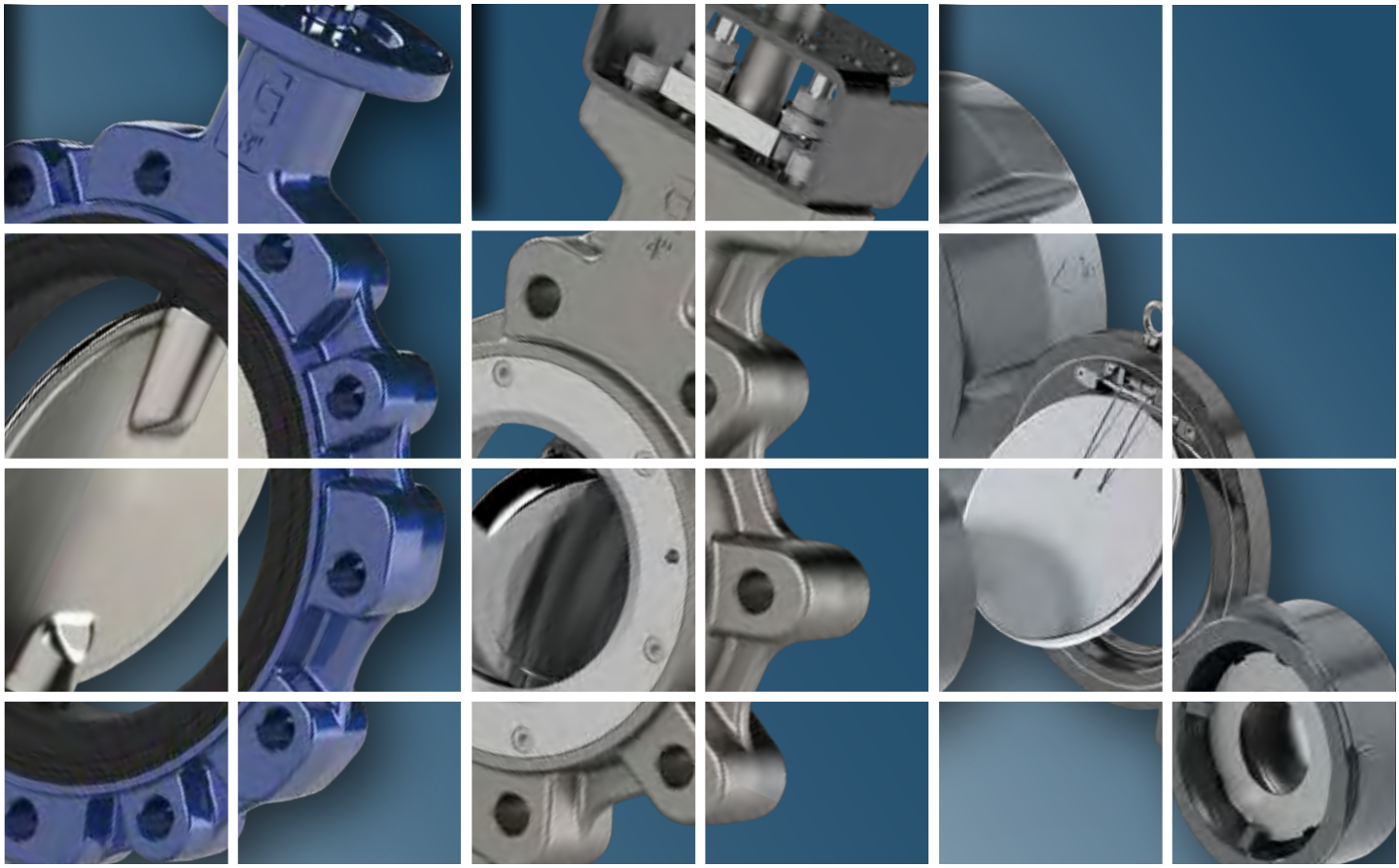
MENTO

Your link to improved performance

Butterfly valves

1. Soft seated	2. High performance	3. Check valves



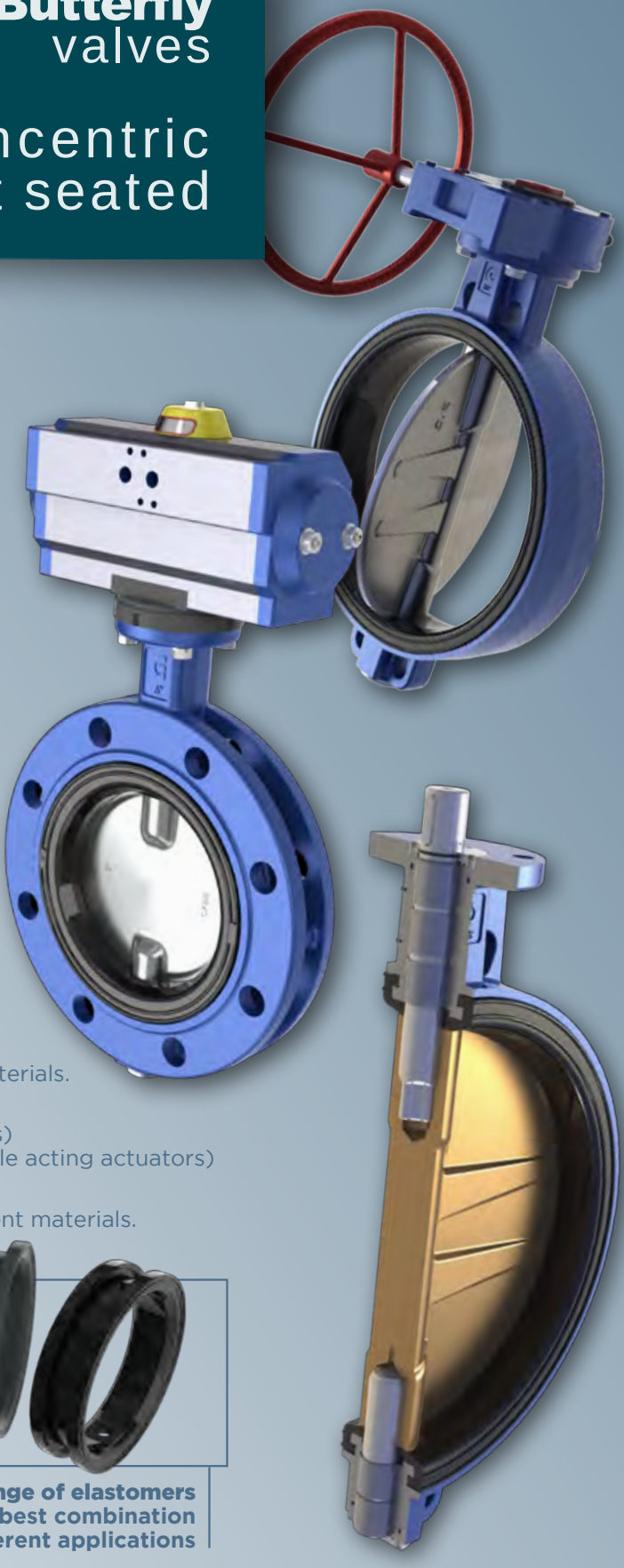
MENTO

VALVES & ACCESSORIES

GHIBSON valves

Butterfly valves

Concentric soft seated



BVPD - Wafer BLPD - Lug
DN 80 - 600 • 3” - 24”
Soft seated butterfly valves
P max: **10 Bar** designed for low pressures and powder convey

BVKI - Wafer BLKI - Lug
DN 40 - 800 • 1” 1/4 - 32”
Soft seated butterfly valves
P max: **16 Bar** designed for all applications

BFKI - double flange
DN 80 - 600 • 3” - 24”
Soft seated butterfly valves
P max: **16 Bar** double flanged

BVKA - Wafer BLKA - Lug
DN 40 - 800 • 1” 1/4 - 32”
Soft seated butterfly valves
P max: **20 Bar**

BVKX - Wafer BLKX - Lug
DN 50 - 250 • 2” - 10”
Soft seated butterfly valves
P max: **25 Bar**

GHIBSON Soft seated butterfly valves are designed to meet with most industrial applications, from powder conveyance to petrochemical requirements.

The valves are manufactured in four different versions with sizes from DN 40 to DN 800, pressures up to 25 bar and many different materials.

We can supply valves
- manually operated (with levers or gearboxes)
- pneumatically operated (with double or single acting actuators)
- electrically or hydraulically operated

We also offer special solutions in many different materials.

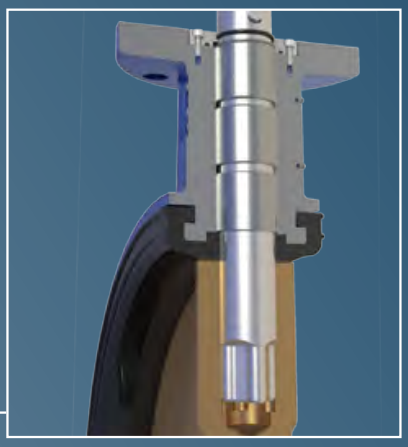
Wide range of elastomers
A very wide range of elastomers allows the best combination of materials dependingon the different applications

Detail of shaft-disc fastening

For valves over DN500 this solution allows a strongfastening without clearances and easy maintenance.

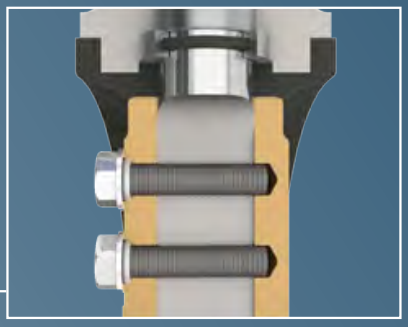
Detail of shaft-disc connection

Valves over DN300 have a special designed shaft-disc connection which ensures a strong coupling while avoiding clearances and gives higher shaft tensile capacity thanks to the section considerably larger than the classic square section.



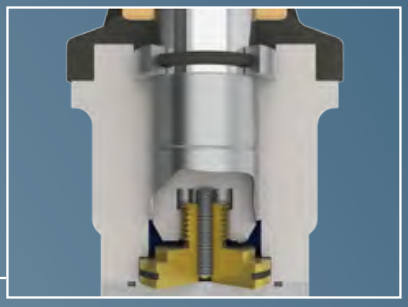
Special shaft double packing

Sealing outwards is ensured by a double packing at the top and at the bottom of the shaft.



Detail of lower support

The adjustable lower support prevents the shaft-disc unit to move along the axis Furthermore when the valve is assembled with vertical shaft, the disc does not weigh on the seat with a longer duration of valve life.



All GHIBSON butterfly valves have anti-blow out system for the shafts in compliancewith EN736 and API609 standards

Detail of replaceable body seat

Its shape ensures the bestanchoring to the body even in hard applications.

BVPD-Wafer BLPD-Lug
DN 80 - 600 • 3” - 24”

BVKI - Wafer BLKI - Lug
DN 40 - 800 • 1”1/2 - 32”

BFKI - double flange
DN 80 - 600 • 3” - 24”

Max working pressure:

BVPD/BLPD DN80÷600: **10 Bar**
Flange: ***PN 6-10-16*** **• A150**

BVKI/BLKI DN40÷500: **16 Bar**
Flange: ***PN 10-16*** **• A150**

BVKI/BLKI DN600÷800: **10 Bar**
Flange: ***PN 6-10-16*** **• A150**

BFKI DN80÷600: **16 Bar**
Flange: ***PN 10-16*** **• A150**

KI series to be used also with vacuum

Design:

EN 593 ~ EN 736 ~ EN 12516 ~ EN 1092
ISO 5211 ~ DIN 3337 ~ API 609
PED 2014/68/EU - Mod. H

Face to face:

DIN EN 558-1 Series 20 ~ ISO 5752 Series 20
BS-5155 Series 4 ~ MSS-SP67
API609 cat.A ~ NFE 29305-1

Testing:

EN 12266-1 Rate A (supersedes DIN 3230)
ISO 5208 Rate A ~ API 598

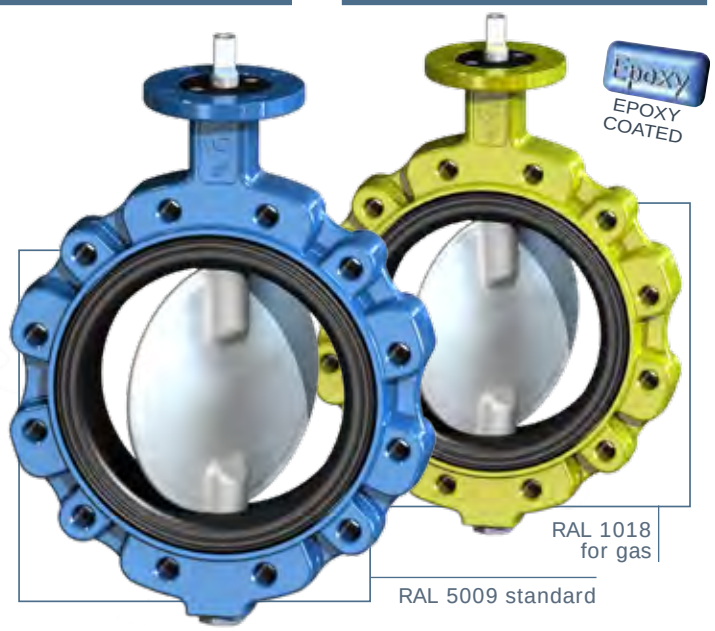
Tag:

EN 19 ~ MSS SP-25

TYPE APPROVAL

TYPE APPROVAL

TÜV
TA-Luft



0497 [PED]

SIL safety integrity level

II 2 GD c TX

All valves are supplied with a metallic label in compliance with PED directive.

BODY			BVPD	BVKI / BLKI	BFKI
material	references	standard coating	DN	DN	DN
Ductile iron	EN-GJS 400-15 (GS400)	Epoxy RAL 5009	80-600	40-800	80-600
Carbon steel	ASTM A216-WCB	Epoxy RAL 9005	80-600	40-800	-
Stainless steel	ASTM A351 CF8M (A316)	-	80-600	40-800	-
Aluminium-bronze	ASTM B148-C958.00	-	80-600	40-800	-
Aluminium (P_{max} 10Bar)	EN AB 46400	Epoxy RAL 7024	80-500	40-500 only wafer	-

DISC			BVPD	BVKI / BLKI	BFKI
material	references	standard coating	DN	DN	DN
Steel	ASTM A105	Zinc	80-100	50-100	80-100
Ductile iron	EN-GJS 400-15 (GS400)	Zinc	125-600	125-800	125-600
Stainless steel	ASTM A351 CF8M (A316)	-	80-600	40-800	80-600
Aluminuim-bronze	ASTM B148-C958.00	-	80-600	40-800	80-600
Hastelloy®	ASTM A494 CX2MW	-	80-600	40-800	80-600
Monel®	ASTM A494 M35-1	-	80-600	40-800	80-600

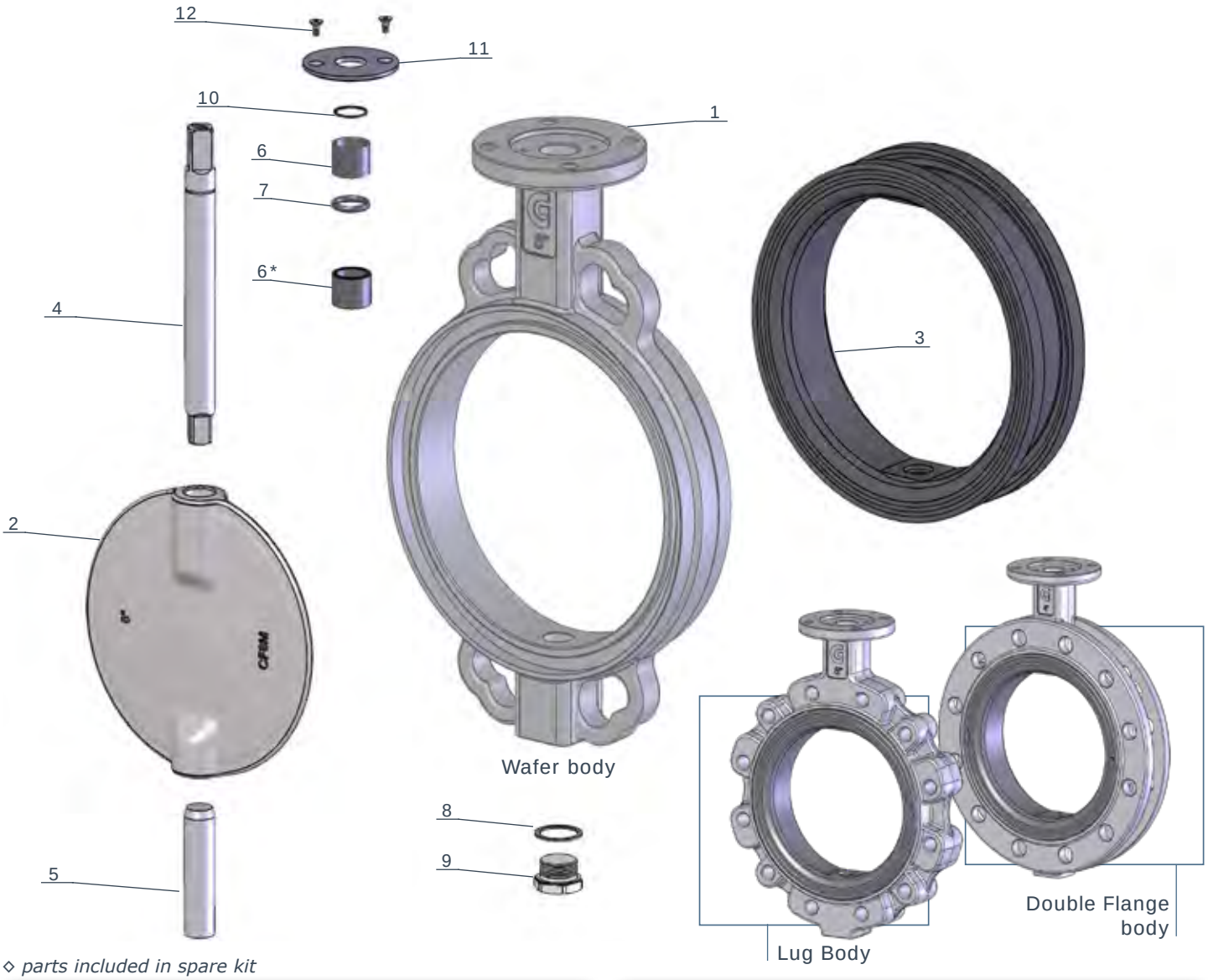
BODY RUBBER SEAT					DN 40/500 replaceable - DN 600/800 vulcanized not replaceable		
ref.	designation	PD 6bar	PD 10bar	KI	trade name	working temp.	applications
NBR	nitrile rubber	✓	✓	✓	BUNA®	-25°C / +100°C	oils, hydrocarbons, gas, air, water
EPDM	copolymer EPDM	✓	✓	✓	-	-35°C / +130°C	water, sea water, steam, diluted acids
EPDM HT	copolimery EPDM HT	✓	✓	✓	-	-30°C / +135°C	water, sea water, steam, diluted acids
CO	carboxide	✓	✗	✓	-	-25°C / +100°C	dust, air
FKM	fluoroelastomer	✓	✗	✓	VITON®	-20°C / +200°C	oils, acids, hydrocabons
CR	polychloroprene	✓	✗	✓	NEOPRENE®	-20°C / +100°C	alkali, bases, water
NR	natural rubber	✓	✗	✓	-	-40°C / + 80°C	glycols, abrasive media
MVQ	silicon rubber	✓	✗	✓	SILOPREN®	-60°C / +190°C	water, food, drinks
CSM	chlorosulfonated polyethylene	✓	✗	✓	HYPALON®	-20°C / +125°C	acids, mineral bases, alcohols, hydrocarbons
PU	poliuretane	✓	✓	✓	POLIURETANE®	-25°C / +90°C	abrasive media

On request can be supplied other materials as: LCB, Hastelloy, Monel, Uranus, Alloy, DUPLEX, Special steels, Special bronzes.
Coating on request: RILSAN®, Halar®, Chenisil®

BVPD-Wafer BLPD-Lug
DN 80 - 300 • 3” - 12”
PN 6-10-16 • ANSI 150

BVKI - Wafer BLKI - Lug
DN 40 - 300 • 1”1/2 - 12”
PN 10-16 • ANSI 150

BFKI - double flange
DN 80 - 300 • 3” - 12”
PN 10-16 • ANSI 150



◇ *parts included in spare kit*

item	q.ty	part	material
1	1	body (BFKI only GS400)	• ductile iron GS400 • A216 - WCB • A352 - LCB • A351 - CF8M (AISI 316) • aluminium-bronze • aluminium (only WAFER)
2	1	disc	• ductile iron GS400 • A351 - CF8M (AISI 316) • aluminium-bronze • Hastelloy® • Monel®
◇3	1	body seat (replaceable)	• NBR (BUNA®) • EPDM • EPDM HT • FKM (VITON®) • carboxide • polychloroprene (NEOPRENE®) • natural rubber • silicon

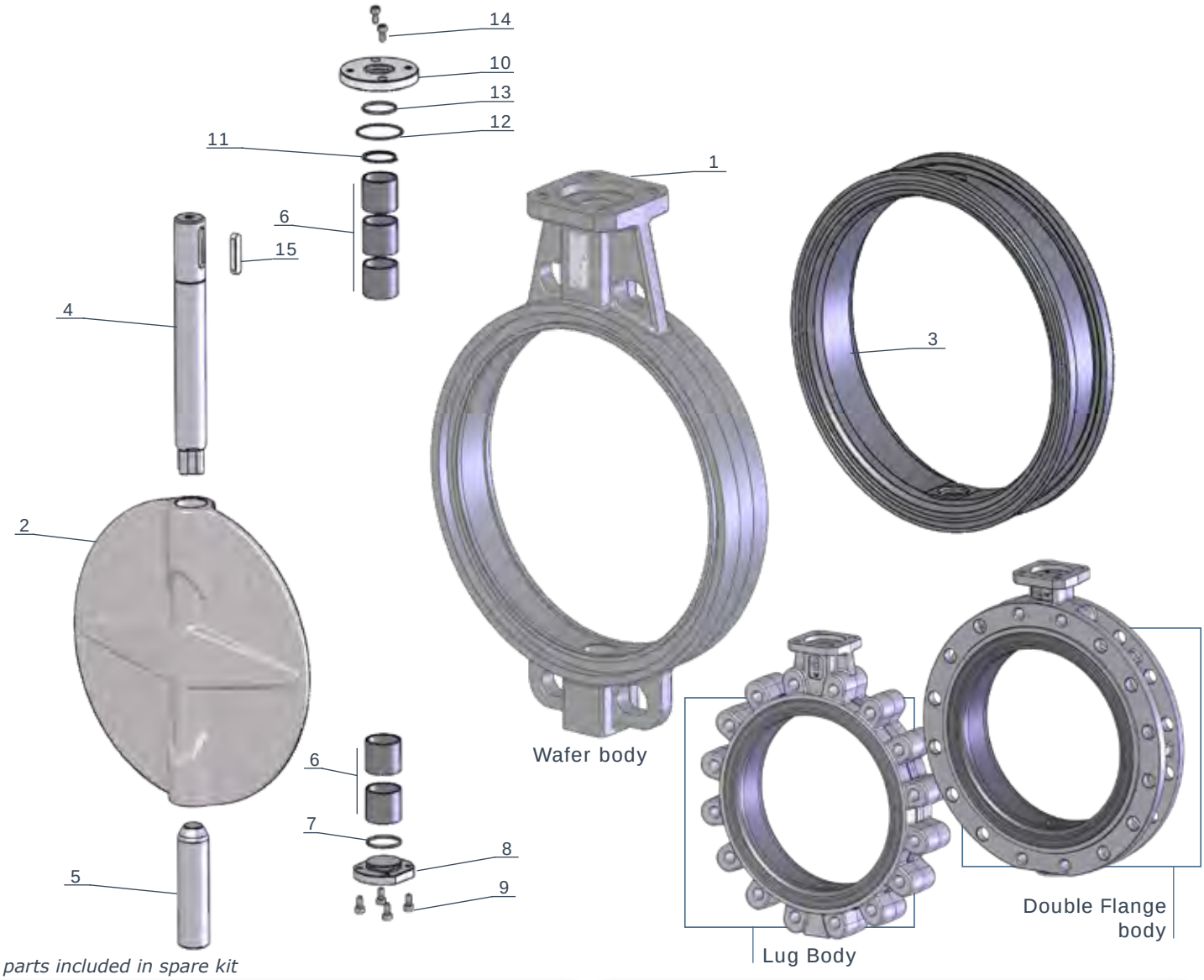
item	q.ty	part	material
4	1	upper shaft	• AISI 430 • AISI 316 (on request)
5	1	lower shaft	• AISI 430 • AISI 316 (on request)
◇6	1	bush	• bronze
◇6*	3	bush	• A105+PTFE • A316+PTFE (only Inox body)
◇7	1	shaft packing	• NBR (BUNA®) • FKM (VITON®) on request
8	1	plug packing	• aluminium
9	1	threaded plug	• zinc plated steel
10	1	stop ring	• steel
11	1	upper flange	• IXEF (DN 40-150) • aluminium (DN 200-300)
12	2	screw	• zinc plated steel

** only for DN300*

BVPD-Wafer BLPD-Lug
DN 350 - 500 • 14” - 20”
PN 6-10-16 • ANSI 150

BVKI - Wafer BLKI - Lug
DN 350 - 500 • 14” - 20”
PN 10-16 • ANSI 150

BFKI - double flange
DN 350 - 500 • 14” - 20”
PN 10-16 • ANSI 150



◇ *parts included in spare kit*

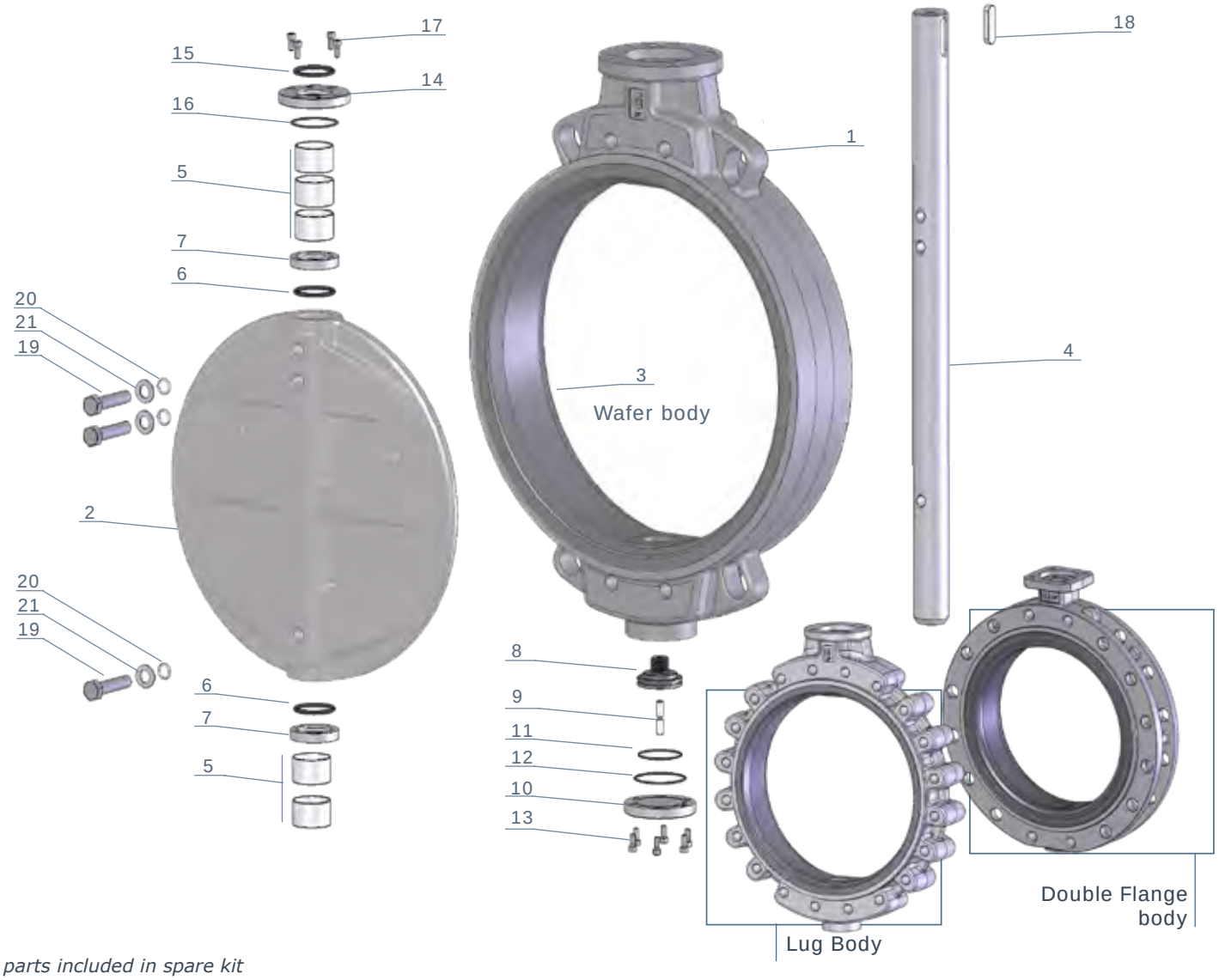
item	q.ty	part	material
1	1	body (BFKI only GS400)	• ductile iron GS400 • A216-WCB • A352-LCB • A351-CF8M (AISI 316) • aluminium-bronze • aluminium (only WAFER)
2	1	disc	• ductile iron GS400 • A351-CF8M (AISI 316) • aluminium-bronze • Hastelloy® • Monel®
◇3	1	body seat (replaceable)	• NBR (BUNA®) • EPDM • EPDM HT • FKM (VITON®) • carboxide • polychloroprene (NEOPRENE®) • natural rubber • silicon
4	1	upper shaft	• AISI 430 • AISI 316 (on request)

item	q.ty	part	material
5	1	lower shaft	• AISI 430 • AISI 316 (on request)
◇6	5	bush	• bronze • steel+PTFE (DN 450-500)
◇7	1	packing lower flange	• NBR (BUNA®)
8	1	lower flange	• zinc plated steel
9	4	screw	• zinc plated steel
10	1	upper flange	• zinc plated steel
11	1	stop ring	• steel
◇12	1	O.Ring	• NBR (BUNA®)
◇13	1	O.Ring	• NBR (BUNA®)
14	2	screw	• zinc plated steel
15	1	key	• steel C40

BVPD-Wafer BLPD-Lug
DN 600 • 24”
PN 6-10-16 • ANSI 150

BVKI - Wafer BLKI - Lug
DN 600 - 800 • 24” - 32”
PN 6-10-16 • ANSI 150

BFKI - double flange
DN 600 • 24”
PN 10-16 • ANSI 150



◇ *parts included in spare kit*

item	q.ty	part	material
1	1	body (BFKI only GS400)	• ductile iron GS400 • A216-WCB • A352-LCB • A351-CF8M (AISI 316) • aluminium-bronze
2	1	disc	• ductile iron GS400 • A351 - CF8M (AISI 316) • aluminium-bronze • Hastelloy® • Monel®
3	1	body seat (vulcanized not replaceable)	• NBR (BUNA®) • EPDM • EPDM HT • FKM (VITON®)
4	1	shaft	• AISI 303 • AISI 316 (on request)
◇5	5	bush	• steel + PTFE
◇6	2	shaft O.ring	• NBR (BUNA®) • FKM (VITON®) on request

item	q.ty	part	material
7	2	O.ring housing	• AISI 316
8	1	shaft support	• Bronze
9	2	adjusting screw	• AISI 316
10	1	lower flange	• zinc plated steel
◇11	1	O.ring	• NBR (BUNA®)
◇12	1	O.ring	• NBR (BUNA®)
13	6	screw	• zinc plated steel
14	1	upper flange	• zinc plated steel
◇15	1	O.ring	• NBR (BUNA®)
◇16	1	O.ring	• NBR (BUNA®)
17	4	screw	• zinc plated steel
18	1	key	• steel
19	3	screw	• AISI 316
◇20	3	O.ring	• PTFE
21	3	washer	• AISI 316

BVKA - Wafer BLKA - Lug
DN 40 - 800 • 1"1/2 - 32”

BVKX - Wafer
DN 50 - 250 • 2” - 10”

BLKX - Lug
DN 50 - 200 • 2” - 8”

Max working pressure:

BVKA/BLKA DN 40÷800: **20 Bar**
Flange: ***PN 10-16*** **• A150**

BVKX DN 50÷250: **25 Bar**
Flange: ***PN 25*** **• A150**

BLKX DN 50÷200: **25 Bar**
Flange: ***PN 25***

To be used also with vacuum

Design:

EN 593 ~ EN 736 ~ EN 12516 ~ EN 1092
ISO 5211 ~ DIN 3337 ~ API 609
PED 2014/68/EU - Mod. H

Face to face:

DIN EN 558-1 Series 20 ~ ISO 5752 Series 20
BS-5155 Series 4 ~ MSS-SP67
API609 cat.A ~ NFE 29305-1

Testing:

EN 12266-1 Rate A (supersedes DIN 3230)
ISO 5208 Rate A ~ API 598

Tag:

EN 19 ~ MSS SP-25

TYPE APPROVAL

TYPE APPROVAL

SIL safety integrity level

0497 [PED]

TÜV TA-Luft

II 2 GD c TX

All valves are supplied with a metallic label in compliance with PED directive.

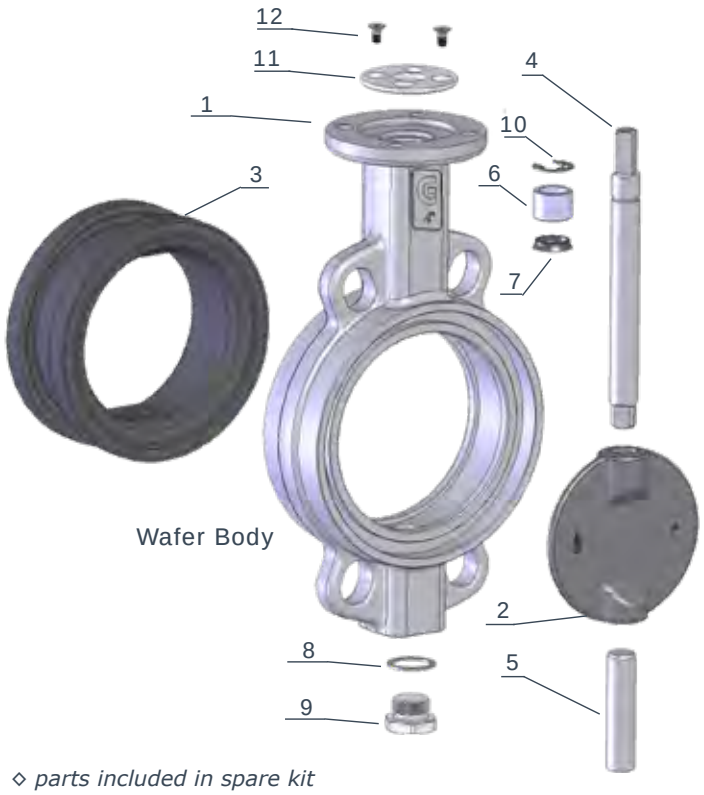
BODY			BVKA / BLKA	BVKX	BLKX
material	references	standard coating	DN	DN	DN
Ductile iron	EN-GJS 400-15 (GS400)	Epoxy RAL 5009	40-800	50-250	50-200
Carbon steel	ASTM A216-WCB	Epoxy RAL 9005	40-800	50-100	50-100
Stainless steel	ASTM A351 CF8M (A316)	-	40-800	50-100	50-100
Aluminium-bronze	ASTM B148-C958.00	-	40-800	50-100	50-100

DISCO			BVKA / BLKA	BVKX	BLKX
material	references	standard coating	DN	DN	DN
Stainless steel	ASTM A351 CF8M (A316)	-	40-800	50-250	50-200
Aluminium-bronze	ASTM B148-C958.00	-	40-800	50-250	50-200
Hastelloy®	ASTM A494 CX2MW	-	40-800	50-250	50-200
Monel®	ASTM A494 M35-1	-	40-800	50-250	50-200

BODY RUBBER SEAT		KA DN 40/150 replaceable - DN 200/800 vulcanized not replaceable KX DN 50/250 vulcanized not replaceable		
ref.	designation	trade name	working temp.	applications
NBR	nitrile rubber	BUNA®	-25°C / +100°C	oils, hydrocarbons, gas, air, water
EPDM	copolymer EPDM	-	-35°C / +130°C	water, sea water, steam, diluted acids
EPDM HT	copolymer EPDM HT	-	-30°C / +135°C	water, sea water, steam, diluted acids
FKM	fluoroelastomer	VITON®	-20°C / +200°C	oils, acids, hydrocabons

On request can be supplied other materials as: LCB, Hastelloy, Monel, Uranus, Alloy, DUPLEX, Special steels, Special bronzes.
Coating on request: RILSAN®, Halar®, Chenisil®

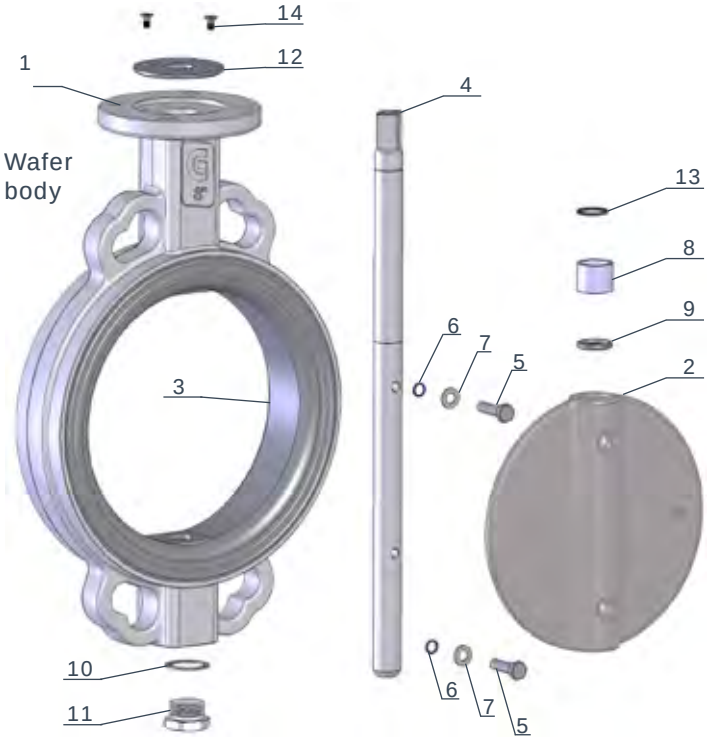
BVKA - Wafer BLKA - Lug
DN 40 - 150 • 11/2” - 6”
PN 10-16 • ANSI 150



◇ *parts included in spare kit*

item	q.ty	part	material
1	1	body	• ductile iron GS400 • A216 - WCB • A352 - LCB • A351 - CF8M (AISI 316)
2	1	disc	• A351 - CF8M (AISI 316) • aluminium-bronze • Hastelloy® • Monel®
◇3	1	body seat (replaceable)	• NBR (BUNA®) • EPDM • EPDM HT • FKM (VITON®)
4	1	upper shaft	• AISI 430 • AISI 316 (on request)
5	1	lower shaft	• AISI 430 • AISI 316 (on request)
◇6	1	bush	• bronze
◇7	1	shaft packing	• NBR (BUNA®) • FKM (VITON®) (on request)
8	1	plug packing	• aluminium
9	1	threaded plug	• zinc plated steel
10	1	stop ring	• steel
11	1	upper flange	• IXEF (DN 40-150)
12	2	screw	• zinc plated steel

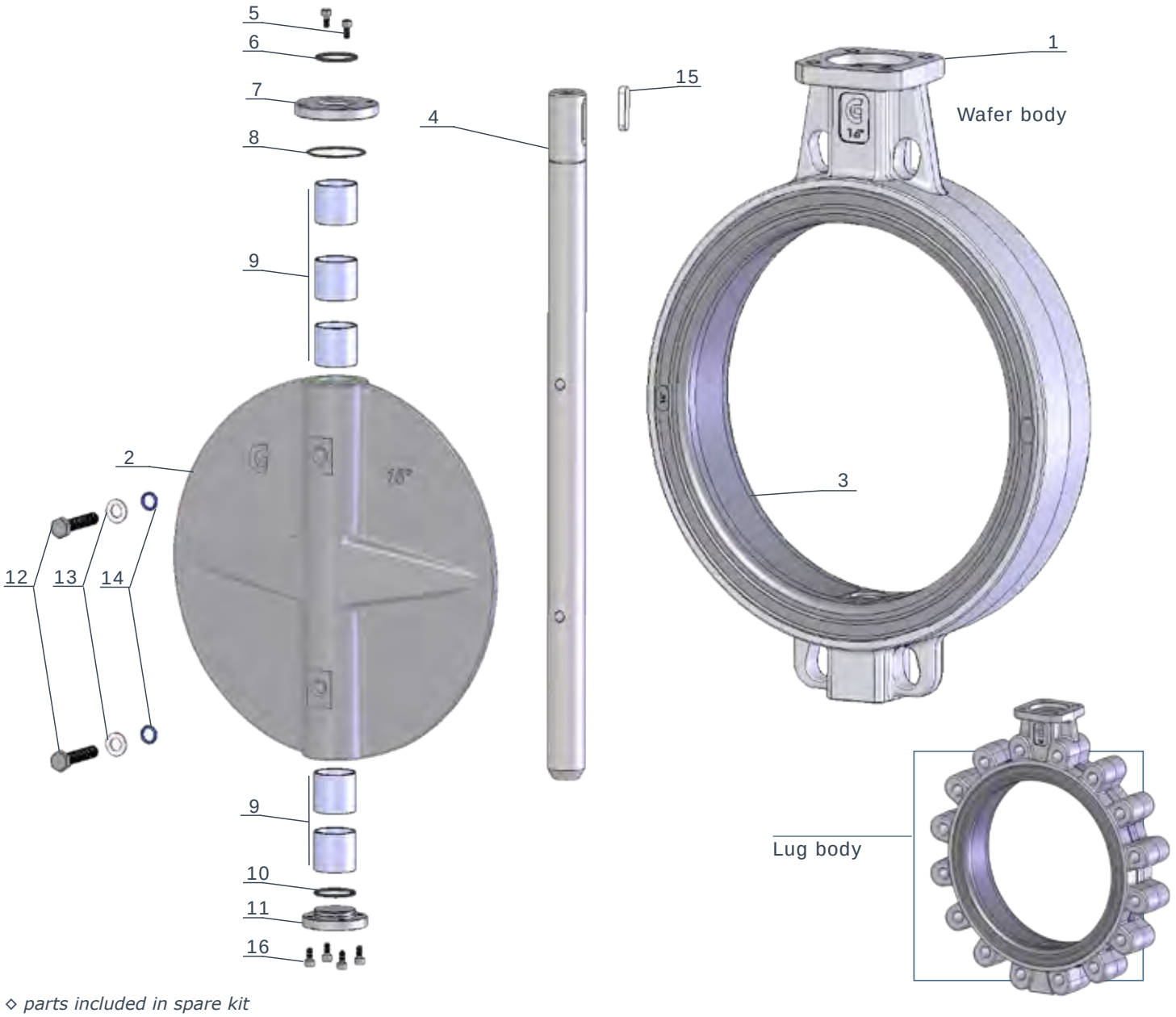
BVKA - Wafer BLKA - Lug
DN 200 - 300 • 8” - 12”
PN 10-16 • ANSI 150



◇ *parts included in spare kit*

item	q.ty	part	material
1	1	body	• ductile iron GS400 • A216-WCB • A352-LCB • A351-CF8M (AISI 316) • aluminium-bronze
2	1	disc	• A351-CF8M (AISI 316) • aluminium-bronze • Hastelloy® • Monel®
3	1	body seat (vulcanized not replaceable)	• NBR (BUNA®) • EPDM • EPDM HT • FKM (VITON®)
4	1	shaft	• AISI 430 • AISI 316 (on request)
5	2	screw	• AISI 316
◇6	2	O.Ring	• PTFE
7	2	washer	• AISI 316
◇8	1	bush	• bronze
◇9	1	shaft packing	• NBR (BUNA®) • FKM (VITON®) (on req.)
10	1	plug packing	• aluminium
11	1	threaded plug	• zinc plated steel
12	1	upper flange	• aluminium
13	1	stop ring	• steel
14	2	screw	• zinc plated steel

BVKA - Wafer BLKA - Lug
DN 350 - 400 • 14” - 16”
PN 10-16 • ANSI 150

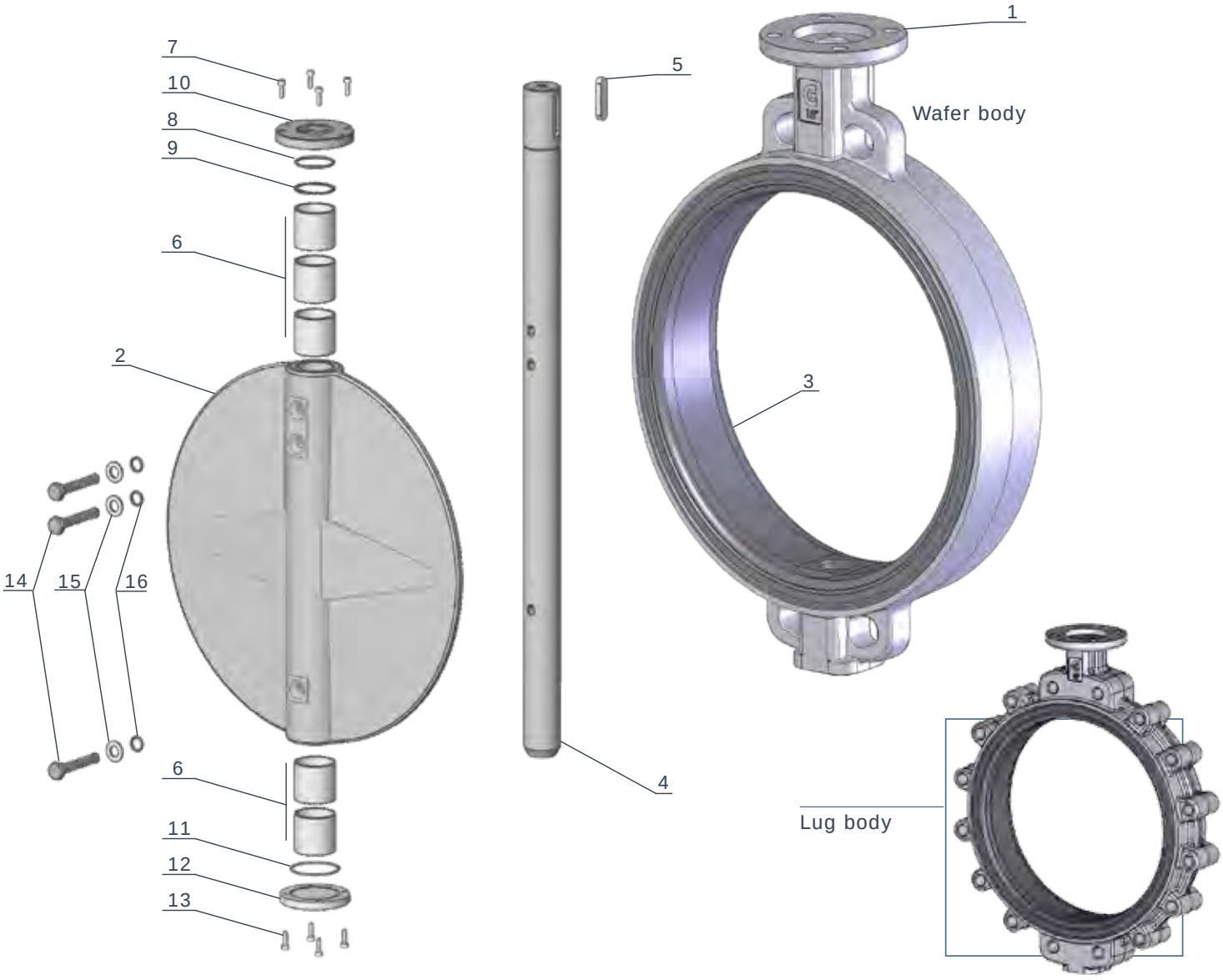


◇ *parts included in spare kit*

item	q.ty	part	material
1	1	body	• ductile iron GS400 • A216-WCB • A352-LCB • A351-CF8M (AISI 316) • aluminium-bronze
2	1	disc	• A351 - CF8M (AISI 316) • aluminium-bronze • Hastelloy® • Monel®
3	1	body seat (vulcanized not replaceable)	• NBR (BUNA®) • EPDM • EPDM HT • FKM (VITON®)
4	1	shaft	• AISI 430 • AISI 316 (on request)

item	q.ty	part	material
5	2	screw	• zinc plated steel
◇6	1	O.ring	• NBR (BUNA®)
7	1	upper flange	• zinc plated steel
◇8	1	O.ring	• NBR (BUNA®)
◇9	5	bush	• bronze
◇10	1	O.ring	• NBR (BUNA®)
11	1	lower flange	• zinc plated steel
12	2	screw	• AISI 316
13	2	washer	• AISI 316
◇14	2	O. ring	• PTFE
15	1	key	• steel C40
16	4	screw	• zinc plated steel

BVKA - Wafer BLKA - Lug
DN 450 - 500 • 18” - 20”
PN 10-16 • ANSI 150



◇ *parts included in spare kit*

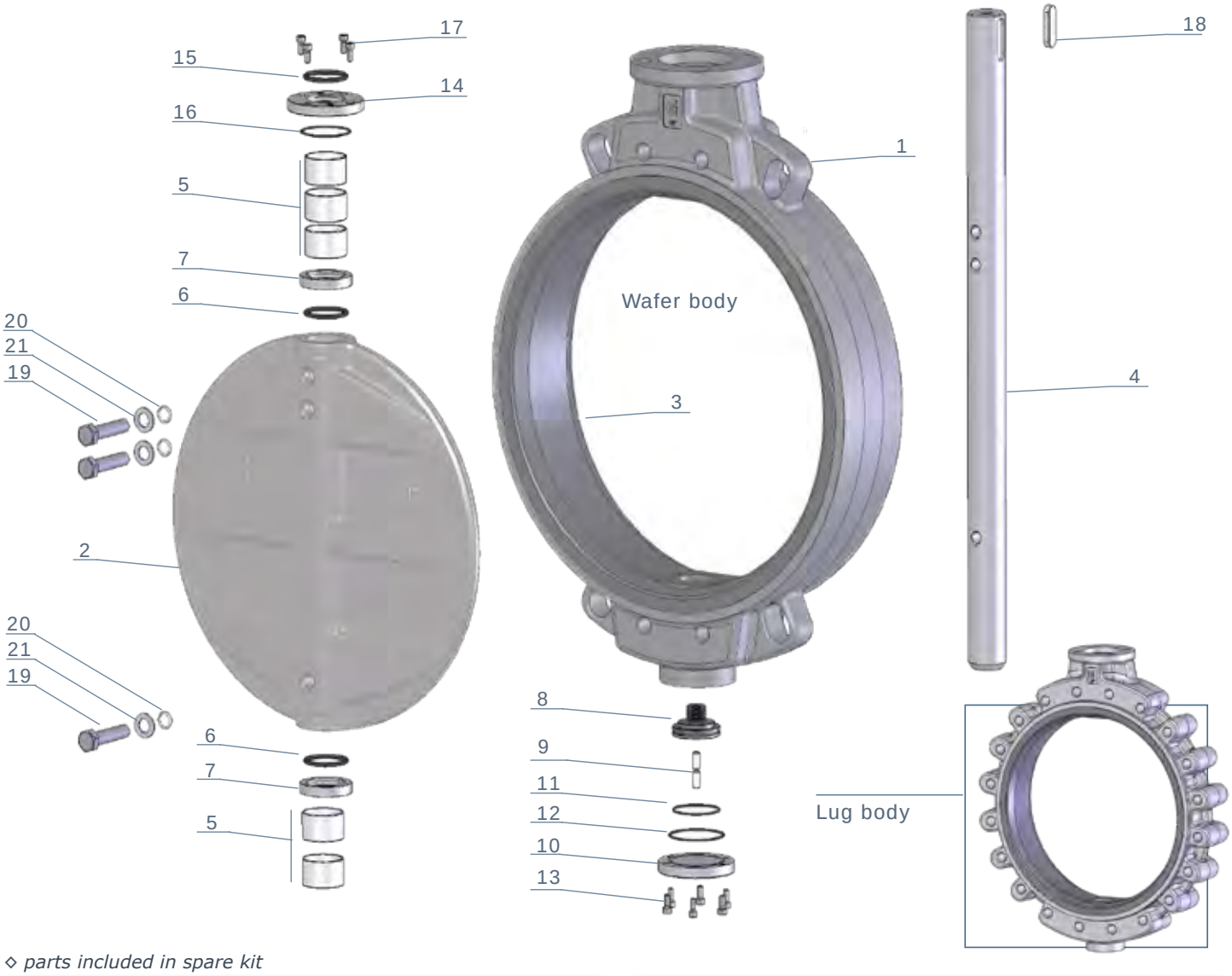
item	q.ty	part	material
1	1	body	• ductile iron GS400 • A216-WCB • A352-LCB • A351-CF8M (AISI 316) • aluminium-bronze
2	1	disc	• A351 - CF8M (AISI 316) • aluminium-bronze • Hastelloy® • Monel®
3	1	body seat (vulcanized not replaceable)	• NBR (BUNA®) • EPDM • EPDM HT • FKM (VITON®)
4	1	shaft	• AISI 430 • AISI 316 (on request)
5	1	key	• steel C40

item	q.ty	part	material
◇6	5	bush	• steel + PTFE
7	4	screw	• zinc plated steel
◇8	1	O.ring	• NBR (BUNA®)
9	5	stop ring	• steel
10	1	upper flange	• zinc plated steel
◇11	1	O.ring	• NBR (BUNA®)
12	1	lower flange	• zinc plated steel
13	4	screw	• steel
14	2	screw	• AISI 316
15	2	washer	• AISI 316
◇16	2	O. ring	• PTFE

BVKA - Wafer BLKA - Lug

DN 600 - 800 • 24” - 32”

PN 16 • ANSI 150



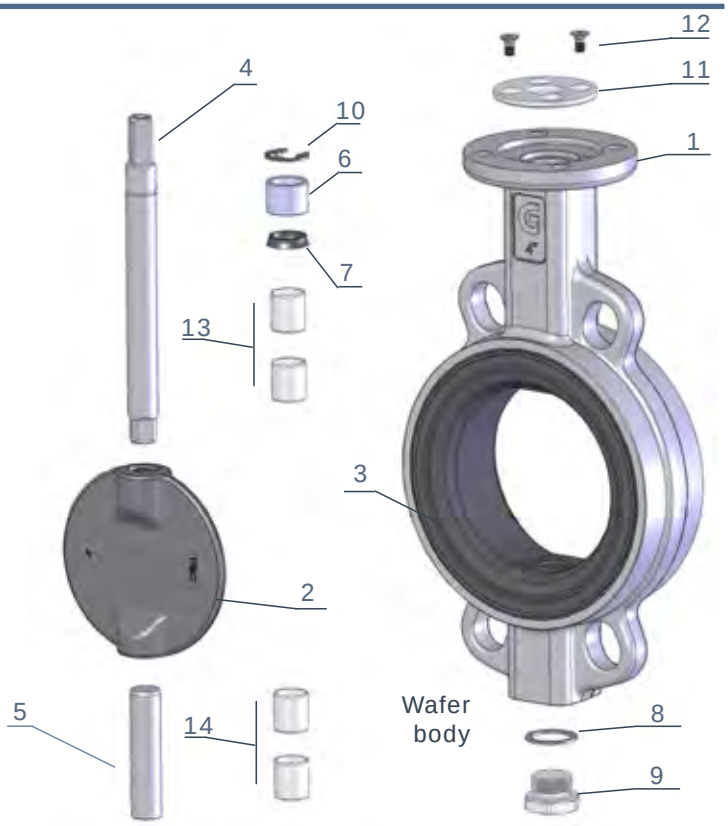
◇ *parts included in spare kit*

item	q.ty	part	material
1	1	body	• ductile iron GS400 • A216-WCB • A352-LCB • A351-CF8M (AISI 316) • aluminium-bronze
2	1	disc	• ductile iron GS400 • A351 - CF8M (AISI 316) • aluminium-bronze • Hastelloy® • Monel®
3	1	body seat (vulcanized not replaceable)	• NBR (BUNA®) • EPDM • EPDM HT • FKM (VITON®)
4	1	shaft	• AISI 303 • AISI 316 (on request)
◇5	5	bush	• steel + PTFE
◇6	2	O.ring	• NBR (BUNA®) • FKM (VITON®) on request

item	q.ty	part	material
7	2	O.ring housing	• AISI 316
8	1	shaft support	• Bronze
9	2	adjusting screw	• AISI 316
10	1	lower flange	• zinc plated steel
◇11	1	O.ring	• NBR (BUNA®)
◇12	1	O.ring	• NBR (BUNA®)
13	6	screw	• zinc plated steel
14	1	upper flange	• zinc plated steel
◇15	1	O.ring	• NBR (BUNA®)
◇16	1	O.ring	• NBR (BUNA®)
17	4	screw	• zinc plated steel
18	1	key	• steel
19	3	screw	• AISI 316
◇20	3	O.ring	• PTFE
21	3	washer	• AISI 316

BVKX - Wafer BLKX - Lug
DN 50 - 100 • 2” - 4”
PN 25

item	q.ty	part	material
1	1	body	• ductile iron GS400 • A216 - WCB • A352 - LCB • A351 - CF8M (AISI 316)
2	1	disc	• A351 - CF8M (AISI 316) • aluminium-bronze • Hastelloy® • Monel®
3	1	body seat (vulcanized not replaceable)	• NBR (BUNA®) • EPDM • EPDM HT • FKM (VITON®)
4	1	upper shaft	• AISI 430 • AISI 316 (on request)
5	1	lower shaft	• AISI 430 • AISI 316 (on request)
◇6	1	bush	• bronze
◇7	1	shaft packing	• NBR (BUNA®) • FKM (VITON®) on req.
8	1	plug packing	• aluminium
9	1	threaded plug	• zinc plated steel
10	1	stop ring	• steel
11	1	upper flange	• IXEF (DN 50-100)
12	2	screw	• zinc plated steel
◇13	2	upper bush	• steel + PTFE
◇14	2	lower bush	• steel + PTFE

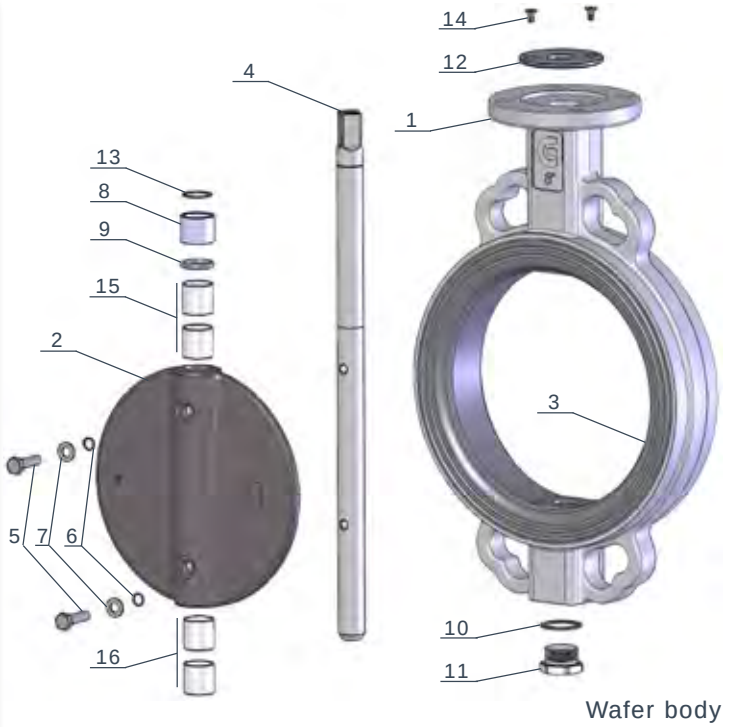


◇ *parts included in spare kit*

BVKX - Wafer
DN 125 - 250 • 5” - 10”
PN 25

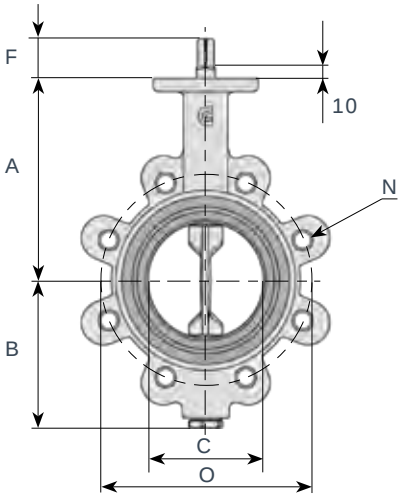
item	q.ty	part	material
1	1	body	• ductile iron GS400
2	1	disc	• A351-CF8M (AISI 316) • aluminium-bronze • Hastelloy® • Monel®
3	1	body seat (vulcanized not replaceable)	• NBR (BUNA®) • EPDM • EPDM HT • FKM (VITON®)
4	1	shaft	• AISI 430 • AISI 316 (on request)
5	2	screw	• AISI 316
◇6	2	O.Ring	• PTFE
7	2	washer	• AISI 316
◇8	1	bush	• bronze
◇9	1	shaft packing	• NBR (BUNA®) • FKM (VITON®) (on req.)
10	1	plug packing	• aluminium
11	1	threaded plug	• zinc plated steel
12	1	upper flange	• IXEF (DN 125-150) • aluminium (DN 200-250)
13	1	stop ring	• steel
14	2	screw	• zinc plated steel
◇15	2	upper bush	• steel + PTFE
◇16	2	lower bush	• steel + PTFE

BLKX - Lug
DN 125 - 200 • 5” - 8”
PN 25

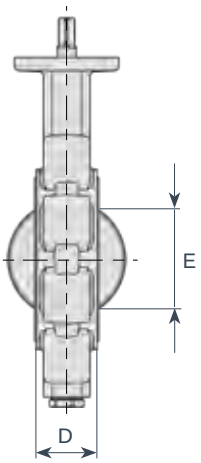


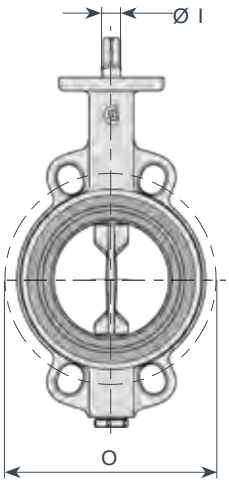
◇ *parts included in spare kit*

BVPD - Wafer BLPD - Lug

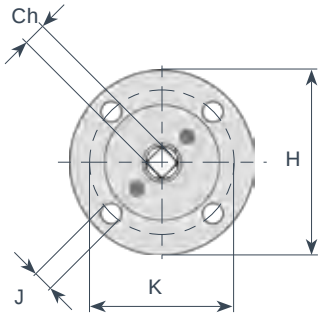


BVKI - Wafer BLKI - Lug





BVKA - Wafer BLKA - Lug

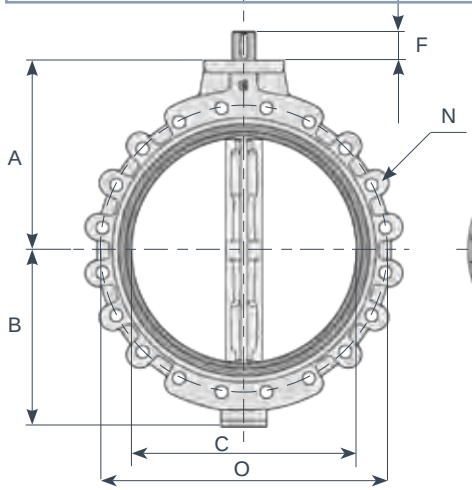


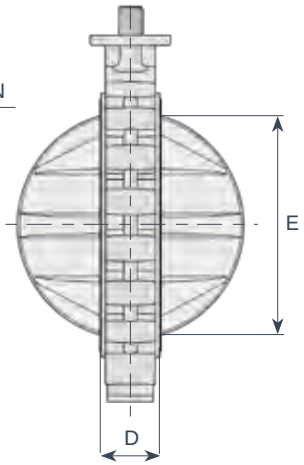
Upper flange - ISO 5211

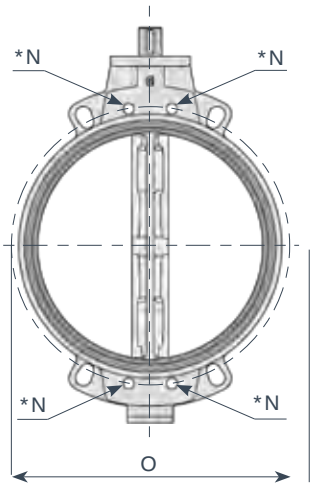
DN 40 - 150	F07 - 4 holes
DN 200 - 300	F10 - 4 holes

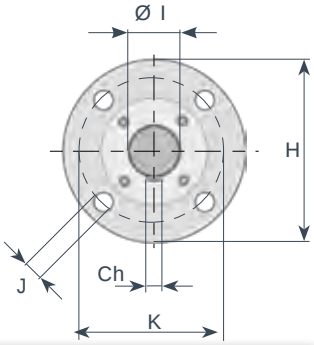
Note: in case of ANSI150 flanges, threading can be: 1$^{1/2}$"÷12" ANSI B1.1UNC2B

												Kg									
												PN 6			PN 10			PN 16			ANSI 150			PD-KI		KA	
DN	A	B	C	D	E	F	Ø I	Ch	H	K	J	N	n.	O	N	n.	O	N	n.	O	N	n.	O	W	L	W	L
40	130	75	49	33	36	34	14	11	90	70	9	-	-	-	M16	4	110	M16	4	110	M14	4	98.4	2.2	3	2.2	3
50	138	81	55	43	35	34	14	11	90	70	9	M12	4	110	M16	4	125	M16	4	125	M16	4	120.7	2.8	3.7	2.8	3.7
65	144	98	68	46	50	34	14	11	90	70	9	M12	4	130	M16	8	145	M16	8	145	M16	4	139.7	3.7	5.3	3.7	5.3
80	158	110	81	46	67	34	14	11	90	70	9	M16	4	150	M16	8	160	M16	8	160	M16	4	152.4	4	6.1	4	6.1
100	173	128	101	52	87	34	16	11	90	70	9	M16	4	170	M16	8	180	M16	8	180	M16	8	190.5	6	8.1	6	8.1
125	186	140	126	56	113	34	18	14	90	70	9	M16	8	200	M16	8	210	M16	8	210	M20	8	215.9	7.2	9.7	7.2	9.7
150	202	155	150	56	140	34	18	14	90	70	9	M16	8	225	M20	8	240	M20	8	240	M20	8	241.3	9.1	11.5	9.5	11.8
200	240	190	200	60	191	38	22	17	125	102	11	M16	8	280	M20	8	295	M20	12	295	M20	8	298.5	14	27	16	29
250	270	220	250	68	241	38	30	22	125	102	11	M16	12	335	M20	12	350	M24	12	355	M22	12	362.0	22	34	26	38
300	300	247	298	78	289	38	30	22	125	102	11	M20	12	395	M20	12	400	M24	12	410	M22	12	431.8	32	49	36	53









Upper flange - ISO 5211

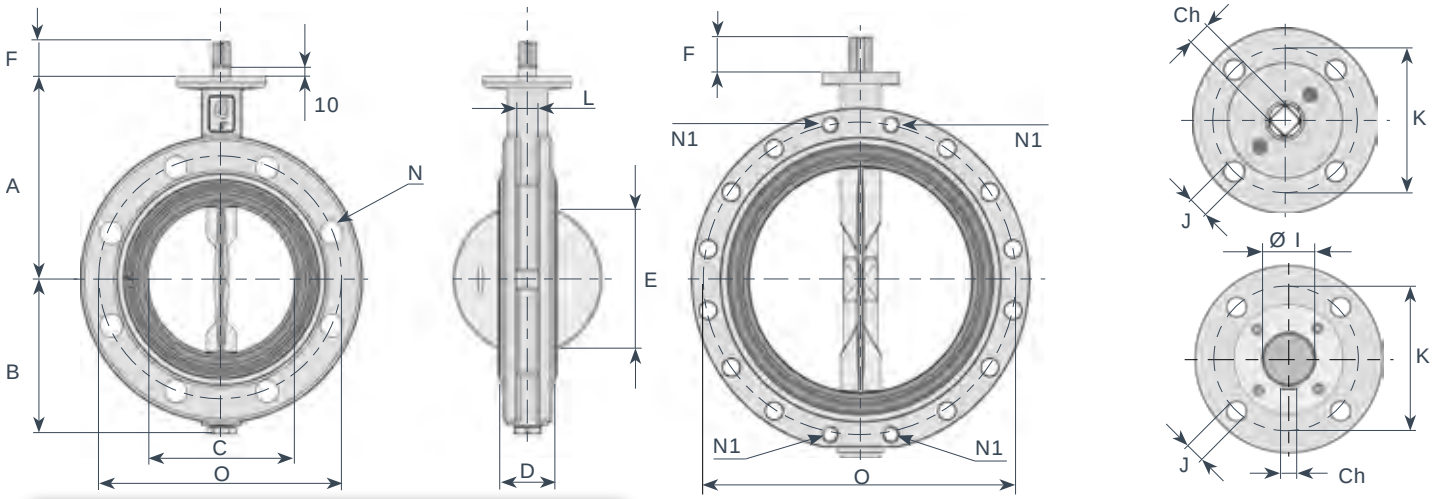
DN 350 - 400	F12 - 4 holes
DN 450	F14 - 4 holes
DN 500 - 600	F16 - 4 holes
DN 700 - 800	F25 - 8 holes

Note: in case of ANSI150 flanges, threading can be:
14" ANSI B1.1UNC2B
16"÷32" ANSI B1.1-8 UNC2B

**Note: WAFER bodies DN 600 - 700 - 800 have 4 holes N threaded as relevant LUG version*

												Kg									
												PN 6			PN 10			PN 16			ANSI 150			PD-KI		KA	
DN	A	B	C	D	E	F	Ø I	Ch	H	K	J	N	n.	O	N	n.	O	N	n.	O	N	n.	O	W	L	W	L
350	330	280	341	78	332	60	35	10	150	125	14	M20	12	445	M20	16	460	M24	16	470	M24	12	476.3	42	62	55	75
400	355	305	390	102	376	60	40	12	150	125	14	M20	16	495	M24	16	515	M27	16	525	M27	16	539.8	76	90	94	104
450	400	343	444	114	430	60	45	12	175	140	18	M20	16	550	M24	20	565	M27	20	585	M27	16	577.8	110	170	135	195
500	422	366	495	127	479	60	45	12	210	165	22	M20	20	600	M24	20	620	M30	20	650	M27	20	635.0	140	180	165	205
600	495	460	595	154	575	75	60	18	210	165	22	M24	20	705	M27	20	725	M33	20	770	M33	20	749.3	220	290	220	290
700	550	506	690	165	670	90	70	20	300	254	18	M24	24	810	M27	24	840	M33	24	840	M33	28	863.6	300	415	300	415
800	640	590	780	190	757	100	80	22	300	254	18	M27	24	920	M30	24	950	M36	24	950	M39	28	977.9	444	570	465	570

BFKI - Double Flange

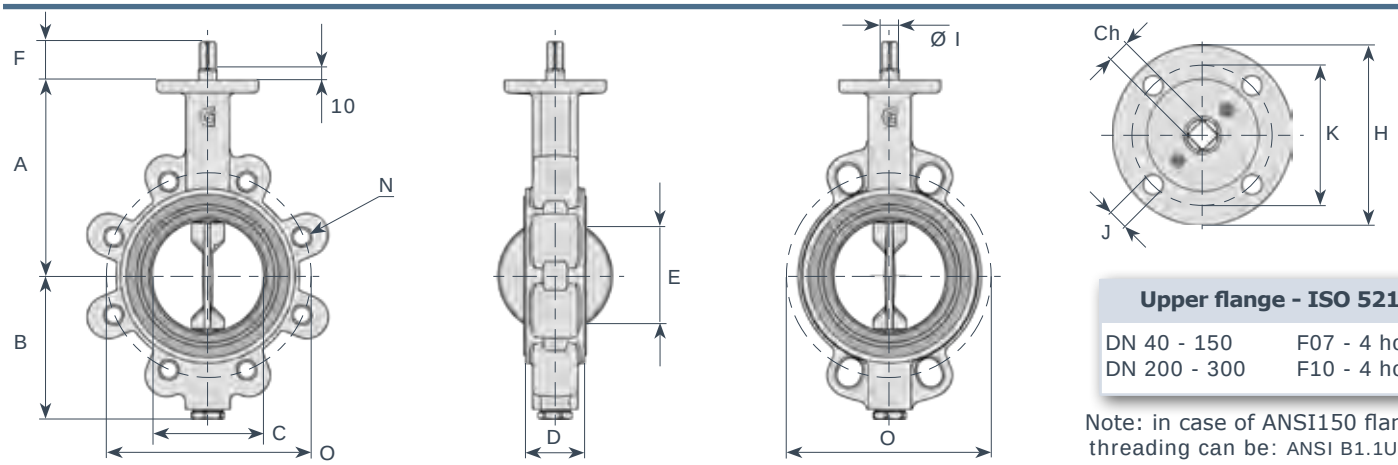


Upper flange - ISO 5211			
DN 80 - 150	F07 - 4 holes	DN 350 - 400	F12 - 4 holes
DN 200 - 300	F10 - 4 holes	DN 450	F14 - 4 holes
		DN 500 - 600	F16 - 4 holes

Note: in case of ANSI150 flanges, threading can be 16"÷24" ANSI B1.1-8 UNC2B

													PN 6				PN 10				PN 16				ANSI 150				
DN	"	A	B	C	D	E	F	Ø I	Ch	K	J	L	N	N1	n.	O	N	N1	n.	O	N	N1	n.	O	N	N1	n.	O	Kg.
80	3	158	110	81	46	67	34	14	11	70	9	14	18	--	4	150	18	--	8	160	18	--	8	160	18	--	4	152.4	6.5
100	4	173	128	101	52	87	34	16	11	70	9	16	18	--	4	170	18	--	8	180	18	--	8	180	18	--	8	190.5	8
150	6	202	155	150	56	140	34	18	14	70	9	18	18	--	8	225	22	--	8	240	22	--	8	240	22	--	8	241.3	12
200	8	240	190	200	60	191	38	22	17	102	11	22	18	--	8	280	22	--	8	295	22	--	12	295	22	--	8	298.4	20
250	10	270	220	250	68	241	38	30	22	102	11	30	18	--	12	335	22	--	12	350	25	--	12	355	25	--	12	361.9	30
300	12	300	247	298	78	289	38	30	22	102	11	30	22	M20	12	395	22	M20	12	400	28	M24	12	410	25	--	12	431.8	46
350	14	330	285	341	78	332	60	35	10	125	14	35	22	--	12	445	22	--	16	460	28	--	16	470	28	--	12	476.2	65
400	16	355	310	390	102	376	60	40	12	125	14	40	22	M20	16	495	25	M24	16	515	30	M27	16	525	30	M27	16	539.7	85
450	18	400	343	444	114	430	60	45	12	140	18	45	22	M20	16	550	25	M24	20	565	30	M27	20	585	30	M27	16	577.8	120
500	20	422	375	495	127	479	60	45	12	165	22	45	22	M20	20	600	25	M24	20	620	33	M30	20	650	30	M27	20	635.0	180
600	24	495	460	595	154	575	75	60	18	165	22	60	25	M24	20	705	30	M27	20	725	36	M33	20	770	36	M33	20	749.3	270

BVKX - Wafer BLKX - Lug



Upper flange - ISO 5211	
DN 40 - 150	F07 - 4 holes
DN 200 - 300	F10 - 4 holes

Note: in case of ANSI150 flanges, threading can be: ANSI B1.1UNC2B

													PN 25			Kg.	
DN	"	A	B	C	D	E	F	Ø I	Ch	H	K	J	N	n.	O	wafer	lug
50	2	138	81	55	43	35	34	14	11	90	70	9	M16	4	125	2.8	3.7
65	$2^{1/2}$	144	98	68	46	50	34	14	11	90	70	9	M16	8	145	3.7	5.3
80	3	158	110	81	46	67	34	14	11	90	70	9	M16	8	160	4	6.1
100	4	173	128	101	52	87	34	16	11	90	70	9	M20	8	190	6	8.1
125	5	186	140	126	56	113	34	18	14	90	70	9	M24	8	220	7.2	9.7
150	6	202	155	150	56	140	34	18	14	90	70	9	M24	8	250	9.5	11.8
200	8	240	190	200	60	191	38	22	17	125	102	11	M24	12	310	16	29
250	10	270	220	250	68	241	38	30	22	125	102	11	--	--	370	25	--

PD **Series** - Torque values - Nm - safety factor excluded

Seat body NBR/EPDM											fluid H_2O - 20°C
working pressure BAR											
DN	0	6	10	DN	0	6	10	DN	0	6	10
80	5	7	11	200	47	58	90	400	382	405	420
100	8	12	24	250	89	100	115	450	395	418	445
125	22	31	40	300	167	180	280	500	410	430	460
150	40	45	49	350	245	340	395	600	1330	1577	-

Seat body FKM/natural rubber									fluid H_2O - 20°C
working pressure BAR									
DN	0	6	DN	0	6	DN	0	6	
80	7	11	200	62	78	400	515	540	
100	11	16	250	120	134	450	578	627	
125	29	42	300	225	241	500	607	675	
150	52	65	350	465	495	600	1795	2130	

KI **Series** - Torque values - Nm - safety factor excluded

Seat body NBR/EPDM fluid H_2O - 20°C														
working pressure BAR					working pressure BAR					working pressure BAR				
DN	0	6	10	16	DN	0	6	10	16	DN	0	6	10	16
40	11	11	13	14	150	55	60	84	90	450	480	520	720	1050
50	11	12	13	15	200	100	107	180	210	500	550	600	810	1600
65	11	16	16	18	250	160	175	220	320	600	1650	1960	2300	-
80	20	30	36	40	300	260	270	320	390	700	2270	3000	3350	-
100	40	43	45	48	350	410	450	590	850	800	3200	3400	4000	-
125	48	52	52	70	400	450	480	650	900					

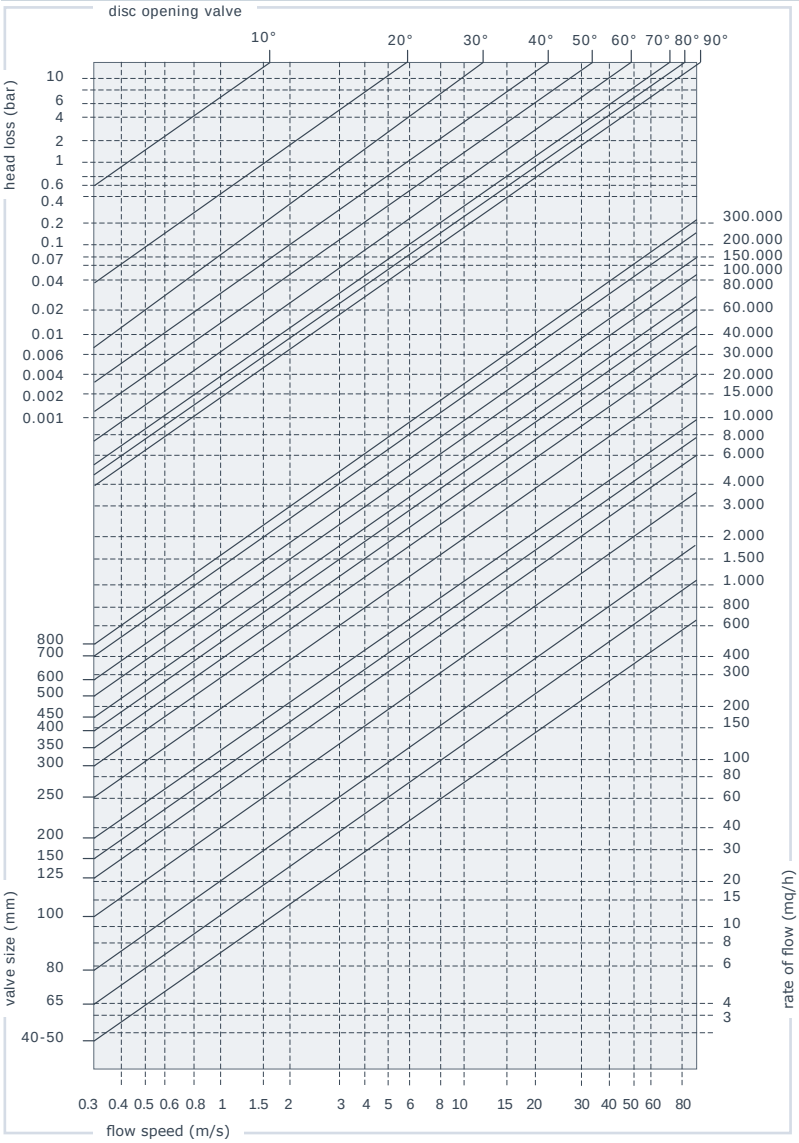
Seat body FKM/natural rubber fluid H_2O - 20°C														
working pressure BAR					working pressure BAR					working pressure BAR				
DN	*0*	*6*	*10*	*16*	*DN*	*0*	*6*	*10*	*16*	*DN*	*0*	*6*	*10*	*16*
40	*14*	*14*	*16*	*17*	*150*	*66*	*72*	*101*	*108*	*450*	*580*	*630*	*880*	*1310*
50	*14*	*15*	*16*	*18*	*200*	*120*	*129*	*216*	*252*	*500*	*660*	*740*	*990*	*2020*
65	*14*	*20*	*20*	*22*	*250*	*192*	*210*	*264*	*386*	*600*	*1980*	*2380*	*2760*	-
80	*24*	*36*	*44*	*48*	*300*	*312*	*330*	*396*	*480*	*700*	*2750*	*3680*	*4040*	-
100	*48*	*52*	*54*	*58*	*350*	*498*	*545*	*728*	*1050*	*800*	*3880*	*4120*	*4860*	-
125	*60*	*62*	*64*	*84*	*400*	*550*	*584*	*798*	*1120*					

KA/KX **Series** - Torque values - Nm - safety factor excluded

Seat body NBR/EPDM fluid H_2O - 20°C												
working pressure BAR							working pressure BAR					
DN	0	6	10	16	20	25	DN	0	6	10	16	20
40	12	12	14	15	15	-	300	272	294	362	410	429
50	12	13	14	16	17	20	350	431	557	714	1071	1122
65	12	17	17	19	20	31	400	683	767	893	1470	1540
80	21	32	38	42	44	49	450	1000	1208	1313	1995	2090
100	42	45	47	50	53	65	500	1155	1418	1733	2625	2750
125	50	55	55	74	77	82	600	2300	2800	3700	4800	5280
150	58	63	88	95	99	103	700	3800	5050	5600	6900	7590
200	105	112	189	221	231	320	800	5200	6800	7900	10300	11330
250	175	190	231	336	352	440						

Head losses

NOTES: values indicated in this page is only for information



Formulae for calculation of rate flow

Liquids:

$$Q = \frac{KV}{\sqrt{\frac{PS}{\Delta P}}}$$

- Q rate of flow (m^3/h)
- PS specific gravity (water=1)
- ΔP pressure drop (bar)

Gas:

$$Q = 28.5 \frac{KV}{\sqrt{\frac{PS}{P_2 \cdot \Delta P}}}$$

- Q rate of flow (m^3/h)
- PS specific gravity (air=1)
- ΔP pressure drop (bar) (less than 1/2 inlet pressure)
- P_2 outlet pressure

Steam:

$$Q = 22.5 \cdot KV \cdot \sqrt{P_2 \cdot \Delta P}$$

- Q rate of flow (Kg/h)
- ΔP pressure drop (bar) (less than 1/2 inlet pressure)
- P_2 outlet pressure

Calculation of the rate of flow equivalent to H2O

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

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

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

Values KV (CV = 1,16 KV)

angle	40/50	65	80	100	125	150	200	250	300	350	400	450	500	600	700	800
5°	-	-	-	-	-	-	-	-	-	53	68	85	106	151	206	270
10°	-	-	-	-	-	-	-	21	49	123	161	199	246	354	482	629
15°	0,2	0,6	1,8	2,4	4,2	5,6	14	80	188	228	299	369	457	658	900	1168
20°	0,9	2,5	5,2	9,5	15	23	110	156	280	315	412	511	630	907	1234	2010
25°	3	6,1	12	22	38	61	125	225	354	457	597	740	914	1314	1789	2735
30°	6,1	11	21	39	69	112	211	310	381	661	863	1069	1320	1899	2585	5080
35°	9,9	18	33	60	105	166	303	433	521	890	1162	1440	1778	2560	3484	6254
40°	15	27	49	88	148	228	405	591	742	1184	1547	1916	2366	3407	4638	9700
45°	21	38	68	121	199	303	528	774	987	1552	2028	2512	3102	4466	6079	11581
50°	29	51	91	159	262	394	679	988	1252	2008	2620	3248	4010	5774	7860	15000
55°	39	68	119	207	338	505	863	1247	1571	2548	3318	4123	5090	7329	9976	17765
60°	53	90	156	269	434	641	1085	1591	2059	3225	4202	5218	6442	9277	12627	22200
65°	72	121	209	357	565	820	1364	2065	2807	3983	5196	6445	7957	11457	15595	26077
70°	92	161	283	487	768	1097	1788	2715	3744	5195	6775	8412	10377	14944	20341	34500
75°	109	209	381	662	1059	1507	2425	3625	4935	6964	9084	11269	13912	20032	27267	39546
80°	115	240	457	815	1303	1861	3043	4768	6831	9301	12142	15048	18578	26752	36413	47560
85°	115	253	502	906	1457	2008	3642	4890	8230	10280	13408	16632	20533	29568	40246	52566
90°	116	257	508	925	1492	2168	3838	5010	9233	10792	14082	17840	22024	31715	43166	56381

Flanges to be used

EN1092-1
Tipo 11

UNI
2280/81
2282/67

DIN
2631
2632
2633

A150
B16.5
welding neck

EN1092-1
Tipo 01

UNI
2276/77
2278/67

DIN
2575
2576
2577

A150
B16.5
slip on

EN1092-1
Tipo 02/32

UNI
6088/89
6090

DIN
2641
2642
2643

EN1092-1
Tipo 04/34

UNI
2289/90
2291

DIN
2672
2673
2674

EN1092-1
Tipo 02/33

NOTE
only valves with vulcanized seat (KA/KX) are recommended with these flanges

Compatibility flanges - body Wafer

DN	EN 1092-1 / EN 1092-2					ASME/ANSI			BS 10		JIS B2220		
	PN 6	PN 10	PN 16	PN 25	PN 40	class 125	class 150	class 300	tab D	tab E	5K	10K	16K
40	□	✓	✓	✓	✓	✓	✓	●	✓	✓	✓	✓	✓
50	□	✓	✓	✓	✓	✓	✓	✕	●	●	●	□	✕
65	□	✓	✓	✓	✓	✓	✓	●	●	●	✓	✓	□
80	□	✓	✓	✓	✓	✓	✓	●	●	●	●	●	✓
100	□	✓	✓	●	●	✓	✓	✕	●	✓	✕	●	✓
125	□	✓	✓	● (1)	● (1)	✓	✓	✕	✓	✓	□	✓	● (1)
150	□	✓	✓	● (1)	● (1)	✓	✓	✕	●	●	□	✓	✕
200	□	✓	✓	✓ (2)	✕	✓	✓	✕	✓	✓	●	●	✓ (2)
250	□	✓	✓	●	✕	✓	✓	✕	✕	✓	●	✓	✕
300	□	✓	✓	✓ (2)	✕	✓	✓	✕	✓	✓	●	●	✓ (2)
350	□	✓	✓	●	✕	✓	✓	✕	✓	✓	●	●	●
400	□	✓	✓	●	✕	✓	✓	✕	✕	✕	●	●	✓
450	□	✓	✓	●	✕	✓	✓	✕	✕	●	●	✓	✕
500	□	✓	✓	●	✕	✓	✓	✕	✕	✕	●	✓	✓
600	□	✓	✓	●	✕	✓	✓	✕	✕	✕	●	✕	✕
700	□	✓	✓	✕	✕		✓	✕			●	✓	✕
800	□	✓	✓	✕	✕		✓	✕			●	✓	✕

✓ standard
● on request
□ only body PN 6 version
✕ not possible

(1) only with ductile iron bodies
(2) standard with ductile iron and steel bodies, on request with different materials

Compatibility flanges - body Lug

DN	EN 1092-1 / EN 1092-2					ASME/ANSI			BS 10		JIS B2220		
	PN 6	PN 10	PN 16	PN 25	PN 40	class 125	class 150	class 300	tab D	tab E	5K	10K	16K
40	□	✓	✓	✓	✓	✓	✓	●	□	□	●	●	●
50	□	✓	✓	✓	✓	✓	✓	✕	●	●	●	●	✕
65	□	✓	✓	✓	✓	✓	✓	●	●	●	●	●	●
80	□	✓	✓	✓	✓	✓	✓	●	●	●	●	●	✓
100	□	✓	✓	●	●	✓	✓	✕	●	✓	✕	●	●
125	□	✓	✓	● (1)	● (1)	✓	✓	✕	✓	✓ (PN6)	✓	●	● (1)
150	□	✓	✓	● (1)	● (1)	✓	✓	✕	●	●	●	✓	✕
200	□	✓	✓	●	✕	✓	✓	✕	●	●	●	●	✕
250	□	✓	✓	✕	✕	✓	✓	✕	✕	●	●	●	✕
300	□	✓	✓	✕	✕	✓	✓	✕	●	●	●	✓ (1)	✕
350	□	✓	✓	✕	✕	✓	✓	✕	●	●	●	●	✕
400	□	✓	✓	✕	✕	✓	✓	✕	●	●	●	●	●
450	□	✓	✓	✕	✕	✓	✓	✕	✕	●	●	✓	✕
500	□	✓	✓	✕	✕	✓	✓	✕	✕	✕	●	✓	✕
600	□	✓	✓	●	✕	✓	✓	✕	✕	✕	●	✕	✕
700	□	✓	✓	✕	✕		✓	✕			●	✓	✕
800	□	✓	✓	✕	✕		✓	✕			●	✓	✕

✓ standard
● on request
□ only body PN 6 version
✕ not possible

(1) only with ductile iron bodies
(2) standard with ductile iron and steel bodies, on request with different materials

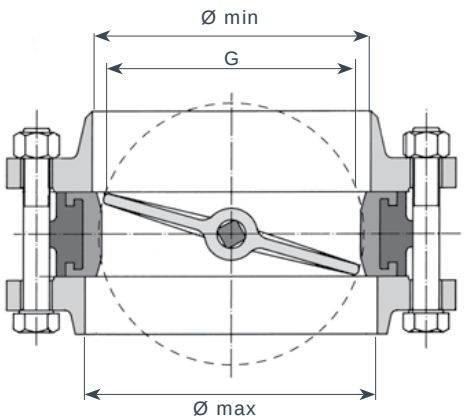
Bolts and rods dimensions

DN	Wafer valves											
	PN 6			PN 10			PN 16			ANSI 150		
	Bolts	Rods	N°	Bolts	Rods	N°	Bolts	Rods	N°	Bolts	Rods	N°
40	M12x80	M12x90	4	M16x90	M16x100	4	M16x90	M16x100	4	M14x90	M14x110	4
50	M12x90	M12x100	4	M16x100	M16x120	4	M16x100	M16x120	4	M16x100	M16x130	4
65	M12x100	M12x110	4	M16x110	M16x130	8	M16x110	M16x130	8	M16x110	M16x140	4
80	M16x100	M16x120	4	M16x110	M16x130	8	M16x110	M16x130	8	M16x120	M16x150	4
100	M16x110	M16x120	4	M16x120	M16x140	8	M16x120	M16x140	8	M16x120	M16x150	8
125	M16x120	M16x140	8	M16x120	M16x150	8	M16x120	M16x150	8	M20x130	M20x160	8
150	M16x120	M16x140	8	M20x130	M20x160	8	M20x130	M20x160	8	M20x140	M20x160	8
200	M16x130	M16x150	8	M20x140	M20x170	8	M20x140	M20x170	12	M20x150	M20x170	8
250	M16x140	M16x160	12	M20x150	M20x180	12	M24x150	M24x180	12	M22x160	M22x190	12
300	M20x150	M20x180	12	M20x160	M20x190	12	M24x160	M24x190	12	M22x170	M22x210	12
350	M20x150	M20x180	12	M20x160	M20x190	16	M24x170	M24x200	16	M24x180	M24x220	12
400	M20x180	M20x210	16	M24x190	M24x220	16	M27x210	M27x240	16	M27x210	M27x250	16
450	M20x190	M20x220	16	M24x200	M24x230	20	M27x220	M27x250	20	M27x230	M27x270	16
500	M20x210	M20x240	20	M24x210	M24x240	20	M30x240	M30x280	20	M27x250	M27x290	20
600	M24x240	M24x270	20	M27x250	M27x290	20	M33x270	M33x320	20	M33x290	M33x340	20
700	M24x250	M24x280	24	M27x260	M27x310	24	M33x280	M33x330	24	M33x350	M33x400	28
800	M27x280	M27x320	24	M30x290	M30x350	24	M36x320	M36x360	24	M39x400	M33x460	28

DN	Lug valves							
	PN 6		PN 10		PN 16		ANSI 150	
	Bolts	N°	Bolts	N°	Bolts	N°	Bolts	N°
40	M12x30	8	M16x30	8	M16x30	8	M14x30	8
50	M12x35	8	M16x35	8	M16x35	8	M16x35	8
65	M12x35	8	M16x40	16	M16x40	16	M16x40	8
80	M16x40	8	M16x40	16	M16x40	16	M16x40	8
100	M16x40	8	M16x40	16	M16x40	16	M16x45	16
125	M16x45	16	M16x45	16	M16x45	16	M20x50	16
150	M16x45	16	M20x45	16	M20x45	16	M20x50	16
200	M16x50	16	M20x50	16	M20x50	24	M20x55	16
250	M16x55	24	M20x55	24	M24x55	24	M22x60	24
300	M20x60	24	M20x60	24	M24x60	24	M22x60	24
350	M20x60	24	M20x60	32	M24x65	32	M24x65	24
400	M20x70	32	M24x70	32	M27x70	32	M27x80	32
450	M20x80	32	M24x80	40	M27x80	40	M27x80	32
500	M20x80	40	M24x80	40	M30x80	40	M27x90	40
600	M24x90	40	M27x90	40	M33x100	40	M33x100	40
700	M24x100	48	M27x100	48	M33x110	48	M33x130	56
800	M27x110	48	M30x120	48	M36x130	48	M39x150	56

NOTE 1 Screw and rod dimensions have been calculated with WELDING NECK flanges PN 6/10/16 (EN1092-1 Type 11) ANSI150 (ANSI B16.5)

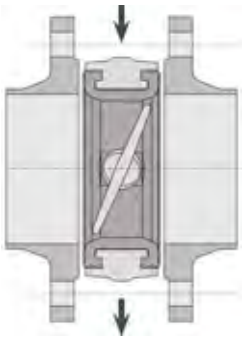
NOTE 2 Number of nuts should be double when WAFER valves are assembled with threaded rods.



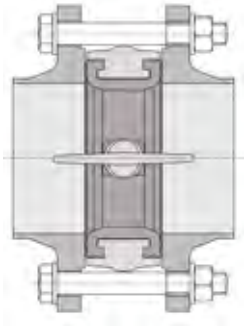
DN	40	50	65	80	100	125	150	200	250	300	350	400	450	500	600	700	800
G	36	35	50	67	87	113	140	191	241	289	332	376	430	475	575	670	757
Ø min	46	44	60	75	98	122	148	196	244	296	342	378	440	485	585	681	782
Ø max	49	62	80	93	118	146	175	225	275	330	372	422	450	500	600	717	815

Installation

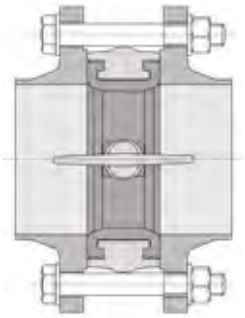
Assembly



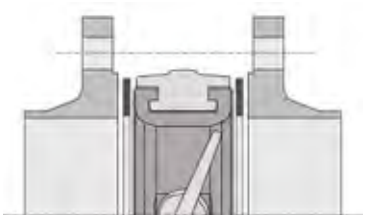
1 - Leave a space between flanges so that valve can be easily inserted and removed.



2 - Open completely the valve before tightening flanges.



3 - Tighten bolts till flanges are in contact with valve body.

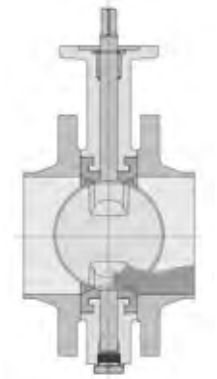


4 - NOTE: do not insert other packing between flange and valve.

NOTE: Weld the pipe only in spots with the valve between flanges.
Remove the valve before finishing welding to avoid that heat damage the seat.
Clean carefully the welding to avoid that slags damage the seat.

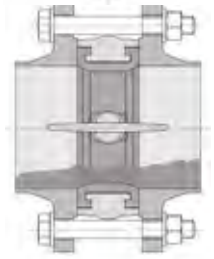
Installation for powders and muddy fluids

In case of use with powders or muddy fluids, install the valve with horizontal rotation axis, to allow sediments to flow easily on opening.



Wrong
Vertical rotation axis

powders or muddy fluids



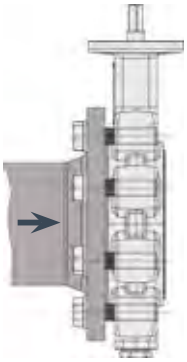
Right
Horizontal rotation axis

powders or muddy fluids

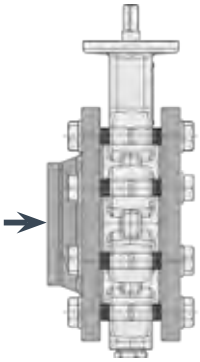
This type of installation is always advisable with valve diameters over DN 400.

End piping installation

When valves are installed end of piping, a counterflange as per dwg type B is needed to secure tightness at max pressure.



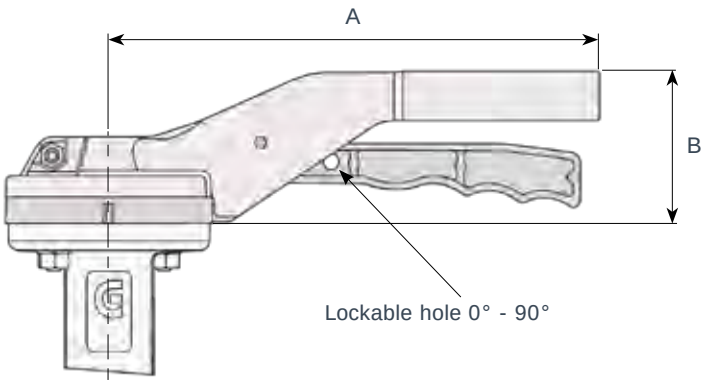
Type A installation without counterflange



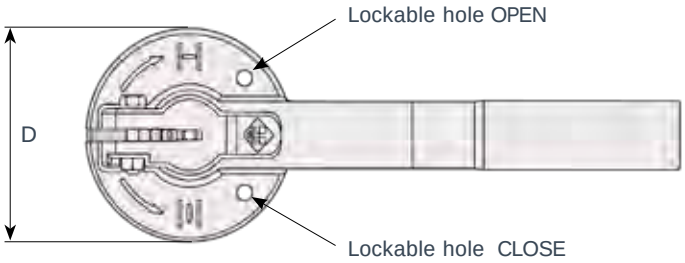
Type B installation with counterflange

valve type	P_{max} (Bar)	
	type A inst.	type B inst.
BLPD	4	6
BLKI	6	16
BLKA	16	20
BLKX	16	25

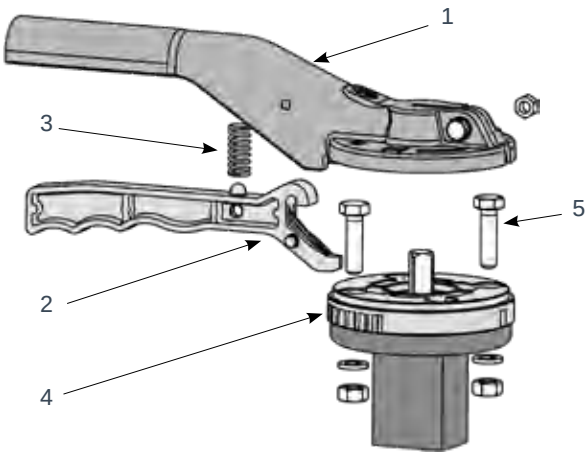
Handlevers



DN	A	B	D	Kg	
				aluminium	st. steel
40 - 100	220	67	93	0.60	1.80
125 - 150	275	67	93	0.65	2.05
200 - 300	340	76	125	1	--



Note: DN 250 - 300 handlever not recommended (PD series excluded)



		DN40 - 300	DN40 - 150
1	lever	aluminium	A351 CF8M
2	trigger	aluminium	A351 CF8M
3	spring	stainless steel	stainless steel
4	disc positioning	aluminium	A351 CF8M
5	screws	stainless steel	stainless steel

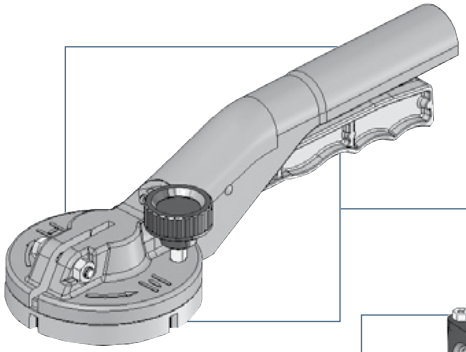
positioning disc DN 40 - 150 designed for flanges ISO 5211 F05/F07

10 positions

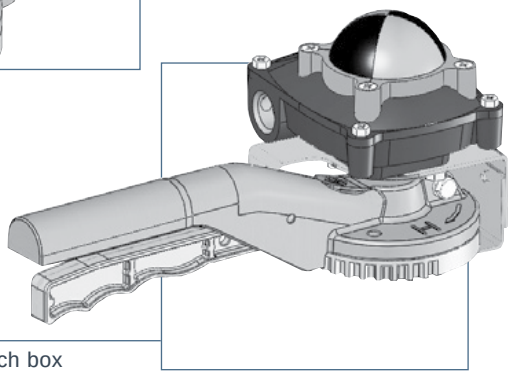
Open - Closed

positioning disc with two types of regulation: 10 positions or Open/Close

OPTIONALS

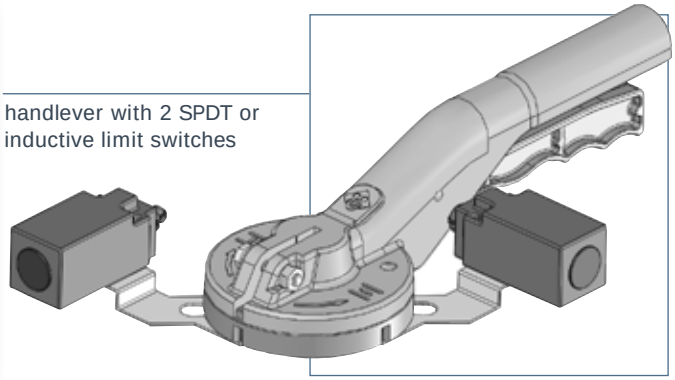


Adjustable handlever



handlever with switch box (only DN 40/300)

handlever with 2 SPDT or inductive limit switches



Gearboxes Aluminium body - HW Series

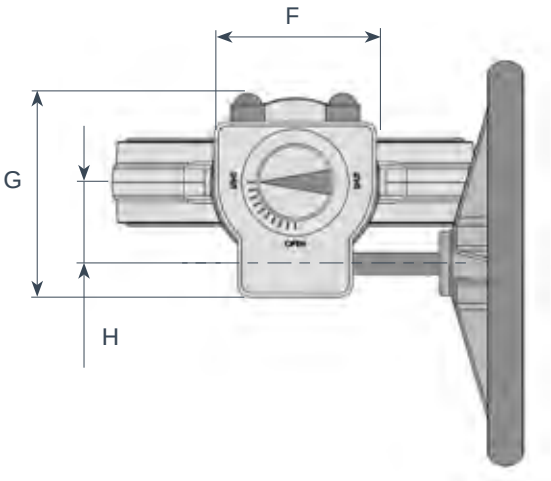
Coupling valve - actuators

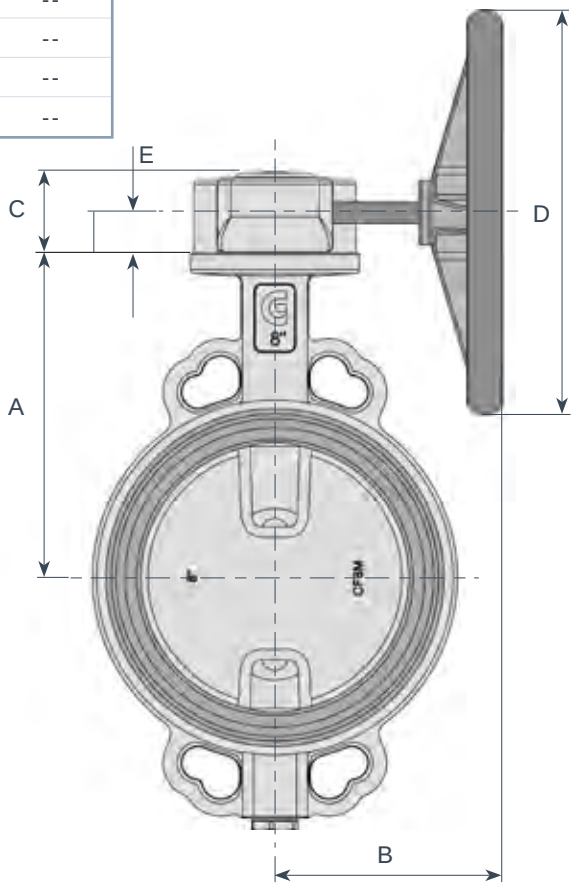
DN	"	PD	KI			KA	KX
			p = 6 bar	p = 10 bar	p = 16 bar		
40	1 1/2	--	HW070	HW070	HW070	--	--
50	2	--	HW070	HW070	HW070	HW070	HW070
65	2 1/2	--	HW070	HW070	HW070	HW070	HW070
80	3	HW070	HW070	HW070	HW070	HW070	HW070
100	4	HW070	HW070	HW070	HW070	HW070	HW070
125	5	HW070	HW070	HW070	HW070	HW070	HW070
150	6	HW070	HW070	HW070	HW070	HW070	HW070
200	8	HW102	HW102	HW102	HW102	HW102	HW102
250	10	HW102	HW102	HW102	HW102	HW102	HW102
300	12	HW102	HW102	HW102	HW102	HW102	--
350	14	HW140	HW140	HW140	HW140	HW140	--
400	16	HW140	HW140	HW140	HW140	HW165	--
450	18	HW165	HW165	HW165	HW165	HW165	--
500	20	HW165	HW165	HW165	HW165	HW254	--
600	24	HW254	HW254	HW254	--	--	--
700	28	--	HW254	HW254	--	--	--
800	32	--	HW254	HW254	--	--	--

HW series

body:	aluminium
worm gears:	steel
sector gear:	ductile iron
shaft:	stainless steel
handwheel:	steel
protection:	IP65
T:	-20 / +120 °C

DN	"	A
40	1 1/2	130
50	2	138
65	2 1/2	144
80	3	158
100	4	173
125	5	186
150	6	202
200	8	240
250	10	270
300	12	300
350	14	330
400	16	355
450	18	400
500	20	422
600	24	495
700	28	550
800	32	640





Mod.	B	C	D	E	F	G	H	Kg
HW070	165	48	140	27	80	115	42	1.6
HW102	240	56	300	33	120	150	60	3
HW140	250	95	400*	51	185	225	80	10
HW165	395	105	600	61	230	268	105	20
HW254	416	125	700	80	265	332	130	25

* for DN 350: D =350

Gearboxes Cast Iron body - AB Series

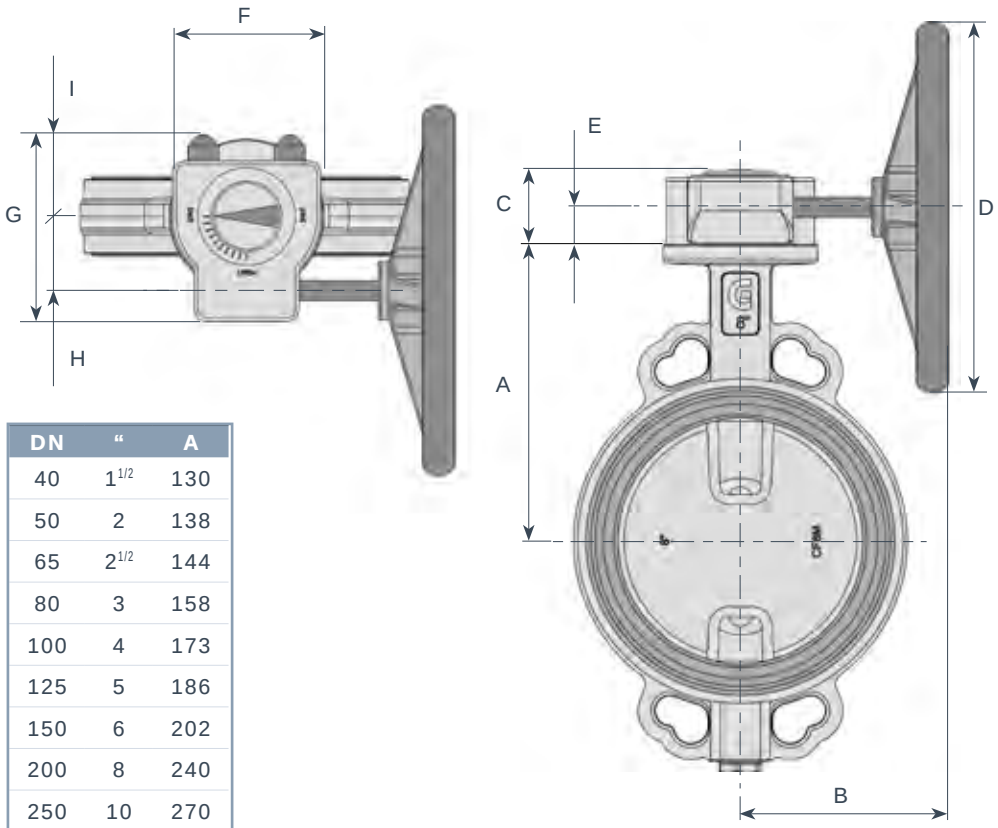
Coupling valve - actuators

DN	"	PD	KI			KA	KX
			p = 6 bar	p = 10 bar	p = 16 bar		
40	1½	--	AB150	AB150	AB150	AB150	AB150
50	2	--	AB150	AB150	AB150	AB150	AB150
65	2½	--	AB150	AB150	AB150	AB150	AB150
80	3	AB150	AB150	AB150	AB150	AB150	AB150
100	4	AB150	AB150	AB150	AB150	AB150	AB150
125	5	AB150	AB150	AB150	AB150	AB150	AB150
150	6	AB150	AB150	AB150	AB150	AB150	AB150
200	8	AB215	AB215	AB215	AB215	AB215	AB215
250	10	AB550	AB550	AB550	AB550	AB550	AB550
300	12	AB550	AB550	AB550	AB550	AB550	--
350	14	AB880	AB880	AB880	AB880	AB880	--
400	16	AB880	AB880	AB880	AB880	AB880	--
450	18	AB880	AB880	AB880	AB880	AB1250	--
500	20	AB880	AB880	AB880	AB880	AB1250	--
600	24	AB1250	AB1250	AB1250	--	AB1954	--
700	28	--	AB1950	AB1950	--	AB6804	--
800	32	--	AB1950	AB1954	--	AB6806	--

AB series

body:	ductile iron
worm gears:	steel
sector gear:	ductile iron
shaft:	steel
handwheel:	steel
protection:	IP67
T:	-20 / +120 °C

low/high temperature execution on request



DN	"	A
40	1 1/2	130
50	2	138
65	2 1/2	144
80	3	158
100	4	173
125	5	186
150	6	202
200	8	240
250	10	270
300	12	300
350	14	330
400	16	355
450	18	400
500	20	422
600	24	495
700	28	550
800	32	640

Mod.	B	C	D	E	F	G	H	I	Kg
AB150	157.5	55	200	27	80	124	43	58	2.2
AB215	217	63	200	29	102	128	52	48	3.5
AB550	282	88	300	41	138	174	71	69	8.5
AB880	282	93	400	42	200	226	86	100	14
AB1250	322	102	500	48	220	258	105	110	22
AB1950	425	126	600	55	285	323	130	143	32
AB1954	398	126	600	55	285	323	130	143	39
AB6804	451	159	600	59	370	407	182	170	62.5
AB6806	451	159	600	59	370	407	182	170	64.2

Waterproof valve shaft extension

When necessary, it's possible to extend the valve shaft as indicated in the figure. Construction is in carbon steel with protective paint (on request stainless steel).

"L" measure should be indicated when ordering.

Our tecnical department is available to solve special applications.

Pneumatic actuator DA / DOUBLE ACTING

Rack & Pinion Actuators - MT

Max air pressure: 10 bar
Temperature: -20°C / +80°C
Torque range: 31/3564 Nm
Double travel stop
open/close: ±10°

Scotch Yoke Actuators - CHD Series

Max air pressure: 6 bar
Temperature: -20 / +80°C
Torque Range: 1200/305000
Nmt
Double travel stop
open/close: ±6°

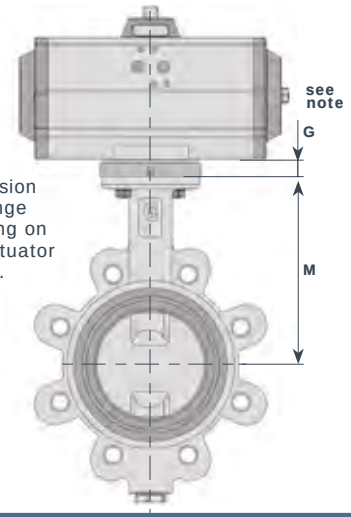
valve seat: EPDM / NBR **fluid: H_2O** **T: 20°C** **operating air pressure: ≥5.5 bar**

DN	"	M	PD				KI						KA		KX	
			P=6 B	G	P=10 B	G	P=6 B	G	P=10 B	G	P=16 B	G	mod.	G	mod.	G
40	1½	130	≈	≈	≈	≈	MT 15	16	MT 15	16	MT 15	16	MT 15	16	≈	≈
50	2	138	≈	≈	≈	≈	MT 15	16	MT 15	16	MT 15	16	MT 15	16	MT 15	16
65	2½	144	≈	≈	≈	≈	MT 15	16	MT 15	16	MT 15	16	MT 15	16	MT 20	16
80	3	158	MT 15	16	MT 15	16	MT 17	16	MT 20	16	MT 20	16	MT 20	16	MT 25	16
100	4	173	MT 15	16	MT 15	16	MT 20	16	MT 25	16	MT 25	16	MT 25	16	MT 25	16
125	5	186	MT 20	16	MT 20	16	MT 25	16	MT 25	16	MT 30	16	MT 30	16	MT 30	16
150	6	202	MT 20	16	MT 20	16	MT 25	16	MT 30	16	MT 30	16	MT 30	16	MT 35	16
200	8	240	MT 25	14	MT 30	14	MT 35	14	MT 40	14	MT 45	14	MT 45	14	MT 50	14
250	10	270	MT 35	14	MT 35	14	MT 40	14	MT 45	14	MT 50	14	MT 50	14	MT 55	14
300	12	300	MT 40	14	MT 45	14	MT 45	14	MT 50	14	MT 55	14	MT 55	14	≈	≈
350	14	330	MT 50	100	MT 50	100	MT 55	100	MT 60	100	MT 65	100	MT 65	100	≈	≈
400	16	355	MT 55	100	MT 60	100	MT 55	100	MT 60	100	MT 65	100	MT 70	100	≈	≈
450	18	400	MT 55	100	MT 60	100	MT 55	100	MT 60	100	MT 65	100	MT 70	100	≈	≈
500	20	422	MT 55	100	MT 60	100	MT 60	100	MT 60	100	MT 70	100	CHD16-025	0	≈	≈
600	24	495	MT 70	100	MT 70	100	MT 70	100	MT 75	100	≈	≈	CHD16-035	0	≈	≈
700	28	550	≈	≈	≈	≈	MT 75	150	CHD16-030	200	≈	≈	CHD25-038	0	≈	≈
800	32	640	≈	≈	≈	≈	CHD16-030	200	CHD16-030	200	≈	≈	CHD30-043	200	≈	≈

valve seat: EPDM / NBR **fluid: Aria**
valve seat: FKM (n.a. for PD 10bar) **fluid: H_2O** **T: 20°C** **operating air pressure: ≥5,5 bar**

DN	"	M	PD				KI					
			P=6 B	G	P=10 B (EPDM/NBR seat only)	G	P=6 B	G	P=10 B	G	P=16B	G
40	1½	130	≈	≈	≈	≈	MT 15	16	MT 15	16	MT 15	16
50	2	138	≈	≈	≈	≈	MT 15	16	MT 15	16	MT 17	16
65	2½	144	≈	≈	≈	≈	MT 17	16	MT 17	16	MT 17	16
80	3	158	MT 15	16	MT 15	16	MT 20	16	MT 25	16	MT 25	16
100	4	173	MT 15	16	MT 17	16	MT 25	16	MT 30	16	MT 30	16
125	5	186	MT 20	16	MT 25	16	MT 30	16	MT 35	16	MT 35	16
150	6	202	MT 25	16	MT 25	16	MT 30	16	MT 35	16	MT 40	16
200	8	240	MT 30	14	MT 35	14	MT 35	14	MT 50	14	MT 50	14
250	10	270	MT 35	14	MT 40	14	MT 45	14	MT 50	14	MT 60	50
300	12	300	MT 45	14	MT 50	14	MT 50	14	MT 60	50	MT 60	50
350	14	330	MT 55	100	MT 55	100	MT 60	100	MT 65	100	MT 70	100
400	16	355	MT 60	100	MT 60	100	MT 60	100	MT 70	100	MT 70	100
450	18	400	MT 60	100	MT 60	100	MT 65	100	MT 70	100	MT 70	100
500	20	422	MT 60	100	MT 60	100	MT 65	100	MT 75	100	MT 75	100
600	24	495	MT 70	100	MT 75	100	CHD16-025	0	CHD16-025	0	≈	≈
700	28	550	≈	≈	≈	≈	CHD16-030	200	CHD16-030	200	≈	≈
800	32	640	≈	≈	≈	≈	CHD16-030	200	CHD16-035	200	≈	≈

G dimension can change depending on valve/actuator coupling.

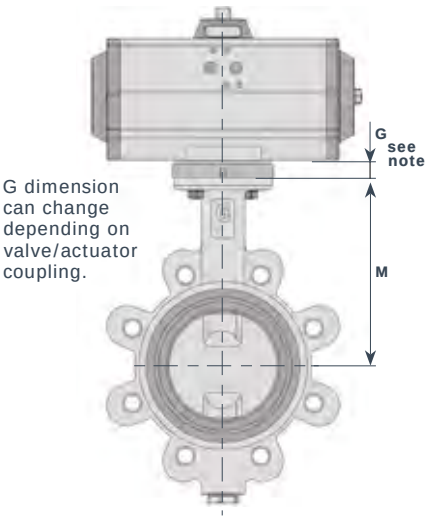


valve seat: EPDM / NBR **fluid: H_2O** **T: 20°C** **operating air pressure: 4-5 bar**

DN	"	M	PD				KI						KA		KX	
			P=6 B	G	P=10 B	G	P=6 B	G	P=10 B	G	P=16 B	G	mod.	G	mod.	G
40	1½	130	≈	≈	≈	≈	MT 15	16	MT 15	16	MT 15	16	MT 15	16	≈	≈
50	2	138	≈	≈	≈	≈	MT 15	16	MT 15	16	MT 15	16	MT 15	16	MT 17	16
65	2½	144	≈	≈	≈	≈	MT 15	16	MT 15	16	MT 17	16	MT 17	16	MT 20	16
80	3	158	MT 15	16	MT 15	16	MT 20	16	MT 25	16	MT 25	16	MT 25	16	MT 30	16
100	4	173	MT 15	16	MT 20	16	MT 25	16	MT 25	16	MT 30	16	MT 30	16	MT 35	16
125	5	186	MT 25	16	MT 25	16	MT 30	16	MT 30	16	MT 35	16	MT 35	16	MT 35	16
150	6	202	MT 25	16	MT 25	16	MT 30	16	MT 35	16	MT 35	16	MT 35	16	MT 40	14
200	8	240	MT 30	14	MT 35	14	MT 35	14	MT 45	14	MT 50	14	MT 50	14	MT 55	14
250	10	270	MT 35	14	MT 40	14	MT 45	14	MT 50	14	MT 55	14	MT 55	14	MT 60	50
300	12	300	MT 45	14	MT 50	14	MT 55	14	MT 55	14	MT 60	50	MT 60	50	≈	≈
350	14	330	MT 50	100	MT 55	100	MT 60	100	MT 65	100	MT 70	100	MT 70	100	≈	≈
400	16	355	MT 60	100	MT 60	100	MT 65	100	MT 65	100	MT 70	100	MT 75	100	≈	≈
450	18	400	MT 60	100	MT 60	100	MT 65	100	MT 65	100	MT 70	100	CHD16-025	200	≈	≈
500	20	422	MT 60	100	MT 60	100	MT 65	100	MT 70	100	MT 75	100	CHD16-030	0	≈	≈
600	24	495	MT 75	100	MT 75	100	CHD16-025	0	CHD16-030	0	≈	≈	CHD25-035	200	≈	≈
700	28	495	≈	≈	≈	≈	CHD16-030	200	CHD16-035	200	≈	≈	CHD25-043	0	≈	≈
800	32	640	≈	≈	≈	≈	CHD16-035	200	CHD16-035	200	≈	≈	CHD30-048	200	≈	≈

valve seat: EPDM / NBR **fluid: Aria** **T: 20°C** **operating air pressure: 4-5 bar**
valve seat: FKM (n.a. for PD 10bar) **fluid: H_2O**

DN	"	M	PD				KI					
			P=6 B	G	P=10 B EPDM/NBR seat only	G	P=6 B	G	P=10 B	G	P=16 B	G
40	1½	130	≈	≈	≈	≈	MT 15	16	MT 15	16	MT 15	16
50	2	138	≈	≈	≈	≈	MT 15	16	MT 15	16	MT 17	16
65	2½	144	≈	≈	≈	≈	MT 17	16	MT 17	16	MT 17	16
80	3	158	MT 15	16	MT 15	16	MT 25	16	MT 25	16	MT 30	16
100	4	173	MT 15	16	MT 20	16	MT 30	16	MT 30	16	MT 30	16
125	5	186	MT 25	16	MT 30	16	MT 30	16	MT 30	16	MT 35	16
150	6	202	MT 35	16	MT 35	16	MT 35	16	MT 35	16	MT 40	16
200	8	240	MT 35	14	MT 40	14	MT 40	14	MT 50	14	MT 50	14
250	10	270	MT 45	14	MT 45	14	MT 50	14	MT 50	14	MT 55	14
300	12	300	MT 50	14	MT 55	14	MT 55	14	MT 60	50	MT 60	50
350	14	330	MT 60	100	MT 60	100	MT 60	100	MT 65	100	MT 70	100
400	16	355	MT 60	100	MT 60	100	MT 60	100	MT 70	100	MT 70	100
450	18	400	MT 65	100	MT 65	100	MT 65	100	MT 70	100	MT 70	100
500	20	422	MT 65	100	MT 65	100	MT 65	100	MT 70	100	MT 75	100
600	24	495	CHD16-025	0	CHD16-025	0	CHD16-030	0	CHD16-030	0	≈	≈
700	28	550	≈	≈	≈	≈	CHD16-035	200	CHD16-035	200	≈	≈
800	32	640	≈	≈	≈	≈	CHD16-035	200	CHD25-035	0	≈	≈



G dimension can change depending on valve/actuator coupling.

Pneumatic actuator SR / SPRING RETURN

Rack & Pinion Actuators - MTS

Max air pressure: 10 bar
Temperature: -20°C / +80°C
Torque range: 31/3564 Nm
Double travel stop
open/close: ±10°

Scotch Yoke Actuators - CHD Series

Max air pressure: 6 bar
Temperature: -20 / +80°C
Torque Range: 1200/305000
Nmt
Double travel stop
open/close: ±6°

valve seat: EPDM / NBR **fluid: H_2O** **T: 20°C** **operating air pressure: ≥5.5 bar**

DN	"	PD				KI						KA		KX	
		P=6 B	G	P=10 B	G	P=6 B	G	P=10 B	G	P=16 B	G	mod.	G	mod.	G
40	1½	≈	≈	≈	≈	MTS 15	16	MTS 15	16	MTS 15	16	MTS 20	16	≈	≈
50	2	≈	≈	≈	≈	MTS 15	16	MTS 15	16	MTS 15	16	MTS 20	16	MTS 20	16
65	2½	≈	≈	≈	≈	MTS 17	16	MTS 17	16	MTS 20	16	MTS 25	16	MTS 30	16
80	3	MTS 15	16	MTS 15	16	MTS 25	16	MTS 30	16	MTS 30	16	MTS 30	16	MTS 35	16
100	4	MTS 17	16	MTS 25	16	MTS 30	16	MTS 35	16	MTS 35	16	MTS 35	16	MTS 40	16
125	5	MTS 30	16	MTS 30	16	MTS 35	16	MTS 35	16	MTS 40	16	MTS 40	16	MTS 40	16
150	6	MTS 30	16	MTS 35	16	MTS 35	16	MTS 45	16	MTS 45	16	MTS 45	16	MTS 45	16
200	8	MTS 35	14	MTS 45	14	MTS 45	14	MTS 50	14	MTS 55	14	MTS 55	14	MTS 60	50
250	10	MTS 45	14	MTS 45	14	MTS 50	14	MTS 55	14	MTS 60	50	MTS 60	50	MTS 65	50
300	12	MTS 50	14	MTS 60	50	MTS 60	50	MTS 60	50	MTS 60	50	MTS 65	50	≈	≈
350	14	MTS 60	100	MTS 65	100	MTS 65	100	MTS 70	100	MTS 75	100	MTS 75	100	≈	≈
400	16	MTS 65	100	MTS 70	100	MTS 65	100	MTS 70	100	MTS 75	100	CHD16-030B01	200	≈	≈
450	18	MTS 65	100	MTS 70	100	MTS 70	100	MTS 70	100	MTS 75	100	CHD25-035B01	200	≈	≈
500	20	MTS 65	100	MTS 70	100	MTS 70	100	MTS 75	100	CHD16-030B01	0	CHD25-038B01	200	≈	≈
600	24	CHD16-030B01	0	CHD16-035B01	0	CHD16-035B01	0	CHD25-035B01	200	≈	≈	CHD30-048B01	200	≈	≈
700	28	≈	≈	≈	≈	CHD25-038B01	0	CHD25-043B01	0	≈	≈	CHD35-053B01	200	≈	≈
800	32	≈	≈	≈	≈	CHD25-043B01	0	CHD25-043B01	0	≈	≈	CHD35-058B01	200	≈	≈

valve seat: EPDM / NBR **fluid: Aria** **T: 20°C** **operating air pressure: ≥5,5 bar**
valve seat: FKM **fluid: H_2O**

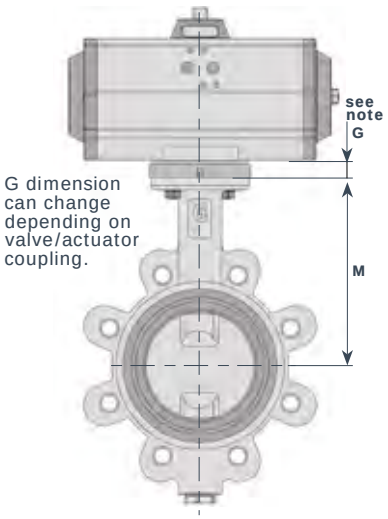
DN	"	PD				KI					
		P=6 B	G	P=10 B EPDM/NBR seat only	G	P=6 B	G	P=10 B	G	P=16 B	G
40	1½	≈	≈	≈	≈	MTS 20	16	MTS 20	16	MTS 20	16
50	2	≈	≈	≈	≈	MTS 20	16	MTS 20	16	MTS 20	16
65	2½	≈	≈	≈	≈	MTS 20	16	MTS 20	16	MTS 25	16
80	3	MTS 15	16	UTS 17	16	MTS 30	16	MTS 35	16	MTS 35	16
100	4	MTS 20	16	UTS 30	16	MTS 35	16	MTS 35	16	MTS 40	16
125	5	MTS 30	16	UTS 35	16	MTS 35	16	MTS 40	16	MTS 45	16
150	6	MTS 35	16	UTS 40	16	MTS 40	16	MTS 45	16	MTS 45	16
200	8	MTS 40	14	UTS 45	14	MTS 50	14	MTS 55	14	MTS 60	50
250	10	MTS 50	14	UTS 50	14	MTS 55	14	MTS 60	50	MTS 65	50
300	12	MTS 60	50	UTS 60	50	MTS 60	50	MTS 65	50	MTS 70	100
350	14	MTS 70	100	UTS 70	100	MTS 70	100	MTS 70	100	MTS 75	100
400	16	MTS 70	100	UTS 70	100	MTS 70	100	MTS 70	100	CHD16-030A01	200
450	18	MTS 70	100	UTS 70	100	MTS 70	100	MTS 70	100	CHD16-030B01	200
500	20	MTS 70	100	UTS 70	100	MTS 70	100	MTS 75	100	CHD16-035B01	0
600	24	CHD25-035B01	200	CHD25-035B01	200	CHD25-035B01	200	CHD25-038B01	200	≈	≈
700	28	≈	≈	≈	≈	CHD25-043B01	0	CHD30-043B01	200	≈	≈
800	32	≈	≈	≈	≈	CHD30-043B01	200	CHD30-043B01	200	≈	≈

valve seat: EPDM / NBR **fluid: H_2O** **T: 20°C** **operating air pressure: 4-5 bar**

DN	"	PD				KI						KA		KX	
		P=6 B	G	P=10 B	G	P=6 B	G	P=10 B	G	P=16 B	G	mod.	G	mod.	G
40	1½	≈	≈	≈	≈	MTS4 17	16	MTS4 20	16	MTS4 20	16	MTS4 20	16	≈	≈
50	2	≈	≈	≈	≈	MTS4 20	16	MTS4 20	16	MTS4 20	16	MTS4 25	16	MTS4 25	16
65	2½	≈	≈	≈	≈	MTS4 25	16	MTS4 25	16	MTS4 25	16	MTS4 25	16	MTS4 30	16
80	3	MTS4 17	16	MTS4 17	16	MTS4 30	16	MTS4 35	16	MTS4 35	16	MTS4 35	16	MTS4 35	16
100	4	MTS4 20	16	MTS4 30	16	MTS4 35	16	MTS4 35	16	MTS4 40	16	MTS4 35	16	MTS4 40	16
125	5	MTS4 30	16	MTS4 35	16	MTS4 40	16	MTS4 40	16	MTS4 45	16	MTS4 45	16	MTS4 45	16
150	6	MTS4 40	16	MTS4 40	16	MTS4 40	16	MTS4 45	16	MTS4 45	16	MTS4 45	16	MTS4 50	16
200	8	MTS4 40	14	MTS4 45	14	MTS4 50	14	MTS4 55	14	MTS4 60	50	MTS4 60	50	MTS4 65	50
250	10	MTS4 45	14	MTS4 50	14	MTS4 55	14	MTS4 60	50	MTS4 65	50	MTS4 65	50	MTS4 70	100
300	12	MTS4 55	14	MTS 65	50	MTS4 60	50	MTS4 65	50	MTS 70	100	MTS4 70	100	≈	≈
350	14	MTS4 65	100	MTS 70	100	MTS 70	100	MTS 70	100	CHD16-025A01	200	CHD16-030A01	200	≈	≈
400	16	MTS 70	100	MTS 70	100	MTS 70	100	MTS 70	100	CHD16-030A01	200	CHD25-035A01	200	≈	≈
450	18	MTS 70	100	MTS 70	100	MTS 70	100	MTS 75	100	CHD16-030A01	200	CHD25-038A01	200	≈	≈
500	20	MTS 70	100	MTS 70	100	MTS 70	100	MTS 75	100	CHD25-035A01	200	CHD25-043A01	200	≈	≈
600	24	CHD25-035A01	200	CHD25-038A01	200	CHD25-038A01	200	CHD25-043A01	200	≈	≈	CHD30-053A01	200	≈	≈
700	28	≈	≈	≈	≈	CHD30-043A01	200	CHD30-043A01	200	≈	≈	CHD35-058A01	200	≈	≈
800	32	≈	≈	≈	≈	CHD30-043A01	200	CHD30-048A01	200	≈	≈	CHD40-063A01	200	≈	≈

valve seat: EPDM / NBR **fluid: Aria**
valve seat: FKM **fluid: H_2O** **T: 20°C** **operating air pressure: 4-5 bar**

DN	"	PD				KI					
		P=6 B	G	P=10 B (EPDM/NBR seat only)	G	P=6 B	G	P=10 B	G	P=16 B	G
40	1½	≈	≈	≈	≈	MTS4 20	16	MTS4 25	16	MTS4 25	16
50	2	≈	≈	≈	≈	MTS4 20	16	MTS4 25	16	MTS4 25	16
65	2½	≈	≈	≈	≈	MTS4 25	16	MTS4 25	16	MTS4 25	16
80	3	MTS4 17	16	MTS4 20	16	MTS4 30	16	MTS4 35	16	MTS4 40	16
100	4	MTS4 25	16	MTS4 30	16	MTS4 40	16	MTS4 40	16	MTS4 40	16
125	5	MTS4 35	16	MTS4 40	16	MTS4 40	16	MTS4 45	16	MTS4 45	16
150	6	MTS4 45	16	MTS4 45	16	MTS4 45	16	MTS4 50	16	MTS4 50	16
200	8	MTS4 45	14	MTS4 50	14	MTS4 50	14	MTS4 60	50	MTS4 60	50
250	10	MTS4 55	14	MTS4 55	14	MTS4 60	50	MTS4 60	50	MTS 70	100
300	12	MTS4 60	50	MTS4 65	50	MTS4 65	50	MTS4 65	50	MTS 70	100
350	14	MTS 70	100	MTS 70	100	MTS 70	100	MTS 70	100	CHD16-030A01	200
400	16	MTS 70	100	MTS 70	100	MTS 70	100	MTS 75	100	CHD16-030A01	200
450	18	MTS 70	100	MTS 70	100	MTS 70	100	CHD16-030A01	200	CHD16-035A01	200
500	20	MTS 70	100	MTS 70	100	MTS 75	100	CHD16-030A01	0	CHD25-038A01	200
600	24	CHD25-038A01	200	CHD25-038A01	200	CHD25-043A01	200	CHD25-043A01	200	≈	≈
700	28	≈	≈	≈	≈	CHD30-043A01	200	CHD30-048A01	200	≈	≈
800	32	≈	≈	≈	≈	CHD30-048A01	200	CHD30-053A01	200	≈	≈



G dimension can change depending on valve/actuator coupling.

Declutchable manual gearboxes - emergency lever

GD Series

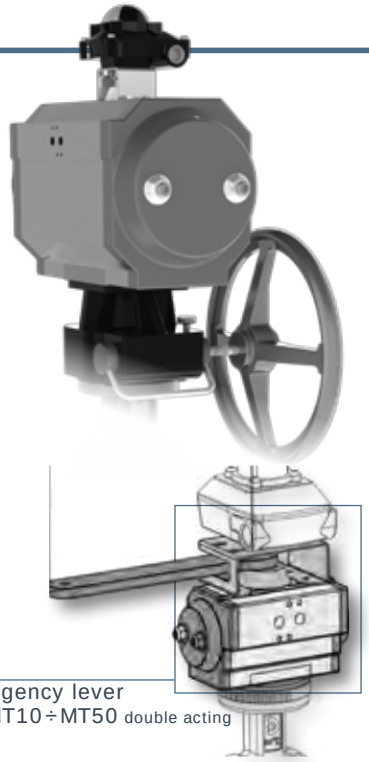
body: aluminium
worm gears: steel
sector gear: ductile iron
shaft: stainless steel
handwheel: steel
protection: IP65
T: -20 / +120 °C

Ø valve	DA actuator double action	SR actuator spring return	emergency gearbox type
DN 40÷150	MT 20÷45	MTS 20÷35	**GD070**
DN 40÷300	MT 35÷55	MTS 35÷50	**GD102**
DN 200÷400	MT 50÷65	MTS 55÷65	**GD140**
DN 450÷600	MT 60	MTS 70÷75	**GD165**
DN 600÷800	MT 70÷75	≈	**GD254**

ILGD Series

body: ductile iron GGG40
worm gears: steel
sector gear: ductile iron
shaft: steel
handwheel: steel
protection: IP65 (on req.)
T: -20 / +120 °C

Ø valve	DA actuator double action	SR actuator spring return	emergency gearbox type
DN 40÷150	MT 15÷45	MTS 15÷35	**ILGD 200**
DN 40÷300	MT 35÷55	MTS 35÷55	**ILGD 600**
DN 200÷400	MT 50÷65	MTS 50÷65	**ILGD 900**
DN 350÷600	MT 60÷70	MTS 60÷70	**ILGD 1500**
DN 450÷600	MT 75	MTS 70÷75	**ILGD 2400**
DN 600÷800	MT 70÷75	≈	**ILGD 5000**



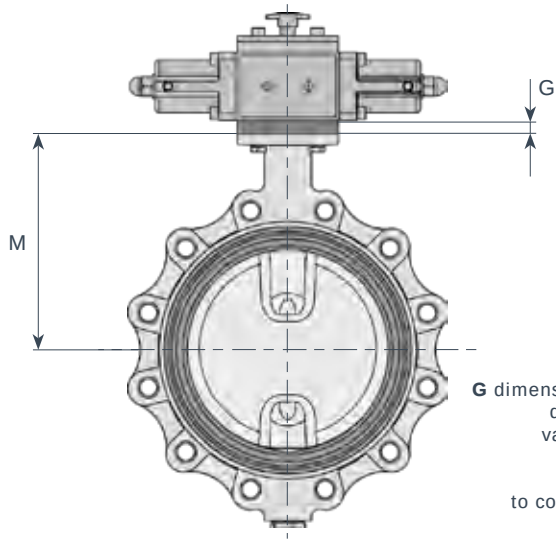
Emergency lever
only MT10÷MT50 double acting

Hydraulic actuators ARES

- Tecnical features:
  - » ductile iron cast body
  - » steel rack and pinion
  - » NBR seats
- fluid material:
  - » hydraulic oil type : HPL DIN51524-2 / ISO 6743-4. Viscosity 15/200 cst
- working pressure: 10 - 120 bar
- working temperature: -20°C / +80°C

Compact design, 90° rotation ±5°,
Travel adjusment in both direction
of rotation, Flange ISO 5211,
Double or single acting with spring return

DN	40	50	65	80	100	125	150	200	250
M	130	138	148	158	173	186	202	240	270
DN	300	350	400	450	500	600	700	800	
M	300	330	355	400	422	495	550	640	



G dimension can vary depending on valve/actuator coupling. Pls refer to coupling tables

valve seat: **NBR / EPDM** - Fluid H_2O - T = 20°C - oil pressure: **60 Bar**

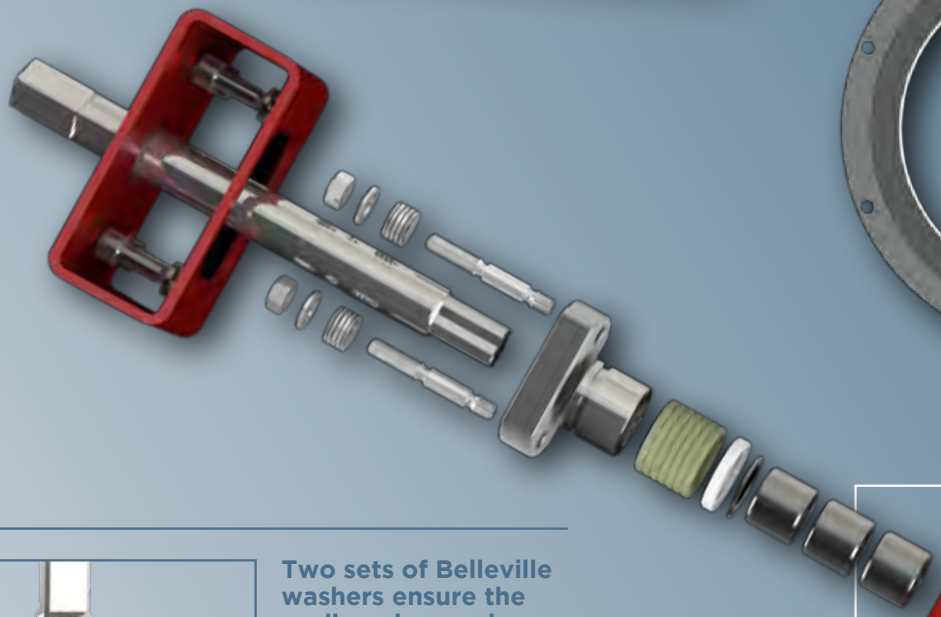
DN	"	DA type - Double Acting								SR type - Spring close							
		PD series	G	KI series	G	KA series	G	KX series	G	PD series	G	KA series	G	KA series	G	KX series	G
40	1 1/2	≈	≈	H 28	0	H 28	0	≈	≈	H 40 SRA	0	H 40 SRA	0	H 40 SRA	0	≈	≈
50	2	≈	≈	H 28	0	H 28	0	H 28	0	H 40 SRA	0	H 40 SRA	0	H 40 SRA	0	H 40 SRA	0
65	2 1/2	≈	≈	H 28	0	H 28	0	H 28	0	H 40 SRA	0	H 40 SRA	0	H 40 SRA	0	H 40 SRA	0
80	3	H 28	0	H 28	0	H 28	0	H 28	0	H 40 SRA	0	H 40 SRA	0	H 40 SRA	0	H 40 SRA	0
100	4	H 28	0	H 28	0	H 28	0	H 28	0	H 40 SRA	0	H 40 SRA	0	H 40 SRA	0	H 50 SRA	14
125	5	H 28	0	H 28	0	H 28	0	H 28	0	H 40 SRA	0	H 50 SRA	14	H 50 SRA	14	H 50 SRA	14
150	6	H 28	0	H 28	0	H 40	0	H 40	0	H 40 SRA	0	H 50 SRA	14	H 50 SRA	14	H 50 SRA	14
200	8	H 50	0	H 50	0	H 50	0	H 63	50	H 50 SRA	0	H 63 SRA	50	H 63 SRA	50	H 80 SRA	100
250	10	H 50	0	H 50	0	H 50	0	H 63	50	H 50 SRA	0	H 80 SRA	100	H 80 SRA	100	H 80 SRA	100
300	12	H 50	0	H 63	50	H 63	50	≈	≈	H 63 SRA	50	H 80 SRA	100	H 80 SRA	100	≈	≈
350	14	H 63	100	H 80	100	H 80	100	≈	≈	H 80 SRA	100	≈	≈	≈	≈	≈	≈
400	16	H 80	100	H 80	100	≈	≈	≈	≈	H 80 SRA	100	≈	≈	≈	≈	≈	≈
450	18	H 80	100	H 80	100	≈	≈	≈	≈	≈	≈	≈	≈	≈	≈	≈	≈
500	20	H 80	100	≈	≈	≈	≈	≈	≈	≈	≈	≈	≈	≈	≈	≈	≈
600	24	a ric.	a ric.	≈	≈	≈	≈	≈	≈	≈	≈	≈	≈	≈	≈	≈	≈

valve seat: **NBR / EPDM** - Fluid H_2O - T = 20°C - oil pressure: **120 Bar**

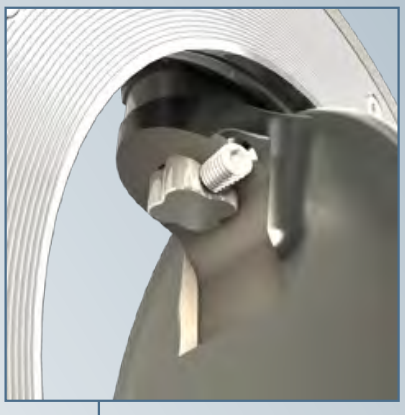
DN	"	DA type - Double Acting								SR type - Spring close							
		PD series	G	KI series	G	KA series	G	KX series	G	PD series	G	KA series	G	KA series	G	KX series	G
40	1 1/2	≈	≈	H 28	0	H 28	0	≈		H 40 SRB	0	H 40 SRB	0	H 40 SRB	0	H 40 SRB	0
50	2	≈	≈	H 28	0	H 28	0	H 28	0	H 40 SRB	0	H 40 SRB	0	H 40 SRB	0	H 40 SRB	0
65	2 1/2	≈	≈	H 28	0	H 28	0	H 28	0	H 40 SRB	0	H 40 SRB	0	H 40 SRB	0	H 40 SRB	0
80	3	H 28	0	H 28	0	H 28	0	H 28	0	H 40 SRB	0	H 40 SRB	0	H 40 SRB	0	H 40 SRB	0
100	4	H 28	0	H 28	0	H 28	0	H 28	0	H 40 SRB	0	H 40 SRB	0	H 40 SRB	0	H 40 SRB	0
125	5	H 28	0	H 28	0	H 28	0	H 28	0	H 40 SRB	0	H 40 SRB	0	H 40 SRB	0	H 40 SRB	0
150	6	H 28	0	H 28	0	H 28	0	H 28	0	H 40 SRB	0	H 40 SRB	0	H 40 SRB	0	H 40 SRB	0
200	8	H 50	0	H 50	0	H 50	0	H 50	0	H 50 SRB	0	H 50 SRB	0	H 50 SRB	0	H 63 SRB	50
250	10	H 50	0	H 50	0	H 50	0	H 50	0	H 50 SRB	0	H 63 SRB	50	H 63 SRB	50	H 63 SRB	50
300	12	H 50	0	H 50	0	H 50	0	≈	≈	H 50 SRB	0	H 63 SRB	50	H 63 SRB	50	≈	≈
350	14	H 63	100	H 63	100	H 63	100	≈	≈	H 63 SRB	100	H 80 SRB	100	≈	≈	≈	≈
400	16	H 63	100	H 63	100	H 63	100	≈	≈	H 63 SRB	100	H 80 SRB	100	≈	≈	≈	≈
450	18	H 80	100	H 80	100	H 80	100	≈	≈	H 80 SRB	100	≈	≈	≈	≈	≈	≈
500	20	H 80	100	H 80	100	≈	≈	≈	≈	H 80 SRB	100	≈	≈	≈	≈	≈	≈
600	24	a ric.	a ric.	H 80	100	≈	≈	≈	≈	≈	≈	≈	≈	≈	≈	≈	≈

Butterfly valves

Double eccentric HD Series

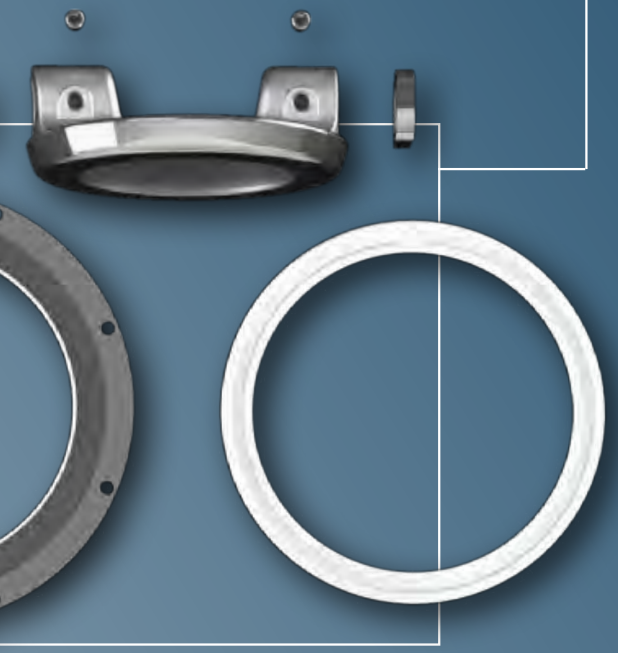


Two sets of Belleville washers ensure the sealing along valve shafts even at high temperatures.
The thrust of the two sets is transmitted to the packing through a floating gland to avoid that a possibile expansion of the components could damage this sealing.

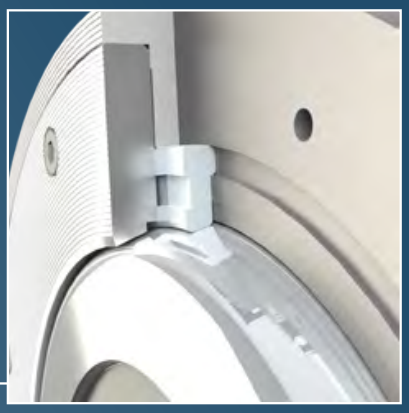


HD valve series was designed with a special shaped shaft-disc connection which ensures an accurate coupling while avoiding clearances.
This design, thanks to a section larger than the classic square one, allows higher shaft tensile capacity.

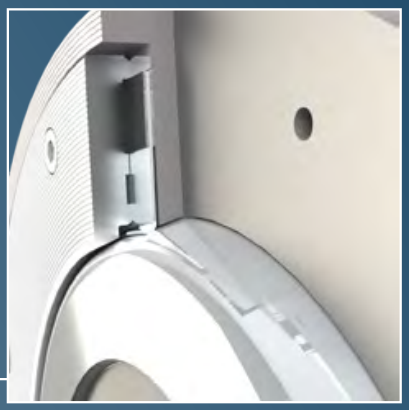
Metallic seat is composed by an inconel ring and two graphite packings.



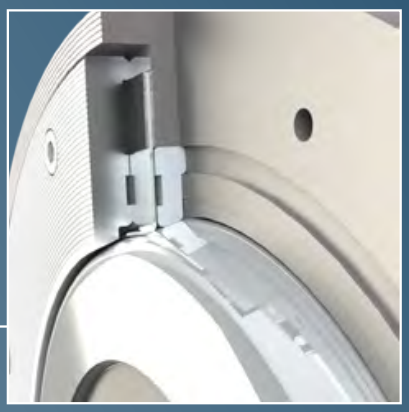
Detail of the RTFE/ UHT seat

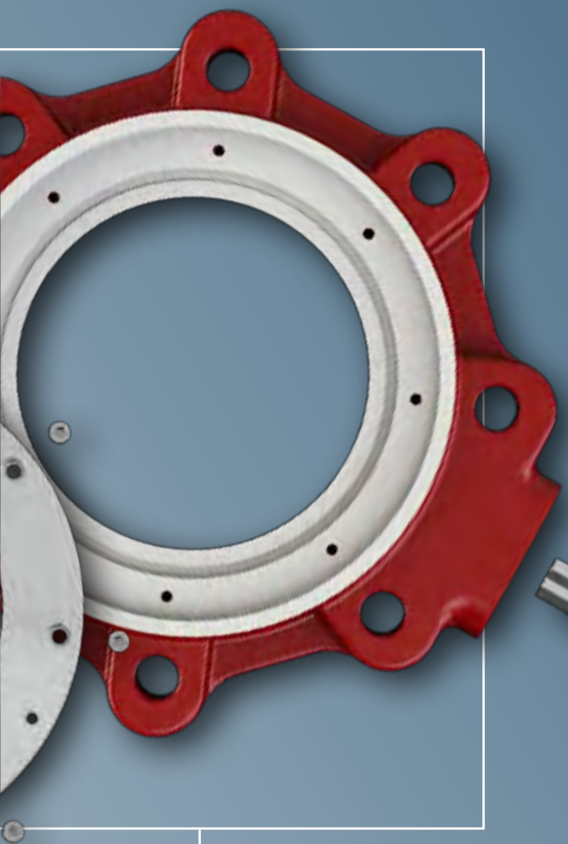


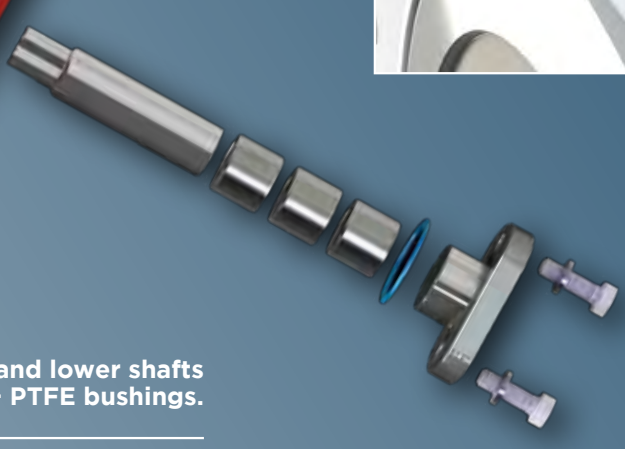
Detail of the metallic seat



Detail of the the Fire Safe design







Both upper and lower shafts are guided by st.steel + PTFE bushings.

BVHD - Wafer
DN 50 - 500 • 2” - 20”

BLHD - Lug
DN 50 - 500 • 2” - 20”

Max working pressure:

BVHD/BLHD DN 50÷500: **25 Bar**
Flange: ***PN 10-16-25 • A150***

Design:

EN 593~EN 736
EN 12516~EN 1092~EN12266
ISO 5211~DIN 3337~API 609~ASME B16.34
PED 97/23/EC (cat III) Mod H

Face to face:

DIN EN 558-1 Series 20~ISO 5752 Series 20
BS-5155 Series 4~MSS-SP67
NFE 29305-1
API 609 cat.B
API 609 cat.A (DN 350 excluded)

Testing:

EN 12266-1 Rate A (supersedes DIN 3230)
ISO 5208 Rate A ~ API 598
FIRE TEST API 607 VI Ed. September
Class V - Met/Met

Tag:

EN 19 ~ MSS SP-25

TYPE APPROVAL

BUREAU VERITAS TYPE APPROVAL

EAC

CE 0497 [PED]

Ex II 2 GD c TX

Fire-Safe ANSI/API 607 - ISO 10497-5

SIL safety integrity level

FUGITIVE EMISSIONS ISO 15848-1

TÜV SÜD ITALIA TA-Luft VDI 2440

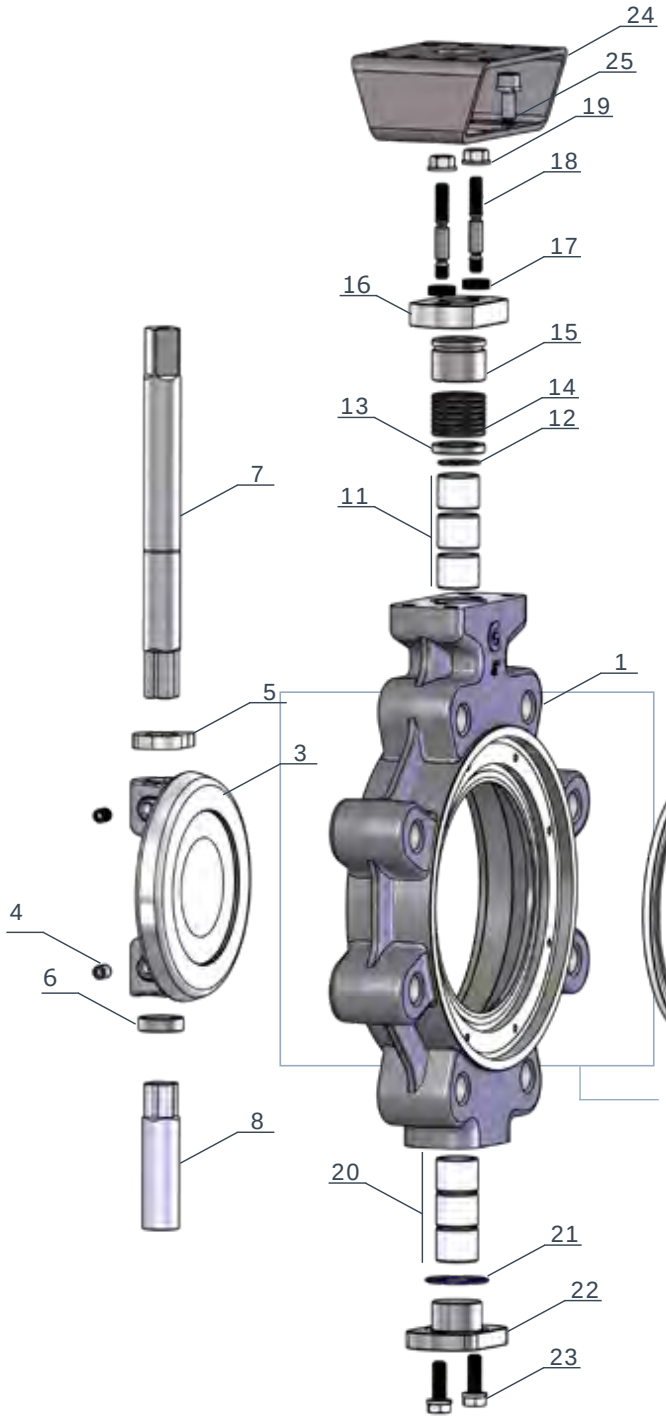
BODY			
material	references	standard coating	DN
Carbon steel (wafer, lug)	ASTM A216-WCB	High-temp coating - grey color	50-500
Stainless steel (wafer, lug)	ASTM A351 CF8M (A316)	-	50-500
Austenitic Stainless steel	ASTM A351 CK3MCuN (6MO)	-	50-500
SUPERDUPLEX	ASTM A890 Gr. 5A	-	50-500

DISC		
material	references	DN
Stainless steel	ASTM A351 CF8M (A316)	50-500
Austenitic Stainless steel	ASTM A351 CK3MCuN (6MO)	50-500
SUPERDUPLEX	ASTM A890 Gr. 5A	50-500

BODY SEAT		
ref.	material	working temp.
RT	RTFE (PTFE reinforced)	-60°C / +230°C
MT	Inconel 625	-60°C / +450°C

On request can be supplied other materials as: LCB, Hastelloy, Monel, Uranus, Alloy, DUPLEX, Special steels, Special bronzes.
Special coating on request.

BVHD - Wafer • **RTFE seat**
DN 50 - 500 • 2” - 20”
PN 10 - 16 - 25 • ANSI 150



BLHD - Lug • **RTFE seat**
DN 50 - 500 • 2” - 20”
PN 10 - 16 - 25 • ANSI 150

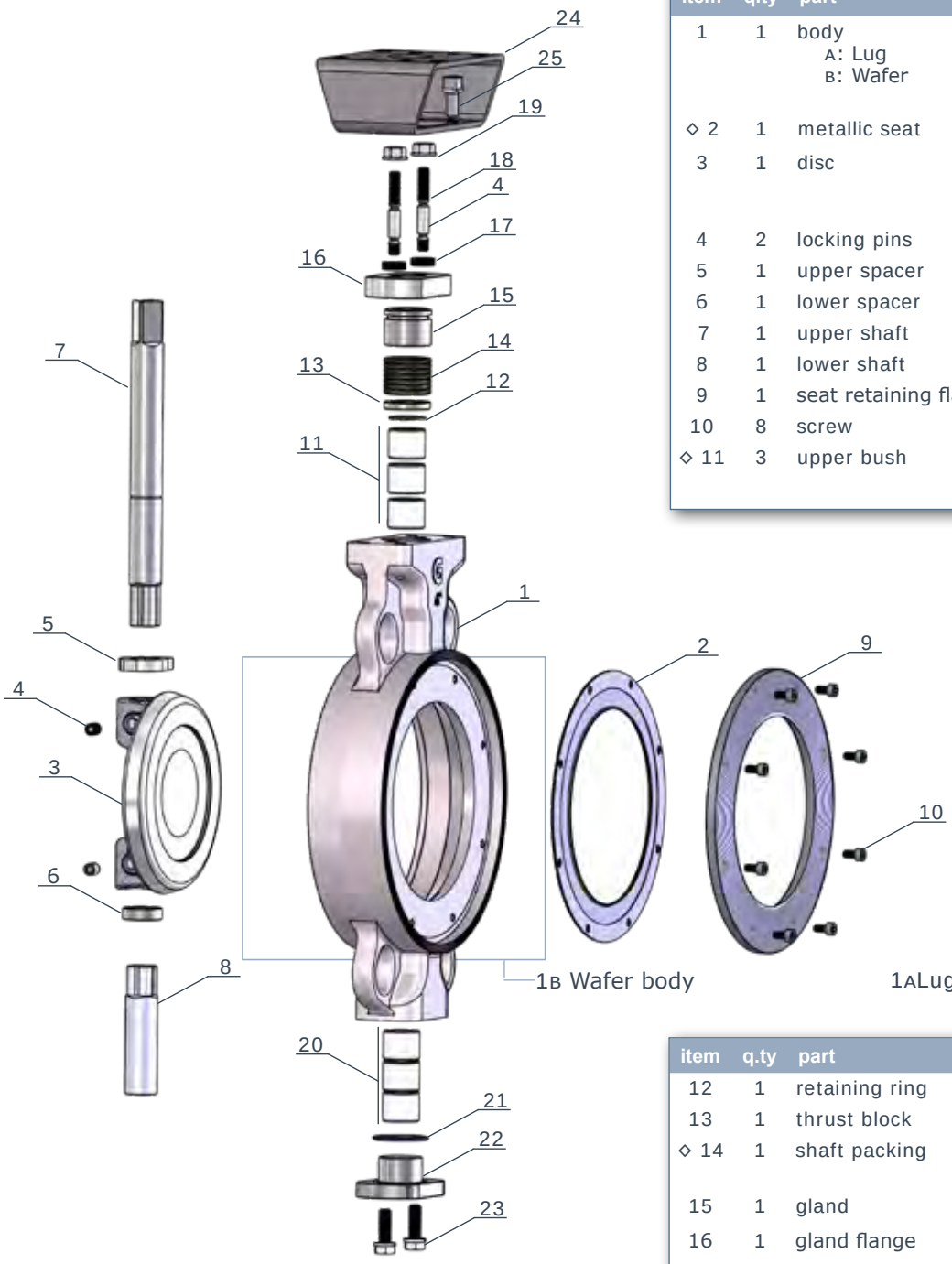
item	q.ty	part	material
1	1	body A: Lug B: Wafer	• A216 - WCB • A351 - CF8M (AISI 316) • A351 - CK3MCuN (6MO) • ASTM A890 Gr.5A (S.DUPLEX)
◇ 2	1	soft seat	• RTFE (PTFE reinforced)
3	1	disc	• A351 - CF8M (AISI 316) • A351 - CK3MCuN (6MO) • ASTM A890 Gr.5A (S.DUPLEX)
4	2	locking pins	• AISI316
5	1	upper spacer	• AISI316
6	1	lower spacer	• AISI316
7	1	upper shaft	• ASTM A564 Gr630
8	1	lower shaft	• ASTM A564 Gr630
9	1	seat retaining flange	• AISI 316
10	8	screw	• AISI 316

item	q.ty	part	material
◇ 11	3	upper bush	• stainless steel + PTFE • steel + PTFE
12	1	retaining ring	• A 316
13	1	thrust block	• A 316
◇ 14	1	shaft packing	• graphite • PTFE (on request)
15	1	gland	• AISI316
16	1	gland flange	• AISI316
17	2	springs set	• stainless steel
18	2	rods	• AISI 316
19	2	nut	• AISI 316
◇ 20	3	lower bush	• stainless steel + PTFE • steel + PTFE
◇ 21	1	O.ring	• PTFE
22	1	lower plug	• AISI 316
23	2	screw	• AISI 316
24	1	upper flange	• steel epoxy coated
25	4	screw	• AISI 316

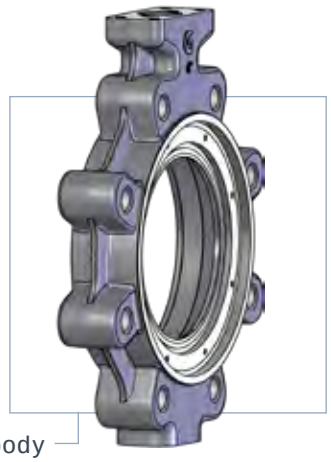
◊ parts included in spare kit

BVHD - Wafer • **Inconel seat**
DN 50 - 500 • 2” - 20”
PN 10 - 16 - 25 • ANSI 150

BLHD - Lug • **Inconel seat**
DN 50 - 500 • 2” - 20”
PN 10 - 16 - 25 • ANSI 150



1B Wafer body



1A Lug body

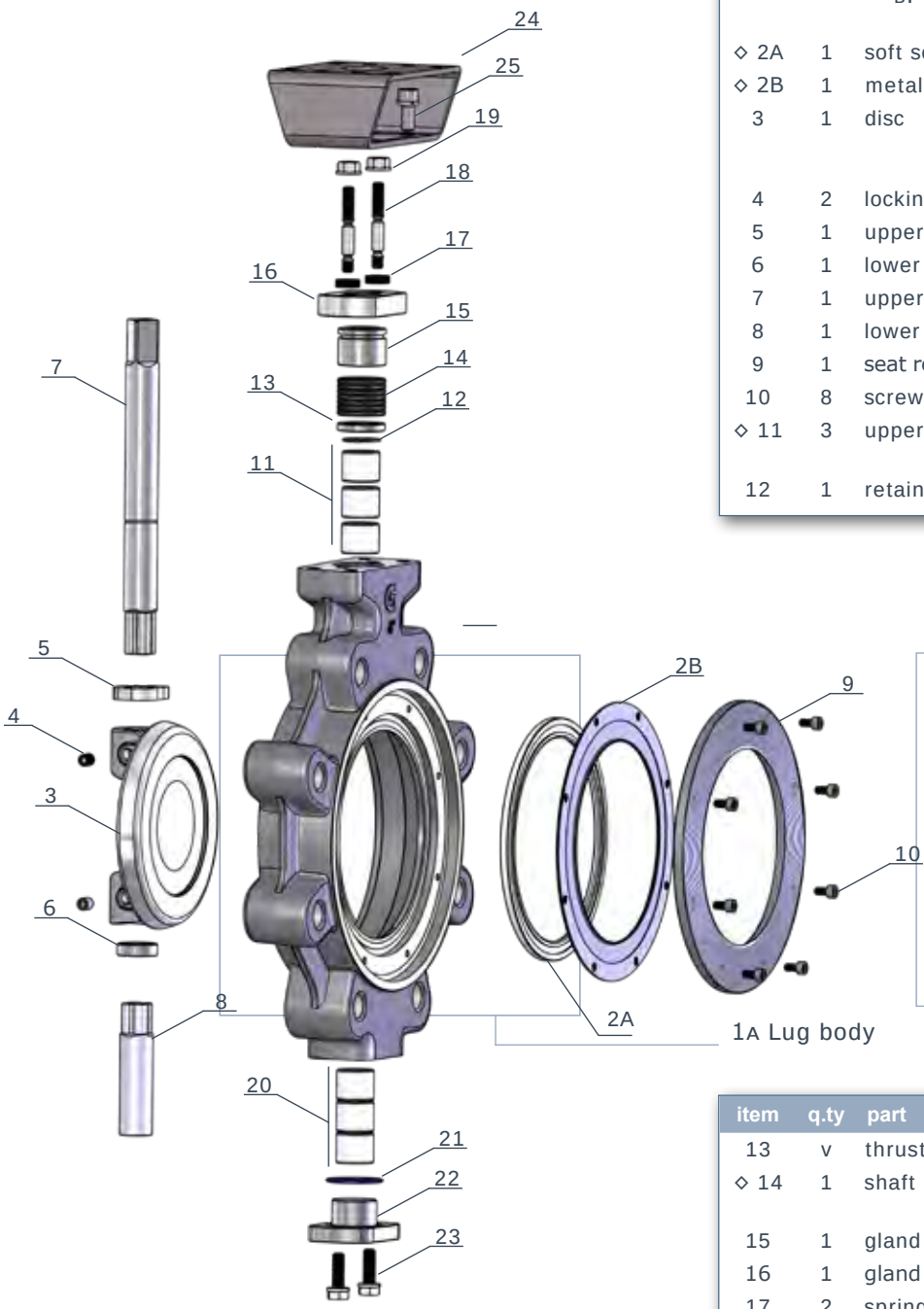
item	q.ty	part	material
1	1	body A: Lug B: Wafer	• A216 - WCB • A351 - CF8M (AISI 316) • A351 - CK3MCuN (6MO) • ASTM A890 Gr.5A (S.DUPLEX)
◇ 2	1	metallic seat	• Inconel 625 + graphite
3	1	disc	• A351 - CF8M (AISI 316) • A351 - CK3MCuN (6MO) • ASTM A890 Gr.5A (S.DUPLEX)
4	2	locking pins	• AISI316
5	1	upper spacer	• AISI316
6	1	lower spacer	• AISI316
7	1	upper shaft	• ASTM A564 Gr630
8	1	lower shaft	• ASTM A564 Gr630
9	1	seat retaining flange	• AISI 316
10	8	screw	• AISI 316
◇ 11	3	upper bush	• stainless steel + PTFE • steel + PTFE

item	q.ty	part	material
12	1	retaining ring	• A 316
13	1	thrust block	• A 316
◇ 14	1	shaft packing	• graphite • PTFE (on request)
15	1	gland	• AISI316
16	1	gland flange	• AISI316
17	2	springs set	• stainless steel
18	2	rods	• AISI 316
19	2	nut	• AISI 316
◇ 20	3	lower bush	• stainless steel + PTFE • steel + PTFE
◇ 21	1	packing	• graphite
22	1	lower plug	• AISI 316
23	2	screw	• AISI 316
24	1	upper flange	• steel epoxy coated
25	4	screw	• AISI 316

◊ parts included in spare kit

BVHD - Wafer • "FIRE SAFE" design
DN 50 - 500 • 2" - 20"
PN 10-16-25 • ANSI 150

BLHD - Lug • "FIRE SAFE" design
DN 50 - 500 • 2" - 20"
PN 10-16-25 • ANSI 150



1A Lug body

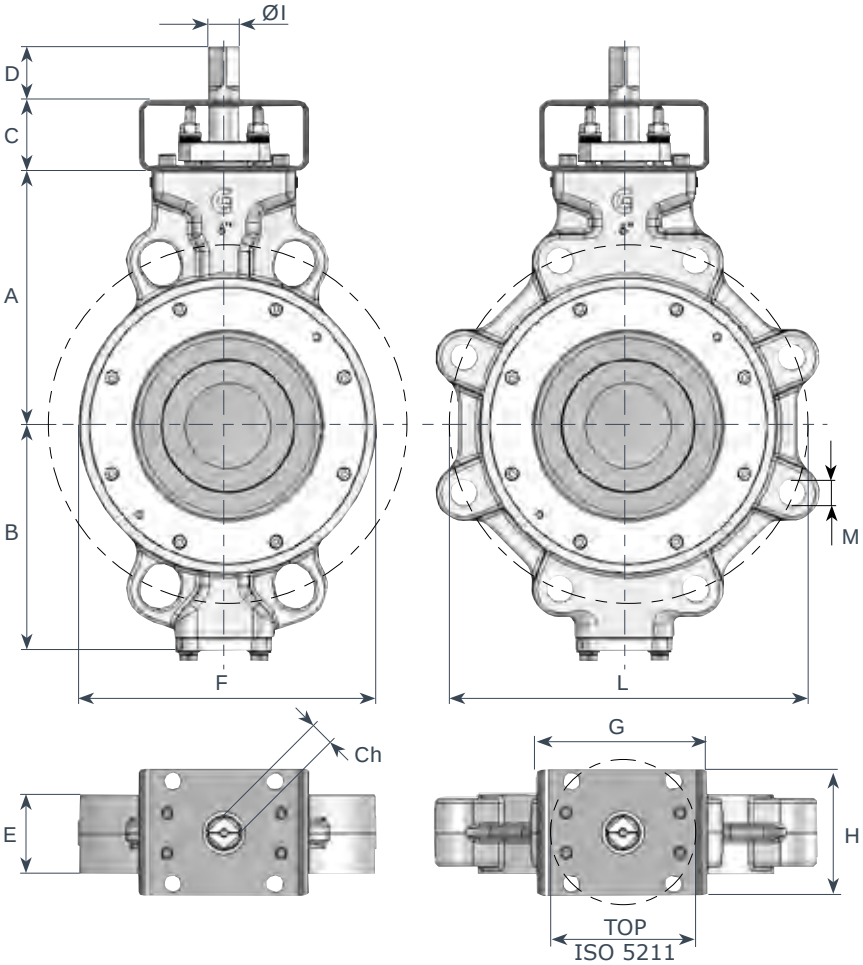
1B Wafer body

item	q.ty	part	material
1	1	body A: Lug B: Wafer	• A216 - WCB • A351 - CF8M (AISI 316) • A351 - CK3MCuN (6MO) • ASTM A890 Gr.5A (S.DUPLEX)
◇ 2A	1	soft seat	• RTFE (PTFE reinforced)
◇ 2B	1	metallic seat	• Inconel 625 + graphite
3	1	disc	• A351 - CF8M (AISI 316) • A351 - CK3MCuN (6MO) • ASTM A890 Gr.5A (S.DUPLEX)
4	2	locking pins	• AISI316
5	1	upper spacer	• AISI316
6	1	lower spacer	• AISI316
7	1	upper shaft	• ASTM A564 Gr630
8	1	lower shaft	• ASTM A564 Gr630
9	1	seat retaining flange	• AISI 316
10	8	screw	• AISI 316
◇ 11	3	upper bush	• stainless steel + PTFE • steel + PTFE
12	1	retaining ring	• A 316

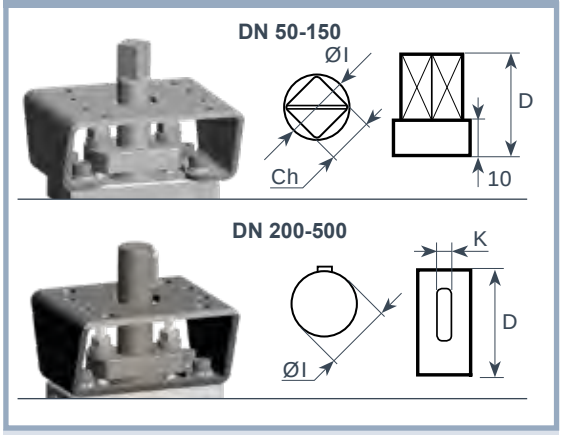
item	q.ty	part	material
13	v	thrust block	• A 316
◇ 14	1	shaft packing	• graphite • PTFE (on request)
15	1	gland	• AISI316
16	1	gland flange	• AISI316
17	2	springs set	• stainless steel
18	2	rods	• AISI 316
19	2	nut	• AISI 316
◇ 20	3	lower bush	• stainless steel + PTFE • steel + PTFE
◇ 21	1	packing	• graphite
22	1	lower plug	• AISI 316
23	2	screw	• AISI 316
24	1	upper flange	• steel epoxy coated
25	4	screw	• AISI 316

◊ parts included in spare kit

BVHD/BLHD **dimensions**

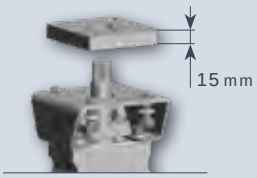


SHAFT



OPTIONAL (2)
DN 200-500

OPTIONAL SPACER



DN 50-150

Spacer F07/F10
Material:
Painted carbon steel
Optional: Stainless Steel

DN	"	A	B	C	D	E	F	G	H	Ø I	Ch	K	TOP	OPTIONAL D (2)	OPTIONAL Ch(2)
50	2	117	81	50	34	43	95	100	70	14	11	-	F05/F07	-	-
65	$2^{1/2}$	120	93	50	34	46	105	100	70	14	11	-	F05/F07	-	-
80	3	129	101	50	34	46	127	100	70	14	11	-	F05/F07	-	-
100	4	160	128	50	34	52	150	100	70	18	14	-	F05/F07	-	-
125	5	170	159	50	38	56	174	120	90	22	17	-	F07/F10	-	-
150	6	179	168	50	38	56	210	120	90	22	17	-	F07/F10	-	-
200	8	218	207	60	40	61	270	120	90	25	-	8	F07/F10	23	22
250	10	257	232	80	60	69	325	160	130	30	-	10	F12	23	22
300	12	300	270	80	60	78	378	160	130	35	-	10	F12	28	27
350	14	328	304	100	60	92	432	200	140	40	-	12	F14	28	27
400	16	387	340	100	60	102	485	200	140	45	-	14	F14	37	36
500	20	451	427	100	75	127	580	200	165	60	-	18	F16	47	46

DN	PN 10			PN 16			PN 25			ANSI 150			Kg.	
	M	n.	L	M	n.	L	M	n.	L	M (1)	n.	L	wafer	lug
50	M16	4	125	M16	4	125	M16	4	125	M16	4	120.6	3.5	5.7
65	M16	8	145	M16	8	145	M16	8	145	M16	4	139.7	4.0	7
80	M16	8	160	M16	8	160	M16	8	160	M16	4	152.4	4.8	7.6
100	M16	8	180	M16	8	180	M20	8	190	M16	8	190.5	8	9.7
125	M16	8	210	M16	8	210	M24	8	220	M20	8	215.9	10.1	14.8
150	M20	8	240	M20	8	240	M24	8	250	M20	8	241.3	13.5	17.6
200	M20	8	295	M20	12	295	M24	12	310	M20	8	298.4	22	32
250	M20	12	350	M24	12	355	M27	12	370	M22	12	361.9	35	46
300	M20	12	400	M24	12	410	M27	16	430	M22	12	431.8	50	62
350	M20	16	460	M24	16	470	M30	16	490	M24	12	476,2	83	110
400	M24	16	515	M27	16	525	M33	16	550	M27	16	539,7	107	140
500	M24	20	620	M30	20	650	M33	20	660	M27	20	635	200	250

NOTE (1): in case of threading can be ANSI B1.1 UNC2B

Compatible flanges JIS B2220 :2004

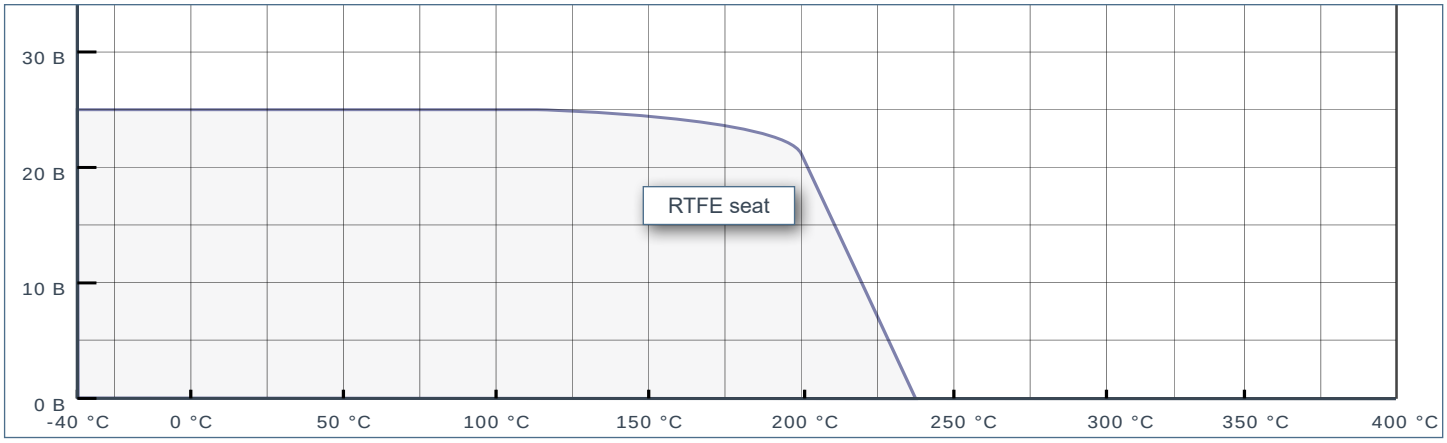
DN	BVHD - wafer (Pmax = 25bar)					BLHD - lug (Pmax = 25bar)				
	JIS 5K	JIS 10K	JIS 16K	JIS 20K	JIS 30K	JIS 5K	JIS 10K	JIS 16K	JIS 20K	JIS 30K
50	✗	✓	●	●	●	✗	●	●	●	✗
65	●	✓	●	●	✗	●	●	●	●	✗
80	●	●	●	●	✗	●	●	●	●	●
100	✗	●	✓	✓	✓	✗	●	●	●	●
125	●	●	✓	✓	✓	●	●	●	●	●
150	●	✓	✗	✗	✗	●	✓	✗	✗	✗
200	✗	●	✓	✓	●	✗	●	●	●	●
250	●	✓	✗	✗	✗	●	●	✗	✗	✗
300	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗
350	✗	✗	●	●	●	✗	✗	●	●	●
400	✗	●	●	●	✗	✗	●	●	●	✗
500	please contact T									

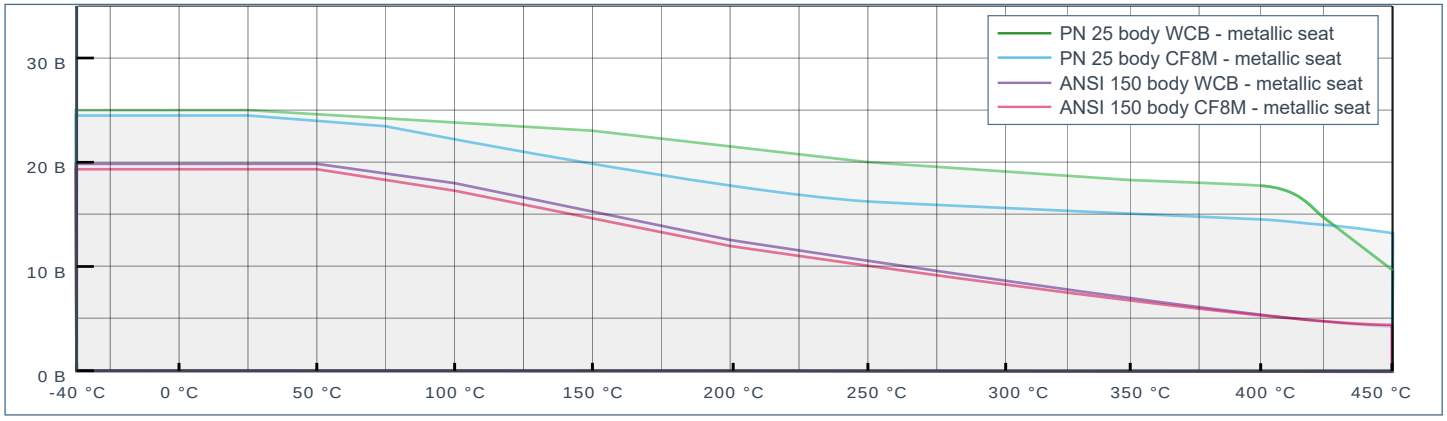
✓ standard ● on request ✗ not possible

Torque values - **Nm** | safety factor excluded

seat: RTFE $_2$O - 20°C working pressure: BAR					seat: INCONEL $_2$O - 20°C working pressure: BAR				
DN	10	16	20	25	DN	10	16	20	25
50	24	30	40	47	50	36	44	58	68
65	34	38	48	60	65	51	56	70	86
80	38	45	54	68	80	57	67	78	97
100	45	56	62	81	100	68	83	89	114
125	85	90	105	120	125	124	133	154	168
150	130	145	170	210	150	186	212	248	302
200	180	240	270	390	200	261	350	392	570
250	330	450	520	580	250	480	668	765	848
300	580	640	740	850	300	848	941	1085	1244
350	780	1030	1190	1550	350	950	1250	1500	1850
400	850	1400	1750	2275	400	1750	2180	2470	2830
500	1925	2560	2980	3875	500	2740	3445	3910	4500

Pressure / Temperature

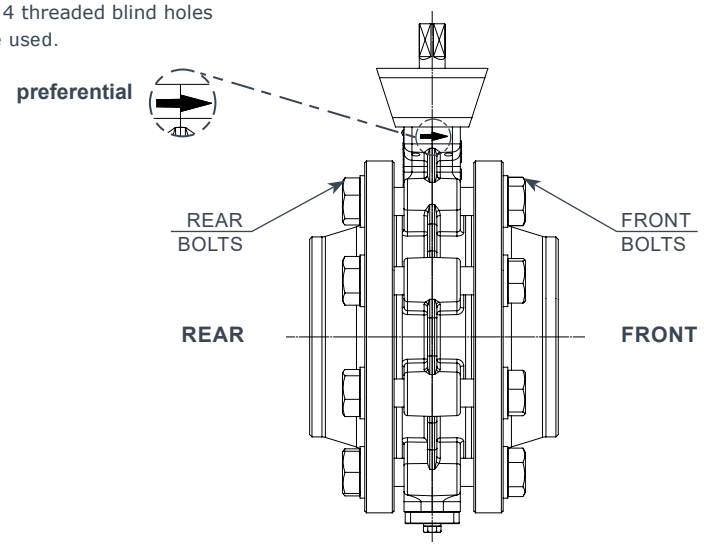




Bolts and rods dimensions

DN	Wafer valves											
	PN10			PN16			PN25			A150		
	Bolts	Rods	N°	Bolts	Rods	N°	Bolts	Rods	N°	Bolts	Rods	N°
50	M16x110	M16x130	4	M16x110	M16x130	4	M16x120	M16x130	4	M16x120	M16x130	4
65	M16x120	M16x130	8	M16x120	M16x130	8	M16x120	M16x140	8	M16x130	M16x140	4
80	M16x120	M16x130	8	M16x120	M16x130	8	M16x130	M16x140	8	M16x130	M16x140	4
100	M16x130	M16x140	8	M16x130	M16x140	8	M20x140	M20x150	8	M16x130	M16x150	8
125	M16x130	M16x150	8	M16x140	M16x150	8	M24x150	M24x170	8	M20x140	M20x160	8
150	M20x140	M20x150	8	M20x140	M20x150	8	M24x150	M24x170	8	M20x140	M20x160	8
200	M20x150	M20x160	8	M20x150	M20x160	12	M24x160	M24x180	12	M20x160	M20x170	8
250	M20x160	M20x180	12	M24x160	M24x180	12	M27x180	M27x200	12	M22x170	M22x200	12
300	M20x170	M20x180	12	M24x180	M24x200	12	M27x200	M27x220	16	M22x180	M22x200	12
350	M20x180	M20x200	12	M24x200	M24x220	16	M30x220	M30x240	16	M24x220	M24x220	12
400	M24x200	M24x220	16	M27x220	M27x240	16	M33x240	M33x260	16	M27x220	M27x240	16
500	M24x220	M24x240	16	M30x240	M30x280	16	M33x260	M33x300	16	M27x260	M27x280	16
	* REAR: Bolts M24x60		4	* REAR: Bolts M30x70		4	* REAR: Bolts M33x80		4	* REAR: Bolts M27x80		4
	* FRONT: Bolts M24x70		4	* FRONT: Bolts M30x80		4	* FRONT: Bolts M33x90		4	* FRONT: Bolts M27x90		4

* Valves DN500 (both LUG and WAFER execution) have 4 threaded blind holes each side, therefore screws marked with * are to be used.



NOTE 1

Screw and rod dimensions have been calculated with:

- spiralwound gasket ASME B16.20a (ex API 601)
- washer EN ISO 7089 (ex UNI 6592) - on both flanges
- welding neck flanges PN 10/16/25 (EN1092-1 Type 11)
- welding neck flanges ANSI150 (ANSI B16.5)

NOTE 2

Number of nuts should be double when WAFER valves are assembled with threaded rods.

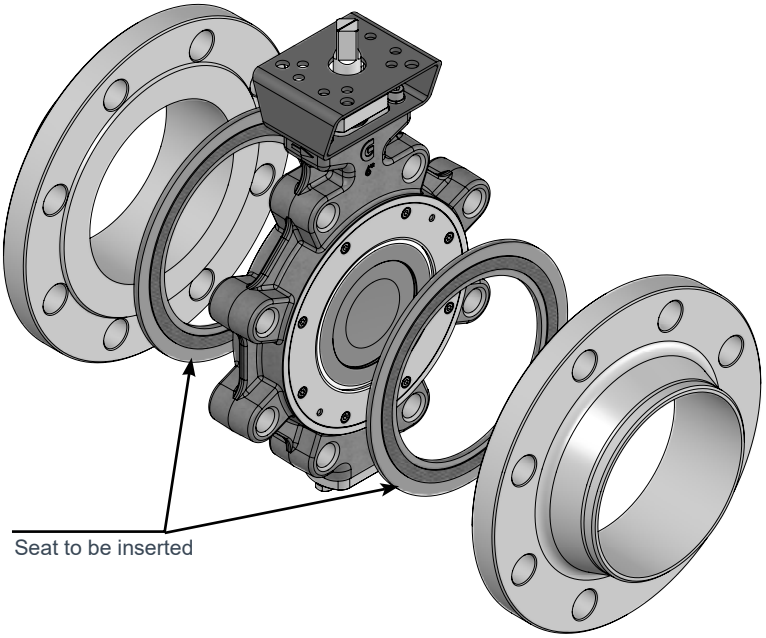
DN	Lug valves															
	PN10				PN16				PN25				A150			
	Rear		Front		Rear		Front		Rear		Front		Rear		Front	
	Bolts	N°	Bolts	N°	Bolts	N°	Bolts	N°	Bolts	N°	Bolts	N°	Bolts	N°	Bolts	N°
50	M16x45	4	M16x45	4	M16x45	4	M16x45	4	M16x45	4	M16x45	4	M16x45	4	M16x45	4
65	M16x40	8	M16x50	8	M16x40	8	M16x50	8	M16x45	8	M16x55	8	M16x45	4	M16x55	4
80	M16x45	8	M16x55	8	M16x45	8	M16x55	8	M16x50	8	M16x55	8	M16x45	4	M16x55	4
100	M16x50	8	M16x50	8	M16x50	8	M16x50	8	M20x55	8	M20x55	8	M16x55	8	M16x55	8
125	M16x55	8	M16x55	8	M16x55	8	M16x55	8	M24x55	8	M24x60	8	M20x55	8	M20x55	8
150	M20x55	8	M20x55	8	M20x55	8	M20x55	8	M24x60	8	M24x60	8	M20x55	8	M20x60	8
200	M20x55	8	M20x65	8	M20x55	8	M20x65	8	M24x60	12	M24x70	12	M20x60	8	M20x65	8
250	M20x60	12	M20x70	12	M24x60	12	M24x70	12	M27x65	12	M27x75	12	M22x65	12	M22x70	12
300	M20x65	12	M20x70	12	M24x70	12	M24x75	12	M27x75	16	M27x80	16	M22x70	12	M22x80	12
350	M20x70	12	M20x80	12	M24x70	16	M24x90	16	M30x80	16	M30x100	16	M24x80	12	M24x90	12
400	M24x75	16	M24x90	16	M27x80	16	M27x90	16	M33x90	16	M33x100	16	M27x80	16	M27x100	16
500	M24x90	16	M24x90	16	M30x100	16	M30x100	16	M33x110	16	M33x110	16	M27x110	16	M27x110	16
	* bolts M24x60	4	* bolts M24x70	4	* bolts M30x70	4	* bolts M30x80	4	* bolts M33x80	4	* bolts M33x90	4	* bolts M27x80	4	* bolts M27x90	4

* Valves DN500 (both LUG and WAFER execution) have 4 threaded blind holes each side, therefore screws marked with * are to be used.

Installation

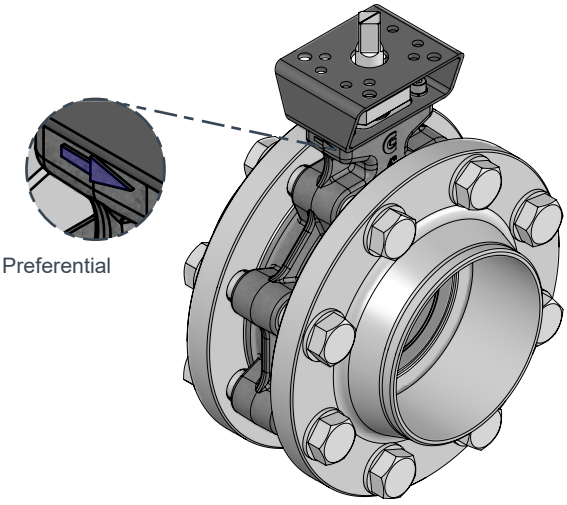
Valve / pipe assembly

1. Leave a space between to allow easy installation of the valve (see two gaskets between and valve (not supplied).
2. HD valves are bi-directional and can be installed with the There is however a preferential direction (see which minimize turbulences when is under pressure.
3. HD valves can be installed with the shaft axis in any direction. It is however preferable to keep it vertical .
4. Center valve body between tighthen the bolts.
   ATTENTION: Non correct centering of the valve may damage valve disc.
5. After start-up make sure that there are no leakings and that the valve is properly operating



Remarks:

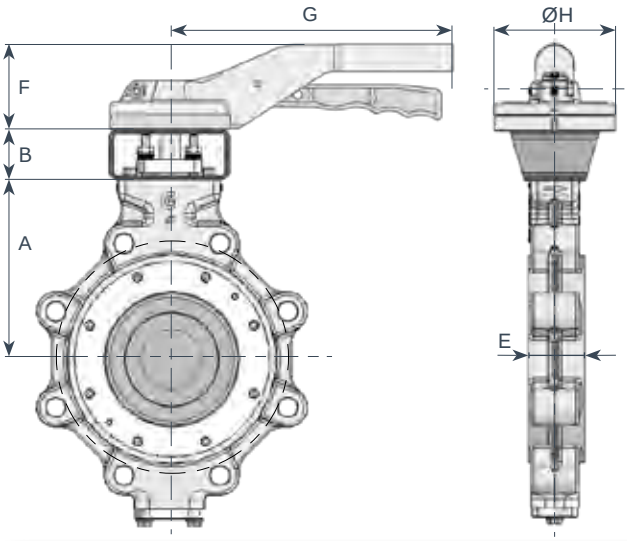
- Always remove the valve before any welding to avoid possible damages due to heat
- On top of upper shaft there is a notch parallel to disc indicating its position. (for valves DN>200 refer to the key).
- When actuator or gear box are assembled on the valve, please consider that there is a mechanical stop allowing only anti-clockwise rotation.
- Valve is closed when disc is against the stop.



Valve / pipe disassembly

1. Make sure that there is no under pressure upstream or downstream the valve. Disconnect any electronic as well as pneumatic device.
2. Make sure that valve disc is closed.
3. Loose bolts and widen piping remove bolts and disassemble the valve.

Handlever

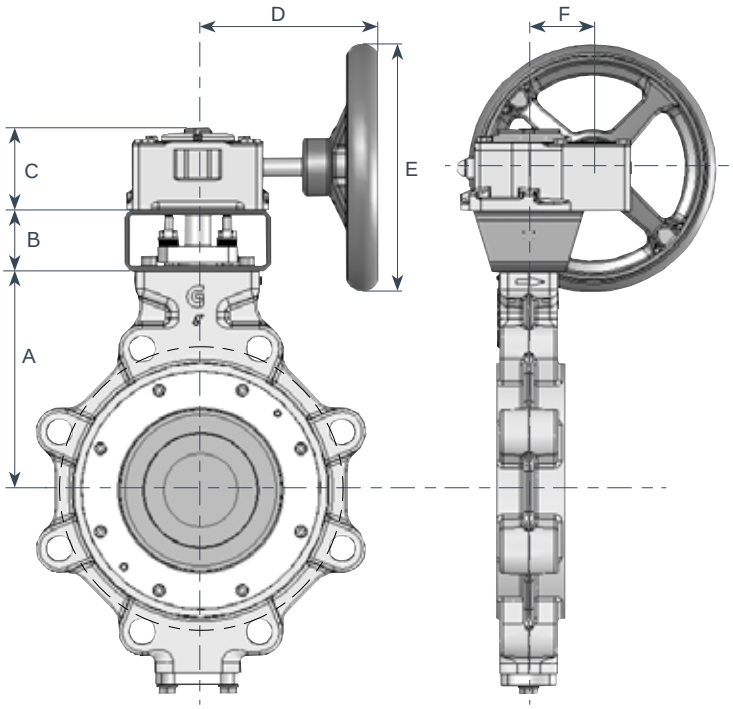


DN	"	A	B	E	F	G	ØH	aluminium Kg wafer	aluminium Kg lug	St.Steel Kg wafer	St.Steel Kg lug
50	2	117	50	43	67	220	93	4.1	6.3	5.2	7.4
65	2 1/2	120	50	46	67	220	93	4.6	7.6	5.7	8.7
80	3	129	50	46	67	220	93	5.4	8.2	6.5	9.3
100	4	160	50	52	67	275	93	8.7	10.4	10.0	11.7
125	5	170	50	56	76	340	125	11.1	15.8	-	-
150	6	179	50	56	76	340	125	14.5	18.6	-	-

COMPONENTS

		DN 50-150	DN 50-100
1	lever	aluminium	A351 CF8M
2	trigger	aluminium	A351 CF8M
3	spring	stainless steel	stainless steel
4	disc positioning	aluminium	A351 CF8M
5	screws	stainless steel	stainless steel

Gearboxes - coupling and dimensions



AB series

body:	ductile iron GGG40	
worm gears:	steel	
sector gear:	ductile iron	*low/high*
shaft:	steel	*temperature*
handwheel:	steel	*execution on*
protection:	IP67	*request*
T: -20 / +120 °C		

: 20°C

DN	"	A	B	C	D	E	F	type	kg wafer	kg lug
50	2	117	50	55	157.5	200	43	AB150	5.7	7.9
65	2 1/2	120	50	55	157.5	200	43	AB150	6.2	9.2
80	3	129	50	55	157.5	200	43	AB150	7.0	9.8
100	4	160	50	55	157.5	200	43	AB150	10.2	11.9
125	5	170	50	63	217	200	52	AB215	13.6	18.3
150	6	179	50	63	217	200	52	AB215	17	21.1
200	8	218	60	63	217	200	52	AB215	26.2	34.7
250	10	257	80	88	282	300	71	AB550	43.5	54.5
300	12	300	80	88	282	300	71	AB550	58.5	70.5
350	14	328	100	102	322	500	105	AB1250	105	132
400	16	387	100	102	322	500	105	AB1250	129	162
500	20	451	100	126	425	600	130	AB1950	232	282

INCONEL : 20°C

DN	"	A	B	C	D	E	F	type	kg wafer	kg lug
50	2	117	50	55	157.5	200	43	AB150	5.7	7.9
65	2 1/2	120	50	55	157.5	200	43	AB150	6.2	9.2
80	3	129	50	55	157.5	200	43	AB150	7.0	9.8
100	4	160	50	55	157.5	200	43	AB150	10.2	11.9
125	5	170	50	63	217	200	52	AB215	13.6	18.3
150	6	179	50	63	217	200	52	AB215	17.0	21.1
200	8	218	60	88	282	300	71	AB550	36.2	44.7
250	10	257	80	93	282	400	86	AB880	49	60
300	12	300	80	93	282	400	86	AB880	64	76
350	14	328	100	102	322	500	105	AB1250	105	132
400	16	387	100	126	425	600	143	AB1950	139	172
500	20	451	100	126	398	600	143	AB1950 PR4	245	295

Pneumatic actuator

Rack & Pinion Actuators - MT/MTS Series

Max air pressure: 10 bar
Temperature: -20°C / +80°C
Torque range: 31/3564 Nm

Double travel stop
open/close: ±10°

Scotch Yoke Actuators - CHD Series

Max air pressure: 6 bar
Temperature: -20 / +80°C
Torque Range: 1200/305000 Nmt

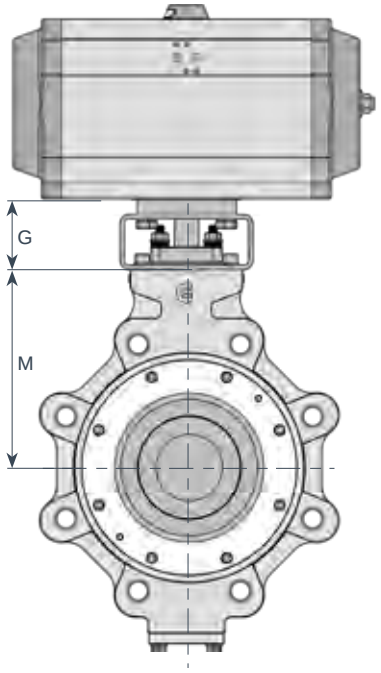
Double travel stop
open/close: ±6°

Fluid: H2O - T: 20° C - Air pressure: 5,5 Bar - Seat: RTFE

DN	M	PN 10				PN 16				PN 20 / PN 25			
		DA		SR		DA		SR		DA		SR	
		mod.	G	mod.	G	mod.	G	mod.	G	mod.	G	mod.	G
50	117	MT 15	65	MTS 25	65	MT 20	65	MTS 30	65	MT 25	65	MTS 35	65
65	120	MT 20	65	MTS 30	65	MT 20	65	MTS 30	65	MT 25	65	MTS 35	65
80	129	MT 20	65	MTS 30	65	MT 25	65	MTS 35	65	MT 30	65	MTS 40	65
100	160	MT 20	65	MTS 35	65	MT 25	65	MTS 40	65	MT 35	65	MTS 45	65
125	170	MT 30	65	MTS 45	65	MT 35	65	MTS 45	65	MT 35	65	MTS 50	65
150	179	MT 35	65	MTS 50	65	MT 40	65	MTS 50	65	MT 45	65	MTS 55	65
200	218	MT 40	110	MTS 50	110	MT 45	110	MTS 60	110	MT 50	110	MTS 65	100
250	257	MT 50	200	MTS 60	200	MT 55	200	MTS 65	200	MT 60	200	MTS 70	200
300	300	MT 60	200	MTS 70	200	MT 60	200	MTS 70	200	MT 70	200	MTS 75	200
350	328	MT 60	200	MTS 70	200	MT 65	200	MTS 75	200	MT 70	200	CHD16-030B01	200
400	387	MT 65	200	MTS 70	200	MT 70	200	CHD16-030B01	200	MT 75	200	CHD25-035B01	200
500	451	MT 70	200	CHD16-035B01	0	MT 75	200	CHD25-038B01	200	CHD16-030	0	CHD25-043B01	200

Fluid: H2O - T: 20° C - Air pressure: 5,5 Bar - Seat: INCONEL

DN	M	PN 10				PN 16				PN 20 / PN 25			
		DA		SR		DA		SR		DA		SR	
		mod.	G	mod.	G	mod.	G	mod.	G	mod.	G	mod.	G
50	117	MT 20	65	MTS 30	65	MT 20	65	MTS 35	65	MT 25	65	MTS 35	65
65	120	MT 25	65	MTS 35	65	MT 25	65	MTS 35	65	MT 30	65	MTS 40	65
80	129	MT 25	65	MTS 35	65	MT 25	65	MTS 35	65	MT 35	65	MTS 45	65
100	160	MT 25	65	MTS 35	65	MT 30	65	MTS 40	65	MT 35	65	MTS 45	65
125	170	MT 35	65	MTS 45	65	MT 35	65	MTS 50	65	MT 40	65	MTS 50	65
150	179	MT 45	65	MTS 50	65	MT 45	65	MTS 55	65	MT 50	65	MTS 60	65
200	218	MT 45	110	MTS 60	110	MT 50	110	MTS 60	100	MT 60	110	MTS 70	200
250	257	MT 55	200	MTS 70	200	MT 60	200	MTS 70	200	MT 65	200	MTS 70	200
300	300	MT 65	200	MTS 70	200	MT 65	200	MTS 70	200	MT 70	200	MTS 75	200
350	328	MT 65	200	MTS 70	200	MT 70	200	MTS 75	200	MT 70	200	CHD16-035B01	200
400	387	MT 70	200	CHD16-035B01	200	MT 75	200	CHD25-035B01	200	CHD16-025	200	CHD25-038B01	200
500	451	MT 75	200	CHD25-038B01	200	CHD16-030	0	CHD25-043B01	200	CHD16-035	0	CHD30-043B01	200



NOTE

G quote can change depending on valve/actuator coupling.

Declutchable manual gearboxes

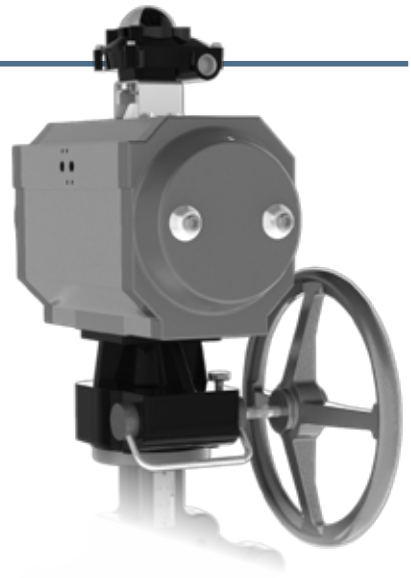
ILGD Series

body: ductile iron GGG40
worm gears: steel
sector gear: ductile iron

shaft: steel
handwheel: steel
T: -20/+120°C

protection: IP65
IP67 on req.

Ø valve	double action actuator		spring return actuator	
	actuator type	gearbox type	actuator type	gearbox type
50-100	MT20-35	ILGD200	MTS25-45	ILGD200
125-150	MT30-40	ILGD200	MTS45-55	ILGD600
	MT45-55	ILGD600	MTS60	ILGD900
200	MT40-55	ILGD600	MTS50	ILGD600
	MT60	ILGD900	MTS60-65	ILGD900
	-	-	MTS70	ILGD1500
250	MT50-55	ILGD600	MTS60-65	ILGD900
	MT60-65	ILGD900	MTS70	ILGD1500
300	MT60-65	ILGD900	MTS70	ILGD1500
	MT70	ILGD1500	MTS75	ILGD2400
350	MT60-70	ILGD1500	MTS70	ILGD2400
	-	-	MTS75	ILGD5000
400	MT60-70	ILGD1500	MTS60-70	ILGD1500
	MT75	ILGD5000	on req.	on req.
500	MT70-75	ILGD5000	on req.	on req.



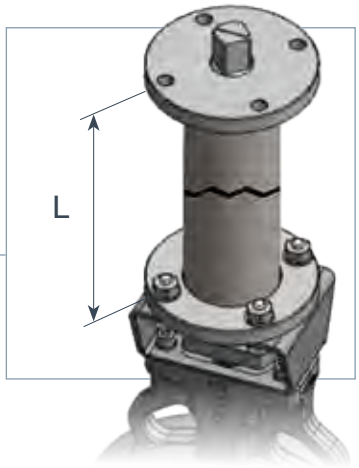
Waterproof valve shaft extension

When necessary, it's possible to extend the valve shaft as indicated in the figure. Construction is in carbon steel with protective paint (on request stainless steel).

NOTE

Our tecnical department is available to solve special applications.

"L" measure should be indicated when ordering.



Hydraulic actuator

- Tecnical features:
  - » ductile iron cast body
  - » steel rack and pinion
  - » NBR seats
- fluid type:
  - » hydraulic oil type : HPL DIN51524-2 / ISO 6743-4. Viscosity 15/200 cst
- working pressure: 10 - 120 bar
- working temperature: -20°C / +80°C

Fluid: H2O - T: 20° C - Seat: RTFE

DN	Oil pressure: 60Bar						Oil pressure: 120Bar					
	PN 10		PN 16		PN 20 / PN 25		PN 10		PN 16		PN 20 / PN 25	
	DA	SR	DA	SR	DA	SR	DA	SR	DA	SR	DA	SR
50	H28DA	H40SRA	H28DA	H40SRA	H28DA	H40SRA	H28DA	H40SRB	H28DA	H40SRB	H28DA	H40SRB
65	H28DA	H40SRA	H28DA	H40SRA	H28DA	H40SRA	H28DA	H40SRB	H28DA	H40SRB	H28DA	H40SRB
80	H28DA	H40SRA	H28DA	H40SRA	H28DA	H40SRA	H28DA	H40SRB	H28DA	H40SRB	H28DA	H40SRB
100	H28DA	H40SRA	H28DA	H40SRA	H28DA	H50SRA	H28DA	H40SRB	H28DA	H40SRB	H28DA	H40SRB
125	H28DA	H50SRA	H40DA	H50SRA	H40DA	H50SRA	H28DA	H40SRB	H28DA	H40SRB	H28DA	H40SRB
150	H40DA	H50SRA	H40DA	H63SRA	H50DA	H63SRA	H28DA	H40SRB	H28DA	H50SRB	H40DA	H50SRB
200	H50DA	H63SRA	H50DA	H63SRA	H63DA	H80SRA	H40DA	H50SRB	H40DA	H50SRB	H50DA	H63SRB
250	H50DA	H80SRA	H63DA	H80SRA	H63DA	-	H50DA	H63SRB	H50DA	H63SRB	H50DA	H80SRB
300	H63DA	-	H63DA	-	H80DA	-	H50DA	H80SRB	H50DA	H80SRB	H63DA	H80SRB
350	H80DA	-	H80DA	-	-	-	H63DA	H80SRB	H63DA	-	H80DA	-
400	H80DA	-	-	-	-	-	H80DA	H80SRB	H80DA	-	H80DA	-
500	-	-	-	-	-	-	H80DA	-	H80DA	-	-	-

Fluid: H2O - T: 20° C - Seat: INCONEL

DN	Oil pressure: 60Bar						Oil pressure: 120Bar					
	PN 10		PN 16		PN 20 / PN 25		PN 10		PN 16		PN 20 / PN 25	
	DA	SR	DA	SR	DA	SR	DA	SR	DA	SR	DA	SR
50	H28DA	H40SRA	H28DA	H40SRA	H28DA	H40SRA	H28DA	H40SRB	H28DA	H40SRB	H28DA	H40SRB
65	H28DA	H40SRA	H28DA	H40SRA	H28DA	H50SRA	H28DA	H40SRB	H28DA	H40SRB	H28DA	H40SRB
80	H28DA	H40SRA	H28DA	H40SRA	H40DA	H50SRA	H28DA	H40SRB	H28DA	H40SRB	H28DA	H40SRB
100	H28DA	H40SRA	H28DA	H50SRA	H40DA	H50SRA	H28DA	H40SRB	H28DA	H40SRB	H28DA	H40SRB
125	H40DA	H50SRA	H40DA	H63SRA	H40DA	H63SRA	H28DA	H40SRB	H28DA	H50SRB	H28DA	H50SRB
150	H50DA	H63SRA	H50DA	H63SRA	H50DA	H80SRA	H40DA	H50SRB	H40DA	H50SRB	H40DA	H63SRB
200	H50DA	H80SRA	H50DA	H80SRA	H63DA	-	H40DA	H50SRB	H50DA	H63SRB	H50DA	H80SRB
250	H63DA	-	H63DA	-	H80DA	-	H50DA	H63SRB	H50DA	H80SRB	H63DA	H80SRB
300	H80DA	-	H80DA	-	-	-	H63DA	H80SRB	H63DA	-	H63DA	-
350	H80DA	-	-	-	-	-	H63DA	-	H63DA	-	H80DA	-
400	-	-	-	-	-	-	H80DA	-	H80DA	-	-	-
500	-	-	-	-	-	-	-	-	-	-	-	-

Check valves

DISC & SWING Type

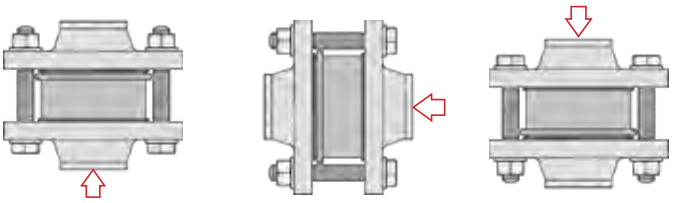
GA 015
DN 15 - 100 • 1/2" - 4"

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.

GB 015
DN 15 - 100 • 1/2" - 4"

To be installed in any position

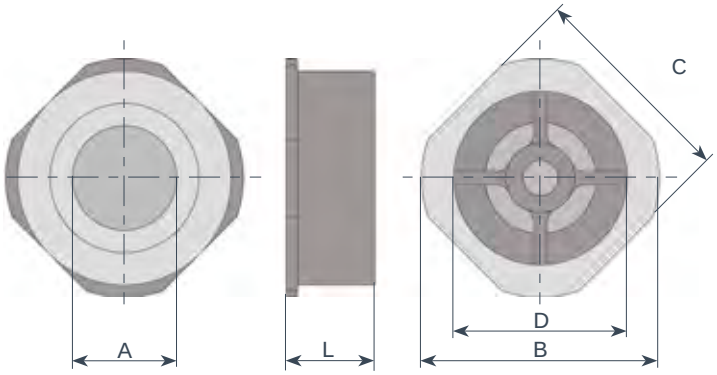


Upwards flow | Horizontal flow | Downwards flow

GA 015 DN 15 - 100 • 1/2" - 4"

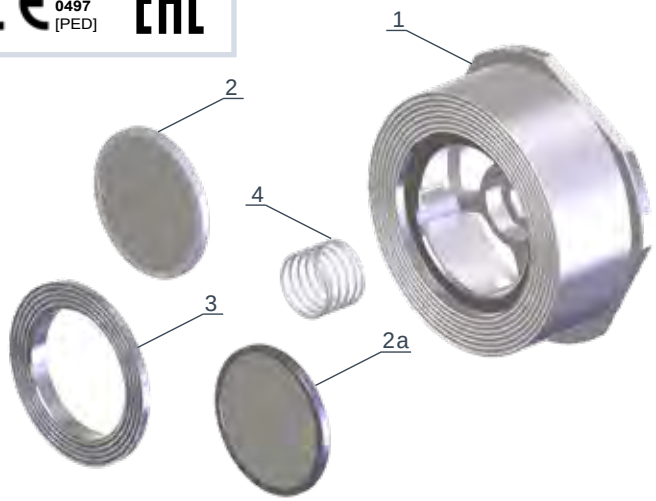
Features

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



Certifications

CE 0497 [PED] EAC



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	82	96	118	130	162
D	27	33	39	54	64	78	96	100	131
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

flusso	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
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*

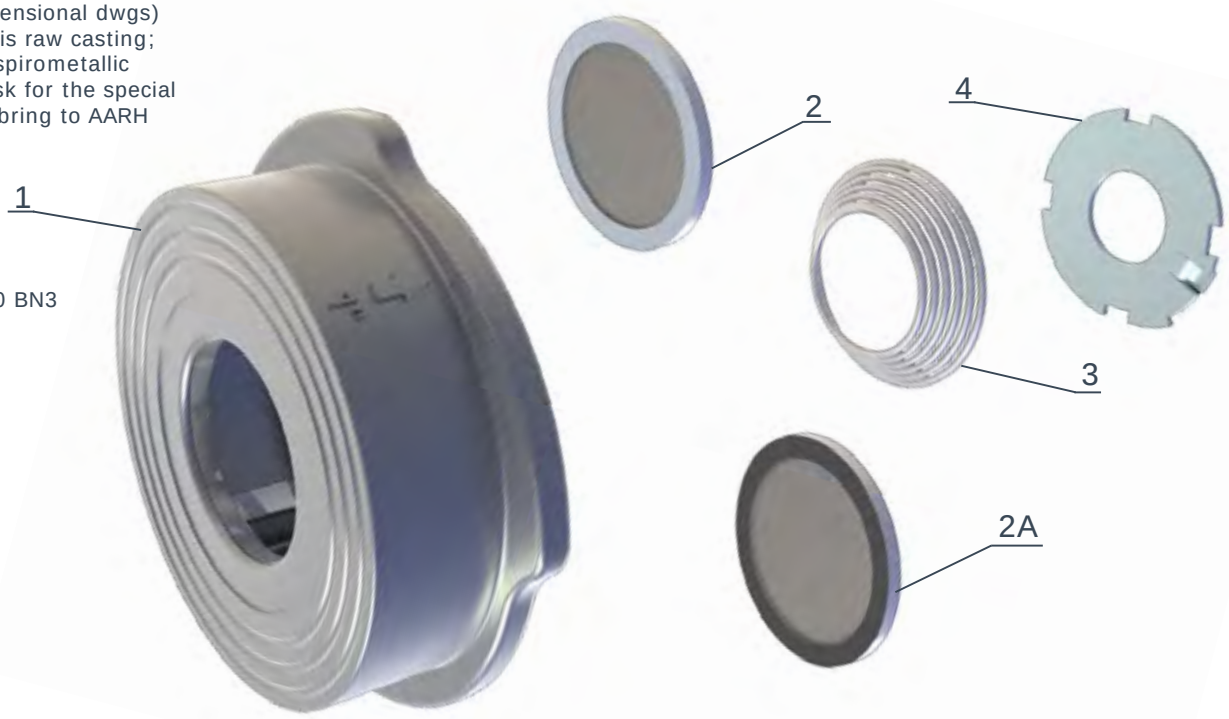
DN 100 *PN 10÷40, A150÷300*

Final quality of face A (reference can be found in dimensional dwgs) for standard valves is raw casting; in case of use with spirometallic packing (API601) ask for the special machining that will bring to AARH 250/500 quality.

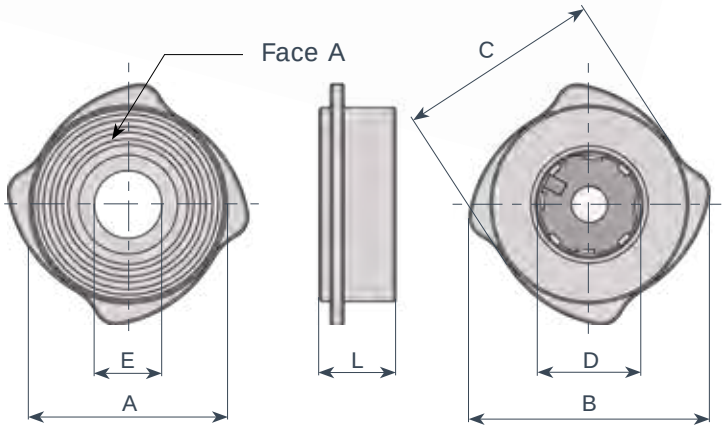
No leakage with soft seat and acc.to DIN 3230 BN3 with metal seat.

Certifications

CE 0497 [PED] EAC



GB 015			
iem	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	stop ring	• A240 (AISI 316L)



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	nd	nd	nd	nd	nd	nd	nd	nd	nd

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

GB 023 DN 15 - 100 • 1/2" - 4"

Caratteristiche

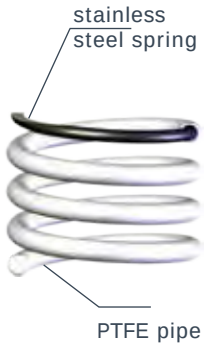
Features

DN 15÷100 PN 10÷16

Max working pressure: 6 Bar

Max working temperature: 180°C

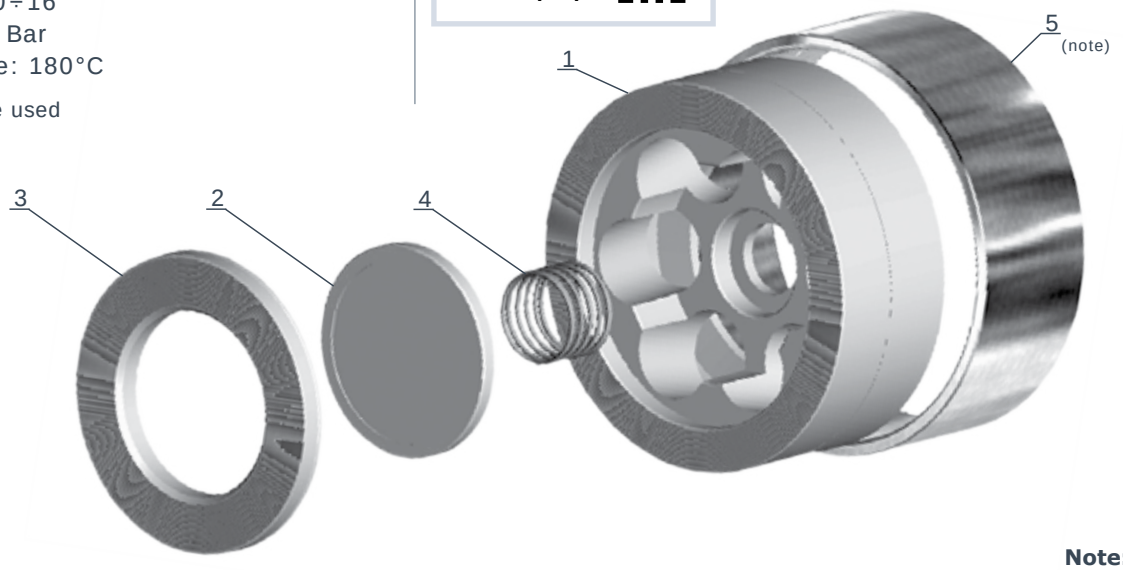
This type of valve cannot be used with spirometallic packing.



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

Certifications

CE 0497 [PED] EAC



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

GB 023			
iem	q.ty	part	material
1	1	body	• PTFE
2	1	disc	• PTFE
3	1	seat	• PTFE
4	1	spring *on request*	• Hastelloy C4 • *AISI 316 + PTFE* • *AISI 316 + Cheniflon*
5	1	jacket	• AISI 304

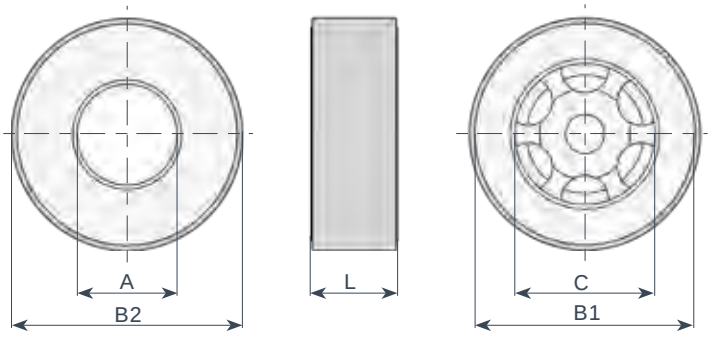
DN	15	20	25	32	40	50	65	80	100
screw	4x M12	4x M12	4x M12	4x M16	4x M16	4x M16	4x M16	4x M16	8x M16
tightening torque Nmt	10	10	20	35	35	35	40	40	45

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 lubrificated threads.

special spring table (olny spring A316+Nyflon)									
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%

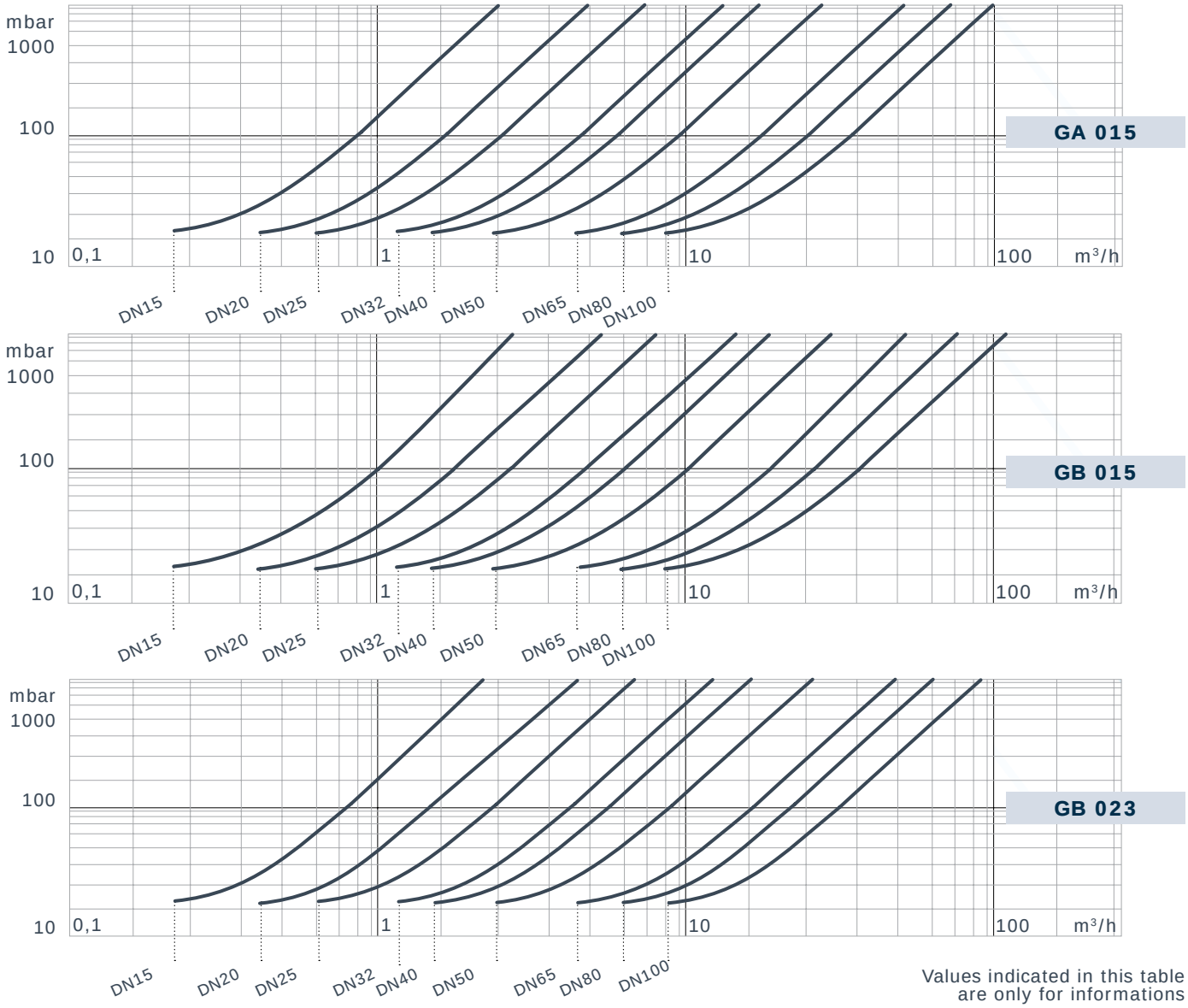


minimum opening pressure with standard springs										
flow	DN	15	20	25	32	40	50	65	80	100
△	mBar	23	23	24	25	26	26	27	27	29
▷	mBar	22	22	22.5	23	23.5	23.5	24	24	25
▽	mBar	21	21	21	21	21	21	21	21	21
△ without spring	mBar	1	1	1.5	2	2.5	2.5	3	3	4

GB 023									
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
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)



Values indicated in this table are only for informations

Formula for calculation of equivalent flow rate to H2O

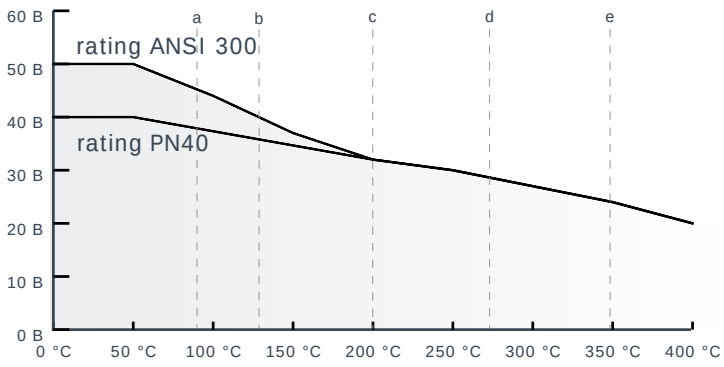
$$Qe = Q\sqrt{\frac{d}{1000}}$$

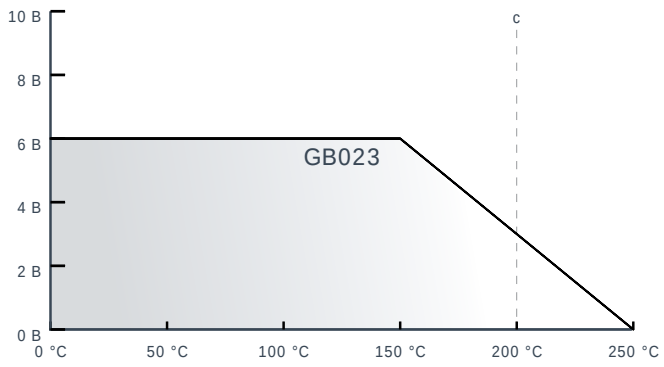
For different liquid, gas or steam head losses are determined by equivalent water flow rate, as follows:

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 TMAX = 95°C
b EPDM TMAX = 130°C
c FKM PTFE TMAX = 200°C
d spring AISI 316 TMAX = 270°C
e spring HASTELLOY C4 TMAX = 350°C





GN 011 - GN 015 - GN 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.

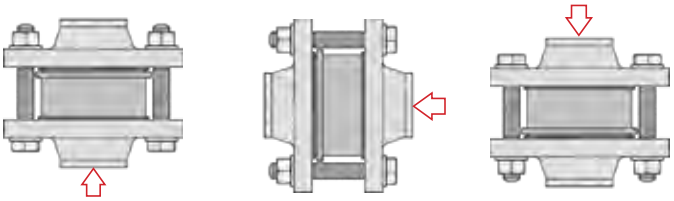
GN 011 - GN 015 - GN 115 P max: **52 Bar**

Flange:

GN011 GN015	*DN 15÷100*	*PN 10÷40, A150÷300*
GN115	*DN 15÷80*	*PN 10÷40, A150÷300*

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

To be installed in any position



Upwards flow | Horizontal flow | Downwards flow

GT 011 - GT 015 - GT 115 P max: **160 Bar**

Flange:

GT011 GT015	*DN 15÷100*	*PN 63÷160, A600÷900*
GT115	*DN 15÷80*	*PN 63÷160, A600÷900*

This type of valve cannot be used with spirometallic packing.

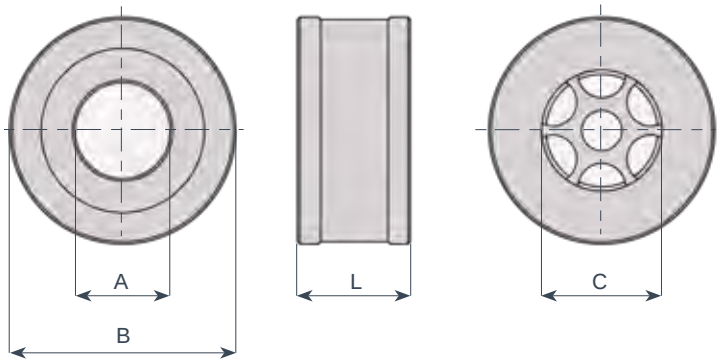
			GN 011 - GT 011	GN 015 - GT 015	GN 115 - GT 115
item	q.ty	part	material	material	material
1	1	body	• zinc plated steel A105	• A182 (AISI 316)	• Hastelloy B574/99
2	1	disc -standard	• A240 (AISI 316L)	• A240 (AISI 316L)	• Hastelloy B574/99
3	1	O Ring	• *NBR* • *EPDM* • *FKM* • *PTFE*	• *NBR* • *EPDM*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

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

Certifications

CE 0497 [PED] EAC

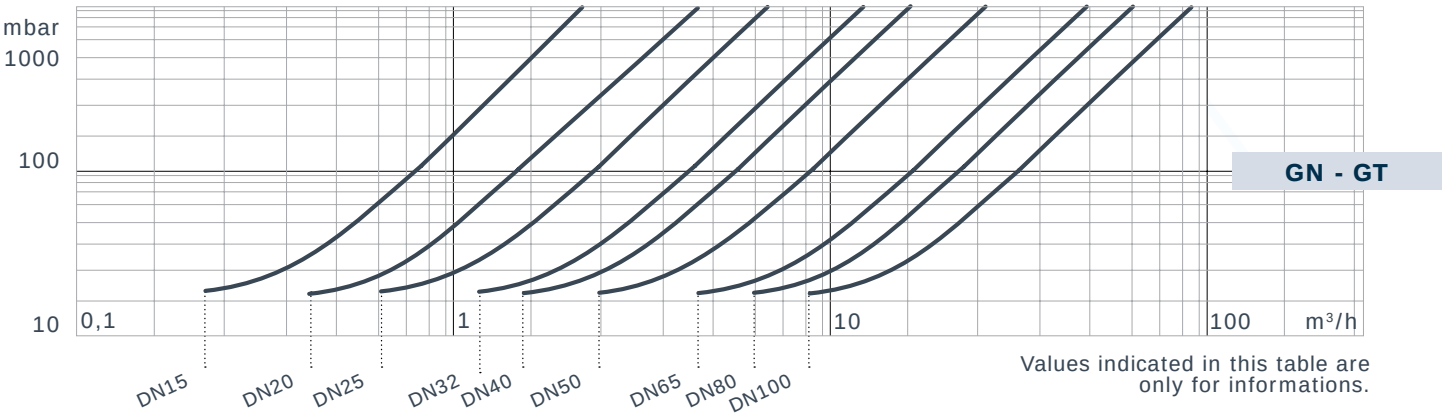


GT Series									
DN	15	20	25	32	40	50	65	80	100
A	15	20	24	30	38	47	62	77	96
B	46	60	70	80	90	107	130	145	178
C	21	25	30	40	48	60	85	90	110
L	25	31.5	35.5	40	45	56	63	71	80
Kg	**0.3**	**0.6**	**1**	**1.3**	**1.8**	**2.5**	**4**	**5.9**	**8**

GN Series									
DN	15	20	25	32	40	50	65	80	100
A	15	20	24	31	38	47	62	77	96
B	46	56	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)



Values indicated in this table are only for informations.

Formula for calculation of equivalent flow rate to H2O

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

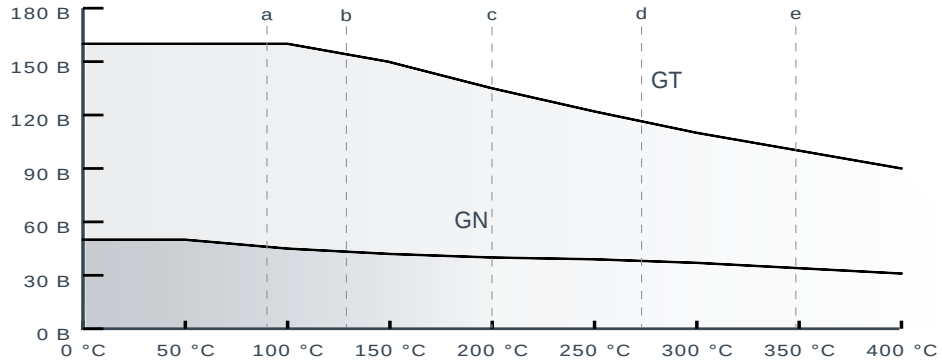
For different liquid, gas or steam head losses are determined by equivalent water flow rate, as follows:

Qe equivalent water flow *(m³/h o l/s)*

Q fluid flow *(m³/h o l/s)*

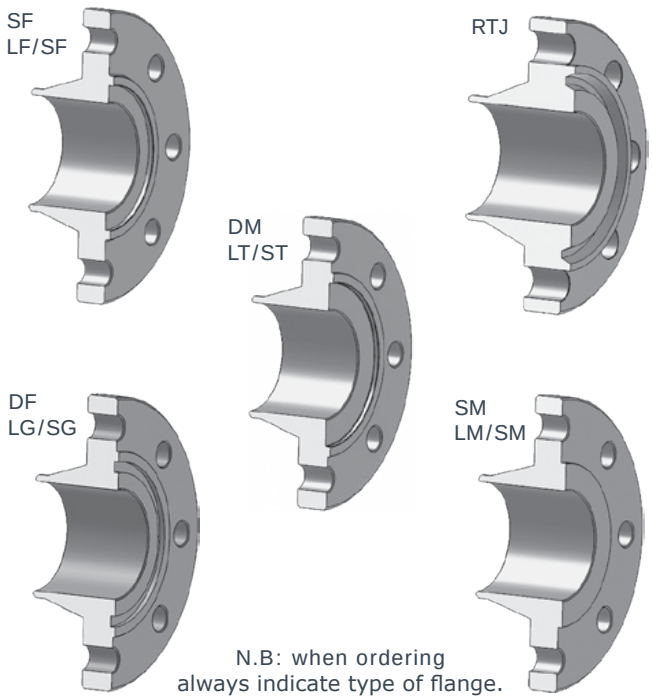
d fluid specific gravity *(Kg/m³)*

Temperature - pressure diagram



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

GN and GT valves can be inserted between following flanges:



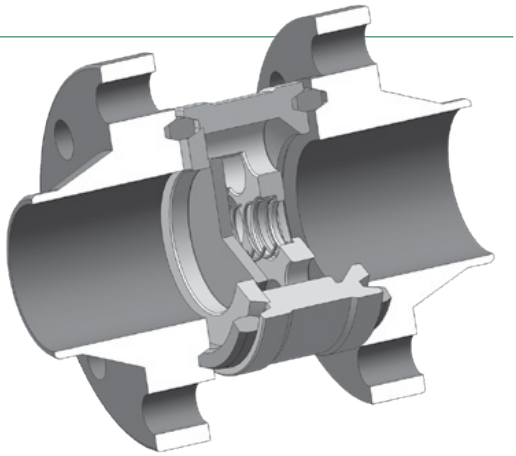
N.B: when ordering always indicate type of flange.

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
Opening values may vary ±10%

Application of GT valves with ANSI RTJ flanges:

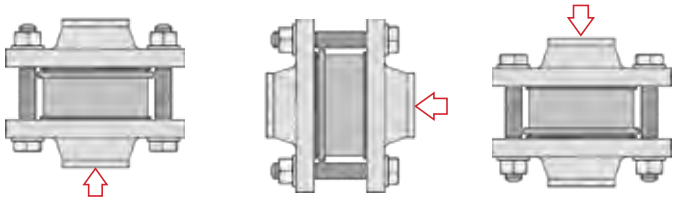


GH 011 - GH 015
DN 125- 200 • 5” - 8”

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:

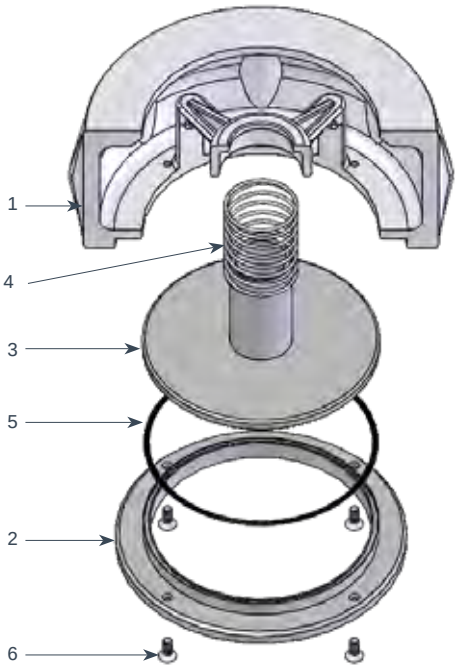
DN 125÷200 PN 10÷25, A150

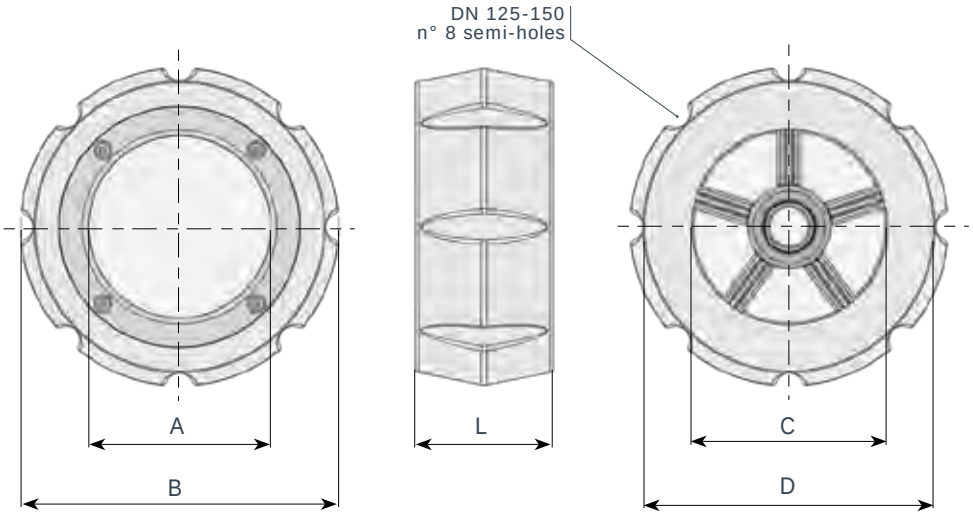
This type of valve cannot be used with spirometallic packing.

Certifications:

CE 0497 [PED] EAC

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)

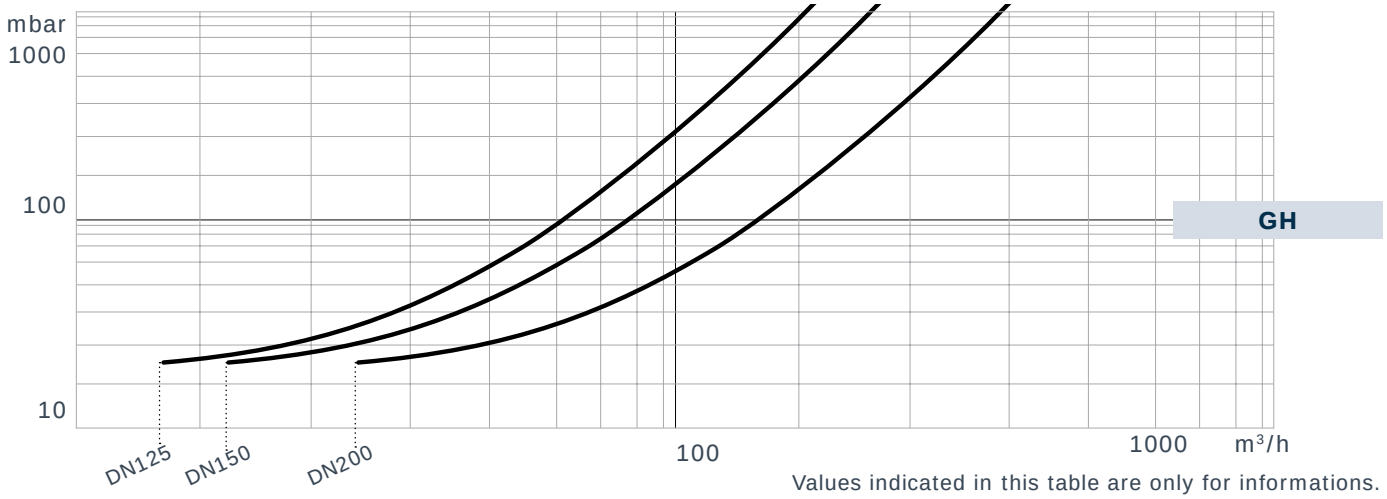




DN	125	150	200
A	120	140	183
B	210	242	273
C	125	150	200
D	192	220	-
L	90	106	140
GH 011 Kg	**8.1**	**12.3**	**19.0**
GH 015 Kg	**8.2**	**12.5**	**19.3**

GH 011 - GH 015

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



Values indicated in this table are only for informations.

Formula for calculation of equivalent flow rate to H2O

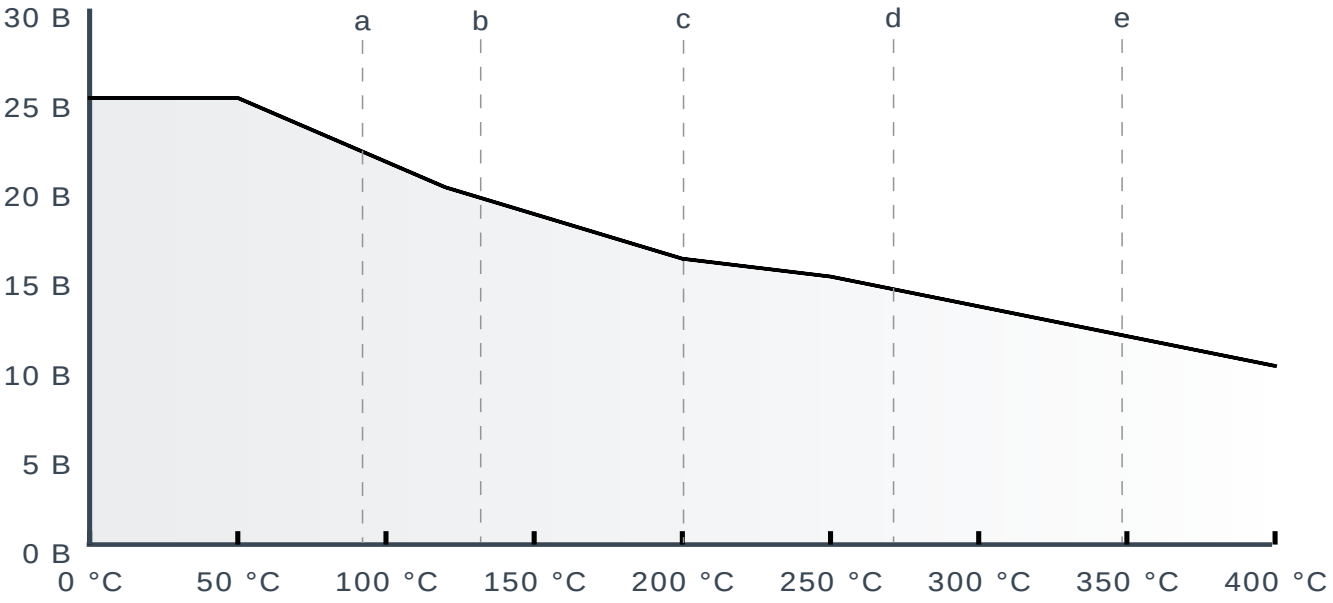
$$Qe = Q \sqrt{\frac{d}{1000}}$$

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 TMAX = 95°C
b EPDM TMAX = 130°C
c FKM PTFE TMAX = 200°C
d spring AISI 316 TMAX = 270°C
e spring HASTELLOY C4 TMAX = 350°C



Minimum opening pressure with standard springs

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

GS 011 - GS 015
DN 40 - 500 • 1[1/2]" - 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 model can be installed between flanges with spirometallic packings only in metal seated version (without O-rings) and with valve body Stock finish AARH 125-250.

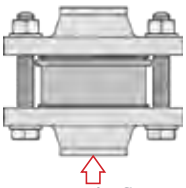
GS 011 - GS 015

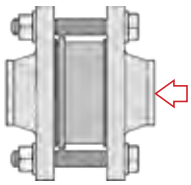
Flange:
DN 40÷500 PN 6÷16, A150 - P max:25 Bar
DN 40÷300 ANSI 300 - P max:52 Bar

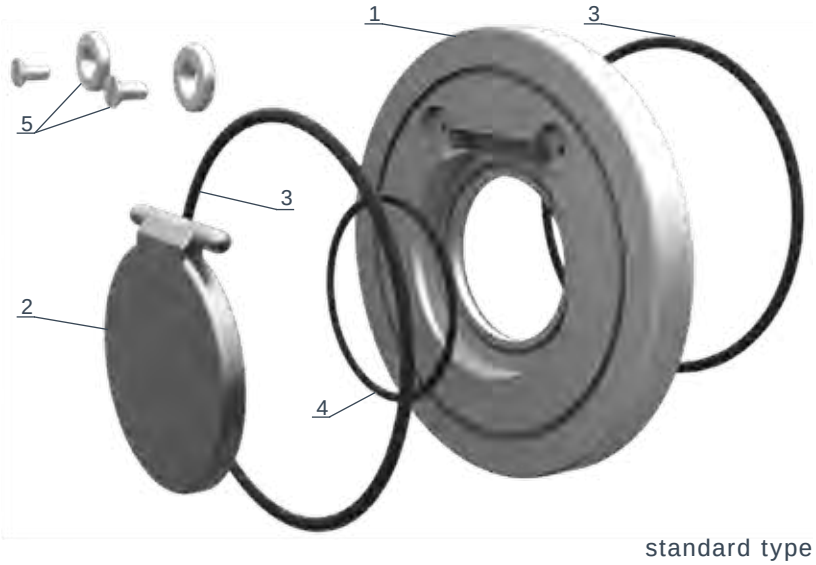
Certifications:

CE 0497 [PED] EAC

To be installed in two positions

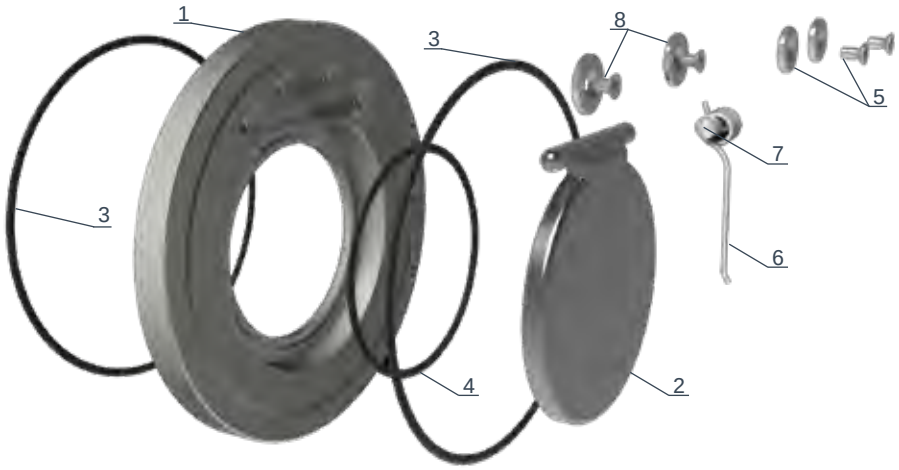

Upwards flow


Horizontal flow



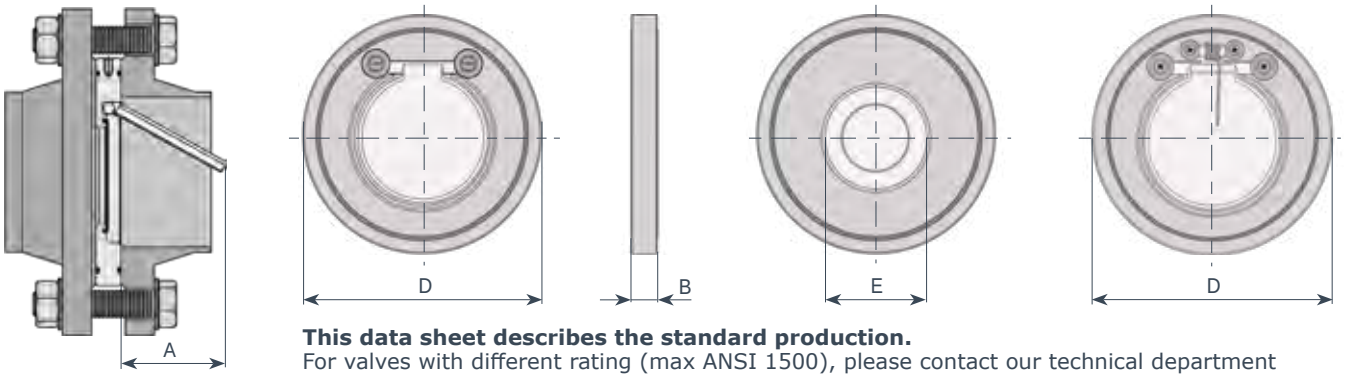
standard type

			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

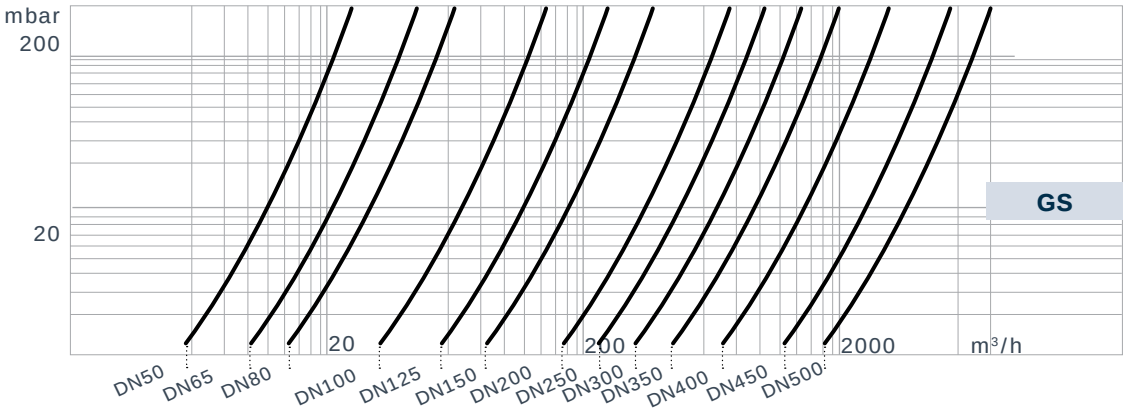
GS 011 - GS 015



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	355	50	540	355	50	557	355	50	548	355	50	63	-	-	-	-
500	368	580	405	56	595	405	56	619	405	56	605	405	56	87	-	-	-	-

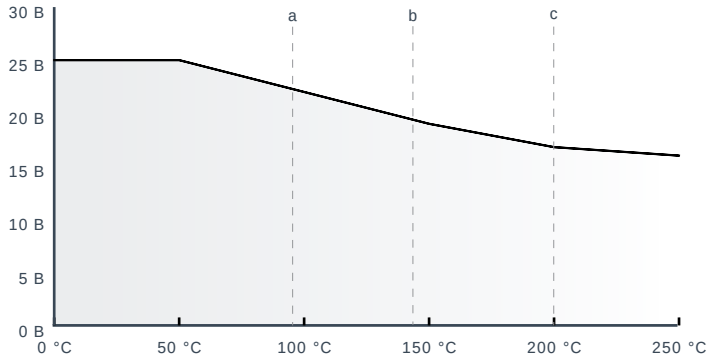
Head losses (H2O - 20°C - horizontal flow)



a	NBR	TMAX = 95°C
b	EPDM	TMAX = 130°C
c	VITON PTFE	TMAX = 200°C

Values indicated in this table are only for informations.

Temperature - pressure diagram



Formula for calculation of equivalent flow rate to H2O

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

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

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

Other Mento products

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- Riser Tensioner Fluids
- BOP Control Fluids

Quaker Houghton
Forward Together™

Environmentally friendly

- Thread Compounds
- Jacking system grease
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DIAPHRAGM PUMPS N° 403-M

HOSES

Flexible Choke & Kill Line with TauroFlon™ liner (up to 130°C)

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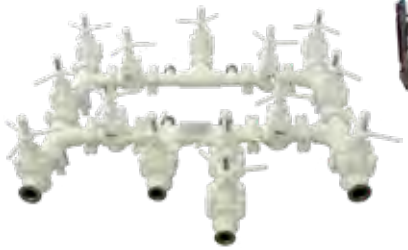

VALVES

API Gate & Chokes

Plug valves

Gate, Globe & Check

Butterfly valves (soft seat & high perfomance)

Ball

Double Block & Bleed

FILTRATION

Spares and Tailor made solutions Engine

- HVAC
- Process Filters
- Diesel Filters
- Self Cleaning Filters

Contakt Mento for more information

MENTO

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