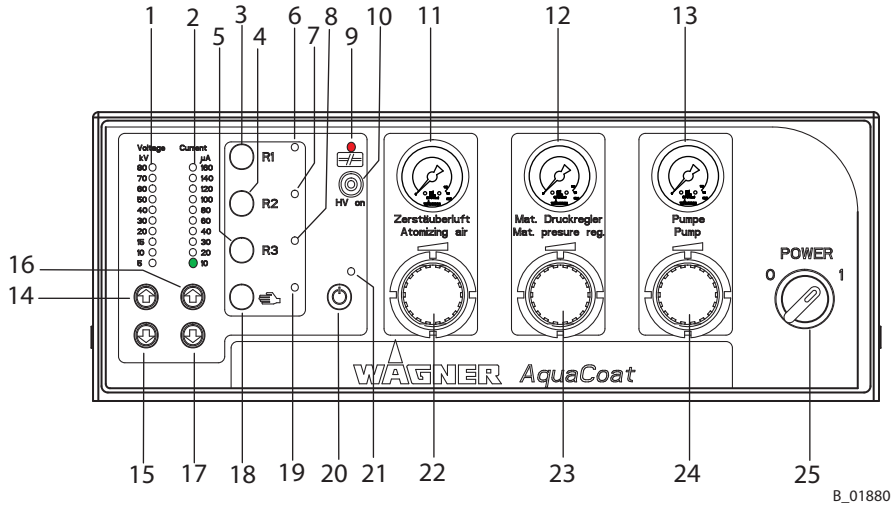
Electrical block diagram AquaCoat



4.4.1.1 CONTROL UNIT VM 2900W

The assembled spray system can be operated and regulated with the VM 2900W control unit.

Front



1 High voltage indicator (Luminous display green)
Readings between 0-80 kV.
(Resolution of 0-20 kV ->5 kV and 20-80 kV ->10 kV)
- Single LED display: Indicates the required high-voltage value in kV. (with the spray gun switched off)
- Bar graph LED display: Indicates the actual high-voltage value in kV. (with the spray gun switched on)

2 Spraying current display (Luminous display green)
Readings between 0-120 µA
(Resolution of 0-80 µA = 10 µA; to 80-120 µA = 20 µA)
- Single LED display: Current limiter activation point (with the spray gun switched off).
- Bar display: Indicates the actual corona current value (with the spray gun switched on).

3 Push button: display R1

4 Push button: display R2

5 Push button: display R3

6 Formula LED display R1:
Formula LED display (lights up green when formula R1 is selected).

7 Formula LED display R2:
Formula LED display (lights up green when formula R2 is selected).

8 Formula LED display R3:
Formula LED display (lights up green when formula R3 is selected).

9 Fault LED display (Illuminated display, red)
Lights up in the event of a fault in the AquaCoat -> see also description in Chap. 7.

10 High voltage LED display (Illuminated display, green)
Lights up when the high voltage on the gun is switched on.

11 Pressure gauge
- Atomization air pressure display for the spray gun
- Readings between 0-1 MPa; 0-10 bar; 0-145 psi.

12 Pressure gauge
- Material pressure regulator Pressure indication
- Readings between 0-1 MPa; 0-10 bar; 0-145 psi.

13 Pressure gauge
- Pump pressure display or material pressure display in the pressure tank.
- Readings between 0-1 MPa; 0-10 bar; 0-145 psi.

14 Push button: high voltage „higher“

15 Push button: high voltage „lower“

16 Push button: Spraying current limit „more“

17 Push button: Spraying current limit „less“

18 Push button: display - Manual setting of parameters

19 Display Manual formula setting LED display:
Lights up green when manual formula setting is selected.

20 Push button: Stand By
To switch to stand-by mode:
High voltage cannot be activated in this mode.
Press the button again for normal operation.

21 Display LED Stand-By
Lights up when stand-by mode is activated.

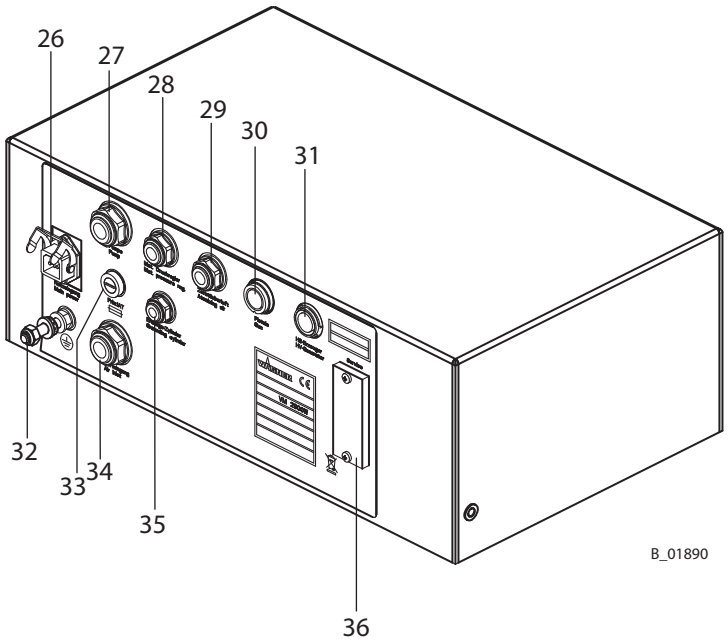
22 Regulator
Pressure for the atomization air.
Adjustment between 0-1.0 MPa; 0-10 bar; 0-145 psi.

23 Regulator
Pressure for the material pressure on the material pressure controller
Adjustment between 0-1.0 MPa; 0-10 bar; 0-145 psi.

24 Regulator
Pressure for the pump pressure or the material pressure in the pressure tank.
Adjustment between 0-1.0 MPa; 0-10 bar; 0-145 psi.

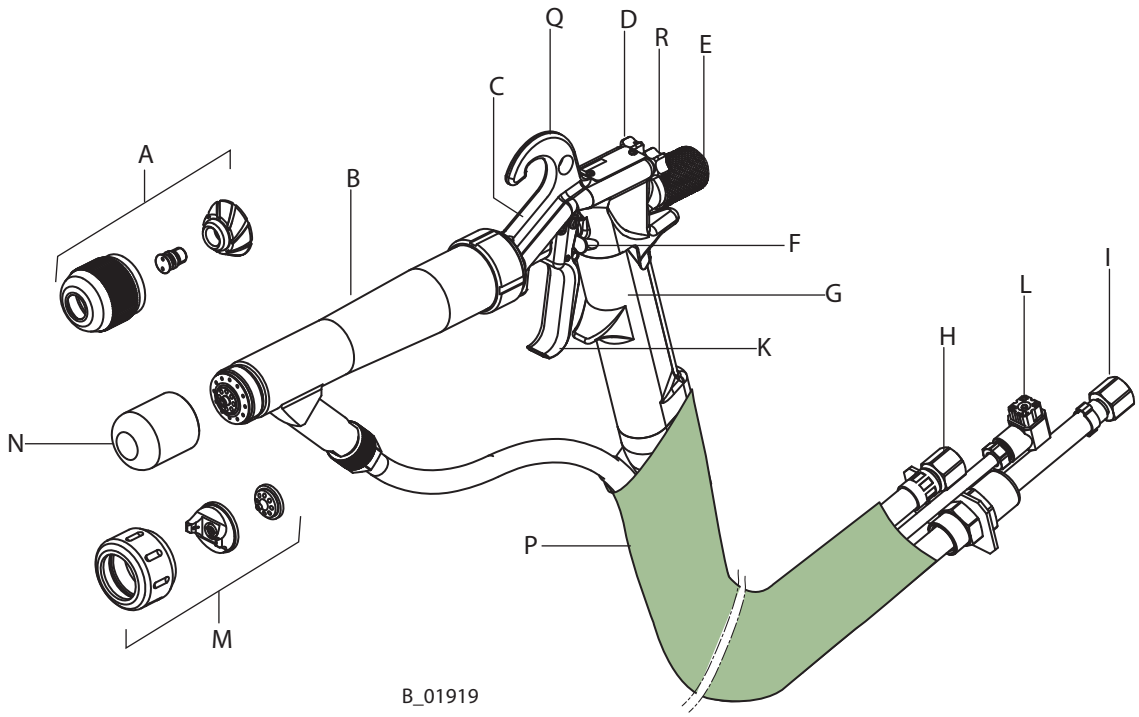
25 Selector (mains supply)
0 = Control unit switched off
1 = Control unit switched on

Rear



26 Mains socket
Connection for mains cable with securing clip
27 Connection pump air
Hose connection ø 10 mm; ø 0.39 inch.
28 Connection Material pressure regulator
Hose connection ø 8 mm; ø 0.32 inch.
29 Connection atomization air
Hose connection ø 8 mm; ø 0.32 inch.
30 Mains socket
Connection for gun cable
31 Mains socket
Connection for high voltage generator
32 Self-locking nut earthing
Connection for the earthing cable (system earth)
33 Primary fuse
1.0 ampere slow-acting
34 Compressed air inlet
Hose connection ø 10 mm; ø 0.39 inch.
35 Connection Earthing switch, air
Hose connection ø 6 mm; ø 0.24 inch.
36 Cover
Service connection

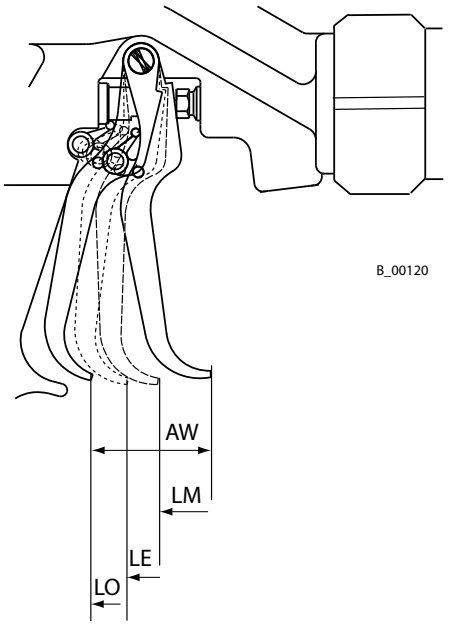
4.4.1.2 SPRAY GUN GM 2900EAW



A	Nozzle set EAR Supra
B	Attachment
C	Gun body
D	Atomising air regulator
E	Tension nut
F	High Voltage switch (integrated into trigger)
G	Handle
H	Air hose Atomising air
I	Material hose
K	Trigger
L	Gun cable
M	Nozzle set EAF
N	Protective cap
P	Protective hose
Q	Suspension hook
R	Flat jet air regulation

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

AW = Maxi. way of trigger
LM = Air open
LE = Air open and electrostatics activated
LO = Air open and electrostatics activated and material valve open



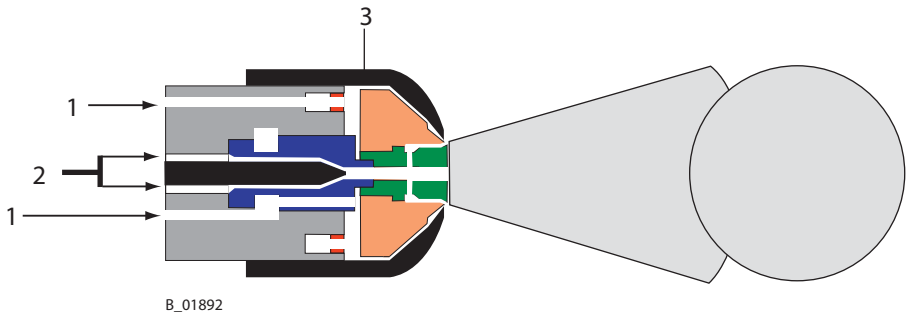
→ An increase in the tension needed to pull the trigger back will be felt at the position where the material valve opens.
→ In order to overcome Faraday cages in corners, the high voltage can be switched off by flipping the HV switch (F) down
→ The supply of atomizing and flat jet air is adjusted by means of the star handles D (or R).

4.4.1.2.1. AIR ATOMIZING ROUND AND FLAT JET PROCESS

In this process, the material (paint) is fed to the nozzle with low pressure approx. 0.05-0.2 MPa; 0.5-2 bar; 7-29 psi. The atomizing air at approx. 0.25-0.4 MPa; 2.5-4 bar; 36-58 psi produces a soft jet, which largely eliminates the problem of overlapping boundaries.

4.4.1.2.1.1 AIR ATOMIZING ROUND JET PROCESS

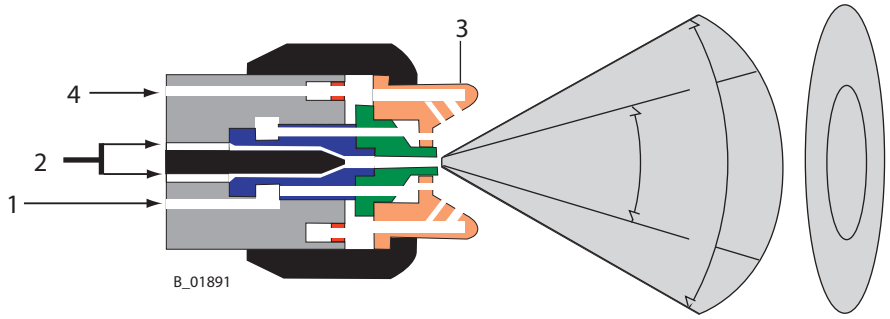
The jet is cone-shaped.



1 Atomization air 2 Spraying material 3 Nozzle nut

4.4.1.2.1.2 AIR ATOMIZING FLAT JET PROCESS

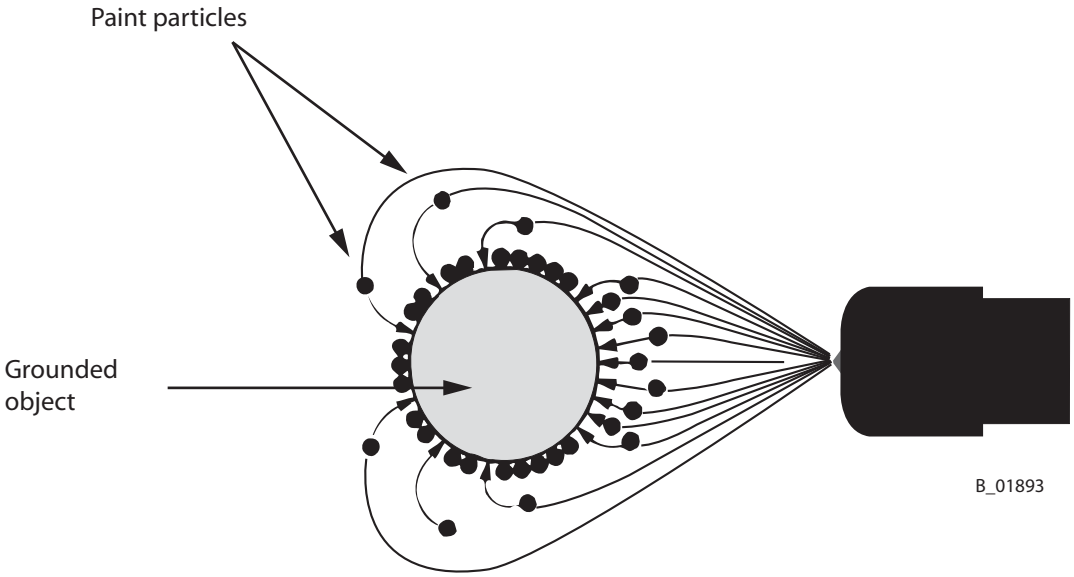
The spraying angle can be adjusted using the horn air (flat jet width regulation). There are various nozzles and air caps available as accessories for the respective spraying material and the output amounts (see accessories).



1 Atomization air 2 Spraying material 3 Air cap 4 Shaping air

4.4.1.2.1.3 THE ELECTROSTATIC EFFECT

After being electrically charged in the system and atomized by the spray gun, the paint particles are now transported by kinetic and electrostatic energy to the earthed workpiece and adhere to the sprayed object, finely distributed over the entire surface.



4.4.1.3 MATERIAL PRESSURE TANK LDG20

See separate operating instructions

4.4.1.4 DOUBLE DIAPHRAGM PUMP ZIP52

See separate operating instructions

4.4.1.5 PNEUMATIC PUMP 3-130S PE+TG

See separate operating instructions

5 STARTING UP AND OPERATING

5.1 INSTALLATION AND CONNECTION

⚠WARNING

Incorrect installation/operation!
Risk of injury and damage to equipment

→ When putting into operation and for all work, read and follow the operating instructions and safety regulations for the additionally required system components.

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Check the individual components of the AquaCoat spray system against the delivery note. Familiarize yourself with the mode of functioning of the individual components of the Aquacoat spray system, reading the enclosed operating instructions thoroughly. Note the special requirements of the electrostatic air spray procedure.

5.1.1 VENTILATION OF THE SPRAY BOOTH

⚠WARNING

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

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

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5.1.2 AIR SUPPLY

You must ensure that only dry, clean atomizing air is used in the spray gun. Dirt and moisture in the atomising air reduce the spraying quality and the appearance of the finished piece.

5.1.3 FLUID (PAINT) HOSES

CAUTION

Impurities in the spraying system!
Spray gun blockage, materials harden in the spraying system

→ Flush the spray gun and paint supply with a suitable cleaning agent.

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⚠ DANGER

Bursting hose, bursting threaded joints!
Danger to life from injection of material

→ Ensure that the hose material is chemically resistant.
→ Ensure that the spray gun, threaded joints and material hose between the unit and the spray gun is suitable for the pressure generated in the unit.
→ Ensure that the following information can be seen on the high-pressure hose:
- Manufacturer
- Permissible operating pressure
- Date of manufacture.

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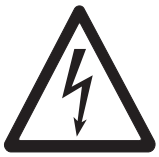

⚠ CAUTION

Electrical discharges!
Danger due to electrically charged material lines

→ The conductive sheath of the material hose must not be removed and the connections to the earth potential must not be loosened.
1. Earth connection in the cabinet.
2. Earth connection in the gun.

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5.1.4 EARTHING

Perfect earthing of all system components (workpieces, conveyor, paint supply system, control unit, spraying cabin or spraying stand, se illustration) is a prerequisite for optimum coating efficiency and safety.

⚠WARNING

Heavy paint mist if earthing is insufficient!
Risk of poisoning
Insufficient paint application quality

→ Earth all unit components.
→ Earth the workpieces being painted.

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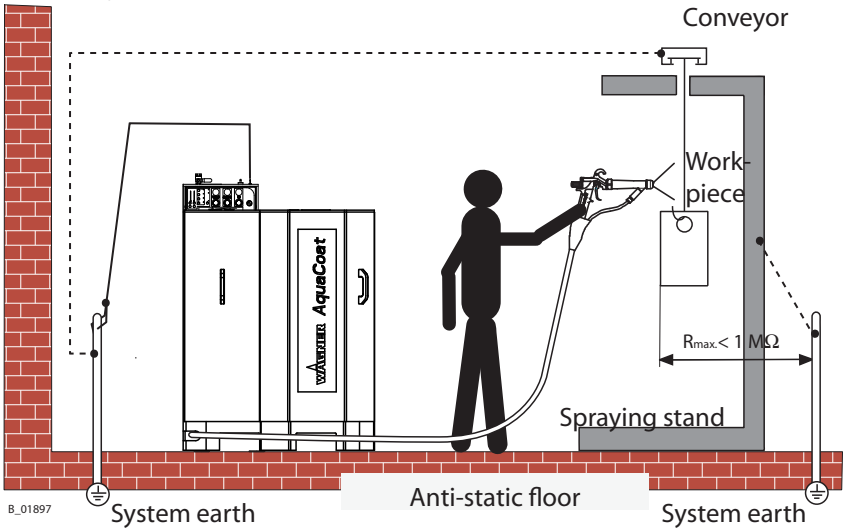
The imperfect earthing of a workpiece will result in:
- Very poor wrap-around
- Uneven coating thickness
- Backspraying to the spray gun, i.e. contamination.

The prerequisites for perfect earthing and coating are:
- Clean workpiece suspension
- Earthing of spraying cabin, conveyor system and suspension on the building side in accordance with the operating instruction or the manufacturer's information
- Earthing of all conductive parts within the working area.
- The earthing resistance of the workpiece must not exceed 1 MΩ (Mega Ohm).
- Connect the AquaCoat cabinet to the system earth.

Earthing scheme (example)



Minimum cable diameters

AquaCoat cabinet	4 mm²; AWG 12
Conveyor	16 mm²; AWG 6
Spraying booth	16 mm²; AWG 6
Spraying stand	16 mm²; AWG 6

5.1.5 SAFETY CHECKS

5.1.5.1 EARTHING CHECK

Daily:

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

5.1.5.2 INSPECTION OF THE SAFETY ELEMENTS

Daily:

- General visual inspection:
  Earthing band, all cables and connections for damage or loose contacts examine .

Monthly:

- Door switch test:
  Remove the front panel.
  Turn on control unit.
  Actuate the trigger guard on the spray gun.
  The high voltage must remain switched off.

- Earthing cylinder test:
  Insert front panel.
  Turn on control unit.
  Acoustically ascertain switch movement.
  Check that the front panel is locked.
  Turn off control unit.
  Acoustically ascertain switch movement.

5.2 PREPARATION OF WATER PAINT

The viscosity of the paints is of great importance. The best results are obtained with paints between 25 and 40 DIN sec (measured in immersion flow cup DIN 4 mm; 0.16 inch).
Processing of up to 60 DIN-s is generally possible without problem, if high coating thicknesses are required.
In the case of application problems contact the paint producer.

5.2.1 VISCOSITY CONVERSION TABLE

milli Pascal x Sec mPas	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		

5.3 START-UP

5.3.1 GENERAL RULES FOR HANDLING THE SPRAY GUN

→ Observe general **safety instructions** in chapter 2.

⚠ DANGER

High voltage field!
Danger to life from malfunctioning heart pacemakers

Ensure that persons with heart pacemakers:
→ Do not work with the electrostatic spray gun.
→ Remain outside the area of the electrostatic spray gun/work piece.

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⚠ WARNING

Unintentional putting into operation!
Risk of injury

Before all work on the unit, in the event of work interruptions and functional faults:
→ Switch off the energy/compressed air supply.
→ Relieve the pressure from the spray gun and unit.
→ Secure the spray gun against actuation.
→ By functional faults: Identify and correct the problem, proceed as described in chap „Trouble shooting".

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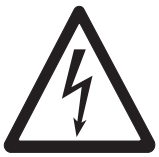

⚠ CAUTION

Electrical discharge!
Risk of injury

→ 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.

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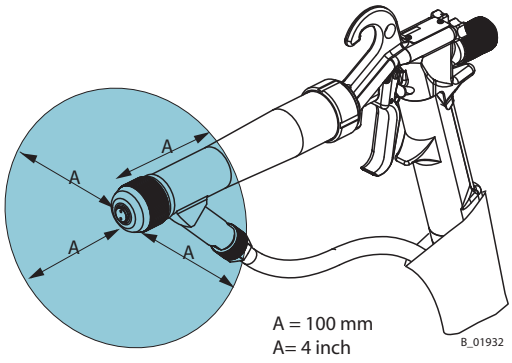
Danger zone



Note:
In order to avoid electrical discharges, a distance of 100 mm; 4 inches must be maintained from the workpiece and other earthed objects during the spray process.

5.3.2 PREPARATION FOR STARTING UP

CAUTION

Impurities in the spraying system!
Spray gun blockage

→ Flush the spray gun and paint supply with a suitable cleaning agent before putting into operation.

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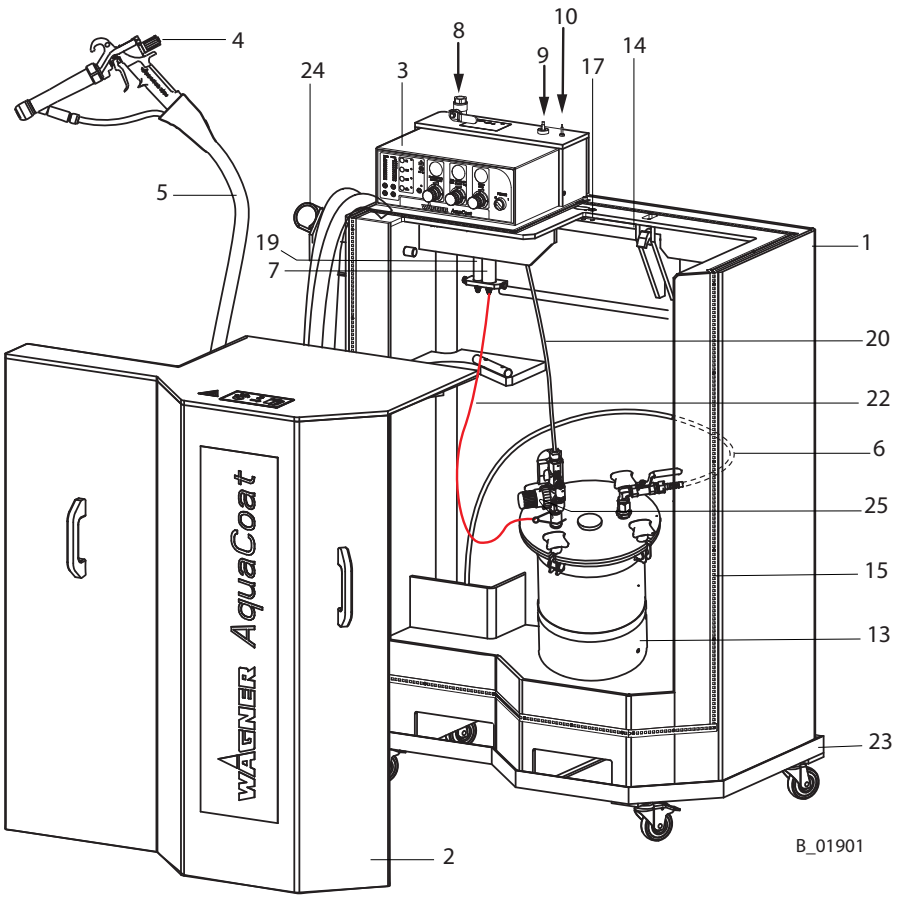
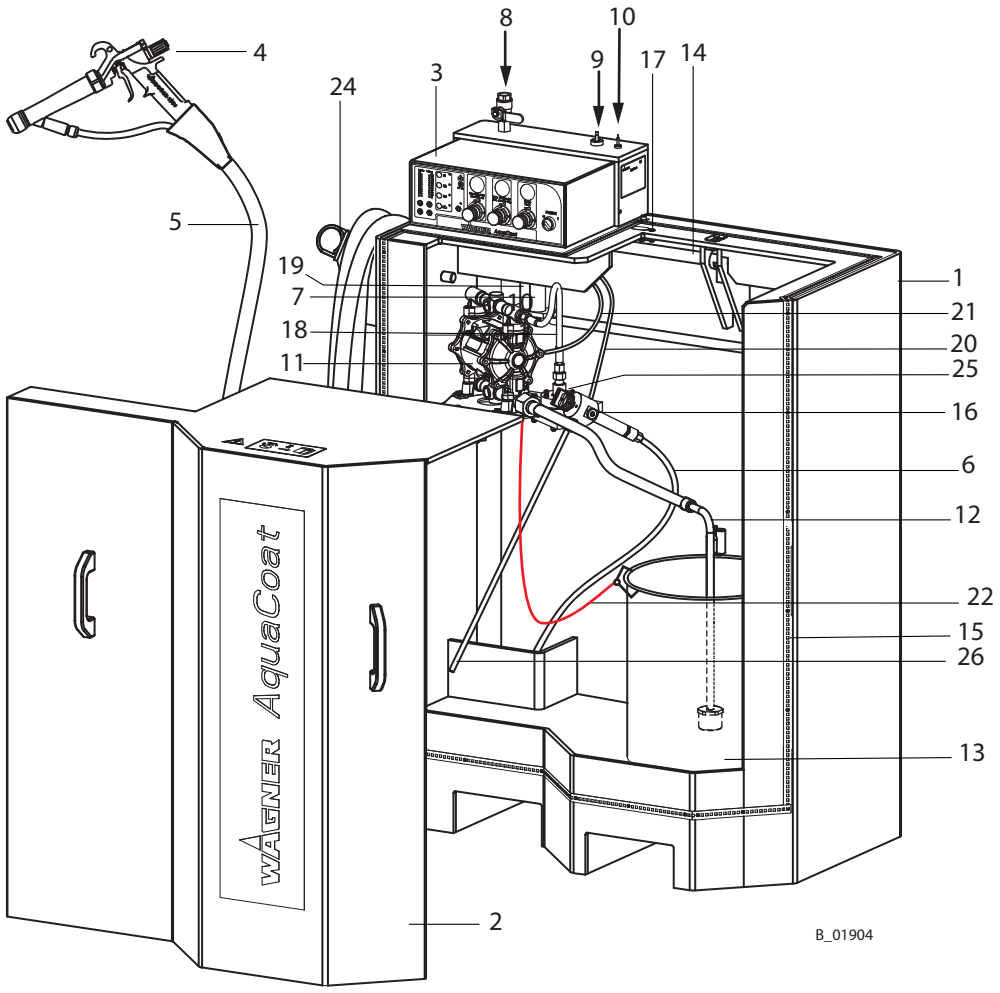
5.3.2.1 SPRAYPACK WITH PRESSURE TANK



The following points must be noted:

1. Open the outlet valve on the pressure tank (13).
2. Clamp the HV cable (22) to the pressure tank.
3. Loosen the knurled nuts by turning to the left and remove the cover.
4. Fill the pressure tank with a suitable detergent, so that the system can be checked for leaks.
5. Put on the cover and close it by turning the knurled nuts to the right, then tighten by hand.
6. Set the maximum value on the pressure tank pressure controller.
7. Connect the earth.
8. Connect the AquaCoat system to the compressed air source (8). Set maximum pressure 0.6 MPa; 6 bar; 87 psi on the material pressure control unit. Maintain the pressure for 5 minutes and check all connecting parts for leaks.
9. When the tightness of the system has been ascertained, the spray gun can be unlocked and the system flushed through.
10. Depressurize the system and secure the spray gun.
11. Open pressure tank (13) and empty detergent or water.
12. Fill the pressure tank with paint, taking care not to exceed the maximum level.
13. Put on the pressure tank cover and tighten all knurled nuts by hand.
14. Connect the AquaCoat system to the electric socket with the electric cable (9).
15. Insert front panel (2). Switch on mains switch on the VM 2900W.
16. The system is ready for use.

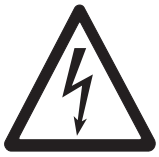
5.3.2.2 SPRAYPACK WITH DOUBLE DIAPHRAGM PUMP



The following points must be noted:

1. Place container (13) with suitable detergent into the AquaCoat cabinet and immerse the suction system, so that the system can be checked for leaks
2. Connect the earth..
3. Connect the AquaCoat system to the compressed air source (8). Set maximum pressure 0.6 MPa; 6 bar; 87 psi on the material pressure control unit. Maintain the pressure for 5 minutes and check all connecting parts for leaks.
4. When the tightness of the system has been ascertained, the spray gun can be unlocked and the system flushed through.
5. Depressurize the system and secure the spray gun (4).
6. Remove the detergent.
7. Fill the material container (13) with paint, place in the cabinet and immerse the suction system (12).
8. Clamp HV cable (22) to the metal material container (13) or, in the case of a plastic container, to the metal part of the suction system (12).

9. Connect the AquaCoat system to the electric socket with the electric cable (9).
10. Insert front panel (2). Switch on mains switch on the VM 2900W.



⚠ CAUTION

Electrical discharge when using coated material containers!
Risk of injury, material charge not optimal

→ Ensure that the metal part of the container is connected to the HV cable (e.g. remove coating from around the connection point).

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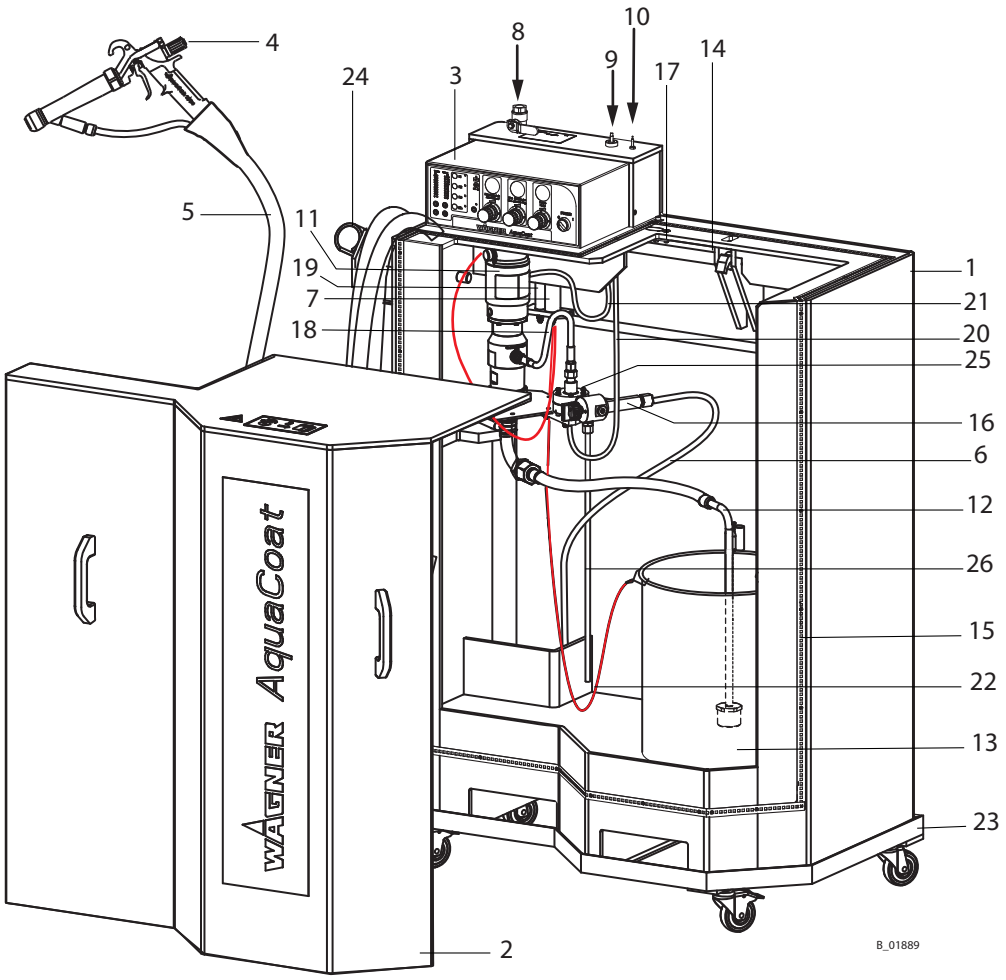
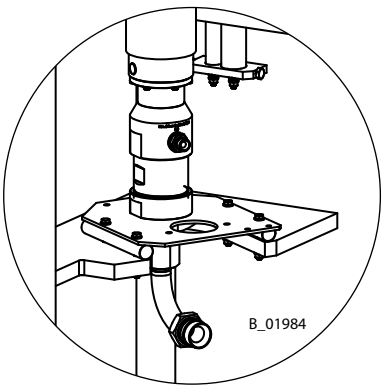
11. The system is ready for use.

5.3.2.3 SPRAYPACK WITH PNEUMATIC PUMP 3-130S

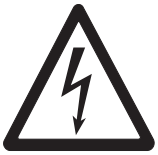




Note:
The 3-130S pump must be mounted in the rear hole of the mounting plate, as shown in the illustration.

The following points must be noted:

1. Place container (13) with suitable detergent into the AquaCoat cabinet and immerse the suction system, so that the system can be checked for leaks.
2. Connect the earth.
3. Connect the AquaCoat system to the compressed air source (8). Set maximum pressure 0.6 MPa; 6 bar; 87 psi on the material pressure control unit. Maintain the pressure for 5 minutes and check all connecting parts for leaks.
4. When the tightness of the system has been ascertained, the spray gun can be unlocked and the system flushed through.
5. Depressurize the system and secure the spray gun (4).
6. Remove the detergent.
7. Fill the material container (13) with paint, place in the cabinet and immerse the suction system (12).
8. Clamp HV cable (22) to the metal material container (13) or, in the case of a plastic container, to the metal part of the suction system (12).
9. Connect the AquaCoat system to the electric socket with the electric cable (9).
10. Insert front panel (2). Switch on mains switch on the VM 2900W.



⚠CAUTION

Electrical discharge when using coated material containers!
Risk of injury, material charge not optimal

→ Ensure that the metal part of the container is connected to the HV cable (e.g. remove coating from around the connection point).

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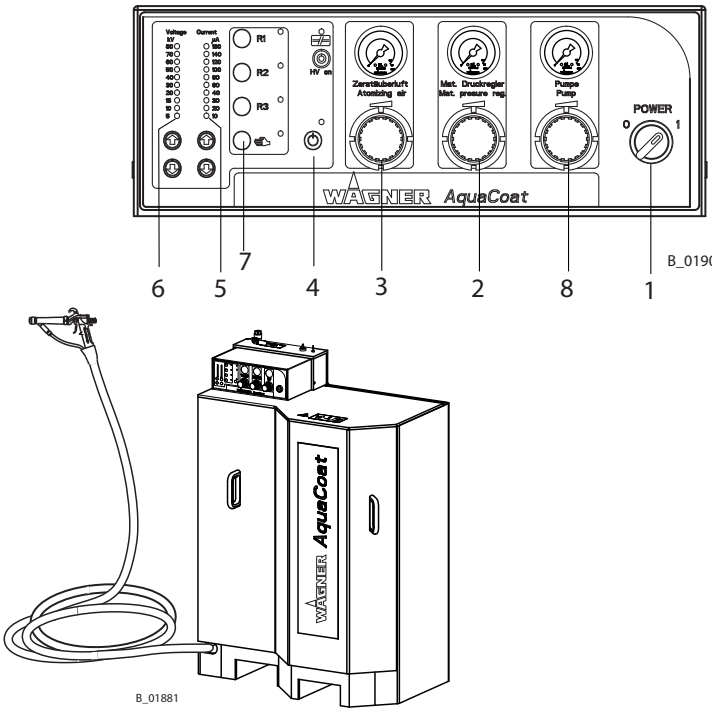
11. The system is ready for use

5.4 WORKS

5.4.1 START-UP FOR SPRAYING WITH FLAT JET NOZZLE

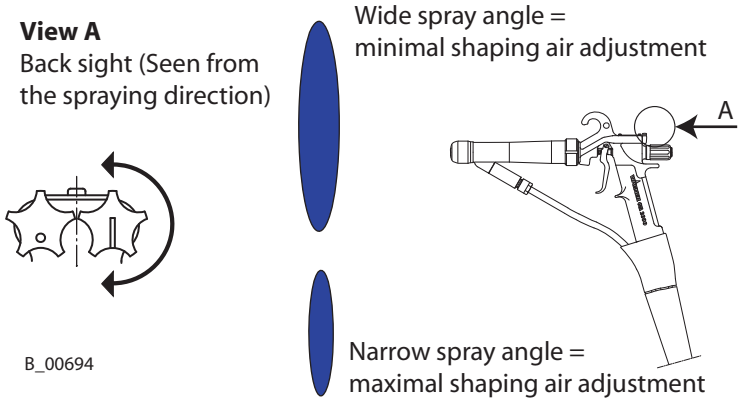


1. Turn on the control unit VM 2900W. Set main switch (1) to position 1. During the start-up phase, the device automatically performs an internal function test and then automatically switches to manual formula setting (7).
2. Set the desired formula.
3. Switch on the material supply (2) adjust from approx. 0.05-0.15 MPa; 0.5-1.5 bar; 7-22 psi.
4. Unlock spray gun with tension cap.
5. If the trigger guard is now actuated, the high voltage is switched on and both displays (6) and (5) change from point to bar display, i.e. the actual value of the high voltage (6) and the actual value of the spray current (5) are displayed.
6. The high voltage can be switched on and off with the push button (4).
7. Spray on a test object (press the trigger).
8. Adjust the spray pressure (2) and atomizing air (3) in accordance with the nozzle and object.

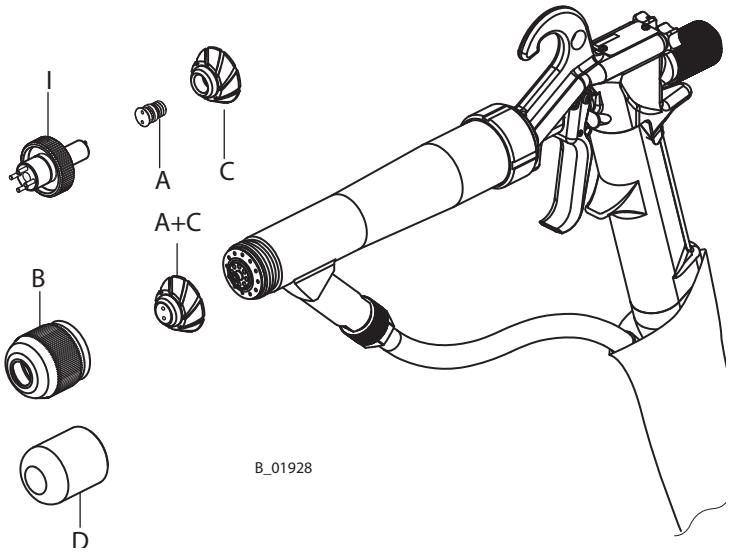
Note:
The paint output volume can be changed by:
- Changing the material pressure
  or
- Fitting another nozzle. See accessories

5.4.2 ADJUST THE SPRAY ANGLE BY FLAT JET NOZZLES

The spray pattern shape can be optimal adapted to the sprayed object with the flat-jet air regulating pin. Other nozzle sizes can be used to obtain larger or smaller spraying patterns.

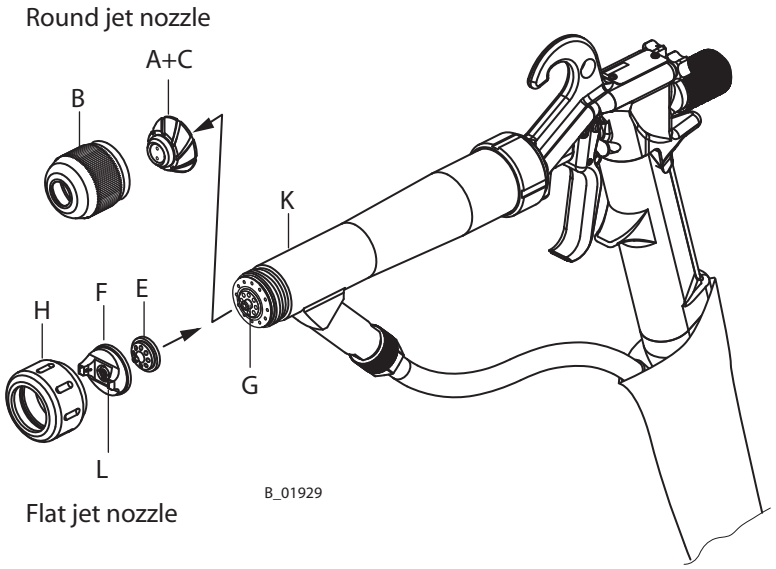


5.4.3 EXCHANGE OF ROUND JET NOZZLE INSERT - ROUND JET NOZZLE



1. Switch off the control unit and remove the front panel.
2. Relieve spray gun and unit pressure.
3. Replace paint with cleaning solvent, and.
4. Thoroughly flush spray gun.
5. Relieve spray gun and unit pressure.
6. Unscrew the nut (B) by hand and remove it.
7. Remove the nozzle body (C) and the nozzle insert Supra (A).
8. Unscrew nozzle insert Supra (A) with nozzle spanner (I) from the nozzle body (C).
9. Assemble in reverse order.

5.4.4 CHANGING FROM ROUND JET NOZZLE TO FLAT JET NOZZLE

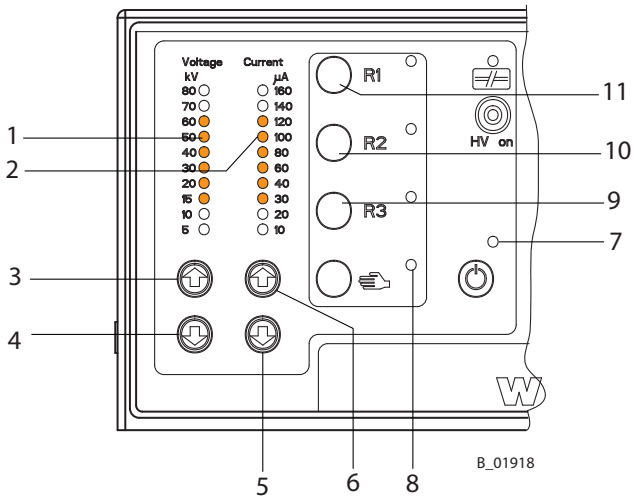


1. Switch off the control unit and remove the front panel.
2. Relieve spray gun and unit pressure.
3. Replace paint with cleaning solvent, and.
4. Thoroughly flush spray gun.
5. Relieve spray gun and unit pressure.
6. Unscrew the nut (B) by hand and remove it.
7. Remove the nozzle body (C) and the nozzle insert Supra (A).
8. Take flat jet nozzle (E) into air cap (F). Place both of them parts in the cone of the collar (G).
9. Screw nut (H) on the gun body (K). Adjust desired jet level by means of air cap horn (L). Tighten by hand the air cap (F) on the gun body (K).

5.4.5 CONTROL UNIT VM 2900W - FORMULAS

The VM 2900W control unit has 4 preset formulas.
These formulas are set in the factory as follows:

R1: Profiled parts (11)	70 kV	120 µA
R2: Re-coating (10)	60 kV	100 µA
R3: Surface parts (9)	40 kV	60 µA
Manual setting: (8)	60 kV	80 µA



5.4.6 CONTROL UNIT VM 2900W -MODIFICATION AND STORAGE OF FORMULAS

1. Increase or reduce the high voltage with key 3 or 4.
2. Set the current limiter higher or lower with key 5 or 6
3. The device has switched to manual formula setting 8.
4. Keep the formula key pressed down until the middle six diodes light up on both bar displays 1 and 2.
5. The new values are now stored in this formula and are preserved even when the control unit is switched off.

6 MAINTENANCE

→ Observe **safety instructions** in chapter 2.

The spray equipment AquaCoat must be cleaned and rinsed out every day. Use only the cleaning solvent recommended by the material manufacturer.

CAUTION
Cleaning agent in the air duct! Functional faults caused by swollen seals → Never immerse the spray gun in cleaning agent or water.

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⚠ WARNING
Incorrect maintenance/repair! Risk of injury and damage to the equipment → Repairs and part replacement may only be carried out by specially trained staff or a WAGNER service center. → Before all work on the unit and in the event of work interruptions: - Switch off the energy/compressed air supply. - Relieve the pressure from the spray gun and unit. - Secure the spray gun against actuation. → Observe the operating and service instructions when carrying out all work.

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6.1 FINISHING WORK AND CLEANING

1. Switch off the control unit and remove the front panel.
2. Ensure that the material pressure is relieved and shut off the air supply to the gun.
3. Remove round-jet or flat-jet nozzle and clean separately.
4. Connect the system to the detergent supply.
5. Actuate the trigger guard and flush the gun through thoroughly.
6. Relieve the pressure of gun and device and remove the detergent supply.
7. Switch on the air supply to the gun and blow through the air channels.
8. Switch off the air supply to the gun.
9. Relieve unit pressure and secure the spray gun.
10. Clean the body of the gun and other AquaCoat components with a washing solution recommended by the paint manufacturer and dry with a cloth or an air-jet gun.

CAUTION

Cleaning agent in the air duct!
Functional faults caused by swollen seals

→ Always point the spray gun down when cleaning.
→ Ensure that neither paint nor cleaning agent enters the air duct.

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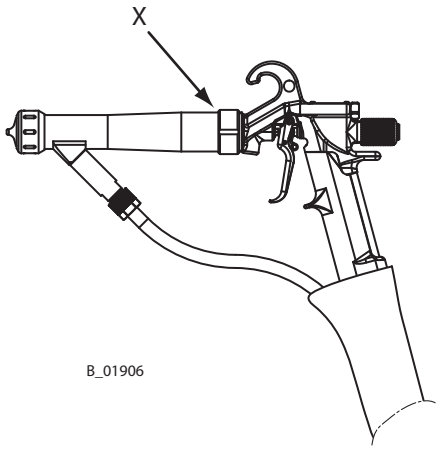
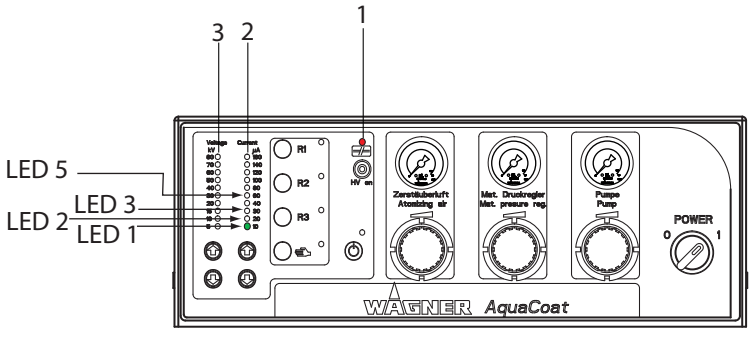


The gun barrel (X) may only be detached by the WAGNER Service Station.

7 TROUBLE SHOOTING AND SOLUTION

Problem	Cause	Solution
Insufficient material discharge	• Nozzle too small	• Flat jet: Select larger nozzle (See nozzle list)
	• Material pressure to low	• Increase material pressure
	• Material viscosity to high	• Thin material in accordance with the manufacturer,s instructions
	• Filter in material supply clogged	• Clean or replace filter
	• Nozzle is clogged	• Clean or replace nozzle
	• Union screw is screwed in to far	• Turn union screw anticlockwise
Poor spray pattern	• Wrongly adjusted atomizing air	• Readjust atomizing air
	• Nozzle too large	• Select smaller nozzle (See nozzle list)
	• Material viscosity to high	• Thin material in accordance with the manufacturer,s instructions
	• Material pressure to high	• Reduce material pressure
	• Damaged nozzle	• Replace nozzle
Air leaks	• Air valve seal on valve tappet leaking	• Have seal replaced by WAGNER Service Department
	• Seal on air regulating pin leaking	• Have seal replaced by WAGNER Service Department
	• Tappet seal leaking	• Have tappet seal replaced by WAGNER Service Department
Poor wrap-around	• Poor earthing at object	• Check earthing of object or hanger with ohmmeter
	• Paint resistance to high / to low	• Check resistance of paint in accordance with chap. 4.1.1
	• Spraying pressure to high	• Readjust pressure
Backspraying	• Object not earthed	• Check earthing
	• Distance between spray gun and object to large	• Reduce distance between spray gun and object
	• High voltage set wrongly (to high)	• Adapt high voltage to material

Problem	Cause	Solution
No wrap-around	• No high-voltage	• Check function of control unit in accordance with its manual
		• Switch on HV
	• Seal in end piece defective	• Repaired by Wagner Service
	• Air-passages damp	• Cleaning air-passages and drying
Leaking material at the nozzle	• Valve seat (2) worn	• Replace part and check for leaks with air in water. (see chap. 8.1) If still leaking, change valve rod tip
	• Valve rod tip (13) worn	• Replace valve rod tip (see chap. 8.3)
	• Seal (4) in chap. 8.2 or seal (16) in chap. 8.2 over-tightened.	• Loosen sealing screw (3) or sealing screw (10) until valve rod (14) closes
VM 2900W: No green LED displays (2) and (3) visible	• Mains power not turned on	• Turn on mains power
	• Stand by Mode	• Deactivate stand-by mode
	• Fuse defective	• Replace fuse
VM 2900W:„Fault“ display (1) lights up together with LED 1	• Internal error	• HV-module defective Wagner Service
VM 2900W:„Fault“ display (1) lights up together with LED 2	• Calibration value lost	• HV-module defective Wagner Service
VM 2900W:„Fault“ display (1) lights up together with LED 3	• Cascade not connected or defective	• Connect or replace cascade
VM 2900W:„Fault“ display (1) lights up together with LED 5	• Earth monitoring	• Check spray gun earth



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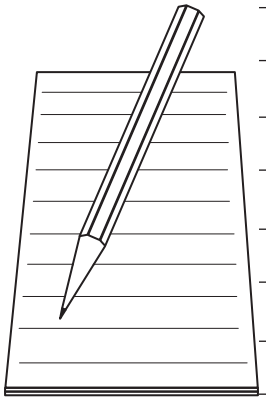

8 REPAIRS

⚠WARNING

Incorrect maintenance/repair!
Danger to life and equipment damage

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

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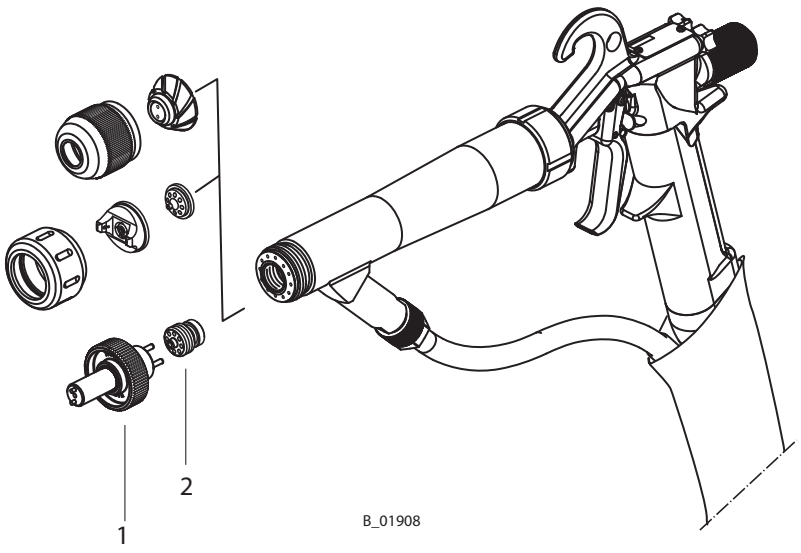
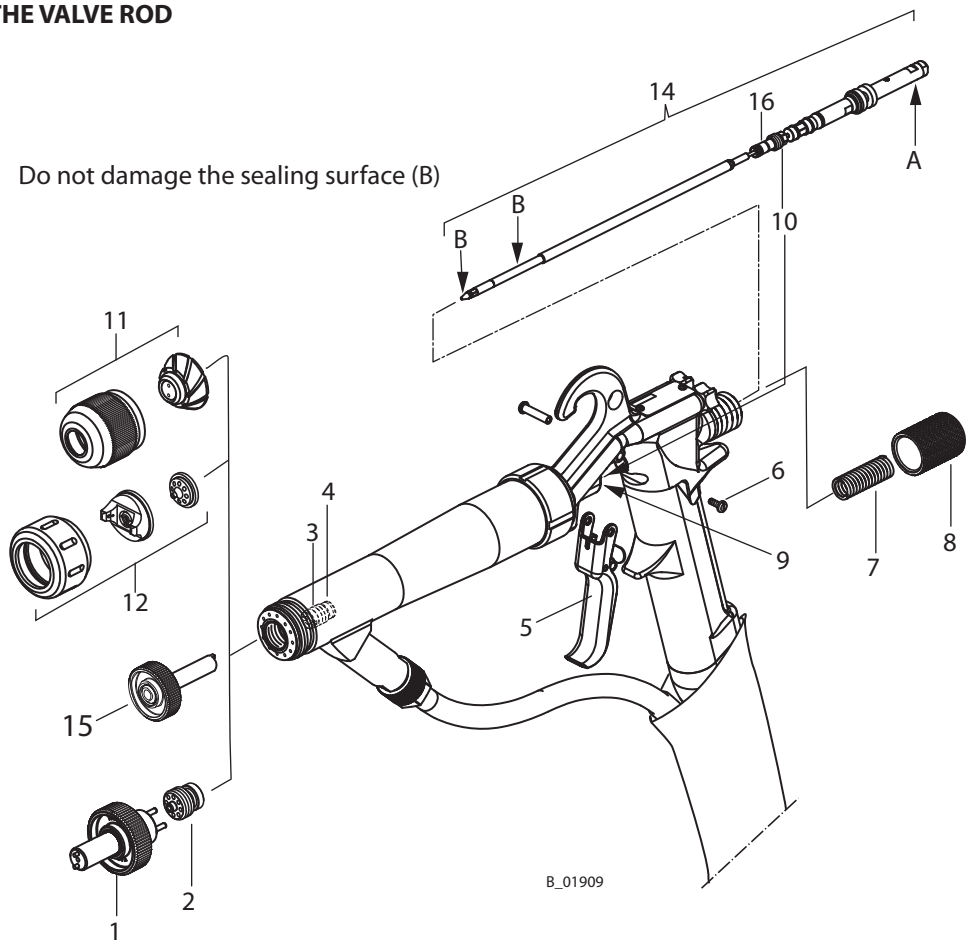
8.1 REPLACING THE VALVE SEAT ASSY.

1. Remove nozzle according to paragraph 5.4.3 or 5.4.4.
2. With the trigger guard actuated (prevents damage to the valve rod sealing surfaces) loosen and unscrew the complete valve seat (2) with the air nozzle key (1).
3. Replace in reverse order



8.2 REPLACING THE VALVE ROD



1. Remove nozzle (11 or 12) according to paragraph 5.4.3 or 5.4.4.
2. Remove the complete valve seat in accordance with chapter 8.1.
3. Loosen sealing screw (3) 1/2 to 1 turn with the valve rod spanner (15) (available as accessory) .
4. Pull trigger (5) and unscrew locking nut (8); remove compression spring (7).
5. Loosen screw (6) and remove trigger guard (5) with shaft sleeve.
6. Unscrew sealing screw (10) from sealing sleeve (9)
7. Holding the valve rod (14) at (A), pull the complete assembly out carefully and replace with a new one.

CAUTION
Leaking spray gun! Risk of injury from coating material coming out → Do not remove the paint sealing sleeve.

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CAUTION
Defective sealing surface! Equipment damage to the gun Coating error → Do not damage the sealing surface.

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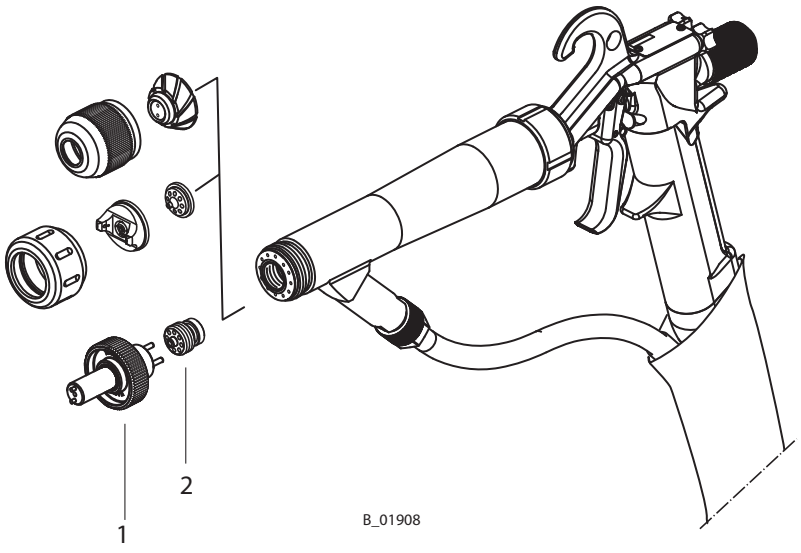
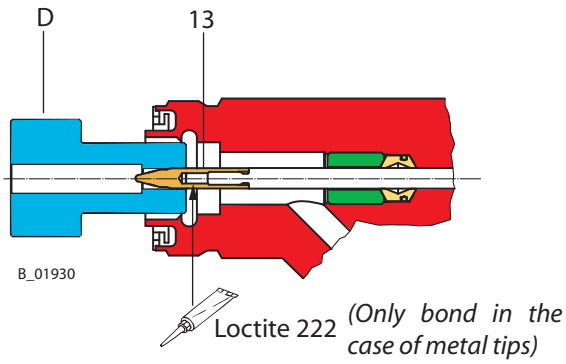
8. Replace in reverse order (do not forget to screw (10) in the centre packing screw (9). Place the locking nut (8) with pressure spring (7) in position and tighten with the trigger (5) open until a considerable resistance is noticeable.
9. Carefully tighten the sealing screw (3) with the valve rod spanner (15) until a slight change is perceptible in the trigger force when the trigger guard (5) is actuated.
10. Mount complete valve seat (2) in accordance with chapter 5.2.1.
11. Mount round-jet nozzle (11) or flat-jet nozzle (12) in accordance with chapter 5.4.3 or 5.4.4.

8.3 REPLACING THE VALVE ROD TIP

8.3.1 STARTING FROM INSTALLED VALVE ROD

1. Remove nozzle according to chapter 5.4.3 or 5.4.4
2. With the trigger guard actuated (prevents damage to the valve rod sealing surfaces) loosen and unscrew the complete valve seat (2) with the air nozzle key (1).
3. Insert the assembly tool (D) (order number 353560) over the valve rod tip (13) into the end piece, and loosen and unscrew the tip.



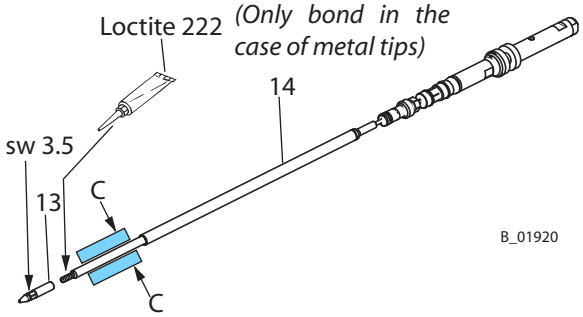


Note:
If the valve rod tip (13) cannot be loosened, the complete valve rod (14) must be dismounted. See chap. 8.3.2.

4. **Assembly**:
   Insert new valve rod tip (13) into the assembly tool, screw onto the valve rod and carefully tighten.

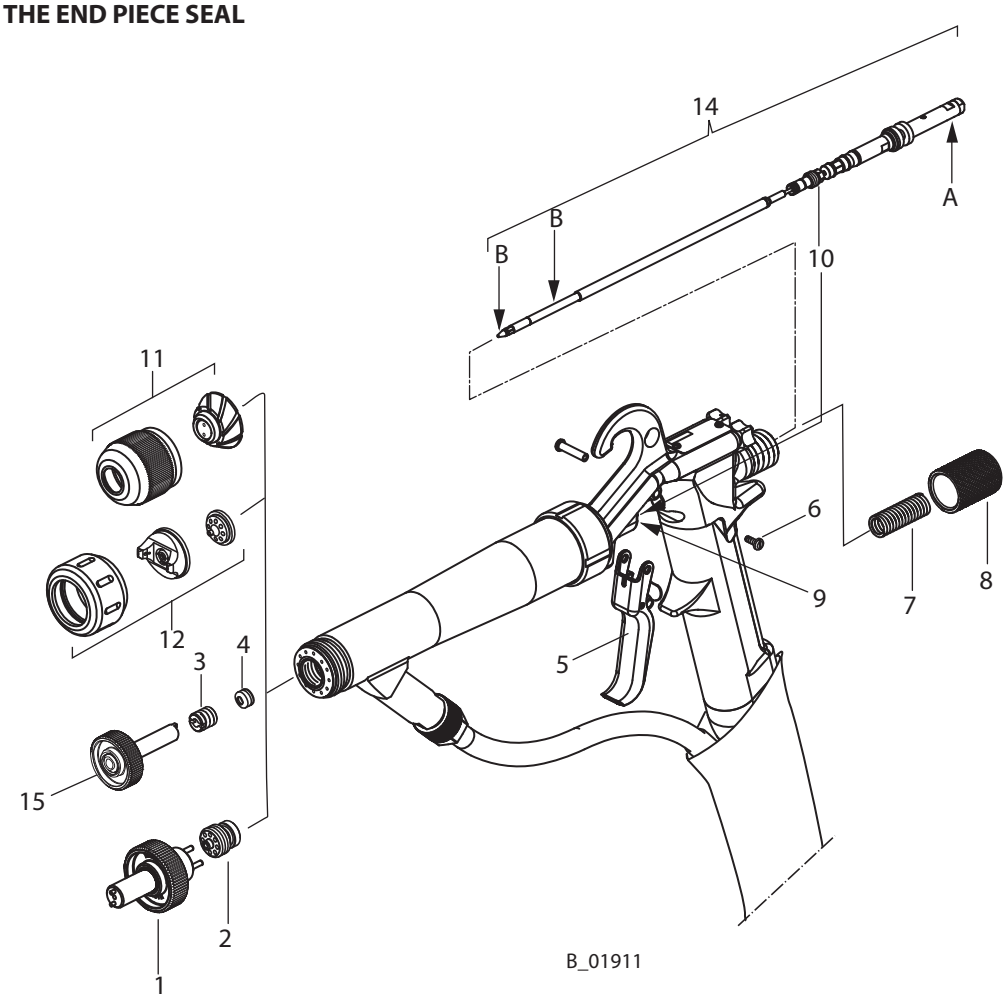
   Note:
   If using a metal valve rod tip, the threaded joint must be secured with Loctite 222.
5. Complete assembly of the gun.

8.3.2 STARTING FROM DISASSEMBLED VALVE ROD



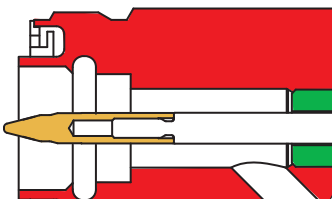
1. Dismount the complete valve rod (14) in accordance with chapter 8.2.
2. Carefully clamp the valve rod (14) in position C with padding, taking care not to damage the sealing surfaces.
3. Loosen and unscrew the valve rod tip (13) with the assembly tool (D) (order number 353560).
4. Screw in the new valve rod tip and tighten carefully with the assembly tool (D).
   Note:
   If using a metal valve rod tip, the threaded joint must be secured with Loctite 222.
5. Mount the complete valve rod (14) in accordance with chapter 8.2.

8.4 REPLACING THE END PIECE SEAL

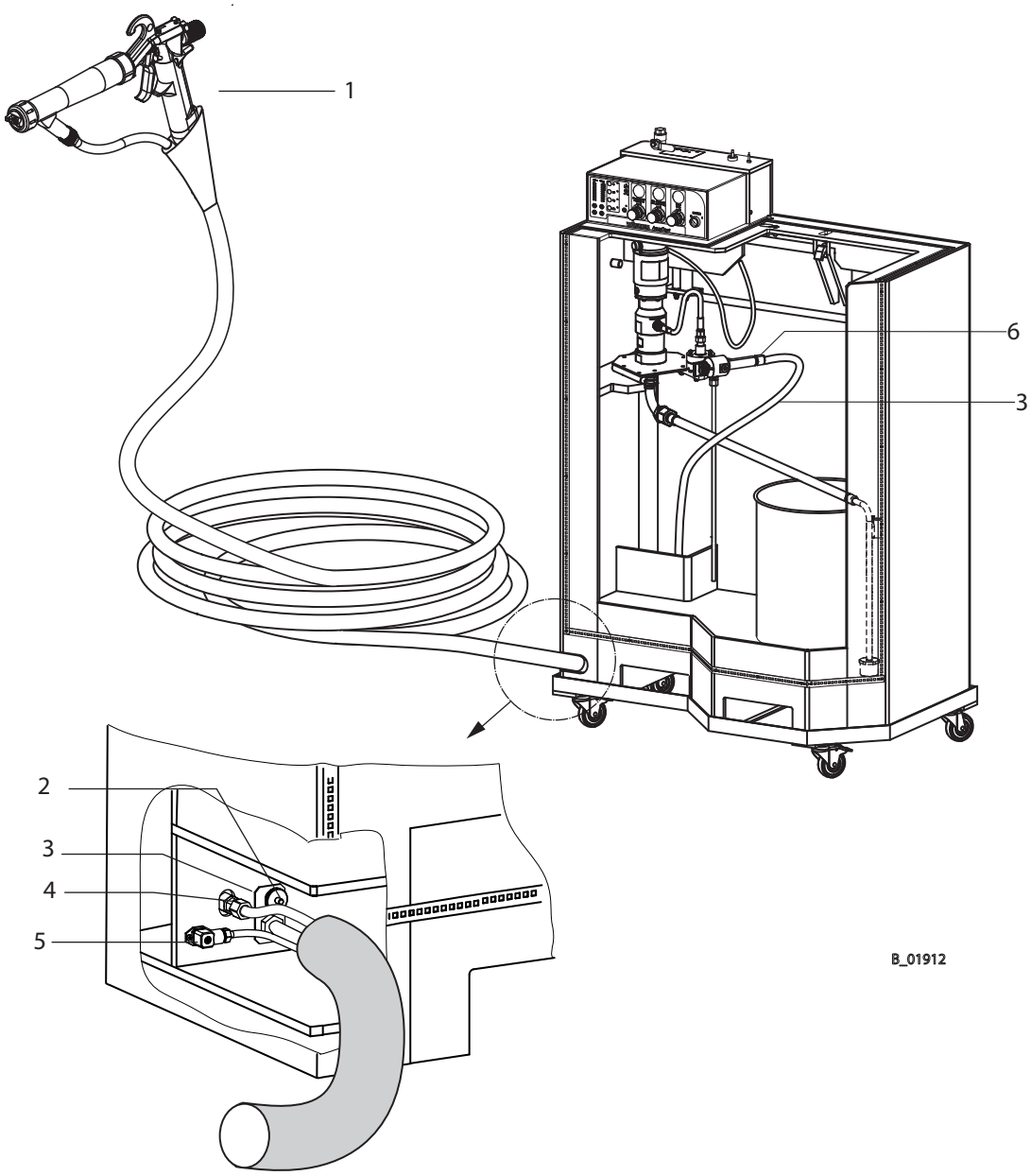


1. Remove nozzle according to chapter 5.4.3 or 5.4.4
2. Remove valve rod assy. (14) according to chapter 8.2
3. Unscrew the sealing screw (3) with the valve rod spanner (15) (order number 353805).
4. Remove the sealing ring (4) from the end piece together with the O-ring with a size 5 eye bolt.
5. Assemble in reverse order.

Installation position



8.5 REPLACING THE SPRAY GUN INCLUDING HOSE SET



Dismantling spray gun assy. (1)

1. Loosen the connection nut (6) on the bared part of the material hose (3) with a universal spanner.
2. Unscrew union nut (2).
3. Loosen the connection nut (4) of the air hose at the AquaCoat cabinet.
4. Loosen the locking screw on the gun cable (5) and remove connector.
5. Carefully remove the gun (1) together with the hose set.

4 preassembled guns are available, with different hose set lengths:

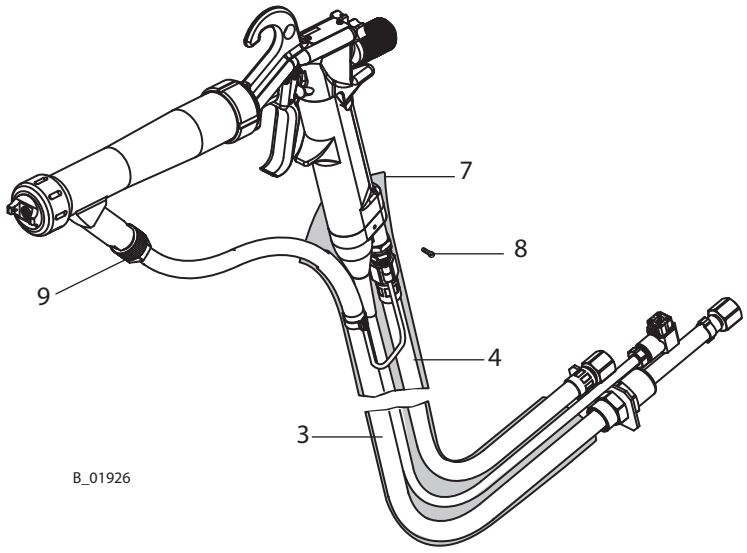
Part No.	Description
353861	Spray gun GM 2900EAW with Hose set 7.5 m; 24.6 ft
353871	Spray gun GM 2900EAW with Hose set 10 m; 32.81 ft
353872	Spray gun GM 2900EAW with Hose set 15 m; 49.2 ft
353873	Spray gun GM 2900EAW with Hose set 20 m; 65.6 ft

Assembly spray gun assy (1)

1. Secure the spray gun. (Turn tension cap (9) clockwise until stop, viewed from back of gun).
2. Connect gun cable (5) to AquaCoat cabinet and secure with screw.
3. Screw air hose for the spray gun (4) to the AquaCoat cabinet.
4. Push bared part of material hose approx. 1.15 m; 3.77 ft through the opening as far as the mounting plate.
5. Fix mounting plate (3) to earthing screw with knurled nut (2)
6. Screw bared end of material hose (3) with connection nut (6) to relief combination.

8.6 REPLACING THE PAINT HOSE AND/ OR AIR HOSE

1. Isolate spray gun and hose set from the AquaCoat cabinet in accordance with chapter 8.5.
2. Loosen 2 screws (8), remove cable ties and push protective tube (7) back.
3. Loosen knurled nut (9) with universal spanner and remove material hose (3) from the material connection of the gun.
4. Unscrew connection nut (10) from the air hose (4).

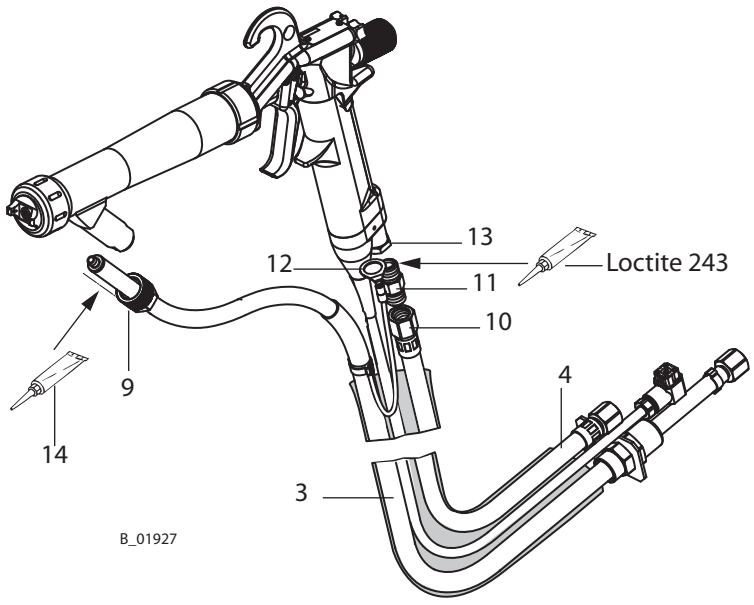


5. Support the clamping sleeve (13) with the universal spanner and unscrew the double nipple (11).
7. Remove the cable lug (12).
8. Carefully remove the air hose (4) backwards from the protective tube (7).
9. Carefully remove the completely assembled material hose (3) backwards from the protective tube (7).
10. Assemble in reverse order.

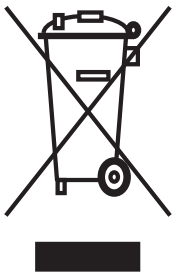
Assembly instructions:
The following aids must be used.
Insulating oil (14)
-> Paint hose: Clean length inserted into the gun and wet with HV oil.
Loctite 243
-> Double nipple (11): Threaded joint with clamping sleeve (13)

4 preassembled material hoses and 4 preassembled air hoses are available in the corresponding hose set lengths:

Hose set Length	Paint hose assy. Part No.	Air hose assy. Part No..
7.5 m; 24.6 ft	353874	353212
10 m; 32.81 ft	353875	353213
15 m; 49.2 ft	353876	353214
20 m; 65.6 ft	353877	353215



9 DISPOSAL OF THE PRODUCT



Note

Do not dispose of waste electrical equipment with the household refuse!
In accordance with European Directive 2002/96/EC on the disposal of waste electrical equipment and its implementation in national law, this product may not be disposed of with the household refuse, but must rather be recycled in an environmentally correct manner. Your waste Wagner device will be taken back by us or our representatives and disposed of environmentally correctly. Please contact one of our service points or one of our representatives or us directly to this purpose.

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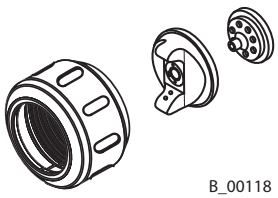
10 ACCESSORIES

10.1 NOZZLES EA FLAT JET

Part No.	Description	Colour
363228	Nozzle set EAF 0.6	black
363229	Nozzle set EAF 0.8	yellow
363230	Nozzle set EAF 1.0	red
363231	Nozzle set EAF 1.2	green
363232	Nozzle set EAF 1.4	brown
363233	Nozzle set EAF 1.6	white
363234	Nozzle set EAF 1.8	blue
363235	Nozzle set EAF 2.0	black
2303641	Air cap assy. EAF 0.6	black
353968	Air cap assy. EAF 0.8	yellow
353973	Air cap assy. EAF 1.0	red
353960	Air cap assy. EAF 1.2	green
353961	Air cap assy. EAF 1.4	brown
353962	Air cap assy. EAF 1.6	white
353963	Air cap assy. EAF 1.8	blue
353964	Air cap assy. EAF 2.0	black
2303640	Flat jet nozzle EAF 0.6	black
353969	Flat jet nozzle EAF 0.8	yellow
353970	Flat jet nozzle EAF 1.0	red
353955	Flat jet nozzle EAF 1.2	green
353956	Flat jet nozzle EAF 1.4	brown
353957	Flat jet nozzle EAF 1.6	white
353958	Flat jet nozzle EAF 1.8	blue
353959	Flat jet nozzle EAF 2.0	black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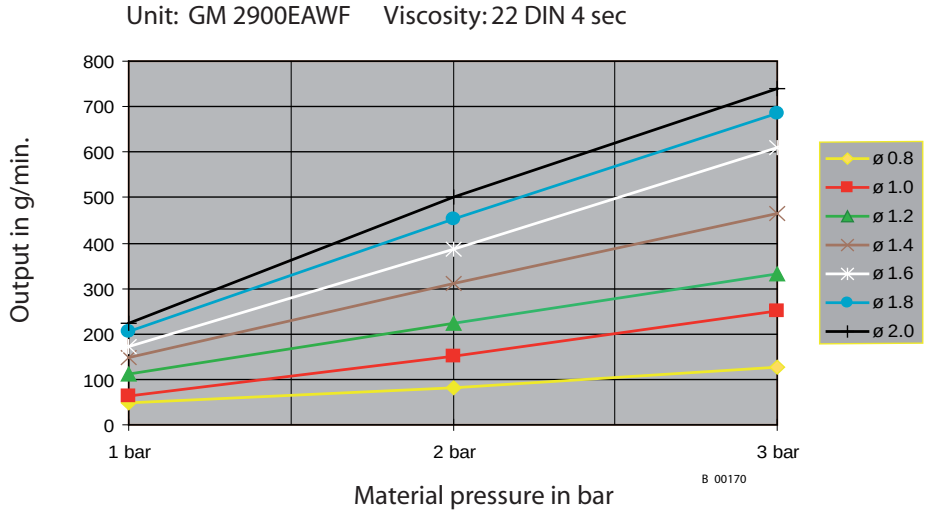
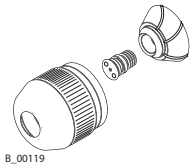
Note
Only install nozzle parts of the same colour (air cap colour and nozzle colour must be identical).

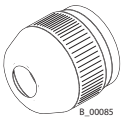
10.1.1 OUTPUT MEASURED WITH PAINT



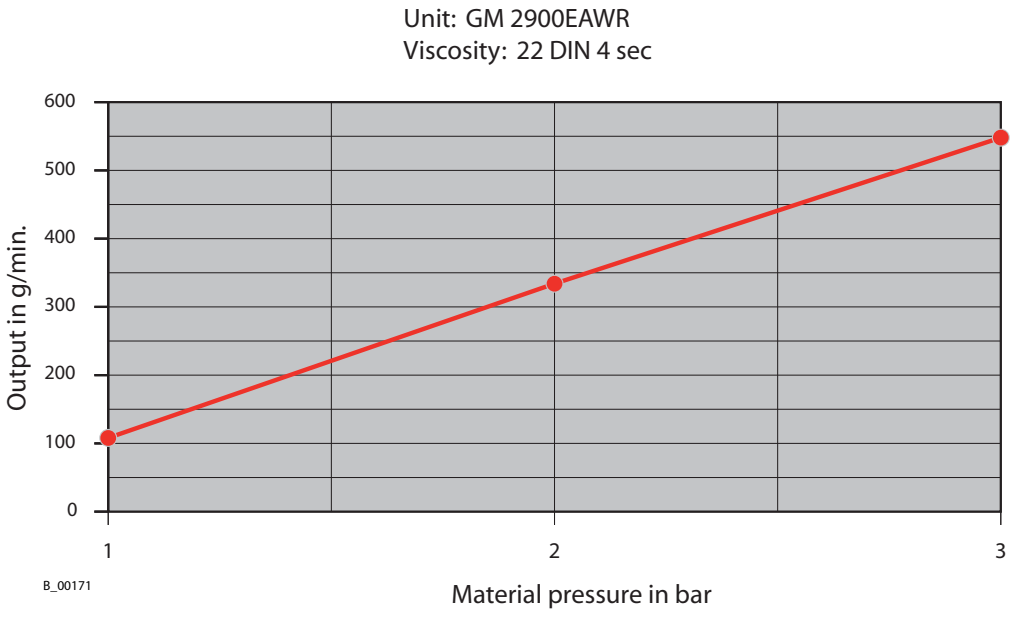
10.2 NOZZLES EA ROUND JET (SUPRA)

Part No.	Description
363239	Nozzle set EAW R
353966	Nozzle nut EAR 2000
353965	Nozzle body Supra
353953	Nozzle insert Supra EAW
353210	Air nozzle spanner 2800 EA



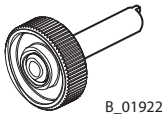


10.2.1 OUTPUT MEASURED WITH PAINT



10.3 SPECIAL TOOLS

Part No.	Description
353805	Special spanner (for changing the front valve rod seal)
353560	Mounting tool for valve needle head
179901	Universal spanner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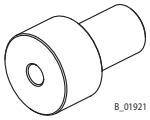
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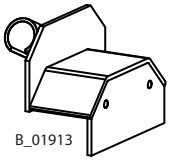
10.4 MISCELLANEOUS

Part No.	Description
353702	Insulating oil (for material hose -> Assembly)
9992511	Loctite 243 (50 ml; 50 cc) (for Air connection -> Assembly)
9992590	Loctite 222 (50 ml; 50 cc) (for Metal-Valve needle head -> Assembly)
9994682	Glove against ink mist precipitation
259005	H.V. tester HV 200

Part No.	Description
999080	Wet film thickness gauge
50342	Viscosity cup DIN4
353050	Hose holder assy.
353051	Base frame assy.
353052	Feed tank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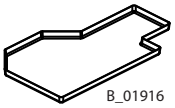
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11 SPARE PARTS

11.1 HOW TO ORDER SPARE PARTS?

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

Part Number, description and quantity

The quantity need not be the same as the number given in the „Quantity" column. This number merely indicates how many of the respective parts are used in each subassembly.

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 required (air freight or mail, sea route or overland route, etc.)

Marks in spare parts lists

Note to column „K" in the following spare parts lists.

◆ = Wearing parts
Note: No liability is assumed for wearing parts

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

⚠WARNING

Incorrect maintenance/repair!
Risk of injury and damage to the equipment

→ Repairs and part replacement may only be carried out by specially trained staff or a WAGNER service center.
→ Before all work on the unit and in the event of work interruptions:
- Switch off the energy/compressed air supply.
- Relieve the pressure from the spray gun and unit.
- Secure the spray gun against actuation.
→ Observe the operating and service instructions when carrying out all work.

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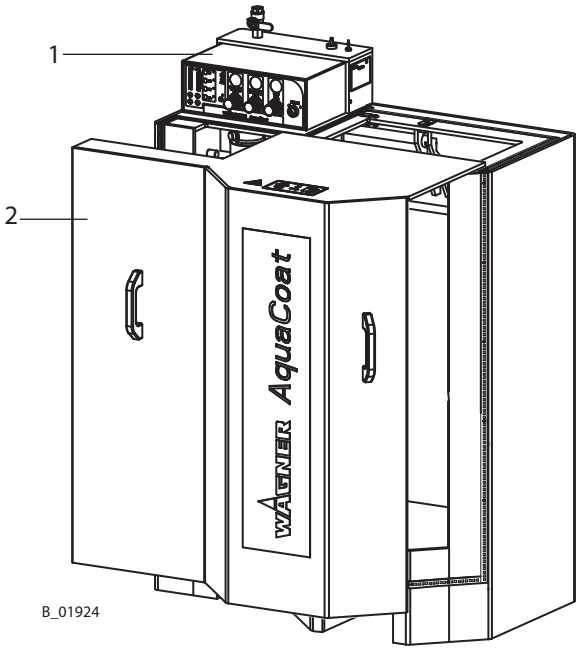
11.2 SPARE PART LIST AQUACOAT BASIC UNIT



Spare parts list AquaCoat basic unit

Pos	K	Qty	Part No.	Description
1		1	353862	Control unit VM 2900W
2		1	353867	Front plate assy.
Note: For repairs, please use service instructions article number 353895.				

⚠ WARNING

Incorrect maintenance/repair!
Risk of injury and damage to the equipment

→ Repairs and part replacement may only be carried out by specially trained staff or a WAGNER service center.
→ Before all work on the unit and in the event of work interruptions:
- Switch off the energy/compressed air supply.
- Relieve the pressure from the spray gun and unit.
- Secure the spray gun against actuation.
→ Observe the operating and service instructions when carrying out all work.

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11.3 SPARE PARTS LIST VM 2900W

⚠WARNING

Incorrect maintenance/repair!
Risk of injury and damage to the equipment

→ Repairs and part replacement may only be carried out by specially trained staff or a WAGNER service center.
→ Before all work on the unit and in the event of work interruptions:
- Switch off the energy/compressed air supply.
- Relieve the pressure from the spray gun and unit.
- Secure the spray gun against actuation.
→ Observe the operating and service instructions when carrying out all work.

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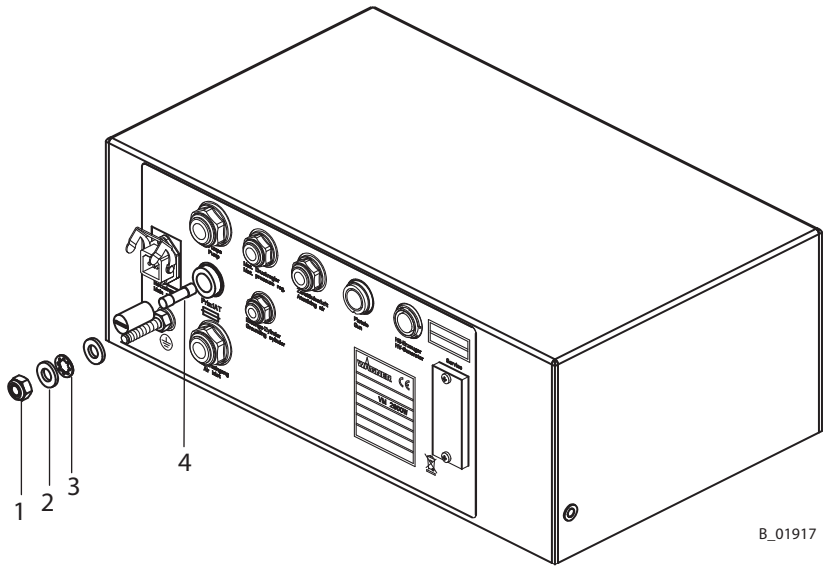


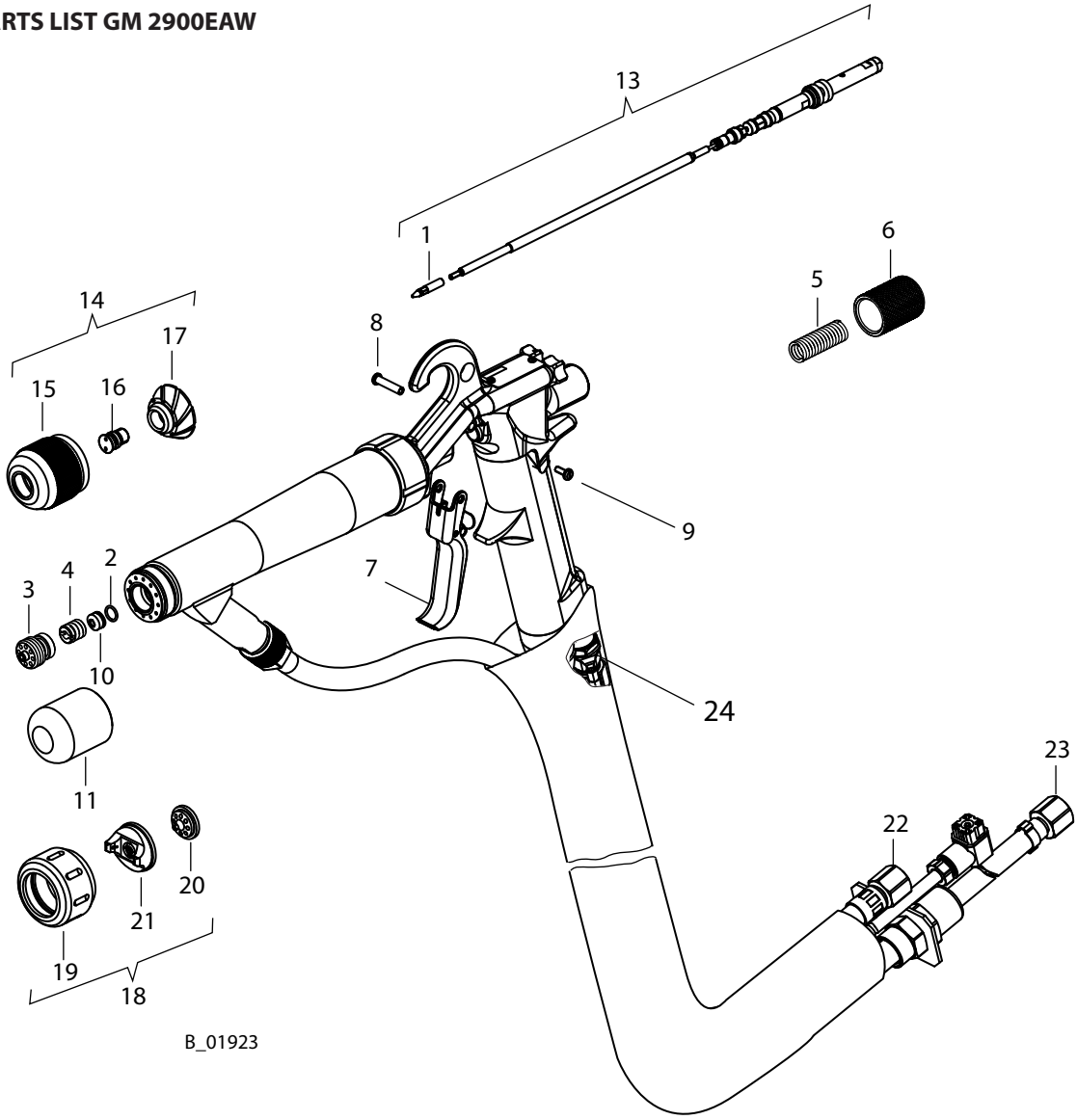
Spare parts list VM 2900W

Pos	K	Qty	Part No.	Description
1		1	9910204	Hexagonal nut self locking
2		2	9920118	Washer
3		1	9922109	Spring washer
4	◆	1	9951117	Fuse slow-acting 1.0 A

◆ = Wear part

Note: For repairs, please use service instructions article number 353895

11.4 SPARE PARTS LIST GM 2900EAW



Spare parts list GM 2900EAW

Pos	K	Qty	Part No.	Description
1	◆	1	353551	Valve needle head (PEEK)
1	◆	1	353552	Valve needle head (1.4305)
2	◆	1	9971147	O-ring
3		1	350231	Valve seat assy.
4		1	353353	Sealing screw

◆ = Wearing part

● = Not part of standard equipment for spray gun. Available, however, as additional extra

▼ = available in different sizes

Note: For repairs, please use service instructions article number 353895

Spare parts list GM 2900EAW

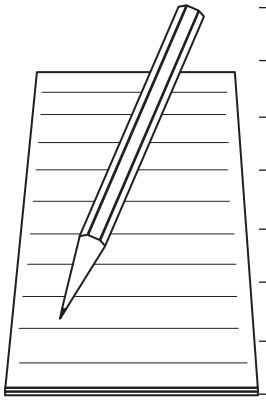
Pos	K	Qty	Part No.	Description
5		1	9994248	Compression spring
6		1	179784	Tension nut assy.
7	◆	1	179219	Trigger GM 2000
8	◆	1	179396	Shaft collar
9	◆	1	9900808	Pan-head screw
10	◆	1	353355	Seal
11		1	353390	Protection cap
13		1	353878	Valve rod assy. mounting
14	◆ ●	1	363239	Nozzle set EAW R Supra
15	◆ ●	1	353966	Union nut Supra
16	◆ ●	1	353953	Nozzle insert Supra EAW
17	◆ ●	1	353965	Nozzle body Supra
18	◆ ●	1	▼	Nozzle set EA F
19	◆ ●	1	353967	Union nut EAW F
20	◆ ●	1	▼	Nozzle EAF
21	◆ ●	1	▼	Air cap EAF
22	◆	1	353212	Air hose assy. (for Hose set 7.5 m; 24.6 ft)
22	◆	1	353213	Air hose assy. (for Hose set 10 m; 32.808 ft)
22	◆	1	353214	Air hose assy. (for Hose set 15 m; 49.2 ft)
22	◆	1	353215	Air hose assy. (for Hose set 20 m; 65.6 ft)
23	◆	1	353874	Paint hose assy. (for Hose set 7.5 m; 24.6 ft)
23	◆	1	353875	Paint hose assy. (for Hose set 10 m; 32.808 ft)
23	◆	1	353876	Paint hose assy. (for Hose set 15 m; 49.2 ft)
23	◆	1	353877	Paint hose assy. (for Hose set 20 m; 65.6 ft)
24		1	9994627	Double nipple

◆ = Wearing part

● = Not part of standard equipment for spray gun. Available, however, as additional extra

▼ = available in different sizes

Note: For repairs, please use service instructions article number 353895



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