DCV10 Stainless Steel and DCV10C Carbon Steel Centrally Guided Disc Check Valves

Description

The **DCV10** (cast stainless steel) and **DCV10C** (zinc plated cast carbon steel) are wafer pattern disc check valves that have been designed to be sandwiched between flanges for use with pumps and general cycling applications. They are suitable for use on a wide range of fluids for applications in process lines, hot water systems, steam and condensate systems etc. The centrally guided design ensures improved life span of the unit plus more reliability when compared to traditional disc check valves. These disc check valves will ensure correct flow of condensate and other suitable fluids whilst also preventing reverse flow - maintaining production and profit at all times.

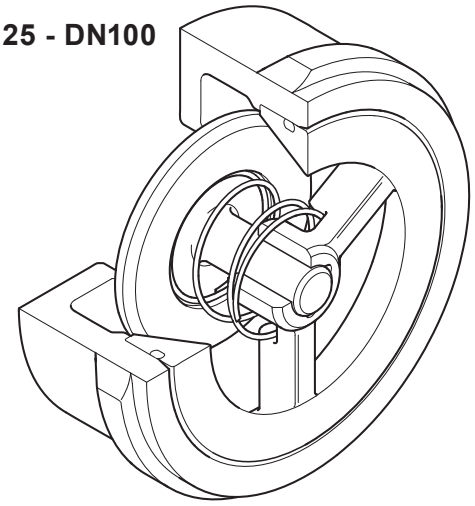
Standards: Designed in accordance with BS EN 14341:2006. This product fully complies with the requirements of the Indian Boiler Regulations 1950.

Shut-off: Shut-off conforms to EN 12266-1:2003 Rate F.

Certification: This product is available with IBR Certification. **Note:** All certification / inspection requirements must be stated at the time of order placement.

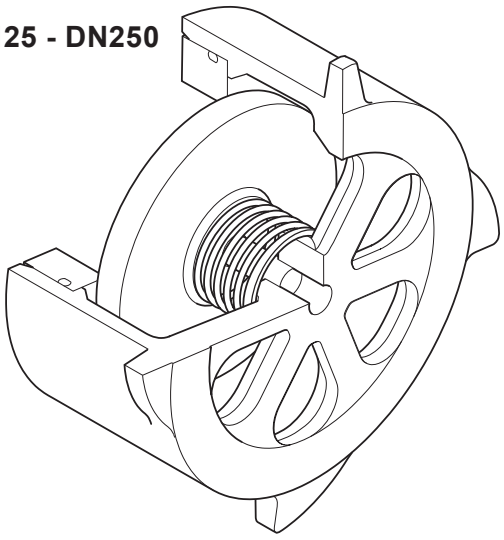
DCV10

DN25 - DN100



DCV10 and DCV10C

DN125 - DN250



Sizes and pipe connections

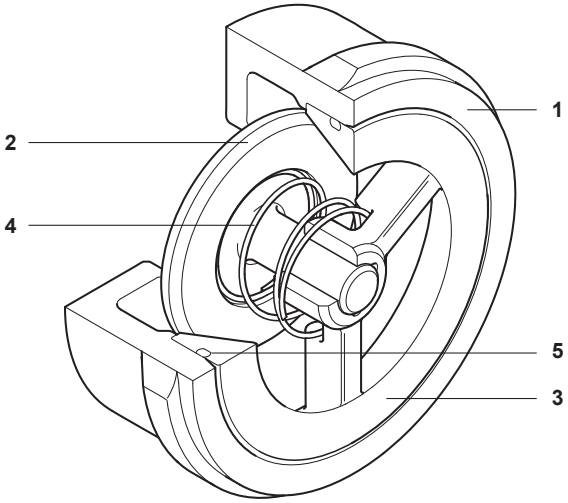
Sizes: DN25, DN40, DN50, DN80, DN100, DN125, DN150, DN200 and DN250

The ASME Class 300 design fits between the following flanges: ASME B 16.5 Class 150 and Class 300.

Face-to-face dimensions are in accordance with EN 558 Series 49 for the DN125 - DN200 size range and EN 558 Series 52 for the DN250.

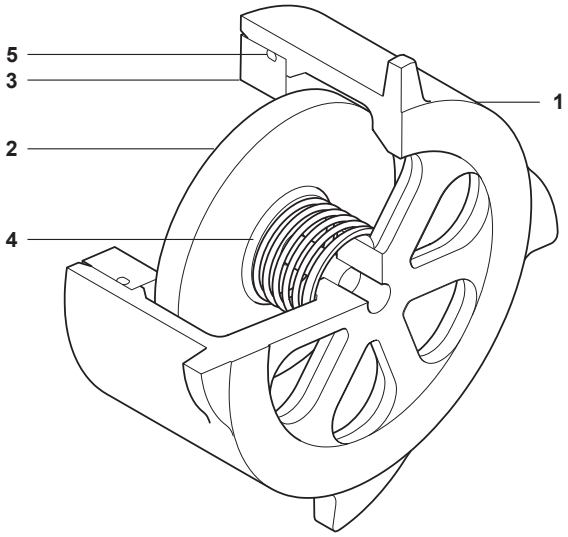
DCV10 DN25 - DN100

No.	Part	Material	
1	Body	Austenitic stainless steel	A351 CF8
2	Disc	Austenitic stainless steel	A276 316L
		Austenitic stainless steel	AISI 316L
3	Spider	Martensitic stainless steel	BS 3146-2 ANC2
4	Spring	Stainless steel	BS 2056 316 S42
5	Gaskets	Reinforced exfoliated graphite	



DCV10 and DCV10 DN125 - DN250

No.	Part		Material	
1	Body	DCV10	Austenitic stainless steel	A351 CF8
		DCV10C	Carbon steel	A216 WCB
2	Disc		Austenitic stainless steel	A351 CF8
3	Seat		Austenitic stainless steel	A351 CF8
4	Spring		Stainless steel	316L
5	Gaskets		Reinforced exfoliated graphite	



K_V values

Size	DN25	DN40	DN50	DN80	DN100	DN125	DN150	DN200	DN250
K_V	10.8	26	43	80	130	188	213	432	735

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

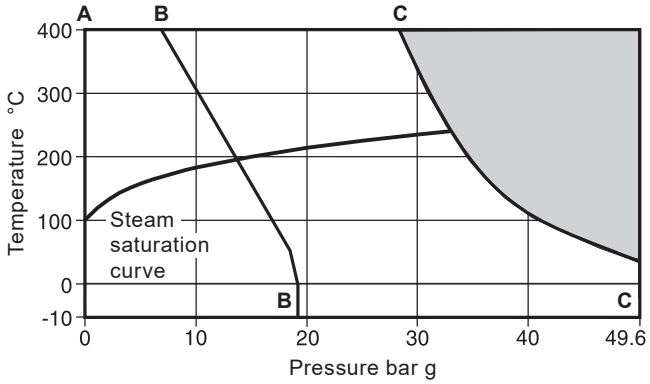
Opening pressures in mbar

Differential pressures with zero flow.
➔ Flow direction

DN	DN25	DN40	DN50	DN80	DN100	DN125	DN150	DN200	DN250
↑	25.0	28.0	29.0	31.0	33	44	46	48.5	54
➔	22.5	24.5	24.5	25.5	27	32	33	34	37
↓	20.0	20.0	20.0	30.0	20	20	20	20	20

DCV10
DN25 - DN100

Pressure/temperature limits



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

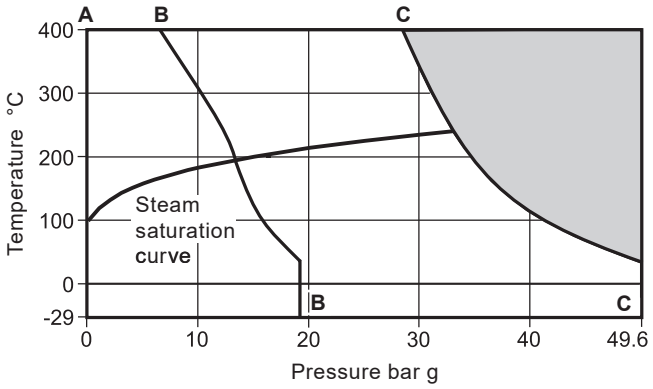
A - B Flanged ASME Class 150.

A - C Flanged ASME Class 300.

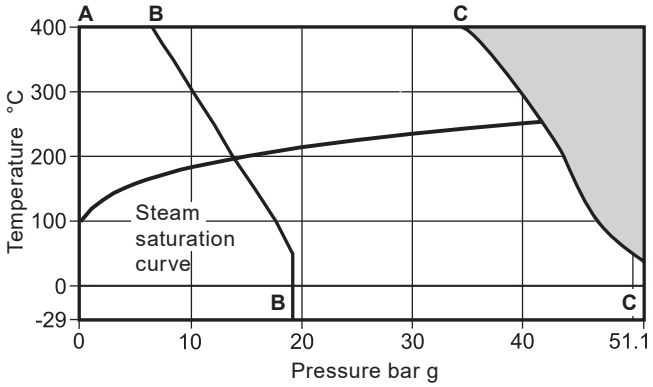
Body design condition			ASME Class 300
PMA	Maximum allowable pressure	ASME Class 300	49.6 bar g @ 38 °C
TMA	Maximum allowable temperature	ASME Class 300	400 °C @ 28.4 bar g
Minimum allowable temperature			-10 °C
PMO	Maximum operating pressure	ASME Class 300	49.6 bar g @ 38 °C
TMO	Maximum operating temperature	ASME Class 300	400 °C @ 28.4 bar g
Temperature limits			-10 °C to +400 °C
Minimum operating temperature			-10 °C
Designed for a maximum cold hydraulic test pressure of:		ASME Class 300	74.4 bar g

Pressure/temperature limits

DCV10
DN125 - DN250



DCV10C
DN125 - DN250



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

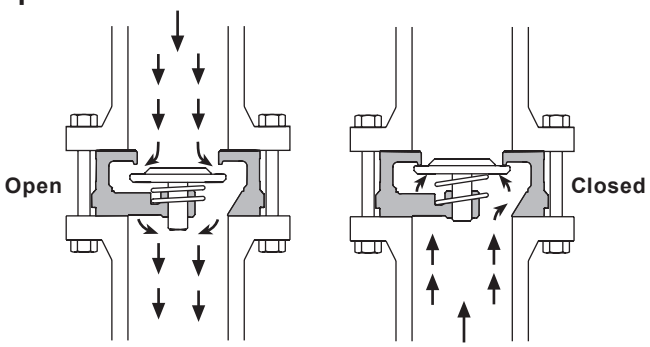
A - B Flanged ASME Class 150.

A - C Flanged ASME Class 300.

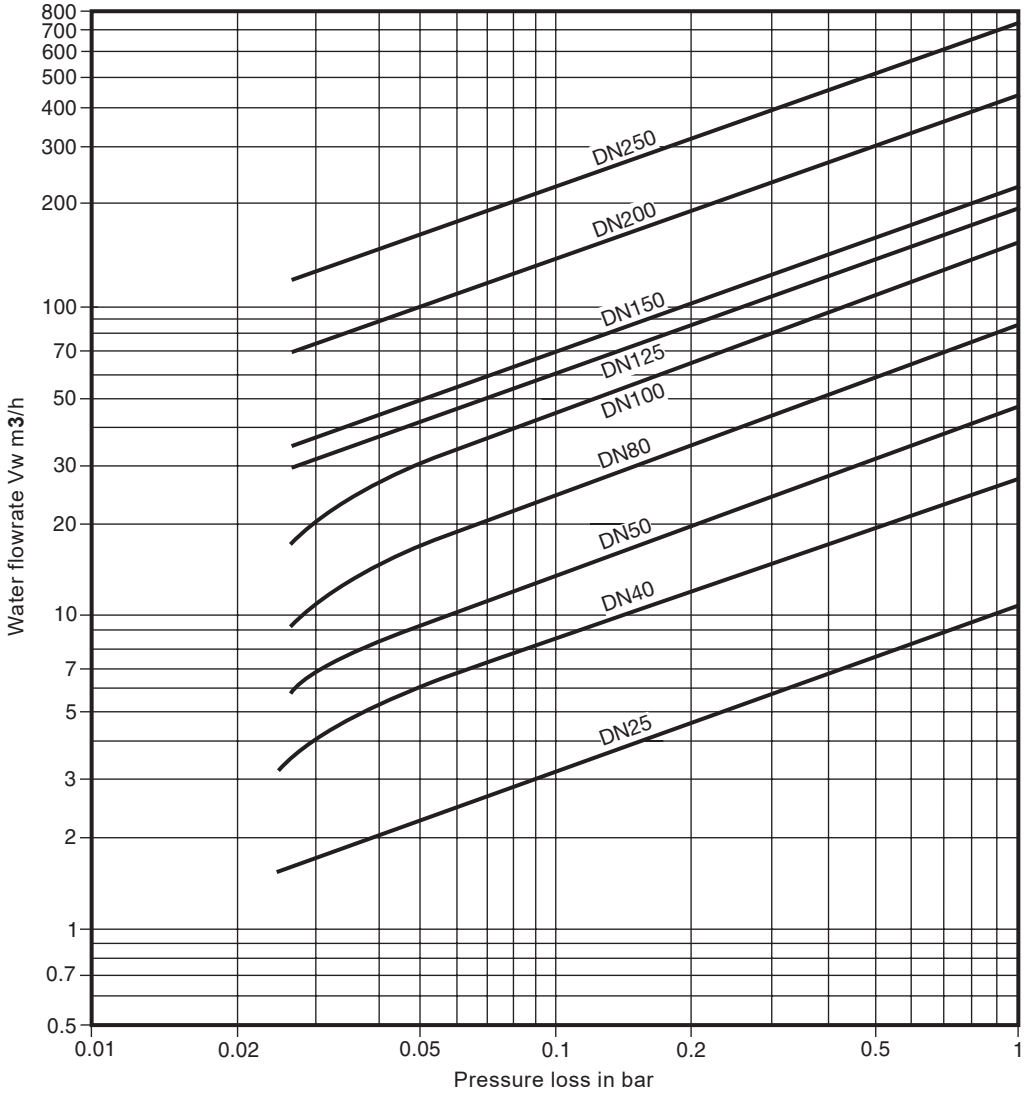
Body design condition			ASME Class 300
PMA	Maximum allowable pressure	DCV10	49.6 bar g @ 38 °C
		DCV10C	51.1 bar g @ 38 °C
TMA	Maximum allowable temperature	DCV10	400 °C @ 28.4 bar g
		DCV10C	400 °C @ 34.7 bar g
Minimum allowable temperature			-29 °C
PMO	Maximum operating pressure for saturated steam service	DCV10	33 bar g @ 241 °C
		DCV10C	42 bar g @ 255 °C
TMO	Maximum operating temperature	DCV10	400 °C @ 28.4 bar g
		DCV10C	400 °C @ 34.7 bar g
Temperature limits			-29 °C to +400 °C
Minimum operating temperature			-29 °C
Designed for a maximum cold hydraulic test pressure of:			76.7 bar g

Principle of operation

The DCV10 and DCV10C are opened by the pressure and flow of condensate and are closed by the pressure of the spring when the flow ceases and before reverse flow occurs.



Pressure loss diagram



Pressure loss diagram with open valve at 20 °C. The values indicated are applicable 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 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

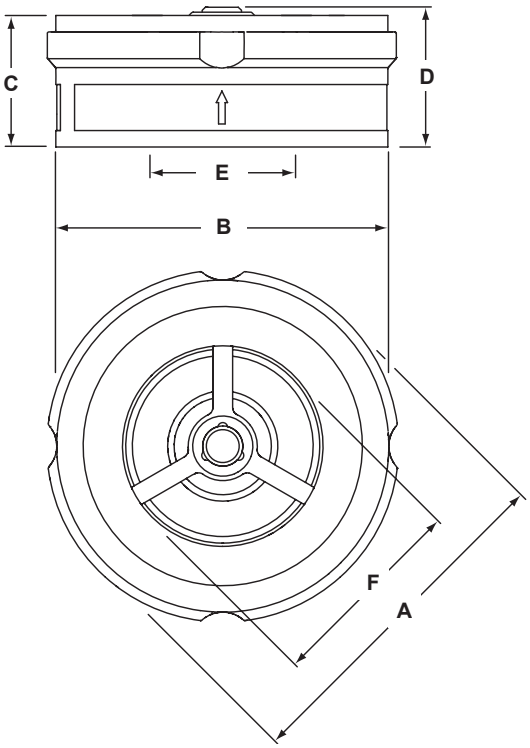
ρ = Density of fluid kg/m³

$\dot{V}$ = Volume of fluid l/s or m³/h

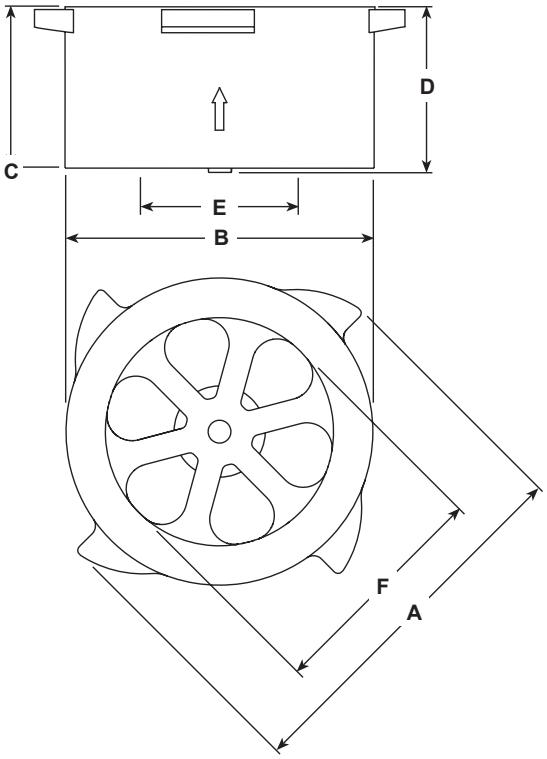
Dimensions/weights (approximate) in mm and kg

ASME Class 150 and ASME Class 300								
Size	A	B	C	D		E	F	Weight
				Open	Closed			
DN25	70	63	35.5	37.0	35	025	030	0.50
DN40	95	85.5	45	47.0	45	040	048	0.82
DN50	108	101.5	56	57.5	56	050	061	1.85
DN80	146	133	71	71.0	71	080	089	3.50
DN100	178	162	60	81.0	60	100	100	5.30
DN125	219	188	90	-	91	117	125	11.00
DN150	253	214	106	-	106	146	150	16.00
DN200	325	269	140	-	142.3	183	200	32.00
DN250	376.5	322	200	-	204	230	250	60.00

DN25 - DN100



DN125 - DN250



Safety information, installation and maintenance

For full details see the Installation and Maintenance Instructions (IM-IBR17-59IN) supplied with the product.

Installation note:

The DCV10 and DCV10C can be fitted in either a horizontal or vertical line in accordance with the direction of flow arrow on the body.
Note: Flanges, bolts (or studs), nuts and gaskets are to be supplied by the installer.

Disposal:

These products are recyclable. No ecological hazard is anticipated with the disposal of these products providing due care is taken.

How to order

Example: 1 off Spirax Sarco DN80 DCV10 stainless steel check valve to fit between PN16 flanges.

Spare parts

The DCV10 and DCV10C are non-maintainable disc check valves - There are no available spares.