

# Non-return check valves



ISO 7-1

**Model 58753****Swing check valve female/female BSP  
316 stainless steel**

## Specifications

**Dimensions:** DN8 to DN50 (1/4" to 2")**Connection:** BSP female thread in accordance with ISO 7-1**Pressure:** PN16**Max. Temperature:** - 25°C to +180°C**Material:** 316 or CF8M stainless steel  
(for the parts that can come into contact with the transported fluid)

Metal/metal check valve.

PTFE body gasket

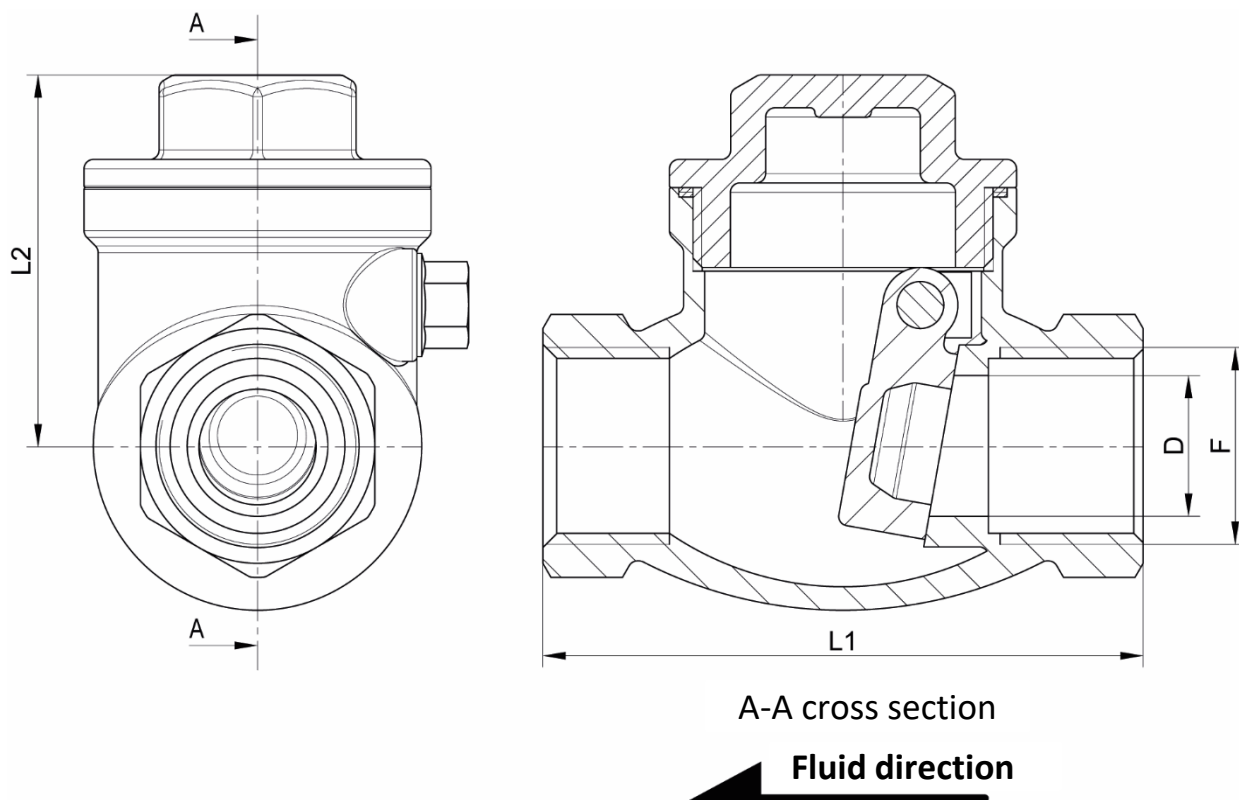
ATEX II 2 G D

ISO 9001  
BUREAU VERITAS  
Certification

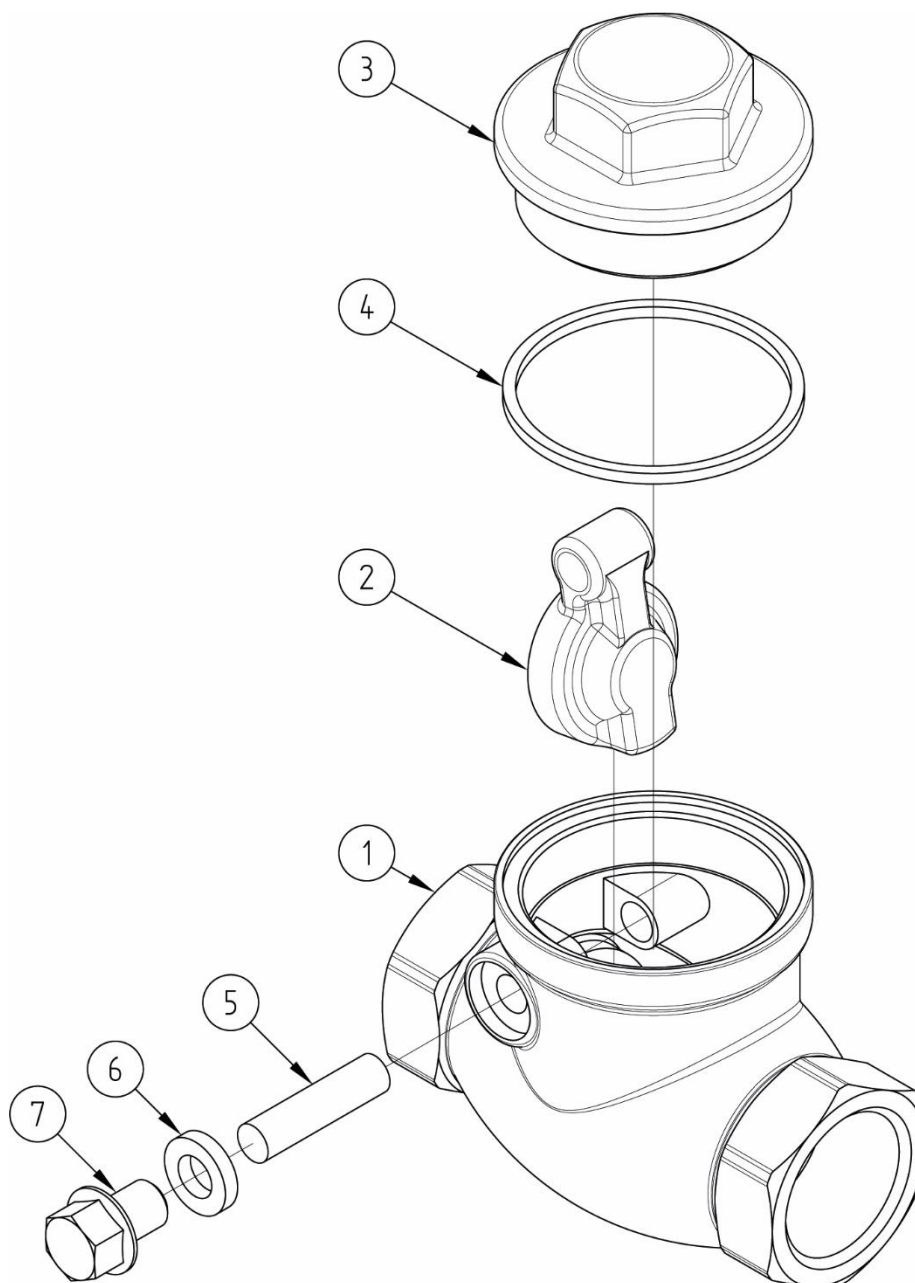
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58753-E V0826



| DN<br>(mm) | NB<br>(inches) | D<br>(mm) | F<br>(inches) | L1<br>(mm) | L2<br>(mm) | Weight<br>(kg) | Part number |
|------------|----------------|-----------|---------------|------------|------------|----------------|-------------|
| 8          | 1/4"           | 10        | Rp 1/4"       | 63         | 42         | 0.29           | 458753-8    |
| 10         | 3/8"           | 12        | Rp 3/8"       | 63         | 42         | 0.28           | 458753-10   |
| 15         | 1/2"           | 15        | Rp 1/2"       | 63         | 42         | 0.26           | 458753-15   |
| 20         | 3/4"           | 20        | Rp 3/4"       | 78         | 46         | 0.38           | 458753-20   |
| 25         | 1"             | 25        | Rp 1"         | 87         | 50         | 0.58           | 458753-25   |
| 32         | 1"1/4          | 32        | Rp 1"1/4      | 101        | 54         | 0.90           | 458753-32   |
| 40         | 1"1/2          | 40        | Rp 1"1/2      | 115        | 64         | 1.20           | 458753-40   |
| 50         | 2"             | 50        | Rp 2"         | 135        | 71         | 1.65           | 458753-50   |

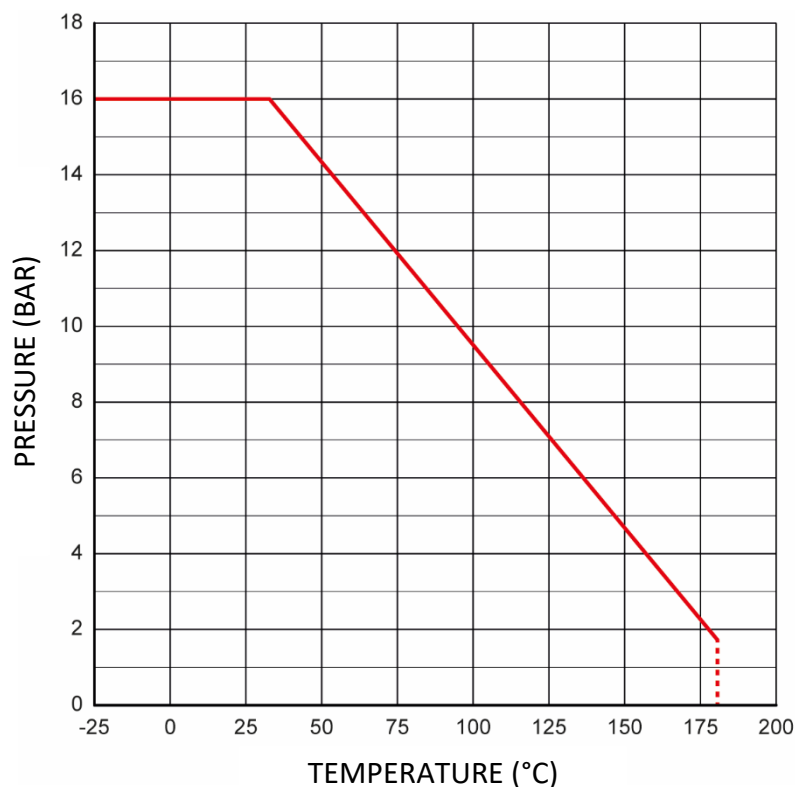


| N° | Part Name                 | Material |
|----|---------------------------|----------|
| 1  | BODY                      | CF8M     |
| 2  | DISC                      | CF8M     |
| 3  | CAP                       | CF8M     |
| 4  | FLAT GASKET (BODY/CAP)    | PTFE     |
| 5  | HINGE (DISC)              | AISI 316 |
| 6  | FLAT GASKET (BODY/ HINGE) | PTFE     |
| 7  | SCREW WITH COLLAR         | AISI 316 |

## 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.

### Flow coefficient and pressure loss

| Dimensions | DN 8 | DN 10 | DN 15 | DN20 | DN25 | DN 32 | DN 40 | DN 50 |
|------------|------|-------|-------|------|------|-------|-------|-------|
|            | 1/4" | 3/8"  | 1/2"  | 3/4" | 1"   | 1"1/4 | 1"1/2 | 2"    |
| Kv (m³/h)  | 2.6  | 3.1   | 4.4   | 6.8  | 10.0 | 17.0  | 26.0  | 43.0  |

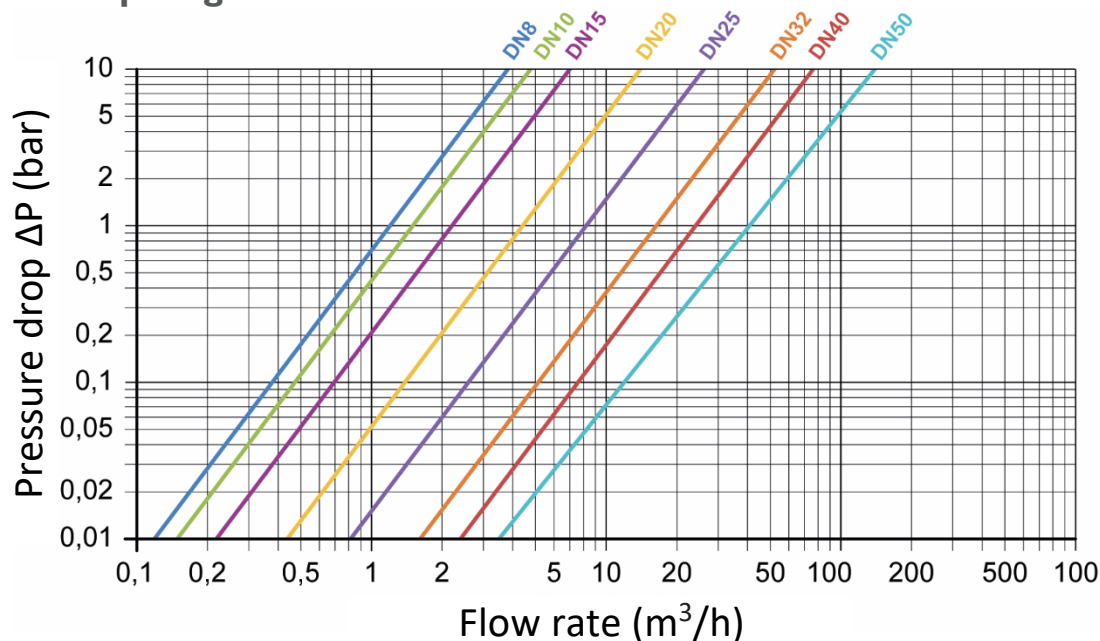
The flow coefficient Kv defines water flow rate through a device (valve, check valve etc.) for a pressure loss ( $\Delta P$ ) of 1 bar. Kv is expressed mathematically as:

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

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## Pressure drop diagram



## Assembly and maintenance instructions

### Installation

You must install the check valve horizontally or vertically with fluid moving upwards. 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 gravity will close the disc.

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 non-return check valve:

You must not use the check valve's body when you are tightening it. You must use a product that is suitable for the working conditions (e.g. pipe sealant model **5291**, etc.) to make sure the valve's threaded connections are sealed correctly.

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

The check valve does not require any specific maintenance if it is used in normal operating conditions.

You may need to change some of the valve's parts 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 'Assembly / Disassembly' section below.

## Assembly / Disassembly

*The maintenance and removal/installation of the check valve must be carried out by personnel who are qualified and trained for this type of intervention.*



Warning: Before you work on the check valve, check that the installation has been stopped and that the piping is empty and is not pressurised.

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.

Warning: Beware of hazardous materials - follow the instructions provided by the suppliers.

Unscrew the cap **3** and remove the flat gasket (body/cap) **4**.

Unscrew the screw **7** to remove the gasket **6**, the hinge **5** and the disc **2**.

Clean and inspect all of the parts of the valve. Replace any worn parts. You should replace any sealing parts that have been disassembled.

Follow the disassembly steps in reverse to reassemble the valve.

Pressure test the check valve and check the check valve disc's movement before you put the installation back into service.

## Spare parts

### Gasket kit

A gasket kit contains:

- 2 flat gaskets **4** and **6**

| DN<br>(mm) | NB<br>(inches) | Part number |
|------------|----------------|-------------|
| 8          | 1/4"           | D5051-8     |
| 10         | 3/8"           | D5051-10    |
| 15         | 1/2"           | D5051-15    |
| 20         | 3/4"           | D5051-20    |

| DN<br>(mm) | NB<br>(inches) | Part number |
|------------|----------------|-------------|
| 25         | 1"             | D5051-25    |
| 32         | 1"1/4          | D5051-32    |
| 40         | 2"1/2          | D5051-40    |
| 50         | 2"             | D5051-50    |

## Standards and compliance

- Connection: BSP female thread in accordance with the standard EN ISO 7-1 (Rp).
- 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 2G/2D, in accordance with Directive 2014/34/EC (certificate EX9 15 02 91284 001).