



Cert. No. LRQ 0963008

ISO 9001

spirax sarco

DCV10

TI-P601-32
ST Issue 1

Stainless Steel

Disc Check Valve for use with Condensate Pumps

Description

The DCV10 disc check valve has been designed specifically for use with Spirax Sarco's MFP14 pump and the APT14HC automatic pump-trap. The check valve ensures the correct flow of condensate and other suitable fluids through these condensate pumps and also prevents reverse flow.

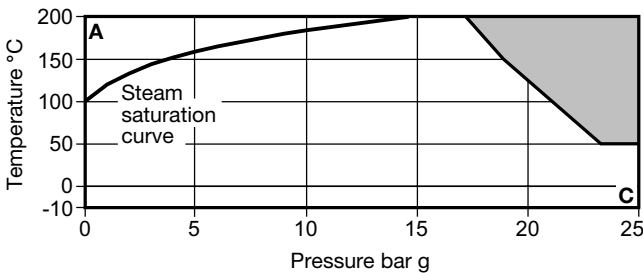
Standards - Designed in accordance with BS EN 14341:2006. This product fully complies with the requirements of the European Pressure Equipment Directive 97/23/EC.

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

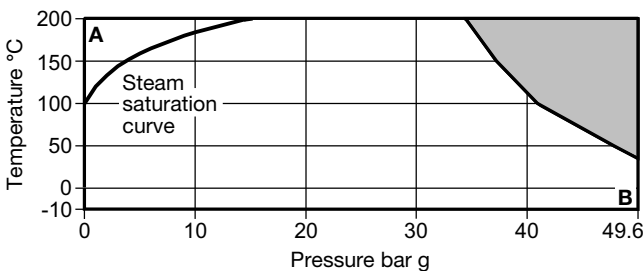
Certification - This product is available with certification to EN 10204 3.1. **Note:** All certification/inspection requirements must be stated at the time of order placement.

Pressure/temperature limits

PN25



Class 300



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

A - B For fitting between Class 150 and Class 300 flanges.

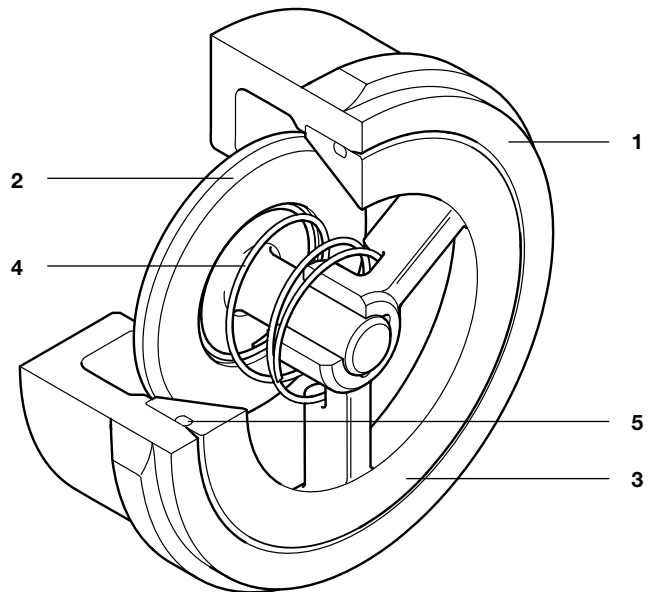
A - C For fitting between EN 1092 PN16 and JIS/KS 10K flanges.

Body design condition		PN25 or Class 300	
PMA	Maximum allowable pressure	PN25	25 bar g @ 0°C
		Class 300	49.6 bar g @ 0°C
TMA	Maximum allowable temperature	PN25	200°C @ 17.2 bar g
		Class 300	200°C @ 34.5 bar g
Minimum allowable temperature		-10°C	
PMO	Maximum operating pressure	PN25	25 bar g @ 0°C
		Class 300	49.5 bar g @ 0°C
TMO	Maximum operating temperature	PN25	200°C @ 17.2 bar g
		Class 300	200°C @ 34.5 bar g
Temperature limits		-10°C to +200°C	
Minimum operating temperature		-10°C	
Designed for a maximum cold hydraulic test pressure of:	PN25	37.5 bar g	
	Class 300	74.4 bar g	

Sizes and pipe connections

The PN25 design is available in sizes DN25, DN40, DN50 and DN80 to fit between EN 1092 PN16 and JIS/KS 10K flanges.

Please note: The Class 300 design is available in size DN40 only to fit between ASME B 16.5 (ANSI) Class 150 and Class 300 flanges.



Materials

No.	Part	Material	
1	Body	PN	Austenitic stainless steel 1.4308
		ANSI	Austenitic stainless steel A351 CF8
2	Disc	DN25	Austenitic stainless steel A276 316L
		DN40	
		DN50	Austenitic stainless steel AISI 316L
		DN80	
3	Spider	Martensitic stainless steel BS 3146-2 ANC2	
4	Springs	Stainless steel BS 2056 316 S42	
		S42	
5	'O' ring	Fluorocarbon polymer FEPM (TFEP)	

K_v values

Size	DN25	DN40	DN50	DN80
K _v	10.8	26	43	80

For conversion: $C_V (UK) = K_V \times 0.963$ $C_V (US) = K_V \times 1.156$

Opening pressures in mbar

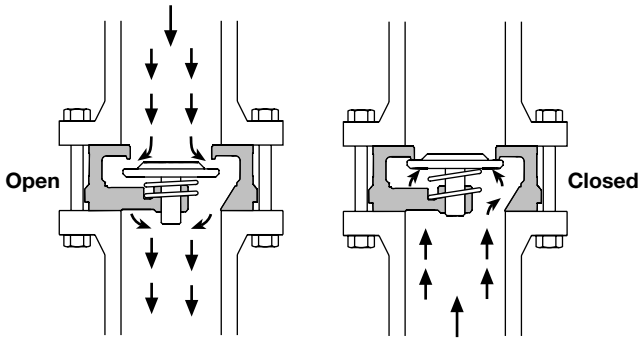
Differential pressures with zero flow.

→ Flow direction

DN	DN25	DN40	DN50	DN80
↑	25	28	29	31
→	22.5	24.5	24.5	25.5
↓	20	20	20	20

Operation

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



Dimensions / weights (approximate) in mm and kg

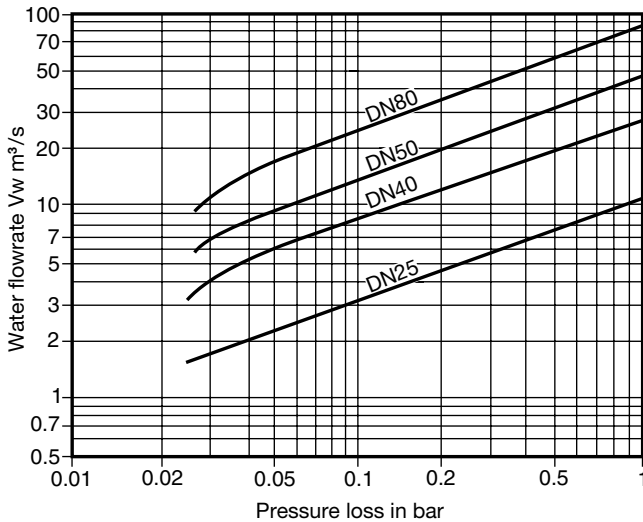
PN16 and JIS/KS 10K

Size	A	B	C	D		E	F	Weight
				Open	Closed			
DN25	71	71	22	31	24	25	34	0.40
DN40	92	86	31.5	44	34	40	49	0.82
DN50	107	101	40	55	42.5	50	61	1.34
DN80	142	131	50	69	53	80	89	2.56

ANSI 150 and ANSI 300

Size	A	B	C	D		E	F	Weight
				Open	Closed			
DN40	95	86	45	47	45	40	48	0.82

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.

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

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.

Safety information, installation and maintenance

For full details see the Installation and Maintenance Instructions (IM-P601-33) supplied with the product.

Installation note:

The DCV10 must be installed close coupled to the pump. It 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 to be supplied by the installer.

How to order

Example: 1 off Spirax Sarco DN80 DCV10 stainless steel check valve to fit between PN16 flanges for use with an MFP14 pump.

