

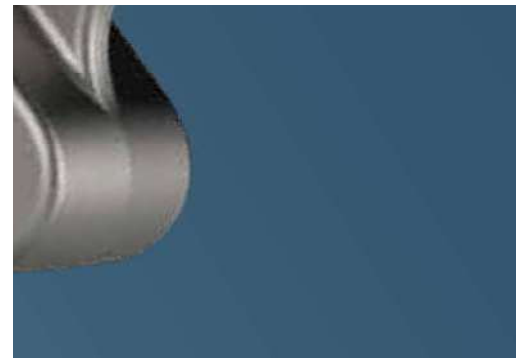
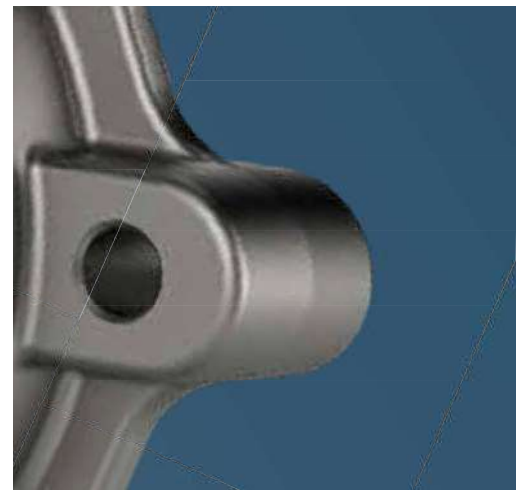
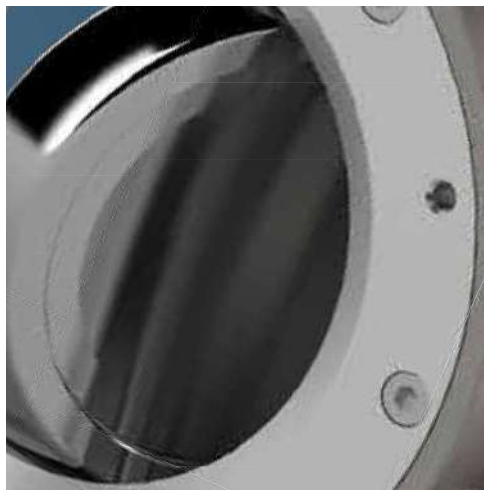
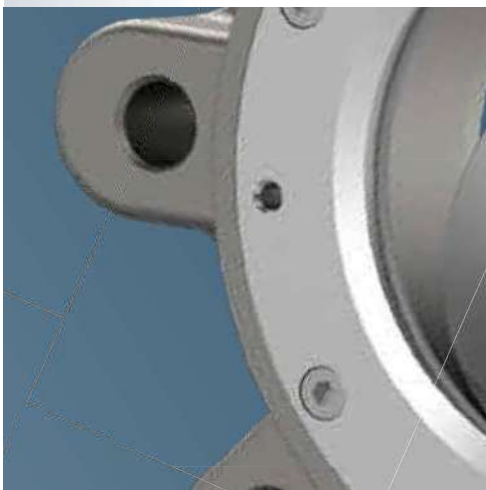
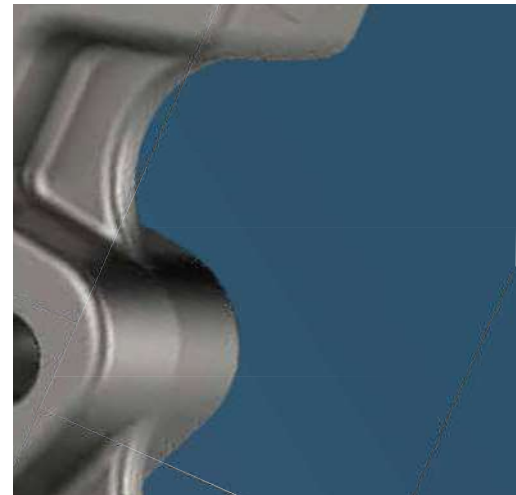
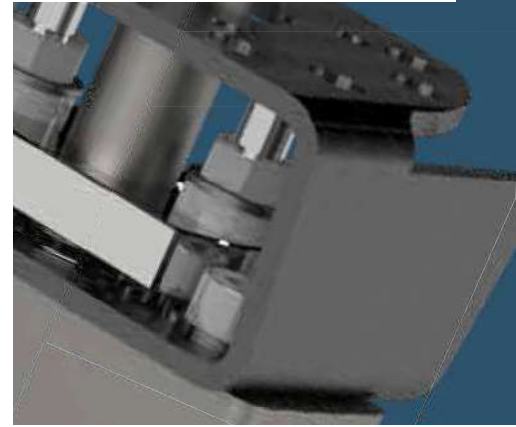
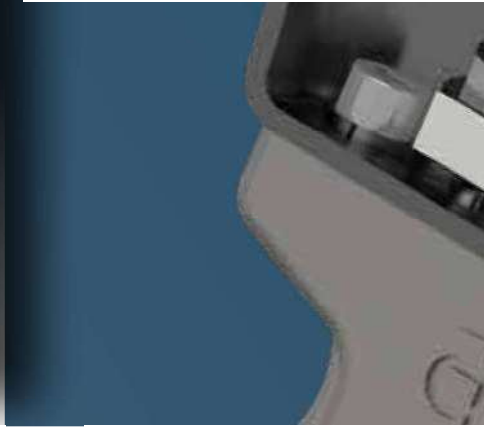


# i VALVE

INDUSTRIAL VALVES

**Butterfly  
valves**

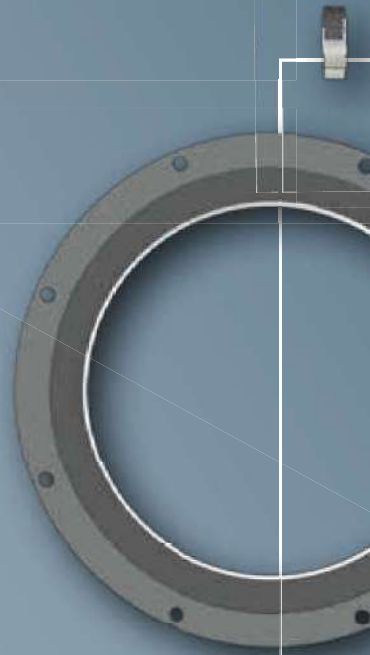
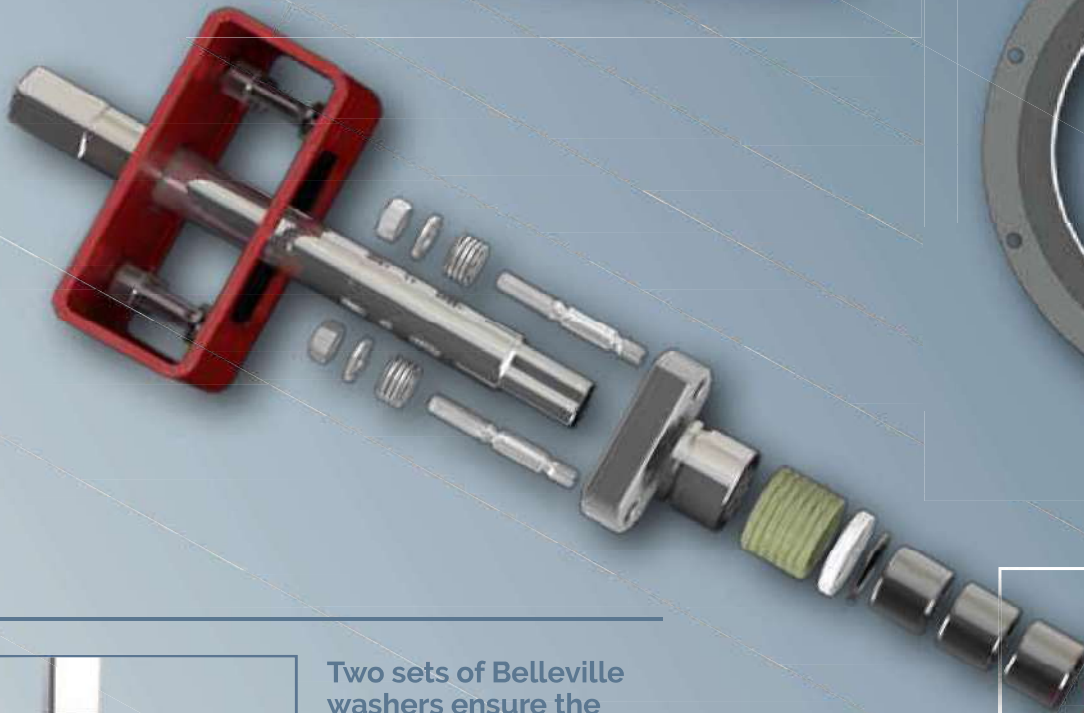
**HD Series**



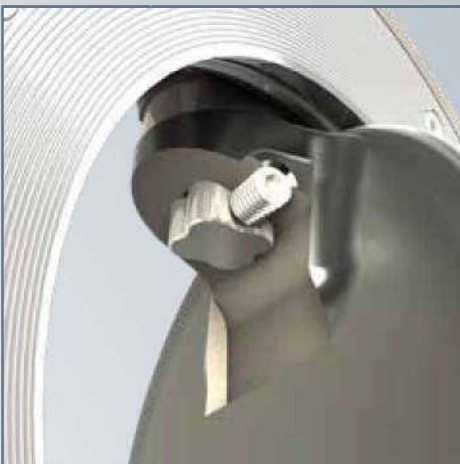


# Butterfly valves

## Double eccentric HD Series



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



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





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



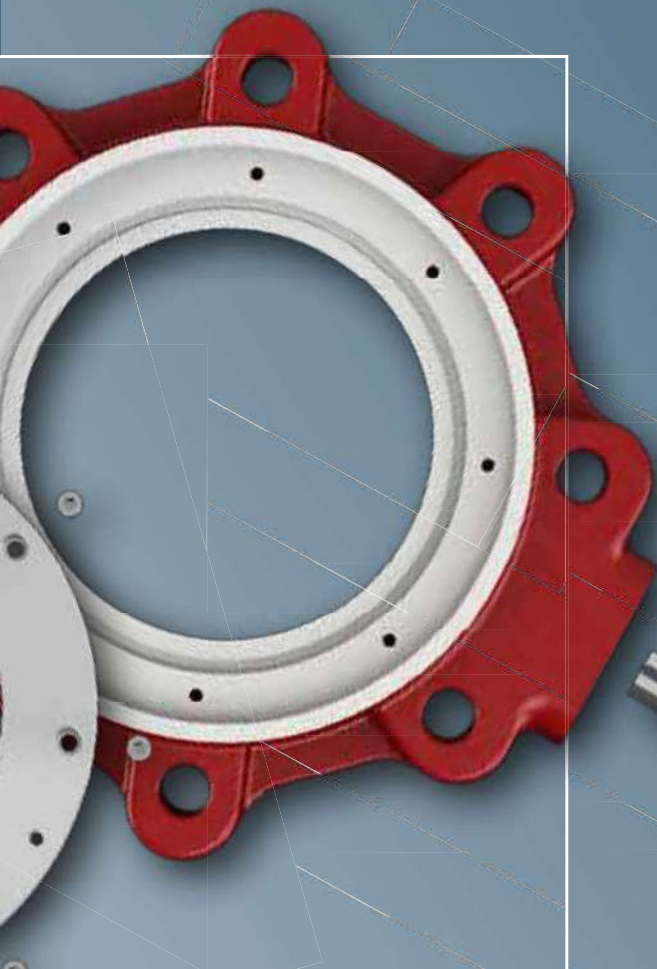
Detail of the RTFE seat



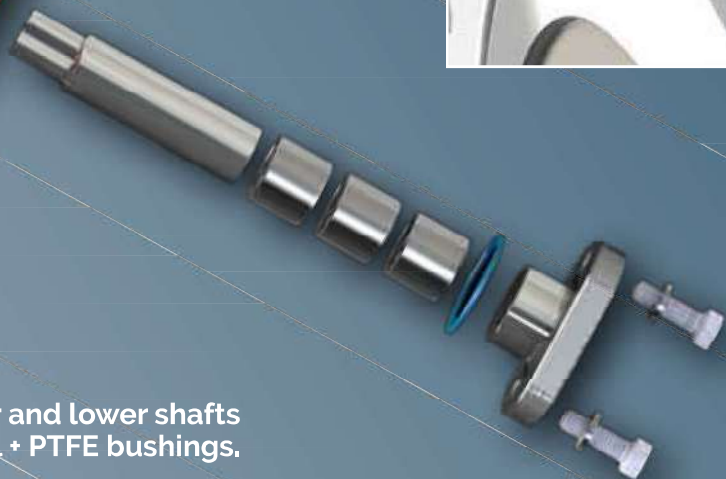
Detail of the metallic seat



Detail of the the Fire Safe design



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



## BVHD - Wafer DN 40 - 600 • 1 1/2" - 24"

## BLHD - Lug DN 40 - 600 • 1 1/2" - 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.



TYPE APPROVAL



TYPE APPROVAL

EAC



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



ANSI/API 607 - ISO 10497-5

SIL safety integrity level



### 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

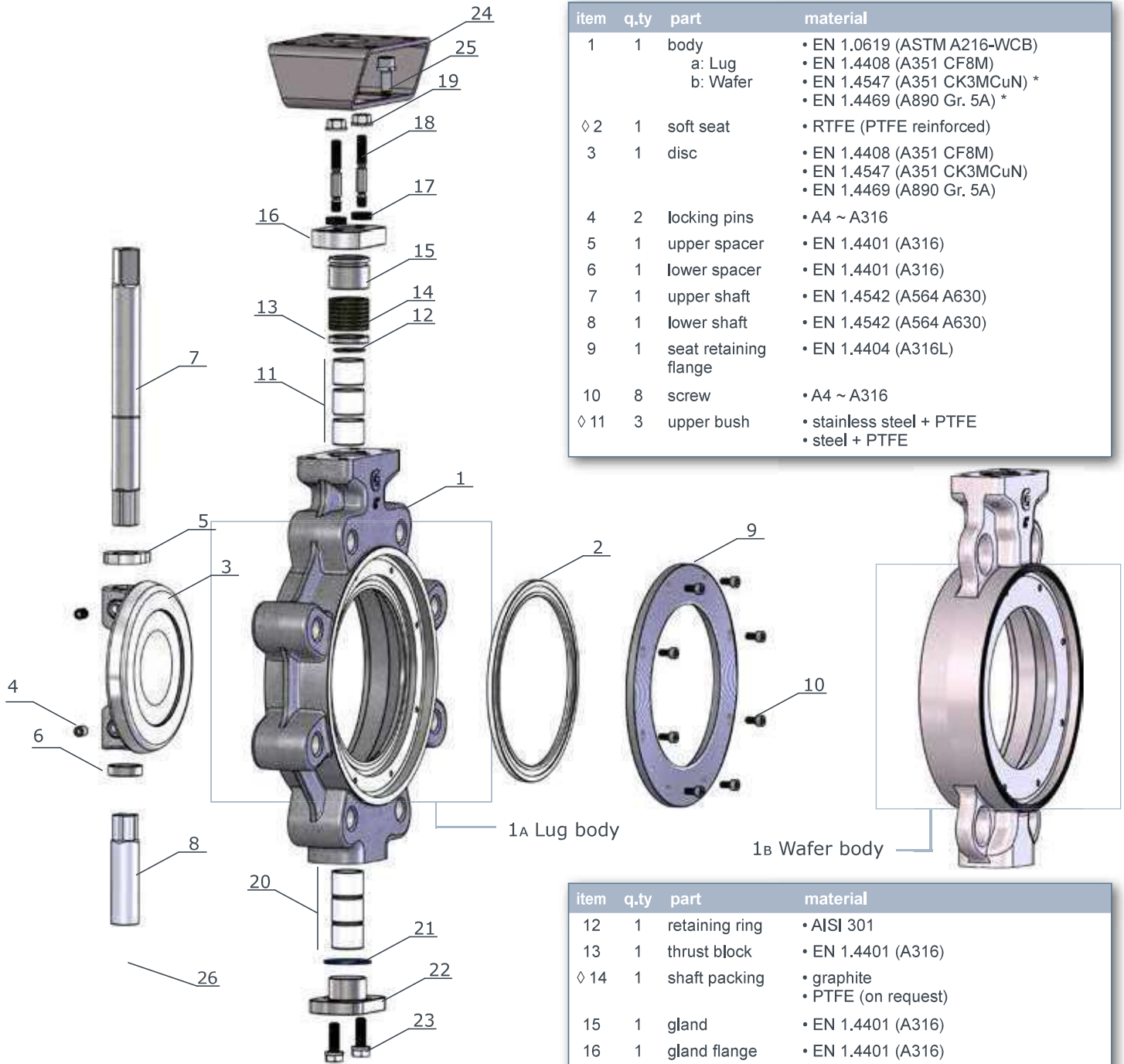
### SEDE

ref.	material	working temp.
RT	RTFE (PTFE reinforced)	Min: -60°C - Max: +230°C
IN	Inconel 625	Min: -60°C - Max: +450°C
FS	RTFE + Inconel 625	Min: -60°C - Max: +230°C / +450°C

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

**BVHD - Wafer • RTFE seat**  
DN 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	<ul style="list-style-type: none"> <li>• EN 1,0619 (ASTM A216-WCB)</li> <li>• EN 1,4408 (A351 CF8M)</li> <li>• EN 1,4547 (A351 CK3MCuN) *</li> <li>• EN 1,4469 (A890 Gr. 5A) *</li> </ul>
◇ 2	1	soft seat	• RTFE (PTFE reinforced)
3	1	disc	<ul style="list-style-type: none"> <li>• EN 1,4408 (A351 CF8M)</li> <li>• EN 1,4547 (A351 CK3MCuN)</li> <li>• EN 1,4469 (A890 Gr. 5A)</li> </ul>
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	<ul style="list-style-type: none"> <li>• stainless steel + PTFE</li> <li>• steel + PTFE</li> </ul>

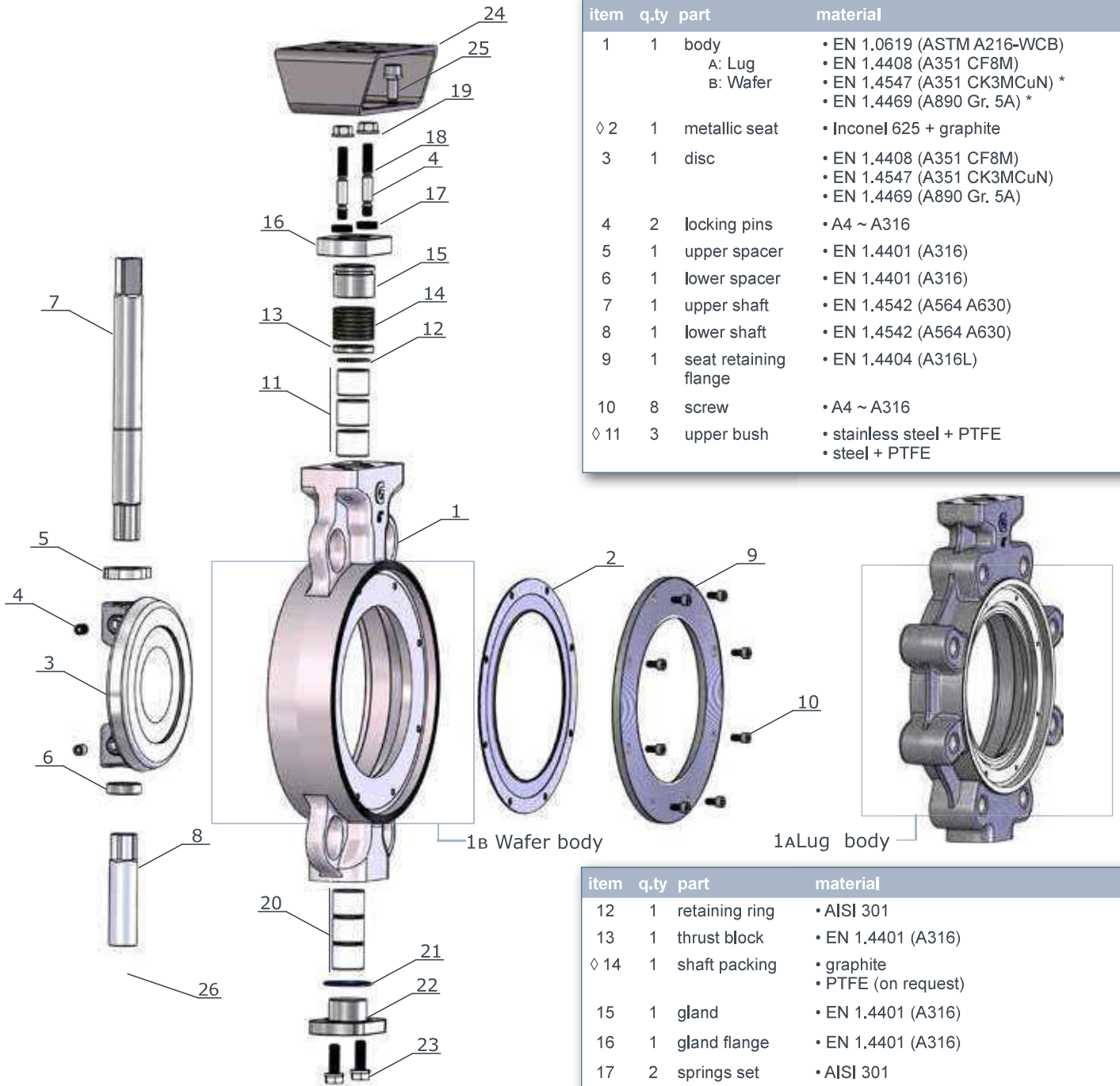
item	q.ty	part	material
12	1	retaining ring	• AISI 301
13	1	thrust block	• EN 1,4401 (A316)
◇ 14	1	shaft packing	<ul style="list-style-type: none"> <li>• graphite</li> <li>• PTFE (on request)</li> </ul>
15	1	gland	• EN 1,4401 (A316)
16	1	gland flange	• EN 1,4401 (A316)
17	2	springs set	• AISI 301
18	2	rods	• A4 ~ A316
19	2	nut	• A2 ~ A304
◇ 20	3	lower bush	<ul style="list-style-type: none"> <li>• stainless steel + PTFE</li> <li>• steel + PTFE</li> </ul>
◇ 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

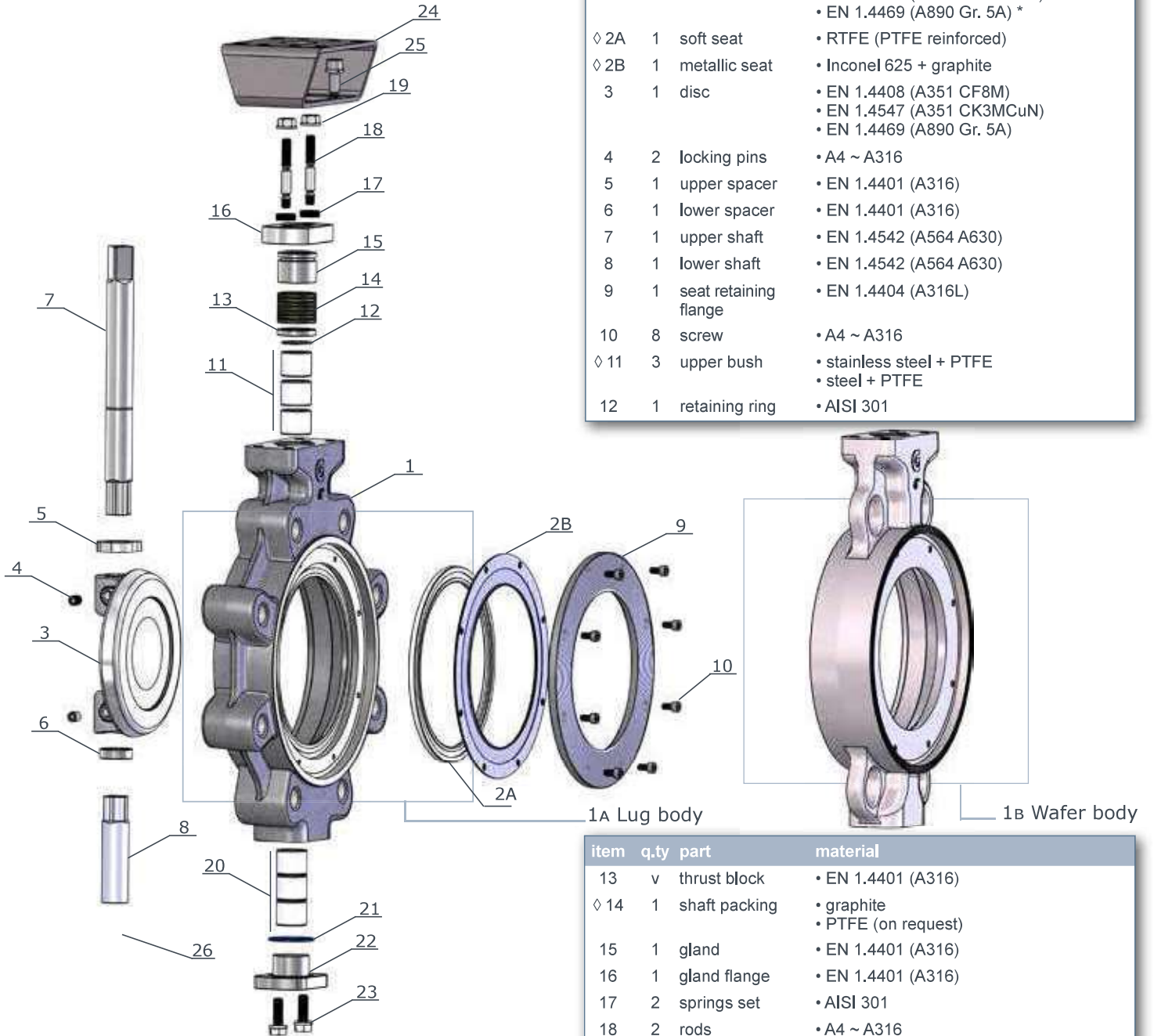
item	q.ty	part	material
12	1	retaining ring	• AISI 301
13	1	thrust block	• EN 1.4401 (A316)
◇ 14	1	shaft packing	• graphite • PTFE (on request)
15	1	gland	• EN 1.4401 (A316)
16	1	gland flange	• EN 1.4401 (A316)
17	2	springs set	• AISI 301
18	2	rods	• A4 ~ A316
19	2	nut	• A2 ~ A304
◇ 20	3	lower bush	• 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



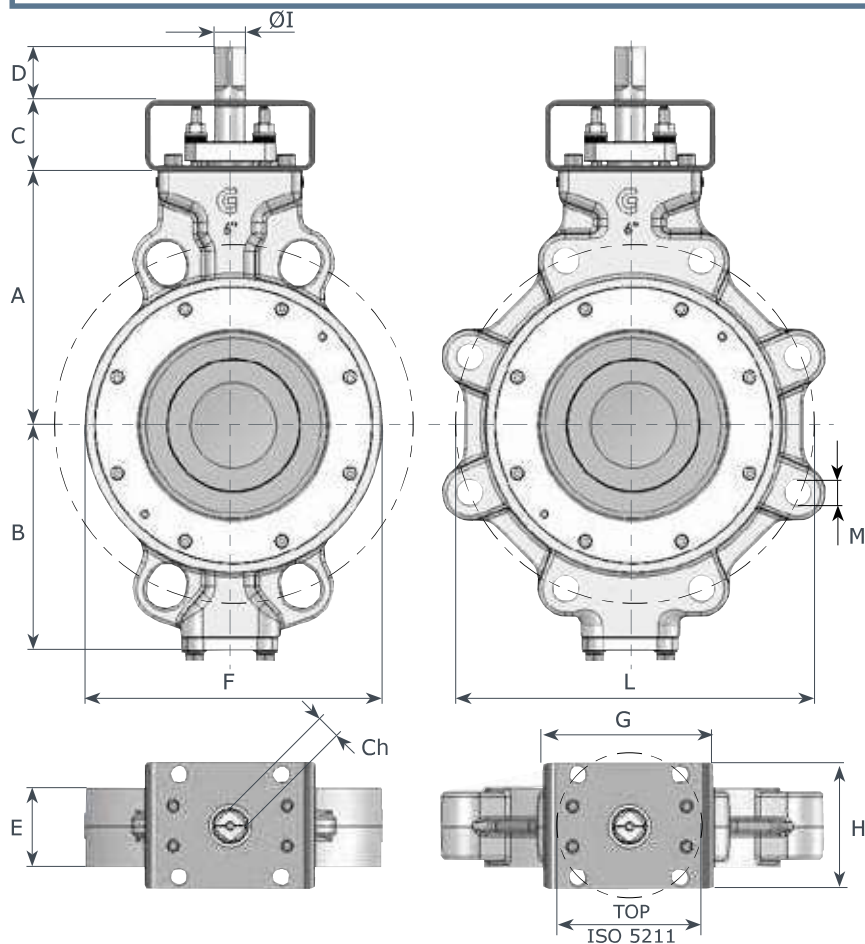
item	q.ty	part	material
1	1	body A: Lug B: Wafer	<ul style="list-style-type: none"> <li>• EN 1.0619 (ASTM A216-WCB)</li> <li>• EN 1.4408 (A351 CF8M)</li> <li>• EN 1.4547 (A351 CK3MCuN) *</li> <li>• EN 1.4469 (A890 Gr. 5A) *</li> </ul>
◇ 2A	1	soft seat	• RTFE (PTFE reinforced)
◇ 2B	1	metallic seat	• Inconel 625 + graphite
3	1	disc	<ul style="list-style-type: none"> <li>• EN 1.4408 (A351 CF8M)</li> <li>• EN 1.4547 (A351 CK3MCuN)</li> <li>• EN 1.4469 (A890 Gr. 5A)</li> </ul>
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	<ul style="list-style-type: none"> <li>• stainless steel + PTFE</li> <li>• steel + PTFE</li> </ul>
12	1	retaining ring	• AISI 301

item	q.ty	part	material
13	v	thrust block	• EN 1.4401 (A316)
◇ 14	1	shaft packing	<ul style="list-style-type: none"> <li>• graphite</li> <li>• PTFE (on request)</li> </ul>
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	<ul style="list-style-type: none"> <li>• stainless steel + PTFE</li> <li>• steel + PTFE</li> </ul>
◇ 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)

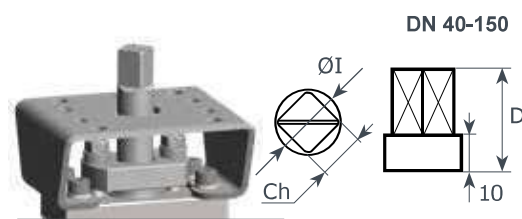
◇ parts included in spare kit

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

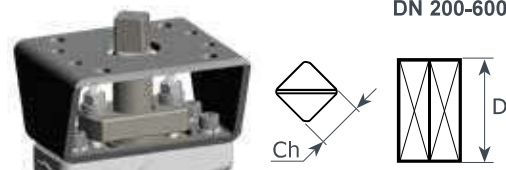
## BVHD/BLHD dimensions



### SHAFT



### DN 200-600



### OPTIONAL SPACER



### DN 40-150

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

DN	"	A	B	C	D	E	F	G	H	Ø I	Ch	TOP
40	1 <sup>1/2</sup>	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 <sup>1/2</sup>	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 <sup>(1)</sup>	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 <sup>(1)</sup>: in case of ANSI150 flanges, threading can be ANSI B1.1 UNC2B

## Compatible flanges JIS B2220 :2004

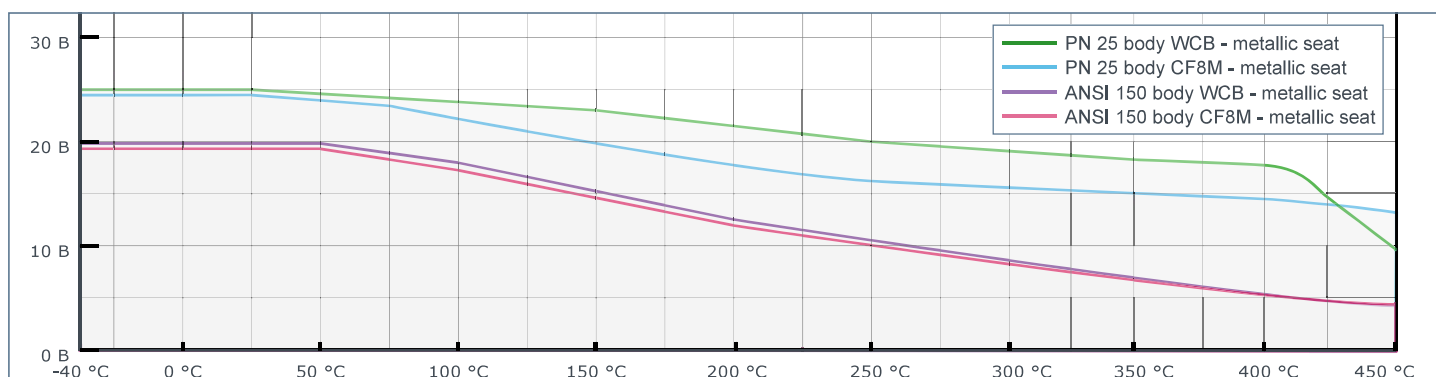
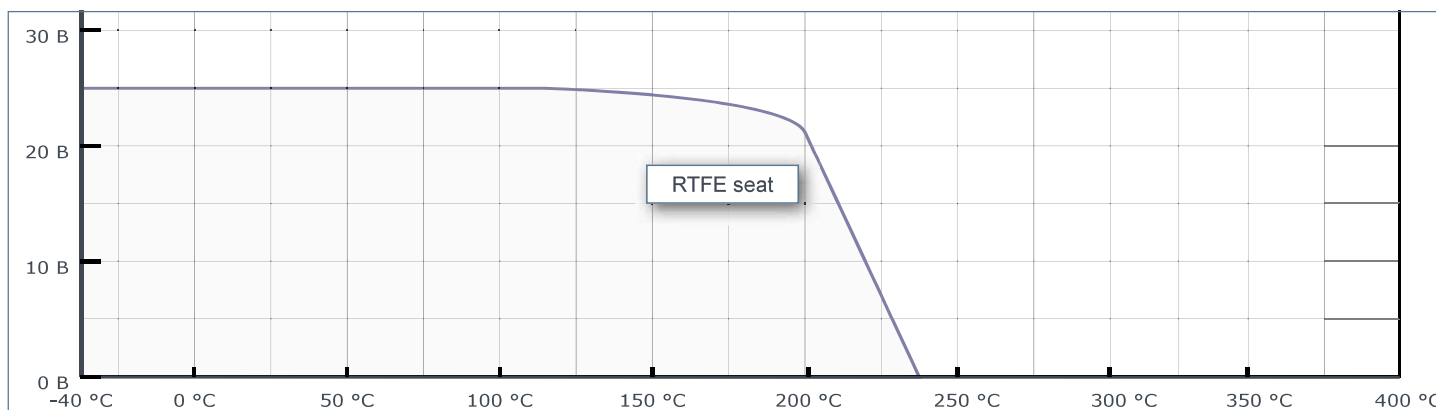
DN	BVHD - wafer (Pmax = 25bar)					BLHD - lug (Pmax = 25bar)				
	JIS 5K	JIS 10K	JIS 16K	JIS 20K	JIS 30K	JIS 5K	JIS 10K	JIS 16K	JIS 20K	JIS 30K
40	●	●	●	●	●	●	●	●	●	●
50	✗	✓	●	●	●	✗	●	●	●	✗
65	●	✓	●	●	✗	●	●	●	●	✗
80	●	●	●	●	✗	●	●	●	●	●
100	✗	●	✓	✓	✓	✗	●	●	●	●
125	●	●	✓	✓	✓	●	●	●	●	●
150	●	✓	✗	✗	✗	●	✓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

✓ standard ● on request ✗ not possible

## Torque values - Nm | safety factor excluded

seat: RTFE - fluid: H <sub>2</sub> O - 20°C					seat: INCONEL - fluid: H <sub>2</sub> 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.

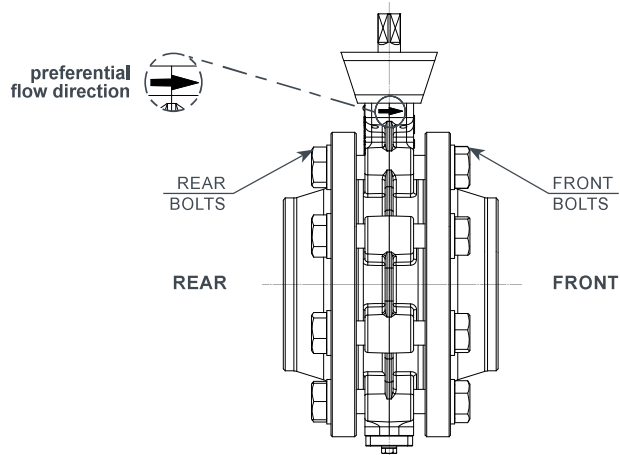
### NOTE 1

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.



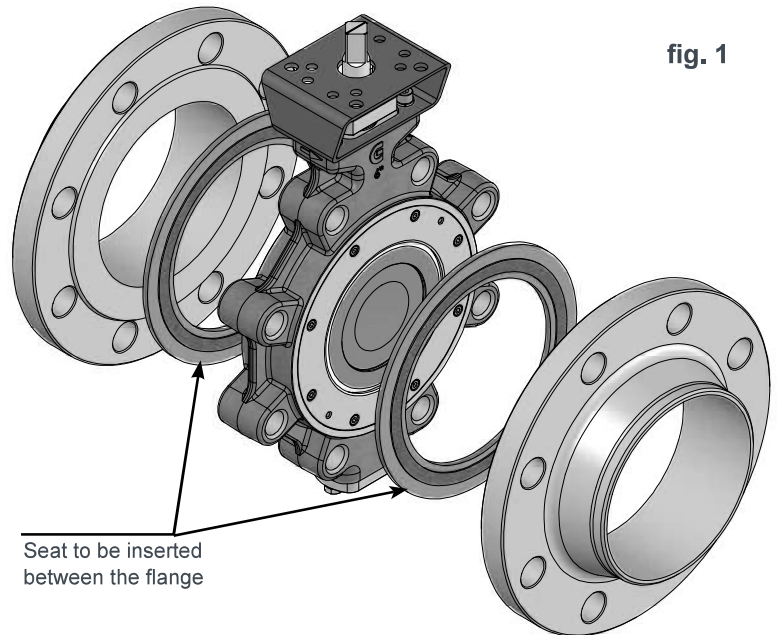
DN	Lug valves															
	PN10				PN16				PN25				A150			
	Rear		Front		Rear		Front		Rear		Front		Rear		Front	
	Bolts	N°	Bolts	N°	Bolts	N°	Bolts	N°	Bolts	N°	Bolts	N°	Bolts	N°	Bolts	N°
40	M16x35	4	M16x40	4	M16x35	4	M16x40	4	M16x40	4	M16x40	4	M14x35	4	M14x40	4
50	M16x45	4	M16x45	4	M16x45	4	M16x45	4	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	M20x55	8	M20x55	8	M20x55	8	M24x60	8	M24x60	8	M20x55	8	M20x60	8
200	M20x55	8	M20x65	8	M20x55	8	M20x65	8	M24x60	12	M24x70	12	M20x60	8	M20x65	8
250	M20x60	12	M20x70	12	M24x60	12	M24x70	12	M27x65	12	M27x75	12	M22x65	12	M22x70	12
300	M20x65	12	M20x70	12	M24x70	12	M24x75	12	M27x75	16	M27x80	16	M22x70	12	M22x80	12
350	M20x70	12	M20x80	12	M24x70	16	M24x90	16	M30x80	16	M30x100	16	M24x80	12	M24x90	12
400	M24x75	16	M24x90	16	M27x80	16	M27x90	16	M33x90	16	M33x100	16	M27x80	16	M27x100	16
500	M24x90	16	M24x90	16	M30x100	16	M30x100	16	M33x110	16	M33x110	16	M27x110	16	M27x110	16
	* bolts M24x60	4	* bolts M24x70	4	* bolts M30x70	4	* bolts M30x80	4	* bolts M33x80	4	* bolts M33x90	4	* bolts M27x80	4	* bolts M27x90	4
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

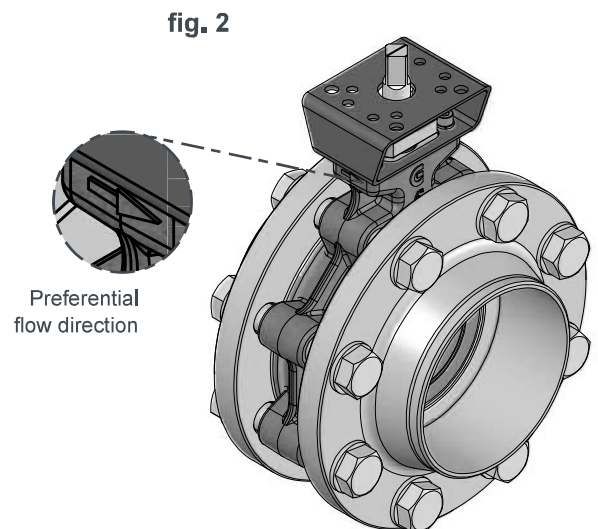
### Valve/pipe assembly

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:

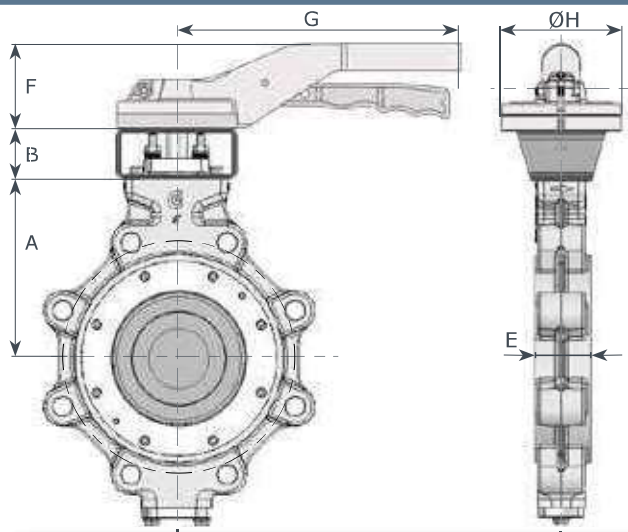
- Always remove the valve before any flange welding to avoid possible damages due to heat
- On top of upper shaft there is a notch parallel to disc indicating its position. (for valves DN>200 refer to the key).
- When actuator or gear box are assembled on the valve, please consider that there is a mechanical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



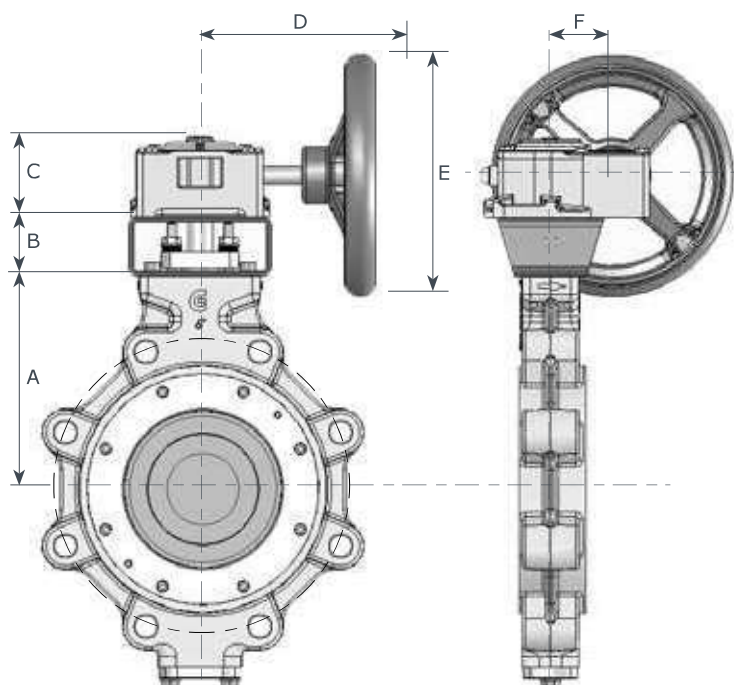
DN	"	A	B	E	F	G	ØH	aluminium		St. steel	
								Wafer	Lug	Wafer	Lug
40	1 1/2	113	50	39	67	220	93	4.6	4.6	5.7	5.7
50	2	117	50	43	67	220	93	4.1	6.3	5.2	7.4
65	2 1/2	120	50	46	67	220	93	4.6	7.6	5.7	8.7
80	3	129	50	46	67	220	93	5.4	8.2	6.5	9.3
100	4	160	50	52	67	275	93	8.7	10.4	10.0	11.7
125	5	170	50	56	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



#### 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*

#### 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