



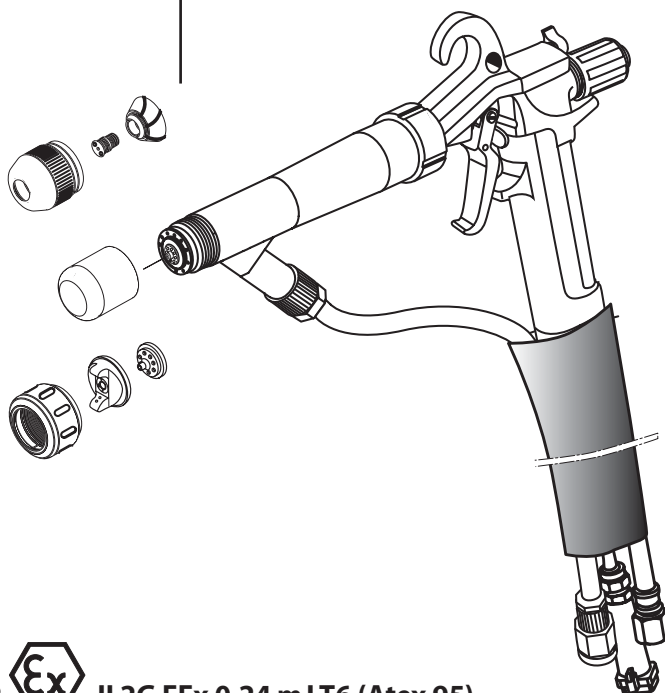
Operating Manual

GM 2800EA

Edition 10/2005

Electrostatic Airspray gun

for manual operation
with flat or round jet tips



CE 0102  II 2G EEx 0.24 mJ T6 (Atex 95)

B_00172

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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 LANGUAGE

This operating manual is available in the following languages:

Language:	Order No.	Language:	Order No.
German	0388890	English	0388891
French	0388892	Dutch	0388893
Italian	0388893	Spanish	0388895
Danish	0388897	Swedish	0388896


The corresponding service instructions are available under the following order number:

Language:	Order No.
German	0353931
English	0353931


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.
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
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.
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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.

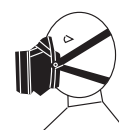


2.1.2 PERSONNEL QUALIFICATIONS

- 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 PERSONNEL

- 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 earthed for every spraying operation.
- Earth the workpieces 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 MATERIAL 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 the flash point of the cleaning agent is at least 5 K above the ambient temperature.
- To clean, use only solvent-free cloths and brushes. Never use hard objects or spray on cleaning agents with a gun.

An explosive gas/air mixture forms in closed containers.

- When cleaning units with solvents, never spray into a closed container.
- Earth the container.



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

The corona discharge at the electrode end is visible during darkness at a distance of between 4 and 10 mm; 0.15 and 0.4 in, between the spray gun and spray object.

2.5 USE IN AN EXPLOSION HAZARD AREA

2.5.1 CORRECT USE

The electrostatic hand spray gun GM 2800EA is suitable for spraying liquid materials, particularly coating materials, using the air atomizing method.

Coating materials containing solvents of Explosion Class IIA may be used. The spray gun may only be used in combination with a control unit VM 200, VM 2000 and VM 2000 with HVM 2092.

2.5.2 EXPLOSION PROTECTION IDENTIFICATION

As defined in the Directive 94/9/CE (ATEX 95), the unit is suitable for use in areas where there is an explosion hazard.

CE 0102  II 2G EEx 0.24mJ T6



CE: Communautés Européennes
0102: Nominated testing body: PTB
Ex: Symbol for explosion protection
II: Unit class II
2: Category 2 (Zone 1)
G: Ex-atmosphere gas
E: European standard
Ex: Explosion protection
0.24mJ: Max. ignition energy
T6: Temperature class

2.5.3 MAX. SURFACE TEMPERATURE

- Max. surface temperature: 85°C; 185°F
- Permissible material temperature: 60°C; 140°F
- Permissible ambient temperature: 5-40°C; 41-104°F

2.5.4 SAFETY INSTRUCTIONS

Safe handling of WAGNER spray units

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

In an explosive atmosphere:

- Do not knock or push the unit against steel or rusty iron.
- Do not drop the unit.
- Use only tools that are made of a permitted material.

Ignition temperature of the coating material

- Ensure that the ignition temperature of the coating material is above the maximum surface temperature.

Surface spraying, electrostatic

- Do not spray system parts with electrostatic (e.g. electrostatic spray gun).



Medium supporting atomizing

- To atomize the material, use only weakly oxidizing gases, e.g. air.

Cleaning

If there are deposits on the surfaces, the unit may form electrostatic charges. Flames or sparks can form if there is a discharge.

- Remove deposits from the surfaces to maintain conductivity.
- Use only a damp cloth to clean the unit.



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, any 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.

3.3 CE-CONFORMITY

Short explanation

CE = Communauté Européenne



Products identified with the CE mark have been manufactured and checked according to EU guidelines. This means that, in terms of materials used, manufacturing process and operation, they are in accordance with the EU safety and health requirements and therefore the EU regulations and standards. The regulations and standards applying to a particular product can be found in the CE Certificate of Conformity. This is enclosed with the product or can be requested from the manufacturer.

The CE identification has been compulsory in Europe since 1st January 1995, and only products bearing CE identification may be released into circulation.

EMC test

The electromagnetic compatibility test forms an integral part of the CE conformity. EMC tested products are built such that their interference radiation does not influence other devices within the stipulated limits (noise on the radio, etc.). The EMC standard differentiates between use in domestic, business and commercial or industrial areas. Moreover, if required for comfort or safety reasons, products can be EMC tested for their interference immunity. This means they are protected from the influence of external interference.

EC 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:

GM 2800EA 0179780

3.4 GERMAN REGULATIONS AND GUIDELINES

- a) BGV A2 Electrical units and equipment
- b) BGV D15 Working with liquid ejection devices
- c) BGV D25 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 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.

3.5 PTB CONFORMITY CERTIFICATION

Physikalisch-Technische Bundesanstalt
Braunschweig und Berlin

PTB**EG-Baumusterprüfbescheinigung**

- (1)
- (2) Geräte und Schutzsysteme zur bestimmungsgemäßen Verwendung in explosionsgefährdeten Bereichen - **Richtlinie 94/9/EG**
- (3) EG-Baumusterprüfbescheinigungsnummer
- PTB 03 ATEX 5006**
- (4) Gerät: Sprüheinrichtungen für brennbare flüssige Beschichtungsmittel der Typenreihen GM und GA
- (5) Hersteller: J. Wagner AG
- (6) Anschrift: Industriestrasse 22, CH-9050 Altstätten
- (7) Die Bauart dieses Gerätes sowie die verschiedenen zulässigen Ausführungen sind in der Anlage und den darin aufgeführten Unterlagen zu dieser Baumusterprüfbescheinigung festgelegt.
- (8) Die Physikalisch-Technische Bundesanstalt bescheinigt als benannte Stelle Nr. 0102 nach Artikel 9 der Richtlinie des Rates der Europäischen Gemeinschaften vom 23. März 1994 (94/9/EG) die Erfüllung der grundlegenden Sicherheits- und Gesundheitsanforderungen für die Konzeption und den Bau von Geräten und Schutzsystemen zur bestimmungsgemäßen Verwendung in explosionsgefährdeten Bereichen gemäß Anhang II der Richtlinie.
- Die Ergebnisse der Prüfung sind in dem vertraulichen Prüfbericht PTB Ex 03-53020 festgehalten.
- (9) Die grundlegenden Sicherheits- und Gesundheitsanforderungen werden erfüllt durch Übereinstimmung mit
- EN 50050:2001 EN 50176:1996**
- (10) Falls das Zeichen „X“ hinter der Bescheinigungsnummer steht, wird auf besondere Bedingungen für die sichere Anwendung des Gerätes in der Anlage zu dieser Bescheinigung hingewiesen.
- (11) Diese EG-Baumusterprüfbescheinigung bezieht sich nur auf Konzeption und Prüfung des festgelegten Gerätes gemäß Richtlinie 94/9/EG. Weitere Anforderungen dieser Richtlinie gelten für die Herstellung und das Inverkehrbringen dieses Gerätes. Diese Anforderungen werden nicht durch diese Bescheinigung abgedeckt.
- (12) Die Kennzeichnung des Gerätes muß die folgenden Angaben enthalten:



Sprühpistolen: **Ex II 2G EEx 0,24 mJ** Steuergeräte: **Ex II (2)G EEx 0,24 mJ**

Zertifizierungsstelle Explosionsschutz
Im Auftrag

Braunschweig, 27.06.2003

Dr.-Ing. M. Beyer
Oberregierungsrat



Seite 1/2

EG-Baumusterprüfbescheinigungen ohne Unterschrift und ohne Siegel haben keine Gültigkeit.
Diese EG-Baumusterprüfbescheinigung darf nur unverändert weiterverbreitet werden.
Auszüge oder Änderungen bedürfen der Genehmigung der Physikalisch-Technischen Bundesanstalt.
Physikalisch-Technische Bundesanstalt • Bundesallee 100 • D-38116 Braunschweig

4 DESCRIPTION

4.1 AREA OF APPLICATION, USING IN ACCORDANCE WITH THE INSTRUCTIONS

The electrostatic spray gun can only be used with the control units VM 2000 or VM 200.

4.1.1 WHAT KIND OF SPRAYING MATERIAL CAN BE APPLIED

- Paints containing solvents of the explosion class II A.
- Enamels, primers, textured paints etc., which have a specific resistance of $> 50 \text{ k}\Omega$ (according to the WAGNER or Ransburg scale).
- The effectiveness of the spraying action is always dependant on the composition of the paint being used, e.g. pigments or resin.

Note

With very highly conductive materials or those with a very high electrical resistance, the electrostatic effect does not work as efficiently. The relationship between the values of the high-voltage (kV) and the current (μA), shown on the HVM 2082, denotes the charging capacity of a spray material.

High kV-value, low μA -value (no wrap around) = Paint with too high el. resistance.

Low kV-value, high μA -value (no wrap-around) = Paint with too low el. resistance

In the event of application problems, contact your WAGNER branch and the paint manufacturer.

4.2 SCOPE OF SUPPLY

Quantity	Part No.	Description
1	0179037	Spray gun GM 2800EA
1	0179060	Spray gun GM 2800EA USA
1	0179047	Spray gun GM 2800EA special
1	0179061	Spray gun GM 2800EA special USA

The standard equipment includes:

0179037	0179060	0179047	0179061		
Quantity				Part No.	Description
1	1	1	1	0179901	Universal spanner
1	1	1	1	0353210	Tip spanner
1	1	1	1	0179946	Set of seals
1	1	1	1	0350382	Hose fitting ø10 mm; ø0.39 in, 1/4"
1	1	1	1	0350346	Hose fitting ø10 mm; ø0.39 in, 3/8"
1	1	1	1	0353390	Protection cap for electrode
1	1	1	1	9100579	Instruction tag
1	1	1	1	0179780	CE-Declaration of Conformity
1	-	1	-	0388890	Operating manual German
-	1	-	1	0388891	Operating manual English
1	1	1	1	see chap. 1	An operating manual in the local language

The spray gun is delivered without nozzle set.

The spray guns 0179047 and 0179061 can be ordered with cable lengths by 15m; 49.2 ft, 20m; 65.6 ft, 25m; 82.0 ft or 30m; 98.4 ft.

The standard cable length is 11m; 36.1 ft.

Air and material hose are extended in each case thereby by the same length.

For special versions the delivery note applies.

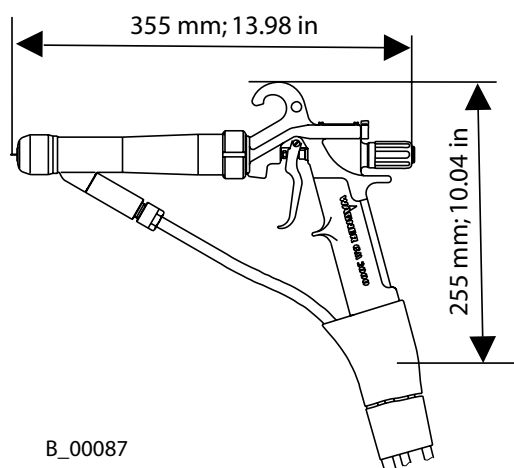
4.3 TECHNICAL DATA

Max. air pressure	0.8 MPa; 8 bar; 116 psi
Max. material pressure	0.8 MPa; 8 bar; 116 psi
Material connection	ø 10 mm; 0.39 in
Material hose length	7.5 m; 24.6 ft
Inner diam. material hose	ø 6 mm; 0.24 in
Air connection	R 1/4"
Air hose length	8.1 m; 26.6 ft
Inner diam. air hose	ø 7.5 mm; 0.30 in
Input voltage *	max. 17 Vpp
Input current *	max. 0.9 A
Output voltage *	max. 80 kV DC
Output current *	max. 100 µA DC
Polarity	negative
Cable length	11 m; 36.1 ft
Weight (without cables)	600 g; 1.32 lb
Dimension length (L)	355 mm; 13.98 in
Dimension height (H)	255 mm; 10.04 in
Working temperature range	5-40°C; 41-104°F
Max. temperature material	60°C; 140°F
Min. el. material resistance	50 kΩ **
Max. el. material resistance	1250 kΩ **
Sound power at 2 bar air pressure (depending on nozzle used)	65 - 79 dB(A)

*after WAGNER/Ransburg scale

Note

The specifications marked with " *" are maximum values. The effective values depend on the control unit

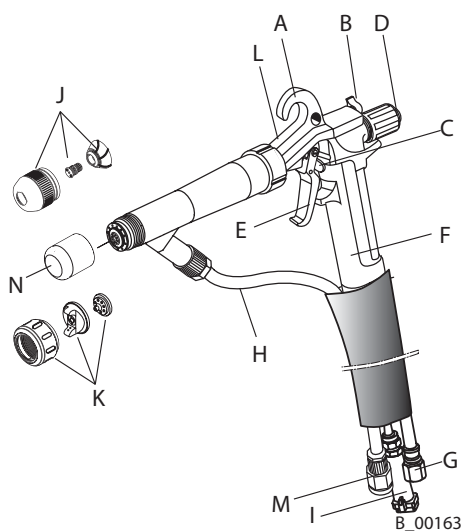
Dimensions

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4.4 FUNCTION

4.4.1 DESIGN OF SPRAYGUN

- A Suspension hook
- B Fan air regulation
- C HV switch (integrated into trigger)
- D Tension cap
- E Trigger
- F Handle with integrated high voltage generator
- G Air connector
- H Paint hose
- I Gun cable to the control unit
- J Tip set EA R Supra
- K Tip set EA F
- L Spray gun body
- M Hose nipple
- N Protection cap



4.4.2 FUNCTIONS OF THE GUN

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

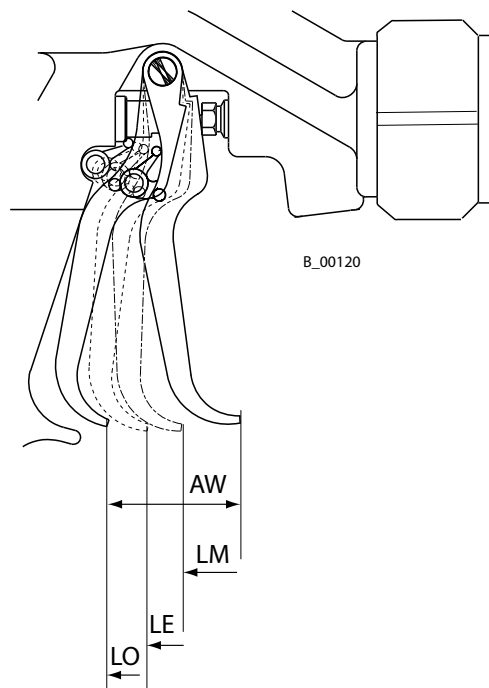
AW = Max way of trigger

LM = Air open

LE = Air open and electrostatics activated

LO = Air open and elektrostatics 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 (C) down
- The supply of the flat jet air is adjusted by means of the regulator (B).



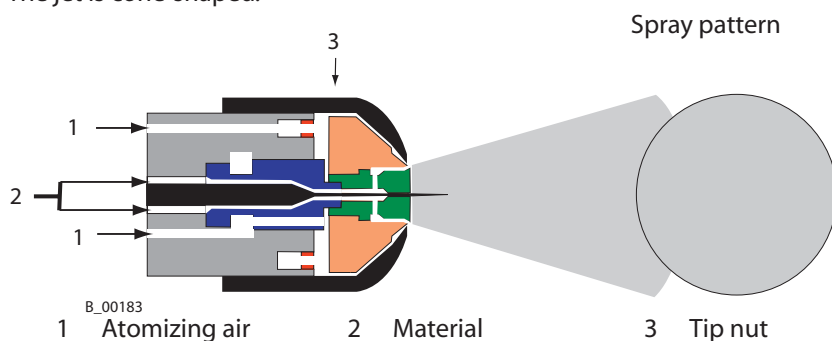
4.5 AIR ATOMIZING SPRAY PROCESS

4.5.1 ROUND AND FLAT JET

In this process, the material (paint) is fed to the tip with low pressure at 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.

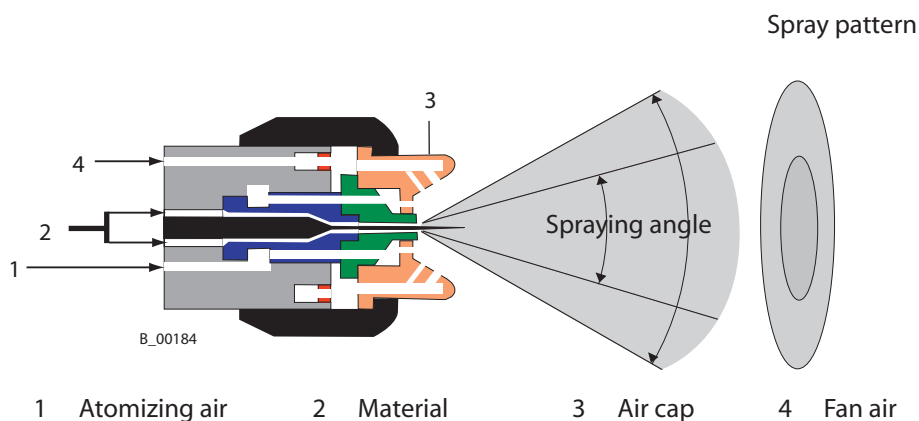
4.5.2 ROUND JET

The jet is cone-shaped.



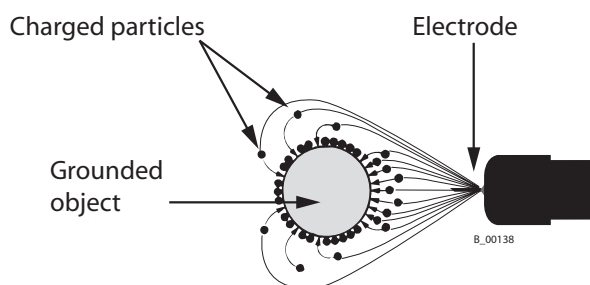
4.5.3 FLAT JET

The spraying angle can be changed by adjusting the „fan air“. Depend on the material and the output, a large range of tips and air caps are available to suit your needs (see para. 9.1).



4.5.4 ELECTROSTATIC EFFECT

The spray gun produces an electrostatic field by means of the high voltage electrode. As a result, the particles of paint, which have been atomized by the spray gun, are carried to the earthed object by kinetic and electrostatic energy where they adhere, finely distributed, to the object being sprayed.





Advantages of electrostatics

- Very efficient spraying
- Little overspray
- Coating of entire circumferences due to an electrostatic field
- Less working time

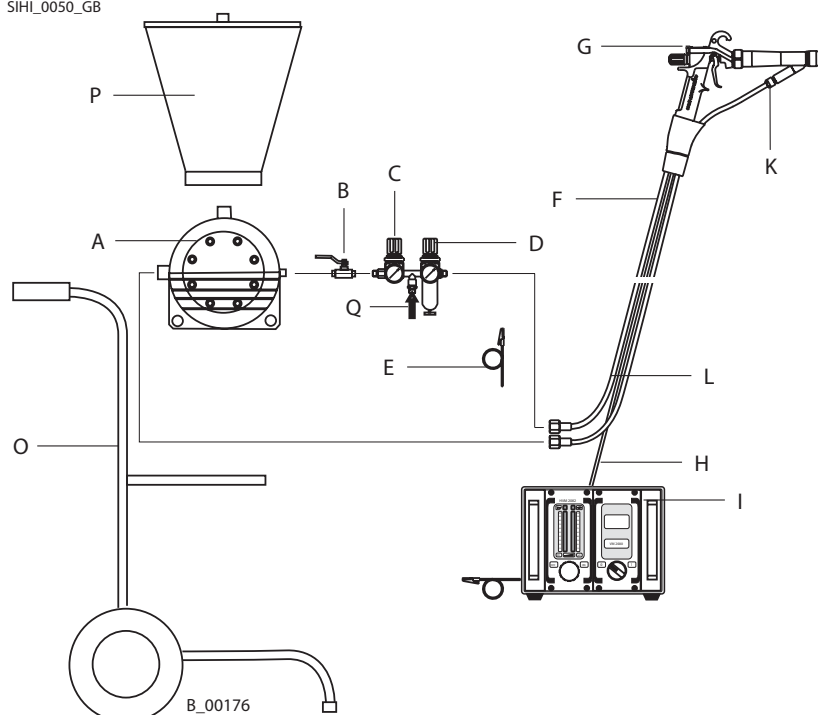
5 PREPARATION BEFORE STARTING WORK

5.1 SET UP AND CONNECT

5.1.1 TYPICAL ELECTROSTATIC SPRAYING SYSTEM

	 WARNING
	<p>Incorrect installation/operation! Risk of injury and damage to equipment.</p> <p>→ When putting into operation and for all work, read and follow the operating instructions and safety regulations for the additionally required system components.</p>



SIHI_0050_GB



A	Paint-pump	H	Gun cable to control unit
B	Air shutoff valve	I	Control unit
C	Air regulator	K	Paint connection
D	Air regulator with filter	L	Fluid hose
E	Earthing cable	O	Stand
F	Air hose	P	Paint container
G	Fan air regulation	Q	Mains air inlet

The spray gun GM 2800EA must be used a part of an electrostatic spraying system. The spraying system shown in the figure is only one example of an electrostatic Aircoat spraying system. It is not an actual system design. Contact your WAGNER distributor for assistance in designing a system to meet your needs. The operating instructions and the safety regulations for the additional system components used must be read before starting-up.

5.1.2 VENTILATION OF THE SPRAY BOOTH

	 WARNING
	<p>Toxic and/or flammable vapor mixtures! Risk of poisoning and burns.</p> <ul style="list-style-type: none"> → 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.

SIHI_0028_GB



5.1.3 AIR SUPPLY

The use of an air filter with the air regulator (D) ensures that only dry, clean atomising air gets into the spray gun. Dirt and moisture in the atomising air reduce the spraying quality and the appearance of the finished piece.

5.1.4 FLUID (PAINT) HOSES

CAUTION
<p>Impurities in the spraying system! Spray gun blockage, materials harden in the spraying system.</p> <p>→ Flush the spray gun and paint supply with a suitable cleaning agent.</p>



SIHI_0001_GB

	 DANGER
	<p>Bursting hose! Danger to life from injection of material.</p> <ul style="list-style-type: none"> → Ensure that the hose material is chemically resistant. → Ensure that the spray gun 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: <ul style="list-style-type: none"> - Manufacturer - Permissible operating pressure - Date of manufacture



SIHI_0029_GB

5.1.5 EARTHING

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

	<p style="text-align: center;"> WARNING</p> <p>Discharge of electrostatically charged components in atmospheres containing solvents! Explosion hazard from electrostatic sparks or flames.</p> <p>→ Earth all unit components. → Earth the workpieces being painted.</p>
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SIHI_0027_GB

	<p style="text-align: center;"> WARNING</p> <p>Heavy paint mist if earthing is insufficient! Risk of poisoning. Insufficient paint application quality.</p> <p>→ Earth all unit components. → Earth the workpieces being painted.</p>
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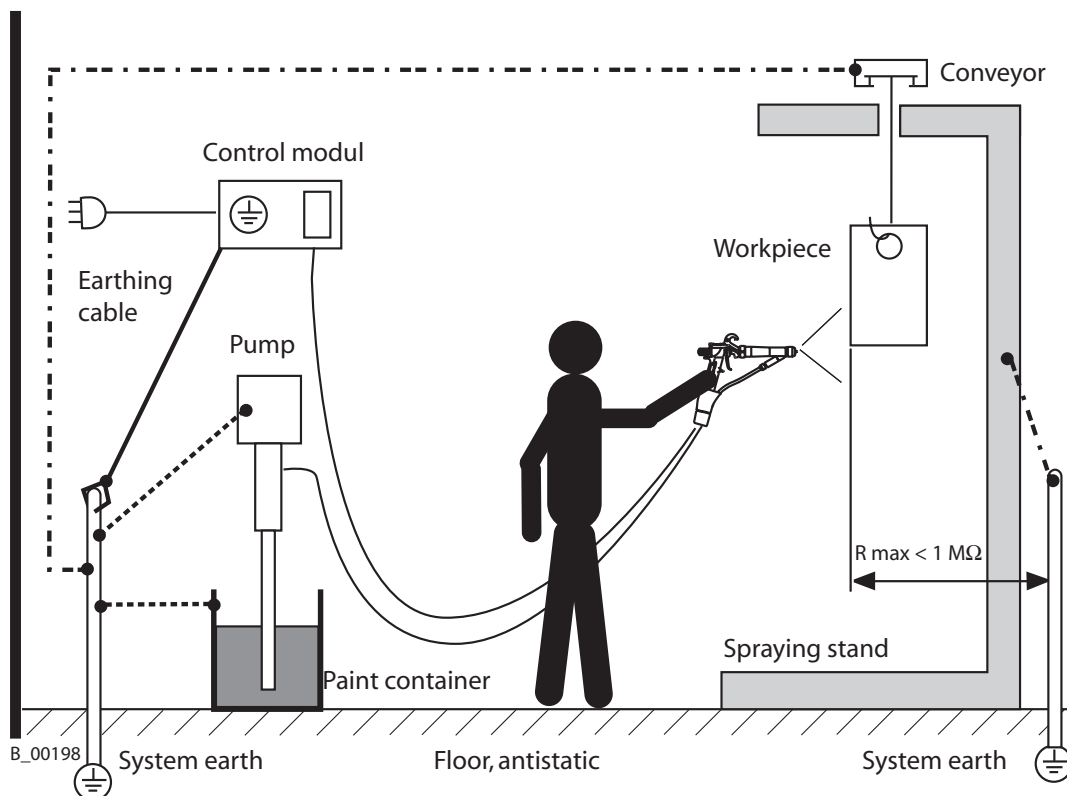
SIHI_0003_GB

A badly earthed work-piece will result in:

- Sparks between the object being sprayed and the hangar. (danger of explosion)
- Very poor wrap-around
- Uneven coating thickness
- Spray-back onto the spray gun, i.e. contamination

The prerequisites for perfect earthing and coating are:

- Clean workpiece suspension
- Earthing of spray booth, conveyor system and hangers to the building earth 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 work-piece must not exceed 1 MΩ (Mega Ohm).
- Connect the control unit to the mains system earth.

Earthing scheme (example)**Minimum cable cross-section**

Control unit	4 mm ² (AWG 12)
Pump	4 mm ² (AWG 12)
Paint container	4 mm ² (AWG 12)
Conveyor	16 mm ² (AWG 6)
Spraying booth	16 mm ² (AWG 6)
Spraying stand	16 mm ² (AWG 6)

5.2 PEPRARATION OF PAINT

The viscosity of the paints is of great importance. The best results are obtained with paints between 15 and 30 DIN sec. (measured in immersion flow cup DIN 4 mm ; 0.16 in).

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 in	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 MAKING ADJUSTMENTS TO THE SPRAY GUN

→ See **safety regulations** in chapter 2.

	<div style="text-align: center;">⚠ DANGER</div> <p>High voltage field! Danger to life from malfunctioning heart pacemakers.</p> <p>Ensure that persons with heart pacemakers:</p> <ul style="list-style-type: none"> → Do not work with the electrostatic spray gun. → Remain outside the area of the electrostatic spray gun/work piece.
---	---

SIHI_0049_GB

	<div style="text-align: center;">⚠ WARNING</div> <p>Unintentional putting into operation! Risk of injury.</p> <p>Before all work on the unit, in the event of work interruptions and functional faults:</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. → By functional faults: Identify and correct the problem, proceed as described in chap. „Trouble shooting“.
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SIHI_0065_GB

5.3.2 PREPARATION

- Secure the spraygun. Turn tension cap clockwise until stop. (viewed from back of gun)
- Connect material hose to pump.
- Connect air hose to oilfree, dry air supply approx. 0.25 MPa; 2.5 bar; 36 psi with regulator.
- Connect electric cable of the spray gun to the control unit.
- Visually check the permissible pressures for all the unit components.
- Make sure that the spraying unit and all other conductive parts within the work area are earthed.
- Set material pressure and use a suitable medium (solvent or water) to check that connections do not leak.
- Relieve unit pressure and secure the spraygun.

5.4 WORKING

5.4.1 START-UP FOR SPRAYING

1. Switch on the material supply adjust from approx. 0.05-0.15 MPa; 0.5-1.5 bar; 7-22 psi and the control unit.
2. Unlock spraygun with tension cap.
3. Spray on a test object (press the trigger).
4. Adjust the spray pressure and atomizing air in accordance with the tip and object.

Note

The paint output volume can be changed by:

- Changing the material pressure.
or
- Fitting another flat jet nozzle. See accessories.

5.4.2 ADJUST THE SPRAY ANGLE WITH FLAT JET NOZZLE

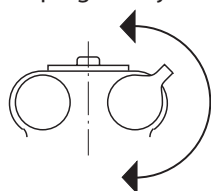
The spray pattern can be adjusted to suit the object being sprayed using the fan air regulator.

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

View A

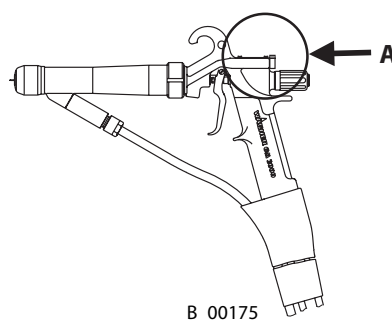
Backsight (Seen from the spraying direction)

wide spray angle = minimale
shaping air adjustment



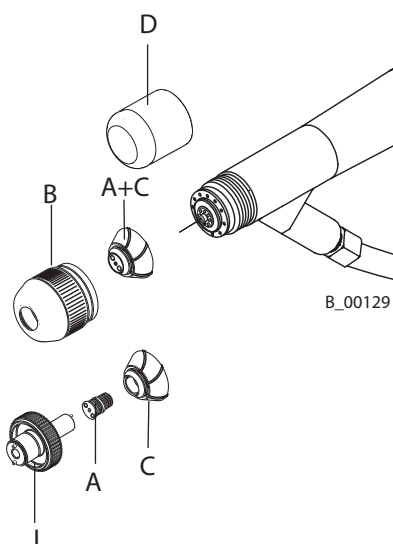
Fan air regulator

narrow spray angle = maximale shap-
ing air adjustment



5.4.3 FITTING OR CHANGING ROUND JET NOZZLE

1. Switch off control unit.
2. Relieve spray gun and unit pressure.
3. Replace paint with cleaning solvent and
4. Thoroughly flush spray gun: always point spray gun downwards while flushing
5. Relieve spray gun and unit pressure.
6. Dry material hose and gun by blowing through with dry and clean air.
7. Unscrew the tip nut (B) by hand and remove it.
8. Remove the nozzle body (C) and the nozzle insert Supra (A).
9. Unscrew nozzle insert Supra (A) with nozzle spanner (I) from the nozzle body (C).
10. Re-assemble in reverse order.



Note

To protect the electrode-needle replace the cap (D) when the gun is not in use.

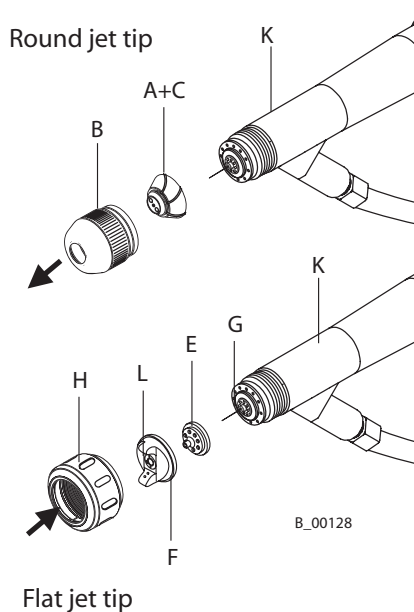
5.4.4 CHANGING FROM ROUND JET NOZZLE TO FLAT JET NOZZLE**CAUTION****Defective electrode!**

Material damage due to functional faults.

→ Do not damage the electrode.

SIHI_0033_GB

1. Switch off control unit.
2. Relieve spray gun and unit pressure.
3. Unscrew the nozzle nut EAF (B).
4. Remove round nozzle body (C) with nozzle insert Supra (A).
5. Place flat jet nozzle (E) into air cap (F). Place both of them onto the valve seat.
6. Screw nozzle nut EAF (H) on the gun body (K). Adjust desired jet position by means of air cap horn (L). Tighten air cap nut (F) by hand.

**5.4.5 FITTING OR CHANGING FLAT JET NOZZLE**

Perform steps 1 to 6 of paragraph 5.4.3

7. Unscrew nozzle nut (H) by hand.
8. Remove air cap (F) and flat jet nozzle (E)

Assembly:

According to steps 5 and 6 of paragraph 5.4.4

6 MAINTENANCE

→ See **safety regulations** in chapter 2.

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.

SIHI_0010_GB

CAUTION

Cleaning agent in the air duct!

Functional faults caused by swollen seals.

→ Never immerse the spray gun in cleaning agent.

SIHI_0066_GB



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.

SIHI_0004_GB

6.1 FINISHING WORK AND CLEANING

	⚠ DANGER
	Exploding gas/air mixture! Danger to life from flying parts and burns. → Never spray into a closed container. → Earth the container.

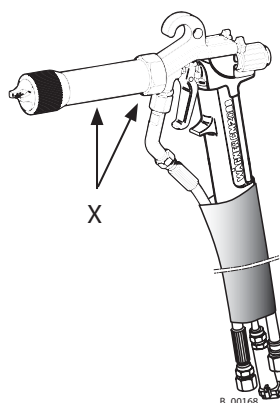
SIHI_0008_GB

1. Switch off control unit.
2. Relieve spray gun and system pressure and cut off the atomizing air supply to the spray gun.
3. Replace material by cleansing agent.
4. Remove tip spanner and briefly actuate trigger.
5. Relieve spray gun and unit pressure !
6. Clean the body of the gun with solvent which has been recommended by the paint manufacturer and dry with a cloth or blow 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.

SIHI_0005_GB

The gun attachment (X) may only be changed by the WAGNER Service Station.



B_00168

7 TROUBLE SHOOTING AND SOLUTIONS

Problem	Cause	Solution
Insufficient material output	• Nozzle too small	• Flat jet: Select larger nozzle. (See nozzle list)
	• Material pressure too low	• Increase material pressure
	• Material viscosity too 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
	• Tension nut is screwed in too far	• Turn tension nut anticlockwise
Poor spray pattern	• Wrongly adjusted atomizing air	• Readjust atomizing air
	• Nozzle too large	• Select smaller nozzle (see nozzle list)
	• Material viscosity too high	• Thin material in accordance with the manufacturer's instructions
	• Material pressure too high	• Reduce material pressure
	• Damaged nozzle	• Replace nozzle
	• Damaged electrode	• See para. 8.4 for repairs
Leaking air	• Air seal (24)* damaged	• Change air seal
	• Seal (13)* on the air control knob damaged	• Change seal
	• Tappet seal (25)* damaged	• Change tappet seal
Poor wraparound	• Poor earthing at object	• Check earthing of object or hanger with ohmmeter
	• Paint resistance too high / too low	• Check resistance of paint in accordance with para. 4.1.1
	• Spraying pressure too high	• Readjust pressure
Backspraying	• Object not earthed	• Check earthing
	• Distance between spray gun and object too large	• Reduce distance between spray gun and object

Trouble shooting and solutions

Problem	Cause	Solution
No wraparound	• No high voltage	• Check function of control unit in accordance with its manual
		• Switch on HV-switch
	• Defective sealing (71)* in gun barrel	• Repair by WAGNER Service
	• Air-passages damp	• Clean airpassages and drying
Leaking material the nozzle	• Damaged valve seat in the collar (18)*	• Check the seal tightness with air. If not tight, change the needle head. and nozzle
	• Damaged needle head (73)*	• Change needle head
	• Seal (29)* or seal (71)* tighten to fast	• Adjust sealing screw (28)* or sealing screw (70)* until valve stem is closed, or replace seals.

Note:

*=Positions are shown in the part list and drawing of paragraph 10.2

8 REPAIR WORK



WARNING

Incorrect maintenance/repair!

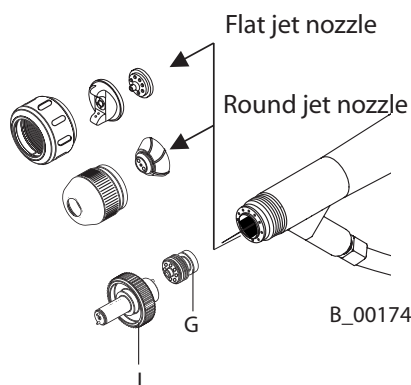
Danger to life and equipment damage.

- 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.

SIHI_0048_GB

8.1 REPLACING THE VALUE SEAT

1. Remove nozzle according to paragraph 5.4.3 and 5.4.5
2. With the trigger pressed, (protects the sealing surfaces) unscrew collar (G) with the nozzle spanner 2800 (I). Replace, and tighten it carefully.
3. Reassemble nozzle in reverse order.

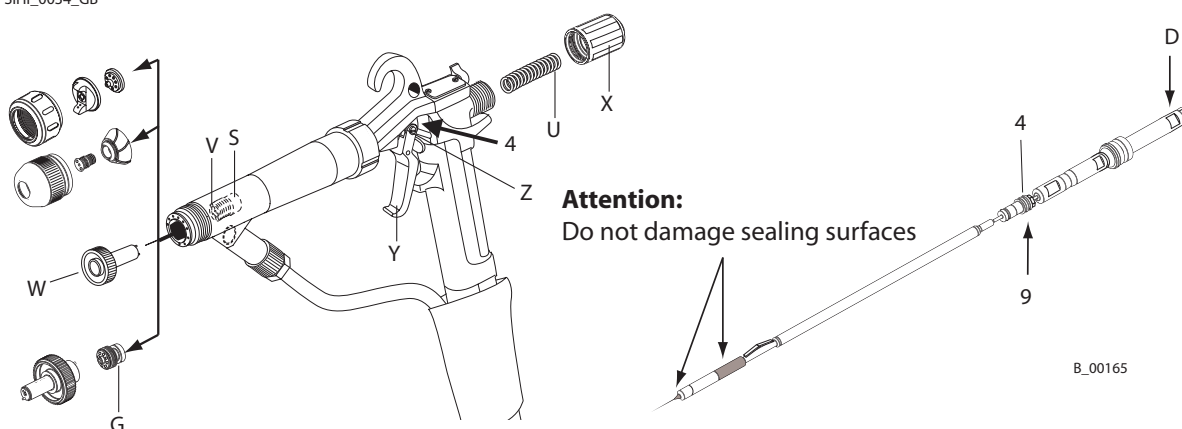


8.2 EXCHANGE OF COMPLETE VALVE ROD**CAUTION****Defective sealing surface!**

Equipment damage to the gun.
Coating error.

→ Do not damage the sealing surface.

SIHI_0034_GB



B_00165

1. Remove nozzle according to paragraph 5.4.3 and 5.4.5
2. Remove valve seat according to paragraph 8.1
3. Loosen front packing screw (V) 1/2 to 1 turn, using the packing key (W) (available as accessory), in order to relieve the packing from the valvestem.
4. Pull trigger (Y), unscrew tension nut (X), and remove compression spring (U).
5. Unscrew screw (Z) and remove trigger (Y).
6. Unscrew the packing screw (4) from the packing sleeve (9)

CAUTION**Leaking spray gun!**

Risk of injury from coating material coming out.

→ Do not remove the paint sealing sleeve.

SIHI_0035_GB

7. Carefully pull-out complete valve rod using surface (D) – replace if necessary.
8. Reassemble in reverse order – do not forget to screw in the center packing screw (4). Place compression spring (U) and locking nut (X) in position, pull trigger, and tighten the locking nut until a noticeable resistance is felt.
9. Carefully tighten the packing screw (V) using the packing key (W) until light resistance is felt on the valve stem when pulling the trigger. If the packing screw is too tight the valve stem will jam open. If it is too loose, paint will leak into the gun barrel causing less of high-voltage.
10. Fit valve seat (G) according to paragraph 8.1
11. Fit nozzle according to paragraph 5.4.3 resp. 5.4.5

8.3 EXCHANGE OF VALVE ROD SEALS**CAUTION****Defective sealing surface!**

Equipment damage to the gun.
Coating error.

→ Do not damage the sealing surface.

SIHL_0034_GB

1. Remove valve rod as described in paragraph 8.2.
2. Hold with universal spanner at surface (D) and unscrew valve sealing element (1/E) using a small pliers.
3. Remove compression ring (2), seal (3) and sealing screw (4).
4. Hold with spanner at surface (C) and unscrew on surface (B), removing push-rod cap (6).
5. Replace O-Ring (2), front seal (3), rear seal (5) and, if necessary push-rod seal (7) and air valve seal (8) of the air valve. (see sealing set)

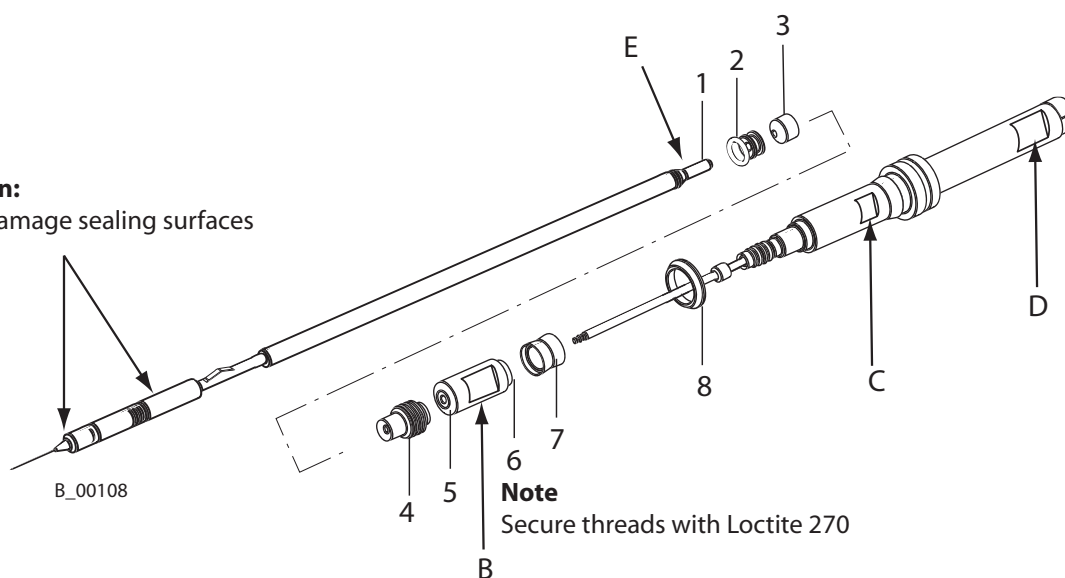
Note

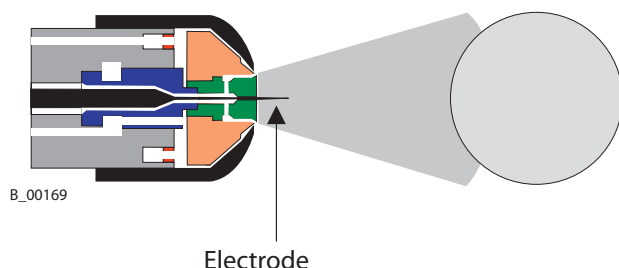
The rear seal (5) can be unscrewed from the tappet cap using a wood screw pushed into it.

6. Reassemble in reverse order and secure thread with Loctite 270. See 8.1

Attention:

Do not damage sealing surfaces



8.4 ELECTRODE REPLACEMENT

If the electrode is damaged (bent or broken) by incorrect handling, the valve needle head (12) must be replaced.

CAUTION**Defective sealing surface!**

Equipment damage to the gun.
Coating error.

→ Do not damage the sealing surface.

SIHI_0034_GB

1. Remove valve rod as described in paragraph 8.2.
2. Carefully clamp the valve rod extension (11) and pull off the needle head (12) using small pliers.
3. Manually press the new needle head (12) onto the resistor housing (13).

Note

For easier assembly fit the valve needle with the electrode pressed into a cork.

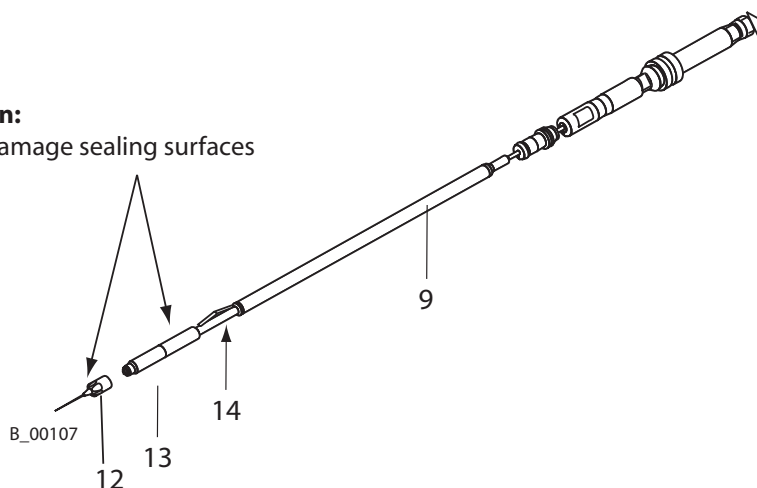
4. Refit valve rod as described in paragraph 8.2.

Attention:

Make sure that the contact spring is properly fitted (hooked-in) to the valve stem.

Attention:



Do not damage sealing surfaces



8.5 REPLACING THE PAINT HOSE

1. Unscrew nut (A) using the universal spanner.
2. Pull material hose (B) out of the connection (C).
3. Remove insert (D), clamping ring (E) and nut (A) from material hose.
4. Pull the material hose back through the protective sleeve (F) and remove it.

If the material hose has been ordered per meter, strip the insulation from 75 mm; 3.0 in at both ends. Pay attention not to damage the hose

	 WARNING
	<p>Damaged material hose! Risk of injury from coating material coming out. Electric shock risk.</p> <p>→ When removing insulation, ensure that the inner hose is not damaged.</p>

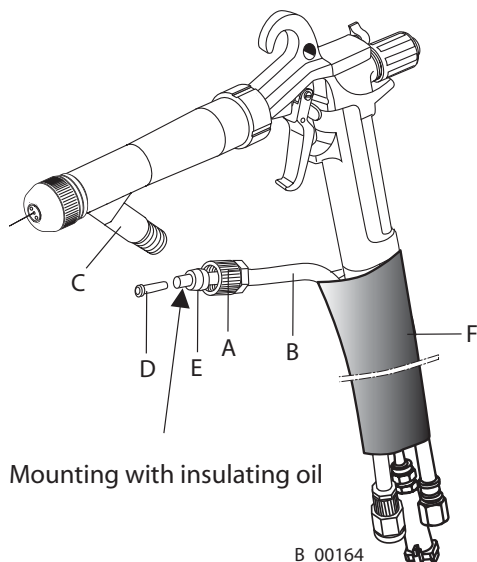
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5. Push the new material hose (without union nut and clamping ring) through the protective sleeve (F).
6. Fit the nut (A) and clamping ring (E) over the material hose (B).
7. Insert the cleaned or new sealing sleeve (D) into the material hose (B).
8. Wet the material hose (B) on the insert length with insulating oil (castor oil).

Note

The high-voltage oil protects against high-voltage burn through. (leakage to earth or atmosphere)

9. Insert material hose (B) into the connection (C) as far as it will go.
10. Pull the union nut (A) over the clamping ring (E) and gently tighten it with the universal spanner.



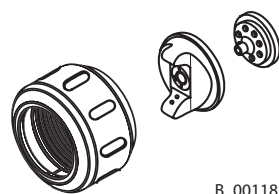
9 ACCESSORIES

9.1 NOZZLES EA FLAT-JET

Part No.	Description	Colour
0363229	Nozzle set EAF 0.8	yellow
0363230	Nozzle set EAF 1.0	red
0363231	Nozzle set EAF 1.2	green
0363232	Nozzle set EAF 1.4	brown
0363233	Nozzle set EAF 1.6	white
0363234	Nozzle set EAF 1.8	blue
0363235	Nozzle set EAF 2.0	black

0353968	Air cap assy. EAF 0.8	yellow
0353973	Air cap assy. EAF 1.0	red
0353960	Air cap assy. EAF 1.2	green
0353961	Air cap assy. EAF 1.4	brown
0353962	Air cap assy. EAF 1.6	white
0353963	Air cap assy. EAF 1.8	blue
0353964	Air cap assy. EAF 2.0	black

0353969	Fan nozzle EAF 0.8	yellow
0353970	Fan nozzle EAF 1.0	red
0353955	Fan nozzle EAF 1.2	green
0353956	Fan nozzle EAF 1.4	brown
0353957	Fan nozzle EAF 1.6	white
0353958	Fan nozzle EAF 1.8	blue
0353959	Fan nozzle EAF 2.0	black

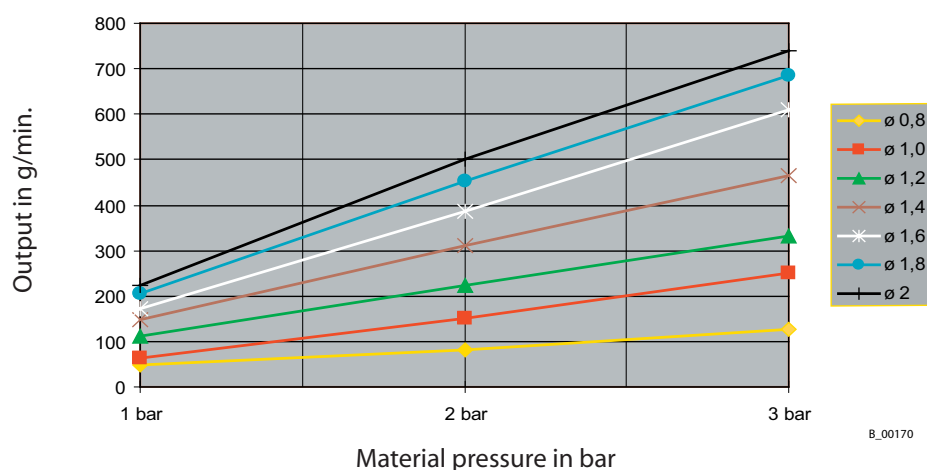


Note

Only install EAF nozzle parts with the same color. (aircap colour and nozzle colour must be identical).

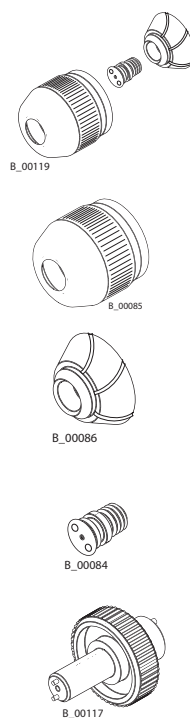
9.1.1 PAINT OUTPUT MEASURED WITH SYNTHETIC ENAMEL

Unit GM 2800EAF: Viscosity: 22 DIN 4sec

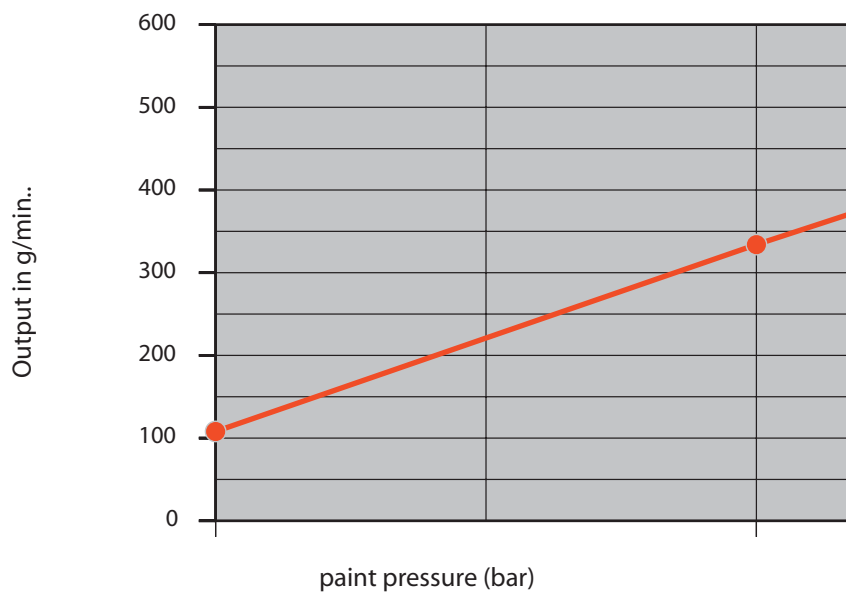


9.2 EA ROUND JET NOZZLE (SUPRA)

Part No.	Description
0363238	Nozzle set EAR Supra
0353966	Nozzle nut EAR 2000
0353965	Nozzle body Supra
0353952	Nozzle insert Supra EA
0353210	Nozzle key 2800 EA

**9.2.1 PAINT OUTPUT MEASURED WITH SYNTHETIC ENAMEL**

Unit: GM 2800EAR
Viscosity: 22 DIN 4sec



9.3 HOSES, FITTINGS AND ELECTRICAL CABLES

Part No.	Description
0128510	Air hose assy. 8.1 m; 26.6 ft; ø5.5; 10.5 mm; ø0.22; 0.41 in; R1/4"
0179249	Air hose assy. 8.1 m; 26.6 ft): ø7.5; 12.5 mm; ø0.30; 0.49 in; R1/4"
0353248	Protective sleeve with fixing strap 7.3 m; 24.0 ft
9982016	Protective sleeve (per metre) without fixing strap
0179228	Extention cable 7.5 m; 24.6 ft gun to control unit
	Material hose ø6; 12 mm; ø0.24; 0.47 in, contact your WAGNER branch for special pre-cut lengths
0353701	Material hose set EA The set includes 7.5 m; 24.6 ft material hose ø6; 12 mm; ø0.24; 0.47 in stripped, nut, clamping ring and insert. (for hose replacement see paragraph 8.5)

9.4 SPECIALTOOLS

Part No.	Description
0353210	Nozzle tool
0353805	Packing key (for replacing the front valve rod seal)
0179901	Universal spanner

9.5 MISCELLANEOUS

Part No.	Description
0353702	HV oil (for fitting the material hose see paragraph 8.5)
9994682	Protection glove against overspray
0259005	H.V. tester HV 200
0139008	Paint resistance measuring unit
0999080	Wet film thickness gauge
0050342	Viscosity cup DIN4

10 SPARE PARTS CATALOGUE

10.1 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.)

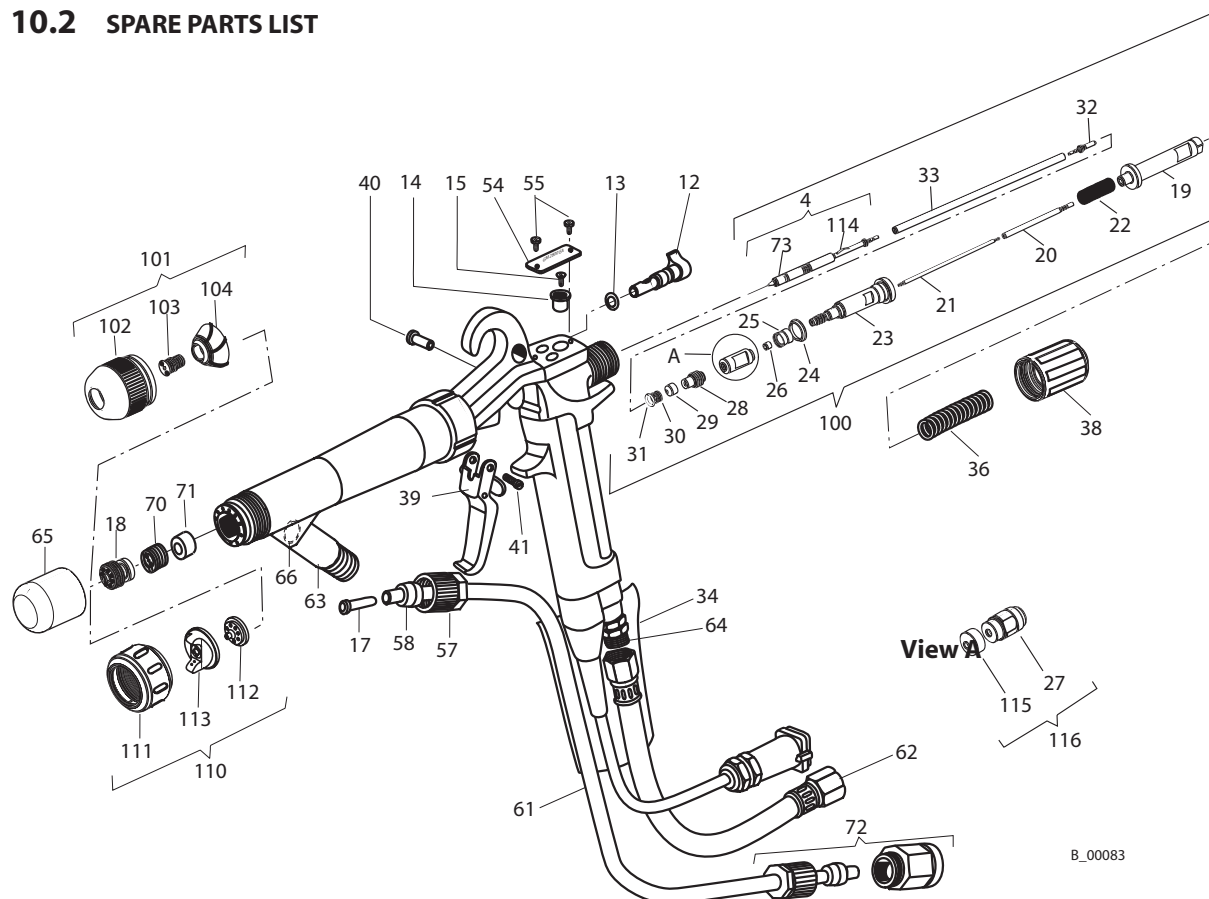
Marks in spare parts lists

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
	<p>Incorrect maintenance/repair! Risk of injury and damage to the equipment.</p> <ul style="list-style-type: none"> → 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: <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. → Observe the operating and service instructions when carrying out all work.

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10.2 SPARE PARTS LIST

B_00083

Item	K	Qty	Part No.	Description
4		1	0350903	Nozzle needle assy.
12		1	0179325	Air control knob
13	◆★	1	9971003	O-ring green
14		1	0179354	Positioning bushing
15		1	9900962	Countersunk screw M3; 12 mm; 0.47 in long
17	◆	1	0353350	Sealing sleeve
18		1	0350904	Collar
19		1	0179253	Adjuster for valve rod
20		1	0179394	Spring guide -valve stem

When assembling gun parts, the Loctite has to be used in accordance with the instructions.

◆ = Wearing part

★ = Included in sealing set 0179946

▼ = Various dimensions see accessories in chapter 9

● = Not part of standard equipment for the spray gun, but is available as an optional extra

Spare parts list

Item	K	Qty	Part No.	Description
21		1	0179335	Valve stem
22		1	9994247	Compression spring
23		1	0179337	Valve tappet
24	◆★	1	0179338	Air valve seal
25	◆★	1	0179339	Tappet seal
26	◆★	1	0179395	Seal
27		1	0179481	Tappet cap
28	◆	1	0179342	Sealing screw
29	◆★	1	0179341	Needle packing
30		1	0179343	Thrust collar
31	◆★	1	9971182	O-ring
32		1	0353351	Connecting piece
33		1	0353352	Valve stem extension
34		1	0353248	Protection hose assy. 7.3 m; 24.0 ft
36		1	9994248	Compression spring
38		1	0179784	Tension nut assy.
39	◆	1	0179219	Trigger GM2000
40	◆	1	0179396	Trigger pin
41	◆	1	9900808	Pan-head screw M3; 12 mm; 0.47 in long
54		1	0353381	Data plate GM 2800EA
55		2	9900810	Pan-head screw M2; 4 mm; 0.16 in long
57		1	9913015	Union nut
58	◆	1	9998290	Clamping ring
61	◆	1	0179787	Stripped hose, length 7.5 m; 24.6 ft; ø6; 12 mm; ø0.24; 0.47 in
62		1	0179249	Air hose assy. 8.1 m; 26.6 ft; ø7.5; 12.5 mm; ø0.30; 0.49 in; R1/4"
63		1	0353362	Material connection M14x1
64		1	9994627	Connector R1/4"
65		1	0353390	Protection cap
66		1	9971142	O-ring

When assembling gun parts, the Loctite has to be used in accordance with the instructions.

◆ = Wearing part

★ = Included in sealing set 0179946

▼ = Various dimensions see accessories in chapter 9

● = Not part of standard equipment for the spray gun, but is available as an optional extra

Spare parts list

Item	K	Qty	Part No.	Description
70		1	0350393	Sealing screw
71	◆	1	0350392	Sealing
72		1	0350382	Hose fitting ø10 mm; ø0.39 in; 1/4"
72		1	0350346	Hose fitting ø10 mm; ø0.39 in; 3/8"
73	◆	1	0350902	Valve needle head assy.
100		1	0179923	Valve stem assy.
101	◆●	1	0363238	Nozzle set EA Supra
102	◆●	1	0353966	Outer nut Supra
103	◆●	1	0353952	Nozzle insert Supra EA
104	◆●	1	0353965	Nozzle body Supra
110	◆●	1	▼	Nozzle set EAF
111	◆●	1	0353967	Outer nut EAF
112	◆●	1	▼	Nozzle EAF
113	◆●	1	▼	Air cap EAF
114		1	0179409	Contact spring
115	◆★	1	0179482	Slide cap
116		1	0179969	Tappet cap assy.
			9992511	Loctite 243, 50ml
			9992528	Loctite 270, 50ml

When assembling gun parts, the Loctite has to be used in accordance with the instructions.

◆ = Wearing part

★ = Included in sealing set 0179946

▼ = Various dimensions see accessories in chapter 9

● = Not part of standard equipment for the spray gun, but is available as an optional extra

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