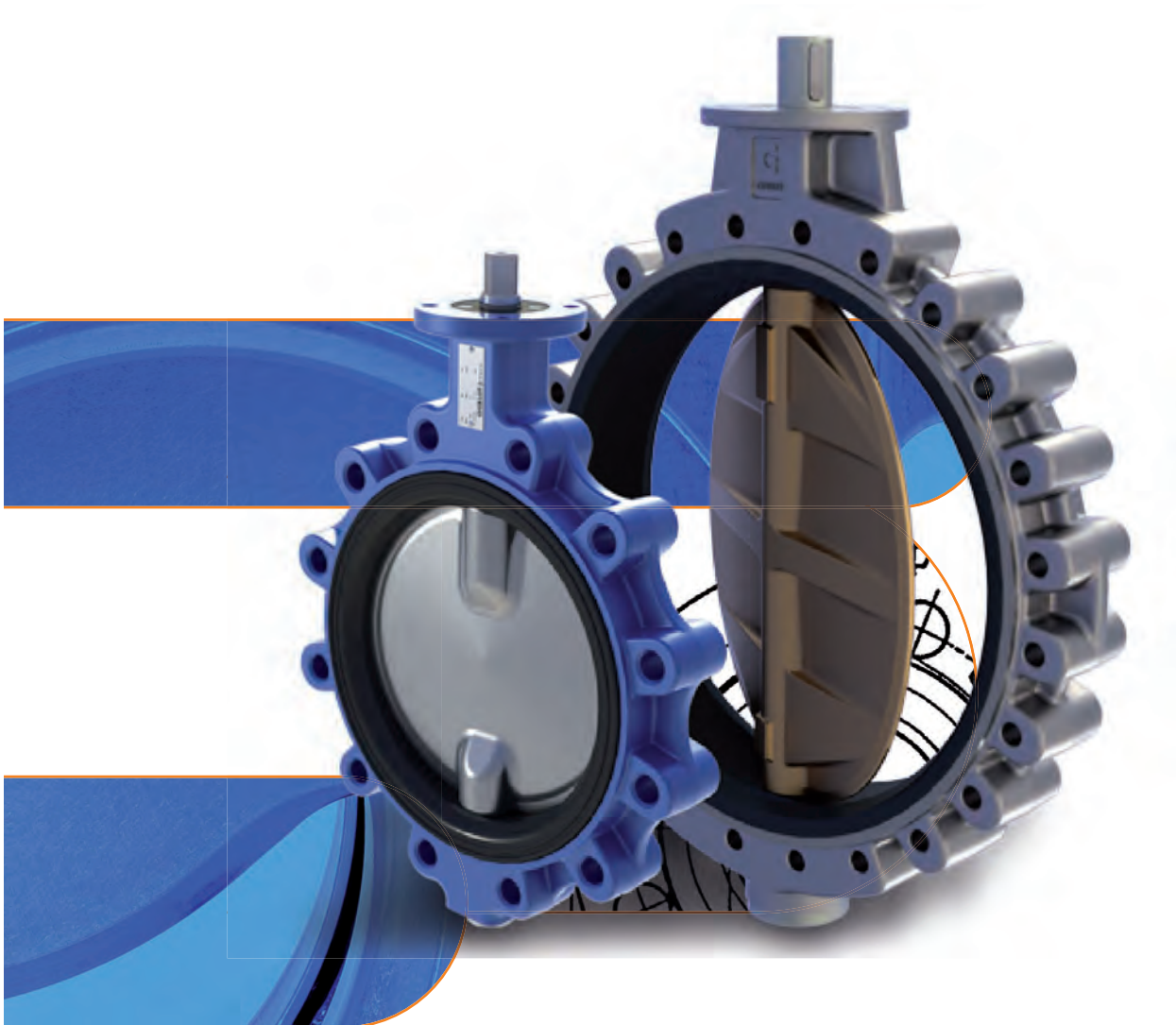


Valves

Butterfly Valves



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Butterfly Valves

Soft Seat



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BVPD - Wafer BLPD - Lug
DN 80 - 800 • 3" - 32"

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

Max working pressure:

BVPD/BLPD DN80÷500:	10 Bar
BVPD/BLPD DN800÷600:	6 Bar
<i>Flange: PN 6-10-16 • A150</i>	
BVKI/BLKI DN40÷500:	16 Bar
<i>Flange: PN 10-16 • A150</i>	
BVKI/BLKI DN600÷800:	10 Bar
<i>Flange: PN 10-16 • A150</i>	

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:

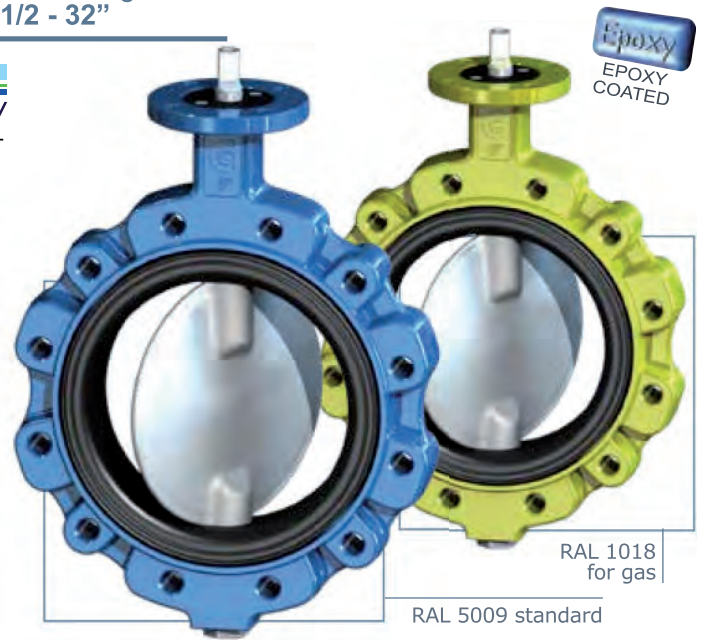
DIN EN 558 Series 20 ~ ISO 5752 Series 20
BS-5155 Series 4 ~ MSS-SP67
API609 cat.A ~ NFE 29305-1

Testing:

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

Tag:

EN 19 ~ MSS SP-25



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

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

DISC			BVPD	BVKI/BLKI
material	references	standard coating	DN	DN
Steel	ASTM A105	Zinc	80-100	50-100
Ductile iron	EN-GJS 400-15 (GS400)	Zinc	125-500	125-500
Stainless steel	ASTM A351 CF8M (A316)	-	80-800	40-800
Aluminium-bronze	ASTM B148-C958.00	-	80-800	40-800
Hastelloy®	ASTM A494 CX2MW	-	80-800	40-800
Super Duplex	EN 1.4469 (A890 Gr. 5A)	-	80-800	40-800

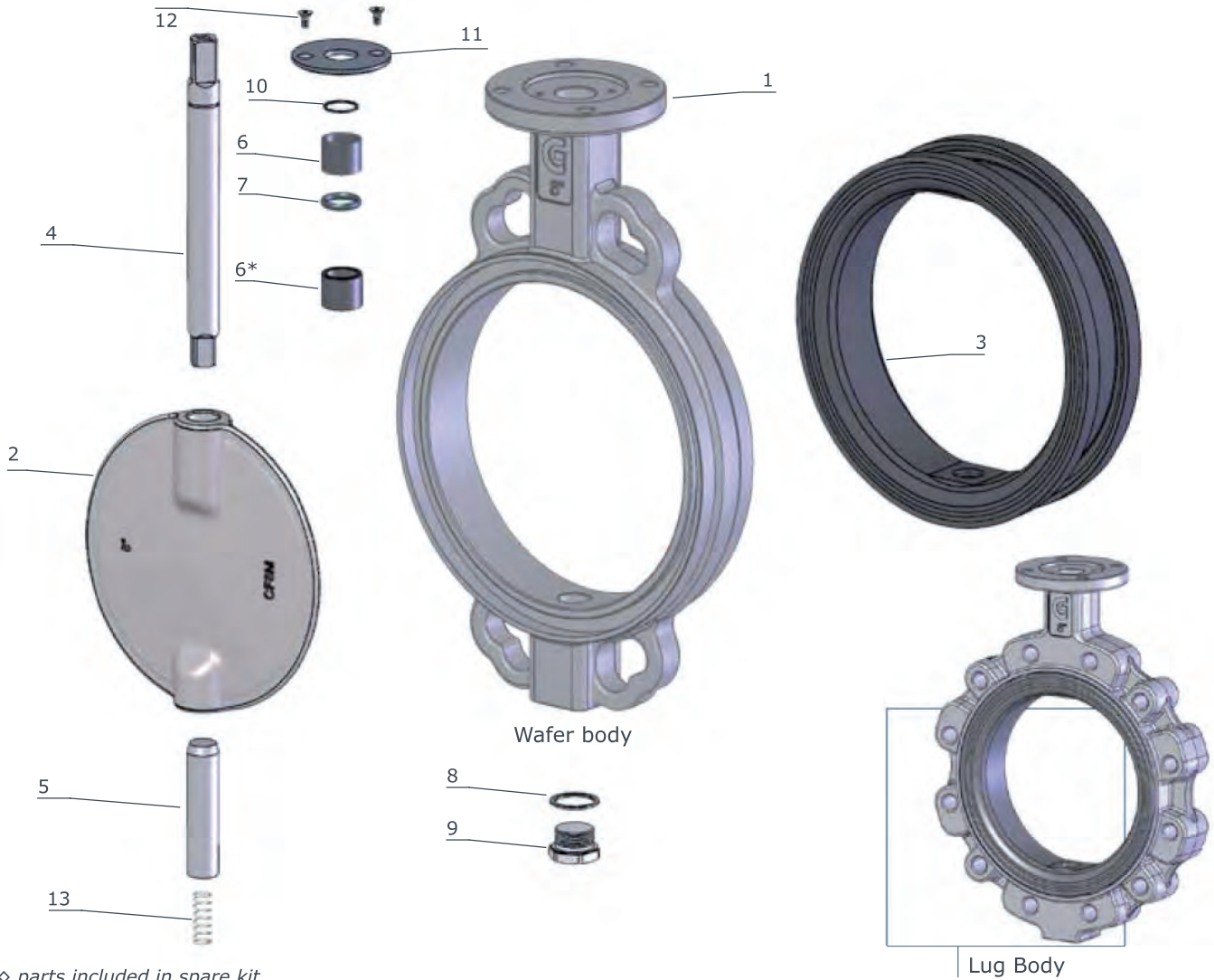
BODY RUBBER SEAT		DN 40/500 replaceable - DN 600/800 vulcanized not replaceable					
ref.	designation	PD 6bar	PD 10bar	KI	trade name	working temp.	applications
NBR	nitrile rubber	✓	✓	✓	BUNA®	-25°C / +100°C	oils, hydrocarbons, gas, air, water
EPDM	copolymer EPDM	✓	✓	✓	-	-35°C / +130°C	water, sea water, steam, diluted acids
EPDM HT	copolimery EPDM HT	✓	✓	✓	-	-45°C / +150°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:
Coating on request:

LCB, Hastelloy, Uranus, Alloy, Super Duplex, Special steels, Special bronzes.
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



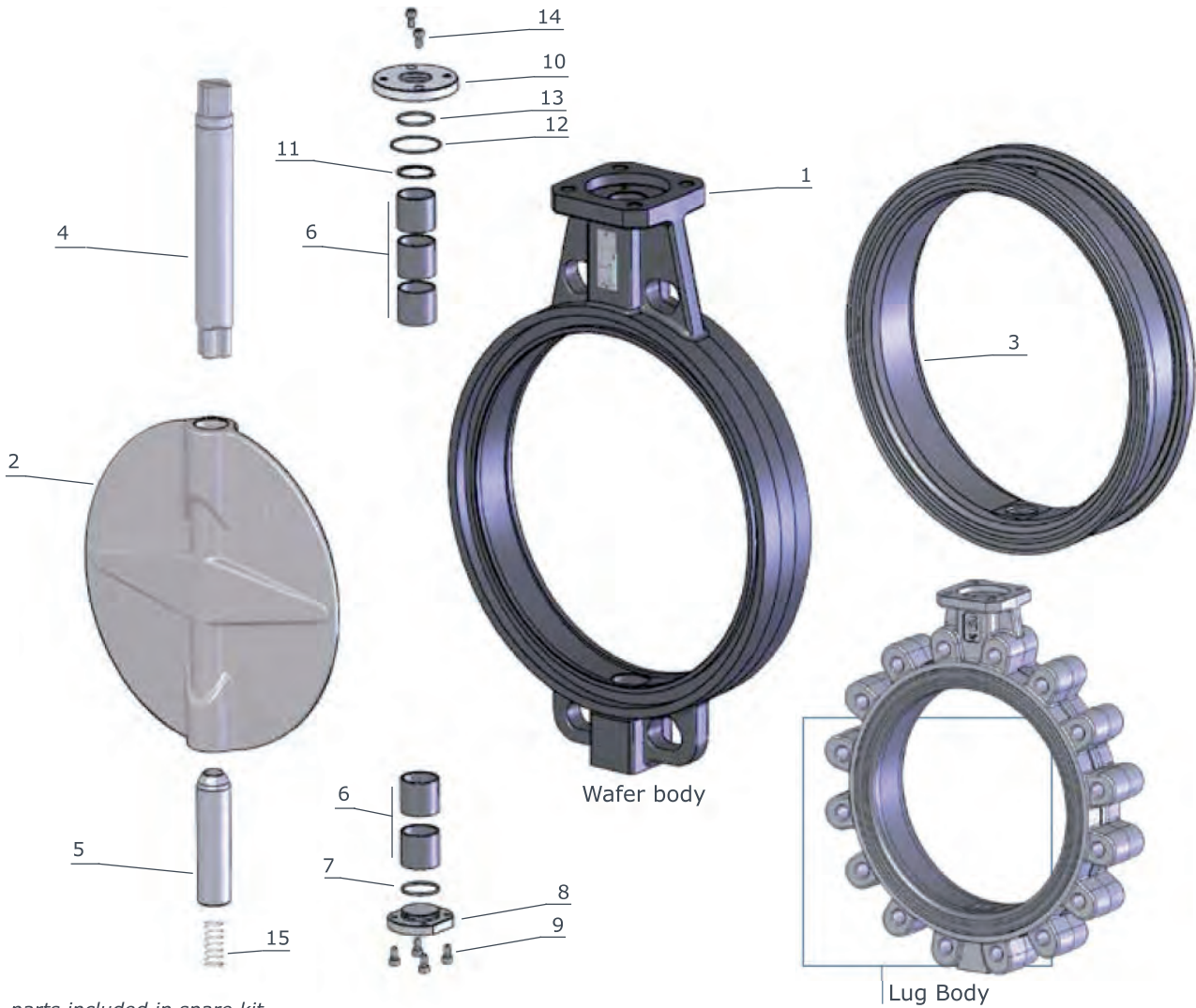
◇ parts included in spare kit

item	q.ty	part	material
1	1	body	EN-GJS400-15 (GS400) EN 1.069~ A216-WCB 1.1156~A352-LCB 1.4408~ A351-CF8M (AISI 316) EN1982-CC333G~ASTM B148 -C958.00 EN AB 46400 (only WAFER)
2	1	disc	EN-GJS400-15 (GS400) EN 1.4408~ A351-CF8M EN1982-CC333G~ASTM B148 - C958.00 EN 2.4602~HASTELLOY-CX2MW EN 1.4469 (A890 Gr. 5A) SUPER DUPLEX
◇3	1	body seat (replaceable)	NBR (BUNA®) EPDM EPDM HT FKM (VITON®) carboxide polychloroprene (NEOPRENE®) natural rubber silicon
4	1	upper shaft	EN 1.4016~A430 EN 1.4401~A316 (on request)
* only for DN300			

item	q.ty	part	material
5	1	lower shaft	EN 1.4016~A430 EN 1.4401~A316 (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 PTFE (CF8M body / ASTM B148)
9	1	threaded plug	zinc plated steel 1.4401~A316 (CF8M body / ASTM B148)
10	1	stop ring	steel
11	1	upper flange	IXEF (DN 40-150) aluminium (DN 200-300)
12	2	screw	10.9 zinc plated steel A4~A316 (CF8M body / ASTM B148)
13	1	spring	1.4401 ~ A316 (antistatic device)

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



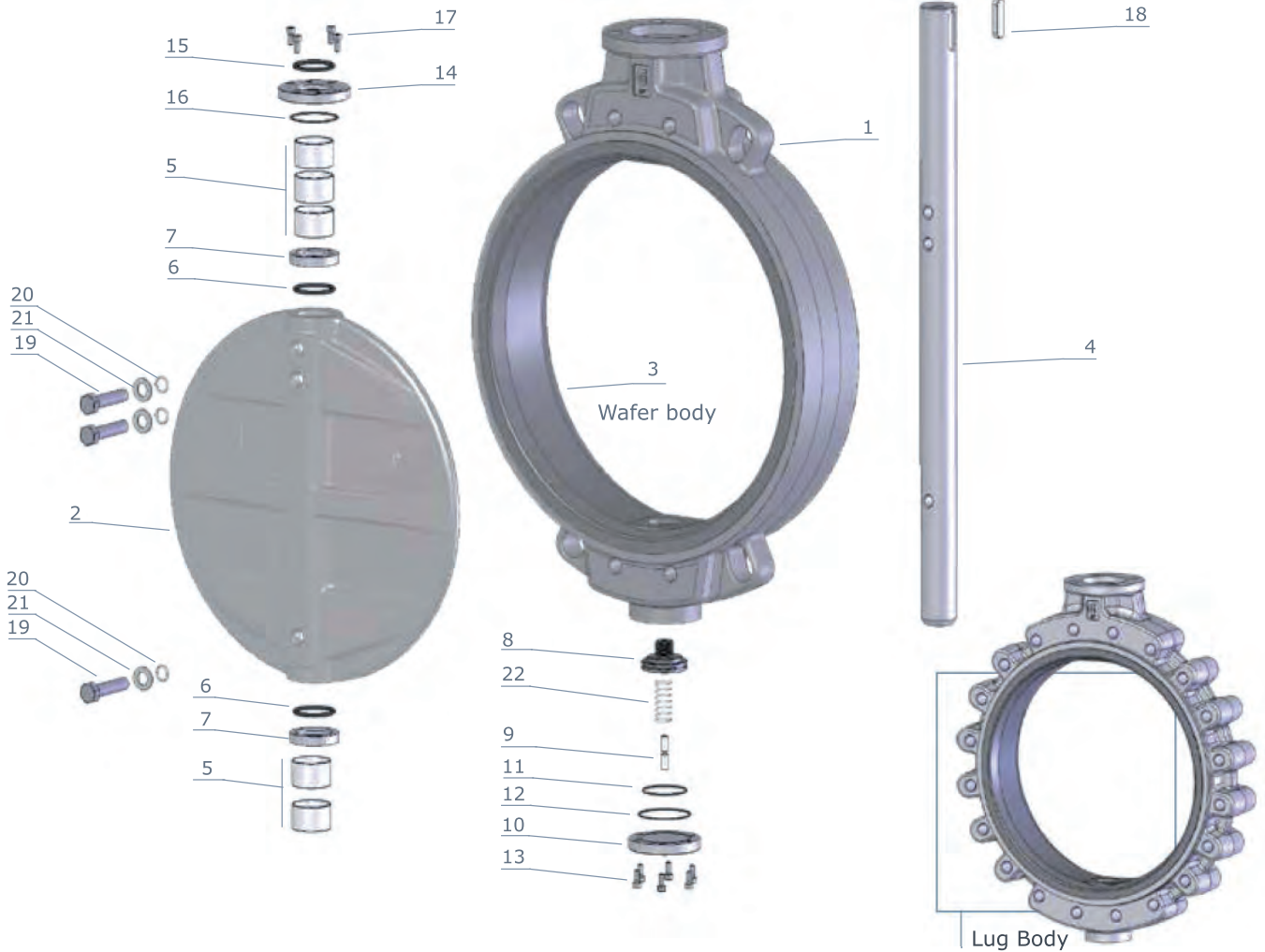
◇ parts included in spare kit

item	q.tà	part	material
1	1	body	EN-GJS400-15 (GS400) EN 1.069~ A216-WCB 1.1156~A352-LCB 1.4408~ A351-CF8M (AISI 316) EN1982-CC333G~ASTM B148 - C958.00 EN AB 46400 (only WAFER)
2	1	disc	EN-GJS400-15 (GS400) EN 1.4408~ A351-CF8M EN1982-CC333G~ASTM B148 - C958.00 EN 2.4602~HASTELLOY-CX2MW EN 1.4469 (A890 Gr. 5A) SUPER DUPLEX
◇3	1	body seat (replaceable)	NBR (BUNA®) EPDM EPDM HT FKM (VITON®) carboxide polychloroprene (NEOPRENE®) natural rubber silicon
4	1	upper shaft	EN 1.4016~A430 EN 1.4401~A316 (on request)

item	q.tà	part	material
5	1	lower shaft	EN 1.4016~A430 EN 1.4401~A316 (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 1.4401~A316 (CF8M body / ASTM B148)
9	4	screw	8.8 zinc plated steel A4~A316 (CF8M body / ASTM B148)
10	1	upper flange	zinc plated steel 1.4401~A316 (CF8M body / ASTM B148)
11	1	stop ring	steel
◇12	1	O.Ring	NBR (BUNA®)
◇13	1	O.Ring	NBR (BUNA®)
14	2	screw	8.8 zinc plated steel A4~A316 (CF8M body / ASTM B148)
15	1	spring	1.4401 ~ A316 (antistatic device)

BVPD-Wafer BLPD-Lug
 DN 600 - 800 • 24" - 32"
 PN 6-10-16 • ANSI 150

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



◇ parts included in spare kit

item	q.ty	part	material
1	1	body	EN-GJS400-15 (GS400) EN 1.069~ A216-WCB 1.1156~A352-LCB 1.4408~ A351-CF8M (AISI 316) EN1982-CC333G~ASTM B148 - C958.00
2	1	disc	EN 1.4408~ A351-CF8M EN1982-CC333G~ASTM B148 - C958.00 EN 2.4602~HASTELLOY-CX2MW EN 1.4469 (A890 Gr. 5A) SUPER DUPLEX
3	1	body seat (vulcanized not replaceable)	NBR (BUNA®) EPDM EPDM HT FKM (VITON®)
4	1	shaft	EN 1.4305~A303 EN 1.4401~A316 (on request)
◇5	5	bush	steel + PTFE
◇6	2	shaft O-ring	NBR (BUNA®) FKM (VITON®) on request
7	2	O-ring housing	A4~A316

item	q.ty	part	material
8	1	shaft support	Bronze
9	2	adjusting screw	A4~A316
10	1	lower flange	zinc plated steel 1.4401~A316 (CF8M body / ASTM B148)
◇11	1	O-ring	NBR (BUNA®)
◇12	1	O-ring	NBR (BUNA®)
13	6	screw	8.8 zinc plated steel A4~A316 (CF8M body / ASTM B148)
14	1	upper flange	zinc plated steel 1.4401~A316 (CF8M body ASTM B148)
◇15	1	O-ring	NBR (BUNA®)
◇16	1	O-ring	NBR (BUNA®)
17	4	screw	8.8 zinc plated steel A4~A316 (CF8M body/ ASTM B148)
18	1	key	steel
19	3	screw	A4~A316
◇20	3	O-ring	PTFE
21	3	washer	A4~A316
22	1	spring	1.4401 ~ A316 (antistatic device)

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 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



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



BVKA

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
Super Duplex	EN 1.4469 (A890 Gr. 5A)	-	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	-	-45°C / +150°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, Uranus, Alloy, Super Duplex, Special steels, Special bronzes.
Coating on request: RILSAN®, Halar®, Chenisil®

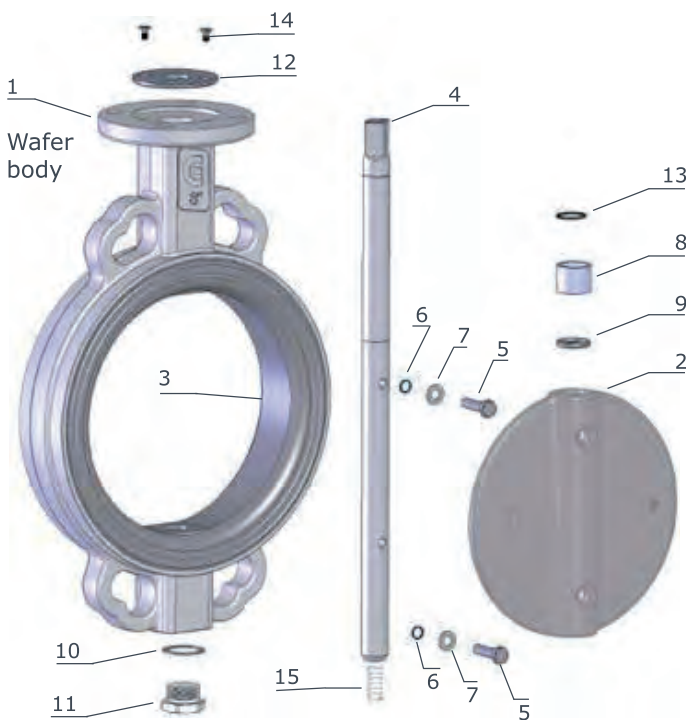
BVKA - Wafer BLKA - Lug
DN 40 - 150 • 1”1/2 - 6”
PN 10-16 • ANSI 150



◇ parts included in spare kit

item	q.ty	part	material
1	1	body	EN-GJS400-15 (GS400) EN 1.069~ A216-WCB 1.1156~A352-LCB EN 1.4408~A351-CF8M
2	1	disc	EN 1.4408~ A351-CF8M EN1982-CC333G~ASTM B148 - C958.00 EN 2.4602~HASTELLOY-CX2MW EN 1.4469 (A890 Gr. 5A) SUPER DUPLEX
◇3	1	body seat (replaceable)	NBR (BUNA®) EPDM EPDM HT FKM (VITON®)
4	1	upper shaft	EN 1.4016~A430 EN 1.4401~A316 (on request)
5	1	lower shaft	EN 1.4016~A430 EN 1.4401~A316 (on request)
◇6	1	bush	bronze
◇7	1	shaft packing	NBR (BUNA®) FKM (VITON®) (on request)
8	1	plug packing	aluminium PTFE (CF8M body / ASTM B148)
9	1	threaded plug	zinc plated steel 1.4401~A316 (CF8M body/ASTM B148)
10	1	stop ring	steel
11	1	upper flange	IXEF (DN 40-150) aluminium (DN 200-300)
12	2	screw	10.9 zinc plated steel A4~A316 (CF8M body/ ASTM B148)
13	1	spring	1.4401 ~ A316 (antistatic device)

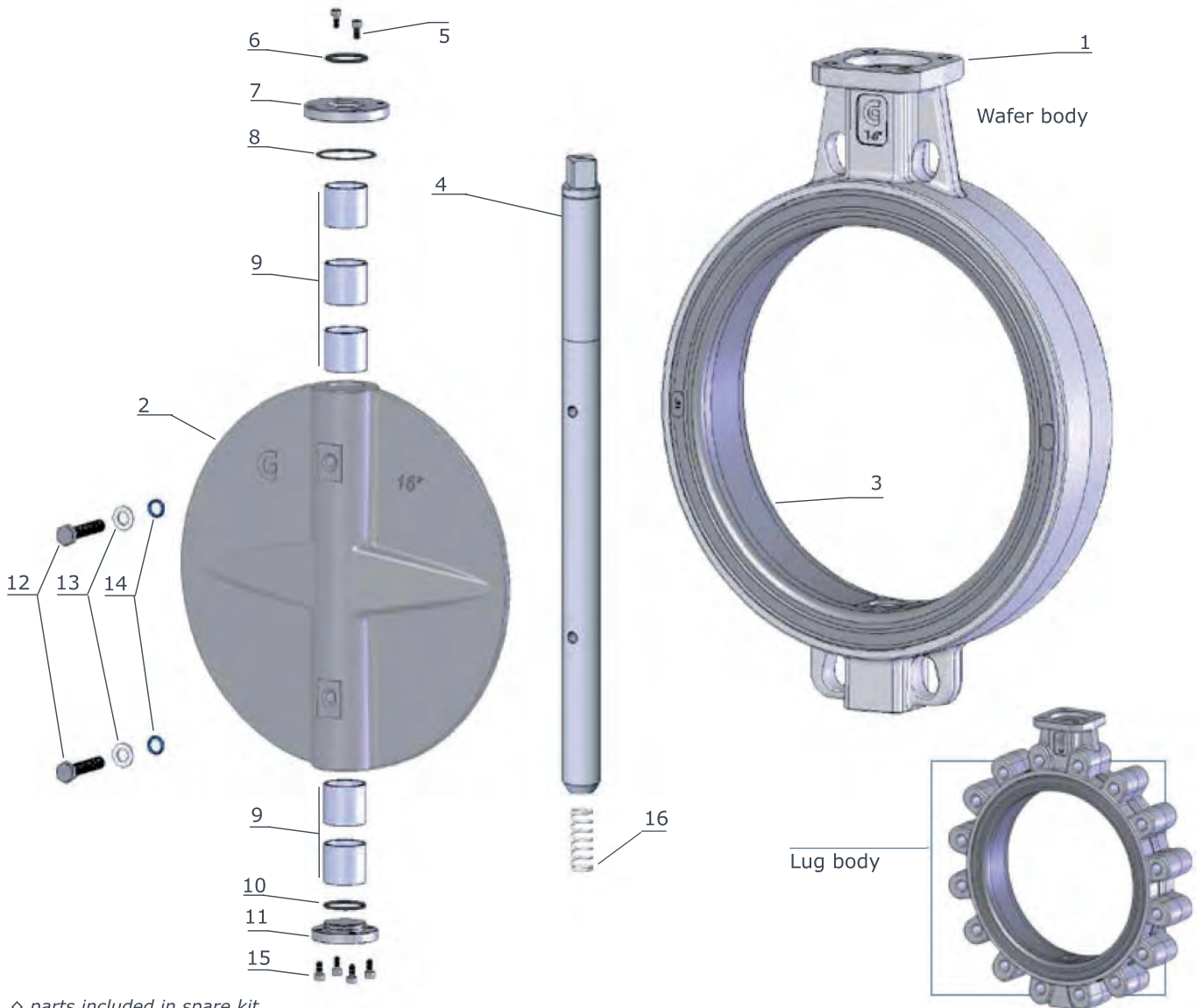
BVKA - Wafer BLKA - Lug
DN 200 - 300 • 8” - 12”
PN 10-16 • ANSI 150



◇ parts included in spare kit

item	q.ty	part	material
1	1	body	EN-GJS400-15 (GS400) EN 1.069~ A216-WCB 1.1156~A352-LCB EN 1.4408~A351-CF8M EN1982-CC333G~ASTM B148 - C958.00
2	1	disc	EN 1.4408~ A351-CF8M EN1982-CC333G~ASTM B148 - C958.00 EN 2.4602~HASTELLOY-CX2MW EN 1.4469 (A890 Gr. 5A) SUPER DUPLEX
3	1	body seat (vulcanized not replaceable)	NBR (BUNA®) EPDM EPDM HT FKM (VITON®)
4	1	shaft	EN 1.4016~A430 EN 1.4401~A316 (on request)
5	2	screw	10.9 zinc plated steel A4~A316 (CF8M body/ ASTM B148)
◇6	2	O.Ring	NBR (BUNA®)
7	2	washer	A4~A316
◇8	1	bush	bronze
◇9	1	shaft packing	NBR (BUNA®) FKM (VITON®) (on request)
10	1	plug packing	aluminium PTFE (CF8M body/ ASTM B148)
11	1	threaded plug	zinc plated steel 1.4401~A316 (CF8M body/ASTM B148)
12	1	upper flange	aluminium
13	1	stop ring	steel
14	2	screw	zinc plated steel
15	1	spring	1.4401 ~ A316 (antistatic device)

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

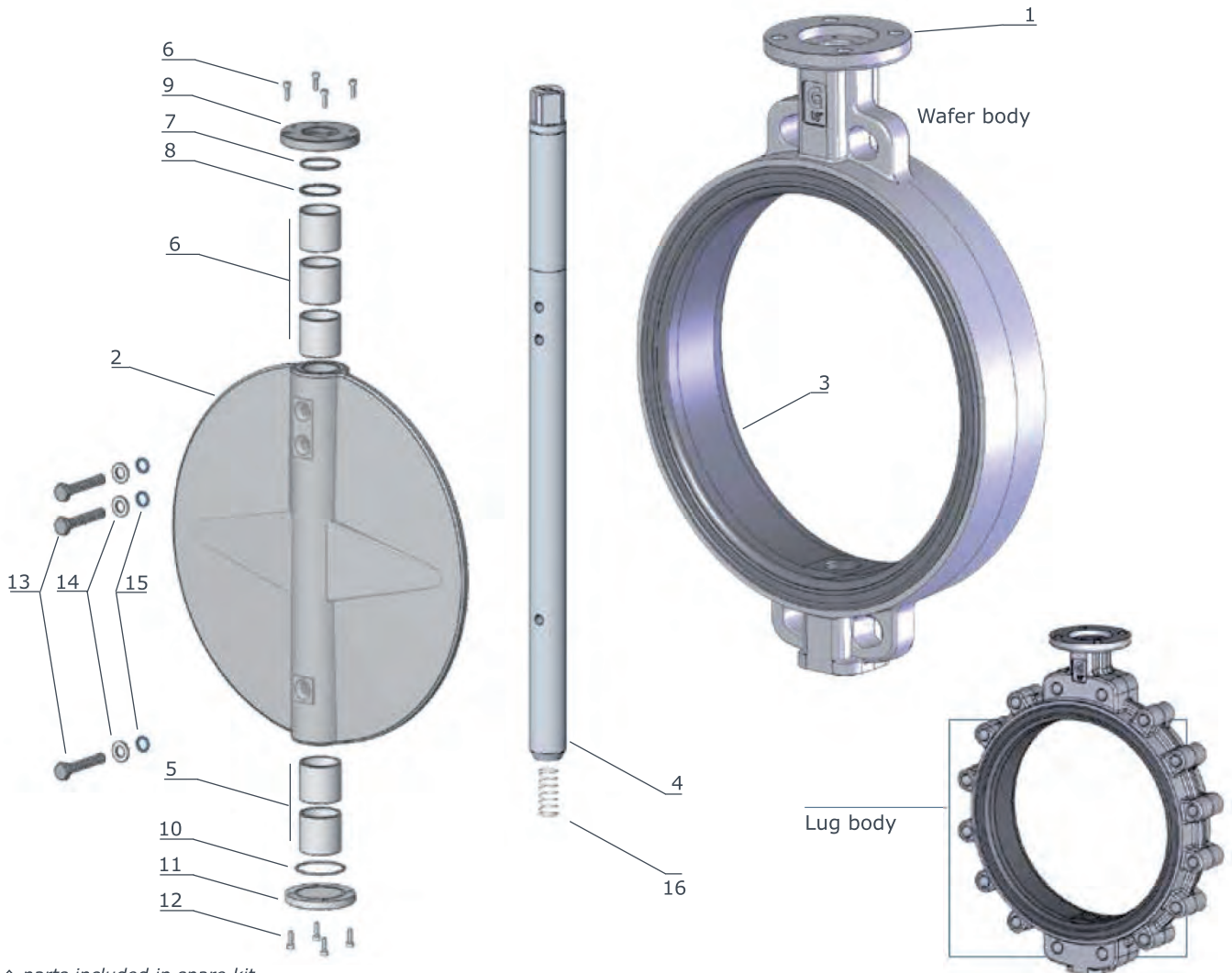


◇ parts included in spare kit

item	q.ty	part	material
1	1	body	EN-GJS400-15 (GS400) EN 1.069~ A216-WCB 1.1156~A352-LCB EN 1.4408~A351-CF8M EN1982-CC333G~ASTM B148 - C958.00
2	1	disc	EN 1.4408~ A351-CF8M EN1982-CC333G~ASTM B148 - C958.00 EN 2.4602~HASTELLOY-CX2MW EN 1.4469 (A890 Gr. 5A) SUPER DUPLEX
3	1	body seat (vulcanized not replaceable)	NBR (BUNA®) EPDM EPDM HT FKM (VITON®)
4	1	shaft	EN 1.4016~A430 EN 1.4401~A316 (on request)

item	q.ty	part	material
5	2	screw	10.9 zinc plated steel
◇6	1	O.ring	NBR (BUNA®)
7	1	upper flange	10.9 zinc plated steel
◇8	1	O.ring	NBR (BUNA®)
◇9	5	bush	bronze
◇10	1	O.ring	NBR (BUNA®)
11	1	lower flange	IXEF (DN 40-150) aluminium (DN 200-300) aluminio (DN 200-300)
12	2	screw	10.9 zinc plated steel
13	2	washer	A4~A316
◇14	2	O. ring	NBR (BUNA®)
15	4	screw	10.9 zinc plated steel
16	1	spring	1.4401 ~ A316 (antistatic device)

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

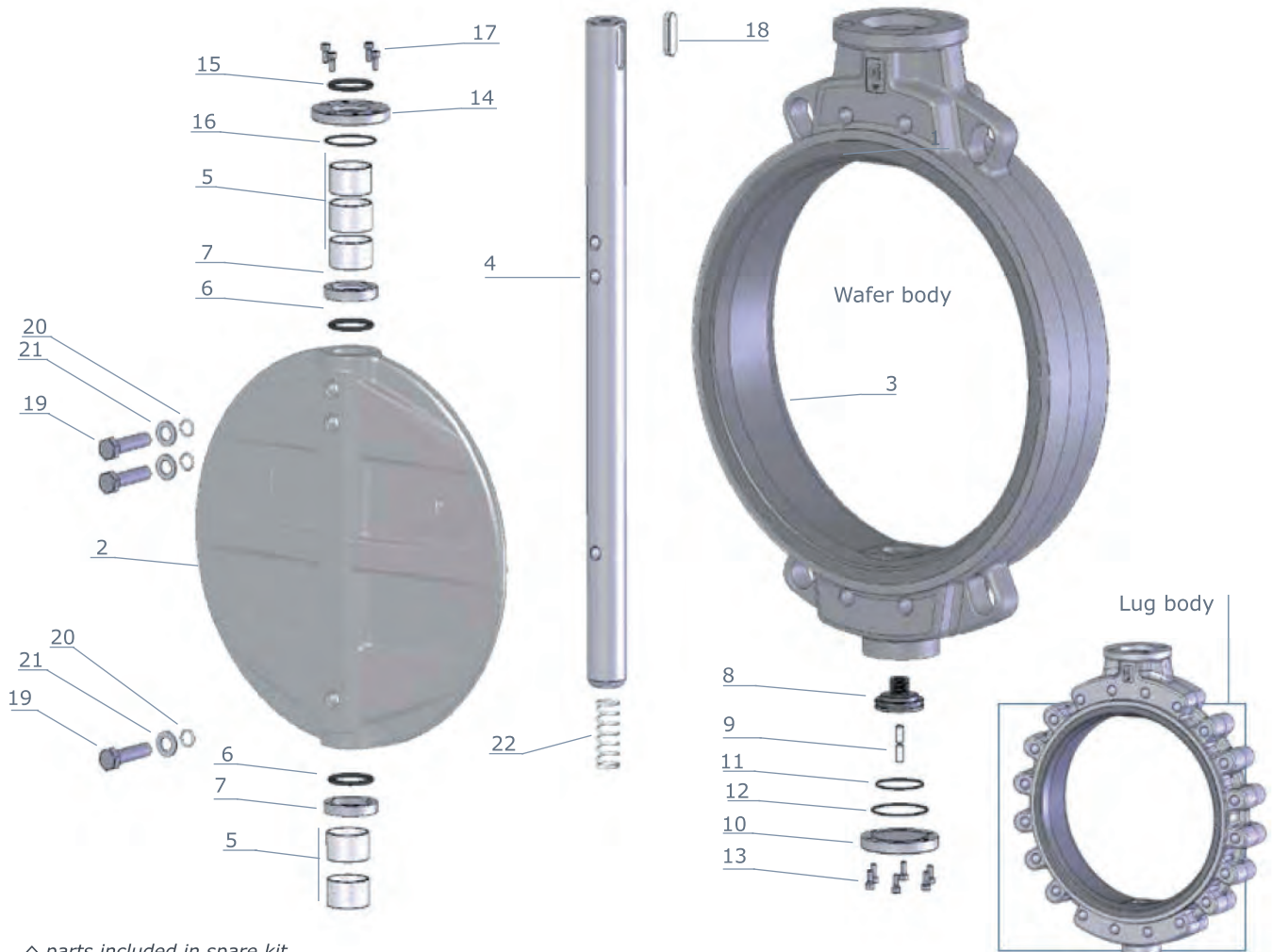


◇ parts included in spare kit

item	q.ty	part	material
1	1	body	EN-GJS400-15 (GS400) EN 1.069~ A216-WCB 1.1156~A352-LCB 1.4408~ A351-CF8M (A316) EN1982-CC333G~ASTM B148-C958.00
2	1	disc	EN 1.4408~ A351-CF8M EN1982-CC333G~ASTM B148-C958.00 EN 2.4602~HASTELLOY-CX2MW EN 1.4469 (A890 Gr. 5A) SUPER DUPLEX
3	1	body seat (vulcanized not replaceable)	NBR (BUNA®) EPDM EPDM HT FKM (VITON®)
4	1	shaft	EN 1.4016~A430 EN 1.4401~A316 (on request)
◇5	5	bush	steel + PTFE

item	q.ty	part	material
6	4	screw	8.8 zinc plated steel A4~A316 (CF8M body/ ASTM B148)
◇7	1	O.ring	NBR (BUNA®)
8	5	stop ring	steel
9	1	upper flange	zinc plated steel 1.4401~A316 (CF8M body/ASTM B148)
◇10	1	O.ring	NBR (BUNA®)
11	1	lower flange	zinc plated steel 1.4401~A316 (CF8M body/ASTM B148)
12	4	screw	8.8 zinc plated steel A4~A316 (CF8M body / ASTM B148)
13	2	screw	A4~A316
14	2	washer	A4~A316
◇15	2	O. ring	PTFE
16	1	spring	1.4401 ~ A316 (antistatic device)

BVKA - Wafer **BLKA** - Lug
 DN 600 - 800 • 24" - 32"
 PN 16 • ANSI 150



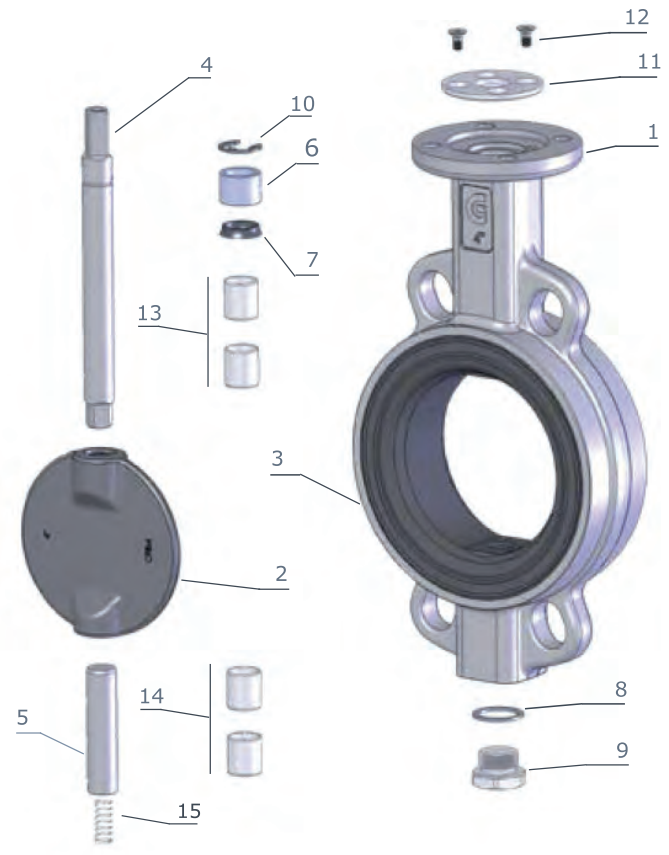
◇ parts included in spare kit

item	q.ty	part	material
1	1	body	EN-GJS400-15 (GS400) EN 1.069~ A216-WCB 1.1156~A352-LCB EN 1.4408~A351-CF8M EN1982-CC333G~ASTM B148 - C958.00
2	1	disc	EN 1.4408~ A351-CF8M EN1982-CC333G~ASTM B148 - C958.00 EN 2.4602~HASTELLOY-CX2MW EN 1.4469 (A890 Gr. 5A) SUPER DUPLEX
3	1	body seat (vulcanized not replaceable)	NBR (BUNA®) EPDM EPDM HT FKM (VITON®)
4	1	shaft	EN 1.4305~A303 EN 1.4401~A316 (on request)
◇5	5	bush	steel + PTFE
◇6	2	O.ring	NBR (BUNA®) FKM (VITON®) on request
7	2	O.ring housing	A4~A316

item	q.ty	part	material
8	1	shaft support	Bronze
9	2	adjusting screw	A4~A316
10	1	lower flange	zinc plated steel 1.4401~A316 (CF8M body/ASTM B148)
◇11	1	O.ring	NBR (BUNA®)
◇12	1	O.ring	NBR (BUNA®)
13	6	screw	8.8 zinc plated steel A4~A316 (CF8M body / ASTM B148)
14	1	upper flange	zinc plated steel 1.4401~A316 (CF8M body/ASTM B148)
◇15	1	O.ring	NBR (BUNA®)
◇16	1	O.ring	NBR (BUNA®)
17	4	screw	8.8 zinc plated steel A4~A316 (CF8M body / ASTM B148)
18	1	key	steel
19	3	screw	A4~A316
◇20	3	O.ring	PTFE
21	3	washer	A4~A316
22	1	spring	1.4401 ~ A316 (antistatic device)

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

item	q.ty	part	material
1	1	body	EN-GJS400-15 (GS400) EN 1.069~A216-WCB 1.1156~A352-LCB EN 1.4408~A351-CF8M
2	1	disc	EN 1.4408~A351-CF8M (A316) EN1982-CC333G~ASTM B148 - C958.00 EN 2.4602~HASTELLOY-CX2MW EN 1.4469 (A890 Gr. 5A) SUPER DUPLEX
3	1	body seat (vulcanized not replaceable)	NBR (BUNA®) EPDM EPDM HT FKM (VITON®)
4-5	1	upper shaft lower shaft	EN 1.4016~A430 EN 1.4401~A316 (on request)
◇6	1	bush	bronze
◇7	1	shaft packing	NBR (BUNA®) FKM (VITON®) (on request)
8	1	plug packing	aluminium PTFE (corpo CF8M / ASTM B148)
9	1	threaded plug	zinc plated steel 1.4401~A316 (CF8M body/ASTM B148)
10	1	stop ring	steel
11	1	upper flange	IXEF (DN 40-150) aluminium (DN 200-300)
12	2	screw	zinc plated steel A4~A316 (CF8M body/ ASTM B148)
◇13	2	upper bush	A105+PTFE
◇14	2	lower bush	A105+PTFE
15	1	spring	1.4401 ~ A316 (antistatic device)



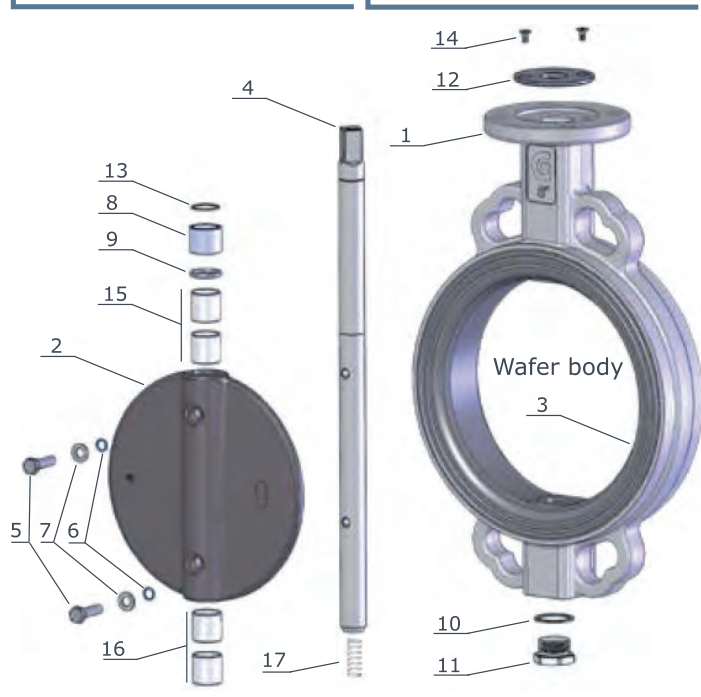
◇ parts included in spare kit

Wafer body

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

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

item	q.ty	part	material
1	1	body	EN-GJS400-15 (GS400)
2	1	disc	EN 1.4408~A351-CF8M EN1982-CC333G~ASTM B148 - C958.00 EN 2.4602~HASTELLOY-CX2MW EN 1.4469 (A890 Gr. 5A) SUPER DUPLEX
3	1	body seat (vulcanized not replace- able)	NBR (BUNA®) EPDM EPDM HT FKM (VITON®)
4	1	shaft	EN 1.4016~A430 EN 1.4401~A316 (on request)
5	2	screw	A4~A316
◇6	2	O.Ring	PTFE
7	2	washer	A4~A316
◇8	1	bush	bronze
◇9	1	shaft packing	NBR (BUNA®) FKM (VITON®) (on req.)
10	1	plug packing	aluminium PTFE (corpo CF8M / ASTM B148)
11	1	threaded plug	zinc plated steel 1.4401~A316 (CF8M body/ASTM B148)
12	1	upper flange	IXEF (DN 125-150) aluminium (DN 200-250)
13	1	stop ring	steel
14	2	screw	10.9 zinc plated steel A4~A316 (CF8M body/ ASTM B148))
◇15	2	upper bush	A105+PTFE
◇16	2	lower bush	A105+PTFE
17	1	spring	1.4401 ~ A316 (antistatic device)

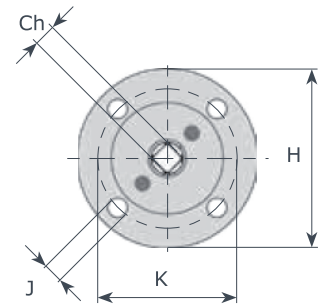
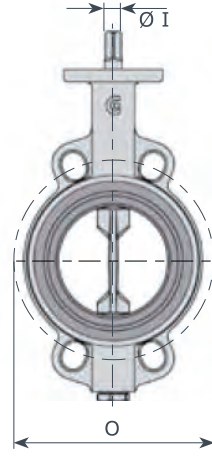
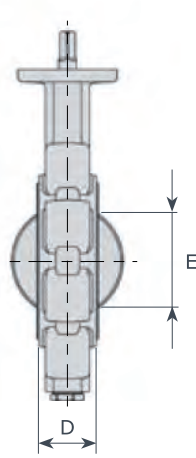
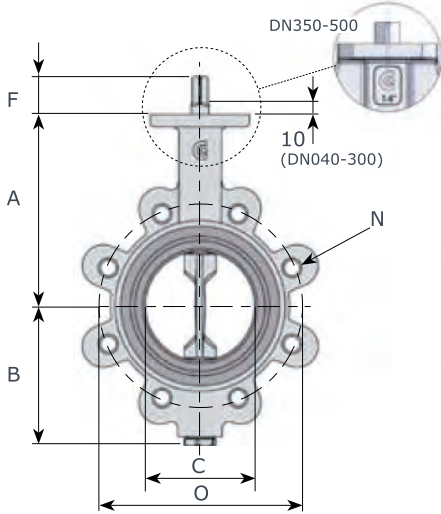


◇ parts included in spare kit

BVPD - Wafer **BLPD - Lug**

BVKI - Wafer **BLKI - Lug**

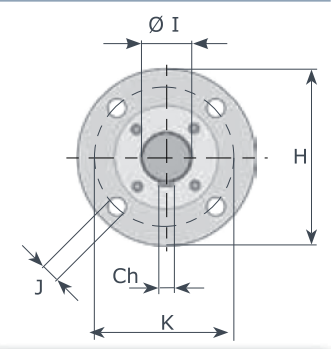
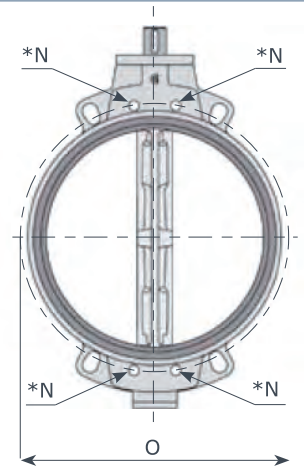
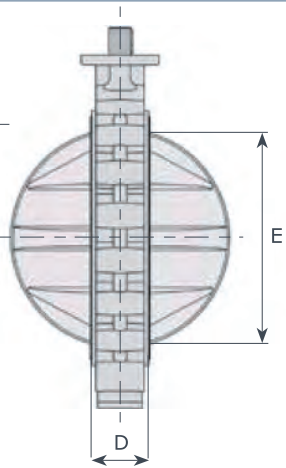
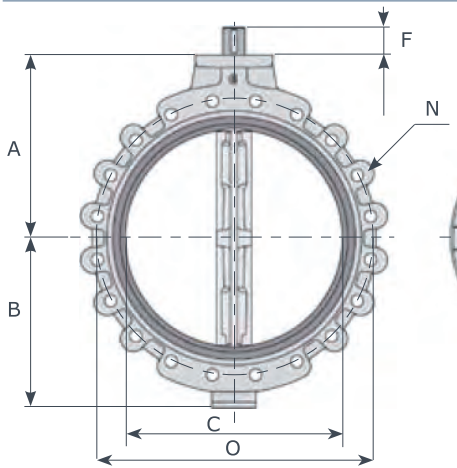
BVKA - Wafer **BLKA - Lug**



Upper flange - ISO 5211

DN 40 - 150	F07 - 4 holes
DN 200 - 300	F10 - 4 holes
DN 350 - 400	F12 - 4 holes
DN 450	F14 - 4 holes
DN 500	F14/16 - 4 holes

DN	A	B	C	D	E	F	Ø I	Ch	H	K	J	Kg															
												PN 6			PN 10			PN 16			ANSI 150			PD-KI		KA	
												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
350	330	280	341	78	332	28	35	27	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	28	40	27	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	37	45	36	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	37	45	36	210	140/165	18/22	M20	20	600	M24	20	620	M30	20	650	M27	20	635.0	140	180	165	205



Upper flange - ISO 5211

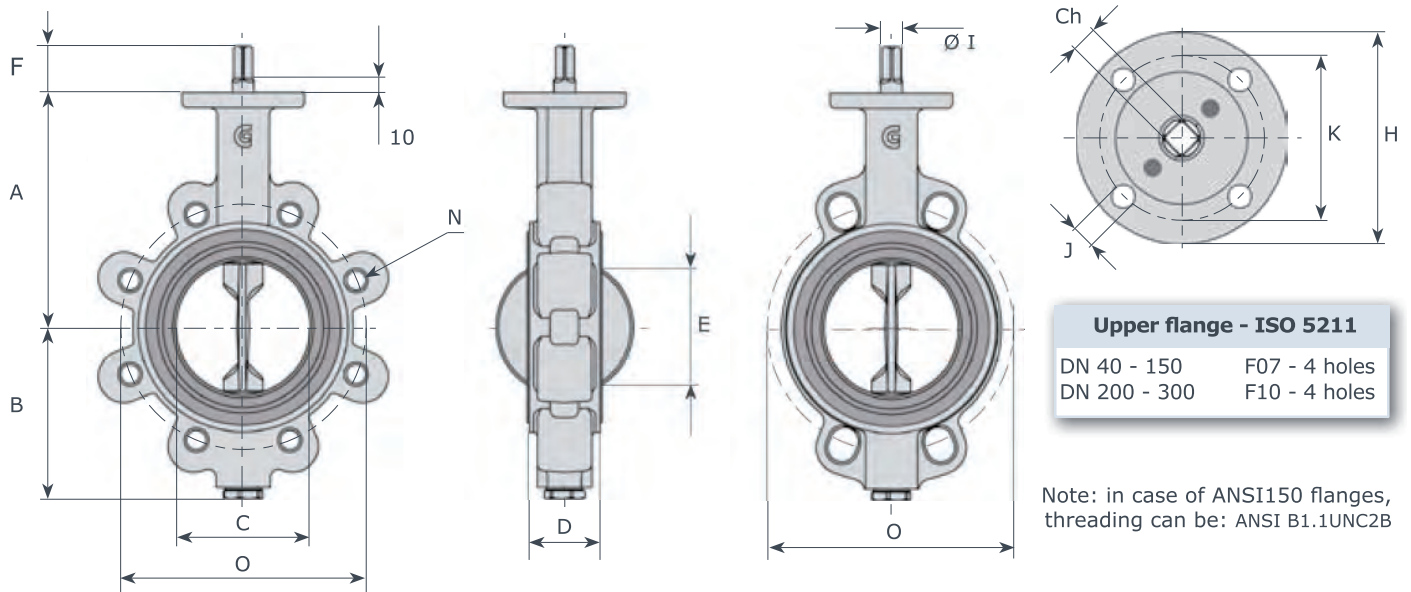
DN 600	F16 - 4 holes
DN 700 - 800	F25 - 8 holes

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

DN	A	B	C	D	E	F	Ø I	Ch	H	K	J	Kg															
												PN 6			PN 10			PN 16			ANSI 150			PD-KI		KA	
												N	n.	O	N	n.	O	N	n.	O	N	n.	O	W	L	W	L
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

BVKX - Wafer **BLKX** - Lug



DN	"	A	B	C	D	E	F	Ø I	Ch	H	K	J	PN 25			Kg.	
													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 ₂ O - 20°C			
working pressure BAR							
DN	0	6	10	DN	0	6	10
80	5	7	11	250	89	100	115
100	8	12	24	300	167	180	280
125	22	31	40	350	245	340	395
150	40	45	49	400	382	405	420
200	47	58	90	450	395	418	445

Seat body FKM/natural rubber				fluid H ₂ O - 20°C			
working pressure BAR							
DN	0	6	DN	0	6	DN	0
80	7	11	250	120	134	500	607
100	11	16	300	225	241	600	1795
125	29	42	350	465	495	700	2310
150	52	65	400	515	540	800	3376
200	62	78	450	578	627	-	-

KI Series - Torque values - Nm - safety factor excluded

Seat body NBR/EPDM				fluid H ₂ O - 20°C			
working pressure BAR				working pressure BAR			
DN	0	6	10	16	DN	0	6
40	11	11	13	14	150	55	60
50	11	12	13	15	200	100	107
65	11	16	16	18	250	160	175
80	20	30	36	40	300	260	270
100	40	43	45	48	350	410	450
125	48	52	52	70	400	450	480

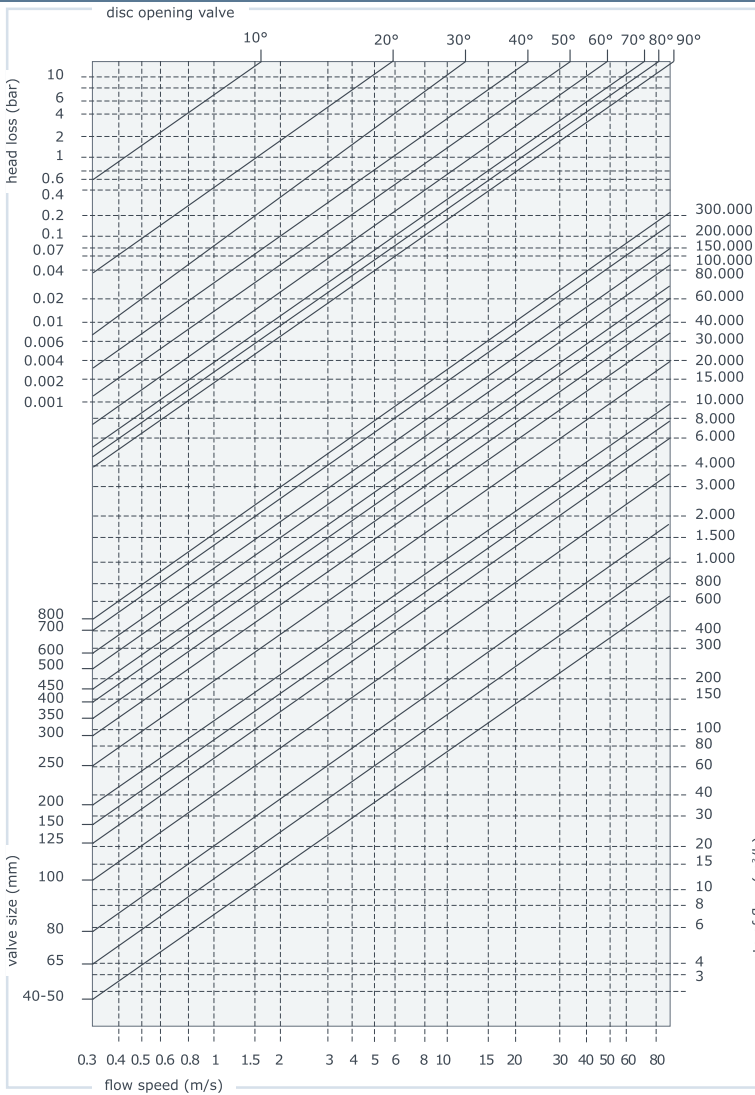
Seat body FKM/natural rubber				fluid H ₂ O - 20°C			
working pressure BAR				working pressure BAR			
DN	0	6	10	16	DN	0	6
40	14	14	16	17	150	66	72
50	14	15	16	18	200	120	129
65	14	20	20	22	250	192	210
80	24	36	44	48	300	312	330
100	48	52	54	58	350	498	545
125	60	62	64	84	400	550	584

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

Seat body NBR/EPDM				fluid H ₂ O - 20°C			
working pressure BAR				working pressure BAR			
DN	0	6	10	16	20	25	DN
40	12	12	14	15	15	-	300
50	12	13	14	16	17	20	350
65	12	17	17	19	20	31	400
80	21	32	38	42	44	49	450
100	42	45	47	50	53	65	500
125	50	55	55	74	77	82	600
150	58	63	88	95	99	103	700
200	105	112	189	221	231	320	800
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 (m³/h)
 PS specific gravity (water=1)
 ΔP pressure drop (bar)

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

Q rate of flow (m³/h)
 PS specific gravity (air=1)
 ΔP pressure drop (bar) (less than 1/2 inlet pressure)
 P₂ 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)
 P₂ outlet pressure

Calculation of the rate of flow equivalent to H2O

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







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

Q_e 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

 <p>EN1092-1 Tipo 11</p> <p>UNI 2280/81 2282/67</p> <p>DIN 2631 2632 2633</p> <p>A150 B16.5 welding neck</p>	 <p>EN1092-1 Tipo 01</p> <p>UNI 2276/77 2278/67</p> <p>DIN 2575 2576 2577</p> <p>A150 B16.5 slip on</p>	 <p>EN1092-1 Tipo 02/32</p> <p>UNI 6088/89 6090</p> <p>DIN 2641 2642 2643</p>	 <p>EN1092-1 Tipo 04/34</p> <p>UNI 2289/90 2291</p> <p>DIN 2672 2673 2674</p>	 <p>EN1092-1 Tipo 02/33</p>	 <p>NOTE only valves with vulcanized seat (KA/KX) are recommended with these flanges</p>
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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

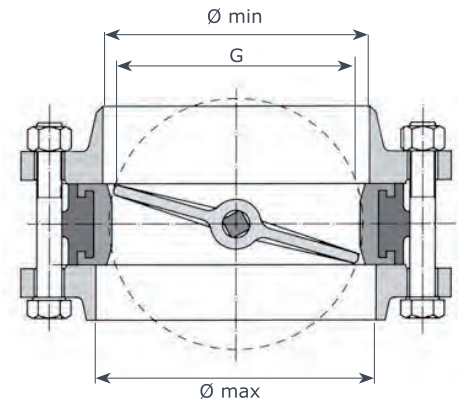
Bolts and rods dimensions

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.



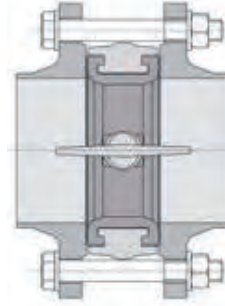
DN	40	50	65	80	100	125	150	200	250	300	350	400	450	500	600	700	800
G	36	35	50	67	87	113	140	191	241	289	332	376	430	475	575	670	757
\varnothing min	46	44	60	75	98	122	148	196	244	296	342	378	440	485	585	681	782
\varnothing max	49	62	80	93	118	146	175	225	275	330	372	422	450	500	600	717	815

Installation

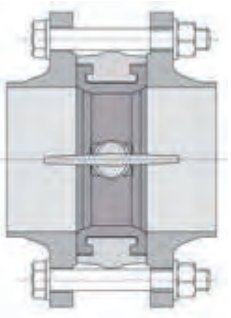
Assembly



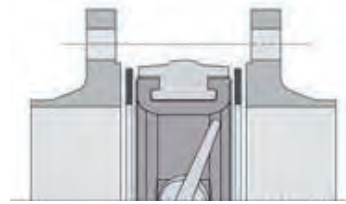
1 - Leave a space between flanges so that valve can be easily inserted and removed.



2 - Open completely the valve before tightening flanges.



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

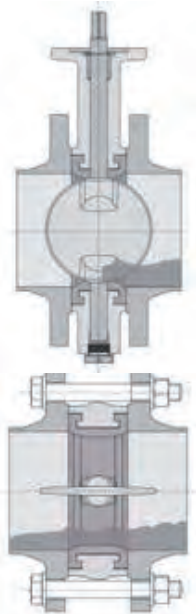


4 - **NOTE:** do not insert other packing between flange and valve.

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

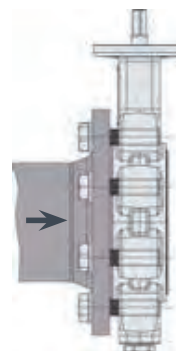
Right
Horizontal rotation axis

←
powders or muddy fluids

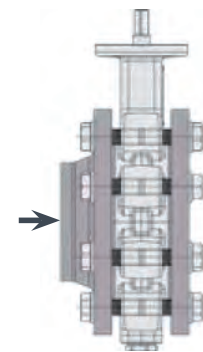
This type of installation is always advisable with valve diameters over DN 400.

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.



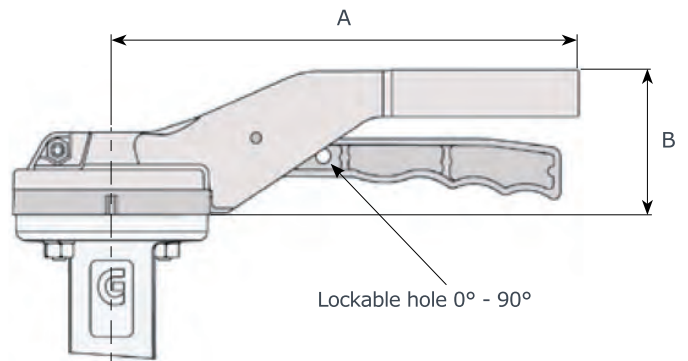
Type A installation without counterflange



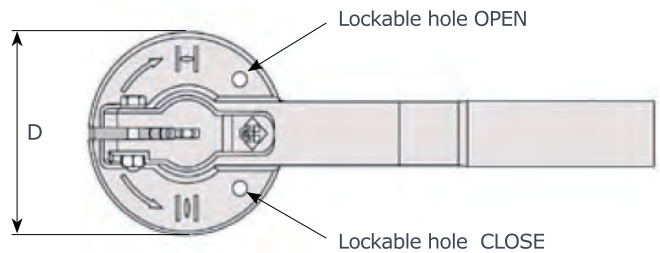
Type B installation with counterflange

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

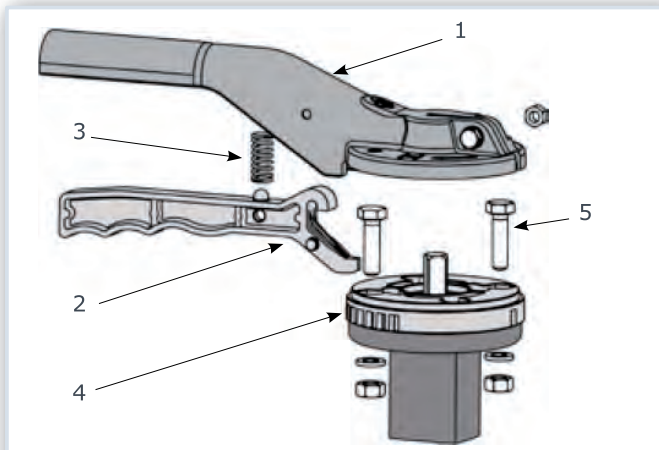
Handlevers



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	--

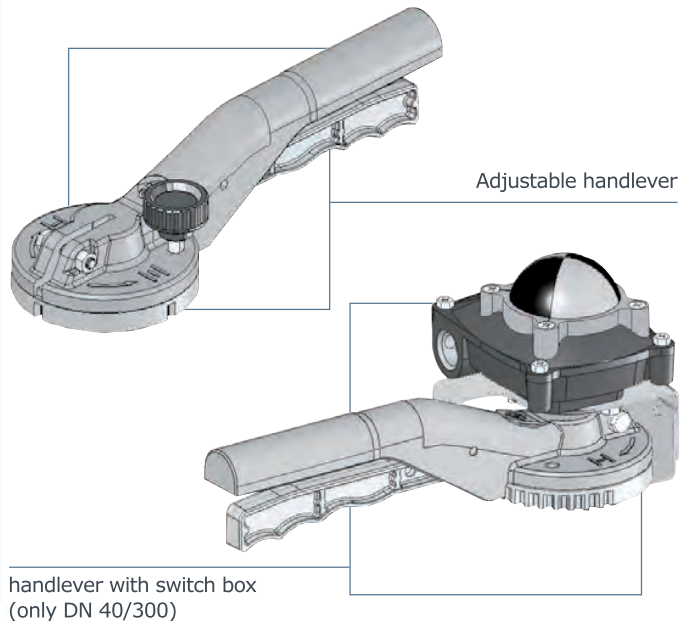


Note: DN 250 - 300 handlever not recommended (PD series excluded)

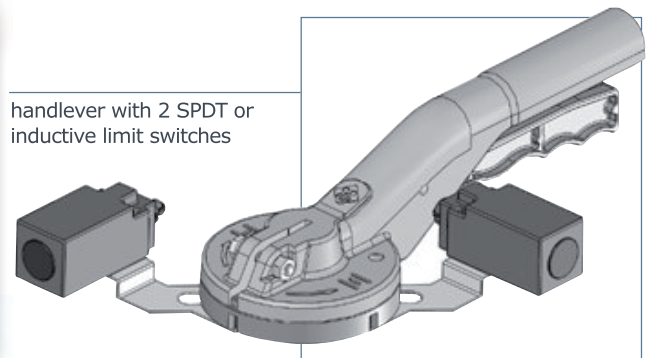
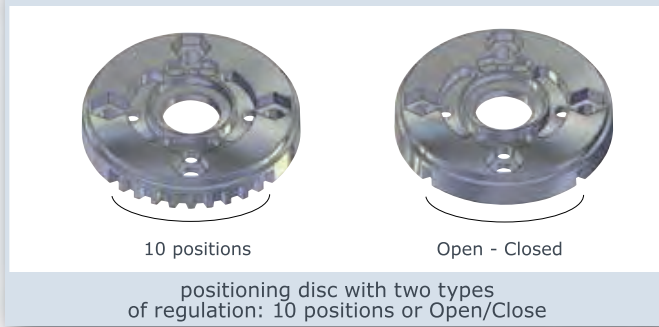


		DN40 - 300	DN40 - 150
1	lever	aluminium	A351 CF8M
2	trigger	aluminium	A351 CF8M
3	spring	stainless steel	stainless steel
4	disc positioning	aluminium	A351 CF8M
5	screws	stainless steel	stainless steel

OPTIONALS



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

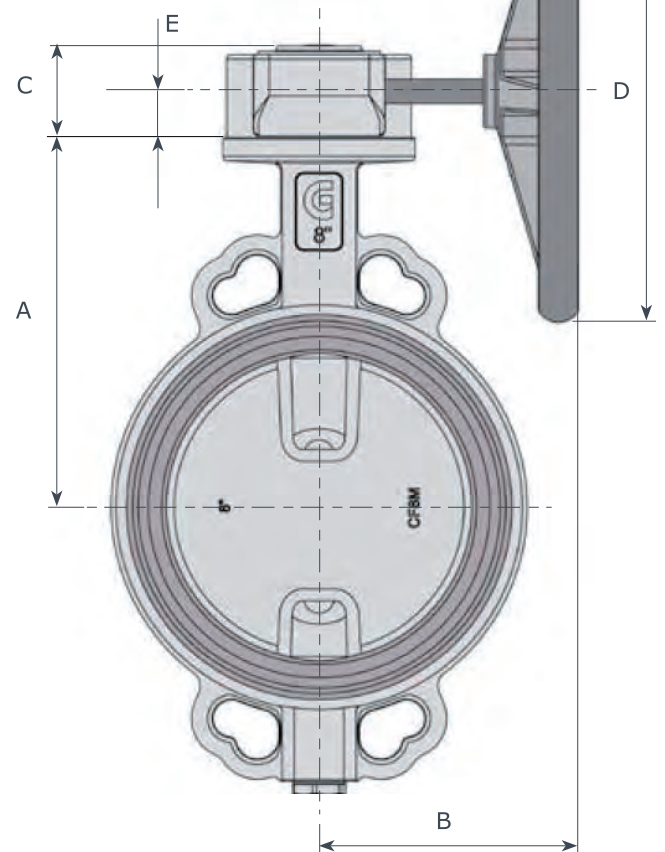
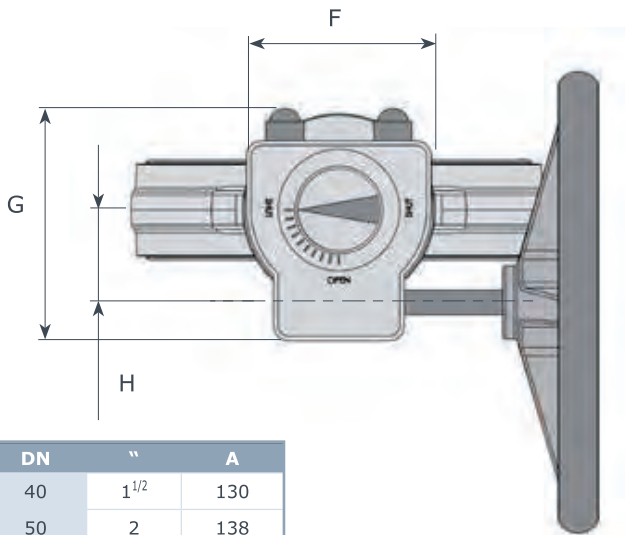


Gearboxes Aluminium body - HW Series

Coupling valve - actuators

DN	"	PD	KT			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	--	--

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

* for DN 350: D =350

Gearboxes Cast Iron body - GH/AB Series

Coupling valve - actuators

DN	"	PD	KI	KA	KX	DN	"	A
40	1½	--	GH10	GH10	GH10	40	1 1/2	130
50	2	--	GH10	GH10	GH10	50	2	138
65	2½	--	GH10	GH10	GH10	65	2 1/2	144
80	3	GH10	GH10	GH10	GH10	80	3	158
100	4	GH10	GH10	GH10	GH10	100	4	173
125	5	GH10	GH10	GH10	GH10	125	5	186
150	6	GH10	GH10	GH10	GH20	150	6	202
200	8	GH20	GH20	GH10	GH20	200	8	240
250	10	GH20	GH20	GH10	AB550	250	10	270
300	12	GH20	GH20	AB550	--	300	12	300
350	14	GH30	GH30	AB880	--	350	14	330
400	16	GH30	GH30	AB880	--	400	16	355
450	18	GH55	GH55	AB1250	--	450	18	400
500	20	GH55	GH55	AB1250	--	500	20	422
600	24	GH88	GH88	AB1954	--	600	24	495
700	28	GH99	GH99	AB6804	--	700	28	550
800	32	GH99	GH195	AB6806	--	800	32	640

GH/AB series

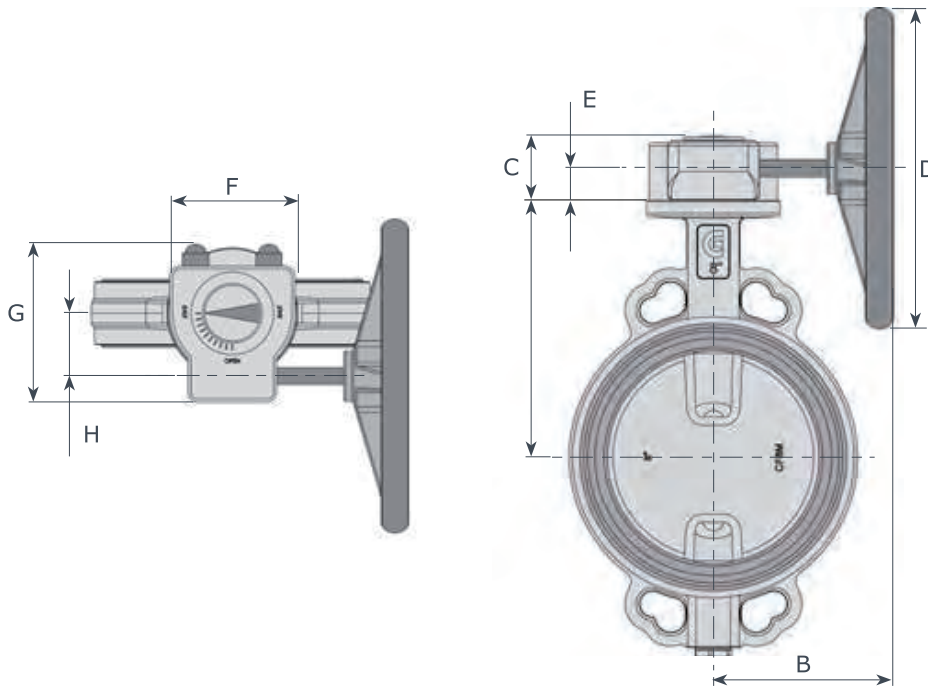
body: ductile iron
 worm gears: steel
 sector gear: ductile iron
 shaft: steel
 handwheel: steel
 protection: IP67
 T: -20 / +80 °C

low/high temperature execution on request

Waterproof valve shaft extension

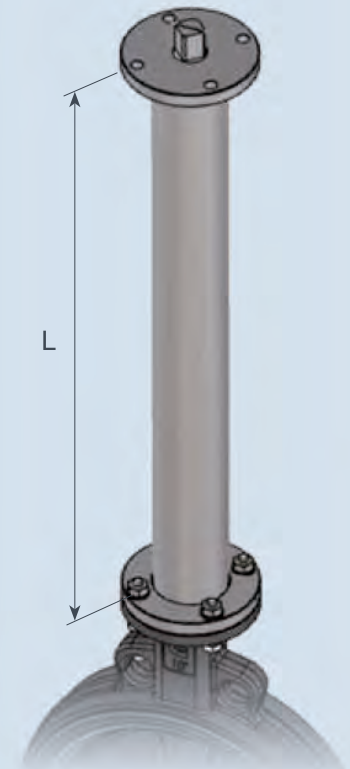
When necessary, it's possible to extend the valve shaft as indicated in the figure. Construction is in carbon steel with protective paint (on request stainless steel).

"L" measure should be indicated when ordering.



Mod. GH	B	C	D	E	F	G	H	I	Kg
GH10	170	64	200	29	90	122.5	44	52.5	2.2
GH20	179	65.5	200	29	125	144	52	65	3.6
GH21	214	73	300	36	125	162	62	74	4.8
GH30	265	89	350	46	150	202	79	89	12
GH55	300	99	400	49.5	210	229	89	105	13
GH88	350	350	500	55	225	267	112	112	20.1
GH99	374	374	500	55	300	317	124	150	28.5
GH195	430	430	600	63	300	350	129	150	37

Mod. AB	B	C	D	E	F	G	H	I	Kg
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



Our technical department is available to solve special applications.

Pneumatic actuator DA / DOUBLE ACTING

Rack & Pinion Actuators

Max air pressure: 8 bar - 5,5 bar (AT series)
 Temperature: -20/+85°C
 -20/+80°C (AT series)

Torque range: 8/5059 Nm
 13,2/9173 Nm a 5,5 bar
 (AT series)

Double travel stop open/close: ±5°
 -5°/+15 close (serie AT)
 +5°/-15 open (serie AT)

valve seat: EPDM/NBR

fluid: H₂O

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	≈	≈	≈	≈	VA 52	24	VA 52	24	VA 52	24	VA 52	24	VA 52	24	≈	≈
50	2	138	≈	≈	≈	≈	VA 52	24	VA 52	24	VA 52	24	VA 52	24	VA 63	24	VA 63	20
65	2½	144	≈	≈	≈	≈	VA 52	24	VA 52	24	VA 52	24	VA 63	20	VA 63	20	VA 75	16
80	3	158	VA 52	24	VA 52	24	VA 75	16	VA 75	16	VA 75	16	VA 75	16	VA 75	16	VA 75	16
100	4	173	VA 52	24	VA 63	20	VA 75	16	VA 75	16	VA 75	16	VA 75	16	VA 85	16	VA 85	16
125	5	186	VA 75	16	VA 75	16	VA 75	16	VA 75	16	VA 75	16	VA 85	16	VA 100	16	VA 100	16
150	6	202	VA 75	16	VA 75	16	VA 85	16	VA 100	16	VA 100	16	VA 100	16	VA 100	16	VA 100	16
200	8	240	VA 85	20	VA 100	20	VA 100	20	VA 115	20	VA 125	14	VA 125	14	VA 125	14	VA 140	14
250	10	270	VA 115	14	VA 115	14	VA 115	14	VA 125	14	VA 140	14	VA 140	14	VA 140	14	VA 160	14
300	12	300	VA 115	14	VA 140	14	VA 140	14	VA 140	14	VA 140	14	VA 160	14	VA 160	14	≈	≈
350	14	330	VA 140	0	VA 160	0	VA 160	0	VA 180	0	VA 200	0	VA 200	0	VA 230	100	≈	≈
400	16	355	VA 160	0	VA 160	0	VA 160	0	VA 180	0	VA 200	0	VA 200	0	VA 230	100	≈	≈
450	18	400	VA 180	0	VA 180	0	VA 180	0	VA 200	0	VA 200	0	VA 230	0	VA 270	100	≈	≈
500	20	422	VA 180	0	VA 180	0	VA 180	0	VA 200	0	VA 200	0	VA 270	0	VA 330	0	≈	≈
600	24	495	VA 270	100	≈	≈	VA 270	100	VA 330	100	≈	≈	AT 1001	100	≈	≈	≈	≈
700	28	550	VA 270	100	≈	≈	VA 330	150	VA 330	150	≈	≈	≈	≈	≈	≈	≈	≈
800	32	640	VA 330	150	≈	≈	VA 330	150	VA 330	150	≈	≈	≈	≈	≈	≈	≈	≈

valve seat: EPDM/NBR

fluid: Aria

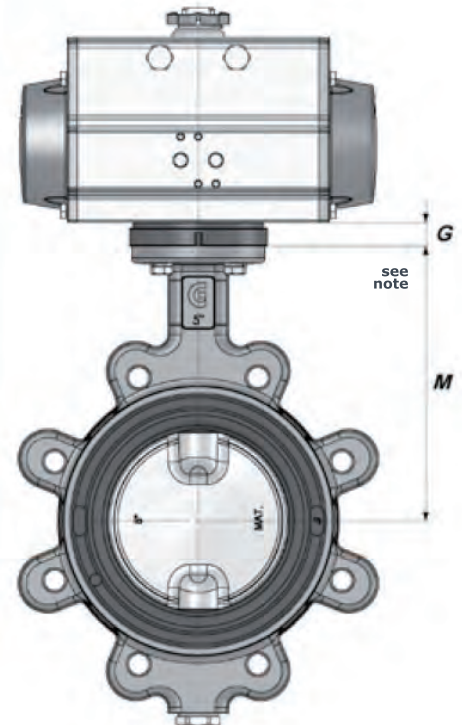
T: 20°C

operating air pressure: ≥5,5 bar

valve seat: FKM (n.a. for PD 10bar)

fluid: H₂O

DN	"	M	PD				KI							
			P=6 B	G	P=10 B	G	P=6 B	G	P=10 B	G	P=16 B	G		
40	1½	130	≈	≈	≈	≈	VA 52	16	VA 52	24	VA 63	20	VA 63	20
50	2	138	≈	≈	≈	≈	VA 52	24	VA 63	20	VA 63	20	VA 63	20
65	2½	144	≈	≈	≈	≈	VA 63	20	VA 63	20	VA 63	20	VA 63	20
80	3	158	VA 52	24	VA 52	24	VA 75	16	VA 75	16	VA 75	16	VA 75	16
100	4	173	VA 52	24	VA 75	20	VA 75	16	VA 85	16	VA 85	16	VA 85	16
125	5	186	VA 75	16	VA 75	16	VA 85	16	VA 85	16	VA 100	16	VA 100	16
150	6	202	VA 85	16	VA 85	16	VA 85	16	VA 100	16	VA 100	16	VA 100	16
200	8	240	VA 85	20	VA 100	29	VA 115	20	VA 125	14	VA 125	14	VA 125	14
250	10	270	VA 115	14	VA 115	14	VA 125	14	VA 140	14	VA 160	14	VA 160	14
300	12	300	VA 125	14	VA 140	14	VA 140	14	VA 160	14	VA 160	14	VA 160	14
350	14	330	VA 150	0	VA 180	0	VA 180	0	VA 200	0	VA 230	100	VA 230	100
400	16	355	VA 180	0	VA 180	0	VA 180	0	VA 200	0	VA 230	100	VA 230	100
450	18	400	VA 180	0	VA 180	0	VA 180	0	VA 200	0	VA 230	0	VA 230	0
500	20	422	VA 200	0	VA 200	0	VA 200	0	VA 230	0	VA 270	0	VA 270	0
600	24	495	VA 270	100	≈	≈	VA 330	100	VA 330	100	≈	≈	≈	≈
700	28	550	VA 330	100	≈	≈	VA 330	150	AT 1001	150	≈	≈	≈	≈
800	32	640	VA 330	150	≈	≈	VA 330	150	AT 1001	150	≈	≈	≈	≈



G dimension can change depending on valve/actuator coupling.

Pneumatic actuator SR / SPRING RETURN

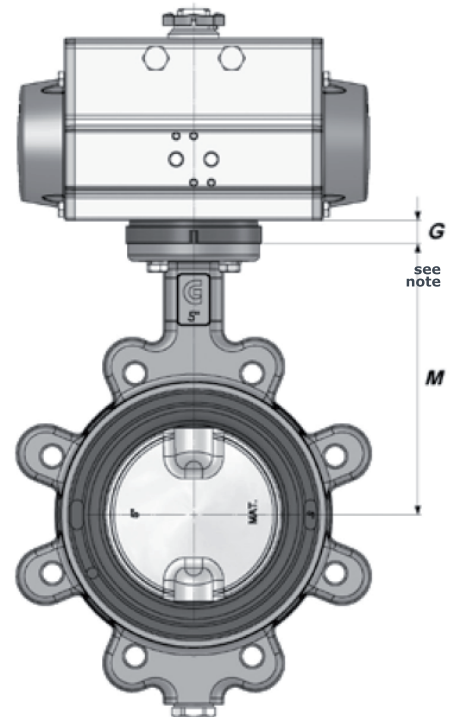
Rack & Pinion Actuators

Max air pressure: 8 bar - 5,5 bar (AT series) Torque range: 8/5059 Nm Double travel stop open/close: ±5°
 Temperature: -20/+85°C 13,2/9173 Nm a 5,5 bar -5°/+15 close (serie AT)
 -20/+80°C (AT series) (AT series) +5°/-15 open (serie AT)

valve seat: EPDM/NBR			fluid: H ₂ O				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	≈	≈	≈	≈	VA 75 SR	16	VA 75 SR	16	VA 75 SR	24	VA 75 SR	16	≈	≈
50	2	138	≈	≈	≈	≈	VA 75 SR	16	VA 75 SR	16	VA 75 SR	24	VA 75 SR	16	VA 85 SR	16
65	2½	144	≈	≈	≈	≈	VA 75 SR	16	VA 75 SR	16	VA 75 SR	20	VA 85 SR	16	VA 100 SR	16
80	3	158	VA 63 SR	20	VA 75 SR	16	VA 85 SR	16	VA 100 SR	16	VA 100 SR	16	VA 100 SR	16	VA 115 SR	16
100	4	173	VA 75 SR	24	VA 85 SR	20	VA 100 SR	16	VA 115 SR	16	VA 115 SR	16	VA 115 SR	16	VA 115 SR	16
125	5	186	VA 100 SR	16	VA100 SR	16	VA 115 SR	16	VA 115 SR	16	VA 125 SR	16	VA 125 SR	16	VA 125 SR	16
150	6	202	VA 100 SR	16	VA 115 SR	16	VA 115 SR	16	VA 125 SR	16	VA 125 SR	16	VA 140 SR	16	VA 140 SR	16
200	8	240	VA 115 SR	14	VA 125 SR	14	VA 140 SR	14	VA 160 SR	14	VA 160 SR	14	VA 180 SR	14	VA 200 SR	14
250	10	270	VA 140 SR	14	VA 140 SR	14	VA 160 SR	14	VA 180 SR	50	VA 200 SR	50	VA 200 SR	50	VA 230 SR	50
300	12	300	VA 160 SR	14	VA 180 SR	50	VA 180 SR	50	VA 200 SR	50	VA 200 SR	50	VA 230 SR	50	≈	≈
350	14	330	VA 200 SR	0	VA 200 SR	0	VA 230 SR	100	VA 230 SR	100	VA 270 SR	100	VA 330 SR	100	≈	≈
400	16	355	VA 200 SR	0	VA 230 SR	100	VA 230 SR	100	VA 270 SR	100	VA 270 SR	100	VA 330 SR	100	≈	≈
450	18	400	VA 230 SR	0	VA 230 SR	0	VA 230 SR	0	VA 270 SR	100	VA 330 SR	100	AT 1001 SR	100	≈	≈
500	20	422	VA 230 SR	0	VA 230 SR	0	VA 230 SR	0	VA 270 SR	0	VA 330 SR	0	AT 1001 SR	0	≈	≈
600	24	495	VA 330 SR	100	≈	≈	AT 1001 SR	100	AT 1001 SR	100	≈	≈	≈	≈	≈	≈
700	28	550	AT 1001 SR	150	≈	≈	≈	≈	≈	≈	≈	≈	≈	≈	≈	≈
800	32	640	≈	≈	≈	≈	≈	≈	≈	≈	≈	≈	≈	≈	≈	≈

valve seat: EPDM/NBR fluid: Aria T: 20°C operating air pressure: ≥5,5 bar
 valve seat: FKM (n.a. for PD 10bar) fluid: H₂O

DN	"	M	PD				KI							
			P=6 B	G	P=10 B	G	P=6 B	G	P=10 B	G	P=16B	G		
40	1½	130	≈	≈	≈	≈	VA 75 SR	16	VA 75 SR	16	VA 75 SR	16		
50	2	138	≈	≈	≈	≈	VA 75 SR	16	VA 75 SR	16	VA 75 SR	16		
65	2½	144	≈	≈	≈	≈	VA 85 SR	16	VA 85 SR	16	VA 85 SR	16		
80	3	158	VA 75 SR	16	VA 75 SR	16	VA 100 SR	16	VA 115 SR	16	VA 115 SR	16		
100	4	173	VA 75 SR	16	VA 100 SR	16	VA 115 SR	16	VA 115 SR	16	VA 125 SR	16		
125	5	186	VA 100 SR	16	VA 115 SR	16	VA 115 SR	16	VA 115 SR	16	VA 125 SR	16		
150	6	202	VA 115 SR	16	VA 115 SR	16	VA 125 SR	16	VA 140 SR	16	VA 140 SR	14		
200	8	240	VA 125 SR	16	VA 140 SR	14	VA 160 SR	14	VA 180 SR	50	VA 180 SR	50		
250	10	270	VA 160 SR	14	VA 160 SR	14	VA 180 SR	50	VA 180 SR	50	VA 200 SR	50		
300	12	300	VA 180 SR	50	VA 200 SR	14	VA 200 SR	50	VA 200 SR	50	VA 230 SR	50		
350	14	330	VA 230 SR	100	VA 230 SR	100	VA 230 SR	100	VA 270 SR	100	VA 270 SR	100		
400	16	355	VA 230 SR	100	VA 230 SR	100	VA 230 SR	100	VA 270 SR	100	VA 330 SR	100		
450	18	400	VA 270 SR	100	VA 230 SR	0	VA 270 SR	100	VA 270 SR	100	VA 330 SR	100		
500	20	422	VA 270 SR	0	VA 230 SR	0	VA 270 SR	0	VA 330 SR	0	AT 1001 SR	0		
600	24	495	AT 1001 SR	150	≈	≈	≈	≈	≈	≈	≈	≈		
700	28	550	≈	≈	≈	≈	≈	≈	≈	≈	≈	≈		
800	32	640	≈	≈	≈	≈	≈	≈	≈	≈	≈	≈		

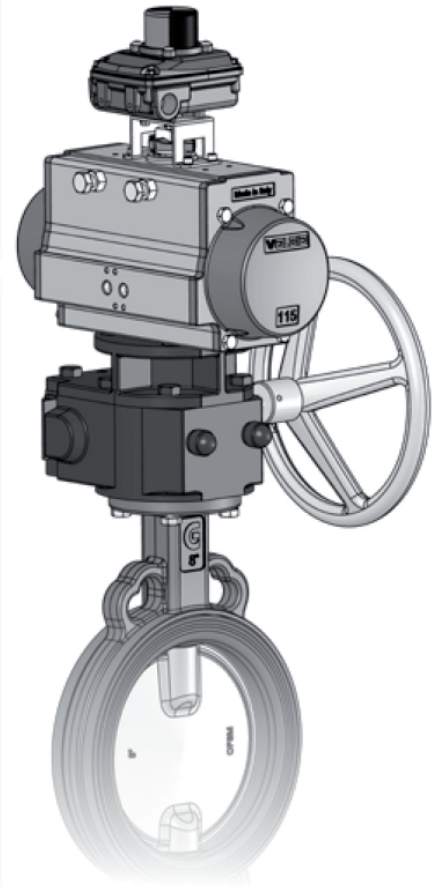


G dimension can change depending on valve/actuator coupling.

Declutchable manual gearboxes

GD Series			
body:	aluminium	shaft:	stainless steel
worm gears:	steel	handwheel:	steel
sector gear:	ductile iron	protection:	IP65
		T:	-20 / +120 °C
Ø valve	DA actuator double action	SR actuator spring return	emergency gearbox type
DN040-150	VA 63-100	VA 75-115	GD070
		VA 125	GD102
DN200	VA 85-100		GD070
DN200-300	VA 115-160	VA 115-160	GD102
		VA 180-200	GD140
DN350-500	VA 140-200	VA 200	GD140

ILGD Series			
body:	ductile iron GGG40	shaft:	steel
worm gears:	steel	handwheel:	steel
sector gear:	ductile iron	protection:	IP65 (IP67 on req.)
		T:	-20 / +120 °C
Ø valve	DA actuator double action	SR actuator spring return	emergency gearbox type
DN 40÷150	VA 63-100	VA 63-100	ILGD200
	VA 115-125	VA 115-160	ILGD600
		VA 180-200	ILGD900
DN 200÷300	VA 85-160	VA 115-160	ILGD600
	VA 180-200	VA 180-200	ILGD900
	VA 230	VA 230	ILGD1500
DN 350÷400	VA 140-200	VA 200	ILGD900
	VA 230	VA 230	ILGD1500
	VA 270	270	ILGD2400
DN 450	VA 180-230	VA 230	ILGD1500
	VA 270	VA 270-330	ILGD2400
DN 500	VA 180-230	VA 230	ILGD1500
	VA 270	VA 270	ILGD2400
	VA 330	VA 330	ILGD5000
DN 600	VA 270		ILGD2400
	VA 330	VA 330	ILGD5000
DN 700	VA 270-330-AT1001		ILGD5000
		AT1001	ILGD16000
DN 800	VA 330-AT1001		ILGD16000

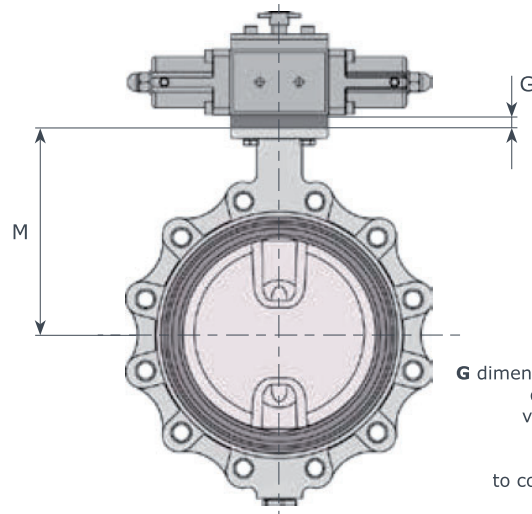


Hydraulic actuators ARES

- Technical 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 adjustment 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 H₂O - T = 20°C - oil pressure: 60 Bar

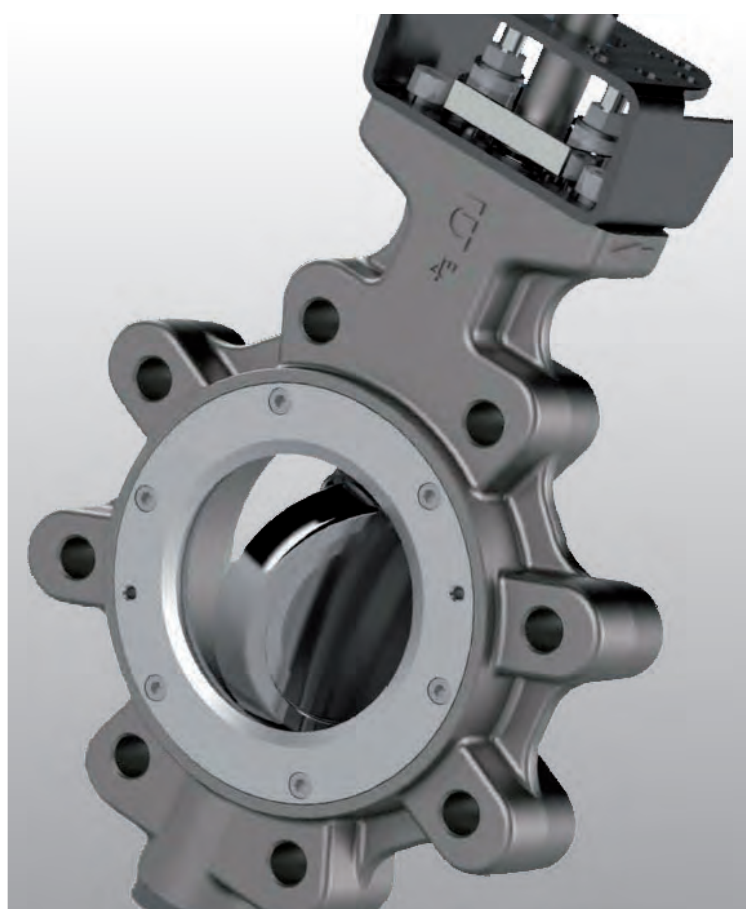
DN	"	DA type - Double Acting								SR type - Spring close							
		PD series	G	KI series	G	KA series	G	KX series	G	PD series	G	KA series	G	KA series	G	KX series	G
40	1 ^{1/2}	≈	≈	H 28	0	H 28	0	≈	≈	H 40 SRA	0	H 40 SRA	0	H 40 SRA	0	≈	≈
50	2	≈	≈	H 28	0	H 28	0	H 28	0	H 40 SRA	0	H 40 SRA	0	H 40 SRA	0	H 40 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 H₂O - 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	≈	≈	≈	≈	≈	≈	≈	≈	≈	≈	≈	≈
700	28	H 80	100	≈	≈	≈	≈	≈	≈	≈	≈	≈	≈	≈	≈	≈	≈

Butterfly Valves

HD Series



HD series	204
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BVHD - Wafer DN 40 - 600 • 1"½ - 24"

BLHD - Lug DN 40 - 600 • 1"½ - 24"

Max working pressure:

BVHD/BLHD DN 40+600: **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 2014/68/EU - Mod. H

Face to face:

DIN EN 558 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



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



BODY

material	references	standard coating	DN
Carbon steel (wafer, lug)	EN 1.0619 (ASTM A216-WCB)	High-temp coating - grey color	40-600
Stainless steel (wafer, lug)	EN 1.4408 (A351 CF8M)	-	40-600
Austenitic Stainless steel	EN 1.4547 (A351 CK3MCuN)	-	40-600
SUPERDUPLEX	EN 1.4469 (A890 Gr. 5A)	-	40-600

DISC

material	references	DN
Stainless steel	EN 1.4408 (A351 CF8M)	40-600
Austenitic Stainless steel	EN 1.4547 (A351 CK3MCuN)	40-600
SUPERDUPLEX	EN 1.4469 (A890 Gr. 5A)	40-600

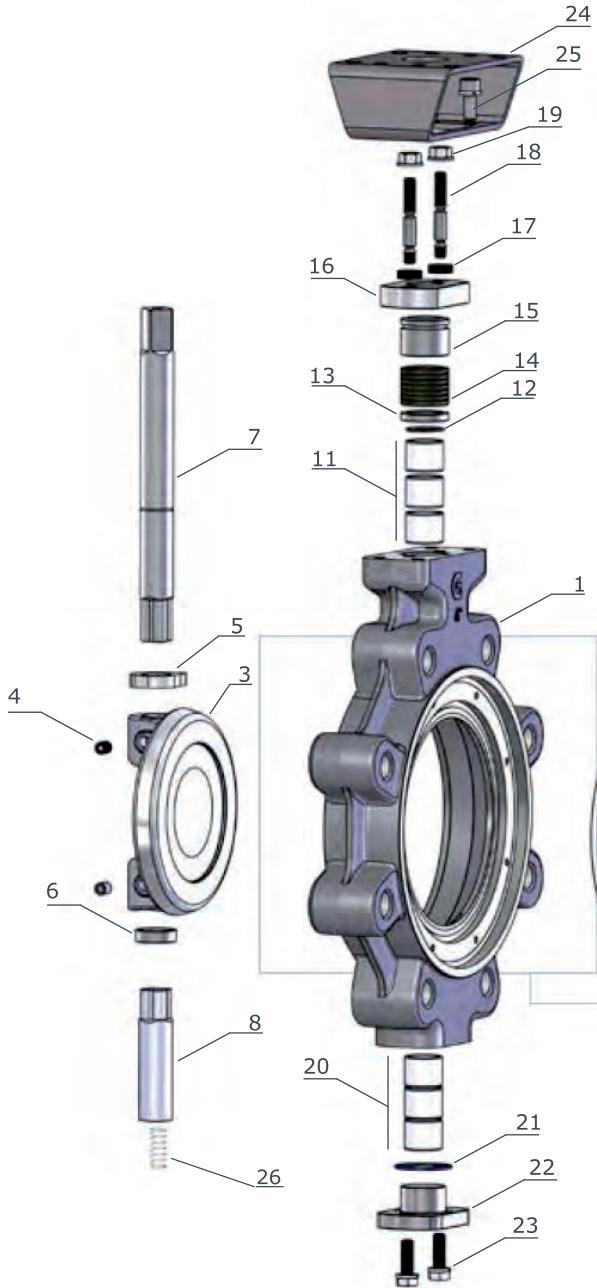
SEDE

ref.	material	working temp.
RT	RTFE (PTFE reinforced)	Min: -55°C - Max: +230°C
IN	Inconel 625	Min: -55°C - Max: +450°C
FS	RTFE + Inconel 625	Min: -55°C - Max: +230°C / +450°C

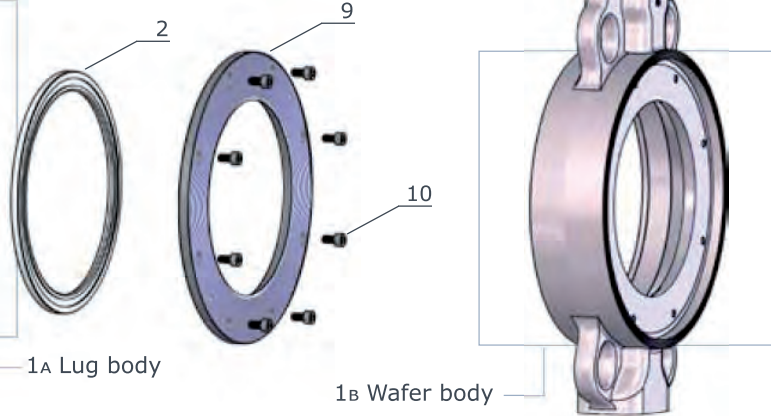
On request can be supplied other materials as: LCB, Hastelloy, Uranus, Alloy, Super Duplex, Special steels, Special bronzes.
Special coating on request.

BVHD - Wafer • RTFE seat
 DN 40 - 600 • 1”½ - 24”
 PN 10 - 16 - 25 • ANSI 150

BLHD - Lug • RTFE seat
 DN 40 - 600 • 1”½ - 24”
 PN 10 - 16 - 25 • ANSI 150



item	q.ty	part	material
1	1	body a: Lug b: Wafer	• EN 1.0619 (ASTM A216-WCB) • EN 1.4408 (A351 CF8M) • EN 1.4547 (A351 CK3MCuN) * • EN 1.4469 (A890 Gr. 5A) *
◇ 2	1	soft seat	• RTFE (PTFE reinforced)
3	1	disc	• EN 1.4408 (A351 CF8M) • EN 1.4547 (A351 CK3MCuN) • EN 1.4469 (A890 Gr. 5A)
4	2	locking pins	• A4 ~ A316
5	1	upper spacer	• EN 1.4401 (A316)
6	1	lower spacer	• EN 1.4401 (A316)
7	1	upper shaft	• EN 1.4542 (A564 A630)
8	1	lower shaft	• EN 1.4542 (A564 A630)
9	1	seat retaining flange	• EN 1.4404 (A316L)
10	8	screw	• A4 ~ A316
◇ 11	3	upper bush	• stainless steel + PTFE • steel + PTFE



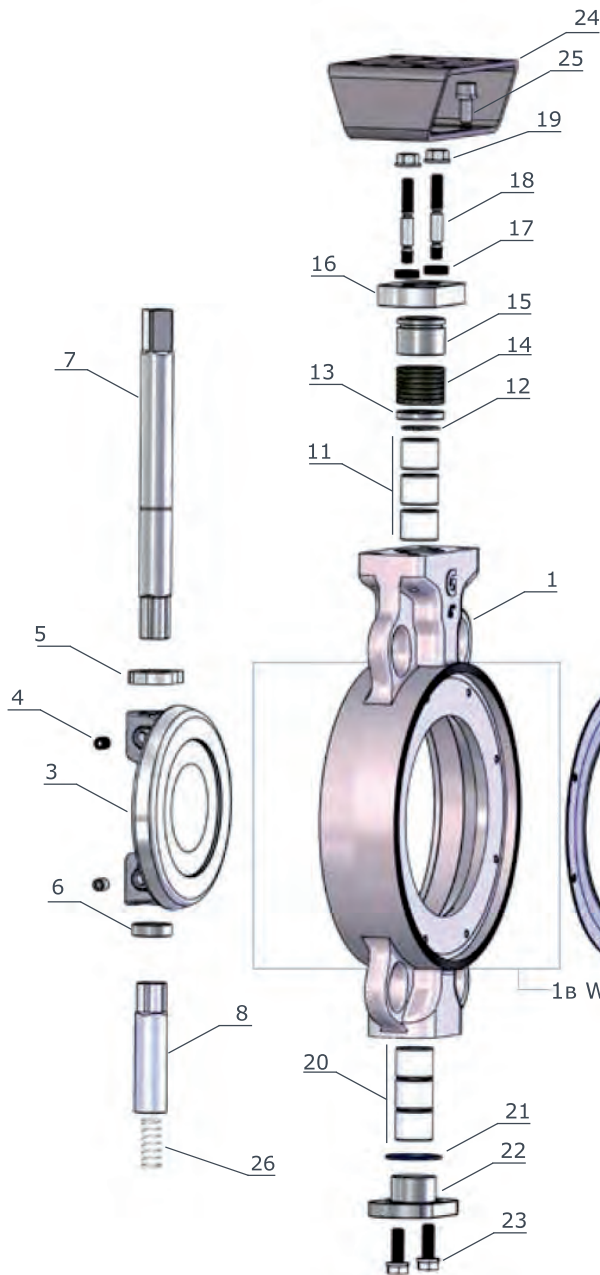
item	q.ty	part	material
12	1	retaining ring	• AISI 301
13	1	thrust block	• EN 1.4401 (A316)
◇ 14	1	shaft packing	• graphite • PTFE (on request)
15	1	gland	• EN 1.4401 (A316)
16	1	gland flange	• EN 1.4401 (A316)
17	2	springs set	• AISI 301
18	2	rods	• A4 ~ A316
19	2	nut	• A2 ~ A304
◇ 20	3	lower bush	• stainless steel + PTFE • steel + PTFE
◇ 21	1	O-ring	• PTFE
22	1	lower plug	• EN 1.4401 (A316)
23	2	screw	• A4 ~ A316
24	1	upper flange	• steel epoxy coated
25	4	screw	• A4 ~ A316
26	1	spring	• 1.4401 ~ A316 (antistatic device)

◇ parts included in spare kit

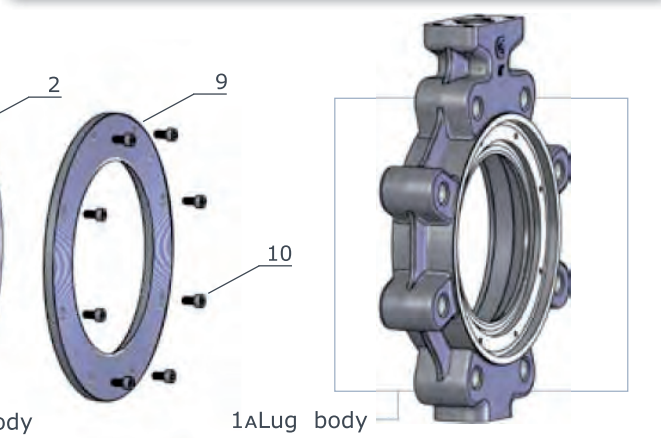
* with special material body the components in contact with the fluid will also be in a suitable material

BVHD - Wafer • Inconel seat
 DN 40 - 600 • 1”½ - 24”
 PN 10 - 16 - 25 • ANSI 150

BLHD - Lug • Inconel seat
 DN 40 - 600 • 1”½ - 24”
 PN 10 - 16 - 25 • ANSI 150



item	q.ty	part	material
1	1	body A: Lug B: Wafer	• EN 1.0619 (ASTM A216-WCB) • EN 1.4408 (A351 CF8M) • EN 1.4547 (A351 CK3MCuN) * • EN 1.4469 (A890 Gr. 5A) *
◇ 2	1	metallic seat	• Inconel 625 + graphite
3	1	disc	• EN 1.4408 (A351 CF8M) • EN 1.4547 (A351 CK3MCuN) • EN 1.4469 (A890 Gr. 5A)
4	2	locking pins	• A4 ~ A316
5	1	upper spacer	• EN 1.4401 (A316)
6	1	lower spacer	• EN 1.4401 (A316)
7	1	upper shaft	• EN 1.4542 (A564 A630)
8	1	lower shaft	• EN 1.4542 (A564 A630)
9	1	seat retaining flange	• EN 1.4404 (A316L)
10	8	screw	• A4 ~ A316
◇ 11	3	upper bush	• stainless steel + PTFE • steel + PTFE



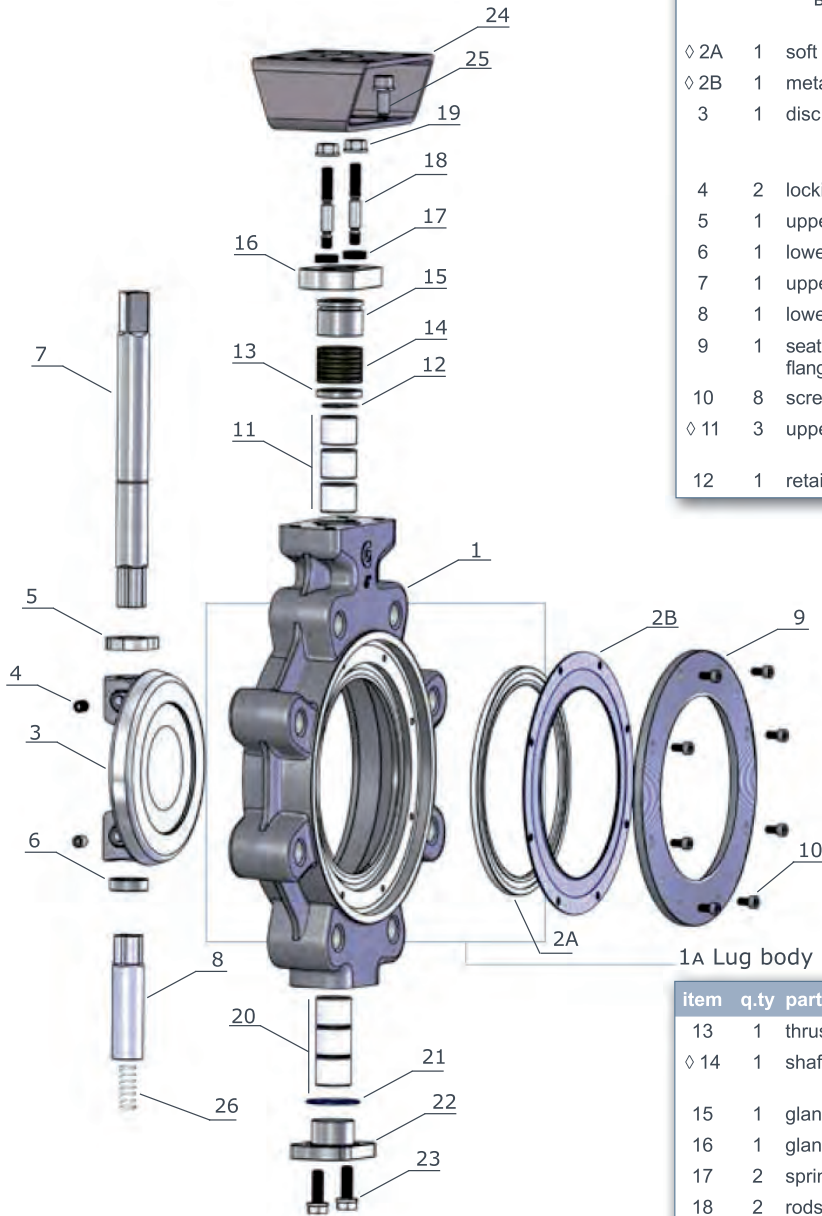
item	q.ty	part	material
12	1	retaining ring	• AISI 301
13	1	thrust block	• EN 1.4401 (A316)
◇ 14	1	shaft packing	• graphite • PTFE (on request)
15	1	gland	• EN 1.4401 (A316)
16	1	gland flange	• EN 1.4401 (A316)
17	2	springs set	• AISI 301
18	2	rods	• A4 ~ A316
19	2	nut	• A2 ~ A304
◇ 20	3	lower bush	• stainless steel + PTFE • steel + PTFE
◇ 21	1	packing	• graphite
22	1	lower plug	• EN 1.4401 (A316)
23	2	screw	• A4 ~ A316
24	1	upper flange	• steel epoxy coated
25	4	screw	• A4 ~ A316
26	1	spring	• 1.4401 ~ A316 (antistatic device)

◇ parts included in spare kit

* with special material body the components in contact with the fluid will also be in a suitable material

BVHD - Wafer • "FIRE SAFE" design
 DN 40 - 600 • 1"½ - 24"
 PN 10-16-25 • ANSI 150

BLHD - Lug • "FIRE SAFE" design
 DN 40 - 600 • 1"½ - 24"
 PN 10-16-25 • ANSI 150



item	q.ty	part	material
1	1	body A: Lug B: Wafer	• EN 1.0619 (ASTM A216-WCB) • EN 1.4408 (A351 CF8M) • EN 1.4547 (A351 CK3MCuN) * • EN 1.4469 (A890 Gr. 5A) *
◇ 2A	1	soft seat	• RTFE (PTFE reinforced)
◇ 2B	1	metallic seat	• Inconel 625 + graphite
3	1	disc	• EN 1.4408 (A351 CF8M) • EN 1.4547 (A351 CK3MCuN) • EN 1.4469 (A890 Gr. 5A)
4	2	locking pins	• A4 ~ A316
5	1	upper spacer	• EN 1.4401 (A316)
6	1	lower spacer	• EN 1.4401 (A316)
7	1	upper shaft	• EN 1.4542 (A564 A630)
8	1	lower shaft	• EN 1.4542 (A564 A630)
9	1	seat retaining flange	• EN 1.4404 (A316L)
10	8	screw	• A4 ~ A316
◇ 11	3	upper bush	• stainless steel + PTFE • steel + PTFE
12	1	retaining ring	• AISI 301

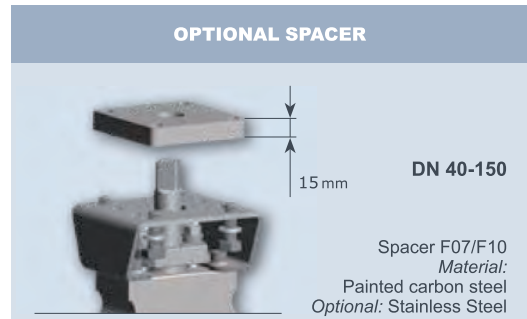
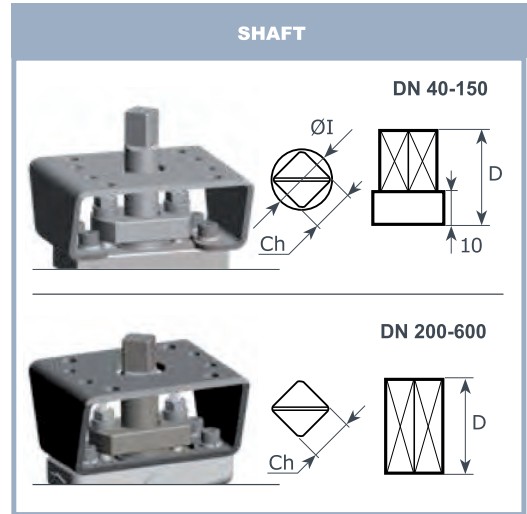
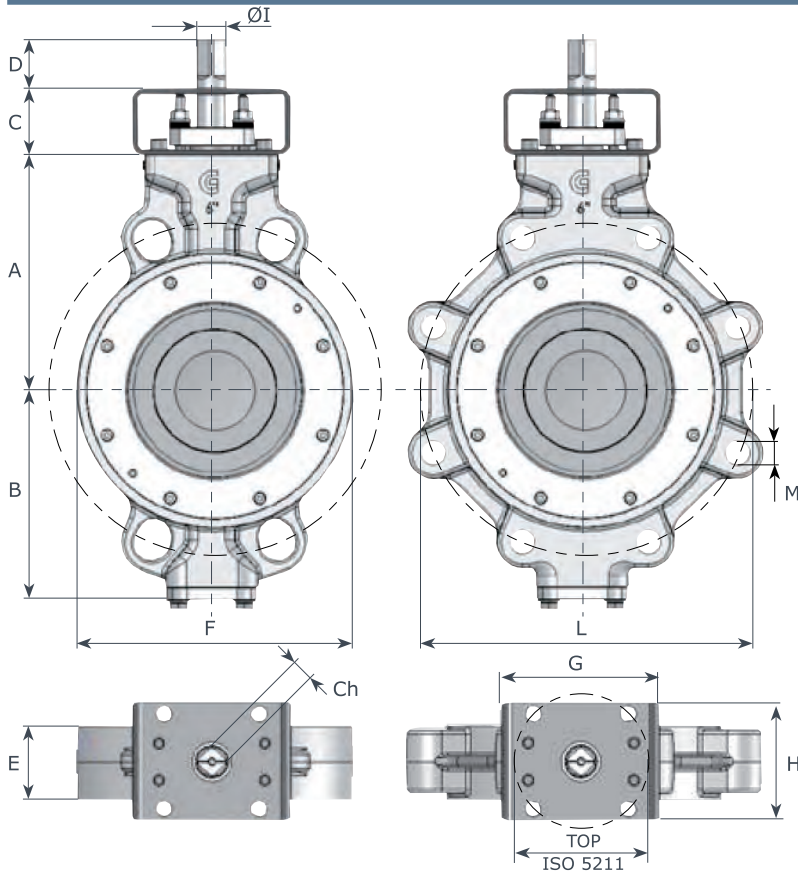


item	q.ty	part	material
13	1	thrust block	• EN 1.4401 (A316)
◇ 14	1	shaft packing	• graphite • PTFE (on request)
15	1	gland	• EN 1.4401 (A316)
16	1	gland flange	• EN 1.4401 (A316)
17	2	springs set	• AISI 301
18	2	rods	• A4 ~ A316
19	2	nut	• A2 ~ A304
◇ 20	3	lower bush	• stainless steel + PTFE • steel + PTFE
◇ 21	1	packing	• graphite
22	1	lower plug	• EN 1.4401 (A316)
23	2	screw	• A4 ~ A316
24	1	upper flange	• steel epoxy coated
25	4	screw	• A4 ~ A316
26	1	spring	• 1.4401 ~ A316 (antistatic device)

◇ parts included in spare kit

* with special material body the components in contact with the fluid will also be in a suitable material

BVHD/BLHD dimensions



DN	"	A	B	C	D	E	F	G	H	Ø I	Ch	TOP
40	1 1/2	113	76	50	34	39	85	100	70	14	11	F05/F07
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	23	61	270	120	90	28	22	F07/F10
250	10	257	232	80	23	69	325	160	130	30	22	F12/F14
300	12	300	270	80	28	78	378	160	130	35	27	F12/F14
350	14	328	304	100	28	92	432	200	140	40	27	F14
400	16	387	340	100	37	102	485	200	140	45	36	F16
500	20	451	427	100	47	127	580	200	165	60	46	F16
600	24	515	460	150	56	154	694	300	300	70	55	F25

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
40	M16	4	110	M16	4	110	M16	4	110	M14	4	98,4	4,0	4,0
50	M16	4	125	M16	4	125	M16	4	125	M16	4	120,7	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	298,5	22	32
250	M20	12	350	M24	12	355	M27	12	370	M22	12	362,0	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	476,3	83	110
400	M24	16	515	M27	16	525	M33	16	550	M27	16	539,8	107	140
500	M24	20	620	M30	20	650	M33	20	660	M27	20	635,0	200	250
600	M27	30	725	M33	20	770	M36	20	770	M33	20	749,3	280	350

NOTE ⁽¹⁾: in case of ANSI150 flanges, threading can be ANSI B1.1 UNC2B

Compatible flanges JIS B2220 :2004

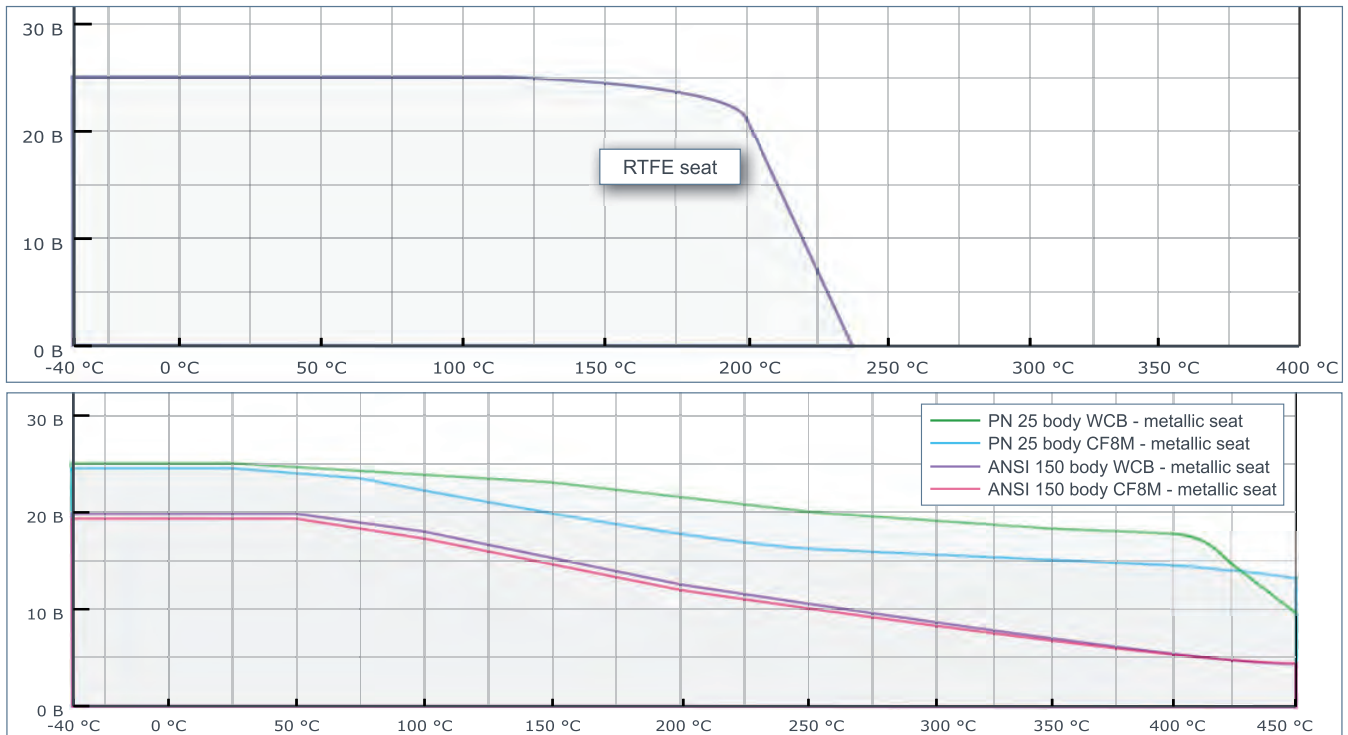
DN	BVHD - wafer (Pmax = 25bar)					BLHD - lug (Pmax = 25bar)				
	JIS 5K	JIS 10K	JIS 16K	JIS 20K	JIS 30K	JIS 5K	JIS 10K	JIS 16K	JIS 20K	JIS 30K
40	●	●	●	●	●	●	●	●	●	●
50	X	✓	●	●	●	X	●	●	●	X
65	●	✓	●	●	X	●	●	●	●	X
80	●	●	●	●	X	●	●	●	●	●
100	X	●	✓	✓	✓	X	●	●	●	●
125	●	●	✓	✓	✓	●	●	●	●	●
150	●	✓	X	X	X	●	✓	X	X	X
200	X	●	✓	✓	●	X	●	●	●	●
250	●	✓	X	X	X	●	●	X	X	X
300	X	X	X	X	X	X	X	X	X	X
350	X	X	●	●	●	X	X	●	●	●
400	X	●	●	●	X	X	●	●	●	X
500	please contact Technical Office									
600	please contact Technical Office									

✓ standard ● on request X not possible

Torque values - Nm | safety factor excluded

seat: RTFE - fluid: H ₂ O - 20°C					seat: INCONEL - fluid: H ₂ O - 20°C				
working pressure: BAR					working pressure: BAR				
DN	10	16	20	25	DN	10	16	20	25
40	21	27	36	42	40	32	40	52	61
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	155	251	326	423	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
600	3550	4700	5600	6600	600	5000	6300	7450	8000

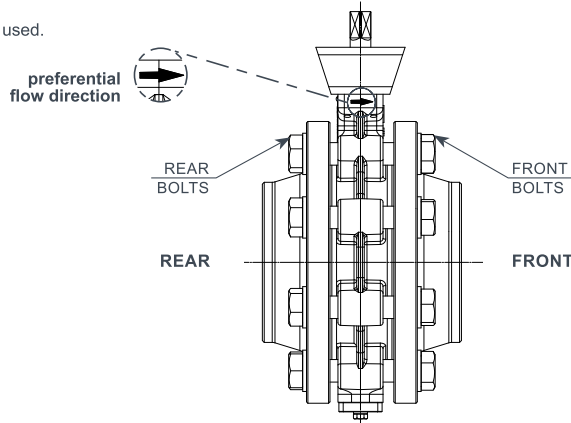
Pressure / Temperature



Bolts and rods dimensions

DN	Wafer valves											
	PN10			PN16			PN25			A150		
	Bolts	Rods	N°	Bolts	Rods	N°	Bolts	Rods	N°	Bolts	Rods	N°
40	M16x100	M16x120	4	M16x100	M16x120	4	M16x100	M16x120	4	M14x100	M14x120	4
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
600	M27x300	M27x330	16	M33x310	M33x340	16	M36x320	M36x350	16	M33x320	M33x350	16
	* REAR: Bolts M27x70		4	* REAR: Bolts M33x80		4	* REAR: Bolts M36x90		4	* REAR: Bolts M33x90		4
	* FRONT: Bolts M27x80		4	* FRONT: Bolts M33x90		4	* FRONT: Bolts M36x100		4	* FRONT: Bolts M33x100		4

* Valves DN500 and DN600 (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.

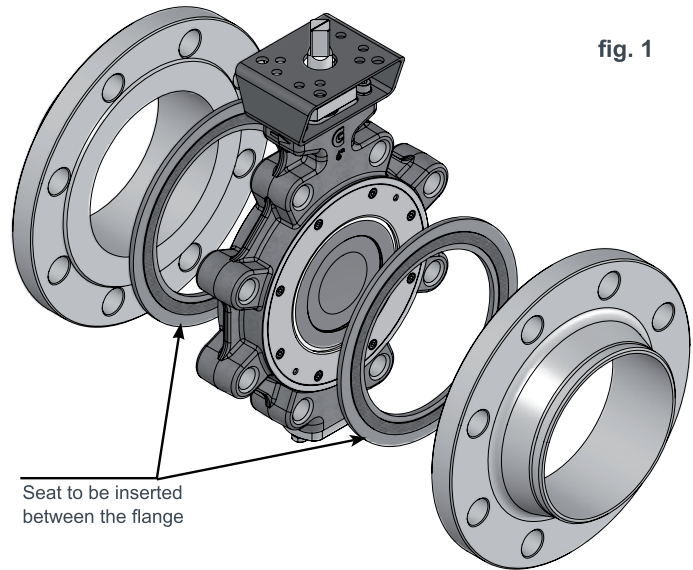
DN	Lug valves															
	PN10				PN16				PN25				A150			
	Rear		Front		Rear		Front		Rear		Front		Rear		Front	
	Bolts	N°	Bolts	N°	Bolts	N°	Bolts	N°	Bolts	N°	Bolts	N°	Bolts	N°	Bolts	N°
40	M16x35	4	M16x40	4	M16x35	4	M16x40	4	M16x40	4	M16x40	4	M14x35	4	M14x40	4
50	M16x45	4	M16x45	4	M16x45	4	M16x45	4	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	M20x65	8	M20x55	8	M20x65	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
600	M27x100	16	M27x110	16	M33x110	16	M33x120	16	M36x120	16	M36x130	16	M33x120	16	M33x130	16
	* bolts M27x70	4	* bolts M27x80	4	* bolts M33x80	4	* bolts M33x90	4	* bolts M36x90	4	* bolts M36x100	4	* bolts M33x90	4	* bolts M33x100	4

* Valves DN500 and DN600 (both LUG and WAFER execution) have 4 threaded blind holes each side, therefore screws marked with * are to be used.

Installation

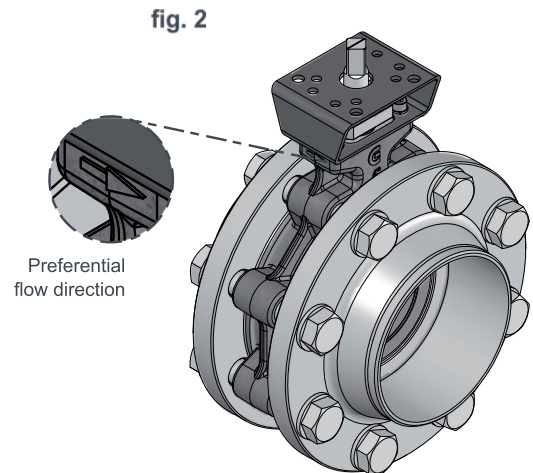
Valve/pipe assembly

1. Leave a space between flanges to allow easy installation of the valve (see fig. 1). Insert two gaskets between flange and valve (not supplied).
2. HD butterfly valves are bi-directional and can be installed with the flow in both directions. There is however a preferential direction (see fig.2), which minimize turbulences when fluid is under pressure.
3. HD Butterfly valves can be installed with the shaft axis in any direction. It is however preferable to keep it vertical .
4. Center valve body between flanges, then tighten 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:

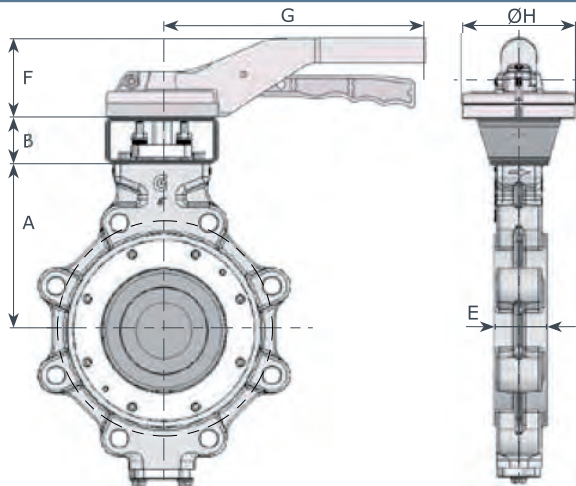
- Always remove the valve before any flange welding to avoid possible damages due to heat
- On top of upper shaft there is a notch parallel to disc indicating its position. (for valves DN>200 refer to the key).
- When actuator or gear box are assembled on the valve, please consider that there is a mechanical 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 fluid 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 flanges. While keeping the valve, remove bolts and disassemble the valve.

Handlever



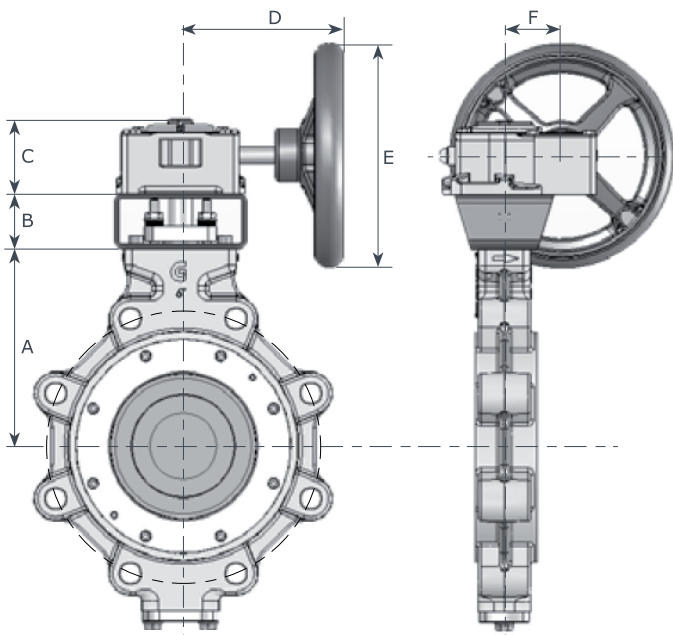
DN	"	A	B	E	F	G	ØH	aluminium Weight (Kg) wafer	lug	St. steel Weight (Kg) wafer	lug
40	1 1/2	113	50	39	67	220	93	4.6	4.6	5.7	5.7
50	2	117	50	43	67	220	93	4.1	6.3	5.2	7.4
65	2 1/2	120	50	46	67	220	93	4.6	7.6	5.7	8.7
80	3	129	50	46	67	220	93	5.4	8.2	6.5	9.3
100	4	160	50	52	67	275	93	8.7	10.4	10.0	11.7
125	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 40-150	DN 40-100
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



RTFE seated valve / fluid: H2O / T: 20°C

DN	"	A	B	C	D	E	F	type	Weight (Kg) wafer	lug
40	1 1/2	113	50	64	170	200	44	GH 10	6.3	6.3
50	2	117	50	64	170	200	44	GH 10	5.8	8
65	2 1/2	120	50	64	170	200	44	GH 10	6.3	9.3
80	3	129	50	64	170	200	44	GH 10	7.1	9.9
100	4	160	50	64	170	200	44	GH 10	10.3	12
125	5	170	50	66	179	200	52	GH 20	13.7	18.4
150	6	179	50	66	179	200	52	GH 20	17.1	21.2
200	8	218	60	73	214	300	62	GH 21	27	37
250	10	257	80	89	265	350	79	GH 30	47	58
300	12	300	80	99	300	400	89	GH 55	62	74
350	14	328	100	92	275	500	101	GH 66	97	124
400	16	387	100	115	350	500	112	GH 88	127	160
500	20	451	100	126	430	600	129	GH195 BR3.5	235	285
600	24	515	150	153	430	600	157	GH300 BR5	330	400

INCONEL seated valve / fluid: H2O / T: 20°C

DN	"	A	B	C	D	E	F	type	Weight (Kg) wafer	lug
40	1 1/2	113	50	64	170	200	44	GH 10	6.3	6.3
50	2	117	50	64	170	200	44	GH 10	5.8	8
65	2 1/2	120	50	64	170	200	44	GH 10	6.3	9.3
80	3	129	50	64	170	200	44	GH 10	7.1	9.9
100	4	160	50	64	170	200	44	GH 10	10.3	12
125	5	170	50	66	179	200	52	GH 20	13.7	18.4
150	6	179	50	66	179	200	52	GH 20	17.1	21.2
200	8	218	60	73	214	300	62	GH 21	27	37
250	10	257	80	89	265	350	79	GH 30	47	58
300	12	300	80	99	300	400	89	GH 55	62	74
350	14	328	100	92	275	500	101	GH 66	97	124
400	16	387	100	115	350	500	112	GH 88	127	160
500	20	451	100	126	430	600	129	GH195 BR3.5	235	285
600	24	515	150	153	430	600	157	GH300 BR6	340	410

GH series

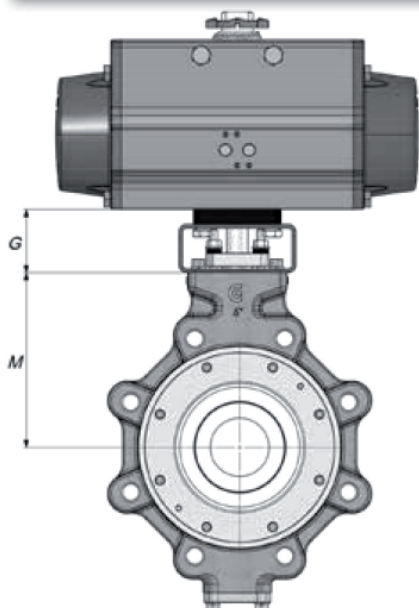
body: ductile iron GGG40
 worm gears: steel
 sector gear: ductile iron
 shaft: steel
 handwheel: steel
 protection: IP67
 T: -20 / +80 °C

*low/high
 temperature
 execution
 on request*

Pneumatic actuator

Rack & Pinion Actuators

Max air pressure: 8 bar
5,5 bar (AT series)
Temperature: -20°C / +85°C
-20°C / +80°C (AT series)
Torque range: 8/5059 Nm
13,2/9173 Nm a 5,5 Bar (AT series)
Double travel stop open/close: ± 5°
-5°/+15 close (AT series)
+5°/-15 open (AT series)



NOTE

G quote can change depending on valve/actuator coupling.

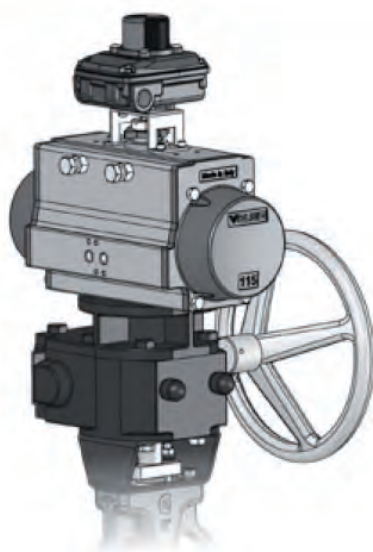
Fluid: H2O - T: 20° C - Air pressure: 5,5 Bar - Seat: RTFE

DN	M	PN 10				PN 16				PN 20 / PN 25			
		DA mod.	G	SR mod.	G	DA mod.	G	SR mod.	G	DA mod.	G	SR mod.	G
40	113	VA 63	70	VA 85	SR 65	VA 75	65	VA 100	SR 65	VA 75	65	VA 115	SR 65
50	117	VA 63	70	VA 85	SR 65	VA 75	65	VA 100	SR 65	VA 75	65	VA 115	SR 65
65	120	VA 75	65	VA100	SR 65	VA 75	65	VA 100	SR 65	VA 85	65	VA 115	SR 65
80	129	VA 75	65	VA100	SR 65	VA 75	65	VA 115	SR 65	VA 85	65	VA 115	SR 65
100	160	VA 85	65	VA115	SR 65	VA 85	65	VA 115	SR 65	VA 100	65	VA 125	SR 65
125	170	VA100	65	VA125	SR 65	VA100	65	VA 125	SR 65	VA115	65	VA 140	SR 65
150	179	VA115	65	VA140	SR 65	VA115	65	VA 160	SR 65	VA125	65	VA 160	SR 65
200	218	VA115	60	VA160	SR 60	VA125	60	VA 180	SR 60	VA160	60	VA 200	SR 60
250	257	VA140	80	VA200	SR 80	VA160	80	VA 230	SR 80	VA180	80	VA 230	SR 80
300	300	VA180	80	VA230	SR 80	VA180	80	VA 270	SR 80	VA 200	80	VA 270	SR 80
350	328	VA200	100	VA270	SR 100	VA230	100	VA 330	SR 100	VA 230	100	VA 330	SR 100
400	387	VA200	100	VA270	SR 100	VA230	100	VA 330	SR 100	VA 270	100	on request	
500	451	VA270	100	AT1001	SR 100	VA330	100	AT1001	SR 100	VA 330	100	on request	
600	515	AT 801	150	on request		AT1001	150	on request		AT1001	150	on request	

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

DN	M	PN 10				PN 16				PN 20 / PN 25			
		DA mod.	G	SR mod.	G	DA mod.	G	SR mod.	G	DA mod.	G	SR mod.	G
40	113	VA 75	65	VA 100	SR 65	VA 75	65	VA 115	SR 65	VA 85	65	VA 115	SR 65
50	117	VA 75	65	VA 100	SR 65	VA 75	65	VA 115	SR 65	VA 85	65	VA 115	SR 65
65	120	VA 75	65	VA 115	SR 65	VA 85	65	VA115	SR 65	VA 100	65	VA 125	SR 65
80	129	VA 85	65	VA 115	SR 65	VA 85	65	VA 125	SR 65	VA 100	65	VA 140	SR 65
100	160	VA 85	65	VA 115	SR 65	VA 100	65	VA 125	SR 65	VA 100	65	VA 140	SR 65
125	170	VA115	65	VA 140	SR 65	VA 115	65	VA 160	SR 65	VA 115	65	VA 160	SR 65
150	179	VA115	65	VA 160	SR 65	VA 125	65	VA 180	SR 65	VA 140	65	VA 200	SR 65
200	218	VA125	60	VA 180	SR 60	VA 140	60	VA 200	SR 60	VA 180	60	VA 230	SR 60
250	257	VA160	80	VA 230	SR 80	VA 180	80	VA 270	SR 180	VA 200	80	VA 270	SR 80
300	300	VA 200	80	VA 270	SR 180	VA 200	80	VA 330	SR 180	VA 230	80	VA 330	SR 80
350	328	VA 200	100	VA 330	SR 100	VA 230	100	VA 330	SR 100	VA 270	100	AT1001	SR 200
400	387	VA 270	100	AT 801	SR 100	VA 270	100	AT1001	SR 100	VA 300	100	AT1001	SR 100
500	451	VA 330	100	AT1001	SR 100	VA 330	100	on request		AT1001	100	on request	
600	515	AT1001	150	on request		AT1001	150	on request		on request		on request	

Dec clutchable manual gearboxes



ILGD Series

body: ductile iron GGG40 shaft: steel
worm gears: steel handwheel: steel
sector gear: ductile iron T: -20/+120°C protection: IP65
IP67 on req.

Ø valve	DA actuator double action	SR actuator spring return	emergency gearbox type
DN 40-150	VA 63-100	VA 85-100	ILGD200
	VA 115-140	VA 115-160	ILGD600
		VA 180-200	ILGD900
DN 200-300	VA 115-140		ILGD600
	VA 160-200	VA 160-200	ILGD900
	VA 230	VA 230	ILGD1500
		VA 270	ILGD2400
DN 350	VA 200-230		ILGD1500
	VA 270	VA 270-330	ILGD2400
DN 400	VA 200-230		ILGD1500
	VA 270		ILGD2400
	VA 330	VA 330	ILGD5000
DN 500	VA 270		ILGD2400
	VA 330	TBD	ILGD5000
DN 600	VA 330-AT1001	TBD	ILGD5000

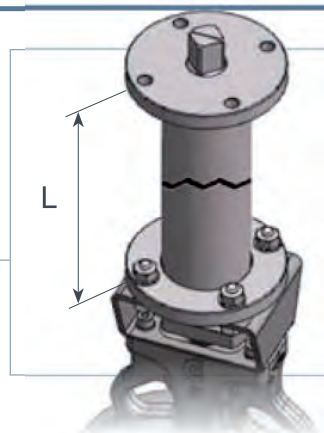
Waterproof valve shaft extension

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 technical department is available to solve special applications.

"L" measure should be indicated when ordering.



Hydraulic actuator

- Technical 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
40	H28DA	H40SRA	H28DA	H40SRA	H28DA	H40SRA	H28DA	H40SRB	H28DA	H40SRB	H28DA	H40SRB
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	-	-	-
600	-	-	-	-	-	-	-	-	-	-	-	-



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
40	H28DA	H40SRA	H28DA	H40SRA	H28DA	H40SRA	H28DA	H40SRB	H28DA	H40SRB	H28DA	H40SRB
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	-	-	-	-	-	-	-	-	-	-	-	-
600	-	-	-	-	-	-	-	-	-	-	-	-

Butterfly Valves

PTFE Seat



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BVTT - Wafer
DN040-600 . 1" 1/2 -24"

BLTT - Lug
DN050-600 . 2"-24"

Max working pressure

type	DN	Pmax	disc	vacuum	Flanges
Wafer	DN040	16bar	inox	Y	PN 10-16 • A150
Wafer Lug	DN050÷200	16bar	inox	Y	PN 10-16 • A150
Wafer Lug	DN050÷200	16bar	inox+PTFE	N	PN 10-16 • A150
Wafer Lug	DN250÷300	10bar	inox	Y	PN 10-16 • A150
Wafer Lug	DN250÷300	10bar	inox+PTFE	N	PN 10-16 • A150
Wafer Lug	DN350÷400	10bar	inox	Y	PN 10-16 • A150
Wafer Lug	DN350÷400	10bar	inox+PTFE	N	PN 10-16 • A150
Wafer Lug	DN500÷600	6bar	inox	Y	PN 10-16 • A150
Wafer Lug	DN500÷600	6bar	inox+PTFE	N	PN 10-16 • A150

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 Series 20 ~ ISO 5752 Series 20
BS-5155 Series 4 ~ MSS-SP67
API 609 cat. A ~ NFE 29305-1

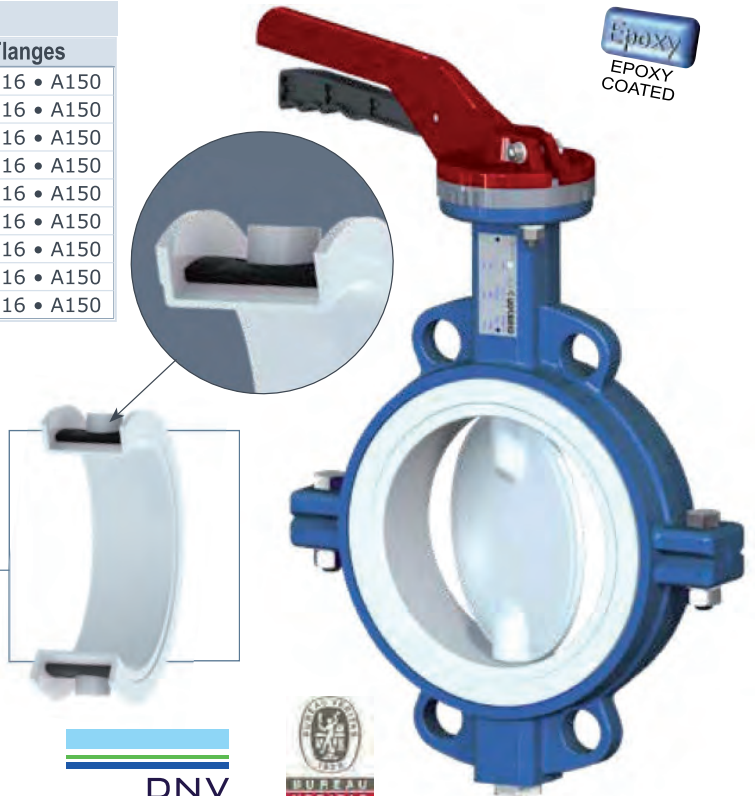
Testing:

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

Tag:

EN 19 ~ MSS SP-25

The thickness of the PTFE body seat varies from 2,5 to 3 mm depending on the position



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



II 2GD Ex h X X (see ATEX accompanying instructions)



BODY				
material	references	standard coating	lug	wafer
Ductile iron (wafer, lug)	EN-GJS 400-15 (GS400)	Epoxy RAL 5009	50-600	40-600
Carbon steel (wafer only)	EN 1.0619 (ASTM A216-WCB)	Epoxy RAL 9005	-	50-600
Stainless steel (wafer only)	EN 1.4408 (ASTM A351 CF8M)	-	-	50-600

DISC				
material	references	standard coating	coating on request	DN
Stainless steel	EN 1.4408 (ASTM A351 CF8M)	-	HALAR®	40-600
Stainless steel	A747 CB7Cu-1 + PTFE	PTFE	-	50-600
Hastelloy®	EN 2.4602 (ASTM A494 CX2MW)	-	-	40-600
Super Duplex	EN 1.4469 (A890 Gr. 5A)	-	-	40-600

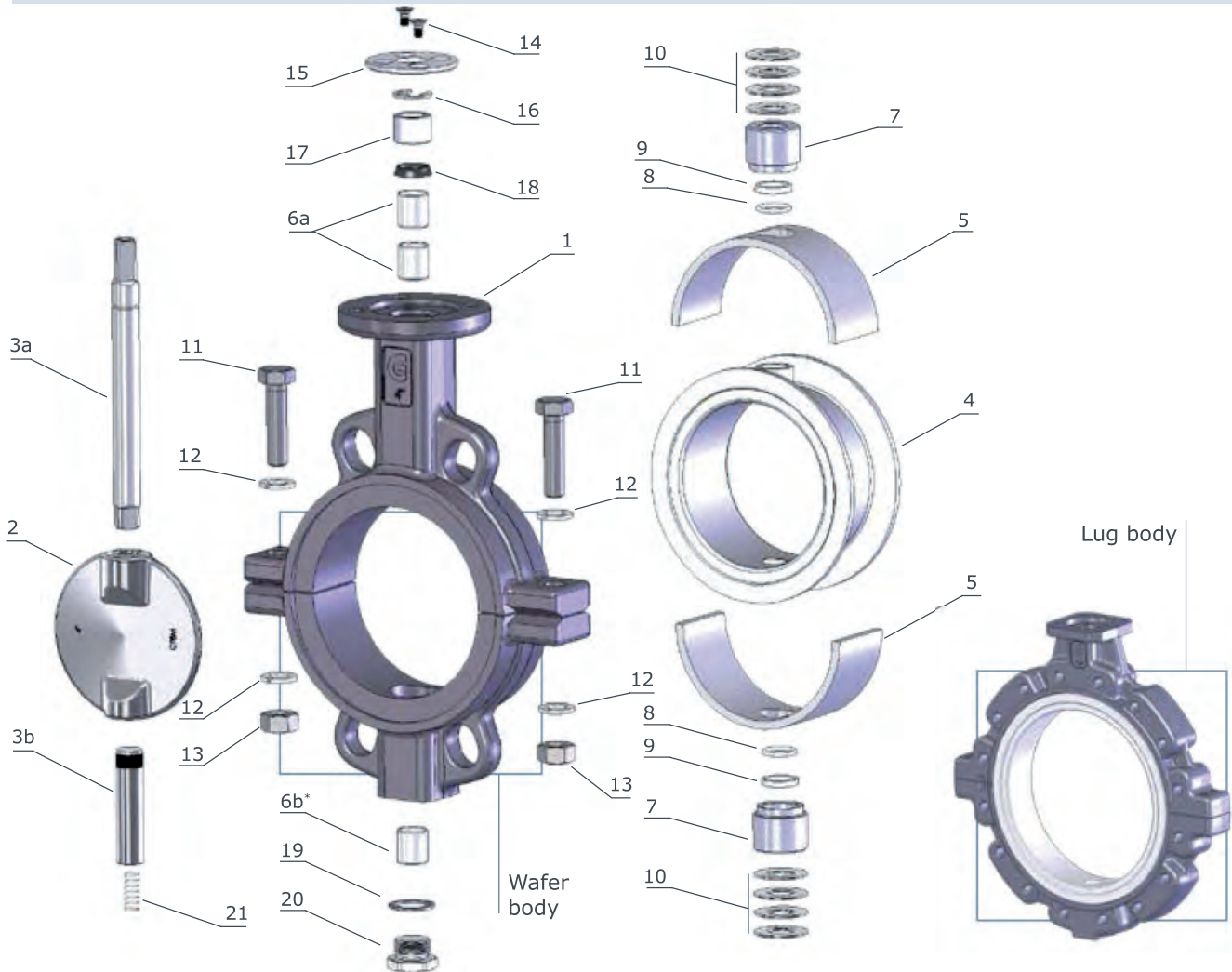
BODY SEAT				
ref.	designation	trade name	working temp.	applications
PTFE	polytetrafluorethylene	TEFLON®	-55°C / +200°C	acids, foods, solvents

On request can be supplied other materials as:
Coating on request:

LCB, Hastelloy, Uranus, Alloy, SuperDuplex, Special steels.
Halar®, Chenisil®, PFA

BVTT DN040-300 . 1" 1/2 - 12"
BLTT DN050-300 . 2" - 12"
PN 10-16 • ANSI 150

Stainless steel EN 1.4408~CF8M (A316) disc



item	q.ty	part	material
1	1	body	<ul style="list-style-type: none"> • EN-GJS400-15 (GS400) • EN 1.069~ A216-WCB (wafer only) • A351-CF8M (wafer only)
2	1	disc	<ul style="list-style-type: none"> • A351 - CF8M (AISI 316) • HALAR® (on request)
3a	1	upper shaft	• EN 1.4401~ AISI 316
3b	1	lower shaft	• EN 1.4401~ AISI 316
◇4	1	body seat	• PTFE
◇5	1	elastic support	• silicon
6a	2	bush upper shaft	• steel + PTFE
6b*	1*	bush lower shaft	• steel + PTFE
7	2	housing	• EN 1.4401~ AISI 316
◇8	2	O. Ring	• FEP + FKM (VITON®)
◇9	2	C. Ring	• PTFE
10	2	springs set	• steel

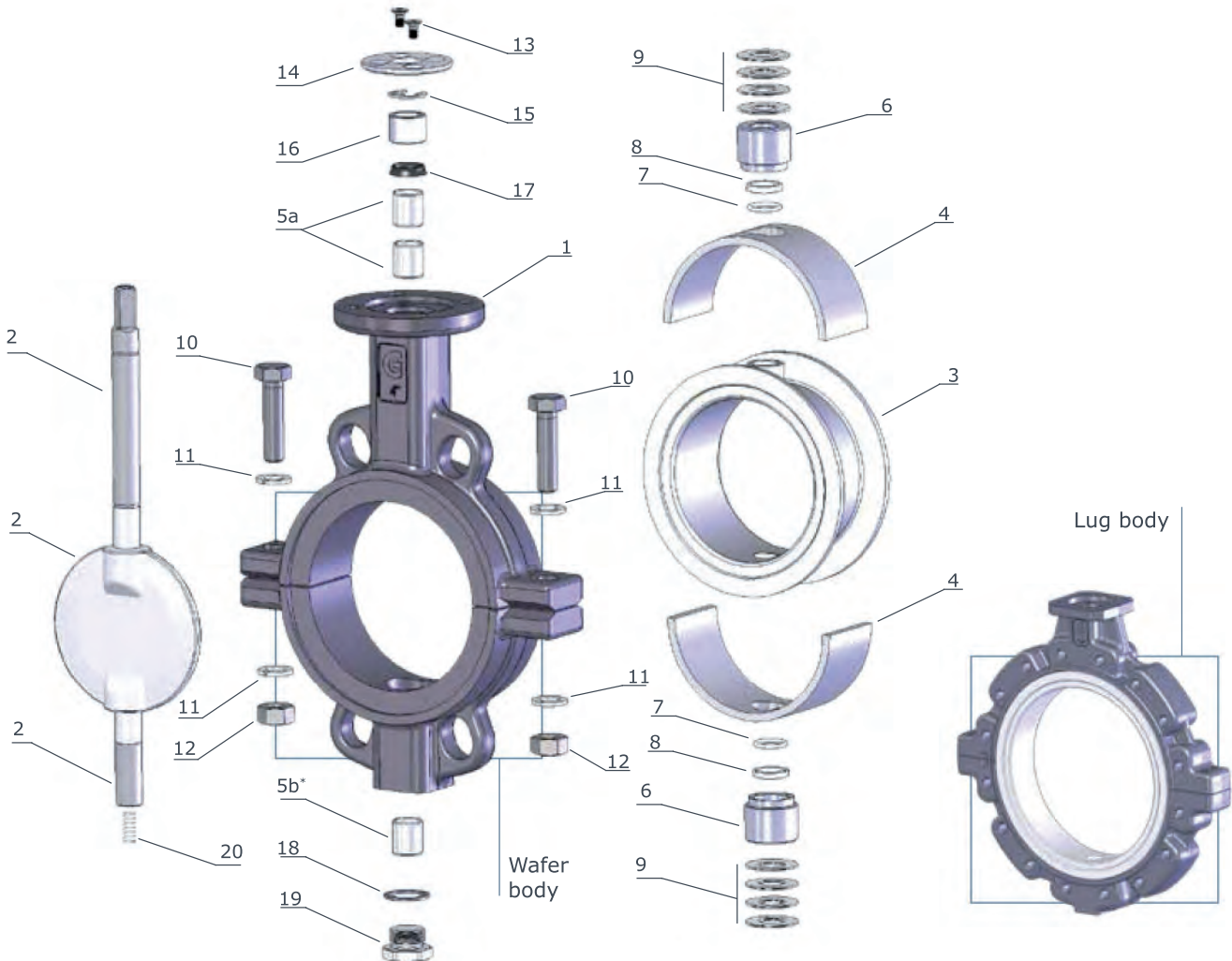
* only DN200/300

◇ parts included in spare kit

item	q.ty	part	material
11	2	screw	<ul style="list-style-type: none"> • 8.8 zinc plated steel • A4~A316 (body CF8M)
12	4	washer	<ul style="list-style-type: none"> • 8.8 zinc plated steel • A4~A316 (body CF8M)
13	2	screw nut	<ul style="list-style-type: none"> • 8.8 zinc plated steel • A2~304 (body CF8M)
14	2	screw	<ul style="list-style-type: none"> • 10.9 zinc plated steel • A4~A316 (body CF8M)
15	1	upper flange	<ul style="list-style-type: none"> • IXEF (DN 50/150) • aluminium (DN 200/300)
16	1	stop ring	• steel
◇17	1	upper bush	• PTFE
◇18	1	O. Ring	• FKM (VITON®)
19	1	plug packing	<ul style="list-style-type: none"> • aluminium • PTFE (body CF8M)
20	1	threaded plug	<ul style="list-style-type: none"> • zinc plated steel • 1.4401~A316 (body CF8M)
21	1	spring	<ul style="list-style-type: none"> • 1.4401~A316 (antistatic device)

BVTT - Wafer BLTT - Lug
DN 50 - 300 • 2" - 12"
PN 10-16 • ANSI 150

disc A747 CB7Cu-1 +PTFE



item	q.ty	part	material
1	1	body	<ul style="list-style-type: none"> • EN-GJS400-15 (GS400) • EN 1.069~ A216-WCB (wafer only) • A351-CF8M (wafer only)
◇2	1	disc - shafts	• A747 CB7Cu-1 + PTFE
◇3	1	body seat	• PTFE
◇4	1	elastic support	• silicon
5a	1	bush upper shaft	• steel + PTFE
5b *	1	bush lower shaft	• steel + PTFE
6	2	housing	• EN 1.4401~A316
◇7	1*	O. Ring	• FEP + FKM (VITON®)
◇8	2	C. Ring	• PTFE
9	2	springs set	• steel
10	2	screw	<ul style="list-style-type: none"> • 8.8 zinc plated steel • A4~A316 (body CF8M)

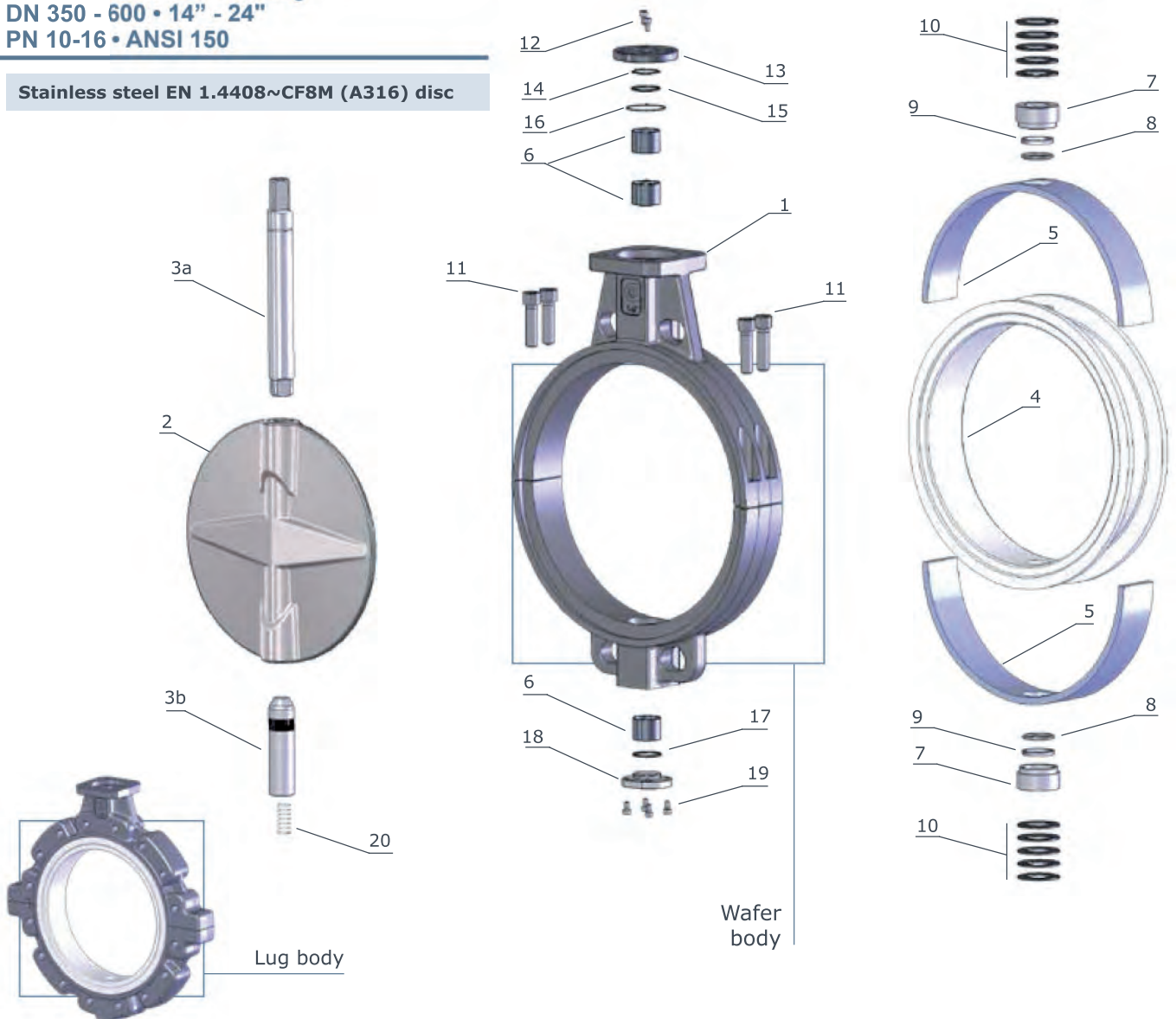
item	q.ty	part	material
11	2	washer	<ul style="list-style-type: none"> • 8.8 zinc plated steel • A4~A316 (body CF8M)
12	2	screw nut	<ul style="list-style-type: none"> • 8.8 zinc plated steel • A2~304 (body CF8M)
13	4	screw	<ul style="list-style-type: none"> • 8.8 zinc plated steel • A2~316 (body CF8M)
14	2	upper flange	<ul style="list-style-type: none"> • IXEF (DN 50/150) • aluminium (DN 200/300)
15	2	stop ring	• steel
◇16	1	upper bush	• PTFE
◇17	1	O. Ring	• FKM (VITON®)
18	1	plug packing	<ul style="list-style-type: none"> • aluminium • PTFE (body CF8M)
19	1	threaded plug	<ul style="list-style-type: none"> • zinc plated steel • 1.4401~A316 (body CF8M)
20	1	spring	• 1.4401~A316 (antistatic device)

*only DN200/300

◇ parts included in spare kit

BVTT - Wafer **BLTT - Lug**
 DN 350 - 600 • 14" - 24"
 PN 10-16 • ANSI 150

Stainless steel EN 1.4408~CF8M (A316) disc



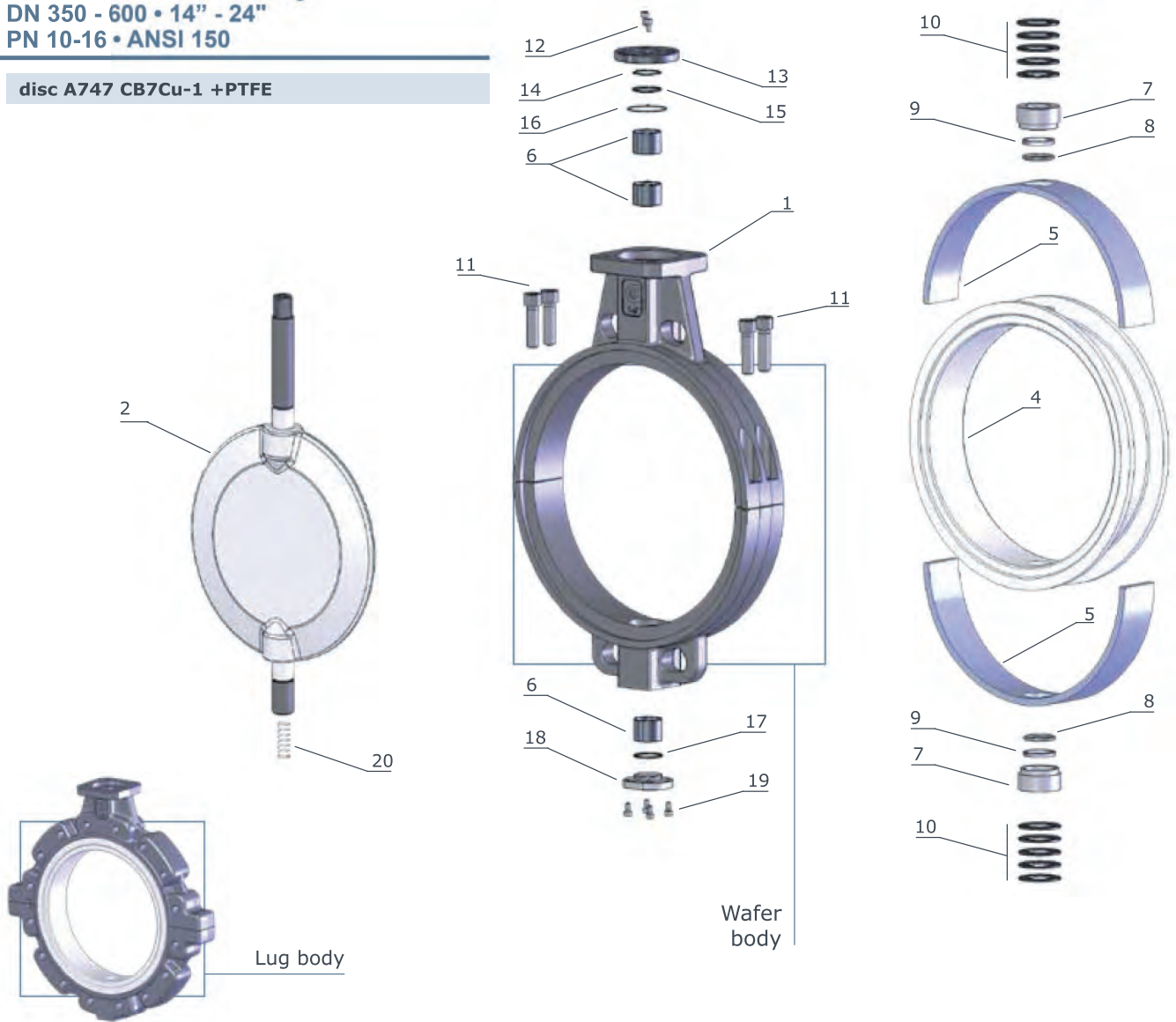
item	q.ty	part	material
1	1	body	<ul style="list-style-type: none"> EN-GJS400-15 (GS400) EN 1.069~ A216-WCB (wafer only) EN 1.4408~CF8M (A316) wafer only
2	1	disc	<ul style="list-style-type: none"> EN 1.4408~CF8M (A316) HALAR® (on request)
3a	1	upper shafts	EN 1.4401~AISI 316
3b	1	lower shafts	EN 1.4401~AISI 316
◇4	1	body seat	PTFE
◇5	1	elastic support	silicon
6	3	bush shaft	A105 + PTFE
7	2	housing	EN 1.4401~ AISI 316
◇8	2	O. Ring	FEP + FKM (VITON®)
◇9	2	C. Ring	PTFE
10	2	springs set	steel
11	4	screw	<ul style="list-style-type: none"> 8.8 zinc plated steel A4~A316 (body CF8M)

item	q.ty	part	material
12	2	screw	<ul style="list-style-type: none"> 8.8 zinc plated steel A4~A316 (body CF8M)
13	1	upper flange	<ul style="list-style-type: none"> zinc plated steell 1.4401~A316 (body CF8M)
◇14	1	O. Ring	FKM (VITON®)
15	1	stop ring	steel
◇16	1	O. Ring	FKM (VITON®)
◇17	1	O. Ring	FKM (VITON®)
18	1	lower flange	<ul style="list-style-type: none"> zinc plated steel 1.4401~A316 (body CF8M)
19	4	screw	<ul style="list-style-type: none"> 8.8 zinc plated steel A4~A316 (body CF8M)
20	1	spring	1.4401~A316 (antistatic device)

◇ parts included in spare kit

BVTT - Wafer BLTT - Lug
DN 350 - 600 • 14" - 24"
PN 10-16 • ANSI 150

disc A747 CB7Cu-1 +PTFE

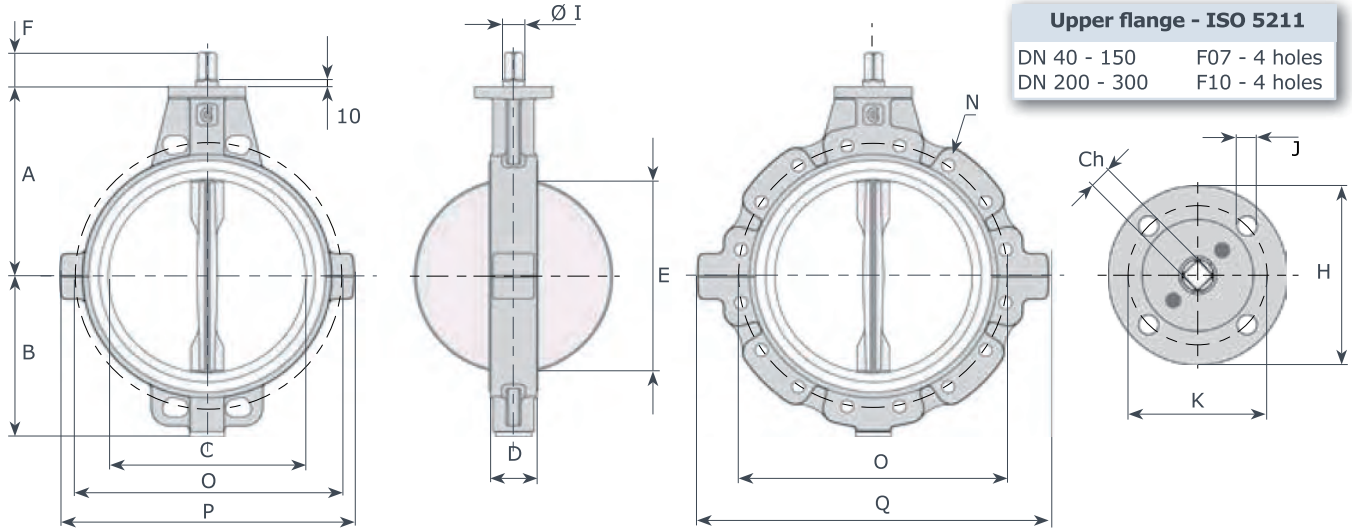


item	q.ty	part	material
1	1	body	<ul style="list-style-type: none"> • EN-GJS400-15 (GS400) • EN 1.069~ A216-WCB (wafer only) • EN 1.4408~CF8M (A316) wafer only
2	1	disc	• A747 CB7Cu-1 + PTFE
◇4	1	body seat	• PTFE
◇5	1	elastic support	• silicon
6	3	bush shaft	• A105 + PTFE
7	2	housing	• EN 1.4401~ AISI 316
◇8	2	O. Ring	• FEP + FKM (VITON®)
◇9	2	C. Ring	• PTFE
10	2	springs set	• steel
11	4	screw	<ul style="list-style-type: none"> • 8.8 zinc plated steel • A4~A316 (body CF8M)

item	q.ty	part	material
12	2	screw	<ul style="list-style-type: none"> • 8.8 zinc plated steel • A4~A316 (body CF8M)
13	1	upper flange	<ul style="list-style-type: none"> • zinc plated steel • 1.4401~A316 (body CF8M)
◇14	1	O.Ring	• FKM (VITON®)
15	1	stop ring	• steel
◇16	1	O.Ring	• FKM (VITON®)
◇17	1	O.Ring	• FKM (VITON®)
18	1	lower flange=	<ul style="list-style-type: none"> • zinc plated steel • 1.4401~A316 (body CF8M)
19	4	screw	<ul style="list-style-type: none"> • 8.8 zinc plated steel • A4~A316 (body CF8M)
20	1	spring	<ul style="list-style-type: none"> • 1.4401~A316 (antistatic device)

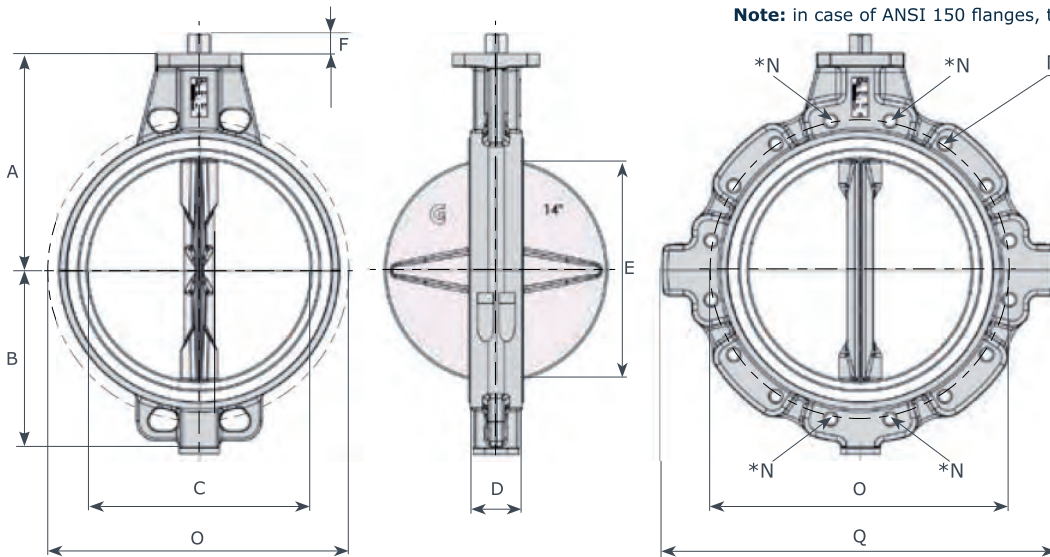
◇ parts included in spare kit

BVTT - Wafer **BLTT - Lug**



DN	"	A	B	C	D	E	F	Ø I	Ch	H	K	J	P	Q	PN 10			PN 16			ANSI 150			Kg.	
															N	n.	O	N	n.	O	N	n.	O	wafer	lug
40	1 1/2	130	75	49	33	36	34	14	11	90	70	9	-	-	M16	4	110	M16	4	110	M14	4	98.4	3	-
50	2	138	81	55	43	35	34	14	11	90	70	9	165	165	M16	4	125	M16	4	125	M16	4	120.7	3.4	3.9
65	2 1/2	144	98	68	46	50	34	14	11	90	70	9	186	186	M16	8	145	M16	8	145	M16	4	139.7	4.1	4.7
80	3	158	110	81	46	67	34	14	11	90	70	9	196	242	M16	8	160	M16	8	160	M16	4	152.4	4.4	7.6
100	4	173	128	101	52	87	34	16	11	90	70	9	220	270	M16	8	180	M16	8	180	M16	8	190.5	6.8	8.4
125	5	186	140	126	56	113	34	18	14	90	70	9	250	297	M16	8	210	M16	8	210	M20	8	215.9	8.8	11.2
150	6	202	155	150	56	140	34	18	14	90	70	9	278	321	M20	8	240	M20	8	240	M20	8	241.3	10.5	12.9
200	8	240	190	200	60	191	38	22	17	125	102	11	355	420	M20	8	295	M20	12	295	M20	8	298.5	15.2	25.0
250	10	270	220	250	68	241	38	30	22	125	102	11	398	472	M20	12	350	M24	12	355	M22	12	362.0	24.5	30.0
300	12	300	247	298	78	289	38	30	22	125	102	11	455	540	M20	12	400	M24	12	410	M22	12	431.8	32.0	45.0

Note: in case of ANSI 150 flanges, threading can be ANSI B1.1 UNC2B



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

Upper flange ISO 5211	
DN350-400	F12-4 fori
DN500	F14/16 - 4 fori
DN600	F16-4 fori

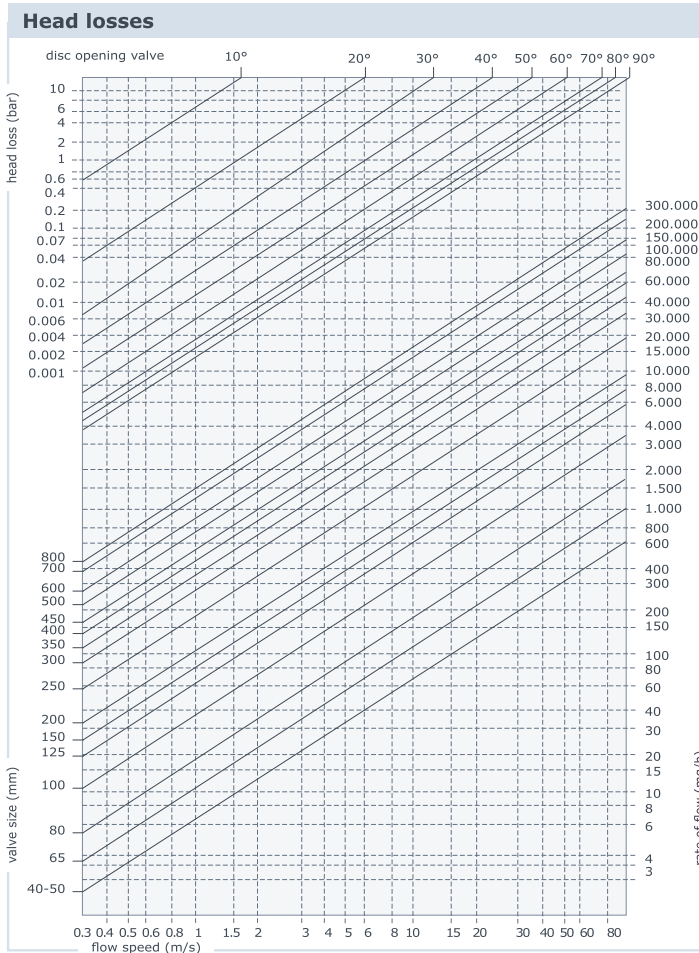
DN	"	A	B	C	D	E	F	Ø I	Ch	H	K	J	Q	PN10			PN16			ANSI150			kg.	
														N	n.	O	N	n.	O	N	n.	O	wafer	lug
350	14	330	280	341	78	332	28	35	27	150	125	14	600	M20	16	460	M24	16	470	M24	12	476.3	54	73
400	16	355	305	390	102	376	28	40	27	150	125	14	690	M24	16	515	M27	16	525	M27	16	539.8	68	104
500	20	422	366	485	127	479	37	45	36	210	140/165	18/22	820	M24	20	620	M30	20	650	M27	20	635.0	149	179
600	24	495	460	595	154	575	47	60	46	210	165	22	940	M27	20	725	M33	20	770	M33	20	749,3	215	310

TT Series - Torque values - Nm - safety factor excluded

disc: EN 1.4408~CF8M (A316)					fluid H ₂ O - 20°C				
working pressure BAR									
DN	0	6	10	16	DN	0	6	10	16
40	5	9	13	20	125	65	70	85	100
50	13	16	19	28	150	60	65	94	105
65	20	28	35	38	200	128	153	188	250
80	35	45	52	65	250	190	232	296	-
100	40	60	70	75	300	214	296	366	-

disc: St. Steel + PTFE					fluid H ₂ O - 20°C				
working pressure BAR									
DN	0	6	10	16	DN	0	6	10	16
40	-	-	-	-	125	50	60	75	85
50	14	16	18	25	150	60	70	90	100
65	16	20	23	28	200	122	145	180	219
80	26	40	49	55	250	180	220	280	-
100	35	51	62	66	300	205	280	350	-

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 (m³/h)
 PS specific gravity (water=1)
 ΔP pressure drop (bar)

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

Q rate of flow (m³/h)
 PS specific gravity (air=1)
 ΔP pressure drop (bar) (less than 1/2 inlet pressure)
 P₂ 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)
 P₂ outlet pressure

Calculation of the rate of flow equivalent to H₂O:

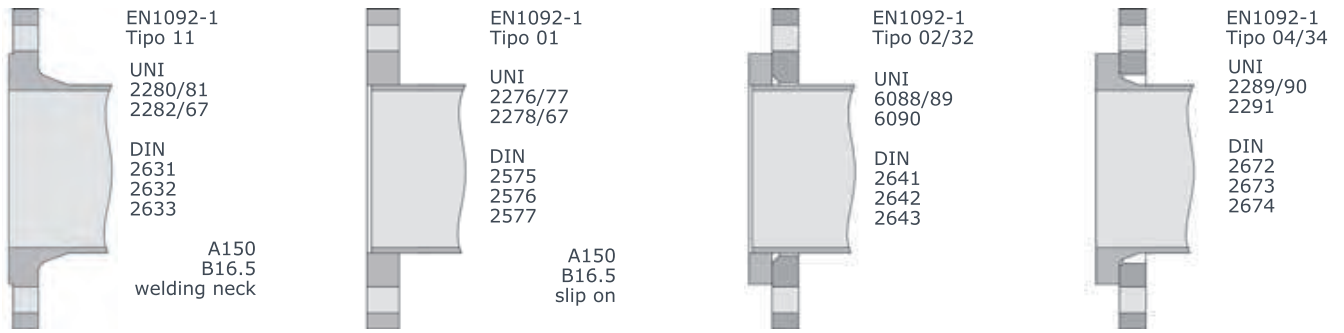
$Q_e = Q \sqrt{\frac{d}{1000}}$

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

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

angle	Values KV (CV = 1,16 KV)												
	40/50	65	80	100	125	150	200	250	300	350	400	500	600
5°	-	-	-	-	-	-	-	-	-	53	68	106	207
10°	-	-	-	-	-	-	-	21	49	123	161	246	629
15°	0,2	0,6	1,8	2,4	4,2	5,6	14	80	188	228	299	457	1168
20°	0,9	2,5	5,2	9,5	15	23	110	156	280	315	412	630	2010
25°	3	6,1	12	22	38	61	125	225	354	457	597	914	2735
30°	6,1	11	21	39	69	112	211	310	381	661	863	1320	5080
35°	9,9	18	33	60	105	166	303	433	521	890	1162	1778	6254
40°	15	27	49	88	148	228	405	591	742	1184	1547	2366	9700
45°	21	38	68	121	199	303	528	774	987	1552	2028	3102	11581
50°	29	51	91	159	262	394	679	988	1252	2008	2620	4010	15000
55°	39	68	119	207	338	505	863	1247	1571	2548	3318	5090	17765
60°	53	90	156	269	434	641	1085	1591	2059	3225	4202	6442	22200
65°	72	121	209	357	565	820	1364	2065	2807	3983	5196	7957	26077
70°	92	161	283	487	768	1097	1788	2715	3744	5195	6775	10377	34500
75°	109	209	381	662	1059	1507	2425	3625	4935	6964	9084	13912	39546
80°	115	240	457	815	1303	1861	3043	4768	6831	9301	12142	18578	47560
85°	115	253	502	906	1457	2008	3642	4890	8230	10280	13408	20533	52566
90°	116	257	508	925	1492	2168	3838	5010	9233	10792	14082	22024	56381

Flanges to be used



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	●	✓	✓	✗	✗	✓	✓	✗	✓	✓	●	●	✓
150	●	✓	✓	●	●	✓	✓	✗	●	●	●	✓	✗
200	●	✓	✓	✗	✗	✓	✓	✗	✓	✓	●	●	✓
250	●	✓	✓	●	●	✓	✓	✗	✗	✓	✓	✓	●
300	●	✓	✓	✗	✗	✓	✓	✗	✓	✓	●	●	✗
350	●	✓	✓	✗	✗	✓	✓	✗	✓	✓	✗	✗	●
400	✗	✓	✓	✗	✗	✓	✓	✗	✗	✗	✗	●	●
500	✗	✓	✓	●	●	✓	✓	✗	✗	✗	✗	✓	●
600	●	✓	✓	●	✗	✓	✓	✗	✗	✗	●	●	✗

✓ standard ● on request
✗ not possible

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
50	●	✓	✓	✓	✓	✓	✓	✗	●	●	●	●	✗
65	●	✓	✓	✓	✓	✓	✓	✗	●	●	●	✓	●
80	●	✓	✓	✓	✓	✓	✓	✗	●	●	●	●	●
100	✗	✓	✓	●	●	✓	✓	✗	✗	●	●	●	●
125	●	✓	✓	●	●	✓	✓	✗	✓	✓	●	●	●
150	●	✓	✓	●	●	✓	✓	✗	●	●	●	✓	✗
200	●	✓	✓	✗	✗	✓	✓	✗	✓	✓	●	●	●
250	●	✓	✓	●	✗	✓	✓	✗	✗	✓	●	●	✗
300	●	✓	✓	✗	✗	✓	✓	✗	✓	✓	●	✗	✗
350	●	✓	✓	✗	✗	✓	✓	✗	✓	✓	●	●	●
400	●	✓	✓	●	✓	✓	✓	✗	✗	✗	●	●	●
500	●	✓	✓	●	✓	✓	✓	✗	✗	✗	●	●	●
600	●	✓	✓	●	✗	✓	✓	✗	✗	✗	●	✗	✗

✓ standard ● on request
✗ not possible

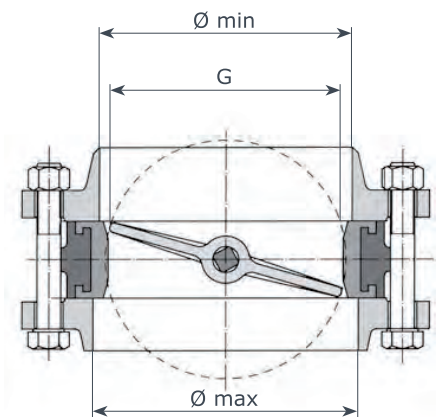
Bolts and rods dimensions

DN	Wafer valves								
	PN 10			PN 16			ANSI 150		
	Bolts	Rods	N°	Bolts	Rods	N°	Bolts	Rods	N°
40	M16x90	M16x100	4	M16x90	M16x100	4	M14x90	M14x110	4
50	M16x100	M16x120	4	M16x100	M16x120	4	M16x100	M16x130	4
65	M16x110	M16x130	8	M16x110	M16x130	8	M16x110	M16x140	4
80	M16x110	M16x130	8	M16x110	M16x130	8	M16x120	M16x150	4
100	M16x120	M16x140	8	M16x120	M16x140	8	M16x120	M16x150	8
125	M16x120	M16x150	8	M16x120	M16x150	8	M20x130	M20x160	8
150	M20x130	M20x160	8	M20x130	M20x160	8	M20x140	M20x160	8
200	M20x140	M20x170	8	M20x140	M20x170	12	M20x150	M20x170	8
250	M20x150	M20x180	12	M24x150	M24x180	12	M22x160	M22x190	12
300	M20x160	M20x190	12	M24x160	M24x190	12	M22x170	M22x210	12
350	M20x160	M20x190	16	M24x170	M24x200	16	M24x180	M24x220	12
400	M24x190	M24x220	16	M27x210	M27x240	16	M27x210	M27x250	16
500	M24x210	M24x240	20	M30x240	M30x280	20	M27x250	M27x290	20
600	M27x250	M27x290	20	M33x270	M33x320	20	M33x290	M33x340	20
	M27x75	-	8	M33x85	-	8	M33x95	-	8

DN	Lug valves					
	PN 10		PN 16		ANSI 150	
	Bolts	N°	Bolts	N°	Bolts	N°
50	M16x35	8	M16x35	8	M16x35	8
65	M16x40	16	M16x40	16	M16x40	8
80	M16x40	16	M16x40	16	M16x40	8
100	M16x40	16	M16x40	16	M16x45	16
125	M16x45	16	M16x45	16	M20x50	16
150	M20x45	16	M20x45	16	M20x50	16
200	M20x50	16	M20x50	24	M20x55	16
250	M20x55	24	M24x55	24	M22x60	24
300	M20x60	24	M24x60	24	M22x60	24
350	M20x60	32	M24x65	32	M24x65	24
400	M24x70	32	M27x70	32	M27x80	32
500	M24x80	40	M30x80	40	M27x90	40
600	M27x90	40	M33x100	40	M33x100	40

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

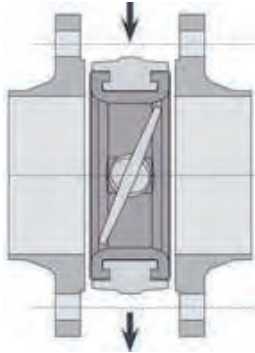
NOTE 2: Number of nMTS should be double when WAFER valves are assembled with threaded rods.



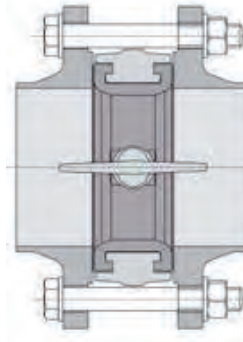
DN	40	50	65	80	100	125	150	200	250	DN	300	350	400	500	600
G	36	35	50	67	87	113	140	191	241	5°	289	332	376	479	575
\varnothing min	29	44	60	75	98	122	148	196	244	10°	296	332	378	478	566
\varnothing max	49	62	80	93	118	146	175	225	275	15°	330	372	422	500	600

Installation

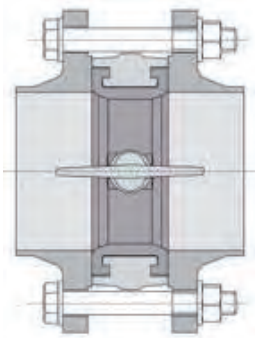
Assembly



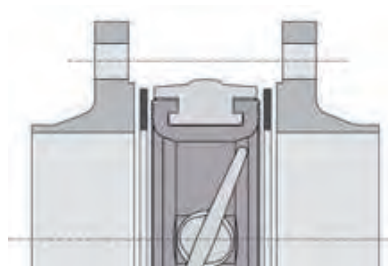
1 - Leave a space between flanges so that valve can be easily inserted and removed.



2 - Open completely the valve before tightening flanges.



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

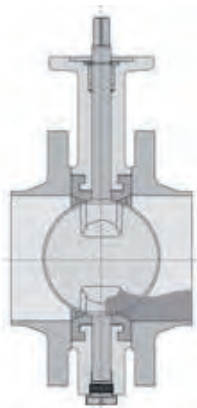


4 - **NOTE:** do not insert other packing between flange and valve.

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.

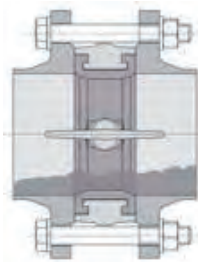
Installation for powders and muddy fluids

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



Right

Horizontal rotation axis

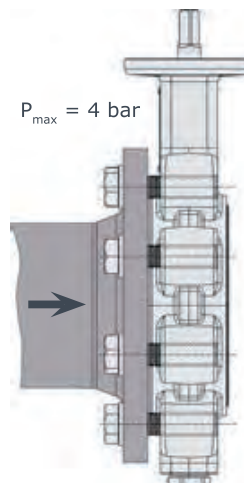
← powders or muddy fluids

← powders or muddy fluids

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

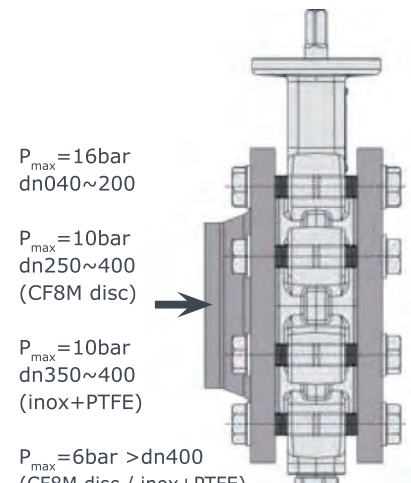
End piping installation

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



$P_{max} = 4 \text{ bar}$

Type A installation with MT end piping



$P_{max} = 16 \text{ bar}$
dn040~200

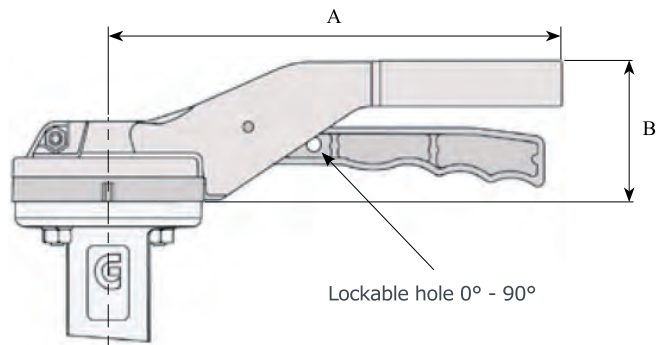
$P_{max} = 10 \text{ bar}$
dn250~400
(CF8M disc)

$P_{max} = 10 \text{ bar}$
dn350~400
(inox+PTFE)

$P_{max} = 6 \text{ bar} > \text{dn}400$
(CF8M disc / inox+PTFE)

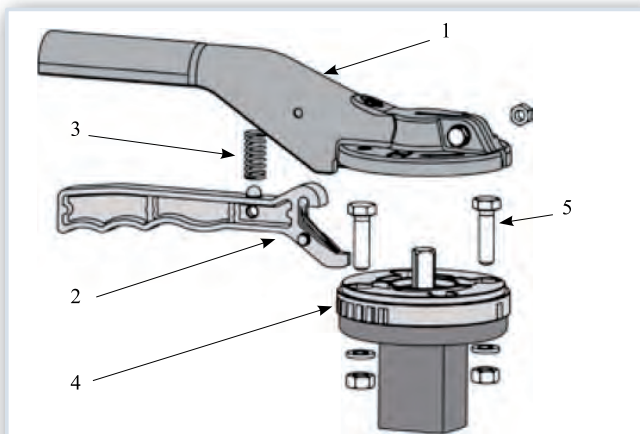
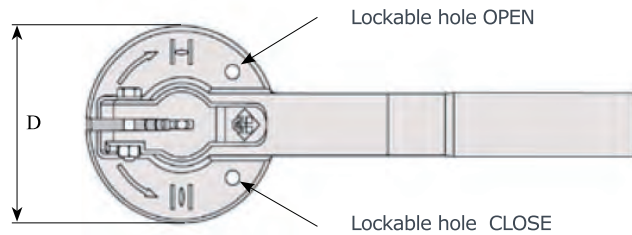
Type B installation with end piping

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



		DN40 - 300	DN40 - 150
1	lever	aluminium	EN 1.408~A351
2	trigger	aluminium	EN 1.408~A351
3	spring	stainless steel	stainless steel
4	disc positioning	aluminium	EN 1.408~A351
5	screws	stainless steel	stainless steel

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



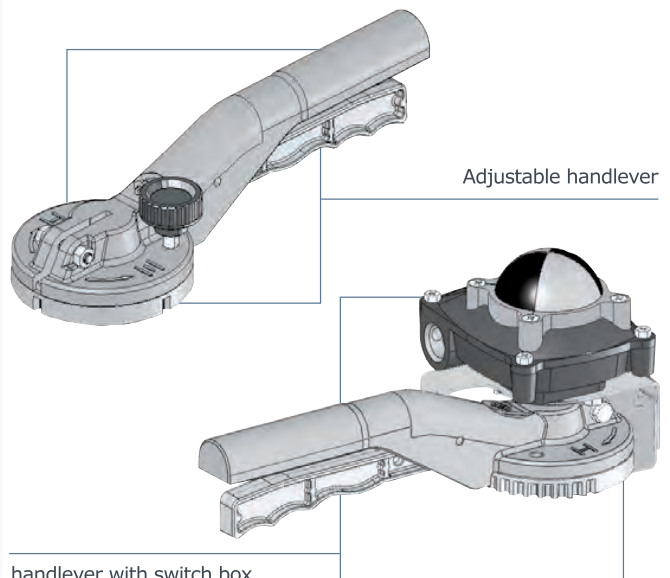
10 positions



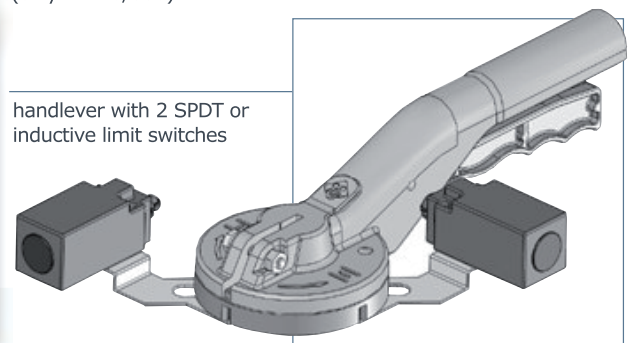
Open - Closed

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

OPTIONALS

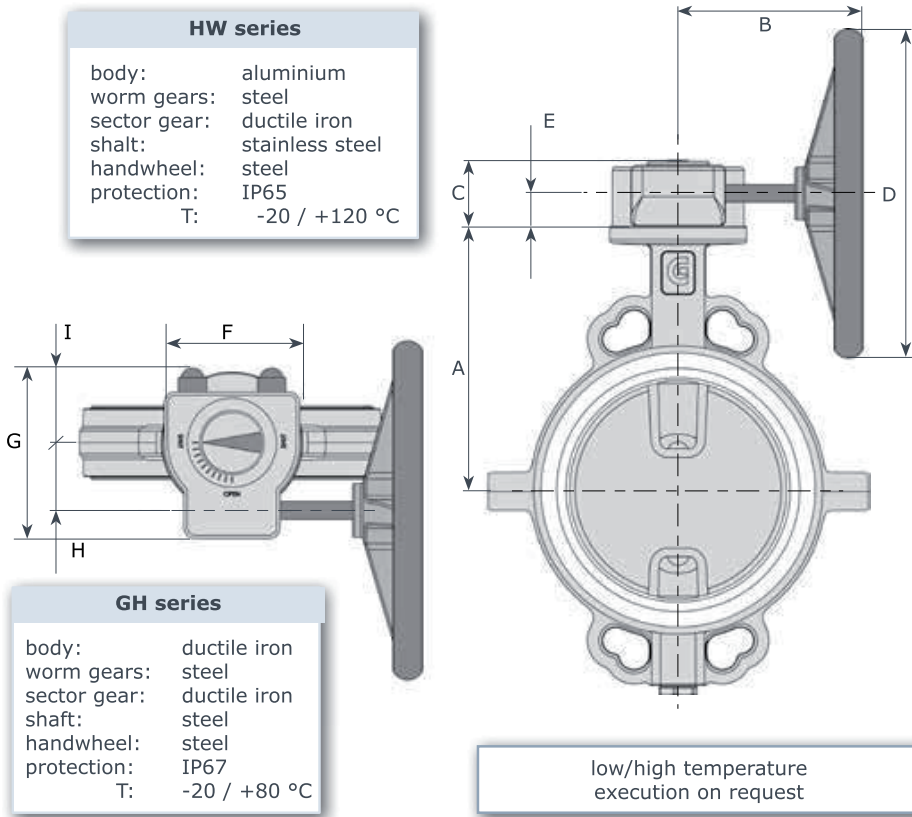


handlever with switch box (only DN 40/300)



handlever with 2 SPDT or inductive limit switches

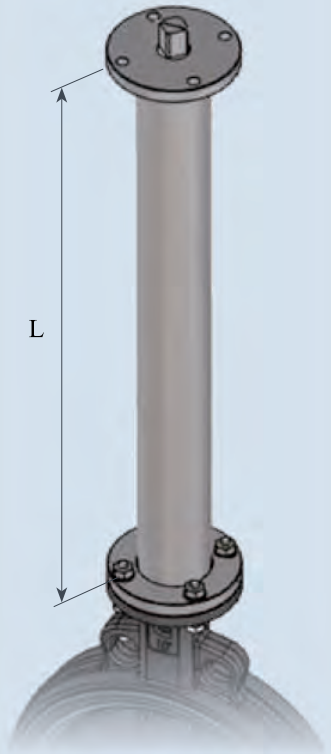
Gearboxes - Aluminium body - HW Series - Cast Iron body - GH Series



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 technical department is available to solve special applications.

Dimensions

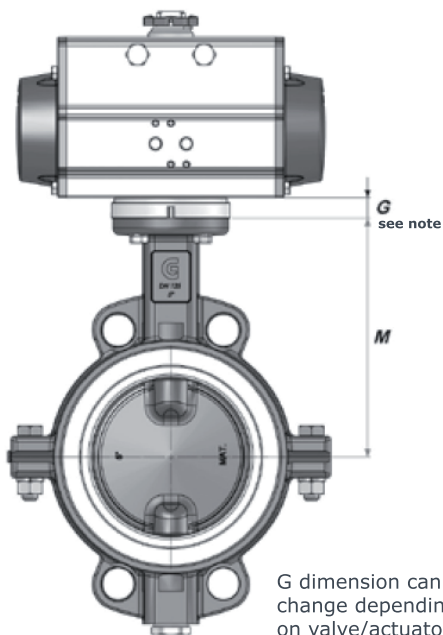
Mod. HW	B	C	D	E	F	G	H		Kg
HW 070	160	48	140	27	80	115	42		1.6
HW 102	215	56	250	33	120	150	60		3
HW 140	325	95	400	51	185	225	80		10
Mod. GH	B	C	D	E	F	G	H	I	Kg
GH10	170	64	200	29	90	122.5	44	52.5	2.2
GH20	179	65.5	200	29	125	144	52	65	3.6
GH21	214	73	300	36	125	162	62	74	4.8
GH30	265	89	350	46	150	202	79	89	12
GH55	300	99	400	49.5	210	229	89	105	13
GH88	350	350	500	55	225	267	112	112	20.1

Coupling valve - actuators

DN	"	mod. HW	mod. GH	A
40	1 ^{1/2}	HW070	GH10	138
50	2	HW070	GH10	138
65	2 ^{1/2}	HW070	GH10	144
80	3	HW070	GH10	158
100	4	HW070	GH10	173
125	5	HW070	GH10	186
150	6	HW070	GH10	202
200	8	HW102	GH20	202

DN	"	mod. HW	mod. GH	A
250	10	HW102	GH20	270
300	12	HW102	GH20	300
350	14	HW140	GH30	330
400	16	HW140	GH30	355
DN	"	mod. HW	mod. GH	A
500	20	-	GH55	422
DN	"	mod. HW	mod. AB	A
600	24	-	GH88	495

Pneumatic actuators: double action / spring return



G dimension can change depending on valve/actuator coupling.

Valve seat: PTFE - Fluid: H2O - T: 20° C air: 5,5 Bar

DN	M	PN 6						PN 10				PN 16					
		DA		SR		mod.	G	DA		SR		DA		SR			
		mod.	G	mod.	G			mod.	G	mod.	G	mod.	G	mod.	G		
40	130	VA 52	24	VA 75 SR	16	VA 52	24	VA 75 SR	16	VA 63	20	VA 85 SR	16	VA 63	20	VA 85 SR	16
50	138	VA 63	20	VA 85 SR	16	VA 63	20	VA 85 SR	16	VA 63	20	VA 85 SR	16	VA 63	20	VA 100 SR	16
65	144	VA 63	20	VA 85 SR	16	VA 75	20	VA 100 SR	16	VA 75	16	VA 100 SR	16	VA 75	16	VA 100 SR	16
80	158	VA 75	16	VA 115 SR	16	VA 85	16	VA 115 SR	16	VA 85	16	VA 125 SR	16	VA 85	16	VA 125 SR	16
100	173	VA 85	16	VA 125 SR	16	VA 85	16	VA 125 SR	16	VA 85	16	VA 125 SR	16	VA 85	16	VA 125 SR	16
125	186	VA 85	16	VA 125 SR	16	VA 100	16	VA 125 SR	16	VA 100	16	VA 140 SR	14	VA 100	16	VA 140 SR	14
150	202	VA 85	16	VA 125 SR	16	VA 100	16	VA 140 SR	14	VA 100	16	VA 140 SR	14	VA 100	16	VA 140 SR	14
200	240	VA 115	14	VA 160 SR	14	VA 125	14	VA 180 SR	14	VA 125	16	VA 200 SR	50	VA 125	16	VA 200 SR	50
250	270	VA 125	14	VA 200 SR	50	VA 140	14	VA 200 SR	50	-	-	-	-	-	-	-	-
300	300	VA 140	14	VA 200 SR	50	VA 160	14	VA 230 SR	50	-	-	-	-	-	-	-	-
350	330	VA 160	0	VA 230 SR	100	VA 180	0	VA 270 SR	100	-	-	-	-	-	-	-	-
400	355	VA 200	0	VA 270 SR	100	VA 230	100	VA 330 SR	100	-	-	-	-	-	-	-	-
500	422	VA 230	0	VA 330 SR	0	-	-	-	-	-	-	-	-	-	-	-	-
600	495	VA 330	100	AT 1001 SR	0	-	-	-	-	-	-	-	-	-	-	-	-

Rack & Pinion Actuators

Max air pressure: 8 bar
5,5 bar (AT series)

Temperature: -20°C / +85°C
-20°C / +80°C (AT series)

Torque range: 8/5059 Nm
13,2/9173 Nm a 5,5Bar (AT series)

Double travel stop open/close: ±5°
-5°/+15 close (AT series)
+5°/-15 open(AT series)

Declutchable manual gearboxes

GD Series
body: aluminium
worm gears: steel
sector gear: ductile iron

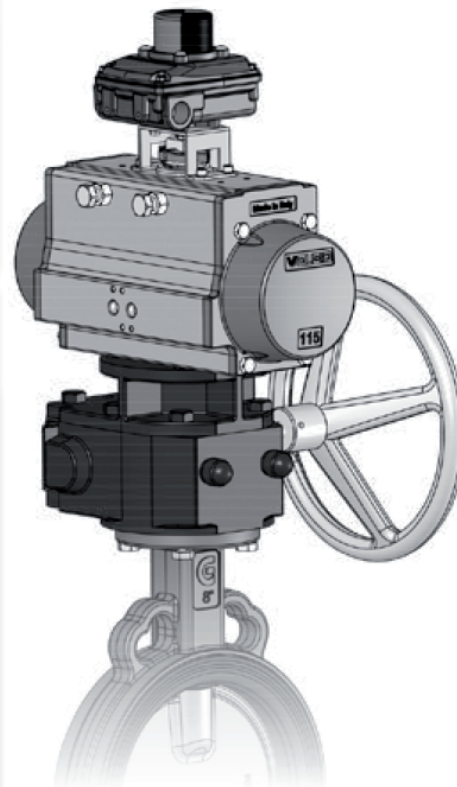
shaft: stainless steel
handwheel: steel
protection: IP65
T: -20 / +120 °C

∅ valve	DA actuator double action	SR actuator spring return	emergency gearbox type
DN 40÷150	VA 63-100	VA 75-115	GD070
		VA 125	GD102
DN200	VA 85-100		GD070
DN200-300	VA 115-160	VA 115-160	GD102
		VA 180-200	GD140
DN350-500	VA 140-200	VA 200	GD140

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

shaft: steel
handwheel: steel
protection: IP65 (IP67 on req.)
T: -20 / +120 °C

∅ valve	DA actuator double action	SR actuator spring return	emergency gearbox type
DN040-150	VA 63-100	VA 63-100	ILGD200
	VA 115-125	VA 115-160	ILGD600
		VA 180-200	ILGD900
DN200-300	VA 85-160	VA 115-160	ILGD600
	VA 180-200	VA 180-200	ILGD900
	VA 230	VA 230	ILGD1500
DN350-400	VA 140-200	VA 200	ILGD2400
	VA 230	VA 230	ILGD1500
	VA 270	VA 270	ILGD2400
DN450	VA 180-230	VA 230	ILGD1500
	VA 270	VA 270-330	ILGD2400
DN500	VA 180-230	VA 230	ILGD5000
	VA 270	VA 270	ILGD2400
	VA 330	VA 330	ILGD5000
DN600	VA 270		ILGD2400
	VA 330	VA 330	ILGD5000



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