Operating instructions and Spare parts list

Manual gun
OptiSelect Pro GM04-E

Translation of the original operating instructions

Gema

Documentation OptiSelect Pro GM04-E

For the latest information about Gema products, visit **www.gemapowdercoating.com**.

For information regarding patents, see **www.gemapowdercoating.com/patents** or **www.gemapowdercoating.us/patents**.

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Table of contents

About these instructions

General information

This operating manual contains all the important information that is needed to operate the OptiSelect Pro GM04-E. It will safely guide you through the start-up process and give you references and tips for the optimal use when working with your powder coating system.

Information about the functional mode of the individual system components should be referenced in the respective enclosed documents.

Keeping the Manual

Please keep this Manual ready for later use or if there should be any queries.

Safety symbols (pictograms)

The following warnings with their meanings can be found in the Gema instructions. The general safety precautions must also be followed as well as the regulations in the relevant instructions.

⚠ DANGER

Indicates a hazardous situation, which, if not avoided, will result in death or serious injury.

⚠ WARNING

Indicates a hazardous situation, which, if not avoided, could result in death or serious injury.

⚠ CAUTION

Indicates a hazardous situation, which, if not avoided, could result in minor or moderate injury.

ATTENTION

Indicates a potentially harmful situation. If not avoided, the equipment or something in its surrounding may be damaged.

ENVIRONMENT

Indicates a potentially harmful situation, which, if not avoided, may have harmful consequences for the environment.

MANDATORY NOTE

Information that must be observed.

NOTICE

Useful information, tips, etc.

Structure of Safety Notes

Every note consists of 4 elements:

– Signal word
– Nature and source of the danger
– Possible consequences of the danger
– Prevention of the danger

⚠ SIGNAL WORD

Nature and source of the hazard!

Possible consequences of the danger

► Prevention of the danger

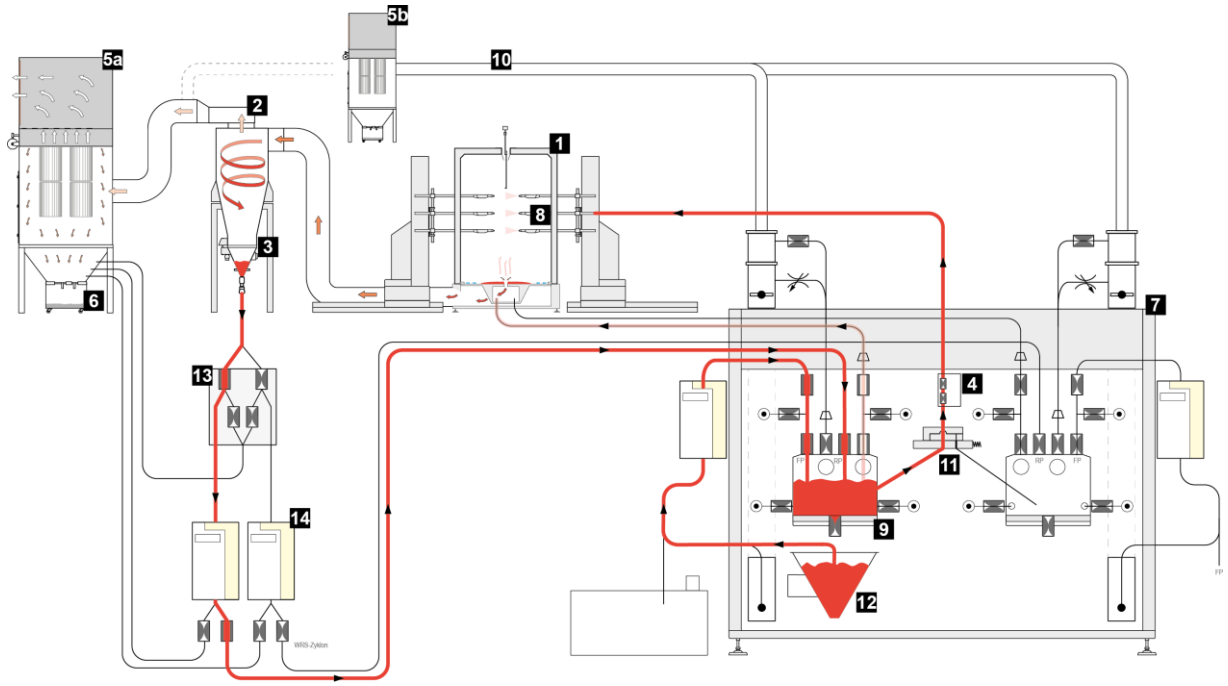
Presentation of the contents

Figure references in the text

Figure references are used as cross references in the descriptive text.

Example:

*"During the typical OptiCenter (**7**) operation, the powder bag is put in the powder bag cone. The powder is fluidized in the bag with the fluidizing/suction lance and then fed to the OptiSpeeder (**9**). The fluidized powder is sucked in by the conveyors and fed through the powder hoses to the guns/spray nozzles (**8**). The powder, which does not adhere to the workpieces, will be absorbed by the exhaust air of the booth (**1**) and separated from the air in the cyclone separator (**2**)."*


5a
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12

Safety

General

This chapter sets out the fundamental safety regulations, that must be followed by the user and third parties using this product.

These safety regulations must be read and understood before the product is put into operation.

The standards and guidelines applied during the development, manufacture and configuration are described in the EC declaration of conformity and in the manufacturer's declaration.

⚠ WARNING

Working without instructions

Working without instructions or with individual pages from the instructions may result in damage to property and personal injury if relevant safety information is not observed.

- ► Before working with the device, organize the required documents and read the section "Safety regulations".
- ► Work should only be carried out in accordance with the instructions of the relevant documents.
- ► Always work with the complete original document.

Basic safety instructions

– This product is built to the latest specification and conforms to the recognized technical safety regulations and is designed for the normal application of powder coating.

– Any other use is not considered as intended use. The manufacturer shall not be liable for damage resulting from such use; the user bears sole responsibility for such actions. If this product is to be used for other purposes or other substances outside of our guidelines then Gema Switzerland GmbH should be consulted.

– Start-up (i.e. the execution of intended operational tasks) is forbidden until it has been established that this product has been set up and wired according to the guidelines for machinery. The standard "EN ISO 12100 Machine safety" must also be observed. Machine safety

– Unauthorized modifications to the product exempt the manufacturer from any liability from resulting damage.

– The relevant accident prevention regulations, as well as other generally recognized safety regulations, occupational health and structural regulations are to be observed.
– Furthermore, the country-specific safety regulations also must be observed.

Product specific security regulations

– This product is a constituent part of the equipment and is therefore integrated in the system's safety concept.
– If it is to be used in a manner outside the scope of the safety concept, then corresponding measures must be taken.
– The installation work to be done by the customer must be carried out according to local regulations.
– It must be ensured, that all components are earthed according to the local regulations before start-up.

▶ **For further security information, see the more detailed Gema safety regulations!**

Product description

Intended use

This gun is used for electrostatic coating of objects connectable to ground with inorganic, non-flammable enamel powders in conjunction with the control units and accessories, as specified in the corresponding Type Examination Certificate.

fig. 1

Observance of the operating, service and maintenance instructions specified by the manufacturer is also part of the intended use. This product should only be used, maintained and started up by trained personnel, who are informed about and are familiar with the possible hazards involved.

Any other use is not considered as intended use. The manufacturer is not responsible for any incorrect use and the risks associated with such actions are assumed by the user alone!

Reasonably foreseeable misuse

– Coating of non grounded objects
– Use of metallic or organic powder
– Incorrectly configured values for powder conveyance
– Incorrectly configured values for electrode rinsing air
– Use of moist powder

Technical Data

Electrical data

OptiSelect Pro GM04-E	
Nominal input voltage	eff. 10 V
Frequency	18 kHz (average)
Nominal output voltage	110 kV
Polarity	negative (optional positive)
Max. output current	110 µA
High voltage display	with LED
Ignition protection	Ex 2 mJ T6
Temperature range	5 °C - +40 °C (+41 °F - +104 °F)
Max. surface temperature	85 °C (+185 °F)
Protection type	IP64
Approvals (incl. accessories) Basic model for organic powder OptiSelect Pro GM04 Enamel version OptiSelect Pro GM04-E	CE 2813 Ex II 2 D PTB 11 ATEX 5006-1 CE

Dimensions

OptiSelect Pro GM04-E	
Weight	700 g

Processible powders

OptiSelect Pro GM04-E	
Enamel powder	yes
Plastic powder	no
Metallic powder	no

Structure

Overall view

fig. 2:

1 Spray nozzle system
2 Threaded sleeve
3 Shaft
4 Rear part with hook
5 Remote control
6 SuperCorona connection
7 Gun handle
8 Gun cable
9 Powder hose connection
10 Powder hose quick release connection (grounded)
11 Electrode rinsing air connection
12 Trigger

Operating elements

LED and remote control buttons

fig. 3

Designation	Function
L1	Display **High voltage (intensity)**
T1	Key **Increase value**
T2	Key **Decrease value**
T3	Key **P** – Function according to system parameter in the OptiStar control unit

Scope of delivery

- manual gun with gun cable (6 m), negative polarity
- Rinsing air hose (6 m)
- Flat jet nozzle NF28-E, complete (incl. electrode holder)
- Cable tie with Velcro closure
- Gun cleaning brush
- Spare parts kit
- Operating manual

Available accessories**

- SuperCorona ring
- Flat jet nozzles
- Round jet nozzles
- Gun extension 150 and 300 mm
- Gun cable extensions
- Various adapters for connection to earlier generations of control units
- Gloves, anti-static

**for more information, see spare parts list

SuperCorona ring

Field of application

The SuperCorona is an optional extension for the gun, allowing for a better surface quality when coating with the powder coating equipment.

When coating wheel rims, drawers, radiators, lamps etc. the surface quality is exceptional, also in places with higher coating layer requirements. By coating with several powder types, an "orange peel" finish can be completely avoided. By coating with structure powder, the "picture frame effect" is hardly visible.

The performance of the gun with SuperCorona is convincing due to its very good charging and very high deposition rate as well as an improved penetration into Faraday cages. The distance between nozzle and workpiece can be reduced to 100 mm without influencing the surface finish.

Due to its modular structure, the gun can be fast and easily extended with the light SuperCorona (approx. 60 g). The gun remains repair-friendly and easy to maintain even after reconfiguration.

SuperCorona assembly

Before fitting the SuperCorona ring, make sure that the connection and the plug-in connector are free from grease and powder; otherwise the electric contact cannot be guaranteed.

Principle of operation

High voltage generation

The control unit supplies a high-frequency low voltage signal of approx. 10 V eff. This voltage is fed through the gun cable (**1**) to the high voltage cascade (**2**) in the gun shaft.

In the high voltage cascade (**2**), the low voltage is high-transformed in a first step (**c**). This primary high voltage is subsequently rectified and multiplied in the high voltage cascade in a second step (**d**), until the required high voltage is obtained at the end (approx. 110 kV). The high voltage is now fed to the electrode (**e**) within the spray nozzle.

Circuit

In addition to the modulated low voltage needed for high voltage generation, there are signal lines fed trough the gun cable. The control signals are used for monitoring gun trigger status and gun remote control functions.

The gun is released by a touch-free switch (**3**), which is operated by a magnet (**4**) in the trigger (**5**). The gun control unit switches on the modulated low voltage, the powder transport and the rinsing air.

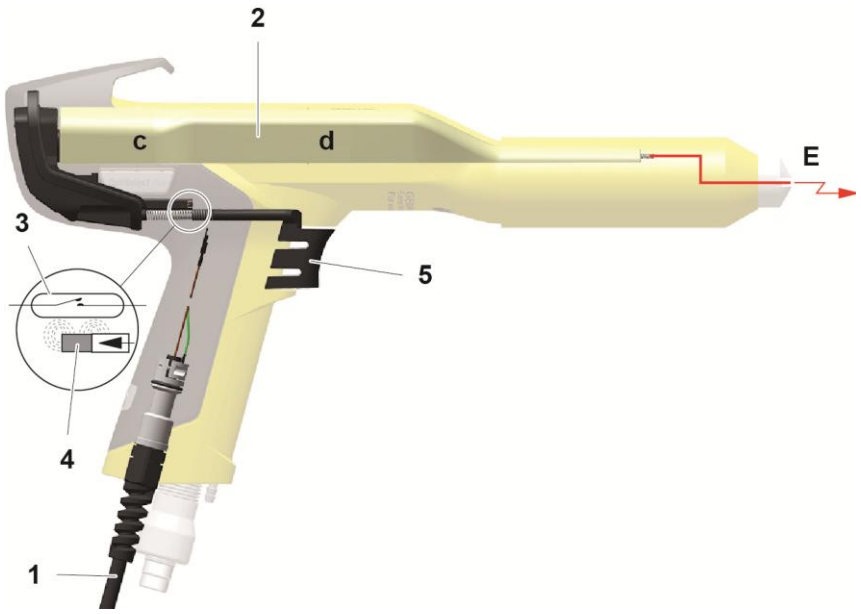


fig. 4

Powder flow and electrode rinsing air

The electrode rinsing air is used by vented spray nozzles and is connected with its designated connection on the rear side of the gun control unit (see the operating manual of the gun control unit). The functions of the spray nozzles are described in the corresponding section of this manual.

Flat jet nozzle with vented central electrode

The vented flat jet nozzle serves for the spraying and the charging of the powder. The powder is charged by the central electrode (**E**). The high voltage (**H**) created in the gun cascade is guided through the center electrode.

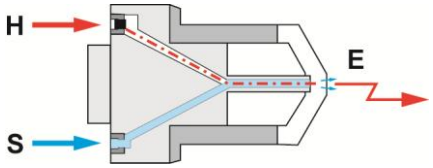


fig. 5

In order to prevent powder from sintering on the electrode, compressed air is used during the spray process.

The electrode rinsing air (**S**) adjustment on the gun control unit is described in the corresponding operating manual.

Round jet nozzle with vented deflector and vented electrodes

The vented deflector is used, to give the powder stream emerging from the gun, a cloud formation. The powder is charged by radial arranged electrodes (**E**). The high voltage (**H**) created in the gun cascade is guided through the electrodes.

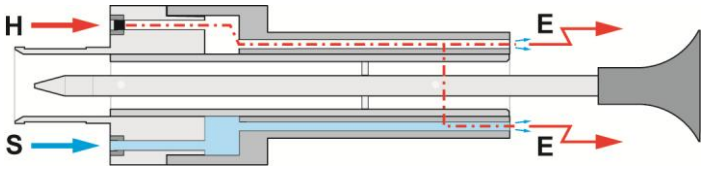


Fig. 6

Since powder can accumulate on the baffle plate, it must be rinsed with compressed air.

The electrode rinsing air (**S**) can be adjusted on the gun control unit, depending on the gun type (see corresponding operating manual).

Typical properties – characteristics of the functions

Remote control

Three possibilities are available:

1 Change the powder output + Activate/stop rinsing process (factory setting)

2 Program change + Activate/stop rinsing process

3 Change the powder output + Activate/stop the PowerBoost function

▶ **The respective option is set in the OptiStar control unit in accordance with system parameter P12.**

– See therefore the corresponding operating manual.

– Adapt powder output (The powder output is correspondingly increased or reduced)
– Program change (It is switching between programs P01-P20)

– Activating/Deactivating the rinse mode: the entire powder line from the suction area to the gun is rinsed
– direct temporary activation of the PowerBoost function. Press again to return to the previous setting. (See therefore the corresponding OptiStar CG21/CG23-P operating manual)

Powder hose quick release connection

– Quick and simple connection and disconnection from powder hose and application cup
– Protective function through to grounded clip ring

Connection for SuperCorona Ring

– – Quick and simple connection to and disconnection from the SuperCorona ring

Assembly / Connection

Connecting the gun

The gun is delivered ready-to-use by the manufacturer. Just a few cables and hoses must be connected.

The compressed air must be free of oil and water!

The gun is connected as follows:

1. Connect electrode rinsing air hose and powder hose to gun
2. Lay out gun cable, electrode rinsing air hose and powder hose and bind using Velcro strips (included)
3. Connect the gun cable plug to the socket **2.3** on the rear side of the control unit
4. Connect electrode rinsing air hose to coupling **1.4**
5. Connect powder hose to injector

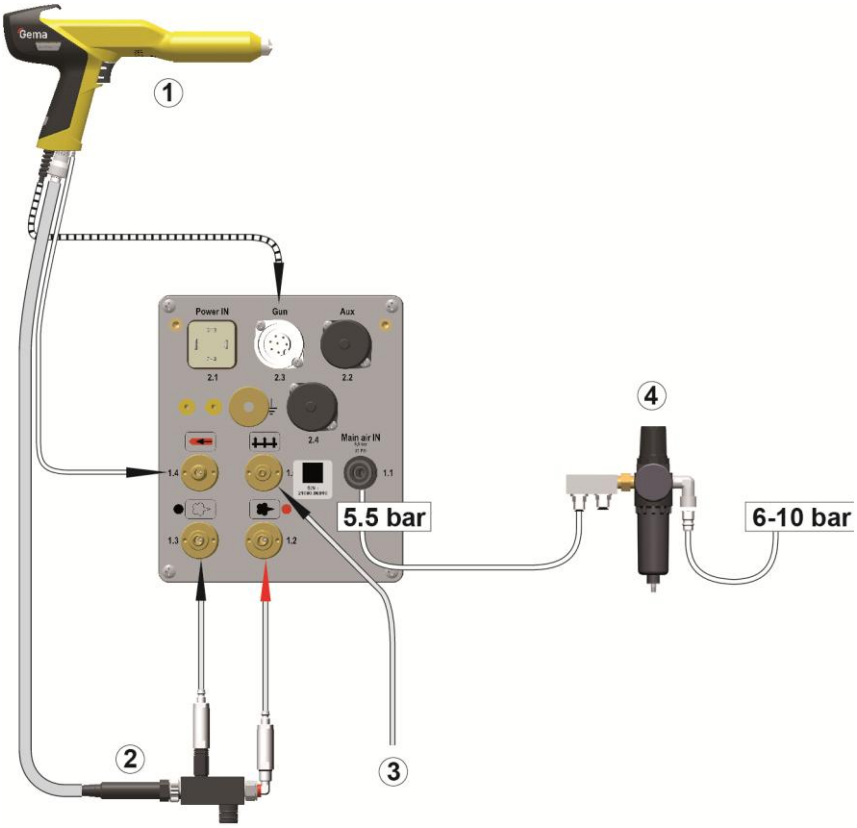


fig. 7

1	Gun	3	Fluidizing air hose
2	Injector	4	Maintenance unit

Start-up

Preparation for start-up

Prerequisites

When starting up the gun control unit, the following preconditions which impacting the coating results must be met into consideration:

– Gun correctly connected

– Gun control unit correctly connected

– Corresponding power and compressed air supply available

– Powder preparation and powder quality OK

Initial start-up

If a malfunction occurs, see the troubleshooting guide, as well as the gun control unit operating manual!

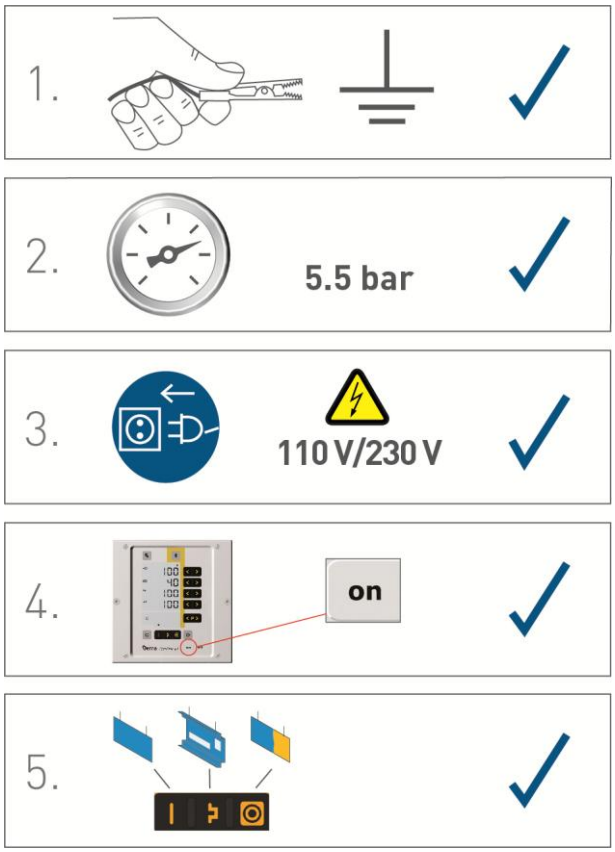


fig. 8

The remainder of the start-up procedure for the gun is explicitly described in the operating instructions for the OptiStar CGxx manual powder gun control unit (chapter "Initial start-up" and "Daily start-up")!

Operation

⚠ WARNING

Holding the gun incorrectly

During the coating process, the gun can discharge along the body of the coater if not held using its intended handle, which has been grounded.

- ► Always hold gun only by the handle!
- ► Do not touch any other parts of the gun!

Operation

Setting powder output and powder cloud

The powder output depends on the selected powder output (in %), and the powder cloud on the selected total air volume.

►

As a factory default value, a powder rate of 60% and a total air volume of 4 Nm³/h are recommended.

– If values are entered that the gun control unit cannot implement, then the operator is informed of this by a blinking in the relevant display and a temporary error message!

Setting the total air volume

1. 

   Adjust the total air volume on the gun control unit with the **T3/T4** keys

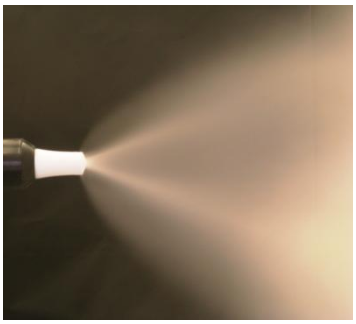
   – Adjust the total air volume according to the corresponding coating requests

correct powder cloud

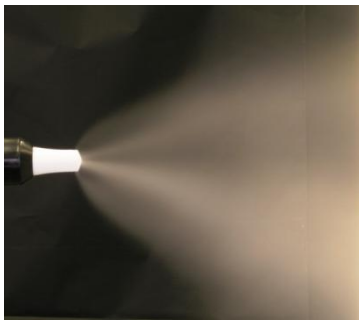
too little total air

Setting the powder output

1.  OR 



much powder



little powder

Adjust the powder output volume (e.g. according to the desired coating thickness)

– Factory default setting of 50% is recommended for initial operation. The total air volume is thereby kept constant automatically by the control unit.

▶ **To achieve maximum efficiency, we recommend avoided an overly high powder volume where possible!**

2. Check fluidization of the powder in the powder container
3. Point the gun into the booth, switch the gun on and visually check the powder output

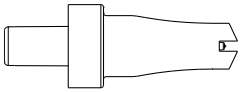
Setting the electrode rinsing air

1. Press the key.

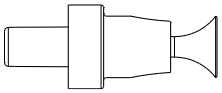
   The second display level will be shown.

2. 

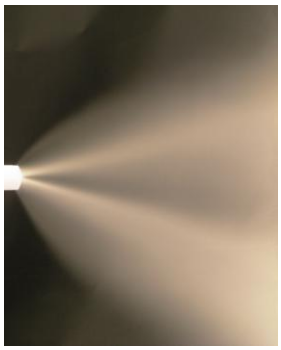
   Adjust the correct electrode rinsing air according to the applied nozzles (deflector plate, flat jet nozzle)



≈ 0.1 Nm³/h



≈ 0.5 Nm³/h



too much electrode rinsing air

3. If in this display level is no operation for 3 seconds, the dispay will automatically switch back to main default display level.

Rinsing mode

The rinsing mode enables blowing off powder accumulations in the powder hose.

Activating the rinsing function

Manual equipment (System parameter P01=0)

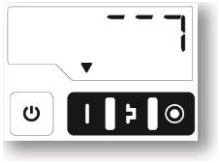
The rinsing mode can only be activated from standby mode (main menu display, no powder conveying).

On manual coating equipment type F, the suction hose must be disconnected prior to cleaning procedure, on type B, the suction unit must be lifted.

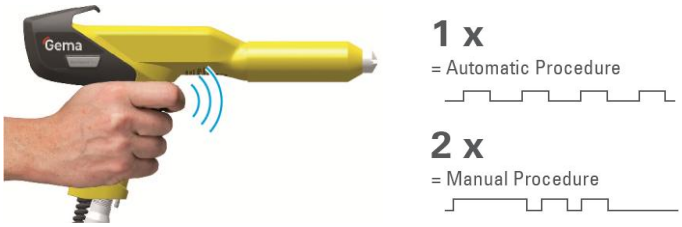
1. Detach the injector

2. 

OR 



3. **START =**



Procedure	Effect
Automatic (automatic)	– The rinsing process is started – Injector, powder hose, gun and spray nozzle are purged using compressed air – The PowerClean function enables parallel cleaning of other components, such as the fluid intake unit, powder container, etc. – The rinsing mode is exited if the automatic rinsing sequence has finished.
Manual (manual)	The operator controls the number and length of the PowerClean impulse by pressing the gun trigger a second time

4. **STOP =**

OR the cleaning mode is terminated automatically.

After completion of the PowerClean procedure, the controller switches back to coating mode.

Decommissioning / Storage

Shutdown

1. End the coating procedure
2. Switch off the control unit

The adjustments for high voltage, powder output volume and electrode rinsing air remain stored.

When the product will not be used for several days

1. Switch off the power to the control unit at the main switch
2. Clean the gun and the components for powder conveying (see therefore the corresponding user manuals)
3. Turn off the compressed air main supply

Storage conditions

Hazard notes

There is no danger to personnel or the environment if the unit is stored properly.

Type of storage

The product must be stored horizontally for safety reasons.

Storage duration

If the physical conditions are maintained, the unit can be stored indefinitely.

Space requirements

The space requirements correspond to the size of the product.

There are no special requirements concerning distance to neighboring equipment.

Physical requirements

Storage must be inside a dry building at a temperature between +5 and +50 °C. Do not expose to direct sunlight!

Maintenance during storage

Maintenance schedule

No maintenance schedule is necessary.

Maintenance works

During long-term storage, periodically perform a visual check.

Maintenance / Repairs

Interval

Gun maintenance

The gun is designed to require only a minimum amount of maintenance.

1. Clean the gun with dry cloth, see chapter "Maintenance"
2. Check connection points to powder house.
3. Replace the powder hoses, if necessary.

Cleaning

ATTENTION

Any unauthorized modifications and alterations to the product are not permitted for safety reasons and exclude the manufacturer's liability for any resulting damage!

▶ **Regular and conscientious cleaning and maintenance increase the service life of the product and ensure consistent high coating quality!**

– The parts to be replaced during maintenance work are available as spare parts. These parts can be found in the appropriate spare parts list!

Gun cleaning

ATTENTION

Impermissible solvents

The following solvents may not be used to clean the gun:

- ► Ethylene chloride, acetone, ethyl acetate, methyl ethyl ketone, methylene chloride, premium gasoline, turpentine, tetrachloromethane, toluene, trichloroethylene, xylene!

► **Only cleaning agents with a flash point of a least 5 Kelvin above the ambient temperature, or cleaning places with technical ventilation are allowed!**

! **Before cleaning the powder gun, switch off the control unit. The compressed air used for cleaning must be free of oil and water!**

Daily:

1. Blow off the outside of the gun and wipe, clean etc.

Weekly:

2. Remove powder hose
3. Remove the spray nozzle from the gun and clean it with compressed air
4. Blow through the gun with compressed air, beginning from the connection in flow direction
5. Clean the integrated gun tube with the brush supplied if necessary
6. Blow through the gun with compressed air again
7. Clean the powder hose
8. Reassemble the gun and connect it

Cleaning the spray nozzle

Daily or after every shift

1. Clean the inside and outside of the spray nozzle with compressed air.

   Never immerse the parts in solvents!
2. Check the seating of the spray nozzles.

ATTENTION

Threaded sleeve not tightened well

Loose mounting of the spray nozzle poses a risk of high voltage discharge from the gun, potentially damaging it!

- ► Always tighten the threaded sleeve well!

Weekly:

1. Remove the spray nozzle and clean on the inside with compressed air. If sintering has formed, then removal of this sintered powder is required!

Monthly

1. Check spray nozzle for wear

   The flat jet nozzle is to be replaced, if:

   – the spray pattern is no longer a regular oval

   – deeper grooves are in the nozzle slot, or even the wall thickness is no longer recognizable

   – the wedge of the electrode holder is worn

   Nozzles with deflectors:

   – if the wedge of the electrode holder is worn down, then the electrode holder is to be replaced

Replacing parts

Except for the replacement of possible defective parts, there are very few repairs to be made.

▶ **The cascade can be replaced trouble-free.**

The repair of the gun cable connection, however, may only be made by an authorized Gema Service center.

– Contact your Gema representative for details!

Dismantling the gun

General information

▶ **The gun should only be dismantled, if this is required because of a defect or pollution.**

– Dismantle the gun only so far, as the desired part is accessible!

⚠ WARNING

Touching the gun parts

During work on the gun, the gun can if touched.

▶ Before dismantling the gun, switch off the control unit and disconnect the gun plug!

Dismantling procedure

1. 

2. 

3. 

Assembling the powder gun

The assembling is to be carried out in the reverse order to that shown above.

1. 

Troubleshooting

Additional error descriptions are to be found also in the control unit operating instructions!

Incident	Causes	Corrective action
H11 (Help code on control unit)	Gun not connected	Connect the gun
	Gun plug or gun cable defective	Contact local Gema representative
	Remote control on powder gun defective	Contact local Gema representative
Powder does not adhere to object, although the gun is triggered and sprays powder	High voltage and current deactivated	Check the high voltage and current setting
	High voltage cascade defective	Contact local Gema representative
	The objects are not properly grounded	Check the grounding
The gun does not spray powder, although the control unit is switched on and the gun trigger is pressed	Compressed air not present	Connect the equipment to the compressed air
	Injector or nozzle on the injector, powder hose or powder gun clogged	Clean the corresponding part
	Insert sleeve in the injector is clogged	Clean/replace
	Pressure valve in the control unit defective	Replace
	Solenoid valve in the control unit defective	Replace
	No conveying air: – Throttle motor defective – Solenoid valve defective	Contact local Gema representative
	Front plate defective	Contact local Gema representative

Incident	Causes	Corrective action
Gun achieving only poor spray profile	Total air incorrectly configured	Increase the powder quantity and/or total air volume on the control unit
	Bend or damage to air lines to injector	Check air lines to injector
	Insert sleeve in the injector worn or not inserted	Replace or insert it
	Fluidization not running	see above

Disposal

Introduction

Requirements on personnel carrying out the work

The disposal of the product is to be carried out by the owner or operator.

When disposing of components that are not manufactured by Gema, the instructions in the respective manufacturer's documentation must be observed.

Disposal regulations

The product must be disassembled and disposed of properly at the end of its service life.

- ► When disposing of the product, the applicable local and regional laws, directives and environmental regulations must be complied with!

Materials

The materials must be sorted according to material groups and taken to the appropriate collection points.

Spare parts list

Ordering spare parts

When ordering spare parts for your product, please indicate the following specifications:

– Type and serial number of your product

– Order number, quantity and description of each spare part

Example:

– **Type** Manual gun OptiSelect Pro GM04-E

Serial number 1234 5678

– **Order no.** 203 386, 1 piece, Clamp – Ø 18/15 mm

When ordering cable or hose material, the required length must also be given. The spare part numbers of this bulk stock is always marked with an *.

The wearing parts are always marked with a **#**. marked.

All dimensions of plastic hoses are specified with the external and internal diameter:

Example:

Ø 8/6 mm, 8 mm outside diameter (o/d) / 6 mm inside diameter (i/d)

⚠ WARNING

Use of non-original Gema spare parts

Use of Non-Gema replacement spare parts may invalidate some or all approval certificates and accreditations; and the user assumes all explosion risks associated with use of these parts. Use of these replacement spare parts may void any and all warranty claims.

► Use only original Gema spare parts!

OptiSelect Pro GM04-E – spare parts list

Only parts were included in the spare parts list, which the user can replace himself without problems!

► If the powder gun cable is defective, it is to be completely sent in for repair!

A	OptiSelect Pro GM04-E manual powder gun – complete incl. flat jet nozzle, brush and parts kit, without powder hose, with:	
	gun cable 6 m, rinsing air hose 6 m, negative polarity (–)	1019 531
	gun cable 12 m, rinsing air hose 12 m, negative polarity (–)	1019 532
B	Manual powder gun body OptiSelect Pro GM04-E (incl. cascade) with:	
	Gun cable 6 m, negative polarity (–)	1019 526
	Gun cable 12 m, negative polarity (–)	1019 527
1	Gun body – complete	1019 521
2	Cascade – complete, negative polarity, incl. pos. 3	1016 911
3	Buffer	1017 704
4	Print holder – complete	1017 690
5	Rear part	1017 683
6	Trigger – complete	1017 686
7	Trigger cover	1017 688
8	Countersunk-head screw – M4x6 mm	1017 698
9	SuperCorona connection	1017 684
10	Gun cable 6 m – complete	1016 952
	Gun cable 12 m – complete	1016 953
11	Rinsing air connection	1017 656
11.1	Rinsing air hose	100 854*
12	Powder tube holder – complete	1012 539#
13	Compression spring	1001 488
14	Clip ring	1007 960
15	Hose connection – complete (incl. pos. 15.1)	1019 519#
15.1	O-ring for pos. 15	1000 822#
16	Threaded sleeve (see corresponding spare parts list)	
17	Nozzle (see corresponding spare parts list)	
18	Cable protection	1017 685
19	Screw – M3x20 mm	1017 674
20	Contact strip	1018 707
21	Fitting bush	1018 708
22	Cascade buffer	1023 235
	Cleaning brush – Ø 12 mm (not shown)	389 765

Parts set (not shown), consisting of:	1012 544
Cable clamp	303 070
O-ring	1000 822#
Powder hose – Ø 16/11 mm (not shown)	103 128*#

***** Please indicate length **#** Wearing part

fig. 9: OptiSelect Pro GM04-E – spare parts

Nozzle combinations

1	Flat jet nozzle NF28-E – complete	1009 430#
2	Fixation piece NF28-E – complete	1009 429#
3	Flat jet nozzle set (without pos. 5.1)	404 225#
4	Contact ring	318 760#
5	Electrode holder – complete (ETFE)	404 209#
5.1	Electrode holder – complete (PTFE)	406 058#
6	Flat jet nozzle	404 128#
7	Threaded sleeve PU04-E-NF – complete	405 728
10	Round jet nozzle NS11-E – complete	1009 440#
11	Deflector rod NS11-E – complete	1002 249#
12	Muzzle NS11-E – complete	1009 439#
13	Threaded sleeve PU04-E-NS – complete	405 736
14	Deflector – Ø 15 mm	400 262#
14.1	Deflector – Ø 24 mm	400 181#
14.2	Deflector – Ø 28 mm	400 254#
14.3	Deflector – Ø 32 mm	400 238#
14.4	Deflector – Ø 50 mm	400 246#
20	Extension PE08-E-150 – complete, 150 mm	1010 501#
20.1	Extension PE08-E-300 – complete, 300 mm	1010 502#

Wearing part

ATTENTION

Connecting more than two extensions together

It is not permitted to connect more than two extensions together, in order to prevent the gun from being damaged by arising leverage force.

► The extensions (150 mm/300 mm) may be connected TO ONLY ONE ADDITONAL extension (150 mm/300 mm), if necessary.

Nozzle combinations

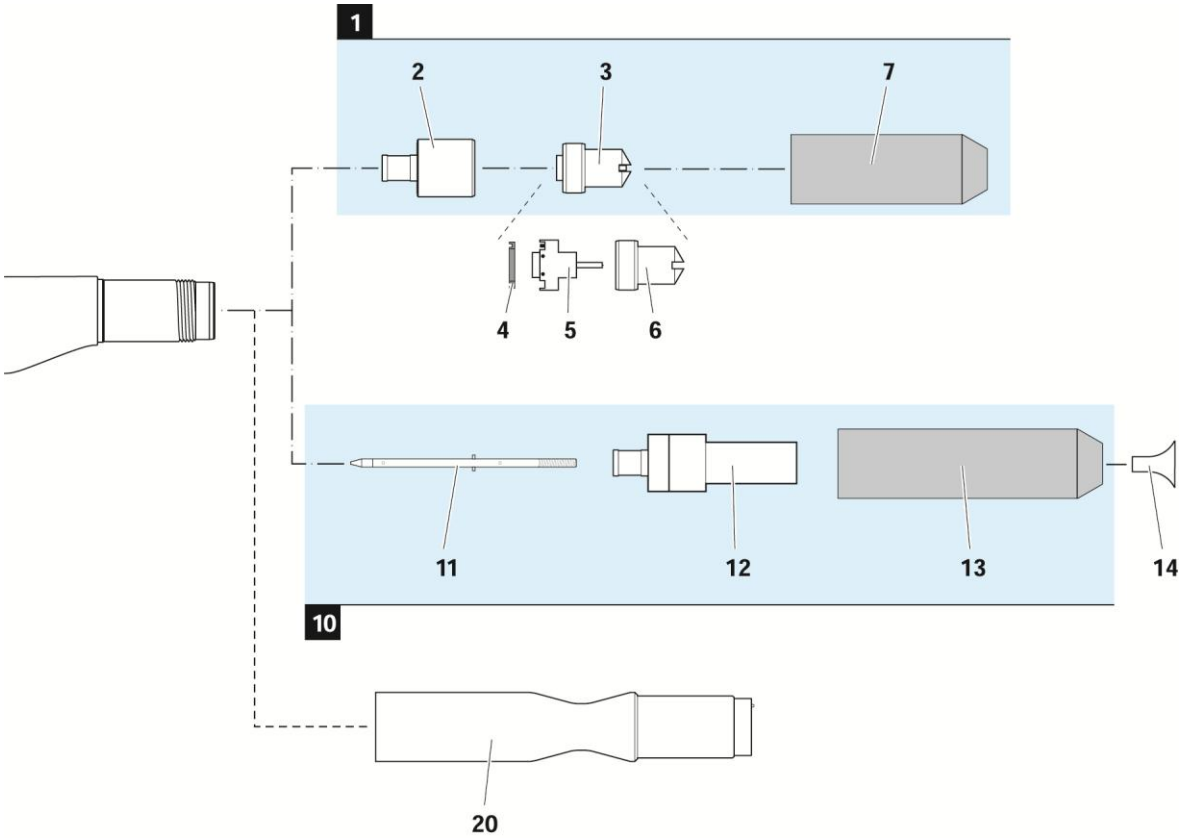
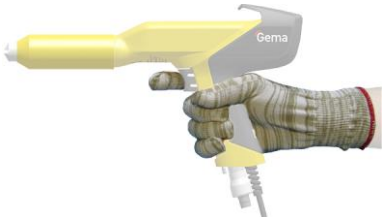


fig. 10: Nozzle combinations

Other accessories

Gloves, anti-static (1 pair)	 **800 254**

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