

CB 14

Swing Check Valve

CB 14

For Flanges PN 6/10/16, DN 50 to 300

Equipment specification

The equipment prevents the back flow in liquid and gas lines.

The equipment is used for the following applications:

CB 14 for industrial applications for fluids such as gases, liquids, steam and other non-corrosive media.

Description

Equipment type CB 14 are wafer-type swing check valves with short overall length to EN 558-1, series 95.

The low weight of the equipment is beneficial for transportation, storage and installation.

The equipment can be mounted between flanges acc. to the following standards:

EN 1092 PN 6/10/16

ASME B 16.1 Class 125 FF and ASME B 16.5 Class 150 RF

The equipment can be installed in horizontal or vertical pipes.

If the equipment is mounted in a vertical pipe the flow must always be from bottom to top.

Function

The one-piece flap opens and closes as a function of the flow direction of the fluid in the pipe, thereby ensuring unidirectional flow.

Equipment of type CB 14 is opened and closed solely by the pressure of the fluid.

Pressure & temperature ratings

Pressure & temperature limits for CB 14, DN 50–300

T (temperature) [°C]	20	40	60	80
p (pressure) [bar]	16.0	10.0	6.0	4.0
Pressure class PN	16			
Min. temperature	-10 °C			

The specified minimum temperature is the lowest admissible service temperature at nominal pressure.

Materials

Materials CB 14

Component part	EN	ASME
Body, pressure plate	1.0460	SA 105
Flap	(NBR)	(Perbunan)

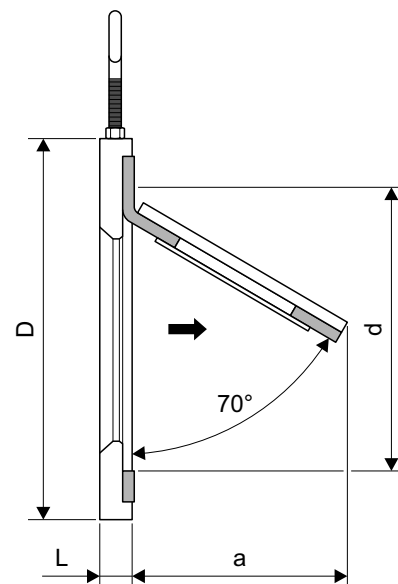
Dimensions and weights

CB 14

DN	Dimensions [mm]				Weight [kg]
	L ¹⁾	D	a	d ²⁾	
50	14	98	45	47	0.7
65	14	118	60	64	1.0
80	14	134	70	75	1.4
100	14	154	90	98	1.5
125	16	184	115	124	2.5
150	16	209	145	148	3.3
200	18	264	185	196	5.5
250	35	319	220	242	11.2
300	43	375	270	288	14.0

¹⁾ Overall length according to EN 558-1, series 95

²⁾ Min. admissible flange bore
(inside pipe diameter)



Swing Check Valve

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DN 50 to 300

Specification Text

GESTRA Swing Flap Non-Return Valves CB.

Wafer-type swing check valve with short overall length to EN 558-1, series 95 Suitable for fitting between pipe flanges to EN and ASME. Full opening angle 70°, soft seat, no springs, with rubber hinge.

Type: CB 14

Nominal size DN:

Pressure rating PN/Class:

The valves should not be used on compressors or where pulsating flow exists.

For these applications please consult us and specify the application in question and indicate the operating data when ordering.

When ordering please state:

Fluid, flowrate, service pressure and temperature.

Standard designation of pipe flanges.

Inspection & Certification

Documentation regarding material tests and in-house examination with test report to EN 10204-2.2 available. Please state the inspection and certification requirements when inquiring or ordering. After supply of the equipment certification cannot be established. Charges and extent of the above mentioned certificates as well as the different tests confirmed therein are listed in our price list "Test and Inspection Charges for Standard Equipment". For other test certificates please consult us.

Application of European Directives

Pressure Equipment Directive

The equipment conforms to this directive and can be used for the following media:

■ Fluids of group 2

ATEX Directive

The equipment does not have its own potential ignition source and is not subject to this directive.

When installed, static electricity may arise between the equipment and the connected system.

When used in potentially explosive atmospheres, the plant manufacturer or plant operator is responsible for discharging or preventing possible static charge.

If it is possible for medium to escape, e.g. through actuating mechanisms or leaks in threaded joints, the plant manufacturer or plant operator must take this into consideration when dividing the area into zones.

Supply in accordance with our general terms of business.

Pressure Drop Chart

The curves given in the chart are valid for water at 20°C. For other fluids it is necessary to calculate an equivalent water volume flowrate $\dot{V}_w$ and use this in the chart.

The values indicated in the chart are applicable to valves with horizontal flow.

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

$\dot{V}_w$ = Equivalent water volume flowrate in [l/s] or [m³/h]

ρ = Density of the fluid (operating condition) in [kg/m³]

$\dot{V}$ = Volume flowrate of the fluid (operating condition) in [l/s] or [m³/h]

Opening pressures [mbar]

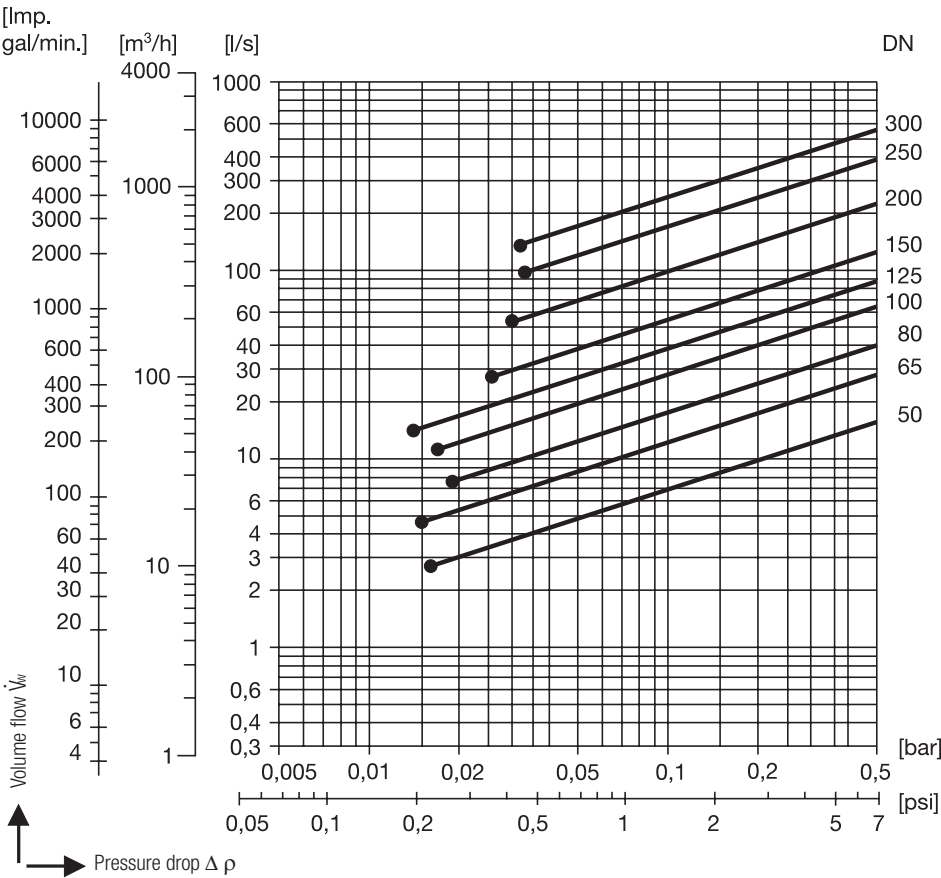
DN	Direction of flow	
	↑	→
50-150	8	0
200-300	15	0

Min. volume flowrate $\dot{V}_w$ for full opening [m³/h]

DN	Direction of flow	
	↑	→
50	12	10
65	18	17
80	29	28
100	42	41
125	55	51
150	140	100
200	260	190
250	460	360
300	610	500

The curves given in the chart are valid for water at 20°C. If the actual flowrate is below the min. volume flow $\dot{V}_w$ the equipment is partly open (unstable range). Chattering, noises and increased wear may occur.

- Required minimum volume flowrate $\dot{V}_w$ for equipment mounted in horizontal pipes.



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