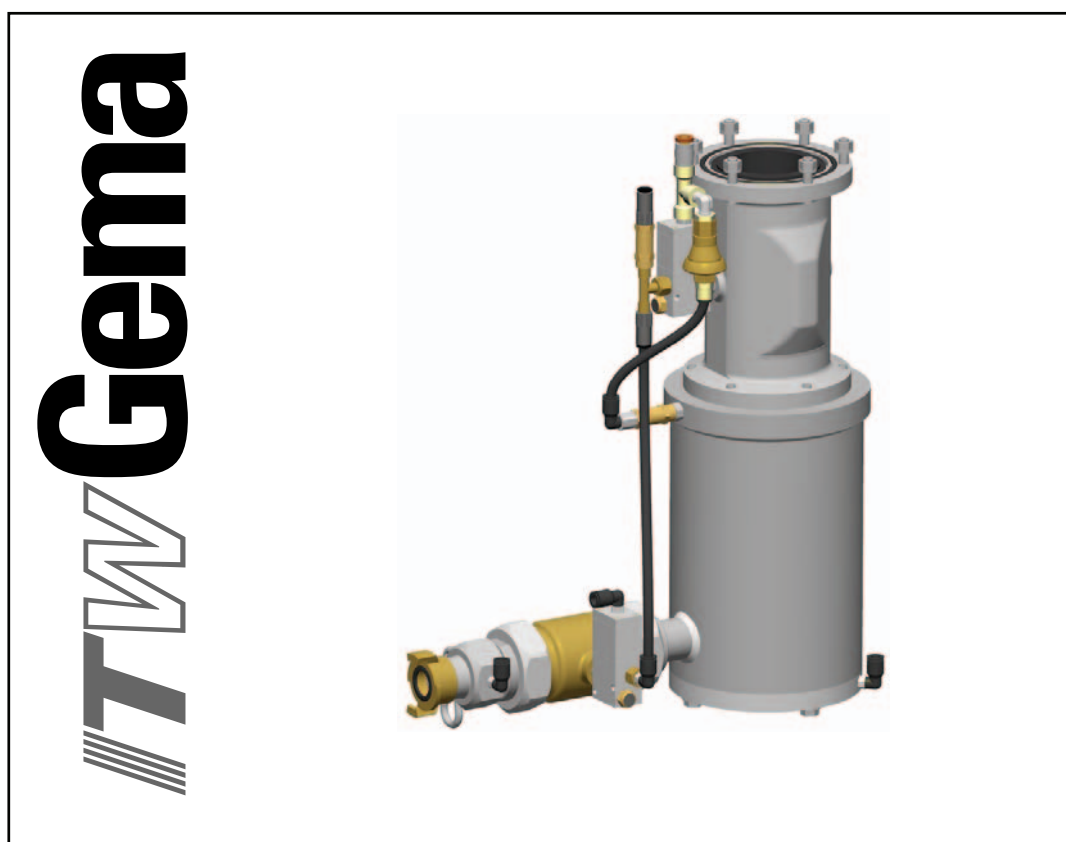

Operating instructions and spare parts list

PT8 Dense phase conveyor



Translation of the original operating instructions

Documentation PT8 Dense phase conveyor

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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 PT8 Dense phase conveyor.

These safety regulations must be read and understood before the PT8 Dense phase conveyor 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 PT8 Dense phase conveyor 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 PT8 Dense phase conveyor 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 PT8 Dense phase conveyor 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 PT8 Dense phase conveyor 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 PT8 Dense phase conveyor 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.

Product specific security measures

Personnel safety

The dense phase conveyor may only be switched on and operated after careful reading of this manual. Incorrect operation of the dense phase conveyor can lead to personal injuries as well as damages to property.

Safety devices may not be dismantled, bypassed or ignored!

Safety devices must be held in perfect functioning and may be not put out of operation!

Maintenance work on the dense phase conveyor may only take place when the power supply is switched off!

Safety concept

The dense phase conveyor is 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!

Only original ITW Gema spare parts may be used! Damage caused by other parts is not covered by guarantee.

Repairs on the dense phase conveyor may only be carried out by ITW Gema trained personnel!

Conformity of use

The dense phase conveyor is only intended for the defined application range. The use outside of this range is considered as not intended use.

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

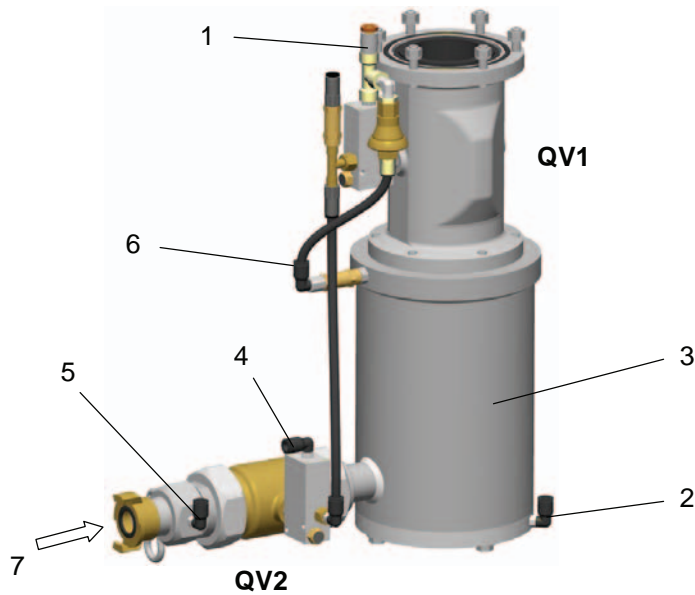
General information

This operating manual contains all the important information which you require for the working with the PT8 Dense phase conveyor. 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.

PT8 Dense phase conveyor - function

Overview



PT8 Dense phase conveyor - function

Function description

1. The upper pinch valve **QV1** opens. The recovered powder falls through the pinch valve **QV1** into the intermediate tube (3)
 - The lower pinch valve **QV2** remains thereby closed
 - The spiral air (5) is constantly in operation
 - The conveying air (2) is switched off
2. The pinch valve **QV1** closes
3. The pinch valve **QV2** opens
 - The pinch valve **QV1** is thereby closed
 - The spiral air (5) is constantly in operation
 - The conveying air (2) is switched on for a short time

The powder is pressed through the pinch valve **QV2** into the conveying hose by the overpressure in the intermediate hopper (3). By switching on the conveying air (2) for a short time, the powder in the conveying hose (7) will be transported a further step.

4. The pinch valve **QV2** closes
 - After a short delay, the pinch valve **QV1** opens again
 - The steps 1-4 will be repeated continuously

After a short time, the conveying hose will be filled with many powder sections, which are transported continuously into the powder container. The conveying efficiency depends on the powder type, the pulse frequency and the length of the conveying hose with the actual dimensions of the used pinch valve and conveying hose.

Additionally to the described procedures, the so-called emptying air (6) is automatically fed in. The emptying air flows through the pinch valve into the overhead powder room and destroys so possible powder bridge accumulations. Thereby, a fluidization of the flow in powder and consequently a better filling of the dense phase conveyor result.

Technical data

PT8 Dense phase conveyor

Pneumatical Data

PT8 Dense phase conveyor	
Conveying performance (powder)	depending on powder type and plant layout
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

Maintenance



Note:

Regular and conscientious maintenance increases the service life of the unit and ensures a longer, more constant coating quality!

Daily maintenance

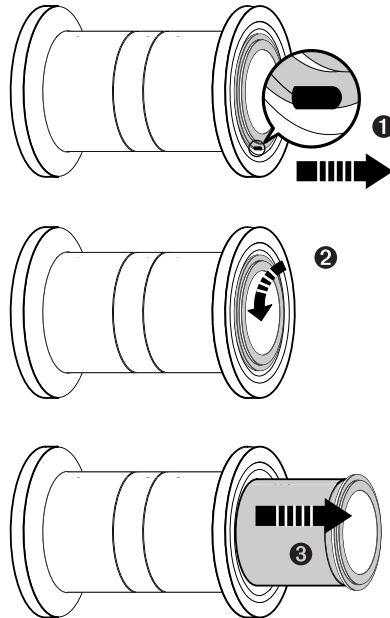
- Check compressed air/adjusted values
- Check the transport hose connection for sintering on the inside
- Check the transport hose for sintering on the inside

Monthly maintenance

- Check the intermediate hopper for sintering on the inside
- Check the fluidizing plate

Replacing the pinch valve sleeve (NW 65)

The replacement of the sleeve in the pinch valve of the PT8 Dense phase conveyor takes place according to the following instructions:



Replacing the pinch valve sleeve

Dismantling

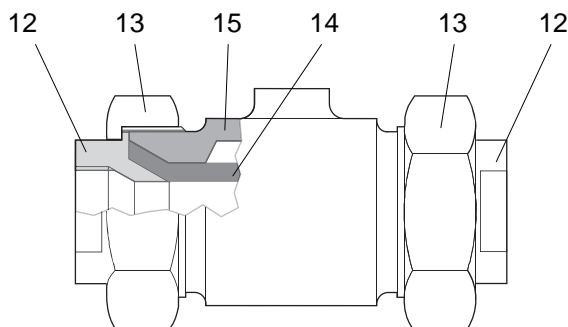
1. Remove the pinch valve from the dense phase conveyor
2. Remove the black positioning pin with pliers (1)
3. Turn the pinch valve sleeve 45° counter-clockwise (2)
4. Pull out the pinch valve sleeve and replace it (3)

Assembly

1. Place the wide lug of the pinch valve sleeve into the wide pinch valve slot
2. Push the pinch valve sleeve into the pinch valve up to the stop
3. Turn the pinch valve sleeve 45° clockwise up to the stop pin
4. Insert the positioning pin
5. Check the O-rings for damage and replace it, if necessary
6. Reinsert the pinch valve to the dense phase conveyor

Replacing the pinch valve sleeve (NW 25)

The replacement of the sleeve in the pinch valve of the PT8 Dense phase conveyor takes place according to the following instructions:



12	Connecting nipple	14	Sleeve (NW 25)
13	Threaded sleeve	15	Pinch valve housing

Dismantling



Note:
Always use the correct size spanners!

1. Dismantle the pinch valve hoses ("Fill" and "Transport")
2. Unscrew the complete pinch valve assembly by loosen the rear connecting flange (12) from the intermediate hopper
3. Unscrew both threaded sleeves (13) and remove both connecting flanges (12)
4. Remove the old pinch valve sleeve (14)

Assembly

1. Clean the pinch valve housing (15)
2. Insert the new sleeve
3. Press the connecting flange (12) carefully into the sleeve (14) and tighten the threaded sleeves (13) on both sides
4. Reconnect the air hoses on the pinch valve
5. Set the pinch valve under pressure and check it for air leaks. If necessary, retighten both threaded sleeves (13) or repeat point 3
6. Refasten the pinch valve assembly to the intermediate hopper
7. The pinch valve is now ready to operate

Troubleshooting

General information

Always check the following points first, if there are faults on the PT8 Dense phase conveyor:

- Mains voltage present
- Compressed air present (at least 4 bar)

Fault	Error/solution
Transport hose is clogged	None, or too little transport air adjusted Transport hose laid out alternately rising/falling Strong sintering in the transport hose
Strong dust generation at the exit of the transport hose	Too much transport air set Too much conveying air set Conveying time set too long
Strong powder accumulation in the powder chamber above the dense phase conveyor	Pinch valve "Fill" defective Too little pressure for pinch valve control unit Conveying air not switched off during filling process
Conveying performance too low	Too little conveying air Intermediate hopper not full

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** PT8 Dense phase conveyor,
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)



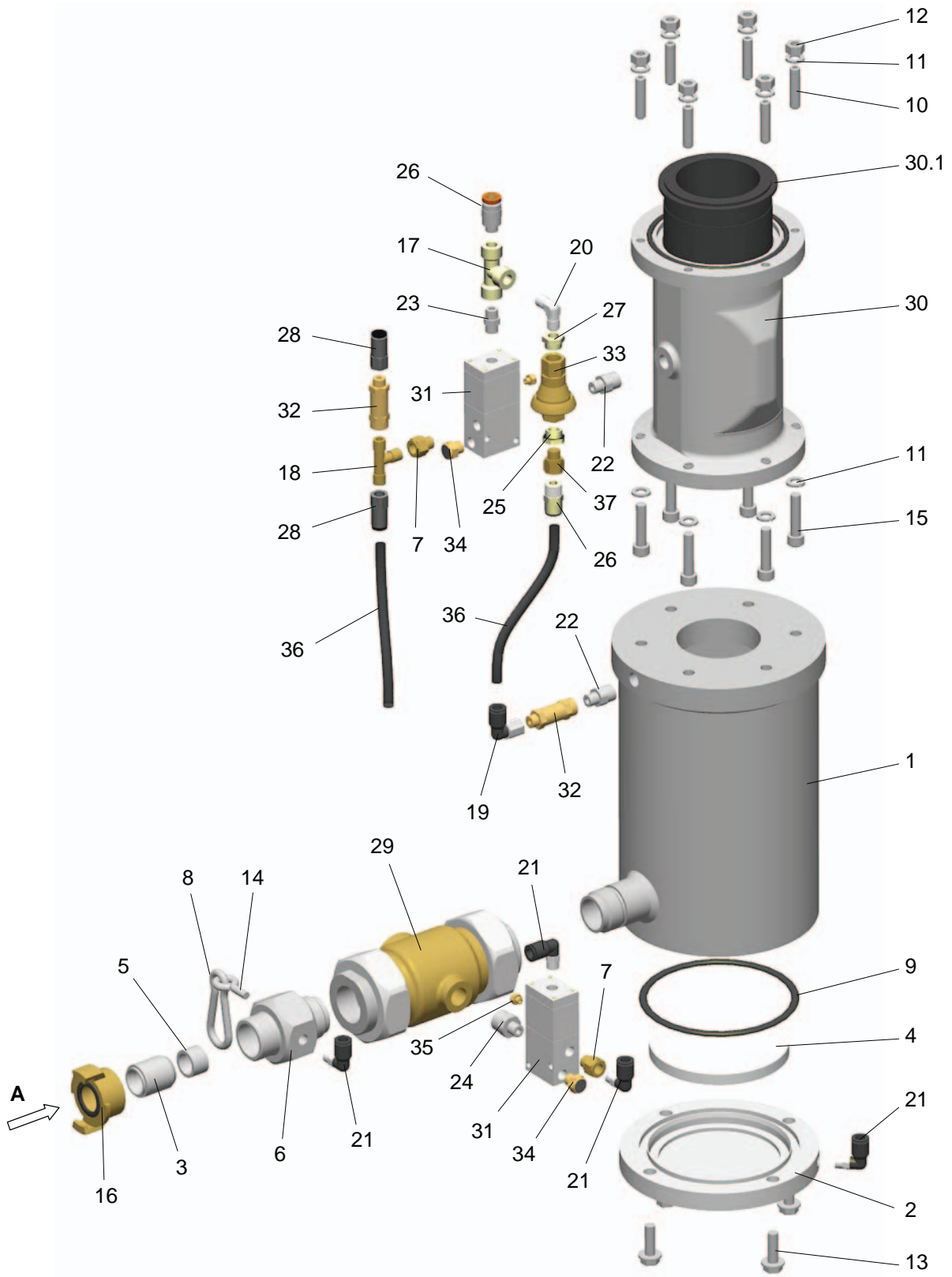
WARNING!

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!

PT8 Dense phase conveyor - spare parts list

	PT8 Dense phase conveyor - complete	1003 656
1	Powder hopper - NW 65	1003 655
2	Cover	363 529
3	Spacer sleeve	377 376
4	Fluidizing plate	363 537
5	Fluidizing ring	363 570
6	Connecting piece	377 368
7	Bezel - Ø 1.9 mm	372 900
8	Spring hook - 60x6 mm	250 694
9	O-ring - Ø 110x5 mm	253 774
10	Allen grub screw - M8x35 mm	255 580
11	Lockwasher - M8 R	215 953
12	Hexagon nut - M8	215 570
13	Hexagon shakeproof screw - M8x25 mm	244 465
14	Eyebolt - M6x15 mm	261 122
15	Allen cylinder screw - M8x35 mm	216 526
16	Geka coupling - 1"	1000 854
17	T-piece - 1/8"i-1/8"i-1/8"i	253 928
18	T-connection - 1/8"-1/8"-1/8"	237 760
19	Elbow joint - 1/8"i-8 mm	253 987
20	Elbow joint - 1/8"a-1/8"a	235 733
21	Elbow joint - 1/8"a-8 mm	203 050
22	Double nipple - 1/4"a-1/8"a	242 209
23	Double nipple - 1/8"a-1/8"a	259 578
24	Double nipple - 3/8"a-1/8"a	240 079
25	Adapter nipple - 1/8"i-1/4"a	231 932
26	Screw-in nipple - 1/8"a-Ø 8 mm	246 956
27	Adapter nipple - 1/8"i-1/4"a	265 454
28	Connection sleeve - 1/8"i-Ø 8 mm	236 020
29	Pinch valve - NW 25	253 707
	Sleeve - NW 25 (for pos. 29)	255 246#
30	Pinch valve - NW 65	258 520
30.1	Sleeve - NW 65 (for pos. 30)	011 576#
31	Valve unit	390 356
32	Check valve - 1/8"a-1/8"i	202 240
33	Inline regulator - 1/4"i, 2 bar	268 100

PT8 Dense phase conveyor - spare parts



PT8 Dense phase conveyor - spare parts

PT8 Dense phase conveyor - spare parts list

34	Silencer - 1/8"a	251 305
35	Silencer - M5a	265 764
36	Plastic tube - Ø 8/6 mm, black	103 756*
37	Bezel - Ø 0.9 mm	403 652
A	Hose connection - complete (not shown), consisting of:	
	Coupling with hose connector - Ø 25 mm	1002 132
	Hose - Ø 33/25 mm	104 604
	Hose clamp - 25-35 mm	226 335
	Safety wire - L=200 mm	374 628

* Please indicate length

Wearing part

