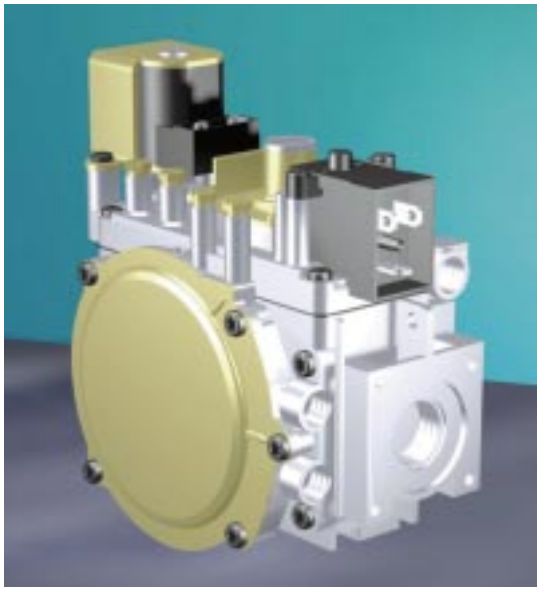
SIT Group

828 NOVAMIX

MULTIFUNCTIONAL GAS CONTROL



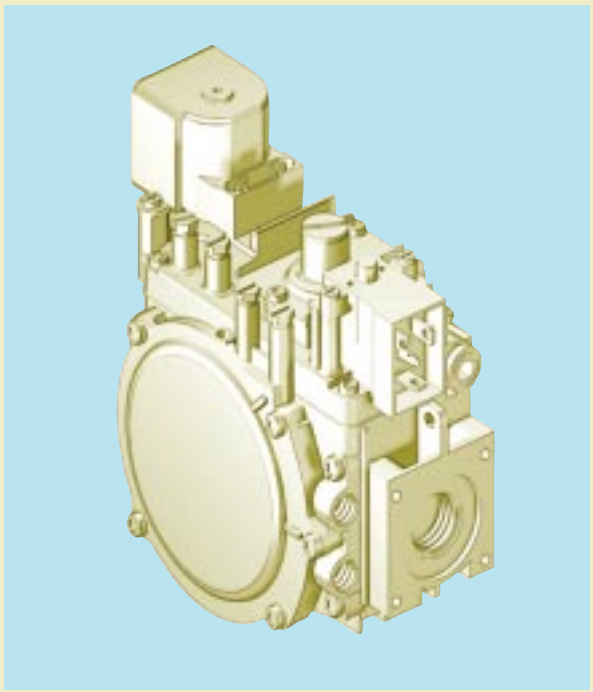
GAS FLOW RATE ADJUSTMENT AS A FUNCTION OF THE AIR FLOW
GAS/AIR RATIO SETTING RANGE FROM 4:1 TO 20:1

DOUBLE AUTOMATIC SOLENOID SHUT-OFF VALVE

SERVO-CONTROLLED PRESSURE REGULATOR

PIN 63AP7060/2

AUTOMATIC MULTIFUNCTIONAL CONTROL



828 NOVAMIX is suitable for high-efficiency gas appliances with fan in the combustion circuit.

Multifunctional control with two near-silent, automatic shut-off valves and with pneumatic device for proportional control of gas output flow as a function of the air flow (gas/air ratio setting range from 4:1 to 20:1).
Servo-controlled pressure regulator.

MAIN FEATURES

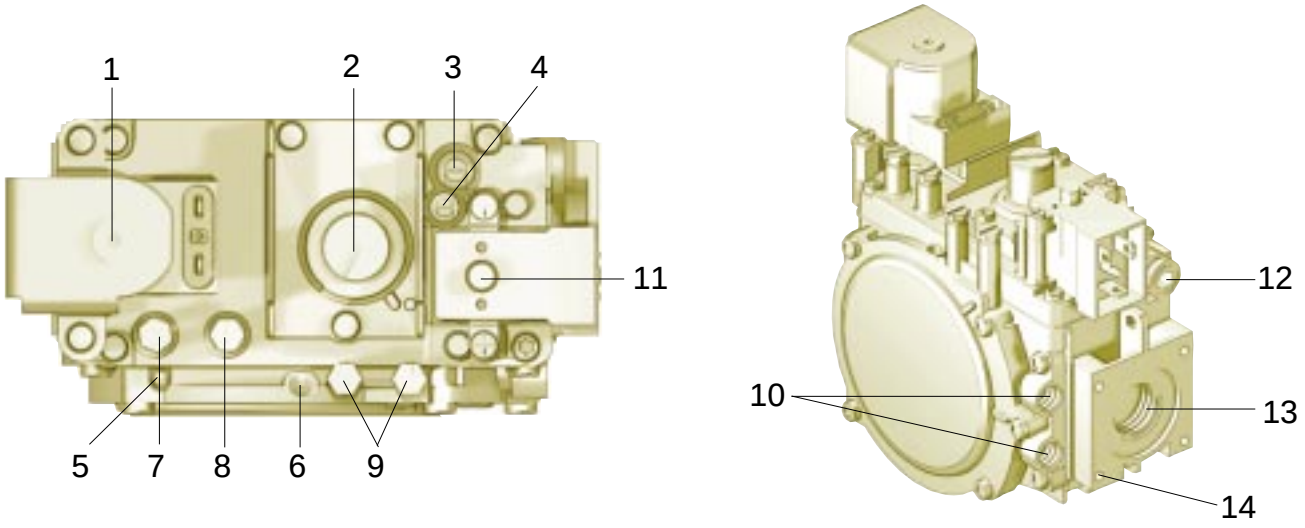
Two near-silent automatic shut-off valves:
- EV1 in class B (on request class A)
- EV2 in class D (on request class C)

Pneumatic device for the proportional adjustment of the gas output flow as a function of the air flow: gas/air ratio setting range from 4:1 to 20:1.
Servo-controlled pressure regulator.
Offset adjustment device.
Pilot outlet with gas flow restrictor.
Inlet and pilot filters.
Inlet pressure test point.
Outlet pressure test point (only on versions without ratio adjustment).
Threaded gas inlet and outlet with provision for flange connection.
Version with lateral outlet for flanged connection only.
Gas/air ratio adjuster (on request; not available on version with lateral outlet).

DESCRIPTION

1 Shut-off solenoid valve EV1
2 Maximum outlet pressure adjustment screw
3 Pilot gas flow restrictor
4 Gas/air adjustment screw
5 Minimum outlet pressure adjustment screw
6 Offset adjustment screw
7 Inlet pressure test point
8 Outlet pressure test point*
9 Air-in signal pressure test point
10 Air in signal
11 Shut-off solenoid valve EV2
12 Pilot outlet
13 Main gas outlet
14 Holes (M5) for fixing flanges

* In versions with ratio adjusters, the pressure measured at A does not correspond to the outlet pressure.



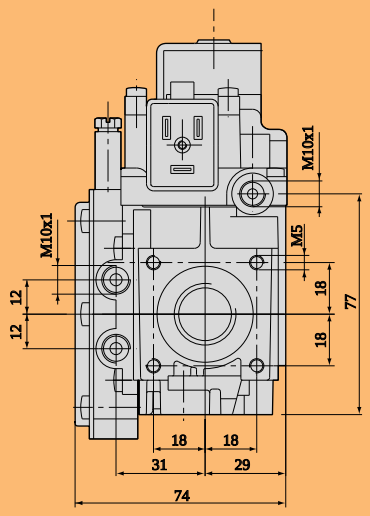
TECHNICAL DATA

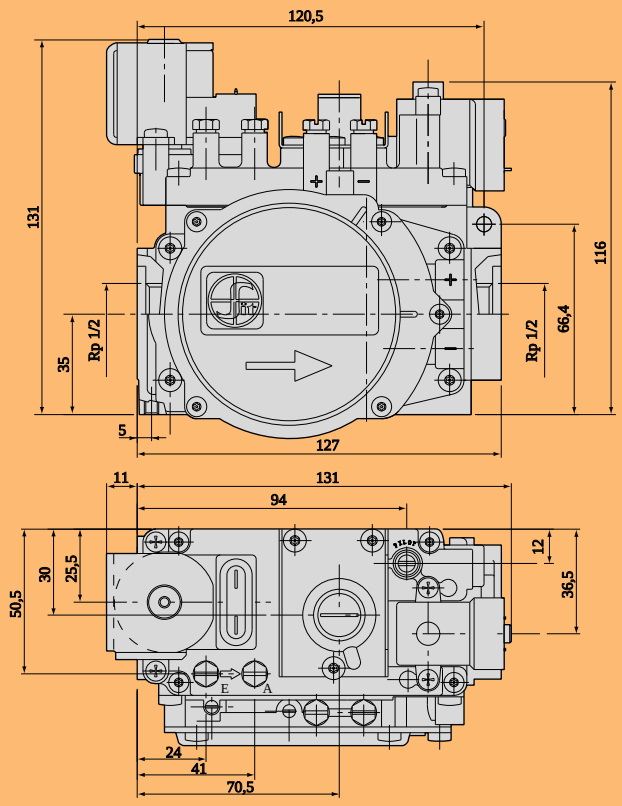
- Gas connections: Rp 1/2 ISO 7
- Installation position: any position
- Nominal gas/air pressure ratio: from 4:1 to 20:1
- Gas families: I, II and III
- Maximum gas inlet pressure: 60 mbar
- Maximum air in signal pressure: 10 mbar
- Setting range:
  - of the outlet pressure: 3...30 mbar or 20...50 mbar
- Working temperature range: 0 ... 60°C
- Pressure regulator: Class B
- Automatic solenoid valve EV1 Class B (on request Class A)
- Automatic solenoid valve EV2 Class D (on request Class C)

ELECTRICAL DATA

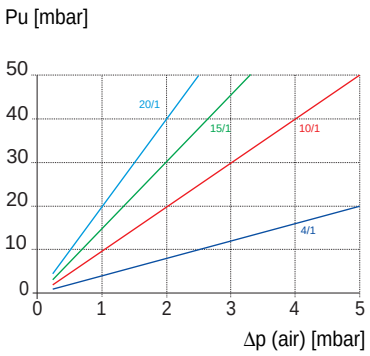
AUTOMATIC VALVES		*EV1 Class B or A*	*EV2 Class D or C*
Voltage (AC)	230 V 50 Hz	Consumption (mA) 45	Consumption (mA) 23
	220 V 60 Hz	45	25
	24 V 50 Hz	450	210
	24 V 60 Hz	450	220
Electrical protection rating		*IP 54 with 002 type connectors and fixing screw code 0.960.125*	*IP 54 with 160 type connectors and screw and gasket code 0.960.104*

DIMENSIONS



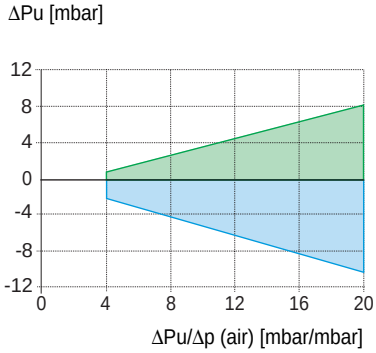


GAS/AIR SPECIFICATIONS



Outlet pressure Pu of the gas as a function of the differential pressure P (air) for various values of gain Pu/P (air).

Outlet pressure tolerance
± 10% Pun (Pun> Put); Pun>2 mbar
Pun = Nominal outlet pressure
Put = Outlet pressure setting point



Range Pu of the offset setting device as a function of the gain G = Pu/P (air).

OPERATION

Reading the inlet pressure

The inlet pressure can be read at the pressure test point E with or without both automatic shut-off valves energised.

Pilot burner ignition

When the automatic shut-off valve EV1 is powered, it permits the gas to supply the pilot burner outlet (applications with intermittent pilot) after passing through the inlet filter, the pilot filter and the pilot flow rate restrictor (PILOT).

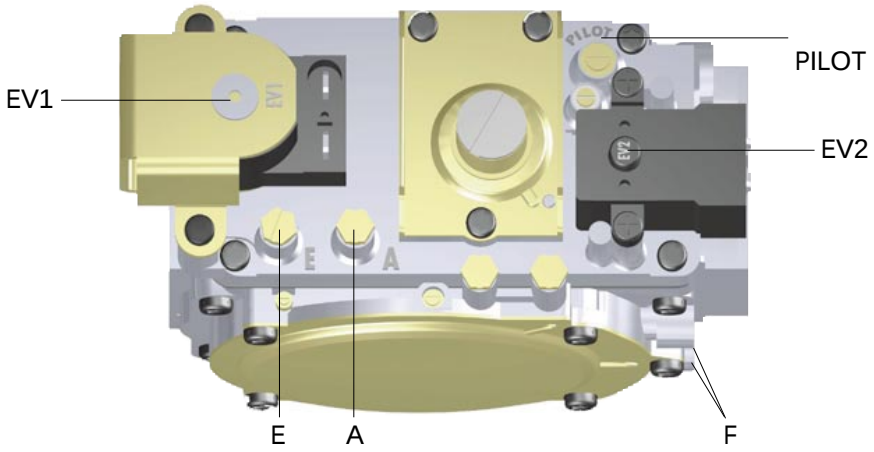
Main burner ignition

When both automatic valves are energised, gas passage to the main burner is opened.

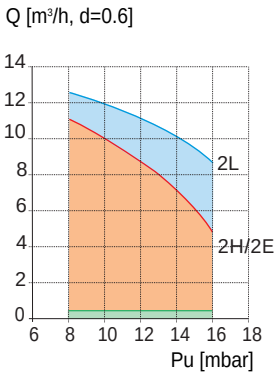
Outlet pressure

The gas outlet pressure is proportional to the air signal P applied at the inlets F. The outlet pressure can be measured at test point A*.

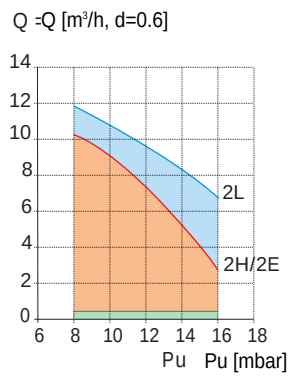
* In versions with ratio adjusters, the pressure measured at A does not correspond to the outlet pressure.



REGULATED FLOW RATE IN ACCORDANCE WITH EN 88



CLASS B+D

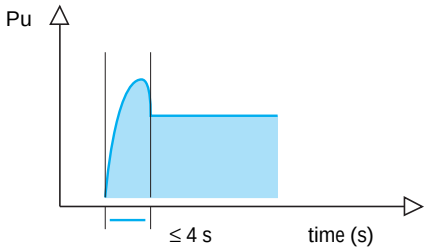


CLASS B+C

CLASS B+D and B+C

Gas type	Inlet pressure range (mbar)		
	Nominal	Max.	Min.
2H/2E	20	25	17
2L	25	30	20
Outlet pressure tolerance +10% ...-15%			

TIME CONSTANT



The outlet pressure (Pu) reaches the working value within four seconds in correspondence with a variation step of the differential pressure ΔP (air).

Main gas connection

The connection is made using gas pipes with Rp 1/2 ISO 7 threading. Torque: 25 Nm.
If, alternatively, flanges (available on request) are used, first screw the pipes onto the flanges and then the flanges to the valve. Recommended torque for the flange fixing screws: 3 Nm.

Connection to the pilot burner

Pipes with a 4 mm, 6 mm or 1/4 Ø can be used. Use a nut and olive of appropriate dimensions. Tighten to 7 Nm torque.

CAUTION: if the pilot outlet is not used, seal it using the accessory, code 0.972.041.

Torque: 7 Nm.

Connection of the pneumatic commands

The connection must be made without the possibility of creating hazard conditions caused by gas flow in the absence of air flow. The exclusive use of 4 mm, 6 mm and 1/4 metal pipes is recommended. Use appropriately dimensioned nut and olive. Tighten to a torque of 7 Nm.

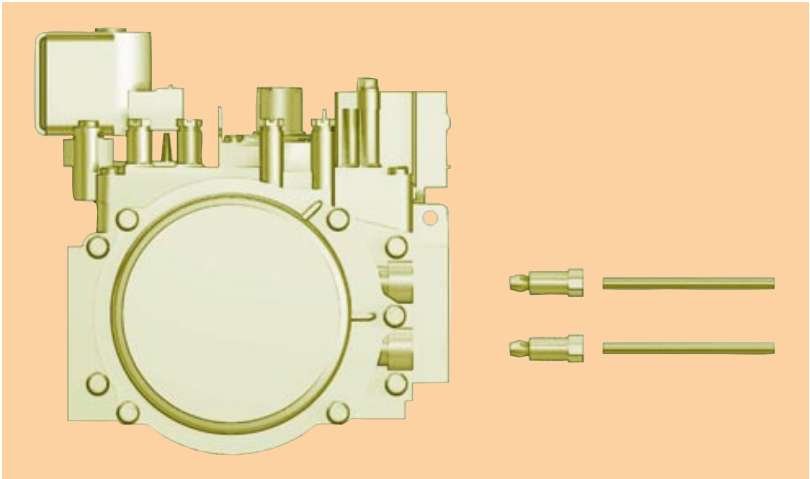
Electrical connections

Use the special connectors for the connection of the mains-powered versions. To ensure that the valve is connected to the earth circuit of the appliance it is necessary for the power connector, which includes the earth terminal, to be used at all times and secured by means of the associated screw.

The 24Vac versions must be powered by means of an isolating transformer (with a very low safety voltage to EN 60742). Use terminals AMP 6.3 x 0.8 mm, DIN 46244 for the connection. Carry out the connections in accordance with the rules for the appliance.

The electrical safety cut-off devices (for example, the flame supervision device, limit thermostat, and the like) must cut off the power supply to both safety solenoid valves simultaneously.

CAUTION: after making the connections, check gas tightness and electrical insulation.



Connection of the pneumatic commands

Measurement of the inlet and outlet pressure
Check the gas and air pressures at the provided test points E, A, and G*. Tighten back with a recommended torque of 2.5 Nm.
The adjustments must be made in the following order:

Minimum outlet pressure
With the fan off, screw in the screw N to increase the pressure; screw it out to reduce it.

Offset
With the fan at minimum speed, screw in the screw Q to reduce the pressure; screw it out to increase it.

Gas/air ratio
(versions with ratio adjuster)
With the fan at the maximum speed, screw in the screw S to reduce the pressure; screw it out to increase it.

Maximum outlet pressure
With the fan at the maximum speed, screw in the screw P to increase the pressure; screw it out to reduce it.

Gas flow-rate adjustment to the pilot
(applications with intermittent pilot burner)
Screw in the PILOT screw to reduce the flow; unscrew it to increase flow.

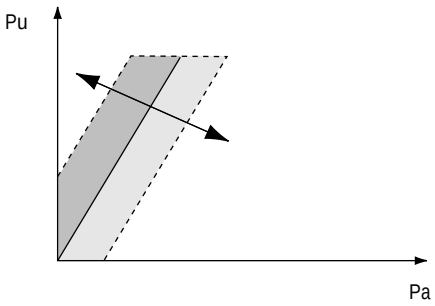
Overriding gas flow-rate adjustment to the pilot
(applications with intermittent pilot burner)
It is sufficient to screw the PILOT screw in flush and then screw it out two complete turns.

Changing the gas family or group
Check suitability for use with the gas family or group of interest.
Following the instructions given above, adjust the outlet pressure to the values indicated in the instruction booklet of the appliance.

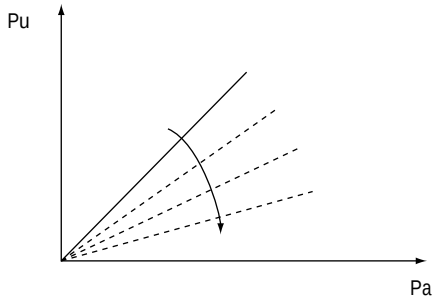
* In versions with ratio adjusters, the pressure measured at A does not correspond to the outlet pressure.

CAUTION:
Check tightness and efficiency and seal the adjustment devices.

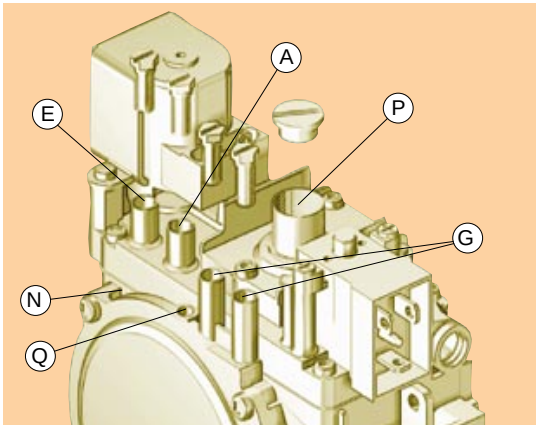
Implement the provisions in the Use and Maintenance manual - code 9.956.828 - for installation, adjustment and use.

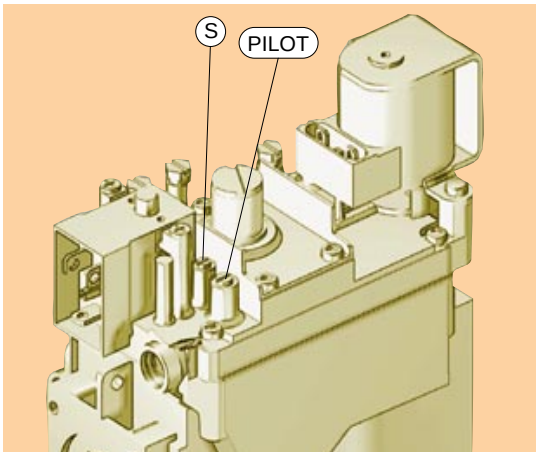


Offset adjustment



Gas/air ratio adjustment





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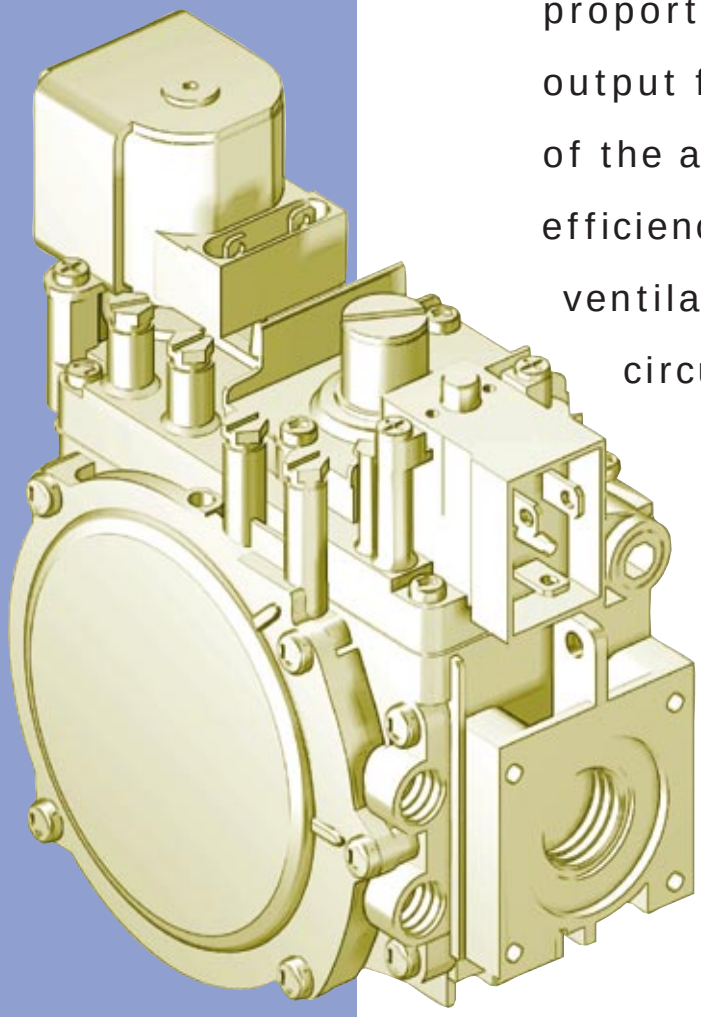

Multifunctional control with double solenoid valve and pneumatic device for proportional control of gas output flow as a function of the air flow, for high-efficiency appliances with ventilated combustion circuit.

GAS/AIR RATIO SETTING RANGE FROM 4:1 TO 20:1

GRAPHIC DESIGN BY START - PD - ITALY

9.955.981 R00

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