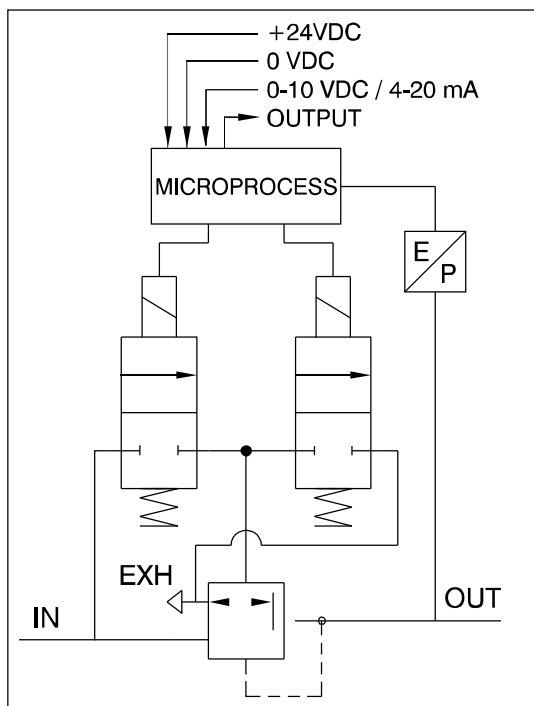


Series 1900 vacuum-vacuum version

Product description

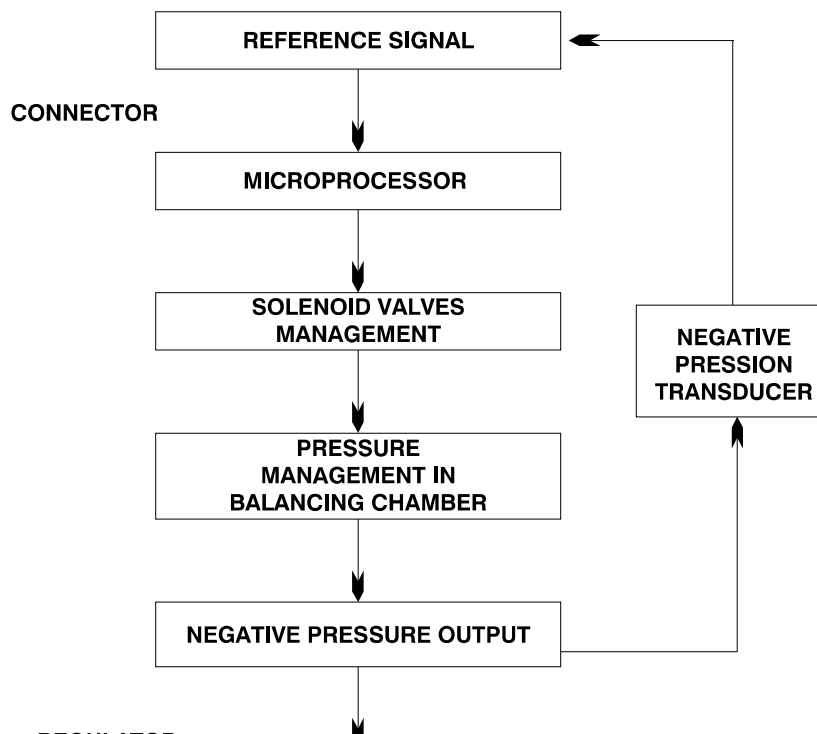
The connections of the regulator require the aperture for supply and discharge to be on one side and the aperture for use on the opposite side. On the other two remaining sides there are apertures of G1/8" that are plugged with removable plugs, however it is possible to connect a vacuum gauge or vacuum sampling for an additional remote vacuum switch. The control solenoid valves, the negative pressure sensor and the management electronics are located in the upper part of the regulator. The regulator is available in only one size, 1, with flow rate 170 l/min and the possibility to select commands: Voltage (T) Current (C).

Functional diagram



CLOSED LOOP diagram (internal control circuit)

The proportional regulator is known as a CLOSED LOOP regulator because a pressure transducer in the circuit transmits a continuous analog signal to the microprocessor, which compares the reference value with the detected value and supplies the control solenoid valves accordingly.





CHARACTERISTICS

Pneumatic

Fluid	5 micron filtered and dehumidified air
Input minimum pressure	10 -kPa
Input max pressure	101 -kPa
Adjustment range	10 ... 90 -kPa
Flow rate	170 l/min
Air consumption	< 1 NI/min
Supply connection	G 1/4"
Service connection	G 1/4"
Discharge connection	G 1/8"
Maximum tightening torque for connections	15 Nm

Electric

Supply voltage		24VDC ± 10% (stabilized with ripple<1%)
Current consumption in standby		70mA
Current consumption with actuated S.V.		400mA
**Reference Signal	Voltage	*0 ... 10 V *0 ... 5 V *1 ... 5 V
	Current	*4 ... 20 mA *0 ... 20 mA
**Input impedance	Voltage	10 kΩ
	Current	250 Ω
**Digital inputs		24VDC ± 10%
**Digital output		24 VDC PNP (max current 50 mA)

Functional

Linearity	\pm Insensitivity
Hysteresis	\pm Insensitivity
Repeatability	\pm Insensitivity
Sensitivity	0,01 bar
Assembly position	Indifferent
IP Rating	IP65 (with casing fitted)
Ambient temperature	-5° ... 50° / 23°F ... 122°F

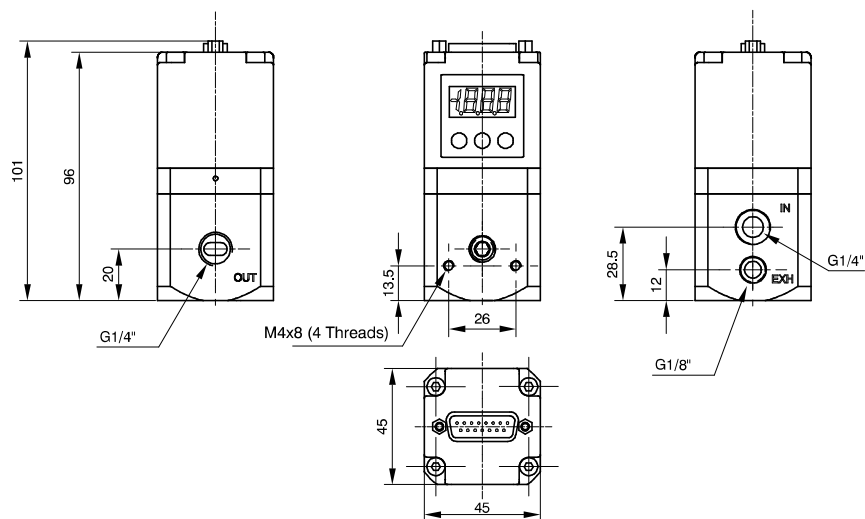
Constructional

Body	Anodised aluminum	
Shutters	Brass with vulcanised NBR	
Diaphragm	Cloth-covered rubber	
Seals	NBR	
Cover for electrical part	Technopolymer	
Springs	AISI 302	
Weight	Size 1	
	360 gr.	

* Selectable by keyboard or by RS-232

** Valid only for devices with analog input

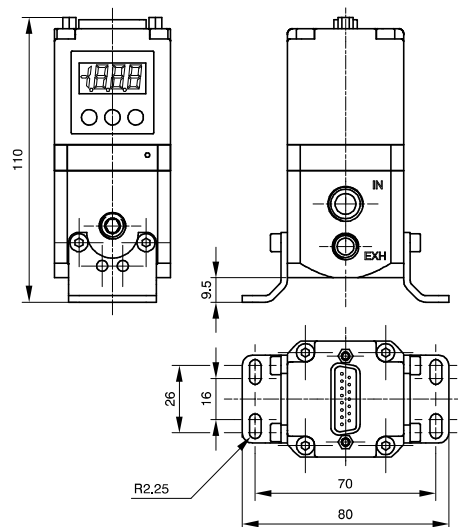
► **SIZE 1**



Mounting options

In addition to the possibility of fastening it directly to the wall using the M4 apertures present on the body, there is also the option of using the fastening bracket code 170M5 as can be seen in the figures shown below.

► **SIZE 1**



Installation/ Operation

**PNEUMATIC CONNECTION**

The compressed air is connected by means of M5 threaded holes (for size 0 regulators), G 1/4" threaded holes (for size 1 regulators) and G 1/2" threaded holes (for size 3 regulators) on the body.

Before making the connections, eliminate any impurities in the connecting pipes to prevent chippings or dust entering the unit. Do not supply the circuit with more than 10 bar pressure and make sure that the compressed air is dried (excessive condensate could cause the appliance to malfunction) and filtered at 5 micron. The minimum supply pressure required depends on the characteristics of the vacuum generator.

If a silencer is applied to the discharge path the unit response time may change; periodically check that the silencer is not blocked and replace it if necessary.

**ELECTRICAL CONNECTION**

For the electrical connection a SUB-D 15-pole female is used.

Wire in accordance with the wiring diagram shown below.

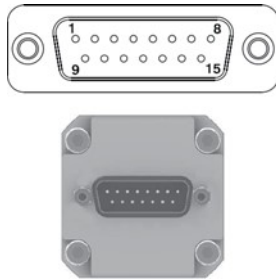
Warning: INCORRECT CONNECTIONS MAY DAMAGE THE DEVICE

**NOTES ON OPERATION**

If the electricity supply is cut off, the output pressure will be kept at the set value. However, maintenance of this exact value is not guaranteed given the fact that the solenoid valve cannot be actuated.

To discharge the circuit downstream, clear the reference, make sure the display shows a pressure value equal to zero, and then cut off the electrical power supply.

A version of the device is available as an option that discharges the circuit downstream right at the time the electricity is cut off (final letter A in the ordering code). If the air supply is stopped and the power supply is maintained, you may hear a humming noise being generated due to the solenoids; it is possible to activate an operating parameter (P18) that allows the regulator to be protected any time the pressure is not reached within 4 seconds after the moment the reference signal is sent. In this case, the system will intervene by interrupting control of the solenoid valves. Every 20 seconds the unit will start the restoration procedure until standard operating conditions are reintegrated.

TOP VIEW OF THE REGULATOR CONNECTOR**CONNECTOR PIN:**

1	DIGITAL INPUT 1
2	DIGITAL INPUT 2
3	DIGITAL INPUT 3
4	DIGITAL INPUT 4
5	DIGITAL INPUT 5
6	DIGITAL INPUT 6
7	DIGITAL INPUT 7
8	ANALOG INPUT / DIGITAL INPUT 8
9	SUPPLY (24 VDC)
10	DIGITAL OUTPUT (24 VDC PNP)
11	ANALOG OUTPUT (CURRENT)
12	ANALOG OUTPUT (VOLTAGE)
13	Rx RS-232
14	Tx RS-232
15	GND

Ordering codes**191E2N...D.0000.V****MANAGEMENT**

C = Current signal (4-20 mA / 0-20 mA)

T = Voltage signal (0-10 V / 0-5 V / 1-5 V)


PRESSURE RANGE

0000 = from 10 to 90 kPa

**Fixing bracket
170M5**

REGULATORS

Model with SUB-D 15 poles connector

	5300.F15.00.00	Straight connector + Casing IP65 *
	5300.F15.00.03	Straight connector + Cable 3 meters
	5300.F15.00.05	Straight connector + Cable 5 meters
	5300.F15.90.00	Connector 90° + Casing IP65 *
	5300.F15.90.03	Connector 90° + Cable 3 meters