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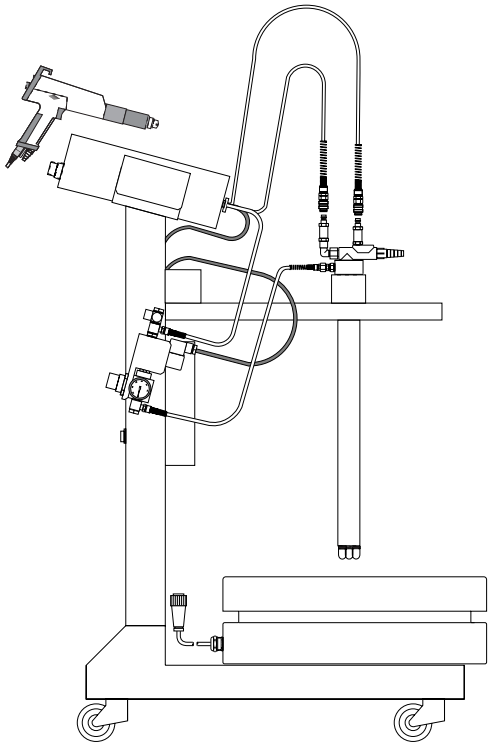
Operating Instructions and Spare Parts List

MPS 1-B / MPS 2-B
Manual Powder System



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Directions for use

The electrostatic manual coating system consists of:

PG 1 Electrostatic manual powder coating gun.
PGC 1 Control module with CB 1 electronics control board.
Vibration table and Suction tube unit
(Optional - Fluidizing/suction tube unit)

This equipment is matched and should only be operated in this configuration.

This equipment combination was tested by PTB: PTB No 91.C. 9102, PTB 1991

Safety rules for the electrostatic powder coating

1. This equipment can be dangerous when it is 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).
2. All electrostatic conductive parts which are within 5 metres of the coating area and especially the work pieces must be grounded.
3. The floor in the coating area must be electrostatic conductive. Normal concrete is generally conductive.
4. The operating personnel must wear electrostatic conductive footwear, i.e. leather soles.
5. The operating personnel should hold the gun in the bare hand. If gloves are worn they must be electrostatically conductive.
6. Connect the grounding cable (green/yellow) supplied to the grounding terminal on the transport trolley column. The grounding cable must have a good metal to metal contact with the coating booth, recovery unit, and the work piece conveyor system, especially with the work piece suspension.
7. The electrical cables and powder feed hoses to the gun must be laid out so that they are protected from possible mechanical damage.
8. The powder coating equipment should only be switched on after the coating booth is in operation. If the booth breaks down then the powder coating system must also be switched off.
9. Check the grounding of all electrostatic conductive parts at least once a week.
10. When cleaning the gun or changing nozzles the control module must be switched off.
11. Only those parts listed in the section - Nozzle Combinations for PG 1 - of the Spare Parts List of the PG 1 Powder Gun may be used.

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Technical data for the MPS 1-B and MPS 2-B electrostatic coating system

Type	***MPS 1-B***	***MPS 2-B***

Electrical data

Single-phase AC

Selectable voltage : 100 V, 110 V, 120 V, 200 V, 230 V or 240 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 0,5 AT and for the higher voltages is 0,25 AT.

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

Tolerance:	±10%	
Frequency :	50/60 Hz	
Connected load :	150 VA	220 VA
Rated output voltage (to gun) :	10 V	10 V
Rated output current (to gun) :	1,2 A	1,2 A
Type of protection :	IP 54	
Temperature range :	+10° C to +40° C (*+50° F to +104° F*)	
Approval :	EN 50 050 FM test No J.I. OW 7 A 6.AE (7264) Date tested 1993 PTB test No 91.C.9102 Date tested 1991	

Pneumatic data

Maximum input pressure :	10 bar	
Minimum input pressure :	5 bar	
Maximum water vapour content of compressed air :	1,3 g/m^3	
Maximum oil vapour content of compressed air :	0,1 mg/kg	
Maximum compressed air consumption :		
Powder hose - ø 11mm	8 m^3/h	16 m^3/h
Main compressed air input connection thread :	1/4" B.S.P (female)	

Dimensions

Width :	460 mm	460 mm
Depth :	920 mm	1030 mm
Height :	1070 mm	1170 mm
Weight :	46 kg	59 kg
Max. capacity of container (w x d x h):	420 x 420 x 450 mm	

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About these operating instructions

These operating instructions contain important information which is required to operate the MPS Manual Powder System. It will guide you safely through the assembly phase, give you information to convert an MPS 1 to MPS 2 and give instructions and tips for optimizing the new powder coating system. The information about functioning of the individual system components – PGC 1 Powder Gun Control, PG 1 Manual Powder Gun or PI Injector – are found in the accompanying documentation.

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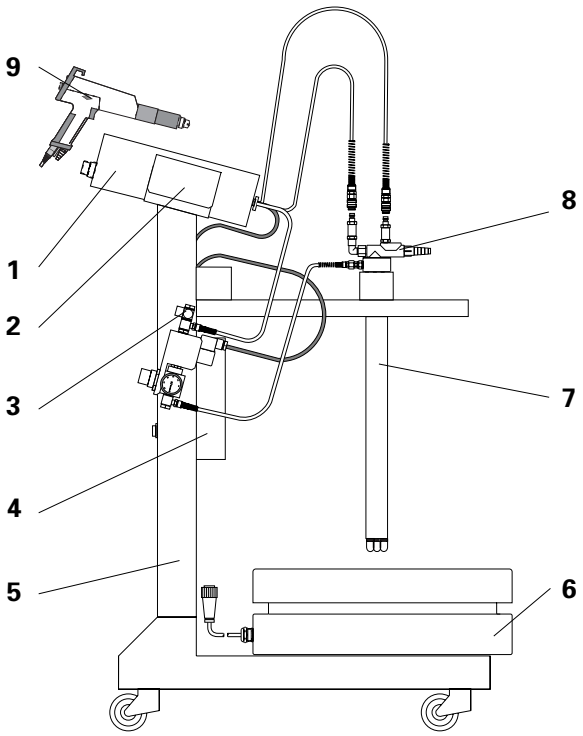
MPS 1-B / MPS 2-B Manual powder system for electrostatic coating

1. Fields of application

The MPS 1-B/MPS 2-B electrostatic manual powder coating system with the PG 1 powder gun are especially suited for manual coating of workpieces that are manufactured in small series. The powder is fed to the gun directly from the powder manufacturer´s container through the fluidizing/suction tube unit.

2. Scope of delivery for MPS 1-B (standard):



1. PGC 1 control module
2. Gun holder
3. External air input
4. Vibration table control
5. Transport trolley
6. Vibration table
7. Fluidizing/suction tube
8. PI injector
9. PG 1 powder gun

Figure 1

A PGC 1 control module (**1**), installed in a metal housing, complete with gun support (**2**) and power cable.

A transport trolley (**5**).

A Vibration table (**6**) with a powder fluidizing/suction tube unit (**7**).

An external air input (**3**) and Vibration table control unit (**4**) mounted on the trolley column.

A PI (**8**) plug-in injector.

A PG 1 manual powder gun (**9**) with electric cable, powder hose, rinsing air hose, and a standard PG 1 nozzle set (see PG 1 Operating Instructions).

Pneumatic hoses for the conveying air (red), and supplementary air (black), also pneumatic connection from external air input (**3**) to control module.

3. Supplementary material for MPS 2-B (standard)

- A PGC 1 control module, complete with gun support, and special power cables.
- A PI injector.
- A PG 1 manual powder gun with electric cable, powder hose, and rinsing air hose.
- A fluidizing/suction tube unit.
- Pneumatic hoses for the conveying air (red), supplementary air (black), also a pneumatic connection with a double air distributor from the external air input to the control module.
- Two connecting plates.

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Functional description (also with an optional suction unit)

The powder container is placed directly onto the Vibration table and the powder is agitated (vertically) by the vibration motor mounted under the table. Powder is sucked into the bottom of the suction tube by the vacuum created by conveying air (red hose) passing through the injector.
The fluidizing/suction unit fluidizes powder by feeding compressed air down the outer chamber of the fluidizing/suction unit, see Figure 2 below, and out through the fluidizing pads at the bottom of the tube. Powder surrounding the fluidizing/suction unit is fluidized and obtains a liquid-like property before being sucked up into the opening at the base of the tube.
Fluidizing air is fed into the fluidizing tube from a connector fitted to the quick-release connection of the conveying air hose input of the injector, the other end is fitted directly into the ring at the top of the tube. (See Figure 12, page 20, Spare parts list.)
The powder/air mixture reaches the gun through the powder hose fitted to the outlet side of the injector. The powder is electrostatically charged shortly before leaving the gun nozzle.
An electrostatic field also exists between the gun nozzle and the grounded workpiece.
The electrostatically charged powder sprayed onto the workpiece adheres to the latter's surfaces.
Vibration causes the powder in the container to settle evenly, preventing powder from collecting in the corners of the container. Because of this, practically all the powder in the container can be used (optimum powder exploitation).
The conveying air and the supplementary air are regulated on the PGC 1 control module.
The function of the injector is described in PI Injector Operating Instructions.
The arrows in Figure 2 show the direction of flow of the powder, and air.

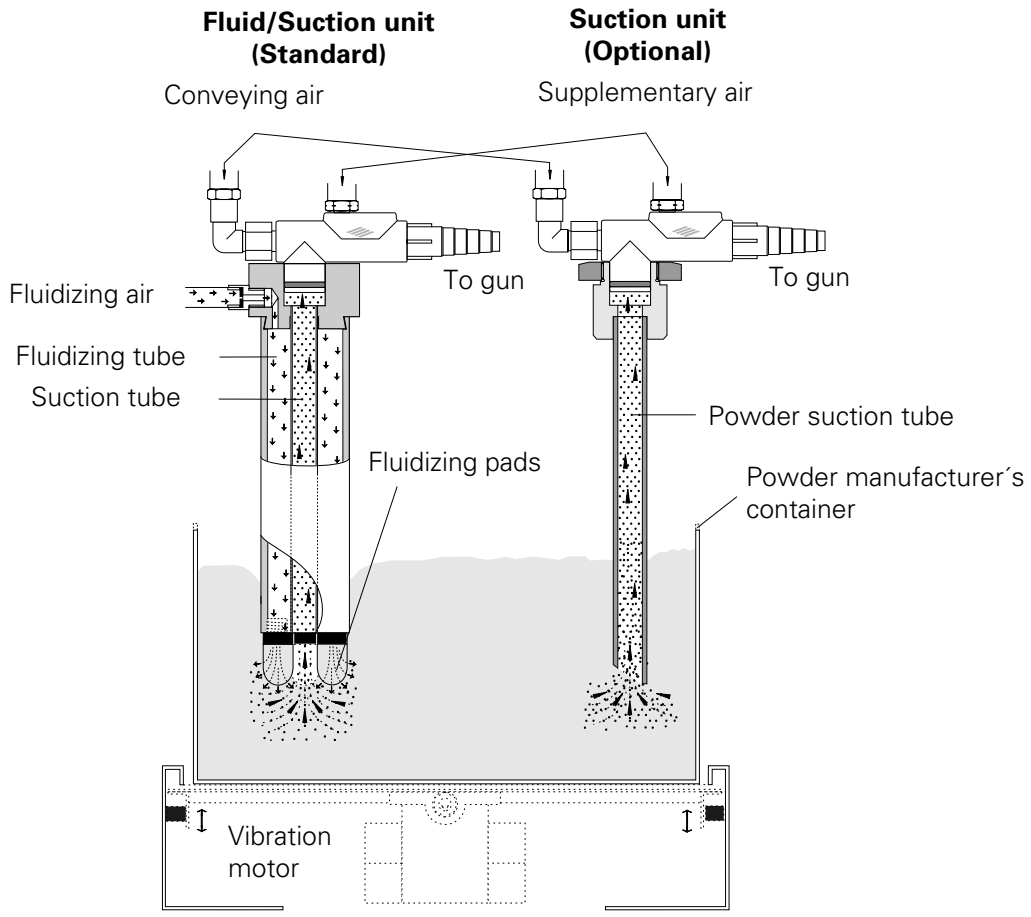

Figure 2

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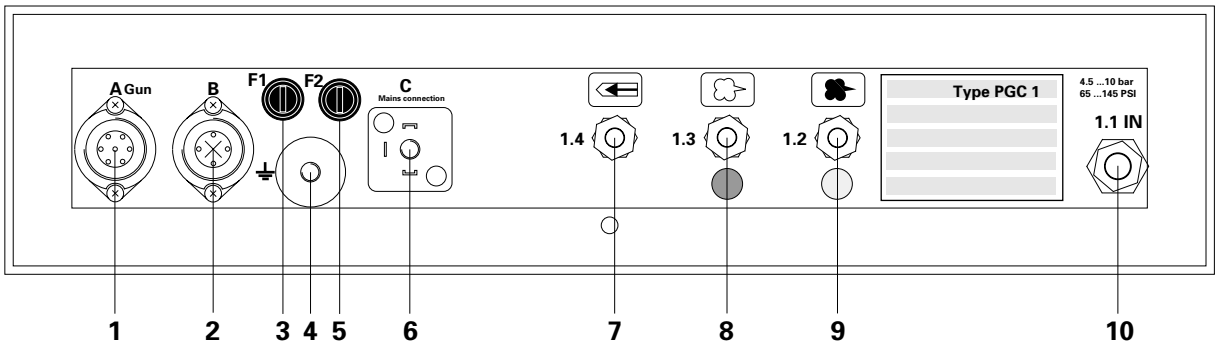
Installation of the MPS 1-B powder coating system

MPS 1-B

The powder coating system is partially assembled at the factory. It will be necessary to fit the various assemblies and connect the cables, and hoses after unpacking. (Refer to the drawing on page 15, Fig. 9, and the accompanying assembly instructions).

- The gun support can be mounted on either side of the control module housing.
- Connect the black hose from the fluidizing unit (mounted on the trolley column) to the inlet **1.1 IN** (**10**) at the rear of the PGC 1 control unit.
- Screw the red hose connection onto the conveying air outlet **1.2** (**9**), at the rear of the control unit, then connect the other end to the conveying air quick-release connection of the injector.
- Screw the connection of the black supplementary air hose onto the outlet **1.3** (**8**), at the rear of the control unit, then connect the other end to the supplementary air quick-release connection of the injector.
- Connect the rinsing air hose (small diameter transparent hose) to the nozzle connection on the gun grip and the other end to the quick-release connection to the outlet **1.4** (**7**) on the rear of the control unit.
- Screw the fluidizing air hose connection to the elbow connection at the bottom of the fluidizing unit (on the trolley column), then connect the other end to the quick-release connection of the fluidizing-suction unit.

Rear panel



1. Gun socket (**A Gun**)
2. Solenoid socket (**B**)
3. Fuse holder (**F1**)
4. Ground connection
5. Fuse holder (**F2**) - (for N. America only)
6. Mains connection (**C**)
7. Rinsing air connection (**1.4**)
8. Supplementary air connection (**1.3**)
9. Conveying air connection (**1.2**)
10. External compressed air input (**1.1 IN**)

Figure 3

MPS 2-B (see also next page) - Converting MPS 1-B to MPS 2-B

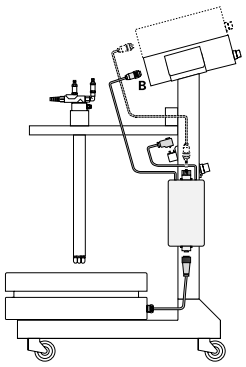


Figure 4

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Converting MPS 1-B to MPS 2-B

Procedure:

1. Place the second fluidizing/suction unit sleeve (**9**) into the slot of the carrier arm and screw the locking ring tight.
2. Remove the gun holder (**8**) and milled nuts from the PGC 1 control unit.
3. Fit the connecting plates (**4** - slots facing up) and gun holders (**8**) on the protruding studs each side. Tighten the milled nuts.
4. Fit the second control unit (**2**) with the protruding studs into the slots of the connecting plates (**4**). Tighten the milled nuts.
5. Fit the second fluidizing/suction unit (**7**) into the sleeve (**9**) on the carrier arm.
6. Fit the second injector (**10**) to the injector holder of the second fluidizing/suction unit (**7**) and check for tight fit.
7. Connect second powder gun (**1**) plug to socket - **A Gun**, the transparent rinsing air hose to output - **1.4**, (on the rear of the second PGC 1 unit) and the powder hose to the second injector hose connection.
8. Connect the cable (**6**) to the socket (with the dust cap on the trigger-vibration control unit on the column) and the other plug to the socket - **B** on the second PGC 1 control unit (see also Fig. 4).
9. Fit the screw couplings of the conveying air hose (**12** - red) to input - **1.2**, and supplementary air hose (**11** - black) to input - **1.3** on the rear of the second PGC 1 unit, then push the quick-release connections onto the corresponding injector connection (red-red and black-black).
10. Connect two plugs of the triple plug cable (**13**) to Mains input socket - **C** on the rear of each PGC 1 unit and the remaining plug to the Mains input socket of the Trigger-vibration control unit on the column.

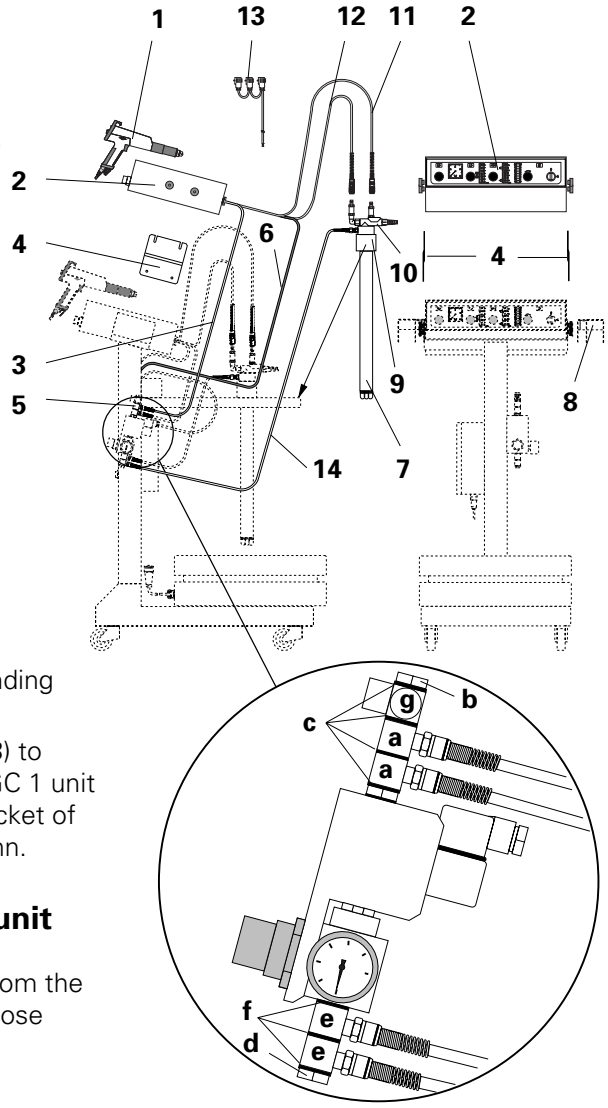

Figure 5

Procedure for converting the fluidizing unit

1. Unscrew the double air connection adapter from the top of the fluidizing unit. Leave the black air hose connected to the air connection ring.
   Always use the correct size spanners!!!
2. Fit the main air input connection (**g**), air connection rings (**a**), and gaskets (**c**) to the triple air connection adapter (**b**) and screw into the fluidizing unit (See insert, Fig. 5).
3. Unscrew the fluidizing air hose from the elbow connection at the bottom of the fluidizing unit and then the elbow connection itself.
4. Fit the air connection rings (**e**), and gaskets (**f**) onto the double air connection adapter (**d**) and screw into the fluidizing unit (See insert, Fig. 5).
5. Connect the (single) loose black air hose to the vacant upper connection ring (**a**) and the other end to the input - **1.1 IN** of the second PGC 1 control unit. Connect the air hose the lower connection rings (**e**) and quick-release connections the fluidizing-suction units .

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Preparatory steps for initial start-up

a) Setting the correct line voltage

The factory always sets the voltage to 230 V. If the local line voltage is not 230 V, the voltage setting of the transformer must be changed by an electrician.

⚠ CAUTION

If the incoming voltage is 10% or higher than the voltage selected damage may be done to internal components. If the incoming voltage is 10% or more below the selected setting then the unit may operate erratically or not at all.

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.
   *When removing the unit **do not** pull on the control knobs, push the unit from the back if necessary.*
4. Unscrew the four quick-release screws holding the cover plate of the electrical section. Carefully remove the cover plate
5. Unsolder the connecting wire from the 230 V terminal post on the transformer and resolder onto the desired voltage terminal post.
   ***Do not** unsolder the other wire (**0**) on the transformer.*

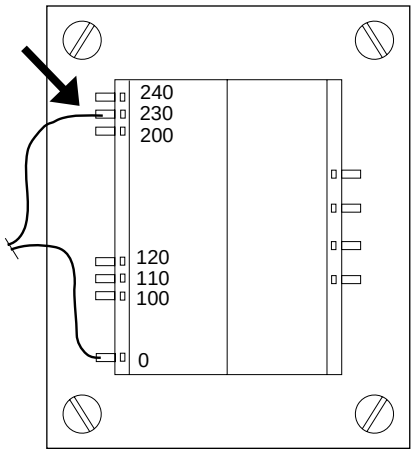

Figure 6

6. Replace the cover plate and tighten the four quick-release screws.
7. Re-insert the module into the housing and slide back into place. Screw in the retaining screw tightly.
8. Refasten all connections (pneumatic and electrical).

b) Connection to the compressed air supply

Compressed air is fed into the connection on the input adapter mounted on the trolley column. Thread connection: 1/4" B.S.P.
The compressed air must be free of oil and water.

Note: Atmospheric pressure should prevail in the powder hopper while it is in operation!

c) Establishing the ground connection

Connect the ground connection cable clip on the column of the trolley to the booth or the workpiece suspension device, connect the cable with the cable shoe to the ground connector of the powder hopper, and the cable with the eye to the ground connector at the rear of the control module.

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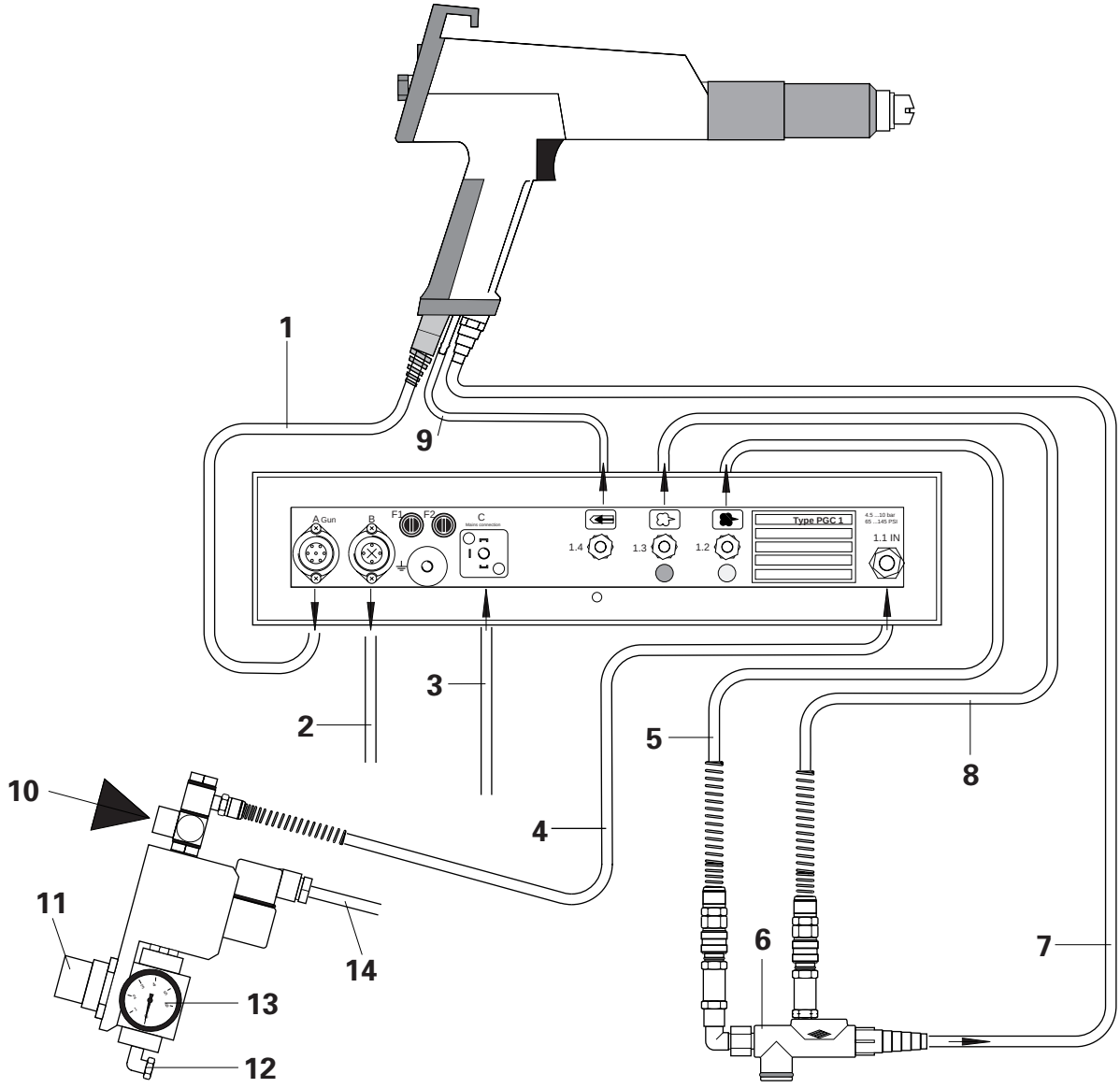
d) Connecting the PG 1 powder gun

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 (**9**) to rinsing air outlet **1.4** and to the gun.
3. Connect the powder hose (**7**) to the gun and to the injector (**6**).



1. Gun cable
2. Trigger-Vibration control socket
3. Mains power input cable
4. Internal air input hose
5. Conveying air hose
6. PI injector
7. Powder hose
8. Supplementary air hose
9. Rinsing air hose
10. External compressed air input
11. Fluidizing air setting knob
12. Fluidizing air hose connection
13. Fluidizing air gauge
14. Solenoid valve cable - (Trigger-Vibration control)

Figure 7

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e) Function check

See trouble shooting guide on pages 13 and 14 for malfunctions.

1. Switch on the main switch (**9**) of the PGC 1 control module. The MPS 1-B 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. Squeeze the gun trigger. The lowest left-hand LED on the high voltage/corona current meter (**7**) should illuminate. The equipment is active.
4. Pick up the gun and point it towards a grounded workpiece approximately 20 cm away.
5. Set the pressure for the desired rate of powder deposit (in grams/min, found in the table PG 1 Operating Instructions) on the conveying air pressure gauge (**2**). The maximum output is 3,5 bar.
6. Check on the supplementary air flowmeter (**4**) if the ball "floats" within the green sector of the scale. If it does not, turn the supplementary air control knob (**3**) to the left or right, while pulling the trigger once or twice, until the ball is positioned correctly.
7. 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).

f) Powder container

1. Lift the fluidizing/suction tube out of the container and swing the carrier arm to the side. Remove the old container from the vibration table.
2. Place a new, open powder container onto the vibration table.
3. Swing the carrier arm over the container and replace the fluidizing/suction tube unit in the support and let the suction tube sink into the powder until it rests on the support.

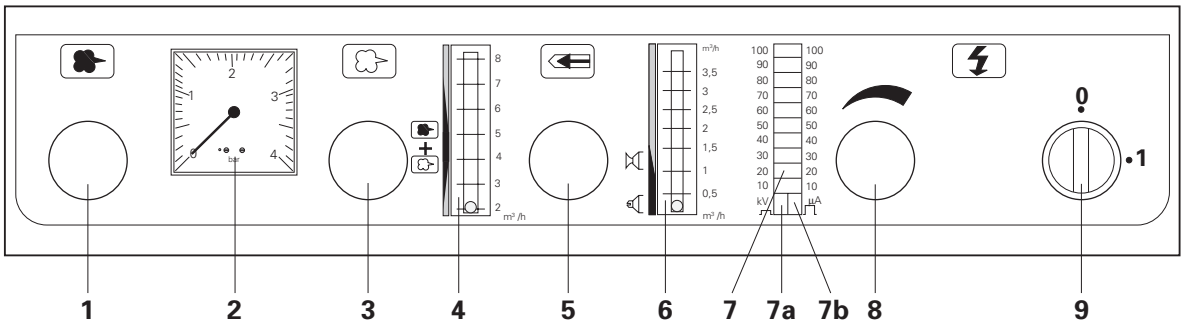

Figure 8

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.

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Start-up

a) Powder fluidization and vibration

The fluidization and vibration of the powder are dependent on the type of powder, the air humidity, and the ambient temperature etc. When the PGC 1 control unit is switched on, the fluidization and vibration start as soon as the powder gun trigger is pulled. When the trigger is released the fluidization, and vibration continue to run for a time (pre-set at the factory - approx. 1 min) and then stop automatically. Pulling the trigger will restart the fluidizing and vibration again.
Proceed as follows:

Fluidization :

1. Place the fluidizing/suction unit into the manufacturer's powder container.
2. Slowly increase the fluidizing air - the powder should "boil" lightly, but constantly. If necessary increase the fluidizing air until the "boiling" in the container is even, then reduce the air until a low "boil" is obtained. When necessary the powder can be loosened with a stick.
3. Lock the setting of the pressure reducing valve (mounted on the trolley column) by pushing the knob in.

Vibration :

4. The vibration table will start to vibrate as soon as the powder gun trigger is pulled.
5. The fluidizing/suction unit will "dig" itself into powder.

b) Adjusting the powder output and powder cloud

The powder output is dependent on the type of powder, the powder hose length and the number of coils, the powder hose diameter, the conveying air pressure, and the dosing air. The operating principle of the injector and the influence of the supplementary air are explained in the PI Injector Operating Instructions.

1. Switch on the control module.
2. Point the gun into the booth and pull the powder gun trigger .
3. Set the conveying air (see PGC 1 Control Operating Instructions).
4. Adjust the supplementary air (see PGC 1 Control Operating Instructions).
5. Adjust the rinsing air pressure.

   Using a flat jet nozzle.

   - Adjust the pressure gauge (**2 -** *Fig. 8, page 8*) on the control module to the desired powder feed rate.
   - Adjust the supplementary air on the flowmeter (**4 -** *Fig. 8, page 8*) so that the ball "floats" within the green sector on the scale.
   - Adjust the rinsing air on the flowmeter (**6 -** *Fig. 8, page 8*) so that the ball "floats" in the *lower* green sector on the scale.

   Using a round nozzle with vented deflector.

   - Adjust the pressure gauge (**2 -** *Fig. 8, page 8*) on the control module to the desired powder feed rate (see table on page 9).
   - Adjust the supplementary air on the flowmeter (**4 -** *Fig. 8, page 8*) so that the ball

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- Adjust the rinsing air on the flowmeter (**6 -** *Fig. 8, page 8*) so that the ball "floats" in the *upper* green sector on the scale.

7. Adjust the powder cloud.

   Using a flat jet nozzle.

   - Loosen the threaded sleeve by turning it approximately 45° so that the flat jet nozzle (or the extension) can just be turned.
   - Turn the flat jet nozzle in the desired axial direction.
   - Retighten the threaded sleeve.

   Using a round nozzle with vented deflector.

   - Change the deflector (ø 16, 24, and 32 mm are supplied with the gun).

Caution: Never turn the deflectors, these are pushed on an O-ring fitting!

c) Powder coating - Start-up

⚠ IMPORTANT **First check that all electrostatically conductive parts within 5 m of the coating booth are grounded.**

1. Switch on the control module.
2. Pick up the gun and point it into the coating booth, but not at the workpiece to be coated.
3. Press the powder gun trigger (*see PG 1 Powder Gun Operating Instructions*).
4. Adjust the high-voltage:
   Check by observing the LED (**6 -** *PG 1 Powder Gun Operating Instructions*)
5. The workpiece(s) can now be coated.

d) Shut-down

1. Release the powder gun trigger.
2. Switch off the control module.
   The adjustments for high-voltage, rinsing air, and powder output must not be changed.
3. For work interruptions such as lunch-breaks, overnight, etc., it is necessary to disconnect the compressed air supply.

e) Rinsing the powder hose

Before long idle periods the residual powder must be removed from the powder hose as follows:

1. Pull the hose off the injector sleeve.
2. Point the gun into the booth.
3. Blow out the hose manually with a compressed air gun.
4. Refit the hose to the injector sleeve.

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Colour change

1. Clean the fluidizing/suction tube.
2. Blow out the powder hose with compressed air.
   The powder hose is easy to clean with a piece of foam rubber (approx. ø 15 mm) which is blown through the hose under pressure.
3. Disassemble and clean the gun, see PG 1 Operating Instructions.
4. Prepare control module for operation with new powder, see PG 1 Operating Instructions.
5. Before starting with the coating operation, "flush" powder hose and gun with the new powder.

Maintenance schedule

Conscientious maintenance at regular intervals increases the service life of the coating system and will result in uniform coating quality over a longer period!

a) Daily maintenance

1a. Clean the injector, see PI Injector Operating Instructions.
2a. Clean the gun, see PG 1 Operating Instructions.
3a. Clean the powder hose, see Colour change, section 2 above.

b) Weekly maintenance

1b. Clean the fluidizing/suction tube, injector, and gun. Do not replace the powder container until coating is to be resumed!
2b. Check the ground connections between control module, coating booth, workpiece suspension device or the conveyor chain.

c) *If the control module remains idle for several days*

1c. Disconnect the Mains power plug.
2c. Clean the control module (Refer to 1b).
3c. Disconnect the compressed air supply to the coating system.

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Cleaning

Fluidizing/suction tube unit

a) Cleaning

1. Remove the injector.
2. Remove the fluidizing/suction tube unit from the support and wipe with a clean, dry brush and a clean cloth.
3. Clean the injector fitting, and injector seat.
4. Reassemble the individual parts.

PG 1 Powder gun

a) Cleaning

Frequent cleaning of the gun is recommended to assure the coating quality.

⚠ **IMPORTANT**

Before cleaning the gun, switch off the control module and *detach the gun connector* (see PG 1 Powder Gun Operating Instructions) *at the gun socket (A Gun).*
The compressed air used for cleaning should be free of oil, and water.

Daily:

1. Clean the outside of the gun.

Weekly:

2. Detach the powder hose at the connector.
3. Detach the nozzle from the gun and clean it.
4. Blow out the gun through the powder inlet in the direction of flow.
5. Clean the gun tube (see PG 1 Powder Gun Operating Instructions) with the spiral brush supplied .
6. Blow out the gun again with compressed air.
7. Clean the powder hose.
8. Reassemble and reconnect the gun.

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Trouble shooting guide

Faults	Causes	Remedies
Green lamp does not illuminate although control module has been switched on.	No power: – Control module is not connected to Mains.	Connect spray unit to the Mains with power cord.
	– Fuse F1 defective.	Replace.
	– External power line fuse defective.	Replace or reset.
	In equipment: – Lamp defective.	Replace.
	– Electronics board (PCB) defective.	Mail in for repair.
	In the gun: – Gun cable defective.	Replace or mail in for repairs.
	– High voltage section defective.	Mail in gun for possible repairs.
Needle of pressure gauge for conveying air stays at zero when making adjustments.	Operating error: – Module is not switched on.	Switch on.
	– Gun switch is not pressed.	Press gun switch while regulating.
	In equipment: – Electronics board (PCB) defective.	Mail in for repair.
During spraying process air escapes from the gun shaft.	– O-ring defective or missing.	Replace or insert.
The "floating" ball does not move, even though pressure is indicated on the conveying air pressure gauge.	- too little air flow.	Increase supplementary air.
	- injector is not connected.	Switch the gun on and off once or twice.
	- The "floating" ball is contaminated by the compressed air.	Flowmeter should be disassembled and cleaned by a specialist.

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Trouble shooting guide (continued)

Faults	Causes	Remedies
Gun does not spray powder although the control module is switched on and the gun trigger is pressed.	- No compressed air available.	
	- Injector, check valve or throttling at injector, powder hose or gun clogged.	Clean corresponding part
	- Insert sleeve in injector is worn.	Replace.
	No conveying air: - Reducing valve defective.	Replace.
	- Electronics board (PCB) defective.	Mail in for repair
Gun sprays powder, LED at the rear of the cascade is dark, powder does not adhere to the workpiece.	- High voltage too low.	Increase the high voltage on the control module.
	- Gun connector, gun cable or gun cable connector is defective.	Replace defective item or mail it in for repair.
	- High voltage cascade is defective.	Mail in the shaft of the gun for repair.
	- Electronics board (PCB) defective	Mail in for repair.
Gun sprays powder, high voltage present, powder does not adhere to the workpiece.	- Work piece not properly grounded.	Check the ground connection, also refer to "Safety rules".
Conveying air cannot be adjusted.	- Control knob turns freely on the shaft or the grub-screw is loose.	Tighten the grub-screw.

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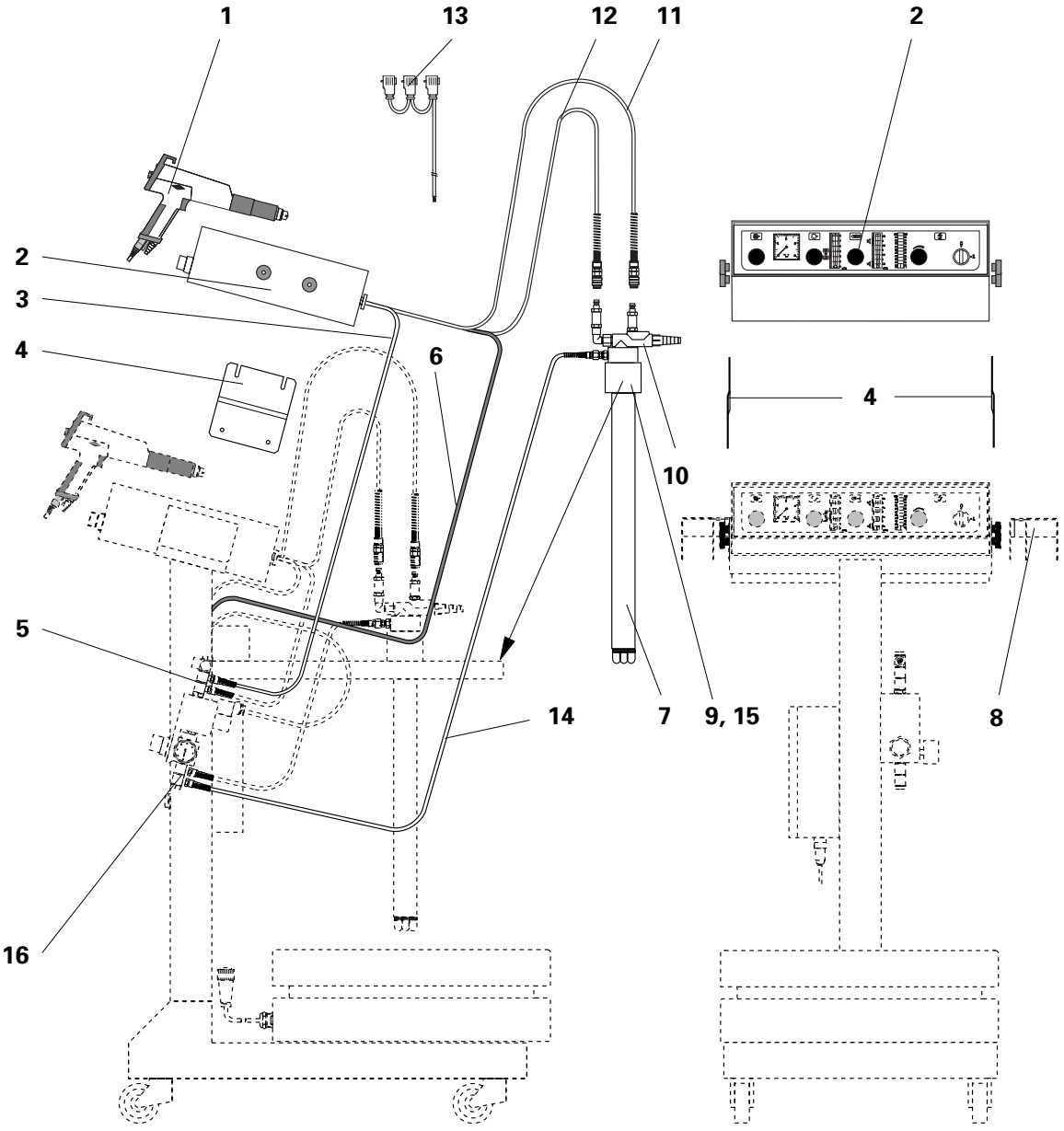
Supplementary material for converting MPS 1-B to MPS 2-B

Carefully unpack the parts and check against the list below if all the necessary material has been supplied.



☑

- ❑ 1. PG 1 Manual Powder Gun - complete
- ❑ 2. PGC 1 Powder Gun Control unit - complete
- ❑ 3. Main air connection (black)
- ❑ 4. Connecting plate
- ❑ 5. Triple air connection adapter/Gaskets
- ❑ 6. Connection cable - MPS 1-B/MPS 2-B
- ❑ 7. Fluidizing/Suction unit - complete
- ❑ 8. Gun holder
- ❑ 9. Fluidizing/Suction unit sleeve
- ❑ 10. PI Injector
- ❑ 11. Supplementary air connection (black)
- ❑ 12. Conveying air connection (red)
- ❑ 13. Mains cable - 3 plugs
- ❑ 14. Fluidizing air hose
- ❑ 15. Locking ring
- ❑ 16. Air connection rings/Gaskets/ Double air connection adapter
- ❑ Assorted spare parts set (not shown)

Figure 9

Pneumatic diagram for MPS 1-B / MPS 2-B

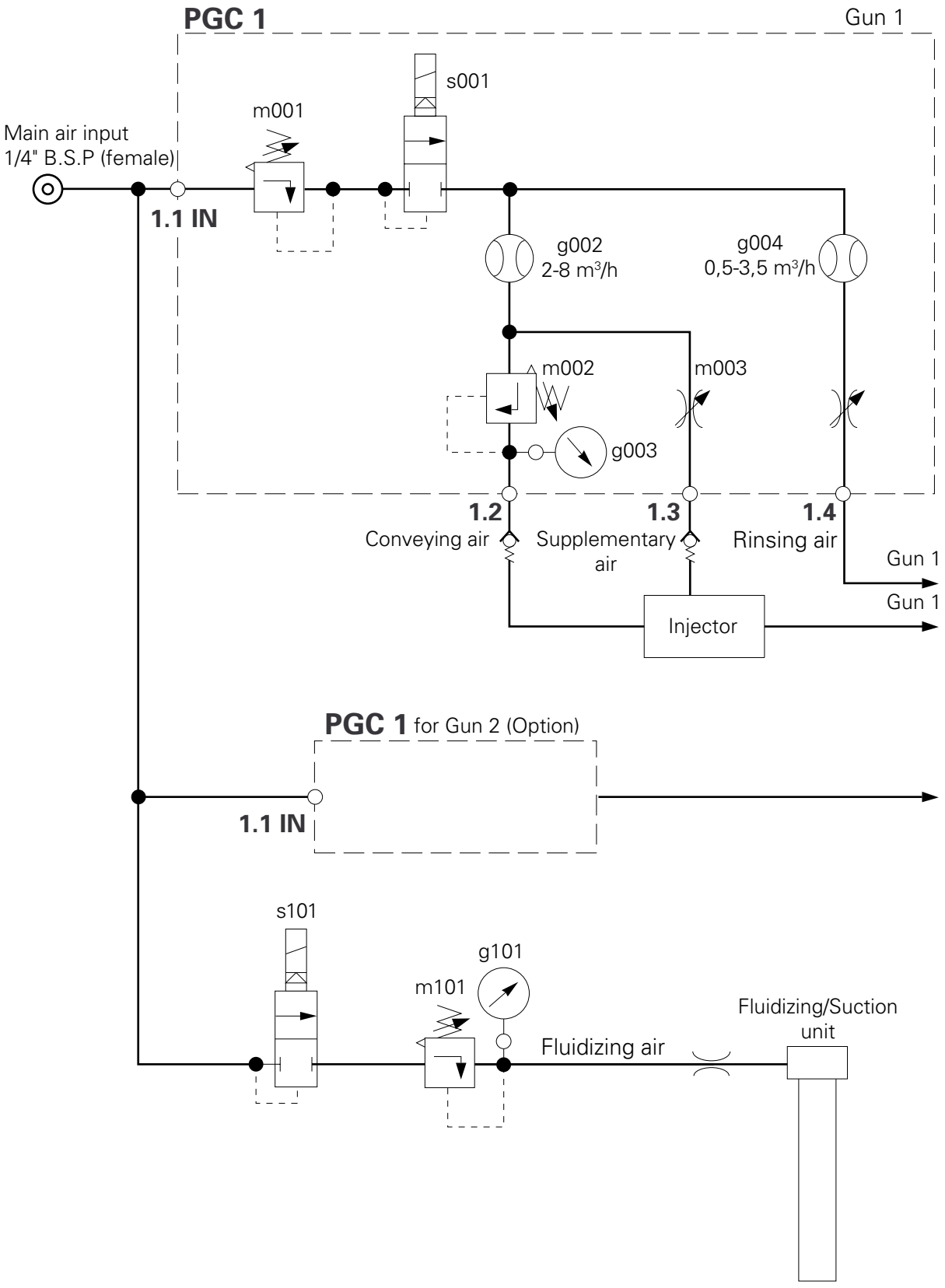


Figure 10

Wiring diagram (CB 1 control board)

(Wiring diagram - Trigger-Vibration Control - see next page)

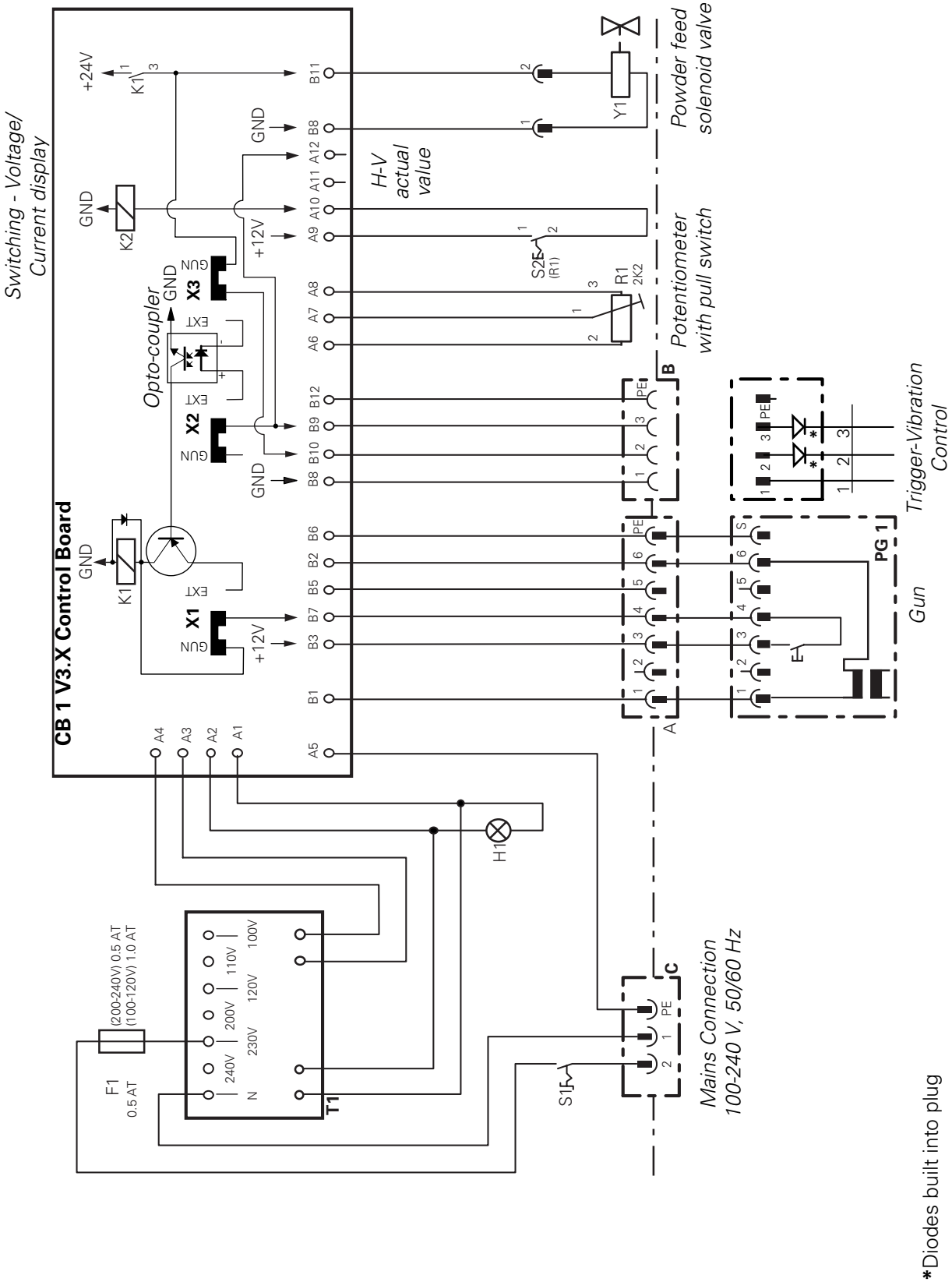


Figure 11

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Wiring diagram (Trigger-Vibration Control)

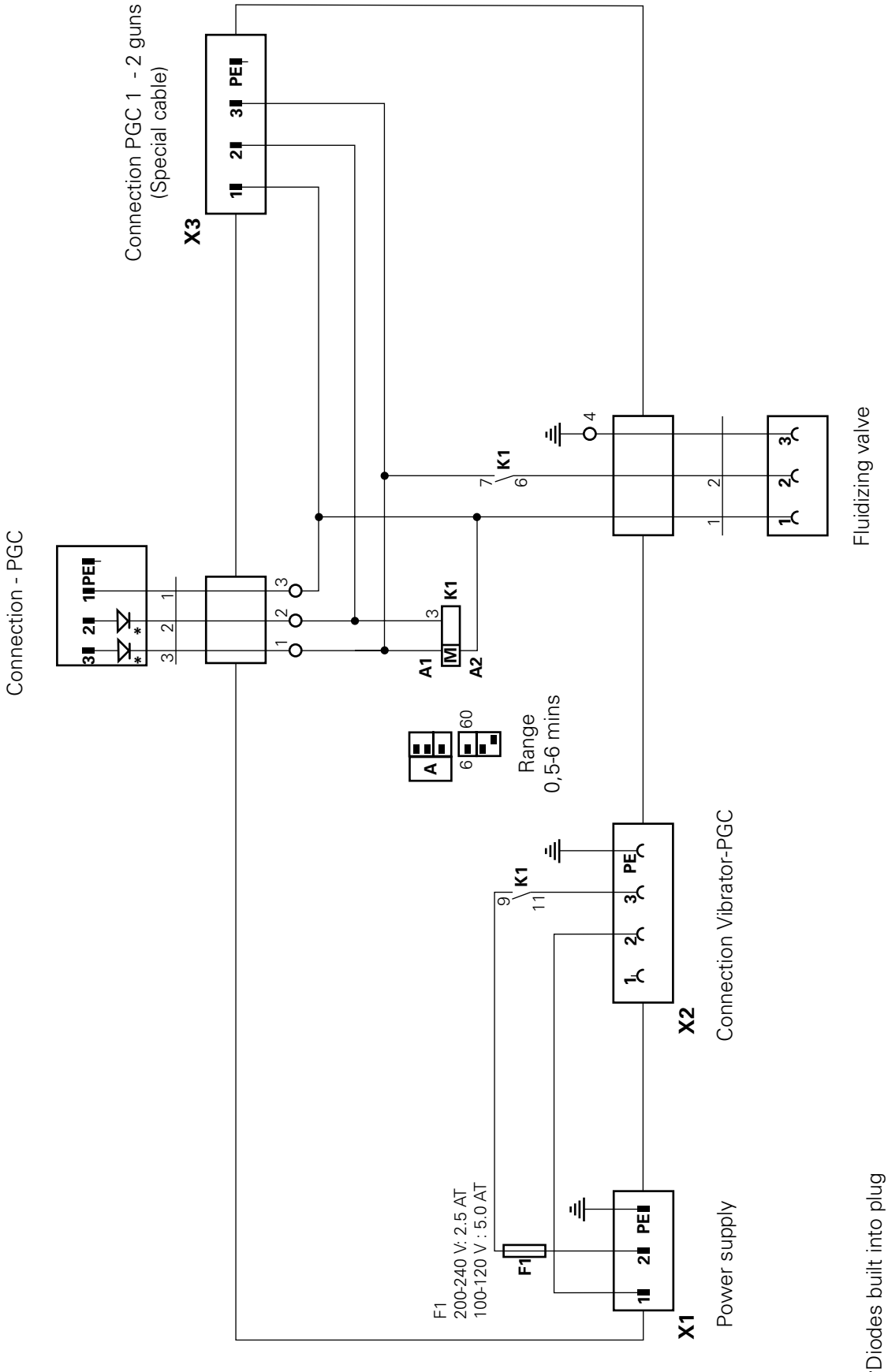

Figure 12

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 MPS 1-B, **Serial no:** xxxx xxxx
2. Order no: 201 073, 5 pieces, fine wire fuse

When ordering cable or hose material the lengths required must also be given.
The spare part numbers of yard/metre ware always begins with 1.. ... and are always marked with an ***** in the spare parts list.

Wear parts are always marked with a **#**.

All dimensions of plastic powder hoses are quoted as external (o/d), and internal (i/d) diameters :
e.g. ø 8 / 6 mm = 8 mm outside diameter (o/d) / 6 mm inside diameter (i/d).

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Fluidizing/Suction unit for MPS 1-B / MPS 2-B

	Fluidizing/Suction unit, complete (Items **8**, **9**, **10**, **13**, **14**)	362 425
8	Reduction nipple - 1/8" (male)-1/8" (female)	200 930
9	Throttle - ø 0.3 mm	338 303
10	Fluidizing pads	237 264**#**
11	Sleeve	338 052
12	Lock ring	341 142
13	Quick-release connection - 1/8"	200 859
14	Elbow joint - 1/8"-1/8"	235 733

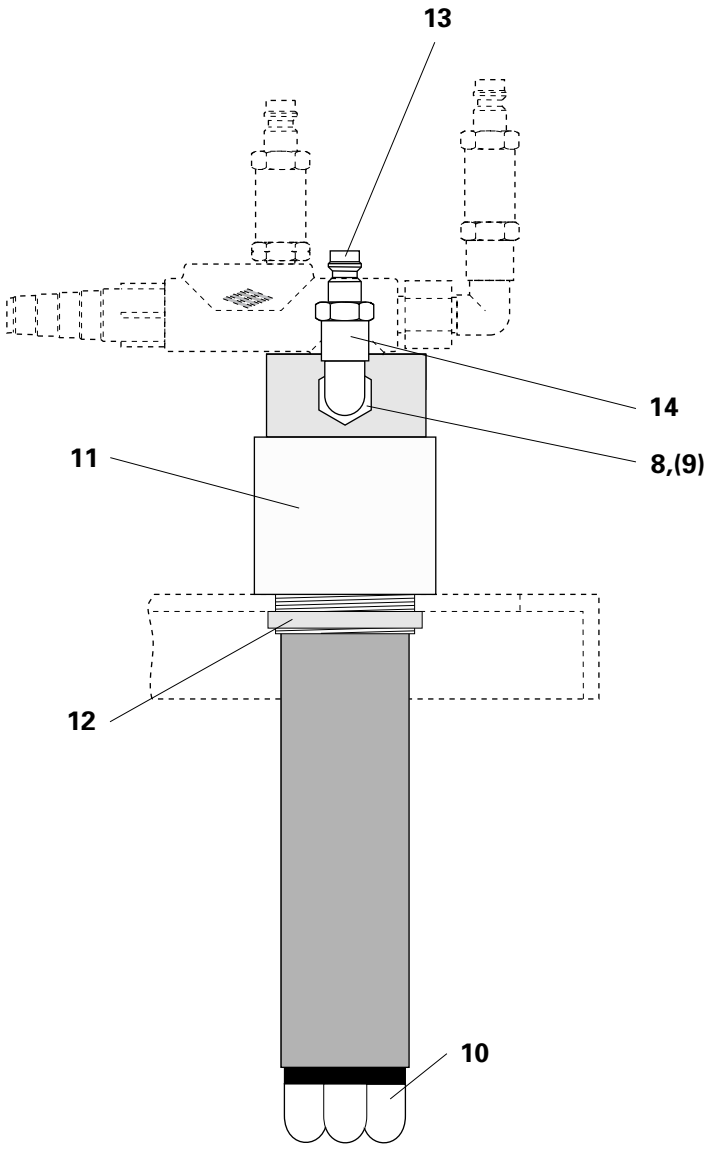

Figure 13

Wear parts

Suction tube unit for MPS 1-B / MPS 2-B (Optional)

1	Suction tube unit - complete	339 636
1.1	Suction tube fixture	339 571
1.2	Suction tube	339 733
2	Injector holder adapter	339 580
3	Tube guide	338 052
4	Locking ring	341 142

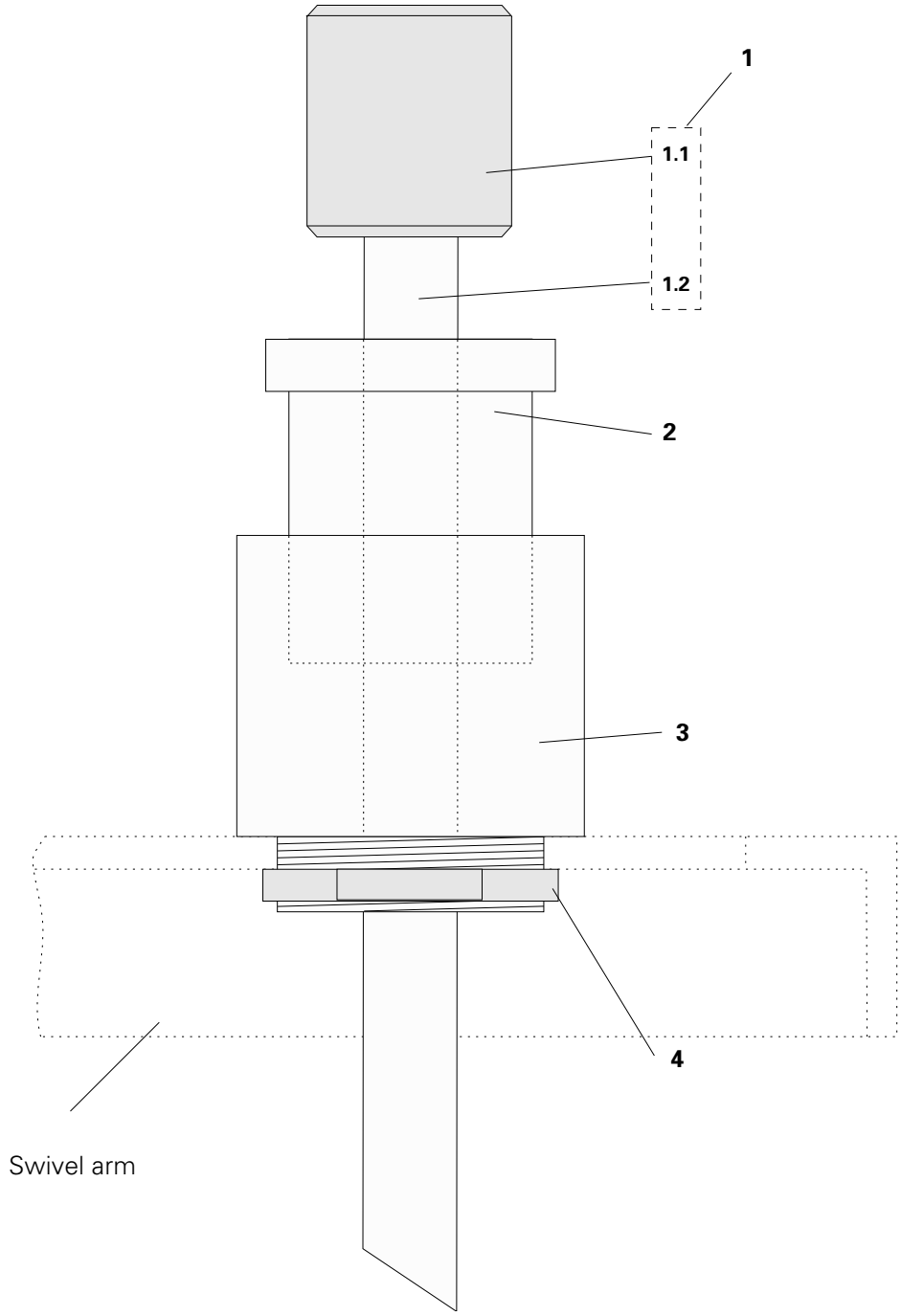

Figure 14

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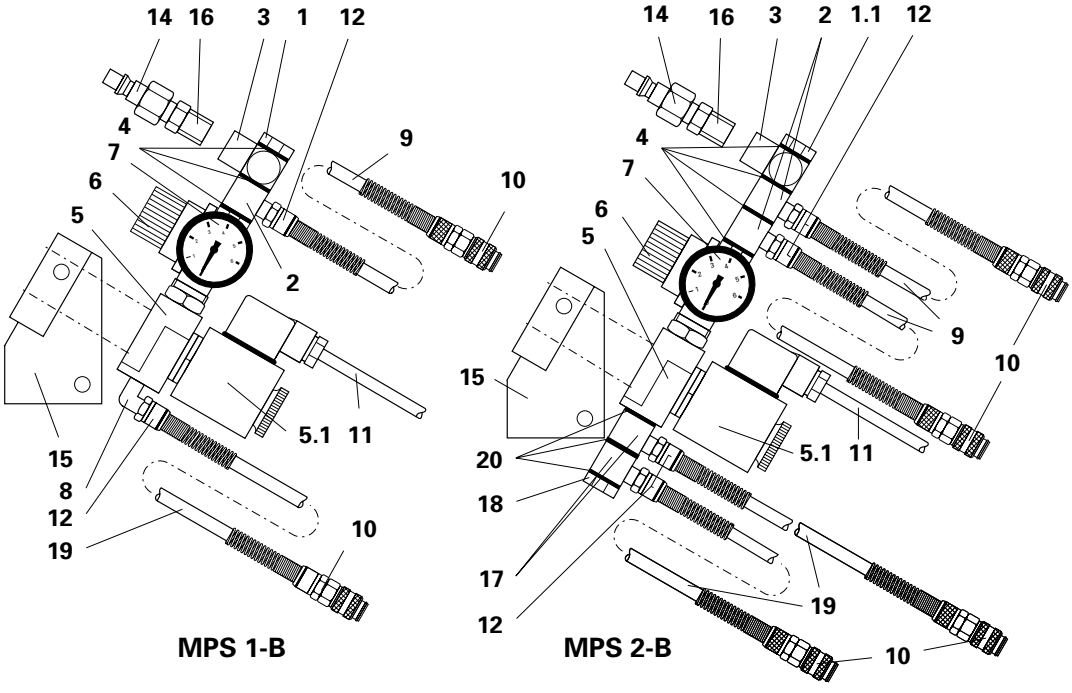
Fluidizing unit

	For MPS 1-B complete (**without** items **9**, **10**, **11**, **12**, **14**, **15**, **16**, **19**)	346 098
	For MPS 2-B complete (**without** items **9**, **10**, **11**, **12**, **14**, **15**, **16**, **19**)	362 492
1	Air connection adapter for MPS 1-B	227 838
1.1	Air connection adapter for MPS 2-B	236 055
2	Air connection ring - 1/4"-1/4"	231 886
3	Main air connector - 1/4"-1/4"	236 063
4	Gasket - ø 13.4 x 18.0 x 1.8 mm - Plastic	225 487
5	Solenoid valve - 24 VDC	242 217
5.1	Solenoid coil	251 046**#**
6	Pressure regulator	242 225
6.1	Adapter	242 209
7	Pressure gauge - 0-6 bar	237 060
8	Elbow connection - ø 8 mm / 1/8"	242 853
9	Hose - ø 8 / 6 mm (black)	103 756*****
10	Quick-release connector - ø 8 / 6 mm"	203 181
11	Solenoid plug with cable for MPS 1-B	338 753
	Solenoid plug with cable for MPS 2-B	342 254
12	Screw connector - ø 8 mm	201 316
14	Quick-release connector - 1/4"	203 106
15	Carrier plate for external air input	346 110
16	Double adaptor - 1/4"-1/4"	202 479
17	Air connection ring for MPS 2-B	252 263
18	Air connection adapter - 1/8"	252 255
19	Hose - ø 8 / 6 mm	103 519*****
20	Gasket - ø 13.4 x 10.2 x 1.0 mm - Copper	201 219

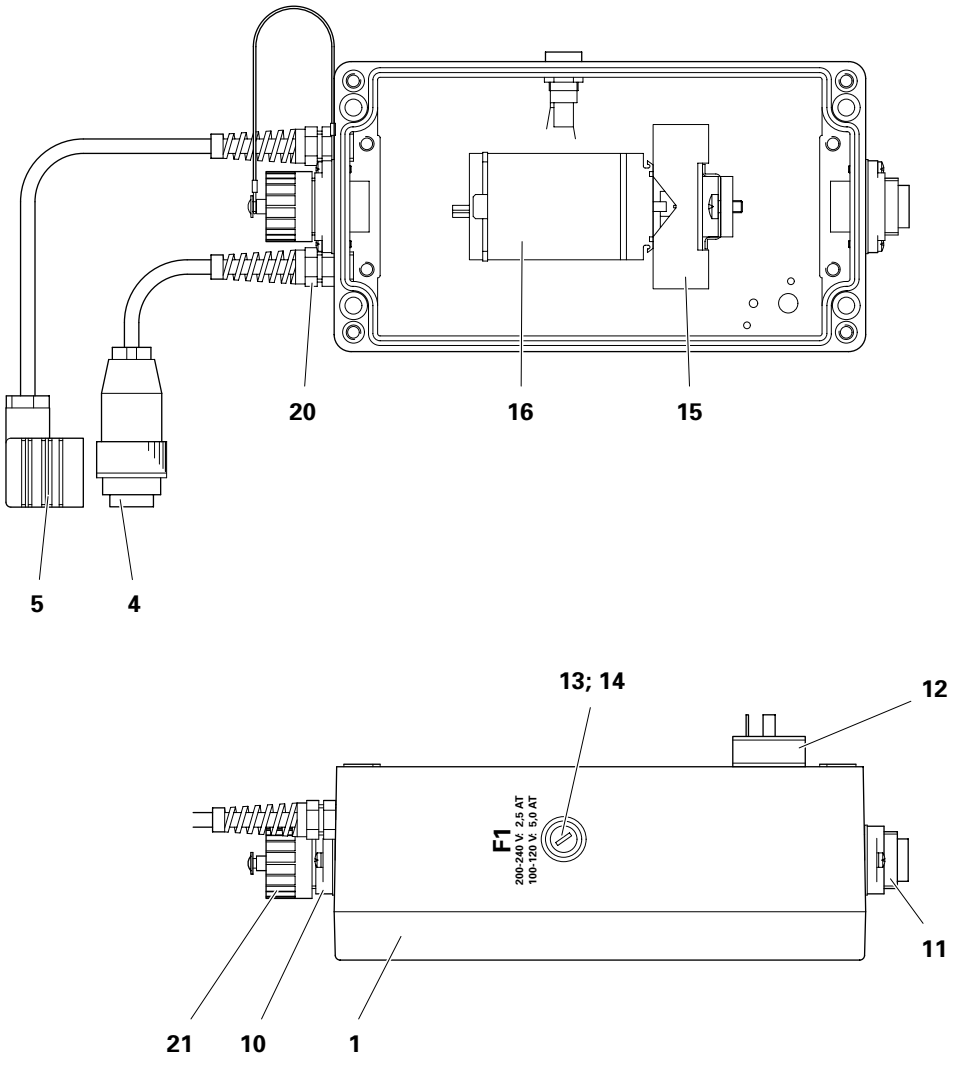


***** Indicate length required
# Wear part

Figure 15

Trigger-Vibration Control Unit

	Trigger-Vibration Control Unit - complete	374 709
1	Housing	374 717
4	Trigger cable - L=0.6 m	374 679
5	Solenoid valve cable - L=0.6 m - PGC Control	374 660
10	Flange socket - 4 pin	206 940
11	Flange socket - 4 pin	205 249
12	Mains input socket - 3 pin - compl.	200 409
13	Fuse holder	200 131
14	Fuse - 2.5 AT for 200-240 V	206 571**#**
15	Socket base - 11pin/Control	227 552
16	Time relay	260 290
20	Lead-through - PG07 with kink protection sleeve	208 426
21	Dust cap for socket	206 458



Wear parts

Figure 16

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Vibration table

1	Vibration table	359 610
3	Vibration motor - 230 V with condenser	371 629
4	Rubber buffer - ø 25 mm	251 658**#**
6	Lead-through - PG16	204 366
7	Lock nut - PG16	204 412
8	Plug - 4 pin	206 466
10	Hex. screw - M 5 x 25 mm	243 809
12	Spring washer - M 5	205 168
14	Ch/hd screw - M 5 x 8 mm	220 868
15	Condenser holder	213 799
20	Protecting strip	103 942***#**

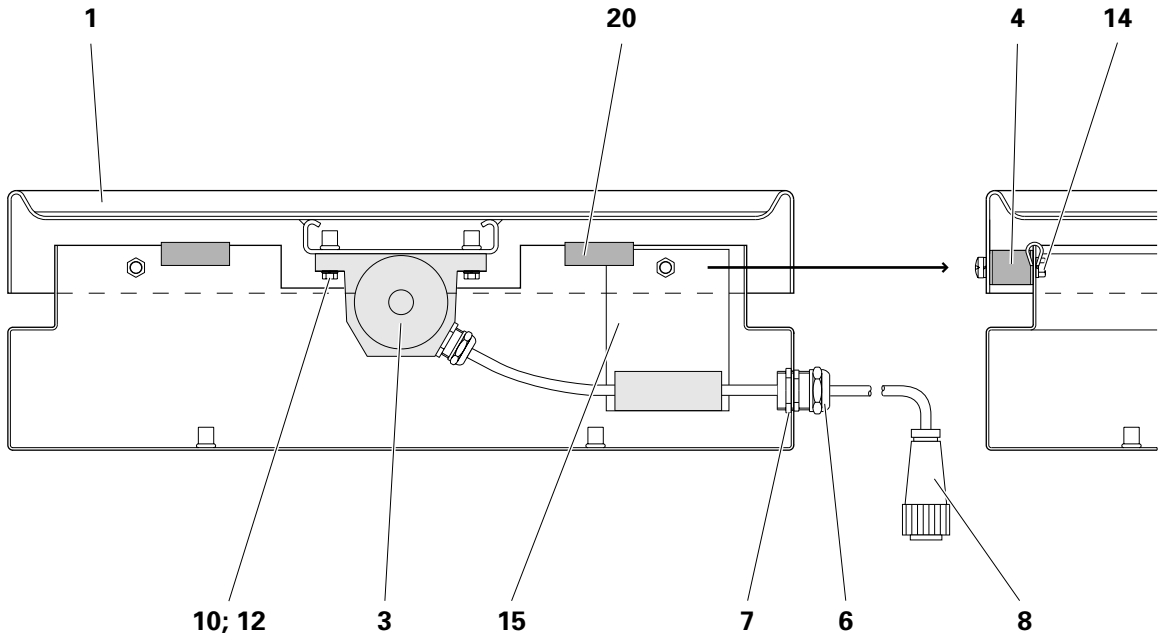

Figure 17

MPS 1-B / MPS 2-B

1	PGC 1 Control unit housing	336 548
2	Gun holder	301 086
3	Milled nut - M4	201 090
4	Control unit support	338 788
5	Base plate	336 297
6	Trolley wheels	202 215
7	Connection cable - MPS 1-B/MPS 2-B	374 687

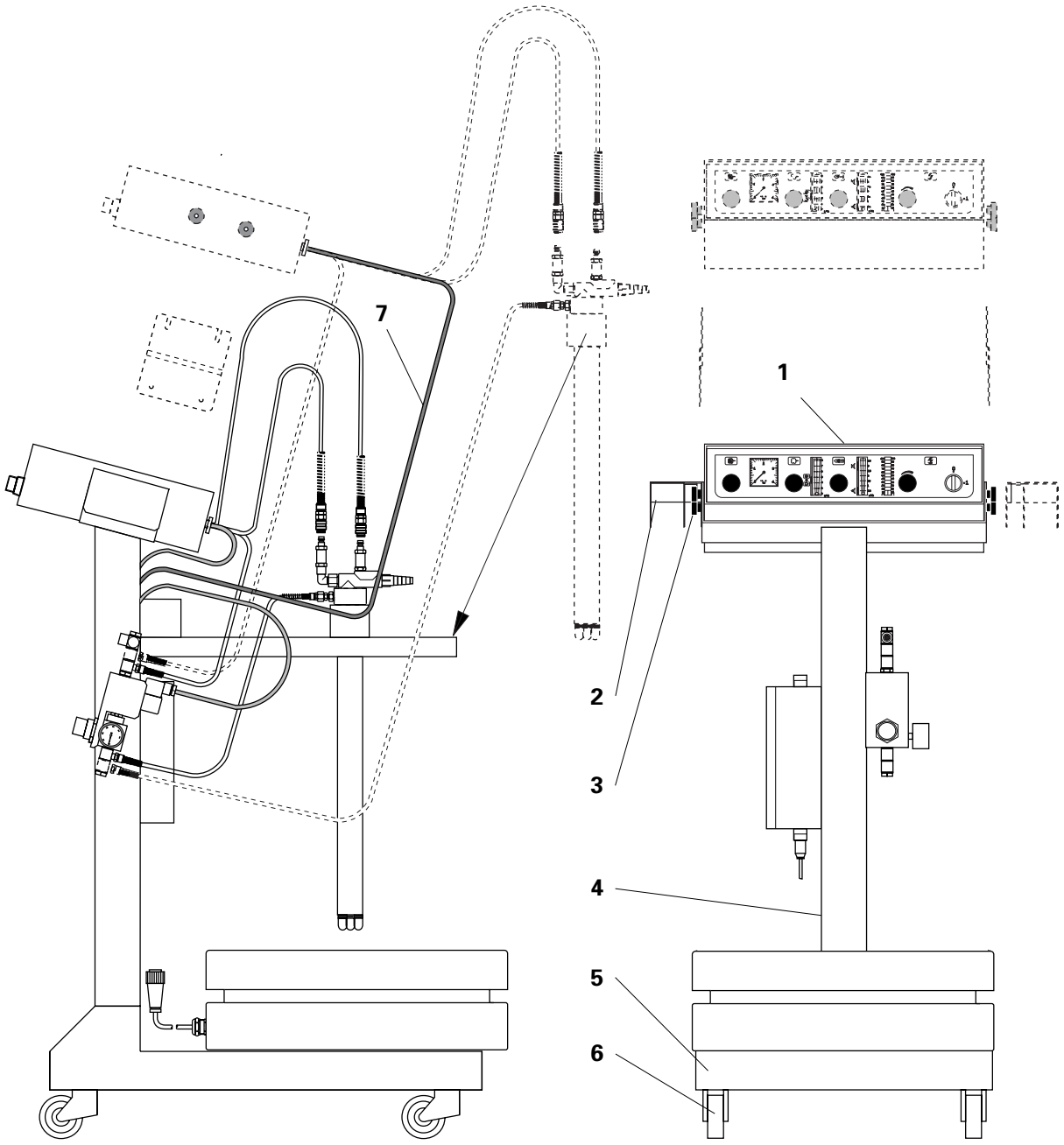

Figure 18

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Documentation MPS 1-B / MPS 2-B

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