

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 316LM) 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: Ra $\mu\text{m} \leq 0.8 \mu\text{m}$ (standard), up to Ra ≤ 3.2 electropolished and passivated (optional) External: Ra $\mu\text{m} \leq 3.2 \mu\text{m}$ (standard), up to Ra ≤ 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

