



SIT Group

# 8 2 2 N O V A

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MULTIFUNCTIONAL CONTROL FOR GAS



DOUBLE AUTOMATIC SOLENOID SHUT-OFF VALVE

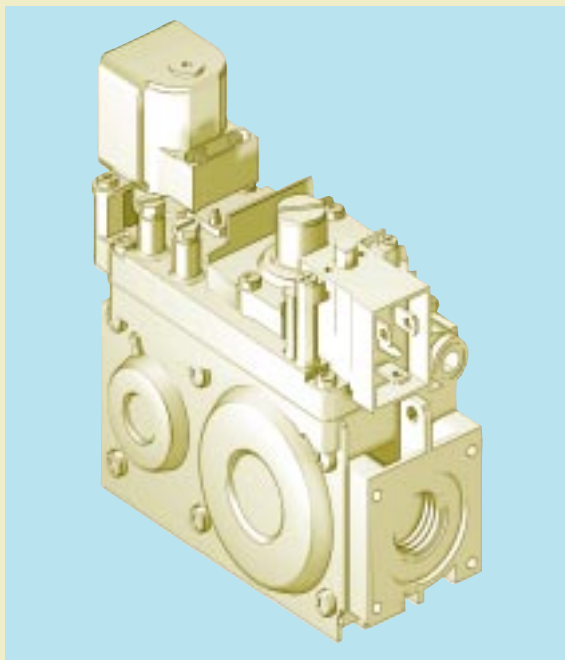
SERVO-CONTROLLED PRESSURE REGULATOR

ALL ADJUSTMENTS ACCESSIBLE FROM ABOVE

PIN 63AP7060/2



## AUTOMATIC MULTIFUNCTIONAL CONTROL



**Multifunctional control with two near-silent automatic shut-off valves.**

**Servo-controlled pressure regulator.**

**Step ignition device on request.**

*822 NOVA is suitable for installation on gas appliances fitted with automatic ignition and flame failure systems, with or without intermittent pilot burner.*

## MAIN FEATURES

Two near-silent automatic shut-off valves.

Servo-controlled pressure regulator.

Step ignition device (optional).

Pilot outlet with gas flow restrictor.

Inlet and pilot filters.

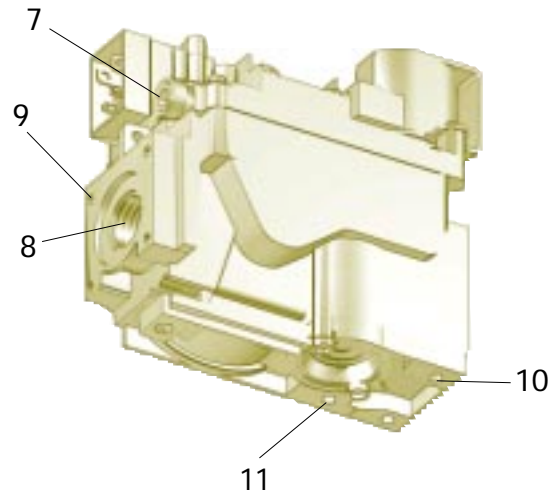
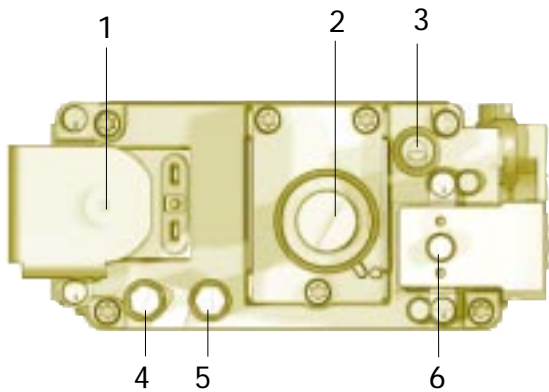
Inlet and outlet pressure test points.

Threaded gas inlet and outlet with provision for flange connection.

Connection for pressure regulator / combustion chamber compensation.

## DESCRIPTION

- |   |   |
|---|---|
| <ul style="list-style-type: none"> <li>1 Shut-off solenoid valve EV1</li> <li>2 Pressure regulator setting device</li> <li>3 Pilot gas flow restrictor</li> <li>4 Inlet pressure test point</li> <li>5 Outlet pressure test point</li> <li>6 Shut-off solenoid valve EV2</li> <li>7 Pilot outlet</li> </ul> | <ul style="list-style-type: none"> <li>8 Main gas outlet</li> <li>9 Holes (M5) for fixing flanges</li> <li>10 Supplementary valve body fixing points</li> <li>11 Connection for pressure regulator / combustion chamber compensation</li> </ul> |
|---|---|



## TECHNICAL DATA

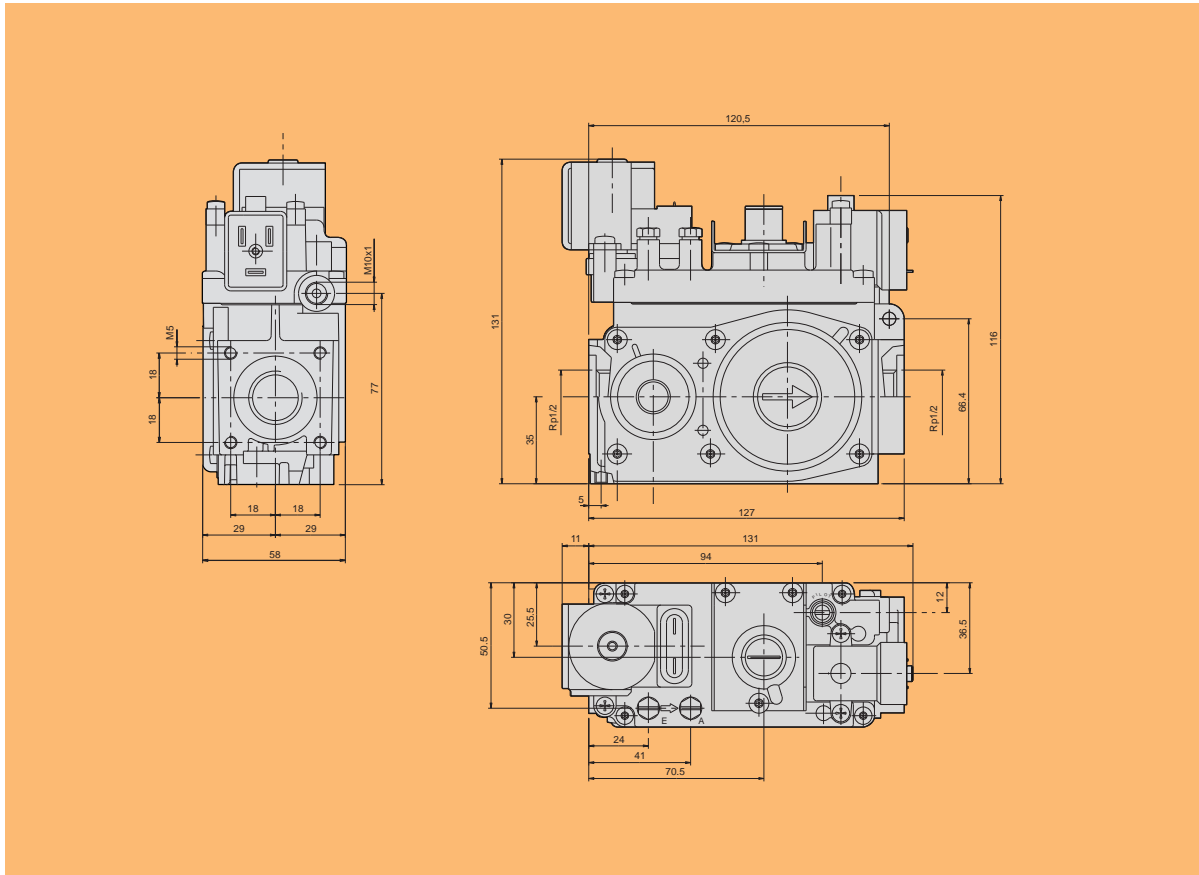
- Gas connections: Rp 1/2 ISO 7
- Installation position: any position
- Gas families: I, II and III
- Maximum gas inlet pressure: 60 mbar
- Outlet pressure setting range: 3...30 mbar (20...50 on request)
- Working temperature range: 0...60 °C
- Pressure regulator: Class B
- Automatic solenoid valve: EV1 Class B (Class A on request)
- Automatic solenoid valve: EV1 Class D (Class C on request)

ELECTRICAL DATA			
AUTOMATIC VALVES	EV1 Class B		EV2 Class D
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 connector and fixing screw code 0.960.125		IP 54 using 160 type connectors with screw and gasket, code 0.960.104

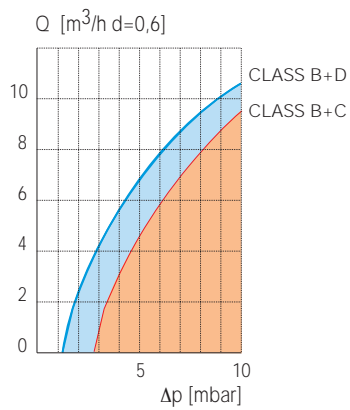
Data refer to EN 126



## DIMENSIONS



## FLOW RATE AS A FUNCTION OF PRESSURE DROP



CLASS B+D			
I Family	(d = 0.45)	Q = 7.5 m <sup>3</sup> /h	$\Delta p = 5$ mbar
II Family	(d = 0.6)	Q = 6.5 m <sup>3</sup> /h	$\Delta p = 5$ mbar
III Family	(d = 1.7)	Q = 8.1 kg/h	$\Delta p = 5$ mbar

CLASS B+C			
I Family	(d = 0.45)	Q = 7.5 m <sup>3</sup> /h	$\Delta p = 5$ mbar
II Family	(d = 0.6)	Q = 6.5 m <sup>3</sup> /h	$\Delta p = 5$ mbar
III Family	(d = 1.7)	Q = 8.1 kg/h	$\Delta p = 5$ mbar

## 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 energized.

### Pilot burner ignition

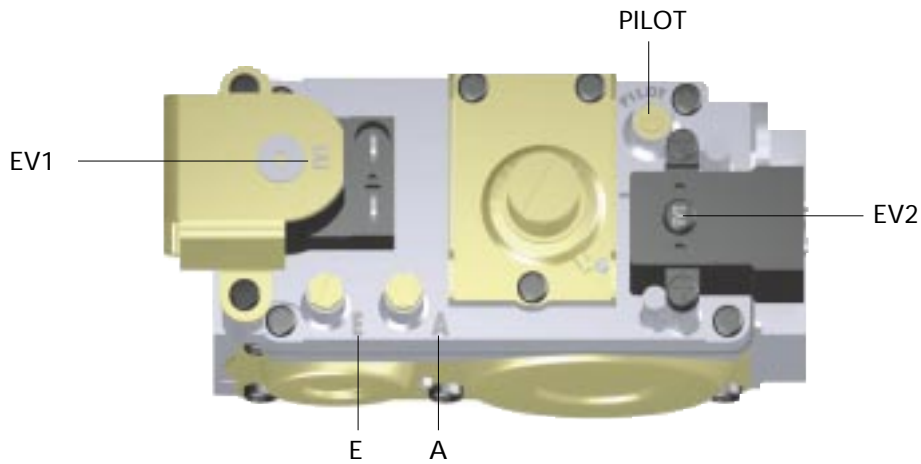
When the automatic shut-off valve EV1 is powered, it permits the gas to supply the pilot burner outlet (applications with intermittent pilot) after passing through the inlet filter, the pilot filter and the pilot flow rate restrictor.

### Main burner ignition

When both automatic valves, EV1 and EV2, are energized, gas passage to the main burner is opened.

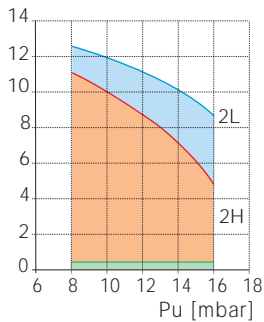
### Outlet pressure

The outlet pressure is read at the test point A.



## REGULATED FLOW RATE IN ACCORDANCE WITH EN 88

$$Q = [m^3/h \text{ } d=0.6]$$

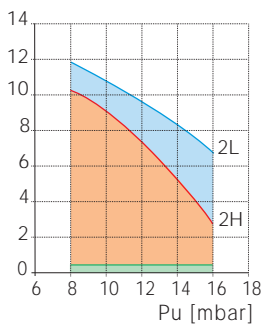


### CLASSES B+D

Gas type	Inlet pressure range		
	Nominal	Max.	Min.
2H	20	25	17
2L	25	30	20

Outlet pressure tolerance +10% ...-15%

$$Q = [m^3/h \text{ } d=0.6]$$



### CLASSES B+C

Gas type	Inlet pressure range		
	Nominal	Max.	Min.
2H	20	25	17
2L	25	30	20

Outlet pressure tolerance +10% ...-15%

### **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 Ø 4 mm, Ø 6 mm or Ø 1/4 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 to the combustion chamber**

Pressure regulator / combustion chamber compensation is possible when the latter is pressurized (see figure).

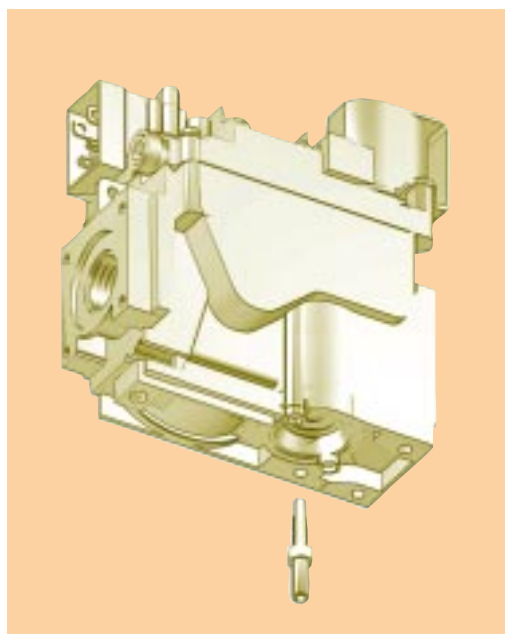
Use the special SIT hose connectors for this purpose. Torque: 1 Nm.

### **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 EV2 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 a 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 failure 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 to the combustion chamber*

### **Measurement of the inlet and outlet pressure**

The inlet and outlet pressures of the gas can be measured by unscrewing the provided test point sealing screws.

Replace screws with 2.5 Nm torque.

### **Outlet pressure adjustment**

Remove the protective plug (A), and screw in the adjustment screw (B) to increase the outlet pressure or screw it out to reduce it. Having made the setting, fit the plug (A) flush.

### **Over-riding the pressure regulator**

Replace the plug (A), the adjustment screw (B) and the spring (C) with the accessory (D), code 0.907.037. Torque: 1 Nm.

### **Gas flow-rate adjustment to the pilot**

(applications with intermittent pilot burner)

Screw in the associated screw to reduce the flow or unscrew it to increase flow.

### **Overriding gas flow-rate adjustment to the pilot**

(applications with intermittent pilot burner)

It is sufficient to screw the adjustment 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.

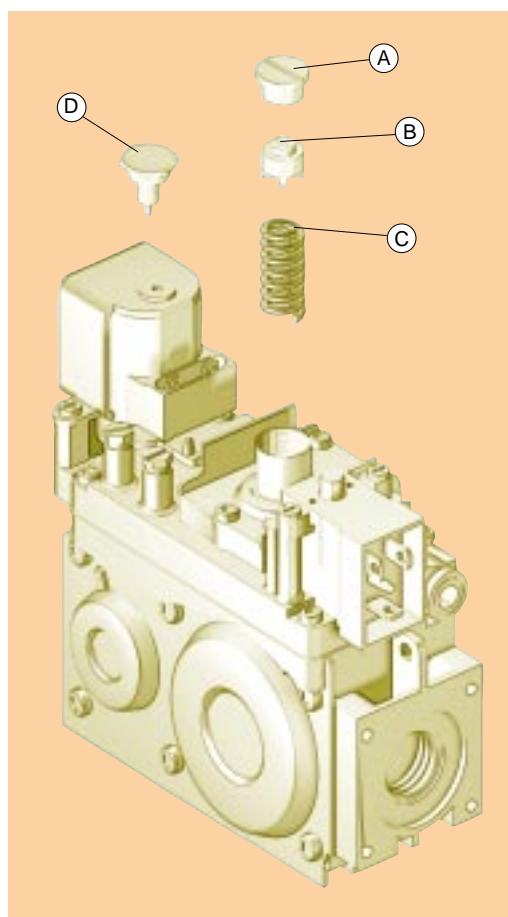
Following the instructions given above, adjust the outlet pressure to the values indicated in the instruction booklet of the appliance.

If required: override the pressure regulator and gas flow adjustment to the pilot.

### **CAUTION:**

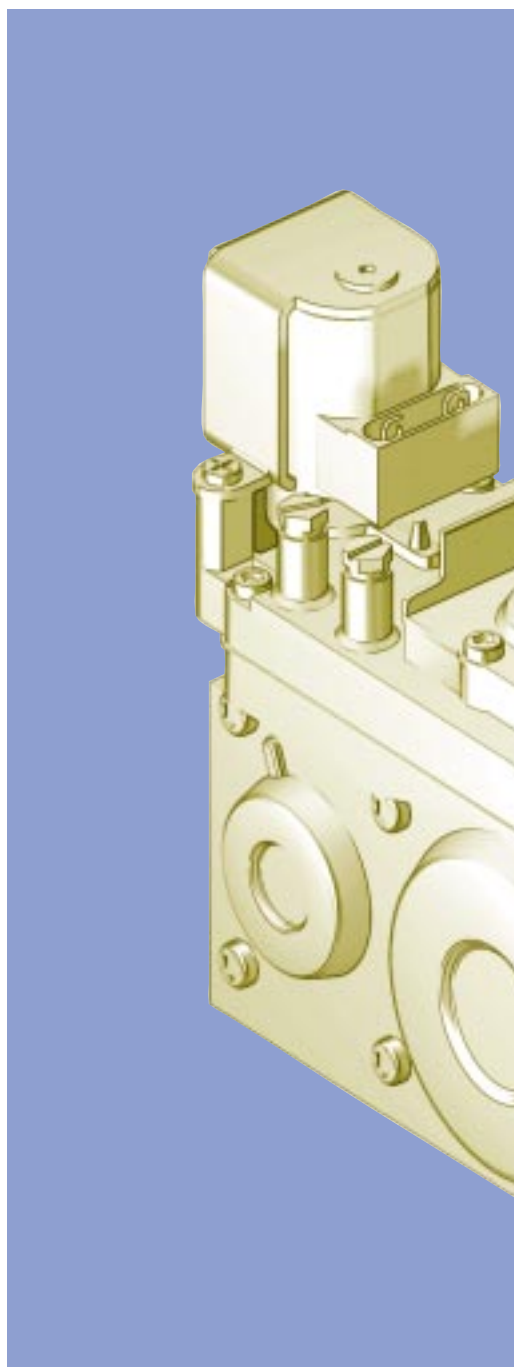
Check tightness and efficiency and seal the adjustment devices.

Implement the provisions in the Use and Maintenance manual - code 9.956.822 - for installation, adjustment and use.



*Overriding the pressure regulator*

# 822 NOVA



Multifunctional control  
with double solenoid  
valve for gas appliances  
provided with automatic  
ignition and flame  
failure devices.

