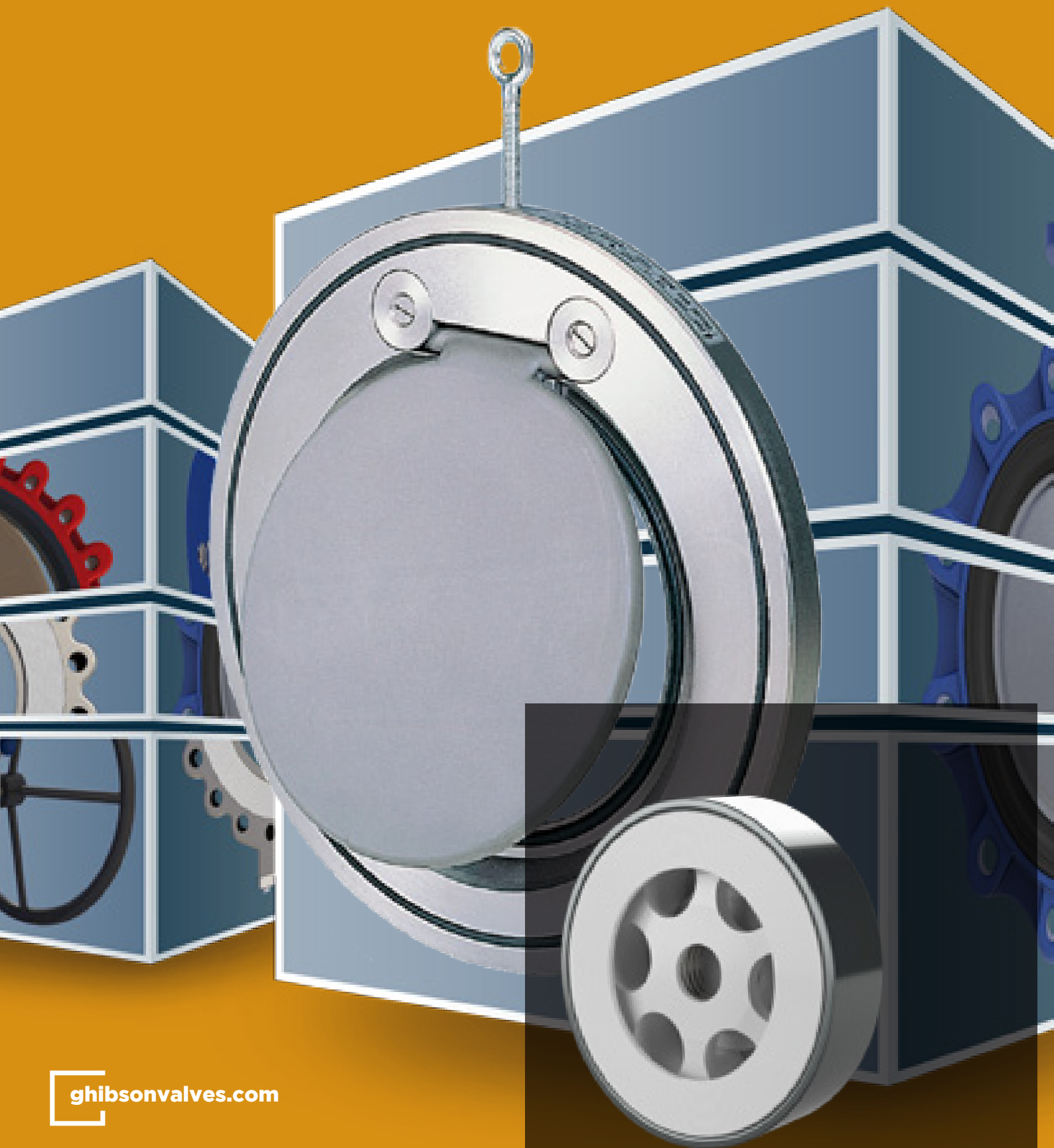




armakom DYSTRYBUTOR W POLSCE

CHECK VALVES

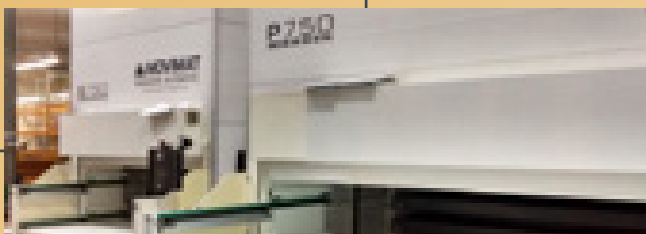


CHECK VALVES

DISC TYPE Ghibson disc check valves (G Series) represent an extensive combination of solutions starting from low pressure design up to 160 Bars. G series is basically composed by three product line (GA-GB / GN-GT / GH) with a wide range of materials and customizations.

SWING TYPE Ghibson swing check valves (GS series) are manufactured in many materials as well as pressure ratings and flange connections. Available for general purpose applications and also with spring loaded flap.

GHIBSON
Zola Predosa
Bologna



DISC TYPE

GA - GB Series	1
• GA 015	1
• GB 015	2
• GB 023	3
• head losses	4
• temperature/pression	4

GN - GT Series	5
• GN 011 - GN 015 - GN 115	5
• GT 011 - GT 015 - GT 115	5
• head losses	6
• temperature / pressure	6
• springs table	6

GH Series	7
• GH 011 - GH 015	7
• head losses	8
• temperature / pressure	8
• springs table	8

SWING TYPE

GS Series	9
• GS 011 - GS 015	9
• GS 011 - GS 015 with spring	9
• dimensions table	10
• head losses	10
• temperature/pression	10
• rate of flow	10



GA 015

DN 15 - 100 • 1/2" - 4"

GB 015

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).

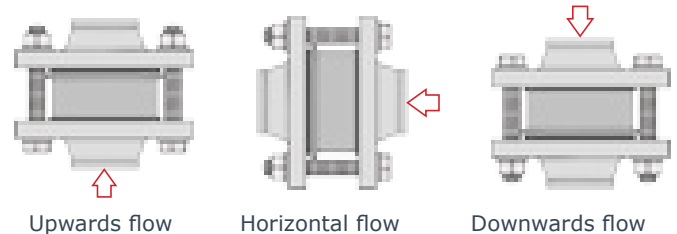
Opening pressure from 20 to 500 mBar.

Usable also as vacuum breacker, overpressure and bottom valve.

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

Low head losses.

To be installed in any position:



GA 015 DN 15 - 100 • 1/2" - 4"

Features:

DN 15/100:

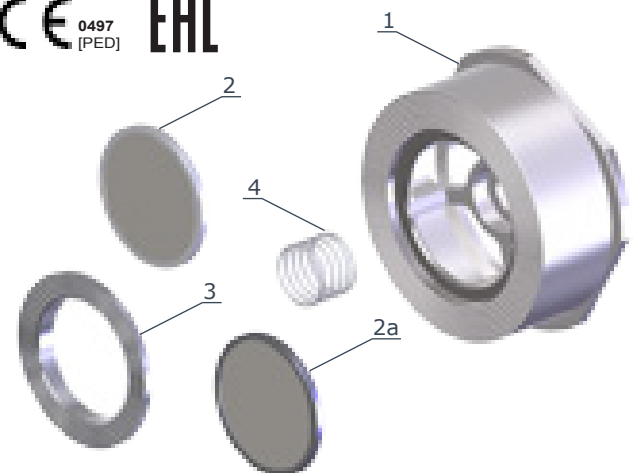
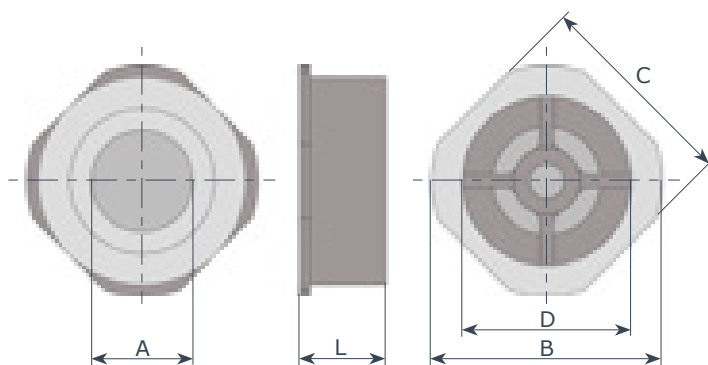
P max: **52 Bar**

Flange:

DN 15÷80
DN 100

PN 6÷40, A150÷300
PN 10÷40, A150÷300

Certifications:



DN	15	20	25	32	40	50	65	80	100	item	q.ty	part	material
A	15	20	24	31	38	47	62	77	95	1	1	body	• A351 - CF8M (AISI 316)
B	53	63	73	84	94	107	131	140	162	2	1	disc -standard	• A240 (AISI 316L)
C	45	55	65	74	84	98	118	130	162	2A	1	on request	• A240 (AISI 316L) + NBR • A240 (AISI 316L) + EPDM • A240 (AISI 316L) + FKM
D	27	33	38	54	64	78	96	105	130	3	1	seat disc on request	• A182 (AISI 316) • A182 (AISI 316) + PTFE
L	16	19	22	28	32	40	46	50	60	4	1	spring -standard on request	• AISI 316 • Hastelloy C4
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.

minimum opening pressure with standard springs											special spring table										
flow	DN	15	20	25	32	40	50	65	80	100	DN	15	20	25	32	40	50	65	80	100	
△	mBar	25	25	25	27	29	29	31	32	33	50 mBar	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
▷	mBar	23	23	23	24	25	25	26	26	27	100 mBar	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
▽	mBar	21	21	21	21	21	21	21	21	21	200 mBar	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
△	mBar	2	2	2	3	4	4	5	5	6	300 mBar	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
without spring	mBar	2	2	2	3	4	4	5	5	6	500 mBar	Y	Y	Y	Y	Y	Y	N	N	N	N

Y = available / N = not available
Opening values may vary ±10%

GB 015 DN 15 - 100 • 1/2" - 4"

Features:

DN 15/100: P max: 52 Bar

Flange:

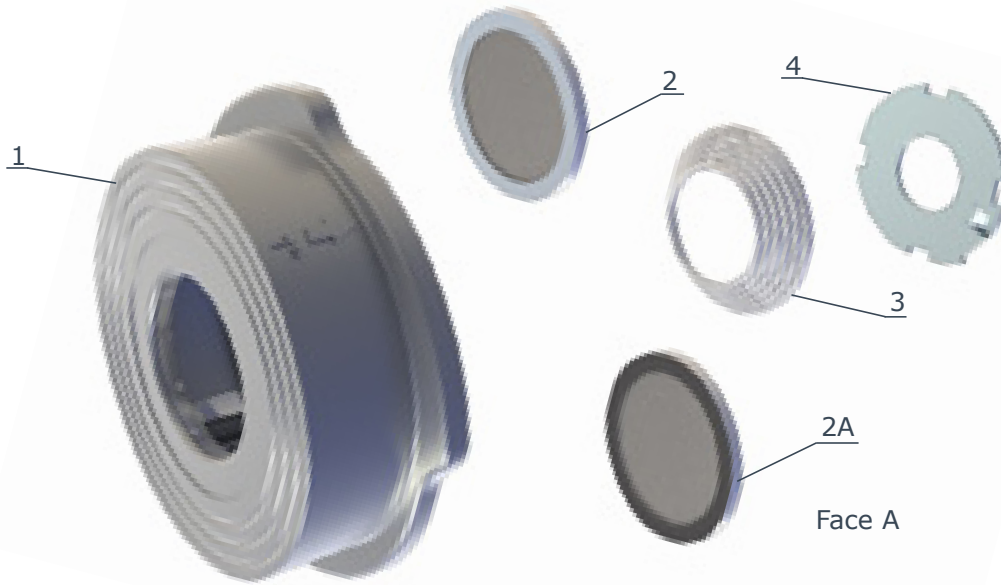
DN 15÷80 PN 6÷40, A150÷300
DN 100 PN 10÷40, A150÷300

Certifications:



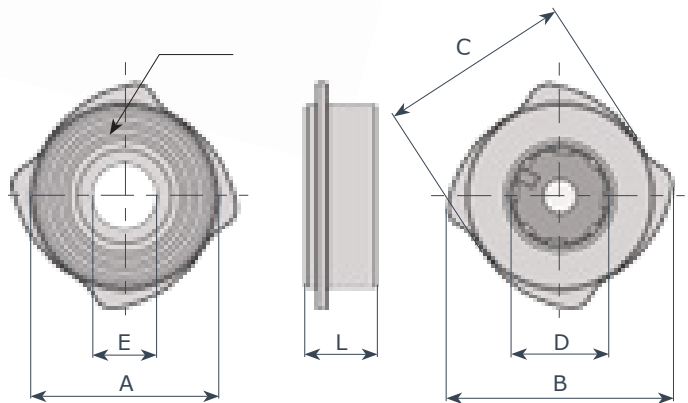
This type of valve can be used with API 601 spirometallic packings only with finishing of "Face A" (see dimensions) Stock finish AARH 250/500.

No leakage 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)



minimum opening pressure with standard springs											GB 015									
flow	DN	15	20	25	32	40	50	65	80	100	DN	15	20	25	32	40	50	65	80	100
△	mBar	25	25	25	27	28	30	30	25	21	A	43	48	58	68	75	94	113	129	159
▷	mBar	23	23	23	25	23	24	24	19	15	B	54	64	71	81	93	110	130	149	181
▽	mBar	21	21	21	22	18	18	18	13	9	C	45	54	63	72	82	95	115	131	160
△	mBar	na	na	na	na	na	na	na	na	na	D	23	28	36	50	58	71	86	105	130
without spring	mBar	na	na	na	na	na	na	na	na	na	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

GB 023 DN 15 - 100 • 1/2" - 4"

Features:

Flange:

DN 15÷100 PN 10÷16

Max working pressure: 6 Bar

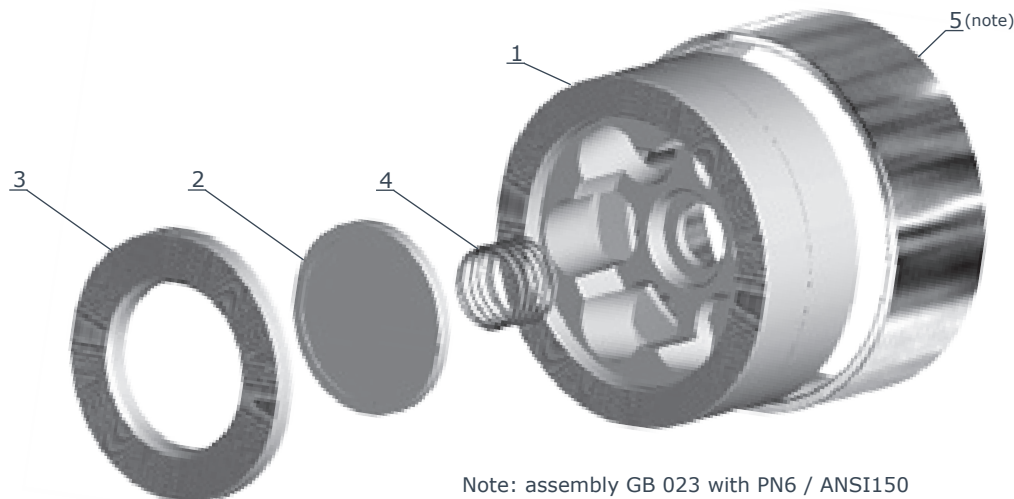
Max working temperature: 180°C

This type of valve cannot be used with spirometallic packing.

Certifications:



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.

GB 023

item	q.ty	part	material
1	1	body	• PTFE
2	1	disc	• PTFE
3	1	seat	• PTFE
4	1	spring <i>on request</i>	• Hastelloy C4 • AISI 316+PTFE • AISI 316+Niflon
5	1	jacket	• AISI 304

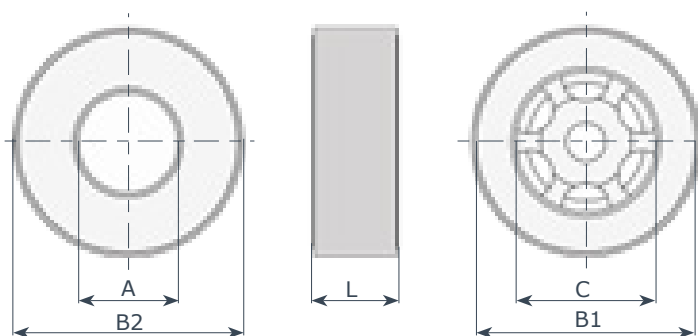
DN	15	20	25	32	40	50	65	80	100
screw	4x M12	4x M12	4x M12	4x M16	4x M16	4x M16	4x M16	4x M16	8x M16
tightening torque Nmt	10	10	20	35	35	35	40	40	45

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 lubricated threads.

DN	special spring table								
	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
Opening values may vary ±10%



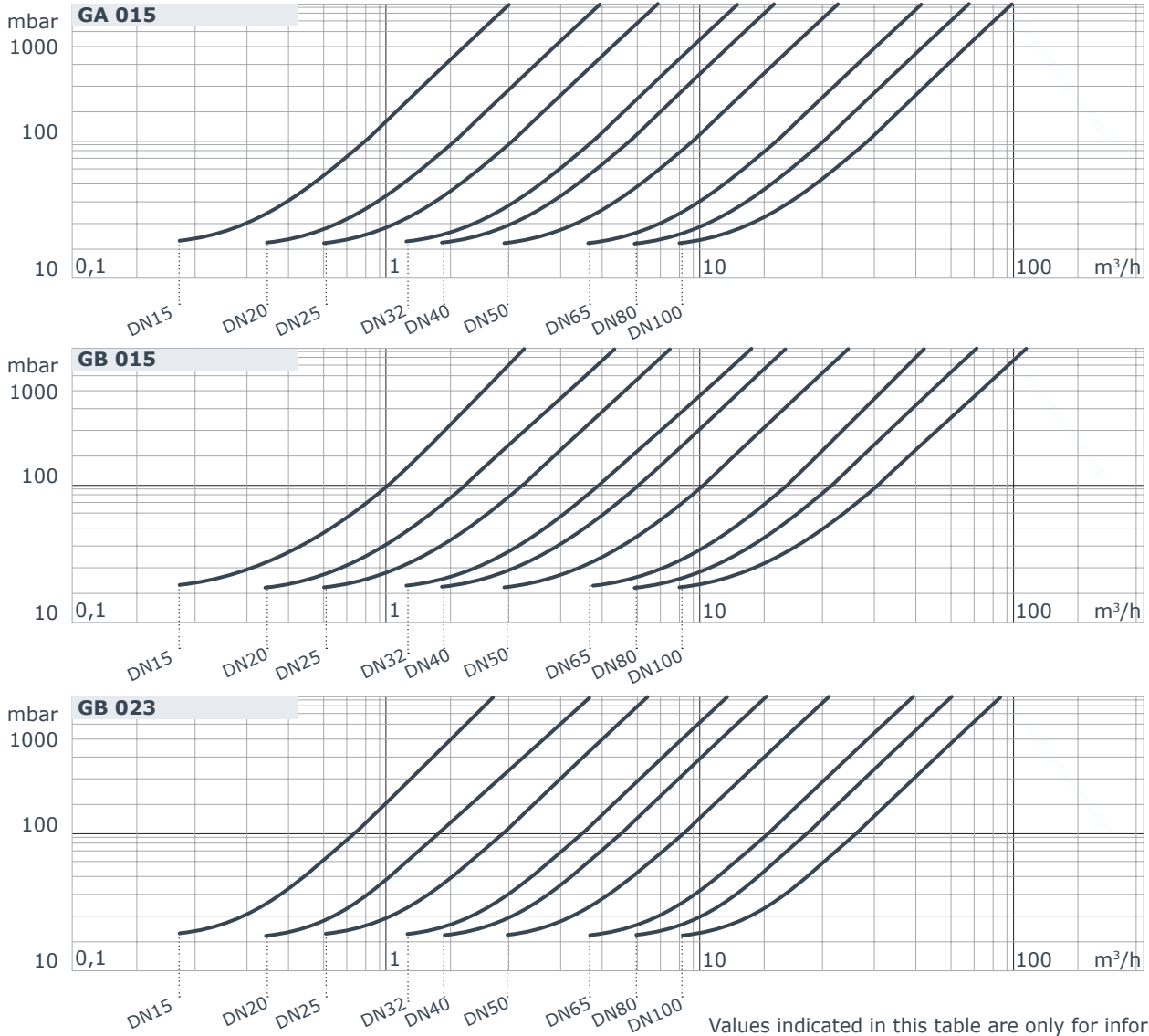
flow	minimum opening pressure with standard springs									
	DN	15	20	25	32	40	50	65	80	100
△	mBar	23	23	24	25	26	26	27	27	29
▷	mBar	22	22	22.5	23	23.5	23.5	24	24	25
▽	mBar	21	21	21	21	21	21	21	21	21
△ w/o spring	mBar	1	1	1.5	2	2.5	2.5	3	3	4

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	40	56	65	78	95	100	120
L	16	19	22	28	32	40	46	50	60

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 023

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



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:

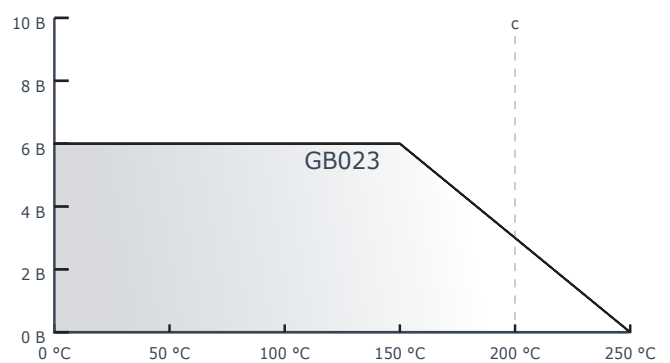
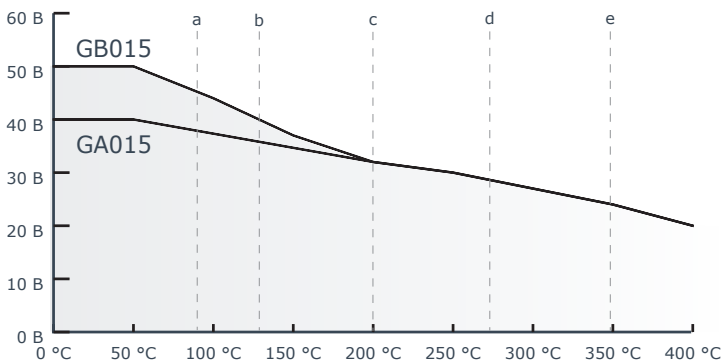
Q_e equivalent water flow (m³/h o l/s) Q fluid flow (m³/h o l/s) d fluid specific gravity (Kg/m³)

Temperature - pressure diagram

a NBR T_{MAX} = 95°C
d spring AISI 316 T_{MAX} = 270°C

b EPDM T_{MAX} = 130°C
e spring HASTELLOY C4 T_{MAX} = 350°C

c FKM PTFE T_{MAX} = 200°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)**

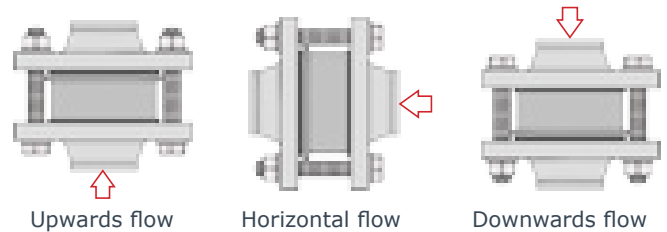
Opening pressure from 20 to 500 mBar.

No leakage 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:



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

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

Flange:

DN 15÷100 PN 10÷40, A150÷300

Flange:

DN 15÷100 PN 63÷160, A600÷900

This type of valve cannot be used with spirometallic packing.

This type of valve cannot be used with spirometallic packing.

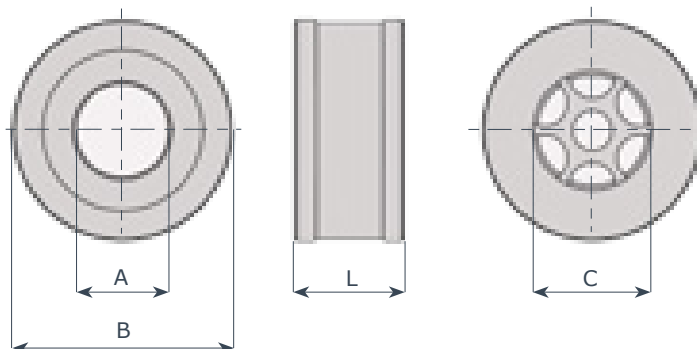
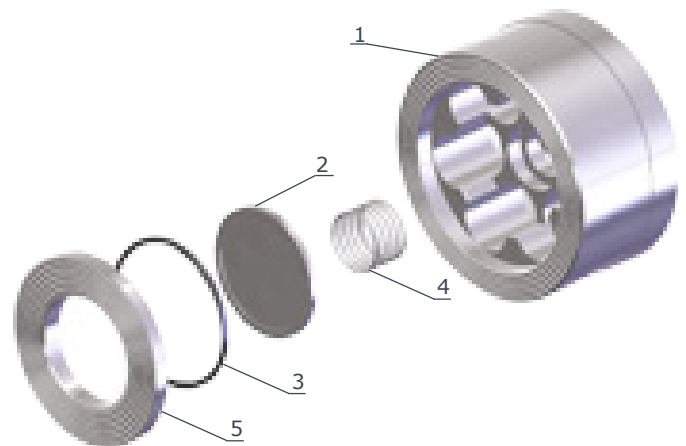
		GN 011 - GT 011	GN 015 - GT 015	GN 115 - GT 115
item	q.ty part	material	material	material
1	1 body	• zinc plated steel A105	• A182 (AISI 316)	• Hastelloy B574/99
2	1 disc -standard	• A240 (AISI 316L)	• A240 (AISI 316L)	• Hastelloy B574/99
3	1 O Ring	• NBR • EPDM • FKM • PTFE	• NBR • EPDM • FKM • PTFE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



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



GT Series

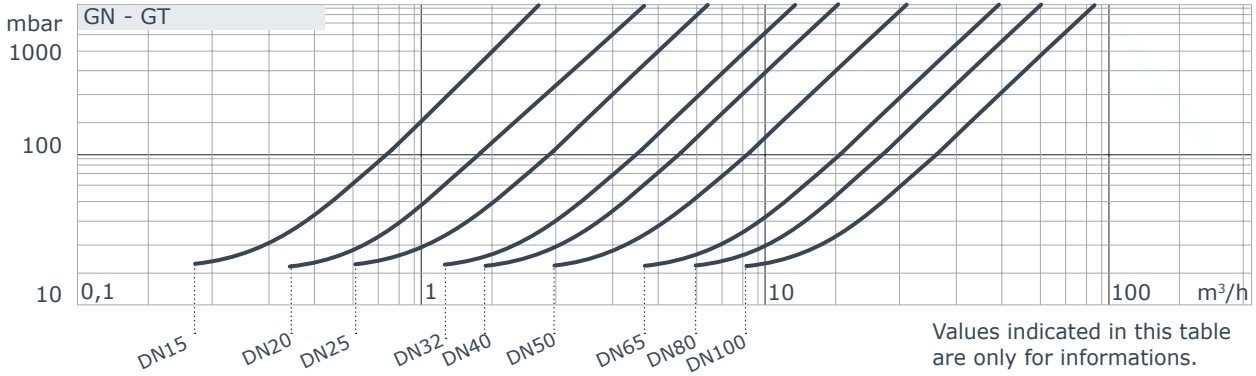
DN	15	20	25	32	40	50	65	80	100
A	15	20	24	30	38	47	62	77	96
B	46	60	70	80	90	107	130	145	178
C	21	25	30	40	48	60	85	90	110
L	25	31.5	35.5	40	45	56	63	71	80
Kg	0.3	0.6	1	1.3	1.8	2.5	4	5.9	8

GN series

DN	15	20	25	32	40	50	65	80	100
A	15	20	24	31	38	47	62	77	96
B	46	59	69	75	85	107	125	138	165
C	21	25	30	40	48	60	88	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 (H₂O - 20°C - horizontal flow, standard spring)

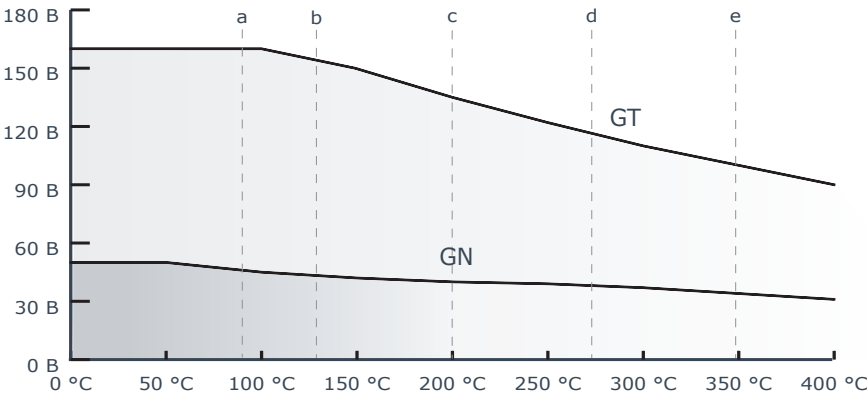


Formula for calculation of equivalent flow rate to H₂O

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

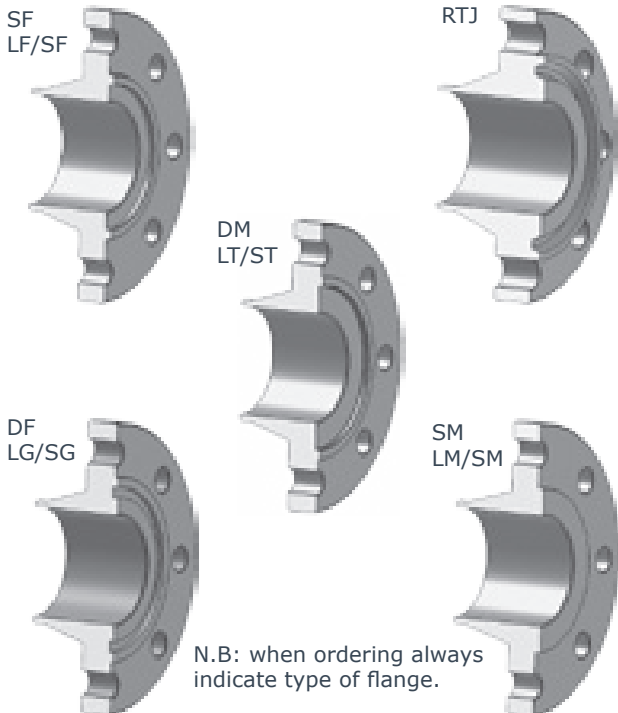
For different liquid, gas or steam head losses are determined by equivalent water flow rate, as follows:
 Q_e equivalent water flow (m³/h o l/s) Q fluid flow (m³/h o l/s) d fluid specific gravity (Kg/m³)

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 flanges:

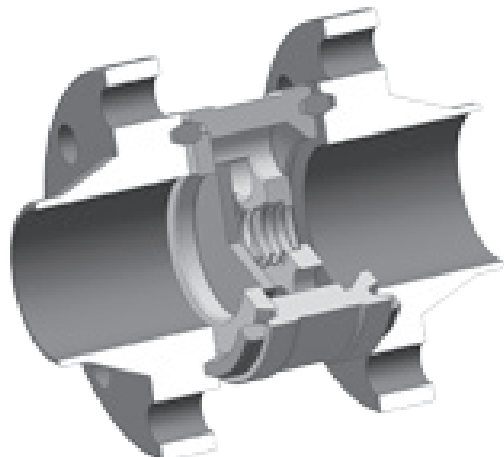


special spring table

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
 Opening values may vary ±10%

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.

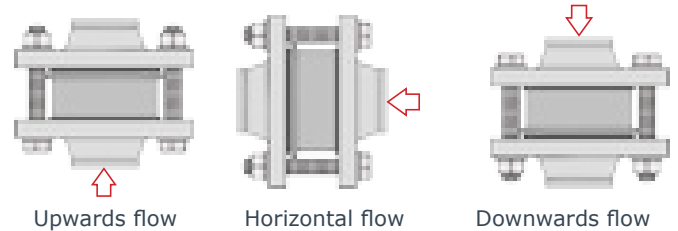
Usable also as vacuum breaker, overpressure and bottom valve.

No leakage with soft seat.

acc. to DIN 3230 BN3 with metallic seat.

Low head losses.

To be installed in any position:



GH 011 - GH 015

P max: **25 Bar**

Flange:

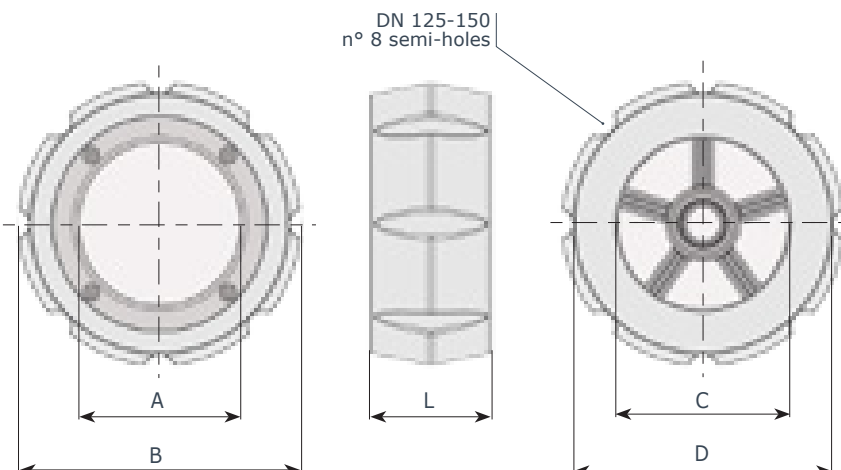
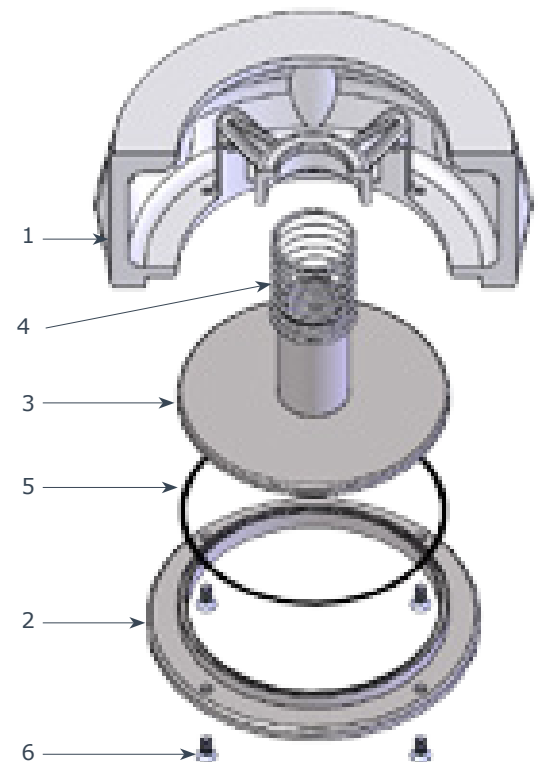
DN 125÷200 PN 10÷25, A150

This type of valve cannot be used with spirometallic packing.

Certifications:



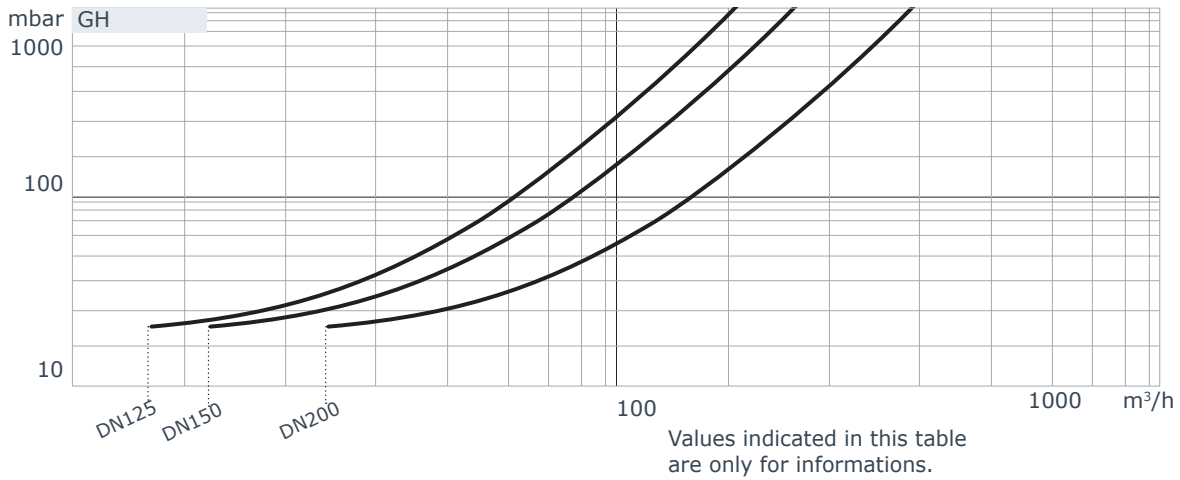
item	q.ty	part	GH 011 material	GH 015 material
1	1	body	• ASTM A216 WCB	• A351 - CF8M (AISI 316)
2	1	seat	• A240 (AISI 316L)	• A240 (AISI 316L)
3	1	disc	• A240 (AISI 316L)	• A240 (AISI 316L)
4	1	spring -standard on request	• AISI 316	• AISI 316 • Hastelloy C4
5	1	O-Ring	• NBR • EPDM • FKM • PTFE	• NBR • EPDM • FKM • PTFE
6	4	screw	• A182 (AISI 316)	• A182 (AISI 316)



DN	125	150	200
A	120	140	183
B	210	242	273
C	125	150	200
D	192	220	-
L	90	106	140
GH 011 Kg	8.1	12.3	19.0
GH 015 Kg	8.2	12.5	19.3

GH 011 - GH 015

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



Formula for calculation of equivalent flow rate to H₂O

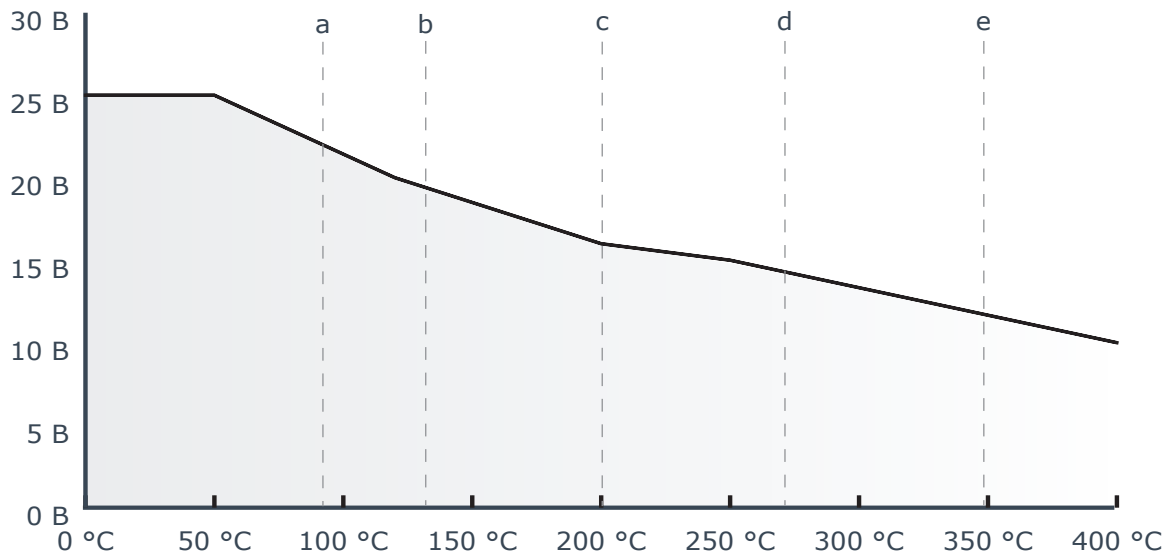
$$Q_e = Q \sqrt{\frac{d}{1000}}$$

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)

Temperature - pressure diagram

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

Opening values may vary ±10%

Y = available
N = not available

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

GS 011 - GS 015

DN 40 - 500 • 1¹/₄" - 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

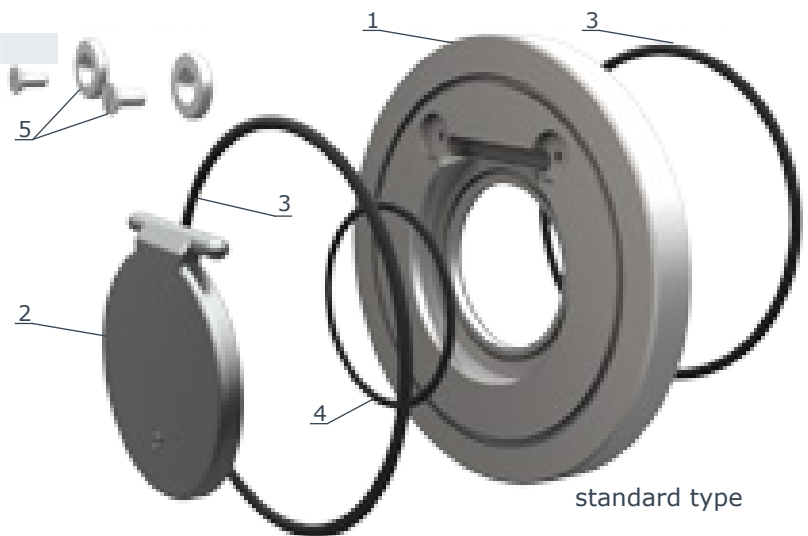
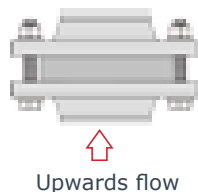
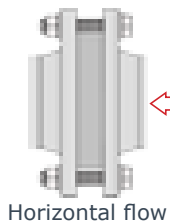
Flanges:

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

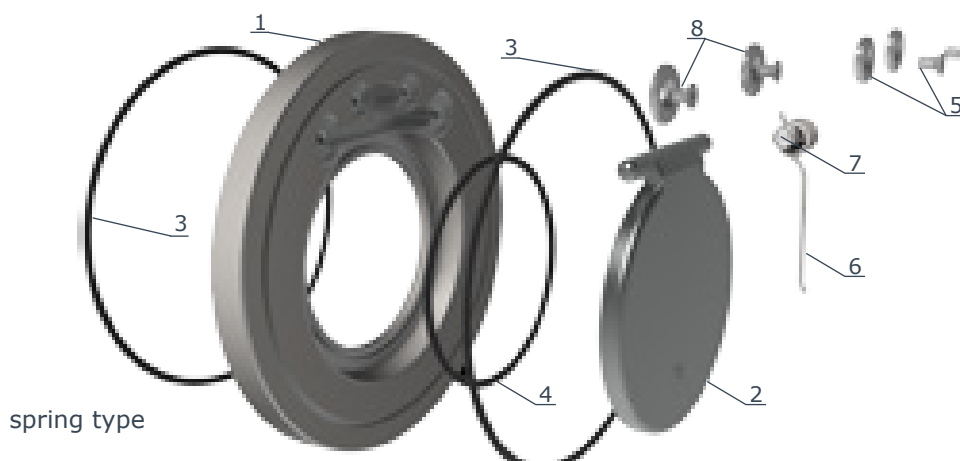
Certifications:



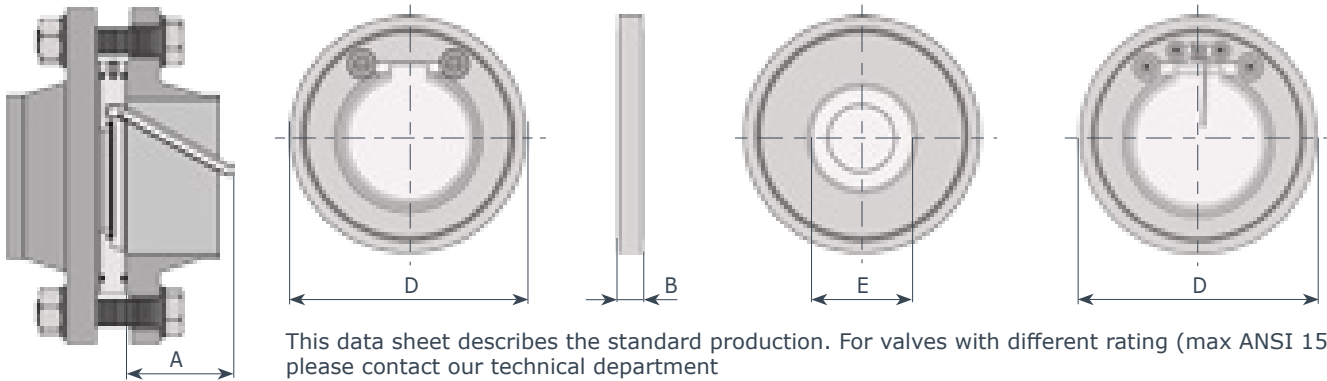
To be installed in two positions:



			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

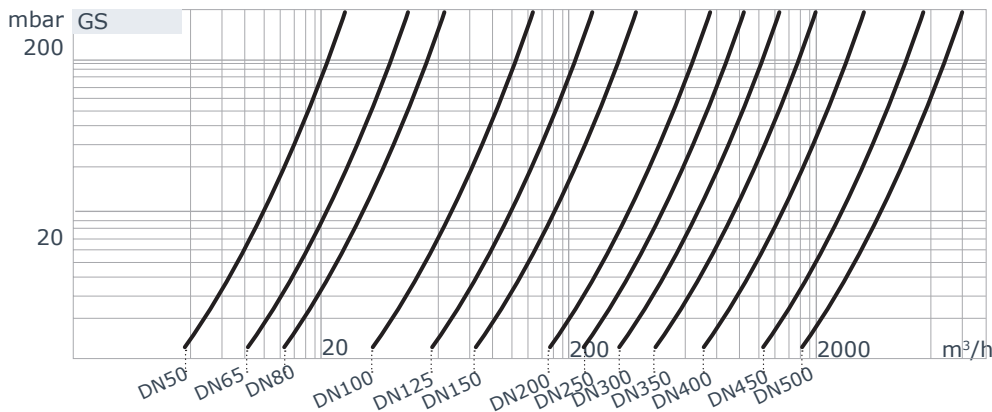


GS 011 - GS 015



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	-	-	-	-

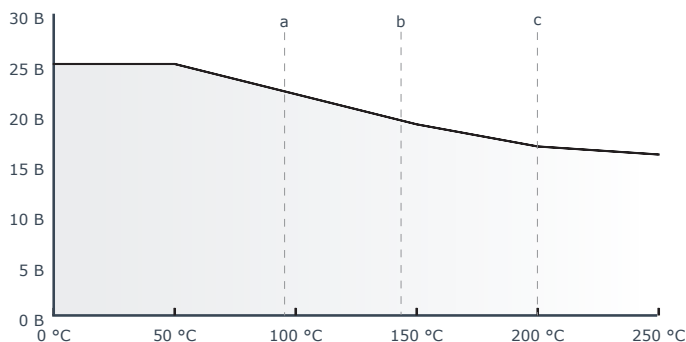
Head losses (H₂O - 20°C - horizontal flow)



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

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)



MORE THAN 30 YEARS OF HIGH QUALITY EXPERIENCE

Ghibson Italia can now boast of more than 30 years of experience in manufacturing of industrial valves.

In these 30 years we have designed and manufactured in our facilities in Italy butterfly valves and check valves, for the most different industrial applications.

We export our products all over the world always providing our customers with the best assistance during all the phases: design, installation, maintenance.

MARKET SEGMENTS

Marine
Water Treatment
Pulp & Paper
Power Plant
Nuclear Plant
HVAC
Chemical & Petrochemical
Powder Conveying Systems
Food & Beverage

APPLICATIONS

Steam isolation - Vacuum service - Refining
Cooling Water systems - Metallurgical processes
Powder transportation & storage
Oil field recovery - Liquid natural gas
Steam service - Steam Turbine
Saltwater Service - District heating & cooling
Hot Air & Smokes
Chemicals storage & transportation
Food & Beverage processes

DEPARTMENTS

- RESEARCH & DEVELOPMENT
- DESIGN
- CUSTOMIZATION
- PRODUCTION & LOGISTIC
- SALES & MARKETING
- QUALITY CONTROL
- CERTIFICATIONS
- PACKING AND SHIPPING
- AFTER SALES SUPPORT

WIDE RANGE OF PRODUCTS

Very large choice of materials including valves of every alloy of carbon or stainless steel, bronze, aluminium, as well as with PTFE or Polypropylene.

We manufacture rubber seated valves with many elastomer types (EPDM, NBR, FKM, Silicone, Carboxidate among others), as well as PTFE, RTFE seated valves with many different coatings such as Halar, Rilsan, PFA, Chenisil, etc.

We can offer a total assistance:

- before selling we can start from dimensioning the valves and actuators, make selection of materials for all parts upon knowing the specification, prepare all types of drawings etc.
- after selling we make final documentation, provide installation supervision, undertake commissioning etc.

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Rubber Seated
PTFE Seated
High Performance
Damper Valves

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Pneumatic - Electric - Hydraulic

CONTROL SYSTEMS

CUSTOMIZED VALVES

CHECK VALVES

Disc type
Swing type
Dual plate

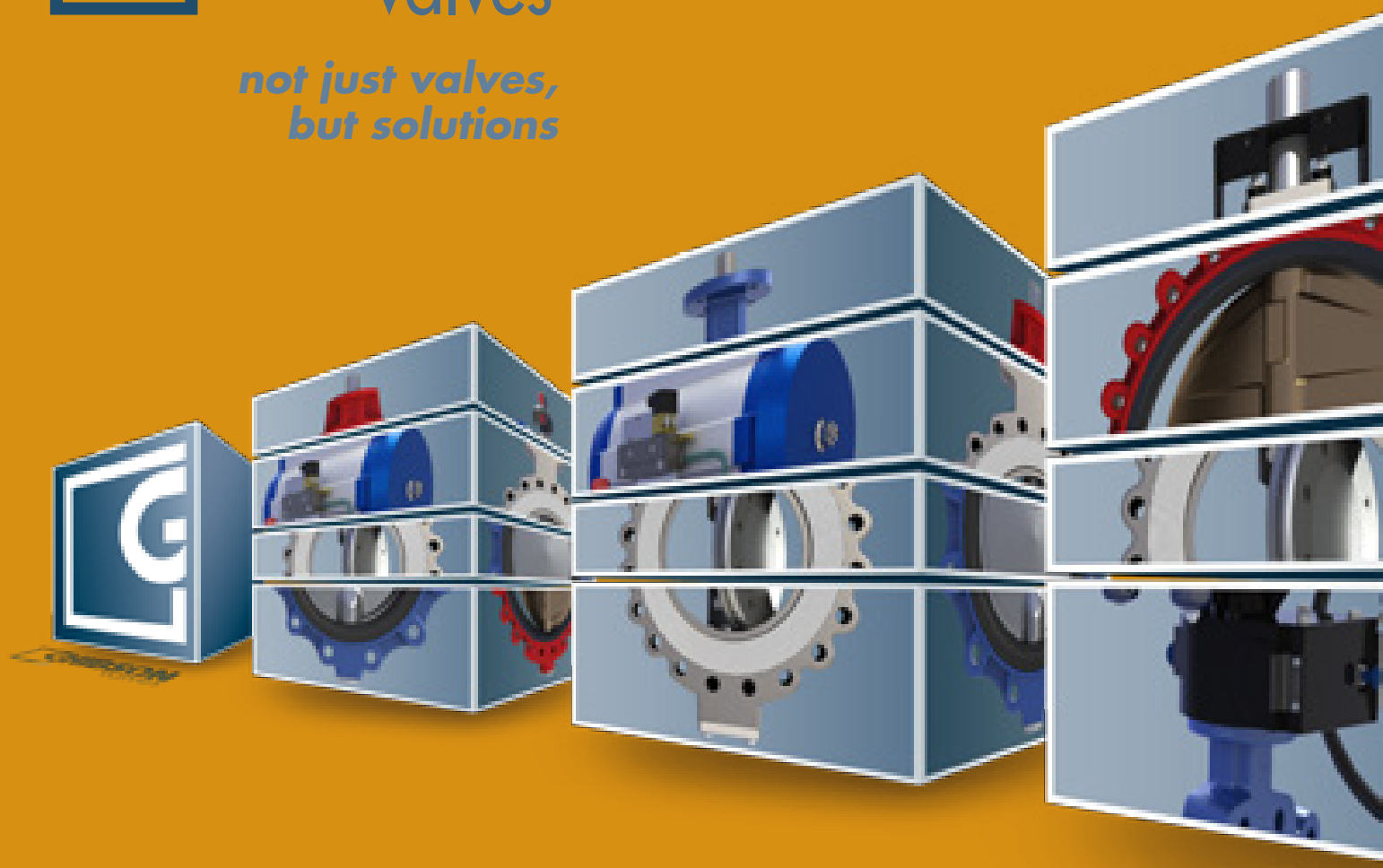
CERTIFICATIONS





G **GHIBSON** valves

*not just valves,
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