
Operating instructions and spare parts list

OptiFlex F

Manual coating equipment



Documentation OptiFlex B manual coating equipment

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General safety regulations

This chapter sets out the fundamental safety regulations that must be followed by the user and third parties using the OptiFlex B manual coating equipment.

These safety regulations must be read and understood before the OptiFlex B manual coating equipment 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 OptiFlex B manual coating equipment 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 OptiFlex B manual coating equipment 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 OptiFlex B manual coating equipment 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 OptiFlex B manual coating equipment 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 OptiFlex B manual coating equipment 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.

Explosion protection	Protection type	Temperature class
  II (2) D	IP54	T6 (zone 21) T4 (zone 22)

Technical safety regulations for stationary electrostatic powder spraying equipment

General information

The powder spraying equipment from ITW Gema is designed with safety in mind and is built according to the latest technological specifications. This equipment can be dangerous if it is not used for its specified purpose. Consequently it should be noted that there exists a danger to life and limb of the user or third party, a danger of damage to the equipment and other machinery belonging to the user and a hazard to the efficient operation of the equipment.

1. The powder spraying equipment should only be started up and used once the operating instructions have been carefully studied. Improper use of the controlling device can lead to accidents, malfunction or damage to the control itself.
2. Before every start-up check the equipment for operational safety (regular servicing is essential)!
3. Safety regulations BGI 764 and VDE regulations DIN VDE 0147, Part 1, must be observed for safe operation.
4. Safety precautions specified by local legislation must be observed.
5. The plug must be disconnected before the machine is opened for repair.
6. The plug and socket connection between the powder spraying equipment and the mains network should only be taken out when the power is switched off.

7. The connecting cable between the controlling device and the spray gun must be set up so that it cannot be damaged during operation. Safety precautions specified by local legislation must be observed!
8. Only original ITW-Gema spare parts should be used, because the explosion protection will also be preserved that way. Damage caused by other parts is not covered by guarantee.
9. If ITW-Gema powder spraying equipment is used in conjunction with machinery from other manufacturers then their safety regulations must also be taken into account.
10. Before starting work familiarize yourself with all installations and operating elements, as well as with their functions! Familiarization during operation is too late!
11. Caution must be exercised when working with a powder/air mixture! A powder/air mixture in the right concentration is flammable! Smoking is forbidden in the entire plant area!
12. As a general rule for all powder spraying installations, persons with pacemakers should never enter high voltage areas or areas with electromagnetic fields. Persons with pacemakers should not enter areas with powder spraying installations!

**WARNING!**

We emphasize that the customer himself is responsible for the safe operation of equipment. ITW-Gema is in no way responsible for any resulting damages!

Safety conscious working

Each person responsible for the assembly, start-up, operation, service and repair of powder spraying equipment must have read and understood the operating instructions and the "Safety regulations"-chapter. The operator must ensure that the user has had the appropriate training for powder spraying equipment and is aware of the possible sources of danger.

The control devices for the spray guns must only be set up and used in zone 22. Only the spray gun should be used in zone 21.

The powder spraying equipment should only be used by trained and authorized personnel. This applies to modifications to the electrical equipment, which should only be carried out by a specialist.

The operating instructions and the necessary closing down procedures must be followed before any work is carried out concerning the set-up, start-up, operation, modification, operating conditions, mode of operation, servicing, inspection or repairs.

The powder spray equipment can be turned off by using the main switch or failing that, the emergency shut-down. Individual components can be turned off during operation by using the appropriate switches.

Individual safety regulations for the operating firm and/or operating personnel

1. Any operating method which will negatively influence the technical safety of the powder spraying equipment is to be avoided.

2. The operator should care about no non-authorized personnel works on the powder spraying equipment (e.g. this also includes using the equipment for non-conform work).
3. For dangerous materials, the employer has to provide an operating instructions manual for specifying the dangers arising for humans and environment by handling dangerous materials, as well as the necessary preventive measures and behavior rules. The operating instructions manual has to be written in an understandable form and in the language of the persons employed, and has to be announced in a suitable place in the working area.
4. The operator is under obligation to check the powder spraying equipment at least once every shift for signs of external damage, defects or changes (including the operating characteristics) which could influence safety and to report them immediately.
5. The operator is obliged to check that the powder spraying equipment is only operated when in satisfactory condition.
6. As far as it is necessary, the operating firm must ensure that the operating personnel wear protective clothing (e.g. facemasks).
7. The operating firm must guarantee cleanliness and an overview of the workplace with suitable instructions and checks in and around the powder spraying equipment.
8. No safety devices should be dismantled or put out of operation. If the dismantling of a safety device for set-up, repair or servicing is necessary, reassembly of the safety devices must take place immediately after the maintenance or repair work is finished. The powder spraying device must be turned off while servicing is carried out. The operator must train and commit the responsible personnel to this.
9. Activities such as checking powder fluidization or checking the high-voltage spray gun etc. must be carried out with the powder spraying equipment switched on.

Notes on special types of hazard

Power

It is necessary to refer once more to the danger of life from high-voltage current if the shut-down procedures are not observed. High voltage equipment must not be opened - the plug must first be taken out - otherwise there is danger of electric shock.

Powder

Powder/air mixtures can be ignited by sparks. There must be sufficient ventilation in the powder coating booth. Powder lying on the floor around the powder spraying device is a potentially dangerous source of slipping.

Static charges

Static charges can have the following consequences: Charges to people, electric shocks, sparking. Charging of objects must be avoided - see "Earthing".

Grounding/Earthing

All electricity conducting parts and machinery found in the workplace (according to DIN VDE 0745, part 102) must be earthed 1.5 meters either side and 2.5 meters around each booth opening. The earthing resistance must amount to maximally 1 MOhm. The resistance must be tested on a regular basis. The condition of the machinery surroundings as well as the suspension gear must ensure that the machinery remains earthed. If the earthing of the machinery includes the suspension arrangements, then these must constantly be kept clean in order to guarantee the necessary conductivity. The appropriate measuring devices must be kept ready in the workplace in order to check the earthing.

Compressed air

When there are longer pauses or stand-still times between working, the powder spraying equipment should be drained of compressed air. There is a danger of injury when pneumatic hoses are damaged and from the uncontrolled release and improper use of compressed air.

Crushing and cutting

During operation, moving parts may automatically start to move in the operating area. It must be ensured that only instructed and trained personnel go near these parts. The operator should ensure that barriers comply with the local security regulations.

Access under exceptional circumstances

The operating firm must ensure that local conditions are met when repairs are made to the electronic parts or when the equipment is restarted so that there are additional measures such as barriers to prevent unauthorized access.

Prohibition of unauthorized conversions and modifications to machines

All unauthorized conversions and modifications to electrostatic spraying equipment are forbidden for safety reasons.

The powder spraying equipment should not be used if damaged, the faulty part must be immediately replaced or repaired. Only original ITW-Gema replacement parts should be used. Damage caused by other parts is not covered by guarantee.

Repairs must only be carried out by specialists or in ITW-Gema workshops. Unauthorized conversions and modifications may lead to injury or damage to machinery. The ITW Gema AG guarantee would no longer be valid.

Safety requirements for electrostatic powder coating

1. This equipment is dangerous if the instructions in this operating manual are not followed.
2. All electrostatic conductive parts, in particular the machinery within 5 meters of the coating equipment, must be earthed.
3. The floor of the coating area must conduct electricity (normal concrete is generally conductive).

4. The operating personnel must wear electricity conducting footwear (e.g. leather soles).
5. The operating personnel should hold the gun with bare hands. If gloves are worn, these must also conduct electricity.
6. The supplied earthing cable (green/yellow) must be connected to the earthing screw of the electrostatic powder spraying hand appliance. The earthing cable must have a good metallic connection with the coating booth, the recovery unit and the conveyor chain and with the suspension arrangement of the objects.
7. The electricity and powder supply to the hand guns must be set up so that they are fully protected against heat and chemical damage.
8. The powder coating device may only be switched on once the booth has been started up. If the booth cuts out then the powder coating device must be switched off.
9. The earthing of all electricity conducting devices (e.g. hooks, conveyor chains) must be checked on a weekly basis. The earthing resistance must amount to maximally 1 MOhm.
10. The control device must be switched off if the hand gun is cleaned or the nozzle is changed.
11. When working with cleaning agents there may be a risk of hazardous fumes. The manufacturers instructions must be observed when using such cleaning agents.
12. The manufacturers instructions and the applicable environmental requirements must be observed when disposing of powder lacquer and cleaning agents.
13. If any part of the spray gun is damaged (broken parts, tears) or missing then it should not be used.
14. For your own safety, only use accessories and attachments listed in the operating instructions. The use of other parts can lead to risk of injury. Only original ITW-Gema replacement parts should be used.
15. Repairs must only be carried out by specialists and under no circumstances should they be carried out in the operating area. The former protection must not be reduced.
16. Conditions leading to dangerous levels of dust concentration in the powder spraying booths or in the powder spraying areas must be avoided. There must be sufficient technical ventilation available, to prevent a dust concentration of more than 50% of the lower explosion limit (UEG) (UEG = max. permissible powder/air concentration). If the UEG is not known then a value of 10 g/m³ should be used.

A summary of the rules and regulations

The following is a list of relevant rules and regulations which are to be observed:

Guidelines and regulations, German professional association

BGV A1	General regulations
BGV A2	Electrical equipment and material
BGI 764	Electrostatic coating
BGR 132	Guidelines for the avoidance of the dangers of ignition due to electrostatic charging (Guideline "Static Electricity")
VDMA 24371	Guidelines for electrostatic coating with synthetic powder ¹⁾ - Part 1 General requirements - Part 2 Examples of use

Leaflets

ZH 1/310	Leaflet for the use of tools in locations where there is danger of explosion ¹⁾
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EN European standards

RL94/9/EC	The approximation of the laws of the Member States relating to apparatus and safety systems for their intended use in potentially explosive atmospheres
EN 292-1 EN 292-2	Machine safety ²⁾
EN 50 014 to EN 50 020, identical: DIN VDE 0170/0171	Electrical equipment for locations where there is danger of explosion ³⁾
EN 50 050	Electrical apparatus for potentially explosive atmospheres - Electrostatic hand-held spraying equipment ²⁾
EN 50 053, part 2	Requirements for the selection, installation and use of electrostatic spraying equipment for flammable materials - Hand-held electrostatic powder spray guns ²⁾
EN 50 177	Stationary electrostatic spraying equipment for flammable coating powder ²⁾
PR EN 12981	Coating plants - Spray booths for application of organic powder coating material - Safety requirements
EN 60 529, identical: DIN 40050	IP-Type protection: contact, foreign bodies and water protection for electrical equipment ²⁾
EN 60 204 identical: DIN VDE 0113	VDE regulations for the setting up of high-voltage electrical machine tools and processing machines with mains voltages up to 1000 V ³⁾

VDE (Association of German Engineers) Regulations

DIN VDE 0100	Regulations for setting-up high voltage equipment with mains voltages up to 1000V ⁴⁾
DIN VDE 0105 part 1 part 4	VDE regulations for the operation of high voltage equipment ⁴⁾ General regulations Supplementary definitions for stationary electrical spraying equipment
DIN VDE 0147 part 1	Setting up stationary electrostatic spraying equipment ⁴⁾
DIN VDE 0165	Setting up electrical equipment in locations in areas with danger of explosion ⁴⁾

***Sources:**

- 1) Carl Heymanns Verlag KG, Luxemburger Strasse 449, 5000 Köln 41, or from the appropriate employers association
- 2) Beuth Verlag GmbH, Burgrafenstrasse 4, 1000 Berlin 30
- 3) General secretariat, Rue Bréderode 2, B-1000 Bruxelles, or the appropriate national committee
- 4) VDE Verlag GmbH, Bismarckstrasse 33, 1000 Berlin 12

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 OptiFlex B manual coating equipment. 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. - should be referenced to their corresponding documents.

Function description

Field of application

The OptiFlex F manual coating equipment (with fluidized powder hopper) is designed exclusively for electrostatic coating with organic powders. Any other use beyond this is not intended. The manufacturer is not responsible for any damage resulting from this; the risk for this is assumed by the user alone!

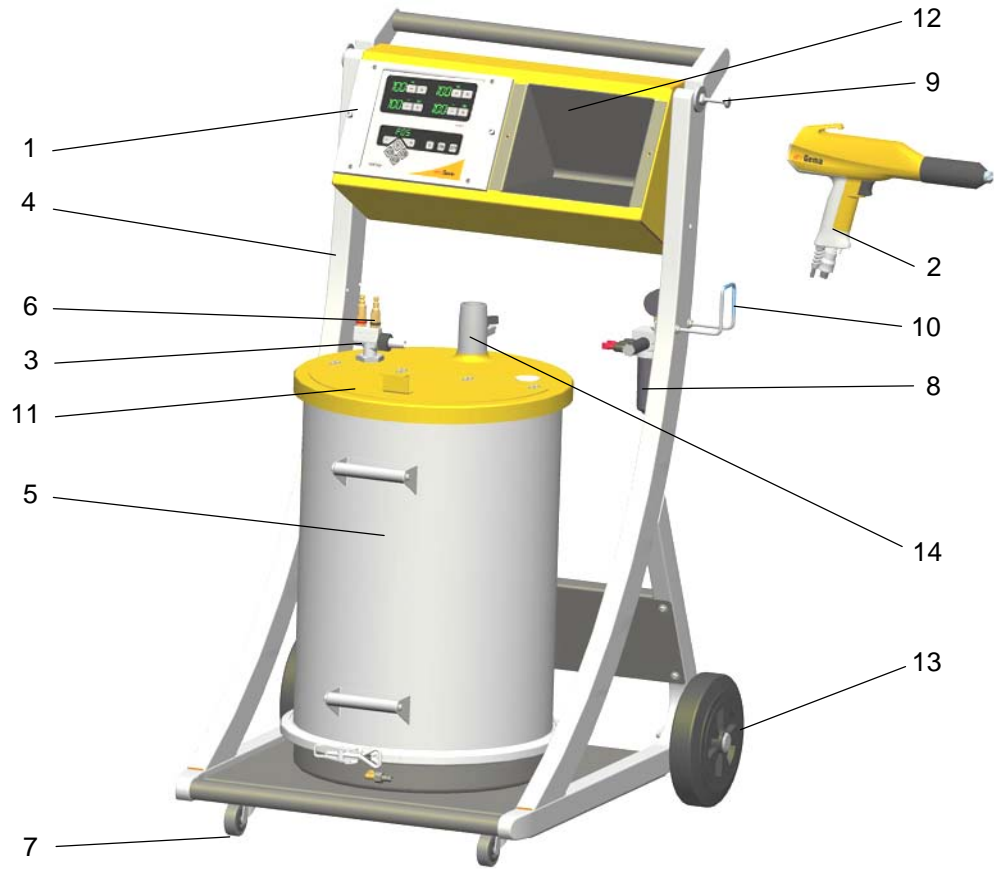
The OptiFlex F electrostatic powder manual coating equipment with the OptiSelect manual powder gun is ideally suited for manual coating of objects in larger series.

Typical characteristics

- Processing the powder from the fluidized powder hopper
- Quick and simple color change
- Supplied ready for use
- Available with one or two guns (extensible)

OptiFlex F manual coating equipment

Structure



OptiFlex F Manual coating equipment - Structure

- | | | | |
|---|------------------------------|----|--------------------|
| 1 | OptiStar control unit | 8 | Filter unit |
| 2 | OptiSelect manual powder gun | 9 | Gun holder |
| 3 | OptiFlow injector | 10 | Hose holder |
| 4 | Mobile frame with hand rail | 11 | Powder filler flap |
| 5 | Fluidized powder hopper | 12 | Shelf |
| 6 | Hose connections | 13 | Rubber wheel |
| 7 | Swivel wheel | 14 | Airmover |

OptiStar control unit

All information about the OptiStar control unit will be found in the corresponding enclosed documentation!

OptiFlow injector

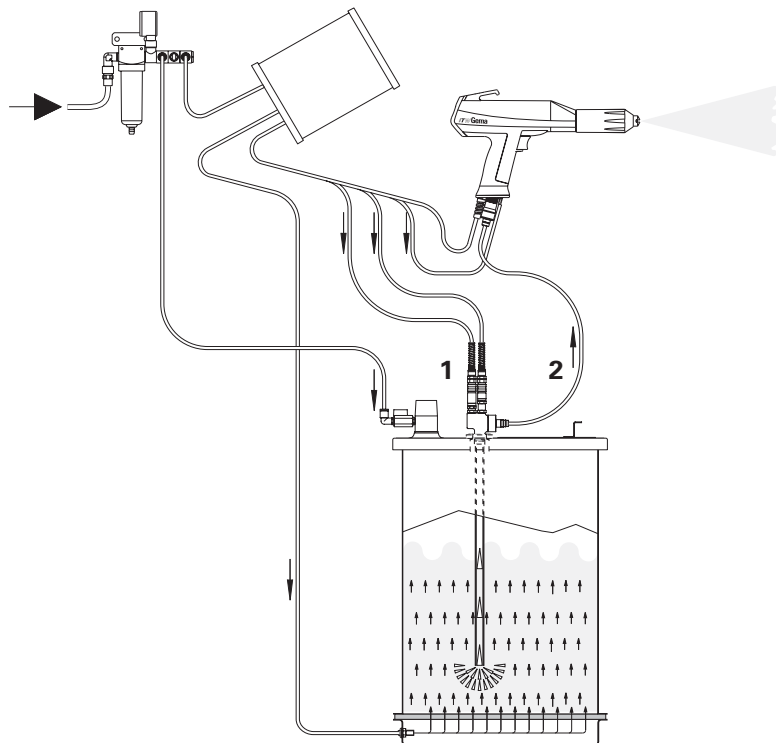
All information about the OptiFlow injector will be found in the corresponding enclosed documentation!

Fluidized powder hopper

The fluidized powder in the powder hopper is sucked into the injector by means of the conveying air (1 - red hose). The powder/air mixture reaches the powder gun through the powder hose (2). The powder is electrostatically charged at the gun nozzle. In addition, an electrostatic field is created between the gun nozzle and the grounded object. The charged powder spray remains adhered to the surface of the object.

The powder is fluidized by air forced through a porous plastic plate from below. The powder acquires, thereby, fluid-like characteristics.

The conveying air, supplementary air, and rinsing air are set on the control unit.



Fluidized powder hopper - Function

Scope of delivery

OptiFlex 1-F

- A OptiStar control unit in a metal case with power supply cable
- A mobile trolley with a gun/hose support
- A fluidized powder hopper
- A plug-in OptiFlow Injector
- An OptiSelect manual powder gun with gun cable, powder hose, rinsing air hose and standard nozzle set (see therefore the OptiSelect manual powder gun user manual)
- Pneumatic hoses for conveying air (red), supplementary air (black) and fluidizing air (black)

Additional supply for OptiFlex 2-F

- An additional OptiStar control unit, complete with gun holder, special powder supply cable and connecting material
- An additional OptiSelect manual powder gun with gun cable, powder hose, rinsing air hose and standard nozzle set
- Pneumatic hoses for conveying air (red), supplementary air (black), as well as a pneumatic connection with dual distributor from pressure reducing valve to control unit
- Mains adaptor for twin equipment

Technical data

OptiFlex F manual coating equipment

Electrical data

OptiFlex F manual coating equipment	
Nominal input voltage	230-240 VAC (110-120 VAC)
Frequency	50/60 Hz
Input value	150 VA
Nominal output voltage (to the gun)	max. 12 V
Nominal output current (to the gun)	max. 1 A
Protection type	IP 54
Temperature range	0 to 40°C (+32 °F to +104 °F)
Approval	

Pneumatical data

OptiFlex F manual coating equipment	
Compressed air main connection	G1/4" - internal thread
Max. input pressure	10 bar
Min. input pressure	6 bar
Max. water vapor content of the compressed air	1,3 g/m ³
Max. oil vapor content of the compressed air	0,1 mg/m ³
Max. compressed air consumption	11 m ³ /h

Connectable guns

OptiFlex F manual coating equipment	connectable
OptiSelect GM02	yes
OptiGun GA02	yes
PG1/PG2-A	yes (without remote control)
TriboJet	yes, with adapter*

* The gun type must be set on the control unit (see therefore the corresponding user manual)!



Attention:
The OptiFlex F manual coating equipment may be used only with
the specified gun types!

Dimensions

OptiFlex F manual coating equipment	
Width	690 mm
Depth	800 mm
Height	1135 mm
Weight	49 kg

Start-up and operation

Connecting guide

1. Check the compressed air connection from the filter unit to the control unit. Connect the compressed air supply hose from the compressed air circuit directly to the filter unit main connection on the rear side of the equipment (1/4" female BSP).



Note:

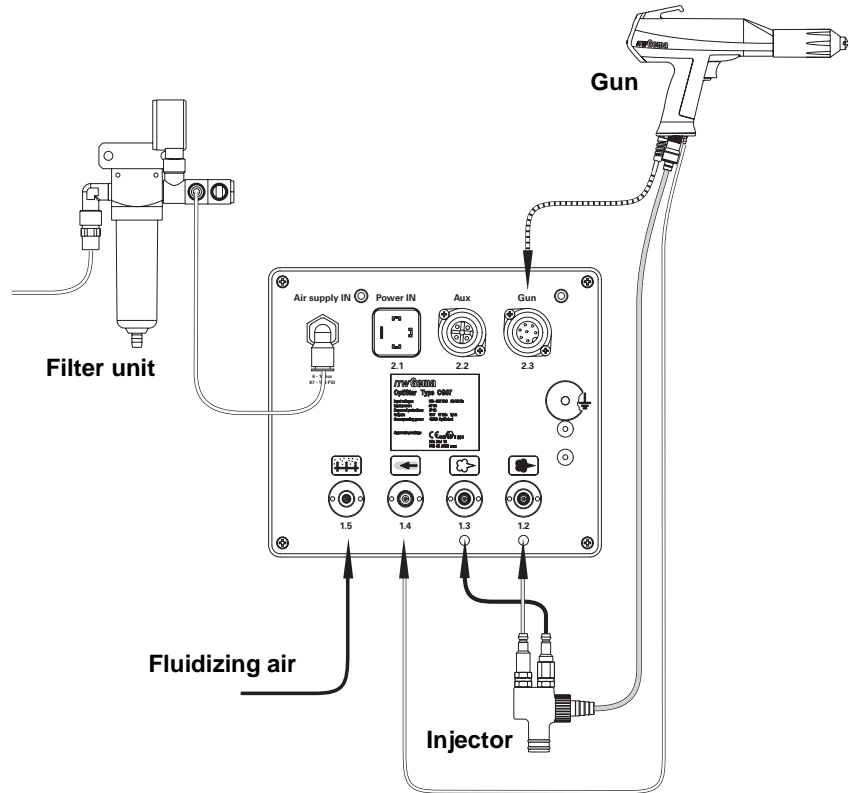
The compressed air must be free from oil and water!

2. Connect the black hose for fluidizing (electrically conductive) air to the output **1.5** on the rear side of the control unit
3. Connect the grounding cable to the control unit with the grounding screw, and the 5 m long grounding cable with the clamping clip to the booth or the conveyor. Check ground connections with Ohm meter and ensure 1 MOhm or less
4. Connect the gun cable plug to the socket **2.3** on the rear side of the control unit
5. Connect the rinsing air hose to the electrode rinsing air output **1.4** and to the powder gun
6. Attach the injector, connect the powder hose to the injector and to the powder gun
7. Connect the red hose for conveying air to the corresponding output **1.2** on the rear side of the control unit and to the injector
8. Connect the black hose for supplementary air to the corresponding output **1.3** on the rear side of the control unit and to the injector (this hose is electrically conducting)
9. Connect the mains cable to the **2.1 Power IN** plug and tighten with provided screw



Note:

If no vibration motor or stirrer is connected, the 2.2 Aux output is to be locked tightly with the provided protection cap!



Connecting guide - overview

Preparation for start-up

Prepare the fluidized powder hopper

1. Set the Airmover
2. Fill in powder
3. Adjust the fluidization on the control unit

Switching on the booth

The coating booth is switched on according to the corresponding user manual.

Start-up

Switch on the control unit

1. Press the **ON** power switch.
The displays illuminate and the control unit is ready for operation



Note:

The further start-up procedure for the OptiFlex F manual coating equipment gun is explicitly described in the OptiStar CG07 control unit operating instructions (chapter "Initial start-up" and "Daily start up")!

Color change

General information

When a color change takes place, the individual components of the manual coating equipment must be cleaned carefully. Thereby, all powder particles of the former color must be removed!

Procedure:

1. Empty the powder hopper and clean thoroughly
2. Clean the powder hose:
 - Strip the powder hose from the hose connection on the injector
 - Point the gun into the booth
 - Blow through the hose manually with a compressed air gun
 - Fit the powder hose again to the hose connection on the injector
3. Dismantle and clean the powder gun (see therefore the user manual of the OptiSelect manual powder gun)
4. Clean the injector (see therefore the user manual of the OptiFlow injector)
5. Prepare the manual coating equipment with new powder for start-up

Maintenance and cleaning



Note:

Regular and conscientious maintenance increases the life span of the manual coating equipment and provides for a longer continuous coating quality!

Daily maintenance

1. Clean the injector (see therefore the user manual of the OptiFlow injector)
2. Clean the powder gun (see therefore the user manual of the OptiSelect manual powder gun)
3. Clean the powder hose, see therefore in chapter "Color change"

Weekly maintenance

1. Clean the powder hopper, the injector and the powder gun
2. Check the control unit grounding connections to the coating booth, the suspension devices of the work pieces, or the conveyor chain

If in disuse for several days

1. Disconnect the mains plug
2. Clean the coating equipment
3. Turn off the compressed air main supply

Powder hose rinsing

If lengthy downtimes take place, the powder hose must be cleaned.

Procedure:

1. Strip the powder hose from the hose connection on the injector
2. Point the gun into the booth
3. Blow through the hose manually with a compressed air gun
4. Fit the powder hose again to the hose connection on the injector

Cleaning

Cleaning the powder hopper

1. Disconnect the fluidizing air supply
2. Remove the injector
3. Open the cover, blow out with compressed air and clean with a clean dry brush and cloth
4. Clean the suction tube, and injector
5. Empty the remaining powder into a container
6. Vacuum the hopper and, above all, the floor of the hopper
7. Clean the hopper with a cloth
8. Reassemble the powder hopper



Note:

Refill the powder hopper shortly before reusing! Never clean the powder hopper with solvents or water!

Cleaning the OptiSelect manual powder gun

Frequent cleaning of the gun helps to guarantee the coating quality.



Note:

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

Daily:

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

Weekly:

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



Note:

See therefore the user manual of the OptiSelect manual powder gun!

Maintenance and cleaning of the filter unit

The filter unit on the OptiFlex F manual coating equipment measures and cleans the compressed air. Here, the main compressed air connection of the equipment is located.

Replacing the filter element

Procedure:

1. Unscrew the filter glass on the filter unit
2. Loosen the cap screw
3. Remove the complete filter element
4. Replace the filter element
5. Clean the filter glass on the inside and install it again

Troubleshooting

General information

Fault	Causes	Fault elimination
---	Power pack defective	Replace the power pack
---	Main valve defective	Replace main valve coil
---	Gun not connected Gun plug, gun cable or gun cable connection defective Remote control on powder gun defective	Connect the gun Replace corresponding part or send in for repair Replace remote control (gun cap)
---	Rinsing air solenoid valve of flat jet nozzle defective	Replace valve coil
---	Rinsing air solenoid valve of round jet nozzle defective	Replace valve coil
---	Gun plug, gun cable or gun cable connection defective	Replace corresponding part or send in for repair
Gun LED remains dark, although the gun trigger is operated	Gun plug, gun cable or gun cable connection defective Remote control on powder gun defective	Replace corresponding part or send in for repair Replace remote control (gun cap)
Powder does not adhere to object, although the gun trigger is operated and the gun sprays powder	High-voltage and current deactivated High voltage cascade defective Objects are not properly grounded	Press the selection key (application key) Send in the gun for repair Check the grounding

Fault	Causes	Fault elimination
Control unit displays remain dark, although the control unit is switched on	Control unit is not connected to the mains Power pack fuse defective Power pack defective	Connect the equipment with the mains cable Replace the fuse Replace the power pack
The powder is not fluidized	Compressed air not present Fluidizing air is set too low on the control unit Motor throttle defective	Connect the equipment to the compressed air Set the fluidizing air correctly Replace motor throttle
The gun does not spray powder, although the control unit is switched on and the gun trigger is operated	Compressed air not present Injector, motor throttle or nozzle on injector, powder hose or powder gun are clogged Nozzle in the injector is clogged Nozzle is not inserted Fluidizing not running No conveying air: Motor throttle defective Solenoid valve defective Front plate defective	Connect the equipment to the compressed air Clean corresponding part Replace Insert the insert sleeve (see above) Replace the motor throttle Replace the solenoid valve Send in for repair

Schematic diagrams

OptiFlex 1-F/2-F - pneumatic diagram

OptiFlex 1-F/2-F - wiring diagram

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** OptiFlex F manual coating equipment,
Serial no. 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!

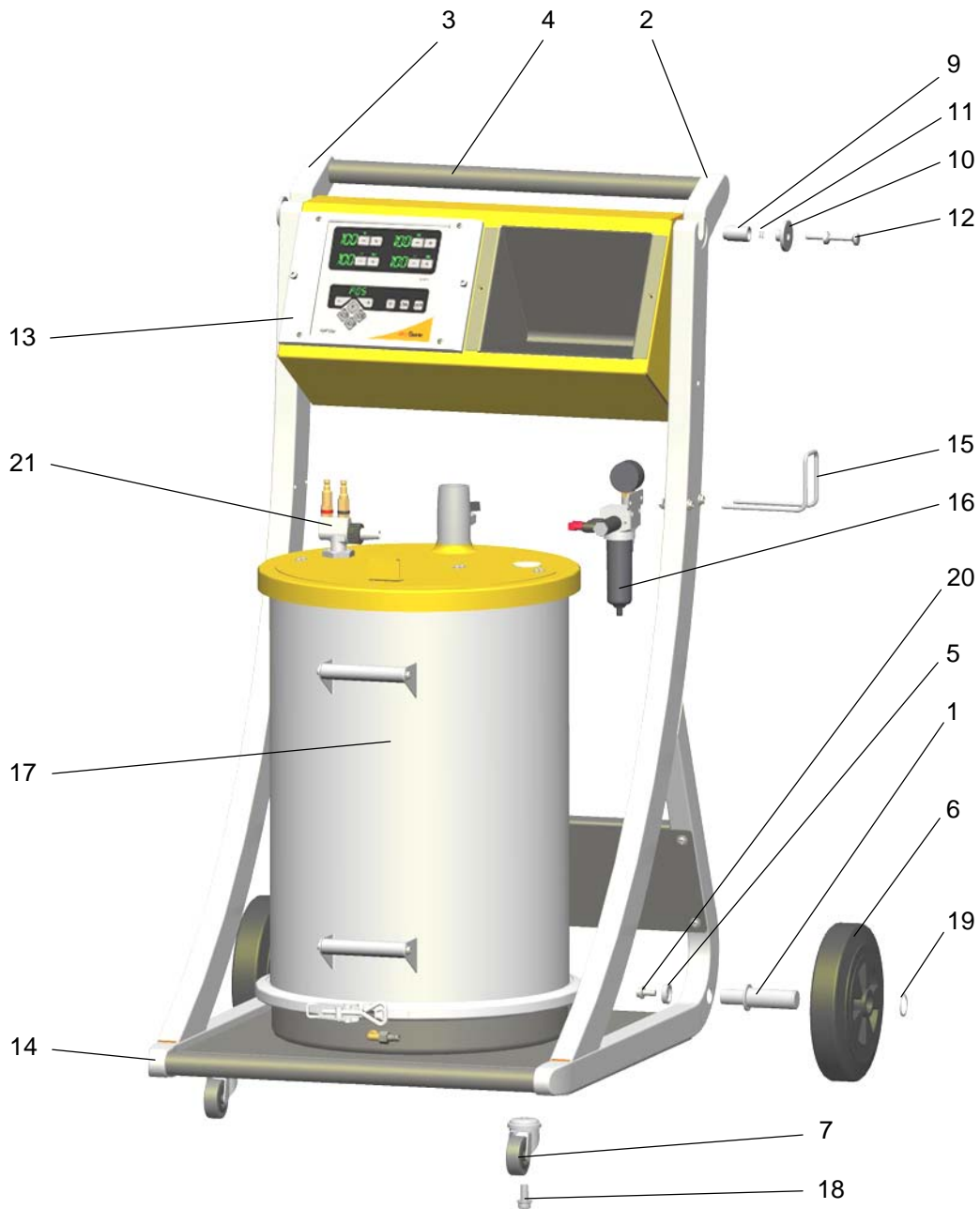
OptiFlex F manual coating equipment - spare parts list

1	Bearing bolt	1000 453
2	Handle piece, right	1000 811
3	Handle piece, left	1000 812
4	Handle bar	1000 460
5	Counter washer	1000 454
6	Rubber wheel - Ø 200 mm	260 592
7	Swivel wheel - Ø 50 mm	260 606
8	Rubber buffer - Ø 35x40 mm, M8/a (not shown)	211 664
9	Bearing bolt - L=33	1000 953
10	Conical spring washer	1000 943
11	Compression spring - 0,63x8x16 mm, RF	1000 565
12	Gun holder	1001 140
13	CG07 gun control unit - complete (see corresponding operating manual)	
14	Bumper	1000 779
15	Bracket	1000 699
16	Filter unit - complete (see corresponding spare parts list)	
17	Powder hopper HF03-50-2, without injector (see corresponding spare parts list)	
18	Hexagon ribbed cylinder screw - M10x20 mm	260 584
19	Snap ring - A	237 094
20	Hexagon ribbed cylinder screw - M8x16 mm	261 793
21	OptiFlow IG02-V injector - complete (see corresponding user manual)	

Wearing part

* Please indicate length

OptiFlex F manual coating equipment - spare parts list

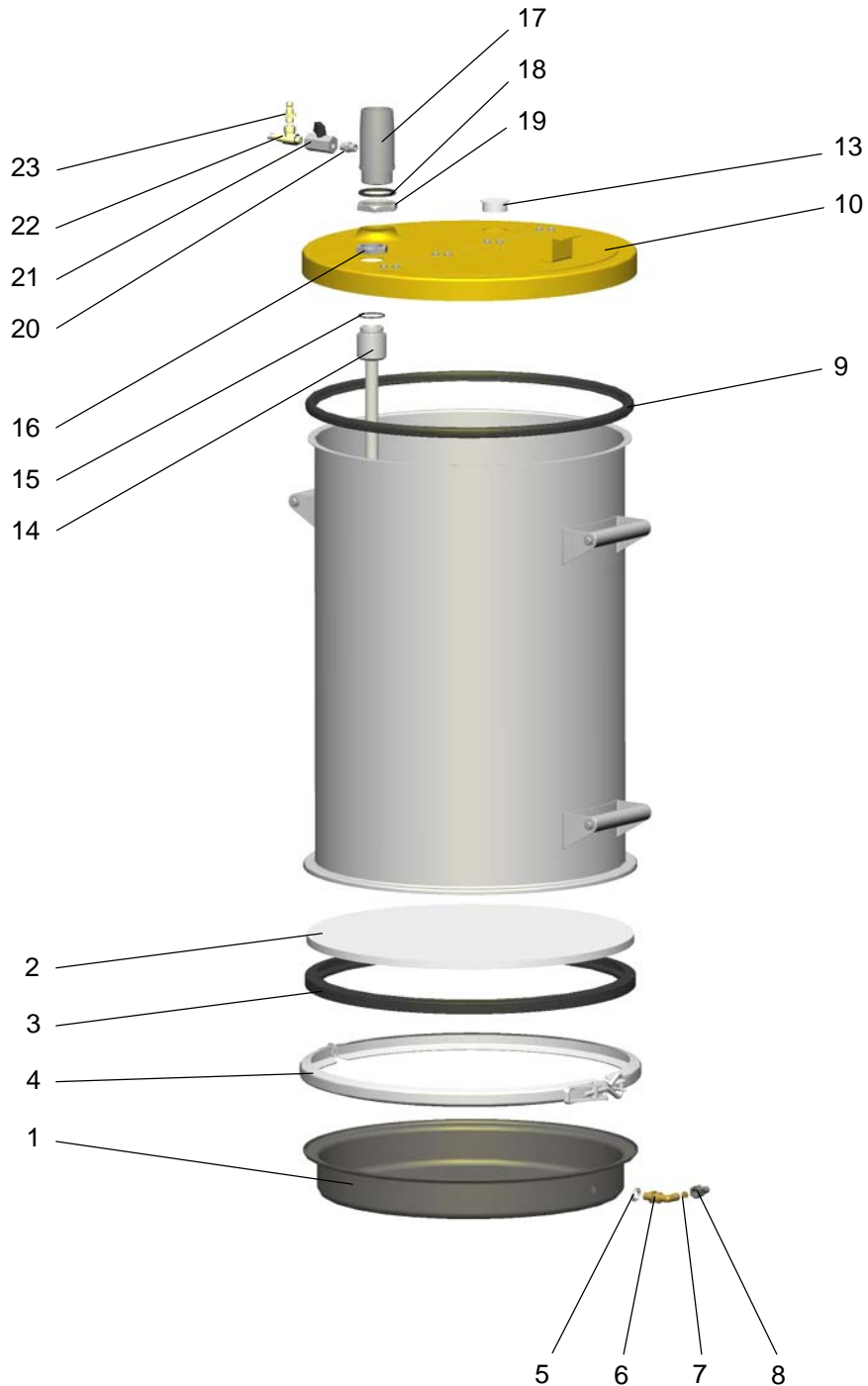


OptiFlex F manual coating equipment - spare parts

OptiFlex F manual coating equipment - powder hopper

A	Powder hopper - complete (incl. pos. B, 10, 12)	1001 653
B	Hopper body - complete (pos. 1-9)	1001 644
1	Floor plate	1001 640
2	Fluidizing plate	390 151
3	Fluidizing bed seal	390 186
4	Clamp ring	390 194
5	Sealing ring - Ø 10,2/17x3,8 mm	230 626
6	Elbow screw connection - 1/8"a-1/8"a	1001 079
7	Valve - Ø 1,4 mm	371 912
8	Connector - NW5, 1/8"l	200 859
9	Protective strip	103 837
10	Hopper cover - complete	1001 648
	Spiral hose D40/45, for pos. C (not shown)	100 048
13	Blind grommet - Ø 36x12 mm	238 333
14	Suction tube - complete, L=504 mm (incl. pos. 15)	339 130
15	O-Ring - Ø 28,3x1,78 mm	224 987
16	Lock nut - PG21	234 869
C	Airmover - complete (incl. pos. 17-23)	1002 043
17	Venting tube	375 845
18	O-Ring - Ø 38x4 mm	239 151
19	Locknut	342 343
20	Double nipple - 1/8"a-1/8"a	202 258
21	Ball valve	260 967
22	Throttle valve - 1/8"a-1/8"a	1002 127
23	Connector - NW5-1/8"a	237 272

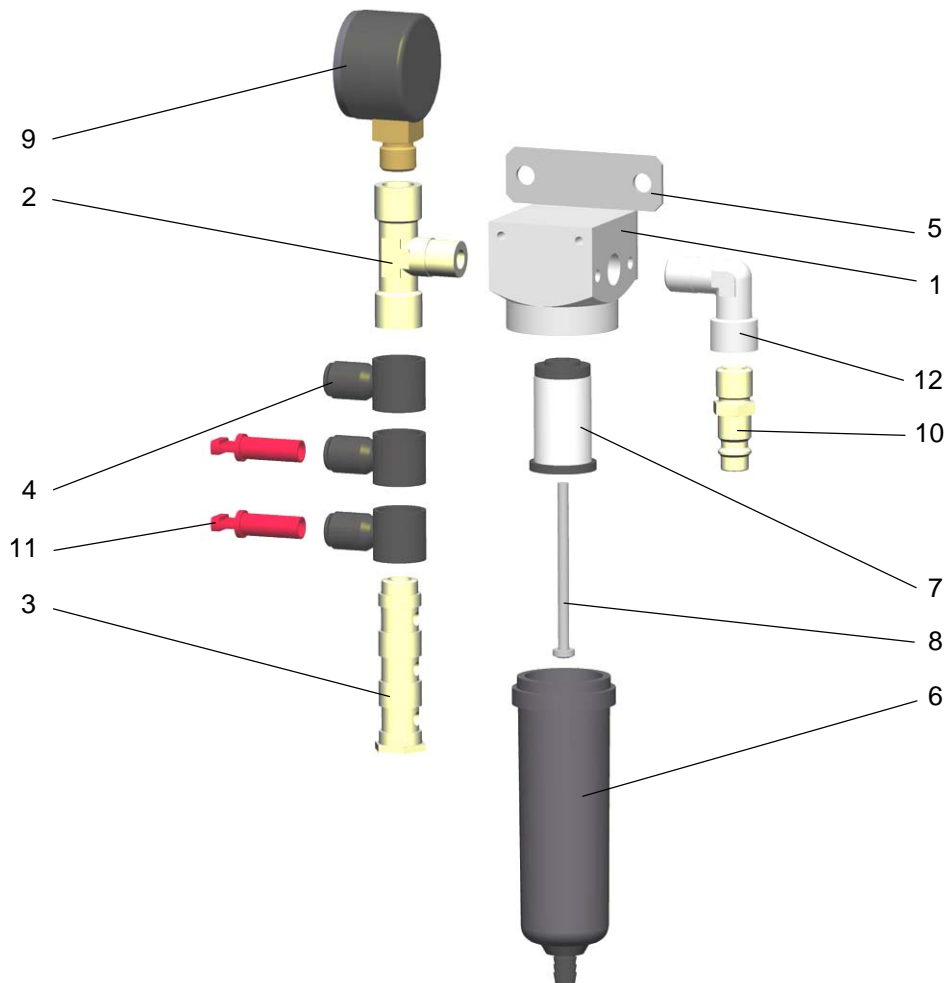
OptiFlex F manual coating equipment - powder hopper



OptiFlex F manual coating equipment - powder hopper

OptiFlex F - filter unit

	Filter unit - complete, without pos. 5	1001 147
1	Filter separator body - F14MD	1001 759
2	T-piece - 1/4"i-1/4"a-1/4"l	262 064
3	Hollow screw - 1/4"a, triple	222 623
4	Swivel ring - Ø 8mm,1/4", 1-fach, A type	225 762
5	Carrier plate	1001 758
6	Condensate container with drain valve	1001 761
7	Filter cartridge - 20 µm	1001 762
8	Cap screw - M4x60 mm	258 946
9	Manometer - G1/4", 0-10 bar	1001 764
10	Rectus nipple - NW 7,4-1/4"a	256 730
11	Grommet - Ø 8 mm	238 023
12	Elbow joint - 1/4"i-1/4"a	222 674
13	Rectus quick release connection (for pos. 10, not shown)	239 267



OptiFlex F - filter unit

