
Operating instructions and spare parts list

Powder Hopper HF02-100/150/200



Translation of the original operating instructions

Documentation Powder Hopper HF02

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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 HF02 Powder Hopper.

These safety regulations must be read and understood before the HF02 Powder Hopper is used.

Safety symbols (pictograms)

The following warnings with their meanings can be found in the 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!


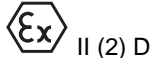
Useful tips and other information

Conformity of use

1. The HF02 Powder Hopper 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 HF02 Powder Hopper is to be used for other purposes or other substances outside of our guidelines, then Gema Switzerland GmbH should be consulted.
3. Observance of the operating, service and maintenance instructions specified by the manufacturer is also part of the conformity of use. The HF02 Powder Hopper should only be used, main-

tained 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 HF02 Powder Hopper has been set up and wired according to the guidelines for machinery (2006/421gor/EG). EN 60204-1 (machine safety) must also be observed.
5. Unauthorized modifications to the HF02 Powder Hopper 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
 	IP54

Special security measures

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

HF02 Powder Hopper

The HF02 Powder Hopper powder hopper is part of the plant and therefore integrated in the safety concept of the plant.

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



Note:
For further information, see the more detailed Gema safety regulations!

About this manual

General information

This operating manual contains all important information which you require for the working with the HF02 Powder Hopper. 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.

HF02 Product description

Function

The HF02 Powder Hopper contains the powder used for coating and the recovered powder. The injectors for the powder feed and the level sensor for the monitoring of the powder level are attached at the cover of the powder container.

Technical Data

The HF02 Powder Hopper is available in following versions:

HF02 Powder Hopper	HF02-100	HF02-150	HF02-200
Volume / content	104 dm ³	150 dm ³	201 dm ³
Powder Hopper diameter	505 mm	605 mm	700 mm
Height	610 mm	610 mm	610 mm
Number of injectors	12	24	32
Air consumption - fluidizing air	~ 8 Nm ³ /h	~ 11 Nm ³ /h	~ 15 Nm ³ /h
Air consumption - vibrator	2 Nm ³ /h	2 Nm ³ /h	2 Nm ³ /h
Air consumption - air mover	4 Nm ³ /h	4 Nm ³ /h	4 Nm ³ /h

Additional equipment / options

- Level sensor (see corresponding documentation)
- Conversion kit - Powder Hopper venting (order no. 371 068)
- Connection Dense Phase Conveying (order no. 376 884)
- Powder Hopper Trolley (see "Powder Hopper Trolley")
- Vibrating base (see "Vibrating base")
- Airmover (for spare parts, see "Airmover", for functions, see operating manual of the pneumatic-/fluidizing unit)

Start-up

The start-up of the HF02 Powder Hopper must be carried out according to the corresponding local safety regulations.

Grounding of the HF02 Powder Hopper

In order to guarantee operating safety, electrostatic powder coating hoppers must be grounded. An electrically conducting fluidizing hose also gives a contribution to the grounding.



Attention:

Consequently, the fluidizing air hose must be connected during the entire operation!

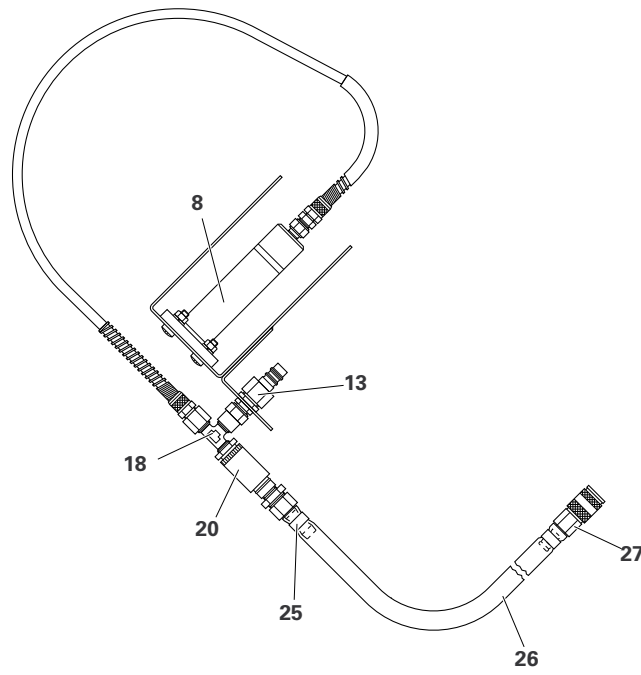
Connection of the vibrating table and adjustment of the fluidizing air



Note:

The following steps are made only at the initial start-up. The adjustment of the fluidizing air in the further operation (assimilation to other powder types) has to be done only at the pneumatic-/fluidizing unit.

1. Connect the main air input hose from the pneumatic-/fluidizing unit to the air input (13) of the vibrating base
2. Fit the quick-release connector (27) to the fluidizing air connection of the HF02 Powder Hopper
3. Lock the throttle check valve (20) (under the vibrating base)
4. Set the fluidizing air pressure on the pneumatic-/fluidizing unit - at least 3 bar. Now all the air is being fed to the vibrator (8)
5. Slowly unlock the throttle check valve (20) to fluidize the powder in the Powder Hopper. The vibration will decrease as the throttle check valve (20) is unlocked
6. If the vibrator stops vibrating before the powder "boils" properly, increase the fluidizing air pressure on the pneumatic-/fluidizing unit and then reset the throttle check valve (20) accordingly
7. Repeat the previous steps until the powder "boils" properly and the Powder Hopper vibrates
8. Tighten the milled locking ring on the throttle check valve (20), so that the vibration-setting cannot be changed



Connection of the vibrating base

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** HF02 Powder Hopper,
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!

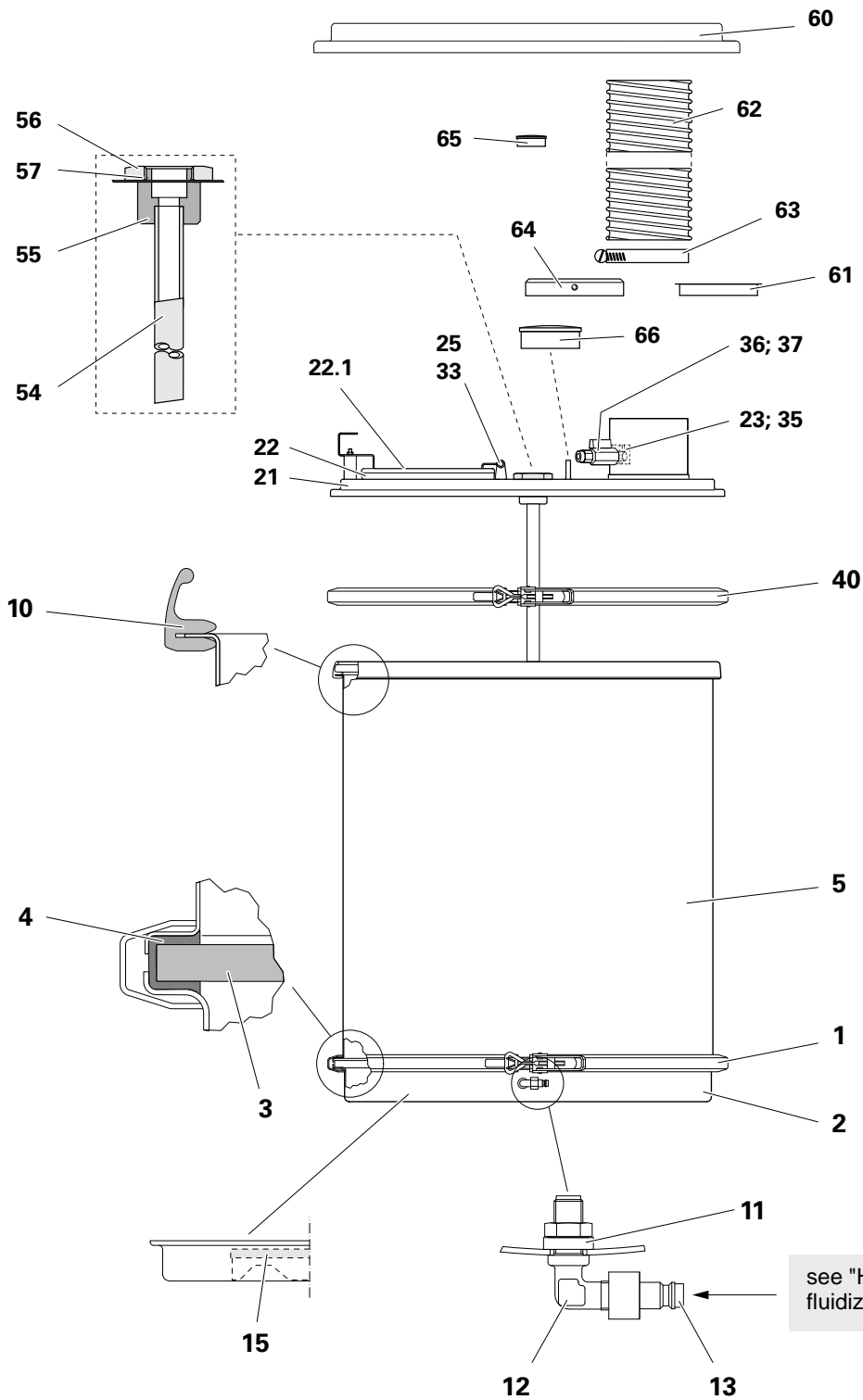
Only original Gema spare parts should be used, because the explosion protection will also be preserved that way. The use of spare parts from other manufacturers will invalidate the Gema guarantee conditions!

HF02 Powder Hopper-100/150/200

	HF02-100	HF02-150	HF02-200
Powder Hopper - complete (pos. A, B and 40)	395 382	395 390	395 404
A Bottom section - complete (pos. 1-15)	392 278	392 286	392 294
1 Clamp band	392 243	392 251	392 260
2 Bottom plate	392 154	392 162	392 170
3 Fluidizing plate	392 189	392 197	392 200
4 Fluidizing bed gasket	392 219	392 227	392 235
5 Mantling plate	367 052	367 060	367 079
10 Edge protection profile	105 198*	105 198*	105 198*
11 Sealing ring - Ø 18,2/28x6,1 mm	239 291	239 291	239 291
12 Elbow joint - Ø 10/10 mm	202 827	202 827	202 827
13 Connector plug - NW7.4 mm-3/8"i	239 275	239 275	239 275
15 Foam rubber profile	--- ---	103 438*	103 438*
B Powder Hopper cover - complete (pos. 21-37)	370 959	370 967	370 975
21 Cover	370 908	370 894	370 886
22 Inspection cover - complete	371 033	371 033	371 033
22.1 Arbor-mounted profile	103 837*	103 837*	103 837*
23 Nozzle	371 025	371 025	371 025
25 Threaded rod	371 041	371 041	371 041
33 Cap nut - M6 galvanized	221 147	221 147	221 147
35 Double nipple - 1/4"a-1/4"a	202 754	202 754	202 754
36 Ball valve - 1/4"i-1/4"l	256 749	256 749	256 749
37 Screw-in nipple - 1/4"a, Ø 8 mm	245 933	245 933	245 933
40 Clamp band	392 243	392 251	392 260
C Suction tube - complete - L=495 (pos. 54 and 55)	339 130	339 130	339 130
54 Suction tube	336 491	336 491	336 491
55 Suction tube attachment	336 483	336 483	336 483
56 Locknut - PG21 plastic	234 869	234 869	234 869
57 O-ring - 28,3x1,78 mm	224 987	224 987	224 987
60 Hopper cover (no holes)	367 028	367 036	367 044
61 Plastic cover (for fill-in opening)	268 054	268 054	268 054
62 Venting hose - Ø 100 mm	104 434*	104 434*	104 434*
63 Hose clamp (for venting hose)	211 125	211 125	211 125
64 Airmover adapter - complete	368 237	368 237	368 237
65 Blind grommet (for unused injector opening)	238 333	238 333	238 333
66 Plastic cover (for level sensor opening)	256 765	256 765	256 765

* Please indicate length

HF02 Powder Hopper-100/150/200

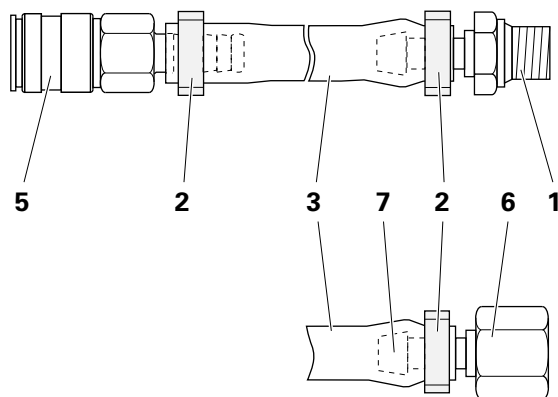


HF02 Powder Hopper-100/150/200

HF02 Powder Hopper - fluidizing air connection

1	Connection plug	203 173
2	Hose clamp	203 386
3	Fluidizing air hose - Ø 17/10 mm, electrically conducting	105 147*
5	Quick release connection	239 267
6	Threaded sleeve	203 157
7	Hose nipple	203 165

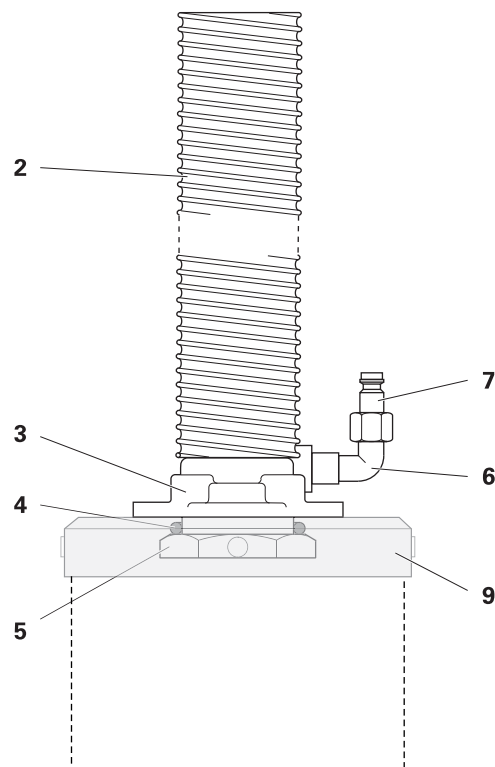
* Please indicate length



Fluidizing air connection

Airmover - option for HF02-100/150/200

Airmover - plastic version (additional equipment)		342 351
complete, without pos. 8 and 9		
Airmover - enamel version (additional equipment)		403 822
complete, without pos. 9		
2	Venting hose - Ø 32 mm x 3 m, Heliflex	100 048
	Hose clamp for venting hose (not shown)	221 376
3	Airmover - plastic version	342 335
3	Airmover - enamel version	403 849
4	O-ring - Ø 38x4 mm, Nitrile	239 151
5	Locknut	342 343
6	Elbow joint - 1/8"-1/4"	202 894
7	Quick release connection plug - 1/8"	200 859
8	Ring (only enamel version, not shown)	403 830
9	Airmover adapter - complete	368 237



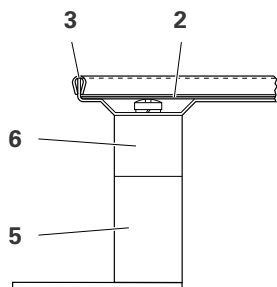
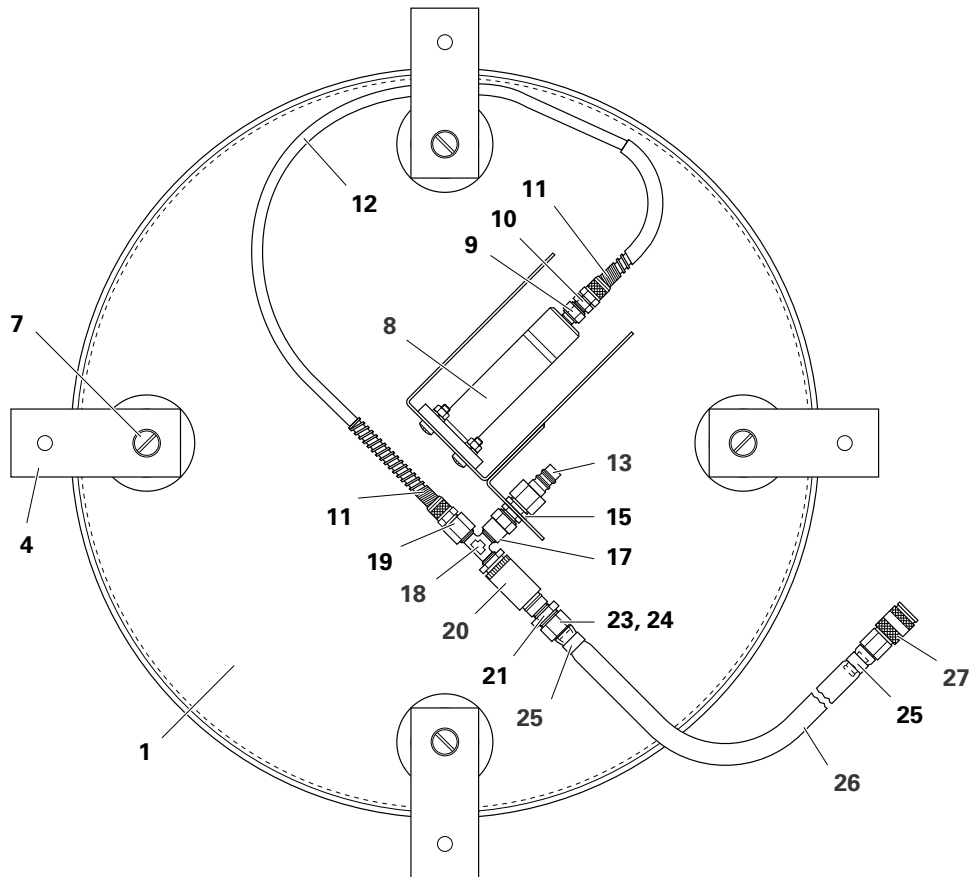
Airmover

Vibrating base - option

	HF02-100 vibrating base - complete	352 039
	HF02-150/200 vibrating base - complete	352 047
1	Vibration bed for HF02-100	351 997
	Vibration bed for HF02-150/200	352 055
2	Rubber plate for HF02-100	352 080
	Rubber plate for HF02-150/200	352 098
3	Edge protection profile	103 942*
4	Foot plate	352 012
5	Buffer holder	342 378
6	Round buffer - Ø 50x45 mm/ M10	239 232
7	Countersunk-head screw - M10x25 mm	214 566
8	Compressed-air vibrator	245 232
9	Bezel - Ø 1,4 mm	301 329
10	Connection fitting - 1/8" / Ø 8 mm	224 936
11	Nut with kink protection - M12x1 / Ø 8 mm	201 316
12	Plastic tube - Ø 8/6 antistatic	103 756*
13	Plug - NW 7,4-3/8"	239 275
15	Connection fitting - 3/8"-1/4"	237 817
17	Adapter sleeve - 1/4"-1/4"	201 200
18	T-connection fitting - 1/4"-1/4"-1/4"	201 600
19	Connection sleeve - 1/4"-Ø 8 mm	201 332
20	Throttle check valve - 1/4"	245 240
21	Double nipple - 1/4"-3/8"	223 239
23	Threaded sleeve - 3/8"	203 157
24	Hose nipple - Ø 8 mm	203 165
25	Hose clamp - 15/18 mm	203 386
26	Solaflex hose - Ø 16/10 mm	100 498*
27	Quick release connection - NW 7,4-Ø 10 mm	239 267
28	Quick release connection - NW 5,2-Ø 8 mm	203 181
	Steel bolt dowel - M10x90 mm	245 216

* Please indicate length

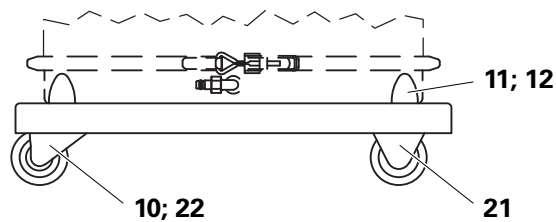
Vibrating base - option



Vibrating base/vibrating bed

HF02 Powder Hopper trolley - option

	Powder Hopper trolley HF02-100 - complete	370 053
	Powder Hopper trolley HF02-150 - complete	370 061
	Powder Hopper trolley HF02-200 - complete	370 070
10	Hexagon locknut - M6	244 430
11	Hexagon locknut - M8	244 449
12	Rubber buffer	211 664
21	Roller wheel - Ø 75 mm	239 178
22	Swivel wheel - Ø 75 mm	239 186



Powder Hopper trolley

