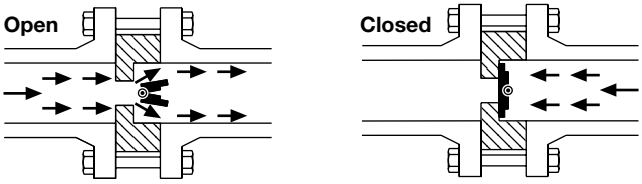
SDCV4
Austenitic Stainless Steel
Split Disc Check Valve - ASME (ANSI) / JIS/KS Flanges

Description
A range of austenitic stainless steel split disc check valves in a wafer pattern suitable for fitting between ASME (ANSI) Class 150 and Class 300, JIS/KS 10K and 20K flanges. Their function is to prevent reverse flow on a wide variety of fluids for applications in process lines, hot water systems, steam and condensate systems. The face-to-face dimension of the SDCV4 conforms to API 594 and seat leakage to API 598. As standard the valve has a metal-to-metal seat. A Fluoroelastomer soft seat and heavy spring are also available.

Operation
A split disc check valve is opened by the pressure of the fluid and closed by the spring as soon as the flow ceases and before the reverse flow occurs.



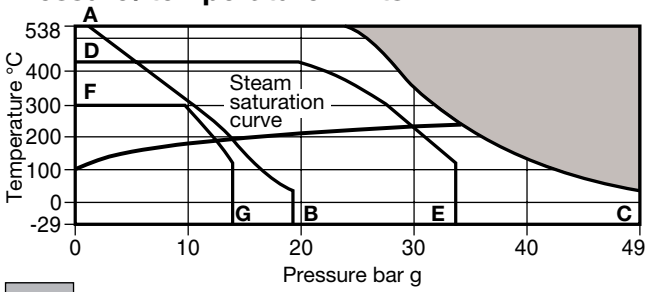
Standards
This product fully complies with the requirements of the European Pressure Equipment Directive 97/23/EC and carries the CE mark when so required.

Standard shut-off
Metal-to-metal seat leakage is tested to API 598.

Certification
The product is available with certification to EN 10204 3.1.
Note: All certification/inspection requirements must be stated at the time of order placement.

Size and pipe connections
DN50, DN80, DN100, DN150, DN200, DN250 and DN300.
Suitable for installation between the following flanges:
ASME (ANSI) B 16.5 class 150 and 300, JIS/KS 10K and 20K.

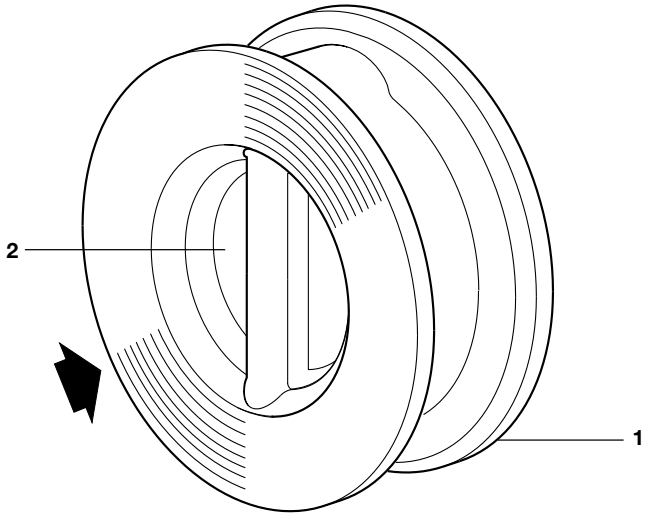
Pressure/temperature limits



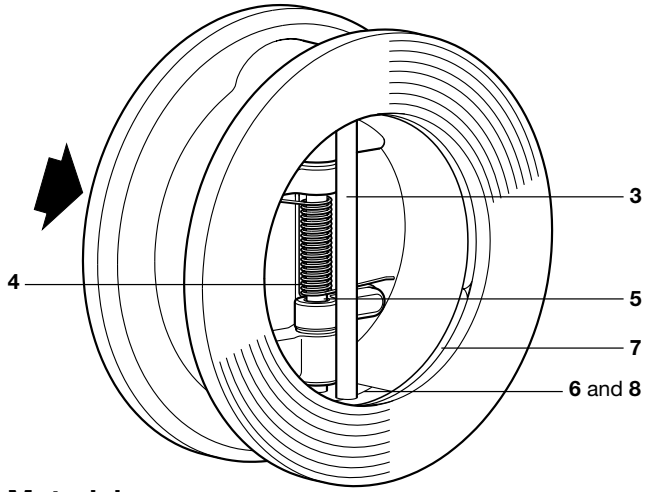
The product **must not** be used in this region.

A - B ASME (ANSI) 150 flanges
A - C ASME (ANSI) 300 flanges
F - G JIS/KS 10K flanges
D - E JIS/KS 20K flanges

Body design conditions			ASME (ANSI) 300
PMA	Maximum allowable pressure		49 bar g @ 38°C
TMA	Maximum allowable temperature		538°C @ 24 bar g
Minimum allowable temperature		Metal seat	-29°C
		Fluoroelastomer soft seat	-29°C
PMO	Maximum operating pressure		49 bar g @ 38°C
TMO	Maximum operating temperature	Metal seat	538°C @ 24 bar g
		Fluoroelastomer soft seat	200°C @ 36 bar g
Minimum operating temperature		Metal seat	-29°C
		Fluoroelastomer soft seat	-29°C
Designed for a maximum cold hydraulic test pressure of 76 bar g			



Note: Item **10** is not shown and item **9** cannot be illustrated.



Materials

No.	Part	Material	
* 1	Body	Austenitic stainless steel	ASTM A351 CF8M
2	Plate	Austenitic stainless steel	ASTM A351 CF8M
3	Hinge/stop pin	Austenitic stainless steel	AISI 316
4	Coil spring	Nickel alloy	Inconel-X
5	Pin	Austenitic stainless steel	316
6	Clips	Austenitic stainless steel	316
7	Ring	Austenitic stainless steel	316
8	Pin Fixture	Austenitic stainless steel	316
* 9	Soft seat	Fluoroelastomer (optional)	Fluoroelastomer
10	Eye bolt	Carbon steel (DN150 to DN300, ASME 300 only)	

* Valve bodies that are marked with a 'V' - have a Fluoroelastomer seating face.
Valve bodies that are marked with a 'H' - have heavy springs 0.45 bar g (450 mb).

Note: A range of alternative body, plate and component materials are available to satisfy special applications.
Please contact Spirax Sarco for further information on availability and how to order.

Dimensions approximate in mm

	ASME 150 Ø A	ASME 300 Ø A	JIS/KS 10K Ø A	JIS/KS 20K Ø A	B	Ø C	Ø D
DN50	105	111	101	101	60	40	57.0
DN80	137	149	131	137	73	51	87.0
DN100	175	181	156	162	73	89	113.0
DN150	222	251	217	235	98	140	166.0
DN200	279	308	267	279	127	171	206.5
DN250	340	362	330	353	146	235	260.0
DN300	410	422	375	403	181	260	300.0

Weights approximate in kg

	ASME 150	ASME 300	JIS/KS 10K	JIS/KS 20K
DN50	2.7	2.7	2.5	2.5
DN80	6.8	6.8	6.5	6.6
DN100	8.6	8.6	8.1	8.2
DN150	17.0	25.0	16.0	16.2
DN200	31.0	36.0	29.0	29.2
DN250	52.0	64.0	48.5	49.0
DN300	97.0	98.0	91.0	92.0

K_V values

DN	**50**	**80**	**100**	**150**	**200**	**250**	**300**
K_V	40	111	226	611	1 188	2 205	3 299

For conversion: C_V (UK) = K_V x 0.963 C_V (US) = K_V x 1.156

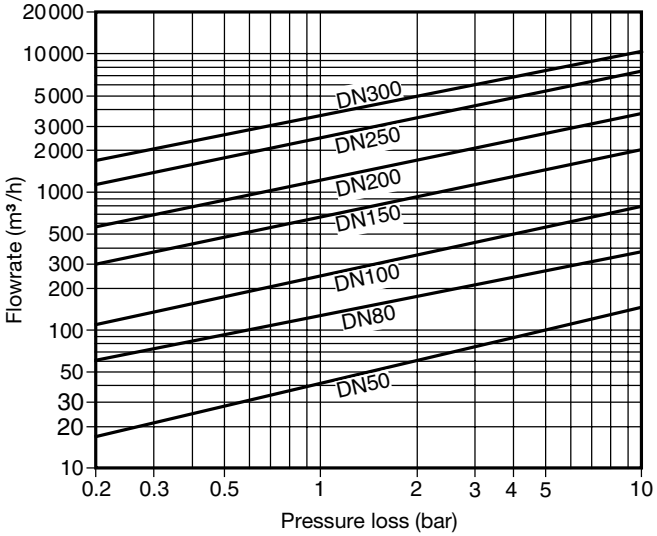
Opening pressures in mbar

Differential pressures with zero flow. → Flow direction

	DN50	DN80	DN100	DN150	DN200	DN250	DN300
→	30	30.0	26	27	16	16	17
↑	48	45.5	43	43	39	40	46

Note: with a heavy spring fitted the opening pressure is 0.45 bar g (450 mb).

Pressure loss diagram

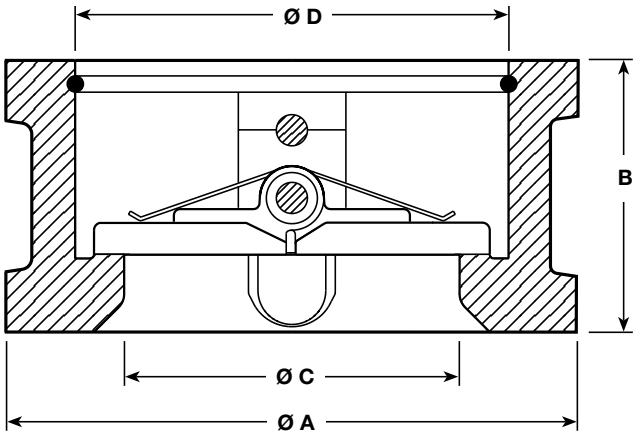


Pressure loss diagram with the valve open at 20°C. The values indicated are applicable to spring loaded valves with horizontal flow. With vertical flow, insignificant deviations occur only within the range of partial opening.
The curves given in the chart are valid for water at 20°C. To determine the pressure drop for other fluids the equivalent water volume flowrate must be calculated and used in the graph.

$$\dot{V}_w = \sqrt{\frac{\rho}{1000}} \times \dot{V}$$

Where:
$\dot{V}_w$ = Equivalent water volume flow in l/s or m³/h
ρ = Density of fluid kg/m³
$\dot{V}$ = Volume of fluid l/s or m³/h

Pressure loss information for steam, compressed air and gases is available from Spirax Sarco.



How to order

Example: 1 off Spirax Sarco SDCV4 having an austenitic stainless steel body for installation between DN150, ASME Class 150 flanges. Complete with EN 10204 3.1 certification for the body.

Safety information, installation and maintenance

For full details see the Installation and Maintenance Instructions (IM-P601-03) supplied with the product.

Note: The SDCV4 is not suitable for heavy pulsating flows (compressors) or vertical down flows.
Flanges, bolts (or studs), nuts and joint gaskets are to be provided by the installer.

Spare parts

The spare parts are available as indicated below. No other parts are supplied as spares.

Available spares	
Overhaul kit	**2** (2 off), **4**

How to order spares
Always order spares by using the description given in the column headed 'Available spares' and state the size and type of check valve.

Example: 1 - Overhaul kit for a DN200 SDCV4 split disc check valve.