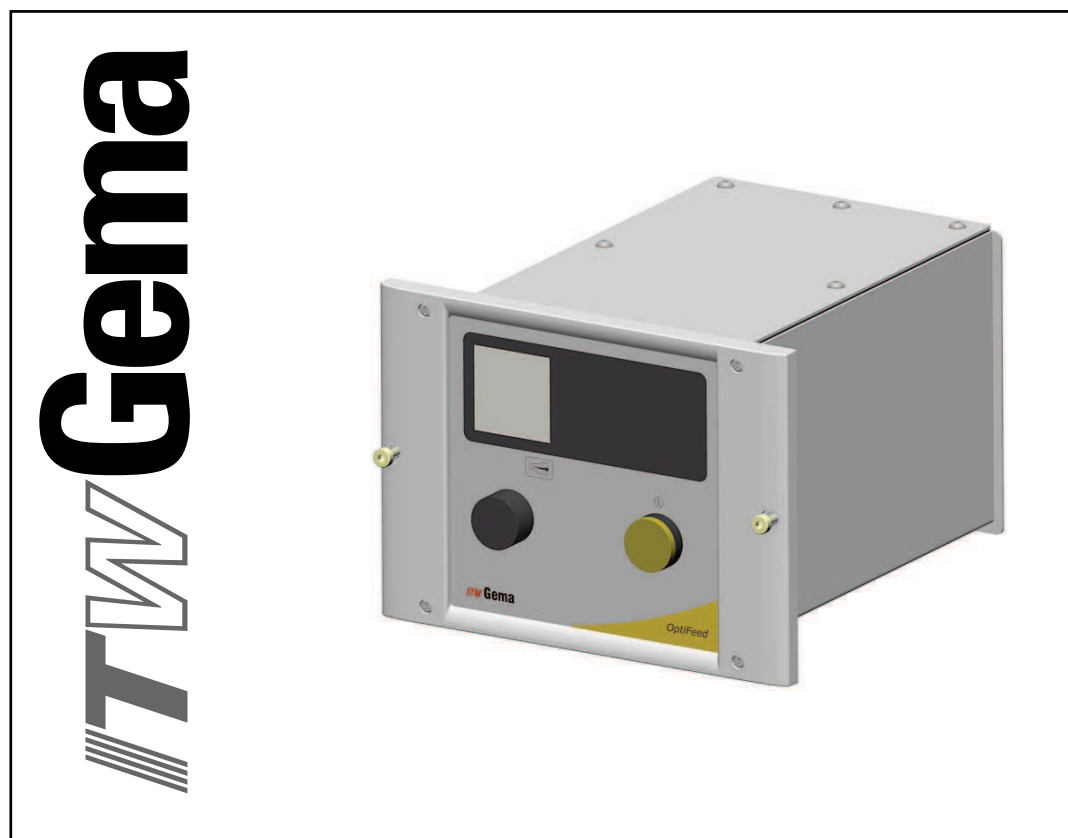

Operating instructions and spare parts list

OptiFeed CA08

Fresh powder control unit



Documentation OptiFeed CA08 Fresh powder control unit

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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 OptiFeed CA08 Fresh powder control unit.

These safety regulations must be read and understood before the OptiFeed CA08 Fresh powder control unit 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 OptiFeed CA08 Fresh powder control unit 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 OptiFeed CA08 Fresh powder control unit 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 OptiFeed CA08 Fresh powder control unit 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 OptiFeed CA08 Fresh powder control unit 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 OptiFeed CA08 Fresh powder control unit 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)

Product specific security measures

OptiFeed CA08 Fresh powder control unit

The OptiFeed CA08 Fresh powder control unit is a constituent part of the system and is thus integrated into the safety system of the plant.

For the use outside of the safety concept, corresponding measures must be taken!



Note:

For further information see the more detailed ITW Gema safety regulations!

About this manual

General information

This operating manual contains all the important information which you require for the working with the OptiFeed CA08 Fresh powder control unit. 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 control units, powder guns etc. - should be referenced to their corresponding documents.

Function description

Field of application

The OptiFeed CA08 Fresh powder control unit is designed exclusively for the control of the PP01 or PP02 Powder pumps, as well as the two vibrator motors on the powder transport.

Any other use is considered as non-conform. The manufacturer is not responsible for any damage resulting from this - the risk for this is assumed by the user alone!

For a better understanding of the interrelationships in powder transport, it is recommended to read completely the operating instructions of the other components, so as to be familiar with their functions too.

OptiFeed CA08 Fresh powder control unit

Typical characteristics

- The OptiFeed CA08 Fresh powder control unit transports the coating powder from a container to the powder hopper
- The control unit is a part of the powder transport, consisting of the OptiControl (CM03, CM10, CM20) control unit, the PP01 or PP02 Powder pump, as well as the FPS Fresh powder system
- The OptiFeed CA08 Fresh powder control unit is integrated into the Gema OptiFlex A2 control cabinet, and is supplied there with compressed air and mains voltage

Basic functions

- Controlling of the powder pump transport air by a regulator on the front side of the device
- Monitoring of the air pressure and therefore of the powder quantity on the manometer
- Controlling of the vibrator motors by the OptiControl control unit in dependence of the powder level in the powder hopper. On the rear wall, a connection is located each for a vibration motor at the powder container and on the powder sieve

Device types

The OptiFeed CA08 Fresh powder control unit is delivered in two types, depending on the installed fresh powder system and its vibration motor. The two device types differ only in the capacity of the inserted condensers.

For the FPS11 Fresh powder system, a vibrator of 160 VA e.g. is used. In this case, a condenser adapted for the higher performance will be installed in the equipment.

OptiFeed CA08	Type 1	Type 2
Serial number	16401.xxxxx	16402.xxxxx
Connection and performance of the vibrators - Output 1 - Output 2	230 VAC, 50 VA 230 VAC, 50 VA	230 VAC, 160 VA 230 VAC, 50 VA
Order number of the vibrators - Output 1 - Output 2	237 582 237 582	258 628 237 582

Technical data

OptiFeed CA08 Fresh powder control unit

Electrical data

OptiFeed CA08	
Nominal input voltage	200-240 VAC
Frequency	50/60 Hz
Input power value	200 VA
Temperature range (operation)	0-40°C
Vibrator connection and performance	
- Type 1: Output 1 and 2	2 x 230 VAC, 50 VA
- Type 2: Output 1	1 x 230 VAC, 160 VA
Output 2	1 x 230 VAC, 50 VA
Protection type (control units)	IP54
Approval	ATEX zone 22 CE Ex II 3 D

Pneumactical Data

OptiFeed CA08	
Compressed air connection (input, output)	3/8" a
Min. input pressure	6 bar / 87 psi
Max. input pressure	10 bar / 145 psi
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
Total air consumption	21 Nm ³ /h (at 6 bar with PP01)

Dimensions

OptiFeed CA08	
Width	248 mm
Depth	304 mm
Height	178 mm
Weight	6,1 kg

Operating and display elements

Displays and operating elements

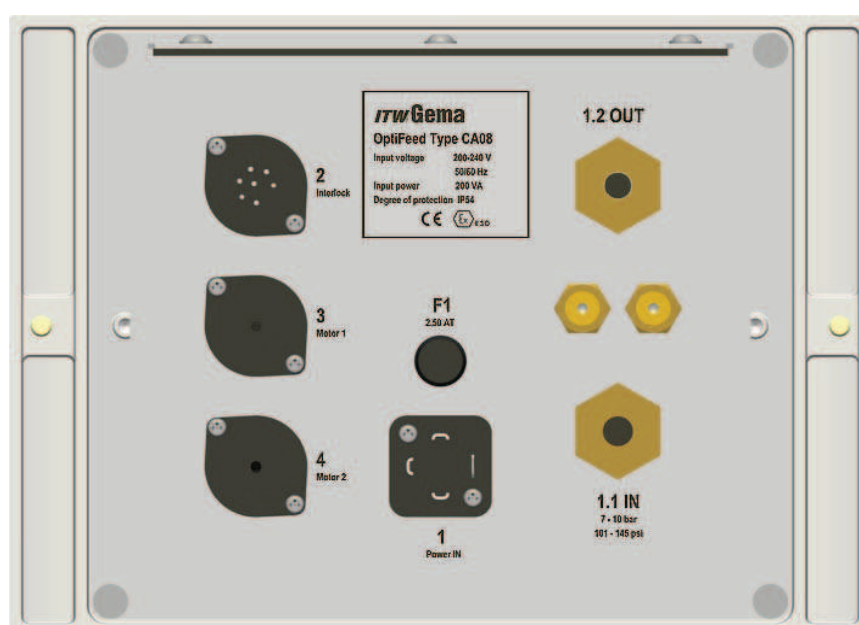


OptiFeed CA08 Fresh powder control unit - operating and display elements

Designation	Function
1	Power switch
2	Transport air regulator
3	Pressure indicator

Start-up and operation

Connections



OptiFeed CA08 Fresh powder control unit - connections on the rear wall

Connection	Description
1 Power IN	Mains cable connection (100-240 VAC)
1.1 IN	Compressed air input connection (7-10 bar / 101-145 PSI)
1.2 OUT	Compressed air output connection
2 Interlock	Interlocking connection
3 Motor 1	Vibration motor connection 1
4 Motor 2	Vibration motor connection 2
F1	Mains fuse

Connecting guide

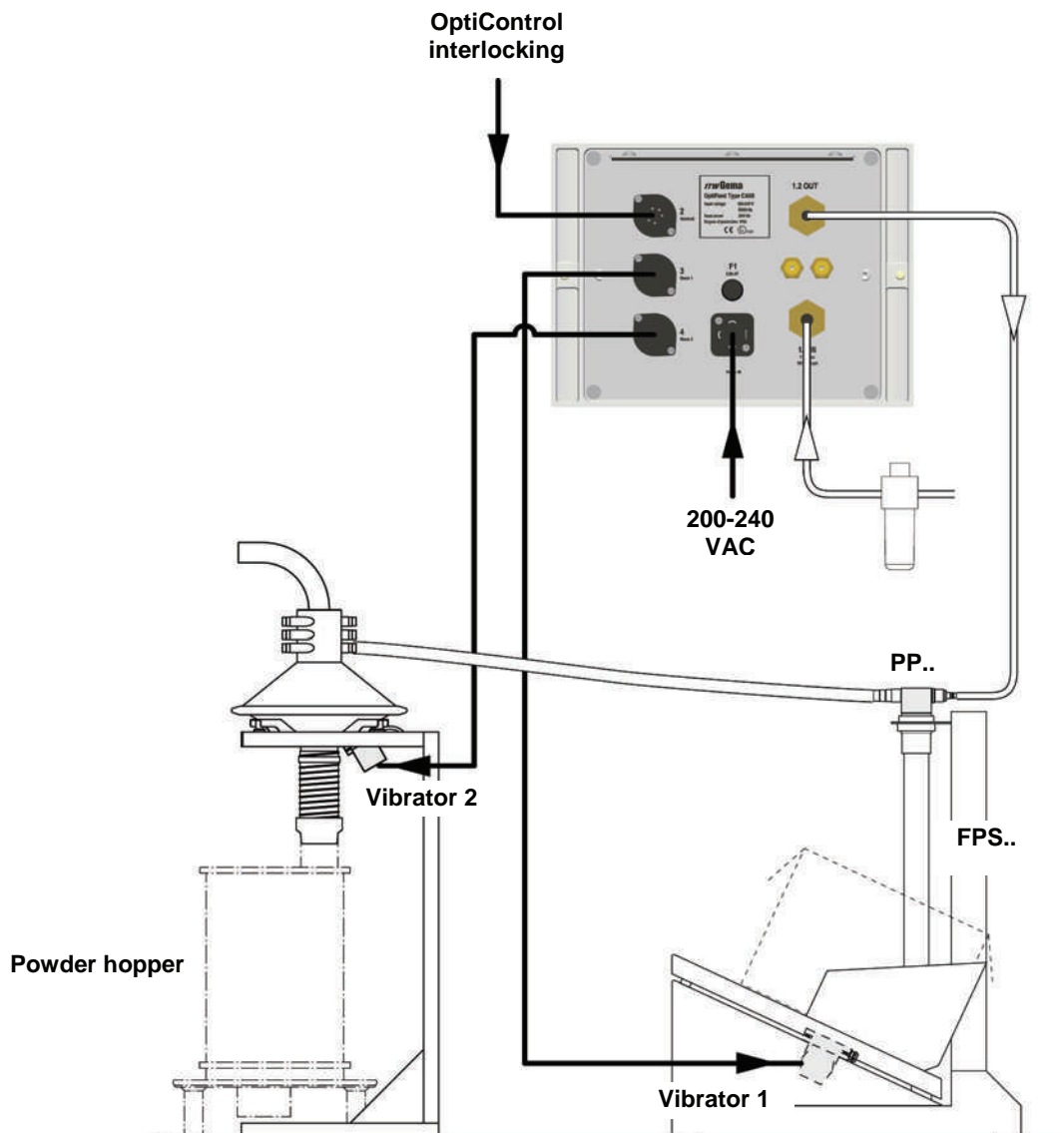
1. Check the compressed air connection from the filter unit to the control unit. Connect the compressed air supply hose to the **1.1 IN** main connection



Note:

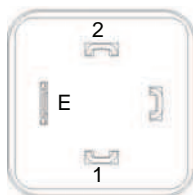
The compressed air must be free from oil and water!

2. Connect the transport air hose to the output **1.2 OUT** on the rear side of the control unit
3. Connect the vibration motor cable to the sockets **3** and **4** on the rear side of the control unit
4. Connect the interlocking signal cable to the socket **2** on the rear side of the control unit
5. Connect the mains cable to the **1 Power IN** plug and fasten it



Connecting guide - overview

Pin assignment



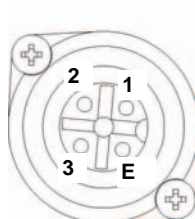
Connection 1 - Power IN

1	N	Neutral conductor (power supply)
2	L	Phase (200-240 VAC)
E	PE	Ground



Connection 2 - Interlock

1	L	OUT
2	L	IN



Connection 3 - Motor 1 / Connection 4 - Motor 2

1	Motor connection U
2	Motor connection V
3	Motor connection W
E	Ground PE

Start-up

1. Switch on the OptiFeed CA08 Fresh powder control unit with the power switch 1

The powder level is monitored by a level sensor in the powder hopper. If a powder shortage occurs, the OptiControl control unit switches a contact, which turns on the solenoid valve for transport air, as well as the vibrator motors at the powder container and the powder sieve. The fresh powder now will be transported to the powder hopper

2. Adjust the air pressure to the powder pump with the regulator and check it on the pressure gauge

The powder volume depends on the powder condition, as well as the hose length between the container and the powder hopper. If the hopper is full, the powder supply, as well as both vibrator motors are switched off by the OptiControl control unit. If no fresh powder is present, the control unit releases an alarm after a preselected time



Note:

For detailed information about the OptiControl control unit function, please see the corresponding user manual!

Troubleshooting

General information

Fault	Causes	Troubleshooting
No fresh powder available		Put a new powder container on the FPS
Vibrator motor not running	Vibration control switch not switched on Vibration control fuse defective Motor cable is not connected to vibration control	Switch on Replace Connect
Fresh powder is not extracted	Transport air is not set correctly Nozzle, check valve or powder pump (injector) clogged Fluidizing/suction unit clogged Fluidizing air bezel clogged Transport hose clogged	Check and adjust Clean, replace if necessary Clean Clean, replace if necessary Clean

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** OptiFeed CA08 Fresh powder control unit
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)

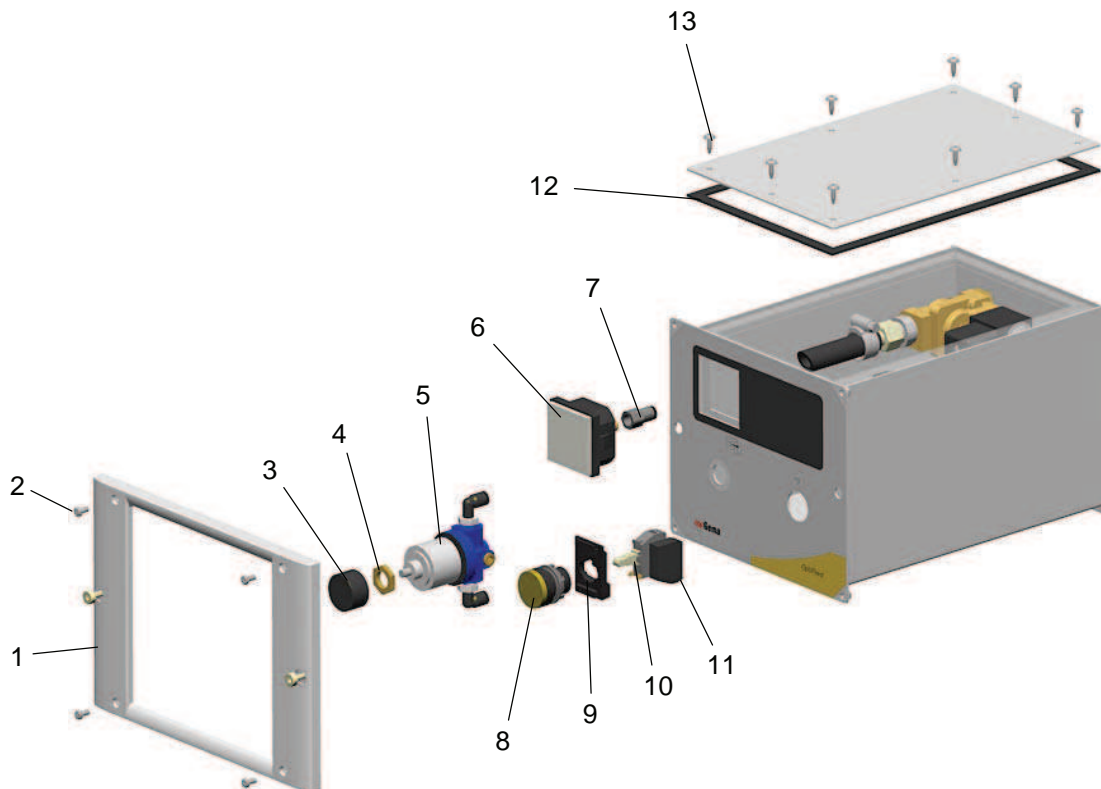


WARNING!

Only original ITW-Gema spare parts should be used, because the hazardous location approval will be preserved that way! The use of spare parts from other manufacturers will invalidate the ITW Gema guarantee conditions!

OptiFeed CA08 Fresh powder control unit - front plate

1	Front frame - complete	1000 393
2	Cylinder screw - M4x8 mm	215 139
3	Button - Ø 28 mm	200 069
4	Nut - M14x1 mm	302 163
5	Pressure regulator - 1/4"-6-6	239 852
6	Pressure gauge - 1/8"a, 0-10 bar	243 620
7	Connection sleeve - 1/8"i, Ø 6 mm	233 412
8	Illuminated push button with lock, yellow	262 820
9	Fixing flange	262 838
10	LED module - 230 V, yellow	262 846
11	Standard auxiliary switch, 1s	262 854
12	Adhesive seal strip - 9x2 mm	100 250
13	Cap screw - 35x12 mm	1003 955



OptiFeed CA08 Fresh powder control unit - front plate

OptiFeed CA08 Fresh powder control unit - rear wall

1	Interlocking connection - complete	1003 939
2	Vibrator connection - complete	1003 940
3	Fuse holder, long	200 131
4	Fuse - F 2,5 AT (not shown)	206 571
5	Power supply connection - complete	1003 938

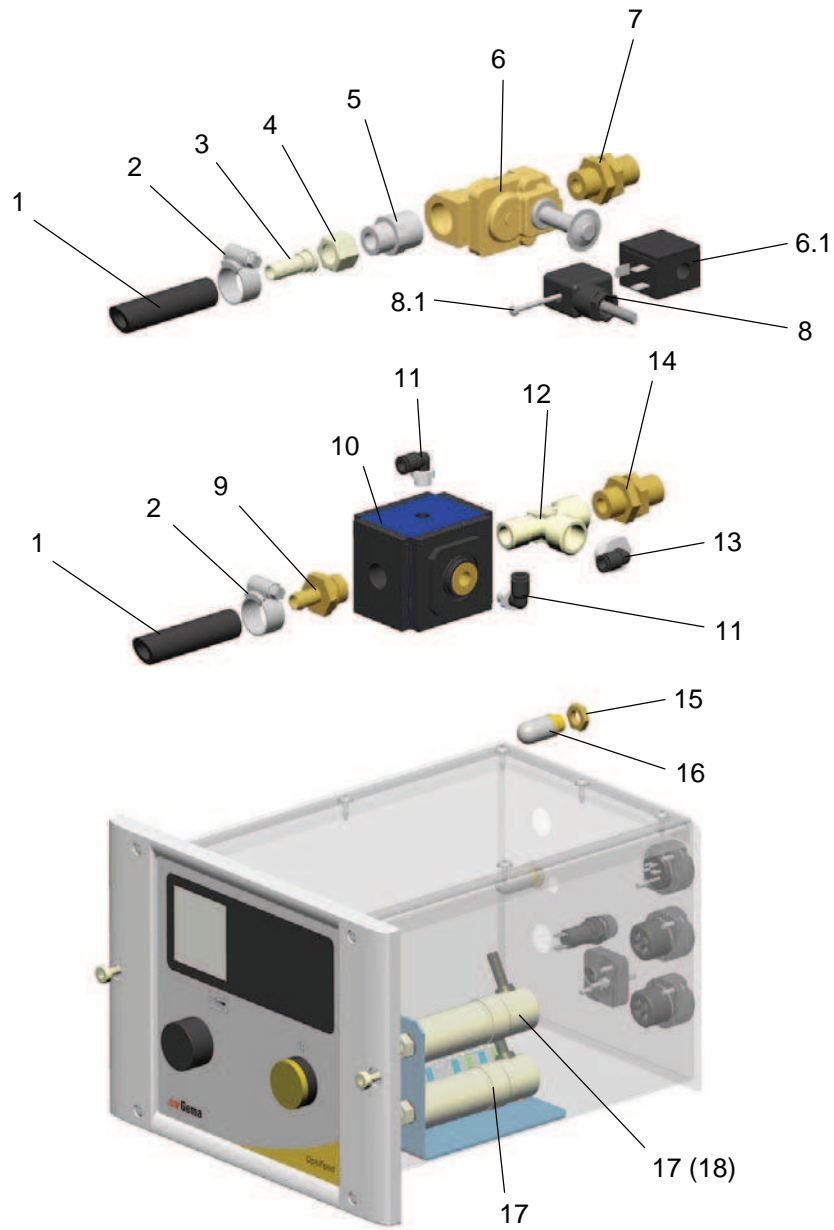


OptiFeed CA08 Fresh powder control unit - rear wall

OptiFeed CA08 Fresh powder control unit - spare parts

1	Compressed air hose - Ø 10/17 mm, black	105 147
2	Hose clamp - 17-25 mm	223 085
3	Hose connection - Ø 8 mm	203 165
4	Threaded sleeve - 3/8"i	203 157
5	Double nipple - 1/2"a-3/8"a	244 317
6	Solenoid valve - 1/2" NW 13.5 mm, 230 VAC, incl. pos 6.1	259 500
6.1	Valve coil - 230 VAC, for pos. 6	1001 158
7	Connection fitting - 1/2"a-3/8"a	223 794
8	Valve cable - complete, 0.3 m, incl. pos. 8.1	393 061
8.1	Cap screw - M3x35 mm	219 932
9	Connection plug - 3/8"a-1d6	203 173
10	Pressure regulator - 3/8"	244 384
11	Elbow joint - 1/8"a, Ø 6 mm	254 061
12	T-piece - 3/8"a-3/8"i-3/8"i	223 310
13	Elbow joint - 3/8"a, Ø 6 mm	267 120
14	Connection fitting - 3/8"a-3/8"a	202 975
15	Hexagon nut - 1/8"-SW 14	1003 953
16	Fluidizing pad - 1/8"a	237 264
17	Condenser - MFD2, 400 V (device type 1)	237 540
18	Condenser - MFD8, 400 V (device type 2)	1003 941

OptiFeed CA08 Fresh powder control unit - spare parts



OptiFeed CA08 Fresh powder control unit - spare parts