

Operating Instructions and Spare Parts List

ADC 1 Air Distribution Control

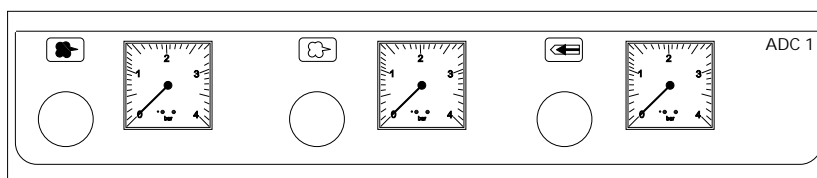


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ADC 1 Air Distribution Control

Fields of application

The ADC 1 Air Distribution Control is designed to produce only the control pressures for regulating the conveying, and supplementary air to the injectors, and the rinsing air to the guns simultaneously, when PG 1-A or PG 2-A powder guns are used.

The control pressures are led in a so-called Booster in order to control its output pressures. Up to 8 injectors can be connected to the Booster.

For efficient powder coating, all adjustments can be made easily and reproducibly on the ADC 1 control unit. The powder output, and the rinsing air can only be changed in total.

Description of ADC 1 Air Distribution Control

The pressure regulating knob (1) and the pressure gauge (2) are for adjusting the conveying air control pressure. The powder output in total is adjusted here.

The supplementary air control pressure is regulated at pressure regulating knob (3) and pressure gauge (4).

The rinsing air pressure gauge (6) is for regulating the rinsing air control pressure at the gun nozzle by turning the pressure regulating knob (5) clockwise or counter clockwise until the desired value is achieved (depending on whether a nozzle or a deflector is being used). The correct setting will keep the electrode in the nozzle free of powder build-up.

The high voltage/corona current at the powder guns, and the signal for ADC 1 pressure air solenoid valve is controlled (regulated) on the MGC 1 Multi Gun Control. (See also MGC 1 Operating Manual)

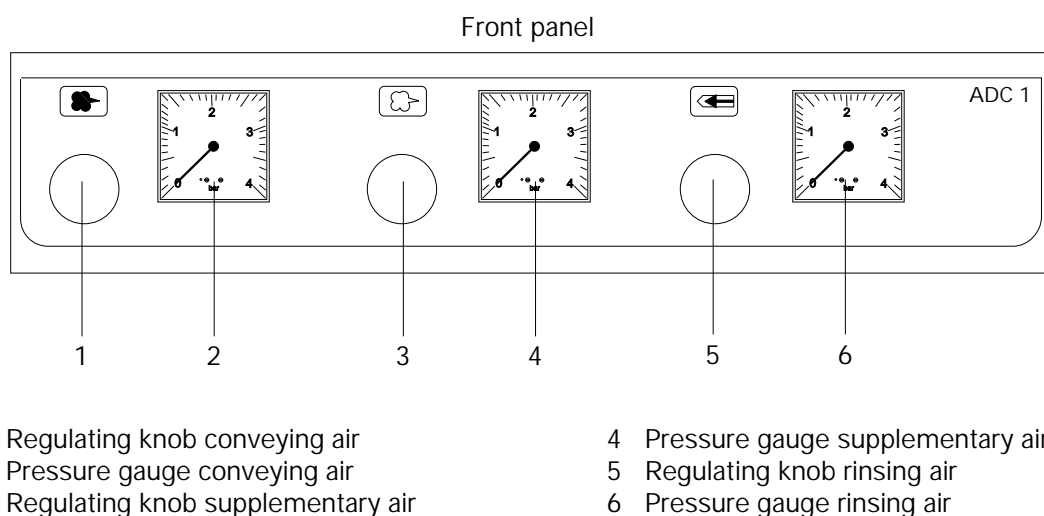


Figure 1

Installation of the ADC 1

The powder coating equipment is preassembled in the factory to a point where only certain cables and hoses must be connected at the rear of the control module.

- Connect the thick black hose for the main compressed air input to connection (8).
- Fit the hose to the conveying air control pressure outlet (6) and the other end to the fitting of the Booster.
- Fit the hose to the connection conveying air pressure gauge (7) and the other end to the fitting of the Booster.
- Connect the hose for the supplementary air control pressure to the outlet (4) of the control module and to the corresponding fitting of the Booster.
- Fit the hose to the connection supplementary air pressure gauge (5) and the other end to the fitting of the Booster.
- Connect the rinsing air control pressure hose to the outlet (2) and the other end to the corresponding fitting of the Booster.
- Fit the hose to the connection rinsing air pressure gauge (3) and the other end to the fitting of the Booster.
- Connect the solenoid valve cable (1) to the corresponding connection on the MGC 1.

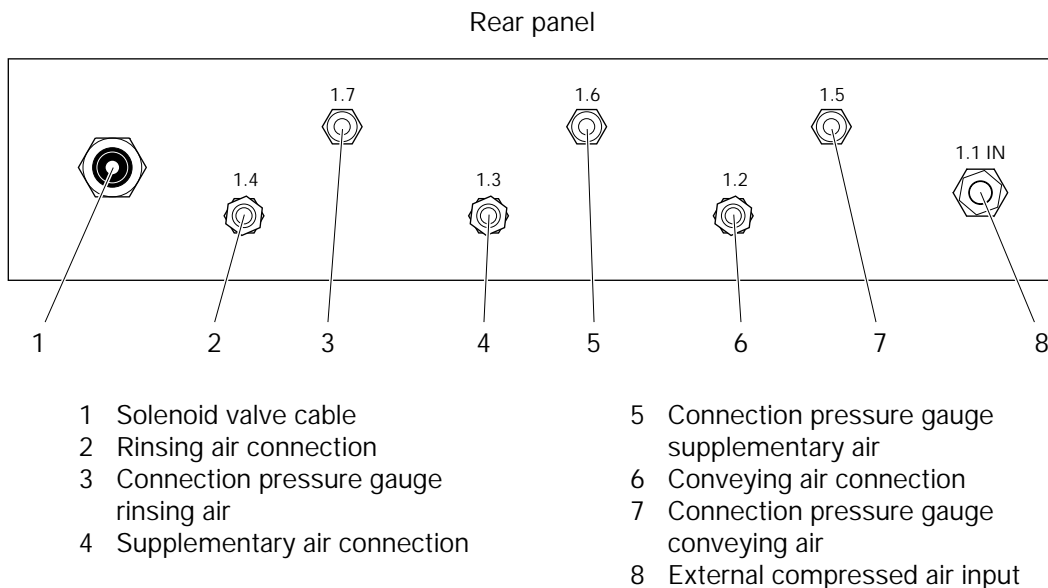
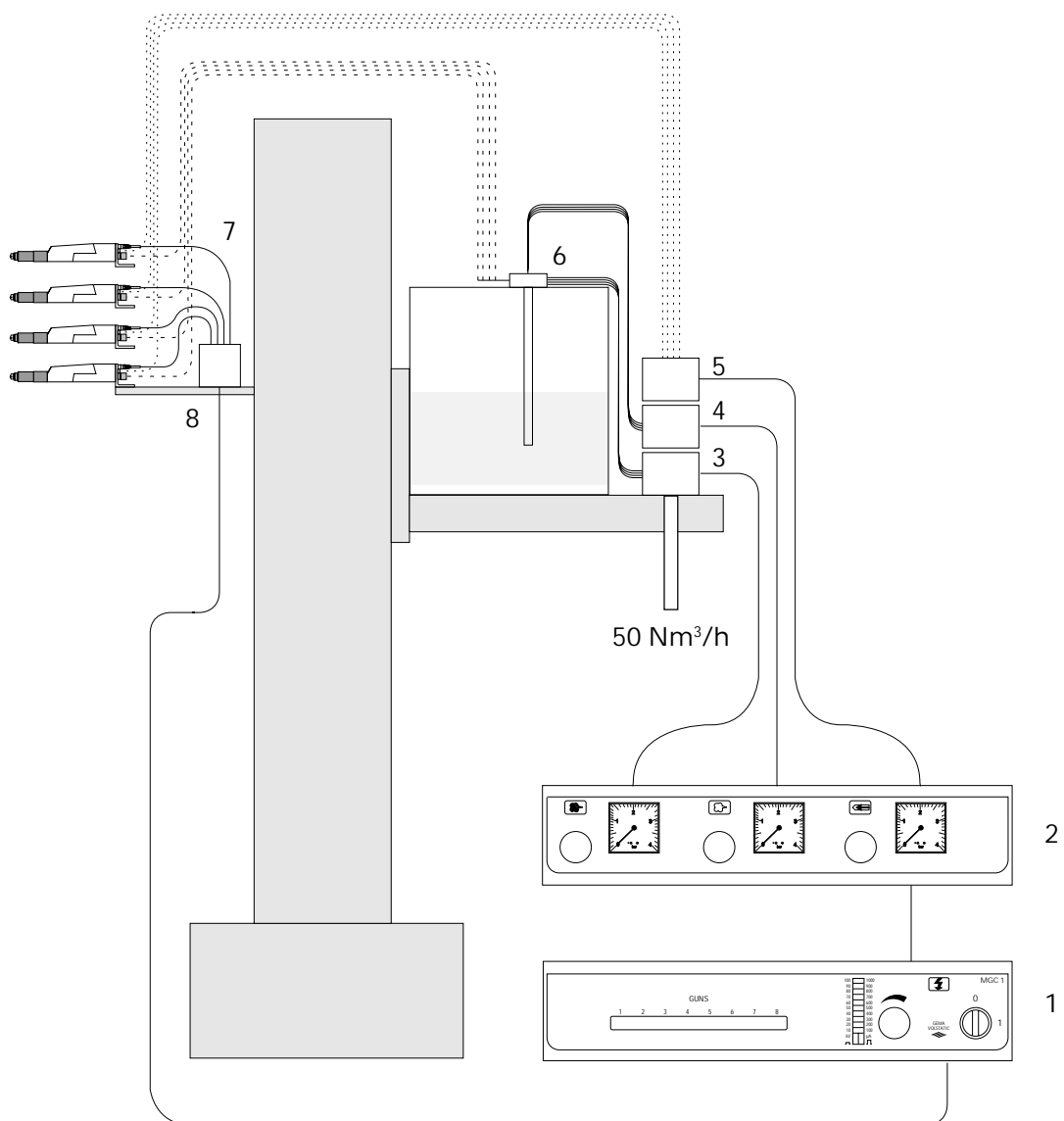


Figure 2

Preparatory steps for initial start-up

a) Connecting the PG 1-A or PG 2-A powder guns

1. Connect the cables (7) with the 7-pin connector to the distribution box (8).
2. Connect the hoses for conveying air to the booster conveying air (3) and to the guns.
3. Connect the hoses for supplementary air to the booster supplementary air (4) and to the guns.
4. Connect the hoses for rinsing air to the booster rinsing air (5) and to the guns.
5. Connect the powder hoses to the guns and to the injectors (6).



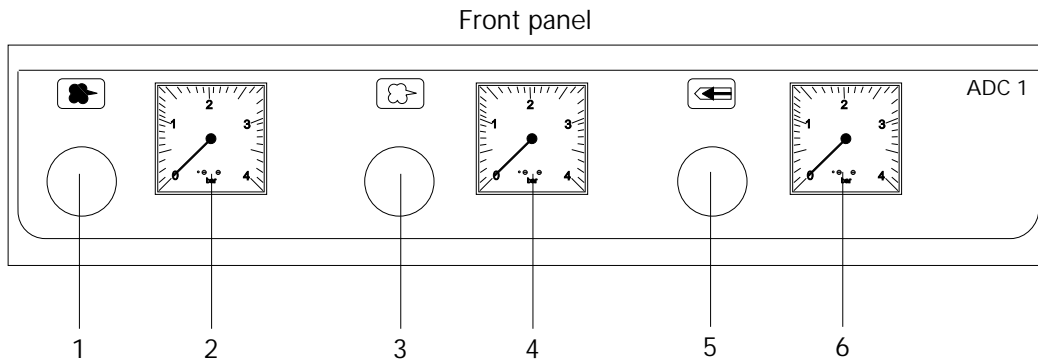
- | | |
|----------------------------------|-----------------------|
| 1 MGC 1 Multi Gun Control | 5 Booster rinsing air |
| 2 ADC 1 Air Distribution Control | 6 PI injectors |
| 3 Booster conveying air | 7 Gun cable |
| 4 Booster supplementary air | 8 Distribution box |

Figure 3

b) Functional check

See trouble shooting guide on page 7 for malfunctions.

1. Switch on the main switch of the MGC 1 control module. The PG 1-A begin to spray.
2. Set the high-voltage (or corona current) on the MGC 1 (See Operating Manual for MGC 1).
4. Set the pressure for the desired rate of powder deposit (in g/min, found in the table on page 9) on the conveying air pressure gauge (2) by turning the regulating knob (1). The maximum output is 4.0 bar.
5. Check the supplementary pressure gauge (4). If necessary, turn the supplementary air regulating knob (3) to the left or right.
6. Set the rinsing air by turning the rinsing air control knob (5) until the desired value is achieved on pressure gauge (6) depending on the type of jet nozzle being used.
 - Flat jet nozzle:* 0.0 - 0.5 bar
 - Round jet nozzle:* 1.0 - 4.0 bar (depending on the deflector and application)



- | | | | |
|---|-----------------------------------|---|----------------------------------|
| 1 | Regulating knob conveying air | 4 | Pressure gauge supplementary air |
| 2 | Pressure gauge conveying air | 5 | Regulating knob rinsing air |
| 3 | Regulating knob supplementary air | 6 | Pressure gauge rinsing air |

Figure 4

When all the above checks have been successfully completed, the guns are ready for use. If it fails to function correctly, consult the trouble shooting guide on page 7.

c) Shut-down

Switch off the MGC 1 control module (Solenoid valve in ADC 1 interrupts the main compressed air supply)

The adjustment for rinsing air, and powder output must not be changed.

d) Setting table for the ADC 1

In order to set the conveying, and supplementary air correctly on the ADC 1 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 order to avoid the so-called "pumping" in the powder hose the supplementary air must be adjusted either up or down, on the setting knob (3).

ATTENTION ! After every setting of the conveying air the supplementary air pressure should be readjusted.

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 - 10 m	16 m*
	Injector nozzle:	ø 1.6 mm	
	Powder:	PES 31.9010 S	
	Gun nozzle:	Flat jet nozzle	
		Conveying air	Supplementary air
		bar	bar
	g/min.		Rinsing air
			bar
	140	2.00	2.00
	200	3.00	2.00
	250	3.00	1.00
	300*	4.00	0.00
	400	4.00	0.00
			0.20

Making repairs

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.

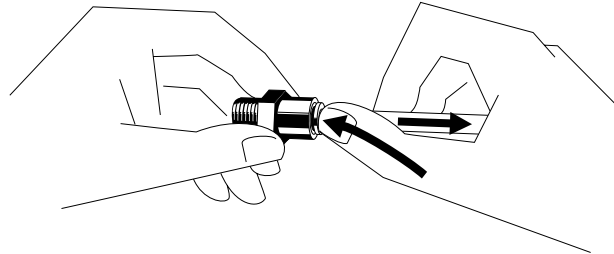


Figure 5

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.

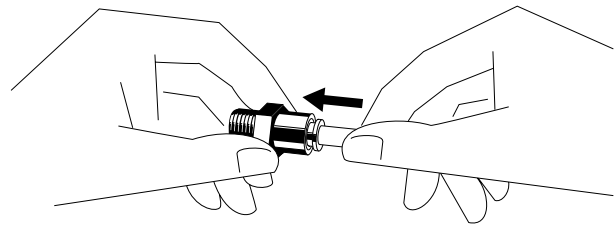


Figure 6

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.

ATTENTION ! 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 "Removing the pneumatic tubes").
5. Disassemble the part to be exchanged from the pneumatic module housing and replace.
6. The pneumatic tubes can be refitted (see "Refitting the pneumatic tubes").
7. Reassemble in the reverse order.

Trouble shooting guide

Faults	Causes	Remedies
Needle of pressure gauge for conveying air stays at zero when making adjustments	<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"> - Solenoid valve defective 	<p>Switch on</p> <p>Replace</p>
Gun does not spray powder although the MGC 1 control module is switched on	<p>No conveying air:</p> <ul style="list-style-type: none"> - Reducing valve defective - Solenoid valve defective - Connecting cable or cable connector from MGC 1 is defective 	<p>Replace</p> <p>Replace</p> <p>Replace defective item or mail it in for repair</p>
Conveying air cannot be adjusted.	<ul style="list-style-type: none"> - Control knob turns freely on the shaft or the grub screw is loose. 	<p>Tighten the grubscrew.</p>

Spare Parts List

ADC 1 Air Distribution Unit

2	Pressure gauge fixture	340 030
6	Pressure reducing valve	256 650
7	Clamp nut M14x1	302 163
8	Control knob	200 069
9	Pressure gauge 0-4 bar	235 814
10	Quick-release tube fitting	233 412
11	Fixing screw M3x6 mm	238 295
12	T-connector \varnothing 8 mm	251 224
13	Solenoid valve NW3.0; 220 VAC	256 668
15	Pressure reducing valve	235 830
16	Pressure gauge 1/8a 0-6 bar	237 060
17	Quick-release connection	242 373
18	Adapter \varnothing 6 mm	241 792
19	Elbow connection 1/4a- \varnothing 8 mm	254 029
20	Connection cable (to MGC 1)	346 268
21	Plug grommet	204 366
22	Clamp nut	204 412
23	Elbow connection \varnothing 8 mm - \varnothing 8 mm	230 995
24	Plug \varnothing 6 mm	251 925
25	Plastic hose 6/4 mm black	103 144
26	Plastic hose 8/6 mm black	103 152
27	Quick-release connection \varnothing 6- \varnothing 6 mm	202 371
28	Quick-release tube fitting 1/8"i- \varnothing 8 mm	237 663
29	Elbow connection 1/8"a- \varnothing 8 mm	203 050

* Indicate length

ADC 1 Air Distribution Unit

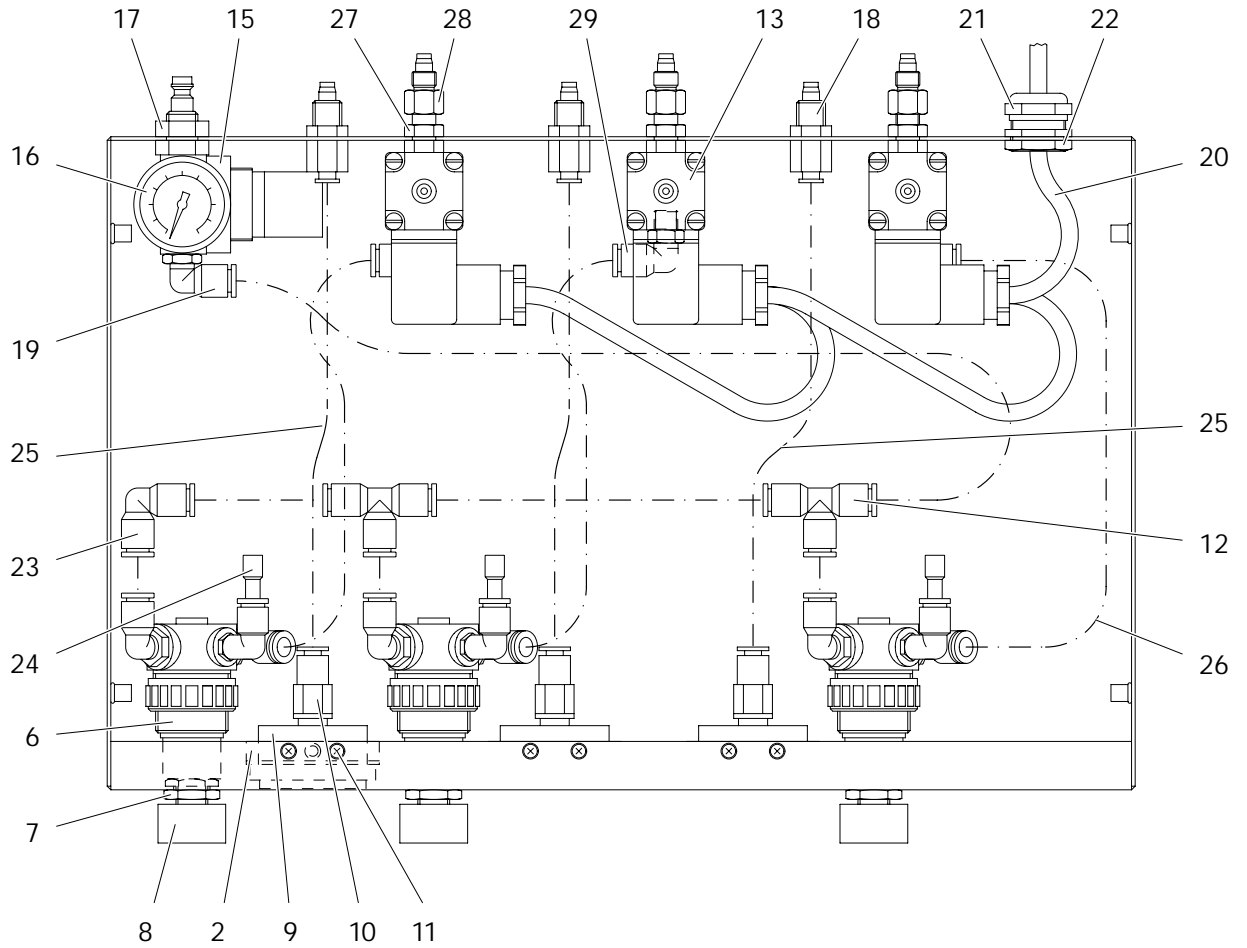


Figure 7

Booster Unit

2	Distributor block	346 209
3	Distributor fitting tube	343 250
5	Throttle valve \varnothing 0,7 mm	371 190
6	Cap screw	242 314
7	Plug screw	223 140
8	Sealing ring	242 322
9	Valve	242 349
12	Double adaptor 1/2"-1/2"	243 540
13	Plug 3/8"A	203 319
15	Quick-release tube fitting \varnothing 8- \varnothing 6 mm	258 032
17	Adapter 1/8"A- \varnothing 8 mm	258 059
18	T-connector \varnothing 8- \varnothing 8- \varnothing 8 mm	258 040
20	Plastic hose 6/4 mm black	103 144

Booster Unit

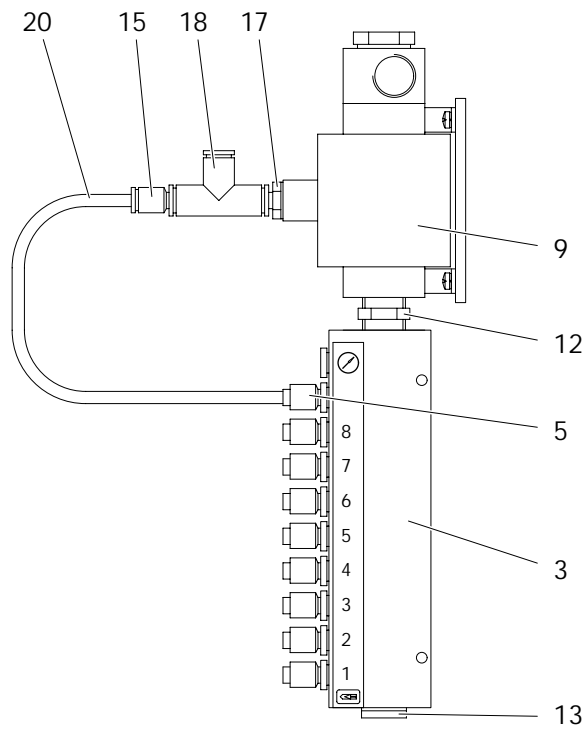
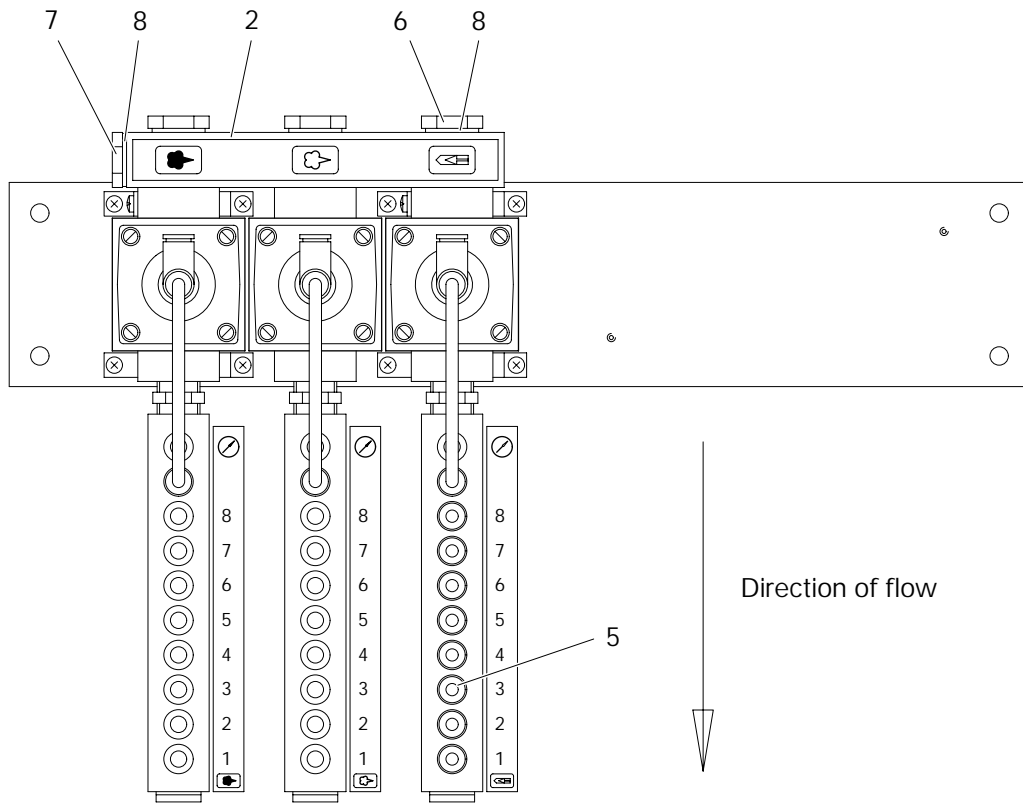


Figure 8

Documentation ADC 1

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