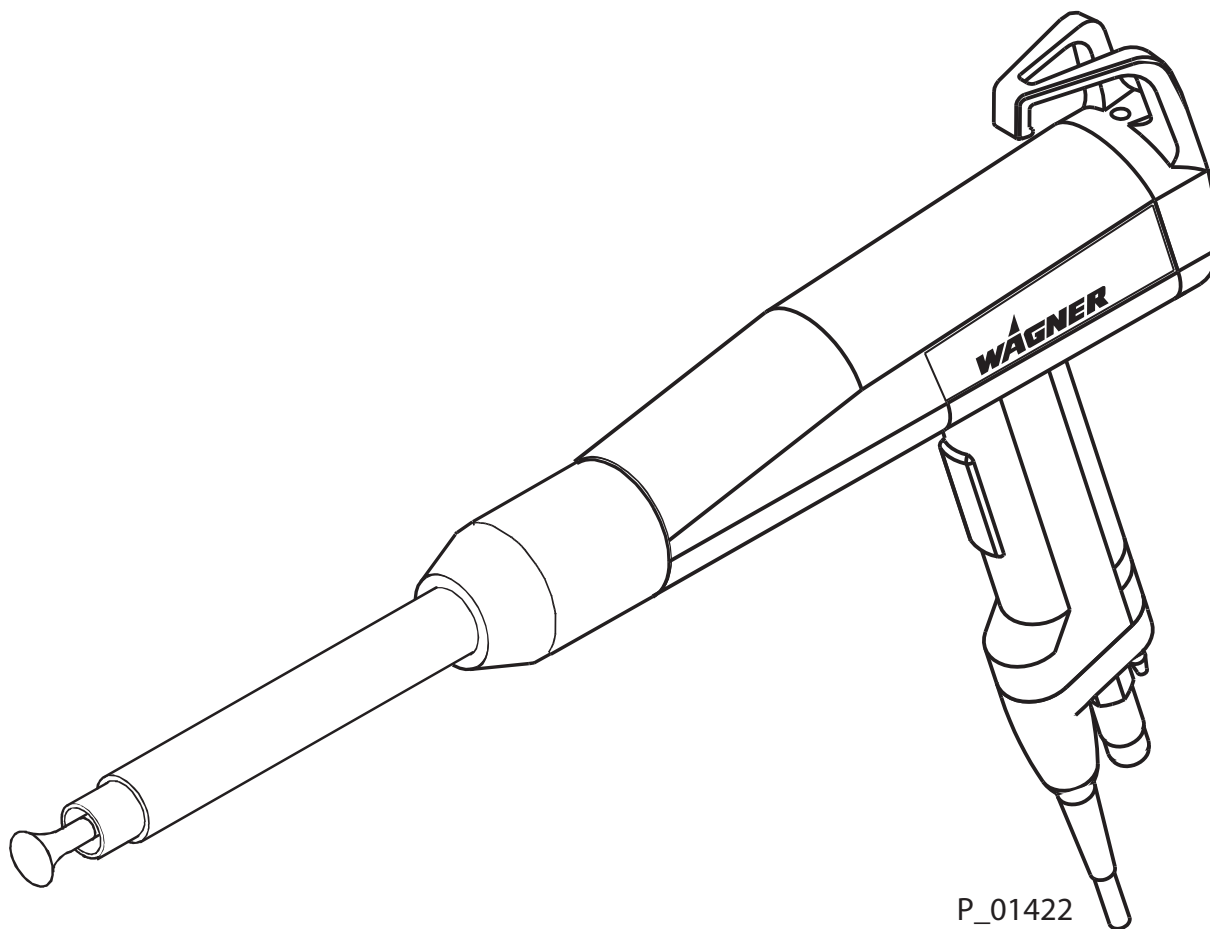




P_01422

Manual powder spray gun

PEM-T3

Translation of the Original Operating Manual

CE 2813  II 2 D 2 mJ

For professional use.

Always observe the information in this manual, particularly the safety instructions and the warning instructions. Store the manual in a safe place.

Edition: 11/2025

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1 ABOUT THESE INSTRUCTIONS

1.1 PREFACE

The operating manual contains information about safely operating, maintaining, cleaning and repairing the device. The operating manual is part of the device and must be available to the operating and service personnel.

The device may only be operated by trained personnel and in compliance with this operating manual. Operating and service personnel should be instructed according to the safety instructions.

This equipment can be dangerous if it is not operated according to the instructions in this operating manual.

1.2 WARNINGS, NOTICES AND SYMBOLS IN THESE INSTRUCTIONS

Warning instructions in this manual highlight particular dangers to users and to the device and state measures for avoiding the hazard.

These warning instructions fall into the following categories:

	DANGER	Immediate risk of danger. Non-observance will result in death or serious injury.
	WARNING	Potential danger. Non-observance may result in death or serious injury.
	CAUTION	Potentially dangerous situation. Non-observance may result in minor injury.
	NOTICE	Potentially dangerous situation. Non-observance may result in damage to property.
	Info	Provides information about particular characteristics and how to proceed.

Explanation of warning notice:

WARNING

This notice warns you of a danger!

Possible consequences of not observing the warning notice.

- ▶ The measures for preventing the hazard and its consequences.



1.3 GENERAL CHARACTERS AND SYMBOLS

The characters and symbols in this operating manual indicate the following:

- ✓ Requirement that must be fulfilled before an action can be performed.

1. Step 1 of an action to be performed with several action steps.

- ▶ Second level action step

2. Step 2

- ⇒ Intermediate result of an action

- ⇒ Result of a complete action

- ▶ Action to be performed with an action step

1. Numbered list, first level

- Numbered list, second level

- Non-numbered list, first level

- Non-numbered list, second level

[▶▶ 8] = cross-reference on page

◆ = wearing parts

★ = included in service set

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

1.4 LANGUAGES

The operating manual is available in the following languages:

Original operating manual

Language	Order no.
German	351708

Translation of the original operating manual

Language	Order no.	Language	Order no.
English	351709	Portuguese	2428057
French	351710	Danish	2302693
Italian	351711	Hungarian	2391451
Spanish	351718	Czech	351720
Russian	2410669	Polish	2462387
Chinese	--		

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

1.5 ABBREVIATIONS

Order no.	Order number
ET	Spare part
K	Marking in the spare parts lists
Pos	Position
Stk	Number of pieces
--	Item not available as spare part
/	Item does not exist

1.6 TERMINOLOGY FOR THE PURPOSE OF THIS MANUAL

Cleaning

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

Personnel qualifications

Trained person	Is instructed in the tasks assigned to him/her, the potential risks associated with improper behavior as well as the necessary protective devices and measures.
Electrically trained person	Is instructed by an electrician about the tasks assigned to him/her, the potential risks associated with improper behavior as well as the necessary protective devices and measures.
Electrician	Can assess the work assigned to him/her and detect possible hazards based on his/her technical training, knowledge and experience in relevant provisions.
Skilled person in the context of DGUV 209-052	A person who, based on his/her technical training, experience and recent vocational experience, has sufficient technical knowledge in the area of electrostatic coating and is familiar with the relevant and generally accepted rules of technology so that he/she can inspect and assess the status of devices and coating systems based on workplace safety. Additional requirements for skilled persons can also be found in TRBS 1203 (2010/amendment 2012): Expert knowledge in the areas of protection against excessive pressure, electrical hazards and explosion protection (where applicable).

2 USING IN ACCORDANCE WITH THE INSTRUCTIONS

2.1 DEVICE TYPE

Manual powder spray gun PEM-T3 for manual coating of earthed workpieces.

2.2 TYPE OF USE

The manual powder spray gun is designed for the coating of work pieces with organic powders which are suitable for frictional charges.
WAGNER explicitly prohibits any other use!

The manual powder spray gun may only be operated within a temperature range of 5–40 °C; 41–104 °F.

Electrostatic manual coating systems may only be used in spray areas equipped in accordance with EN 16985:2018 or under equivalent ventilation conditions.

The device may only be operated under the following conditions:

- ▶ Use the device only to work with the materials recommended by WAGNER.
- ▶ Do not deactivate safety fixtures.
- ▶ Use only WAGNER original spare parts and accessories.
- ▶ The operating personnel must be trained on the basis of this operating manual.
- ▶ Follow the instructions in the operating manual.

2.3 FOR USE IN POTENTIALLY EXPLOSIVE AREAS

This powder Tribo gun is suitable for processing industrial powder lacquers for coating electrically conductive objects and can be used in potentially explosive atmospheres (Zone 22). See chapter Identification [▶▶ 9].

In explosion hazard areas, only use approved explosion-proof electrical devices.

2.4 PROCESSIBLE WORKING MATERIALS

- for types of powder which are suitable for frictional charges

Info

Contact your local WAGNER dealer and the lacquer manufacturer if you encounter application problems.



2.5 MISUSE

Misuse can lead to physical injury and/or property damage! Special attention must be paid that:

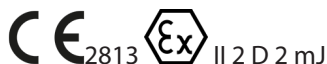
- ▶ No liquid coating products, e.g., solvents or water-based lacquers, are processed.
- ▶ No food, medicine or cosmetics are processed.

3 IDENTIFICATION

3.1 EXPLOSION PROTECTION IDENTIFICATION

As defined in Directive 2014/34/EU (ATEX), the device is suitable for use in potentially explosive areas.

Device type	PEM-T3 manual powder spray gun
Manufacturer	J. Wagner GmbH 88677 Markdorf Germany



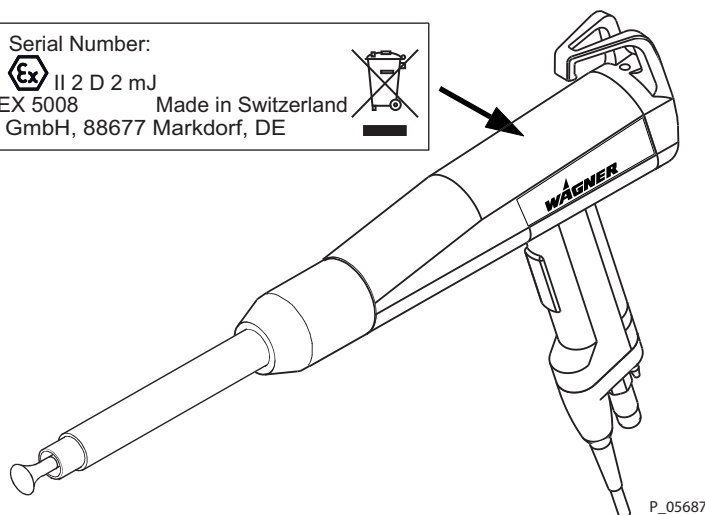
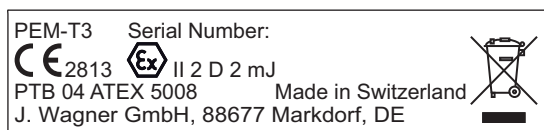
CE
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Ex
II
2
D
2 mJ

European Communities
Number of notified body which issues the
recognition of quality assurance in produc-
tion.
Symbol for explosion protection
Device class II
Category 2
Ex-atmosphere dust
Maximum ignition energy 2 mJ



3.2 TYPE PLATE



P_05687

3.3 PERMISSIBLE DEVICE COMBINATIONS

WARNING

Incorrect use!

Risk of injury and damage to the device.

- Only connect the powder spray gun to original WAGNER devices.

Only use the PEM-T3 manual powder spray gun with the following control units:

Guns	Control units
PEM-T3	EPG-Sprint X / XE
	WACON Sprint 2 X / XE
	WACON Sprint 2 Expert

Please refer to the corresponding operating manual for the control unit.

4 BASIC SAFETY INSTRUCTIONS

4.1 SAFETY INSTRUCTIONS FOR THE OPERATOR

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



4.1.1 Electrical devices and equipment

Danger of electric shock!

Danger to life from electric shock:

- ▶ Place and operate device in accordance with the existing safety requirements with regard to the operating mode and ambient influences.
- ▶ May only be maintained by skilled electricians or under their supervision. With open housings, the mains voltage poses a danger.
- ▶ Operate device in accordance with the safety regulations and electrotechnical regulations.
- ▶ Do not disconnect any plug connections during operation.
- ▶ Label plug connections with the warning "Do not disconnect when energized".
- ▶ Must be repaired immediately in the event of problems.
- ▶ Decommission if device poses a danger or is damaged.
- ▶ Disconnect the power supply before starting maintenance or repair work on the device.
 - ▶ Secure the device against being switched back on without authorization.
 - ▶ Inform personnel about planned work.
 - ▶ Observe electrical safety regulations.
- ▶ Ground all devices to a common grounding point.
- ▶ Only operate the device with a properly installed socket with a protective ground wire connection.
- ▶ Keep liquids away from electrical devices.



4.1.2 A safe work environment

Danger due to dust formation!

Severe or fatal injuries due to explosion danger or inhalation, swallowing or contact with the skin or eyes.

- ▶ The floor of the work area must be electrostatically conductive (measurement in accordance with EN 1081:2018+A1:2020 or EN 61340-4-1:2004+A1:2015).
- ▶ In the spray booth, coating may only be performed with correctly designed and locked technical ventilation.
- ▶ Make sure that grounding and potential equalization of all system parts is reliably and permanently in effect and that they withstand the loads to be expected (e.g., mechanical, corrosion).
- ▶ Ensure that the personal protective equipment (see chapter Personal protective equipment [▶ 12]) is available and used.
- ▶ Make sure that all people within the work area wear static dissipative shoes. The footwear must correspond to EN 20344. The measured insulation resistance must not exceed 100 MΩ.



- ▶ Protective clothing including gloves, must correspond to EN 1149-5. The measured insulation resistance must not exceed 100 MΩ.
- ▶ Ensure that there are no ignition sources such as naked flames, sparks, glowing wires, or hot surfaces in the spray booth. Do not smoke.
- ▶ A suitable system for suppressing fire and explosion must be installed.
- ▶ The powder release must be electrically interlocked with the connected technical ventilation of the spray system.
- ▶ Excess coating product (overspray) must be collected up safely. Powder deposits in the varnishing booth must be avoided. Set the parameters of the floor cleaning and manually clean the spray booth as needed.
- ▶ Ensure that maintenance and safety checks are performed regularly.
- ▶ In the event of defects, shut down the device or system immediately and repair it before switching it on again. Powder deposits must be removed before switching the system back on.
- ▶ The operator/responsible person must ensure that an average concentration of powder lacquer in the air of 50% of the lower explosion limit (max. permitted powder/air concentration) is not exceeded. If a reliable LEL value is not available, a value of 20 g/m³ must be used. This means that the average concentration of 10 g/m³ must not be exceeded.

4.1.3 Personnel qualifications

Danger due to incorrect use of device!

Risk of death due to untrained personnel.

- ▶ Ensure that the operating personnel has been instructed by the operator in accordance with the operating manual and the operating instructions. The device must only be operated, maintained and repaired by trained personnel. Refer to the operating instructions for information about the required personnel qualifications.

4.2 SAFETY INSTRUCTIONS FOR THE PERSONNEL

- ▶ Always observe the information in this manual, particularly the safety instructions and the warning instructions.
- ▶ Always follow existing regulations concerning occupational safety and accident prevention regulations.



Danger due to high-voltage field!

Danger to life from malfunction of active implants.

- ▶ Persons belonging to a risk group according to EMF guideline 2013/35/EU (e.g., carriers of active implants), must not enter the high-voltage area.



4.2.1 Personal safety equipment

Danger due to dust formation!

Serious or fatal injuries due to inhalation, swallowing or contact with the skin or eyes.

- ▶ Observe the processing regulations laid down by the manufacturer of the powder lacquer being used, when preparing or processing the powder.
- ▶ Take note of the manufacturer's notification and the relevant environmental protection regulations when disposing of powder lacquers.
- ▶ Take the specified protective measures, in particular wear safety goggles, protective clothing and gloves, as well as skin protection cream if necessary.



- ▶ Use a mask or breathing apparatus if necessary.
- ▶ For sufficient health and environmental protection, only operate the device with technical ventilation (extraction) switched on.

4.2.2 Safe handling of WAGNER powder spray devices

Danger due to dust formation!

- ▶ Do not point spray guns at people.
- ▶ Do not spray device parts using electrostatic equipment.
- ▶ Before any work on the device, in the event of work interruptions and malfunctions:
 - ▶ Switch off the energy/compressed air supply.
 - ▶ Relieve pressure on spray gun and device.
 - ▶ Secure the spray gun against actuation.
 - ▶ Disconnect the control unit from the mains.
 - ▶ In the event of functional faults, remedy the fault as described in the chapter on troubleshooting.
- ▶ Carry out the work steps in accordance with the chapter on pressure relief in the operating manual of the corresponding device:
 - ▶ If a prompt for pressure relief is given.
 - ▶ If coating work is interrupted or stopped.
 - ▶ Before the device is externally cleaned, checked or serviced.
 - ▶ Before the spray nozzle is installed or cleaned.



4.2.3 Grounding the Device

Danger due to electrostatic charge!

Explosion hazard and damage to the device.

The electrostatic charge may, in certain cases, give rise to electrostatic charges on the device. Flames or sparks can form during discharge.

Correct grounding of the entire coating system prevents electrostatic charges:

- ▶ Ensure that all devices and tanks are grounded before each coating process.
- ▶ All conductive components of the system, such as floors, walls, ceilings, barriers, transport equipment, work pieces, powder tanks, moving devices or structural parts in the spray area, with the exception of parts under high voltage during operation, must be connected to the grounding system.
Parts of the spray booth must be grounded. All these components of the complete spray system must be on the same grounding potential.
- ▶ Ensure that all persons inside the working area are grounded, e.g., that they are wearing static dissipative shoes.
- ▶ Grounding cables must be checked regularly to ensure that they are serviceable (see EN 60204).



4.2.4 Product hoses

Danger due to damaged product hoses!

The product hose may cause dangerous injuries.

- ▶ Use only an original WAGNER powder hose.



- ▶ Make sure that the hoses are laid only in suitable places. Hoses should not be laid in the following places under any circumstances:
 - ▶ in high traffic areas
 - ▶ on sharp edges
 - ▶ on moving parts
 - ▶ on hot surfaces
- ▶ Ensure that the hoses are never run over by vehicles (e.g., fork lifts), or that the hoses are never put under pressure from the outside in any other way.
- ▶ Ensure that the hoses are never kinked. Observe maximum bending radii.
- ▶ Ensure that no work is ever performed with a damaged hose.
- ▶ Make sure that the hoses are never used to pull or move the device.

4.2.5 Electrical connection cables

Risk caused by improperly laid cables!

Risk of injury and damage to the device.

- ▶ Properly lay connection cables and check them regularly.
- ▶ Immediately replace damaged connection cables.
- ▶ Ensure that no work is ever performed with a damaged connection cable.
- ▶ Do not lay connection lines on travel paths of forklifts or through doors/gates.
- ▶ Do not lay connection lines in the area of walkable hallways or paths to avoid the risk of tripping.

4.2.6 Cleaning and flushing

Danger due to cleaning and flushing!

Explosion hazard and damage to the device.

- ▶ Before starting cleaning or any other manual work, the high voltage in the spray area must be shut down and locked to prevent it from being switched back on.
- ▶ Lock the compressed air supply and decompress the device.
- ▶ Secure the device against being switched back on without authorization.
- ▶ Use only electrically conducting and grounded tanks for cleaning fluids.
- ▶ Preference should be given to non-ignitable cleaning fluids.
- ▶ Ignitable cleaning liquids may only be used if all high-voltage parts are discharged to a discharge energy of less than 0.24 mJ after shutting off the high voltage before these parts can be reached. Most ignitable solvents have an ignition power in the range of 0.24 mJ, corresponding to 60 nC.
- ▶ The flash point of the cleaning agents must be at least 15 K over the ambient temperature.
- ▶ Note the details provided by the powder lacquer manufacturer.
- ▶ To remove dust deposits, only suitable mobile industrial vacuums may be used.
- ▶ Take measures for workplace safety (see chapter "A safe work environment").



4.2.7 Maintenance and repair

Danger due to improper maintenance and repair!

Danger to life and equipment damage.

- ▶ Only a WAGNER service center or a specially trained person may carry out repairs and replace parts.
- ▶ Repair or replacement of devices or parts of devices are only allowed to be performed outside the hazard area by qualified personnel.
- ▶ Use only WAGNER original spare parts and accessories.
- ▶ WAGNER assumes no liability for changes to the product made by the operating company without the knowledge of WAGNER. Any adjustments to the documentation and the market release are the responsibility of the operating company.
- ▶ Only repair and replace parts that are listed in the chapters "Accessories" and "Spare parts" and that are assigned to the device.
- ▶ Do not use any defective components.
- ▶ Before all work on the device and in the event of work interruptions:
 - ▶ Switch off the energy and compressed air supply.
 - ▶ Relieve pressure on spray gun and device.
 - ▶ Secure the spray gun against actuation.
- ▶ Observe the operating and service manual for all work.

4.2.8 Protective and Monitoring Equipment

Danger due to removal of protective and monitoring equipment!

Danger to life and equipment damage.

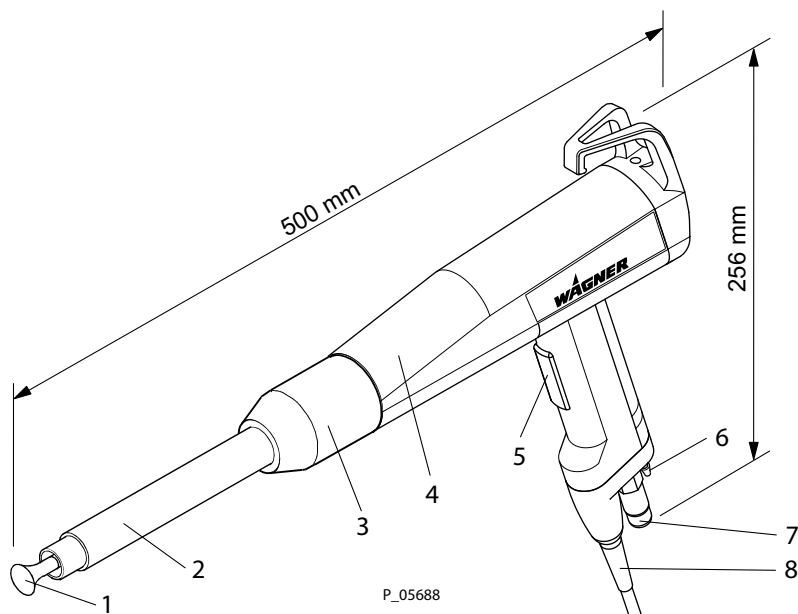
- ▶ Protective and monitoring equipment must not be removed, modified or rendered unusable.
- ▶ Regularly check for perfect functioning.
- ▶ If defects are detected on protective and monitoring equipment, the system must not be operated until these defects are remedied.

To prevent electrostatic flashover, the union nut for securing the nozzles is designed in a certain geometric shape. This shape, together with the shape of the flat jet nozzle or deflector cone sleeve, prevents the nozzles from coming loose unintentionally (see chapter Accessories [▶▶ 34]).

To ensure safety, only use original WAGNER spare parts!

5 DESCRIPTION

5.1 DESIGN OF THE MANUAL GUN



1	Deflector cone	5	Trigger lever
2	Nozzle body	6	Tribo air connection
3	Union nut	7	Powder hose connection
4	Spray gun body	8	Electrical connection

The PEM-T3 Tribo manual gun is used for industrial powder coating.

5.2 EXTENT OF DELIVERY

Stk	Order no.	Designation
1	351019	PEM-T3 manual gun
	--	Nozzle set
The standard equipment includes:		
1	351967	Declaration of conformity
1	351708	Operating manual, in German
1	See chapter Languages [►► 6]	Operating manual in local language

5.3 DATA

5.3.1 Technical Data

Dimensions:	
Length/width/height	See chapter Design of the Manual Gun [►► 16].
Weight	500 g; 1.10 lbs
Electrical:	
Construction type	In accordance with EN 50050
Protection class	IP 54

Pneumatic:	
Input air pressure (atomizing air volume)	Maximum 3 bar; 0.3 MPa; 43.51 psi
Powder discharge quantity	Maximum 300 g/min; maximum 0.66 lbs/min

⚠ WARNING

Exhaust air containing oil!

Risk of poisoning if inhaled.

- ▶ Provide compressed air free from oil and water.



Ambient conditions:

When using low-melting powder varieties, an ambient temperature below 30 °C; 86 °F may be necessary.

Volume specifications given in Nm³ (standard cubic metres). One cubic metre of a gas at 0 °C and 1.013 bar is referred to as a standard cubic metre.

Ambient conditions:	
Operating temperature range	5–40 °C; 41–104 °F
Relative humidity	< 75%

5.3.2 Accessories

Only the accessories listed in chapter Accessories [▶▶ 34] of this operating manual may be connected to the PEM-T3 manual gun.

6 ASSEMBLY AND COMMISSIONING

6.1 TRAINING OF ASSEMBLY/COMMISSIONING PERSONNEL

- ▶ The assembly and commissioning personnel must have the technical skills to safely commission the device.
- ▶ When assembling, commissioning and carrying out all work, read and follow the operating manuals and safety regulations for the additionally required system components.

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

6.2 STORAGE CONDITIONS

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

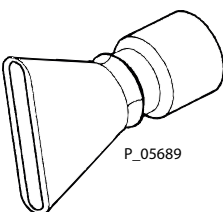
The air temperature at the storage location must be between -20 °C and +60 °C (-4 °F and +140 °F).

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

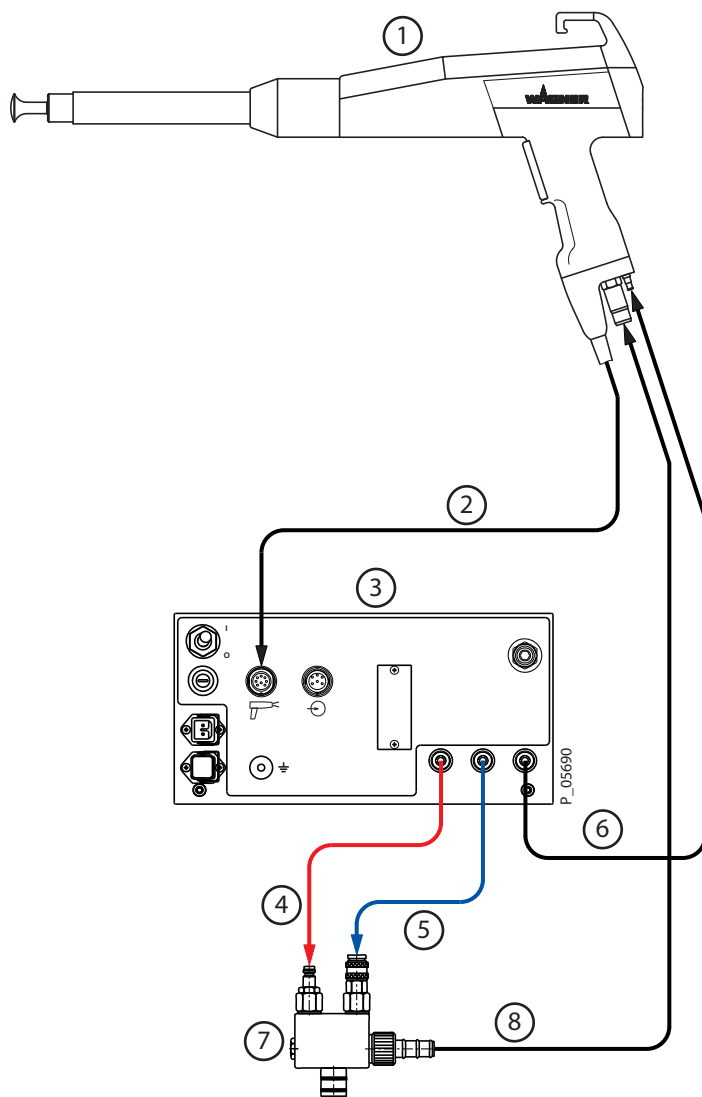
6.3 PREPARATION OF THE SPRAY GUN

6.3.1 Selection of a Suitable Nozzle System

The article numbers for the various nozzles can be found in chapter Accessories [►► 34].

Nozzle	Application overview	Powder cloud
Deflector cone  P_00697	Flat work pieces (reduced picture frame) Wire goods Grid designs	Oval powder cloud: Size of the powder cloud is dependent on the deflector plate diameter For powder quantities from 50–300 g/min
Flat jet nozzle  P_00696	Complex part geometries undercuts Profile	Widely spread powder cloud For powder quantities from 50–150 g/min
Wide flat jet nozzle  P_05689	Complex part geometries undercuts Profile	Widely spread powder cloud For powder quantities from 50–250 g/min

6.4 CONNECTING THE MANUAL GUN



1	Manual powder spray gun	5	Dosing air hose (blue)
2	Electrical connection cable	6	Tribo air hose (black)
3	Control unit	7	Powder injector
4	Feed air hose (red)	8	Powder feed hose (transparent)

1. Switch off control unit.
2. Before connecting the manual gun, check that all components, such as the nozzle system and union nut, are correctly fitted.
3. Connect the manual gun's electrical cable to the control unit.
4. Connect the powder feed hose to the manual gun and to the powder injector.
5. Connect the Tribo air hose to the manual gun and to the control unit.

6.5 GROUNDING

For safety reasons the spray gun must be properly grounded. The grounding is done via the electric cable.

Good grounding of the work piece is also necessary for optimum powder coating.

A poorly grounded work piece causes:

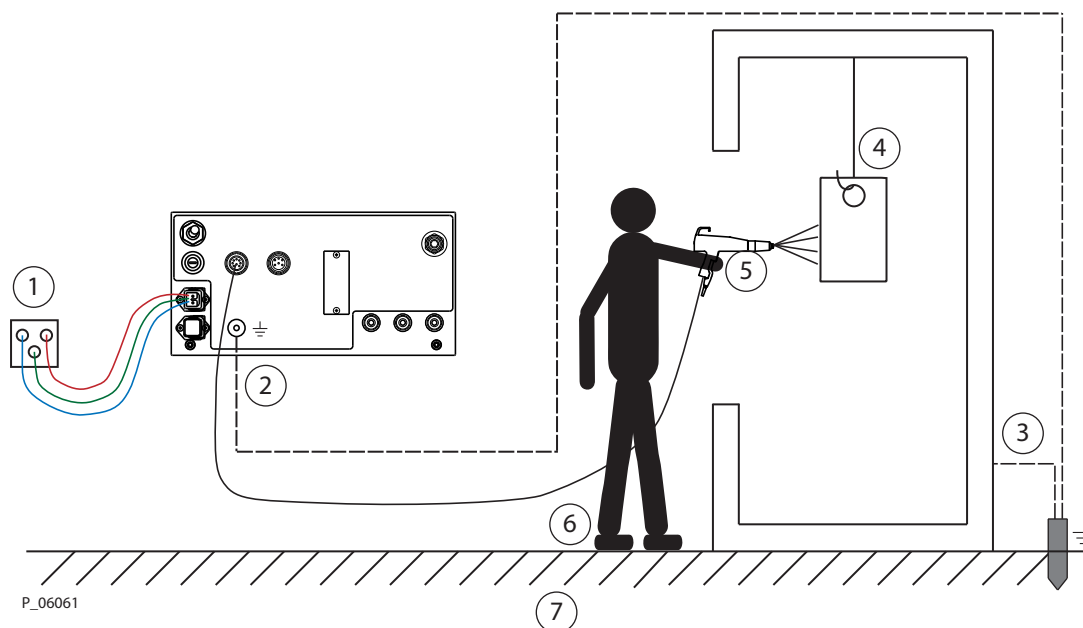
- Dangerous electric charging of the work piece
- Very bad wrap-around
- Uneven coating
- Back spraying to the spray gun, i.e., contamination

Prerequisites for perfect grounding and coating of a work piece are:

- Electroconductive suspension for the work piece that is to be coated
- Regular cleaning of powder residue from hanger
- Grounding of the spray booth, conveyor system and suspension equipment on site, in accordance with the operating manual or the manufacturer's information
- Grounding cable connected to the control module or control cabinet
- That a grounding resistance of the work piece of 1 MΩ is not exceeded (resistance to ground measured at 500 V or 1000 V)

Sparks between conveyor, conveyor hooks (hangers) and work piece can occur if electric contact points between conveyor, conveyor hooks (hangers) and work piece are not sufficiently cleaned and therefore the work pieces are not sufficiently grounded! These sparks can cause heavy radio frequency interference (EMC).

6.5.1 Grounding the powder coating system



1	Only use mains cables with grounding strand!
2	Connect the control unit with the grounding cable to the signal ground!
3	Connect booth or spray wall to the signal ground with the grounding cable!
4	Remove all paint from hooks and other hanger parts!
5	Do not wear insulating gloves!
6	Wear electrostatically conductive footwear!
7	The floor must be electrostatically conductive!

6.6 SAFETY CHECKS

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

- ▶ Carry out safety checks in accordance with chapter Safety Checks [▶▶ 25].

7 OPERATION

7.1 TRAINING THE OPERATING PERSONNEL

- The operating personnel must be qualified to operate the entire system.
- The operating staff must be familiar with the potential risks associated with improper behavior as well as the necessary protective devices and measures.
- Before work commences, the operating personnel must receive appropriate system training.

7.2 TASKS

1. Ensure that:
 - ▶ regular safety checks are performed in accordance with chapter Safety Checks [▶▶ 25].
 - ▶ commissioning is carried out in accordance with chapter Assembly and commissioning [▶▶ 18].

7.3 SWITCHING ON THE MANUAL GUN

1. To put the control unit into operation, see corresponding operating manual.

Note:

In order to keep wear on the wearing parts to a minimum, the sum of the feed and dosing air volume should be between 3.5–6.0 Nm³/h.

The sum of the feed, dosing and Tribo air volume must not exceed 7.5 Nm³/h.

2. Select manual gun type and Tribo charge on the control unit.
3. Hold the manual powder spray gun in the spray booth.
4. Pull the trigger on the manual powder spray gun and adjust the powder quantity and the powder speed on a test piece. To do so, adjust the feed and dosing air accordingly.
5. Only open the Tribo air wide enough until a Tribo current of approx. 3 µA is displayed.

The charging current depends on the type of powder and should ideally be between 2.5 and 3.5 µA.

7.4 SWITCHING OFF THE MANUAL GUN

Note:

At every work interruption, the gun should be blown through (flushed) and cleaned of powder residue.

This process can largely avoid powder deposits and a surge the next time the spray gun is switched on.

1. Release the trigger on the manual gun so that the powder feed is switched off.
2. Set the controller for the total air volume to maximum on the control unit.
When the system is switched on again, no more powder will be delivered.
3. Actuate the trigger on the manual gun so that the gun is blown free of powder.
4. Switch off the control unit and secure it against being inadvertently switched back on.

8 CLEANING AND MAINTENANCE

8.1 CLEANING

8.1.1 Cleaning personnel

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

The following hazards may arise during cleaning work:

- health hazard from inhaling powder lacquer,
- use of unsuitable cleaning tools and aids.

8.1.2 Cleaning Procedures

The cleaning intervals should be adapted by the operator depending on the level of use and if necessary the level of soiling.

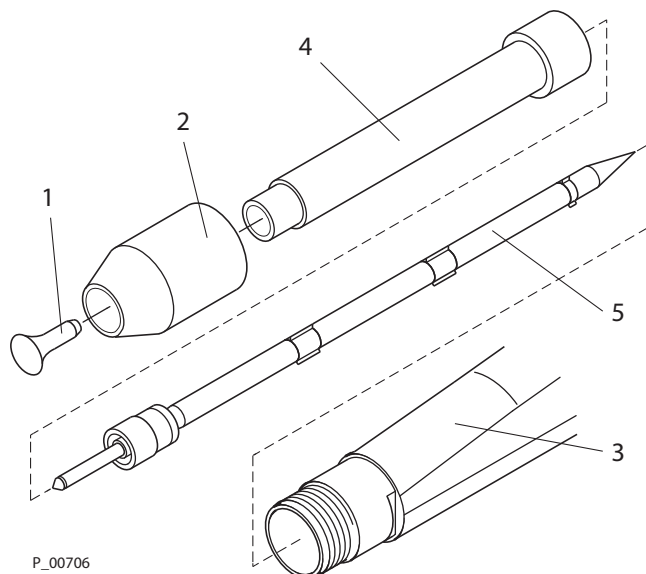
If in doubt, we recommend contacting WAGNER's specialist personnel.

8.1.2.1 Performing a paint change

In the case of a paint change, powder residues must be thoroughly cleaned from all the powder feeding parts throughout the complete coating system.

In the following, only the procedure for the powder spray gun is described.

Instructions on cleaning of other components can be found in the appropriate operating manuals.



1. Switch off the control unit and secure it against being inadvertently switched back on.
2. If no automatic flushing takes place:
Release the trigger on the manual gun so that the powder feed is switched off.
Pull the powder injector out of the injector connection of the powder tank so that no more powder can be conveyed during flushing.
Actuate the trigger on the manual gun so that the gun is blown free of powder.
Switch off the control unit and secure it against being inadvertently switched back on.
3. Pull deflector cone 1 off of charging body 5.
4. Unscrew union nut 2 from gun housing 3.

5. Carefully pull nozzle body 4 out of the gun housing 3.

Note:

Make sure that especially the parts of the charging body are not damaged when pulling out and inserting the wearing parts!

6. Clean powder residue from the removed parts and from the spray gun.
7. Carefully place the charging body 5 and nozzle body 4 back into the gun housing 3 and tighten with the union nut 2.
8. Push deflector cone 1 back onto the charging body 5.
⇒ The spray gun is ready for use again.

8.2 MAINTENANCE

8.2.1 Maintenance personnel

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

The following hazards may arise during maintenance work:

- health hazard from inhaling powder lacquer,
- use of unsuitable tools and aids.

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

8.2.2 Maintenance Instructions

DANGER

Incorrect maintenance/repair!

Danger to life and equipment damage.

- ▶ Only a WAGNER service center or a specially trained person may carry out repairs and replace parts.
- ▶ Use only WAGNER original spare parts and accessories.
- ▶ Only repair and replace parts that are listed in the spare parts chapter and that are assigned to the device.
- ▶ Before all work on the device and in the event of work interruptions:
 - ▶ Switch off the energy and compressed air supply.
 - ▶ Relieve spray gun and device pressure.
 - ▶ Secure the spray gun against actuation.
- ▶ Observe the operating and service manuals of the individual components for all work.



Prior to maintenance

- Flush and clean the system according to chapter Cleaning Procedures [►► 23].

After maintenance

- Carry out safety checks in accordance with chapter Safety Checks [►► 25].
- Put the system into operation and check for leaks.
- Have the system checked for safe condition by a skilled person.

8.2.3 Safety Checks

8.2.3.1 Grounding Check

Every day

- Before starting work, carry out a visual check to ensure that the system is grounded.

8.2.4 Maintenance Procedures

The maintenance intervals should be adapted by the operator depending on the level of use and if necessary the level of soiling.

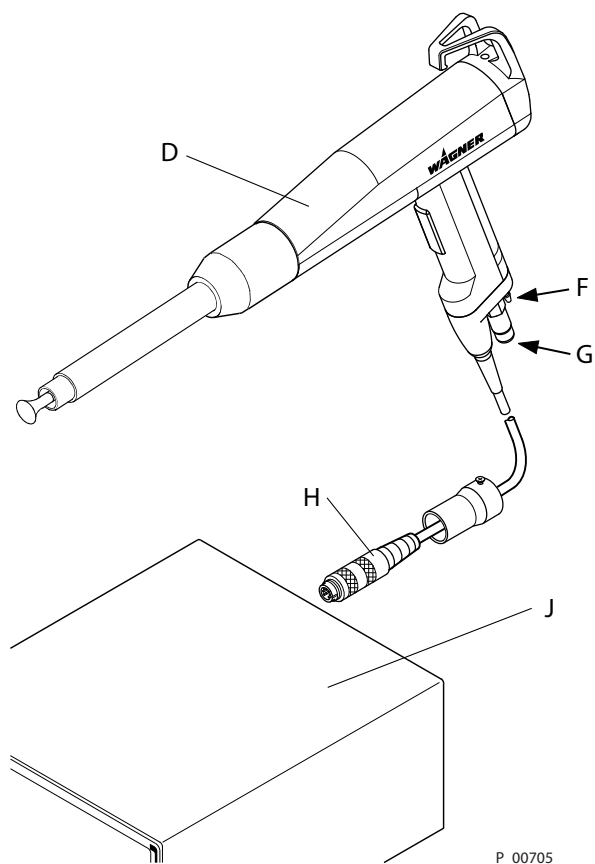
If in doubt, we recommend contacting WAGNER's specialist personnel.

Maintenance work	Time stamp	
	Per shift	Weekly
Blow out gun and check for sintering	x	
Check gun settings	x	
Blow out powder hoses	x	
Check grounding		x
Check compressed air quality		x
Check gun voltage		x
Check powder hoses for bends and sintering		x

8.3 EXCHANGING THE MANUAL GUN

Before replacing the spray gun, any powder residue must be thoroughly removed.

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



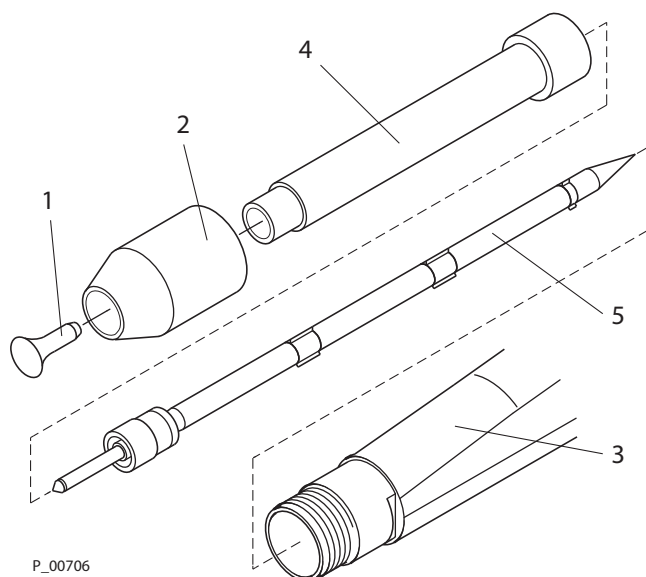
1. Switch off control unit.
2. Disconnect electrical cable H from control unit J.
3. Disconnect powder feed hose G and Tribo air hose F from spray gun D.
4. Connect powder feed hose G and Tribo air hose F to spray gun D.
5. Connect electrical cable H to control unit J.
6. Switch on the control unit.
7. The spray gun is ready for use again.

8.4 CLEANING THE GUN AND REPLACING THE WEARING PARTS

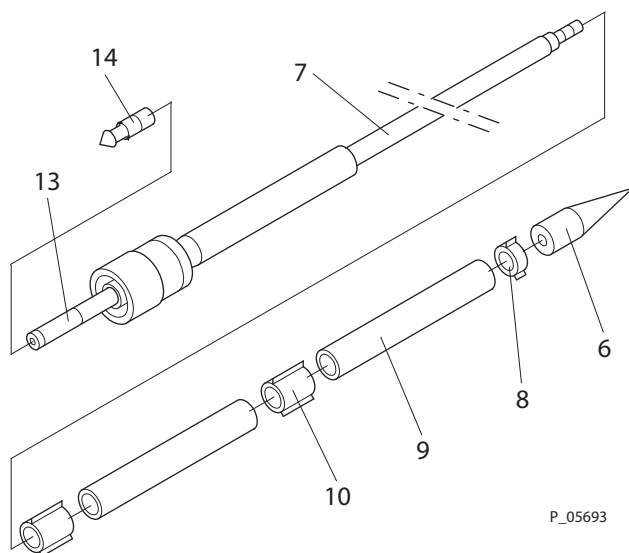
Note:

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

Make sure that especially the parts of the charging body are not damaged when pulling out and inserting the wearing parts.



1. Pull deflector cone 1 off of charging body 5.
2. Unscrew union nut 2 from gun housing 3.
3. Carefully pull nozzle body 4 out of the gun housing 3.
4. Carefully pull out charging body 5.
5. Check removed parts for wear.
The entire charging body can be replaced with a new one.
It is also possible to dismantle the charging body and to only replace the worn parts.

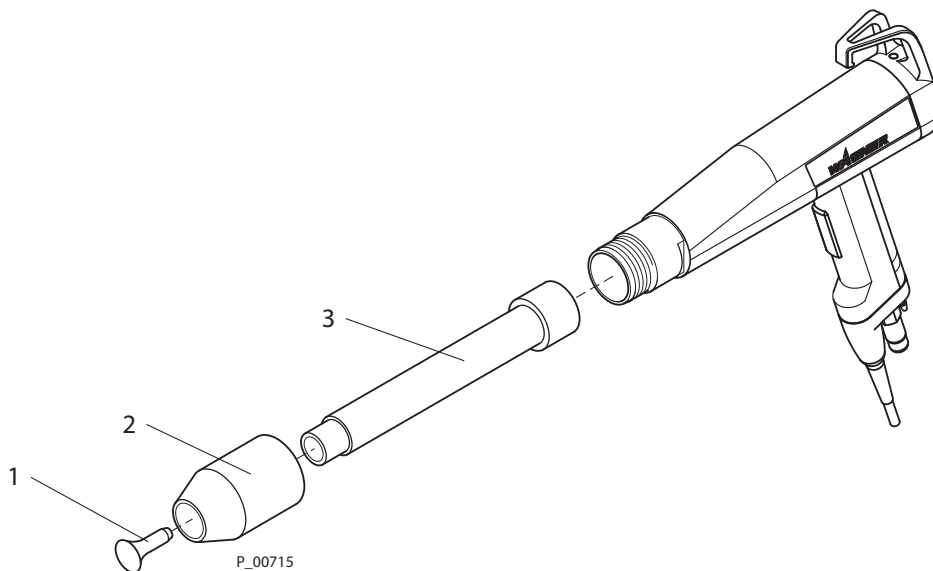


6. Carefully unscrew the tip 6 from the threaded rod 7 and dismantle the charging body.
7. In case of wear, unscrew the air nozzle 14 from the deflector cone rod 13 and replace it with a new one.
8. Completely clean all parts of powder residues.
9. Replace worn parts with new ones.
10. Carefully push charging body into the gun and reassemble the gun.

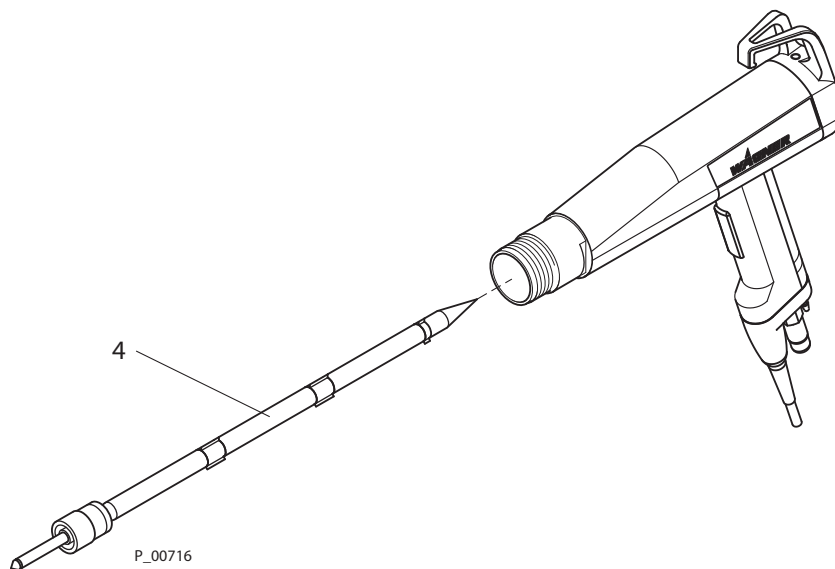
8.5 ASSEMBLY OF THE GUN EXTENSION

Note:

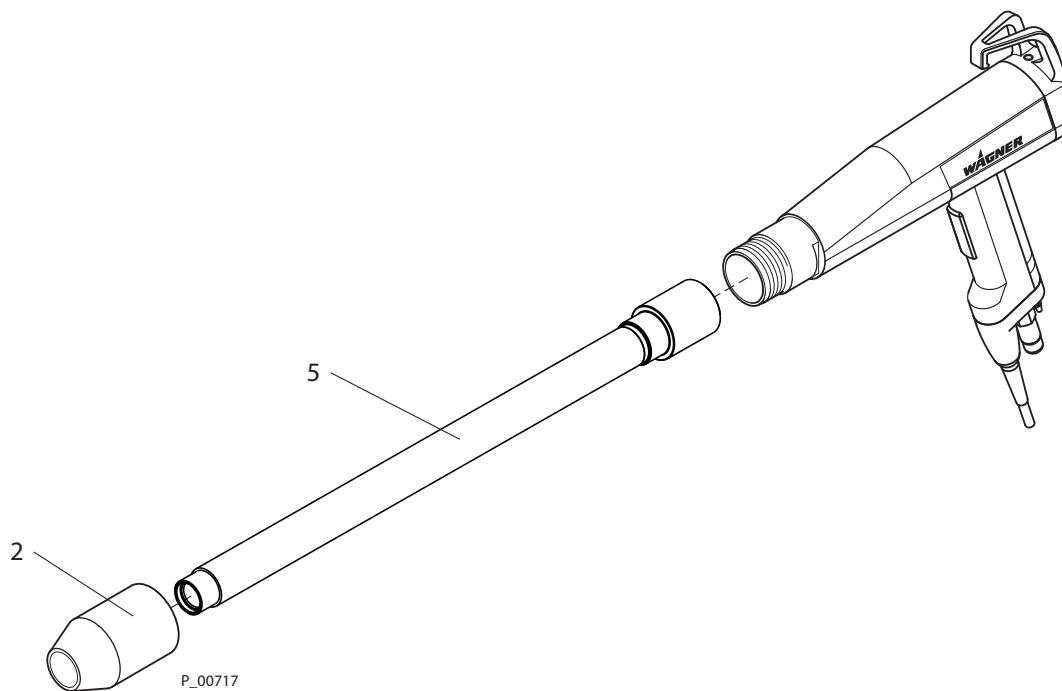
To install a gun extension, always use a thoroughly cleaned spray gun!
It is recommended to use a new gun.



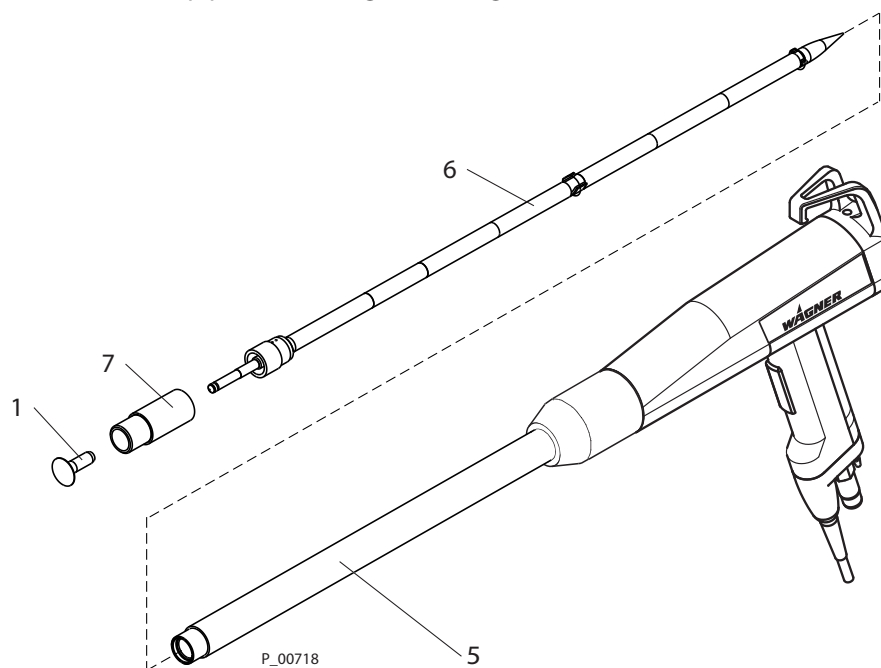
1. Pull off deflector cone/fan spray nozzle 1 from nozzle body 3.
2. Unscrew union nut 2 from gun housing.
3. Carefully pull nozzle body 3 out of the gun housing.



4. Pull the charging body 4 out of the gun housing.



5. Push outer pipe 5 onto the gun housing and secure it with union nut 2.



6. Guide charging body 6 into the outer pipe 5 and push it up to stop.
7. Push adapter 7 up to stop on the outer pipe 5.
8. Place deflector cone/fan spray nozzle 1 on the adapter 7.

9 TROUBLESHOOTING AND RECTIFICATION

9.1 TROUBLESHOOTING AND RECTIFICATION

DANGER

Incorrect maintenance/repair!

Danger to life and equipment damage.

- ▶ WAGNER devices, protective systems and safety, monitoring and control equipment may only be serviced/repared as defined in Directive 2014/34/EC (ATEX) by trained WAGNER service personnel or skilled persons in accordance with TRBS 1203! Note national regulations!
- ▶ Service, repair or replacement of devices or parts of devices may only be performed outside the hazard area!



Malfunction	Cause	Rectification
No Tribo current (e.g., no wrap around or no powder adhesion)	Insufficient or no powder charging	Notify the WAGNER service centre.
	Electrical cable from gun to control unit faulty	Notify the WAGNER service centre.
	Tribo current measuring or display device defective	Notify the WAGNER service centre.
	Wear of the powder feeding parts in the gun	Replace worn parts.
Poor powder wrap-around, back-spray	Insufficient or no grounding	See chapter Grounding [►► 19].
Spray pattern is uneven	Parts of nozzle system worn	Replace worn parts.
Powder outlet uneven or inadequate	Contamination	Blow through powder feeding parts.
	Powder sintering	Clean powder feeding parts.
	Wear of the powder feeding parts in the gun	Replace worn parts.
	Feed unit contaminated	See the operating instructions for the connected devices.
	Feed air/dosing air ratio incorrect	Recalibrate on the control module or control unit.
	Wear on powder injector nozzle	Replace worn parts on the powder injector ¹⁾ .
Cracks in the gun housing	Improper handling of the powder spray gun	Gun housing must be replaced. Notify the WAGNER service centre.

1) The wear and spare parts can be found in the operating instructions for the powder injector.

10 INSPECTIONS IN ACCORDANCE WITH DIN EN 50050-2: 2013

If the system is used for electrostatic coating with ignitable coating powders, the test must be performed in accordance with DIN EN 50050-2: 2013 according to the following Overview Table [►► 32].

10.1 ABBREVIATIONS

ER	Employer	FT	Function test
SP	Skilled person	ME	Measurement
FPE	Fire protection engineer	SI	Standard inspection
QEW	Electrician	VI	Visual inspection
MFR	Manufacturer	CM	Continuous monitoring
TP	Trained person	TI	Technical inspection

10.2 OVERVIEW TABLE

Section	Type of inspection	Requirements	Inspection by	Type of inspection	Inspection interval
1	Ground leaking resistance from the work piece attachment point	The resistance to ground of the hold point of every work piece may be 1 MΩ at the most (measuring voltage must be 1000 V). The design of the work piece holder must ensure that the work pieces remain grounded during coating.	SP	ME/CM Measure resistance to ground (work piece receiver - ground potential) max. 1 MΩ @ 1000 V	Weekly
2	Link between technical ventilation equipment and high voltage, compressed air and powder feed	The technical ventilation should be interlocked such that the powder feed and high voltage cannot be switched on, while the technical ventilation is not working effectively.	SP	FT Testing whether the system is stopped by the safety technology and the powder feed, supply air and high voltage are switched off in case of ventilation deactivation.	Annually
3	Checking the electrostatic manual coating system for damage	Electrostatic manual coating systems may only be operated in an undamaged condition. Damaged devices must be decommissioned immediately and repaired immediately.	SP	FT Inspect and test (e.g., by measurement) whether all parts carrying high voltage do not result in discharge which puts people at risk.	Weekly

11 DISASSEMBLY AND DISPOSAL

11.1 DISASSEMBLY

WARNING

Incorrect disassembly!

Risk of injury and damage to the device.

- ▶ Before starting disassembly:
 - ▶ Switch off the energy and compressed air supply.
 - ▶ Ensure the grounding of all system components.
 - ▶ Secure system against being switched back on without authorization.
- ▶ Observe the operating manuals when carrying out all work.



1. Switch off the system.
2. Lock the compressed air supply and decompress system.
3. Disconnect the gun connection cable from control unit.
4. Disconnect the hose for Tribo air, dosing air and atomizing air from the spray gun and from the control unit.

11.2 DISPOSAL

NOTICE

Do not dispose of used electrical equipment with household refuse!

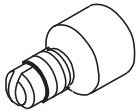
In accordance with European Directive 2012/19/EU on the disposal of used electrical equipment and its implementation in national law, this product may not be disposed of with the household refuse, but must be recycled in an environmentally correct manner.

- ▶ WAGNER or one of our dealers will take back your used WAGNER electric or electronic equipment and will dispose of it for you in an environmentally-friendly way.
- ▶ Please contact one of our service points, one of our representatives or us directly.



12 ACCESSORIES

12.1 NOZZLES

Order no.	Designation	
<u>260928</u>	Fan spray nozzle	 P_00696
<u>260267</u>	Deflector cone ø 18 mm Tribo	 P_00697
<u>260266</u>	Deflector cone ø 25 mm Tribo	 P_00697
<u>260268</u>	Deflector cone ø 32 mm Tribo	 P_00697

12.2 GUN CONNECTION CABLE

Order no.	K	Designation
<u>351297</u>		Gun connecting cable, Tribo, 5 m
<u>351296</u>		Gun connecting cable, Tribo, 10 m
<u>351295</u>		Gun connecting cable, Tribo, 20 m

13 SPARE PARTS

13.1 HOW TO ORDER SPARE PARTS

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

Order number, designation and quantity

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

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

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

Identification in spare parts lists

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

♦ Wearing parts. Wearing parts are not included in the warranty.

★ Included in service set.

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

Explanation of order no. column:

-- Item not available as spare part.

/ Position does not exist.

13.2 NOTES ON THE USE OF SPARE PARTS

DANGER

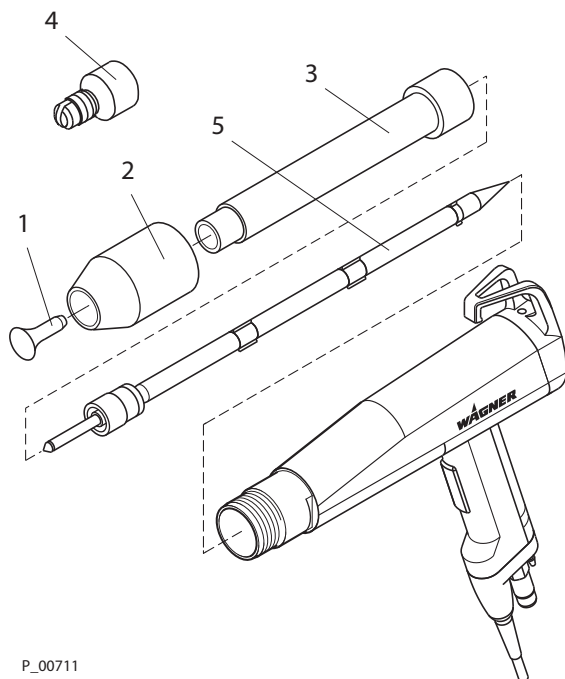
Incorrect maintenance/repair!

Danger to life and equipment damage.

- ▶ Only a WAGNER service center or a specially trained person may carry out repairs and replace parts.
- ▶ Use only WAGNER original spare parts and accessories.
- ▶ Only repair and replace parts that are listed in the spare parts chapter and that are assigned to the device.
- ▶ Before all work on the device and in the event of work interruptions:
 - ▶ Switch off the energy and compressed air supply.
 - ▶ Relieve spray gun and device pressure.
 - ▶ Secure the spray gun against actuation.
- ▶ Observe the operating and service manuals of the individual components for all work.



13.3 TRIBO PEM-T3 MANUAL GUN



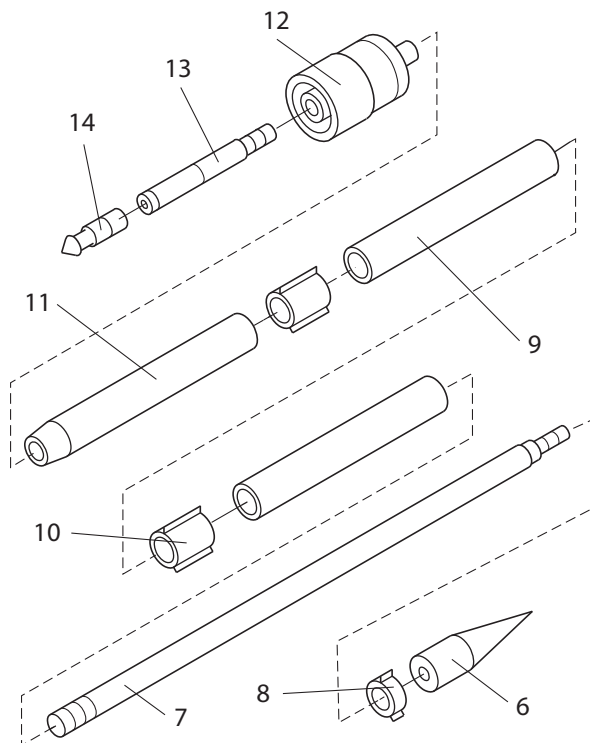
P_00711

Pos	K	Stk	Order no.	Designation
--		1	<u>351019</u>	PEM-T3 Tribo manual gun
1	◆	1	<u>259474</u>	Deflector cone (ø 22)
1	◆	1	<u>259475</u>	Deflector cone (ø 28)
2		1	<u>351654</u>	Union nut, Tribo ET
3		1	<u>351581</u>	Nozzle body
4	◆★	1	<u>260928</u>	Fan spray nozzle
5	◆	1	<u>260629</u>	Complete charging body

◆ = wear part

★ = only available as a set

13.4 COMPLETE CHARGING BODY

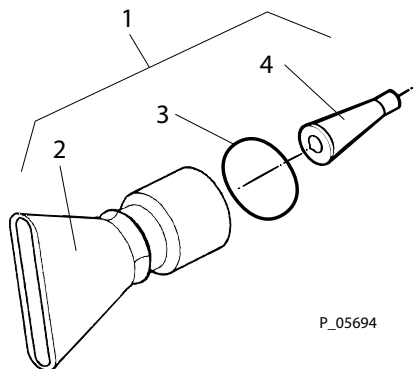


P_00712

Pos	K	Stk	Order no.	Designation
--		1	<u>260629</u>	Complete charging body
6	◆	1	<u>260472</u>	Tip
7		1	<u>260473</u>	Threaded rod
8	◆	1	<u>260474</u>	Ring
9	◆	1	<u>260471</u>	Charging pipe
10	◆	1	<u>260476</u>	Support ring
11	◆	1	<u>260470</u>	Rod
12	◆	1	<u>260463</u>	Central air guidance
13	◆	1	<u>260469</u>	Deflector cone rod
14	◆	1	<u>260632</u>	Air nozzle, complete

◆ = wear part

13.5 WIDE FLAT JET NOZZLE

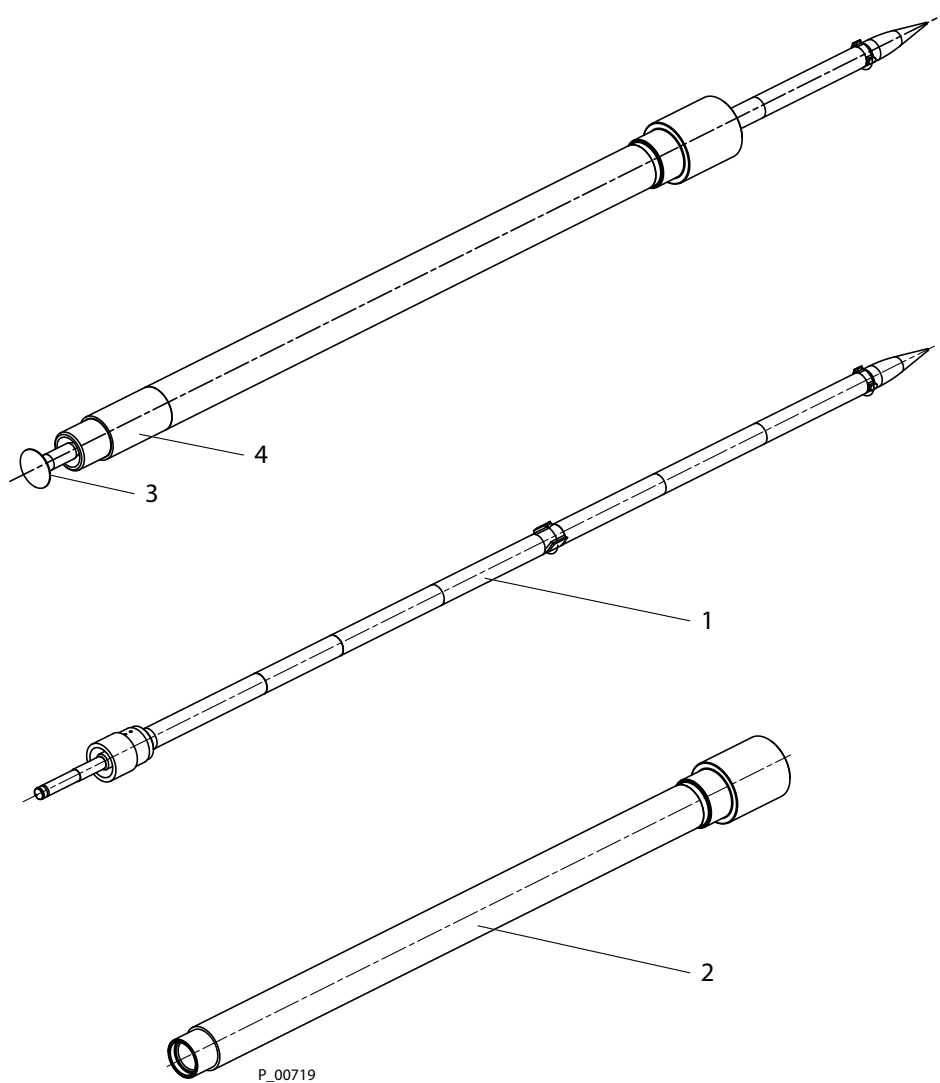


Pos	K	Stk	Order no.	Designation
1	◆★	1	<u>260926</u>	Wide flat jet nozzle, complete
2	◆	1	<u>260280</u>	Wide flat jet nozzle
3	◆	1	<u>9971037</u>	O-ring 22x1.5
4	◆	1	<u>260627</u>	Deflector cone ø 13

◆ = wear part

★ = only available as a set

13.6 GUN EXTENSION

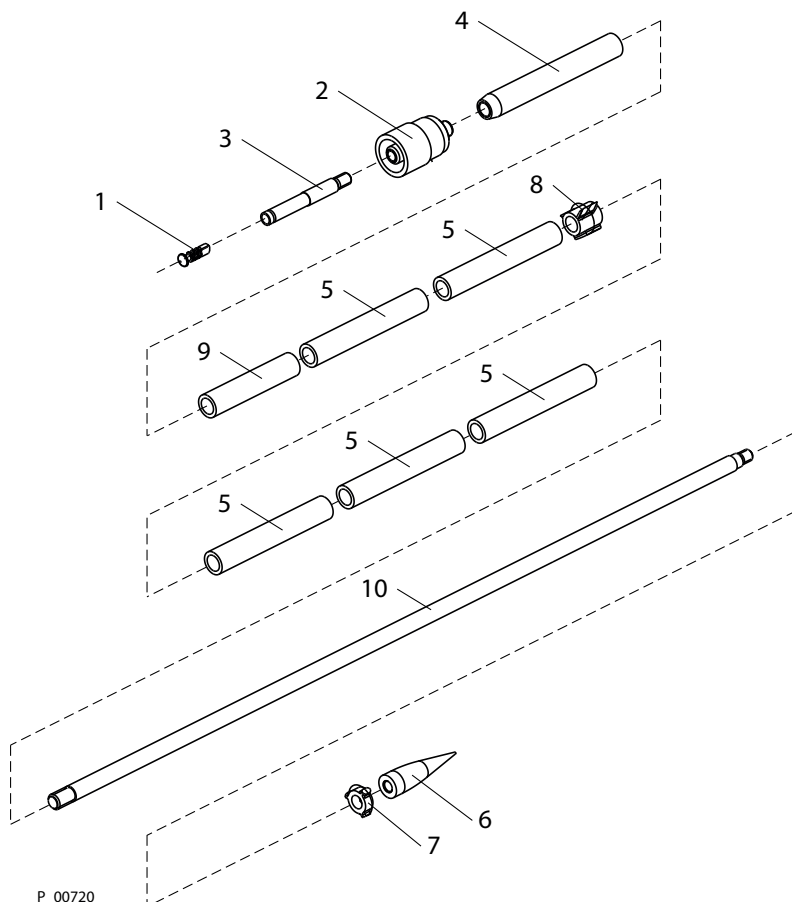


Pos	K	Stk	Order no.	Designation
--		1	<u>260934</u>	Gun extension 300 mm
1	◆	1	<u>260935</u>	Charging body, PEM-T3 ET
2	◆	1	--	Outer pipe, PEM-T3 ET
3	◆	1	<u>259474</u>	Deflector cone Ø 22
4		1	<u>259479</u>	Adapter

◆ = wear part

★ = only available as a set

13.7 PEM-T3 300 CHARGING BODY



P_00720

Pos	K	Stk	Order no.	Designation
--		1	<u>260935</u>	Charging body, PEM-T3
1	◆	1	<u>260632</u>	Air nozzle, complete
2	◆	1	<u>260463</u>	Central air guidance
3	◆	1	<u>260469</u>	Deflector cone rod
4	◆	1	<u>260470</u>	Rod
5	◆	5	<u>260471</u>	Charging pipe
6	◆	1	<u>260472</u>	Tip
7	◆	1	<u>260474</u>	Ring
8	◆	1	<u>260476</u>	Support ring
9	◆	1	<u>260657</u>	Charging pipe
10		1	--	Threaded rod

◆ = wear part

* = only available as a set

14 DECLARATION OF CONFORMITY

14.1 EU DECLARATION OF CONFORMITY FOR PEM-T3 TRIBO GUN

Herewith we declare that the supplied version of:

PEM-T3

complies with the following guidelines:

2014/34/EU
2006/42/EC
2014/30/EU
2011/65/EU

Applied standards, in particular:

EN ISO 12100:2010	EN 61000-6-2:2019
EN 50050-2:2013	EN 61000-6-4:2019
EN 14462:2015	EN IEC 63000:2018
EN 60079-0:2018	

Identification:



EC Type Examination Certificate:

PTB 04 ATEX 5008

Declaration of Conformity:

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

Order number: 351967





Order number 351709
Edition 11/2025

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Version C



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Subject to changes without notice