Operating instructions and Spare parts list

Robot gun
RobotGun GM03-R

Translation of the original operating instructions
# Table of contents

## About these instructions
- General information ................................................................. 5
- Keeping the Manual .................................................................. 5
- Safety symbols (pictograms) ........................................................... 5
- Structure of Safety Notes .............................................................. 6
- Presentation of the contents ........................................................ 6
- Figure references in the text ......................................................... 6

## Safety
- Basic safety instructions ............................................................ 7
- Product specific security regulations .............................................. 7

## Product description
- Intended use ................................................................................ 9
  - A summary of the directives and standards .................................. 10
  - Reasonably foreseeable misuse .................................................. 11
- Technical Data ........................................................................... 11
  - Versions .................................................................................. 11
  - Fitting the gun ........................................................................ 12
  - Electrical data .......................................................................... 12
  - Dimensions ............................................................................. 12
  - Processable powders ................................................................. 13
- Structure ..................................................................................... 14
  - Overall view .......................................................................... 14
- Scope of delivery ......................................................................... 14
- Available accessories** ............................................................... 15
  - SuperCorona ring ................................................................ 16
- Principle of function .................................................................. 17
  - High voltage generation ........................................................... 17
  - Powder flow and electrode rinsing air ........................................ 17
  - Flat jet nozzle with vented central electrode ............................. 18
  - Round jet nozzle with vented deflector and vented central electrode .... 18
- Typical characteristics – properties of the functions ...................... 19
  - Quick assembly/disassembly .................................................... 19

## Assembly / Connection
- Connecting the Gun .................................................................. 21

## Start-up
- Preparation for start-up ............................................................. 23
- Basic conditions ........................................................................ 23
- Initial start-up ........................................................................... 24

## Operation
- Operation .................................................................................... 25
Setting powder output and powder cloud ................................................ 25
Setting the electrode rinsing air ............................................................. 26

Decommissioning / Storage ................................................................. 27
Decommissioning .................................................................................. 27
If in disuse for several days ................................................................. 27
Storage conditions ............................................................................... 27
Hazard notes ....................................................................................... 27
Type of storage ................................................................................... 27
Storage duration .................................................................................. 27
Space requirements ............................................................................. 28
Physical requirements ......................................................................... 28
Maintenance during storage ............................................................... 28
Maintenance schedule ........................................................................ 28
Maintenance works ............................................................................ 28

Maintenance / Repairs ........................................................................ 29
Interval .............................................................................................. 29
Gun maintenance .............................................................................. 29
Cleaning ............................................................................................. 29
Gun cleaning ..................................................................................... 29
Cleaning the spray nozzle ................................................................. 30
Replacing parts .................................................................................. 31

Fault clearance ...................................................................................... 33

Disposal ............................................................................................... 35
Introduction ....................................................................................... 35
Requirements on personnel carrying out the work ......................... 35
Disposal regulations ......................................................................... 35
Materials ......................................................................................... 35

Spare parts list ...................................................................................... 37
Ordering spare parts ........................................................................ 37
RobotGun GM03-R– Spare parts list .................................................. 38
RobotGun GM03-R – Spare Parts ....................................................... 39
Gun Body - Spare Parts List ............................................................... 40
Gun Body - Spare Parts ................................................................. 41
SuperCorona .................................................................................... 42
Accessories ..................................................................................... 43
Flat jet nozzle – Overview (wearing parts) ......................................... 43
Round jet nozzle – Overview (wearing parts) .................................... 44
Gun extensions ................................................................................ 44
Spray nozzles for extensions – overview (wearing parts) ............... 45
Diffusor– Spare parts list ................................................................. 46
About these instructions

General information

This operating manual contains all important information which you require for the working with the RobotGun GM03-R. 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 which 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:
"The high voltage (H) created in the gun cascade is guided through the center electrode."
Safety

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 considered non-compliant. 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 "Machine safety" must also be observed.

- 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.

NOTICE
For further security information, see the more detailed Gema safety regulations!
**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.
Product description

Intended use

This gun is used for electrostatic coating of objects connectable to ground with organic powders in conjunction with the control units and accessories, as specified in the corresponding type examination certificate.

The gun will also operate in combination with the AP01 application pump or other Gema models with a suitable diffuser (spraying air adapter). Please contact Gema if you have any further queries.

Observance of the operating, service and maintenance instructions specified by the manufacturer is also part of conformity of 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 considered non-compliant. The manufacturer is not responsible for any incorrect use and the risks associated with such actions are assumed by the user alone!
A summary of the directives and standards

This product was built according to the current state of the art. The product is subject to the European directives and complies with the following standards.

The product is suitable for the intended purpose and can be used in the appropriate areas.

For further information, also refer to the enclosed Declaration of Conformity.

**European directives RL**

<table>
<thead>
<tr>
<th>Directive</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>EG-RL 2006/42/EU</td>
<td>Machinery</td>
</tr>
<tr>
<td>EG-RL 2014/34/EU</td>
<td>Equipment and Protective Systems in Potentially Explosive Atmospheres (ATEX)</td>
</tr>
<tr>
<td>EG-RL 2014/30/EU</td>
<td>Electromagnetic compatibility</td>
</tr>
</tbody>
</table>

**EN European standards**

<table>
<thead>
<tr>
<th>Standard</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>EN 50177</td>
<td>Stationary electrostatic application equipment for ignitable liquid coating material - Safety requirements</td>
</tr>
</tbody>
</table>
| EN 50050-2 | Electrostatic equipment for areas where there is danger of explosion - electrostatic hand held equipment  
Part 2: Electrostatic hand-held spraying equipment |
| EN 12981 | Coating plants – spray booths for application of organic powder coating material - Safety requirements |

**Recognized safety-related regulations**

<table>
<thead>
<tr>
<th>Regulation</th>
<th>Description</th>
</tr>
</thead>
</table>
| 764 / DGUV Information 209-052 | Electrostatic coating  
Trade Union information concerning health and safety during work (BGI) |
Reasonably foreseeable misuse

- Use with insufficient compressed air quality
- Input pressure too low

Technical Data

Versions
Depending on the operational area, the robot gun is available in four versions with different connecting flanges:
Fitting the gun

An adaptor piece (A) is required for fitting the gun (Quick) on the robot.

The adaptor piece depends on the robot specifications and is manufactured by Gema after consultation with the customer.

Electrical data

<table>
<thead>
<tr>
<th>RobotGun GM03-R</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Nominal input voltage</td>
<td>eff. 10 V</td>
</tr>
<tr>
<td>Frequency</td>
<td>18 kHz (average)</td>
</tr>
<tr>
<td>Nominal output voltage</td>
<td>100 kV</td>
</tr>
<tr>
<td>Polarity</td>
<td>Negative (optional positive)</td>
</tr>
<tr>
<td>Max. output current</td>
<td>100 µA</td>
</tr>
<tr>
<td>Ignition protection</td>
<td>Ex 2 mJ T6</td>
</tr>
<tr>
<td>Temperature range</td>
<td>0 °C - +40 °C (+32 °F - +104 °F)</td>
</tr>
<tr>
<td>Max. surface temperature</td>
<td>85 °C (+185 °F)</td>
</tr>
<tr>
<td>Protection type</td>
<td>IP64</td>
</tr>
<tr>
<td>Approvals</td>
<td>☏ 0102 ☐ Ex II 2D</td>
</tr>
<tr>
<td></td>
<td>PTB 11 ATEX 5006</td>
</tr>
</tbody>
</table>

Dimensions

<table>
<thead>
<tr>
<th>RobotGun GM03-R</th>
<th>Single</th>
<th>Single Quick</th>
<th>Dual</th>
<th>Dual Quick</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weight</td>
<td>640 g</td>
<td>760 g</td>
<td>1180 g</td>
<td>1380 g</td>
</tr>
</tbody>
</table>
### Processable powders

<table>
<thead>
<tr>
<th>RobotGun GM03-R</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Plastic powder</td>
<td>yes</td>
</tr>
<tr>
<td>Metallic powder</td>
<td>yes</td>
</tr>
<tr>
<td>Enamel powder</td>
<td>no</td>
</tr>
</tbody>
</table>
Product description RobotGun GM03-R

Structure

Overall view

Fig. 3

1 Spray nozzle system 5 Flange
2 Threaded sleeve 6 Gun cable
3 Shaft 7 Powder hose connection
4 SuperCorona connection 8 Electrode rinsing air connection

Scope of delivery

- Robot gun with gun cable (20 m), negative polarity
- Powder hose (20 m, ID 11 mm)
- Rinsing air hose (20 m)
- Flat jet nozzle NF27, complete (incl. electrode holder)
- Cable tie with Velcro closure
- Gun cleaning brush
- Spare parts kit
- Operating manual
Available accessories**

- SuperCorona ring
- Flat jet nozzle (for specific applications)
- Round jet nozzles
- Gun extension 150 and 300 mm
- Gun cable extensions
- Various adapters for connection to earlier generations of control units

**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 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.

Fig. 4

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 function**

**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. 100 kV). The high voltage is now fed to the electrode (E) within the spray nozzle.

![Diagram of high voltage generation](image)

**Fig. 5**

**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.

![Diagram of flat jet nozzle with vented central electrode](image)

*Fig. 6*

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

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

Round jet nozzle with vented deflector and vented central electrode

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

![Diagram of round jet nozzle with vented deflector and vented central electrode](image)

*Fig. 7*

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

The electrode rinsing air (S) adjustment on the gun control unit is described in the corresponding operating manual.
Typical characteristics – properties of the functions

The Robot Gun with an integrated high voltage generator is particularly suitable for operation on a freely programmable robot (up to 7 axles) for coating of complex contours and object positions difficult to access.

Quick assembly/disassembly

The Gun is characterized by its fast assembly and disassembly to the robot. Accordingly, the time requirement for maintenance or cleaning purposes can be lowered.

The gun is installed on the front side of a coating robot. An appropriate adaptor piece for the corresponding robot type is used for fitting the applicator on the robot. This adaptor provides by means of a pin for exact positioning of the gun, as well as the fixture of the gun cable and the hoses.

The indexation and the flange measures can be implemented robot-specifically.

Connection for SuperCorona Ring

– Quick and simple connection and disconnection of 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!

![Diagram of the gun connection](image)

Fig. 8

1. Gun
2. Injector
3. Gun control
4. Maintenance unit
Start-up

The relevant safety standards, as well as the safety regulations of the robot manufacturer are absolutely to be respected for the operation of the Robot Gun!

Preparation for start-up

Basic conditions

When starting up the gun control unit, the following general conditions impacting the coating results must be taken 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!

1. 

2. 

3. 

4. 

5. 

Fig. 9

The remainder of the start-up procedure for the Gun is explicitly described in the operating instructions for the OptiStar CG08/CG13 powder gun control unit (chapter "Initial start-up" and "Start-up")!
Operation

**WARNING**

Discharges when touching the gun parts
During the coating process, the gun can discharge along the body of the coater if touching it.

► Do not touch any 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.

<table>
<thead>
<tr>
<th>As a factory default value, a powder rate of 50% and a total air volume of 4 Nm³/h are recommended.</th>
</tr>
</thead>
<tbody>
<tr>
<td>– 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!</td>
</tr>
</tbody>
</table>

**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. 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 first display level is switched over independently.
Decommissioning / Storage

Decommissioning

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.

If in disuse for several days

1. Separate from power mains
2. Clean guns, injectors and powder hoses (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

For safety reasons, the product should only be stored in a horizontal position

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 at 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. Blow through the gun with compressed air, beginning from the connection in flow direction
6. Clean the integrated gun tube with the brush supplied if necessary
7. Blow through the gun with compressed air again
8. Clean the powder hose
9. 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
If the spray nozzle is just fitted loosely, there is danger of a flash-over of the gun high voltage, which can damage the gun!
► Always tighten the threaded sleeve well!

**Weekly:**
1. Remove the spray nozzle and clean on the inside with compressed air. If sinterings should have formed, then they have to be removed!

**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 replacement of the cascade and the repair of the powder gun cable connection is only permitted by an authorized Gema Service center!

– Contact your Gema representative!
Fault clearance

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

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

<table>
<thead>
<tr>
<th>Incident</th>
<th>Causes</th>
<th>Corrective action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gun achieving only poor spray profile</td>
<td>Total air incorrectly configured</td>
<td>Increase the powder quantity and/or total air volume on the control unit</td>
</tr>
<tr>
<td></td>
<td>Bend or damage to air lines to injector</td>
<td>Check air lines to injector</td>
</tr>
<tr>
<td></td>
<td>Insert sleeve in the injector worn or not inserted</td>
<td>Replace or insert it</td>
</tr>
<tr>
<td></td>
<td>Fluidization not running</td>
<td>see above</td>
</tr>
</tbody>
</table>
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 powder coating equipment, please indicate the following specifications:

– Type and serial number of your powder coating equipment
– Order number, quantity and description of each spare part

Example:

– **Type** OptiGun GA03 automatic powder gun
  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 *.

Wearing parts are always marked with a #.

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)

**ATTENTION**

Use of non-original Gema spare parts

When using the spare parts from other manufacturers the explosion protection is no longer guaranteed. If any damage is caused by this use all guarantee claims become invalid!

– Only original Gema spare parts should be used!
**RobotGun GM03-R – 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!

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**RobotGun GM03-R - complete**

negative polarity, incl. gun cable – 20 m, flat jet nozzle, brush and parts kit, without powder hose

- **RobotGun GM03-R Single** – incl. Pos. 5 and 6 1013 976
- **RobotGun GM03-R Single Quick** – incl. Pos. 5, 7 and 8 1013 981
- **RobotGun GM03-R Dual** – incl. Pos. 5, 9 and 10 1013 988
- **RobotGun GM03-R Dual Quick** – incl. Pos. 5, 8 and 11 1013 986

1. **Gun body (incl. cascade) with:**
   - Gun cable 20 m, negative polarity (–) 1013 971
   - Gun cable 30 m, negative polarity (–) 1013 972

2. **Flat jet nozzle NF27 – complete** 1010 754#

2.1 **Electrode holder – complete** 1007 683#

2.2 **Flat jet nozzle NF27** 1010 752#

3. **Threaded sleeve – complete** 1007 229#

4. **Gun cable 20 m – complete** 1013 991
   - Gun cable 30 m – complete 1013 992

5. **Screw – M5x8 mm** 1013 996

6. **Connecting flange - Single** 1013 974

7. **Connecting flange - Single Quick** 1013 978

8. **Threaded sleeve** 653 420

9. **Screw – M5x16 mm** 216 356

10. **Connecting flange - Dual** 1015 086

11. **Connecting flange - Dual Quick** 1013 984

   **Cleaning brush – Ø 12 mm (not shown)** 389 765

   **Parts set (not shown), consisting of:** 1013 977

   - **Cable clamp** 303 070
   - **Quick release connection – NW5-Ø 6 mm** 200 840

   **Powder hose – Ø 11 mm (not shown)** 105 139*#

* Please indicate length

# Wearing part
RobotGun GM03-R – Spare Parts

Fig. 10: RobotGun GM03-R Single (Quick)

Fig. 11: RobotGun GM03-R Dual (Quick)
# Gun Body - Spare Parts List

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Part No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Gun body – complete</td>
<td>1013 956</td>
</tr>
<tr>
<td>2</td>
<td>Cover</td>
<td>1013 966</td>
</tr>
<tr>
<td>3</td>
<td>Screw – M4x6 mm</td>
<td>1000 845</td>
</tr>
<tr>
<td>4</td>
<td>Grub screw – M3x8 mm</td>
<td>1008 157</td>
</tr>
<tr>
<td>5</td>
<td>Screw – M4x12 mm</td>
<td>1010 281</td>
</tr>
<tr>
<td>6</td>
<td>Rinsing air connection</td>
<td>1000 804</td>
</tr>
<tr>
<td>7</td>
<td>Hose connection – complete, incl. pos. 8</td>
<td>1013 968#</td>
</tr>
<tr>
<td>8</td>
<td>O-ring – Ø 12x1.5 mm, FMP75</td>
<td>1000 822#</td>
</tr>
<tr>
<td>9</td>
<td>Plate</td>
<td>1013 969</td>
</tr>
<tr>
<td>10</td>
<td>Support</td>
<td>1013 964</td>
</tr>
<tr>
<td>11</td>
<td>Gasket</td>
<td>1007 633</td>
</tr>
<tr>
<td>12</td>
<td>SuperCorona holder</td>
<td>1007 238</td>
</tr>
<tr>
<td>13</td>
<td>Lid – complete, incl. pos. 15</td>
<td>1013 962</td>
</tr>
<tr>
<td>14</td>
<td>Screw – M6x16 mm</td>
<td>1007 986</td>
</tr>
<tr>
<td>15</td>
<td>Cover</td>
<td>1013 963</td>
</tr>
<tr>
<td>16</td>
<td>Cascade space gasket - complete</td>
<td>1007 635#</td>
</tr>
<tr>
<td>17</td>
<td>Cascade – complete, negative–</td>
<td>1007 231</td>
</tr>
<tr>
<td></td>
<td>Cascade – complete, positive +</td>
<td>1007 232</td>
</tr>
<tr>
<td>18</td>
<td>Gun cable</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Powder hose – Ø 11 mm (not shown)</td>
<td>105 139*#</td>
</tr>
</tbody>
</table>

* Please indicate length

# Wearing part
Gun Body - Spare Parts

Fig. 12: Powder gun body
# SuperCorona

| 1 | SuperCorona PC05 | 1008 165# |

# Wearing part

**Fig. 13**
### Accessories

#### Flat jet nozzle – Overview (wearing parts)

<table>
<thead>
<tr>
<th>Application</th>
<th>A</th>
<th>B</th>
<th>A + B</th>
<th>Threaded sleeve</th>
</tr>
</thead>
<tbody>
<tr>
<td>Profiles/flat parts (standard nozzle)</td>
<td><img src="image1" alt="NF27 1010 752" /></td>
<td><img src="image2" alt="1007 754" /></td>
<td><strong>NF27</strong> 1010 754</td>
<td><img src="image3" alt="1007 229" /></td>
</tr>
<tr>
<td>Profiles/flat parts</td>
<td><img src="image4" alt="NF20 1010 090" /></td>
<td><img src="image5" alt="1007 683" /></td>
<td><strong>NF20</strong> 1010060</td>
<td><img src="image3" alt="1007 229" /></td>
</tr>
<tr>
<td>Complex profiles and depressions</td>
<td><img src="image6" alt="NF21 1007 935" /></td>
<td><img src="image7" alt="1007 932" /></td>
<td><strong>NF21</strong> 1007 932</td>
<td><img src="image3" alt="1007 229" /></td>
</tr>
<tr>
<td>Large surfaces</td>
<td><img src="image8" alt="NF24 1008 147" /></td>
<td><img src="image9" alt="1008 142" /></td>
<td><strong>NF24</strong> 1008 142</td>
<td><img src="image10" alt="1008 326" /></td>
</tr>
</tbody>
</table>

* not suitable for angled nozzles
## Round jet nozzle – Overview (wearing parts)

<table>
<thead>
<tr>
<th>Application</th>
<th>A</th>
<th>B</th>
<th>A + B</th>
<th>Threaded sleeve</th>
<th>Deflectors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Suitable for large surfaces</td>
<td>NS04</td>
<td>1008 151</td>
<td>NS04</td>
<td>1008 150</td>
<td>1007 229</td>
</tr>
<tr>
<td></td>
<td>1008 152</td>
<td></td>
<td></td>
<td></td>
<td>Ø 16 mm</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>331 341</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Ø 24 mm</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>331 333</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Ø 32 mm</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>331 325</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Ø 50 mm</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>345 822</td>
</tr>
</tbody>
</table>

### Gun extensions

<table>
<thead>
<tr>
<th>Gun extensions</th>
<th>L = 150 mm</th>
<th>L = 300 mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>without nozzle&lt;sup&gt;1&lt;/sup&gt;</td>
<td><img src="1008_616.png" alt="Image" /></td>
<td><img src="1008_616.png" alt="Image" /></td>
</tr>
<tr>
<td>1008 616</td>
<td>1008 617</td>
<td></td>
</tr>
<tr>
<td>without nozzle&lt;sup&gt;2&lt;/sup&gt;</td>
<td><img src="1007_718.png" alt="Image" /></td>
<td><img src="1007_719.png" alt="Image" /></td>
</tr>
<tr>
<td>1007 718</td>
<td>1007 719</td>
<td></td>
</tr>
<tr>
<td>with Flat jet nozzle NF25</td>
<td><img src="1007_746.png" alt="Image" /></td>
<td><img src="1007_747.png" alt="Image" /></td>
</tr>
<tr>
<td>1007 746</td>
<td>1007 747</td>
<td></td>
</tr>
<tr>
<td>with Round jet nozzle NS09</td>
<td><img src="1007_748.png" alt="Image" /></td>
<td><img src="1007_749.png" alt="Image" /></td>
</tr>
<tr>
<td>1007 748</td>
<td>1007 749</td>
<td></td>
</tr>
</tbody>
</table>

<sup>1</sup> see NF27, NF20, NF21, NF24, NS04

<sup>2</sup> see NF25, NF26, NS09

### ATTENTION

Connecting more than two extensions

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 ADDITIONAL extension (150 mm/300 mm), if necessary.
## Spray nozzles for extensions – overview
(wearing parts)

<table>
<thead>
<tr>
<th>Application</th>
<th>A</th>
<th>B</th>
<th>A + B</th>
<th>Threaded sleeve</th>
<th>Deflectors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Profiles/flat parts</td>
<td>NF25 1007 735</td>
<td>1007 718 1007 719</td>
<td>NF25 1007 743</td>
<td>--</td>
<td></td>
</tr>
<tr>
<td>Complex profiles and depressions</td>
<td>NF26 1007 742</td>
<td>1007 718 1007 719</td>
<td>NF26 1007 744</td>
<td>--</td>
<td></td>
</tr>
<tr>
<td>Suitable for large surfaces</td>
<td>NS09 1008 257</td>
<td>1007 718 1007 719</td>
<td>NS09 1008 259</td>
<td>1007 740</td>
<td>Ø 16 mm 331 341</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Ø 24 mm 331 333</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Ø 32 mm 331 325</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Ø 50 mm 345 822</td>
</tr>
</tbody>
</table>
# Diffusor– Spare parts list

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
<th>Part No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Powder hose – Ø 11 mm</td>
<td>105 139*#</td>
</tr>
<tr>
<td>2</td>
<td>Adapter piece</td>
<td>1013 998</td>
</tr>
<tr>
<td>3</td>
<td>O-ring – Ø 13x1.5 mm, NBR70</td>
<td>1009 943</td>
</tr>
<tr>
<td>4</td>
<td>Fluidizing tube</td>
<td>1005 262#</td>
</tr>
<tr>
<td>5</td>
<td>Connector</td>
<td>1011 634</td>
</tr>
<tr>
<td>6</td>
<td>Screw-in nipple – M7-Ø 6 mm</td>
<td>1008 699</td>
</tr>
<tr>
<td>7</td>
<td>Plastic tube – Ø 6/4 mm</td>
<td>103 144*</td>
</tr>
<tr>
<td>8</td>
<td>Plug-in connector – Ø 6-Ø 8 mm</td>
<td>254 894</td>
</tr>
</tbody>
</table>

* Please indicate length  
# Wearing part

![Diffuser](image-url)

*Fig. 14: Diffuser*
# Index

## A
- About these instructions ..................................... 5
- Assembly .......................................................... 21

## B
- Basic safety instructions ..................................... 7

## C
- Cleaning ........................................................... 29
- Connection ....................................................... 21

## D
- Decommissioning ............................................. 27
- Diffuser ............................................................. 46
- Disposal ............................................................ 35
- Disposal regulations ......................................... 35
- Disuse for several days .................................... 27

## E
- Electrical data .................................................. 12

## F
- Fault clearance .................................................. 33
- Figure references in the text .............................. 6
- Fitting the gun .................................................. 12

## G
- Guidelines, European ........................................ 10

## I
- Intended use ...................................................... 9

## M
- Maintenance ..................................................... 29
- Maintenance during storage ............................... 28

## O
- Operation .......................................................... 25

## P
- Pictograms ........................................................ 5
- Presentation of the contents .............................. 6
- Product description .......................................... 9
- Product specific security regulations ................. 7

## R
- Repairs ............................................................ 29

## S
- Safety ................................................................. 7
- Safety symbols .................................................. 5
- Spare parts list .................................................. 37
- Standards, European ....................................... 10
- Start-up ........................................................... 23
- Storage ............................................................ 27
- Storage conditions ........................................ 27

## T
- Technical Data .................................................. 11