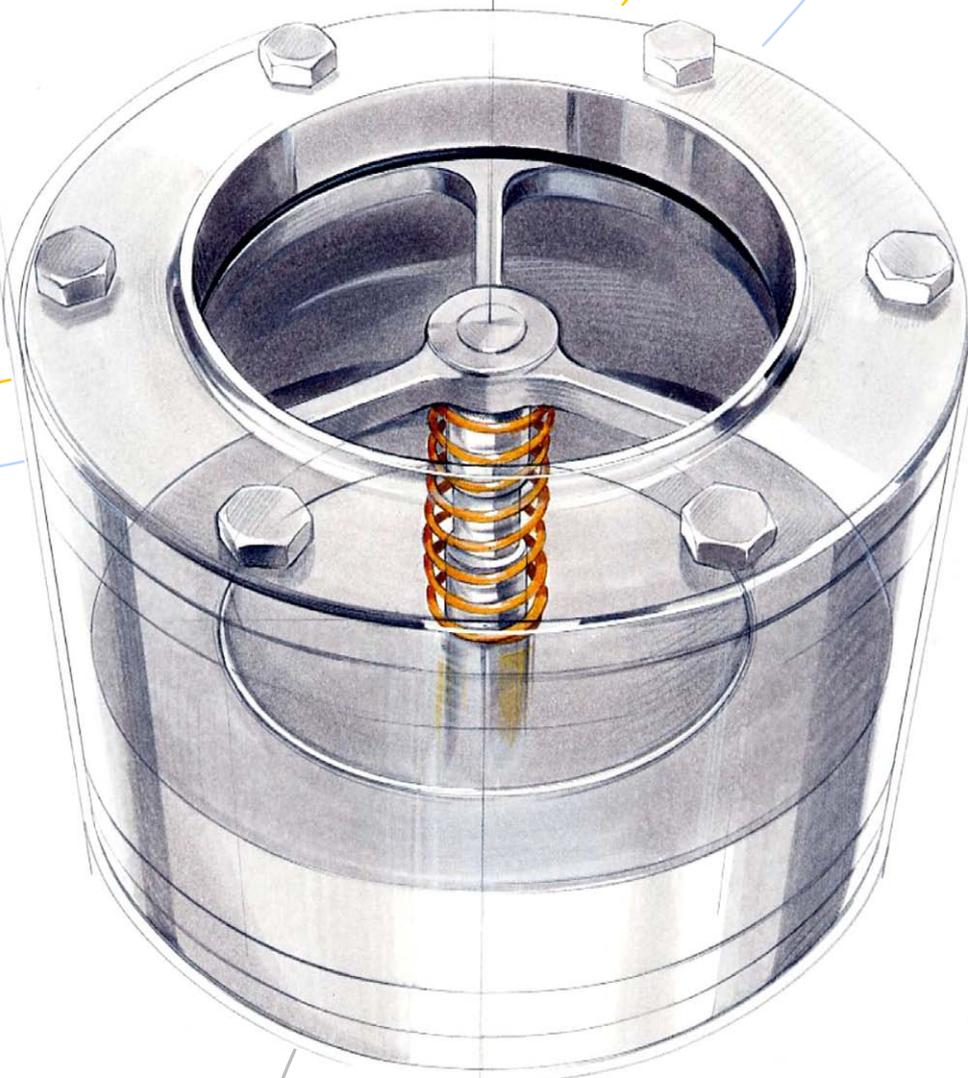


# Guth Non-return Valve



# Technical Descriptions



The Guth non-return valve has been designed to prevent reverse flow of fluids in pipe systems in all process applications.

The design of the seal chamber is similar to the sealing principle of the aseptic standard DIN 11864 (see explanation on next page). Thus, the risk of getting product behind the seal is minimised. Thanks to the hygienic design of the seal and the special inner surface design the valve can be cleaned easily and effectively. This makes the valve particularly suitable for all process applications with higher hygienic requirements like in the food & beverages or the pharmaceutical industry.

The Guth non-return valve is available in AISI 304 (1.4301) and AISI 316L (1.4404) stainless steel.

## Operating mode:

In the closed position (no product flow) the valve disc is pushed against the seal at the lower seat due to spring pressure. In case of product flow there are two different cases:

### 1. Flow against the closing direction of the valve disc:

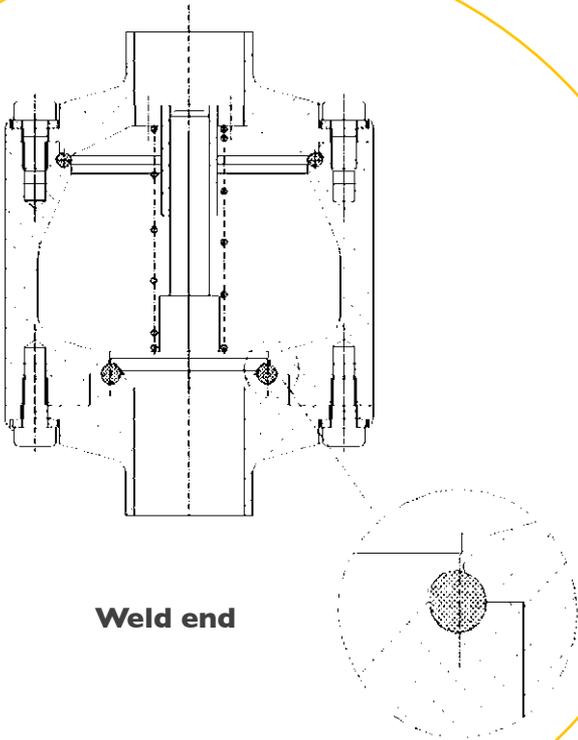
The flow creates a pressure against the valve disc so that the valve will be opened and the fluid passes with hardly any pressure drop through the valve. The spring is designed to allow the opening at a minimum differential pressure ( $\Delta p = 0.1-0.2$  bar, depending on the valve size)

### 2. Flow in the closed direction of the valve disc:

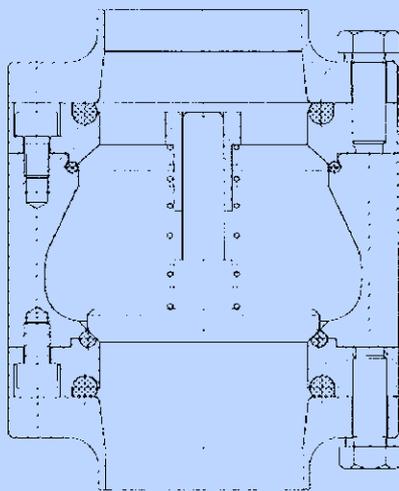
The flow causes pressure in the same direction as the spring. Thus, the disc closes against the seal at the lower seat. Therefore, there is, no possibility of flow through the valve.



# Features



**Weld end**



**Intermediate Flang**

One of the key objectives during development of the valve was the light design of the valve disc and its shaft.

To achieve this the seal has been integrated into the body. Therefore, friction, which is often caused by the weight of the valve disc and the shaft, especially in non-vertical mounting positions, is minimal. Accordingly the Guth non-return valve can be installed horizontally without causing any problems.

The whole inner design of the valve is flow-optimised. Therefore the pressure drop of the flow is minimal.

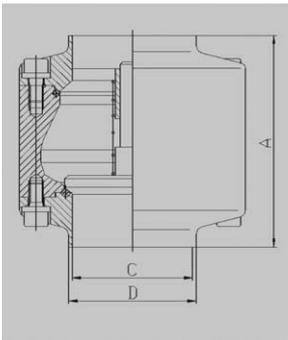
The seal design is similar to the DIN standard I 1864, execution A (O-ring as sealing element). The seat of the seal covers 3/4 of the seal. This prevents that product behind the seal. Furthermore a metallic stop guarantees a defined compression of the seal. Therefore improving the life of the seal. The seal has a double function: 1. It seals between the two parts of the housing. 2. It seals between valve disc and housing in case of reverse-flow.

The design features of the Guth non-return valves are patent protected.

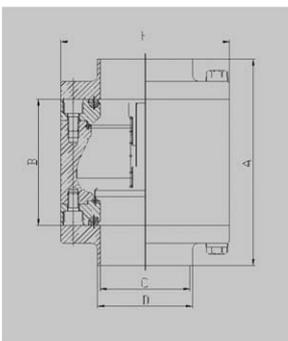


# Technical data and dimensions

- Material**  
 Product wetted parts: AISI 304 (1.4301) or 316 L (1.4404)
- Seals**  
 Standard: O-Ring (EPDM)  
 Optional: O-Ring (Silicone, HNBR, Viton, FEP-encapsulated)
- Pressure range**  
 Standard: PN10
- Surfaces**  
 Internal Surfaces finish: Ra < 0.8 µm  
 Optional: electro polished
- Temperatures**  
 Continuous operation: 120°C  
 Cleaning: approx. 85°C  
 Sterilisation: 145°C  
 (if used with standard seals)
- Connections**  
 Standard: Weld ends for tubes according to DIN 11850 series 2, Weld ends for tubes in inch dimensions (O.D.-Tube), intermediate flange.  
  
 Optional: Thread ends (DIN 11851 / DIN 11864, SMS, RJT), Clamp ends, liner/nut or male

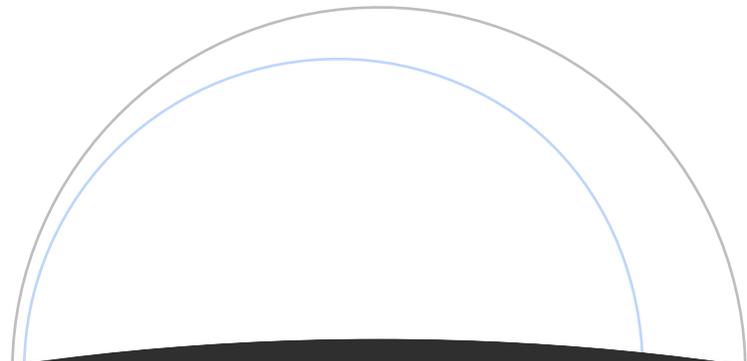


**Weld end type**



**Intermediate flange type**

DN	A	B	C	D	E
25	96	61	26	29	74
32	108	60	32	35	78
40	116	60	38	41	78
50	116	71	50	53	94
65	129	80	66	70	113
80	116	82	81	85	133
100	132	95	100	104	159



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