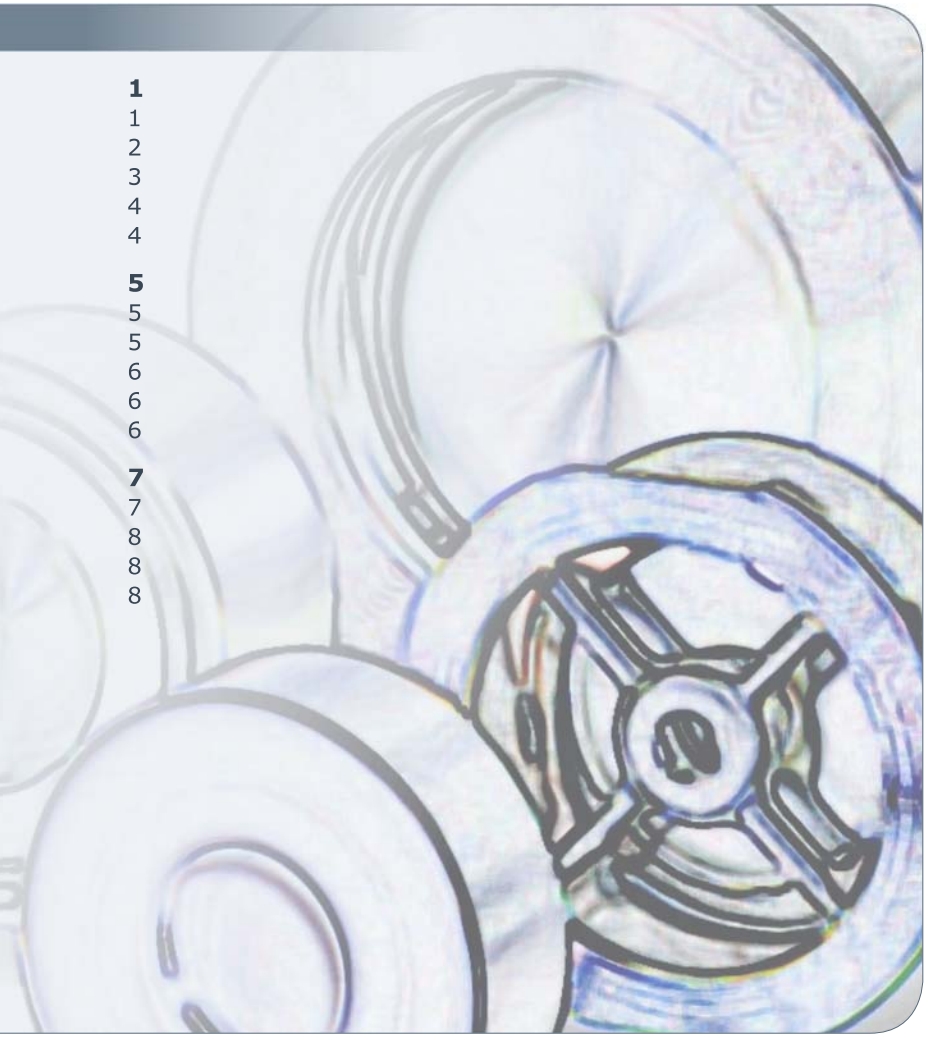
CHECK
VALVES

disc type



swing type

Ghibson Italia s.r.l.
via Cassola 6/9
40050 Monteveglio (BO)
Italy

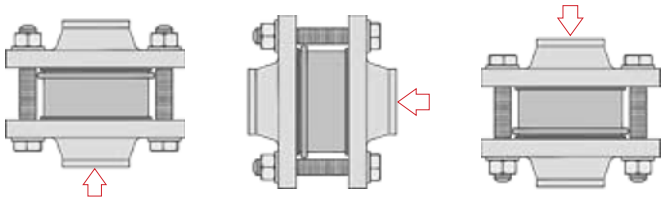
tel: +39.051.835711
fax: +39.051.830344
email: info@ghibson.it
web: www.ghibsonvalves.com

GA 015	GB 015	GB 019
DN 15 - 100 • 1/2" - 4"	DN 15 - 100 • 1/2" - 4"	DN 15 - 100 • 1/2" - 4"

Features and Advantages:

Little dimensions and low weights
Face to face acc.to **DIN EN 558-1 Series 49 (DIN 3202 K4)**.
Opening pressure from 20 to 500 mBar.
Usable also as vacuum breacker, overpressure and bottom valve.
No leackage with soft seat and acc.to **DIN 3230 BN3** with metal seat.
Low head losses.

To be installed in any position:

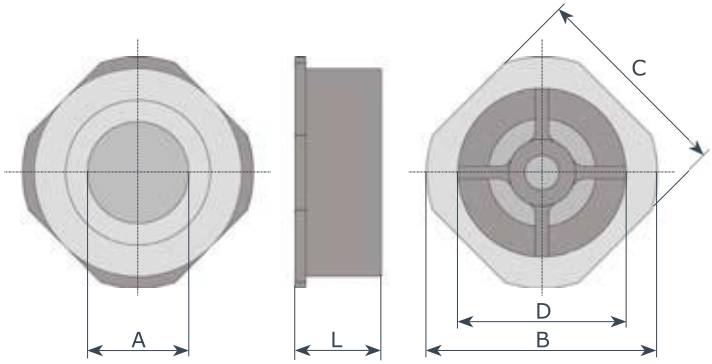


Upwards flow | Horizontal flow | Downwards flow

GA 015 DN 15 - 100 • 1/2" - 4"

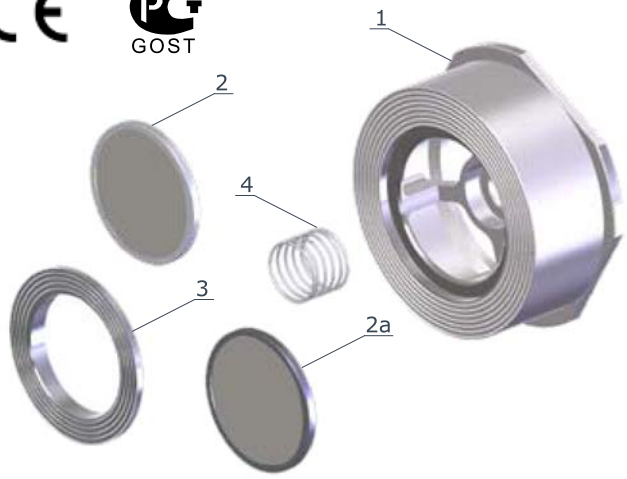
Features:

DN 15/100: P max: **52 Bar • ANSI300**
Flange:
DN 15÷80 ***PN 6÷40, A150÷300***
DN 100 ***PN 10÷40, A150÷300***



Certifications:

CE GOST



DN	15	20	25	32	40	50	65	80	100
A	15	20	24	31	38	47	62	77	95
B	53	63	73	84	94	107	131	140	162
C	45	55	65	74	84	98	118	130	162
D	27	33	38	54	64	78	96	105	130
L	16	19	22	28	32	40	46	50	60
Kg	0.11	0.14	0.26	0.4	0.6	0.95	1.3	1.9	3.4

This type of valve cannot be used with spirometallic packing.

item	q.ty	part	material
1	1	body	• A351 - CF8M (AISI 316)
2	1	disc -standard	• A240 (AISI 316L)
2A	1	*on request*	• *A240 (AISI 316L) + NBR* • *A240 (AISI 316L) + EPDM* • *A240 (AISI 316L) + FKM*
3	1	seat disc *on request*	• A182 (AISI 316) • A182 (AISI 316) + PTFE
4	1	spring -standard *on request*	• AISI 316 • Hastelloy C4

minimum opening pressure with standard springs

flow	DN	15	20	25	32	40	50	65	80	100
△	mBar	25	25	25	27	29	29	31	32	33
▷	mBar	23	23	23	24	25	25	26	26	27
▽	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

DN	15	20	25	32	40	50	65	80	100
50 mBar	Y	Y	Y	Y	Y	Y	Y	Y	Y
100 mBar	Y	Y	Y	Y	Y	Y	Y	Y	Y
200 mBar	Y	Y	Y	Y	Y	Y	Y	Y	Y
300 mBar	Y	Y	Y	Y	Y	Y	Y	Y	Y
500 mBar	Y	Y	Y	Y	Y	Y	N	N	N

Y = available / N = not available

GB 015 DN 15 - 100 • 1/2" - 4"

Features:

DN 15/100: P max: 52 Bar

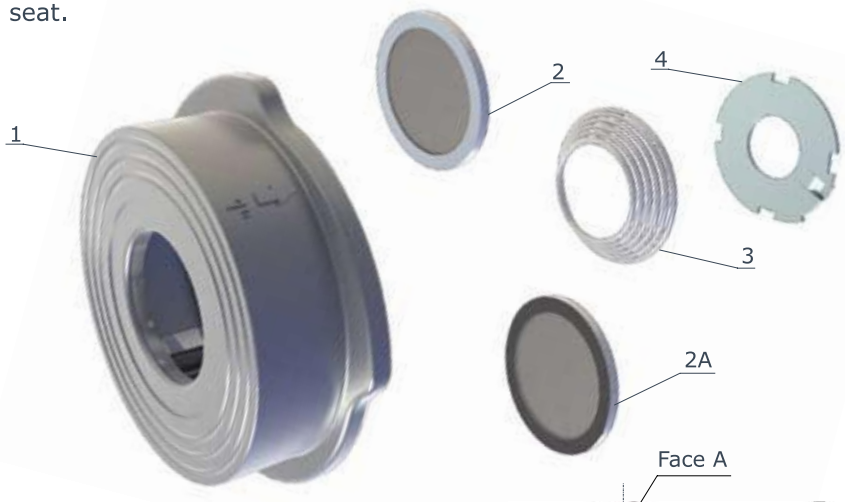
Flange:

DN 15÷80 *PN 6÷40, A150÷300*

DN 100 *PN 10÷40, A150÷300*

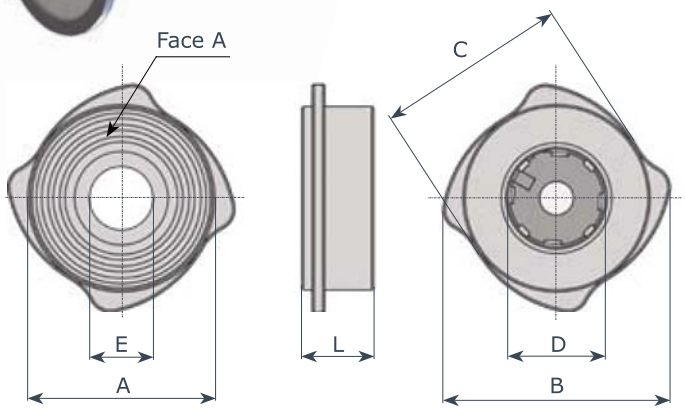
This type of valve can be used with API 601 spirometallic packings only with finishing of "Face A" (see dimensions) Stock finish AARH 250/500.

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



GB 015

item	q.ty	part	material
1	1	body	• A351 - CF8M (AISI 316)
2	1	disc -standard	• A240 (AISI 316L)
2A	1	*on request*	• *A240 (AISI 316L) + NBR* • *A240 (AISI 316L) + EPDM* • *A240 (AISI 316L) + FKM*
3	1	spring standard	• AISI 316
4	1	top ring	• A240 (AISI 316L)



GB 019 DN 15 - 100 • 1/2" - 4"

DN 15/100: P max: 16 Bar

Flange:

DN 15÷80 *PN 6÷16,*

DN 100 *PN 10÷16*

Certifications:

GOST

GB 019

item	q.ty	part	material
1	1	body	• bronze B-584
2	1	disc -standard	• A240 (AISI 316L)
2A	1	*on request*	• *A240 (AISI 316L) + NBR* • *A240 (AISI 316L) + EPDM* • *A240 (AISI 316L) + FKM*
3	1	spring standard	• AISI 316
4	1	spring top ring	• A240 (AISI 316L)

GB 015

DN	15	20	25	32	40	50	65	80	100
A	43	48	58	68	75	94	113	129	159
B	54	64	71	81	93	110	130	149	181
C	45	54	63	72	82	95	115	131	160
D	23	28	36	50	58	71	86	105	130
E	14	19	25	31	38	48	62	77	95
L	17	20	22	28	32	40	46	50	60
Kg	0.11	0.18	0.26	0.4	0.55	1	1.5	2	3.2

minimum opening pressure with standard springs

flow	DN	15	20	25	32	40	50	65	80	100
△	mBar	25	25	25	27	28	30	30	25	21
▷	mBar	23	23	23	25	23	24	24	19	15
▽	mBar	21	21	21	22	18	18	18	13	9
△ without spring	mBar	na	na	na	na	na	na	na	na	na

GB 019

DN	15	20	25	32	40	50	65	80	100
A	37	45	55	65	74	89	107	126	147
B	49	60	70	80	90	107	127	140	162
C	44	54	64	76	86	96	116	132	154
D	32	39	46	57	65	80	97	113	127
E	15	20	24	31	38	47	62	77	95
L	16	19	22	28	32	40	46	50	60
Kg	0.11	0.14	0.26	0.36	0.46	0.9	1.6	2.1	2.8

GB 021 DN 15 - 100 • 1/2" - 4"

GB 023 DN 15 - 100 • 1/2" - 4"

Features:

Flange:
DN 15÷100 PN 10÷16

Max working pressure: 6 Bar
Max working temperature: 110°C

This type of valve cannot be used with spirometallic packing.

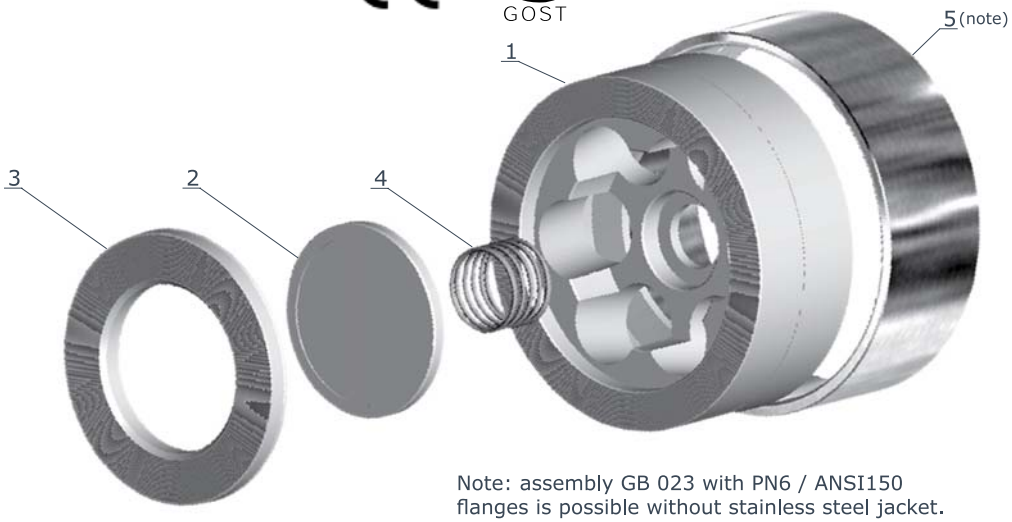
Flange:
DN 15÷100 PN 10÷16

Max working pressure: 6 Bar
Max working temperature: 180°C

Certifications:

CE GOST

On request spring can be coated with a PTFE pipe sealed at the end.



Note: assembly GB 023 with PN6 / ANSI150 flanges is possible without stainless steel jacket.

item	q.ty	part	GB 021 material	GB 023 material
1	1	body	• polypropylene (PP)	• PTFE
2	1	disc	• polypropylene (PP)	• PTFE
3	1	seat	• polypropylene (PP)	• PTFE
4	1	spring *on request*	• Hastelloy C4 • *AISI 316 + PTFE* • *AISI 316 + Nyflon*	• Hastelloy C4 • *AISI 316 + PTFE* • *AISI 316 + Nyflon*
5	1	jacket	• AISI 304	• AISI 304

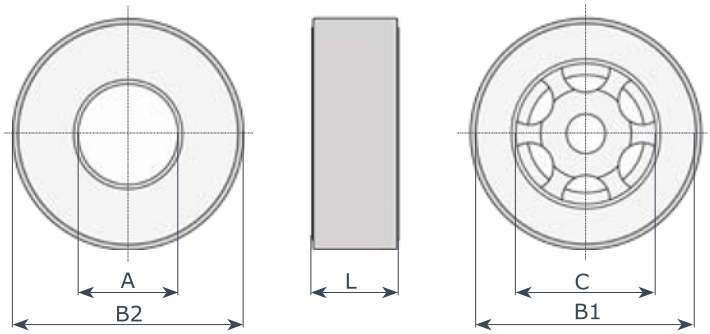
DN	15	20	25	32	40	50	65	80	100
screw	4x M12	4x M12	4x M12	4x M16	4x M16	4x M16	4x M16	4x M16	8x M16
tightening torque Nmt	10	10	20	35	35	35	40	40	45

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 lubrificated threads.

special spring table

DN	15	20	25	32	40	50	65	80	100
50 mBar	Y	Y	Y	Y	Y	Y	Y	Y	Y
100 mBar	Y	Y	Y	Y	Y	Y	Y	Y	Y
200 mBar	Y	Y	Y	Y	Y	Y	Y	Y	Y
300 mBar	Y	Y	Y	Y	Y	Y	Y	Y	Y
500 mBar	Y	Y	Y	Y	Y	Y	N	N	N

Y = available / N = not available



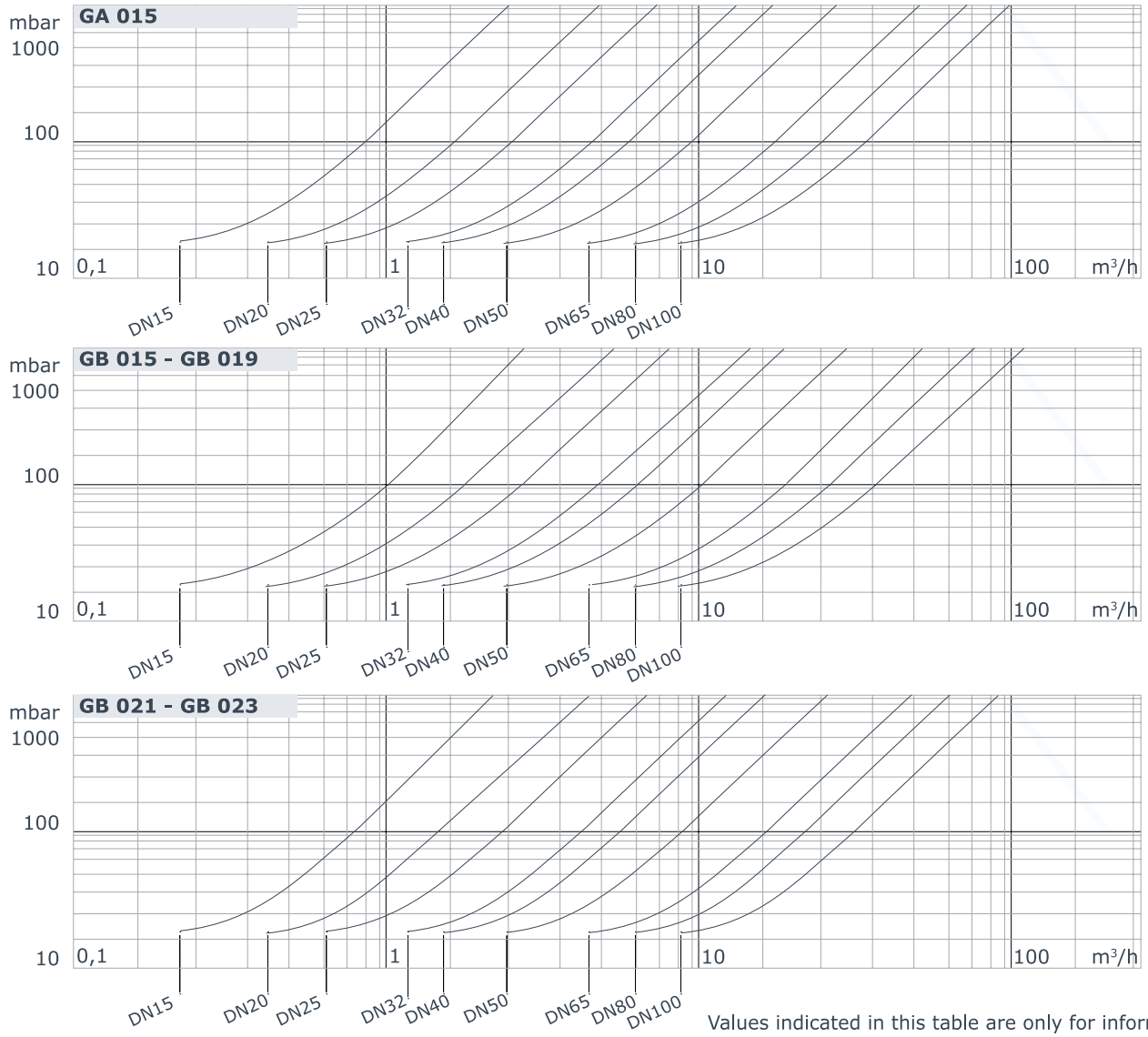
minimum opening pressure with standard springs

flow	DN	15	20	25	32	40	50	65	80	100
△	mBar	23	23	24	25	26	26	27	27	29
▷	mBar	22	22	22.5	23	23.5	23.5	24	24	25
▽	mBar	21	21	21	21	21	21	21	21	21
△ w/o spring	mBar	1	1	1.5	2	2.5	2.5	3	3	4

DN	15	20	25	32	40	50	65	80	100
A	15	20	25	32	38	47	63	79	96
B1	44	54	64	75	85	96	116	133	154
B2	50	60	70	80	90	107	130	140	62
C	30	38	45	56	65	78	95	100	120
L	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	1.4	1.7	2.2

GA 015 GB 015 GB 019 GB 021 GB 023

Head losses (H_2O - 20°C - horizontal flow, standard spring)



Values indicated in this table are only for informations

Formula for calculation of equivalent flow rate to H_2O

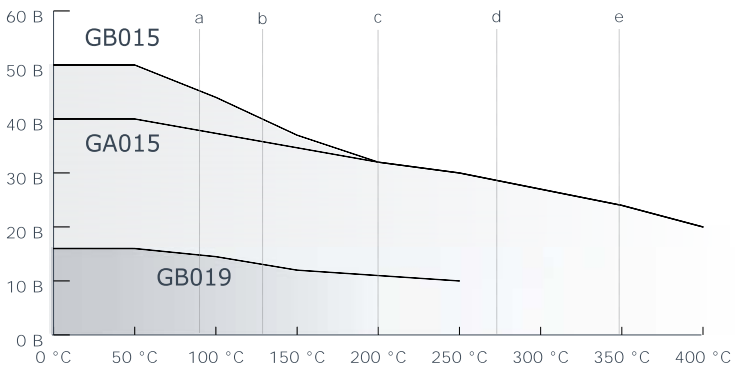
$$Qe = Q\sqrt{\frac{d}{1000}}$$

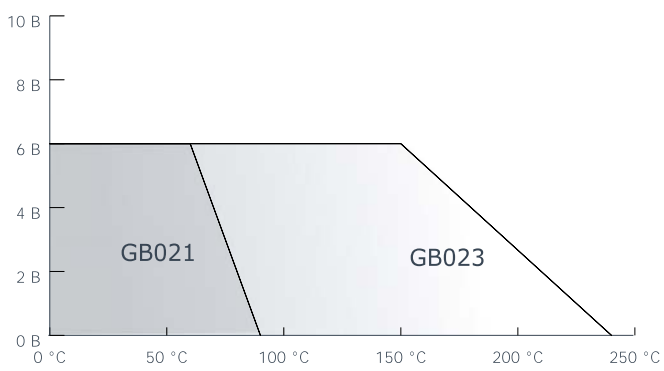
For different liquid, gas or steam head losses are determined by equivalent water flow rate, as follows:

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

Temperature - pressure diagram

a NBR T_{MAX} = 95°C
b EPDM T_{MAX} = 130°C
c FKM PTFE T_{MAX} = 200°C
d spring AISI 316 T_{MAX} = 270°C
e spring HASTELLOY C4 T_{MAX} = 350°C





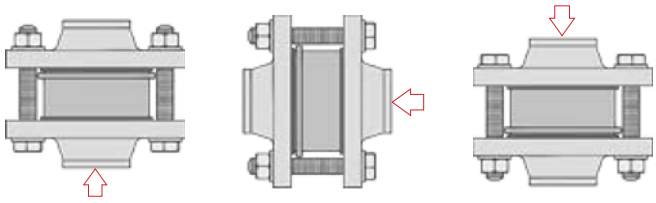
GN 011 - GN 015 - GN 115
DN 15 - 100 • 1/2" - 4"

GT 011 - GT 015 - GT 115
DN 15 - 100 • 1/2" - 4"

Features and Advantages:

Little dimensions and low weights.
Face to face acc. to **DIN EN 558-2 Series 52 (DIN 3202 K5)**
Opening pressure from 20 to 500 mBar.
No leackage with soft seat; acc. to DIN 3230 BN3 with metallic seat.
Low head losses.
Usable also as vacuum breaker, overpressure and bottom valve.

To be installed in any position:



Upwards flow | Horizontal flow | Downwards flow

GN 011 - GN 015 - GN 115 Pmax: **52 Bar**

Flange:
DN 15÷100 *PN 10÷40, A150÷300*

This type of valve cannot be used with spirometallic packing.

GT 011 - GT 015 - GT 115 Pmax: **160 Bar**

Flange:
DN 15÷100 *PN 63÷160, A600÷900*

This type of valve cannot be used with spirometallic packing.

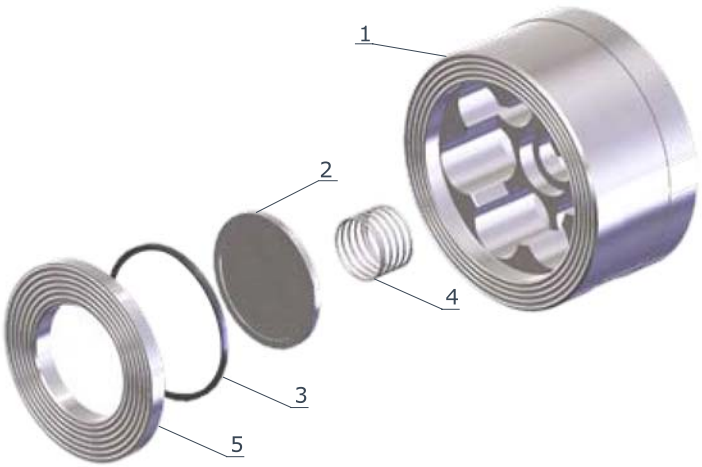
item	q.ty	part	GN 011 - GT 011 material	GN 015 - GT 015 material	GN 115 - GT 115 material
1	1	body	• zinc plated steel A105	• A182 (AISI 316)	• Hastelloy B574/99
2	1	disc -standard	• A240 (AISI 316L)	• A240 (AISI 316L)	• Hastelloy B574/99
3	1	O Ring	• *NBR* • *EPDM* • *FKM* • *PTFE*	• *NBR* • *EPDM* • *FKM* • *PTFE*	• *NBR* • *EPDM* • *FKM* • *PTFE*
4	1	spring -standard *on request*	• AISI 316 • --	• AISI 316 • Hastelloy C4	• Hastelloy C4 • --
5	1	seat	• A182 (AISI 316)	• A182 (AISI 316)	• Hastelloy B574/99

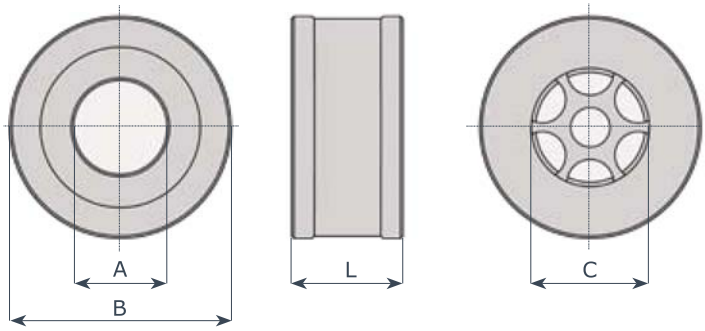
Certifications:

GOST

minimum opening pressure with standard springs

flow	DN	15	20	25	32	40	50	65	80	100
▲	mBar	25	25	25	27	29	29	31	32	33
▶	mBar	23	23	23	24	25	25	26	26	27
▼	mBar	21	21	21	21	21	21	21	21	21
▲ without spring	mBar	2	2	2	3	4	4	5	5	6

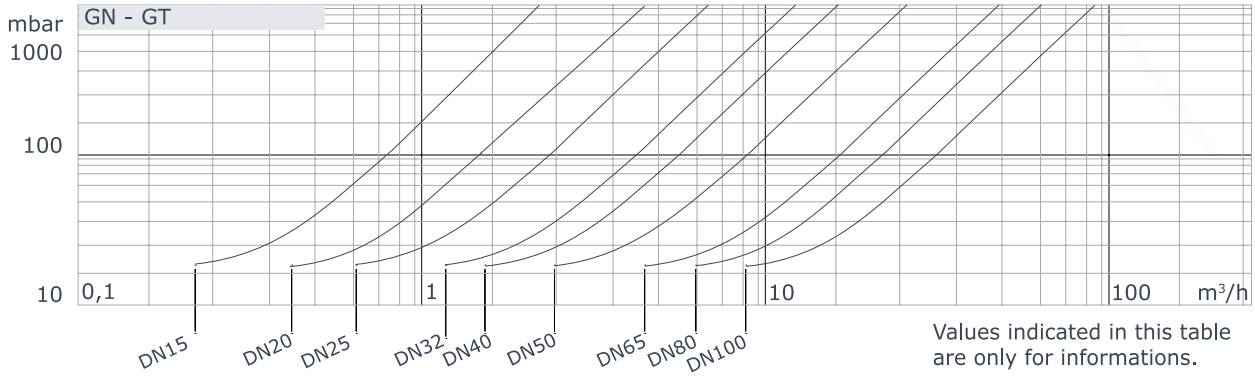




DN	15	20	25	32	40	50	65	80	100
A	15	20	24	30	38	47	62	77	96
B	46	60	70	80	90	107	130	145	178
C	21	25	30	40	48	60	85	90	110
L	25	31.5	35.5	40	45	56	63	71	80
Kg	0.3	0.6	1	1.3	1.8	2.5	4	5.9	8

GN 011 - GN 015 GT 011 - GT 015 GN 115 - GT 115

Head losses (H_2O - 20°C - horizontal flow, standard spring)



Values indicated in this table are only for informations.

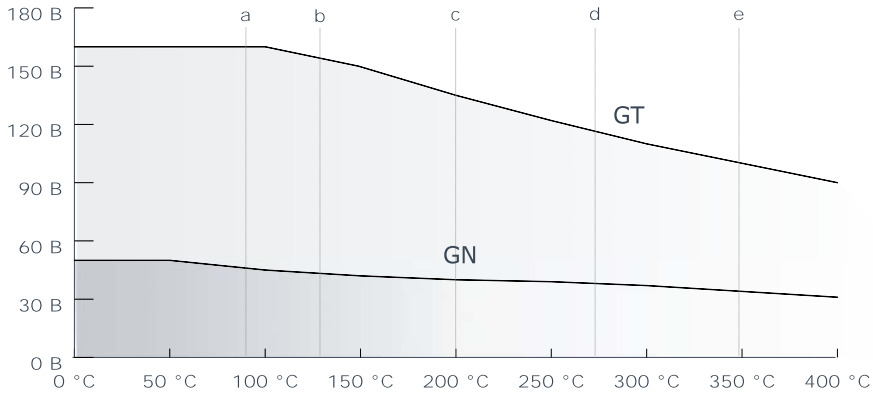
Formula for calculation of equivalent flow rate to H_2O

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

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

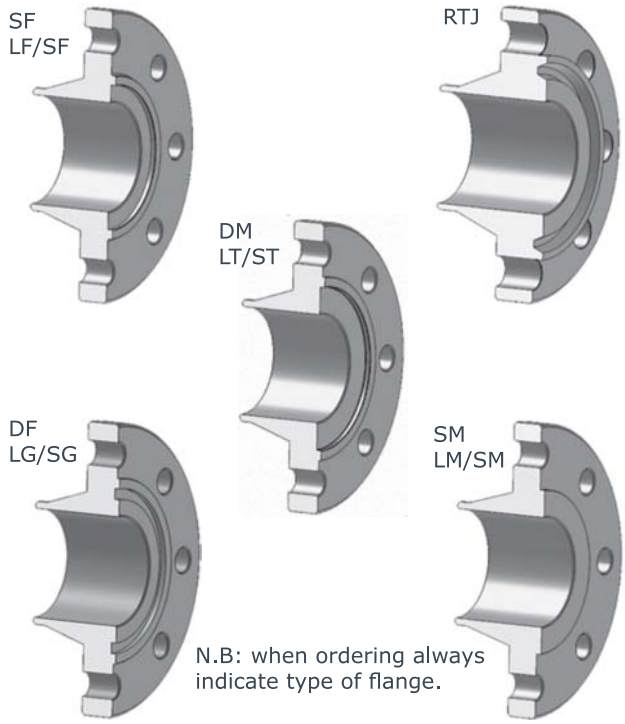
Qe equivalent water flow *(m³/h o l/s)*
Q fluid flow *(m³/h o l/s)*
d fluid specific gravity *(Kg/m³)*

Temperature - pressure diagram



a NBR T_{MAX} = 95°C
b EPDM T_{MAX} = 130°C
c FKM PTFE T_{MAX} = 200°C
d spring AISI 316 T_{MAX} = 270°C
e spring HASTELLOY C4 T_{MAX} = 350°C

GN and GT valves can be inserted between following flages:



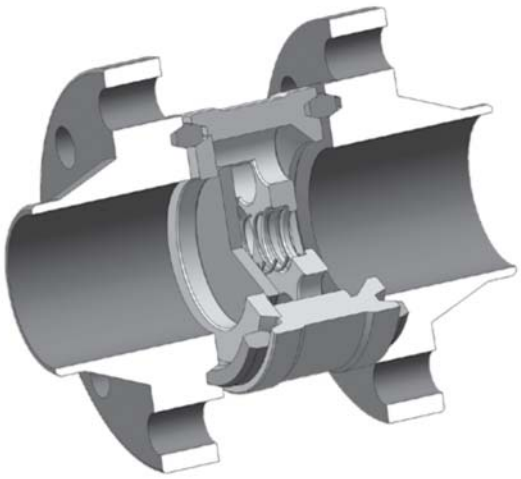
N.B: when ordering always indicate type of flange.

special spring table

DN	15	20	25	32	40	50	65	80	100
50 mBar	Y	Y	Y	Y	Y	Y	Y	Y	Y
100 mBar	Y	Y	Y	Y	Y	Y	Y	Y	Y
200 mBar	Y	Y	Y	Y	Y	Y	Y	Y	Y
300 mBar	Y	Y	Y	Y	Y	Y	Y	Y	Y
500 mBar	Y	Y	Y	Y	Y	Y	N	N	N

Y = available / N = not available

Application of GT valves with ANSI RTJ flanges:

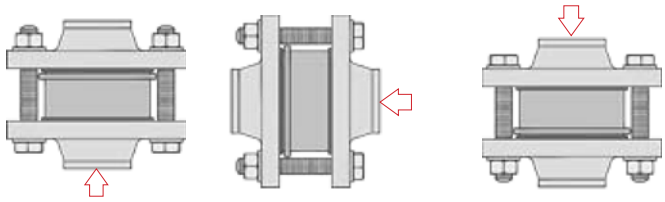


GH 011 - GH 015
DN 125- 200 • 5″ - 8″

Features and Advantages:

Little dimensions and low weights.
Face to face acc. to **DIN EN 558-1 Series 49 (DIN 3202 K4)**.
Opening pressure from 10 to 500 mBar.
Usable also as vacuum breaker, overpressure and bottom valve.
No leackage with soft seat.
acc. to DIN 3230 BN3 with metallic seat.
Low head losses.

To be installed in any position:



Upwards flow | Horizontal flow | Downwards flow

GH 011 - GH 015 P max: **25 Bar**

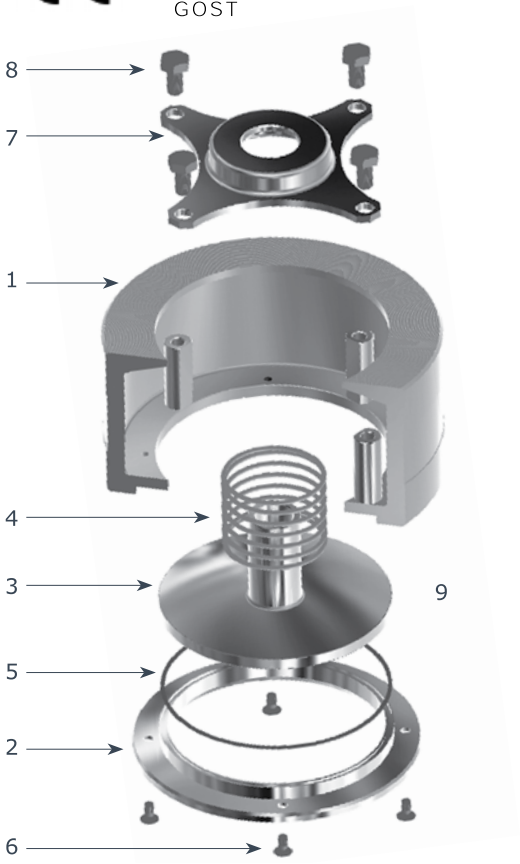
Flange:
DN 125÷200 PN 10÷25, A150

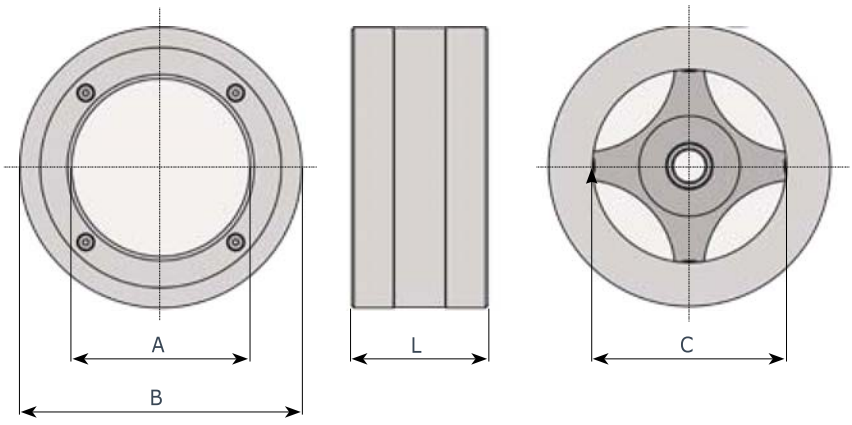
This type of valve cannot be used with spirometallic packing.

Certifications:

CE GOST

item	q.ty	part	GH 011 material	GH 015 material
1	1	body	• zinc plated steel	• A351 - CF8M (AISI 316)
2	1	seat	• A240 (AISI 316L)	• A240 (AISI 316L)
3	1	disc	• A240 (AISI 316L)	• A240 (AISI 316L)
4	1	spring -standard *on request*	• AISI 316	• AISI 316 • Hastelloy C4
5	1	O-Ring	• NBR • EPDM • FKM • PTFE	• NBR • EPDM • FKM • PTFE
6	4	screw	• A182 (AISI 316)	• A182 (AISI 316)
7	1	spring housing	• A182 (AISI 316)	• A182 (AISI 316)
8	4	screws	• A4 (AISI 316)	• A4 (AISI 316)
9	4	studs	• A182 (AISI 316)	• A182 (AISI 316)

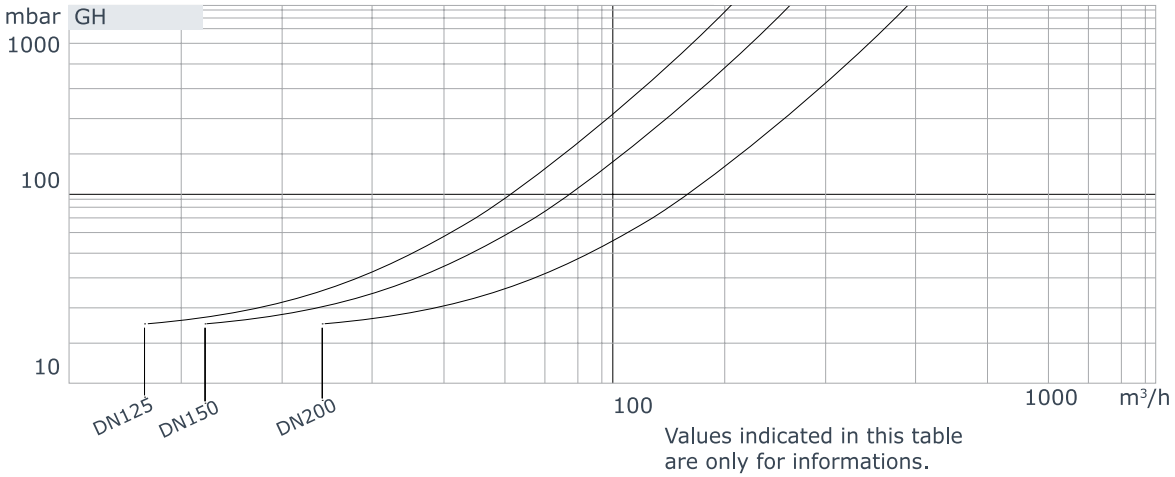




DN	125	150	200
A	120	140	183
B	190	218	273
C	125	150	200
L	90	106	140
GH 011 Kg	6.5	9.8	21.2
GH 015 Kg	6.7	10.5	22.4

GH 011 - GH 015

Head losses (H_2O - 20°C - horizontal flow, standard spring)



Values indicated in this table are only for informations.

Formula for calculation of equivalent flow rate to H_2O

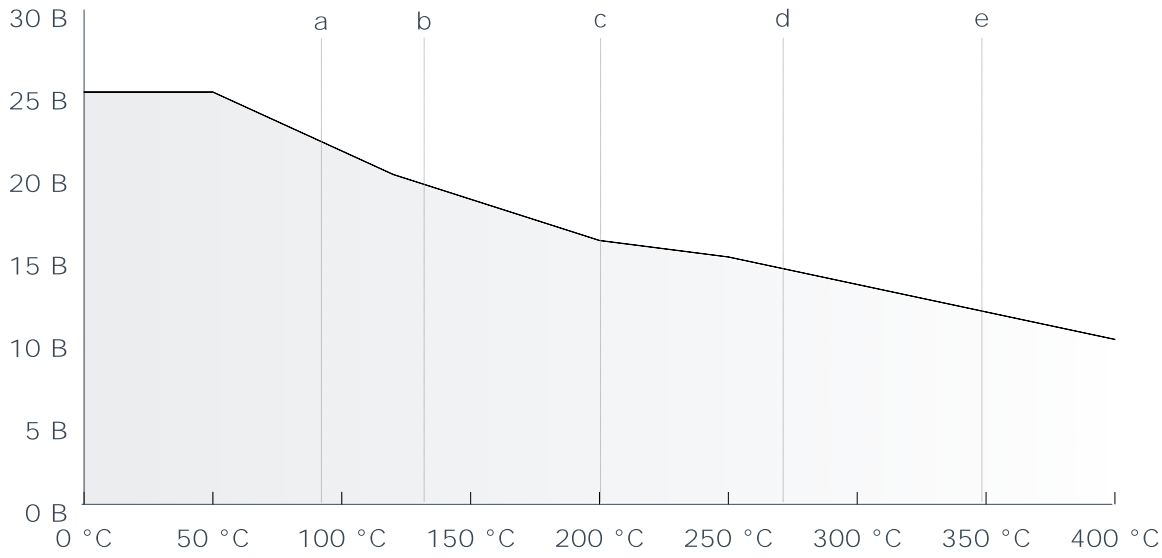
$$Qe = Q\sqrt{\frac{d}{1000}}$$

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

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

Temperature - pressure diagram

a NBR T_{MAX} = 95°C
b EPDM T_{MAX} = 130°C
c FKM PTFE T_{MAX} = 200°C
d spring AISI 316 T_{MAX} = 270°C
e spring HASTELLOY C4 T_{MAX} = 350°C



minimum opening pressure with standard springs

flusso	DN	125	150	200
△	mBar	34	36	36
▻	mBar	22	23	27
▽	mBar	17	18	18
△ without spring	mBar	8	9	10

special spring table

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

Y = available
N = not available

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 leackage with soft seat; acc. to API 598 with metallic 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 (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.

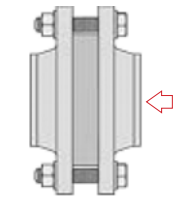
GS 011 - GS 015 - GS 019 P max: **25 Bar**

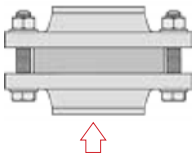
Flange:
DN 40÷500 *PN 6÷16, A150*

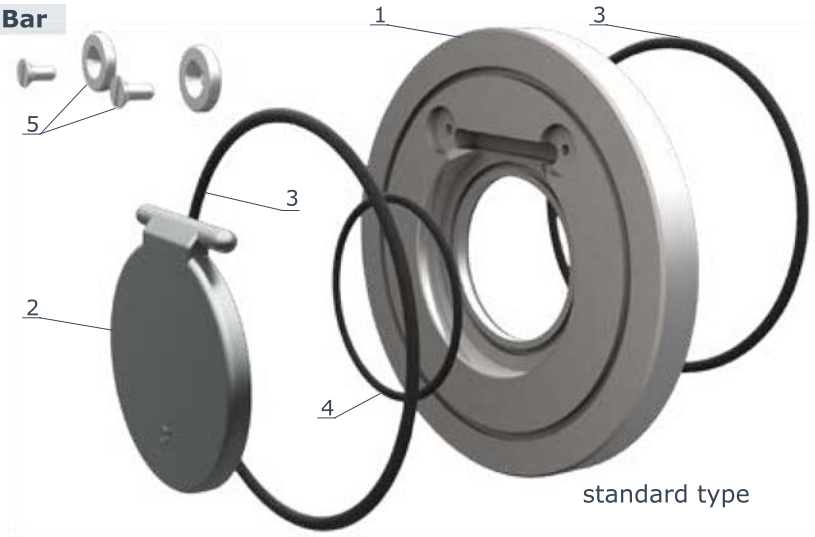
Certifications:

CE GOST

To be installed in two positions:

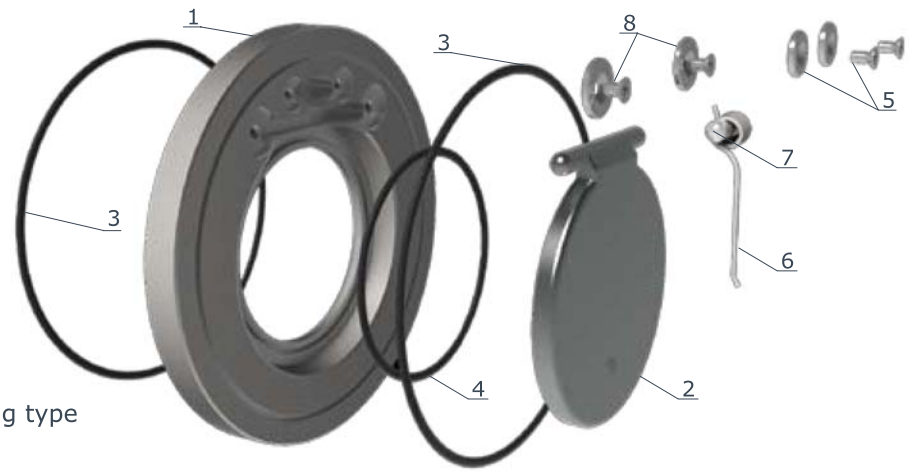

Horizontal flow


Upwards flow



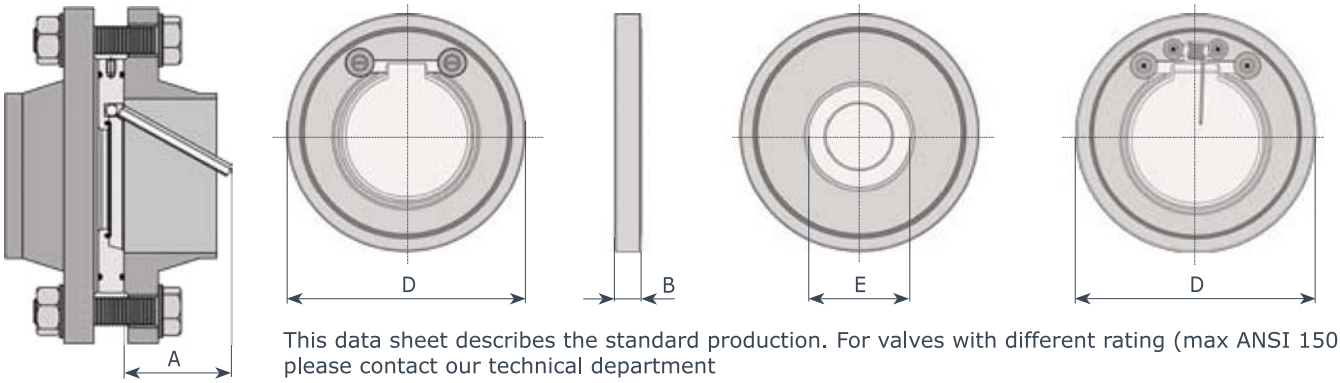
standard type

item	q.ty	part	GS 011 material	GS 015 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

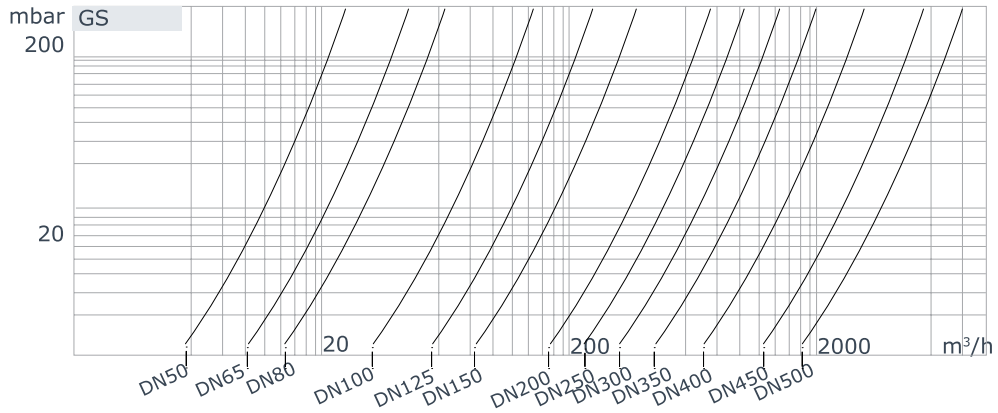
GS 011 - GS 015



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

		PN 6			PN 10			PN 16			ANSI 150			Kg max	ANSI 300			Kg
DN	A	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	242	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	260	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 (H_2O - 20°C - horizontal flow, standard spring)



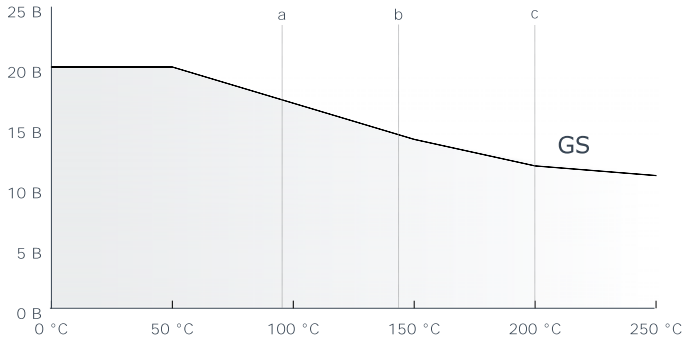
a NBR T_{MAX} = 95°C

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 H_2O

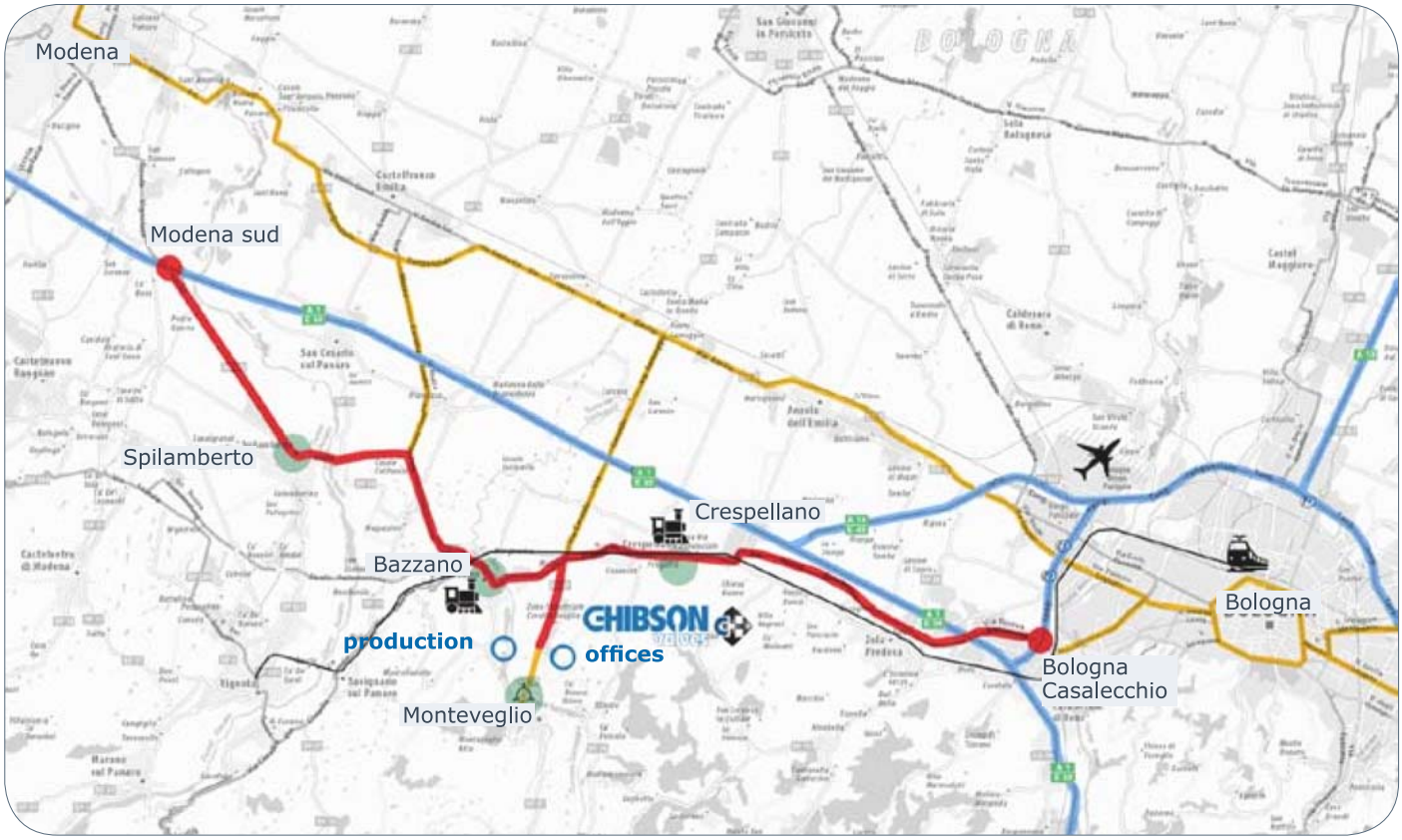
$$Qe = Q\sqrt{\frac{d}{1000}}$$

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

Qe equivalent water flow *(m^3/h o l/s)*

Q fluid flow *(m^3/h o l/s)*

d fluid specific gravity *(Kg/m^3)*



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