



**FE**

Pressure Regulators

## Classification and Field of Application

**FE** is a double-stage self-operated pressure regulator for civil and industrial applications and it is suitable for use with gaseous fluids such as **natural gas, LPG and non-corrosive gases**.

These regulators are designed to be installed directly on utility meters or on riser mains for civil uses.

They can be installed in any position and in environments or spaces protected against weather. The discharge of the internal relief valve can be conveyed outside in case of installation in closed rooms or underground installations.

The regulators are manufactured according to the **UNI 8827** standard and the Italian Ministerial Decree dated 16 Apr. 2008; for the classification of the functional performance, reference shall be made to the **EN 16129** and **EN 334** standards.

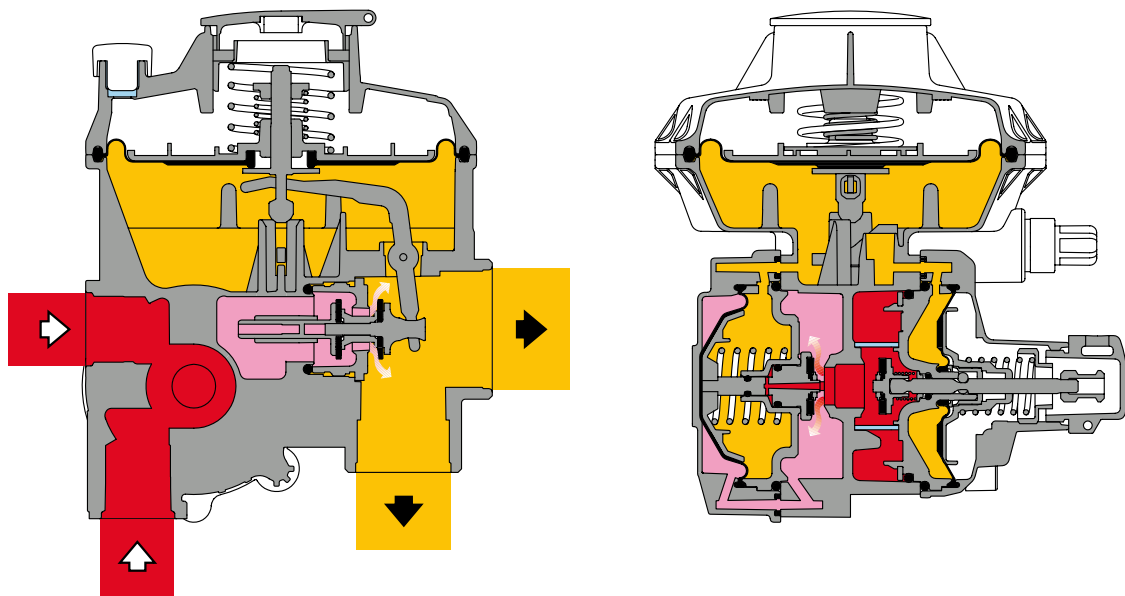


Fig.1

FE - Basic version

Inlet pressure

Outlet pressure

Intermediate pressure

## FEATURES

### Functional characteristics:

■ <b>Maximum inlet pressure:</b>	8.6 bar
■ <b>Regulator capacity:</b>	FE6 6 Stm3/h – FE10 10 Stm3/h – FE25 25 Stm3/h - FES 50 Stm3/h
■ <b>Downstream pressure regulation range:</b>	<b>BP:</b> 13÷180 mbar <b>TR:</b> 180÷500 mbar
■ <b>Accuracy class AC:</b>	up to 5
■ <b>Lockup pressure SG:</b>	up to 10
■ <b>Minimum ambient temperature:</b>	Execution up to -40°C
■ <b>Maximum ambient temperature:</b>	+60°C.
■ <b>Gas temperature at inlet:</b>	Up to -10°C + 60°C (standard version) -20°C + 60°C (version on request)
■ <b>Inlet connection:</b>	G ½" ISO 228/1 (modular connections available on request)
■ <b>Outlet connection:</b>	G 1" ISO 228/1 outlet in line - G ¾" ISO 228/1 angled outlet (modular connections available on request)

### Materials: \*\*

■ <b>Body:</b>	Zamak, or aluminum on request
■ <b>Covers:</b>	Zamak, or aluminum on request
■ <b>Diaphragm:</b>	Nitrile rubber (TR: linen rubber)
■ <b>Seat:</b>	Zamak
■ <b>O-rings:</b>	Nitrile rubber

NOTE: \*\* The materials mentioned above refer to the standard models. Different materials can be provided according to specific needs.

## MODULARITY AND ACCESSORIES

The design of the **FE** regulator was conceived in such a way as to feature a high degree of modularity, thus allowing the integration of ancillary devices into the basic regulator.

### Slam-shut device

#### Maximum pressure slam-shut device:

This is a **safety device** that has the task of cutting off the gas flow if anomalous downstream pressure conditions do occur; specifically, the tripping of the maximum pressure slam-shut device can be due to an increase in the downstream pressure.

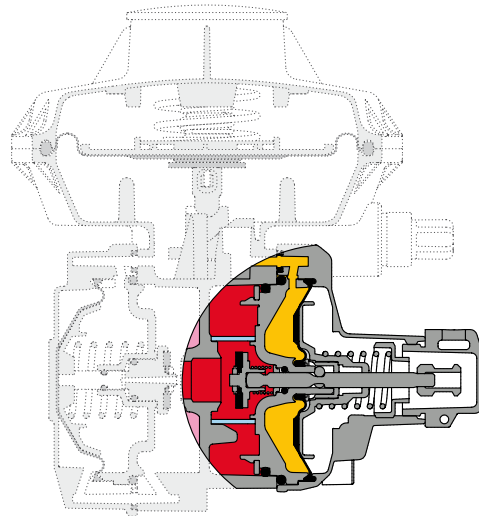


Fig.2

**FE** - Maximum pressure slam-shut device

#### Minimum pressure slam-shut device:

This is a **safety device** that has the task of cutting off the gas flow if anomalous downstream pressure conditions do occur; specifically, the tripping of the minimum pressure slam-shut device can be due to:

- Decrease in the downstream pressure;
- Lack of upstream pressure;
- Increase in the flow rate included between **110%** and **150%** of the nominal flow rate ( $Q_n$ ).

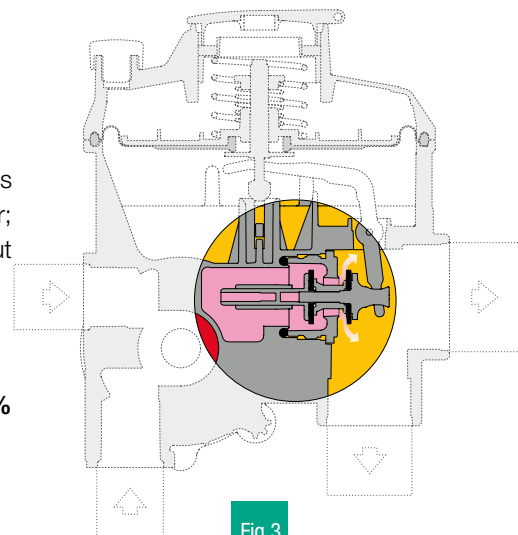


Fig.3

**FE** - Minimum pressure slam-shut device

### Built-in relief valve

The relief valve **allows discharging a small amount of gas into the atmosphere\***, when the downstream pressure exceeds a pre-set value beyond the maximum lockup one.

The **maximum relief flow rate** is **400 L/h**.

**Its normal tripping value is lower than the one for the tripping of the maximum pressure slam-shut device** that would result in a service interruption.

The **relief valve** may trip as a result of a thermal expansion of the downstream gas in case of zero flow rate, and the closing takes place automatically.

\* The discharge may be conveyed to the outside by means of a **G1/8 threaded connection**.

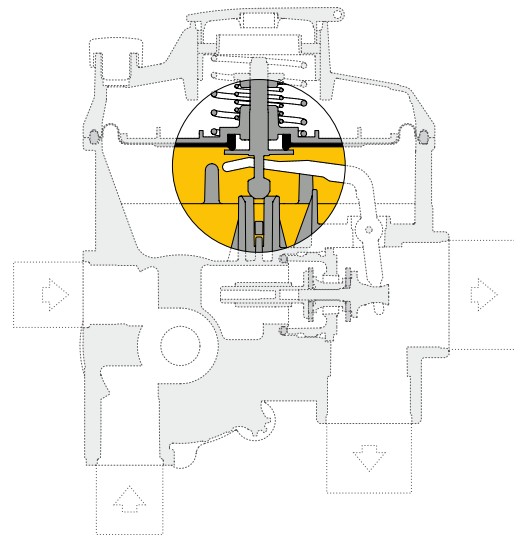


Fig.4

FE - Relief valve

### Range of available accessories:

- Built-in filter placed at the regulator inlet
  - usable surface 500 mm<sup>2</sup>
  - filtering capacity 100 µm
- Slam-shut device tripping in case of pressure increase (OPSO - overpressure shut off)
- Slam-shut device tripping in case of decrease in the downstream pressure (UPS0 - underpressure shut off) (non-adjustable value)
- Slam-shut device tripping in case of excess downstream flow rate
- Slam-shut device tripping in case of lack of feeding
- The restoration of the slam-shut device takes place only manually (slam-shut device with automatic reset available on request)
- Relief valve
- Pressure sensing point (at outlet and at inlet)

## CONFIGURATIONS

For each model, the **FE** regulator offers several configuration options that are summarized in the following image

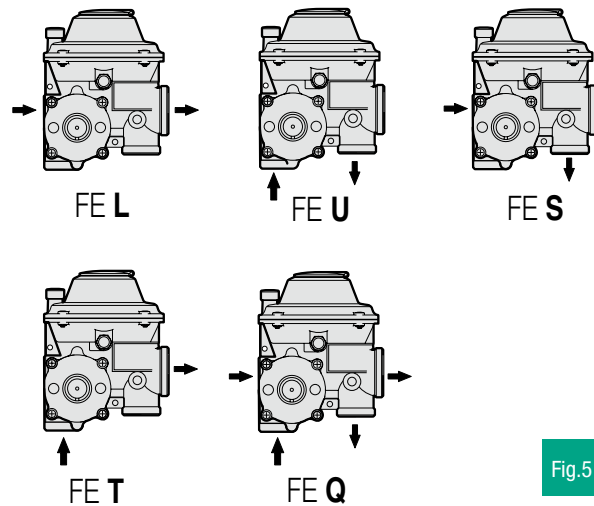


Fig.5

## TYPICAL CONNECTION DIAGRAMS

The following examples are provided as a recommendation to obtain the best performance from the **FE** regulator.

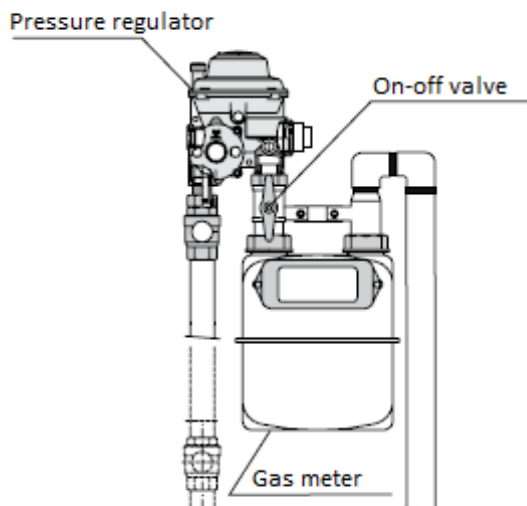


Fig.6

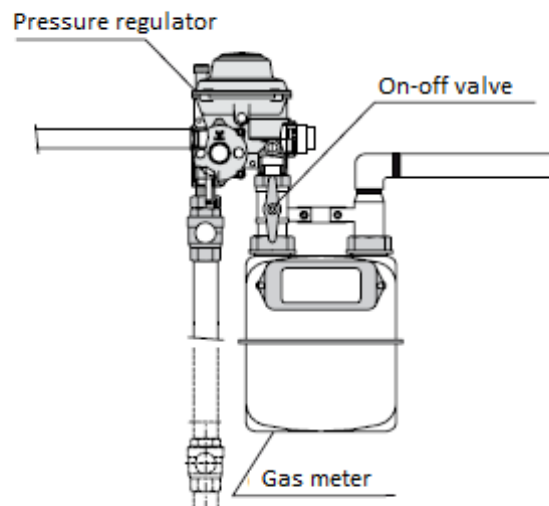
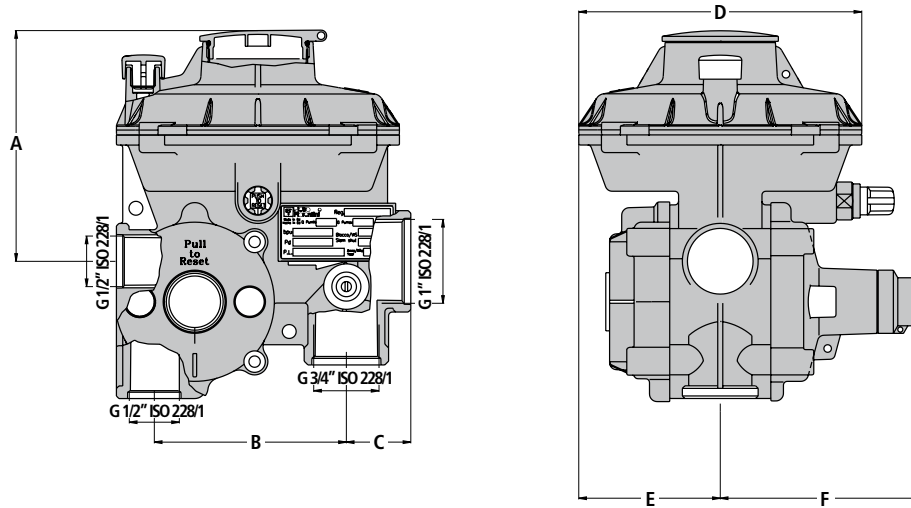


Fig.7

**FE DIMENSIONS**

**Dimensions (mm)**

<b>A</b>	91
<b>B</b>	76
<b>C</b>	25.5
<b>D</b>	ø 122
<b>E</b>	56
<b>F</b>	79

Tab.1

**Weights in KGF**

<b>Regulator with slam-shut device</b>	2
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Tab.2

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Data are provided by way of example only and are not binding. We reserve the right to make any changes without prior notice.

