

Non-return check valves

Model 58768

**Wafer single disc swing check valve
PN16 - FKM gaskets - 316 stainless steel**



Specifications

Dimensions: DN40 to DN300 (1 1/2" to 12")

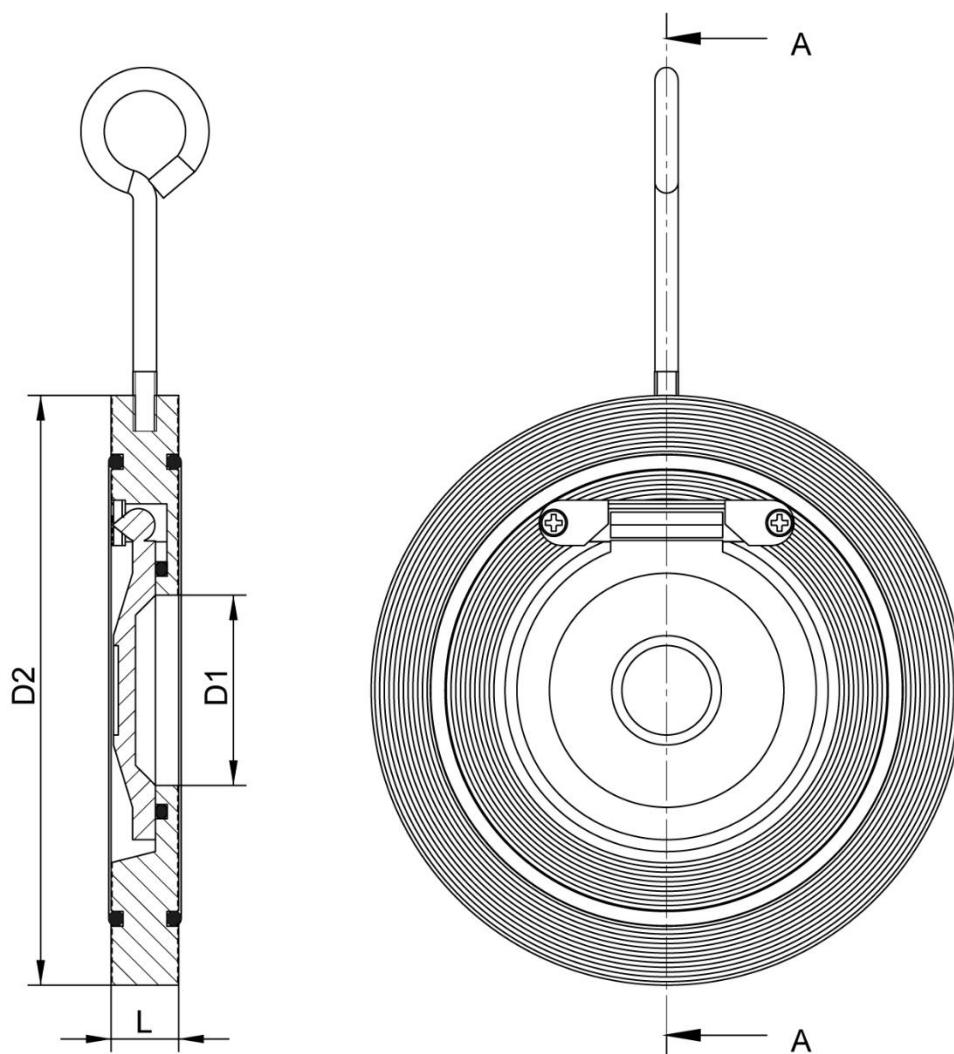
Connection: between flanges in accordance with EN 1092-1

Pressure: PN16

Temperature: -25°C to +180°C

Material: 316/CF8M stainless steel VITON gaskets (for the parts that can come into contact with the transported fluid)

ATEX II 2 G D

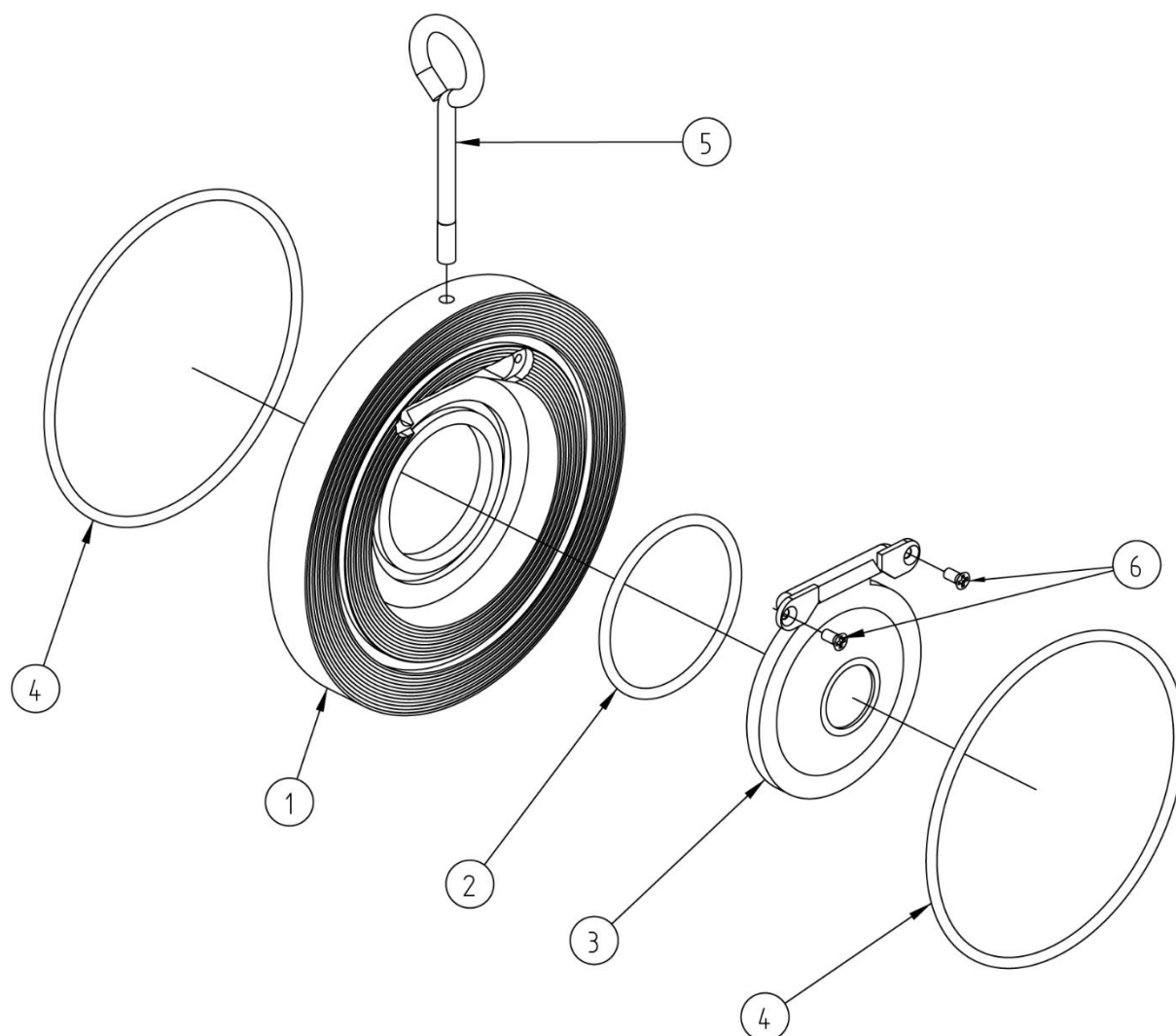


A-A cross section

DN (mm)	NB (inches)	D1 (mm)	D2 (mm)	L (mm)	Weight (kg)	Part number
40	1"1/2	25	92	12	0.50	458768-40
50	2"	32	105	14	0.79	458768-50
65	2"1/2	40	124	14	1.15	458768-65
80	3"	54	136	14	1.35	458768-80
100	4"	70	165	18	2.30	458768-100
125	5"	92	195	18	3.20	458768-125
150	6"	114	220	20	4.55	458768-150
200	8"	154	275	22	7.20	458768-200
250	10"	200	330	26	11.95	458768-250
300	12"	230	384	30	20.50	458768-300

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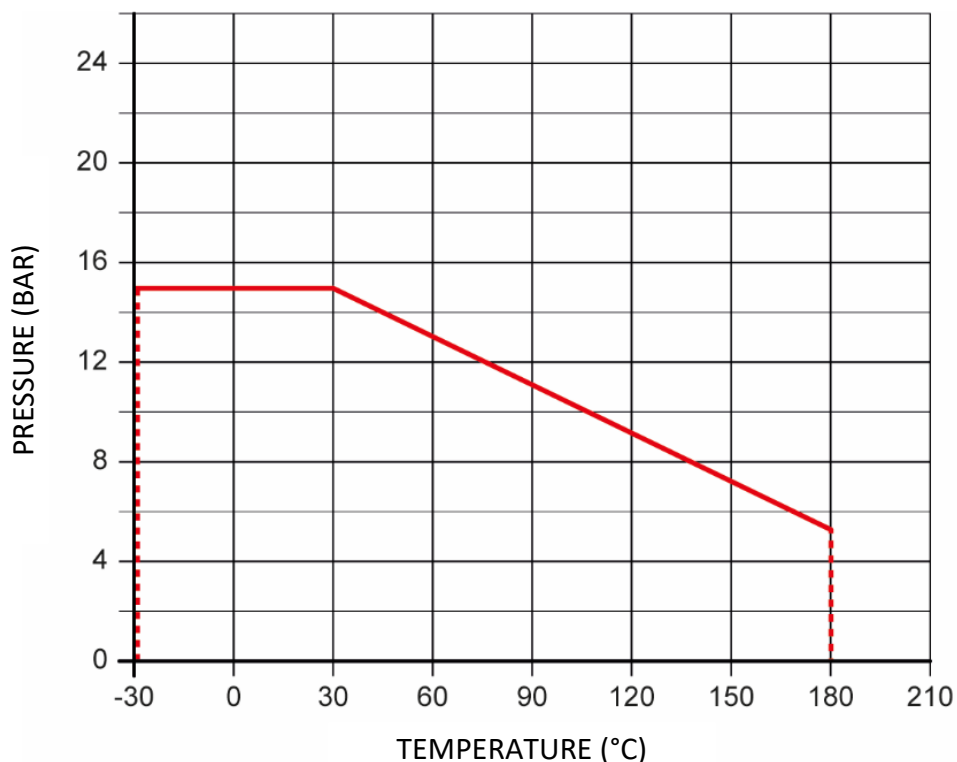


N°	Part Name	Material
1	BODY	CF8M
2	O-RING (DISC)	VITON
3	DISC	CF8M
4	OUTER O-RING	VITON
5	HOOK	STEEL
6	FIXING SCREW	A4

Use

Pressure and temperature

For pressure/temperature ratings, see the graph below.



Warning: If the check valve is used with fluids that have a temperature above 60°C then people could burn themselves if they touch it.

Fluids

This check valve is suitable for non-abrasive and non-coagulable fluids, as long as the fluids are chemically compatible with the valve parts that they can come into contact with.

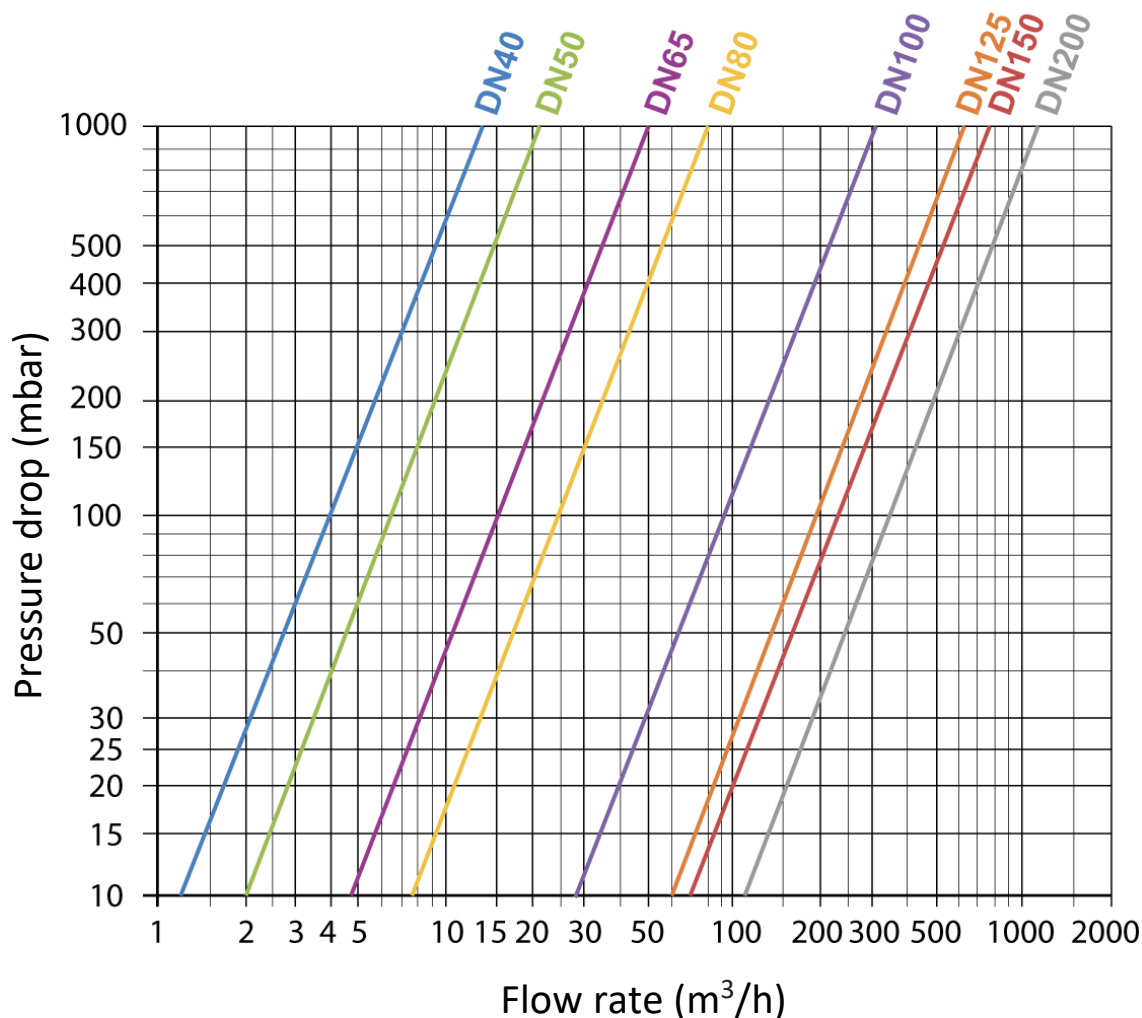
Opening pressure (OP)

Fluid direction	Dimensions	DN40	DN50	DN65	DN80	DN100	DN125	DN150	DN200	DN250	DN300
		1"1/2	2"	2"1/2	3"	4"	5"	6"	8"	10"	12"
Horizontal	OP (mbar)	≈ 0							≈ 0		
Vertical (ascending fluid)		6							9		

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Pressure drop diagram



Flow coefficient and pressure loss

Dimensions	DN40	DN50	DN65	DN80	DN100	DN125	DN150	DN200	DN250	DN300
	1"1/2	2"	2"1/2	3"	4"	5"	6"	8"	10"	12"
Kv (m³/h)	11.5	25.5	42.5	68.0	248.0	550.5	729.0	1045.0	1907.0	2720.0

The flow coefficient Kv defines water flow rate through a device (e.g. valve, check valve etc.) for a pressure loss (ΔP) of 1 bar. Kv is expressed mathematically as:

$$\Delta P = \frac{Q^2}{K_v^2} \quad \text{so:} \quad K_v = \frac{Q}{\sqrt{\Delta P}} \quad \begin{array}{l} Q \text{ in m}^3/\text{h} \\ \Delta P \text{ in bar} \end{array} \quad \begin{array}{l} K_v \text{ in m}^3/\text{h} \\ C_v \text{ in GPM (Gallons per minute - US)} \end{array} \quad C_v = 1.16 \times K_v$$

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Assembly and maintenance instructions

Installation

The check valve must be installed in horizontal pipes with a slight rising slope, to make sure that the disc completely returns onto its seat, or in vertical pipes with ascending fluids. When you install the check valve make sure that the arrow on it is pointing in the direction in which fluids will pass through it.

You must install the check valve so that the disc is closed by gravity.

Make sure that the check valve can work optimally:

You must install the check valve sufficiently far away from any zones of turbulence generated by the piping (elbows, reductions, etc.) or by any another apparatus (pumps, etc.). You can do this by installing straight pipes (that are each at least 4 to 5 times longer than the check valve's DN) in front of and behind the check valve.

Check that there is enough space and there are enough valves to isolate this section so that you can carry out maintenance operations where you are planning to install the check valve.

Check that the installation is clean and free from foreign bodies that could damage the check valve.

Check that all piping is perfectly aligned and that the piping support structure is dimensioned so that the check valve is not subject to any external stresses. The piping support structure must only support the pipes, not the check valve.

How to install a check valve:

Weld flanges (e.g. flanges with a collar) onto the piping and respect the required spacing and alignment of the mounting holes. You must check that the check valve is correctly lined up with the flanges during installation. For heavy parts, use lifting devices if necessary.

Clean the installation so that there are no foreign bodies in the piping.

Check that the check valve's disc can move smoothly.

Pressure test the installation according to the relevant standards, but do not exceed the check valve's specifications.

Maintenance

Depending on the fluid passing through the valve, you may need to change the gaskets regularly.

You may need to change the check valve due to unusual wear and tear, or if a fluid has damaged the valve and caused a leak or malfunction.

If this is the case see the 'Spare parts' section below.

Spare parts



Gasket kit

A gasket kit contains:

- 2 outer o-rings **4**
- 1 inner o-ring (disc gasket) **2**

DN (mm)	NB (inches)	Part number
40	1/4"	D5431-40
50	3/8"	D5431-50
65	1/2"	D5431-65
80	3/4"	D5431-80
100	1"	D5431-100

DN (mm)	NB (inches)	Part number
125	1"1/2	D5431-125
150	2"	D5431-150
200	2"1/2	D5431-200
250	3"	D5431-250
300	4"	D5431-300

Standards and compliance

- Leak testing according to EN 12266/API 598.
- This valve complies with European Pressure Equipment Directive (PED) 2014/68/EU (formerly 97/23/EC).
- ATEX Group II Category 2 G D, in accordance with Directive 94/9/EC (certificate EX9 15 02 91284 001).