



WCV1 and WCV3 Wafer Check Valves

Description

WCV1 and WCV3 wafer check valves are designed to be sandwiched between flanges. They are specifically designed for use on applications where there is a high proportion of particles in the liquid e.g.: sewage, paper mills, sludges etc. The standard seating ring is EPDM.

Sealing ring options:

Viton - suffix 'V', **PTFE** - suffix 'T' and **NBR** - suffix 'P'.

Standards

Designed and manufactured in accordance with DIN 3202 Part 3.

Certification

These products are available with a Typical Test Report. Certification to EN 10204 3.1 is also available on request.

Note: All certification / inspection requirements must be stated at the time of order placement.

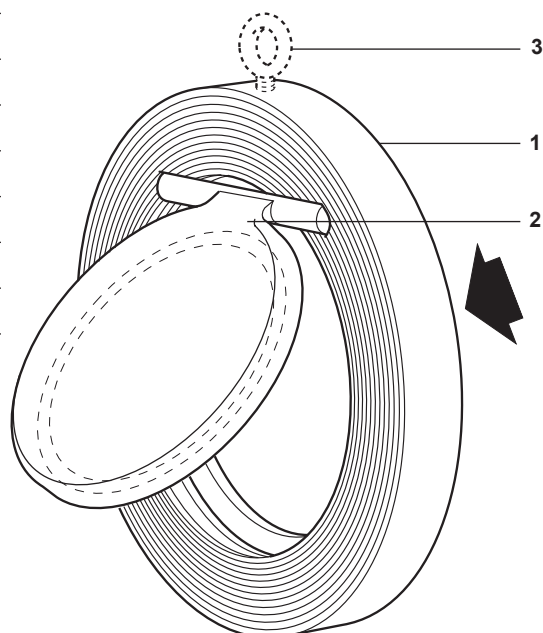
Sizes and pipe connections

DN125, DN150, DN200, DN250, DN300, DN350, DN400, DN450, DN500 for fitting between the following flange connections: EN 1092 PN6, PN10, PN16, PN25, PN40 or ASME 150 and ASME 300.

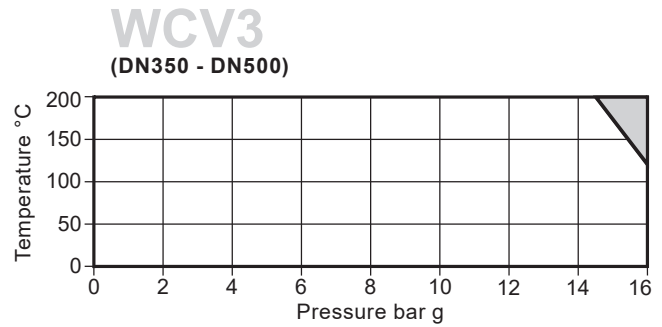
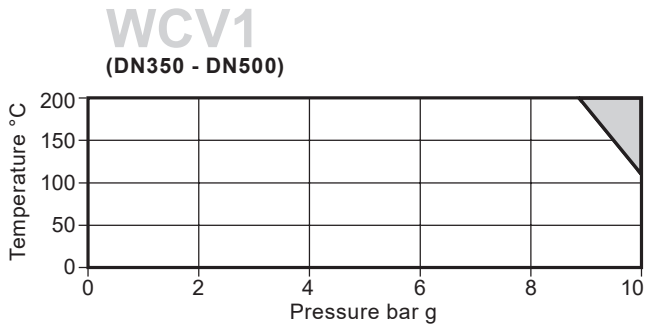
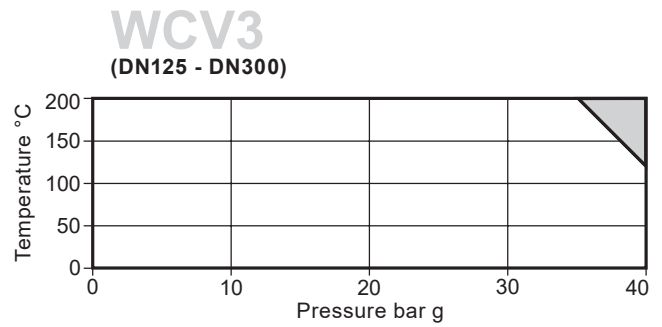
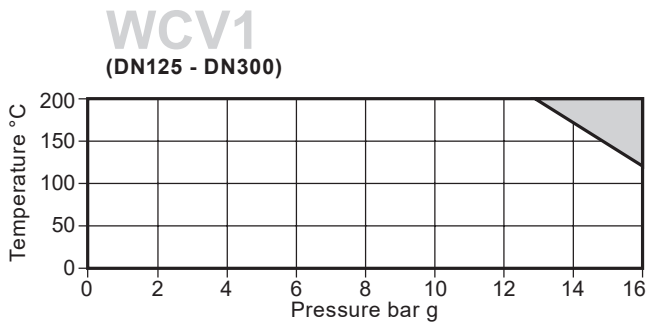
Note: Weld neck flanges must be used.

Materials

No. Part	Material		
1 Body	WCV1	Bronze	WS 2.1090
	WCV3	Austenitic stainless steel	WS 1.4404
2 Valve disc/stem	WCV1	Bronze (DN125 to DN200)	WS 2.1050
		Bronze (DN250 to DN500)	WS 2.1096
	WCV3	Austenitic stainless steel	WS 1.4571
3 Eyebolt	Austenitic stainless steel	WS 1.4301	



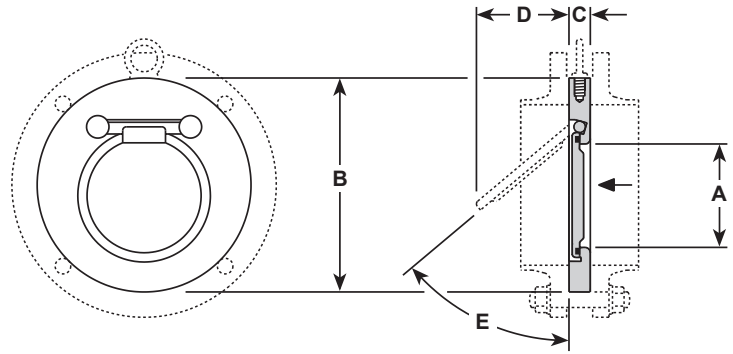
Pressure/temperature limits



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

Maximum design conditions	WCV1	PN16 (DN125 - DN300)	PN10 (DN350 - DN500)
	WCV3	PN40 (DN125 - DN300)	PN16 (DN350 - DN500)
Temperature limits with sealing ring	Standard sealing ring:	EPDM - suffix 'E'	-50 °C to +150 °C
		Viton - suffix 'V'	-15 °C to +250 °C
	Optional alternatives:	PTFE - suffix 'T'	-10 °C to +200 °C
		NBR - suffix 'P'	-20 °C to +80 °C
Designed for a maximum cold hydraulic test pressure of:	WCV1	24 bar g (DN125 - DN300)	15 bar g (DN350 - DN500)
	WCV3	60 bar g (DN125 - DN300)	24 bar g (DN350 - DN500)

Dimensions/weights
(approximate) in mm and kg



Size	K _v	A	PN6 B	PN10 B	PN16 B	PN25 B	PN40 B	ASME 150 B	ASME 300 B	C	D	E	* Weight
DN125	553	96	184	194	194	196	196	197	216	16	101	72	3.1
DN150	728	115	209	220	220	226	226	222	251	18	125	71	4.9
DN200	1 027	142	264	275	275	286	293	279	308	28	163	79	11.0
DN250	1 900	190	319	330	331	343	355	340	362	28	205	73	15.0
DN300	2 140	218	375	380	386	403	420	410	422	38	240	80	25.0
DN350	4 160	265	425	440	446	460	477	451	486	41	269	65	37.0
DN400	5 140	315	475	491	498	517	549	514	540	48	308	62	55.0
DN450	6 200	358	530	541	558	567	-	549	597	51	336	57	65.0
DN500	9 500	410	580	596	620	627	631	606	654	65	368	56	105.0

* For check valves in austenitic stainless steel at PN10

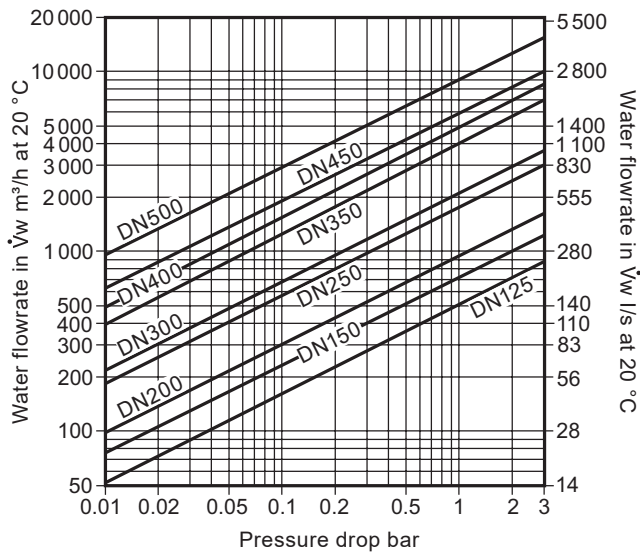
Opening pressure in mbar

Differential pressures with zero flow for standard springs.

→ Flow direction

	DN125	DN150	DN200	DN250	DN300	DN350	DN400	DN450	DN500
↑	9.40	12.20	18.40	16.90	20.60	22.10	24.00	24.10	31.10
→	0.98	0.98	1.17	0.98	1.17	1.17	1.27	1.27	1.96

Pressure loss diagram



To establish pressure loss in other media, use the water volume flow as an equivalent.

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

Where: \dot{V}_w = Equivalent water volume flow in l/s or m³/h

ρ = Density of fluid in kg/m³

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

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

Safety information, installation and maintenance

For full details see the Installation and Maintenance Instructions (IM-P134-61) supplied with the product.

Installation note:

WCV wafer type check valves can be installed, sandwiched between weld neck flanges, with horizontal flow or vertical upward flow. When installing on a pump delivery side, do not assemble direct onto the pump flange or following bend or elbows, allow a distance of 5 to 10 pipe diameters.

Note: Flanges, bolts (or studs), nuts and gaskets are to be supplied by the installer.

Disposal:

The product is recyclable. No ecological hazard is anticipated with disposal of this product providing due care is taken. However, if the recycling process involves a temperature approaching 315 °C caution is advised regarding decomposition of the viton component.

How to order

When ordering, please specify:

1. Nominal pipe diameter (DN)
2. Body material
3. Flow medium
4. Maximum operating temperature
5. Nominal pressure (PN)
6. Flanging
7. Sealing ring

How to order example

1 off Spirax Sarco DN150 WCV1 bronze body wafer type check valve having a standard EPDM sealing ring, hot water at 110 °C, PN at 6 bar g, supplied to fit between EN 1092 PN16 flanges.

Spare parts

WCV type wafer check valves are non-maintainable - There are no available spares.