

# WAGNER

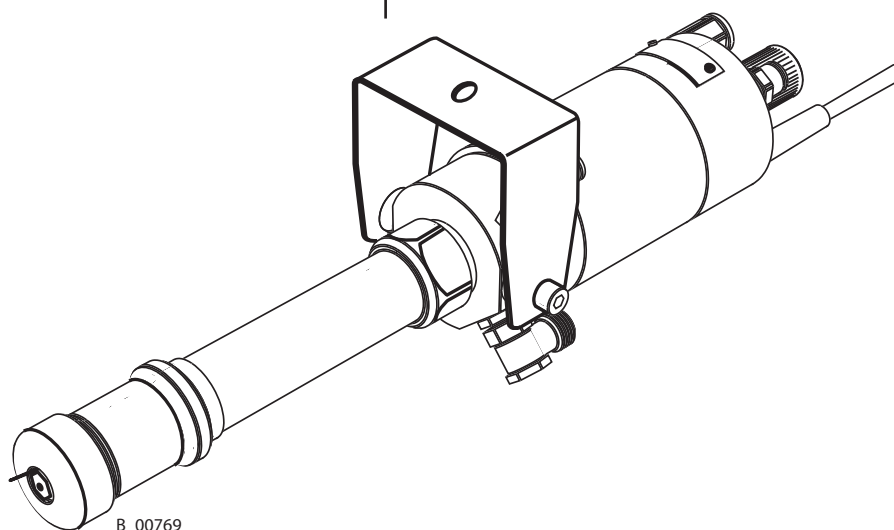
Translation of the original  
Operating manual

GA 2000EAC  
GA 2005EAC

Edition 12/ 2008

## Electrostatic AirCoat spray gun

for automatic operating mode  
with flat or round jet nozzles



B\_00769

  0102  II 2G EEx 0,24 mJ T6 (Atex 95)



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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 LANGUAGES

This operating manual is available in the following languages:

Language:	Part No.	Language:	Part No.
German	350740	English	350741
French	350742	Dutch	350743
Italian	350744	Spanish	350745
Danish	350747	Swedish	350746



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

Language:	Part No.	Language:	Part No.
German	350870	English	350871



### 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	 <b>DANGER</b>
	<p><b>This line warns of the hazard !</b> Possible consequences of failing to observe the warning instructions. The signal word points out the hazard level.</p> <p>→ The measures for preventing the hazard and its consequences.</p>


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

 SIHI_0103_GB	 <b>WARNING</b>
	<p><b>This line warns of the hazard !</b> Possible consequences of failing to observe the warning instructions. The signal word points out the hazard level.</p> <p>→ The measures for preventing the hazard and its consequences.</p>

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

 SIHI_0101_GB	 <b>CAUTION</b>
	<p><b>This line warns of the hazard !</b> Possible consequences of failing to observe the warning instructions. The signal word points out the hazard level.</p> <p>→ The measures for preventing the hazard and its consequences.</p>

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

 <b>CAUTION</b>	SIHI_0102_GB
	<p><b>This line warns of the hazard !</b> Possible consequences of failing to observe the warning instructions. The signal word points out the hazard level.</p> <p>→ The measures for preventing the hazard and its consequences.</p>

**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.

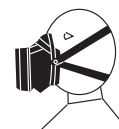


#### 2.1.2 PERSONNEL QUALIFICATIONS

- 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 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 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 inches, between the spray gun and spray object.

## 2.5 USE IN AN EXPLOSION HAZARD AREA

### 2.5.1 CORRECT USE

The electrostatic spray guns GA 2000EAC and GA 2005EAC are 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 EPG 3000.

### 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 MAXI. 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.



## 2.6 ESTABLISHMENT OF STATIONARY ELECTROSTATIC SYSTEMS

The spraygun is a component of a stationary spraying system. When establish stationary spraying systems, strictly comply with regulation EN 50176. Among other things it is required, that switch on of high voltage is only possible with a key. But it must be possible to switch off high voltage without any key, for instance with a emergency stop button.

## 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



Herewith we declare that the supplied version of

Electrostatic power generator EPG 3000 <i>in connection with:</i>	
Automatic spray gun GA 2000EAF	Automatic spray gun GA 2000EACFB
Automatic spray gun GA 2000EAR	Automatic spray gun GA 2000EACR
Automatic spray gun GA 2005EAF	Automatic spray gun GA 2005EACFB
Automatic spray gun GA 2005EAR	Automatic spray gun GA 2005EACR

Complies with the following guidelines:

98/37/EG	89/336/EWG	2002/95/EG
94/9/EG	73/23/EWG	2002/96/EG

Applied standards, in particular:

EN 12100-1	EN 1953	EN 55022	EN 61000-4-4	EN 61000-6-1	EN 61000-6-4
EN 12100-2	EN 50176	EN 60204-1	EN 61000-4-6	EN 61000-6-2	
EN 1050	EN 55011	EN 61000-4-2	EN 61000-4-11	EN 61000-6-3	

Applied national technical standards and specifications, in particular:

Für Deutschland siehe Kapitel 3.4
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Marking:

Electrostatic power generator

CE 0102  II (2) G

Automatic spray gun

CE 0102  II 2G EEx 0,24 mJ T6

#### 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:**

381891

### 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 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.

### 3.5 PTB CONFORMITY CERTIFICATION

**Physikalisch-Technische Bundesanstalt**  
Braunschweig und Berlin




#### EG-Baumusterprüfbescheinigung


- (1) Geräte und Schutzsysteme zur bestimmungsgemäßen Verwendung in explosionsgefährdeten Bereichen - **Richtlinie 94/9/EG**
- (2) EG-Baumusterprüfbescheinigungsnummer
- (3) **PTB 03 ATEX 5006**
- (4) Gerät: Sprüheinrichtungen für brennbare flüssige Beschichtungsstoffe 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:  II 2G EEx 0,24 mJ    Steuergeräte:  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 guns can only be used with the control units designed for that purpose:

Part No.	Description	Operating mode
381021	Control unit EPG 3000	Single control unit
381022	Control unit EPG 3000 USA	Single control unit
381020	Control unit EPG 3000	Modular painting system
350015	Control module HVM 2082	In control cabinet operation:
350017	Pneumatic module PPM 2000 S	
350023	Pneumatic module PPM 2000 S-2	

#### 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  $> 150 \text{ k}\Omega$  (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 ( $\mu\text{A}$ ), shown on the HVM 2082, denotes the charging capacity of a spray material.

High kV-value, low  $\mu\text{A}$ -value (no wrap around) = Paint with too high electric resistance.

Low kV-value, high  $\mu\text{A}$ -value (no wrap-around) = Paint with too low electric resistance.

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

## 4.2 SCOPE OF SUPPLY

Qty	Part No.	Description
1	350007	Automatic spray gun GA 2000EACR
1	2301862	Automatic spray gun GA 2000EACR with short cable
1	350024	Automatic spray gun GA 2000EACR USA
1	350043	Automatic spray gun GA 2005EACR
1	350071	Automatic spray gun GA 2005EACR with short cable
1	350003	Automatic spray gun GA 2000EACFB
1	2301864	Automatic spray gun GA 2000EACFB with short cable
1	350027	Automatic spray gun GA 2000EACFB USA
1	350044	Automatic spray gun GA 2005EACFB
1	350045	Automatic spray gun GA 2005EACFB USA
1	350070	Automatic spray gun GA 2005EACFB with short cable

The standard equipment for each product variants includes:

Quantity											Part No.	Description
350007	2301862	350024	350043	350071	350003	2301864	350027	350044	350045	350070		
1	1	1	1	1	1	1	1	1	1	1	179901	Universal spanner
1	1	1	1	1	-	-	-	-	-	-	128901	Nozzle spanner
1	1	1	1	1	1	1	1	1	1	1	350910	Set of seals, valve rod
-	-	1	-	-	-	-	1	-	1	-	384555	Connector M16x1.5 - NPSM1/4"
1	1	1	1	1	1	1	1	1	1	1	9100577	Instruction tag
1	1	1	1	1	1	1	1	1	1	1	380891	CE-Declaration of Conformity
1	1	-	1	1	1	1	-	1	-	1	350740	Operating manual German
-	-	1	-	-	-	-	1	-	1	-	350741	Operating manual English
1	1	1	1	1	1	1	1	1	1	1	See chap. 1	An operating manual in the local language

The spray gun GA 200xEACR is delivered with a round jet nozzle R15.

The spray gun GA 200xEACFB is delivered with a flat jet nozzle 11/40.

By the GA 2000 the form air adjustment is directly at the spray gun.

By the GA 2005 the form air for the beam spread adjustment is supplied by external.

The spray gun with note „short cable“ has a cable length of only 0.2 m; 0.7 ft.

The standard cable length is 11 m; 36.1 ft.

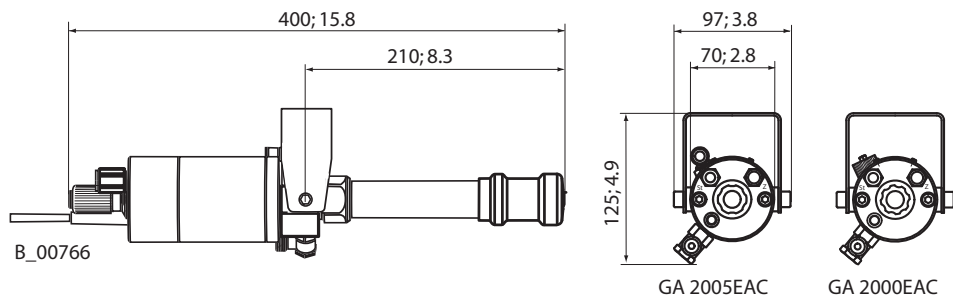
For special versions the delivery note applies.



**4.3 TECHNICAL DATA**

Maxi. air pressure	0.8 MPa; 8 bar; 116 psi
Maxi. atomizing air pressure	0.8 MPa; 8 bar; 116 psi
Maxi. material pressure	25 MPa; 250 bar; 3626 psi
Input voltage	maxi. 17 Vpp
Input current	maxi. 0.9 A
Output voltage	maxi. 80 kV DC
Output current	maxi. 100 µA DC
Polarity	negative
Maxi. discharge energy (accord. EN 50176 classification for type A)	0.24 mJ
Material hose connection	M16x1.5
Atomizing air connection	ø 10 mm; ø 0.39 inch
Fan air connection	ø 8 mm; ø 0.31 inch
Control air connection	ø 8 mm; ø 0.31 inch
Gun cable	11 m; 36.1 ft or 0.2 m; 0.7 ft
Weight (without cables)	1.450 kg; 3.20 lb
Maxi. temperature material	60 °C; 140 °F
Working temperature range	+5 - +40 °C; +41 - +104 °F
Min. electric material resistance	150 kΩ*
Maxi. electric material resistance	1250 kΩ*
Sound power at 0.4 MPa; 4 bar; 58 psi air pressure (depending on nozzle used)	84 dB(A)

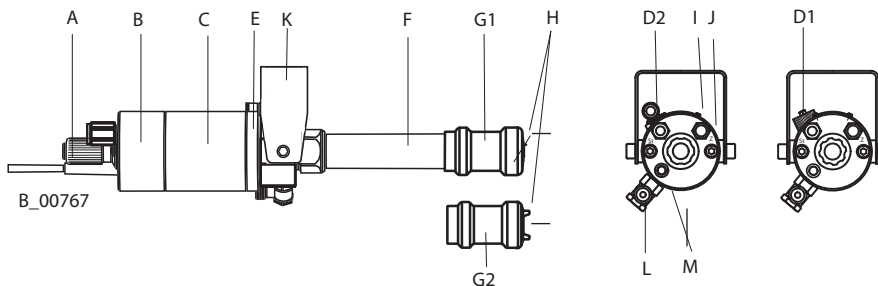
\* after WAGNER/Ransburg scale

**Dimensions mm; inch**

## 4.4 FUNCTIONAL DESCRIPTION

### 4.4.1 DESIGN OF SPRAY GUN

A	Tension nut for valve rod	G1	Nozzle nut round jet
B	Housing	G2	Air cap flat jet
C	Cascade	H	Nozzle
D1	Fan air regulation GA 2000EA	I	Control air connection (red)
D2	Fan air connection GA 2005EA	J	Atomizing air connection (blue)
E	Head piece	K	Gun holder
F	Gun barrel	L	Paint hose connection
		M	Connection to control unit



### 4.4.2 FUNCTIONS OF THE GUN

#### Note

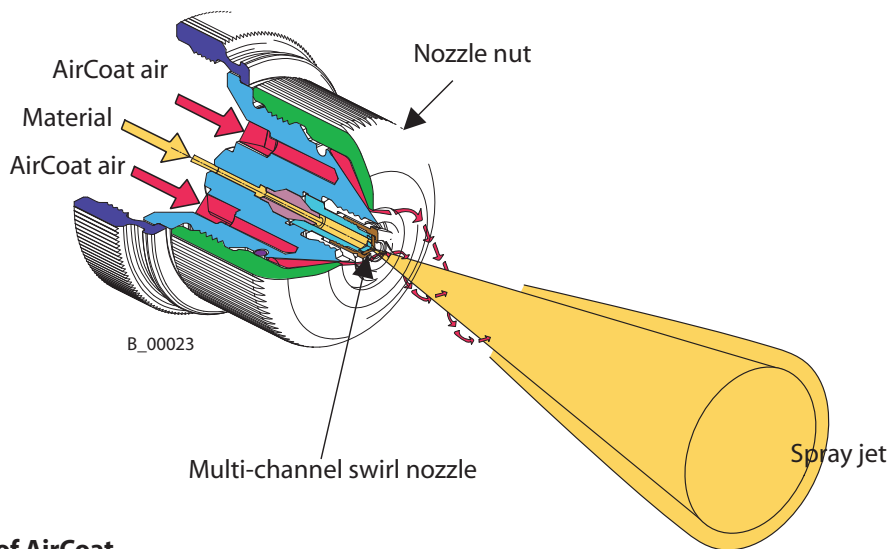
Operation of the spray gun in conjunction with the control unit EPG 3000 is described in this operating manual.

- The high voltage at the spray gun GA 2000EAC or GA 2005EAC is activated when the control unit EPG 3000 is switched on.
- The control piston integrated on the valve rod in housing (B) of the spray gun GA 2000EAC or GA 2005EAC is subjected to pressure at the same time and open the air valve for the atomizing air.
- Paint valve in the head piece (E) is opened via valve rod movement after the valve for the atomizing air is opened.
- The spray jet width is adjusted via the air control knob on the control unit EPG 3000 or via the fan air regulation (D1) on the spray gun GA 2000EA in the case of flat jet spraying.
- The high voltage at the spray gun can be adjusted at the voltage regulator in the control unit EPG 3000 and can be adapted to the paint or to the spraying object.
- **Securing the gun:**
  1. Switch off the mains at the EPG 3000
  2. Switch off the air supply at the EPG 3000
  3. Relieve the pressure on the spray gun and the unit.

## 4.5 AIR ATOMIZING SPRAY PROCESS

### 4.5.1 ROUND JET SPRAY PROCESS

In the AirCoat process, high pressure of 3-15 MPa; 30-150 bar; 435-2176 psi is used to atomize the material. The AirCoat air at 0-0.25 MPa; 0-2.5 bar; 0-36 psi produces a soft jet, which largely eliminates the problem of overlapping boundaries. The spray jet can be adjusted by turning the nozzle nut.

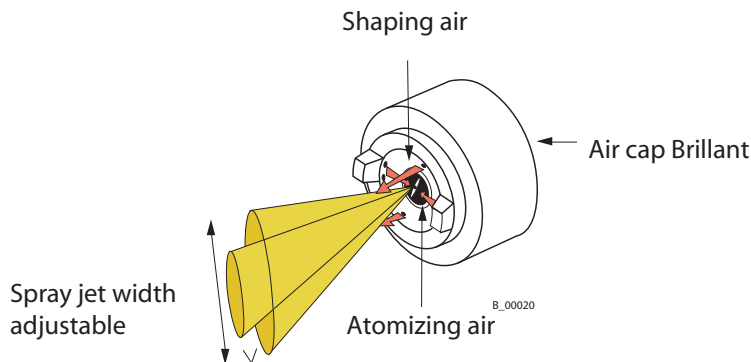


#### Advantages of AirCoat

- High painting capacity
- Low fogging tendency
- Good finish
- High- viscosity paints can easily be applied

#### 4.5.2 AIRCOAT ATOMIZING FLAT JET SPRAY PROCESS

In the Brillant AirCoat process, high pressure of 3-15 MPa; 30-150 bar; 435-2176 psi is used to atomize the material. The AirCoat air at 0.05-0.25 MPa; 0.5-2.5 bar; 7-36 psi produces a soft jet, which largely eliminates the problem of overlapping boundaries. There is a possibility to reduce the jet by form air.

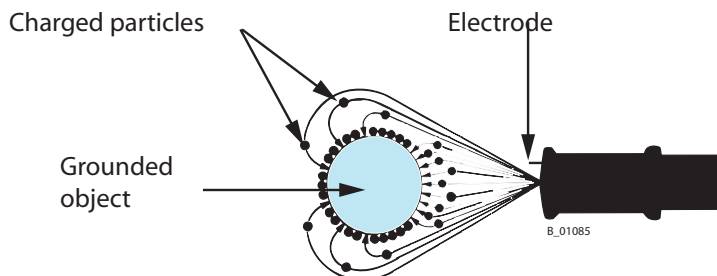


#### Advantages of AirCoat

- High painting capacity
- Low fogging tendency
- Good finish
- High- viscosity paints can easily be applied
- High endurance of Brillant- jet-nozzles
- Up to 20% less air consumption.
- Change in width the jet.

#### 4.5.3 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 over spray
- Coating of entire circumferences due to an electrostatic field
- Less working time

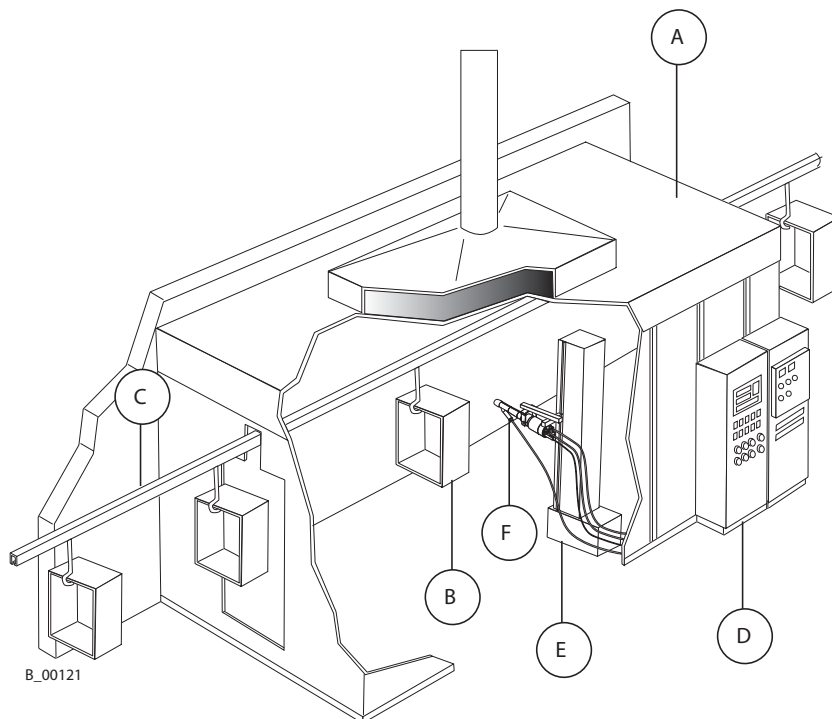
## 5 PREPARATION BEFORE STARTING WORK

### 5.1 SET UP AND CONNECT

#### 5.1.1 TYPICAL ELECTROSTATIC SPRAYING SYSTEM

	 <b>WARNING</b>
	<p><b>Incorrect installation/operation!</b> 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>

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- A Spraying booth
- B Object
- C Conveyor
- D Control cabinet
- E Movement device system
- F Electrostatic automatic air spray gun

The spray gun GA 2000EAC or GA 2005EAC must be used a part of an AirCoat 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

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

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### 5.1.3 AIR SUPPLY

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

### 5.1.4 FLUID (PAINT) HOSES

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



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	 <b>DANGER</b>
	<p><b>Bursting hose, bursting threaded joints!</b> Danger to life from injection of material</p> <ul style="list-style-type: none"> <li>→ Ensure that the hose material is chemically resistant.</li> <li>→ 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.</li> <li>→ Ensure that the following information can be seen on the high-pressure hose: <ul style="list-style-type: none"> <li>- Manufacturer</li> <li>- Permissible operating pressure</li> <li>- Date of manufacture.</li> </ul> </li> </ul>



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### 5.1.5 EARTHING

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

	 <b>WARNING</b>
	<p><b>Discharge of electrostatically charged components in atmospheres containing solvents!</b> Explosion hazard from electrostatic sparks or flames.</p> <p>→ Earth all unit components. → Earth the workpieces being painted.</p>

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	 <b>WARNING</b>
	<p><b>Heavy paint mist if earthing is insufficient!</b> Risk of poisoning Insufficient paint application quality</p> <p>→ Earth all unit components. → Earth the workpieces being painted.</p>

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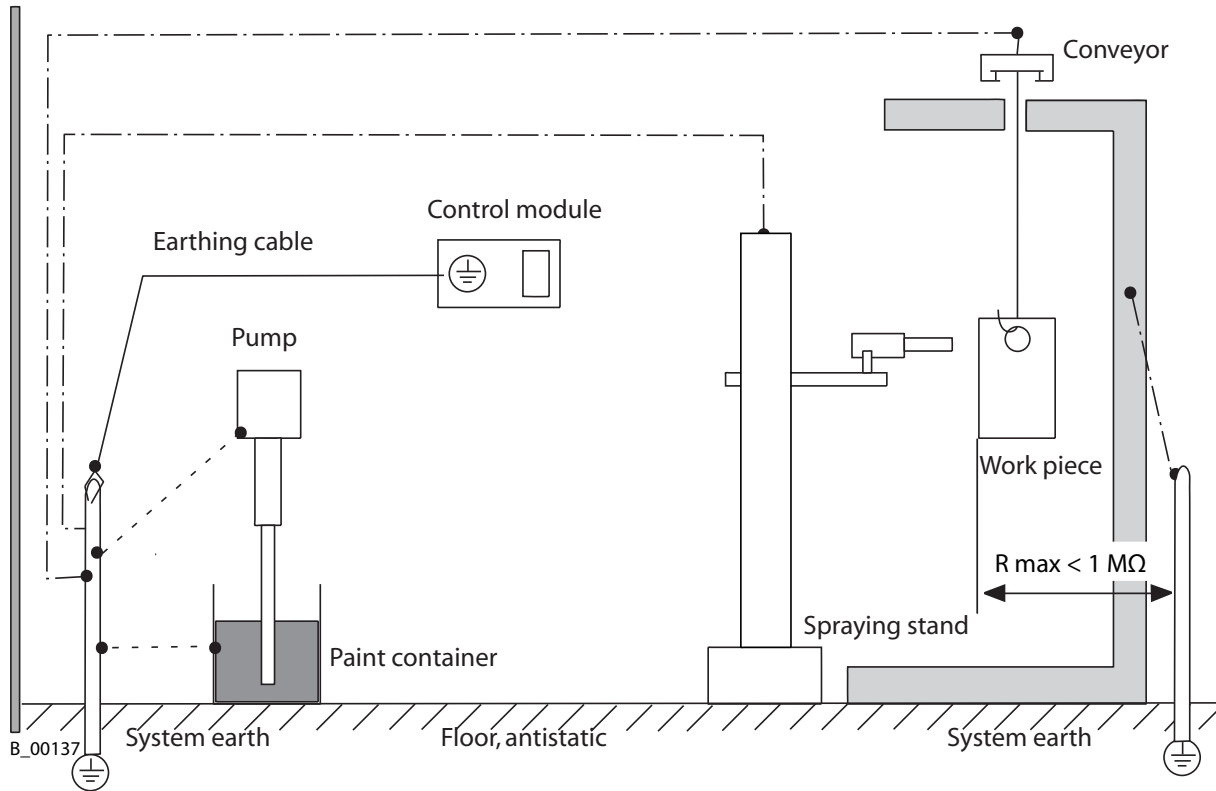
**A badly earthed work-piece will result in:**

- 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 work piece 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 <sup>2</sup> (AWG 12)
Pump	4 mm <sup>2</sup> (AWG 12)
Paint container	4 mm <sup>2</sup> (AWG 12)
Movement unit	16 mm <sup>2</sup> (AWG 6)
Conveyor	16 mm <sup>2</sup> (AWG 6)
Spraying booth	16 mm <sup>2</sup> (AWG 6)
Spraying stand	16 mm <sup>2</sup> (AWG 6)



## 5.2 PREPARATION OF 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).

In most cases, the application of paints of up to 60 DIN sec. for thick layers does not cause problems.

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 PREPARATION BEFORE STARTING WORK

#### 5.3.1 GENERAL RULES FOR MAKING ADJUSTMENTS TO THE SPRAY GUN

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

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

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	 <b>WARNING</b>
	<p><b>Unintentional putting into operation!</b> 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"> <li>→ Switch off the energy/compressed air supply.</li> <li>→ Relieve the pressure from the spray gun and unit.</li> <li>→ Secure the spray gun against actuation.</li> <li>→ By functional faults: Identify and correct the problem, proceed as described in chap. „Trouble shooting“.</li> </ul>


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### 5.3.2 PREPARATION

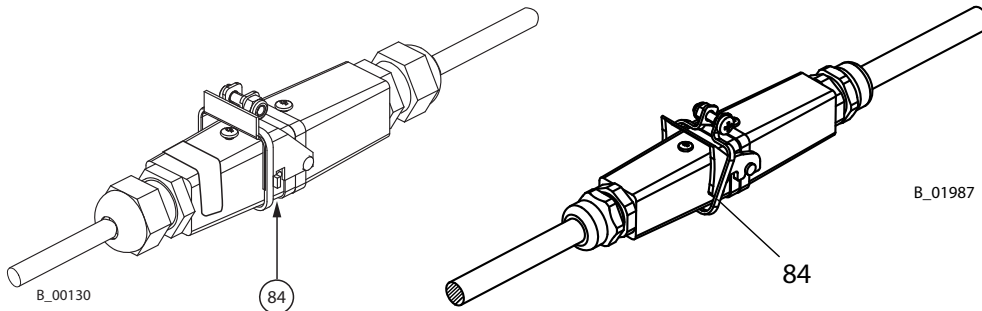
- Earthing the spraying unit and make sure that all other conductive parts within the work area are earthed.
- Secure the spray gun to the lifting unit with the suspension bracket or suspension bolt (accessories)
- Connect material hose to pump.
- Connect the air hose  $\varnothing$  10 mm;  $\varnothing$  0.39 inches (marked blue) to oil-free, dry air supply approx 0.25 MPa; 2.5 bar, 36.3 psi with regulator.
- Connect the air hose  $\varnothing$  8 mm;  $\varnothing$  0.31 inches (marked red) for the control air to the control unit EPG 3000.

#### When using flat jet nozzles:

- Connect the air hose  $\varnothing$  8 mm;  $\varnothing$  0.31 inches (marked green) for the fan air to the control unit EPG 3000.
- Connect electric cable to the control unit.

	<h2>! WARNING</h2>
	<p><b>Sparks form when the plug is removed!</b> Explosion hazard.</p> <p>When using the spray gun in explosion hazard areas: → Secure the cable connection with the supplied locking clamp (84).</p>

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Old equipment

New equipment

- Visually check the permissible pressures for all the system components.
- Set material pressure and use a suitable medium (solvent or water) to check that connections do not leak.
- Relieve unit pressure and spray gun.

## 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. Spray on a test object.
3. Adjust the spray pressure and atomizing air in accordance with the nozzle 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 NOZZLES

#### Spray gun GA 2000EAC

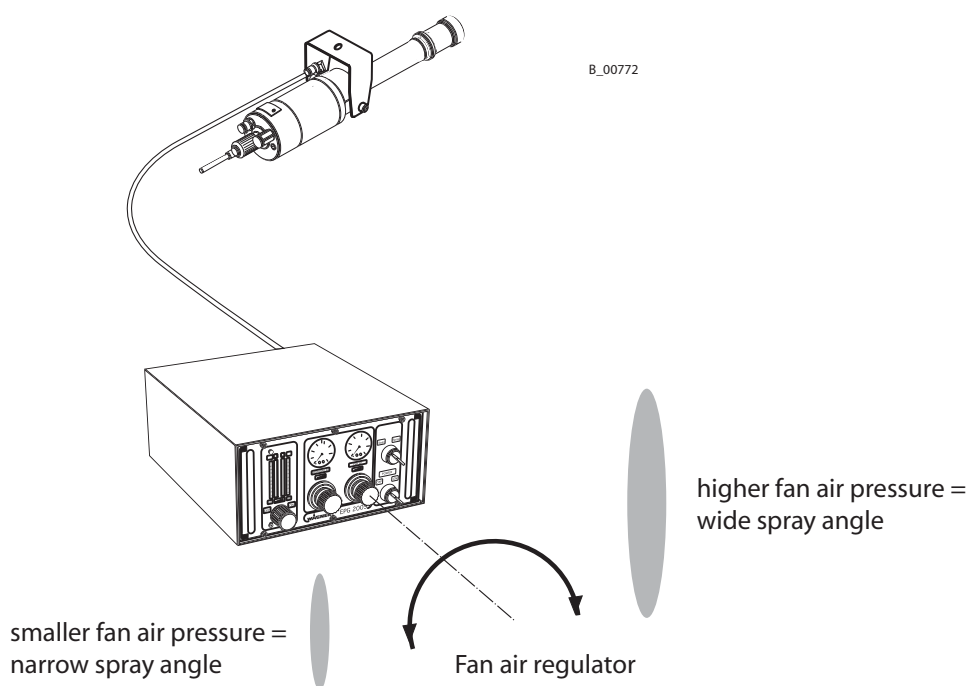
The spray pattern can be adjusted to suit the object being sprayed using the fan air regulator on the gun.

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


#### Spray gun GA 2005EAC

The spray pattern can be adjusted to suit the object being sprayed using the fan air regulator on the EPG 3000

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

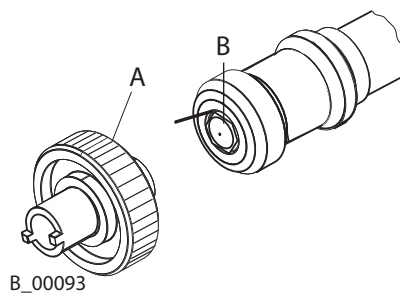


### 5.4.3 CLEANING OF CLOGGED ROUND JET NOZZLES

	<p style="text-align: center;"><b>! DANGER</b></p> <p><b>Exploding gas/ air mixture!</b> Danger to life from flying parts and burns</p> <p>→ Never spray into a closed container. → Earth the container.</p>
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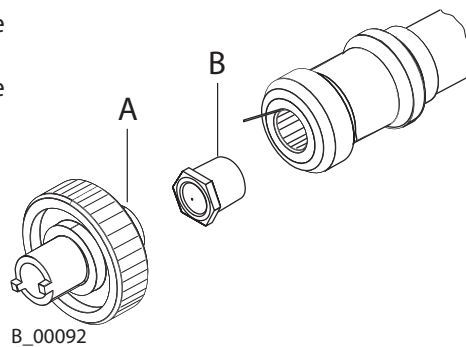
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1. By means of nozzle spanner (A), loosen nozzle insert (B) by a half turn.
2. Remove nozzle spanner and switch on for a short amount of time.
3. After cleaning the nozzle retighten.



### 5.4.4 EXCHANGE OF AIRCOAT ROUND JET NOZZLE INSERT

1. Remove nozzle insert (B) with nozzle spanner (A).
2. Fit desired nozzle insert (acc. to table 9.1 with nozzle spanner).



### 5.4.5 CHANGING FROM AIRCOAT ROUND JET TO AIRCOAT FLAT JET

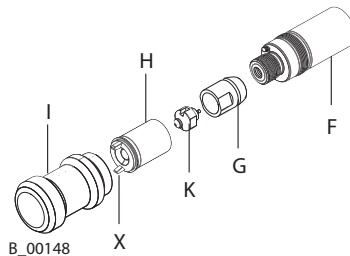
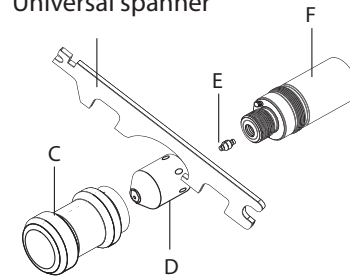
1. Replace paint with cleaning solvent, actuate trigger, and thoroughly rinse paint channel.
2. Relieve spray gun and unit pressure.
3. Secure spray gun! (remove control air hose)
4. Unscrew nozzle nut (C).
5. Remove seal nipple (E) and nozzle body (D) with universal spanner from adapter (F)
6. Screw seal ring together O-ring (G) to adapter (F) and tighten seal ring by hand.
7. Fit Brilliant-flat jet nozzle (K) on paint channel in the adapter (F).
8. Fit air cap (H) onto Brilliant-flat jet nozzle (K).

**Attention:**

Make sure that the pins in the air cap fit into the grooves in the flat nozzle.

9. Fit cap ring (I) with air cap (H) onto spray gun body (F).
10. Adjust desired jet level by means of air cap horns (X) and tighten cap ring (I) by hand.

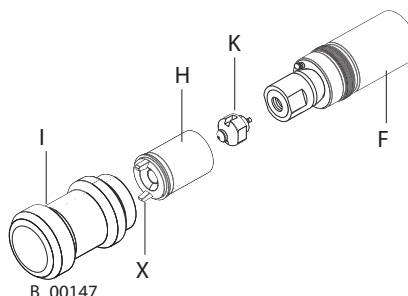
Universal spanner



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### 5.4.6 REPLACING AIRCOAT FLAT JET NOZZLE

1. Switch off control unit.
2. Relieve spray gun and unit pressure!
3. Secure spray gun! (remove control air hose)
4. Unscrew cap ring (I) and remove air cap (H).
5. Remove AirCoat nozzle insert (K) and brush cleaning solvent until all traces of paint are dissolved.



## CAUTION

### Defective AirCoat nozzle!

Insufficient paint application quality

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

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6. **Assembly:** Fit nozzle insert (K) on paint channel (F).
7. Fit air cap (H) onto fan nozzle (K);  
**Attention:**  
Make sure that the pins in the air cap fit into the grooves in the nozzle.
8. Fit cap ring (I) with air cap (H) onto spray gun body (F).
9. Adjust desired jet level by means of air cap horns (X) and tighten cap ring (I) by hand.

### 5.4.7 PROTECTION OF THE GUN AGAINST POLLUTION

To protect the gun against pollution it is recommended to cover it with a plastic bag from dirt (ever spray etc.).

#### Advantage:

Saving expenditure of cleaning. Extends lifetime of moving parts (needle / packing).

## 6 MAINTENANCE

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

The spray gun and the unit must be cleaned every day. Use only the cleaning solvent recommended by the material manufacture.

### CAUTION

#### Cleaning agent in the air duct!

Functional faults caused by swollen seals

→ Never immerse the spray gun in cleaning agent.

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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

	<p style="text-align: center;"><b>! DANGER</b></p> <p><b>Exploding gas/ air mixture!</b> Danger to life from flying parts and burns</p> <p>→ Never spray into a closed container. → Earth the container.</p>
---	--

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1. Switch off control unit.
2. Relieve spray gun and unit pressure.
3. Replace material by cleansing agent.
4. Turn off air supply to the gun (on the EPG 3000 turn the air regulator to zero).

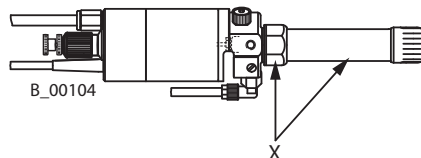
**Note:**

- If the round jet nozzle is fitted: By means of nozzle spanner (A), loosen nozzle insert (B) by a half turn.
- If the flat jet nozzle is fitted: Remove and clean the AirCoat nozzle
- 5. Thoroughly flush spray gun.
- 6. Relieve spray gun and unit pressure !
- 7. Clean the body of the gun with solvent which has been recommended by the paint manufacturer and dry with a cloth or blow gun.

<b>CAUTION</b>
<p><b>Cleaning agent in the air duct!</b> Functional faults caused by swollen seals</p> <p>→ Always point the spray gun down when cleaning. → Ensure that neither paint nor cleaning agent enters the air duct.</p>

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





## 7 TROUBLE SHOOTING AND SOLUTIONS

Problem	Cause	Solution
Insufficient material output	• Nozzle too small	• Select larger nozzle (see chapter 9)
	• Material pressure too low	• Increase material pressure
	• Material viscosity too high	• Thin material in accordance with the manufacture's instructions.
	• Filter in material supply clogged	• Clean or replace filter
	• Nozzle is clogged	• Clean or replace nozzle
Poor spray pattern	• Wrongly adjusted atomizing air and / or fan air	• Readjust the atomizing air or fan air
	• Nozzle too large	• Select smaller nozzle (see chapter 9)
	• Material viscosity too high	• Thin material acc. to manufacturer's instruction
	• Material pressure too high	• Reduce material pressure
	• Damaged nozzle	• Replace nozzle
	• Damaged electrode	• Replace nozzle body or air cap
Leaking air valve	• Damaged seals on the valve rod	• Exchange seals (see chapter 8.4)
	• Sealing screw loose	• Tighten sealing screw
Poor wrap round or electrostatic effect	• Poor earthing at object	• Check earthing of object or hanger with ohmmeter
	• Paint resistance too high / to low	• Check resistance of paint in accordance with chap. 4.1.1
	• Spraying pressure too high	• Adjust spraying pressure
Back spraying	• Object not earthed	• Check earthing
	• Distance between spray gun and work piece too large.	• Reduce distance between spray gun and work piece

<b>Problem</b>	<b>Cause</b>	<b>Solution</b>
No wrap round)	• No high voltage	• Check function of control unit in accordance with its manual
	• Air-passages damp	• Cleaning air-passages and drying
	• Paint conductivity too high	• Check resistance of paint in accordance with paragraph 4.1.1)
Leaking air valve	• Damaged seals on the valve rod	• Exchange seals (see chap. 8.4)

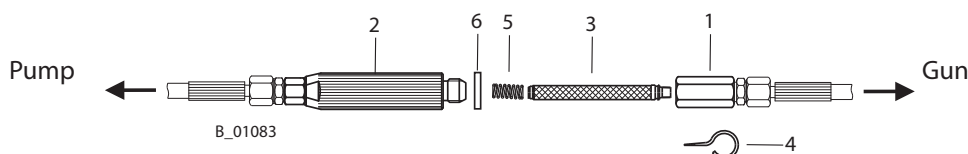
## 8 REPAIR WORK

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

	 <b>WARNING</b>
	<p><b>Incorrect maintenance/repair!</b> Danger to life and equipment damage</p> <p>→ Only a WAGNER service center or a suitably trained person may carry out repairs and replace parts.</p> <p>→ Only repair and replace parts that are listed in the chapter "Spare parts catalog".</p> <p>→ Before all work on the unit and in the event of work interruptions:</p> <ul style="list-style-type: none"> <li>- Disconnect the control unit from the mains.</li> <li>- Relieve the pressure from the spray gun and unit.</li> <li>- Secure the spray gun against actuation.</li> </ul> <p>→ Observe the operating and service instructions when carrying out all work.</p>

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### 8.1 EXCHANGE OR CLEANING OF FILTERS



#### Note

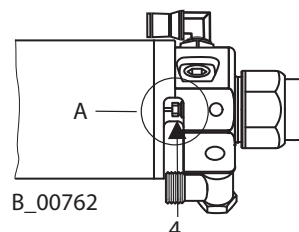
The in line filter should be fastened externally, but close to the gun, for example on the reciprocator arm, but not on the gun insert.

1. Place opening 22 of the spanner on adapter (1) and hold.
2. Turn rod filter assy. (2) by hand to the left (anti-clockwise) and unscrew.
3. Remove rod filter (3) with lifting screw (4) from the housing.
4. Remove compression spring (5) from the housing.
5. Rinse filter (3) and the compression spring (5) and the handle sealing washer (6) with cleaning solvent or replace it with a new one. Assemble in reverse order.

### 8.2 ADJUSTMENT OF THE VALVE ROD SEAL

In case paint leaks at the valve rod near the area (A):

1. Pull trigger and thoroughly clean paint channel with solvent.
2. Tighten the sealing screw (4) carefully with universal spanner.
3. If leaking continues, see chapter 8.3



### 8.3 EXCHANGE OF COMPLETE VALVE ROD

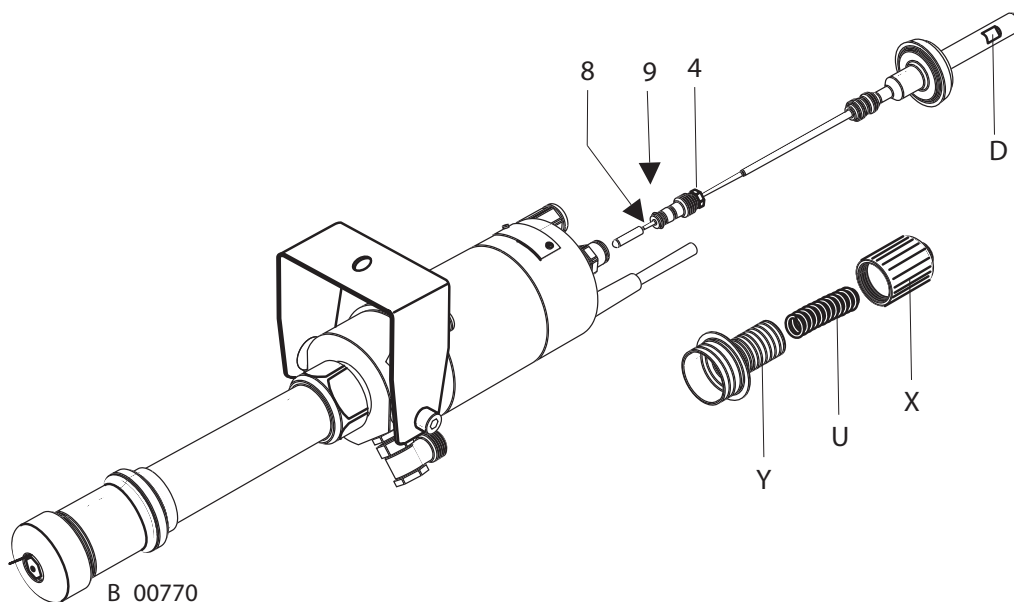
## CAUTION

### Unsuitable tool!

Damage to seals and sealing surfaces

→ Do not hold the valve rod with pliers or a similar tool.

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1. Closing down and cleaning
2. Unscrew tension nut (X), and remove compression spring (U).
3. Unscrew locking piece (Y) using spanner, size 17.
4. Remove sealing screw (4) using spanner, size 6, from the paint seal housing (9).

## CAUTION

### Leaking spray gun!

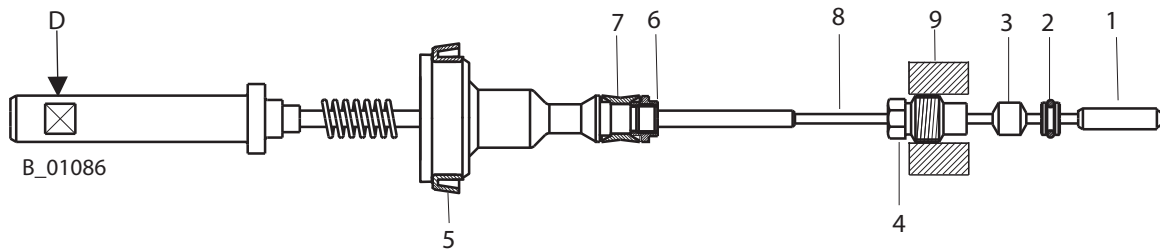
Risk of injury from coating material coming out.

→ Do not remove the paint sealing sleeve.

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5. Carefully pull out complete valve rod using surface (D) – replace if necessary.
6. Reassemble in reverse order – do not forget to screw in the centre packing screw (4). Put locking nut (X) and compression spring in place and tighten by hand.

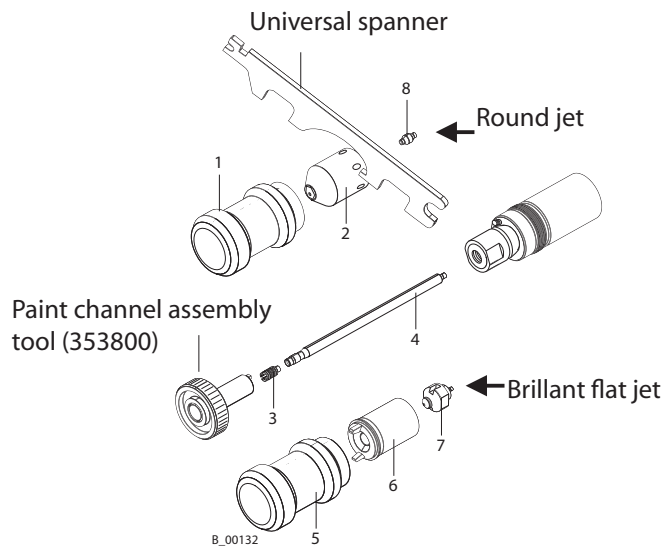
## 8.4 EXCHANGE OF VALVE ROD SEALS



Secure screw connections with Loctite 270

1. Remove valve rod as described in paragraph 8.3.
2. Hold with universal spanner at surface (D) and unscrew valve sealing element (1/D) using a small pliers.
3. Remove compression ring with O-ring (2) and seal (3).
4. If the tappet seal is faulty, undo the nut (6) with the universal spanner and pull out the tappet seal (7).
5. Replace the O-ring (2), the front seal (3) and, if necessary, the tappet seal (7) or the piston seal (5).
6. Reassemble valve rod in reverse order and secure thread with Loctite 270.  
See chap. 8.3.

## 8.5 EXCHANGE OF PAINT CHANNEL



If the round jet nozzle is fitted

1. Unscrew nozzle nut (1).
2. Loosen nozzle body (2) with a universal spanner and unscrew, remove seal nipple.
3. Unscrew seal screw (3) with paint channel assembly tool.
4. Remove paint channel.  
Assemble in reverse order, use screw (3) again.

If the flat jet nozzle is fitted

1. Unscrew cap ring (5).
2. Remove air cap (6) and Brilliant AirCoat nozzle (7).
3. Unscrew seal screw (3) with paint channel assembly tool.
4. Pull off the paint channel (4) with the round screw hook out of the gun attachment.  
Assemble in reverse order, use screw (3) again.

### Note

Clean attachment and paint channel separately. Otherwise they can stick together. Insert the paint channel as shown below (note position of the shoulder for the seal screw).

## 8.6 DISASSEMBLY OF AIRCOAT NOZZLE BODY (ROUND JET)

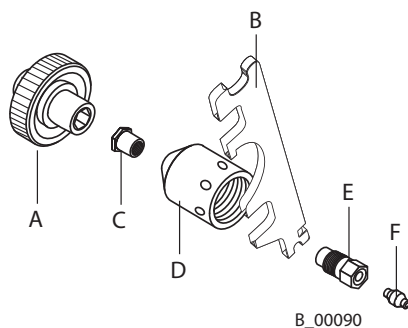
### CAUTION

#### Defective AirCoat nozzle!

Insufficient paint application quality

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

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1. Unscrew nozzle nut.
2. Remove nozzle body (D) with spanner (B) and fitting (F)
3. Unscrew nozzle insert (C) with nozzle spanner (A)
4. Push threaded nozzle fitting (E) backwards out of the nozzle body (D).
5. Handle the round-jet nozzle insert (C) and threaded fitting (E) with care, do not clean with sharp metal objects. Use nozzle cleaning brush (parts no. 9997001). Replace any worn-out parts.  
Assemble in reverse order.

#### Note (round jet EAC)

Care must be taken when assembling that the nozzle nut is not tight to the nozzle body (D). There must be room for the AirCoat air between nut and nozzle body.

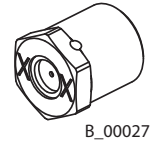


## 9 ACCESSORIES

### 9.1 ROUND JET NOZZLE INSERTS

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

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



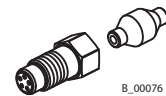
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\*Standard nozzle

Jet width in mm; inch at a distance of 30 cm; 11.8 inches from the object and at a pressure of 10 MPa; 100 bar; 1450 psi.

#### 9.1.1 NOZZLE SCREW JOINT ASSY

Part No.	Description
132922	Nozzle screw joint assy.



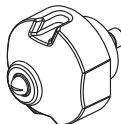
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## 9.2 NOZZLES AC-BRILLANT

Part-No	Marking	Size mm; inch	Spraying angle	Recommended gunfilter	Application
148107	07/10	0.18;0.007	10°	red (200 Meshes)	Natural paint
148407	07/20		20°		
148209	09/20	0.23;0.009	20°		Transparent lacquer Oil
148309	09/30		30°		
148409	09/40		40°		
148509	09/50		50°		
148609	09/60		60°		
148111	11/10	0.28;0.011	10°		Synthtic resin paint PVC paint
148211	11/20		20°		
148311	11/30		30°		
148411	11/40		40°		
148511	11/50		50°		
148611	11/60		60°		
148113	13/10	0.33;0.013	10°	yellow (100 Meshes)	Paint, undercoat Priming paint Filler
148213	13/20		20°		
148313	13/30		30°		
148413	13/40		40°		
148513	13/50		50°		
148613	13/60		60°		
148813	13/80		80°		
148115	15/10	0.38;0.015	10°	white (50M)	Filler Rustproofing paint
148215	15/20		20°		
148315	15/30		30°		
148415	15/40		40°		
148515	15/50		50°		
148615	15/60		60°		
148815	15/80		80°		
148217	17/20	0.43;0.017	20°	white (50M)	Rustproofing paint Latex paint
148317	17/30		30°		
148417	17/40		40°		
148517	17/50		50°		
148617	17/60		60°		
148817	17/80		80°		
148219	19/20	0.48;0.019	20°	white (50M)	Rustproofing paint Latex paint
148319	19/30		30°		
148419	19/40		40°		
148519	19/50		50°		
148619	19/60		60°		
148819	19/80		80°		

Jet width in mm; inch at a distance of 30 cm; 11.8 inches from the object and at a pressure of 10 MPa; 100 bar; 1450 psi, synthetic resin paint, 20 DIN 4 seconds.

### Nozzles AC-brillant

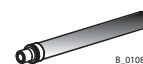
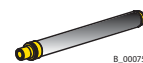
Part-No.	Marking	Size mm; inch	Spraying angle	Recommended gunfilter	Application
148221	21/20	0.53; 0.021	20°	white (50 Meshes)	 B_00079 Mica paint Zinc dust coating, Rustproofing paint Distemper
148421	21/40		40°		
148521	21/50		50°		
148621	21/60		60°		
148821	21/80		80°		
148423	23/40	0.58; 0.023	40°		
148623	23/60		60°		
148823	23/80		80°		
148425	25/40	0.64; 0.025	40°		
148625	25/60		60°		
148825	25/80		80°		
148427	27/40	0.69; 0.027	40°		
148627	27/60		60°		
148827	27/80		80°		
148429	29/40	0.75; 0.029	40°		
148629	29/60		60°		
148829	29/80		80°		
148431	31/40	0.79; 0.031	40°		
148631	31/60		60°		
148831	31/80		80°		
148435	35/40	0.90; 0.035	40°		
148635	35/60		60°		
148835	35/80		80°		

Jet width in mm; inch at a distance of 30 cm; 11.8 inches from the object and at a pressure of 10 MPa; 100 bar; 1450 psi, synthetic resin paint, 20 DIN 4 seconds.

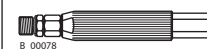


**9.3 LONG FILTER HOUSING AND FILTER INSERTS**

Part No. for 1 piece	Part No. for 10 pieces	Filter type	Mesh	For use with nozzle sizes:
34383	97022	Filter insert (red)	200	0.007" - 0.015"
43235	97023	Filter insert (yellow)	100	0.015" - 0.019"
34377	97024	Filter insert (white)	50	0.017" - 0.021"



Part No.	Description
139045	In-line filter with filter inlet 200 mesh
42029	Lifting screw (use: removing filter insert)



## 9.4 ELECTRICAL CABLES

Part No.	Description
350272	Gun cable extension 7.5 m; 24.6 ft
350513	Gun cable extension 10 m; 32.8 ft
350514	Gun cable extension 15 m; 49.2 ft
236219	Earth cable 4 mm <sup>2</sup> ; AWG 12 assy. 3 m; 9.8 ft with clamp
130215	Earth cable 4 mm <sup>2</sup> ; AWG 12 assy. 10 m; 32.8 ft with clamp

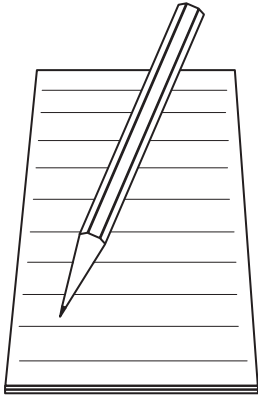
## 9.5 HOSES AND FITTINGS

Part No.	Description
381150	Air hose $\varnothing$ 7/10 mm; $\varnothing$ 0.28/0.39 inches black (order by the meter)
9987095	Air hose $\varnothing$ 7/10 mm; $\varnothing$ 0.28/0.39 inches blue (order by the meter)
381151	Air hose $\varnothing$ 5.5/8 mm; $\varnothing$ 0.22/0.31 inches red (order by the meter)
381152	Air hose $\varnothing$ 5.5/8 mm; $\varnothing$ 0.22/0.31 inches green (order by the meter)
9984481	High pressure hose M16x1.5; 7.5 m; DN 4 mm; 27 MPa; 270 bar, M16x1.5; 24.6 ft; ID 0.16 inches; 3916 psi
9984482	High pressure hose NPSM1/4"; 7.5 m; DN 4 mm; 27 MPa; 270 bar, NPSM1/4"; 24.6 ft; ID 0.16 inches; 3916 psi
123446	Double nipple M16x1.5 (for High pressure hose)
367560	Double nipple NPSM1/4" (for High pressure hose)
384555	Connector M16x1.5 - NPSM1/4" (for High pressure hose)

## 9.6 MISCELLANEOUS

Part No.	Description
350121	Conversion kit EAC round jet
350120	Conversion kit EAC flat jet
179182	Service kit for paint channel EACB
350124	Paint connection kit (for second material connection)
350364	Mounting bolt D12 (alternative to mounting bracket)
350383	Return check valve
259005	H.V. tester HV 200
139008	Paint resistance measuring unit
999080	Wet film thickness gauge
50342	Viscosity cup DIN 4

**OPERATING MANUAL**



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## 10 SPARE PARTS

### 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

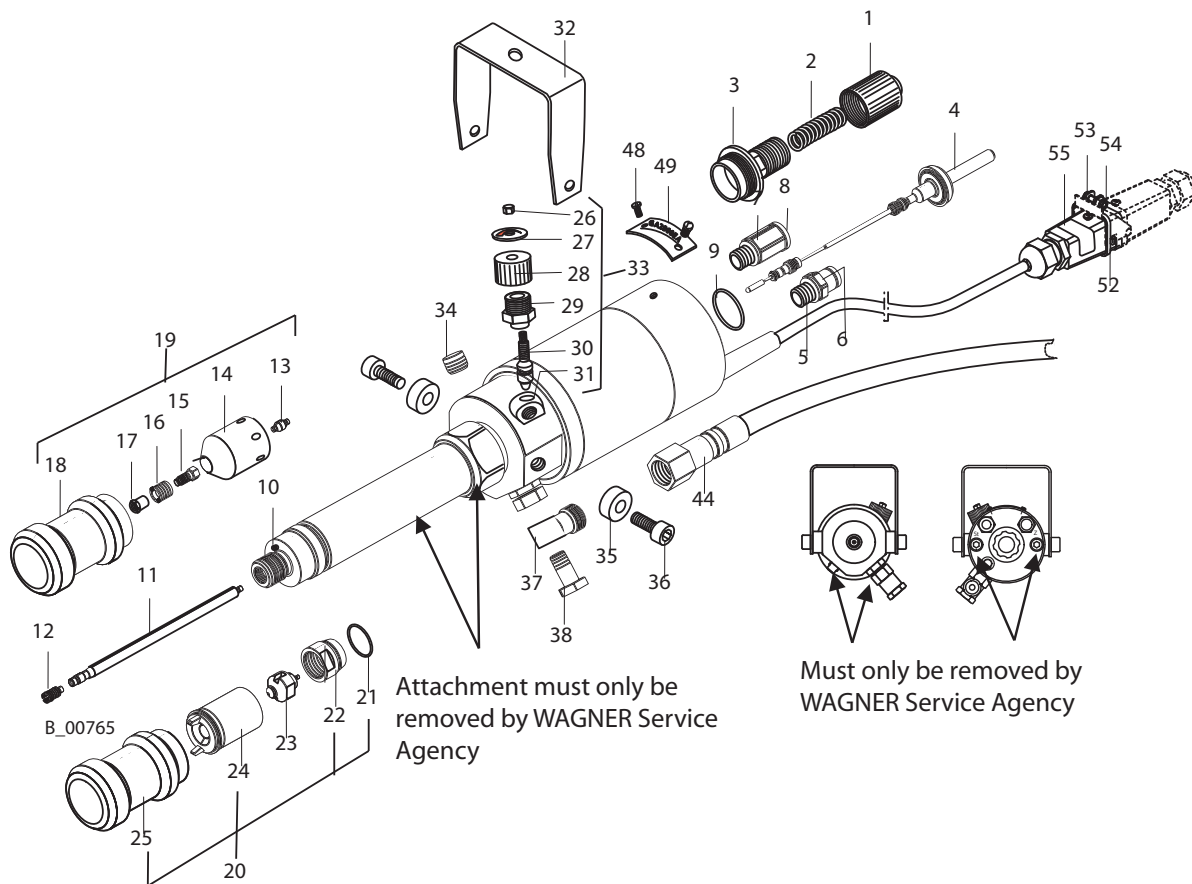
Note to column „K“ in the following spare parts lists.

- ◆ = Wearing parts  
**Note:** No liability is assumed for wearing parts
- = Not part of standard equipment, available, however, as additional extra.

	 <b>WARNING</b>
	<p><b>Incorrect maintenance/repair!</b> Risk of injury and damage to the equipment</p> <ul style="list-style-type: none"> <li>→ Repairs and part replacement may only be carried out by specially trained staff or a WAGNER service center.</li> <li>→ Before all work on the unit and in the event of work interruptions:             <ul style="list-style-type: none"> <li>- Switch off the energy/compressed air supply.</li> <li>- Relieve the pressure from the spray gun and unit.</li> <li>- Secure the spray gun against actuation.</li> </ul> </li> <li>→ Observe the operating and service instructions when carrying out all work.</li> </ul>

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**10.2 SPARE PARTS LIST GA 2000EAC**



Spare parts list GA 2000EAC

Item K	Qty	Part No.	Description
1	1	350270	Tension nut, assy.
2	1	9994248	Compression spring
3	1	350300	Locking piece
4	◆	350111	Valve rod GA 2000EAC assy.
5	1	9992743	Screwed connecting piece, straight
6	1	9998617	Thrust collar, red
7	1	9998043	Screwed connecting piece, straight
8	1	9998045	Thrust collar, blue
9	◆	9971164	O-ring
10	1	9994269	Compression spring
11	1	350501	Paint channel
12	1	179789	Sealing screw



## Spare parts list GA 2000EAC

Item	K	Qty	Part No.	Description
13	◆	1	128327	Seal nipple
14		1	179642	Nozzle body 2000 EAC
15		1	132516	Threaded nozzle fitting, assy.
16		1	132351	Threaded nozzle fitting holder
17	◆	1	132724	Nozzle insert R 15 (for other sizes see chapter 9.1)
18		1	179452	Nozzle nut
19	●	1	350121	Conversion set EAC round jet
20	●	1	350120	Conversion set EAC flat jet
21		1	9971414	O-ring
22		1	350380	Seal ring
23	◆	1	148411	AirCoat Brillant flat jet nozzle (for other sizes see chapter 9.2)
24		1	350274	Air cap EAC Brillant
25		1	350377	Cap ring
26		1	9913002	Cap nut
27		1	350344	Plate
28		1	9998041	Knurled cap
29		1	350342	Nipple
30		1	350341	Air control valve
31	◆	1	9971319	O-ring
32		1	350309	Gun bracket
33		1	350214	Air regulator assy.
34		1	9998974	Threaded plug
35		2	350319	Distance bush
36		2	9900318	Cheese head screw M8, 20 mm; 0.79 inches long
37		1	350371	Distributor
38		1	350370	Banjo bolt
44	●	1	▼	see chapter 9.5
48		2	9900810	Pan head screw
49		1	350620	Data plate GA 2005EAC
52		1	350427	Locking bracket
53		1	9903314	Phillips head screw M4x16
54		1	9910202	Hexagonal nut self locking M4
55		1	350521	Sticker
			9992511	Loctite 243, 50 ml
			9992528	Loctite 270, 50 ml

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

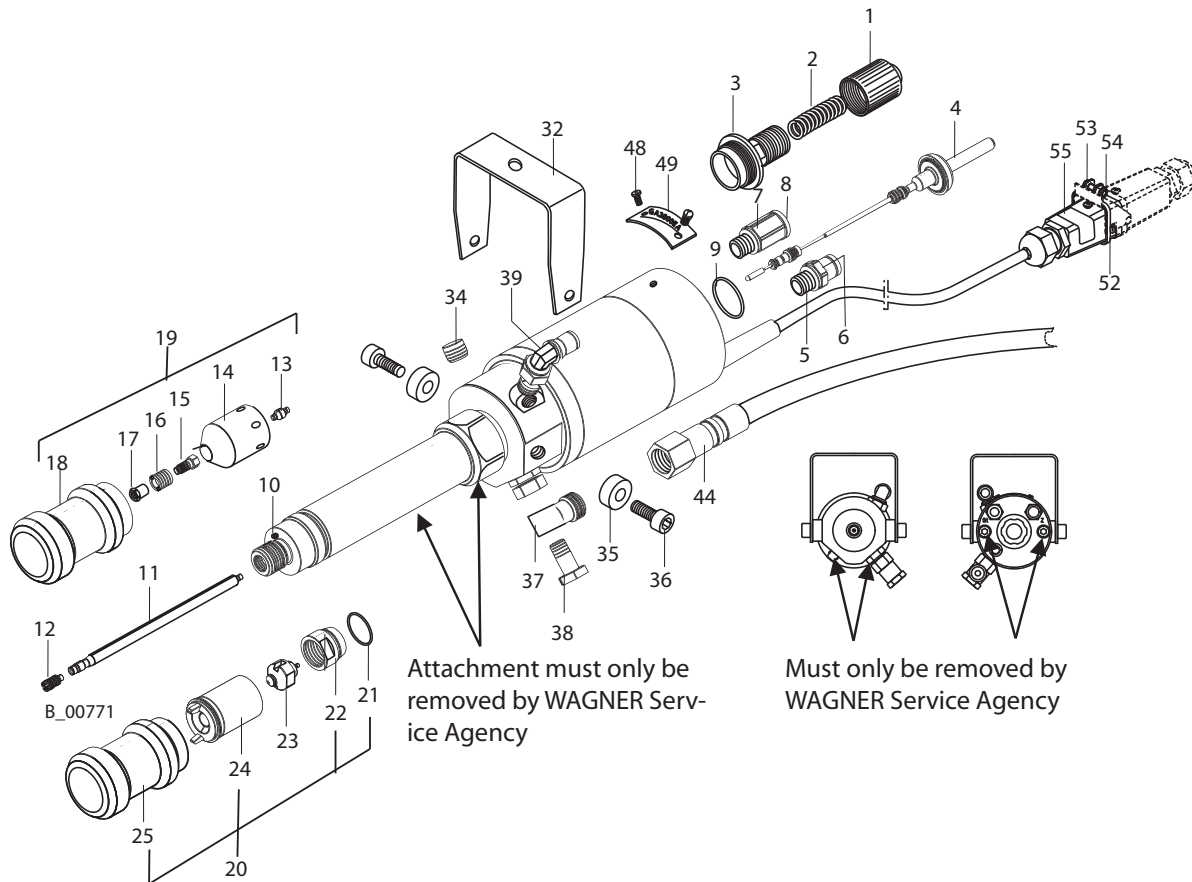
◆ = Wearing part

▼ = Various dimensions see accessories in chapter 9.

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



**10.3 SPARE PARTS LIST GA 2005EAC**



Spare parts list GA 2005EAC			
Item K	Qty	Part No.	Description
1	1	350270	Tension nut, assy.
2	1	9994248	Compression spring
3	1	350300	Locking piece
4	◆	350111	Valve rod GA 2000EAC assy.
5	1	9992743	Screwed connecting piece,
6	1	9998617	Straight
7	1	9998043	Thrust collar, red
8	1	9998045	Screwed connecting piece, straight
9	◆	9971164	Thrust collar, blue
10	1	9994269	O-ring
11	1	350501	Compression spring

Spare parts list GA 2005EAC			
Item K	Qty	Part No.	Description
12	1	179789	Paint channel
13	◆	128327	Sealing screw
14	1	179642	Seal nipple
15	1	132516	Nozzle body 2000 EAC
16	1	132351	Threaded nozzle fitting, assy.
17	◆	132724	Nozzle insert R 15 (for other sizes see chapter 9.1)
18	1	179452	Nozzle nut
19	●	350121	Conversion set EAC round jet
20	●	350120	Conversion set EAC flat jet
21	1	9971414	O-ring
22	1	350380	Seal ring
23	◆	148411	AirCoat Brillant flat jet nozzle (for other sizes see chap 9.2)
24	1	350274	Air cap EAC Brillant
25	1	350377	Cap ring
32	1	350309	Gun bracket
34	1	9998974	Threaded plug
35	2	350319	Distance bush
36	2	9900318	Cheese head screw M8, 20 mm; 0.79 inches long
37	1	350371	Distributor
38	1	350370	Banjo bolt
39	●	9998074	Screw fitting elbow
44	●	▼	see chapter 9.5
48	2	9900810	Pan head screw
49	1	350620	Data plate GA 2005EAC
52	1	350427	Locking bracket
53	1	9903314	Phillips head screw M4x16
54	1	9910202	Hexagonal nut self locking M4
55	1	350521	Sticker
		9992511	Loctite 243, 50 ml
		9992528	Loctite 270, 50 ml

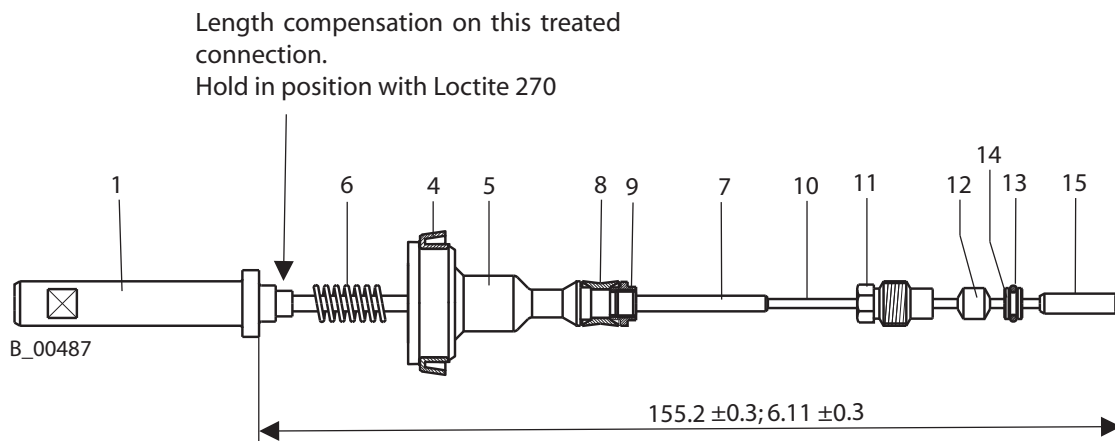
When assembling gun parts, the Loctite has to be used in accordance with the instructions

◆ = Wearing part

▼ = Various dimensions see accessories in chapter 9

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

**10.4 SPARE PARTS LIST VALVE ROD EAC**

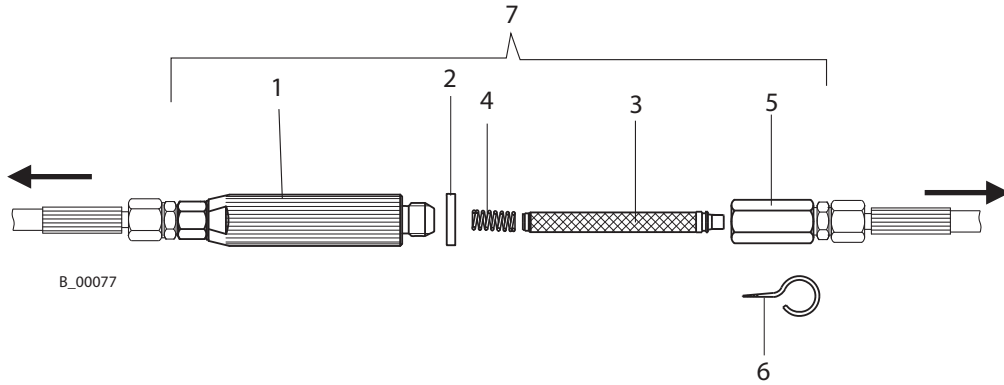


Item K	Qty	Part No.	Description
1	1	350324	Valve rod holder
4 ◆	1	350388	Piston seal
5	1	350321	Piston
6	1	9998040	Compression spring
7	1	350322	Valve rod, spring guide
8 ◆*	1	179339	Tappet seal
9	1	350323	Nut
10	1	350508	Valve rod
11	1	179342	Sealing screw
12 *	1	350505	Seal
13 ◆*	1	9971182	O-ring
14	1	179343	Compression ring
15	1	179236	Valve ball holder

◆ = Wearing part

\* = Included in set of seals valve rod 350910

**10.5 SPARE PARTS LIST IN LINE FILTER**



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Item	K	Qty	Part No.	Description
1		1	161360	Handle
2		1	43303	Handle sealing washer
3		1	-	Filter insert (see chapter 9.3)
4		1	43590	Compression spring
5		1	139259	Adapter
6		1	42029	Lifting screw
	●		139045	In-line filter assy.

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

<p><b>Germany</b> J. WAGNER GmbH Otto-Lilienthal-Str. 18 Postfach 1120 D- 88677 Markdorf Telephone: ++49/ (0)7544 / 5050 Telefax: ++49/ (0)7544 / 505200 E-Mail: service.standard@wagner-group.com</p>	<p><b>Switzerland</b> J. WAGNER AG Industriestrasse 22 Postfach 663 CH- 9450 Altstätten Telephone: ++41/ (0)71 / 757 2211 Telefax: ++41/ (0)71 / 757 2222 E-Mail: rep-ch@wagner-group.ch</p>
<p><b>Belgium</b> WAGNER Spraytech Benelux BV Veilinglaan 58 B- 1861 Wolvertem Telephone: ++32/ (0)2 / 269 4675 Telefax: ++32/ (0)2 / 269 7845 E-Mail: info@wagner-wsb.eu</p>	<p><b>Denmark</b> WAGNER Spraytech Scandinavia A/S Helgeshøj Allé 28 DK- 2630 Tåstrup Telephone: ++45/ 43 271 818 Telefax: ++45/ 43 43 05 28 E-Mail: wagner@wagner-group.dk</p>
<p><b>United Kingdom</b> WAGNER Spraytech (UK) Ltd. The Coach House 2 Main Road GB- Middleton Cheney, OXON OX17 2ND Telephone: ++44/ (0)1295 / 714 202 Telefax: ++44/ (0)1295 / 710 100 E-Mail: enquiries@wagnerspraytech.co.uk</p>	<p><b>France</b> J. WAGNER France S.A.R.L. 5, Ave. du 1er Mai – BP 47 F- 91122 Palaiseau-Cedex  Telephone: ++33/ (0)1 / 69 19 46 76 Telefax: ++33/ (0)1 / 69 81 72 57 E-Mail: division.batiment@wagner-france.fr</p>
<p><b>Netherlands</b> WAGNER SPRAYTECH Benelux BV Zonnebaan 10 NL- 3542 EC Utrecht PO Box 1656 3600 BR Maarssen Telephone: ++31/ (0)30 / 241 4155 Telefax: ++31/ (0)30 / 241 1787 E-Mail: info@wagner-wsb.eu</p>	<p><b>Italy</b> WAGNER COLORA S.r.l Via Fermi, 3 I- 20040 Burago di Molgora (MI)  Telephone: ++39/ 039 / 625021 Telefax: ++39/ 039 / 6851800 E-Mail: info@wagnercolora.com</p>
<p><b>Japan</b> WAGNER Spraytech Ltd. 2-35, Shinden Nishimachi J- Daito Shi, Osaka, 574-0057  Telephone: ++81/ (0)720 / 874 3561 Telefax: ++81/ (0)720 / 874 3426 E-Mail: marketing@wagner-japan.co.jp</p>	<p><b>Austria</b> J. WAGNER GmbH Otto-Lilienthal-Str. 18 Postfach 1120 D- 88677 Markdorf Telephone: ++49/ (0)7544 / 5050 Telefax: ++49/ (0)7544 / 505200 E-Mail: service.standard@wagner-group.com</p>
<p><b>Sweden</b> WAGNER Industrial Solutions Scandinavia AB Karbingatan 28 S- 25467 Helsingborg Telephone: ++46/ (0)42 150 020 Telefax: ++46/ (0)42 150 035 E-Mail: mailbox@wagner.se</p>	<p><b>Spain</b> WAGNER Spraytech Iberica S.A. Ctra. N- 340, Km. 1245,4 E- 08750 Molins de Rei (Barcelona) Telephone: ++34/ (0)93/ 680 0028 Telefax: ++34/ (0)93/ 668 0156 E-Mail: info@wagnerspain.com</p>
<p><b>Czechoslovakia</b> WAGNER s.r.o. Na Belidle 1/63 C- 15000 Praha 5 Telephone: ++420/ (0)2/ 573 123 24 Telefax: ++420/ (0)2/ 545 001 E-Mail: wagner.s.r.o.@telecom.cz</p>	<p><b>USA</b> Walter Pilot North America 46890 Continental Drive Chesterfield, MI 48047 USA Telephone: ++1/ 877 / 925-8437 Telefax: ++1/ 586 / 598-1457 <a href="http://www.waltherpilotna.com">http://www.waltherpilotna.com</a></p>



# WAGNER



Order number 350741

**Germany**

J. WAGNER GmbH  
Otto-Lilienthal-Str. 18  
Postfach 1120  
D- 88677 **Markdorf**  
Telephone ++49/ (0)7544 / 5050  
Telefax ++49/ (0)7544 / 505200  
E-Mail: service.standard@wagner-group.com

**Switzerland**

J. WAGNER AG  
Industriestrasse 22  
Postfach 663  
CH- 9450 **Altstätten**  
Telephone ++41/ (0)71 / 757 2211  
Telefax ++41/ (0)71 / 757 2222  
E-Mail: rep-ch@wagner-group.ch

[www.wagner-group.com](http://www.wagner-group.com)