

Benefits at a Glance

- **Maximum hygiene (spring free design):**
Only the shutter comes into contact with the product.
There are no springs, discs or other components, which means no contamination and no stagnation point
- **Safe Closing:**
Provided by integral magnets
- **Any installation position possible:**
Unlike other springless check valves, EDF non-return valve can be installed in the horizontal, vertical up and down positions
- **Energy saving:**
The innovative working principle and design allow for a smooth flow, minimising pressure drop
- **Laminar flow:**
No turbulence
- **Maintenance free:**
Longer valve life



Technical data

Product contact materials

Body & Flanges:
Stainless steel 1.4404 (AISI 316L)
Shutter: 1.4462 (Duplex)

Non product contact materials

Magnet: Neodymium

Seals material options

EPDM, NBR, HNBR, VMQ (Silicone), FKM (Viton), FEP, PTFE

Surface finishes

Internal: $R_a \mu m \leq 0.8 \mu m$ (standard), up to $R_a \leq 3.2$ electropolished and passivated (optional)
External: $R_a \mu m \leq 3.2 \mu m$ (standard) up to $R_a \leq 0.4$ electropolished and passivated (optional)

End connection options

WELDING: DIN 11850 / DIN 11851 / ASME BPE / ISO 1127 / SMS
TRI-CLAMP: ASME-BPE / ISO 1127-2852 / SMS-2852 / DIN 32676
THREADED: Female DIN / Male Gas BSP 60° / Female Gas BSP 60°

Temperature range

-40°C/+150°C (Standard). Up to +220°C (optional)

Operating pressure

PN16 (standard). Further operating pressures on request

Media

Liquid, Gas, Steam

Sizes

From DN06 to DN200 / From 1/2" to 8"

Certifications (on request)

Materials: EN10204-3.1 / Seals (FDA) / Surface roughness **3A**
ATEX
PED
EC 1935/2004

How The EDF Non-Return Valve works

The magnets built into the valve body keep the shutter in a closed position. The EDF check valve opens when the inflow pressure exceeds the magnetic force. In the open position the shutter moves away from the magnet, which means lower attraction to the seat and therefore lower resistance to flow, so pressure drop is minimal. When the forward flow in the pipe stops, the magnet will attract the shutter back to its seat, stopping any backwards flow.

The main operational difference between a spring loaded check valve and the innovative EDF valve is the resistance to flow. An ordinary check valve in the open position imposes significant resistance, because the compressed spring pushes the shutter against the flow with considerable force.

EDF: STANDARD OPENING PRESSURES

Table applies to water at 20° C (68°F)

Installation	Flow direction	Opening pressure
HORIZONTAL lines	→←	30/50 mbar
VERTICAL lines	Flow Down	27/45 mbar
VERTICAL lines	Flow Up	33/55 mbar

Once opened, the required pressure to keep the shutter fully open is about 10 mbar
Alternative opening pressure options are available on request

PRESSURE DROP CHART

