

Staflux 187 H

High Medium Pressure Gas Regulator



TECHNICAL BROCHURE

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Who we are

We are a global organization that specializes 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 solutions that span the whole natural gas chain.

We are constantly evolving 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 level of professionalism.



Pietro Fiorentini advantages



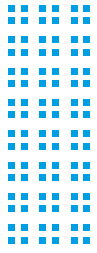
Localised technical support



Experience since 1940



Operating in over 100 countries



Introduction

Staflux 187 H is one of the **direct-operated gas pressure regulators** designed and manufactured by Pietro Fiorentini.

This device is suitable for **100% hydrogen applications**. It is the natural evolution of the Pietro Fiorentini know-how and experience in the gas industry. It is mainly used for high-pressure transmission systems and for medium pressure gas distribution networks.

According to the European Standard EN 334, it is classified as **Fail Open**.

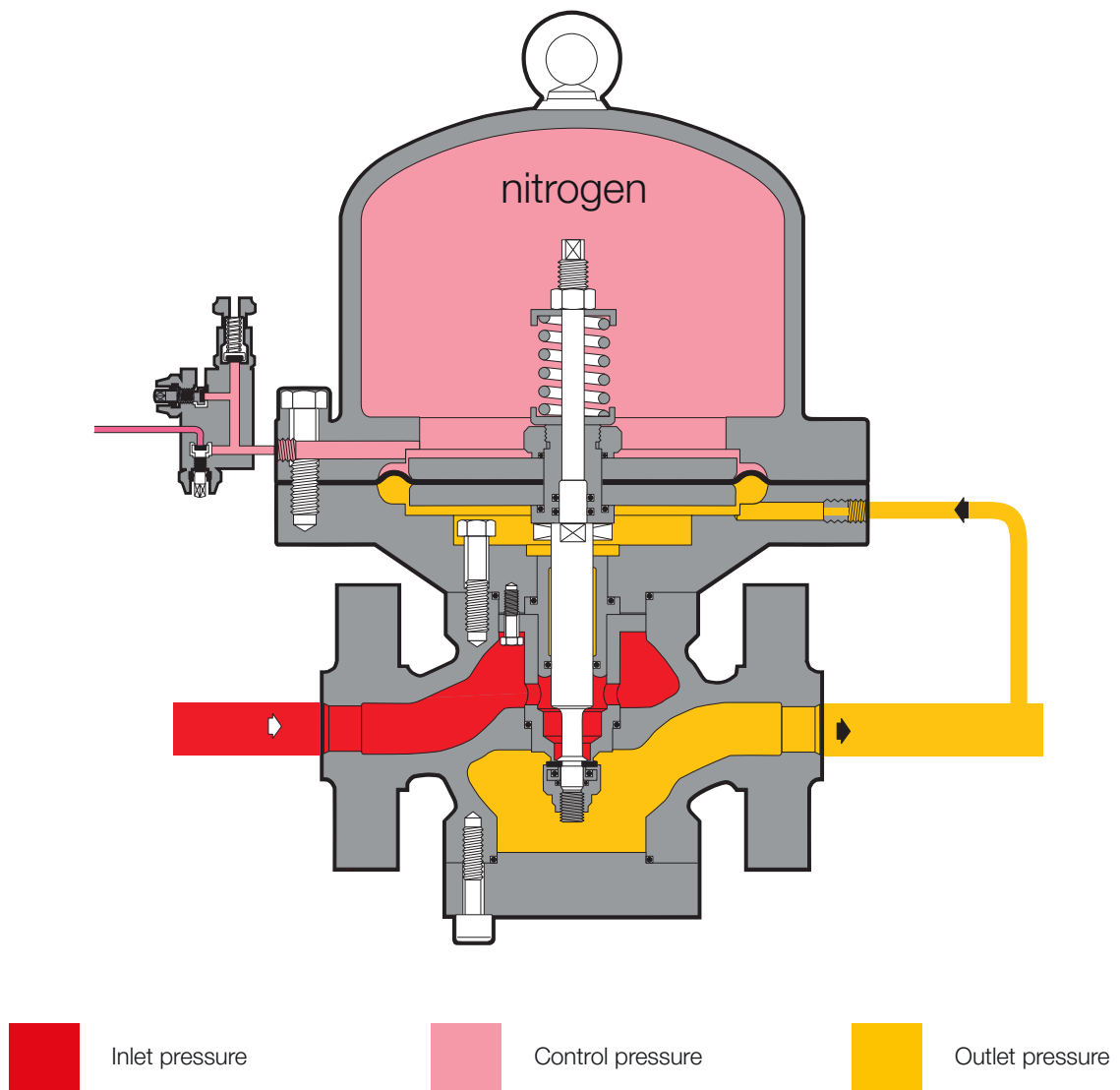


Figure 1 Staflux 187 H

Features and Calibration ranges

Staflux 187 H is a direct action device for high pressure, controlled by a diaphragm and contrasting regulated counter pressure action.

Staflux 187 H is a balanced pressure regulator. This means that the controlled outlet pressure is not affected by variations in the inlet pressure and flow during its operation. Therefore a balanced regulator can have a single-size orifice for all pressure and flow conditions.

This regulator is also suitable for use with previously filtered, non corrosive gases. It is a **truly top entry design** which allows an **easy maintenance** of parts directly in the field **without removing the body from the pipework**.

Set point adjustment of the regulator is achieved via a three way / two valve unit, loading and unloading the pressure in the top chamber.

A small capacity relief valve prevents set pressures at values beyond limits and, at the same time, protects the pressurised chamber from overpressure subsequent to high ambient temperatures.

Pressure in the top chamber creates the counter action similar to the one of a spring in more conventional regulators.

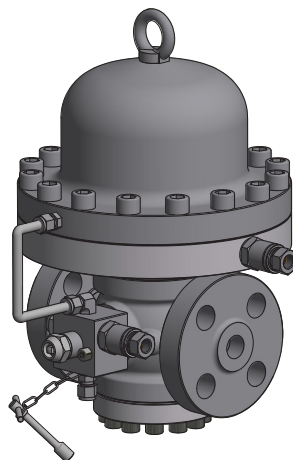


Figure 2 Staflux 187 H



Staflux 187 H competitive advantages



Compact and simple design



Easy maintenance



Operates with high differential pressure



Balanced type



Top Entry



Suitable for 100% Hydrogen

Features

| Features | Values |
|---|--|
| Design pressure* (PS ¹ / DP ²) | up to 25.0 MPa up to 250 barg |
| Ambient temperature* (TS ¹) | from -20 °C to +60 °C from -4 °F to +140 °F |
| Inlet gas temperature* | from -20 °C to +60 °C from -4 °F to +140 °F |
| Inlet pressure (MAOP / p _{umax} ¹) | from 0.2 to 25 MPa from 2 to 250 barg |
| Range of downstream pressure (Wd ¹) | from 0.1 to 7.5 MPa from 1 to 75 barg |
| Minimum operating differential pressure (Δp _{min} ¹) | 0.1 MPa 1 barg |
| Accuracy class (AC ¹) | up to 5 (depending on working conditions) |
| Lock-up pressure class (SG ¹) | up to 10 (depending on working conditions) |
| Nominal size (DN ^{1,2}) | DN 25 / 1"; |
| Connections | Class 1500 RF or RTJ according to ASME B16.5 |

(¹) according to EN334 standard

(²) according to ISO 23555-1 standard

(*) NOTE: Different functional features and/or extended temperature ranges may be available on request. Stated inlet gas temperature range is the maximum for which the equipment's full performance, including accuracy is guaranteed. Product may have a different pressure or temperature ranges according to the version and/or installed accessories.

Table 1 Features

Materials and Approvals

| Part | Material |
|----------------------|--|
| Body | Cast steel ASTM A352 LCC (with specific chemical composition requirements) |
| Cover | ASTM A350 LF2 carbon steel (with specific chemical composition requirements) |
| Stem | Austenitic stainless steel |
| Seat | Austenitic stainless steel |
| Diaphragm | Vulcanized rubber |
| Sealing ring | Polyamide engineering plastic |
| Compression fittings | Austenitic stainless steel |

NOTE: 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

Staflux 187 H regulator is designed according to 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



Springs ranges and control heads

| Type | Model | Operation | Range Wh | | Spring Table web link |
|--------------|-------|-----------|-----------|--------|------------------------|
| | | | MPa | barg | |
| Relief Valve | VS/FI | Manual | 0.4 - 7.5 | 4 - 75 | TT 673 |

Table 3 Settings table

General link to the calibration tables: [PRESS HERE](#) or use the QR code:



Accessories

In-line Monitor

The in-line monitor is generally installed upstream of the active regulator.

Although the function of the monitor regulator is different, the two regulators are virtually identical from the point of view of their mechanical components.

The only difference is that monitor is set at a higher pressure than active regulator.

The Cg coefficient of the active regulator is the same, however during the sizing process, the differential pressure drop generated by the fully open in-line monitor shall be considered.

As a general practise to incorporate this effect, a 20% reduction of the Active regulator's Cg value can be applied.

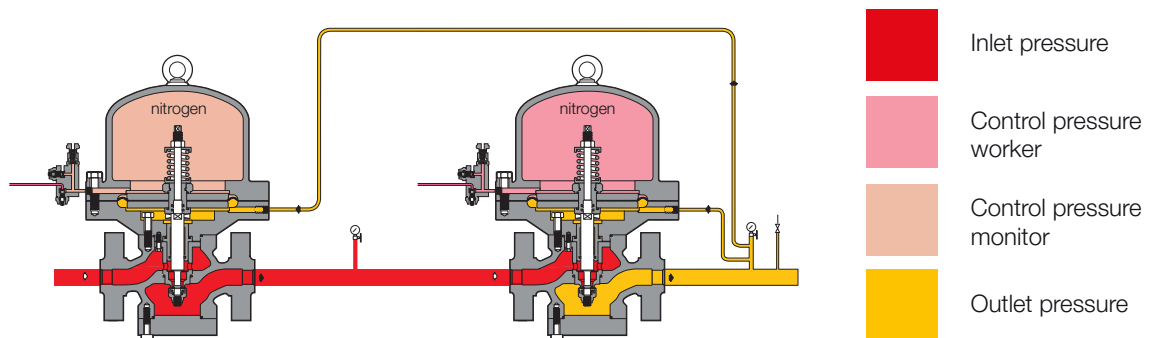










Figure 3 Staflux 187 H with In-line monitor setup

SBC/187 in-line slam shut

A SBC 187 slam shut can be installed upstream of the Staflux 187 H pressure regulator acting as an overpressure protection device.

The main characteristics of this slam shut device are:

-  Over Pressure Shut-Off
-  Under Pressure Shut-Off
-  Internal by-pass
-  Push button for tripping test
-  Compact dimensions
-  Easy maintenance
-  Remote tripping option
-  Limit switch option

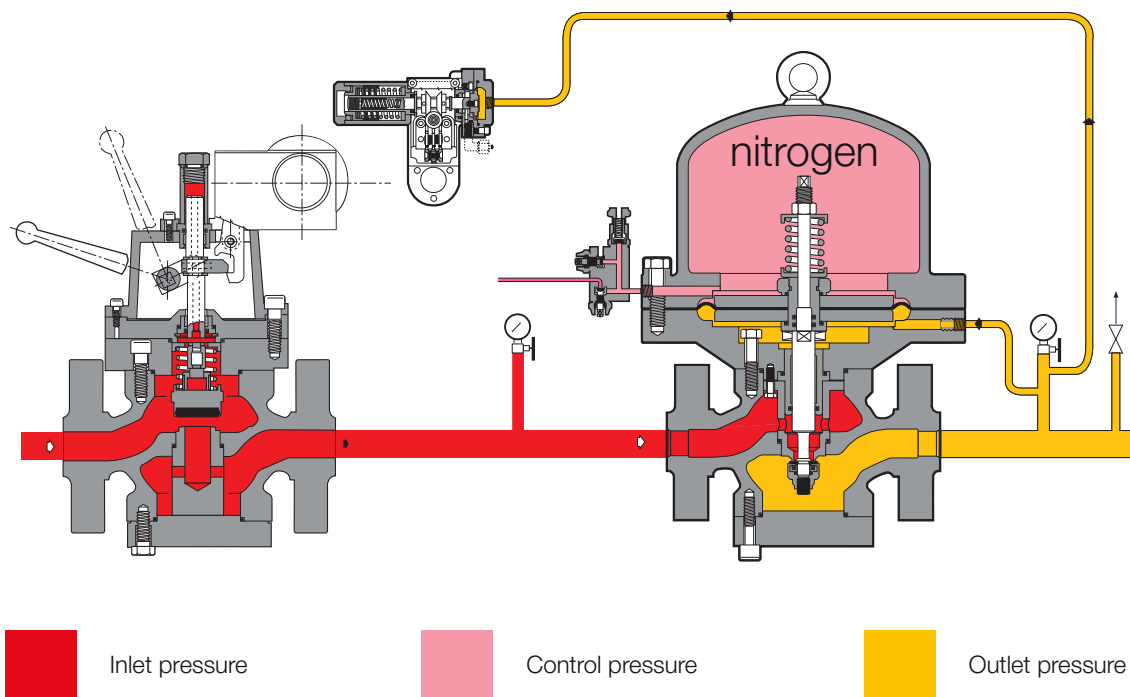


Figure 4 Staflux 187 H with in-line slam shut SBC/187



Weights and Dimensions

Staflux 187 H

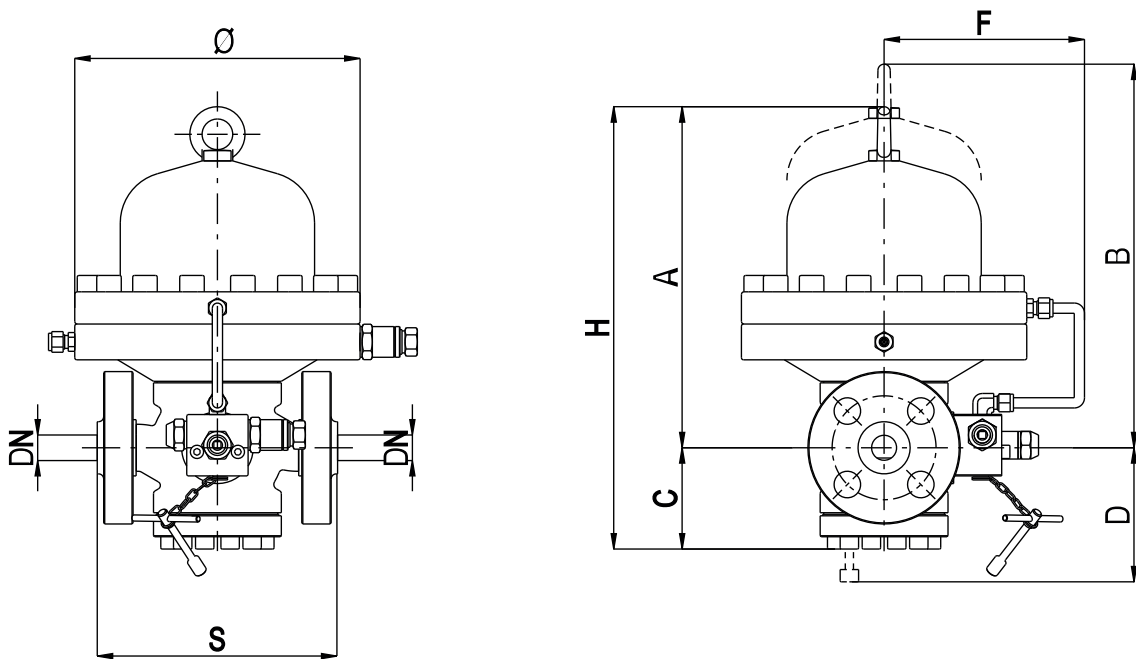


Figure 5 Staflux 187 H dimensions

| Weights and Dimensions (for other connections please contact your closest Pietro Fiorentini representative) | | |
|---|---|--------|
| | [mm] | inches |
| Size (DN) | 25 | 1" |
| S - ANSI 1500 | 235 | 9.25" |
| Ø | 280 | 11.02" |
| A | 335 | 13.19" |
| B | 435 | 17.13" |
| C | 100 | 3.94" |
| D | 130 | 5.12" |
| F | 195 | 7.68" |
| H | 435 | 17.13" |
| Tubing connections | Øe 10 x Øi 8 (on request imperial sizing) | |
| Weight | | |
| | Kg | lbs |
| ANSI 1500 | 53 | 117 |

Table 4 Weights and dimensions

Sizing and Cg

In general, the choice of a regulator is made based on the calculation of the flow rate determined by the use of formulae using the flow rate coefficients (Cg) and the form factor (K1) as indicated by the EN 334 standard.

| Flow rate coefficient | |
|-----------------------|--------|
| Nominal size | 25 |
| Inches | 1" |
| Cg | 130 |
| K1 | 106.78 |

Table 5 Flow rate coefficient

For sizing [PRESS HERE](#) or use the QR code:



Note: In case you do not have the proper credentials to access, feel free to contact your closest Pietro Fiorentini representative.

In general the online sizing considers multiple variables as the regulator is installed in a system, enabling a better and multiperspective approach to the sizing.



Customer Centricity

Customer centricity is a way of running your business — implementing a perfect customer experience at each stage of the pipeline. Pietro Fiorentini is one of the main Italian international company with high focus on product and service quality.

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



Support

Pietro Fiorentini's top priority is to provide support to the client in all phases of project development, during installation, start up and operation. Pietro Fiorentini has developed a highly standardized Intervention-Management-System (IMS), which helps to facilitate the entire process and putting the customer at the forefront of every decision in our process while manufacturing or developing a product to help improve the product and service. With our IMS business model many services are available remotely, avoiding long waiting times, improving service, and avoiding unnecessary expenses.



Training

Pietro Fiorentini offers training services available for both experienced operators and new customers. The training is offered for all levels of our customers which can include one or all of the following: sizing of equipment, application, installation, operation, maintenance and is prepared according to the level of use and the customer's need.



Customer Relation Management (CRM)

The service and care of our customers are one of the main missions and vision of Pietro Fiorentini. For this reason, Pietro Fiorentini has enhanced the customer relation management system. This enables us to track every opportunity and request from our customers into one single information point and allows us to coordinate information allowing us to give the customer improved service.

Sustainability

Here at Pietro Fiorentini, we believe in a world capable of improvement through technology 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.

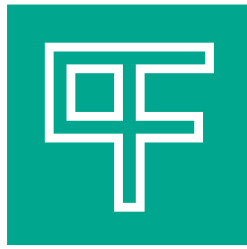


Our commitment to the world of tomorrow

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. We have 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 understand how and why we operate now.





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