



SIT Group

830 - 832 TANDEM

MULTIFUNCTIONAL GAS CONTROL



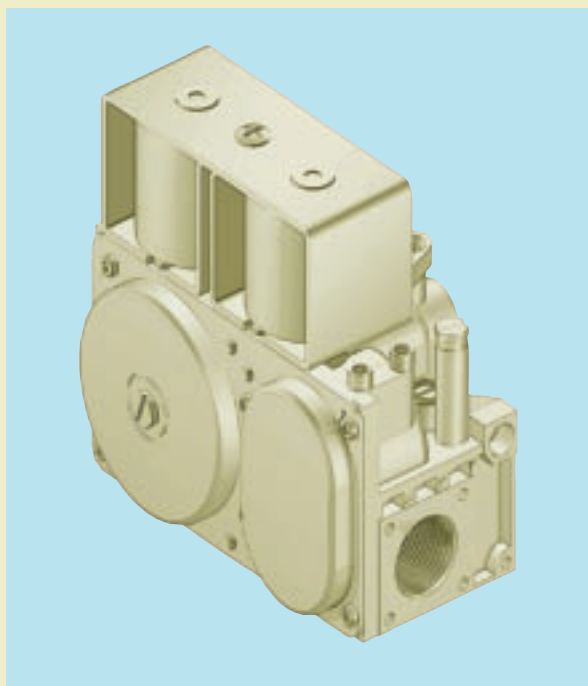
**DOUBLE AUTOMATIC SOLENOID SHUT-OFF VALVE
830 TANDEM CLASS B - 832 TANDEM CLASS A**

PRESSURE REGULATOR OR GAS FLOW ADJUSTER

ADJUSTABLE STEP IGNITION



AUTOMATIC MULTIFUNCTIONAL CONTROL



**Multifunctional control with
two automatic, near-silent,
on-off valves:**

- 830 TANDEM in class B
- 832 TANDEM in class A

**Pressure regulator or,
alternatively, gas flow
adjustment device.**

**An adjustable-flow, step
ignition device can be
fitted on request.**

*830 - 832 TANDEM is suitable for installation on gas
appliances fitted with automatic ignition and flame
supervision systems, with or without intermittent pilot burner.*

MAIN FEATURES

Two near-silent automatic shut-off valves:

- 830 TANDEM: EV1 + EV2 in class B.
- 832 TANDEM: EV1 + EV2 in class A.

Pressure regulator C; alternatively, gas flow adjustment device.

Adjustable flow step ignition device (optional).

Pilot outlet (optional) with gas flow restrictor.

Inlet and pilot filters.

Inlet and outlet pressure test points.

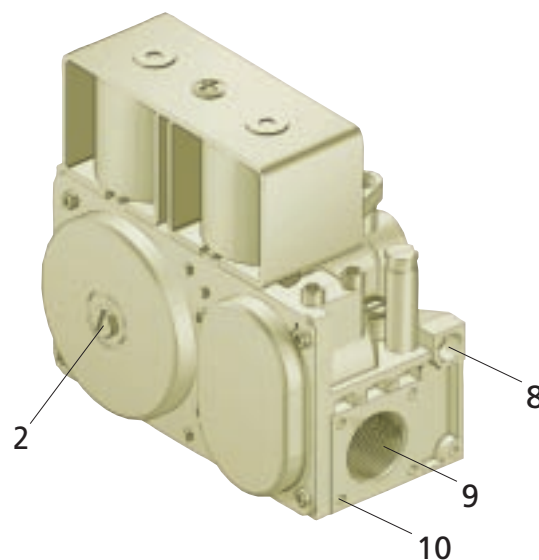
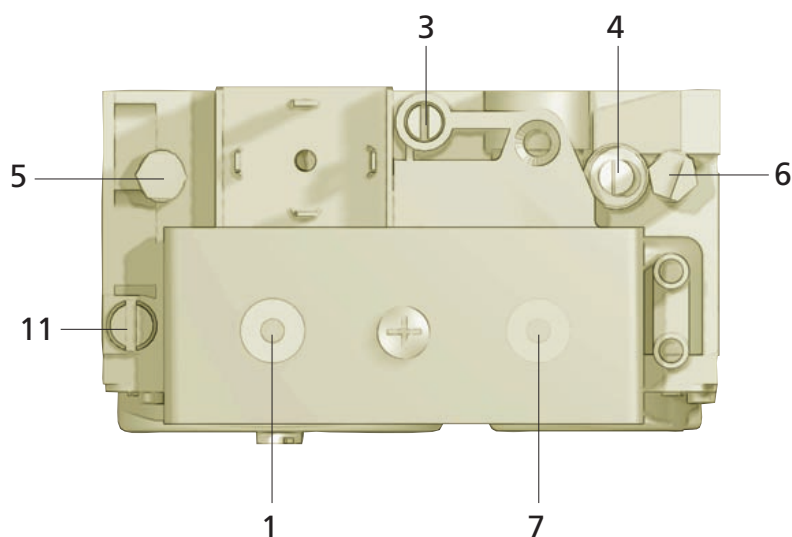
Threaded gas inlet and outlet with provision for flange connection.

Connection for pressure regulator / combustion chamber compensation.

Data refer to EN 126

DESCRIPTION

- | | |
|---|--|
| 1 Shut-off solenoid valve EV1 | 6 Outlet pressure test point |
| 2 Pressure regulator setting device, or, alternatively, outlet flow setting screw | 7 Shut-off solenoid valve EV2 |
| 3 Pilot gas flow restrictor | 8 Pilot outlet |
| 4 Step ignition flow adjustment screw | 9 Main gas outlet |
| 5 Inlet pressure test point | 10 Holes (M5) for fixing flanges |
| | 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
- Outlet pressure setting range: 3 ... 50 mbar (20 ... 50 on request)
- Working temperature range: 0 ... 60°C (-20 ... +60 on request)
- Pressure regulator: Class C
- Automatic solenoid valves 830 TANDEM Class B
- Automatic solenoid valves 832 TANDEM Class A

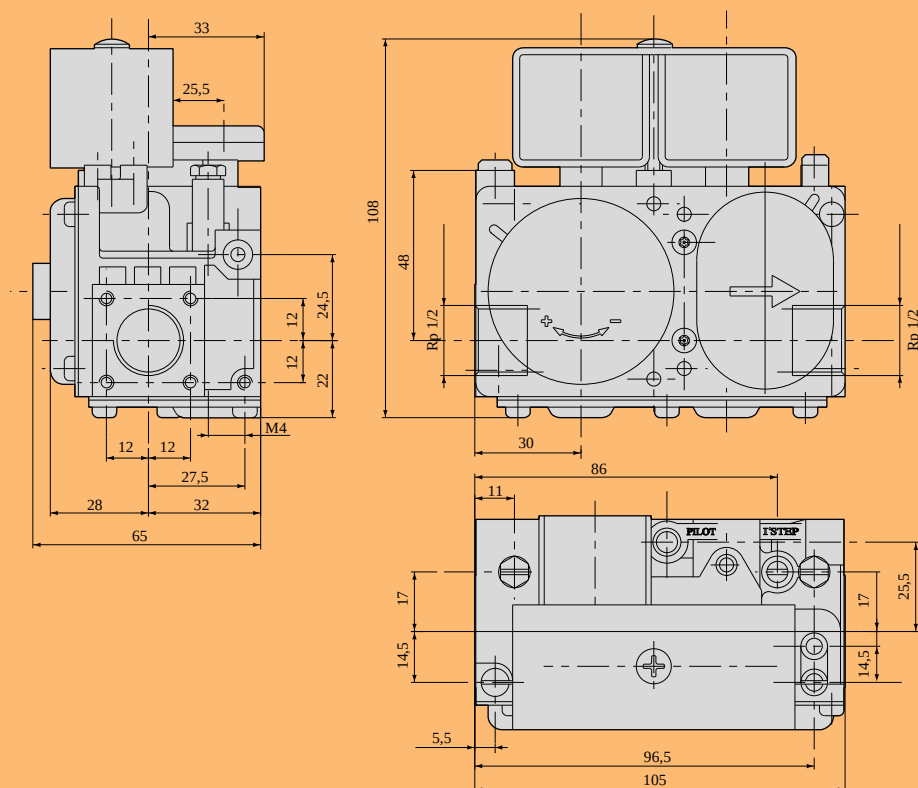
ELECTRICAL DATA

AUTOMATIC VALVES		830 TANDEM Class B	832 TANDEM Class A
Voltage (AC)	230 V 50 Hz	Consumption (mA) 80	Consumption (mA) 80
	220 V 60 Hz	90	-
	24 V 50 Hz	850	900
	24 V 60 Hz	900	-
	24 V 50 Hz	Low Energy 500	-
	24 V 60 Hz	Low Energy 600	-

Electrical protection rating IP54 with 150 type connectors.

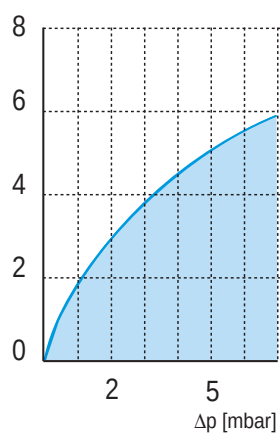
Data refer to EN 126

DIMENSIONS



FLOW RATE AS A FUNCTION OF PRESSURE DROP

Q [m³/h, d=0.6]



CLASS B+B

CLASS B+B

CLASS B+B		
I Family (d = 0.45)	$Q = 5.6 \text{ m}^3/\text{h}$	$\Delta p = 5 \text{ mbar}$
II Family (d = 0.6)	$Q = 4.8 \text{ m}^3/\text{h}$	$\Delta p = 5 \text{ mbar}$
III Family (d = 1.7)	$Q = 6.2 \text{ kg/h}$	$\Delta p = 5 \text{ mbar}$

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

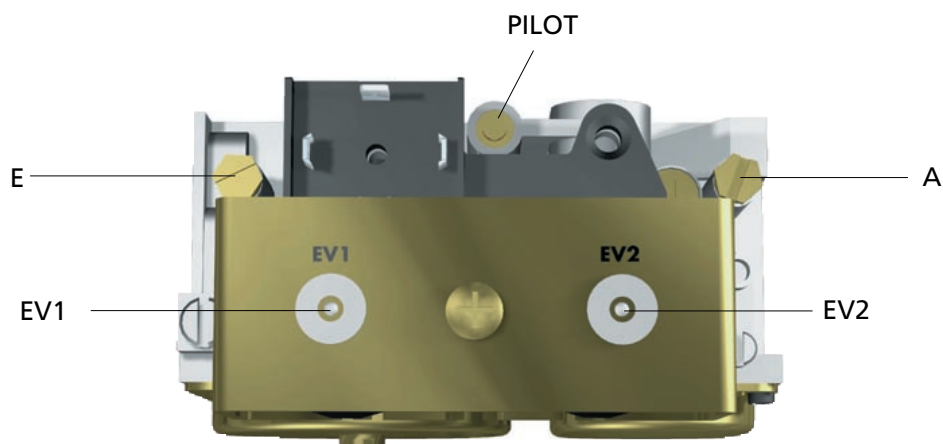
When the automatic shut-off valve EV1 is powered, it permits the gas to supply the pilot burner outlet (applications with intermittent pilot) after passing through the inlet filter, the pilot filter and the pilot flow rate restrictor (PILOT).

Main burner ignition

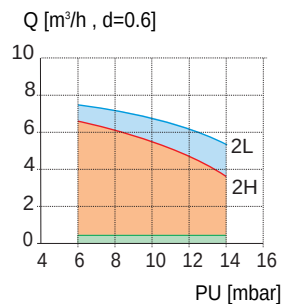
When both automatic valves, EV1 and EV2, are energized, gas passage to the main burner is opened.

Outlet pressure

The outlet pressure is read at the test point A.



REGULATED FLOW RATE IN ACCORDANCE WITH EN 88



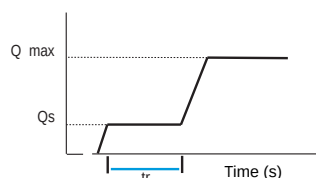
CLASS B+B

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

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

STEP IGNITION

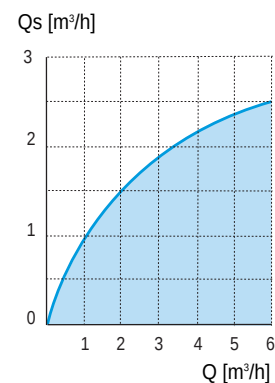
Ignition gas flow as a function of time



	II Family	III Family
Step ignition time t_r :	4 s	3 s
Step ignition* reset time:	40 s (10 s on request)	

*Reset time: time interval necessary for reactivating the step ignition device after solenoid valve closure.

Maximum step ignition flow Q_s as a function of the gas flow Q to the burner.
Gas 2H



INSTALLATION

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 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.

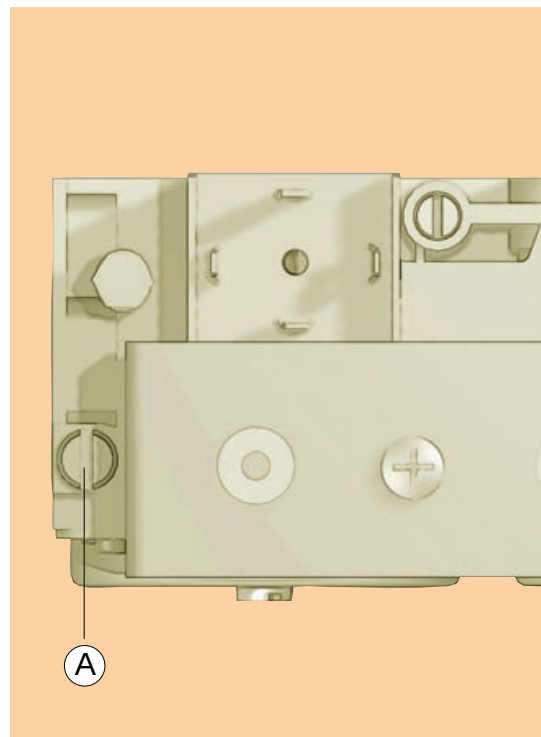
Electrical connections

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 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 to the combustion chamber

SETTINGS AND ADJUSTMENTS

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

In versions with pressure regulator, screw in the adjustment screw (RP) to increase pressure; screw it out to reduce it.

In versions with flow adjuster, screw in the adjustment screw (RQ) to reduce the pressure; screw it out to increase it.

Overriding the pressure regulator

In versions with pressure regulator, screw the adjustment (RP) screw fully in.

Overriding gas flow-rate adjustment

In versions with flow adjuster, unscrew the adjustment screw (RQ) until destop is reached.

Gas flow-rate adjustment to the pilot

(applications with intermittent pilot burner)

Screw in the PILOT 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 PILOT screw in flush and then screw it out two complete turns.

Step ignition flow adjustment

Screw in the 1° STEP screw to reduce step ignition flow or unscrew it to increase flow.

Changing the gas family or group

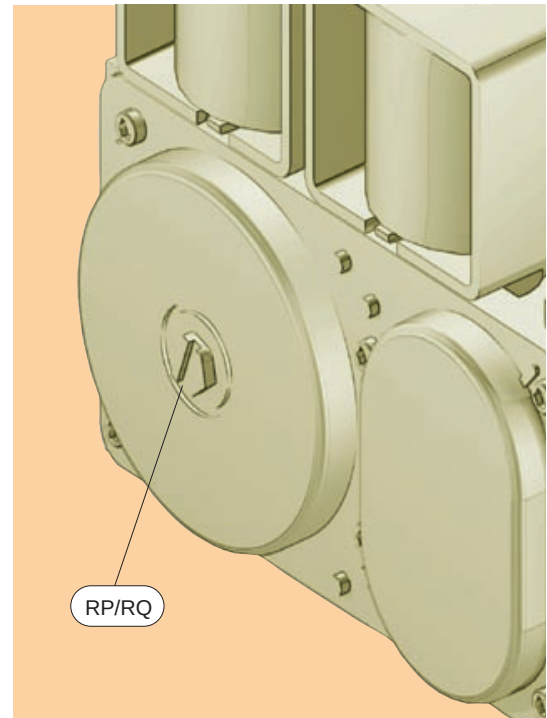
Check suitability for use with the gas family or group of interest.

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

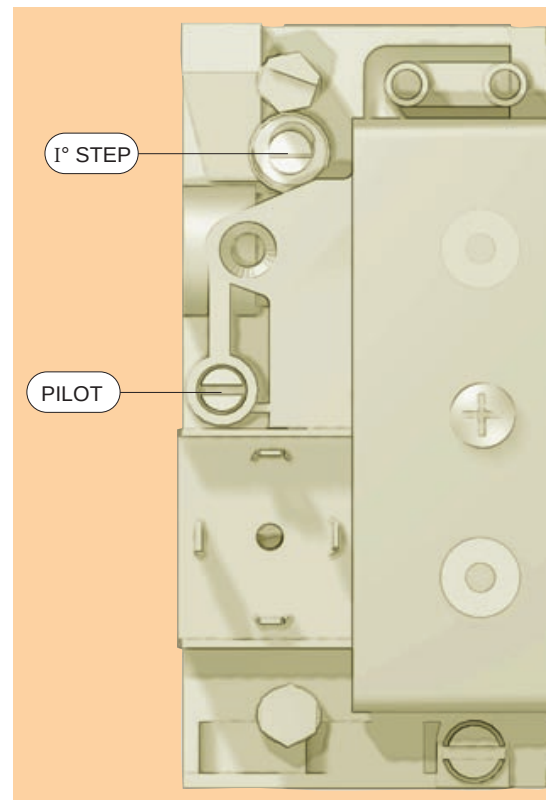
If required: override the pressure regulator and gas flow adjustment to the pilot.

CAUTION:

Check tightness and efficiency and seal the adjustment devices.



Outlet pressure adjustment



Step ignition flow adjustment

Implement the provisions in the Use and Maintenance manual - code 9.956.830 - for installation, adjustment and use

830 - 832 TANDEM



**Multifunctional control
with double solenoid
valve:**

- 830 TANDEM in class B,**
 - 832 TANDEM in class A,**
- for gas appliances
provided with automatic
ignition and flame
supervision devices.**

