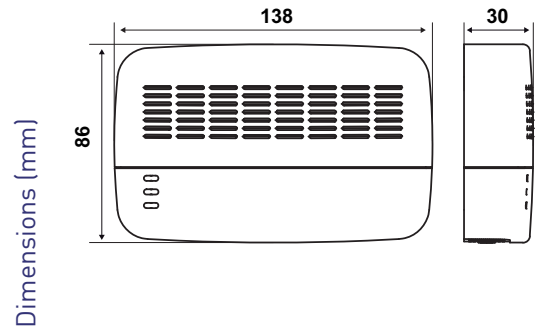


# Sicurgas P21-P22

Gas leak detectors for methane gas and LPG for civil environments with catalytic sensor and pre-alarm

Sicurgas is a device that through a sensitive sensor, detects methane gas concentration (P21) and LPG concentration (P22) in domestic environments.



	Gas type	Power supply	Contacts rating	Silencer button	Operating ambient temperature	Protection degree
P21	METHANE	230Vac - 50Hz	6(2)A - 250Vac	YES (pull cord)	-10 ÷ 40 °C	IP42
P22	LPG	230Vac - 50Hz	6(2)A - 250Vac	YES	-10 ÷ 40 °C	IP42

## ELECTRICAL CHARACTERISTICS

Power supply: 230Vac 50Hz.

Consumption: 4 VA.

Output through 2 electromagnetic relays.

Contacts rating: 6(2)A - 250Vac.

Maximum power of the controlled valve: 450VA.

## STANDARDS AND APPROVALS

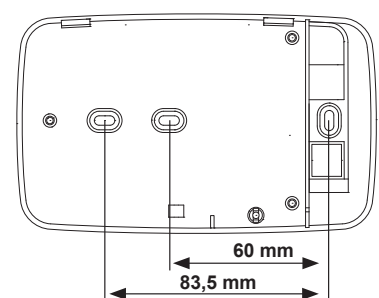
Complies with EN 50194, EN 60730-1 standards.

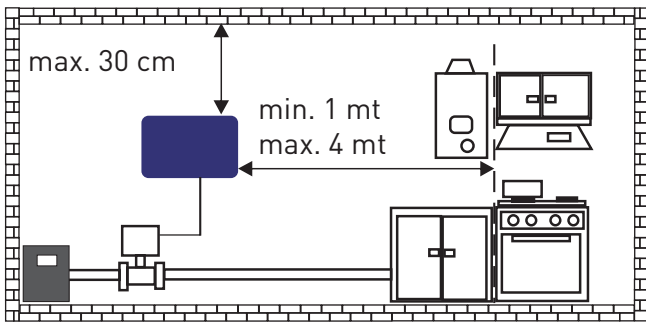


## INSTALLATION

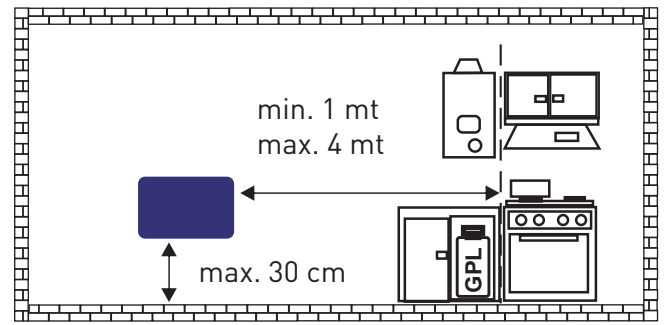
Mounting in built-in 3-module boxes, on the wall or in round boxes.

Mounting hole suitable for built-in 3-module boxes.





METHANE is a gas lighter than air, the maximum concentration is located near the ceiling.  
Install the unit on the wall, about 30 cm from the ceiling and at a distance from gas using device, between a minimum of 1 meter and a maximum of 4 meters.



LPG is a gas heavier than air; the maximum concentration is located near the floor.  
Install the unit approximately 2 meters (minimum 1m, maximum 4m) from the gas using device and about 30 cm from the floor.

## OPERATION

SICURGAS is a device that through a sensitive sensor, detects methane gas concentration (P21) and LPG concentration (P22) in domestic environments.  
Sicurgas is equipped with two internal alarms: one visible and one acoustic.

Sicurgas operates a PRE-ALARM when the gas concentration in the air is much under the lower explosion limit (L.E.L.), immediately turning on the red light and activating a possible signaling device (eg.: modem).

If the pre-alarm status persists and consequently the concentration increases depending of the L.E.L. an alarm occurs, in addition to visual signaling also it is activated an acoustic signal that warns the danger, simultaneously Sicurgas is making the relay to interfere in order to control the gas interception valve.

Sicurgas sensor, as all available on the market sensors, while being very selective can also participate for other substances, for example: alcohol vapors, wine etc.

For example, during the use of wine while preparing food is possible, that the detector will enter in alarm situation. To avoid this inconvenience, Sicurgas is equipped with an alarm silencing key, operated with:

- pull cord for Sicurgas P21 for methane gas (mounted up on the wall, 30 cm from ceiling);
- key under Sicurgas P22 body for LPG (mounted down on the wall, 30 cm from the floor).

N.B. silencing key must be pressed for at least 1 second.

After having pressed the silencing key, for 10 minutes we will have a non-alarm situation: the buzzer does not emits acoustic signaling, the relay returns in non-alarm position and the red and yellow leds are flashing alternately to indicate the silence period; acting again on the switch during 10 minutes of the silence period, the detector will immediately resume the normal operation.

After 10 minutes, the detector automatically resumes the normal operation.

Here is possible, knowing that can be used substances which can cause a false alarm, to reduce in advance detector's sound to prevent the signalizations and gas shut off of the stoves (due to gas valve intervention).

SOME OF THE MOST COMMON SUBSTANCES THAT CAN CAUSE A FALSE ALARM ARE THE FOLLOWING:

wine, liquors, alcohol, deodorants, stain-removers, varnish thinners, hair spray, excessive steam.

The internal relay of Sicurgas P21-P22 can control all kind of valves with manual reset:

- normally closed (NC), always power supplied, which require a commutating stable relay;
- normally open (NO), which require an impulse relay.
- it is recommended to use a valve with manual reset to stop the gas supply when there is an alarm situation.

The operating mode of the relay is selected during installation, by moving a switch on the printed circuit, usually provided:

- for operation with stable relay for NC valves (switch in down position);
- for operation with impulse relay for NO valves (switch in up position).

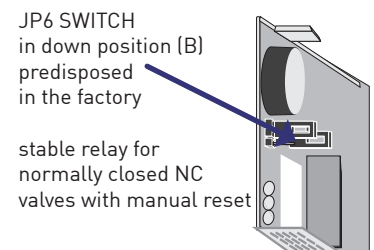
With normally closed valves, always power supplied, the system guarantees maximum safety, the gas inflow will be stopped in case of:

- gas concentration threshold exceeding;
- power supply lack of the valve only or of the detector;
- connection breakdown between the detector and valve.



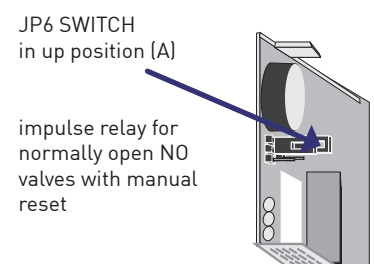
SILENCING KEY  
Sicurgas P22

PULL CORD  
Sicurgas P21



JP6 SWITCH  
in down position (B)  
predisposed  
in the factory

stable relay for  
normally closed NC  
valves with manual reset



JP6 SWITCH  
in up position (A)

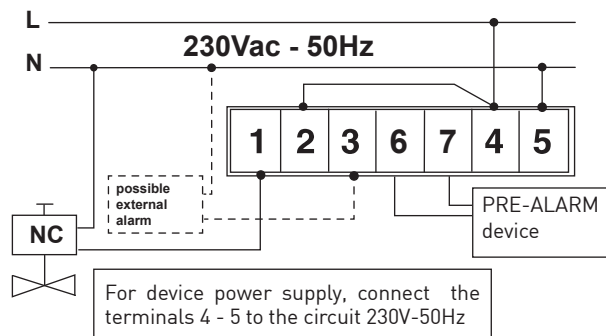
impulse relay for  
normally open NO  
valves with manual  
reset

EXAMPLE OF CONNECTION of Sicurgas P21 with STABLE RELAY, to control a normally closed NC valve with manual reset (down switch).

With normally closed valves, always power supplied, the system guarantees maximum safety, the gas inflow will be interrupted in case of:

- gas concentration threshold exceeding;
- power supply lack of the valve only or of the detector;
- connection breakdown between the detector and valve.

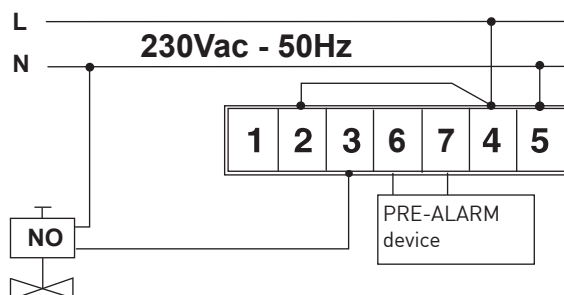
EXAMPLES OF CONNECTION



EXAMPLE OF CONNECTION of Sicurgas P21 with IMPULSE RELAY, with current activation, to control a normally open NO valve with manual reset (switch in up position).

With normally open valves, with current activation, the system guarantees the gas inflow interruption in case of:

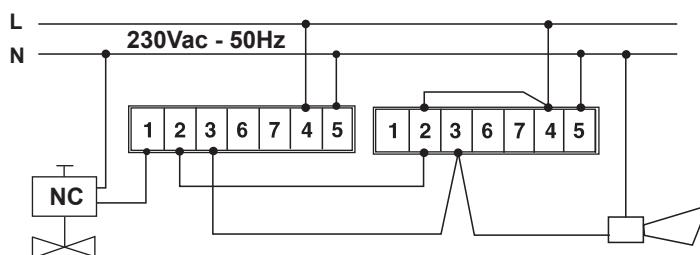
- gas concentration threshold exceeding.



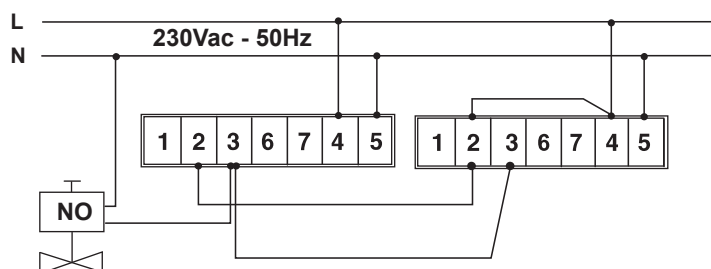
Using more Sicurgas P21- P22 units to control several rooms with one gas valve.

Example of connection for several Sicurgas detectors with stable relay that control the same normally closed valve NC and an additional external alarm.

The contacts must be connected in series.



Example of connection for several Sicurgas detectors with impulse relay which control the same normally open valve NO. The contacts must be connected in parallel.



## TECHNICAL FEATURES

Catalytic sensor for gas detection (can be replaced).

Shockproof insulating material casing.

Internal visual and acoustic alarms.

Sicurgas has three warning lights:

- green LED - indicates that the detector works properly;
- yellow LED - indicates detector failure;
- red LED - indicates the gas presence in the environment (ALARM).

Sensor life time approximately 5 years (in clean air) from installation.

The used relay is sealed and filled with inert gas, which ensures in any case the absolute absence of sparks during switching phases.

Internal switch for choosing the functioning mode of the relay: stable or impulse.

## ACCESSORIES

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EP21  
Replacement sensor for P21 - methane.



EP22  
Replacement sensor for P22 - LPG.

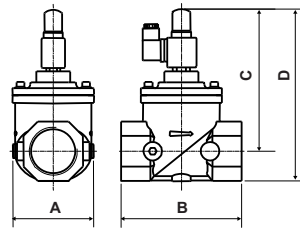


S80  
Emergency signaling device  
with fixed light and continuous  
sound.

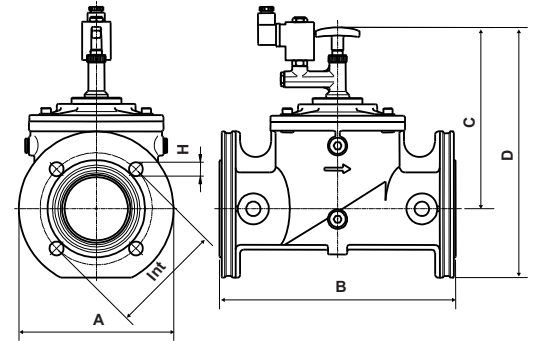
# ZD..NA

## Normally open electromagnetic safety valves with manual reset

Normally open electromagnetic safety valves for air and non-aggressive gases (according to EN437) with manual reset.



■ ZDEV...15 ÷ 50



■ ZDEV...65 ÷ 100

DN	A	B	C	D	Int	h
DN15	30	58	115	130	-	-
DN20	35	55	113	130	-	-
DN25	40	62	115	137	-	-
DN32	120	153	170	203	-	-
DN40	120	153	170	203	-	-
DN 50	106	156	175	213	-	-
DN 65	200	305	260	350	145	4x18
DN 80	200	305	260	350	160	8x18
DN 100	252	350	280	410	180	8x18

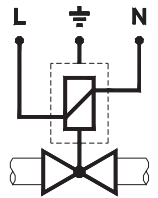
	Connection type	Passage DN	Power supply	Body	Maximum pressure mbar	Absorption W	Unit weight Kg
ZDVGRM15NA	threaded RP 1/2	15	230Vac 50/60Hz	brass	500	16	0,4
ZDVGRM20NA	threaded RP 3/4	20	230Vac 50/60Hz	brass	500	16	0,6
ZDVGRM25NA	threaded RP 1	25	230Vac 50/60Hz	brass	500	16	0,7
ZDEVRM32NA	threaded RP 1 1/4	32	230Vac 50/60Hz	aluminum	500	16	1,6
ZDEVRM40NA	threaded RP 1 1/2	40	230Vac 50/60Hz	aluminum	500	16	1,6
ZDEVRM50NA	threaded RP 2	50	230Vac 50/60Hz	aluminum	500	16	1,9
ZDEVRMF65NA	flanged DN 65	65	230Vac 50/60Hz	aluminum	500	19	8,2
ZDEVRMF80NA	flanged DN 80	80	230Vac 50/60Hz	aluminum	500	19	8,2
ZDEVRMF100NA	flanged DN 100	100	230Vac 50/60Hz	aluminum	500	19	16
ZDVGRM15NAF	threaded RP 1/2	15	24Vac	brass	500	16	0,4
ZDVGRM20NAF	threaded RP 3/4	20	24Vac	brass	500	16	0,6
ZDVGRM25NAF	threaded RP 1	25	24Vac	brass	500	16	0,7
ZDEVRM32NAF	threaded RP 1 1/4	32	24Vac	aluminum	500	16	1,6
ZDEVRM40NAF	threaded RP 1 1/2	40	24Vac	aluminum	500	16	1,6
ZDEVRM50NAF	threaded RP 2	50	24Vac	aluminum	500	16	1,9
ZDEVRMF65NAF	flanged DN 65	65	24Vac	aluminum	500	19	8,2
ZDEVRMF80NAF	flanged DN 80	80	24Vac	aluminum	500	19	8,2
ZDEVRMF100NAF	flanged DN 100	100	24Vac	aluminum	500	19	16

<sup>1</sup> on opening

# ELECTRICAL CHARACTERISTICS

Rated voltage: 230Vac - 50/60Hz or 24Vac/dc

Upon request valves are available with coils for the following voltages: 110V AC 50/60Hz or 12V AC/DC



# STANDARDS AND APPROVALS

Complies with 73/23/CEE; 89/336/CEE standards



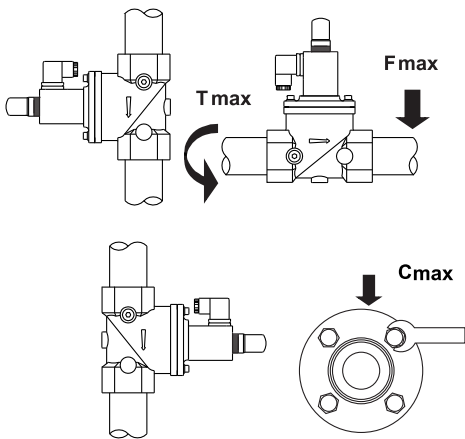
# INSTALLATION

Check the correspondence between flow direction and the arrow printed on valve body, verify the correct alignment of connecting pipes and allow enough space from the walls to allow free air circulation.

The valve may be mounted with coil in horizontal or vertical position. The coil may be oriented 360 degrees in any direction.

Install the valve in an area protected from rain and water splashes or drops.

For electrical connection remove the cap of the plug and connect power cables to circuit clamps.



MODEL	Fmax t<10S (Nm)	Tmax (Nm)	Cmax (Nm)
ZDVGRM15...	105	50	-
ZDVGRM20...	225	85	-
ZDVGRM25...	340	125	-
ZDVGRM32...	475	160	-
ZDVGRM40...	610	200	-
ZDVGRM50...	1100	250	-
ZDVGRMF65...	1600	-	50
ZDVGRMF80...	2400	-	50
ZDVGRMF100...	5000	-	50

# OPERATION

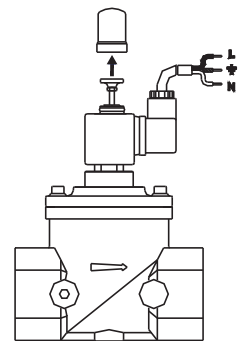
Normally open gas safety valve with manual reset.

A manual operation is necessary to open the valve and set the mechanism which allows this state maintaining. The powering by means of line current and/or condenser discharge, induced by the leakage detector, causes mechanism releasing and consequently gas passage closing.

If sensor energizing persists due to the gas presence, the valve remains under voltage and does not allow the reset.

When the causes for blocking have been eliminated, the valve may be reopened by operating it manually.

This type of device, connected with one or more gas leak detectors or alarm signals for carbon monoxide presence, is suitable for performing blocking operations on the gas line.



# TECHNICAL FEATURES

Voltage tolerance: -15% / +10%.

Environment temperature: -15°C / +60°C.

Working pressure: 500 mbar Max.

Closing time < 1 second.

Protection degree: IP54.

Cable gland: PG 9.

Pressure inlets: G1/4" on two sides (except models with brass body).

Limit switch: by request from 3/4" to 4".

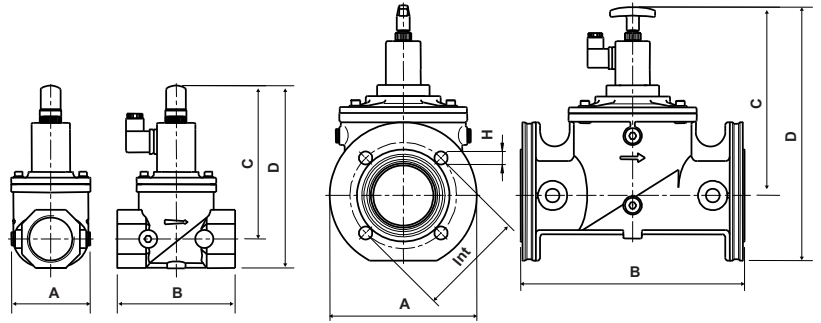
Gas type: Air and non-aggressive gases (EN 437).

Filter: 600 µm (except models with brass body).

# ZD..NC

## Normally closed electromagnetic safety valves with manual reset

Normally closed electromagnetic safety valves for air and non-aggressive gases (according to EN437) with manual reset.



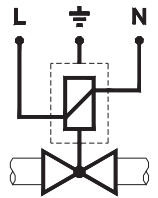
DN	A	B	C	D	Int	h
DN15	30	58	115	130	-	-
DN20	35	55	113	130	-	-
DN25	40	62	115	137	-	-
DN32	120	153	202	234	-	-
DN40	120	153	202	234	-	-
DN 50	106	156	206	244	-	-
DN 65	200	305	262	352	145	4x18
DN 80	200	305	262	352	160	8x18
DN 100	252	350	305	405	180	8x18

	Connection type	Passage DN	Power supply	Body	Maximum pressure mbar	Absorption W	Unit weight Kg
ZDVGRM15NC	threaded RP 1/2	15	230Vac 50/60Hz	brass	500	8	0,4
ZDVGRM20NC	threaded RP 3/4	20	230Vac 50/60Hz	brass	500	8	0,7
ZDVGRM25NC	threaded RP 1	25	230Vac 50/60Hz	brass	500	8	2
ZDEVRM32NC	threaded RP 1 1/4	32	230Vac 50/60Hz	aluminum	500	12	2
ZDEVRM40NC	threaded RP 1 1/2	40	230Vac 50/60Hz	aluminum	500	12	2,3
ZDEVRM50NC	threaded RP 2	50	230Vac 50/60Hz	aluminum	500	12	7,6
ZDEVRMF65NC	flanged DN 65	65	230Vac 50/60Hz	aluminum	500	12	7,6
ZDEVRMF80NC	flanged DN 80	80	230Vac 50/60Hz	aluminum	500	12	17
ZDEVRMF100NC	flanged DN 100	100	230Vac 50/60Hz	aluminum	500	45	16
ZDVGRM15NCF	threaded RP 1/2	15	24Vac/dc	brass	500	8	0,4
ZDVGRM20NCF	threaded RP 3/4	20	24Vac/dc	brass	500	8	0,7
ZDVGRM25NCF	threaded RP 1	25	24Vac/dc	brass	500	8	2
ZDEVRM32NCF	threaded RP 1 1/4	32	24Vac/dc	aluminum	500	12	2
ZDEVRM40NCF	threaded RP 1 1/2	40	24Vac/dc	aluminum	500	12	2,3
ZDEVRM50NCF	threaded RP 2	50	24Vac/dc	aluminum	500	12	7,6
ZDEVRMF65NCF	flanged DN 65	65	24Vac/dc	aluminum	500	12	7,6
ZDEVRMF80NCF	flanged DN 80	80	24Vac/dc	aluminum	500	12	17
ZDEVRMF100NCF	flanged DN 100	100	24Vac/dc	aluminum	500	45	16

# ELECTRICAL CHARACTERISTICS

Rated voltage: 230Vac - 50/60Hz or 24Vac/dc

Upon request valves are available with coils for the following voltages: 110V AC 50/60Hz or 12V AC/DC



# STANDARDS AND APPROVALS

Complies with 73/23/CEE; 89/336/CEE standards



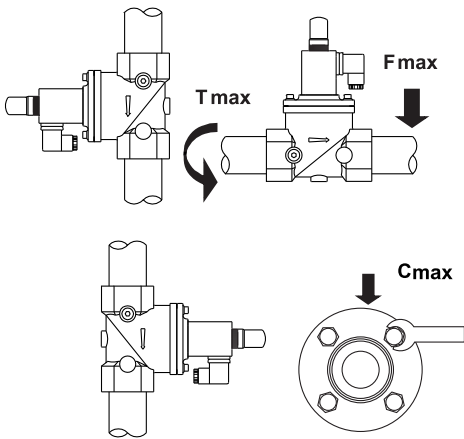
# INSTALLATION

Check the correspondence between flow direction and the arrow printed on valve body, verify the correct alignment of connecting pipes and allow enough space from the walls to allow free air circulation.

The valve may be mounted with coil in horizontal or vertical position. The coil may be oriented 360 degrees in any direction.

Install the valve in an area protected from rain and water splashes or drops.

For electrical connection remove the cap of the plug and connect power cables to circuit clamps.



MODEL	Fmax t<10S (Nm)	Tmax (Nm)	Cmax (Nm)
ZDVGRM15...	105	50	-
ZDVGRM20...	225	85	-
ZDVGRM25...	340	125	-
ZDVGRM32...	475	160	-
ZDVGRM40...	610	200	-
ZDVGRM50...	1100	250	-
ZDVGRMF65...	1600	-	50
ZDVGRMF80...	2400	-	50
ZDVGRMF100...	5000	-	50

# OPERATION

Normally closed gas safety valve with manual reset.

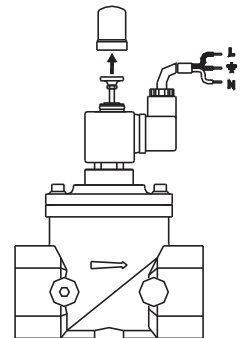
When isn't in working position, the spring acts on the shutter keeping the gas passage closed. Simply by energizing the coil the valve does not open.

It is necessary to manually move the reset rod located on the top of the coil. Once opened, the valve can maintain this state until the electric current circulates through the coil.

In absence of electric current the valve closes rapidly and remains shut off when the power supply returns.

Once the cause of stoppagee has been eliminated, the valve must be opened manually, as described above.

This type of device, used with one or more pressure switch(es) is suitable for shutting off when there is no gas, air, or current and is suitable for continuous service (always live).



# TECHNICAL FEATURES

Voltage tolerance: -15% / +10%.

Environment temperature: -15°C / +60°C.

Working pressure: 500 mbar Max.

Closing time < 1 second.

Protection degree: IP65.

Cable gland: PG 9.

Pressure inlets: G1/4" on two sides (except models with brass body).

Limit switch: by request from 3/4" to 4".

Gas type: Air and non-aggressive gases (EN 437).

Filter: 600 µm (except models with brass body).