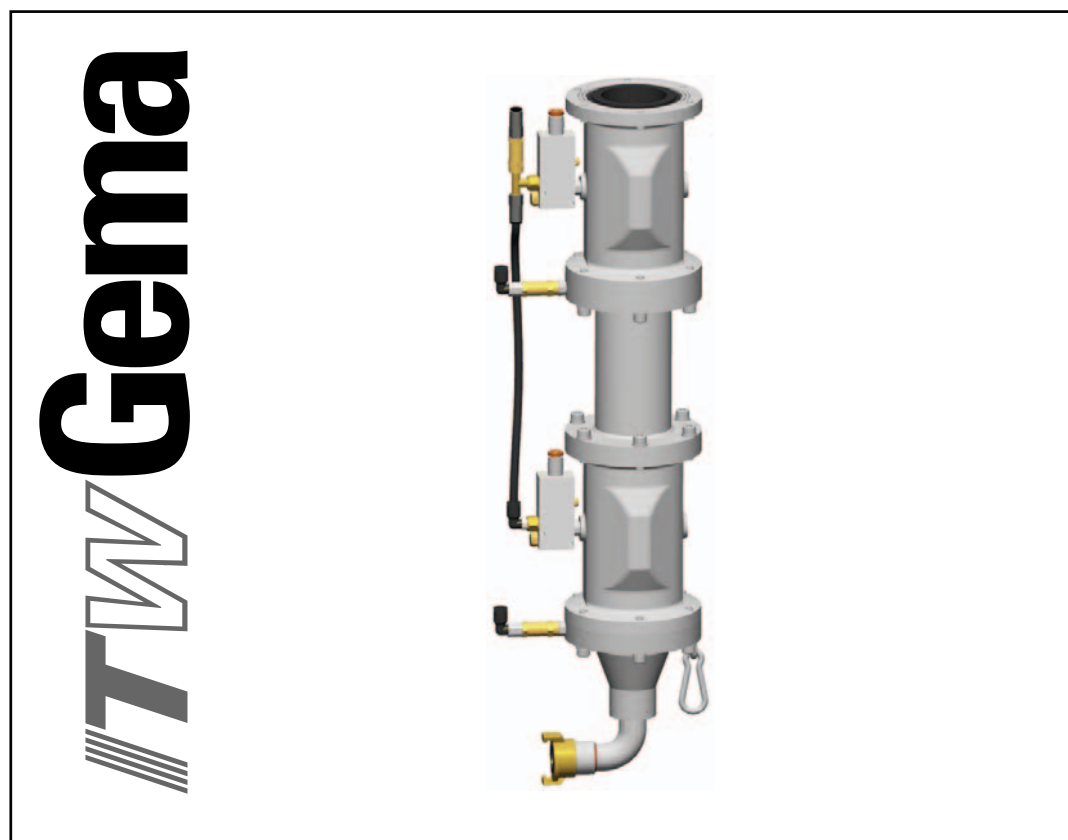

Operating instructions and spare parts list

PT6 Dense phase conveyor



Documentation PT6 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 PT6 Dense phase conveyor.

These safety regulations must be read and understood before the PT6 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 PT6 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 PT6 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 PT6 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 PT6 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 PT6 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 PT6 Dense phase conveyor is a component 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! The use of spare parts from other manufacturers will invalidate the ITW Gema guarantee conditions!

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



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 PT6 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.

Structure and function

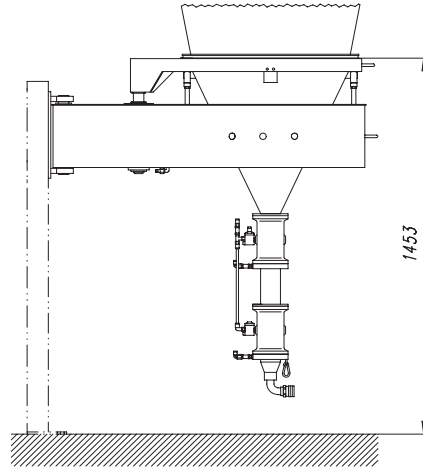
PT6 Dense phase conveyor

General information

The PT6 Dense phase conveyor is suited for the transport of the sieved powder to the powder container/hopper in the powder center.

This powder transport principle permits a very careful and dust-free powder transport, because the air requirement necessary and the transport speed are very low.

This is the standard dense phase conveyor type, which is normally delivered with the cyclone and the transport unit.



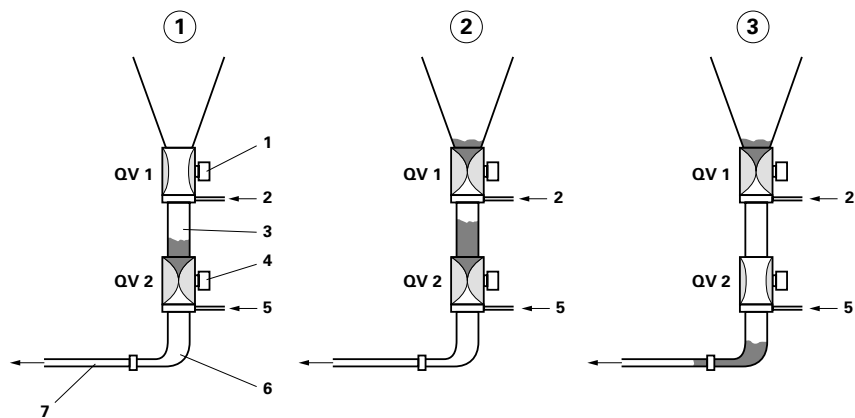
PT6 Dense phase conveyor

Function description

1. The upper pinch valve **QV1** opens. The recovered powder falls through the pinch valve **QV1** into the intermediate piece (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 piece (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



PT6 Dense phase conveyor - function description

- 1 Switch valve QV1
- 2 Transport air
- 3 Intermediate piece
- 4 Switch valve QV2
- 5 Spiral air (constantly running)
- 6 Delivery nozzle
- 7 Transport hose

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.

Technical data

PT6 Dense phase conveyor

Pneumatical Data

PT6 Dense phase conveyor	
Conveying performance (powder)	2,0 kg/min
Compressed air consumption	approx. 4 Nm ³ /h
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

Setting values / parameters

Monocyclone	EZ02-12000	EZ02-16000	EZ02-20000	EZ02-24000
Control pressure of the pinch valves	max. 3 bar			
Transport air	approx. 1 bar			
Closure duration of the pinch valves	6 secs.			
Opening duration of the pinch valves	2 secs.			
Transport air (re-tarded)	0,7 secs.			

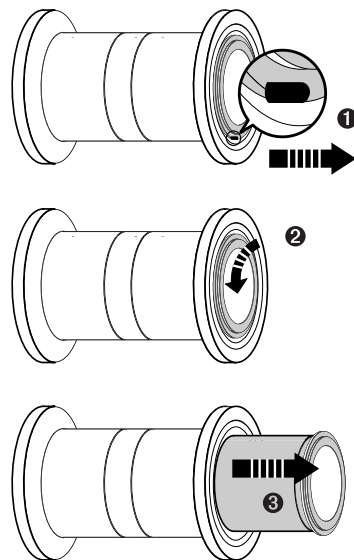
Maintenance

Replacing the pinch valve sleeve

The replacement of the sleeve in the pinch valve of the PT6 Dense phase conveyor takes place according to the following instructions:

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. Remove the sleeve from the pinch valve and replace it (3)



Pinch valve / replacing the pinch valve sleeve

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
5. Turn the pinch valve sleeve 45° clockwise up to the stop pin
3. Insert the black positioning pin
4. Check the O-rings for damage and replace it, if necessary
5. Reinsert the pinch valve to the dense phase conveyor

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** PT6 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!

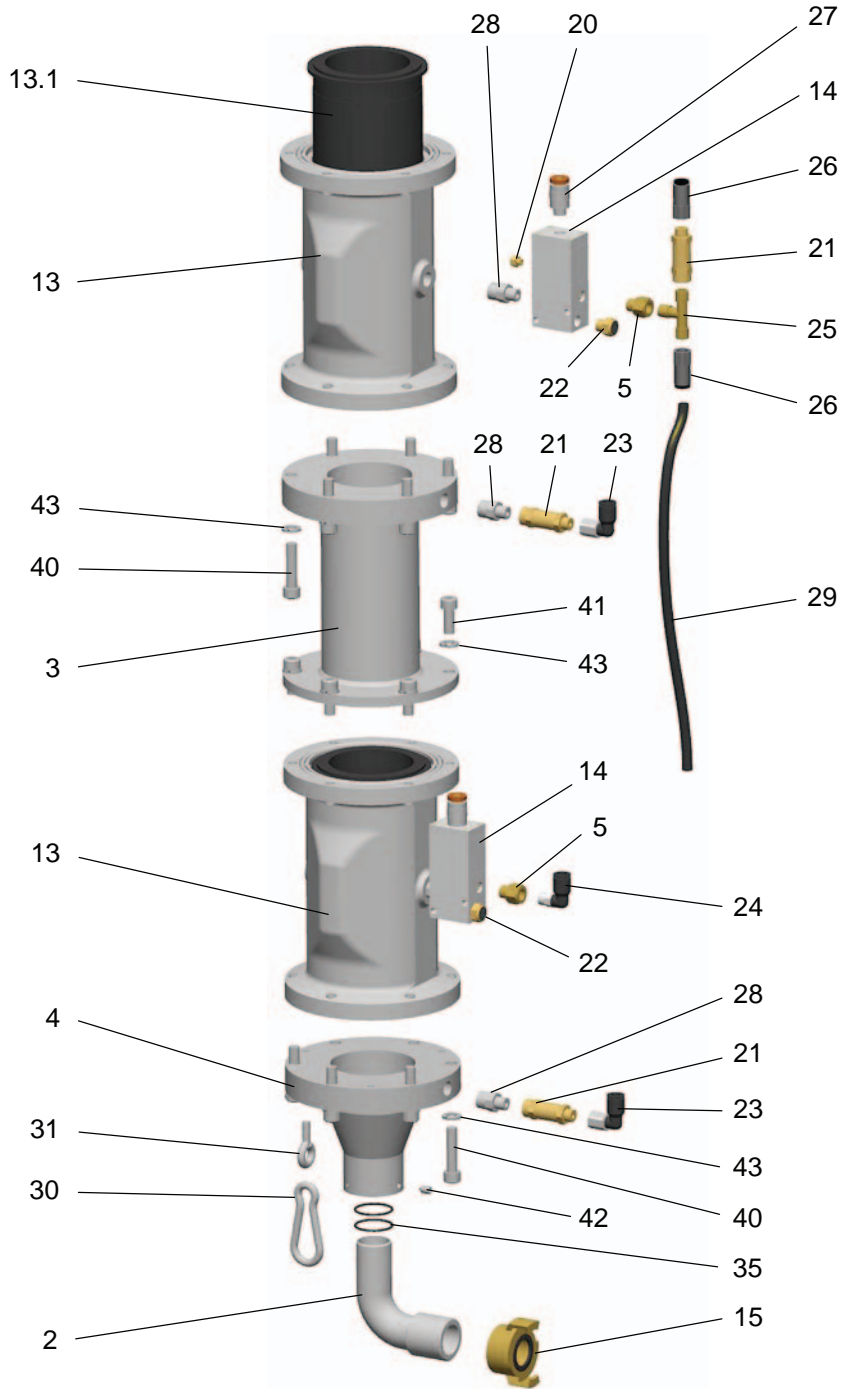
PT6 Dense phase conveyor - spare parts list

	PT6 Dense phase conveyor - complete	372 820
2	Elbow connection	372 811
3	Intermediate tube	372 838
4	Funnel piece	372 846
5	Bezel - Ø 1.9 mm	372 900
13	Pinch valve - nominal Ø 65 mm	258 520
13.1	Pinch valve sleeve	011 576#
14	Valve unit - Af-2600/Ch2	390 356
15	Geka coupling - 1"i	1000 854
21	Check valve - 1/8"a-1/8"i	202 240
22	Silencer - 1/8"	251 305
23	Elbow joint - 1/8"i, Ø 8 mm	253 987
24	Elbow joint - 1/8"a, Ø 8 mm	203 050
25	T-connection - 1/8"a, 1/8"a, 1/8"a	237 760
26	Screw-in nipple - 1/8"i, Ø 8 mm	236 020
27	Screw-in nipple - 1/8"a, Ø 8 mm	246 956
28	Double nipple - 1/8"a, 1/4"	242 209
29	Plastic hose - Ø 8/6 mm, black	103 756*
30	Spring hook - 60x6 mm	250 694
31	Eyebolt - M6x15 mm	261 122
35	O-ring - Ø 26.7x1.78 mm	241 415
40	Allen cylinder screw - M8x35 mm	216 526
41	Allen cylinder screw - M8x20 mm	216 496
42	Grub screw - M6x10 mm	214 841
43	Lockwasher - M8	215 953

* Please indicate length

Wearing part

PT6 Dense phase conveyor - spare parts

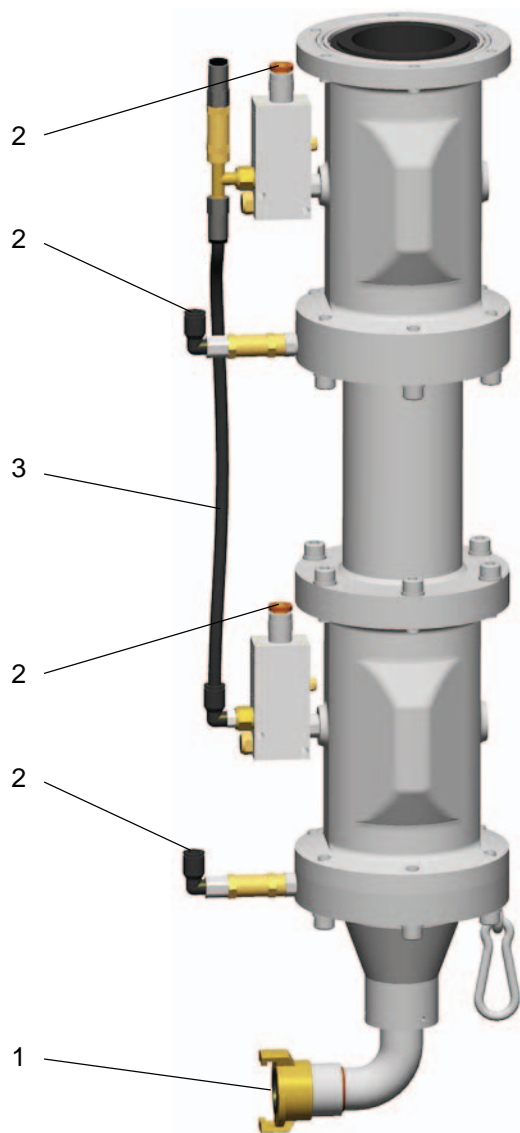


PT6 Dense phase conveyor - spare parts

PT6 Dense phase conveyor - connections

1	Transport hose connection - Geka coupling - 1"i	1000 854
	Hose - 25/33 mm (not shown)	104 604*
	Hose clamp - 25-35 mm (not shown)	226 335
	Safety wire - L=200 mm (not shown)	374 628
2	Plastic hose connection	
3	Plastic hose - Ø 8/6 mm, black	103 756*

* Please indicate length



PT6 Dense phase conveyor - connections

