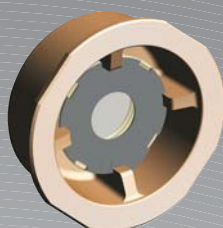


GB 015



GB 019

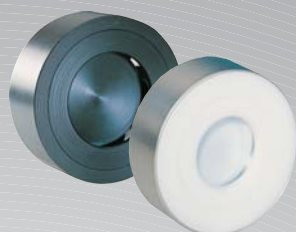


GA 015

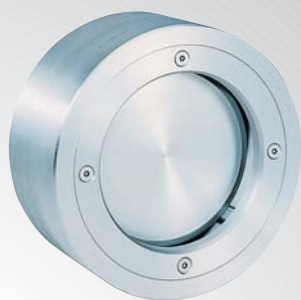
CHECK VALVES



GN - GT



GB 021 - GB 023



GH



GS



BVPD



BVKI/BFKI



BVKA/BVKX



BVTT/BLTT



BVPE



ACTUATORS

Check valves production program

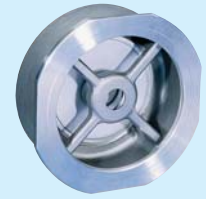


Disc check valves GA 015

DN 15 ÷ 80 • PN 6 ÷ 40 • ANSI 150 ÷ 300
DN 100 • PN 10 ÷ 40 • ANSI 150 ÷ 300

Material: AISI 316

Page 2

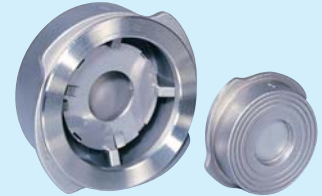


Disc check valves GB 015

DN 15 ÷ 80 • PN 6 ÷ 40 • ANSI 150 ÷ 300
DN 100 • PN 10 ÷ 40 • ANSI 150 ÷ 300

Material: AISI 316

Page 4

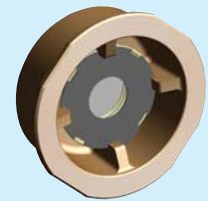


Disc check valves GB 019

DN 15 ÷ 80 • PN 6 ÷ 16
DN 100 • PN 10 ÷ 16

Material: Bronze

Page 6

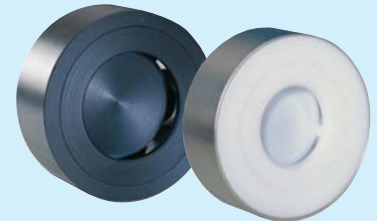


Disc check valves GB 021 - GB 023

DN 15 ÷ 100 • PN 10 ÷ 16
Maximum pressure: 6 Bar

Materials: Polypropylene - PTFE

Page 8

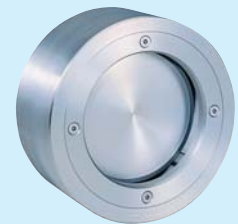


Disc check valves GH 011 - GH 015

DN 125 ÷ 200 • PN 10 ÷ 25 • ANSI 150

Materials: Carbon steel - AISI 316

Page 10



Disc check valves

GN

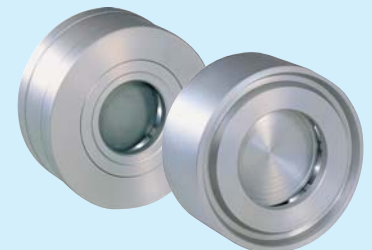
DN 15 ÷ 100
PN 10 ÷ 40 / ANSI 150 ÷ 300

GT

DN 15 ÷ 100
PN 63 ÷ 100 / ANSI 600 ÷ 900

Materials: Carbon steel - AISI 316 - Hastelloy - Duplex

Page 12



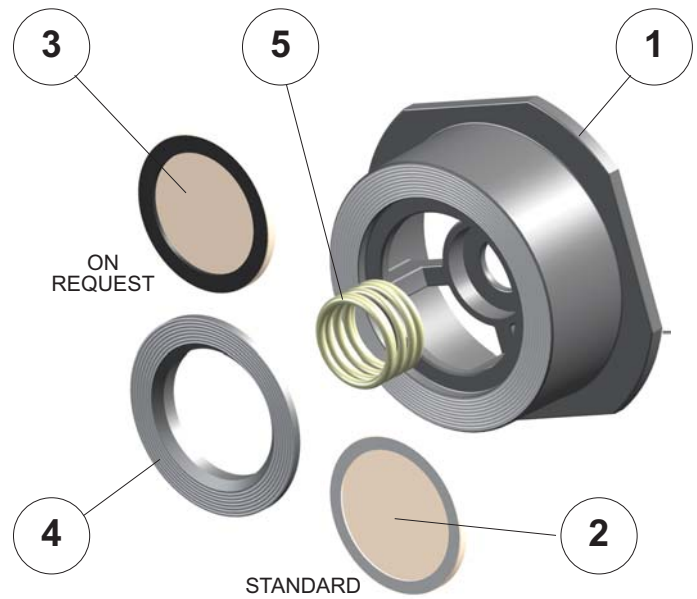
Swing check valves GS

DN 40 ÷ 500 • PN 6 ÷ 16 • ANSI 150

Materials: Carbon steel - AISI 316 - Hastelloy - Duplex

Page 15



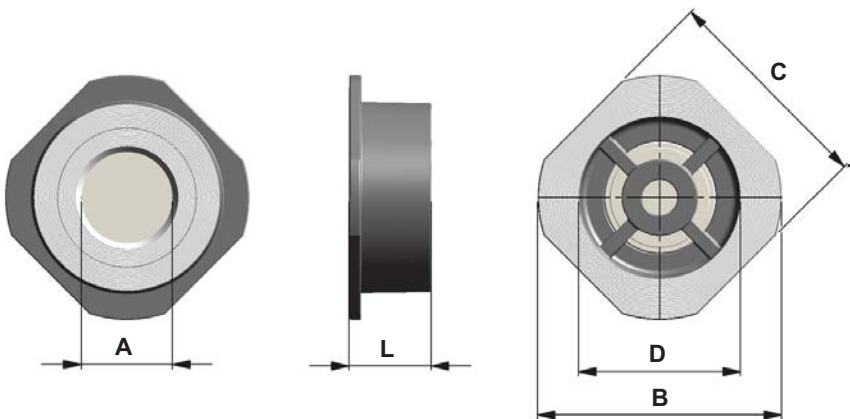


Wafer disc check valves GA Series
DN 15÷80 • PN 6÷40 • ANSI 150÷300
DN 100 • PN 10÷40 • ANSI 150÷300

FEATURES and ADVANTAGES

Little dimensions and low weights.
 Face to Face acc. to DIN EN 558-1 Series 49 (DIN 3202 K4).
 To be installed in any position, also with downwards flow.
 Opening pressures from 10 to 1000 mBar.
 Usable also as vacuum breaker, overpressure and bottom valve.
 No leakage with soft seat and acc. to DIN 3230 BN3 with metal seat.
 Low head losses.
 This type of valve cannot be used with spirometallic packings

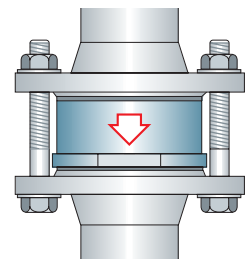
ITEM.	PART	MATERIAL
1	BODY	A351 - CF8M (AISI 316)
2	METAL SEAT DISC	A240 (AISI 316 L)
3	SOFT SEAT DISC (on request)	* A240 (AISI 316 L) + NBR * A240 (AISI 316 L) + EPDM * A240 (AISI 316 L) + FKM
4	METAL SEAT	A182 (AISI 316)
5	SPRING (on request)	AISI 316 * HASTELLOY C4



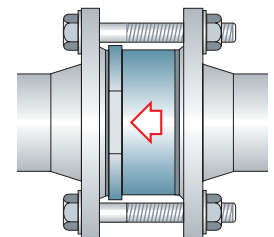
Dimensions - Face to Face DIN EN 558-1 Series 49 (DIN 3202 K4)

	DN	15	20	25	32	40	50	65	80	100
A	mm	15	20	24	31	38	47	62	77	95
B	mm	53	63	73	84	94	107	131	140	162
C	mm	45	55	65	74	84	98	118	130	162
D	mm	27	33	38	54	64	78	96	105	130
L	mm	16	19	22	28	32	40	46	50	60
Weight	Kg	0,11	0,14	0,26	0,4	0,6	1	1,3	1,9	3,4

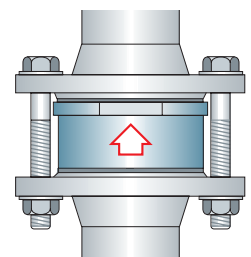
To be installed in any position



Downwards flow

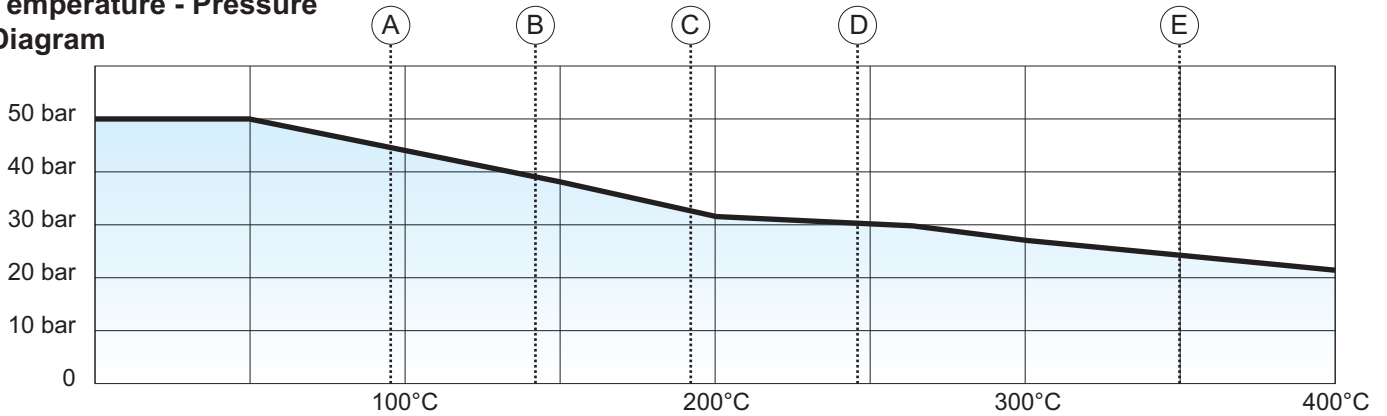


Horizontal flow



Upwards flow

Temperature - Pressure Diagram



- (A) NBR Seat - $T_{max}= 95^{\circ}C$
- (B) EPDM Seat - $T_{max}= 130^{\circ}C$
- (C) FKM and PTFE Seat - $T_{max}= 180^{\circ}C$
- (D) AISI 316 Spring - $T_{max}= 240^{\circ}C$
- (E) HASTELLOY C4 Spring - $T_{max}= 350^{\circ}C$

Minimum opening pressure with standard spring

Flow	DN	15	20	25	32	40	50	65	80	100
△ with spring	mbar	25	25	25	27	29	29	31	32	33
▷ with spring	mbar	23	23	23	24	25	25	26	26	27
▽ with spring	mbar	21	21	21	21	21	21	21	21	21
△ without spring	mbar	2	2	2	3	4	4	5	5	6

Special Spring Table

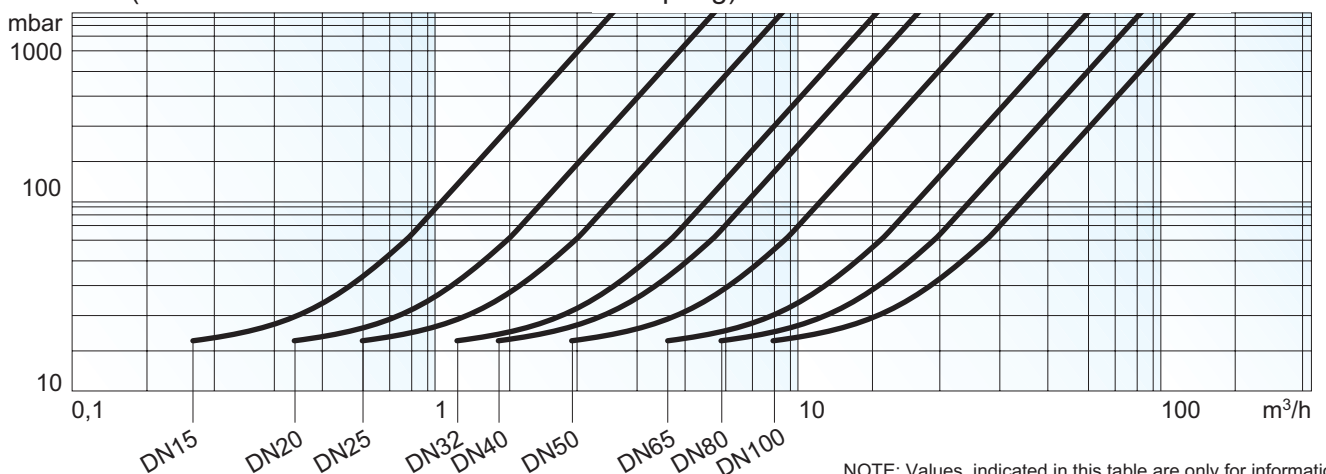
Y = available - N = not available

DN	mB 10	mB 20	mB 30	mB 50	mB 100	mB 200	mB 300	mB 500	mB 750	mB 1000
15	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
20	Y	Y	Y	Y	Y	Y	Y	Y	Y	N
25	Y	Y	Y	Y	Y	Y	Y	Y	Y	N
32	Y	Y	Y	Y	Y	Y	Y	Y	N	N
40	Y	Y	Y	Y	Y	Y	Y	Y	N	N
50	Y	Y	Y	Y	Y	Y	Y	Y	N	N
65	Y	Y	Y	Y	Y	Y	Y	N	N	N
80	Y	Y	Y	Y	Y	Y	Y	N	N	N
100	Y	Y	Y	Y	Y	Y	Y	N	N	N

Note 1: Indicated value can vary $\pm 10\%$

Note 2: When ordering always indicate flow direction

Head losses (H₂O - 20°C - horizontal flow - standard spring)

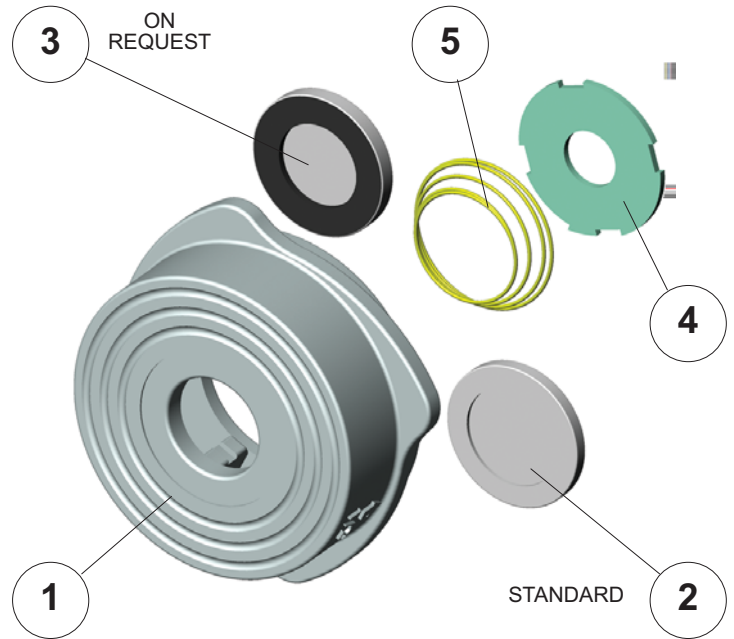


NOTE: Values indicated in this table are only for information.

Formula for calculation of rate of flow equivalent to H₂O

$$Q_e = Q \sqrt{\frac{d}{1000}}$$

For different liquid, gas or steam head losses are determined by equivalent water rate of flow, as follows:
 Q_e - equivalent water flow (mc/h o l/s)
 Q - fluid flow (mc/h o l/s)
 d - fluid specific gravity (Kg/mc)



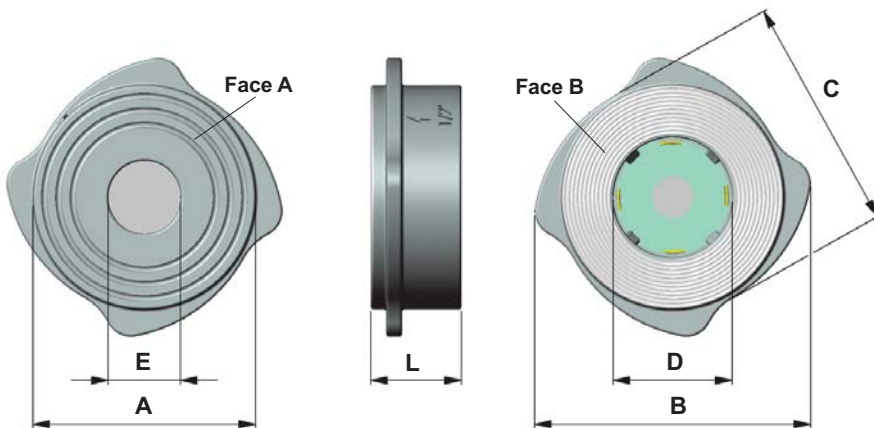
GB 015 Disc check valve
DN 15÷80 • PN 6 ÷ 40 • ANSI 150÷300
DN 100 • PN 10 ÷ 40 • ANSI 150÷300
Max working pressure: 52 Bar

FEATURES and ADVANTAGES

Little dimensions and low weights.
 Face to Face acc. to DIN EN 558-1 Series 49 (DIN 3202 K4)
 To be installed in any position, also with downwards flow.
 Usable also as vacuum breaker, overpressure and bottom valve.
 No leakage with soft seat and acc. to DIN 3230 BN3 with metal seat.
 Low head losses.
 Also to be used with spiral wound gasket
API 601 for ANSI B16.5 FLANGES

ITEM	PART	MATERIAL
1	BODY	A351 - CF8M (AISI 316)
2	METAL SEAT DISC	A240 (AISI 316 L)
3	SOFT SEAT DISC (on request)	* A240 (AISI 316 L) + NBR * A240 (AISI 316 L) + EPDM * A240 (AISI 316 L) + FKM
4	SPRING TOP RING	A240 (AISI 316 L)
5	SPRING	AISI 316

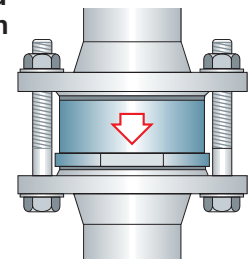
Note: on request finishing of face A could be Stock Finish AARH 250/500 as for face B



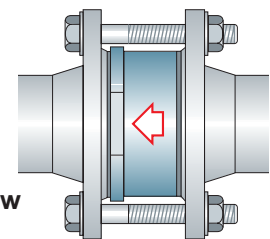
Dimensions - Face to Face DIN EN 558-1 Series 49 (DIN 3202 K4)

	DN	15	20	25	32	40	50	65	80	100
A	mm	43	48	58	68	75	94	113	129	159
B	mm	54	64	71	81	93	110	130	149	181
C	mm	45	54	63	72	82	95	115	131	160
D	mm	23	28	36	50	58	71	86	105	130
E	mm	14	19	25	31	38	48	62	77	95
L	mm	17	20	22	28	32	40	46	50	60
Weight	Kg	0,11	0,18	0,26	0,4	0,55	1,0	1,5	2	3,2

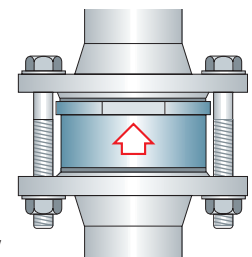
To be installed in any position



Downwards flow

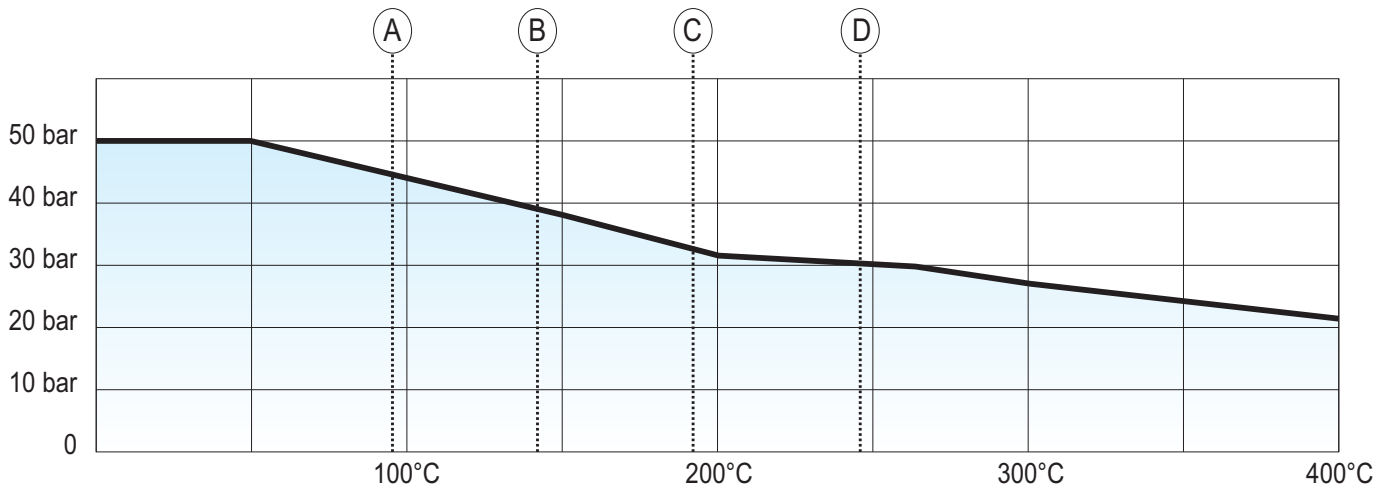


Horizontal flow



Upwards flow

Temperature - Pressure Diagram

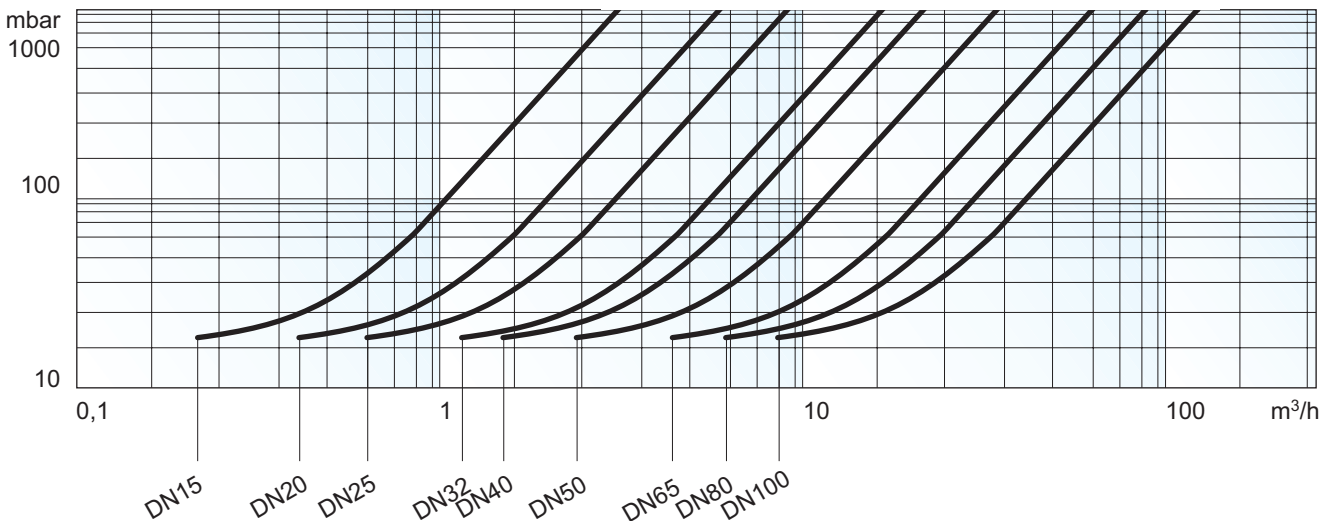


- (A) NBR Seat - $T_{max} = 95^{\circ}C$
- (B) EPDM Seat - $T_{max} = 130^{\circ}C$
- (C) FKM Seat - $T_{max} = 180^{\circ}C$
- (D) AISI 316 Spring - $T_{max} = 240^{\circ}C$

Minimum opening pressure

FLOW		DN	15	20	25	32	40	50	65	80	100
△	With spring	mbar	25	25	25	27	28	30	30	25	21
▷	With spring	mbar	23	23	23	25	23	24	24	19	15
▽	With spring	mbar	21	21	21	22	18	18	18	13	9
△	Without spring	Note: GB015 and GB019 are not designed to be installed without spring.									

Head losses (H₂O - 20°C - horizontal flow)

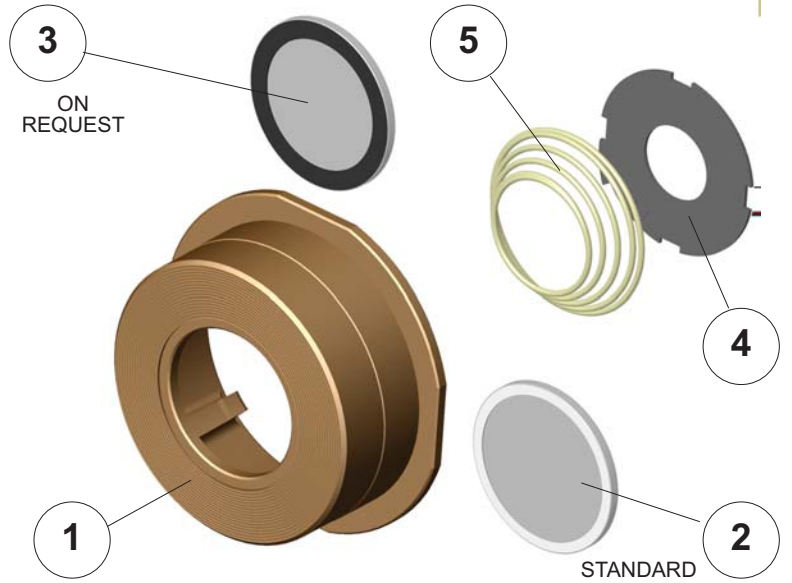
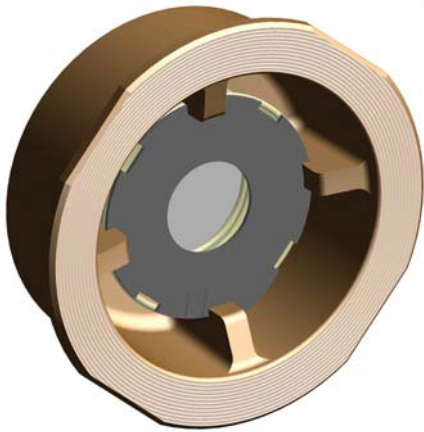


NOTE: Values indicated in this table are only for information.

Formula for calculation of rate of flow equivalent to H₂O

$$Q_e = Q \sqrt{\frac{d}{1000}}$$

For different liquid, gas or steam head losses are determined by equivalent water rate of flow, as follows:
 Q_e - equivalent water flow (mc/h o l/s)
 Q - fluid flow (mc/h o l/s)
 d - fluid specific gravity (Kg/mc)



GB 019 Disc check valves

DN 15 ÷ 80 • PN 6 ÷ 16

DN 100 • PN 10 ÷ 16

FEATURES and ADVANTAGES

Little dimensions and low weights.

Face to Face acc. to DIN EN 558-1 Series 49 (DIN 3202 K4).

To be installed in any position, also with downwards flow.

Opening pressures from 10 to 1000 mBar.

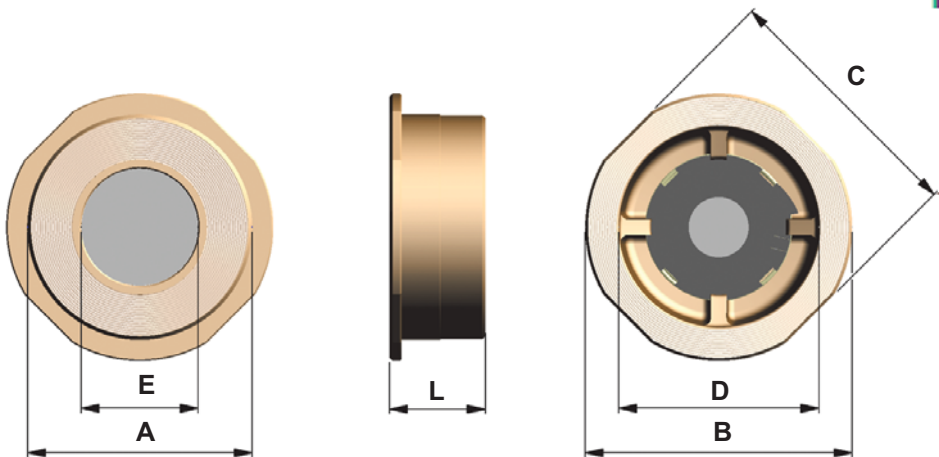
Usable also as vacuum breaker, overpressure and bottom valve.

No leakage with soft seat and acc. to DIN 3230 BN3 with metal seat.

Low head losses.

This type of valve can not be used with spirometallic packings

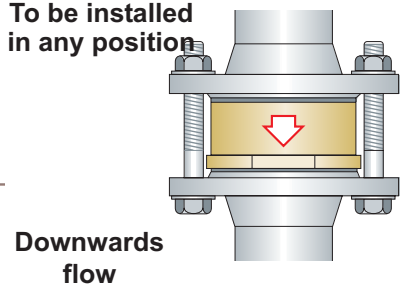
ITEM	PART	MATERIAL
1	BODY	BRONZE B-584
2	METAL SEAT DISC	A240 (AISI 316 L)
3	SOFT SEAT DISC (on request)	* A240 (AISI 316 L) + NBR * A240 (AISI 316 L) + EPDM * A240 (AISI 316 L) + FKM
4	UPPER STOP SPRING	A240 (AISI 316 L)
5	SPRING	AISI 316



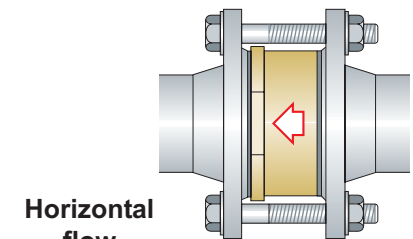
Dimensions - Face to face DIN EN 558-1 Series 49 (DIN 3202 K4)

	DN	15	20	25	32	40	50	65	80	100
A	mm	37	45	55	65	74	89	107	126	147
B	mm	49	60	70	80	90	107	127	140	162
C	mm	44	54	64	76	86	96	116	132	154
D	mm	32	39	46	57	65	80	97	113	127
E	mm	15	20	24	31	38	47	62	77	95
L	mm	16	19	22	28	32	40	46	50	60
Weight	Kg	0,11	0,14	0,26	0,36	0,46	0,9	1,6	2,1	2,8

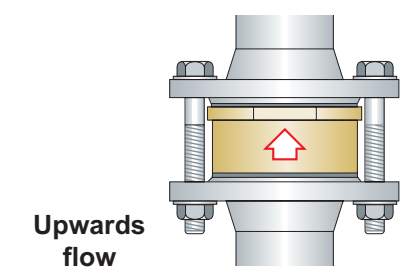
To be installed in any position



Downwards flow

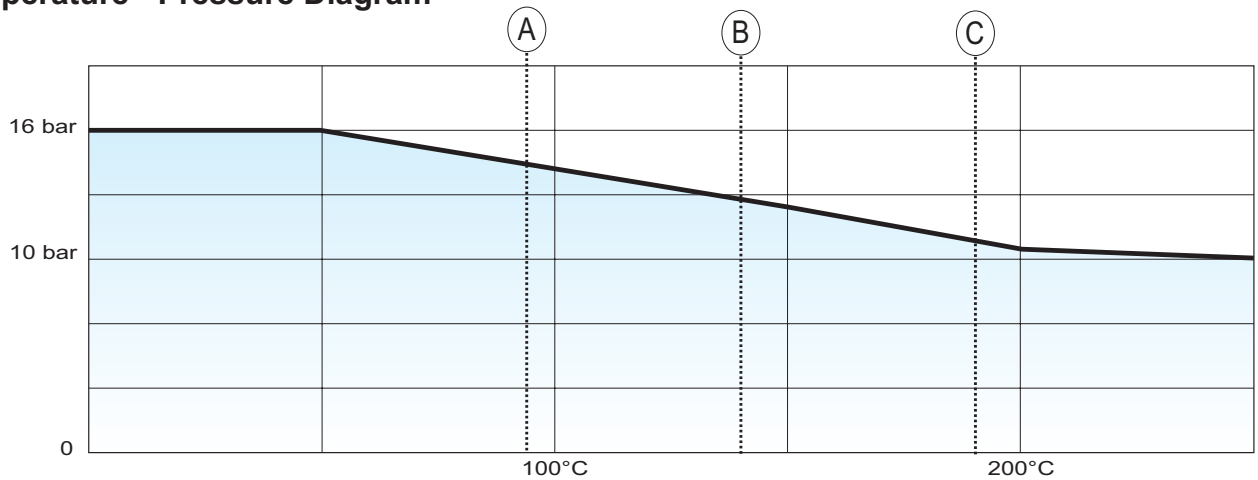


Horizontal flow



Upwards flow

Temperature - Pressure Diagram



(A) NBR Seat - $T_{max} = 95^{\circ}\text{C}$

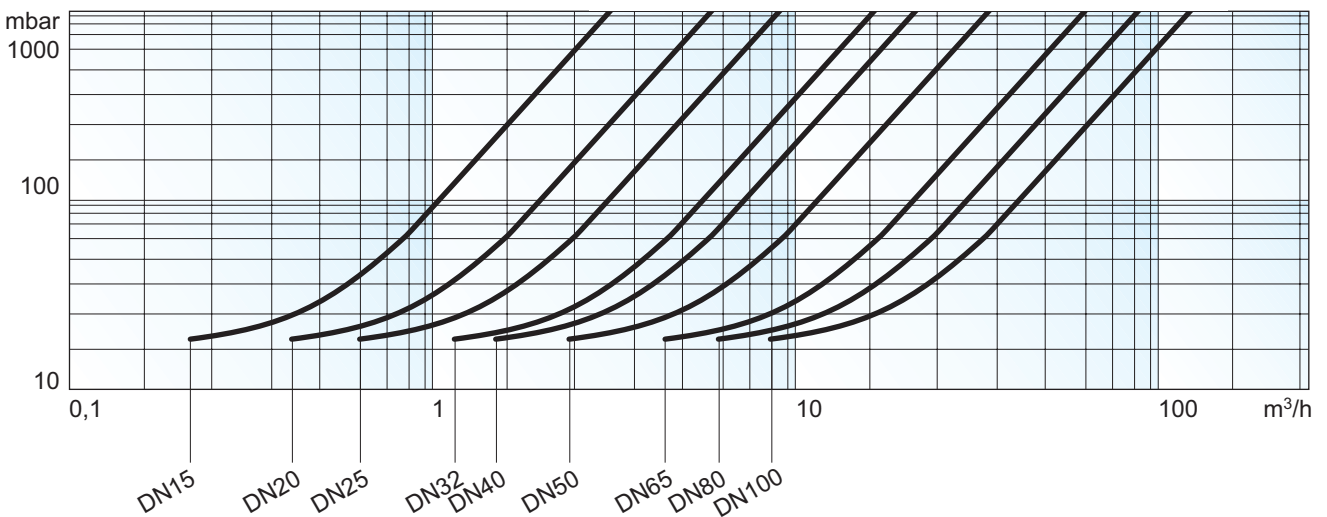
(B) EPDM Seat - $T_{max} = 130^{\circ}\text{C}$

(C) FKM Seat - $T_{max} = 180^{\circ}\text{C}$

Minimum opening pressure with standard spring

FLOW		DN	15	20	25	32	40	50	65	80	100
△	with spring	mbar	25	25	25	27	28	30	30	25	21
▷	with spring	mbar	23	23	23	25	23	24	24	19	15
▽	with spring	mbar	21	21	21	22	18	18	18	13	9
△	without spring	Note: GB015 and GB019 are not designed to be installed without spring.									

Head losses (H₂O - 20°C - horizontal flow - standard spring)



NOTE: Values indicated in this table are only for information.

Formula for calculation of rate of flow equivalent to H₂O

$$Q_e = Q \sqrt{\frac{d}{1000}}$$

For different liquid, gas or steam head losses are determined by equivalent water rate of flow, as follows:
 Q_e - equivalent water flow (mc/h o l/s)
 Q - fluid flow (mc/h o l/s)
 d - fluid specific gravity (Kg/mc)



GB 021
Completely
in polypropylene

GB 023
Completely
in PTFE

Wafer disc check valves

GB 021 - GB 023 Series

DN 15 ÷ 100 • PN 6 ÷ 16 • ANSI 150

Max working pressure: 6 Bar

T Max: GB 021 110°C / GB 023 180°C

FEATURES AND ADVANTAGES

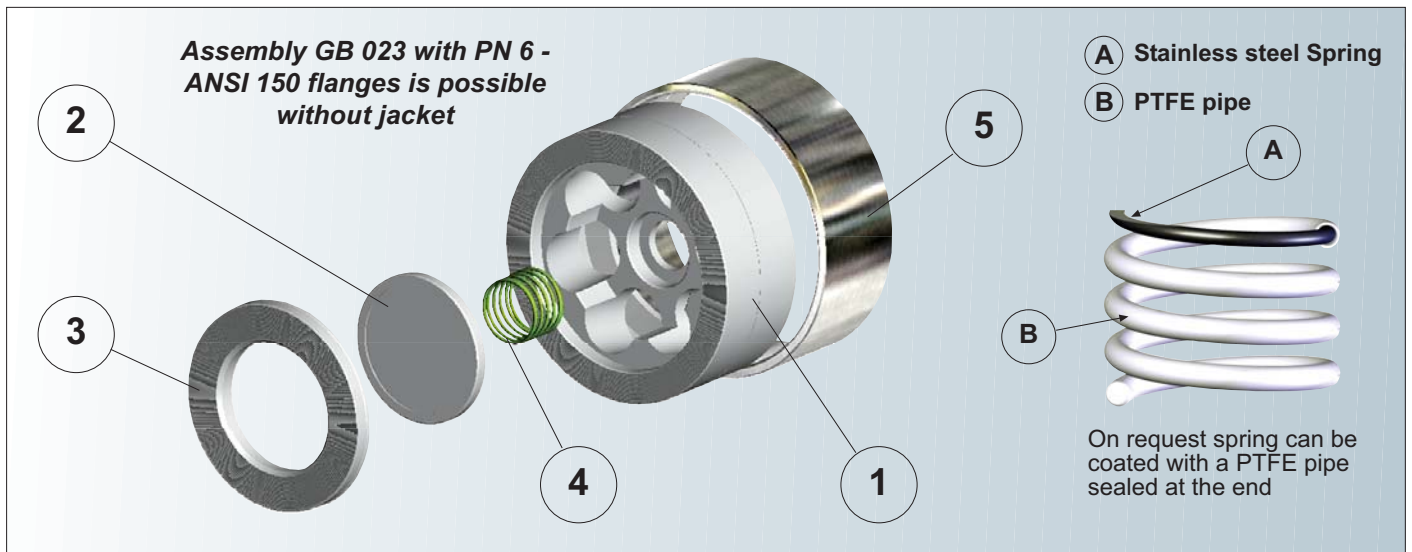
Little dimensions and low weights.

Face to Face acc. to DIN EN 558-1 Series 49 (DIN 3202 K4).

To be installed in any position, also with downwards flow. Usable also as vacuumbreaker, overpressure and bottom valve.

Leakage class according to DIN 3230 BN3.

Low head losses

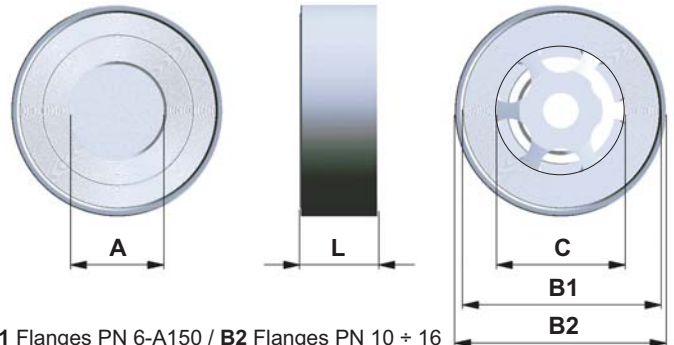
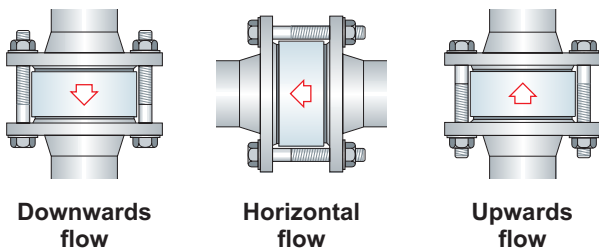


ITEM	PART	GB 021	GB 023
1	BODY	Polypropylene - PP	PTFE
2	DISC	Polypropylene - PP	PTFE
3	SEAT	Polypropylene - PP	PTFE
4	SPRING	AISI 316	HASTELLOY C4
	on request	AISI 316 + PTFE	
5	JACKET	—	AISI 304

Dimensions - Face to face DIN EN 558-1 Series 49 (DIN 3202 K4)

	DN	15	20	25	32	40	50	65	80	100
A	mm	15	20	25	32	38	47	63	79	96
B1	mm	44	54	64	75	85	96	116	133	152
B2	mm	50	60	70	80	90	107	130	140	162
C	mm	30	38	45	56	65	78	95	100	120
L	mm	16	19	22	28	32	40	46	50	60
GB 021	Kg	0,03	0,04	0,06	0,09	0,13	0,22	0,32	0,4	0,6
GB 023	Kg	0,11	0,16	0,24	0,32	0,4	1	1,7	1,4	2,2

To be installed in any position

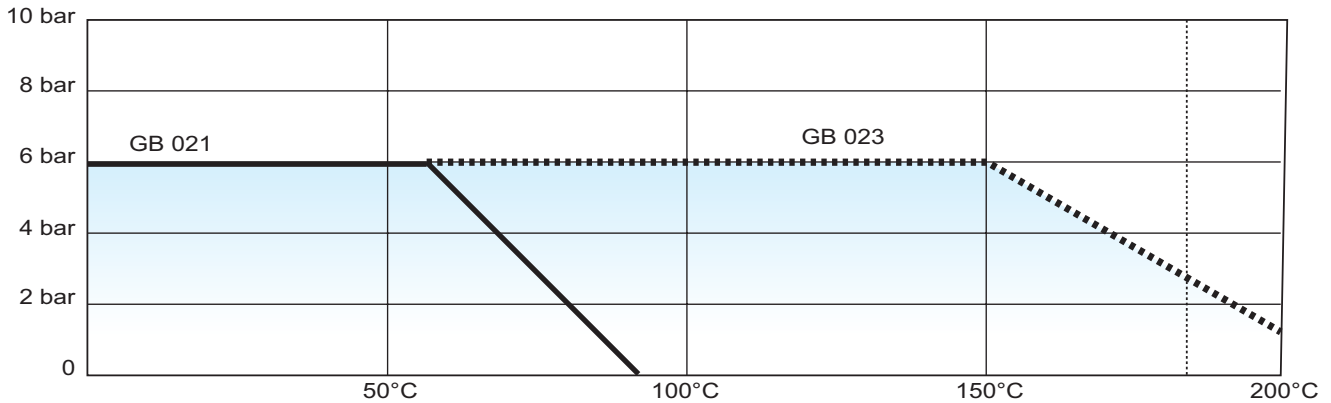


DN	15	20	25	32	40	50	65	80	100
Screw	4xM12	4xM12	4xM12	4xM16	4xM16	4xM16	4xM16	4xM16	8xM16
Tightening torque Nmt	10	10	20	35	35	35	40	40	45

Note for installation

Centre the valve carefully before tightening the flanges. Tighten the flange screws by applying the torque values shown nearby. Remember to cross-tighten the screws. These values are measured at room temperature with new screws and lubricated threads.

Temperature - pressure diagram



Minimum opening pressure with standard spring

FLOW	DN	15	20	25	32	40	50	65	80	100	
△	With spring	mbar	23	23	24	25	26	26	27	27	29
▷	With spring	mbar	22	22	22,5	23	23,5	23,5	24	24	25
▽	With spring	mbar	21	21	21	21	21	21	21	21	21
△	Without spring	mbar	1	1	1,5	2	2,5	2,5	3	3	4

Special springs table

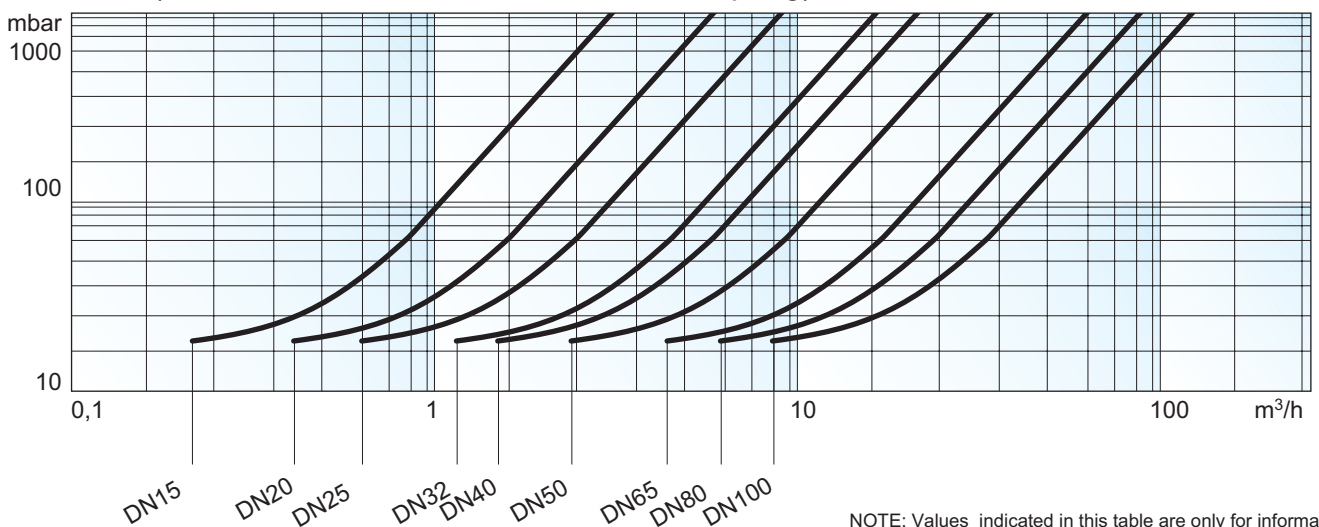
Y = Available - N = Not available

DN	mB 10	mB 20	mB 30	mB 50	mB 100	mB 200	mB 300	mB 500	mB 750	mB 1000
15	Y	Y	Y	Y	Y	Y	Y	N	N	N
20	Y	Y	Y	Y	Y	Y	Y	N	N	N
25	Y	Y	Y	Y	Y	Y	Y	N	N	N
32	Y	Y	Y	Y	Y	Y	Y	N	N	N
40	Y	Y	Y	Y	Y	Y	Y	N	N	N
50	Y	Y	Y	Y	Y	Y	Y	N	N	N
65	Y	Y	Y	Y	Y	N	N	N	N	N
80	Y	Y	Y	Y	Y	N	N	N	N	N
100	Y	Y	Y	Y	Y	N	N	N	N	N

Note 1: Indicated value can vary ±10%

Note 2: When ordering always indicate flow direction

Head losses (water 20°C - horizontal flow - standard spring)



NOTE: Values indicated in this table are only for information.

Formula for calculation of rate of flow equivalent to H₂O

$$Q_e = Q \sqrt{\frac{d}{1000}}$$

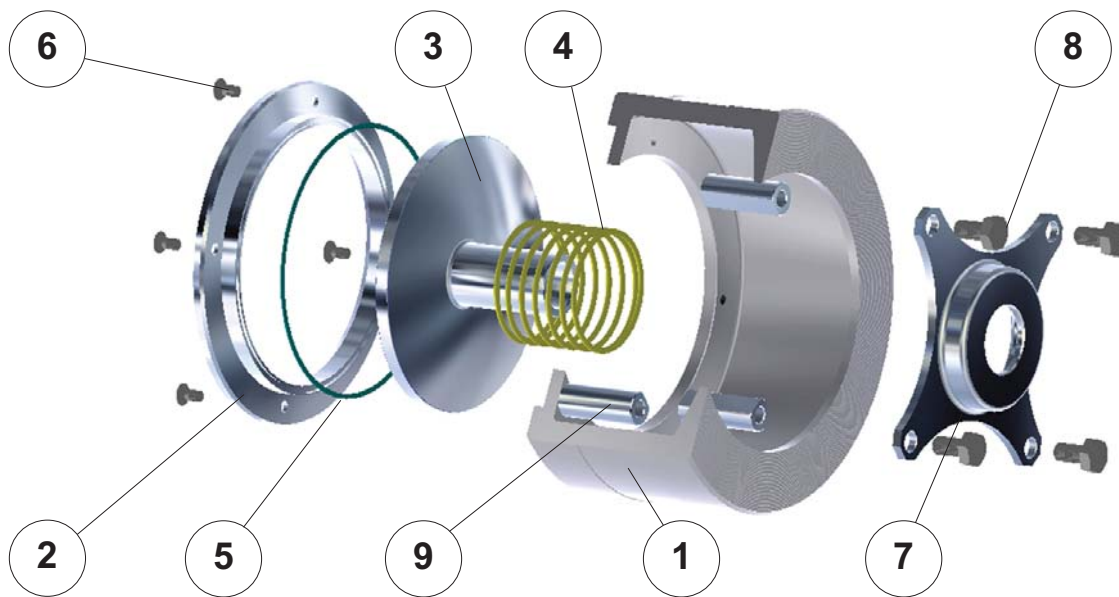
For different liquid, gas or steam head losses are determined by equivalent water rate of flow, as follows:
 Q_e - equivalent water flow (mc/h o l/s)
 Q - fluid flow (mc/h o l/s)
 d - fluid specific gravity (Kg/mc)



Disc check valves
GH series
DN 125÷200 • PN 10÷25 • ANSI 150

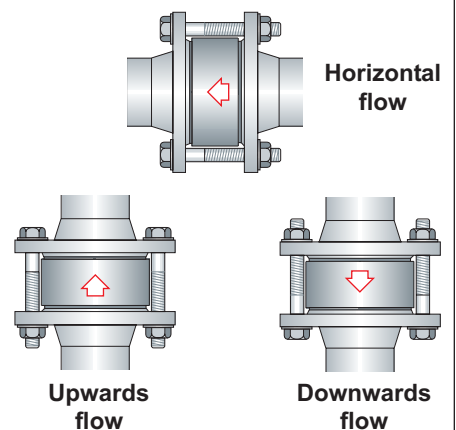
FEATURES and ADVANTAGES

Little dimensions and low weights.
 Face to Face acc. to DIN EN 558-1 Series 49 (DIN 3202 K4).
 To be installed in any position, also with downwards flow.
 Opening pressures from 10 to 500 mBar.
 Usable also as vacuum breaker, overpressure and bottom valve.
 No leakage with soft seat and acc. to DIN 3230 BN3 with metal seat.
 Low head losses.



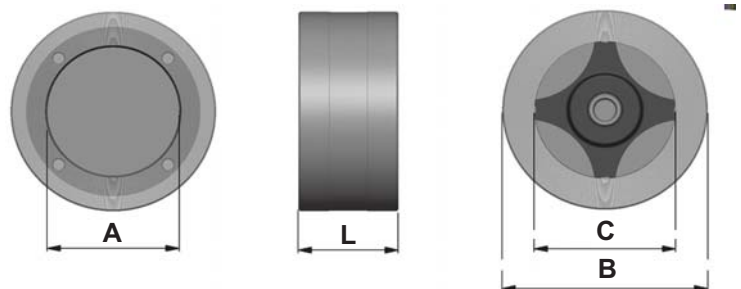
ITEM	PART	MATERIAL	
		GH011	GH015
1	BODY	Zinc plated steel	ASTM351 CF8M (AISI 316)
2	METAL SEAT	A240 (AISI 316L)	A240 (AISI 316L)
3	DISC	A240 (AISI 316L)	A240 (AISI 316L)
4	SPRING	AISI 316	AISI 316 <i>(on request HASTELLOY C4)</i>
5	O-RING (on request)	* NBR (BUNA®) * EPDM * FKM (VITON®) * PTFE	* NBR (BUNA®) * EPDM * FKM (VITON®) * PTFE
6	SCREWS	A4 (AISI 316)	A4 (AISI 316)
7	SPRING HOUSING	A182 (AISI 316)	A182 (AISI 316)
8	SCREWS	A4 (AISI 316)	A4 (AISI 316)
9	STUDS	A182 (AISI 316)	A182 (AISI 316)

To be installed in any position

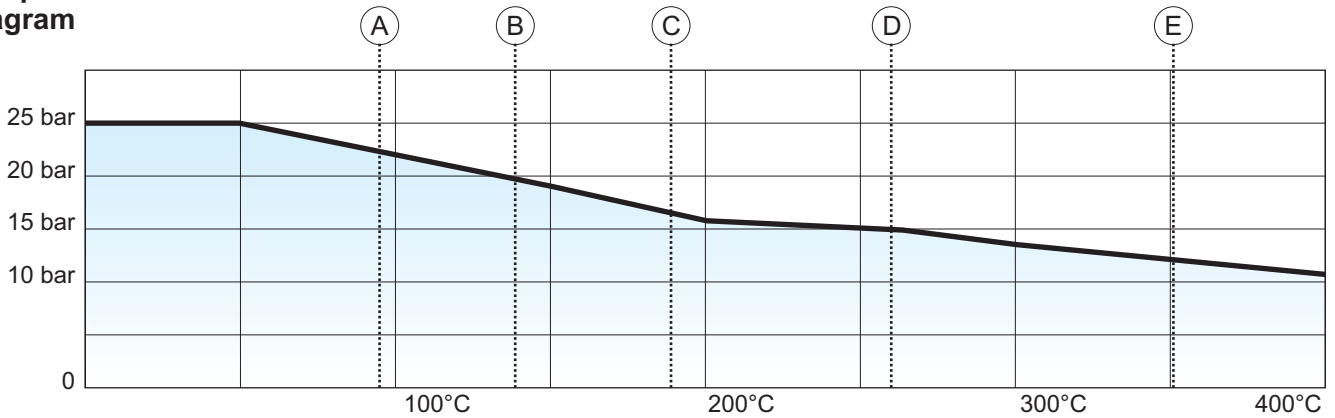


Dimensions - Face to face DIN EN 558-1 Series 49 (DIN 3202 K4)

	DN	125	150	200
A	mm	120	140	183
B	mm	190	218	273
C	mm	125	150	200
L	mm	90	106	140
Weight	Kg	8	11	20



Temperature - Pressure diagram



- (A) BUNA® seat - $T_{max}= 95^{\circ}C$ (B) EPDM seat - $T_{max}= 130^{\circ}C$ (C) VITON® and PTFE seat - $T_{max}= 180^{\circ}C$
- (D) AISI 316 spring - $T_{max}= 240^{\circ}C$ (E) HASTELLOY C4 spring - $T_{max}= 350^{\circ}C$

Minimum opening pressure with standard spring

FLOW		DN	125	150	200
	With spring	mbar	34	36	36
	With spring	mbar	22	23	27
	With spring	mbar	17	18	18
	Without spring	mbar	8	9	10

Special Spring Table

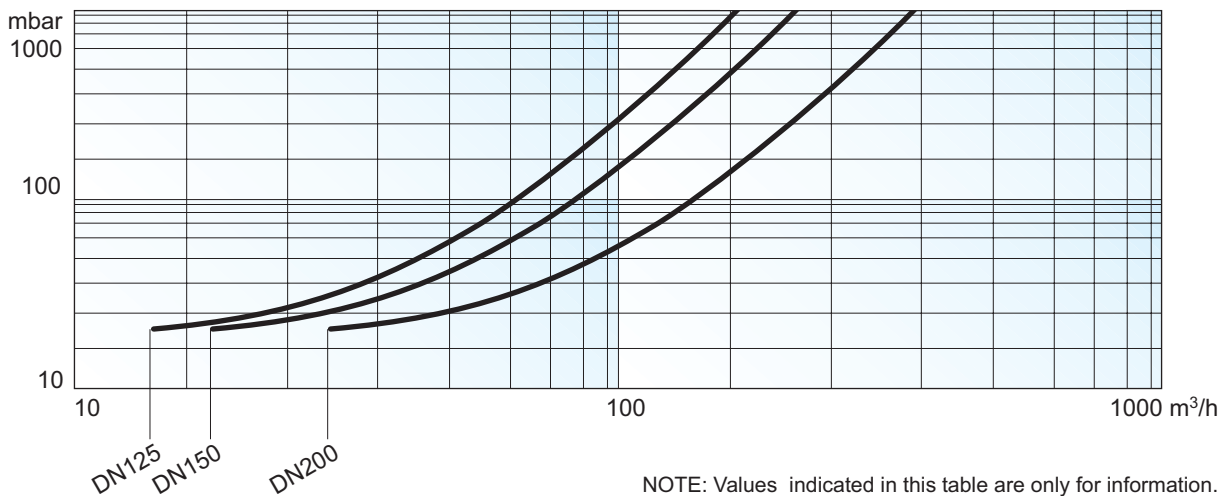
Y = AVAILABLE / N = NOT AVAILABLE

DN	mB 10	mB 20	mB 30	mB 50	mB 100	mB 200	mB 300	mB 500
125	Y	Y	Y	Y	Y	Y	Y	Y
150	Y	Y	Y	Y	Y	Y	Y	Y
200	Y	Y	Y	Y	Y	Y	Y	Y

Note 1: Indicate value can vary $\pm 10\%$

Note 2: When ordering always indicate flow direction

Head losses (Water 20°C - Horizontal flow - Standard spring)



NOTE: Values indicated in this table are only for information.

Formula for calculation of rate of flow equivalent to H₂O

$$Q_e = Q \sqrt{\frac{d}{1000}}$$

For different liquid, gas or steam head losses are determined by equivalent water rate of flow, as follows:

Q_e - equivalent water flow (mc/h o l/s)

Q - fluid flow (mc/h o l/s)

d - fluid specific gravity (Kg/mc)



GN 015 Valve



GT 015 valve



Disc check valves

GN 011

GN 015

GN 115 (DN 15 ÷ DN 80)

DN 15 ÷ 100 • PN 10 ÷ 40 • ANSI 150÷300

GT 011

GT 015

GN 115 (DN 15 ÷ DN 80)

DN 15 ÷ 100 • PN 63 ÷ 160 • ANSI 600÷900

FEATURE AND ADVANTAGES

Little dimensions and low weights.

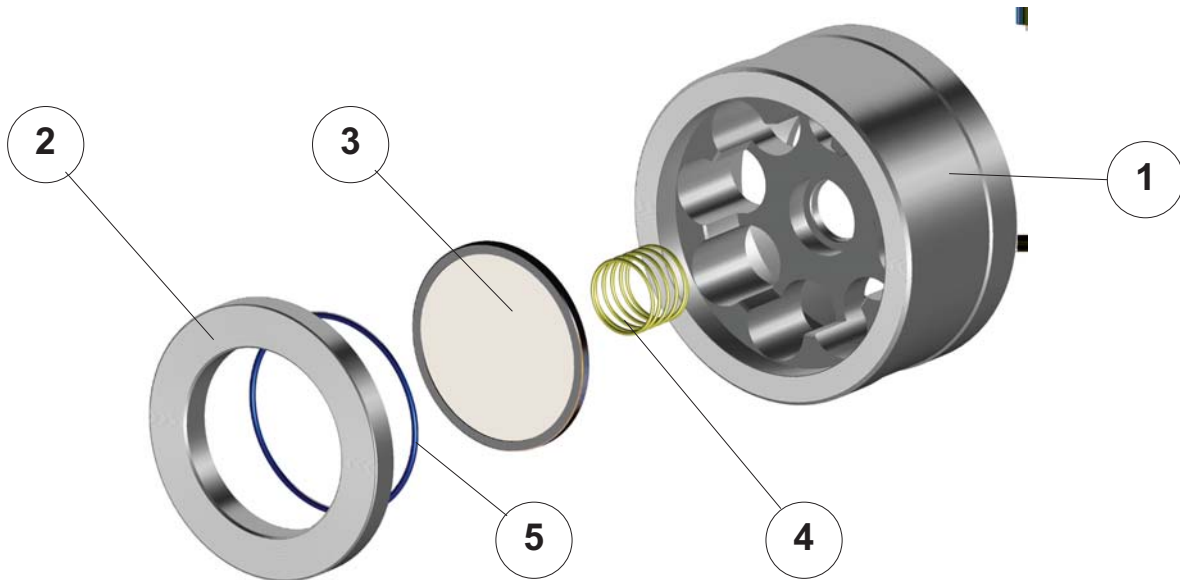
Face to Face acc. to EN 558-2 Series 52 (DIN 3202 K5).

To be installed in any position, also with downwards flow.

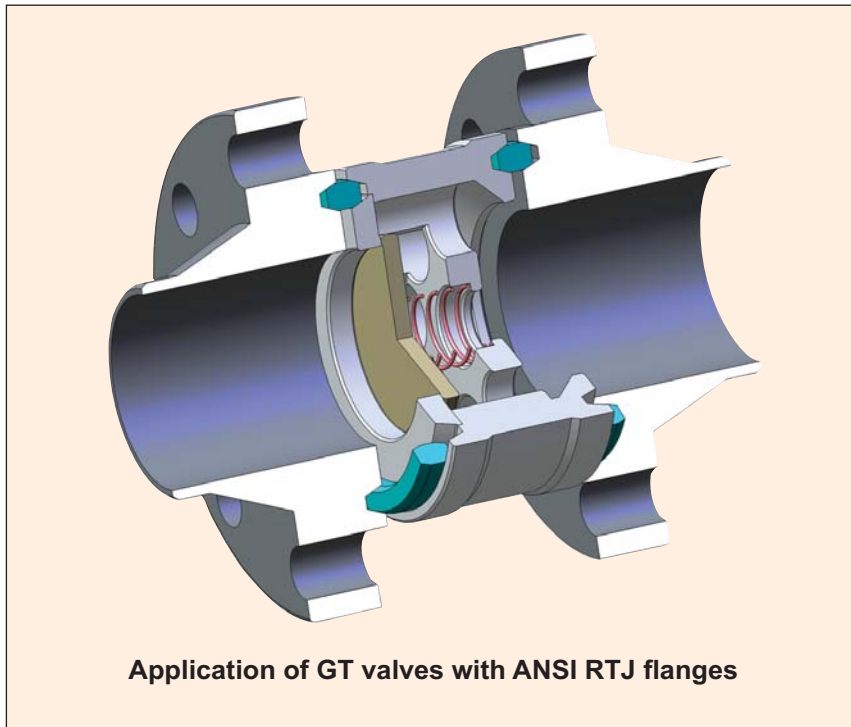
Opening pressures from 10 to 1000 mBar.

No leakage with soft seat and acc. to DIN 3230 BN3 with metal seat.

Low head losses.



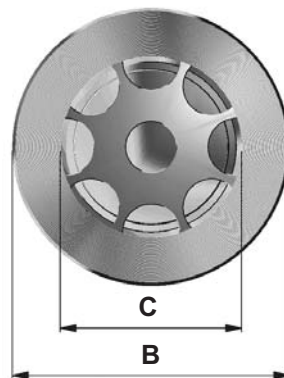
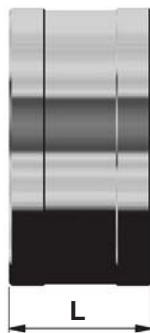
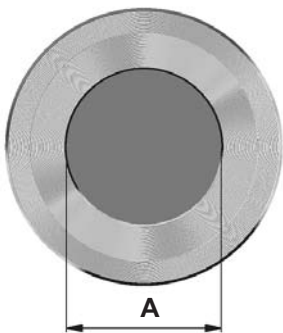
ITEM	PART	GN 011 - GT 011	GN 015 - GT 015	GN 115 - GT 115
1	BODY	Zinc plated steel A105	A182 - (AISI 316)	HASTELLOY B574/99
2	METAL SEAT	A182 (AISI 316)	A182 (AISI 316)	HASTELLOY B574/99
3	DISC	A240 (AISI 316 L)	A240 (AISI 316 L)	HASTELLOY B574/99
4	SPRING	* AISI 316	* AISI 316	HASTELLOY C4
	on request	* HASTELLOY C4	* HASTELLOY C4	
5	O-RING	* NBR (BUNA®)	* NBR (BUNA®)	on request
		* EPDM	* EPDM	
		* FKM (VITON®)	* FKM (VITON®)	
		* PTFE	* PTFE	



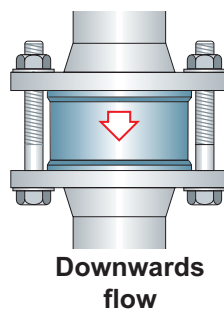
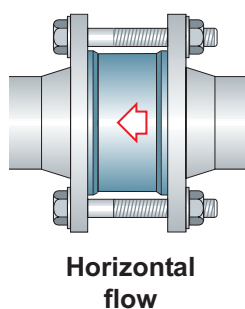
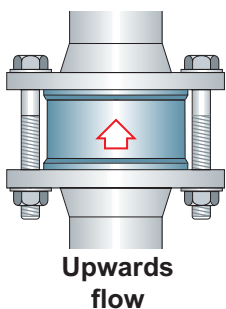
Application of GT valves with ANSI RTJ flanges

Dimensions - Face to face DIN EN 558-2 Series 52 (DIN 3202 K5)

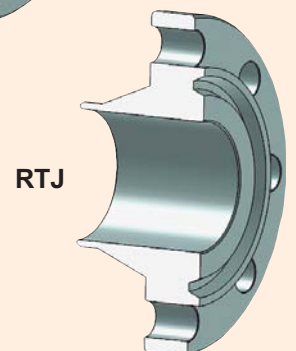
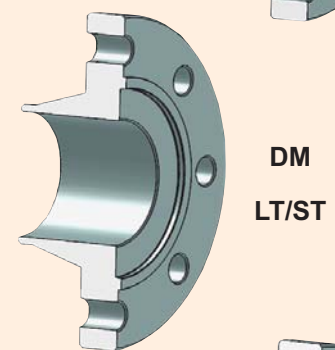
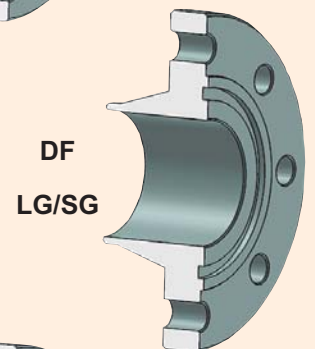
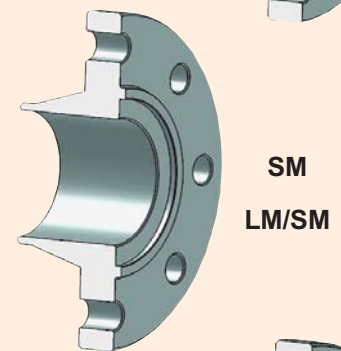
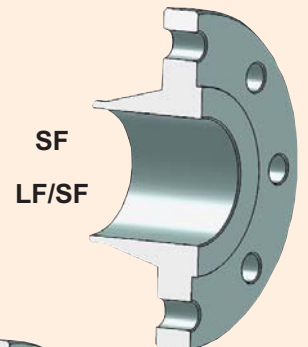
	DN	15	20	25	32	40	50	65	80	100
B	mm	46	60	70	80	90	107	130	145	178
C	mm	21	25	30	40	48	60	85	90	110
L	mm	25	31,5	35,5	40	45	56	63	71	80
A	mm	15	20	24	30	38	47	62	77	96
Weight	Kg	0,3	0,6	1	1,3	1,8	2,5	4	5,9	8



To be installed in any position

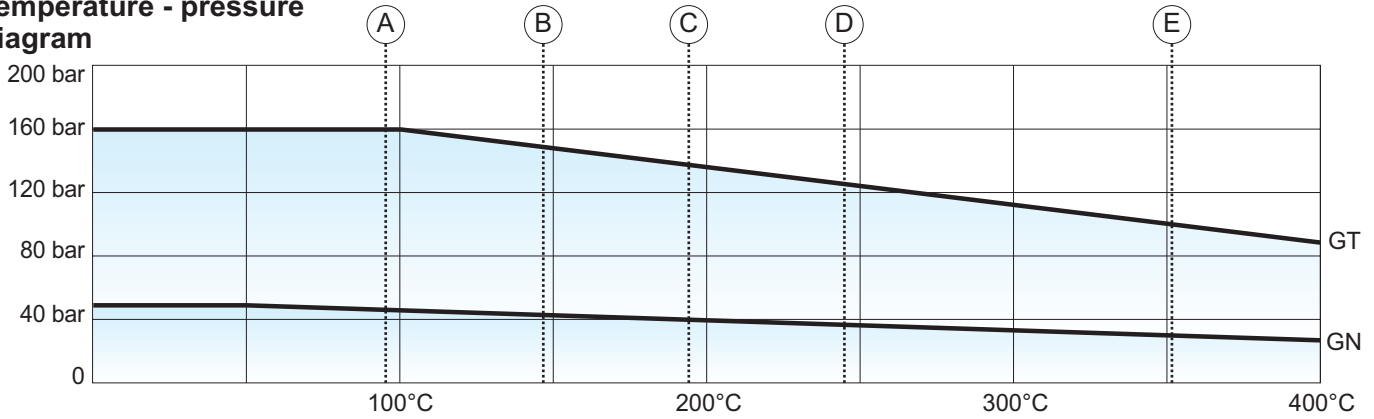


GN and GT valves can be inserted between following flanges:



Note: when ordering always indicate requested type of flange

Temperature - pressure diagram



- (A) BUNA® seat - $T_{max} = 95^{\circ}\text{C}$
- (B) EPDM seat - $T_{max} = 130^{\circ}\text{C}$
- (C) VITON® and PTFE seat - $T_{max} = 180^{\circ}\text{C}$
- (D) AISI 316 spring - $T_{max} = 240^{\circ}\text{C}$
- (E) HASTELLOY C4 spring - $T_{max} = 350^{\circ}\text{C}$

Minimum opening pressure with standard spring

FLOW	DN	15	20	25	32	40	50	65	80	100	
△ (up)	With spring	mbar	25	25	25	27	29	29	31	32	33
▷ (right)	With spring	mbar	23	23	23	24	25	25	26	26	27
▽ (down)	With spring	mbar	21	21	21	21	21	21	21	21	21
△ (up)	Without spring	mbar	2	2	2	3	4	4	5	5	6

Special Springs Table

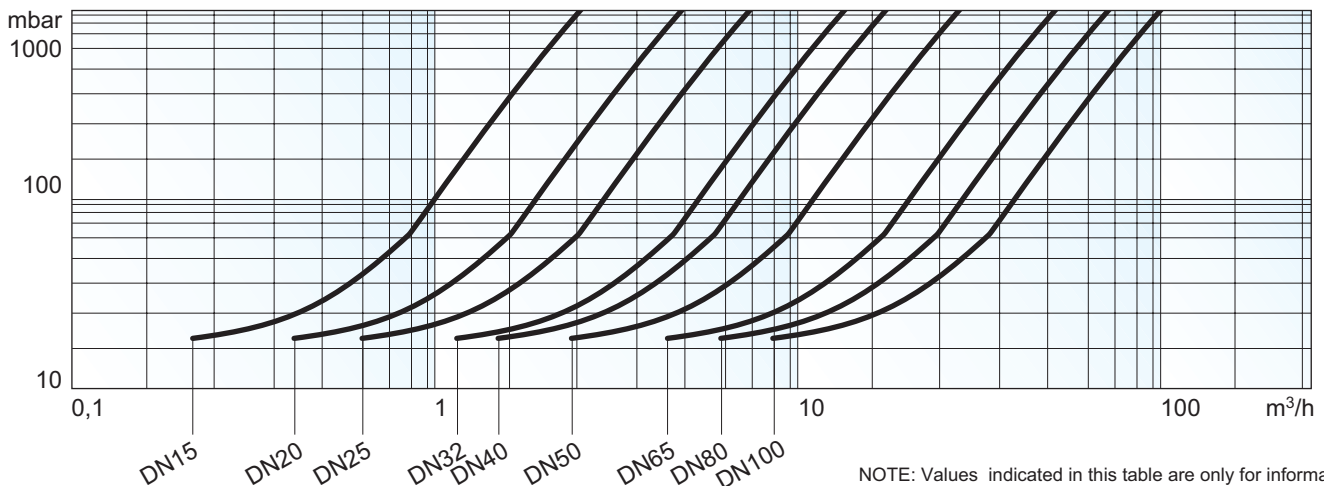
Y = AVAILABLE / N = NOT AVAILABLE

DN	mB 10	mB 20	mB 30	mB 50	mB 100	mB 200	mB 300	mB 500	mB 750	mB 1000
15	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
20	Y	Y	Y	Y	Y	Y	Y	Y	Y	N
25	Y	Y	Y	Y	Y	Y	Y	Y	Y	N
32	Y	Y	Y	Y	Y	Y	Y	Y	N	N
40	Y	Y	Y	Y	Y	Y	Y	Y	N	N
50	Y	Y	Y	Y	Y	Y	Y	Y	N	N
65	Y	Y	Y	Y	Y	Y	Y	N	N	N
80	Y	Y	Y	Y	Y	Y	Y	N	N	N
100	Y	Y	Y	Y	Y	Y	Y	N	N	N

Note 1: Indicate value can vary $\pm 10\%$

Note 2: When ordering always indicate flow direction

Head losses (Water 20°C - Horizontal flow - Standard spring)



NOTE: Values indicated in this table are only for information.

Formula for calculation of rate of flow equivalent to H₂O

$$Q_e = Q \sqrt{\frac{d}{1000}}$$

For different liquid, gas or steam head losses are determined by equivalent water rate of flow, as follows:
 Q_e - equivalent water flow (mc/h o l/s)
 Q - fluid flow (mc/h o l/s)
 d - fluid specific gravity (Kg/mc)



Swing check valves
 Series GS 011
 GS 015
 DN 40÷500 • PN 6÷16 • ANSI 150

FEATURES and ADVANTAGES

Little dimensions and low weights.
 Easy mounting between flanges with any packing.
 To be installed with vertical (only upwards) or horizontal flow.
 No leakage with soft seat and acc. to API598 with metal seat.
 Low head losses.

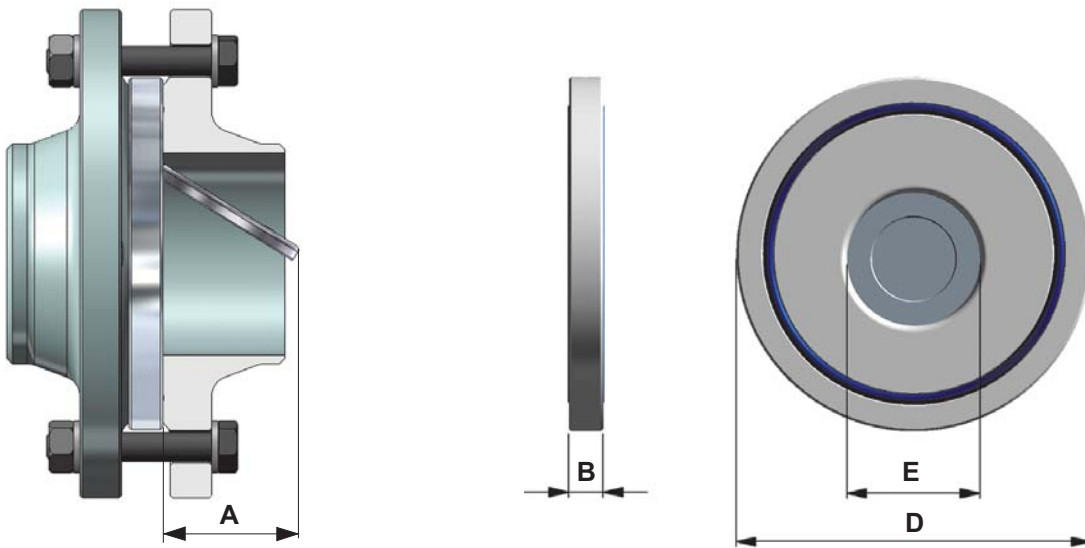
NOTE 1: In these pages you will find the description of the standard swing check valves.

On request different materials can be supplied
(Alu-Bronze, Hastelloy, Monel, Duplex, etc).

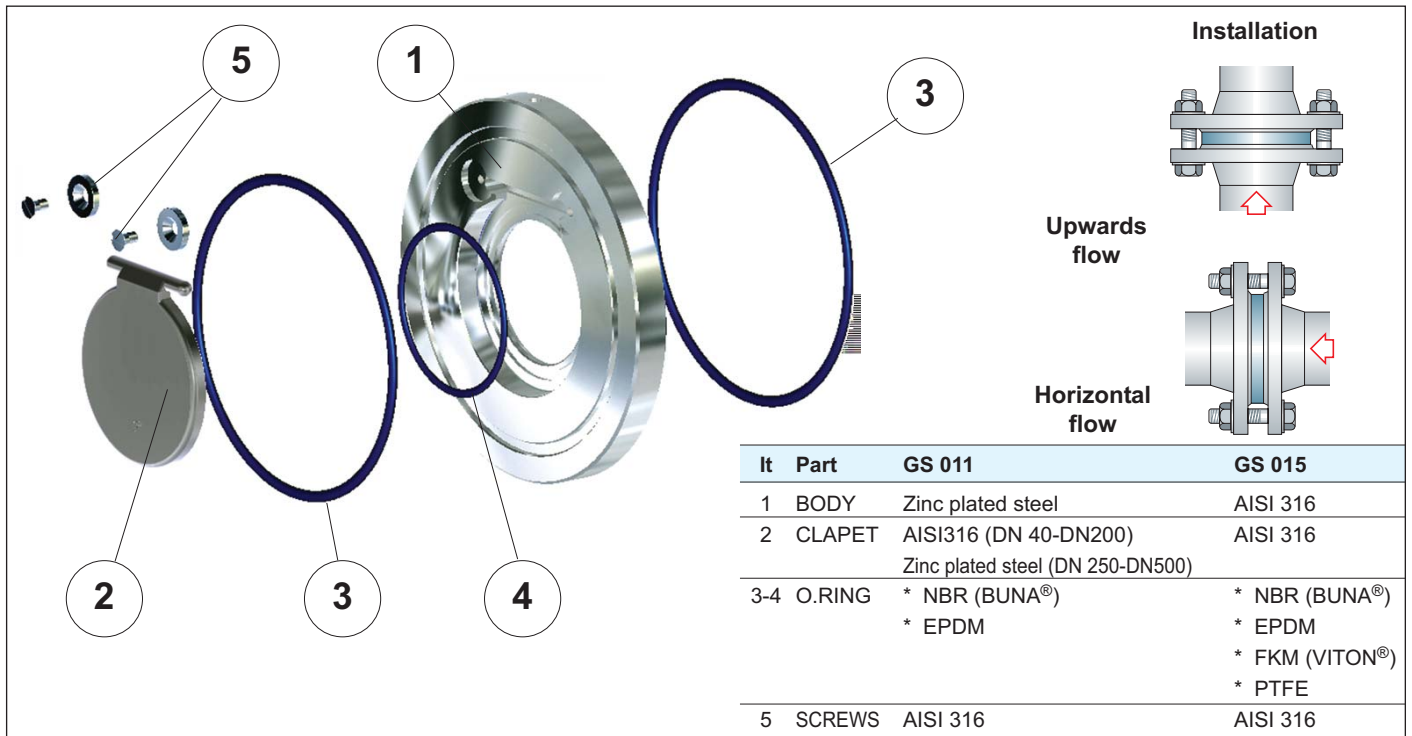
NOTE 2: The standard GS valve cannot be installed between flanges with spirometallic packings.

For this application the body finishing must be modified and the O.Rings removed. Please contact our technical department for assistance.

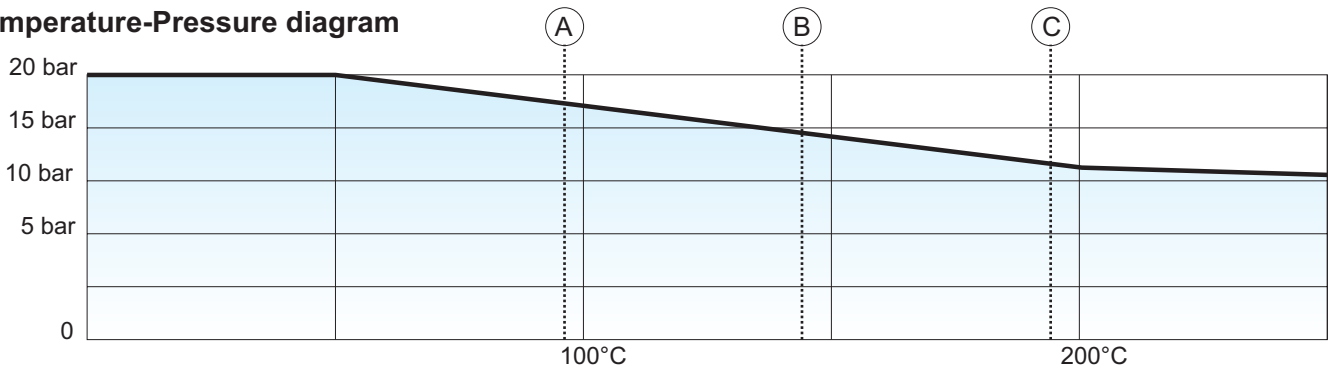
This data sheet describes the standard production.
 For valves with different rating (max ANSI 1500) please contact our technical department.



DN	PN 6				PN 10			PN 16			ANSI 150			Weight Kg
	A	D	E	B	D	E	B	D	E	B	D	E	B	
40	30	88	22	14	95	22	14	95	22	14	86	22	14	0,7
50	35	98	32	14	109	32	14	109	32	14	106	32	14	0,9
65	48	118	40	14	128	40	14	128	40	14	124	40	14	1,2
80	60	134	54	14	145	54	14	145	54	14	138	54	14	1,5
100	78	154	70	18	164	70	18	164	70	18	175	70	18	2,4
125	98	184	92	18	195	92	18	195	92	18	195	92	18	3,4
150	117	209	112	20	221	112	20	221	112	20	221	112	20	4,6
200	160	264	154	22	275	154	22	275	154	22	279	154	22	7,5
250	200	319	200	26	330	200	26	330	200	26	339	200	26	13
300	235	375	240	32	380	240	32	387	240	32	410	240	32	20
350	258	425	270	38	440	270	38	447	270	38	450	270	38	32
400	300	475	310	44	490	310	44	495	310	44	514	310	44	48
450	331	530	360	50	540	360	50	557	360	50	548	360	50	63
500	368	580	405	56	595	405	56	619	405	56	605	405	56	87



Temperature-Pressure diagram

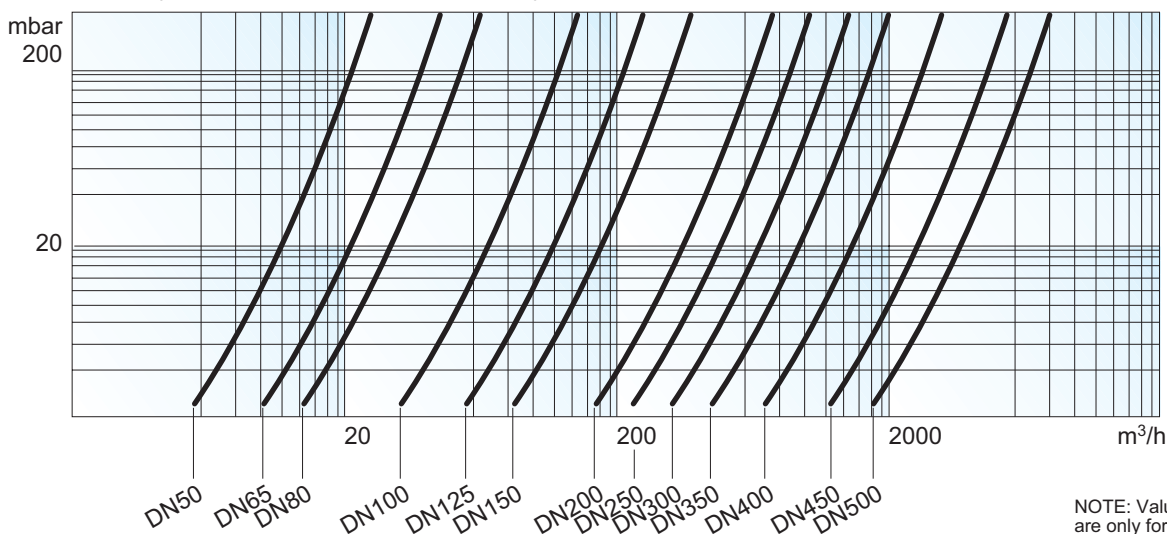


(A) Seat NBR - $T_{max} = 95^{\circ}C$

(B) Seat EPDM - $T_{max} = 140^{\circ}C$

(C) Seat VITON® and PTFE - $T_{max} = 180^{\circ}C$

Head losses (Water 20°C - Horizontal flow)



NOTE: Values indicated in this table are only for information.

Formula for calculation of rate of flow equivalent to H₂O

$$Q_e = Q \sqrt{\frac{d}{1000}}$$
 For different liquid, gas or steam head losses are determined by equivalent water rate of flow, as follows:
 Q_e - equivalent water flow (mc/h o l/s)
 Q - fluid flow (mc/h o l/s)
 d - fluid specific gravity (Kg/mc)

GS 011 - GS 015

DN 40 - 500 • 1 1/4" - 20"

Features and Advantages:

Little dimensions and low weights.
 Easy mounting between flanges with any packing. To be installed with vertical (only upwards) or horizontal flow. For downwards fluids spring version is to be used.
 No leakage with soft seat;
 acc. to API 598 with metallic seat.
 DIN EN 558-1 Series 97
 Low head losses.

NOTE 1: In these pages you will find the description of the standard swing check valves.
 On request different materials can be supplied (Aluminium-Bronze, Hastelloy, Monel, Duplex, etc.).

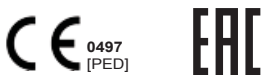
NOTE 2: The standard GS valve cannot be installed between flanges with spirometallic packings. For this application the body finishing must be modified and the O.rings removed. Please contact our technical department for assistance.

GS 011 - GS 015

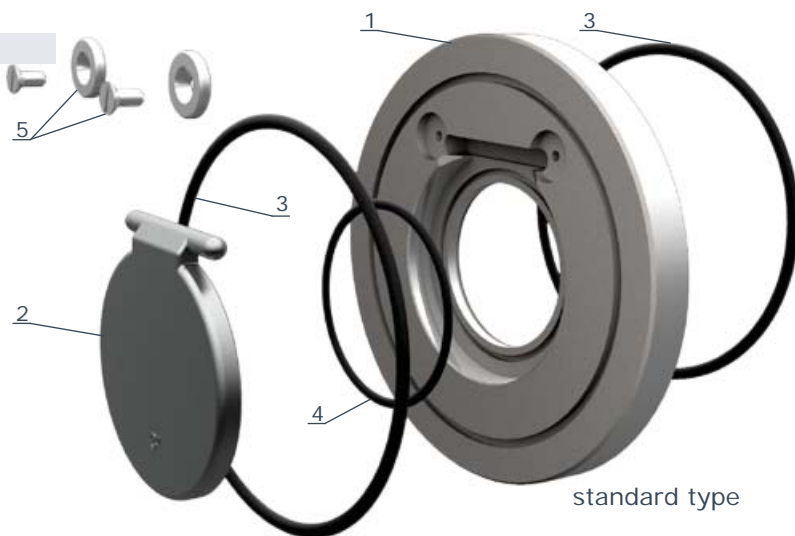
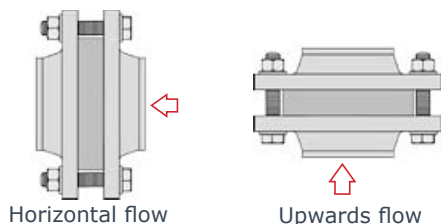
Flanges:

DN 40÷500 PN 6÷16, A150 - P max:25 Bar
 DN 40÷300 ANSI 300 - P max:52 Bar

Certifications:

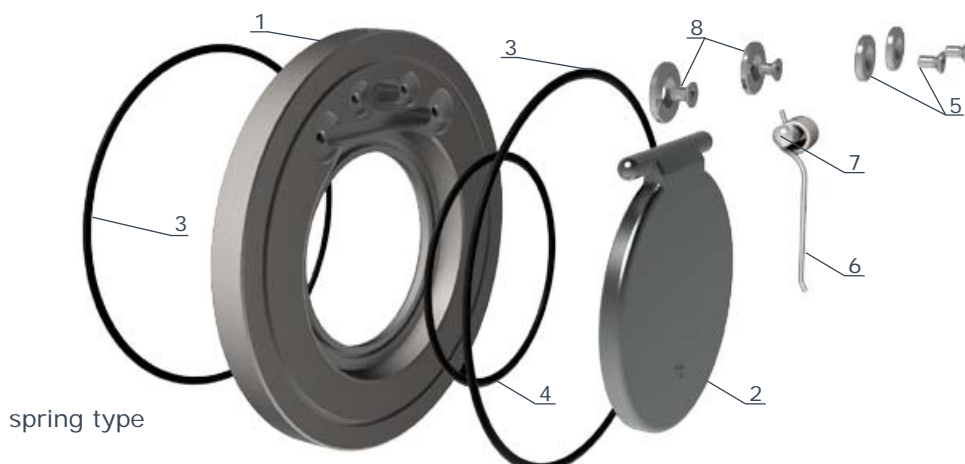


To be installed in two positions:



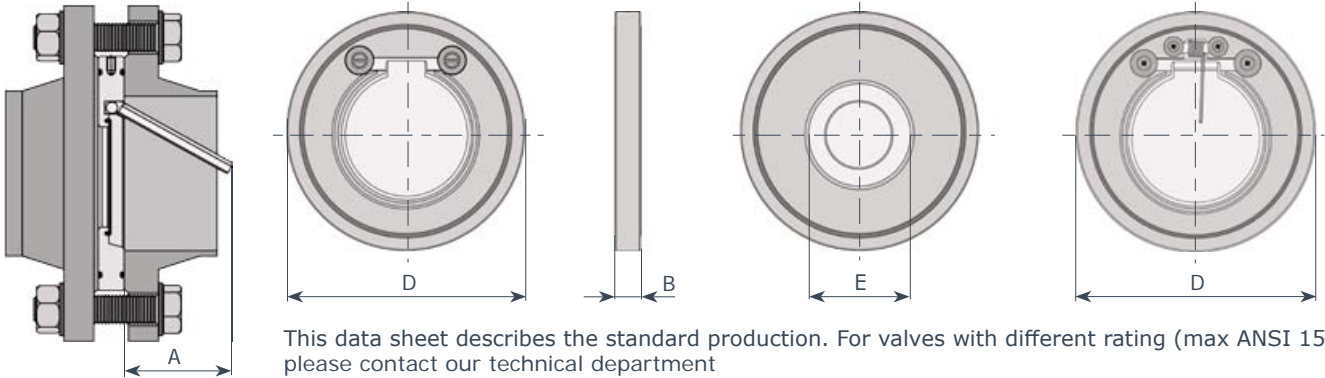
standard type

			GS 011	GS 015
item	q.ty	part	material	material
1	1	body	• zinc plated steel	• AISI 316
2	1	clapet	• AISI 316 (DN 40-200) • zinc plated steel (DN 250-500)	• AISI 316
3-4	1	O.ring	• NBR (BUNA) • EPDM • FKM (VITON) • PTFE	• NBR (BUNA) • EPDM • FKM (VITON) • PTFE
5	2 + 2	screw	• AISI 316	• AISI 316
6	1	spring	• AISI 316	• AISI 316
7	1	pin	• AISI 316	• AISI 316
8	2 + 2	screw	• AISI 316	• AISI 316



spring type

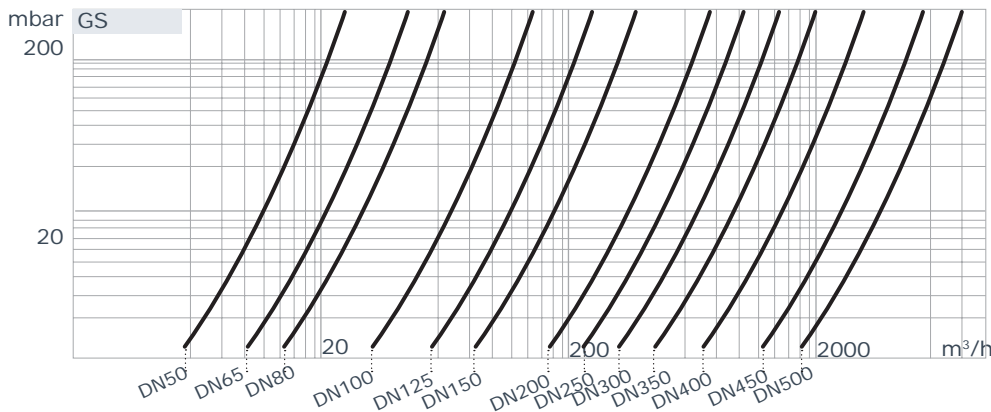
GS 011 - GS 015



This data sheet describes the standard production. For valves with different rating (max ANSI 1500), please contact our technical department

DN	A	PN 6			PN 10			PN 16			ANSI 150			Kg max	ANSI 300			Kg
		D	E	B	D	E	B	D	E	B	D	E	B		D	E	B	
40	30	88	22	14	95	22	14	95	22	14	86	22	14	0.7	95	22	14	0.7
50	35	98	32	14	109	32	14	109	32	14	106	32	14	0.9	109	32	14	0.9
65	48	118	40	14	128	40	14	128	40	14	124	40	14	1.2	128	40	14	1.2
80	60	134	54	14	145	54	14	145	54	14	138	54	14	1.5	145	54	14	1.5
100	78	154	70	18	164	70	18	164	70	18	175	70	18	2.5	179	70	18	3.2
125	98	184	92	18	195	92	18	195	92	18	195	92	18	3.2	214	92	32	7.6
150	117	209	112	20	221	112	20	221	112	20	221	112	20	5.3	249	112	32	10.3
200	160	264	154	22	275	154	22	275	154	22	279	154	22	9.7	308	154	42	19.7
250	200	319	200	26	330	200	26	330	200	26	339	200	26	16.2	359	200	47	24.8
300	235	375	240	32	380	240	32	387	240	32	410	240	32	28	425	240	52	45.6
350	258	425	270	38	440	270	38	447	270	38	450	270	38	32	-	-	-	-
400	300	475	310	44	490	310	44	495	310	44	514	310	44	48	-	-	-	-
450	331	530	360	50	540	360	50	557	360	50	548	360	50	63	-	-	-	-
500	368	580	405	56	595	405	56	619	405	56	605	405	56	87	-	-	-	-

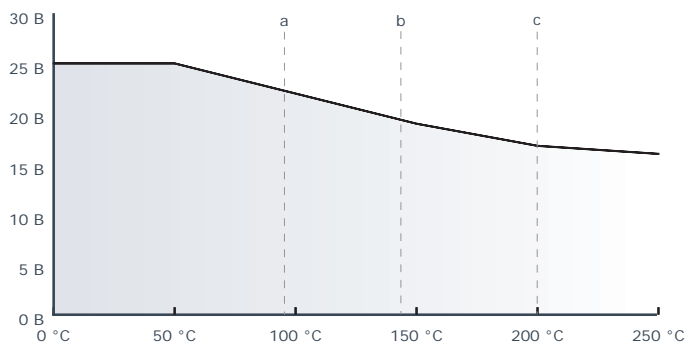
Head losses (H₂O - 20°C - horizontal flow)



- a NBR T_{MAX} = 95°C
- b EPDM T_{MAX} = 130°C
- c VITON
PTFE T_{MAX} = 200°C

Values indicated in this table are only for informations.

Temperature - pressure diagram



Formula for calculation of equivalent flow rate to H₂O

$$Q_e = Q \sqrt{\frac{d}{1000}}$$

For different liquid, gas or steam head losses are determined by equivalent water flow rate, as follows:

- Q_e equivalent water flow (m³/h o l/s)
- Q fluid flow (m³/h o l/s)
- d fluid specific gravity (Kg/m³)

Butterfly valves WAFER - LUG BVPD / BLPD

CAT • PD-EN-07

DN 50 - DN 400 / 2" - 16"
Flanges: PN6 - PN10 - PN16 / A150
Applications: Water, Gas, Powders

P_{max}: 6 Bar



Butterfly valves WAFER BVPE

CAT • PE-EN-07

Valves for polyethylene pipings - PE -
DN 40 - DN 350 / DE 50 - DE 400
Flanges: PN10
Applications: Water, Gas

P_{max}: 10 Bar



Butterfly valves WAFER - LUG - Double flange BVKI / BLKI - BFKI

CAT • KI-EN-07

BVKI/BLKI: DN 40 - DN 800 / 1" 1/2" - 32"
BFKI: DN 80 - DN 600 / 3" - 24"
Flanges: PN6 (BFKI only) - PN10 - PN16 - ANSI150
Applications: Water, Gas, Oils, Acids, Hydrocarbons, etc.

P_{max}: 16 Bar



Butterfly valves WAFER - LUG BVKA / BLKA - BVKX / BLKX

CAT • KA-EN-07

BVKA/BLKA: DN 40 - DN 800 / 1" 1/2" - 32"
BVKX/BLKX: DN 50 - DN 200 / 2" - 8"
Flanges: **BVKA/BLKA:** ANSI150 - **BVKX/BLKX:** PN25
Applications: Water, Gas, Oils, Acids, Hydrocarbons, etc.

P_{max}: BVKA: 20 Bar
BVKX: 25 Bar



Actuators PNEUMATICS
ELECTRICS
HYDRAULICS
Positioners
Solenoid valves

CAT • AT-EN-07



Butterfly valves PTFE seat BVTT / BLTT - BVTK - BVCT

CAT • TT-EN-07

BVTT/BLTT: DN 50 - DN 300 / 2" - 12"
BVTK: DN 350 - DN 400 / 14" - 16" - **BVCT:** 2" - 3"
Flanges: PN10 - PN16 - ANSI150 - **BVCT:** PN10 - PN16
Applications: Acids, Foods, Powder tankers, etc.

P_{max}: BVTT: 10 Bar
BVTK: 6 Bar
BVCT: 0,5 Bar



Disc check valves / Swing check valves GA - GB - GH - GN - GT - GS

CAT • CH-EN-07

DN 15 - DN 500
PN6 - PN160 / ANSI150 - ANSI900
Materials: Stainless steel (AISI316, Hastelloy, DUPLEX, etc.), Bronze, PTFE



Technical tables

Chemical compatibility
Conversion tables for units of measure

CAT 001/EN/TB



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Tel: **39 051 835711 - Fax: **39 051 830344 - info@ghibson.it - www.ghibson.it