

Operating Instructions and Spare Parts List

ADU 2 Air Distribution Unit

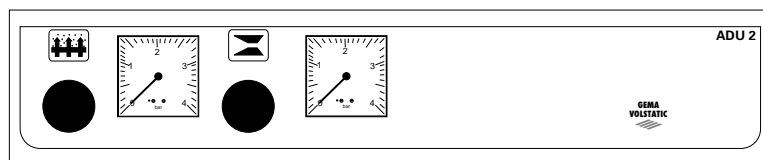


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ADU 2 Air distribution unit

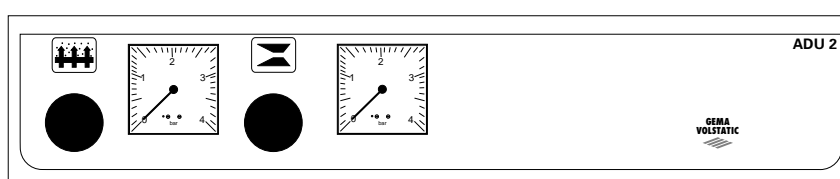
Description

The ADU 2 Air distribution unit regulates the fluidizing air, and the airmover air, both of which can be adjusted individually.

Prefluidization is operated automatically by a solenoid valve. The pressure can be set inside the module housing.

Fluidization takes place immediately the PMC Powder master control unit is switched on.

The ADU 2 is foreseen for use with the APS 2 Automatic powder system only.



Front panel of the ADU 2 Air distribution unit

Figure 1

Technical specifications :

Pneumatic data :

Input pressure :	7-10 bar
Air consumption :	Depending on the number of powder hoppers connected
Max. water vapour :	1.3 g/m ³
Max. oil vapour :	0.1 ppm

Adjusting the powder fluidization

The fluidization of the powder in the hopper depends on the characteristics of the powder, the humidity, and the ambient air temperature etc.

The ADU 2 Air distribution unit has pressure regulation for prefluidization, fluidization, and airmover air. The prefluidization/fluidization, and the airmover air are each shown on a separate pressure gauge.

The unit should be connected to a main compressed air supply with 7 - 10 bar.

Fluidization is adjusted as follows :

1. Prefluidization

When the PMC Powder master control unit is switched on, the main pressure valve in the control module is opened, allowing compressed air to flow. Simultaneously, a prefluidization pulse is released by the time relay, K3 in the PMC. This relay is responsible for the following time functions settings :

- T1 (0.15 - 0.7 sec.) = Prefluidization on.
- T2 (0.2 - 0.8 sec.) = Prefluidization off.
- T3 (10 - 42 sec.) = Prefluidization duration.

The pressure can be adjusted with the pressure reducing valve (inside the housing) and read on the pressure gauge the during prefluidization pulse.

The time function setting of the time relay must be adjusted to suit the type of powder being used. After prefluidization, the powder in the hopper should be loosened up enough to permit an even fluidization to take place.

2. Fluidization

After prefluidization the fluidizing air can be set with the pressure reducing valve and the pressure can be read on the pressure gauge.

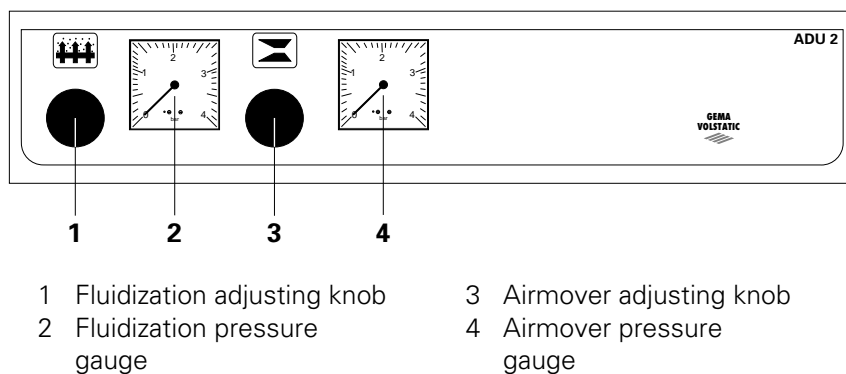


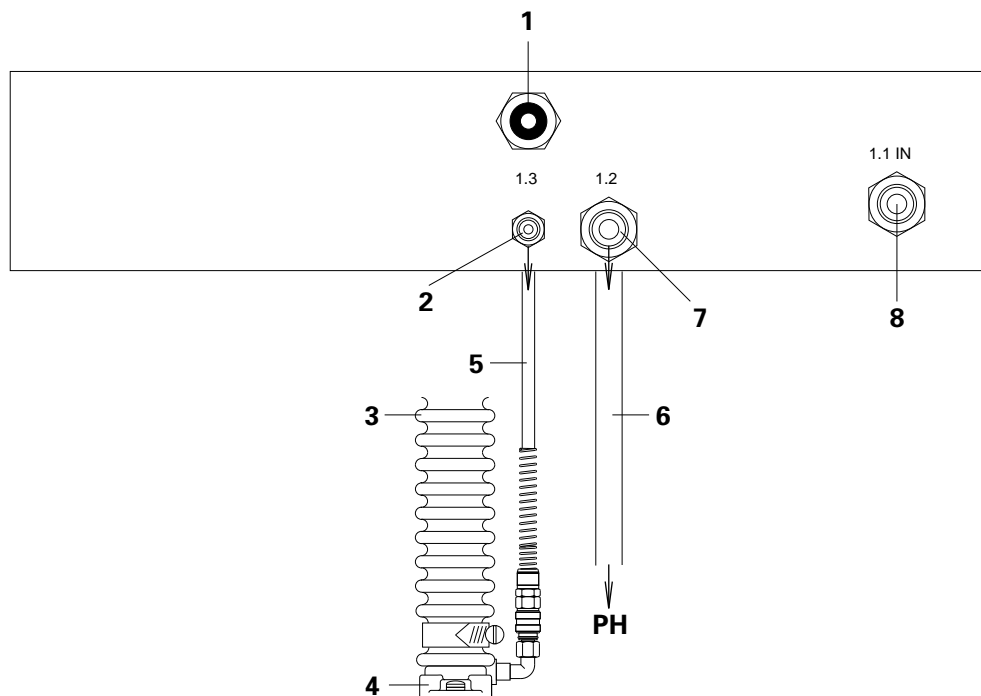
Figure 2

Adjusting the airmover of the powder hopper

Fluidizing air in the powder hopper produces overpressure. Since this adversely effects the conveyance of powder, this overpressure must be eliminated. For this purpose an airmover can be installed on the powder hopper. The airmover is similar to an injector. Its function is to produce a small negative pressure in the powder hopper. The amount of air to be removed depends on the size of the hopper and/or the amount of fluidizing air.

If a cloud of powder rises above the surface and tries to flow out of the hopper through the cover opening the airmover air pressure should be adjusted. This is done with the airmover setting knob (**3** - Fig. 2) and airmover pressure gauge (**4** - Fig. 2). The pressure should be increased until the powder cloud remains inside the hopper. After these adjustments have been made, the ADU 2 Air distribution unit does not have to be reset when starting up again.

Airmover connection (rear panel of the ADU 2)



- | | |
|--------------------------------------|---|
| 1 Solenoid cable connection | 5 Airmover hose connection |
| 2 Airmover air outlet (1.3) | 6 Fluidization hose |
| 3 Aeration hose to booth | 7 Fluidization hose outlet (1.2) |
| 4 Airmover | 8 Main compressed air input (1.1 IN) |

Figure 3

Notes :

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 : ADU 2, **Serial no :** XXXX XXXX

2. Order no : 235 814, 1 piece, Pressure gauge

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 *.

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 (i/d).

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

All wear parts are marked with a #.

ADU 2 Control unit

	ADU 2 Control unit (complete)	342 777
1	Pressure reducing valve	241 369
2	Locking nut - M14x1	302 163
3	Regulator knob	200 069
4	Pressure gauge - 0-4 bar	235 814
5	Pressure gauge holder plate	340 030
6	Quick-release tube connector - 1/8"- ø 6 mm	233 412
7	Regulating valve unit (Booster)	342 750
8	Pressure reducing valve	239 623
9	Double adapter valve - 1/8"-1/8"	202 258
10	Main air input or Fluid. air outlet - 3/8" B.S.P. thread	202 975
11	Quick-release tube connector elbow joint	203 033
12	Solenoid valve coil - 24 VAC (for item 7)	241 865
	ATTENTION !!! PLC version = 24 VDC Valve coil	241 857
13	Quick-release tube connector elbow joint	227 455
14	Pressure reducing valve	239 852
15	Quick-release tube connector - 3/8"- ø 10 mm	239 607
16	Airmover lead-through joint - 1/8"-1/8"	202 371
17	Quick-release tube connector - 1/8"- ø 8 mm	237 663
18	Locking nut - PG 16	204 412
19	Solenoid plug and cable	343 021
20	Cap locking nut - PG 16	204 366
21	Cap nut - 3/8"	203 157
22	Hose nipple - ø 10 mm	203 165
23	Hose clamp ring	203 386
24	Solaflex hose - ø 16 / 10 mm	100 498*
25	Braided copper wire	103 373*
26	Plastic hose - ø 6 / 4 mm	103 144*
27	Quick-release connection - ø 8 / 6 mm	203 181
28	Quick-release connection - ø 10 mm	239 267
29	Plastic hose - ø 10 / 8 mm (black)	103 250*
30	Plastic hose - ø 8 / 6 mm (black)	103 756*
31	Lead-through - 3/8"-3/8"	202 975

* Indicate length required

ADU 2 Control unit

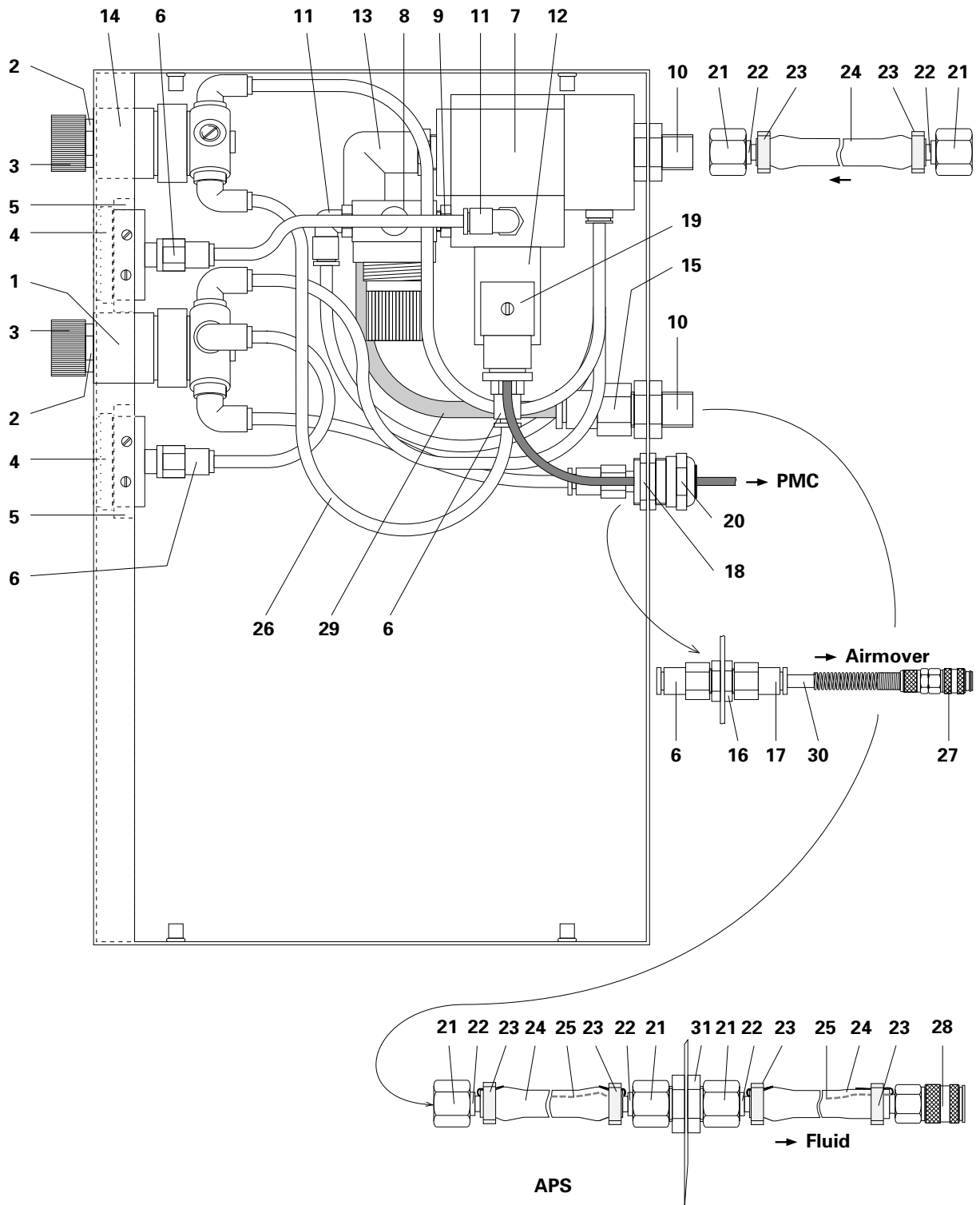


Figure 4

Documentation ADU 2

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