

# RFN800

Medium Low Pressure Gas Regulator



**TECHNICAL BROCHURE**

**Pietro Fiorentini S.p.A.**

Via E.Fermi, 8/10 | 36057 Arcugnano, Italy | +39 0444 968 511  
sales@fiorentini.com

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RFD600\_technicalbrochure\_ENG\_revA

**[www.fiorentini.com](http://www.fiorentini.com)**

# Who we are

We are a global organization specialized in designing and manufacturing technologically advanced solutions for natural gas treatment, transmission and distribution systems.

We are the ideal partner for operators in the Oil & Gas sector, with a business offer that goes across the whole natural gas chain.

We are in constant evolution to meet our customers' highest expectations in terms of quality and reliability.

Our aim is to be a step ahead of the competition, with customized technologies and an after-sale service program undertaken with the highest grade of professionalism.



## Pietro Fiorentini advantages



Localised technical support



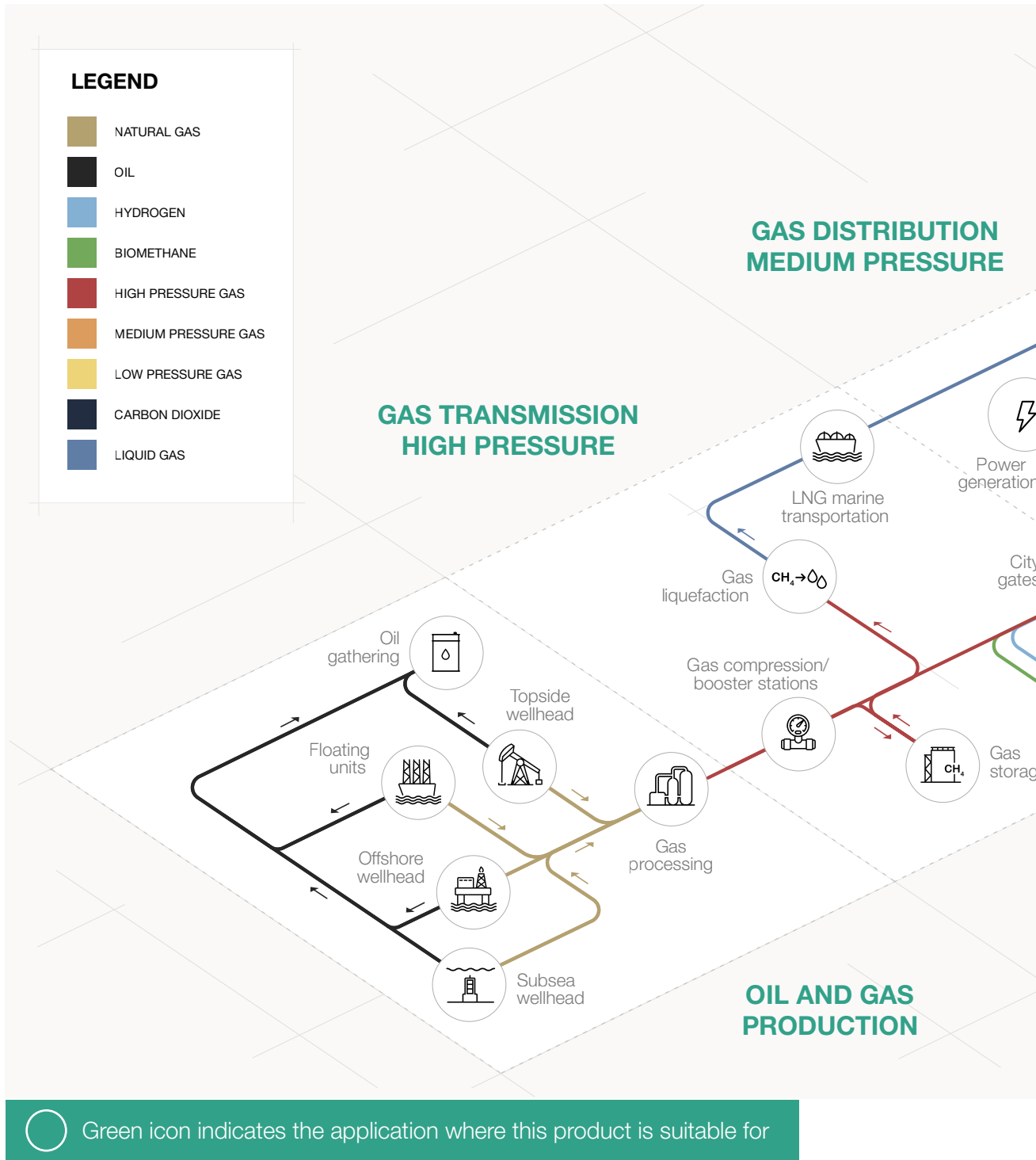
Experience since 1940



We operate in over 100 countries



# Area of Application



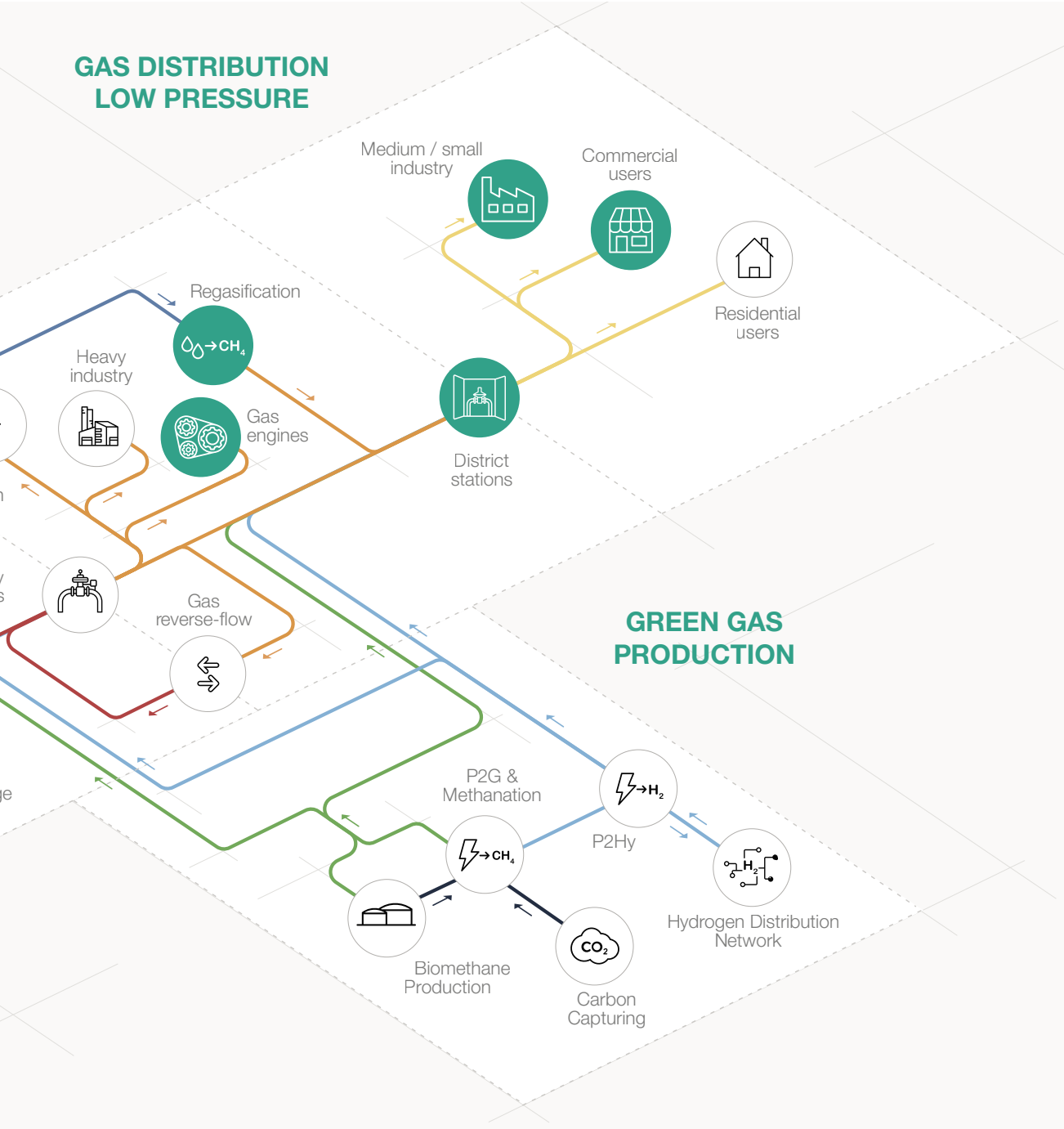


Figure 1 Area of Application Map



# Introduction

**RFN800** series pressure regulator is a **direct acting pressure regulator** controlled by spring, which is applicable to medium and low pressure gas pressure regulation and non-corrosive gas filtered and purified, such as natural gas. In addition to being used for gas supply of transmission and distribution pipe network and gas appliances, due to its simple structure, rapid response and high reliability, it is also especially suitable for upstream users (boilers, gas furnaces, etc.) whose pressure often fluctuates due to sharp flow changes.

**RFN800** series regulator is classified according to GB27790, as a regulator which reacts in opening (Fail to Open).

It is a top entry design, which confers to the regulator management advantages, for example the ability to performs full maintenance without uninstalling it from the connection pipe.

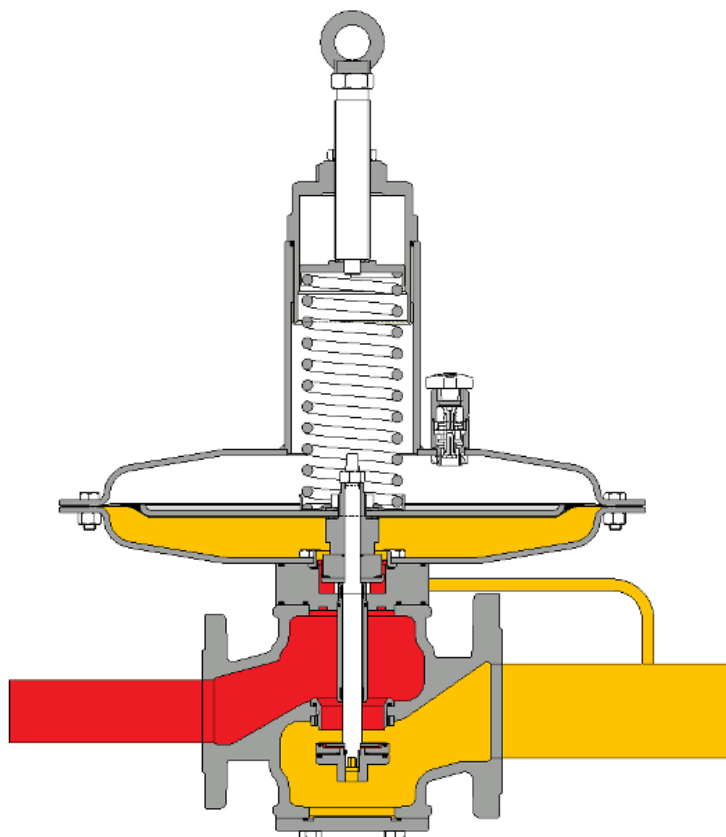


Figure 2 RFN800



Inlet pressure



Outlet pressure


# Main features


Features	Values
Maximum inlet pressure	0.4 MPa
Downstream pressure range	From 2 up to 50 kPa
Ambient temperature	From -20 °C to +60 °C
Precision class AC	10
Closing pressure class SG	20
Flow rate	DN 50x50: 800 Sm <sup>3</sup> /h DN 50x80: 1200 Sm <sup>3</sup> /h DN 80x80: 2000 Sm <sup>3</sup> /h DN 100x100: 3000 Sm <sup>3</sup> /h
PN pressure	UNI PN16


**(\*) REMARK: Different functional features and/or extended temperature ranges available on request. Stated temperature ranges are the maximum for which the equipment's full performance, including accuracy, are fulfilled. Standard product may have a narrower range.**


**Table 1** Features


## RFN800 competitive advantages


- 


Balanced
- 


Top Entry
- 


Works with low differential pressure
- 

Easy maintenance
- 

High precision
- 

Integrated optional
- 

Fail Open plug and seat regulator
- 

Biomethane compatible and 20% Hydrogen blending compatible. Higher blending available on request
- 

High turn down ratio



# Materials and Approvals

Part	Materials
Body	Modular cast iron GS400-18
Head covers	Q275B
Diaphragm	Rubberized canvas
Valve seat	Brass
Seals	NBR

**REMARK: The materials indicated above refer to the standard models. Different materials can be provided according to specific needs.**

**Table 2** Materials

## Construction Standards and Approvals

**RFD600** regulator is designed according to the European standard EN 334. The regulator reacts in opening (Fail Open) according to EN 334.

The product is certified according to European Directive 2014/68/EU (PED). Leakage class: bubble tight, better than VIII according to ANSI/FCI 70-3.



EN 334



PED-CE

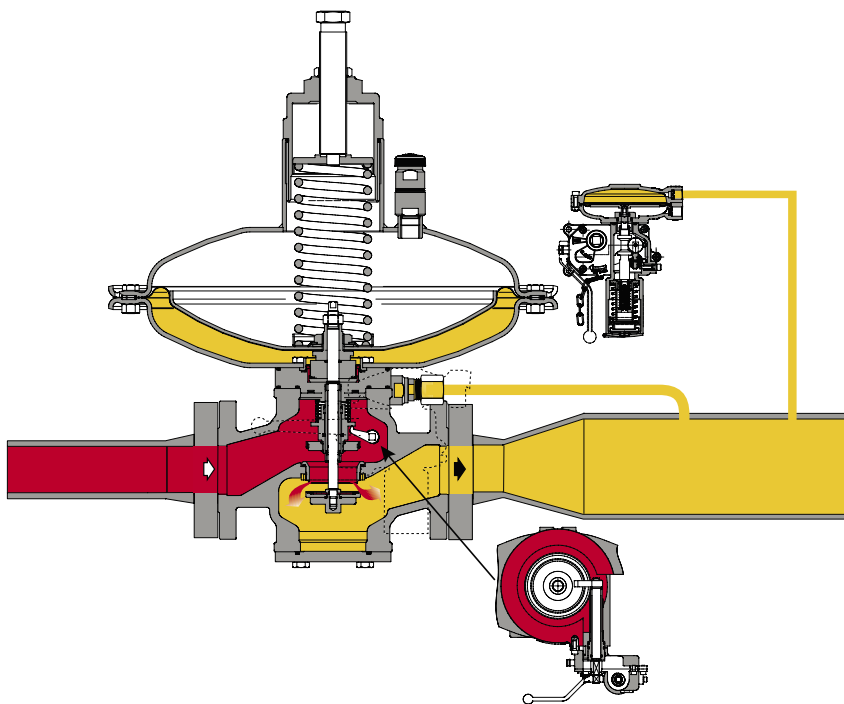


# Modularity

**RFN800** regulator has been designed with a high degree of modularity that allows to incorporate, within the basic regulator, alternative devices and additional accessories. These can also be added to a basic regulator at a later time, with no need to change the existing assembly piping connections.

## RFN800 - Slam shut SN800

It is a safety device whose task is that of blocking the gas flow if abnormal pressure conditions appear, compared to the one set during calibration of the dedicated pressure switch. The reset of the slam shut device, for safety reasons, is exclusively manual and, inside the slam shut valve, a bypass device is provided, in order to make the reset operation easier. The slam-shut device can be equipped with pneumatic or electromagnetic accessories type allowing control, as well as with sensors (micro-switches) for the remote signaling of its tripping..



**Figure 3** RFN800 with SN800



## SN800 pressure range set

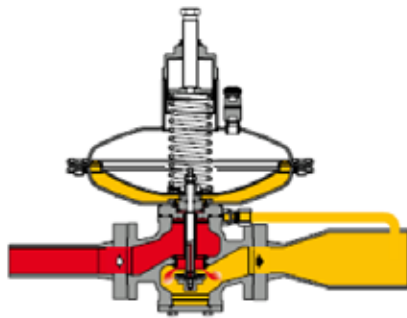
The regulated outlet pressure range is determined by the control head installed. The table below sums up the heads available for every size and the ranges of outlet pressure expressed in mbar.

Nominal dimension DN [mm]	50x50	50x80	80x80	100x100
Ø 495	2-50	2-50	8.1-50	10.6-50
Ø 630	-	-	2-8	2-10.5

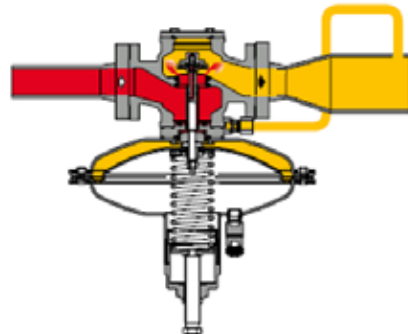
**Table 3** SN800 pressure ranges

## Installation

To improve the operation performance of the regulator, follow the installation on below.

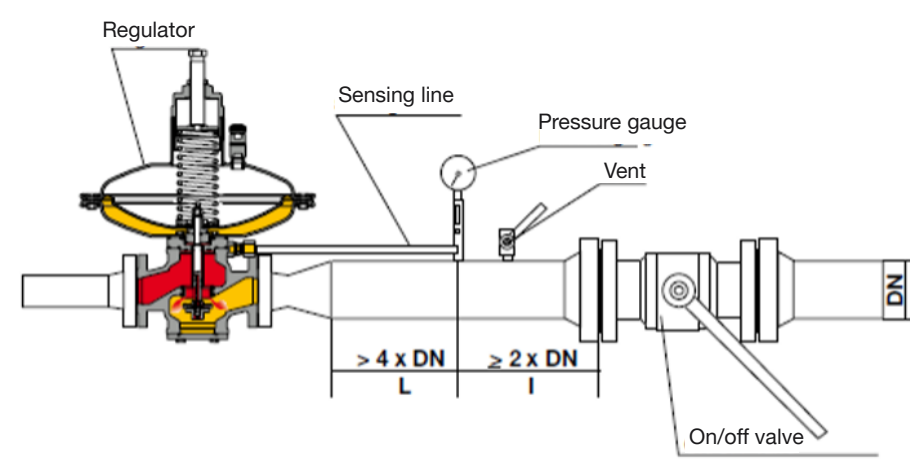


**Figure 5** RFN800 in standard position



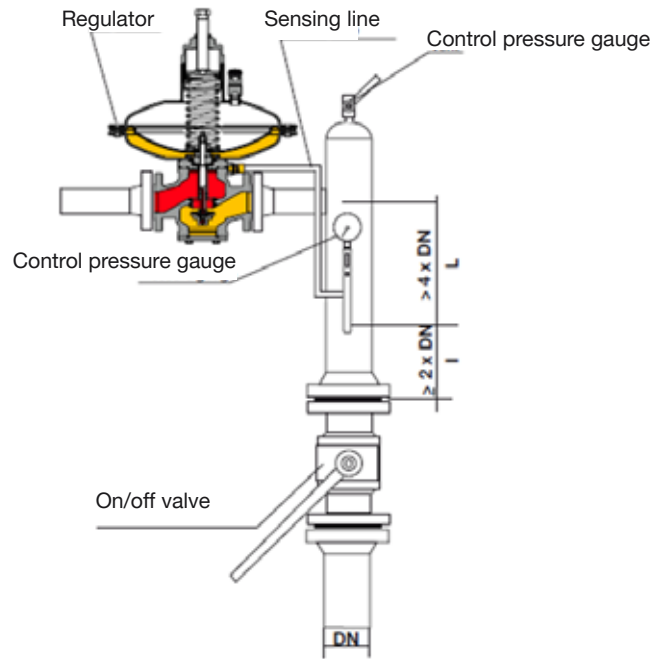
**Figure 6** RFN800 in reverse position

## Downstream in line installation



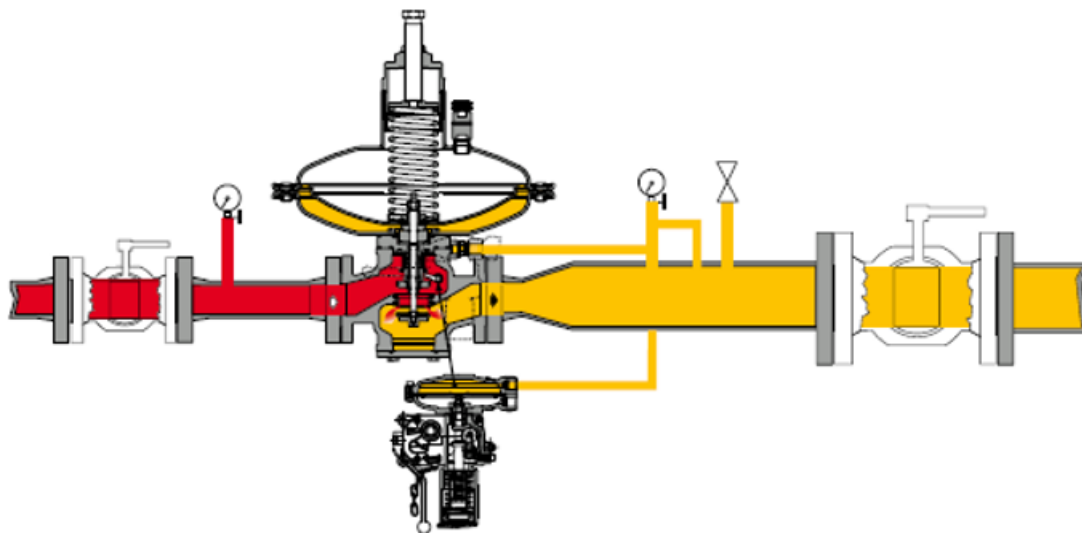
**Figure 4** RFN800 in line installation

## Downstream right angle installation



**Figure 7** RFN800 right angle installation

## RFN800 + SN800 slam shut



**Figure 8** RFN800 with SN800 slam shut



# Weights and Dimensions

## RFN800

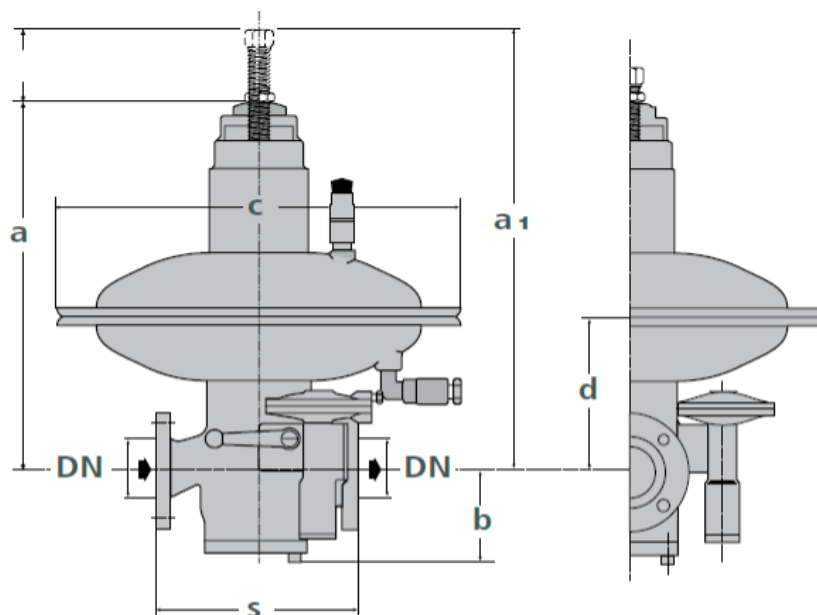


Figure 9 RFN800 dimensions

Weights and Dimensions (for other connections please contact your closest Pietro Fiorentini representative)								
DN mm	C		Ø 630			Ø 495		
	S	b	a	a1	d	a	a1	d
50	183	110	-	-	-	475	645	170
50x80	145	110	-	-	-	475	645	170
80	300	140	500	670	190	500	670	190
100	180	180	560	730	260	560	730	260

Peso DN mm	Ø 630		Ø 495			
	80x80	100x100	50x50	50x80	80x80	100x100
RFN800	85	125	50	52	70	110
RFN800+SN800	90	130	55	57	75	115

Table 4 RFN800 weights and dimensions

# Customer Centricity

Pietro Fiorentini is one of the main Italian international companies with high focus on product and service quality.

The main strategy is to create a stable long-term oriented relationship, putting the customer's needs first. Lean management and thinking and customer centricity are used to improve and maintain the highest level of customer experience.



## Support

One of Pietro Fiorentini's top priorities is to provide support to the client in all phases of project development, during installation, commissioning and operation. Pietro Fiorentini has developed a highly standardized intervention management system, which helps to facilitate the entire process and effectively archive all the interventions carried out, drawing on valuable information to improve the product and service. Many services are available remotely, avoiding long waiting times or expensive interventions.



## Training

Pietro Fiorentini offers training services available for both experienced operators and new users. The training is composed of the theoretical and the practical parts, and is designed, selected and prepared according to the level of use and the customer's need.



## Customer Relation Management (CRM)

The centrality of customer is one of the main missions and vision of Pietro Fiorentini. For this reason, Pietro Fiorentini has enhanced the customer relation management system. This enables to track every opportunity and request from Customer in one single point and make free the information flow.



# Sustainability

Here at Pietro Fiorentini, we believe in a world capable of improvement through technologies and solutions that can shape a more sustainable future. That is why respect for people, society and the environment form the cornerstones of our strategy.



## Our commitment to the world of tomorrow

While in the past we limited ourselves to providing products, systems and services for the oil & gas sector, today we want to broaden our horizons and create technologies and solutions for a digital and sustainable world, with a particular focus on renewable energy projects to help make the most of our planet's resources and create a future in which the younger generations can grow and prosper.

The time has come to put the why we operate before the what and how we do it.







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