



SIT Group

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MULTIFUNCTIONAL GAS CONTROL



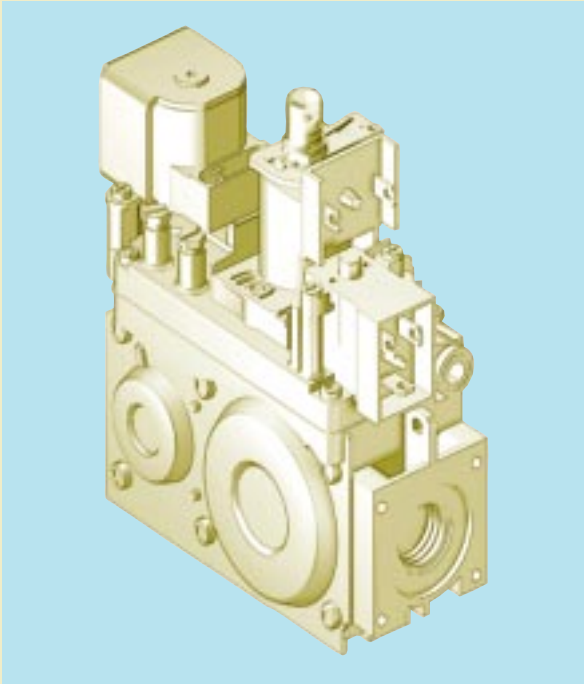
**MODULATING GAS FLOW CONTROL:
STEPPED (826 NOVA) - CONTINUOUS (827 NOVA)**

DOUBLE AUTOMATIC SHUT-OFF VALVE

SERVO-CONTROLLED PRESSURE REGULATOR



ELECTRICALLY MODULATED AUTOMATIC MULTIFUNCTIONAL CONTROL



Multifunctional control with two near-silent automatic shut-off valves, fitted with: electrically modulated stepped (NOVA 826) or continuous (NOVA 827) gas flow, and servo-controlled pressure regulator.

A step ignition device can be fitted on request.

826-827 NOVA is suitable for appliances for catering, instant water heaters, boilers and convector heaters, fitted with automatic ignition and flame supervision systems, which require the regulation of the gas flow as a function of the temperature.

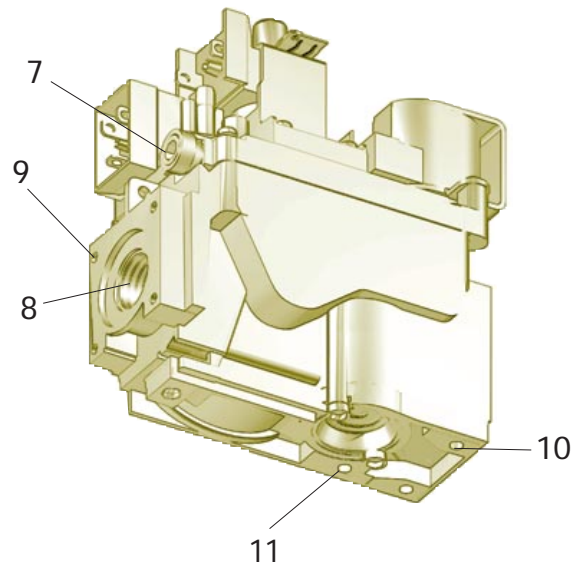
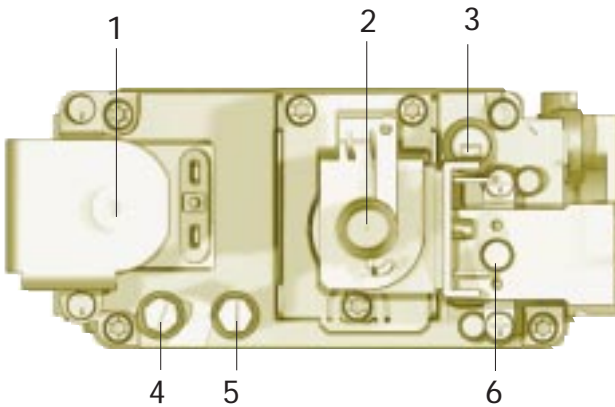
MAIN FEATURES

- Electric gas flow modulating device with mechanical adjuster for minimum and maximum gas outlet pressure: stepped (826 NOVA) or continuous (827 NOVA).
- 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

- 1 On-off solenoid valve EV1
- 2 Gas pressure modulating device
- 3 Adjustment screw for gas flow to the pilot
- 4 Inlet pressure test point
- 5 Outlet pressure test point
- 6 On-off solenoid valve EV2

- 7 Pilot outlet
- 8 Main gas outlet
- 9 Holes (M5) for fixing flanges
- 10 Supplementary valve body fixing points
- 11 Connection for pressure regulator / combustion chamber compensation



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
- Working temperature range: 0...60 °C
- Pressure regulator: Class B
- Automatic solenoid valve EV1 Class B (Class A or request)
- Automatic solenoid valve EV2 Class D (Class C or request)

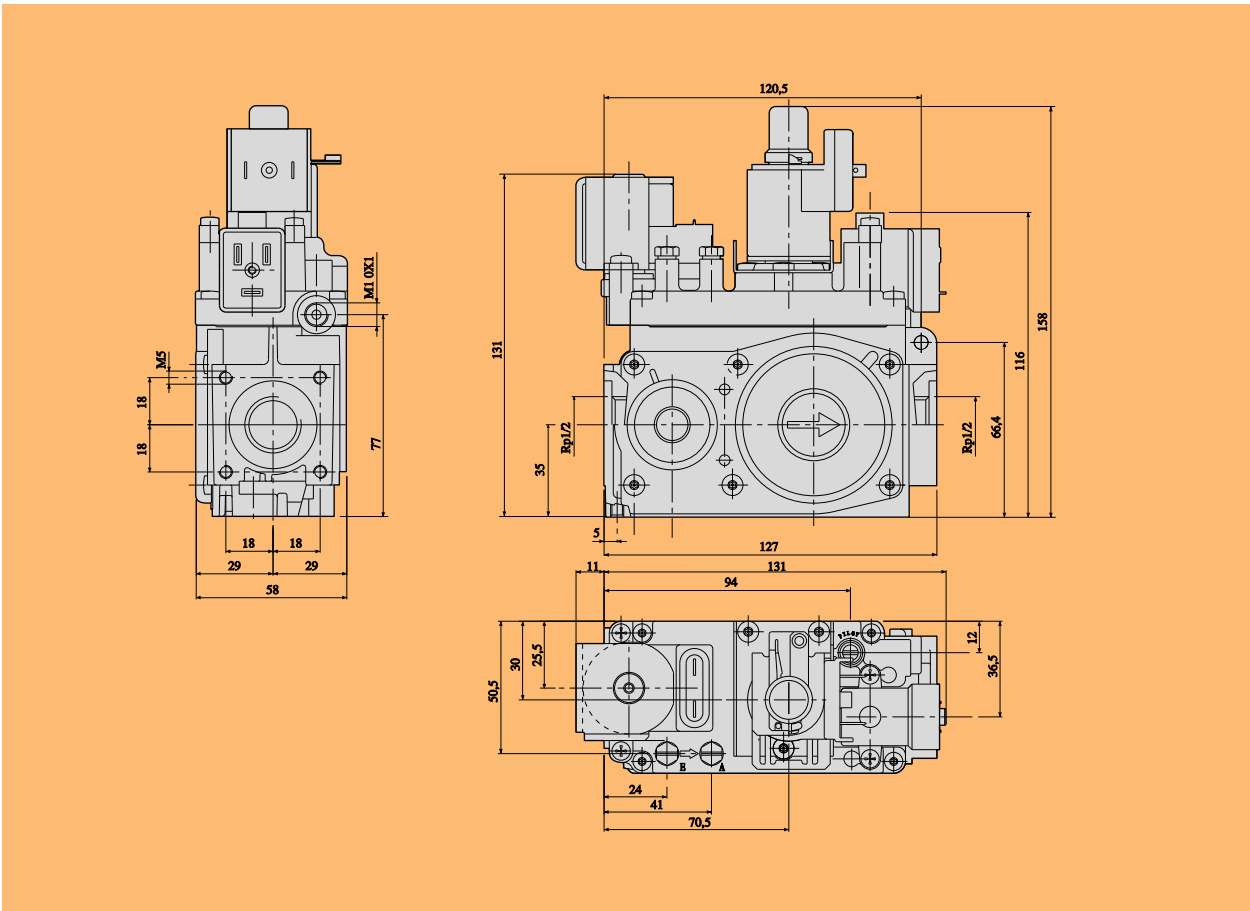
- 826 NOVA
stepped modulating device - outlet gas pressure setting range:
 - max. pressure 7...50 mbar
 - min. pressure 2...45 mbar

- 827 NOVA
stepped modulating device - outlet gas pressure setting range:
 - 2...20 mbar (white screw)
 - 3...37 mbar (red screw)
 - 7...50 mbar (black screw)

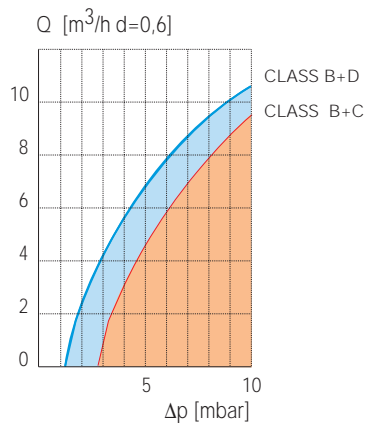
POWER SUPPLY			
STEPPED MODULATING DEVICE (826)		CONTINUOUS MODULATING DEVICE (827)	
Voltage (rectified AC)	Consumption (mA)	Voltage (DC)	Consumption (mA)
230 V	30	28 max	165 max
24 V	270	16 max	310 max
AUTOMATIC VALVES		EV1 (class A or B)	EV2 (class D or C)
Voltage (AC)	Consumption (mA)	Consumption (mA)	
230 V 50 Hz	45	23	
220 V 60 Hz	45	25	
24 V 50 Hz	450	210	
24 V 60 Hz	450	220	

Data refer to EN126

DIMENSIONS



FLOW RATE AS A FUNCTION OF PRESSURE DROP



CLASS B+D		
I Family (d = 0.45)	Q = 7.5 m ³ /h	$\Delta p = 5$ mbar
II Family (d = 0.6)	Q = 6.5 m ³ /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 = 5.3 m ³ /h	$\Delta p = 5$ mbar
II Family (d = 0.6)	Q = 4.6 m ³ /h	$\Delta p = 5$ mbar
III Family (d = 1.7)	Q = 5.8 kg/h	$\Delta p = 5$ mbar

OPERATION

Reading the inlet pressure

The inlet pressure can be read at the pressure test point E when both on-off solenoid valves are de-energized.

Pilot burner ignition

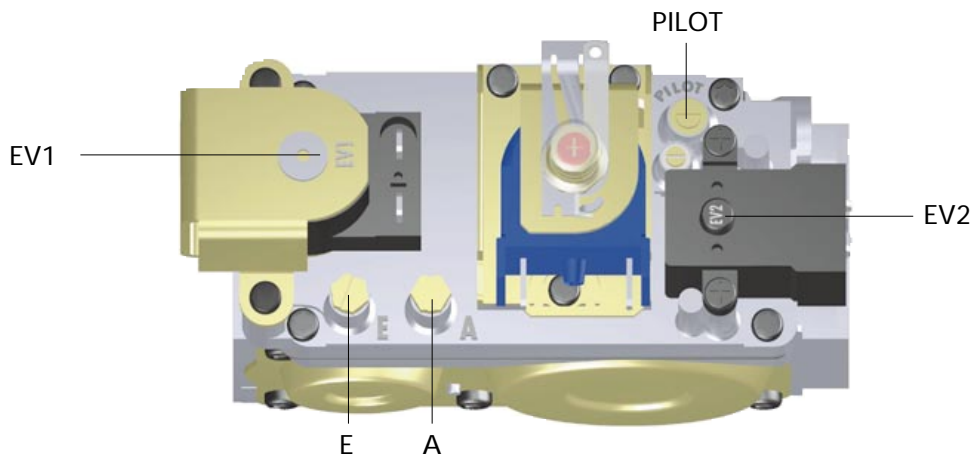
When the automatic shut-off valve EV1 is powered, it permits the gas to supply the pilot burner outlet (applications with intermittent pilot) after passing through the inlet filter, the pilot filter and the pilot flow rate restrictor RQ.

Main burner ignition

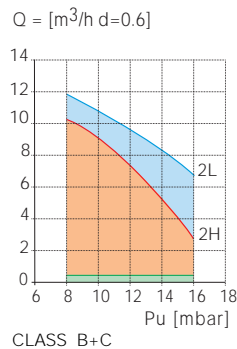
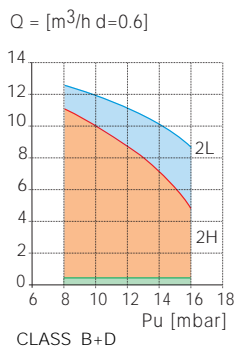
When both automatic valves, EV1 and EV2, are energized, gas passage to the main burner is opened.

Outlet pressure

The outlet pressure is read at the test point A.



REGULATED FLOW RATE IN ACCORDANCE WITH EN 88

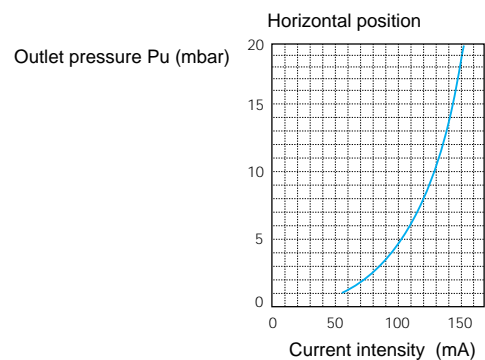
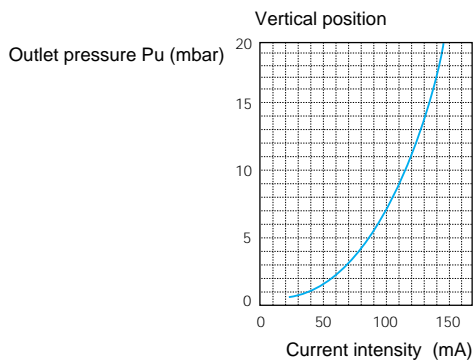


CLASS B+D and CLASS B+C

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

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

827: MODULATING CHARACTERISTIC CURVES



VERSION 2...20 mbar

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 diameter can be used. Use a nut and olive of appropriate dimensions. Tighten to 7 Nm torque.

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.

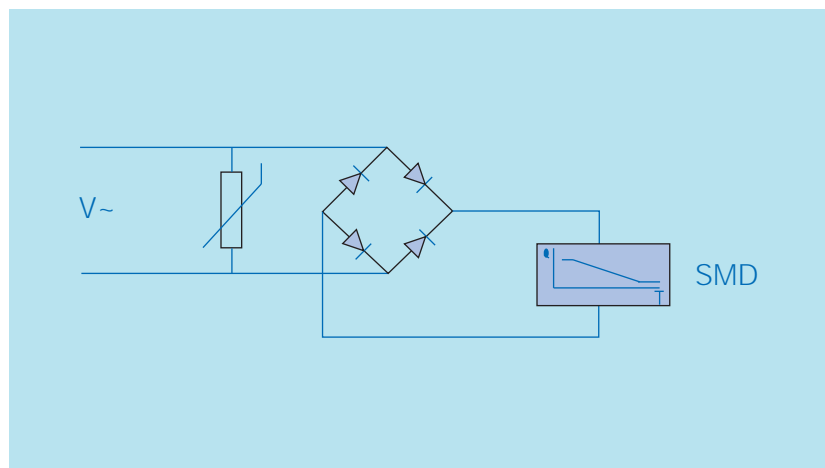
The 24Vac versions must be powered by means of an isolating transformer (with a very low safety voltage to EN 60742). Use terminals AMP 6.3 x 0.8 mm, DIN 46244 for the connection. Carry out the connections in accordance with the rules for the appliance.

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

Stepped modulating device connection (826 NOVA)

The stepped modulating device must be powered by rectified voltage. Type 350 connectors with an integrated rectified circuit should be used; otherwise insert a diode bridge and a voltage limiter, appropriately dimensioned, into the circuit.

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



STEPPED MODULATING CONNECTION

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

Maximum pressure: power the modulating device to the maximum condition - screw in the nut (B) to increase outlet pressure and screw it out to decrease it.

Minimum pressure (make this adjustment only after adjusting the maximum pressure): cut off the power supply to the modulating device and, keeping the nut (B) blocked, screw in the screw (A) to increase the pressure and unscrew it to decrease it. Put back the protective plastic plug (C).

Gas flow-rate adjustment to the pilot

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

Overriding gas flow-rate adjustment to the pilot

It is sufficient to screw the adjustment screw in flush and then screw it out two complete turns.

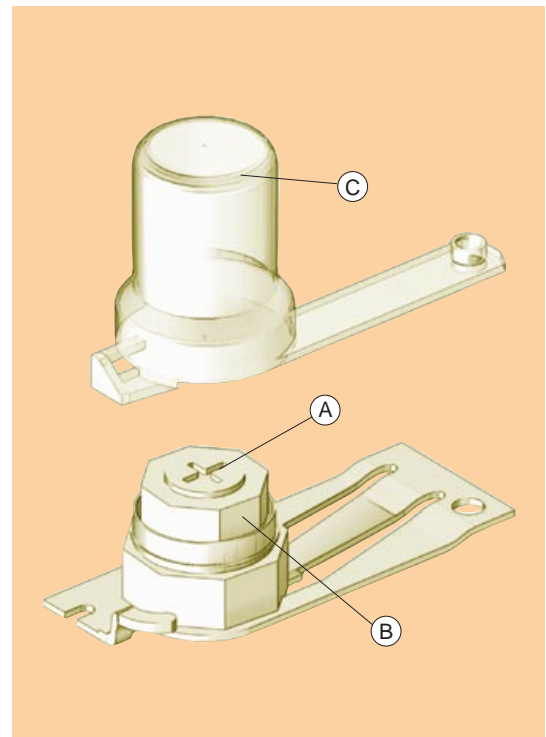
Changing the gas family or group

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.

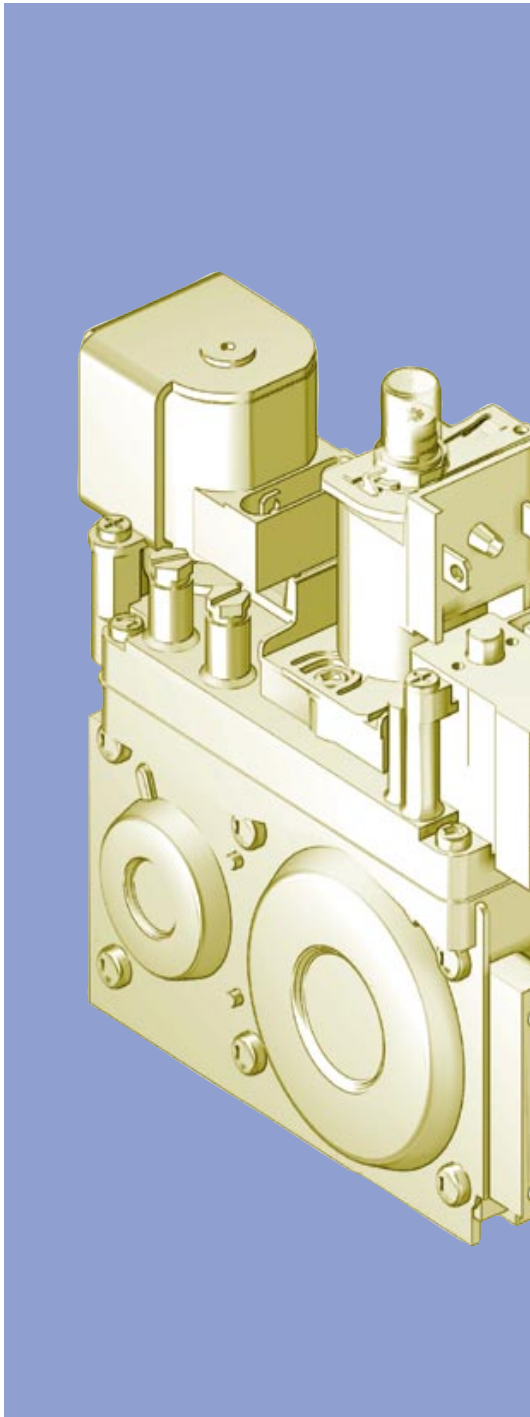
CAUTION:

Check tightness and efficiency and seal the adjustment devices.



Implement the provisions in the Use and Maintenance manual - code 9.956.826, code 9.956.827 - for installation, adjustment and use.

826 - 827 NOVA



Multifunctional control with double solenoid valve and electrical flow modulating device for gas appliances fitted with automatic ignition and flame supervision systems which require the regulation of the gas flow as a function of the temperature.

