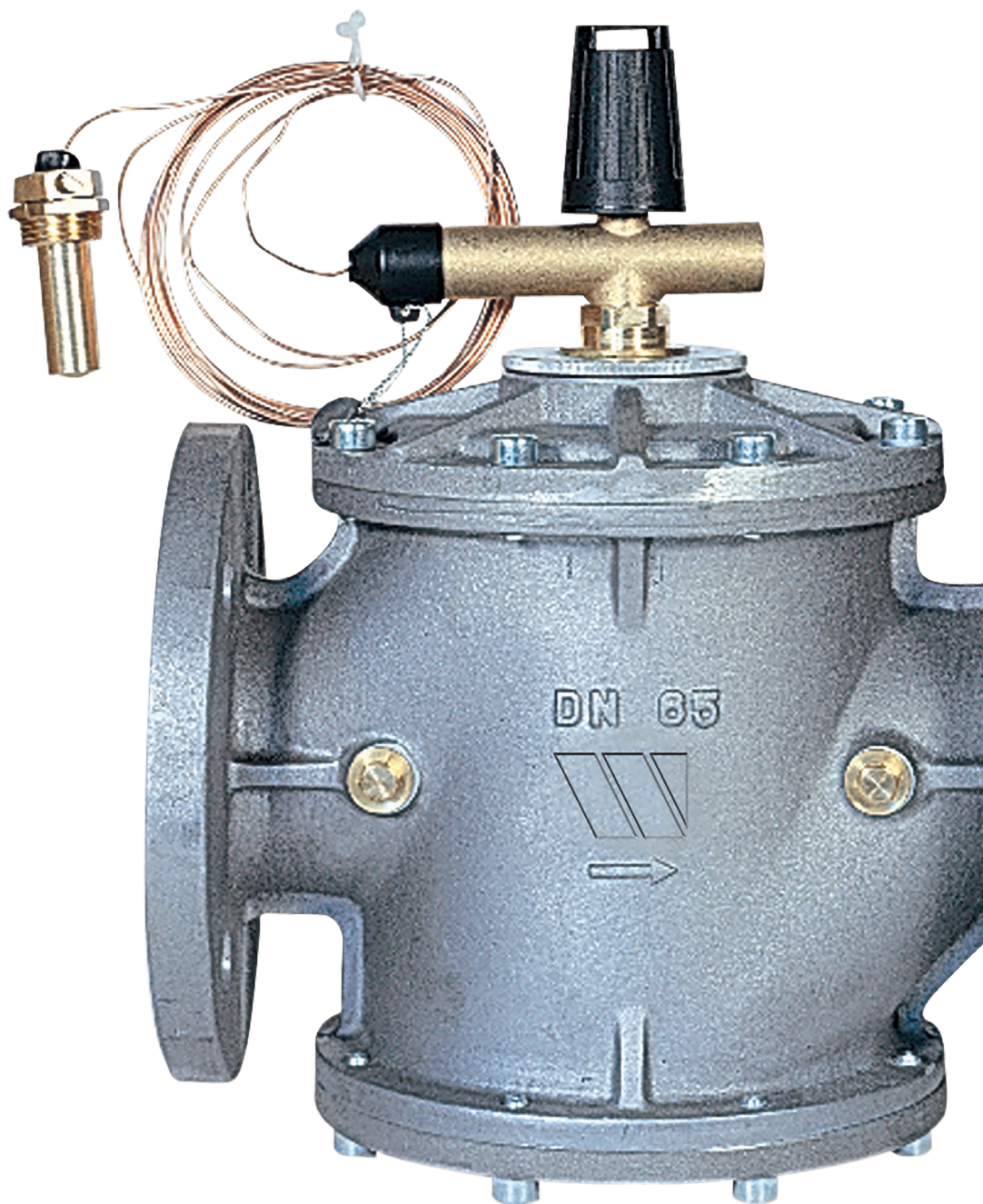


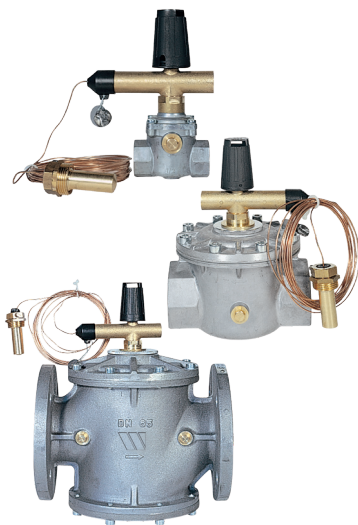
NVFN Series

Flamstop fuel shut-off valves

Technical Data Sheet



Description



NVFN

FLAMSTOP

1/2" and 3/4" liquid and gas fuel shut-off valves, suitable for biodiesel. Positive action with manual resetting. Liquid expansion thermostat. Compact sensor. 1/2"M sensor sheath connection (with 1/2"F x 3/4"M nipple). **INAIL approved and set. Compliant with Directives PED 2014/68/EU and ATEX 2014/34/EU.**

| Type | Part No. | DN | bar |
|------|----------|-----------|-----|
| NVFN | 0231415 | 1/2" FF | 10 |
| NVFN | 0231420 | 3/4" FF | 10 |
| NVFN | 0231425 | 1" FF | 10 |
| NVFN | 0231432 | 1.1/4" FF | 10 |
| NVFN | 0231440 | 1.1/2" FF | 10 |
| NVFN | 0231450 | 2" FF | 10 |
| NVFN | 0231465 | 65 | 10 |
| NVFN | 0231480 | 80 | 10 |

Technical features

| | |
|----------------------------------|--|
| Setpoint temperature | 97°C (±3°C) |
| Maximum temperature, sensor side | 120°C |
| Maximum temperature, valve side | 50°C |
| Maximum operating pressure | 6 bar (NVFN 15-25) - 1 bar (NVFN 32-80) |
| Fuels | Diesel, fuel oil, natural gas, propane, butane |
| Capillary length | 5 m |
| Minimum storage temperature | -40°C |
| Operating range | 10-100°C |
| Minimum temperature, valve side | -5°C |
| Minimum temperature, sensor side | -15°C |

N.B. The NVFN15 and NVFN20 models with FPM seals can also be used for biodiesel.

Features

| | |
|--|---|
| Body | Die-cast aluminium (NVFN 15-50) - Cast aluminium (NVFN 65-80) |
| Seals | FPM (NVFN 15-20) - NBR (NVFN 25-80) |
| Disc spring | AISI304 stainless steel |
| Capillary | Electrolytic copper |
| Heat-sensitive element | Liquid expansion |
| Connections (1/2" to 2" models) | FF threaded gas (ISO 228/1) |
| Connections (DN65 and DN80 models) | PN16 flanged (UNI 2223) |
| Test points (1/2"-2" mod.) | Qty. 2 x 1/4" |
| Test points (DN65 and DN80) | Qty. 4 x 1/4" |
| Heat-sensitive element sheath connection | G 1/2"M (ISO 228/1) |

Approvals

Approved to "R" regulations (2009 edition). Calibration certificate issued by INAIL.

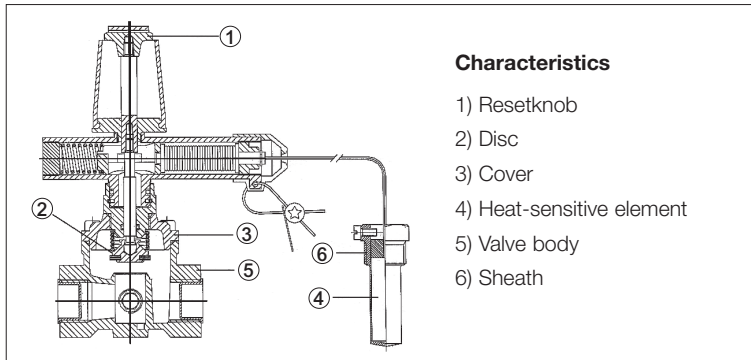
In certain cases, INAIL regulations (R regulations, 2009 Edition) governing systems with boilers with heat output exceeding 35kW, require the use of a fuel shut-off valve in place of a thermal drain valve. They define a "fuel shut-off valve" as: "a positive-action valve, which automatically shuts off the flow of fuel if the water overheats, so that it does not exceed the established safety temperature". The fuel shut-off valve is a self-operated positive-safety device (operating without the use of external energy).

Application

According to the provisions of R regulations Ed. 2009, the technical specification for the application of Title II of Italian Ministerial Decree 1/12/75 pursuant to art. 26 of the said decree concerning "central heating systems using pressurised hot water at a temperature not exceeding 110°C and maximum overall rated power of the space heaters (or maximum overall heat output of the space heaters) greater than 35 kW", the use of fuel shut-off valves is required in the following cases: systems with closed expansion vessel (CHAP. R.3.B., point 1., letter b); closed-vessel systems with heat exchangers supplied with fluids at temperatures exceeding 110°C to the primary circuit (CHAP. R.3.D., point 2.2.1., letter g); - systems with modular boilers (Chap. R.3.F.).

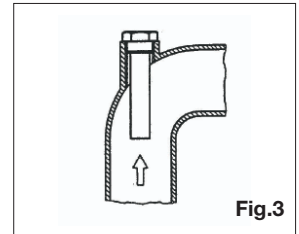
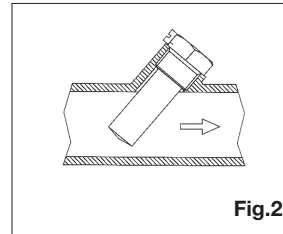
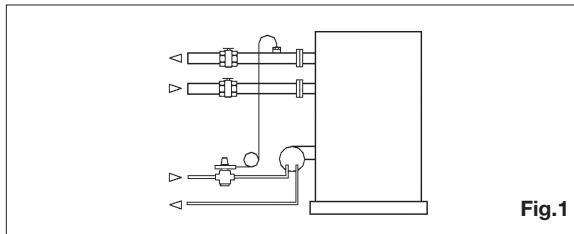
Operation

When the setpoint temperature is reached, the heat-sensitive element **(4)** causes the grooved piston supporting the stem with integral disc **(2)** to move, causing the stem to drop, thus closing the valve. Valve closing is not gradual: the valve snaps shut when the setpoint temperature is reached, so the fuel flow is not throttled. It is not possible to reset the valve until the water temperature has fallen below 85°C.



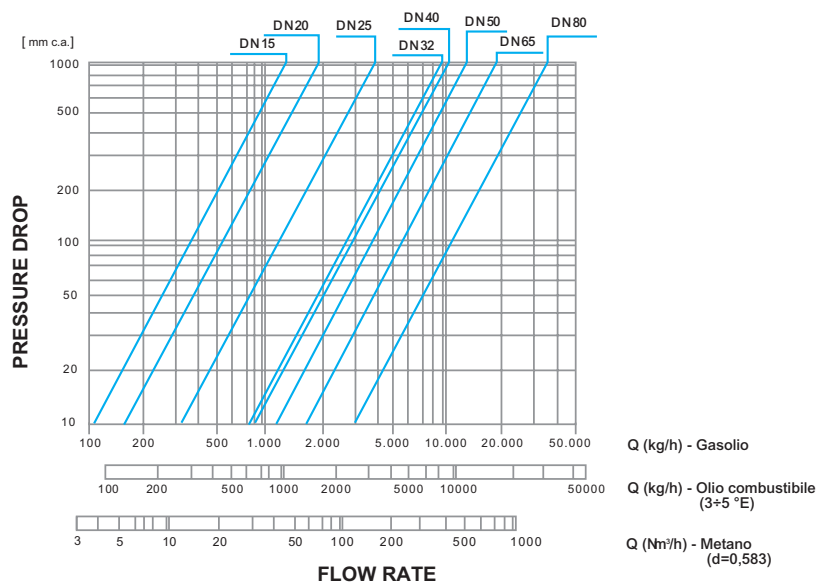
Installation

Install the fuel shut-off valve on the fuel supply pipe between the filter and the burner, in the direction shown by the arrow cast into the valve body. The valve's heat-sensitive element "must be immersed in the outward flow of hot water, close to or at the top of the boiler, or in the outlet pipe within 1m of the boiler, upstream of any shut-off device" (R.2.A.4.2) **(Fig.1)**. Weld the sheath sleeve so that the sheath is immersed as fully as possible in the hot water, in one of the positions specified above. Depending on the diameter of the pipe, the sleeve can be welded perpendicular or at an inclined angle in relation to the pipe **(Fig.2)** or on a bend where possible **(Fig.3)**.



Chart

Flow rate - pressure drop



Fitting

To fit the **NVFN Series** fuel shut-off valve, proceed as follows:

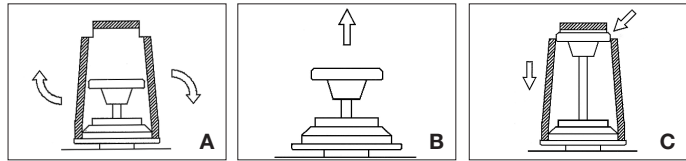
1. Screw the sheath of the heat-sensitive element onto the sleeve;
2. Insert the bulb of the heat-sensitive element fully into the sheath;
3. Connect the valve to the burner supply pipe in accordance with the direction of flow shown on the valve body;
4. Carefully unroll the copper capillary, making sure that it is not resting on hot parts or the boiler doors;
5. Push the plastic protective bushing on the end of the capillary into the sheath, then tighten the screw on the hexagonal head of the sheath.

N.B. You can turn the control device on the cap through 360° to make it easier to fit the valve and lay out the capillary.

Resetting the valve

To reset the valve, proceed as follows:

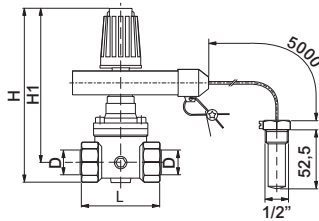
- A) Release the black protective cap;
- B) Pull the green reset knob up;
- A) Re-engage the black protective cap.



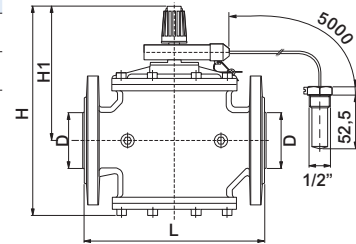
To make sure the valve is open, check that the green reset knob appears in the top inspection window on the protective cap.

Overall dimensions (mm)

| DN | L | H | H1 |
|--------|-----|-----|-----|
| 1/2" | 70 | 155 | 138 |
| 3/4" | 70 | 163 | 141 |
| 1" | 90 | 196 | 169 |
| 1.1/4" | 150 | 204 | 169 |
| 1.1/2" | 150 | 204 | 169 |
| 2" | 170 | 222 | 179 |



| DN | L | H | H1 |
|----|-----|-----|-----|
| 65 | 260 | 310 | 200 |
| 80 | 310 | 351 | 234 |



Specification text

NVFN Series

Liquid and gas fuel shut-off valve FLAMSTOP **NVFN Series** – WATTS brand. Positive action with manual resetting. Liquid expansion thermostat. Capillary length 5m. Compact sensor. Aluminium body, stainless steel springs. NBR seals (FPM on 1/2" and 3/4" versions). 1/2"M sensor sheath connection (with 1/2"F x 3/4"M nipple). Setpoint temperature 97°C±3°C. Max. operating pressure: 6 bar (DN 15-25) - 1 bar (DN 32-80). Max. temperature, sensor side 120°C. Maximum temperature, valve side 50°C. 1/2" and 3/4" versions suitable for biodiesel. INAIL approved and set. Compliant with Directives PED 2014/68/EU and ATEX 2014/34/EU.

The descriptions and photographs contained in this product specification sheet are supplied by way of information only and are not binding.

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