

828 NOVAMIX

ENGLISH - ITALIANO - FRANCAIS - DEUTSCH - NEDERLANDS - ČESKY



*Read the instructions before use. This control must be installed in accordance with the rules in force.
Leggere le istruzioni prima dell'uso. Questo controllo deve essere installato in accordo con le normative in vigore.
Consultez les notices avant d'utiliser ce dispositif. Son installation doit répondre aux règles en vigueur.
Lesen Sie die Instruktionen vor Inbetriebnahme. Dieser Regler muß nach den gültigen Vorschriften installiert werden.
Lees de richtlijnen voor gebruik. Deze regelaar moet worden geïnstalleerd in overeenstemming met de heersende voorschriften.
Před použitím přečíst pozorně pokyny k použití. Tento kontrolní prvek musí být namontován v souladu s platnými normami.*

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| GB English | 4 - 9 |
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| I Italiano | 10 - 15 |
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| F Français | 16 - 21 |
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| D Deutsch | 22 - 27 |
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| NL Nederlands | 28 - 33 |
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| CZ Český | 34 - 39 |
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Multi-functional gas control for use with high performance fan assisted appliances.
A pneumatic device controls the quantity of gas going to the burner proportional to the instantaneous air flow with a certain ratio. Access to all the adjustment operations is obtained from the top face.

MAIN FEATURES

Two automatic silent-operation shut-off valves:

- EV1 in class B (class A optional)
- EV2 in class D (class C optional).

Servo-system pressure regulator (PR).

Pneumatic device for proportional control of the gas pressure according to the differential air pressure Δp (air) applied, at a pre-set ratio.

Zero adjustment device (offset), (Q).

Pilot outlet (plugged on request) with pre-selection of the gas flow (RQ).

Inlet pressure test points (E).

Outlet pressure test point (versions without ratio adjuster), (A).

Pressure test points of pneumatic control signal (G).

Inlet and pilot filter (FL).

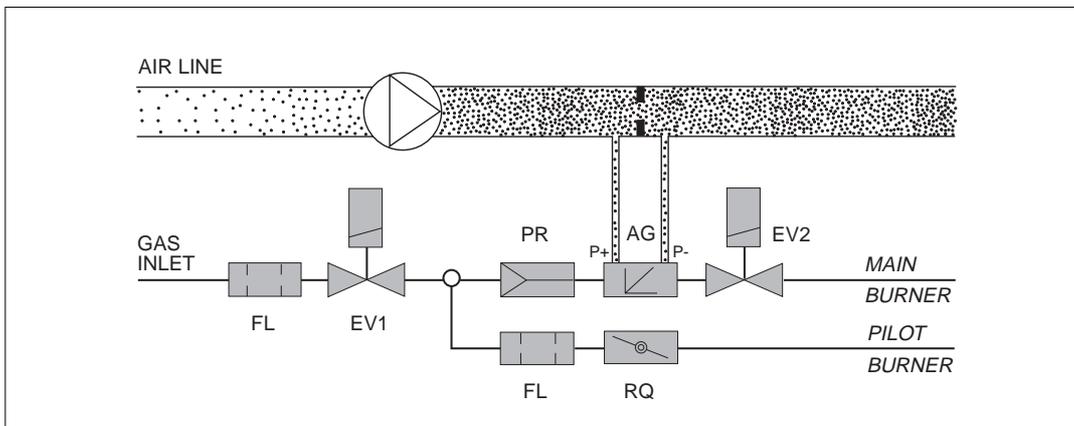
1/2 threaded gas inlet and outlet with provision for flanged connection.

Mechanical preselection of minimum (N) and maximum (P) outlet pressure (optional).

Gas side outlet version with provision for flanged connection.

Air/gas ratio adjuster (S), (optional: only for standard gas outlet).

WORKING DIAGRAM



TECHNICAL DATA

The technical data specified below refer, where possible, to the European Standard EN 126, "Multi-functional controls for gas-burning appliances".

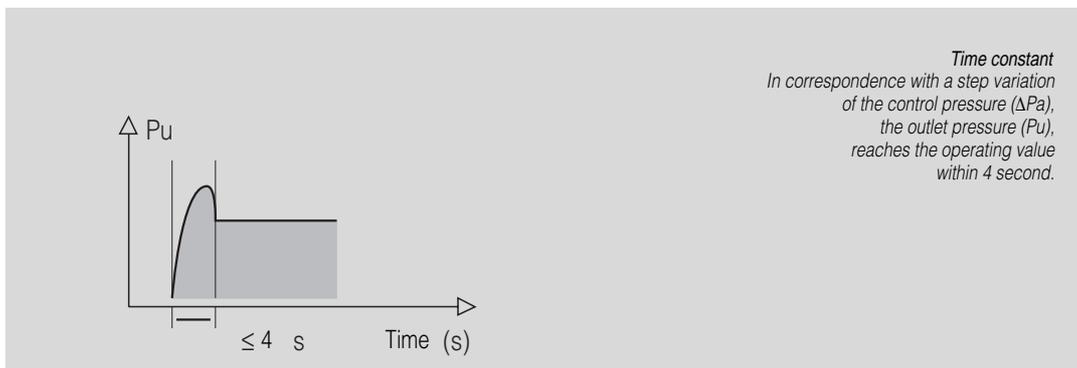
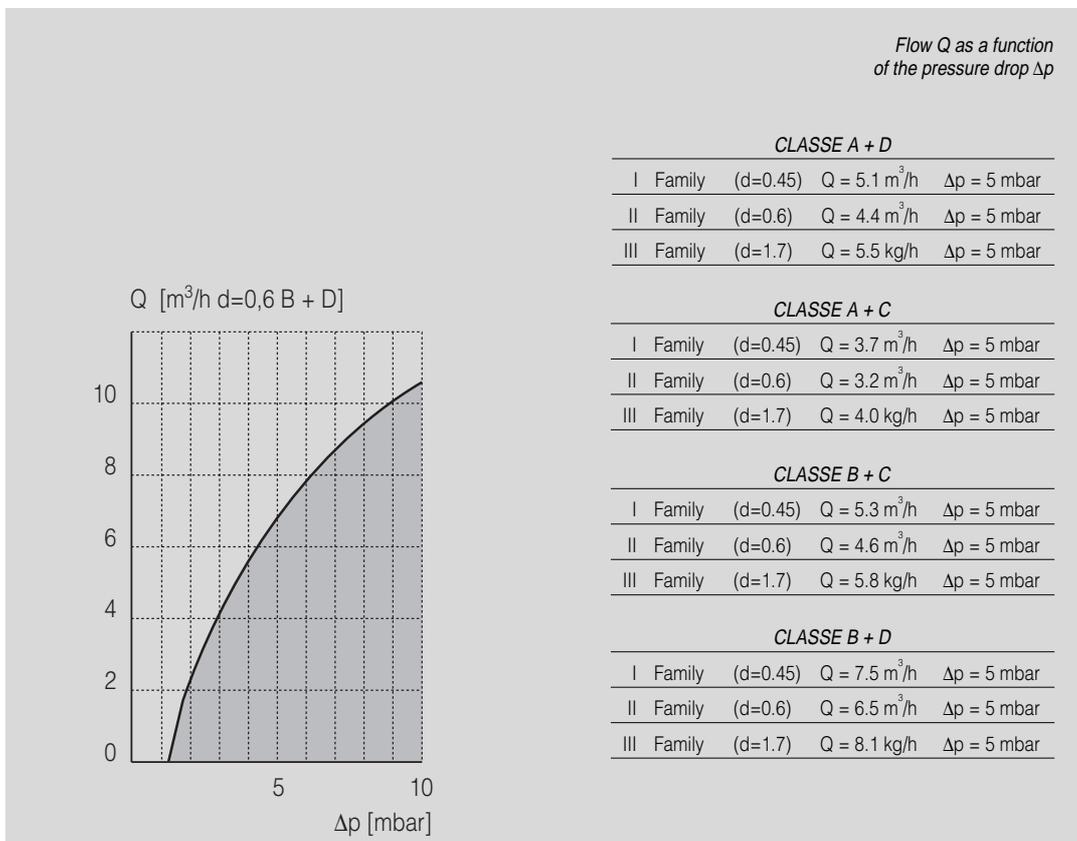
| | | |
|---|--------------------|--------------------|
| Torsion and bending resistance | group 2 | |
| Automatic shut-off valve (EV1) | class B | (class A optional) |
| Automatic shut-off valve (EV2) | class D | (class C optional) |
| Shut-off valves opening and closing times | ≤ 1 s | |
| Pressure regulator | class B | |
| Gas/air pressure ratio Δp air | 1:4 to 1:18 | |
| Pressure range of air signal | 0.3...5 mbar | |
| Range of gas outlet pressure | 3-30 or 20-50 mbar | |
| Maximum pressure of pneumatic control signals | 10 mbar | |
| Working temperature range | 0...60°C | |
| Max. gas inlet pressure | 60 mbar | |
| Time constant | ≤4 s | |
| Assembly position | any position | |
| Gas connections | Rp 1/2 ISO 7 | |
| Gas families applicable | I, II and III | |

ELECTRICAL DATA

| AUTOMATIC SHUT-OFF valves | EV1 | EV2 |
|---------------------------|------------------|------------------|
| Voltage (AC) | Consumption (mA) | Consumption (mA) |
| | Class B o A | Class D o C |
| 240 V 50 Hz | 50 | 25 |
| 220 V 50 Hz | 40 | 20 |
| 220 V 60 Hz | 45 | 25 |
| 24 V 50 Hz | 450 | 210 |
| 24 V 60 Hz | 450 | 220 |

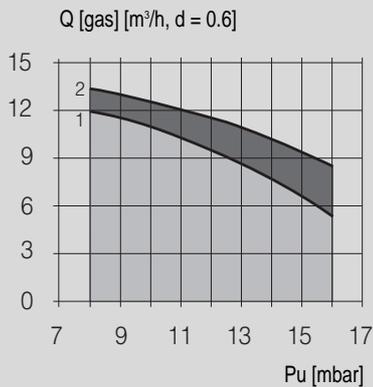
Electrical protection rating
 IP 54 using 002 type connectors and screw code 0.960.125
 IP 54 using 160-type connectors with screw and gasket code 0.960.104

GAS FLOW



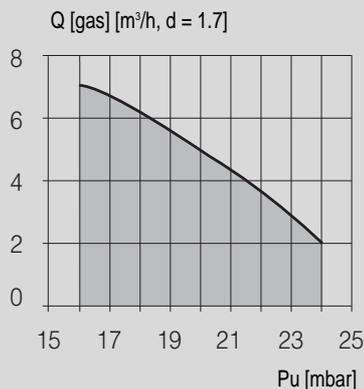
Range of maximum regulated flow Q (gas)
as a function of maximum outlet pressure
Pu of gas to burner according to EN 88.

Gas of the II family



| Gas | Curve | Inlet pressure [mbar] | | |
|-----|-------|-----------------------|---------|---------|
| | | Nominal | Maximum | Minimum |
| 2H | 1 | 20 | 25 | 17 |
| 2L | 2 | 25 | 30 | 20 |

Gas of the III family



| Gas | Inlet pressure [mbar] | | |
|-------|-----------------------|---------|---------|
| | Nominal | Maximum | Minimum |
| d=1.7 | 30 | 35 | 25 |

OPERATION

The inlet pressure can be read at test point E with both automatic shut-off valves not energized.

Power to the automatic shut-off valve EV1 allows 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 regulation device RQ.

With both the automatic shut-off valves energized, gas flow is opened towards the main burner. The outlet pressure can be read at test point A. Gas outlet pressure is proportional to the differential pressure Δp air applied to the inlets F. The adjustment screw Q determines the value of the outlet pressure with an inlet signal of zero (zero adjustment or offset). The Δp air can be read at the test points G.

INSTALLATION

The 828 NOVAMIX control valve complies with current safety standards.

Nevertheless, its installation on appliances must be verified in accordance with the specific standards for each installation. In particular, it is necessary to ensure that requirements relating to the number and class of the automatic shut-off valves and to the class of the pressure regulator are met. All the installation, setting and adjustment operations must be carried out exclusively by qualified personnel on the basis of the specific characteristics of the appliance. The 828 NOVAMIX control valve must be connected and installed so that there can be no gas demand if there is no air flow.

In particular, the possibility of clogging or disconnection of the pneumatic circuit lines must be avoided. The valve must only be installed inside gas appliances and is not suitable for outdoor use.

MECHANICAL CONNECTIONS

General recommendations

Do not tamper with sealed parts. Do not slacken assembly screws. Do not remove labels. Avoid blows (knocks, falls etc.). Only remove dust caps when installing. Do not exceed recommended torques. Ensure that the gas flows in the direction shown by the arrow on the valve body. Prevent foreign matter from getting into the valve during installation.

In particular, check the cleanliness of the inlet and outlet pipes. Do not subject the valve to bending in excess of 35 Nm and to torque in excess of 25 Nm. Use only the specified spanner grips when making the connections.

Main gas connection

The connection must be made using gas pipes with Rp 1/2 ISO 7 thread.

Torque: 25 Nm. If, alternatively, flanges (available on request) are used, first screw the pipes on to the flanges and then the flanges to the valve. Recommended torque or flange retaining screws: 3 Nm.

Connection to the pilot burner:

Ø4 mm, Ø 6 mm or Ø 1/4" pipes can be used. Use appropriately sized nut and olive. Tighten to 7 Nm torque.

CAUTION: If the pilot outlet is not used it must be sealed using plug code no. 0.972.041. Torque: 7 Nm.

Connection to the pneumatic control signals

This must be carried out so that danger conditions cannot be generated due to demand for gas in the absence of air flow.

Metal pipes of Ø 4 mm, Ø 6 mm or 1/4" are exclusively recommended. Use appropriate size of nut - and olive. Tighten nuts with 7 Nm Torque.

CAUTION: On completing all mechanical connections, check for gas leakage.

ELECTRICAL CONNECTIONS

General precautions

All electrical connections must be made in accordance with current electrical standards.

Check that the supply voltage and frequency conform with those specified on the valve label. Check that all connections, in particular the earth, are made properly. With the versions powered by mains voltage, the electrical connections must be made using suitable connectors. In particular, to ensure that the valve is always 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 the screws protected against slackening.

The 24 Vac versions must be powered by an insulating transformer (at very low safety voltage in accordance with EN 60742). To connect these versions, use terminals AMP 6.3x0.8 DIN 46244 as an alternative to the connectors. Make the connections as specified in the technical instructions of the flame failure device used and/or in the specific standards for the appliance. The electrical safety shut-off devices (for example, the flame failure device, the thermostat and so on) must cut off the power supply to both solenoid valves simultaneously.

SETTINGS AND ADJUSTMENTS

All adjustments must be made on the basis of the specific characteristics of the appliance, and only after having installed the valve on the appliance. Check inlet, outlet gas pressure and air pressure using the pressure test points provided E, A and G. After testing, carefully seal test points with the provided screws. Recommended torque: 2.5 Nm.

All adjustments must be carried out in the following order.

Version with ratio adjuster.

A

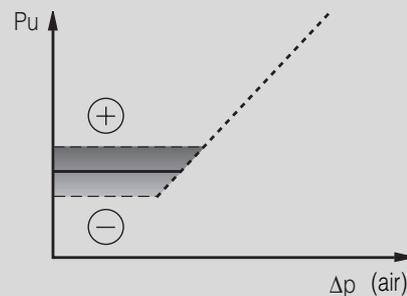
Adjustment of minimum outlet pressure P_u (min).

In absence of pneumatic control signal

*(Δp (air) = 0 to inlets F) turn screw **N**.*

Clockwise rotation:

pressure P_u (min) increases.



B

Adjustment of offset value.

With pneumatic control signal

at Δp (air) at minimum value

(fan working at minimum speed),

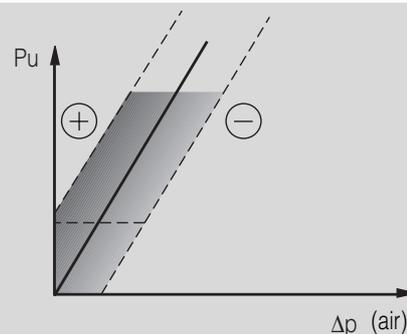
*turn adjusting screw **Q** so that*

effective value coincides with

required theoretical value.

Clockwise rotation:

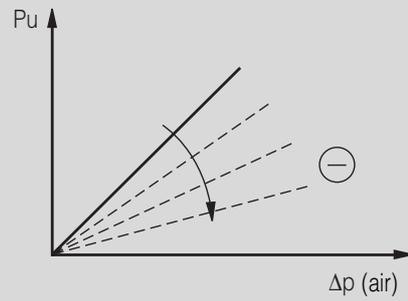
characteristic shifts to the left.



C**Air/gas ratio adjustment**

With pneumatic control signal at Maximum value (fan working at top speed), turn screw **S** so that effective value coincides with required theoretical value.

Clockwise rotation:
pressure P_u decreases.

**D****Checking of zero offset value**

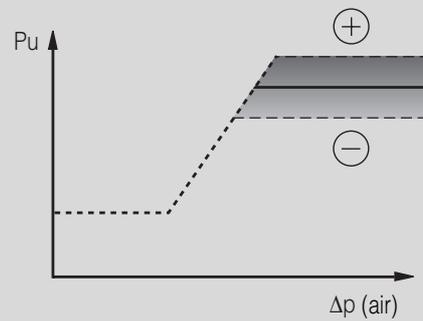
With pneumatic signal at minimum value check the offset value.

If necessary repeat adjustments B and C.

E**Adjustment of maximum outlet pressure P_u (max).**

With pneumatic control signal Δp (air) at maximum value (fan working at top speed), turn screw **P**.

Clockwise rotation:
pressure P_u (max) increases.

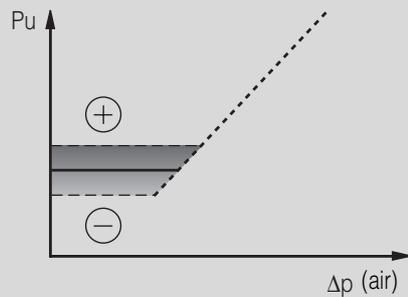


Versions without ratio adjuster

A**Adjustment of minimum outlet pressure P_u (min).**

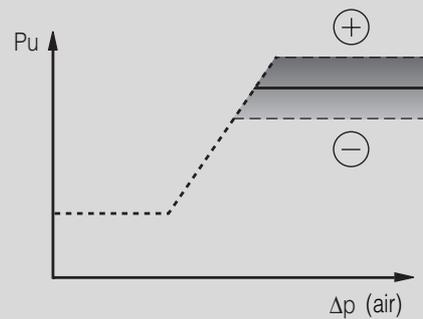
In absence of pneumatic control signal (Δp (air) = 0 to inlets F) turn screw **N**.

Clockwise rotation:
pressure P_u (min) increases.

**B****Adjustment of maximum outlet pressure P_u (max).**

With pneumatic control signal Δp (air) at maximum value (fan working at top speed), turn screw **P**.

Clockwise rotation:
pressure P_u (max) increases.

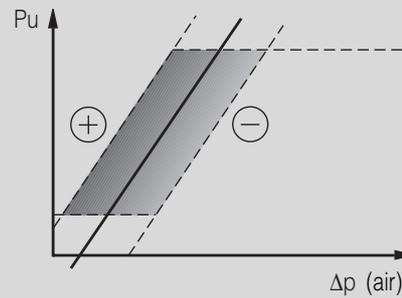


C

Adjustment of offset value.

*At a selected value of pneumatic pressure Δp (air), turn adjusting screw **Q** so that effective value coincides with required theoretical value.*

*Clockwise rotation:
characteristic shifts to the right.*



Adjustment of gas flow to the pilot burner

Applications with intermittent pilot burner

Turn the "RQ" screw clockwise to reduce flow.

Overriding the pilot flow adjustment function

Applications with intermittent pilot burner

Screw the "RQ" setting screw fully in and then unscrew it two turns. Seal the adjustment.

Changing the gas family or group

Check that the appliance is suitable for operation with the gas family or group desired. Adjust the valve following the instructions given in the booklet of the appliance. With III Family gas: override the pressure regulator and the gas flow regulator to the pilot burner.

IMPORTANT: At the end of all setting and adjustment operations, check electrical insulation, gas seals and the efficiency of the appliance. In particular, check that flame lift or light-back are impossible. After carrying out all adjustments, fit the provided seals and/or block the setting screws with paint.

MAINTENANCE

The only maintenance operation permitted is the replacement of the coils of the automatic shut-off valves. This operation must be carried out by qualified personnel only and according to the instructions provided in the instruction leaflet supplied with the spare parts.