
Operating instructions and spare parts list

PT Control

TW
Gema



Documentation PT Control

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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 PT Control.

These safety regulations must be read and understood before the PT Control 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 PT Control 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 PT Control is to be used for other purposes or other substances outside of our guidelines then ITW Gema GmbH should be consulted.
3. Observance of the operating, service and maintenance instructions specified by the manufacturer is also part of conformity of use. The PT Control 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 PT Control 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 PT Control exempt 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

PT Control

The PT Control 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!



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 PT Control. 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 PT Control is intended to control the operation of the PT Dense Phase Conveyors.

The PT Control is intended exclusively for controlling functions in electrostatic powder coating equipments. 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 coating, it is recommended to read completely the operating instructions of the other components, so as to be familiar with their functions too.



Note:

A perfect functioning of the axes/reciprocator control units and the gun control units requires the correct setting of the corresponding system parameters (see therefore the corresponding operating instructions)!

Possible configuration

A possible configuration of the PT Control with the PH300 Fresh powder hopper and the PT Dense Phase Conveyor:



Operating and display elements

PT Control

Front view



PT Control - front view

- 1 Switch **Transfer Cleaning**
- 2 Indicator lamp **Transfer On**
- 3 Switch **Transfer ON/OFF**

Start-up

PT Control

Switching on

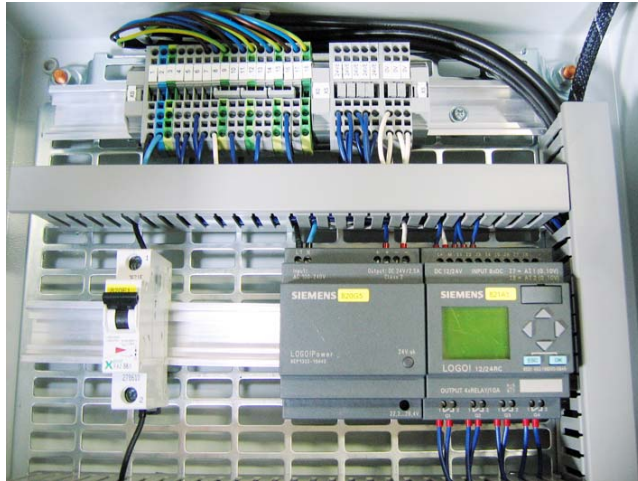


PT Control - switching on

1. The powder transfer is switched on by the switch (3), the indicator lamp (2) illuminates
2. The cleaning of the PT Dense Phase Conveyor is switched on by the key switch (1)

Parameterization

The various time sequences can be easily set and adapted to all plant-specific requirements by the aid of a simple menu control unit situated inside of the PT Control cabinet.



Note:
Read carefully this section, before access to a menu option!

Standard display

> Stop	← Do not use
Set Param	← Set parameter
Set Clock	← Do not use
Prg Name	← Do not use

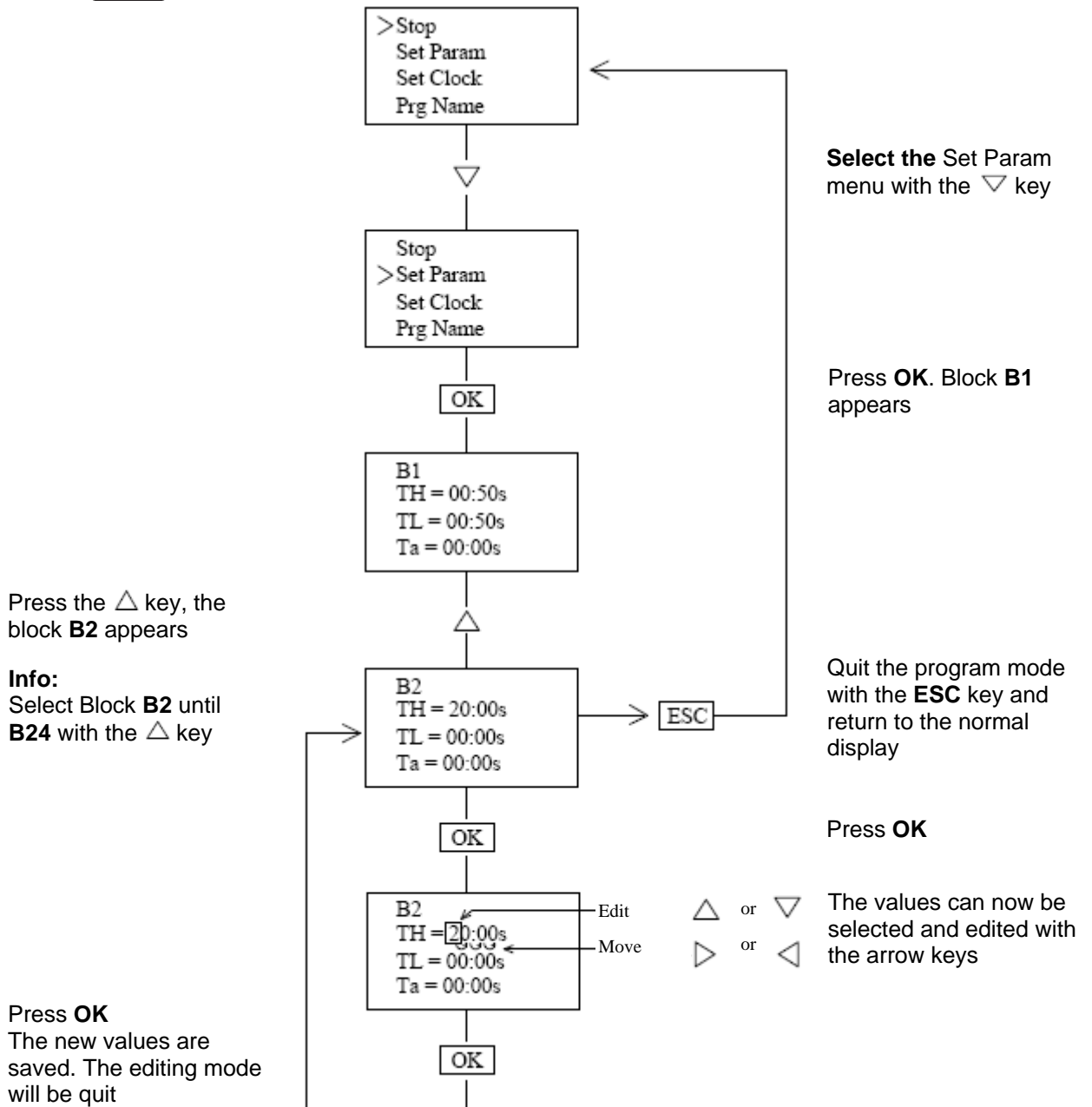
Parameter input display

B2	← Block number
TH = 20:00s	← Set time ON
TL = 00:00s	← Set time OFF
Ta = 00:00s	← Actual time value

Selecting and editing a menu option



See also the "Functional diagram"

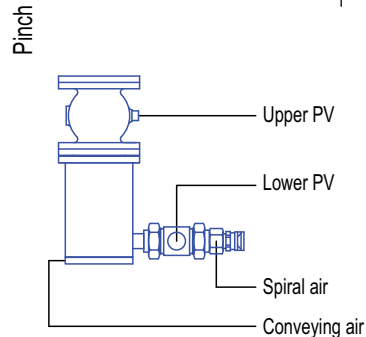
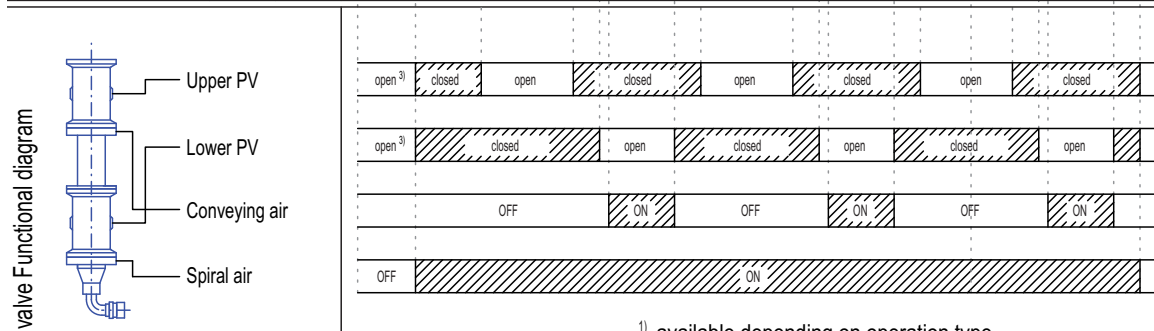
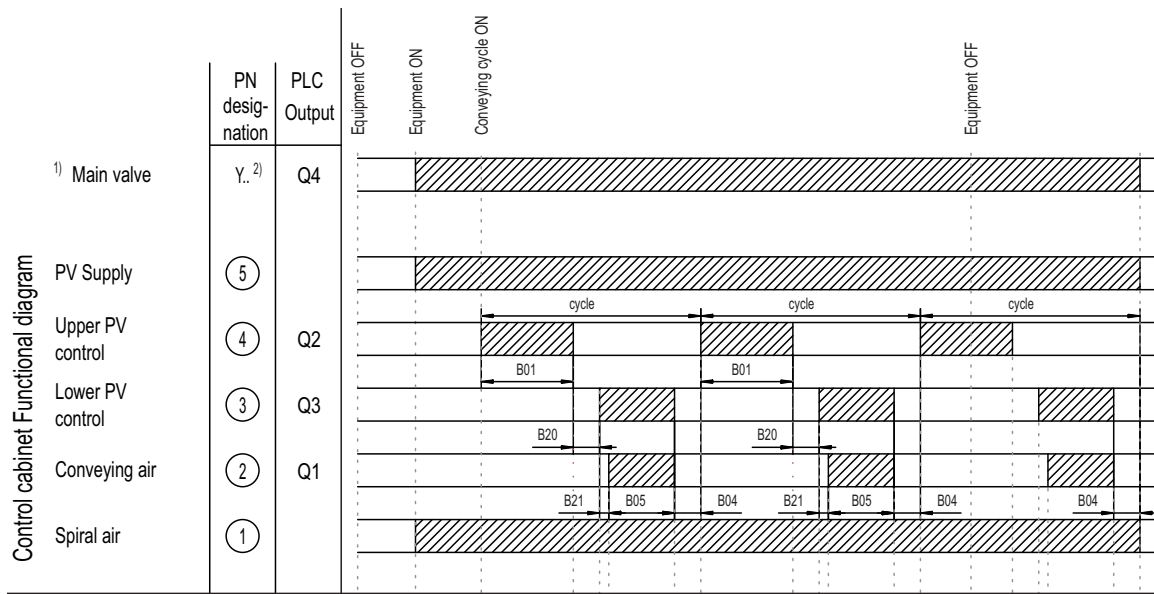


Note:
No other menu may be selected, otherwise the program becomes unusable for the control unit!



Attention!
The control unit continues to process the program in the "Parameterization" operating mode!

Functional diagram



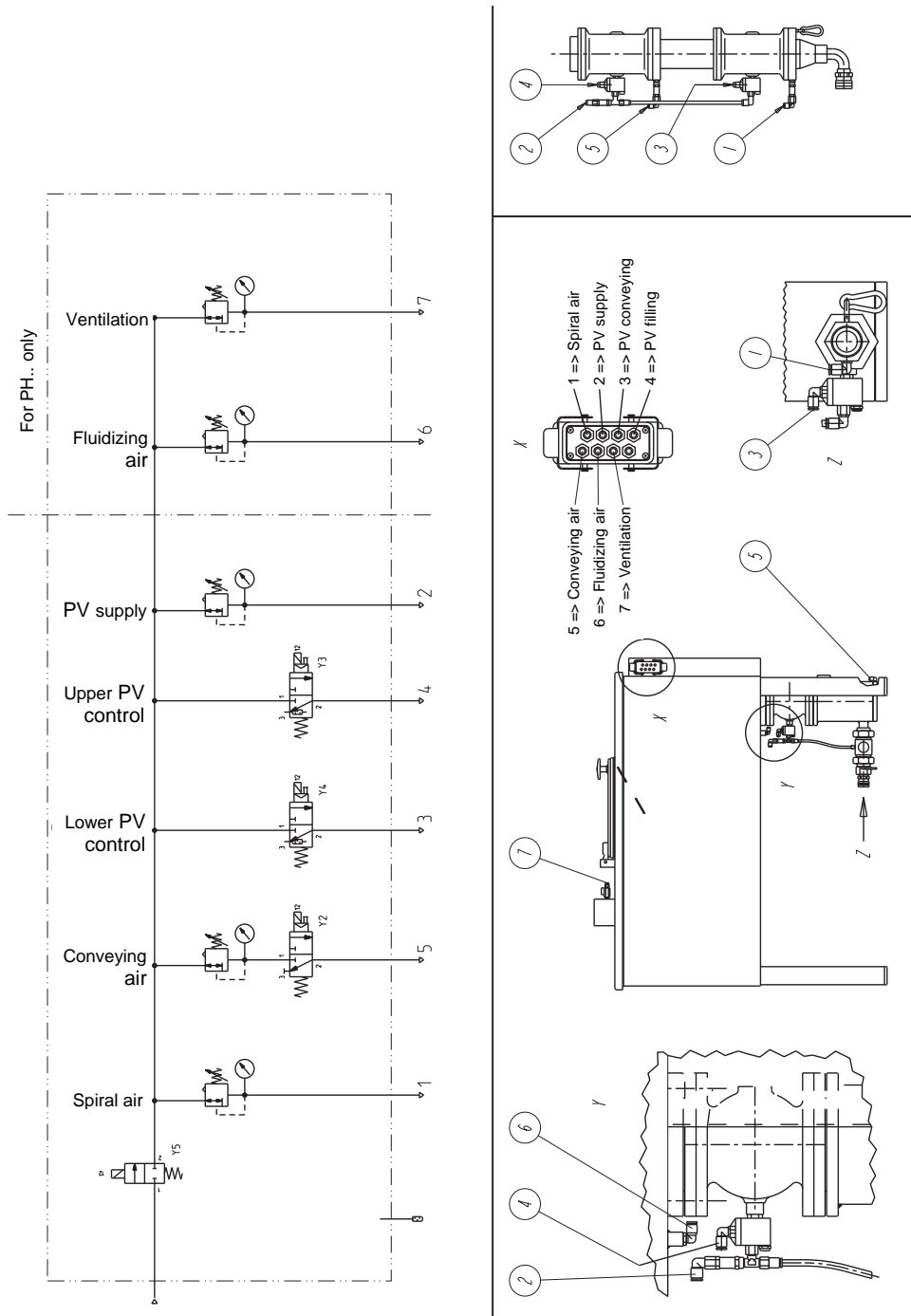
- 1) available depending on operation type
- 2) designaton according to order
- 3) open if a main valve available

	Description	factory settings
B01	Fill time	7 sec.
B02	Spiral air and Conveying ait delay	0.7 sec.
B04	Conveying release time	2 sec.
B05	Conveying time	5 sec.
B20	Lower PV delay	2 sec.
B21	Conveying delay	0.7 sec.

Remarks:

- the started cycle is completely executed
- Cleaning: Q3 + Q2 open simultaneously, and spiral air + conveying air open with delay according to B2

Pneumatic 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** PT Control,
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)



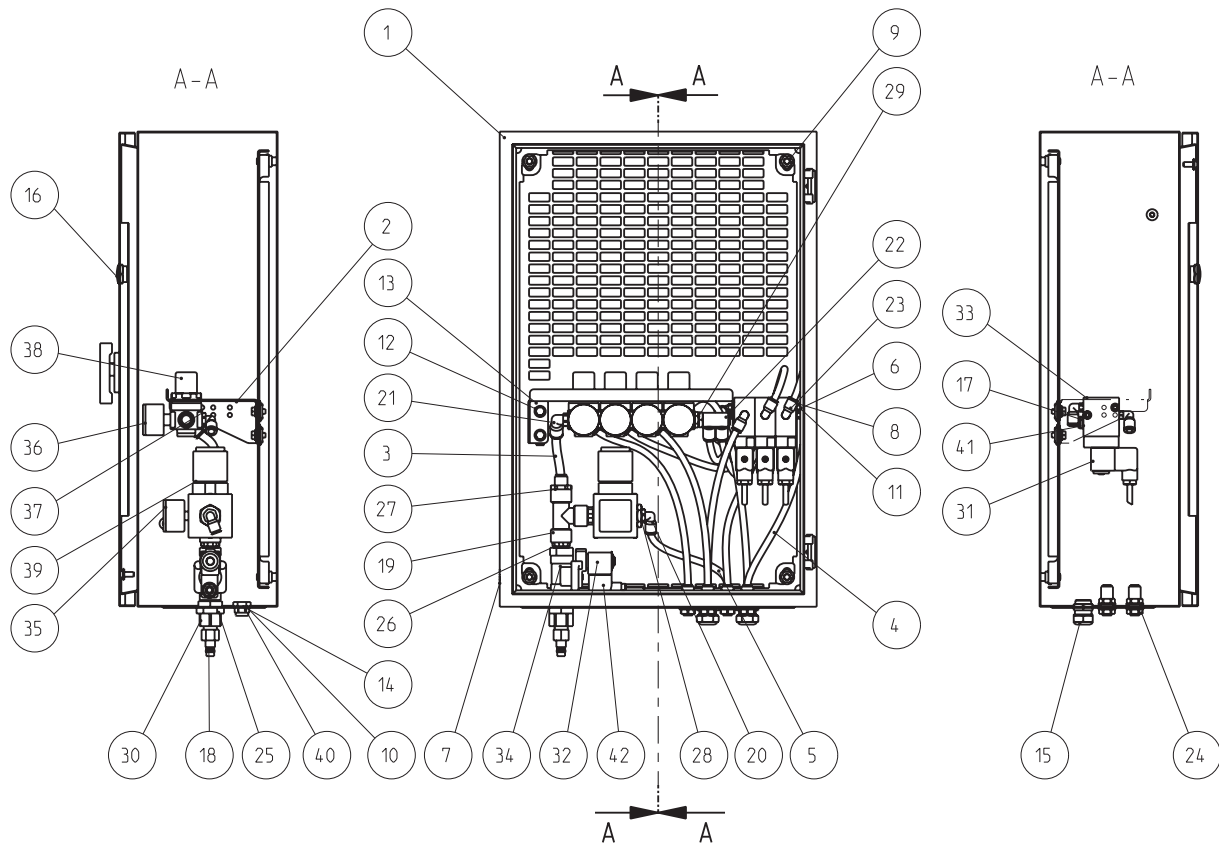
WARNING!

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!

PT Control - spare parts list

1	Control cabinet	1005063
2	Console - 6-fold	387622
3	Plastic tube - Ø 10/8 mm	103250
4	Plastic tube - Ø 8/6 mm	103756
5	Plastic tube - Ø 8/6 mm	103756
6	Threaded rod - M5x98 mm	364487
8	Washer - 5.3/10x1 mm	205320
9	Hexagon shakeproof nut - M8	244449
10	Hexagon nut - 1/4"	261505
11	Hexagon nut - M5	205150
12	Hexagon shakeproof screw - M6x12 mm	244406
13	Clip nut - M6	204307
14	Locknut - M20x1.5 mm	266035
15	Cable connection - M20/1/8"-15 mm	266019
16	Plug screw - M20x1.5 mm	266043
17	Plug cap - 1/8"a	203297
18	Connector - NW 7.8-3/8"i	239275
19	T-piece - 1/2"i-1/2"i-1/2"i	223131
20	Elbow joint - 1/4"a-Ø 8 mm	254029
21	Elbow joint - 1/4"a-Ø 10 mm	261831
22	Elbow joint - 1/8"-Ø 8/2x1	253855
23	Elbow joint - 1/8"a-Ø 8 mm	203050
24	Lead-through connection - Ø 8-Ø 8 mm	253880
25	Connection fitting - 1/2"a-1/2"a	202967
26	Double nipple - 1/2"a-1/2"a	243540
27	Screw-in nipple - 1/2"a-Ø 10 mm	259640
28	Adapter nipple - 1/4"i-1/2"a	253995
29	Adapter nipple - 1/8"i-1/4"a	231932
30	Connection sleeve - 1/2"i-3/8"a	202380
31	Valve coil - 24 VDC-Ex	254142
32	Valve coil - 24 VDC-Ex	1005119
33	Solenoid valve - 1/8-5-OS-Ex	1001002
34	Solenoid valve - 1/2", NW13.5 mm, without coil	1005120
35	Pressure gauge - 1/8"a, 0-4 bar	212032
36	Pressure gauge - 1/8"a, 0-6 bar	258989
37	Coupling package	264350

38	Pressure regulator - 1/4"i, 0.5-6 bar	264342
39	Pressure regulator - Ø 1-1/2", 4 bar	240028
40	Silencer - 1/4"a	252115
41	Silencer - 1/8"a	251305
42	Valve cable - 0.70 m	373605



PT Control - spare parts



Note:
 Further information on electrical parts will be found in the corresponding wiring diagram!