http://www.wagner-group.com

Operating Manual

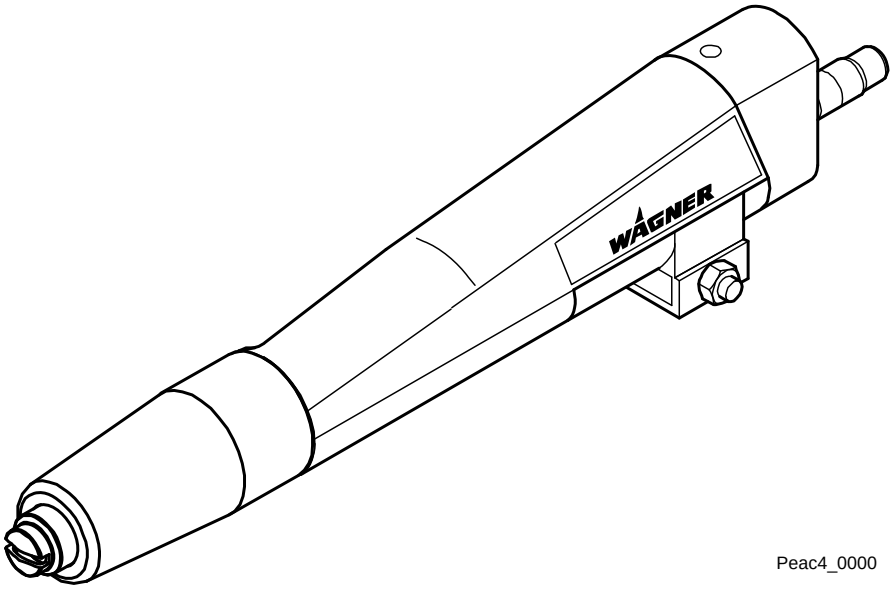
Automatic Powder Spray Gun

DANGER

High Voltage!
Turn power off
before servicing!

CAUTION

Read rules for safe
operation and
instructions
carefully!



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PEA-C4-HiCoat FM

DIN ISO 9001 WAGNER CERTIFIED

Powder spray gun PEA-C4-HiCoat FM **Article No. 0390016**

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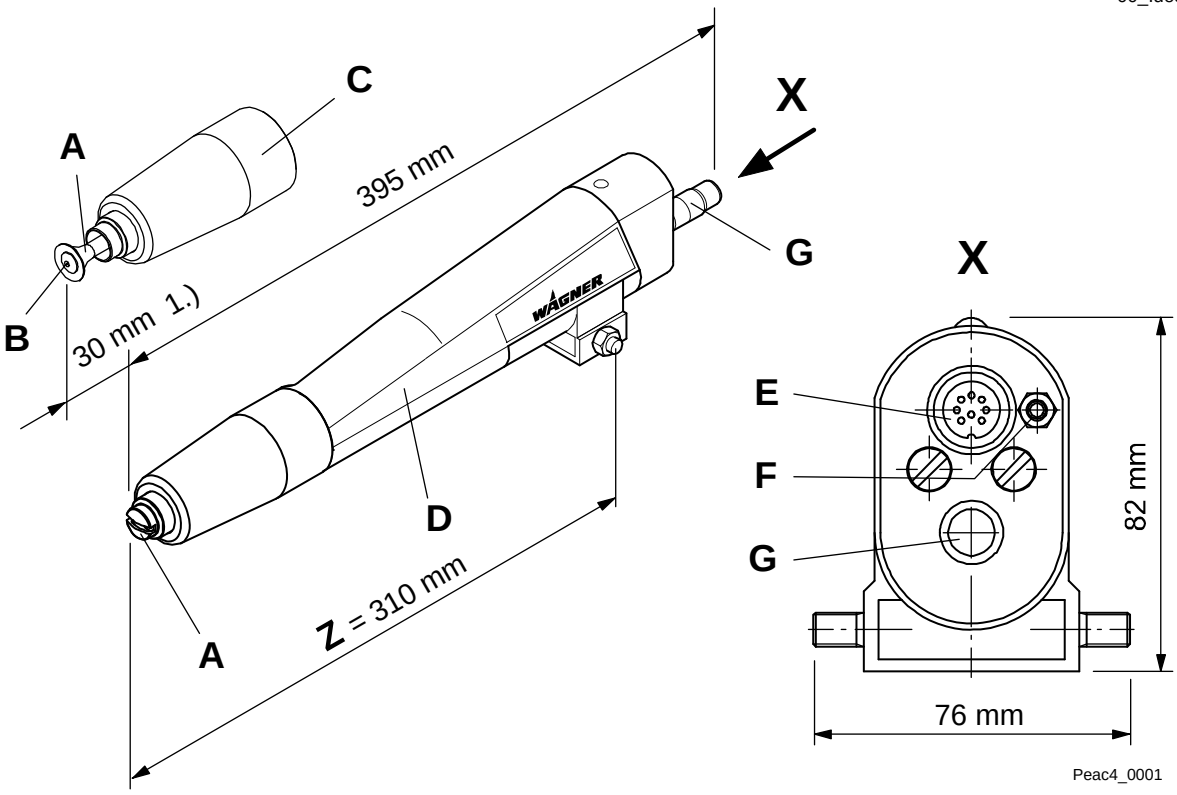

A	Fan spray nozzle (Deflector cone)	E	Electrical connection
B	Electrode	F	Atomizing air connection
C	Outer nut	G	Powder hose connection
D	Spray gun body	**Z**	Assembly dimension on the reciprocator

1.) Length for installation dimension **Z** calculation when utilizing a deflector cone.

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The Corona automatic spray gun can be used for conventional types of powder and metal powder that can be electrostatically charged.

The spray gun is used for industrial powder coating in **automatic plants** and can be operated with **individual control units** or with **control cabinet modules**.

Caution

The operator **must** ensure that the spray gun is only connected to **Wagner** devices!

The distance of the installed spray guns to each other **must be at least 300 mm**.

High room temperatures and, in particular, laying hoses in areas exposed to sunlight in factory buildings **must** be avoided!

To secure the spray guns, the "spray guns" control cabinet **must** be switched off!

When changing from a fan spray nozzle to a deflector cone, the depth control **must** be readjusted!

Table of contents

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This manual contains information and hints for the service, repair and maintenance of the equipment. The user must obey all the rules of operation found in this manual; failure to do so will render the warranty invalid.

Wagner powder systems are designed to meet the most stringent safety requirements. They can be operated in compliance with generally applicable safety codes and applicable national safety regulations.

Please pay particular attention to the parts marked by the following symbols. Follow the instructions exactly, in the interests of both your own safety and the correct functioning of the
unit.

Warning

This symbol draws attention to the fact that if the operating instructions, working instructions, prescribed working sequences etc. are not followed exactly, this can lead to injury or even fatal accidents.

Caution

This symbol indicates that failure to follow the operating instructions, working instructions, prescribed working sequences etc. exactly can lead to material damage.

Hint

This symbol draws your attention to useful additional information and tips. Failure to observe these instructions can cause malfunctions.

1. Safety regulations

1.1 Safety hints

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Warning

This equipment can be dangerous if it is not operated in accordance with this operating manual!

There might be additional regulations to be observed, put into effect by governmental, state or other official agencies or local security (fire) departments!

Warning

Under no circumstance may persons with a cardiac pacemaker come close to the area between the tip of the spray gun and the work piece to be coated!

The following rules must be observed in order to ensure a safe and efficient use of the equipment:

- The user has to observe particularly the safety guidelines of the VdS, the local professional and security institutions.
- Trained and qualified personnel may only operate the electrostatic coating equipment.
- The spray gun may only be operated in powder coating booths or on powder coating stands that are equipped with a ventilation system.
- The user has to make sure, that the average powder/air concentration does not exceed 50% of the LEL (maximum allowed concentration of powder in air). If a reliable LEL value is not available, the average powder/air concentration may not exceed 10 g/m³.
- Over sprayed powder must be reliably collected.
- Adhere to the instructions given by the manufacturers and to the prevalent local laws on the environment when disposing of waste coating powder.
- The main power connection for operation of the Wagner powder equipment **must** be electrically interlocked with the exhaust system of the powder coating booth.
- In the event of faults or defects, repair work is to be performed at the user's discretion.
- The user must conduct periodic checks of the powder spray equipment (at least every year) with regard to explosion-protection.
- Repairs may only be carried out by trained technicians and may never be carried out in an explosion hazardous area. Protective measures against explosions must still be installed.
- The work area **must** have an electrostatically conductive floor (measured in accordance with EN 1081).
- All conductive parts in the work area **must** be electrostatically grounded (work area = 1 m around every spray location or opening in the booth).
- All persons inside the work area **must** wear electrostatically conductive footwear.
- Spray guns should be operated with bare hands! If gloves are used they **must** be made of conductive material.
- **Guideline 94/9/EG:** The device is suited for the applications it was designed for, even in explosion-hazard areas.

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- **Wear suitable work clothing**
- **Use breathing protection or a vizard for work which produces powder and when developing solvent steams:**

  Avoid health dangers by inhalation and skin contacts of solvent steams and lacquer aerosols; Cornea injuries by splashes in the eye.

- **Check the equipment for damage**

  Before operating the system, check if slightly damaged parts still function correctly. Check whether the moving parts operate properly, whether they jam and whether parts are damaged.
  Damaged parts should be repaired or replaced by a Wagner customer service.

Warning

For your own safety, use only accessories and equipment listed in the operating manual. The use of individual parts other than those recommended in the operating manual may create a hazard to personal safety.

Use only original Wagner replacement parts!

Alteration or repair of Wagner original spare parts may cause fatal accidents or explosions in the coating system!

HAZARD	PREVENTION
Electrostatic arcing may cause an explosion or fire. Mixtures of powder and air can explode or ignite causing property damage and/or severe injury.	• Operator must be grounded. Grounding straps must be used when wearing rubber soled shoes. • Operator must remove all metallic objects from his or her person, which are not grounded. • The object being sprayed must be grounded. • All metallic objects within the spray area must be grounded (including spray booth, part hangers, fire extinguishers, etc.) • Grounded conductive floor must be provided in spray area. • Turn off the Power Pack and unplug from outlet before flushing out the gun, cleaning or replacing parts on the gun such as changing tips.
Explosion or fire. Mixtures of powder and air can explode or ignite causing property damage and/or severe injury.	• Exhaust and fresh air introduction must be provided to keep the air within the spray area free of accumulation of flammable atmosphere. • Smoking must not be allowed in spray area. • Fire extinguishing equipment must be present and in working order. • Electrostatic arcing must be prevented. (See Electrostatic arcing) • When cleaning the system, use only materials recommended by the coatings manufacturer. Be sure Power Pack is turned off and unplugged. • Avoid all ignition sources such as static electricity sparks, open flames such as pilot lights, hot objects such as cigarettes and sparks from connecting and disconnecting power cords and working light switches. • To prevent hazardous concentrations of flammable atmospheres, spray only in a properly ventilated spray booth. • Never operate spray gun unless ventilation fans are operating properly. • Check and follow all National, State and Local codes regarding air exhaust velocity requirements. • Ventilation must be maintained during the cleaning operation.
Toxic Substances: Some materials may be harmful if swallowed or come in contact with the skin.	• Follow the requirements of the Material Safety Data Sheet supplied by the coatings manufacturer. • Exhaust and fresh air introduction must be provided within the spray area to keep the air free of high powder accumulations. • Wear a mask or respirator. Read all instructions for the mask to insure that it will provide the necessary protection against the inhalation of powder.
General	• Read all instructions and safety precautions before operating. • Comply with all appropriate local, state and national codes governing ventilation, fire prevention, and operation of Electrostatic equipment usage. • The United States Government Safety Standards have been adopted under the Occupational Safety and Health Act. These standards, particularly the General Standards, Part 1910 and the Construction Standard, Part 1926, should be consulted. • NFPA Standard No. 33 is to be followed when setting up your spray area. Contact the National Fire Protection Association, Batterymarch Park, Quincy, Massachusetts, 02269 for more information. • Check with insurance company for additional requirements. • Use only identical replacement parts. • Personnel must be given training in accordance with the requirements of NFPA Standard No. 33 chapter 18. • It is the duty of all personnel responsible for the spray equipment operation and maintenance to read and understand all safety information furnished with this equipment.

1.2 Note on harmless discharges

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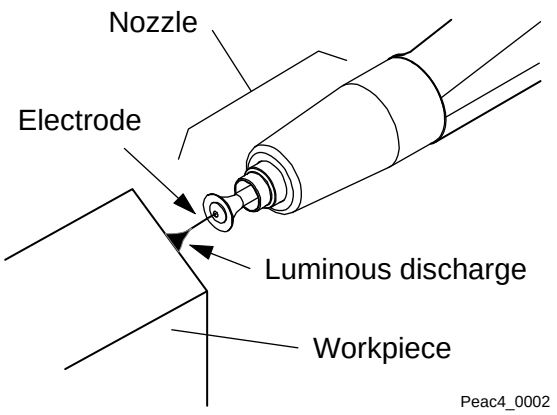
With the high voltage switched on, a luminous or corona discharge occurs at the electrode tip; this can only be seen in the dark. This physical effect can be seen when the electrode is near the grounded workpiece.

This luminous discharge does not involve any ignition energy and has no effect on the usage of the plant. When the electrode approaches the workpiece, the control unit automatically reduces the high voltage to a safe value or switches the high voltage off, depending on the setting.



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If you touch plastic parts of the **spray gun** with the finger, harmless discharges may occur due to the high voltage field around the spray gun (so-called brush discharges). However, these do not contain any ignition energy.

1.3 Declaration of conformity

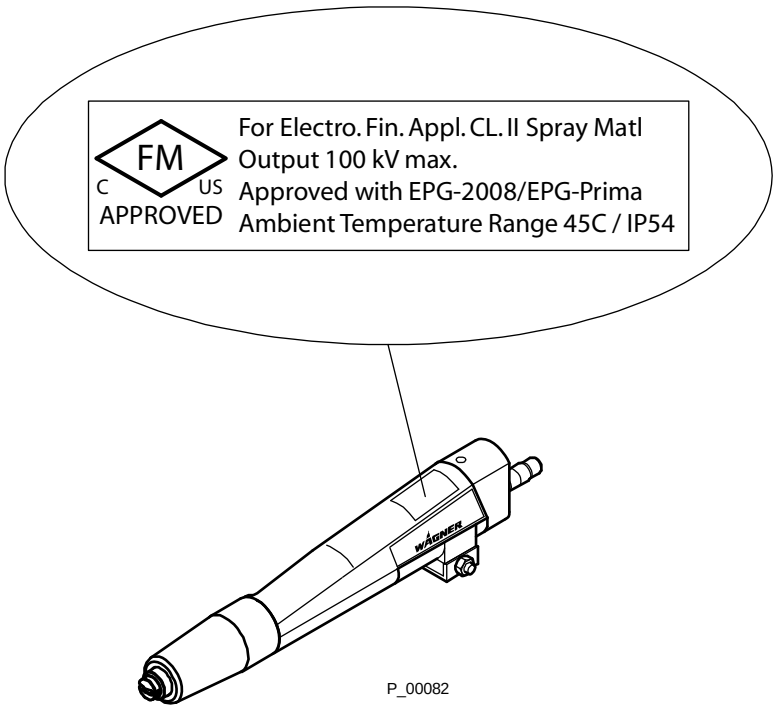
Wagner hereby declares that the electrostatic powder spray guns

PEA-C4 HiCoat FM

conform to the approval standard for Electrostatic Finishing Equipment FM 7260.

This equipment to be used for electrostatic finishing applications using Class II spray material in hazardous (Classified) location.

FM approved for US and Canada



2. Preparing the spray gun

2.1 Selection of the suitable nozzle system

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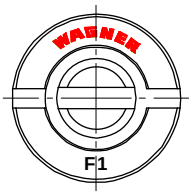
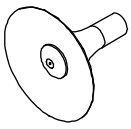
Nozzle	Overview Application	Spray Pattern
Fan spray nozzle 	Difficult workpieces: • Undercuts • Profiles • Flat workpieces (reduced picture frame)	Widely spread flat powder cloud
Deflector cone 	• Wire goods • Grid designs	Oval powder cloud: Size is dependent on the deflector cone diameter

Nozzle	Application	Distance to workpiece [mm]	Powder output [g/min]
F1  1)	**Universal application (slow powder cloud):** • Deep and complex shapes • Extensive workpieces	120 ... 300	50 ... 250
F2  1)	**Targeted application (dense powder cloud):** • High penetration • Wide coating range	120... 400	30 ... 200
F3  1)	**Low powder application (faster powder cloud):** • Very good dispersion with low air and powder quantities • For all workpieces	120... 300	30 ... 150
HPO-1  1)	**Wide fan spray nozzle for high powder application (slow powder cloud):** • Good dispersion • Special for extensive workpieces	> 200 (+ total air < 4,5 Nm^3/h	150 ... 400
R20 	**∅ 20 mm:** • **Small** even workpieces	100... 300	30 ... 250



1) Nozzles are labeled on the back.

Nozzle	Application	Distance to workpiece [mm]	Powder output [g/min]
 **R28**	∅ **28 mm:** • **Medium sized,** even workpieces • **Lateral application with Z-axis**	100... 300	50 ... 250
 **R38**	∅ **38 mm:** • **Large,** even workpieces • **Lateral application with Z-axis**	100... 300	50 ... 250

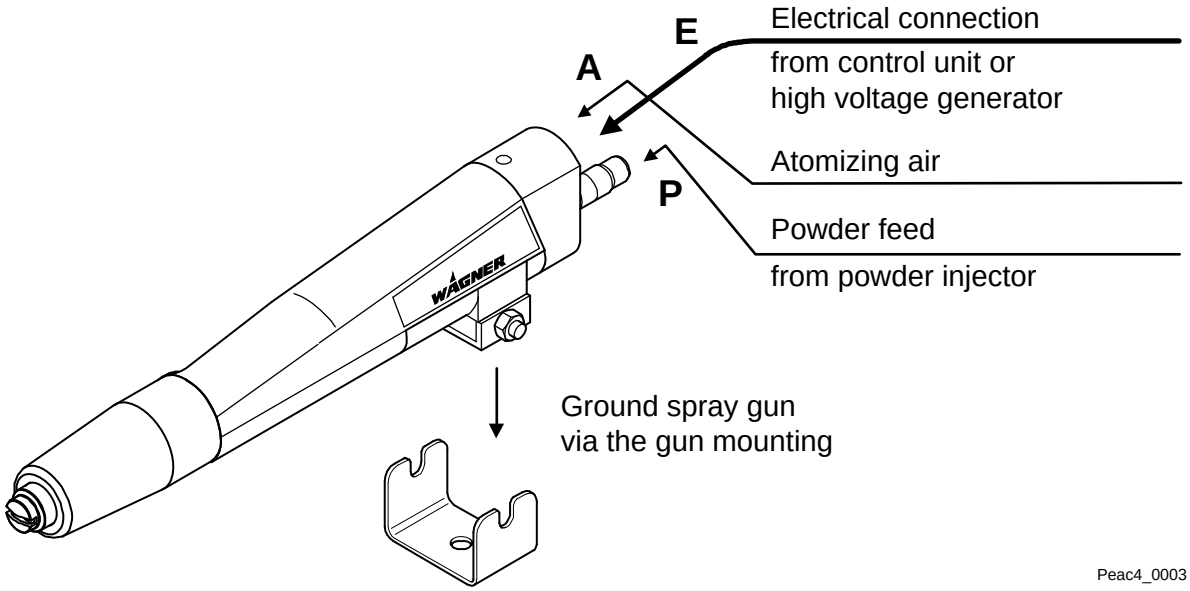
You will find the article numbers in chapter 9 "**Accessories**".

2.2 Connecting the spray gun

Before you commence connecting the gun, switch off the high voltage generator. For information on this activity refer to the related operating instructions for the control units and control modules.

Hint

Use the parts listed in chapter 9 "**Accessories**" for connecting and fastening the spray gun.



Caution

The distance of the installed spray guns to each other **must be at least 300 mm**.

- Fit the spray gun to the hanger and fasten both, for example, to the gun mounting on the reciprocator.
- Connect the spray gun to the high voltage generator using the electrical cable **E**.
- Connect the hose for the powder feed **P** to the spray gun.
- Connect the hose for the atomizing air **A** to the spray gun.

Hint

Using a Wagner powder injector **PI-F1** and a suitable control unit, it is possible to automatically blow out or purge the angled spray gun each time prior to switch off.

2.3 Grounding

For safety reasons, the **spray gun must** be properly grounded. This occurs through the gun mounting.

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Good grounding of the **workpiece** is also necessary for optimum powder coating.

A poorly grounded workpiece causes:

- dangerous electric charging of the workpiece
- back-spray onto spray gun and user
- uneven coating
- very bad wrap around

Warning

Sparks between workpiece and conveyor hooks (hangers) can occur if hooks or other hanger parts are not completely cleaned!

These sparks can cause heavy radio frequency interference.

2.4 Reproducible setting of the nozzle position

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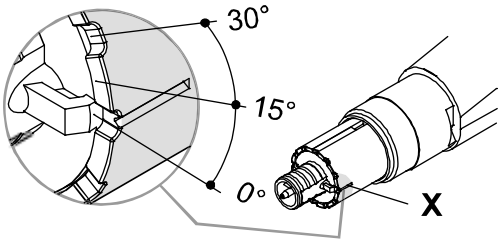

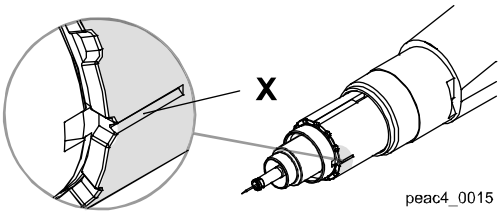

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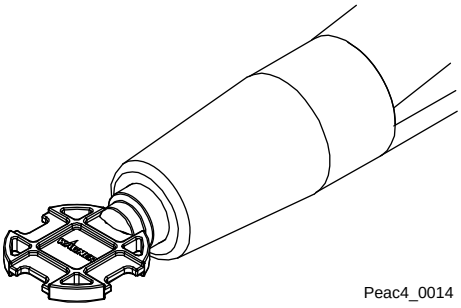

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- For a horizontal powder cloud, the **fan spray nozzle** is set where the protective wedge is in the 0° position.
- When attaching a **round spray nozzle,** we recommend turning the protective wedge in the 90° position to achieve a smoother coating (the protective wedge is now in the vertical position).

It is possible to set it other positions for special applications.

On the nozzle body and electrode holders there are **X** markings. In 15° steps, the position can be changed if necessary and reproducibly.

The outer nut has to be removed for exact positioning.

An **adjustment tool** is provided for the **fan spray nozzle.**

It permits turning the fan spray nozzle **without damaging the electrodes** and without removing the outer nut.

The outer nut only has to be slackened.

3. Working with the spray guns

3.1 Optimizing the spray pattern for your coating

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- Switch on the high voltage generator and the powder feed.

Caution

To minimize the wear on the wearing parts, the total feed air and dosage air **should be** under **5 Nm³/h**!

The atomizing air should be adjusted for the

- **Fan spray nozzle** to **0.1 Nm³/h**
- **Round spray nozzle** to **0.2 Nm³/h**

- Adjust the powder quantity and the powder speed on a test piece.

3.2 Switching off the spray gun

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The spray gun is switched off differently depending on the type of powder injector. In the majority of cases this process is be performed by a control unit of the coating system.

Hint

On each interruption to work, the spray gun should be blown through (purged) and powder residue removed. In this way **powder deposits** and a **surge** the next time the spray gun is switched on can be largely avoided.

If you want to manually switch off the spray gun and are using a powder injector that is **not designed** for automatic purging, proceed as follows:

- The atomizing air **must** be left open so that **no powder** can enter the atomizing air ducts and the cascade space during purging. Switch off the powder feed and the high voltage generator.
- If you do not want to change the settings for the feed air and dosage air so that you can continue to coat using the same powder pattern, pull the powder injector out of the injector connection on the powder container. No more powder will be fed when the powder feed is switched back on.
- Switch the powder feed back on so that the spray gun is blown clear of powder.
- You can now switch off the powder feed.

3.3 Performing a color change

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During a color change all parts carrying powder **must** be **thoroughly** cleaned of powder residue. In the following only the procedure for the powder spray gun is described.

Hint

During a color change, the nozzle system does not necessarily have to disassemble.

Caution

If the outer nut is not screwed on tightly up to the stop position, the colors may smear.

- Switch off the powder coating plant after automatic purging and secure it against inadvertent switch on.
- If you do not use automatic purging, flush the powder spray gun manually and clear any residues of powder before you shut down the plant:
  - Disconnect the powder hose from the spray gun.
  - Clear the spray gun using the air gun and clear any residues of powder.
  - Shut down the plant and secure it against inadvertent switch on.
- Before you commence to connect the powder hose again, all parts carrying powder **must** be **thoroughly** cleaned.

The spray gun is ready for use again.

4. Maintenance and cleaning

WARNING	CAUTION
WHEN CLEANING THE ELECTROSTATIC SYSTEM, THESE SAFETY PROCEDURES MUST BE FOLLOWED. FAILURE TO FOLLOW THESE PROCEDURES MAY RESULT IN AN EXPLOSION/FIRE. • Turn power pack to the "OFF" position and unplug from power source before starting to clean. • Exhaust and fresh air introduction must be maintained during the clean up operation. • Keep cleaning materials in approved safety containers. • All personnel and cleaning equipment, including container used in cleaning operation, must be grounded. • DO NOT turn on the **POWER PACK** until the cleaning operation has been completed, all cleaning materials have been removed from spray area, and spray area is free of any mixtures of powder and air produced by the cleaning operation. • If defects in the equipment are found, DO NOT use until repairs are completed.	• **Clean equipment immediately after use.** • **NEVER IMMERSE SPRAY GUN OR PARTS OF IT IN ANY FLUID AT ANY TIME.** • **Be sure the Power Pack is turned off and unplugged from the power source.** **NOTE** • **The powder passages of the spray gun should be cleaned while cleaning the powder hose and powder pump, following instructions, provided with the powder pump (injector).** **(See powder injector operating manual)** • **Clean the spray tip by removing from spray gun, flushing with air and replacing on spray gun.**

4.1 Replacing the spray gun

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Before you commence the replacement of the spray gun any powder residue **must** be removed **thoroughly**.

Caution

Repair or replacement of the spray gun or parts of the spray gun are only allowed to be performed outside the hazard area and in a suitable place by specialist personnel!

The wearing parts in the spray gun, marked in the spare parts list with *, must be regularly checked and, if necessary replaced.

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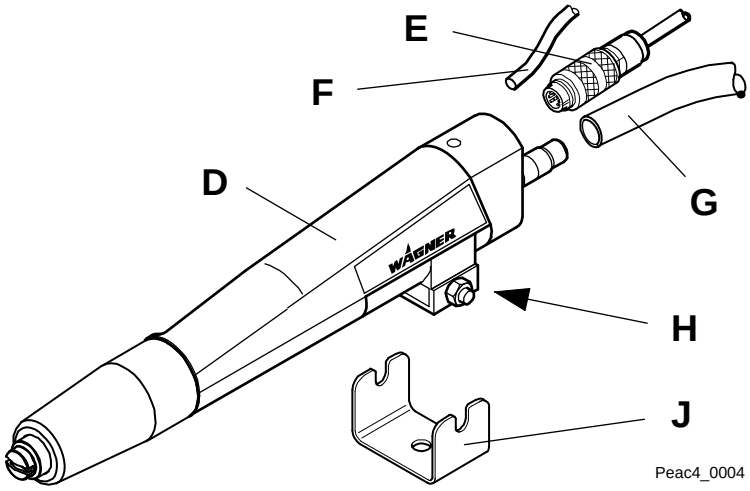

- Switch off the plant and/or the high voltage generator.
- Disconnect the electrical cable **E** from the spray gun **D**.
- Disconnect the hoses for powder feed **G** and atomizing air **F** from the spray gun **D**.
- Undo the locking nuts **H** and disconnect the spray gun **D** from the support **J**.

- Replace the spray gun with a new gun and fit this in the reverse order of removal.

4.2 Cleaning the spray gun and replacing the wearing parts

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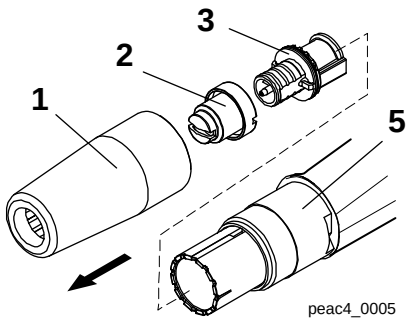

- Unscrew the outer nut **1** from the spray gun housing **5**.
- Pull the fan spray nozzle **2** off the electrode holder **3**.
- Carefully pull the electrode holder **3** out of the spray gun housing **5**.

Caution

When pulling out and inserting the electrode holder, ensure that the insert is not damaged!

- Remove powder residue from the parts removed and from the spray gun.

Caution

Never place the spray gun or parts of the spray gun in cleaning agent!

- Clean the parts removed and spray gun of powder residue.
- As a rule you only need to check the protective wedge **4** for wear and replace it as necessary.

New protective wedge

Worn protective wedge:

- We recommended replacing the protective wedge

In the next section it is described how the protective wedge is to be dismantled and inserted.

4.3 Replacing the protective wedge

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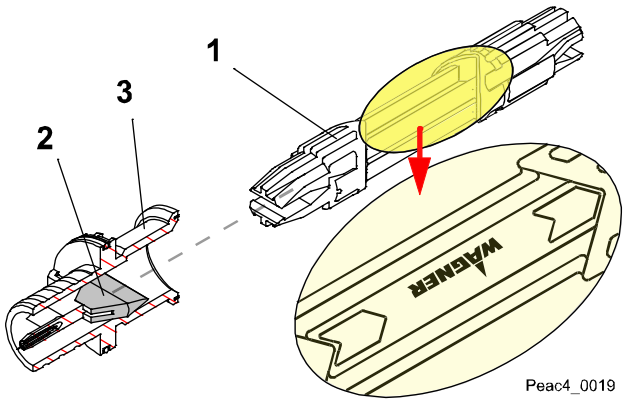
Hint

To ensure that the protective wedge is not damaged when dismantling and inserting them, a **wedge tool** is available for assembly.

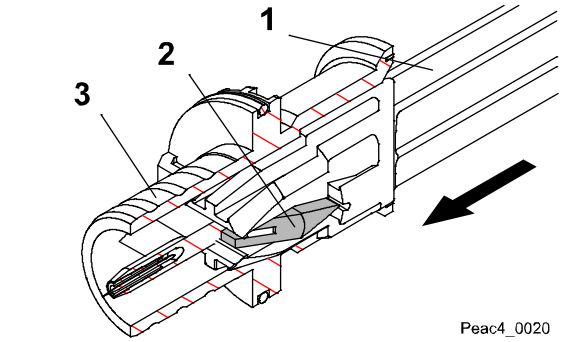


1 Wedge tool

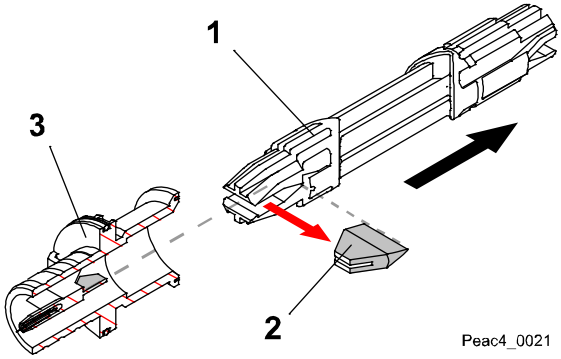
2 Protective wedge (install position)

3 Electrode holder (cut open view)

Proceed as described below:



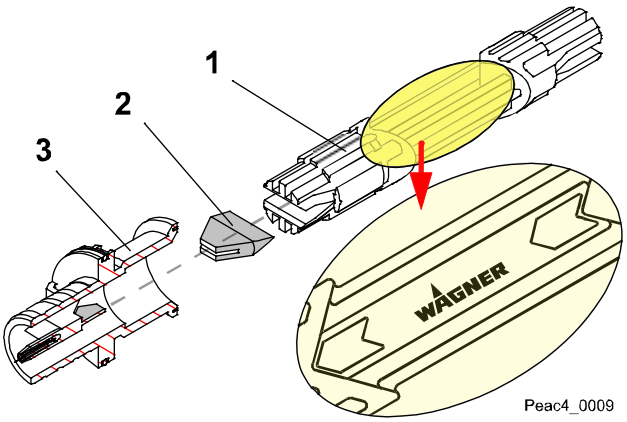
- Guide the wedge tool **1** into the electrode holder **3** to the stop.



- Pull the protective wedge **2** out of the electrode holder **3** using the wedge tool.
- Press the protective wedge lateral out of the wedge tool **manually without a tool**.

Hint

For inserting the protective wedge the same **wedge tool** will be used.

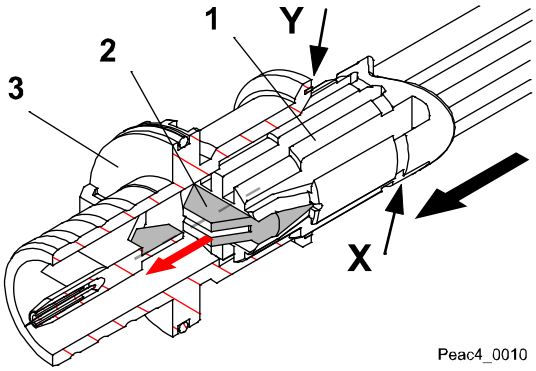


1 Wedge tool

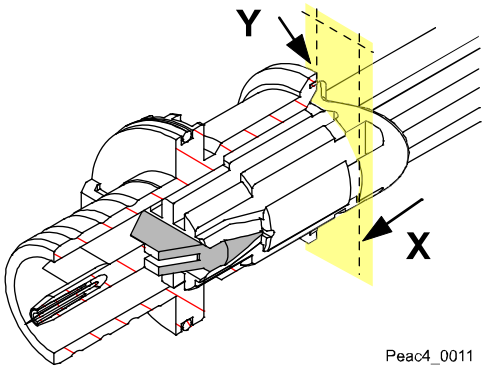
2 Protective wedge

3 Electrode holder (cut open view)

Proceed as described below:



- Guide the protective wedge **2** into the wedge tool **1**.
- Insert both parts in the opening on the electrode holder **3** to the stop.



- If it is not possible to push the wedge tool in as far as the mark **X**, rotate the wedge tool a little until it can be pushed into the mark.

  The mark **X** must be flush with the end **Y** of the electrode holder.

- The protective wedge is now correctly assembled and the wedge tool can be pulled back out of the electrode holder.

  The protective wedge remains inserted in the electrode holder.

- After extended use or replacement of the protective wedge several times on the same spray gun, the other parts carrying power should be checked for wear and replaced if necessary.

You will find the necessary wearing parts and spare parts in chapter 8.2 of this manual.

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- Prior to re-fitting, check whether the mating surface on the electrode holder **3** and in the spray gun housing **5** have been thoroughly cleaned so that the electrode tip is electrically connected to the high voltage generator.

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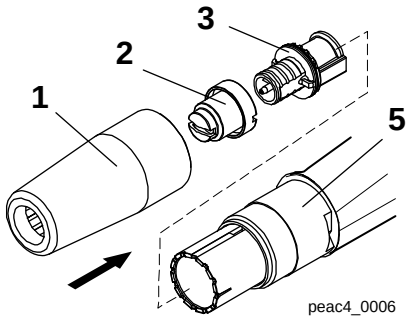

- Carefully fit the electrode holder **3** in the spray gun housing **5**.
- Slide the fan spray nozzle **2** back over the electrode holder **3** and fasten in place using the outer nut **1**.

4.4 Fitting the round spray nozzle

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The standard Corona spray gun is delivered with a fan spray nozzle. The nozzle can be changed easily, as described in the following.

Caution

When changing from a fan spray nozzle to a deflector cone, the depth control **must** be readjusted!

The electrode holder C4 R FM is necessary to perform the change.

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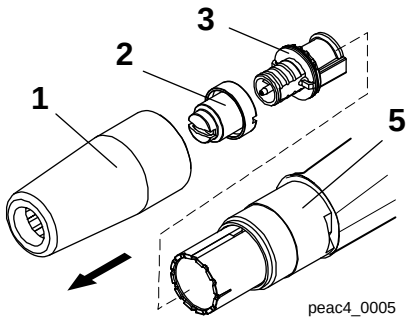

- Unscrew the outer nut **1** from the spray gun housing **5**.
- Pull the fan spray nozzle **2** off the electrode holder **3**.
- Carefully pull the electrode holder **3** out of the spray gun housing **5**.

Caution

When pulling out and inserting the electrode holder, ensure that the insert is not damaged!

- Remove powder residue from the parts removed and from the spray gun.

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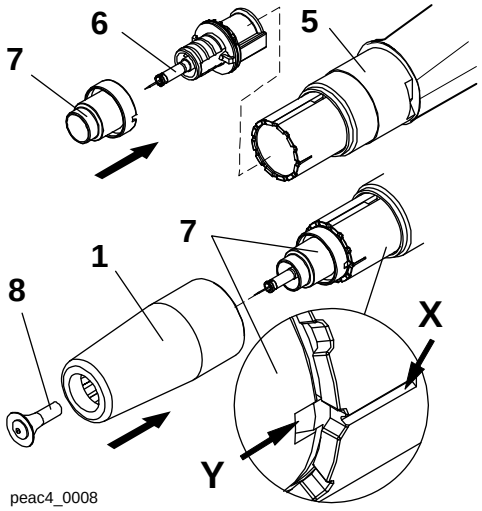
Caution

Be careful when mounting the electrode holder C4 R FM.

Otherwise there is a **risk of injury** by the electrode tip.



- Carefully fit the new electrode holder C4 R FM **6** into the spray gun housing **5**.
- Slide the deflector cone sleeve **7** onto the electrode holder **6**.
- Align the marks **X** and **Y**.
- Fasten in place using the outer nut **1**.
- Slide the deflector cone **8** back over the deflector cone sleeve **7**.

The spray gun is ready for use again.

4.5 Mounting the angle adapter

4.5.1 Dismantling the nozzle and the electrode holder

0405_Umbau_zurwinkeldüse.doc

The standard Corona spray gun is delivered with a fan spray nozzle. The nozzle can be changed easily, as described in the following.

Caution

When changing from a fan spray nozzle to an angle nozzle, the depth control **must** be readjusted!

The angle adapter is necessary to perform the change:

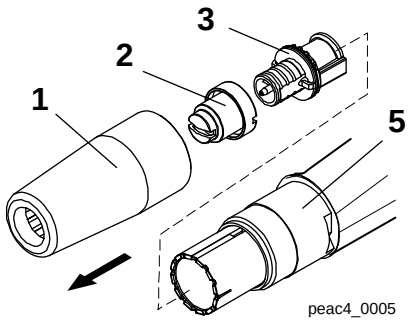
WA90 C4, WA60 C4 or **WA30 C4**

as it is specified in the accessory list.

Hint

Both a fan spray and a round spray nozzle can be installed in the angle adapter.

030301_ .doc



- Unscrew the outer nut **1** from the spray gun housing **5**.
- Pull the fan spray nozzle **2** off the electrode holder **3**.
- Carefully pull the electrode holder **3** out of the spray gun housing **5**.

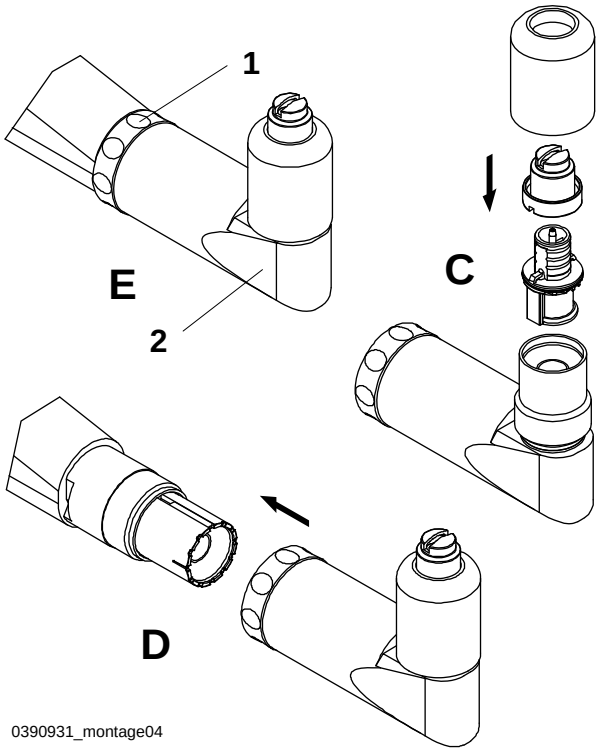
Caution

When pulling out and inserting the electrode holder, ensure that the insert is not damaged!

- Remove powder residue from the parts removed and from the spray gun.

4.5.2 Fitting the angle adapter

0405_Anbau_winkeladapter.doc



0390931_montage04

C Fit the electrode holder with nozzle into the nozzle insert and fasten in place using the outer nut.

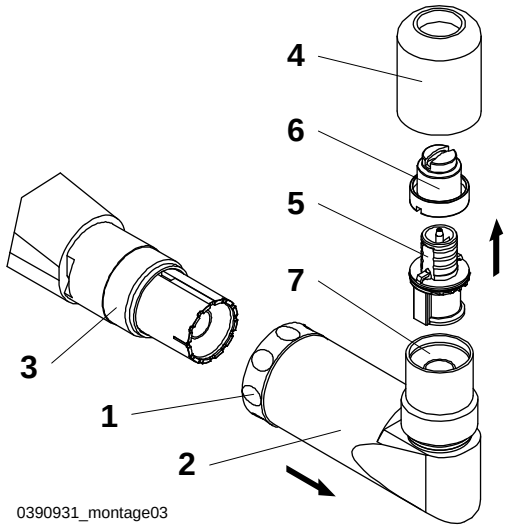
D Slide the angle adapter onto the spray gun body and tighten easily using the threaded sleeve.

E Swivel the angle adapter **2** into the desired position and afterwards fasten in place using the threaded sleeve **1**.

4.5.3 Replacing the wearing parts

0405_Verschleiss_winkeladapter.doc

Sample assembly: Angle adapter WA90 C4



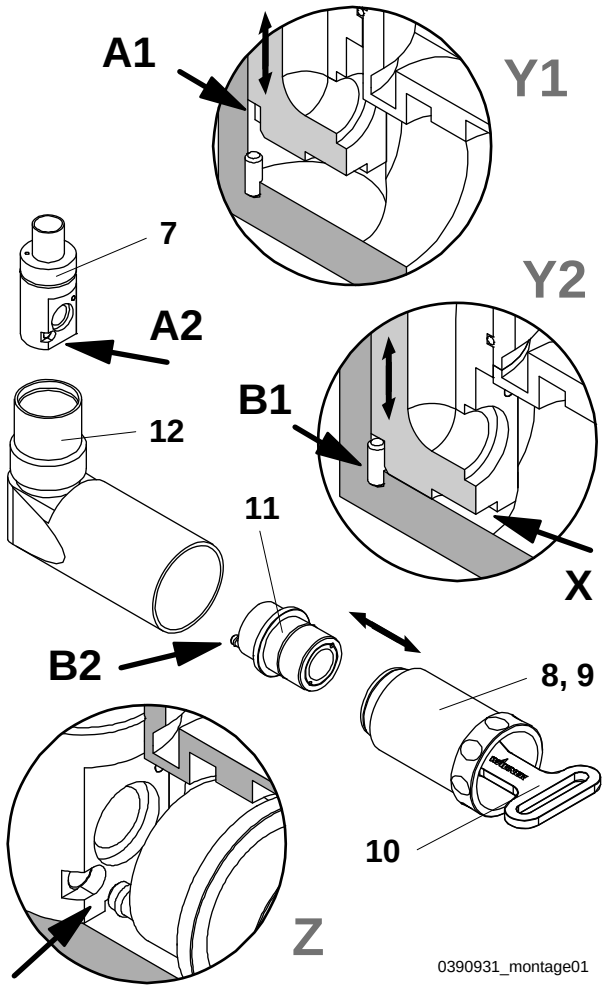
0390931_montage03

1. Disconnect from the spray gun body

- Undo the threaded sleeve **1** and disconnect the angle adapter **2** from the spray gun body **3**.
- Loosen the outer nut **4**.
- Pull the electrode holder **5** with nozzle **6** out of the nozzle insert **7**.

Caution

When pulling out and inserting the electrode holder, ensure that the insert is not damaged!



2. Dismantle

- Unscrew the threaded sleeve **8** and the locking sleeve **9** using the assembly tool **10**.
- Pull the connecting body **11** out of the bend **12**.
- Insert a screwdriver into recess **X** and turn the screwdriver so that the nozzle insert **7** is loosened.
- Pull out the nozzle insert **7**.
- Replace worn parts with **new** ones.

Clean all the parts thoroughly and remove any powder residues!

3. Assemble

- Install nozzle insert **7** as shown in insets **Y1** and **Y2** so that pin **B1** engages in bore **A1**.
- Install connecting element **11** as shown in inset **Z** inside angle **12** so that pin **B1** engages in bore **A2**.
- Screw in threaded sleeve **8** and locking sleeve **9** with assembly tool **10** and tighten securely.
- Ensure that the threaded sleeve can still turn freely.

4. Insert the nozzle system

- Install electrode holder **5** with nozzle **6** in nozzle insert **7**.
- Secure with outer nut **4**.

4.6 Mounting the Corona-Star

0405_ .doc

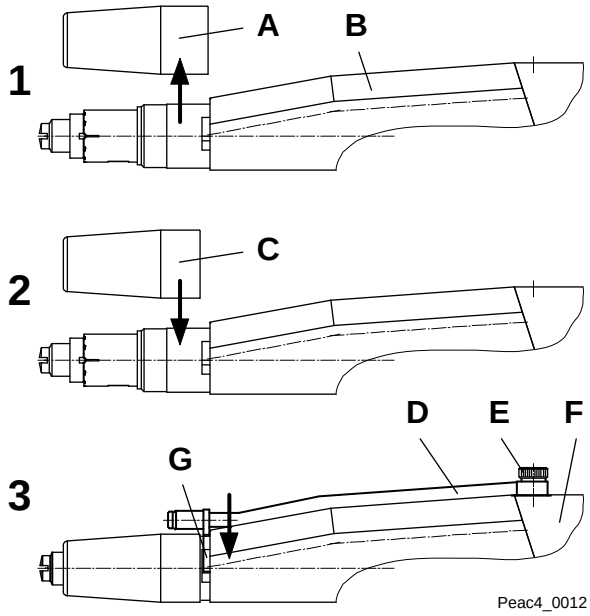
The Corona-Star is a Retrofit-Set for the spray gun, which helps to achieve a better surface quality (reduction of "orange peel").

Caution

Trained personnel may only carry out the assembling of the Corona-Star!

Prior to mounting the Corona-Star, the high voltage and the powder feed **must** be switched off and secure against inadvertent switch on!

Proceed as described below:



- Switch off the high voltage and the powder feed and secure against inadvertent switch on.
- Unscrew the standard nut **A** from the spray gun housing **B**.
- Screw the new Corona-Star nut **D** onto the spray gun housing and fasten in place.
- Fasten the cable guide onto the cover plate **F** by using the screw **E**.
- Slide the Corona-Star **G** onto the spray gun housing **B**.

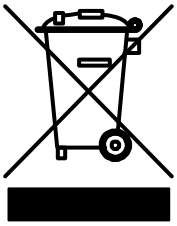
Caution

Check whether the grounding is assured!

The spray gun is ready for use again.

4.7 Disposal

04_Entsorgung.doc



Only for EU countries

Do not dispose of electric tools together with household waste material!

In observance of the European Directive 2002/96/EC on waste electrical and electronic equipment and implementation in accordance with national law, this product is not to be disposed of together with household waste material but must be recycled in an environmentally friendly way!

Wagner or one of our dealers will take back your used Wagner waste electrical or electronic equipment and will dispose of it for you in an environmentally friendly way. Please ask your local Wagner service center or dealer for details or contact us direct.

5. Rectification of malfunctions

05_Stoerung_C4.doc

Malfunction	Cause	Rectification
No electrostatic (e.g. no wrap around or no powder adhesion)	- Fault in the high voltage generator	- Contact Wagner Service
	- Electrical cable from spray gun to control unit faulty	- Replace electrical cable
	- Cascade in spray gun faulty	- Contact Wagner Service
Poor wrap around Back spray	- Inadequate or no ground	- See chapter "**Grounding**"
Powder outlet uneven or inadequate	- Soiling	- Blow through parts carrying powder
	- Powder sintering	- Clean parts carrying powder
	- Feed device soiled	- See operating instructions for the related devices connected
	- Feed air / dosage air ratio incorrect	- Adjust at control module respective control unit
	- Wear on powder injector nozzle	- Replace worn parts in the powder injector 1.)
Spray pattern is uneven	- Parts of nozzle system worn	- Replace worn parts

1.) You will find the wearing parts and spare parts in the operating instructions for the powder injector.

6. Technical data

Weight: 555 g

06_ .doc

Electrical:

Input voltage:	max. 22 Vpp
Input current:	max. 0.9 A
Frequency:	19 ... 30 kHz
Output voltage:	max. 100 kV DC
Polarity:	negative
Design:	as per EN 50177
Protection class:	IP 54

Pneumatic:

Input air pressure (atomizing air):	max. 43.5 psi (3 bar)
Powder output quantity:	max. 450 g/min

06_ .doc

Required compressed air quality:

Quality class	Compressed air quality according to ISO 8573.1	
5	Max. residual water: (pressure dew point in °F at 100 psi / °C at 700 kPa)	+44.6 °F / +7 °C
2	Max. oil contents:	0.1 mg oil/m^3 / 0.1 oz/ft^3
3	Max. concentration:	5 mg/m^3 / 5 oz/ft^3
3	Max. particle size:	5 µm / 5 microns

Ambient conditions:

If low temperature powders are used, the ambient temperature may have to be lower than 86 °F (30 °C).

Volume measures:

For volumes, specified in Nm^3 (standard cubic meters). One cubic meter of a gas at 32 °F (0 °C) and 1.013 bar is called norm cubic meter.

1 Nm^3/h = 35.3 ft^3/h; 1 bar = 14.504 psi

7. Warranty

08_ .doc

What is covered by this warranty?

Faulty or defective parts are replaced according to our general delivery conditions.

Within the applicable warrant period, Wagner will repair or replace, at our option, defective parts without charge if such parts are returned with transportation charges prepaid to the nearest authorized service center. If Wagner is unable to repair this product so as to conform to this Limited Warranty after a reasonable number of attempts, Wagner will provide, at our option, either a replacement for this product or a full refund of the purchase price of this product.

These remedies are the sole and exclusive remedies available for breach of express and implied warranties.

What is not covered by this warranty?

This warranty does not cover any of the following damages or defects:

1. Damages or defects caused by use or installation of repair or replacement parts or accessories not manufactured by Wagner,
2. Damages or defects caused by repair performed by anyone other than a Wagner authorized service center, or
3. Damages or defects caused by or related to abrasion, corrosion, abuse, misuse, negligence, accident, normal wear, faulty installation or tampering in a manner which impairs normal operation.

Limitation of remedies:

IN NO CASE SHALL WAGNER BE LIABLE FOR ANY INCIDENTAL, SPECIAL OR CONSEQUENTIAL DAMAGES OR LOSS, INCLUDING TRANSPORTATION COSTS, WHETHER SUCH DAMAGES ARE BASED UPON A BREACH OF EXPRESS OR IMPLIED WARRANTIES, BREACH OF CONTRACT, NEGLIGENCE, STRICT TORT, OR ANY OTHER LEGAL THEORY.

Disclaimer of implied warranties:

THE FOREGOING WARRANTIES ARE IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

No ability to transfer:

This warranty is extended to the original purchaser only and is not transferable.

Your rights under state law:

Some states do not allow limitations on how long an implied warranty lasts or the exclusion of incidental or consequential damages, so the above limitation and exclusion may not apply to you. This warranty gives you specific legal rights; you may also be entitled to other rights, which vary from state to state.

8. Scope of delivery and spare parts lists

8.1 How to order spare parts

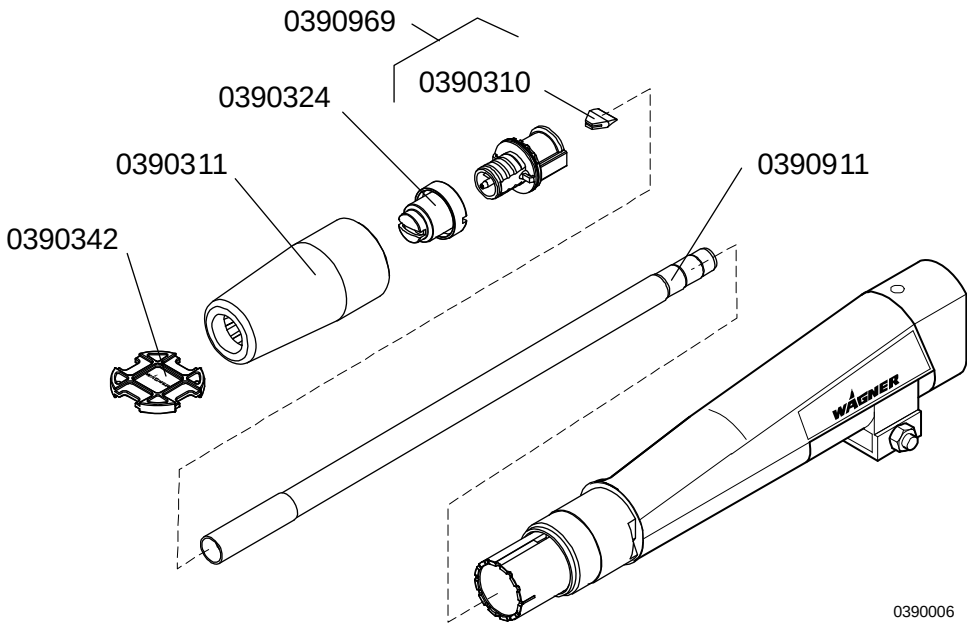
0901_ .doc

Faulty and unserviceable parts are replaced in accordance with our General Terms and Conditions of Delivery.

In order to be able to guarantee safe and smooth spare parts delivery, the following information is necessary:

- **Invoicing address**
- **Delivery address**
- **Name of contact persons for check back**
- **Type of delivery**
- **Quantity ordered, article number and designation**

8.2 Scope of delivery and spare parts spray gun PEA-C4-HiCoat FM



0390006

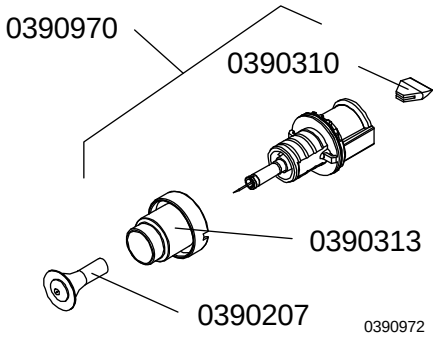
Article No.	Description
0390016	**Spray gun PEA-C4-HiCoat FM**
0390311	Outer nut
0390324 *	Fan spray nozzle F1
0390969 *	Electrode holder F FM ET **
0390310 *	Protective wedge
0390911 *	Powder tube C4 ET (PEA-C4)
0390342	Adjustment tool (for fan spray nozzles)

* Wearing part

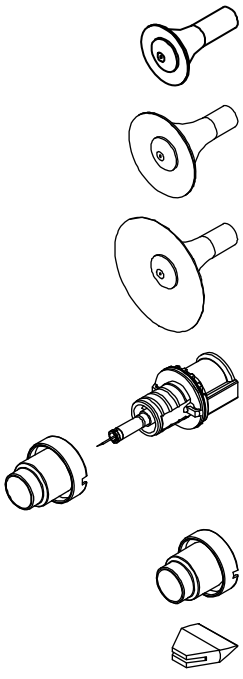
** only available as a set

9. Accessories

9.1 Electrode holder C4 R FM with nozzles



0390972



Article No.	Designation
0390972	**Electrode holder C4 R FM with nozzles**
0390207 *	Deflector cone **R20** = Ø20
0390208 *	Deflector cone **R28** = Ø28
0390209 *	Deflector cone **R38** = Ø38
0390970 *	Electrode holder C4 R FM ET **
0390313 *	Deflector cone sleeve
0390310 *	Protective wedge

* Wearing part

** only available as a set

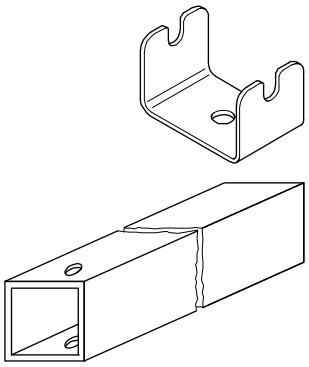
9.2 Electrical cables and hoses

10_00001

Article No.	Designation	Comments
0351216 0351217 0351215	Electrical cable 5 m Electrical cable 10 m Electrical cable 20 m	For connecting the spray gun to the high voltage generator
9987081 9987082	Special hose (inside ∅11 mm) Special hose (inside ∅ 12 mm)	For the powder feed
9982079	Hose 6x1	Connection of the atomizing air

9.3 Spray gun mounting and fastening

10_00002



Article No.	Designation
0351347	Hanger: For fastening the spray gun
0260215	Spray gun mount: For fastening the hanger to the reciprocator

9.4 Fan spray nozzle and deflector cone

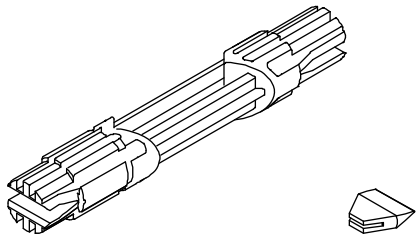
10_00003

Article No.	Designation
0390324 *	Fan spray nozzle **F1**
0390325 *	Fan spray nozzle **F2**
0390326 *	Fan spray nozzle **F3**
0390331 *	Wide fan spray nozzle **HPO-1**
0390207 *	Deflector cone (complete) Ø20
0390208 *	Deflector cone (complete) Ø28
0390209 *	Deflector cone (complete) Ø38

* Wearing part

9.5 Wedge tool

0390900



Article No.	Designation
0390900	**Wedge tool **** **including 20 protective wedges**

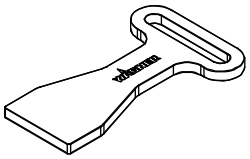
* Wearing part

** only available as a set

9.6 Angle adapter with accessories

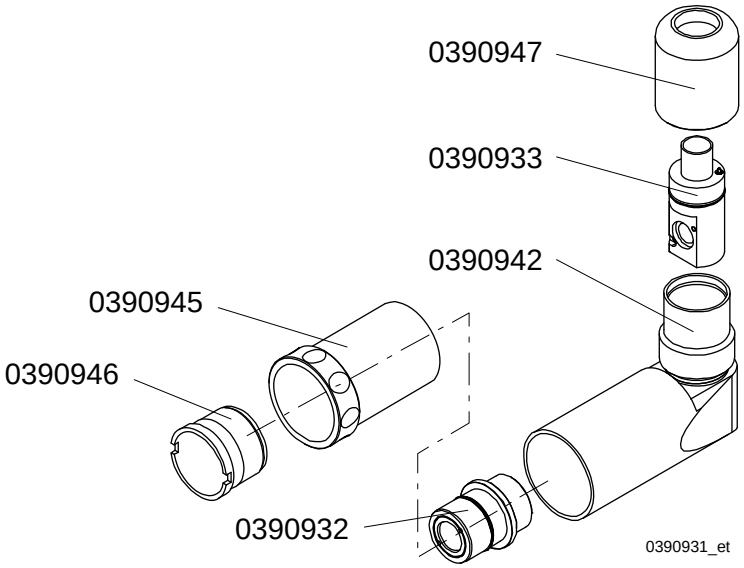
9.6.1 Assembly tool for angle adapter

0390939



Article No.	Designation
0390939	Assembly tool WA C4 ET Removal and installation aid for connector in angle adapter WA C4

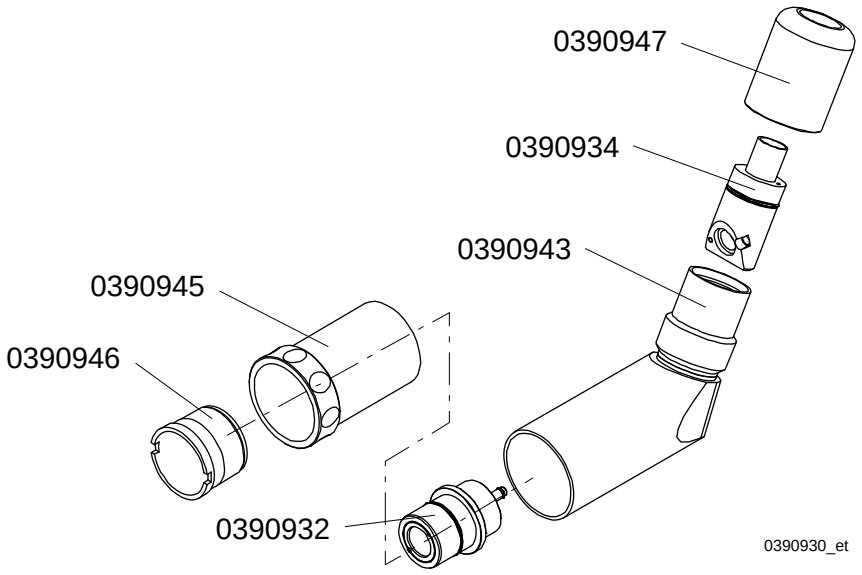
9.6.2 Angle adapter



0390931

Article No.	Designation
0390931	**Angle adapter WA90 C4**
0390933 *	Nozzle insert WA90 C4 ET
0390932 *	Connecting body WA C4 ET
0390947	Outer nut WA C4 ET
0390946	Locking sleeve WA C4 ET
0390945	Threaded sleeve WA C4 ET
0390942	Bend WA90 C4 ET

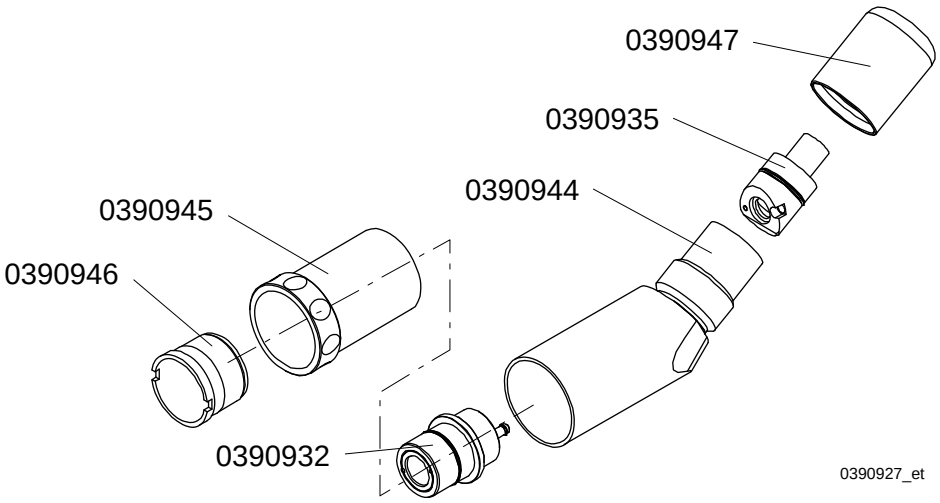
* Wearing part



0390930

Article No.	Designation
0390930	**Angle adapter WA60 C4**
0390934 *	Nozzle insert WA60 C4 ET
0390932 *	Connecting body WA C4 ET
0390947	Outer nut WA C4 ET
0390946	Locking sleeve WA C4 ET
0390945	Threaded sleeve WA C4 ET
0390943	Bend WA60 C4 ET

* Wearing part



0390927

Article No.	Designation
0390927	**Angle adapter WA30 C4**
0390935 *	Nozzle insert WA30 C4 ET
0390932 *	Connecting body WA C4 ET
0390947	Outer nut WA C4 ET
0390946	Locking sleeve WA C4 ET
0390945	Threaded sleeve WA C4 ET
0390944	Bend WA30 C4 ET

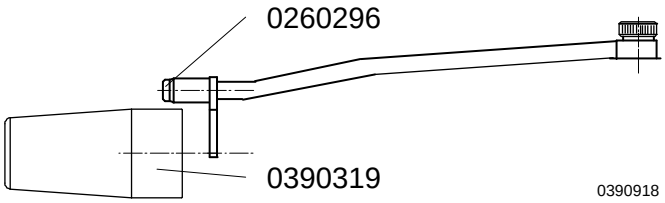
* Wearing part

9.7 Powder measuring bag

0390940

Article No.	Designation
0390940	Powder measuring bag (complete) C4 ET For measuring powder quantities for the C4-HiCoat gun generation

9.8 Retrofit-Set Corona-Star



0390918

Article No.	Designation
0390918	**Corona-Star (complete) ****
0260296 *	Electrode Corona-Star (included in item 1)
0390319	Outer nut

* Wearing part

** only available as a set

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