

## Benefits at a Glance

- **Maximum hygiene:**

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. Top quality surface finishings and materials ( **PVDF and 1.4435 with <1% Ferrite** )

- **Safe Closing:**

Provided by integral magnets

- **Any installation position possible:**

Unlike other springless check valves, a Pharmaball 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**

- **Extra high chemical resistance and longer valve life:**

Through solid construction materials



Pharmaball patented technology sets new standards in the world of plant design, thanks to a patented magnetic principle replacing the conventional spring in Non Return Valves. Suitable for horizontal, vertical up and down installation (even in vertical pipes with flow down). For fluids and steam, up to +150 °C.

## Technical data

### Product contact materials

### Body & Flanges:

Stainless steel 1.4435 (AISI 316LM), max. <1% ferrite  
Ball: PVDF

### Non product contact materials

Magnet: Neodymium

### Seals material options

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

### Surface finishes

Internal: Ra  $\mu\text{m} \leq 0.4$  electropolished  
External: Ra  $\mu\text{m} \leq 1.2$  electropolished

Passivation or request (optional)

### End connection options

WELDING DIN 11850 ( DIN 11866 Reihe A)  
WELDING DIN 11850 (DIN11866 Reihe C)  
TRI-CLAMP ASME-BPE

### Temperature range

-40°C/+150°C

### Operating pressure

PN16 (standard). Further operating pressures on request

### Media

Fluids, Gas, Steam

### Certifications (on request)

Materials: (EN10204-3.1)/seals and PVDF Ball (FDA – USP VI)  
Surface roughness  
EC 1935/2004



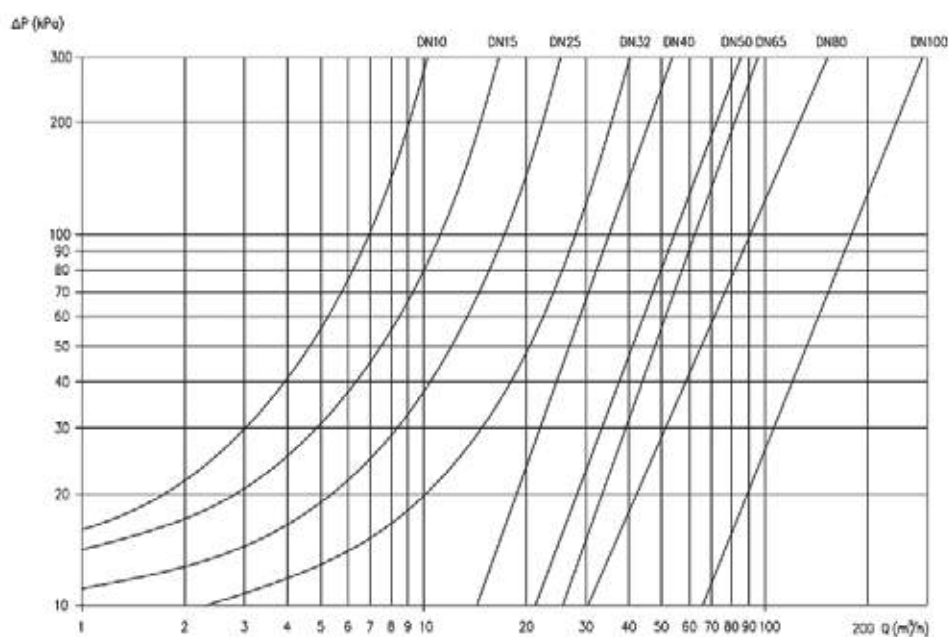
**PHARMABALL: STANDARD OPENING PRESSURES**  
Table applies to water at 20° C (68°F)

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.



## PRESSURE DROP CHART



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