

Operating instructions and Spare Parts List

PGC 2 Powder Gun Control

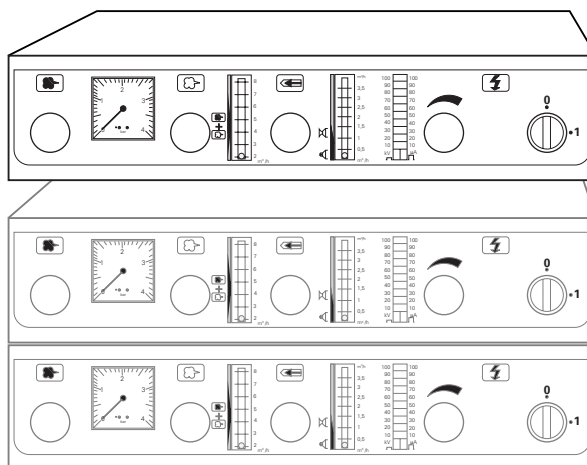


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Safety Recommendations

PGC 2 Powder Gun Control

Safety recommendations for operating electrostatic powder coating equipment

1. This equipment can be dangerous when not operated according to the following standards :
EN 50 050, (or VDE 0745, Part 100), EN 50 053 Part 2 (or VDE 0745, Part 102), and the Electrostatic powder coating information sheet - ZH 1/444.
2. All electrostatically conducting parts within 5 m. of the coating position, and especially the workpieces, must be grounded.
3. The floor of the coating area must be electrostatically conductive (normal concrete is generally conductive).
4. Operating personnel must wear electrostatically conducting footwear (i.e. leather soles).
5. Connect the grounding cables supplied (green/yellow) to the grounding terminal of the electrostatic powder coating equipment. The grounding cable must have a good metal-to-metal contact with the coating booth, the powder recovery plant, and the chain conveyor, in particular the workpiece hangers.
6. The powder cables, and the powder hoses of the powder guns must be laid out so that they are protected from being easily damaged.
7. The powder coating equipment should only be switched on after the powder booth has been switched on. If the booth switches off, then the powder coating equipment must also switch off.
8. The grounding connection of all conductive parts of the booth must be checked at least once a week.
9. When cleaning the gun or changing the nozzle the control unit must be switched off.

Technical data for the PGC 2 Powder Gun Control

Electrical data

Selectable voltage : 100 V, 110 V, 120 V, 200 V, 230 V or 240 V
Tolerance (at 230 V): $\pm 10\%$, based on 230 V (198 V-253 V)

Voltage selection is made on the inside of the electrical unit by resoldering the tag of the transformer.
The value of the fuse for 100, 110, and 120 V is 1,0 AT and for the higher voltages is 0.5 AT.

The equipment is delivered for operation at 230V from the factory.

Frequency : 50/60 Hz
Connected load : 50 VA
Rated output voltage (to gun) : 10 V
Rated output current (to gun) : 1.2 VA
Type of protection : IP 54
Temperature range : $+10^{\circ}\text{C}$ to $+40^{\circ}\text{C}$ ($+50^{\circ}\text{F}$ to $+104^{\circ}\text{F}$)
Approval : EN 50 050
FM test No J. I. OW 7 A 6.AE (7264)
Date tested 10/1993.
PTB test No 91.C.9102
Date tested 10/1991.

Specification of the external control signal :

Nominal voltage : 24 VDC
High-Voltage - On : 0.... 2.5 V
High Voltage - Off : 16.... 30 V (max. 35 V for $t < 100$ ms)
Input current : 12 mA (typically at 24 V)

The control signal input is galvanically isolated, and protected from reversed polarity connection over the whole input voltage range.

Specification of the external control signal for:

Manual-Automatic switching

Control voltage: 24 VDC / 1.8 W

Powder feed adjustment

Supply adjusting valve: 24 VDC / 1.3 W

Control signal: 1-5 V / 1 mW

Pneumatic data

Main compressed air input connection thread : Quick-release connection
Maximum input pressure : 10 bar
Minimum input pressure : 6 bar
Maximum water vapour content of compressed air : 1.3 g/m³
Maximum oil vapour content of compressed air : 0.1 [mg/kg]

Dimensions

Width : 435 mm
Depth : 300 mm
Height : 96 mm
Weight : 7.7 kg

PGC 2 Powder Gun Control

Fields of Application

The PGC 2 Powder Gun Control is designed exclusively for use with PG 1 manual powder guns, PG 1-A automatic powder guns, and TriboJet guns. Use for any other purpose constitutes a misuse. Any damage caused by improper use is not the fault of the manufacturer; the user is solely responsible.

The powder feed rate can be set automatically by connecting the PGC 2 to an external control (PLC). The parts to be coated at that moment are detected by the Object Recognition control (PLC). The control takes over the adjustment of the powder feed and/or switches the powder feed to each individual gun on or off. In addition the corona current, and corona voltage can also be adjusted, and the settings can be checked on the LED display, even from a distance.

All settings for efficient powder coating are made simple and reproducible on the PGC 2. Flowmeters permit accurate setting of the optimum powder coating rate.

The PGC 2 Powder Gun Control can be adapted to suit most voltages available.

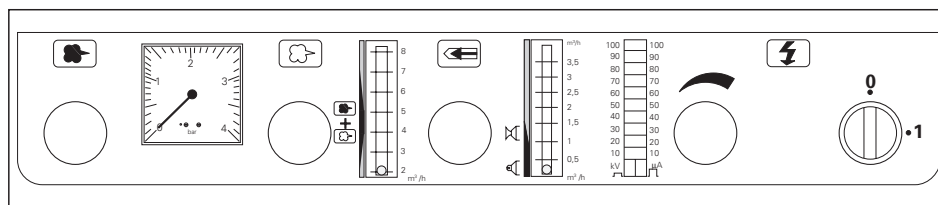


Figure 1

Operating Modes

The PGC 2 Powder Gun Control is designed as standard for operation in automatic, and manual mode. The desired operating mode must, however, be selected by connecting "Jumpers" on the printed circuit board inside the control unit (see also the corresponding section "Setting the operating mode on the CB 1 Printed Circuit Board").

The following operating modes are possible :

- **Automatic operation** = A PLC signal of 1-5 V causes a corresponding powder feed. Conveying and supplementary air are individually controlled by the control unit. The High-Voltage and electrode rinsing remain switched on and must be continued to be set manually. They are switched on and off externally by a 24 VDC control signal because automatic guns do not have a gun switch (Trigger contact). The preset High-Voltage can be blocked or released externally, thereby.

If the powder feed be set manually on the control panel of the PGC 2 control unit, then no PLC signal should be present, that is, the corresponding valve must not switch. (see also "PGC 2 Pneumatic diagram").

- **Manual operation** = The High-Voltage and the powder supply to the manual guns are switched on and off with the gun trigger.

Description of PGC 2 control module

The potentiometer **(8)** has two functions. When the control knob is pressed in, the desired High-Voltage **(7a)** can be set on the H-V/Corona current meter display **(7)** in kV. When the control knob is pulled out, the current **(7b)** can be set in μA on the H-V/Corona current meter display **(7)**. When the H-V/Corona current control knob **(8)** is turned counter-clockwise to the stop, neither High-Voltage nor current can be measured on the gun. When the trigger on the gun is pulled or when the automatic gun is switched on (externally or with the main switch **(9)**) the corresponding LED illuminates on the lowest row of the H-V/Corona current meter display **(7)** indicating the desired measured value, on the left is the voltage **(7a)**, and on the right is the current **(7b)**. For setting the TriboJet guns, please read the corresponding operating instructions.

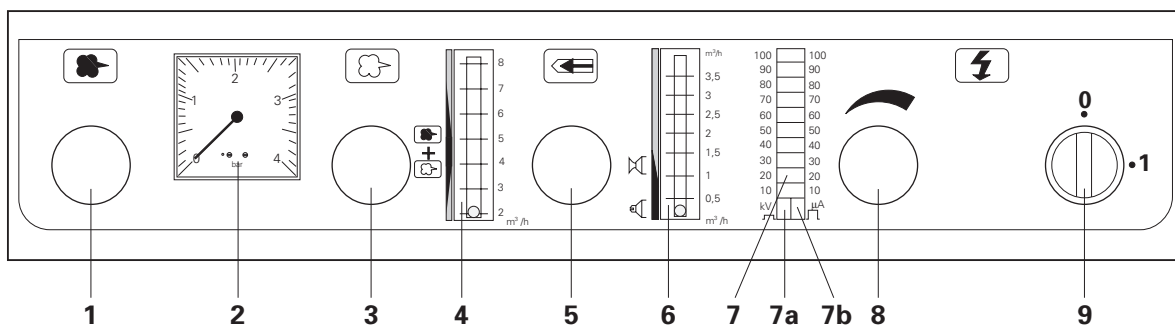
The air for rinsing the electrodes is set with the control knob **(5)** and the value read from the flowmeter **(6)**.

The control knob **(5)** is turned clockwise or counter-clockwise until the little ball "floats" in the green range of the measuring cylinder of the flowmeter. This is valid for round jet nozzles as well as flat jet nozzles. The correct setting of the rinsing air will keep the spray electrode in the nozzle free from sintering powder.

Supplementary air is set with the control knob **(3)**, and is, thereby, mixed with the conveying air. The sum of this air is indicated on the flowmeter **(4)**. The little ball in the measuring cylinder of the flowmeter **(4)** must be reset within the green range of the measuring cylinder.

The conveying air and the powder spray volume is set with the control knob **(1)**. The setting can be read from the conveying air gauge **(2)** (see page 8).

To gain a better understanding of the relationships of powder coating it is recommended that these operating instructions are read through thoroughly in order to become familiar with the functioning of the other components.



Front panel

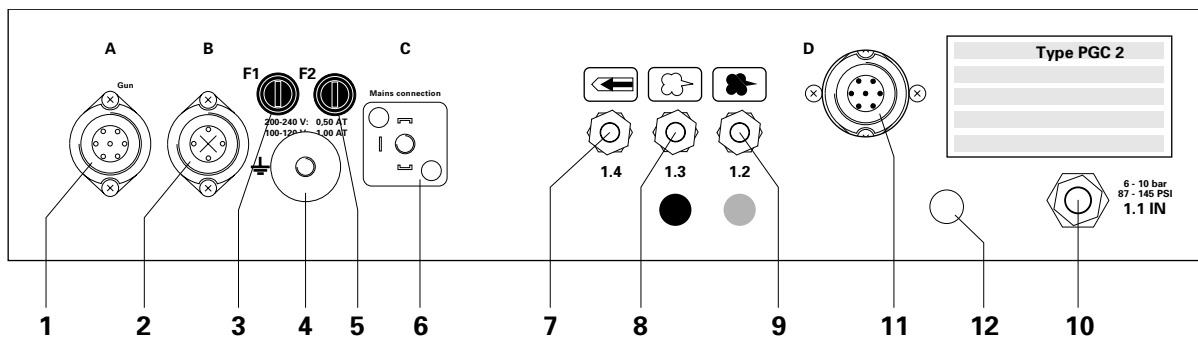
- | | | | |
|---|--|----|---|
| 1 | Control knob for conveying air gauge | 6 | Flowmeter for rinsing air |
| 2 | Conveying air gauge | 7 | High-voltage/corona current meter |
| 3 | Control knob for supplementary air | 7a | Gun ON , and kV setting / reading |
| 4 | Flowmeter for conveying air plus supplementary air | 7b | Gun ON , and μA setting / reading |
| 5 | Control knob for rinsing air | 8 | H-V/Corona current control knob |
| | | 9 | Power switch |

Figure 2

Installation of the PGC 2 Powder Gun Control

If the control unit is not supplied as an integral part of an APS system, then some cables and hoses must be connected.

1. The thick black hose for compressed air from the ADU Air Distributor Unit or another air distributor must be connected to the input **1.1 IN (10)** on the rear of the control unit.
2. The red hose for conveying air must be connected to the corresponding input **1.2 (9)** on the rear of the control unit.
3. The black hose for supplementary air must be connected to the corresponding input **1.3 (8)** on the rear of the control unit.
4. The transparent hose for rinsing air must be connected to the corresponding input **1.4 (7)** on the rear of the control unit.
5. Connect the cables of the external control (PLC) to socket **D (11)** and socket **B (2)**.



Rear panel

- | | |
|--|--|
| 1 Gun socket (A Gun) | 7 Rinsing air connection (1.4) |
| 2 Solenoid valve cable (B) or external control connection | 8 Supplementary air connection (1.3) |
| 3 Fuse holder - F1 | 9 Conveying air connection (1.2) |
| 4 Module ground connection | 10 External compressed air input (1.1 IN) |
| 5 Fuse holder - F2 (only in N. America) | 11 PLC control external connection (D) |
| 6 Mains connection (C) | 12 Service opening |

Figure 3

Preparatory steps for initial start-up

a) Mains voltage selection by resoldering the transformer.

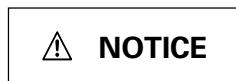


WARNING

Remove the plug from the Mains before starting work on the PGC 2 Powder Control unit.

The PGC 2 is designed to operate on 230 V.

If the place of operation has another voltage then the wire on the transformer must be resoldered by an electrician according to the following instructions :



NOTICE

When the input voltage is more than 10 % is higher than the set voltage damage may be done to internal components. If the voltage is 14 % or more below the selected voltage then the unit can operate erratically.

1. Unfasten all connections (pneumatic, and electrical) at the rear of the control module.
2. Unscrew the retaining screw at the rear of the control module.
3. Slide the module out carefully and place on a clean, flat surface.



IMPORTANT

When removing the unit do not pull on the control knobs, push the unit from the back if necessary.

4. Unscrew the two Philips screws holding the cover of the electrical section.
Carefully remove the cover plate.
5. Unsolder the connecting wire from the 230V terminal post on the transformer and resolder onto the desired voltage terminal post.

Do not unsolder the other wire (0) on the transformer.

6. Replace the cover and tighten the two Philips screws.
When replacing the cover care should be taken that the gasket is not displaced.
7. Reinsert the module into the housing and slide back into place.
Tighten the retaining screw.
8. Refasten all pneumatic, and electrical connections.

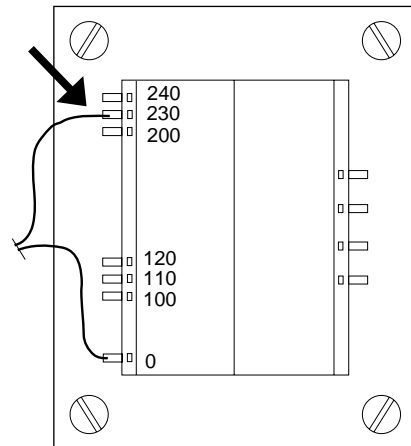


Figure 4

b) Setting the "Jumpers" on CB 1 Control board (PCB)



Remove the plug from the Mains before starting work on the PGC 2 Powder Control unit.

The desired operating mode must be set with the "Jumpers" in the CB 1 control board inside the control unit.



Incorrect connections or incorrect settings will lead to the destruction of the printed circuit board !!! When problems arise or by uncertainty, please contact the ITW Gema Service Department!

1. Remove all electrical and pneumatic connections from the rear of the control unit.
2. Unscrew the locking screw on the rear of the control unit housing.
3. Pull out the control unit and place on a clean surface.



Push the control unit out of the housing from behind, do not pull on the control knobs !

4. Release the screws holding the cover plate of the electrical section and carefully remove the cover plate. Take care not to lose the screws.
5. Place the "Jumpers" on the desired contacts using fine pointed pliers or tweezers.

1) Manual operation

For this operating mode the "Jumpers" must be set on X1 - X3 in the GUN position (upper and middle pins connected), see Fig. 5.

2) Automatic operation with external signal

For this operating mode the "Jumpers" must be set on X1 - X3 in the EXT position (lower and middle pins connected), see Fig. 5. The connection for an external control signal is the connection - **B**, on the rear of the PGC 2 control unit (see Fig. 3, and the wiring diagram on page 16).

The specifications for the external control signal can be found in the Technical Data.

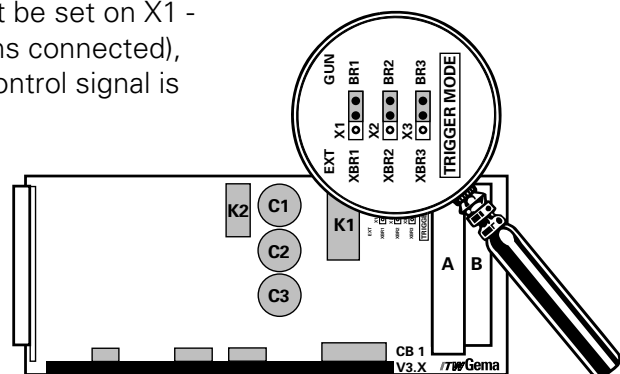
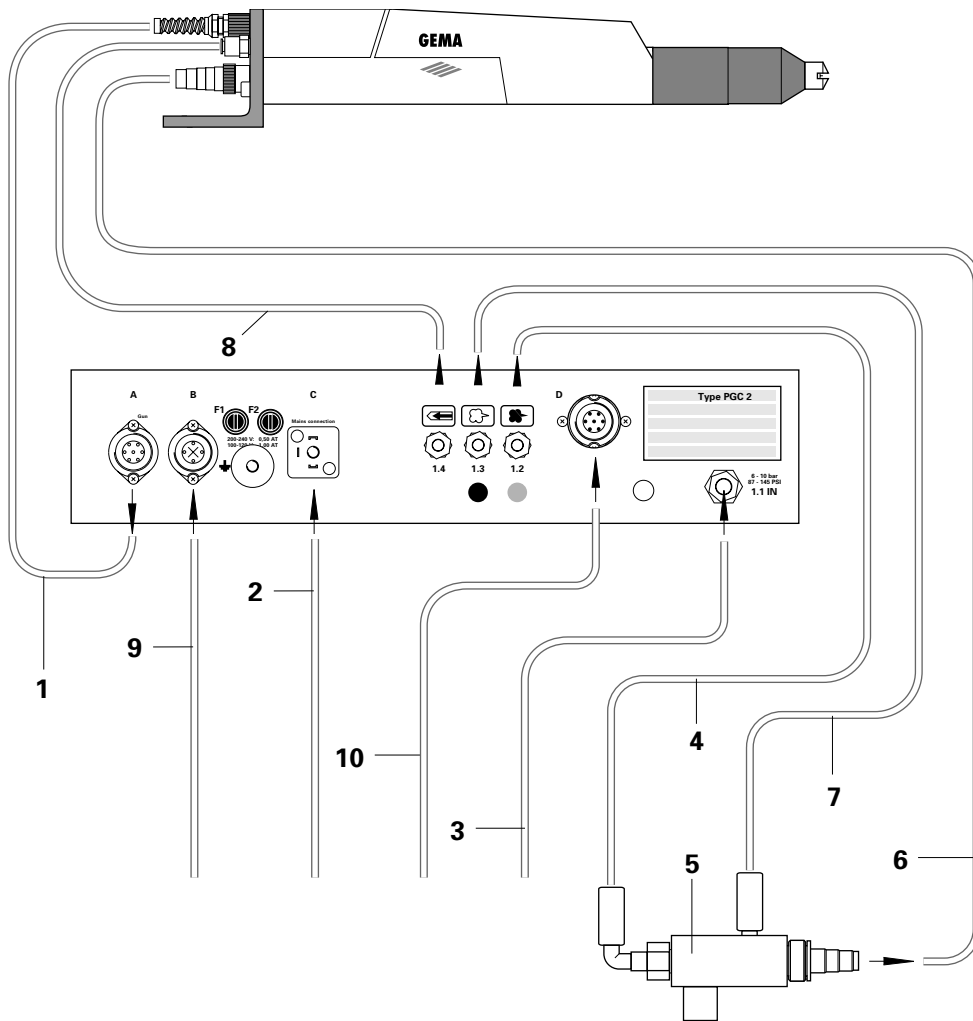


Figure 5

c) Connecting the PG 1-A Automatic Powder Gun

1. Connect the cable (1) with the 7 pin connector to the socket labelled "A Gun" at the rear of the control module.
2. Connect the hose for rinsing air (8) to rinsing air outlet 1.4 and to the gun.
3. Connect the powder hose (6) to the gun and to the injector (5).
4. Connect the external signal cable (if available) according to the wiring diagram on page 16.



- | | |
|---------------------------|---|
| 1 Gun cable | 8 Rinsing air hose |
| 2 Mains power input cable | 9 External control signal (Trigger function - gun switch) |
| 3 Internal air input hose | 10 External control signal (Powder feed - Manual/Automatic switching) |
| 4 Conveying air hose | |
| 5 PI injector | |
| 6 Powder hose | |
| 7 Supplementary air hose | |

Figure 6

d) Functional check

See Trouble shooting guide on pages 13, and 14 for malfunctions.

1. Switch on the main switch **(9)** of the control module. The PGC 2 is under power when the lamp inside the green main switch illuminates.
2. Depress the High-Voltage control knob **(8)** on the control module, if not already in this position, and turn to the left-hand stop.
3. The lowest left-hand LED (red) on the High-Voltage/Corona current meter **(7)** should illuminate. The equipment is active.
4. Feed the external signal to connection "**B**" at the rear of the control unit. The powder gun starts to spray. The control unit is in operation.
5. Set the powder feed on the PLC.
A prerequisite for this is that the pneumatic and electrical connections to and from the PGC 2 control unit are already made.
6. Set the conveying air on the desired powder feed. A corresponding signal from the PLC must be present at the proportional feed adjustment **s003**. The set pressure can be read on the pressure gauge **(2)**. Maximum pressure = 3,5 bar.
(to determine the powder feed rate, see also the table on page 8).
7. Read the total air volume on the flowmeter **(4)**.
8. Check, if the ball in the supplementary air flowmeter **(4)** "floats" in the green sector.
When necessary, readjust the supplementary air on the PLC, that is, set the ball back in the green sector.
9. Set the rinsing air by turning the rinsing air control knob **(5)** until the ball in the rinsing air flowmeter **(6)** "floats" within the respective green sector of the scale, depending on the type of jet nozzle being used (flat jet nozzle or round jet nozzle).

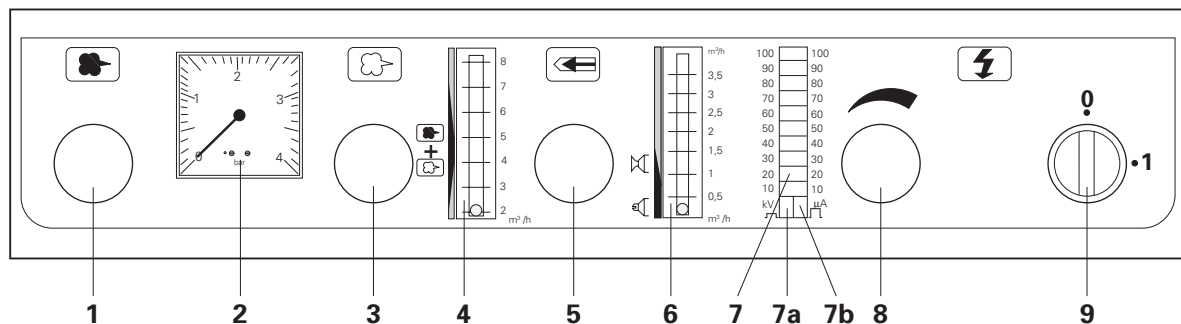


Figure 7

When all the above checks have been successfully completed, the gun is ready for use. If it fails to function correctly, consult the Trouble shooting guide on pages 13, and 14.

e) Shut-down

Switch off the control module.

The adjustments for High-Voltage, rinsing air, and powder output do not need to be changed.

PGC 2 adjustments for the PI injector

In order to set the conveying, and supplementary air correctly on the PGC 2 and therefore the powder output, the amount of powder to be deposited must be determined first. The conveying air pressure setting for the pressure gauge (2) is found in the table below through the desired amount of powder to be deposited, in grams per minute.

If the conveying air pressure is increased, through the control knob (1), then the powder output increases correspondingly. If the ball in the flowmeter (4) does not "float" in the green sector of the scale then the supplementary air must be adjusted, either up or down, on the setting knob (3).

Should the conveying air be set to over 2,5 bar then supplementary air is no longer required and the setting knob (3) can be turned completely to the left-hand stop.

IMPORTANT After every setting of the conveying air the ball in the flowmeter (4) must "float" in the green sector of the scale (4-5 m³/h). (See also "Operating Instructions and Spare Parts List for the PI plug-in injector").

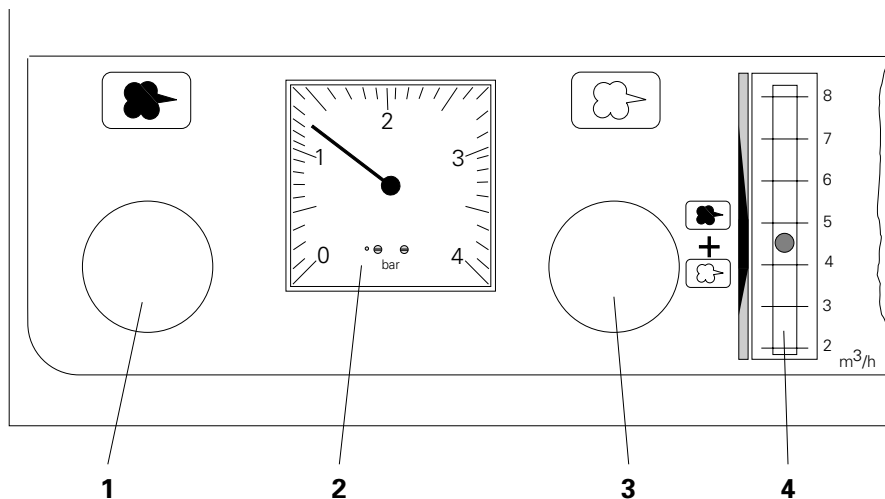


Figure 8

Values in the table below are approximate and only serve as a guideline for the various settings as conditions in different workshops can vary greatly.

Specification :	Powder hose :	ø 11 mm - 6 m. and 12 m. long.			
	Powder :	PES 31.9010 S			
	Constant volume of air :	4 m ³ /h (Conveying air + supplementary air).			
	g/min.	<u>6 m</u>	<u>12 m</u>	g/min.	<u>6 m</u> <u>12 m</u>
		bar			bar
	25	0.65	0.92	225	1.80 2.61
	50	0.80	1.14	250	1.96 3.07
	75	0.93	1.32	275	2.09
	100	1.10	1.52	300	2.24
	125	1.22	1.70	325	2.43
	150	1.38	1.90	350	2.75
	175	1.50	2.11	375	3.15
	200	1.65	2.32	400	3.50

Repairing electrical parts



The plug must be removed from the Mains socket before any repairs on the electrical section are made or when changing a fuse.

a) Replacing the bulb in the main switch

1. Turn the main switch *off* and disconnect the Mains cable of the control module.
2. Unscrew the black retaining ring (**1** - Fig. 9) of the main switch on the front of the control module and remove the green switch grip.
3. Push the special rubber bulb extractor (supplied) against the defect bulb and turn counter-clockwise to the stop (Bayonet connection). The bulb can now be removed easily.
4. Replace the new bulb (24 V / 2 W) so that the pins on the bulb fit into the slots of the bulb holder. Push the bulb carefully down with the rubber pad as far as it will go and turn clockwise.
5. Check that the bulb is seated correctly.
6. Replace the green switch grip and screw on the retaining ring (**1** - Fig. 9). Make sure the white stripe on the switch grip is pointing upwards.
7. Reconnect the Mains cable of the control module.

b) Replacing the fuse - F1

1. Unscrew the fuse holder cap to the left, remove the defective fuse and replace with a new one. Screw the fuse holder cap onto the fuse holder.

c) Replacing a potentiometer

1. Remove all electrical and pneumatic connections from the rear of the control module.
2. Unscrew the retaining screw at the lower rear of the control module.
3. Slide out the module from the housing and place on a clean flat surface.



Do not pull out by the control knobs. Push the module out from behind.

4. Unscrew the two Philips screws from the electronics part and carefully remove the cover.
5. Unscrew the grub screw of the potentiometer knob with an Allen key and pull the knob off the spindle.
6. Remove the locking nut (with the correct sized spanner) and washer, pull the potentiometer out (to the inside of the housing).



The contacts are not numbered, therefore, the potentiometer should only be replaced by a specialist!

7. Reassemble in the reverse order. When replacing the cover care should be taken that the gasket is not displaced.

d) Setting the Potentiometer stop

1. The potentiometer stop is set at the factory and does not need to be set by the customer.

e) Replacing the electronics board (PCB)

1. Remove all electrical, and pneumatic connections on the rear of the control module
(see "c) Replacing a potentiometer, with micro-switch", points 1-4).
2. Loosen the two screws **(2)** and unscrew.
Take care that the screws do not get lost.
3. Lift the board out carefully, making sure that the LED scale is not damaged in the process.
4. Carefully remove plugs **A**, and **B** (*Never pull on the cables*).

The plugs should not be connected to the wrong socket on assembly.

Before reassembling, check that the "Jumpers" on the CB 1 Control Board are set for the correct operating mode (Manual or Automatic, see Fig. 5, page 5).

Reassemble in the reverse order.

When replacing the cover care should be taken that the gasket is not displaced.

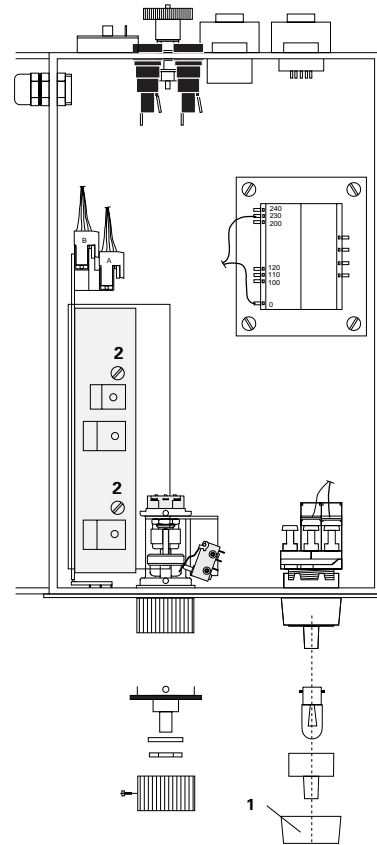


Figure 9

Wrong connection, and setting can lead to the destruction of the control unit printed circuit board!!!

When problems arise or by uncertainty, please contact the ITW Gema Service Dept.

Making repairs to the pneumatic unit

- 51 Supplementary air flowmeter
- 52 Rinsing air flowmeter
- 53 Pressure gauge
- 55 Pressure reducing valve
- 56 Throttle valve
- 60 Lead-through connection
- 61 Pressure reducing valve
- 62 Double adapter
- 63 Solenoid valve
- 65 Silencer
- 67 Quick-release connection - \varnothing 6 mm
- 90 Proportional valve
- 95 Solenoid valve
- 117 Y-Connection
- 120 Double return valve
- 128 Screw connection
- 129 Screw connection
- 131 Ring connection
- 132 Adapter - single

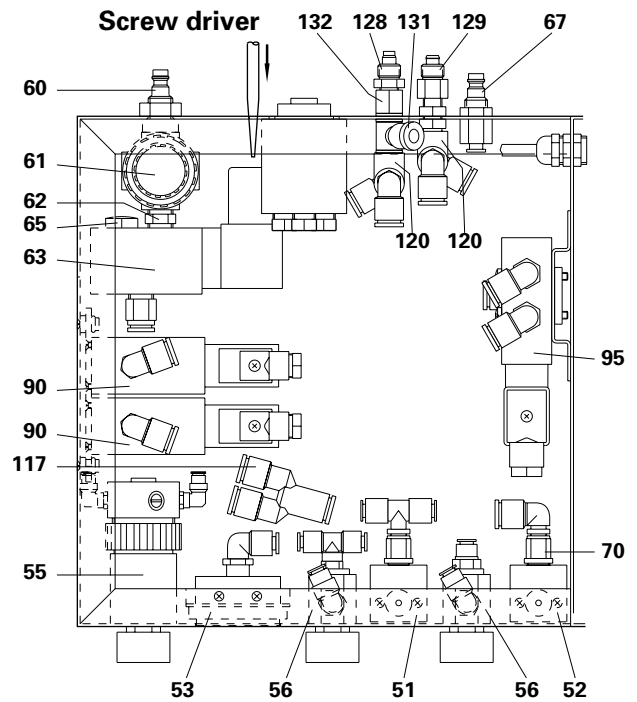


Figure 10

The following repairs may be carried out by the user :

a) Removing the pneumatic tubes

Before exchanging pneumatic parts all tube connections should be removed. This is done by pushing the pressure ring back, with the thumb nail, on the quick-release fitting of the tube connector. The tubing can now be withdrawn.

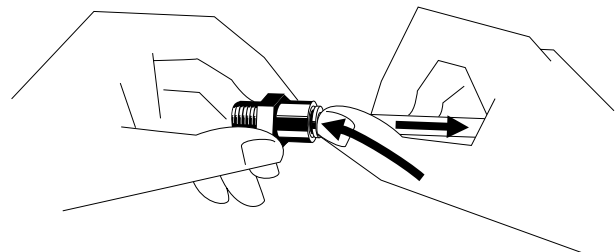


Figure 11

b) Refitting the pneumatic tubes

This is done by pushing the plastic tubing as far as it will go into the quick-release fitting of the hose connector. The hose is now fixed securely.

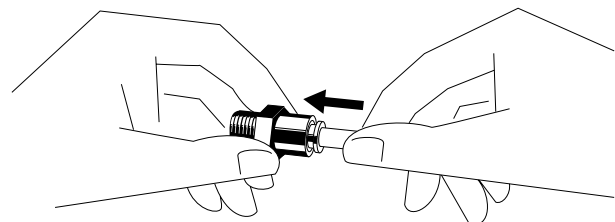


Figure 12

c) Replacing a pneumatic part

1. Remove all electrical, and pneumatic connections on the rear of the control module.
2. Unscrew the retaining screw at the lower rear of the control module.
3. Slide out the module from the housing and place on a clean flat surface.

⚠ IMPORTANT

Do not pull out by the control knobs. Push the module out from behind.

4. Release all the pneumatic tubes from the part to be replaced (see a) "Removing the pneumatic tubes", page 11, Fig. 11).
5. Disassemble the part to be exchanged from the pneumatic module housing and replace.
6. The pneumatic tubes can be refitted (see b) "Refitting the pneumatic tubes", page 11 - Fig. 12).
7. Reassemble in the reverse order.

d) Cleaning/Replacing a flowmeter

1. Remove all electrical, and pneumatic connections on the rear of the control module.
2. Unscrew the retaining screw at the lower rear of the control module.
3. Slide out the module from the housing and place on a clean flat surface.

⚠ IMPORTANT

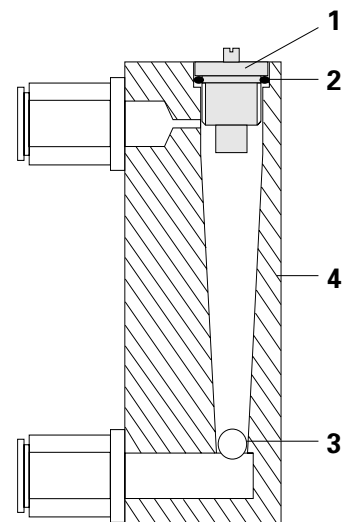
Do not pull out by the control knobs. Push the module out from behind.

4. Release all the pneumatic tubes from the part to be replaced (see a) "Removing the pneumatic tubes", page 11 - Fig. 11).
5. Remove the two countersunk screws holding the flowmeter on the bottom of the pneumatic housing frame.
6. Remove the cover screw (1) and the O-ring (2) from the flowmeter tube (4) with a small screwdriver.
7. Tilt the flowmeter until the "floating" ball (3) rolls out of the flowmeter tube (4).
8. Clean the "floating" ball (3) and the inside of the flow meter tube (4) with a clean cloth.

⚠ NOTICE

Do not submerge rubber parts in solvents !!

9. Replace the "floating" ball (3) into the flowmeter tube (4).
10. Carefully replace the cover screw (1) until it sits tightly on the flowmeter tube (4). The "floating" ball (3) must roll freely in the flowmeter tube (4).
11. Refit the flowmeter in the pneumatic unit housing with the two countersunk screws.
12. Fit the pneumatic tubing back into the quick-release couplings inside the pneumatic unit. Reassemble the pneumatic unit in the PGC 2 module in the reverse order it was dismantled.



1 Cover screw
2 O-ring
3 "Floating" ball
4 Flowmeter tube

Figure 13

Trouble shooting guide

Faults	Causes	Remedies
<p>Green lamp does not illuminate although control module has been switched on.</p>	<p>No power:</p> <ul style="list-style-type: none"> – Control unit is not connected to Mains – Fuse F1 defective – External power line fuse defective <p>In equipment:</p> <ul style="list-style-type: none"> – Lamp defective – Electronics board (PCB) defective <p>In the gun:</p> <ul style="list-style-type: none"> – Gun cable defective – High voltage section defective 	<p>Connect sprayer with power cord to Mains</p> <p>Replace</p> <p>Replace or reset</p> <p>Replace</p> <p>Mail in for repair</p> <p>Replace, eventual mail in for repairs</p> <p>Mail in gun for possible repairs</p>
<p>Needle of pressure gauge for conveying air stays at zero when making adjustments</p>	<p>Operating error:</p> <ul style="list-style-type: none"> – Module is not switched on <p>In equipment:</p> <ul style="list-style-type: none"> – Proportional valve defective – Manual/Automatic Switching valve does not switch – Electronics board (PCB) defective 	<p>Switch on</p> <p>Replace</p> <p>Set the screw for Manual switching on the Switching valve to "0" (Standard factory setting)</p> <p>Mail in for repair</p>

(Continued)

Trouble shooting guide (continued)

Faults	Causes	Remedies
Gun does not spray powder although the control module is switched on	No conveying air: - Main solenoid valve defective - Switching valve defective - Proportional valve defective - Electronics board (PCB) defective - Gun connector, gun cable or gun cable connector is defective	Replace Replace Replace Mail in for repair Replace defective item or mail it in for repair
Gun sprays powder, powder does not adhere to the work-piece	- No or too little High-Voltage - High-Voltage cascade defective - Electronics board (PCB) defective	Increase High-Voltage on Potentiometer Send the shaft in for repair Mail in for repair
Gun sprays powder, high-voltage present, powder does not adhere to the work piece.	- Work piece not properly grounded	Check the ground connection, also refer to "Safety recommendations"
Conveying air cannot be adjusted.	- Proportional valve defective - Control knob turns freely on the shaft or the grub-screw is loose.	Replace Tighten the grubscrew.

Wiring Diagram PGC 2 - Automatic operation

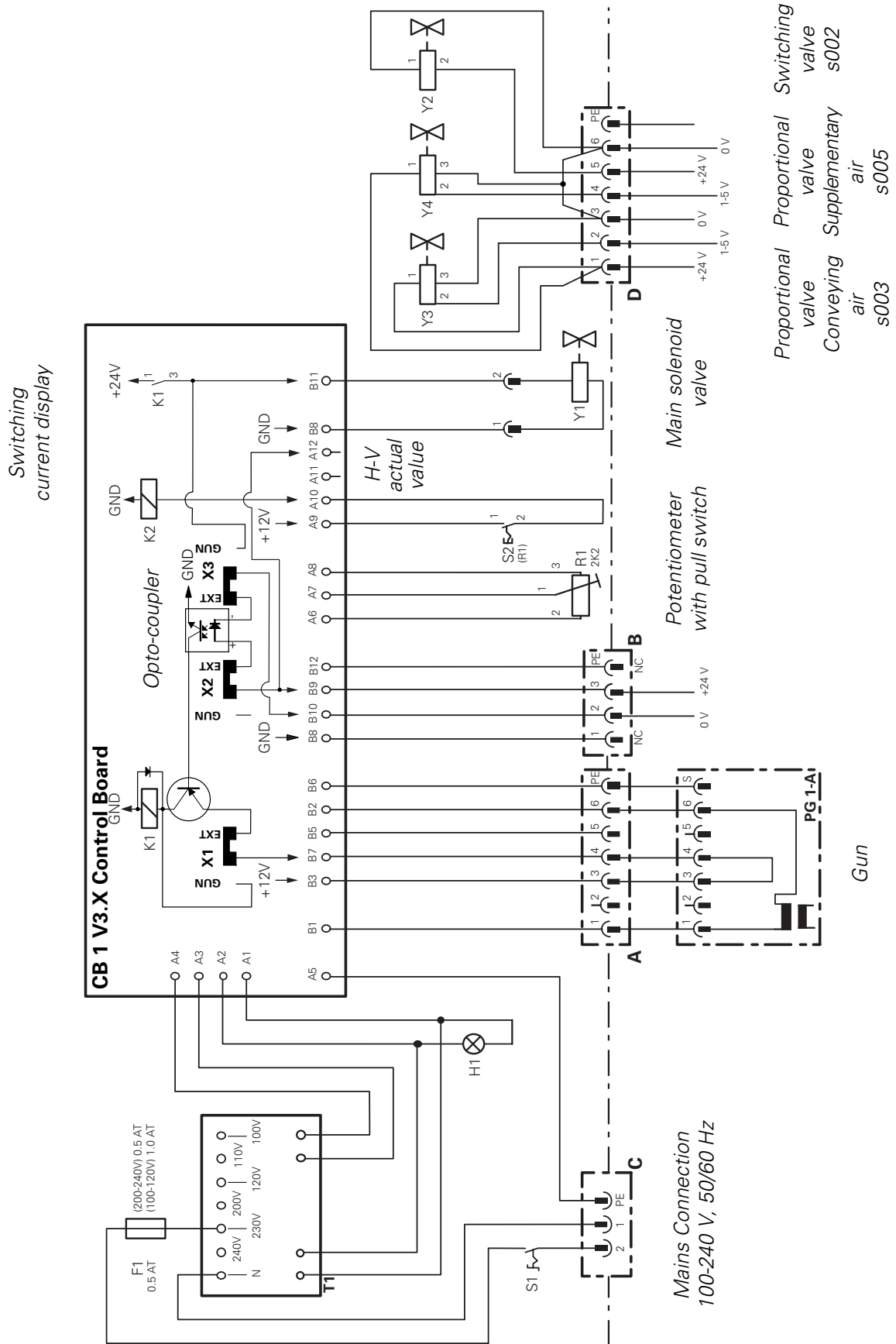


Figure 14

Pneumatic diagram PGC 2

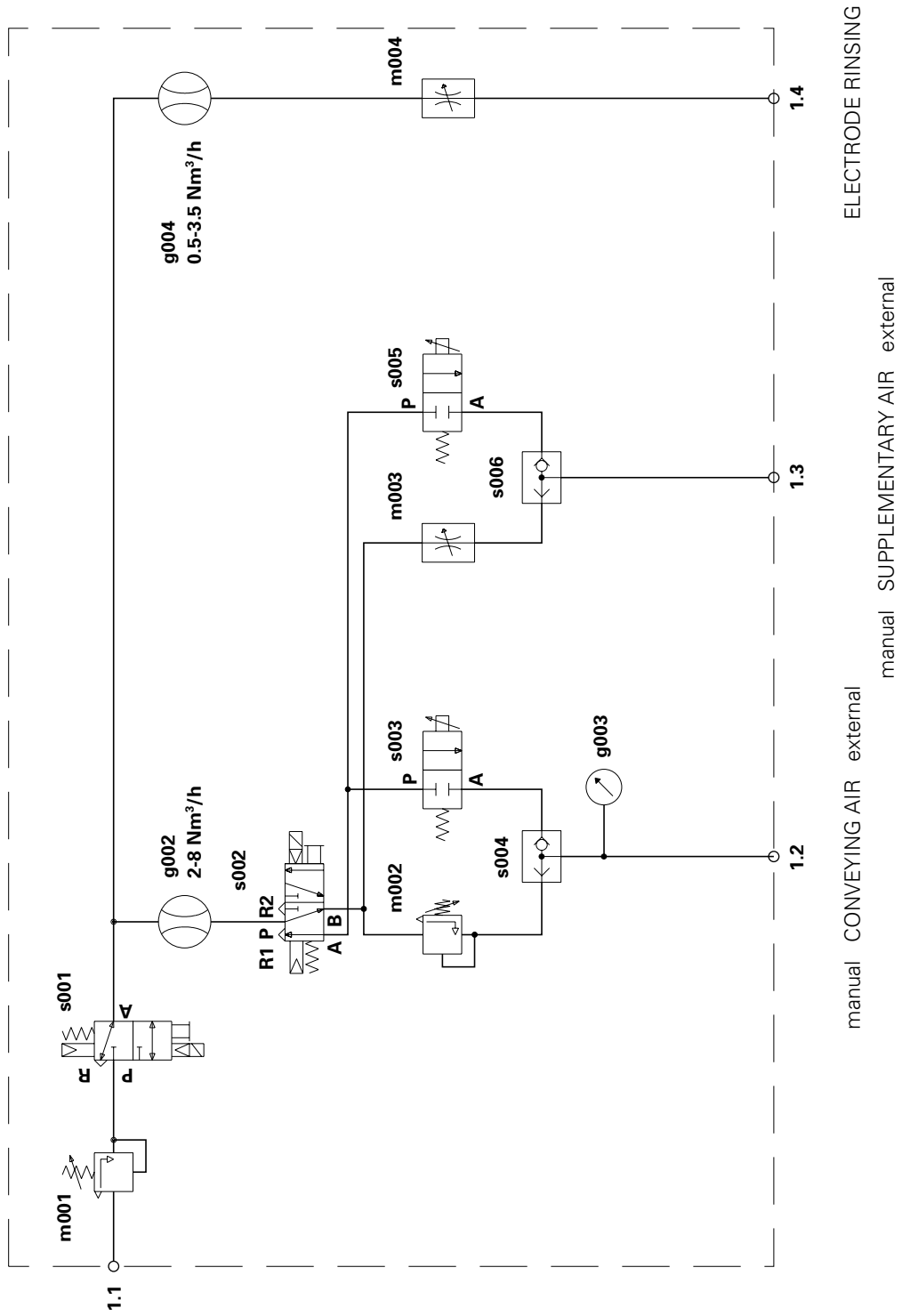


Figure 15

Spare Parts List

Ordering Spare Parts

When ordering spare parts for powder coating equipment, please indicate the following specifications :

1. Type, and serial number of your powder coating equipment.
2. Order number, quantity, and description of each spare part.

Example :

- 1. Type :** PGC 2 **Serial no :** XXXX XXXX
2. Order no : 235 792 1 piece, Potentiometer.

When ordering cable or hose material the length required must also be given. The spare part numbers of this yard/metre ware is always marked with an *.

The spare part number of yard/metre ware always begins with 1..

All wear parts are marked with a #.

All dimensions of plastic hoses are given as external and internal diameters :
e.g. $\varnothing 8 / 6$ mm = 8 mm outside diameter (o/d) / 6 mm inside diameter (l/d).

PGC 2 Control module

Electrical Parts

	PGC 2 Control module (complete)	359 688
1	Fixed plug, with gasket (for Mains connection)	200 409
2	Knurled grounding nut - M 6	200 433
3	Socket - 4 pin	205 249
4	Socket - 7 pin	200 093
5	Plug - 12 pin B1 - B12	338 770
6	Plug - 12 pin A1 - A12	338 761
7	Printed circuit board - CB1	327 190
8	Potentiometer with micro-switch - complete	370 355
9	Washer	200 271
10	Clamp nut - M12 x 1	200 700
11	Regulating knob	200 069
12	Transformer	235 555
13	Fuse holder - F1	200 131
	Fine wire fuse (slow blow) 0.5A T for 200-240V	201 073#
	Fine wire fuse (slow blow) 1.0A T for 100-120V	210 242#
13.1	Fuse holder - F2 (without neutral conductor)	200 131
14	Lamp unit	235 946
15	Contact unit	235 938
16	Adapter fixture	235 920
17	Bulb - 24V / 2W	235 954#
18	Switch	235 911
19	Mains cable connection (single plug)	303 607
20	Mains cable connection (two plugs)	343 366
	Mains cable connection (four plugs - not shown)	343 374
	Mains cable connection (eight plugs - not shown)	343 382
23	Clamp nut - PG 7	230 537
24	Lead-through - PG 7	235 989
25	Cover plate	352 128
27	Sealing strip - 9 x 6 mm	100 269*
28	Socket cap	206 474
29	Gasket	336 300

* Indicate length required

Wear parts

Electrical parts

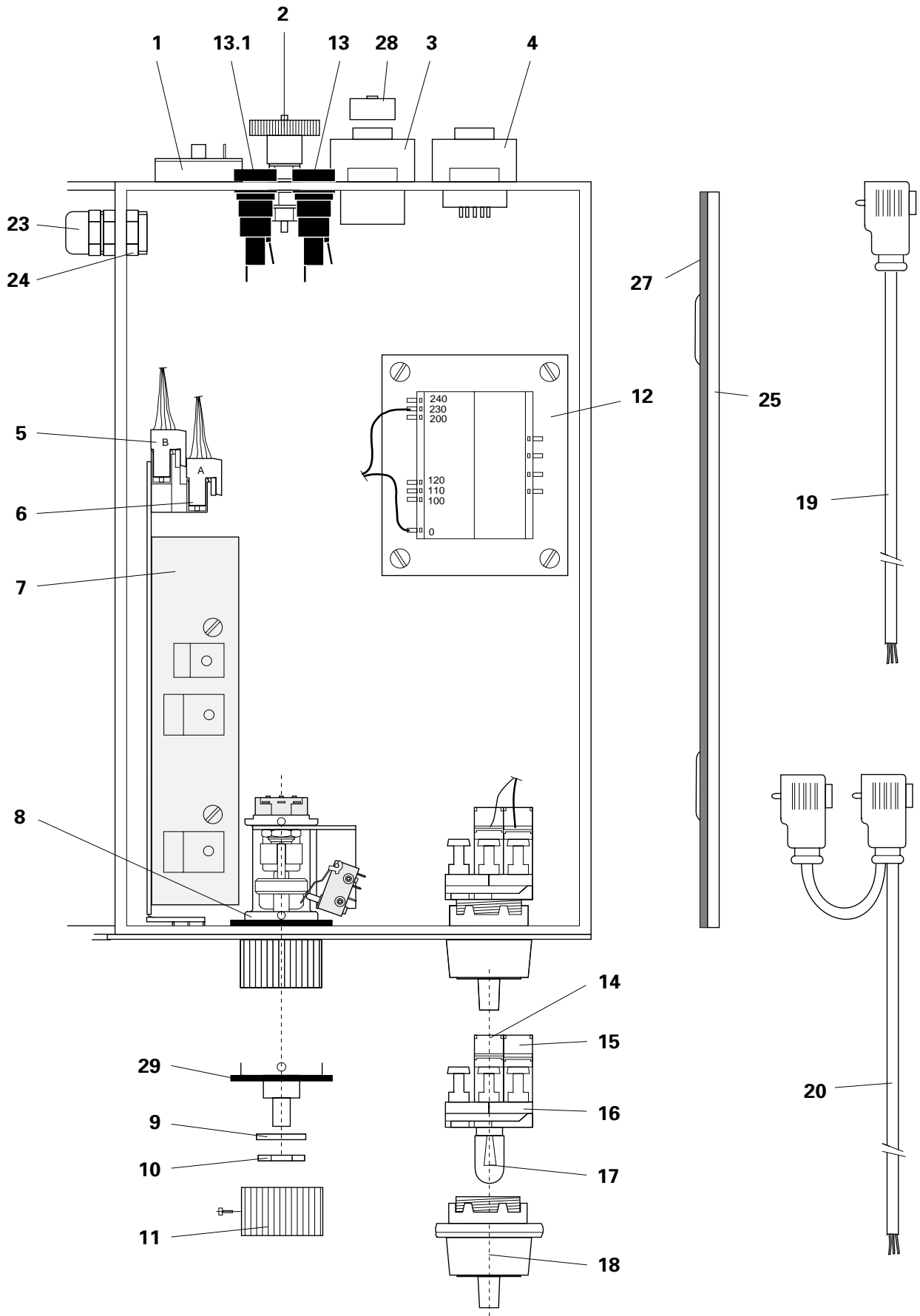


Figure 16

PGC 2 Control module

Pneumatic parts

17	Control knob	200 069
31	Conduit gland - PG07	235 989
32	Lock nut - PG07	230 537
51	Supplementary air flowmeter (2-8 m ³ /h)	347 280
52	Rinsing air flowmeter (0.5-3.5 m ³ /h)	347 299
53	Pressure gauge (0-4 bar)	235 814
55	Pressure reducing valve	235 822
56	Throttle valve	238 244
57	Clamp nut - M14 x 1 mm	302 163
58	Elbow connector	251 380
60	Quick-release connection - ø 8 mm	242 373
61	Pressure reducing valve	235 830
62	Double adapter	202 754
63	Solenoid valve	251 160
64	Quick-release connector - 1/4" - ø 8 mm	245 933
65	Silencer - 1/4" (for Item. 63)	225 452
67	Quick-release connector - ø 6 mm	241 784
70	Quick-release connector - 1/8" - ø 6 mm	246 948
71	Cable box - complete (incl. Items 71, 72, 123)	359 718
72	Flange socket - 7 pin	205 370
90	Proportional valve	251 178
	Silencer - 1/8" (for Item 90)	251 305
94	Quick-release connector - 1/8" - ø 8 mm	203 050
95	Solenoid valve	251 194
	Silencer - 1/8" (to Item 95)	251 305
101	Quick-release coupling - ø 8 / 6 mm	203 181
102	Hose - ø 8 / 6 mm - black	103 756*
103	Screw cap for Hose - ø 8 / 6 mm	201 316
104	Hose - ø 8 / 6 mm - red	103 500*
105	Quick-release connector - ø 6 / 4 mm	200 840
106	Hose ø 8 / 6 mm - black	103 756*
107	Hose - ø 6 / 4 mm - black (Auto.)	103 144*
	Hose - ø 6 / 4 mm - transparent (Manual)	100 854*
110	Quick-release connector - 1/4" - ø 8 mm	224 359
114	T-Connector - ø 8-1/8"-ø 8 mm	251 240
115	T-Connector - ø 8 mm	251 224
116	Elbow connector - ø 8 mm-ø 8 mm	238 287
117	Y-Connector - 3 x ø 8 mm	251 259
120	Shuttle valve	244 929
123	Conduit gland - PG7	251 313
125	Lead-through connection - ø 6 mm-ø 6 mm	202 371
128	Screw connection - 1/8"-ø 8 mm	224 936
129	Screw connection - 1/8"-ø 8 mm	237 663
130	Sealing ring - 1/8" / 13.8 x 1.5 mm	251 275
131	Air connection ring - 1/8"-ø 6 mm - single	251 267
132	Adapter - 1/8" - single	251 283

* Indicate length required

Hose connections

- | | | |
|---|---|----------|
| 1 | Plastic hose - \varnothing 8 / 6 mm (black) | 103 152* |
| 2 | Plastic hose - \varnothing 6 / 4 mm (black) | 103 144* |

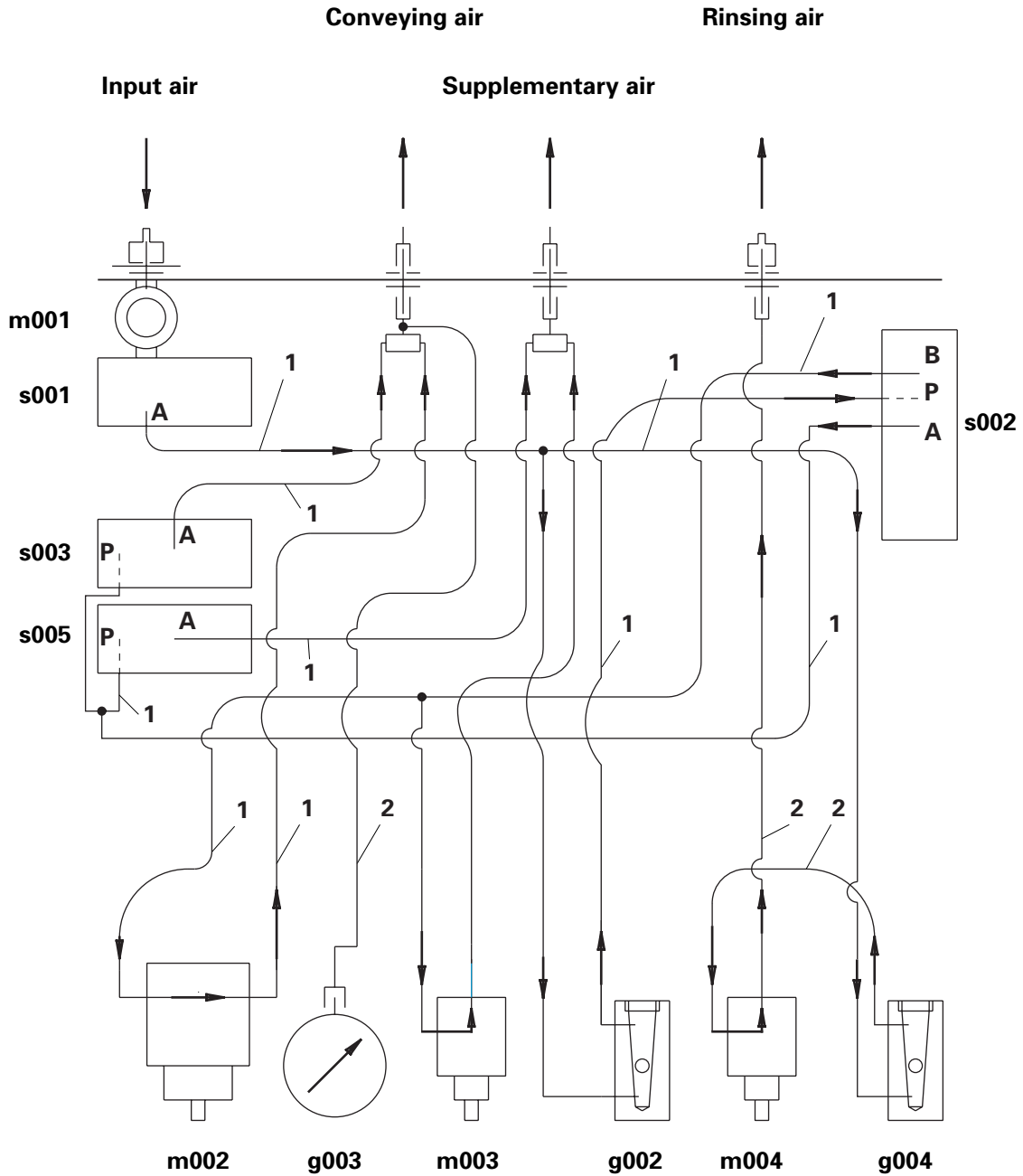


Figure 18

* Indicate length required

Notes

Documentation PGC 2

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