

# Strainers with flanged connections



**Type 2 N** · With standard strainer insert

**Type 2 NI** · With dual strainer insert

## Application

Designed to protect downstream plants, aggregates as well as measuring and control devices against impurities · Straining and collecting dirt particles carried along by the medium.

Body in **PN 10 to 40 · DN 15 to 250 · Flanged connections**  
Suitable for **liquids, steam, and gases** up to max. **450 °C**

The strainers consist of a Y-style body with flanged connections and a wide-meshed filter element (standard strainer insert) or a wide-meshed filter element with an additional fine-meshed filter element (dual strainer insert).

## Special features

- Compact design with face-to-face dimensions according to DIN
- Easy removal of the collected dirt particles
- Easy replacement of the strainer insert

## Versions

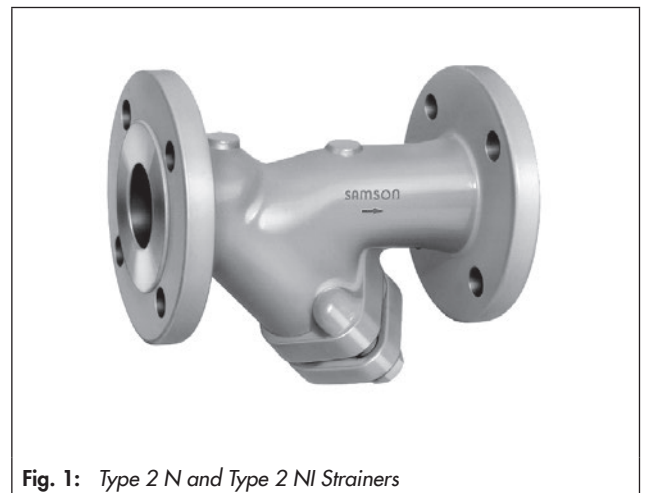
**Type 2 N** · With standard strainer insert

**Type 2 NI** · With dual strainer insert

- Strainers with DIN flanges
- Cast iron body for PN 10 and 16, DN 15 to 250
- Spheroidal graphite iron body for PN 16 and 25, DN 15 to 150
- Cast steel body for PN 16 to 40, DN 15 to 250
- Cast stainless steel body for PN 16 to 40, DN 15 to 100

## Special versions

- With two threaded ports for pressure gauge connection (DN 15 to 100: G ¼, DN 125 to 250: G ½)
- Additional support cage in cases where backflow may occur in vertical pipelines
- With threaded port for rinsing line connection (DN 15: G ¼, DN 20 to 250: G ½)
- Flanges with tongue, male face or female face
- Flanges with groove according to DIN 2512



**Fig. 1:** Type 2 N and Type 2 NI Strainers

## Principle of operation

The medium flows through the strainer in the direction indicated by the arrow on the body. The uncleaned medium first contacts the inside of the strainer insert (filter element). While it passes through the filter element, the dirt particles carried along by the medium are collected in the filter element. The dirt particles can be removed after undoing the cover flange.

**Installation** · Further details can be found in ► EB 1015.

The direction of flow must match the direction indicated by the arrow on the body. Leave enough space to remove the filter element for cleaning (see Dimensions and weights).

- Install strainers in vertical pipelines with the medium flowing upward with the cover flange facing upward as indicated by the arrow. In this case, dirt particles are retained but not collected.
- Install swing check valves or similar devices to prevent backflow.

**Table 1: Technical data**

Type	Valve size	DN	15	20	25	32	40	50	65	80	100	125	150	200	250	
2 N	K <sub>V5</sub>	m <sup>3</sup> /h	5	10	17.5	21	36	65	116	150	235	366	522	950	1450	
	Mesh size	mm	0.5			0.8			1.25			2				
	Mesh count per cm <sup>2</sup>		150			59			28			12				
	Flow resistance coefficient	ζ	2.5													
	Free filter area		Approx. 3 times pipe cross-section						Approx. 2.75 times pipe cross-section			Approx. 2.5 times pipe cross-section				
2 NI <sup>1)</sup>	K <sub>V5</sub>	m <sup>3</sup> /h	4.5	8	14	18	29	51	90	115	190	290	450	760	1150	
	Mesh size	mm	0.25													
	Mesh count per cm <sup>2</sup>		625													
	Flow resistance coefficient	ζ	3													
	Free filter area		Approx. 3 times pipe cross-section						Approx. 2.75 times pipe cross-section			Approx. 2.5 times pipe cross-section				

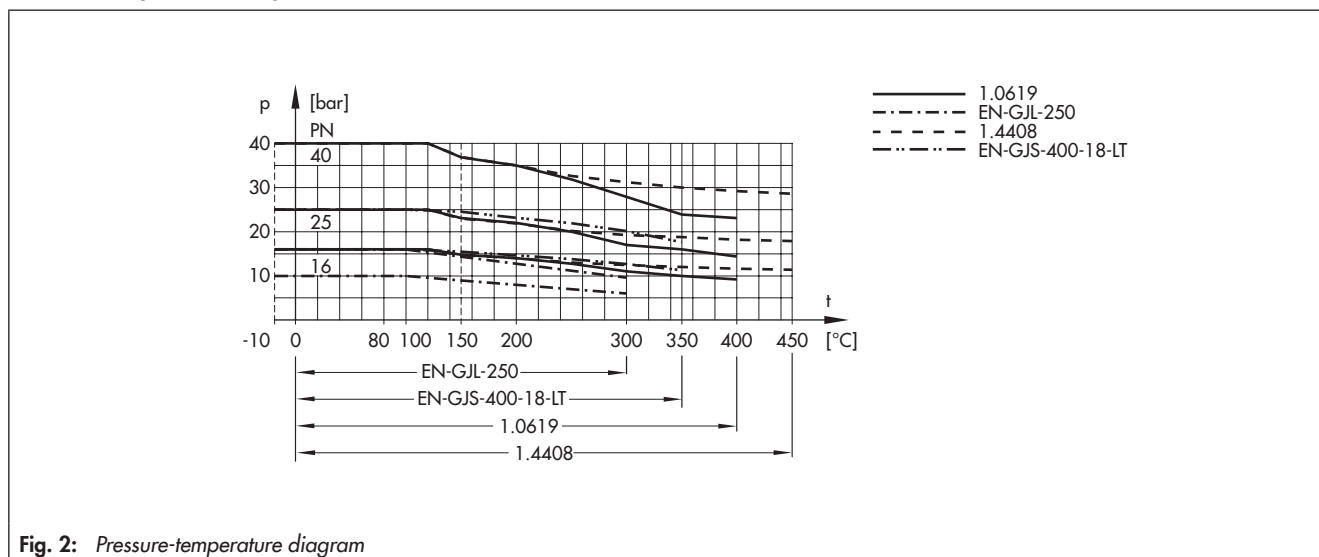
<sup>1)</sup> Type 2 NI fulfills the requirements of DVGW (German Technical and Scientific Association for Gas and Water) according to DIN EN 161

The **pressure loss Δp** in **bar** caused by the strainer can be calculated using the following equation:

$$\Delta p [\text{bar}] = \frac{\zeta \cdot \rho \cdot v^2}{200\,000}$$

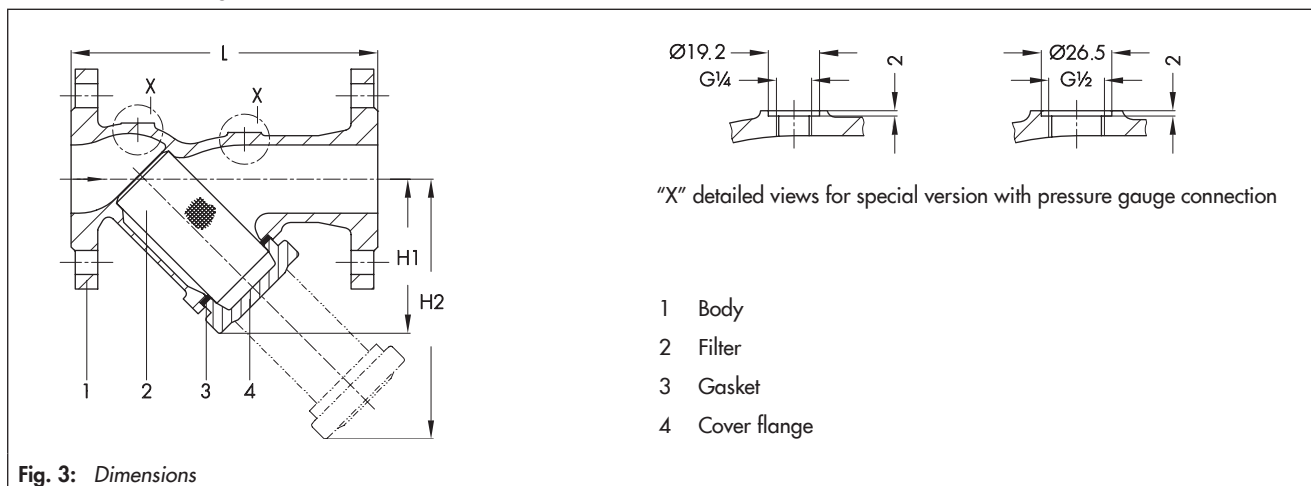
- Δp Pressure loss bar
- ζ Flow resistance coefficient Dimensionless
- v Mean velocity in reference cross-section m/s
- ρ Density of the process medium kg/m<sup>3</sup>

**Pressure-temperature diagram**



**Fig. 2:** Pressure-temperature diagram

## Dimensions and weights



**Table 2:** Dimensions in mm and weights

Valve size	DN	15	20	25	32	40	50	65	80	100	125	150	200	250
PN 10 · PN 16 PN 25 · PN 40	Length L	130	150	160	180	200	230	290	310	350	400	480	600	730
	Height H1	45	60	70	85	95	115	150	180	224	255	290	385	480
	H2 (strainer insert pulled out)	75	90	110	135	160	195	225	295	343	420	485	640	790
	Weight, approx. kg	Spheroidal graphite iron/cast iron	1.9	2.8	3.3	5.4	6.5	9.1	12	17	24	36	52	91
Cast steel		2.2	3.2	4.0	5.8	7.2	10	14	19	28	42	60	130	195

**Table 3:** Materials · Material numbers according to DIN EN

Valve size	DN 15 to 250	DN 15 to 150	DN 15 to 250	DN 15 to 100
Nominal pressure	PN 10 to 16	PN 16 and 25	PN 16 to 40	PN 16 to 40
Body	Cast iron EN-GJL-250	Spheroidal graphite iron EN-GJS-400-18-LT	Cast steel 1.0619	Cast stainless steel 1.4408
Cover flange	EN-GJL-250	1.0460	1.0460 <sup>1)</sup>	1.4571
Filter	Stainless steel 1.4401			
Seal	Graphite on metal core			

<sup>1)</sup> DN 200 and 250: 1.0619

### Ordering text

Type 2 N or Type 2 NI Strainer, nominal size DN ...,

Nominal pressure PN ..., body material ...,

Optionally, special version ...

Specifications subject to change without notice



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