Operating Instructions and Spare Parts List

OptiPlus C1
Hose Rinsing Control

TW Gema
Documentation OptiPlus C1 Hose Rinsing Control

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ITW Gema AG
Mövenstrasse 17
9015 St.Gallen
Switzerland
Phone: +41-71-313 83 00
Fax.: +41-71-313 83 83

E-Mail: info@itwgema.ch
Homepage: www.itwgema.ch
# Table of Contents

**General safety regulations** 3  
- Safety symbols (pictograms) ................................................................. 3  
- Conformity of use .................................................................................. 3  
- Product specific security measures ......................................................... 4  

**About this manual** 5  
- General information ................................................................................ 5  

**Description of function** 7  
- Field of application ................................................................................ 7  

**Technical data** 9  
- OptiPlus C1 Powder hose rinsing unit .................................................. 9  
  - General data ....................................................................................... 9  
  - Pneumatic data ................................................................................... 9  
  - Electrical data of the solenoid valve .................................................... 9  

**Start-up and operation** 11  
- Setting the rinsing pressure ................................................................... 11  
- Changing the solenoid valve ................................................................. 11  

**Pneumatic diagram** 13  

**Spare Parts** 15  
- Ordering spare parts ............................................................................... 15  
- OptiPlus C1 Hose Rinsing Control - Spare Parts List ............................. 16  
- OptiPlus C1 Hose Rinsing Control - Spare Parts .................................... 17
General safety regulations

This chapter sets out the fundamental safety regulations that must be followed by the user and third parties using the OptiPlus C1 Hose Rinsing Control.

These safety regulations must be read and understood before the OptiPlus C1 Hose Rinsing Control is used.

Safety symbols (pictograms)

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

DANGER!
Danger due to live electricity or moving parts. Possible consequences: Death or serious injury

WARNING!
Improper use of the equipment could damage the machine or cause it to malfunction. Possible consequences: minor injuries or damage to equipment

INFORMATION!
Useful tips and other information

Conformity of use

1. The OptiPlus C1 Hose Rinsing Control is built to the latest specification and conforms to the recognized technical safety regulations. It is designed for the normal application of powder coating.

2. Any other use is considered as non-conform. The manufacturer is not responsible for damage resulting from improper use of this equipment; the end-user alone is responsible. If the OptiPlus C1 Hose Rinsing Control is to be used for other purposes or other substances outside of our guidelines then ITW Gema AG should be consulted.

3. Observance of the operating, service and maintenance instructions specified by the manufacturer is also part of conformity of
use. The OptiPlus C1 Hose Rinsing Control should only be used, maintained and started up by trained personnel, who are informed about and are familiar with the possible hazards involved.

4. Start-up (i.e. the execution of a particular operation) is forbidden until it has been established that the OptiPlus C1 Hose Rinsing Control has been set up and wired according to the guidelines for machinery (98/37 EG). EN 60204-1 (machine safety) must also be observed.

5. Unauthorized modifications to OptiPlus C1 Hose Rinsing Control exempts the manufacturer from any liability from resulting damage.

6. The relevant accident prevention regulations, as well as other generally recognized safety regulations, occupational health and structural regulations are to be observed.

7. Furthermore the country-specific safety regulations must be observed.

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**Product specific security measures**

- The installation work, to be done by the customer, must be carried out according to local regulations
- Before starting up the plant a check must be made that no foreign objects are in the booth or in the ducting (input and exhaust air)
- It must be observed, that all components are grounded according to the local regulations, before start-up
About this manual

General information

This operating manual contains all important information which you require for the working with the OptiPlus C1 Hose Rinsing Control. It will safely guide you through the start-up process and give you references and tips for the optimal use of your new powder coating system.

Information about the function mode of the individual system components - reciprocators, booths, powder gun controls, powder guns etc. - you will find in the corresponding enclosed documentations.
Description of function

Field of application

Powder hoses for up to 10 guns can be rinsed with OptiPlus C1 Hose rinsing control unit. Each gun can be rinsed individually, whereby the rinsing air pressure is the same for each gun.

The solenoid in the OptiPlus C1 is switched on or off, as required, by a higher hierarchy control system (ITW Gema - PLC Control). An Opti-Flow/EasyFlow injector is used to rinse the powder hoses.

The exact hose rinsing pressure must only be set once with the pressure reducing valve in the OptiPlus C1 and afterwards left at this setting.

OptiPlus C1 Powder hose rinsing unit, inside view
# Technical data

## OptiPlus C1 Powder hose rinsing unit

### General data

<table>
<thead>
<tr>
<th>OptiPlus C1 Powder hose rinsing unit</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum number of guns which can be connected</td>
<td>10</td>
</tr>
</tbody>
</table>

### Pneumatic data

<table>
<thead>
<tr>
<th>OptiPlus C1 Powder hose rinsing unit</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Compressed air input:</td>
<td>7-10 bar</td>
</tr>
<tr>
<td>Air consumption</td>
<td>4 Nm³/h per gun, depending on the number of guns connected.</td>
</tr>
<tr>
<td>Max. water content</td>
<td>1.3 g/m³</td>
</tr>
<tr>
<td>Max. oil content</td>
<td>0.1 mg/kg</td>
</tr>
</tbody>
</table>

### Electrical data of the solenoid valve

<table>
<thead>
<tr>
<th>OptiPlus C1 Powder hose rinsing unit</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Rinsing voltage</td>
<td>24 VDC</td>
</tr>
<tr>
<td>Rinsing power</td>
<td>8 W</td>
</tr>
</tbody>
</table>
Start-up and operation

Setting the rinsing pressure

The pressure to be set is dependent on the type, and characteristics of the powder, the length, and the number of bends in the powder hose.

The rinsing powder pressure need only be set once on the pressure reducing valve in the OptiPlus C1 control unit and afterwards can be left at this setting.

Changing the solenoid valve

If a solenoid valve must be replaced, loosen only those screws which are not marked with red paint.

When replacing the solenoid valve please observe that the two O-rings on the underside of the solenoid valve are seated correctly, and are not missing.
Pneumatic diagram

Pressure reducing valve
0 - 4 bar

Compressed air input
6 bar / 40 Nm³/h

24 VDC
8 W

Gun 1 = 4 Nm³/h

8 solenoid valves for 2 - 9 guns,
1 solenoid valve per gun

Gun 10 = 4 Nm³/h
Spare Parts

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** OptiPlus C1 Hose Rinsing Control,
  **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 yard/meter ware is always marked with an *.

The wear 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)

WARNING!
Only original ITW-Gema spare parts should be used, because the explosion protection will also be preserved that way. The use of spare parts from other manufacturers will invalidate the ITW Gema guarantee conditions!
# OptiPlus C1 Hose Rinsing Control - Spare Parts List

<table>
<thead>
<tr>
<th>Part Description</th>
<th>Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>OptiPlus C1 - complete</td>
<td>381 365</td>
</tr>
<tr>
<td>1 Quick-release connection</td>
<td>236 004</td>
</tr>
<tr>
<td>2 Quick-release elbow connection</td>
<td>203 050</td>
</tr>
<tr>
<td>3 Mounting plate for 10 solenoid valves</td>
<td>239 739</td>
</tr>
<tr>
<td>4 Solenoid valve</td>
<td>239 720</td>
</tr>
<tr>
<td>4.1 O-Ring</td>
<td>240 265</td>
</tr>
<tr>
<td>5 Quick-release T-connection</td>
<td>239 704</td>
</tr>
<tr>
<td>6 Adapter</td>
<td>202 541</td>
</tr>
<tr>
<td>7 Elbow connection</td>
<td>237 604</td>
</tr>
<tr>
<td>8 Main compressed air input</td>
<td>223 794</td>
</tr>
<tr>
<td>9 Pressure gauge</td>
<td>239 712</td>
</tr>
<tr>
<td>10 Pressure reducing valve</td>
<td>240 028</td>
</tr>
<tr>
<td>11 Mains connection for solenoid valves</td>
<td>240 044</td>
</tr>
<tr>
<td>12 Sealing grommet</td>
<td>342 262</td>
</tr>
<tr>
<td>Rinsing air plastic tube - Ø 8 / 6 mm - black</td>
<td>103 756*</td>
</tr>
</tbody>
</table>

* Please indicate length.
OptiPlus C1 Hose Rinsing Control - Spare Parts