PENTAIR

NEOTECHA

A PTFE lined solution according ISO 5752/5 short (EN 558-1/T5) with various corrosion resistant disc materials to satisfy demanding customer requirements

Features

- One of the most important features is the stem seal.
  The pressure to keep the two sealing surfaces together is provided by an upper and lower set of Belleville springs resulting in a superior stem seal, which is TA-Luft / VDI 2440 approved.
- The elastomer back-up pads behind the liner ensure a tight fit around the disc, for a bubble tight shut-off.
- The liner provides a wide flange sealing surface.
- A one piece thin disc stem lined with 3 mm molded PFA providing high K_V values.
- The liner and disc are the only two valve parts in contact with the medium.
- Primary shaft sealing by preloaded contact between disc and liner hub.
- Secondary shaft seal by oversizing the shaft diameter in relation to the shaft hole in the liner.
- The liner and disc are molded and machined to close tolerances to provide:
  - low torque
  - less stress and deformation during opening and closing
- Vacuum tests with helium with pressures less than 20 Pa absolute (0.2 mbarA).
- Optional TFM lining available for extremely demanding applications.
- Integral body locating holes to ensure perfect centering of the valve.
- Actuator flange and stem dimensions acc. ISO 5211.
- Anti blow-out proof shaft.

Technical data

Pressure (bar)	:	10 (DN 40-600) 6 (DN 700, DN 800 and DN 900) 2.5 (DN 750)
Temperature (°C)	:	-40 to +200
Sizes (mm)	:	40-900
Flange accommodation	:	DIN PN 10/(16) ANSI 150, JIS 10K

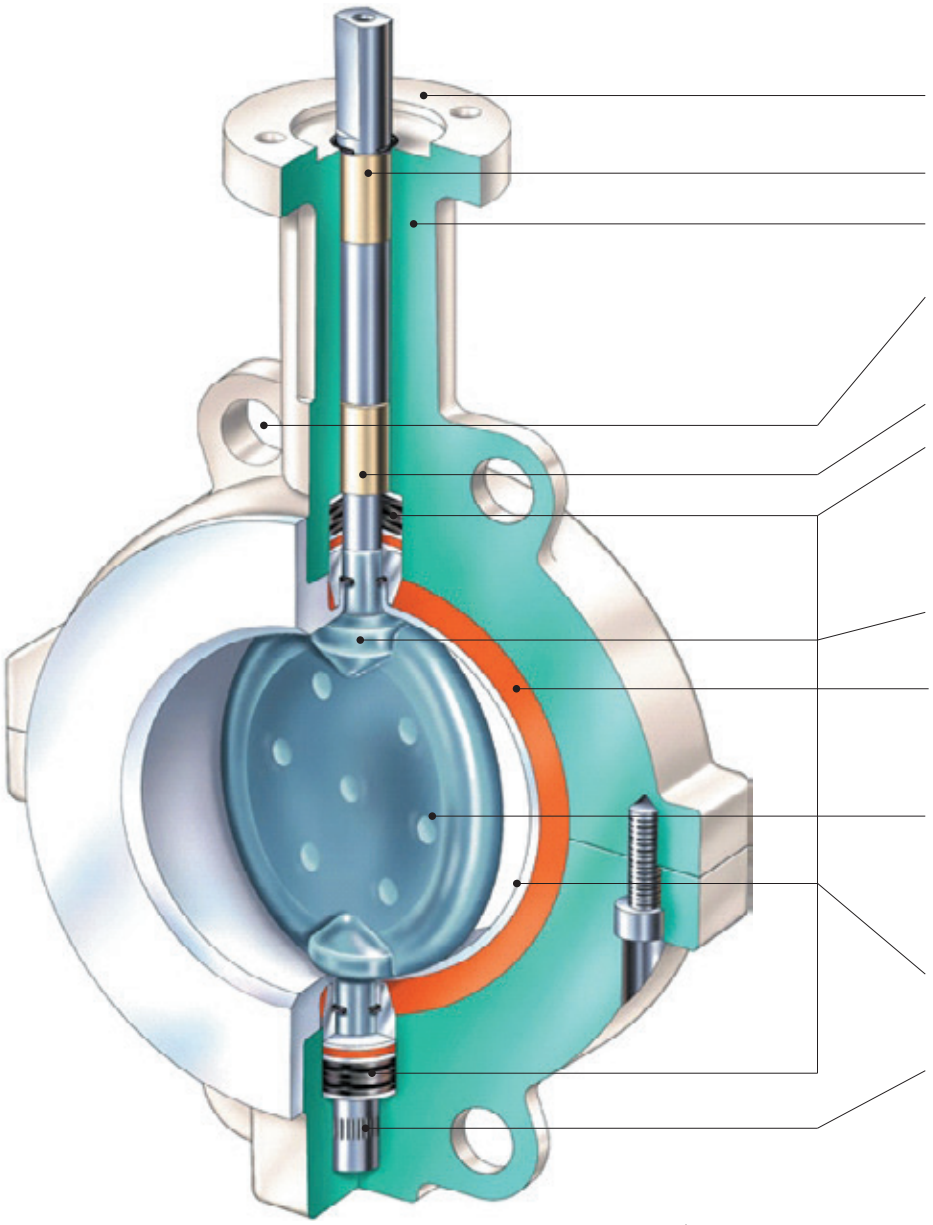
Bubble tight shut-off in both directions, in accordance with EN-12266-1 leakrate A (UHMWPE leakrate B).

General application

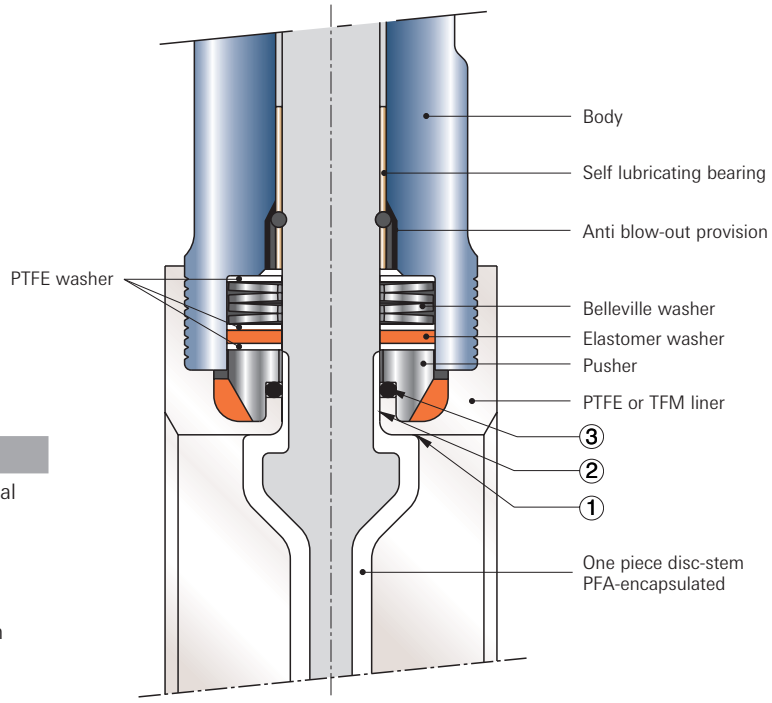
The valves are ideally suited for corrosive applications, requiring reliable performance, tight shutoff, constant torque and no maintenance. The valves successfully handle a multitude of corrosive applications in industries such as chemical, petro-chemical, pulp and paper, semiconductor (UPW), foundries and mining.
The accurate machining of all valve components, and the combination of safety precautions in the shaft area provide a drop-tight seat sealing and a positive gastight shut-off through the shaft area to atmosphere.

www.pentair.com/valves

Pentair reserves the right to change the contents without notice



- Top flange according to ISO 5211, simplifies the actuator mounting.
- Conductive Iglidur bearing.
- Split body made of ductile iron (DIN 0.7043) with polyester coating.
- Integral body locating holes to ensure perfect centering of the valve between flanges.
- Self lubricating bearings.
- An upper and lower set of Belleville disc springs exert uniform loading through the pusher, pressing the PTFE liner and the shoulder of the disc hub together resulting in a leak free mechanical stem seal.
- One piece disc-stem allows a thinner wafer, resulting in a higher K_V value.
- Resilient elastomer back-up pads provide an uniform pressure onto the circumference of the disc ensuring a bubble tight valve under all operating conditions.
- Precision PFA encapsulation, 3 mm thick, bonded and interlocked to the one piece disc-stem. Suitable for full vacuum at full rated temperature.
- Precision machined high density PTFE liner made from virgin PTFE or TFM.
- Self lubricating bottom bearing.



Cross section of stem seal

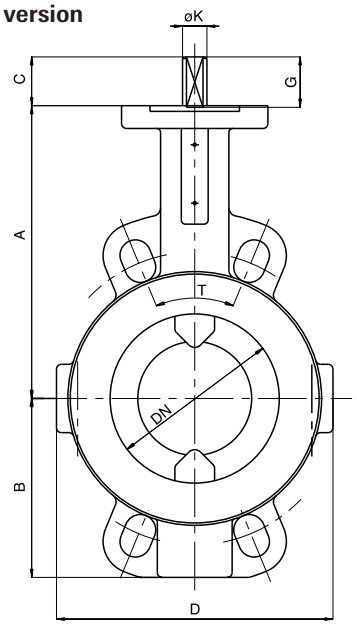
Notes

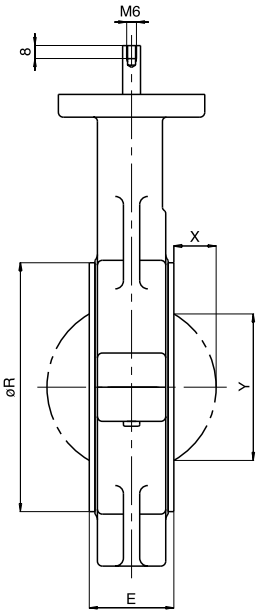
① Primary seal: spring loaded mechanical seal
② Secondary seal: radial lip seal
③ FKM equalizer

TFM® is a registered trademark of Dyneon

NeoSeal with Neotecha shaft connection

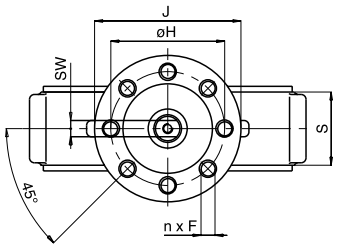
Wafer version



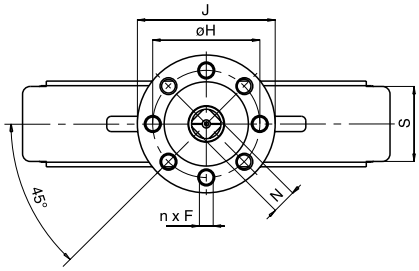


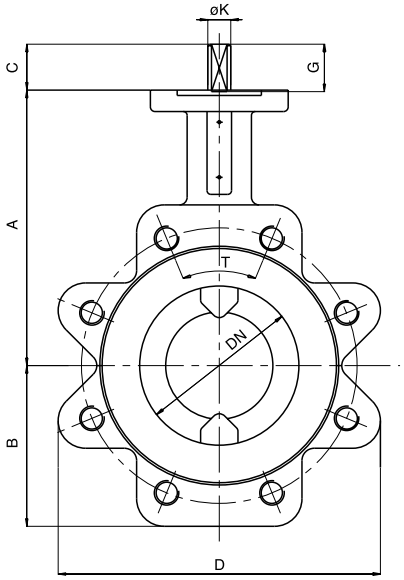
Lugged version

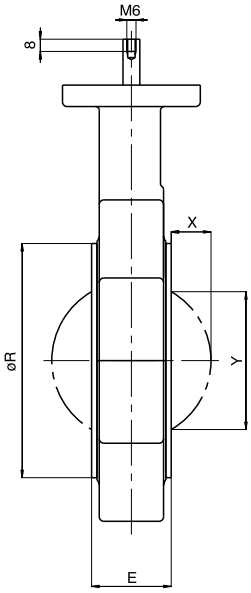
DN 40-100



DN 125-300







Valve dimensions in mm wafer and lugged

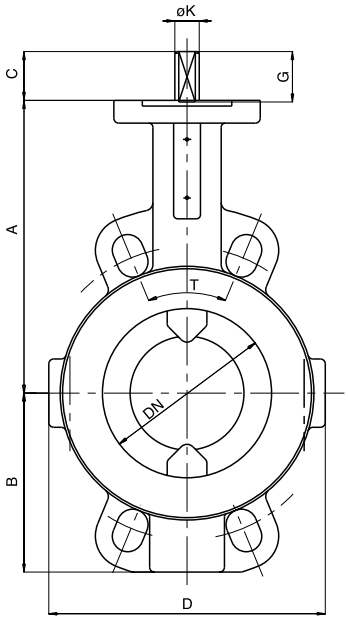
Size		Overall dimensions																	Wide		Weight (kg)	
			wafer	lugged		wafer	lugged												FTF **		wafer	lugged
(DN)	Type	A	B	B	C	D	D	E	n x F	G	øH	øJ	øK	øR	S	X	Y	N/SW	E	Y		
40	F05	110	50	55	26	108	145	33	8 x Ø7	27	50	65	14	80	31	3,5	23	⬡ 10	-	-	1,9	2,4
50	F05	135	65	65	26	130	160	43	8 x Ø7	27	50	65	14	95	38	5	31	⬡ 10	-	-	2,8	3,4
65	F07	150	85	85	27	144	176	46	4 x Ø9	28	70	90	14	120	41	11,5	52	⬡ 10	-	-	4,7	4,2
80	F07	160	93.5	93.5	29	155	188	46	4 x Ø9	30	70	90	14	132	41	18,5	69	⬡ 10	64	53	4,7	6,1
100	F07	180	113	105	29	180	210	52	4 x Ø9	30	70	90	14	153	45	26,5	91	⬡ 10	64	82	5,7	7,9
125	F07	195	130	125	46	211	234	56	4 x Ø9	47	70	90	18	183	50	35,5	114	▨ 14/14	70	CF	8,7	10,6
150	F07	210	140	140	46	240	269	56	4 x Ø9	47	70	90	20	209	50	48,5	143	▨ 16/16	76	133	11,6	13,5
200	F10	240	175	170	21	310	360	60	4 x Ø11	22	102	125	24	259	56	71,5	196	▨ 19/19	89	185	21,0	23,3
250	F12	275	205	205	23	350	435	68	8 x Ø13	24	125	150	28	309	64	91,5	243	▨ 22/22	114	226	31,5	32,1
300	F12	310	250	250	28	420	500	78	8 x Ø13	29	125	150	35	364	74	111,5	293	▨ 27/27	114	281	45,0	49,9

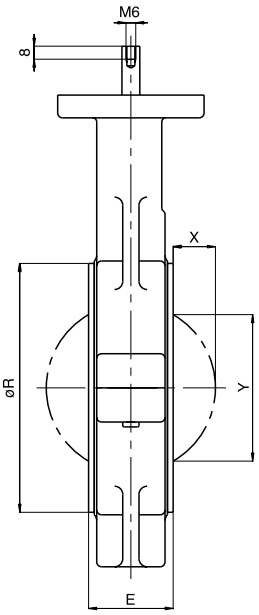
Notes

Slotted locating holes for wafer and lugged version according following flange accommodation:
Lugged DIN PN 10/16 (DN 40-150), DIN PN 10 (DN 200-300), ANSI 150 (DN 40-300), JIS 10 K (DN 40-150).
** Optional wide FTF according EN 558-1/15 (column 16).

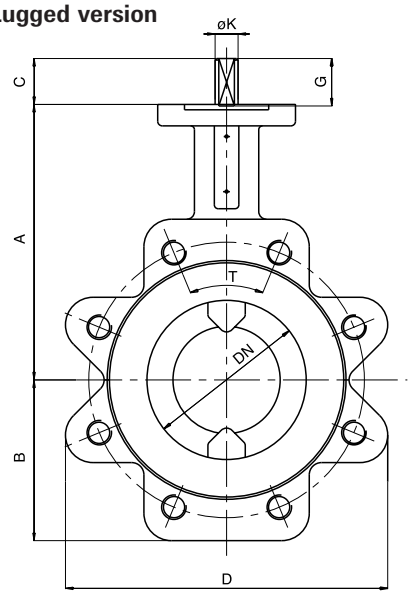
Optional NeoSeal compatible to ISO 5211 drive by flat head shaft connection

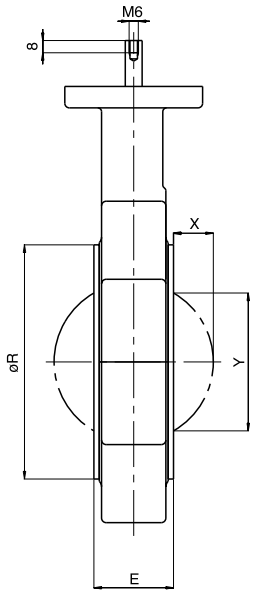
Wafer version

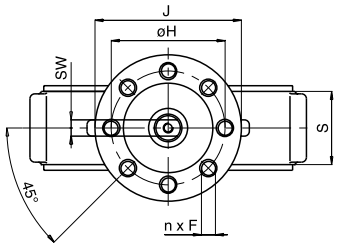




Lugged version





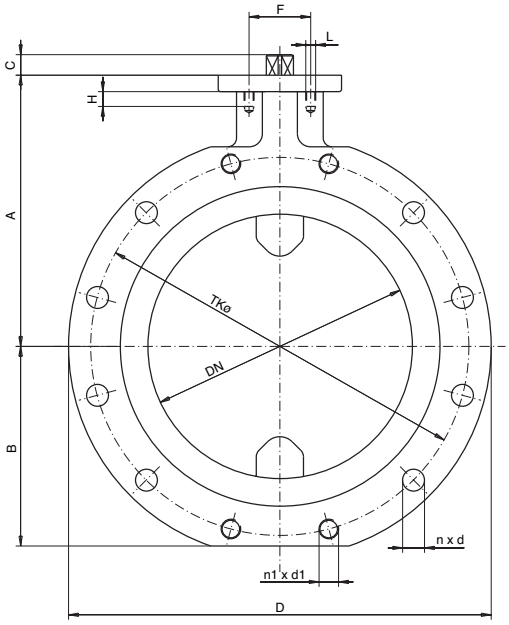


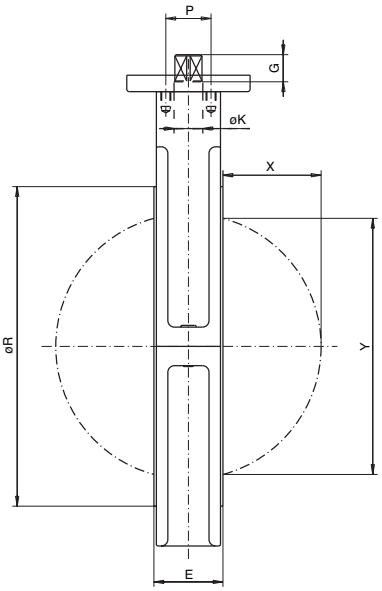
Valve dimensions in mm wafer and lugged

Size		Overall dimensions																	Wide FTF **		Weight (kg)	
			wafer	lugged		wafer	lugged														wafer	lugged
(DN)	Type	A	B	B	C	D	D	E	n x F	G	øH	øJ	øK	øR	S	X	Y	N/SW	E	Y		
40	F05	110	50	55	25	108	145	33	8 x Ø7	26	50	65	12	80	31	3,5	23	▢ 8	-	-	1,9	2,4
50	F05	135	65	65	25	130	160	43	8 x Ø7	26	50	65	12	95	38	5	31	▢ 8	-	-	2,8	3,4
65	F07	150	85	85	30	144	176	46	4 x Ø9	31	70	90	15	120	41	11,5	52	▢ 11	-	-	4,7	4,2
80	F07	160	93.5	93.5	30	155	188	46	4 x Ø9	31	70	90	15	132	41	18,5	69	▢ 11	64	53	4,7	6,1
100	F07	180	113	105	30	180	210	52	4 x Ø9	31	70	90	15	153	45	26,5	91	▢ 11	64	82	5,7	7,9
125	F07	195	130	125	30	211	234	56	4 x Ø9	31	70	90	18	183	50	35,5	114	▢ 14	70	CF	8,7	10,6
150	F07	210	140	140	30	240	269	56	4 x Ø9	31	70	90	20	209	50	48,5	143	▢ 14	76	133	11,6	13,5
200	F10	240	175	170	50	310	360	60	4 x Ø11	51	102	125	25	259	56	71,5	196	▢ 18	89	185	21,0	23,3
250	F12	275	205	205	50	350	435	68	8 x Ø13	51	125	150	30	309	64	91,5	243	▢ 22	114	226	31,5	32,1
300	F12	310	250	250	50	420	500	78	8 x Ø13	53	125	150	30	364	74	111,5	293	▢ 22	114	281	45,0	49,9

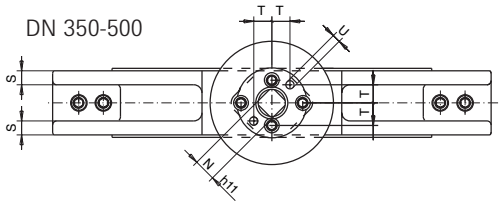
Notes

Slotted locating holes for wafer and lugged version according following flange accommodation:
Lugged DIN PN 10/16 (DN 40-150), DIN PN 10 (DN 200-300), ANSI 150 (DN 40-300), JIS 10 K (DN 40-150).
** Optional wide FTF according EN 558-1/15 (column 16).

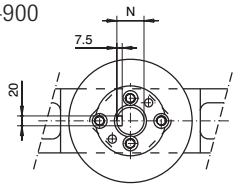




DN 350-500



DN 600-900



Notes

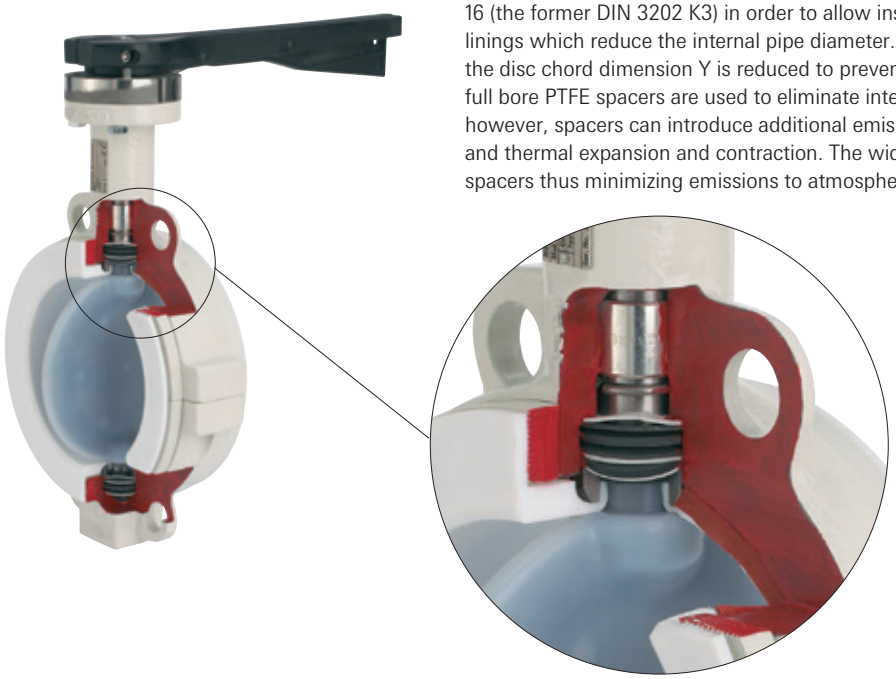
* Required ISO flange to mount standard gear operator. For alternative top flange sizes and drilling, contact factory.

Valve dimensions in mm double flanged

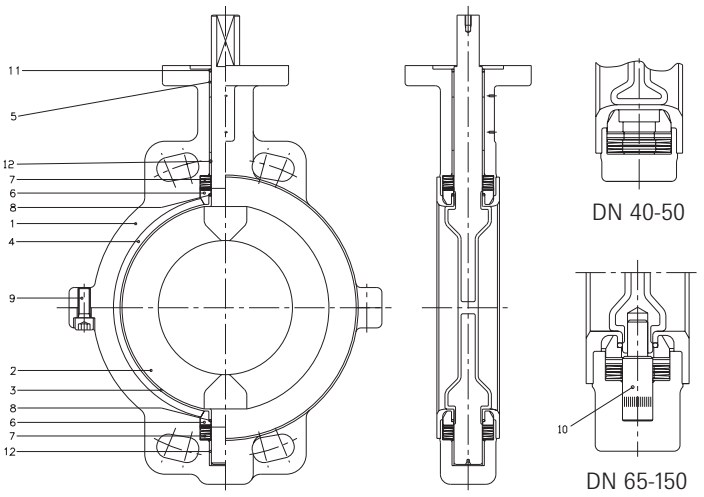
Size		Overall dimensions																	PN 10		Wide FTF		Weight
(DN)	Type*	A	B	C	D	E	F	G	H	L	N	P	øR	X	Y	S	T	TKø	nxd	n1xd1	E	Y	kg
350	F12	330	255	25	534	78	75	32	20	12	⧄ 27/27	-	412	126	321	17	22	460	12x22	4xM20	127	304	60
400	F14	372	290	33	597	102	105	35	20	12	⧄ 32/32	70	475	149	387	19	32	515	12x26	4xM24	140	374	88
450	F14	392	310	33	635	114	105	35	20	12	⧄ 32/32	70	525	162	423	21	32	565	16x26	4xM24	152	411	110
500	F14	440	350	35	700	127	120	50	20	12	⧄ 36/36	90	578	186,5	484	23	31	620	16x26	4xM24	152	476	145
600	F16	508	420	92	813	154	150	80	30	16	Ø70	120	680	218	570	30	35	725	16x30	4xM27	178	563	245
700	F16	605	482	80	930	165	-	-	-	-	Ø72	-	780	268	686	30	-	840	20x30	4xM27	-	-	423
750	F16	630	489	90	970	190	-	-	-	-	Ø60	-	840	280	728	31	-	-	20x30	4xM27	-	-	383
800	F25	658	558	110	1060	190	-	-	-	-	Ø80	-	887	305	783	30	-	950	20x33	4xM30	-	-	670
900	F30	710	612	128	1160	203	-	-	-	-	Ø98	-	1000	349	879	35	-	1050	24x33	4xM30	-	-	880

Wide face-to-face dimension according EN 558-1/15 column 16

Optional the NeoSeal is available in a wide face-to-face version according EN 558-1/15 column 16 (the former DIN 3202 K3) in order to allow installation in piping systems having thick internal linings which reduce the internal pipe diameter. By using the NeoSeal wide face-to-face version, the disc chord dimension Y is reduced to prevent contact between the disc and the pipe. Typically, full bore PTFE spacers are used to eliminate interference between the disc and I.D. of the pipe, however, spacers can introduce additional emission paths, maintenance issues due to cold flow, and thermal expansion and contraction. The wide face to face Neoseal eliminates the need for PTFE spacers thus minimizing emissions to atmosphere and maintenance.



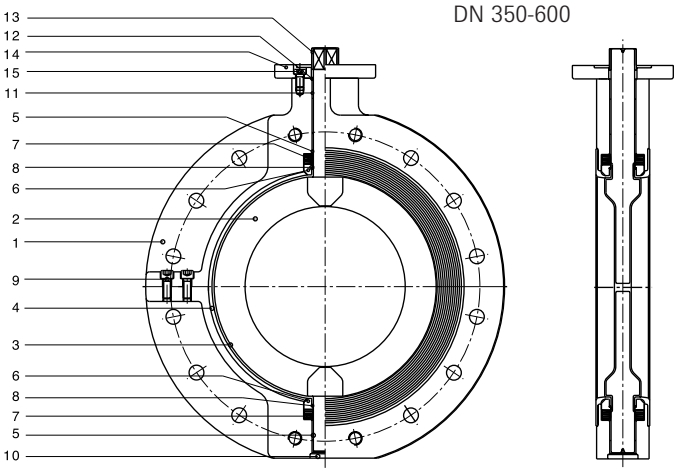
Wafer and lugged



Parts list

Pos.	Part	Material
1	Two piece body	Ductile iron polyester coated
2	One piece disc stem	PFA encapsulated stainless steel
3	Liner	Virgin PTFE
4	Elastomer back-up	Silicone or FKM
5	Bearing	Iglidur X (Thermoplast)
6	Pusher	Stainless steel
7	Belleville washer	Spring steel
8	O-ring	FKM
9	Int. Hex screw	Stainless steel
10	Pivot pin	Stainless steel
11	O-ring	FKM
12	Bearing	DU (Steel/PTFE)

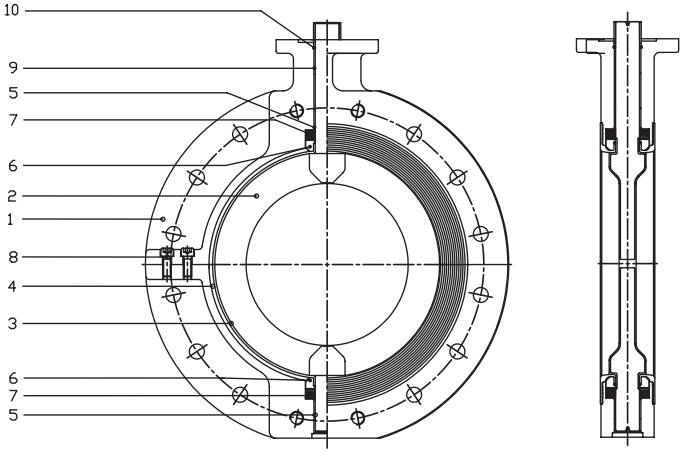
Double flanged



Parts list

Pos.	Part	Material
1	Two piece body	Ductile iron polyester coated
2	One piece disc stem	PFA encapsulated carbon steel
3	Liner	Virgin PTFE
4	Elastomer back-up	Silicone or FKM
5	Bearing	DU (Steel/PTFE conductive)
6	Pusher	Stainless steel
7	Belleville washer	Spring steel
8	O-ring	FKM
9	Int. hex screw	Stainless steel A2-70
10	Plug	Steel zinc plated
11	Bearing	Iglidur X (Thermoplast)
12	O-ring	FKM
13	Adapter	St 37
14	Mounting flange	Ck 45
15	Int. hex screw	Stainless steel A2-70
16	Spring pin	A2 (1.4310)
17	Key	Stainless steel

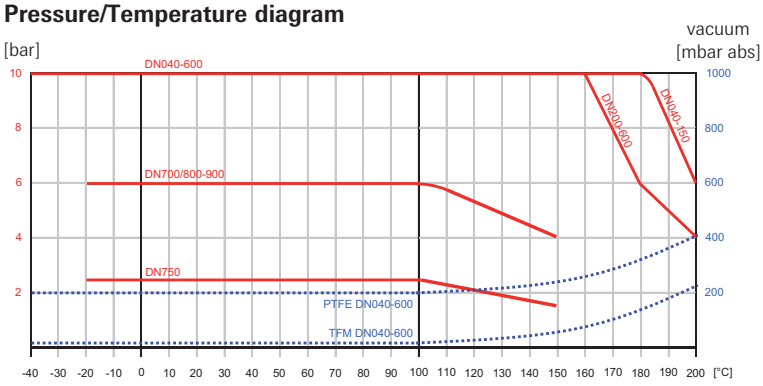
Double flanged



Parts list

Pos.	Part	Material
1	Two piece body	Ductile iron polyester coated
2	One piece disc stem	PFA encapsulated stainless steel
3	Liner	Virgin PTFE
4	Elastomer back-up	Silicone or FKM
5	Bearing	DU (Steel/PTFE conductive)
6	Pusher	Steel nickel plated
7	Belleville washer	Spring steel
8	Int. hex screw	Stainless steel A2-70
9	Bearing	DU/Steel
10	O-ring	FKM

Pressure/Temperature diagram



UHMWPE limited to 80°C

K_V values

Disc opening \ Size (DN)	40	50	65	80	100	125	150	200	250	300	350	400	450	500	600
25°	1	3	5	7	12	21	56	101	172	250	302	452	521	789	974
30°	2	4	8	13	25	41	84	151	258	378	561	756	968	1221	1633
35°	4	8	16	24	45	73	134	240	352	537	750	1054	1398	1789	2496
40°	7	13	29	33	60	97	181	323	478	746	1037	1397	1786	2256	3217
45°	10	18	41	50	90	146	245	435	609	1007	1423	1852	2495	3104	4201
50°	14	27	61	69	125	203	296	525	836	1264	1814	2291	3127	3948	5413
55°	18	36	80	95	170	276	395	700	1103	1585	2314	3312	4231	5210	7036
60°	23	48	107	125	225	364	503	891	1353	2035	2938	3959	5060	6396	8764
65°	29	63	141	164	295	477	610	1080	1727	2810	3756	5124	6214	8498	12047
70°	37	78	175	222	400	647	803	1422	2131	3320	4621	6229	7962	10053	13795
75°	43	91	203	292	525	848	1130	2000	2821	4874	6024	8670	11054	13521	18406
80°	47	97	217	347	625	1009	1482	2622	3485	5416	7559	10186	13032	16449	22683
85°	50	102	228	381	685	1106	1723	3050	3846	6067	8221	11023	14023	17531	25301
90°	53	105	235	411	741	1196	1973	3492	4170	6102	8693	11647	14893	18807	25777

Notes

1. Rated K_V = the volume of water in m^3/hr that will pass through a given valve opening at a pressure drop of 1 bar.
2. Sizes DN 700-900: contact factory.

Maximum allowable shaft torques in Nm NSA top shaft connection (*)

Disc material \ Size (DN)	40	50	65	80	100	125	150	200	250	300	350	400	450	500	600
PFA	100	100	160	160	180	260	362	630	950	1280	1150	2000	2000	2350	4000
UHMWPE	100	100	160	160	160	250	362	630	950	1280	1150	2000	2000	2350	4000
SS 1.4581	80	80	80	150	150	245	340	350	900	1280	540	950	950	950	3500
SS 1.4462	100	100	135	150	150	245	362	625	900	1300	950	1850	2000	2100	4000

Notes

* Hastelloy and titanium: contact factory
Contact factory size range ≥ DN 700

Maximum allowable shaft torques in Nm NSD top shaft connection (*)

Disc material \ Size (DN)	40	50	65	80	100	125	150	200	250	300
PFA	90	90	200	200	200	350	480	900	1500	1500
UHMWPE	90	90	200	200	200	350	480	900	1500	1500
SS 1.4581	45	45	100	150	150	260	340	450	1200	1280
SS 1.4462	90	90	140	150	150	280	390	775	1200	1300

Note

* Hastelloy and titanium: contact factory

Dynamic torque factors F_T for metric units

Disc opening	Size (DN) 40	50	65	80	100	125	150	200	250	300	350	400	450	500	600
10°	-	-	-	-	-	-	-	1,7	0,4	8,1					
15°	-	0,1	0,1	0,3	0,5	1,0	1,7	4,0	7,8	13,5	8,6	12,8	18,2	25,0	43,2
20°	-	0,1	0,2	0,5	0,9	1,8	3,0	7,2	14,1	24,3	21,4	32,0	45,6	62,5	108,0
25°	0,1	0,2	0,4	0,7	1,4	2,7	4,7	11,2	21,9	37,8	42,9	64,0	91,1	125,0	216,0
30°	0,1	0,3	0,6	1,1	2,1	4,1	7,1	16,8	32,8	56,7	64,3	96,0	136,7	187,5	324,0
35°	0,2	0,4	0,8	1,5	3,0	5,9	10,1	24,0	46,9	81,0	94,3	140,8	200,5	275,0	475,2
40°	0,2	0,5	1,1	2,1	4,1	8,0	13,8	32,8	64,1	110,7	124,3	185,6	264,3	362,5	626,4
45°	0,4	0,7	1,5	2,8	5,4	10,5	18,2	43,2	84,4	145,8	171,5	256,0	364,5	500,0	864,0
50°	0,5	0,9	1,9	3,6	7,0	13,7	23,6	56,0	109,4	189,0	235,8	352,0	501,2	687,5	1188,0
55°	0,6	1,1	2,5	4,6	9,0	17,6	30,4	72,0	140,6	243,0	321,6	480,0	683,4	937,5	1620,0
60°	0,7	1,5	3,3	6,1	12,0	23,4	40,5	96,0	187,5	324,0	415,9	620,8	883,9	1212,5	2095,2
65°	0,9	1,9	4,1	7,7	15,0	29,3	50,6	120,0	234,4	405,0	544,5	812,8	1157,3	1857,5	2743,2
70°	1,3	2,5	5,5	10,2	20,0	39,1	67,5	160,0	312,5	540,0	733,2	1094,4	1558,2	2317,5	3693,6
75°	1,7	3,4	7,4	13,8	27,0	52,7	91,1	216,0	421,9	729,0	1050,4	1568,0	2232,6	3062,5	5292,0
80°	1,9	3,9	8,5	15,9	31,0	60,5	104,6	248,0	484,4	837,0	1346,3	2009,6	2861,3	3925,0	6782,4
85°	1,3	2,5	5,5	10,2	20,0	39,1	67,5	160,0	312,5	540,0	913,2	1363,2	1941,0	2662,5	4600,8
90°	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Notes

1. Dynamic operating torque formula:
   T_D = **F_T x Δp**
   T_D = Dynamic torque (Nm)
   Δp = Pressure drop across disc at desired disc-opening (bar)
   F_T = Dynamic torque factor (see table)
2. The above mentioned dynamic torque includes all frictional resistances.
3. The dynamic torque is tending to close the disc.
4. Sizes DN 700-900: contact factory.

Sizing torques in Nm (at max. allowable pressure differential)

Disc/seat material	Size (DN) 40	50	65	80	100	125	150	200	250	300	350	400	450	500	600
PFA / PTFE or TFM	18	20	25	45	60	85	140	190	320	420	500	550	620	680	950
UHMWPE / UHMWPE	30	35	50	60	85	120	175	330	390	500	750	880	1000	1200	1450
SS 1.4581 or 1.4462 / UHMWPE	30	35	45	55	80	115	170	250	350	460	600	700	800	930	1200
SS 1.4581 / PTFE or TFM	25	30	40	50	75	110	160	220	320	420	540	600	680	750	1050
SS 1.4462 / PTFE or TFM	25	30	40	50	75	110	160	220	320	420	540	600	680	750	1050
Hastelloy / PTFE or TFM	25	30	40	50	75	110	160	220	320	420	540	600	680	750	1050

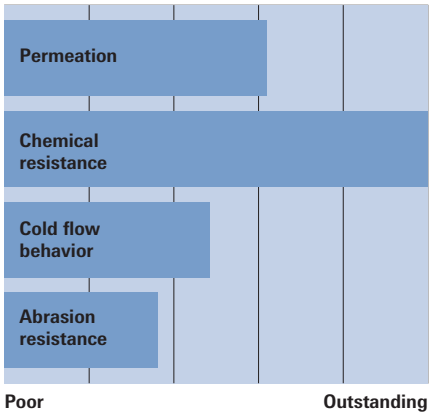
Notes

1. The charted maximum sizing operating torque is the sum of all friction and resistance for opening and closing of the disc against the indicated pressure differential.
2. The effect of dynamic torque is not considered in tabulation.
3. In sizing operators it is not necessary to include safety-factors.
4. Sizes DN 700-900 (contact your sales representative).

PTFE seat liners

Isostatically molded virgin PTFE with a minimum thickness of 3 mm. PTFE high density liners have a high specific gravity of at least 2.16 gr/cm^3.

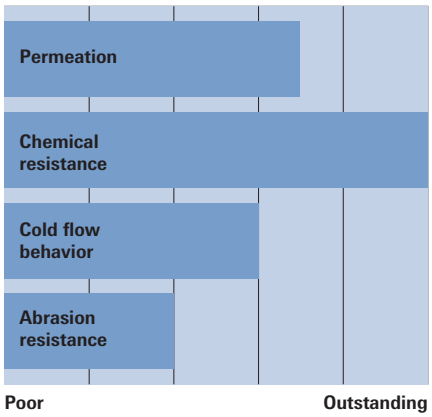
Operating temperature	: -40°C to +200°C
Size range	: DN 40-900 (1 1/2" - 36")
Virgin PTFE	: FDA approved

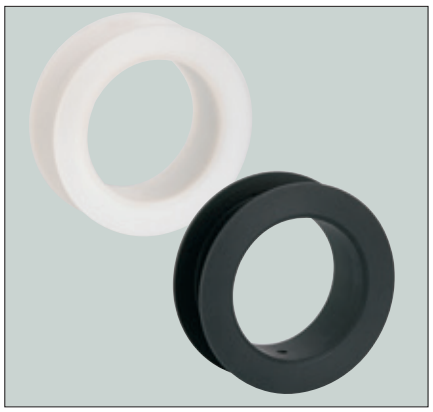


PFA and PFA conductive

Injection molded PFA with a minimum thickness of 3 mm. Neotecha has a track record of more than 25 years of PFA injection molding technology, which is essential to obtain the know how to eliminate internal stresses in the PFA lining and achieve a perfect bonding between PFA and the metal surface.

Operating temperature	: -40°C to +200°C
Size range	: DN 40-900 (1 1/2" - 36")
Virgin PFA	: FDA approved
Conductive PFA	: Not FDA approved

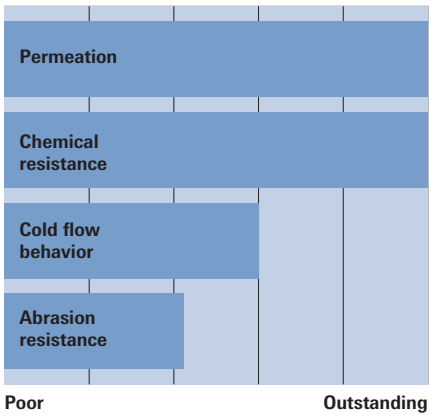


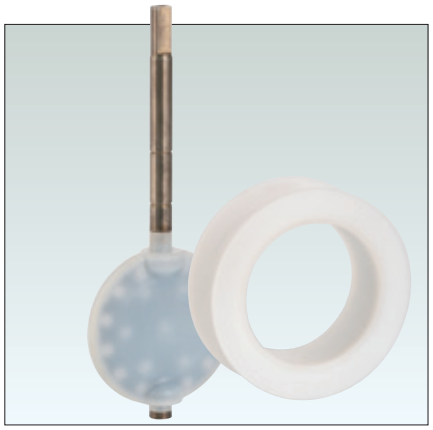


TFM and TFM conductive seat liners

TFM (or enhanced PTFE) has a significantly lower melt viscosity than PTFE, resulting in better particle fusion during the sintering process. TFM has the ultimate resistance against permeation and an improved resistance against cold flow. Conductive TFM is available to prevent harmful electrostatic discharge.

Operating temperature	: -40°C to +200°C
Size range	: DN 40-900 (1 1/2" - 36")
Virgin TFM	: FDA approved
Conductive TFM	: FDA approved

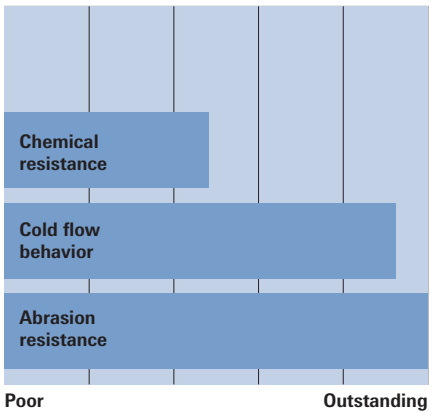




UHMWPE

Seat liner and disc cover made of ultra high molecular weight polyethelyne with a minimum thickness of 3 mm. This material provides maximum abrasion and wear resistance and a high impact resistance. It makes UHMWPE the ideal choice for highly abrasive chemical applications.

Operating temperature	: -40°C to +80°C
Size range	: DN 40-600 (1 1/2" - 24")
UHMWPE	: FDA approved



Special liners for high purity applications

Neotecha is also able to offer special treated PTFE, PFA and TFM liners for the production of valves used in high purity applications in the semiconductor industry and pharmaceutical industry. For this purpose we use liners with an extremely smooth lining surface and of a superior purity. Valves which are used for this service are ultrasonically washed to stringent cleaning standards, assembled and tested in our in-house clean room. These valves are packed in vacuum sealed double bags for protection during transport and handling before installation. Based on this special process Neotecha is able to supply valves for ultra pure water (UPW) applications without the need for any additional cleaning on site.

Other lining materials are available on request.

Valve assembly in clean room

Valve material selection

Trim number	Body	Disc	Shaft	Seat	Seat backing	Sizes (DN)	Remarks
N01	Ductile iron	PFA	Stainless steel	PTFE	Silicone	40-900	
N02	Ductile iron	PFA	Stainless steel	PTFE	FKM	40-900	
N5D	Ductile iron	Conductive PFA	Stainless steel	Conductive TFM	Silicone	40-900	
N5E	Ductile iron	Conductive PFA	Stainless steel	Conductive TFM	FKM	40-900	
N07	Ductile iron	Stainless steel	Stainless steel	PTFE	Silicone	40-900	
N08	Ductile iron	Stainless steel	Stainless steel	PTFE	FKM	40-900	
N6D	Ductile iron	Stainless steel	Stainless steel	Conductive TFM	Silicone	40-900	
N6E	Ductile iron	Stainless steel	Stainless steel	Conductive TFM	FKM	40-900	
N13	Ductile iron	Polished stainless steel	Stainless steel	PTFE	Silicone	40-900	
N14	Ductile iron	Polished stainless steel	Stainless steel	PTFE	FKM	40-900	
N5M	Ductile iron	Polished stainless steel	Stainless steel	Conductive TFM	Silicone	40-900	
N5N	Ductile iron	Polished stainless steel	Stainless steel	Conductive TFM	FKM	40-900	
N81	Ductile iron	Stainless steel	Stainless steel	UHMWPE	Silicone	40-600	NSA only
N42	Ductile iron	UHMWPE	Stainless steel	UHMWPE	Silicone	40-600	NSA only
N52	Ductile iron	PFA	Stainless steel	TFM	Silicone	40-900	
N53	Ductile iron	PFA	Stainless steel	TFM	FKM	40-900	
N1R	Ductile iron	Titanium	Titanium	PTFE	Silicone	40-900	contact factory
N1S	Ductile iron	Titanium	Titanium	PTFE	FKM	40-900	contact factory

Item number clarification

Type	Body	Flange standard	Operation [3]	Variant
NSA = NeoSeal [1]	W = Wafer	M4 = Multi drilled PN 10/16 ANSI 150	B = Bare shaft	00 = Standard
NSD = NeoSeal [2]	L = Lugged	10 = DIN PN 10		For other variants, contact factory
	F = Double flanged	16 = DN PN 16		
		A1 = ANSI 150		

1) NeoSeal with traditional Neotecha shaft connection
2) NeoSeal compatible to ISO 5211 drive by flat head shaft connection
3) Topplate selection size DN 350-600: 5 with F12 top flange, 6 with F14 top flange and 7 with F16 top flange.

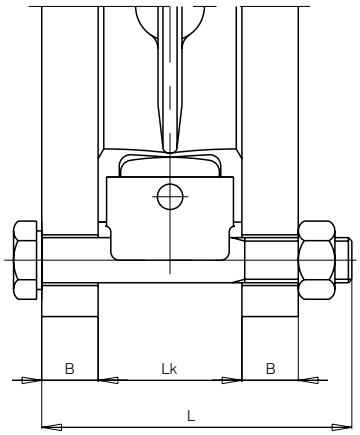
Example set-up NeoSeal item number

Type	Size (DN)	Trim	Body	Flange standard	Operation	Variant
NSA	150	N01	W	M4	B	00

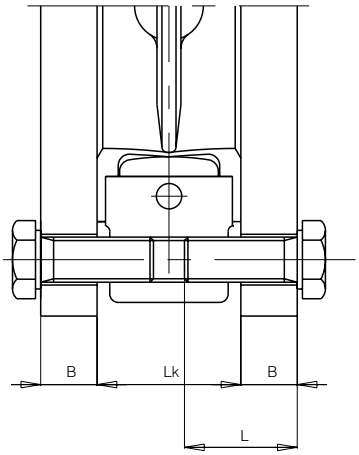
Note: For definitive variant, please contact your local sales office.

Valve material list

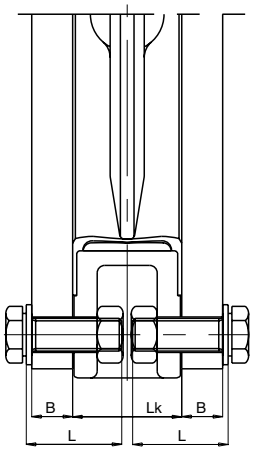
Part name	Material	DIN designation	DIN mat. no.	Sizes (DN)	Remarks
Body	Ductile iron	EN-GJS 400-18U-LT-Z (GGG40.3)	0.7043	40-600	Heat treated coating: 2-components polyester powder, RAL 9002
-	-	EN-GJS-400-18	0.7043	700-900	Epoxy coated RAL 9002
Disc	PFA covered	ASTM A747	1.4542	40-300	FDA 21CFR177.1550
-	PFA covered	St 52-3	1.0570	350-600	FDA 21CFR177.1550
-	PFA covered	-	1.4301	700-900	
-	Conductive PFA covered	ASTM A747	1.4542	40-300	
-	Conductive PFA covered	St 52-3	1.0570	350-600	
-	Stainless steel	GX 5 CrNiMoNb 19 11	1.4581	40-300	
-	Stainless steel	X 2 CrNiMo 17 13 2	1.4404	350-600	
-	Stainless steel	X 2 CrNiMo 17 12 2	1.4404	700-900	
-	UHMWPE covered	ASTM A747	1.4542	40-600	FDA 21CFR177.1520
Shaft	PFA covered	ASTM A747	1.4542	40-300	FDA 21CFR177.1550
-	PFA covered	X17 CrNi 16 2	1.4057	350-600	FDA 21CFR177.1550
-	PFA covered	X 2 CrNiMo 17 12 2	1.4404	700-900	FDA 21CFR177.1550
-	Stainless steel	ASTM A747	1.4542	80-150, 250-300	
-	Stainless steel	GX 5 CrNiMoNb 19 11	1.4581	40-65, 200	
-	Stainless steel	X 2 CrNiMo 17 13 2	1.4404	350-900	
Seat	PTFE	-	-	40-900	FDA 21CFR177.1550
-	UHMWPE covered	-	-	40-600	FDA 21CFR177.1520
-	TFM 1600	-	-	40-600	FDA 21CFR177.1550
-	TFM 6221 conductive	-	-	40-900	FDA 21CFR177.1550
-	TFM 1700	-	-	700-900	FDA 21CFR177.1550
Body screws	Stainless steel	X 5 CrNi 18 10	1.4301	-	A2-70
Top spring	Spring steel	50 CrV 4	1.8159	-	DIN 17222
-	Spring steel	50 CrV 4	1.8159	-	DIN 17222
O-rings	FKM	-	-	40-900	
Seat backing	Silicone	-	-	40-900	
-	FKM	-	-	40-900	
Top bearing	Iglidur X (Thermoplast)	-	-	40-600	ST/PTFE 700-900
Bottom bearing	Steel/ PTFE conductive				



Wafer



Lugged



Double flange

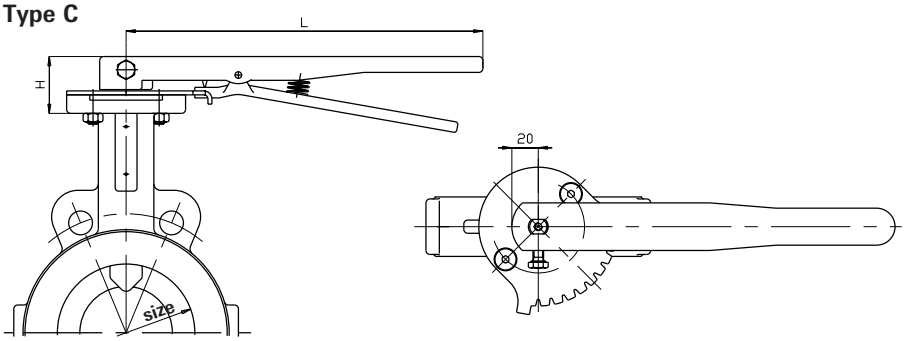
Wafer		PN 10 EN 1092-1				PN 16 EN 1092-1				ANSI 150			
Valve size (DN)	FTF Lk	B (1)	Bolt holes	PCD	Bolt size L	B (1)	Bolt holes	PCD	Bolt size L	B (1)	Bolt holes	PCD	Bolt size L (UNC)
40	35	18	4	110	M16x80	18	4	110	M16x80	0.69″	4	3.88″	0.5″ x 3.25″
50	43	18	4	125	M16x100	18	4	125	M16x100	0.75″	4	4.75″	0.625″ x 3.75″
65	46	18	4	145	M16x100	18	4	145	M16x100	0.87″	4	5.50″	0.625″ x 4″
80	46	20	8	160	M16x100	20	8	160	M16x100	0.94″	4	6.00″	0.625″ x 4.5″
100	51	20	8	180	M16x110	20	8	180	M16x110	0.94″	8	7.50″	0.625″ x 4.5″
125	56	22	8	210	M16x120	22	8	210	M16x120	0.94″	8	8.50″	0.75″ x 5″
150	56	22	8	240	M20x120	22	8	240	M20x120	1.00″	8	9.50″	0.75″ x 5″
200	62	24	8	295	M20x130	24	12	295	M20x130	1.12″	8	11.75″	0.75″ x 5.5″
250	70	26	12	350	M20x140	26	12	355	M24x140	1.19″	12	14.25″	0.875″ x 6″
300	80	26	12	400	M20x150	28	12	410	M24x150	1.25″	12	17.00″	0.875″ x 7″

Lugged		PN 10 EN 1092-1				PN 16 EN 1092-2				ANSI 150			
Valve size (DN)	FTF Lk	B (1)	Bolt holes	PCD	Bolt size L	B (1)	Bolt holes	PCD	Bolt size L	B (1)	Bolt holes	PCD	Bolt size L (UNC)
40	35	18	4	110	M16x30	18	4	110	M16x30	0.69″	4	3.88″	0.5″ x 1.125″
50	43	18	4	125	M16x35	18	4	125	M16x35	0.75″	4	4.75″	0.625″ x 1.375″
65	46	18	4	145	M16x35	18	4	145	M16x35	0.87″	4	5.50″	0.625″ x 1.625″
80	46	20	8	160	M16x35	20	8	160	M16x35	0.94″	4	6.00″	0.625″ x 1.625″
100	51	20	8	180	M16x40	20	8	180	M16x40	0.94″	8	7.50″	0.625″ x 1.625″
125	56	22	8	210	M16x45	22	8	210	M16x45	0.94″	8	8.50″	0.75″ x 1.875″
150	56	22	8	240	M20x45	22	8	240	M20x45	1.00″	8	9.50″	0.75″ x 1.875″
200	62	24	8	295	M20x50					1.12″	8	11.75″	0.75″ x 2″
250	70	26	12	350	M20x55					1.19″	12	14.25″	0.875″ x 2.25″
300	80	26	12	400	M20x60					1.25″	12	17.00″	0.875″ x 2.25″

Double flange		PN 10 EN 1092-1				PN 16 EN 1092-1				ANSI 150			
Valve size (DN)	FTF Lk	B (1)	Bolt holes	PCD	Bolt size L	B (1)	Bolt holes	PCD	Bolt size L	B (1)	Bolt holes	PCD	Bolt size L (UNC)
350	80	26	16	460	M20x50					1.37″	12	18.75″	1″ x 2.5″
400	104	26	16	515	M24x65					1.44″	16	21.25″	1″ x 3″
450	114	28	20	565	M24x65					1.56″	16	22.75″	1.125″ x 3.25″
500	127	28	20	620	M24x65					1.69″	20	25.00″	1.125″ x 3.25″
600	157	28	20	725	M27x80					1.87″	20	29.50″	1.25″ x 3.5″
700	165	30	24	840	18xM27x310 (2)					2.81″	28	34.00″	22x1.25″x16″ (2)
700					12xM27x70								12x1.25″x4.5″
750	190	-	-	-	-					2.94″	28	36.00″	22x1.25″x18″ (2)
750													12x1.25″x4.5″
800	190	32	24	950	18xM30x350 (2)					3.19″	28	38.50″	22x1.5″x18″ (2)
800					12xM30x70								12x1.5″x5″
900	203	34	28	1050	22xM33x370 (2)					3.56″	32	42.75″	26x1.5″x19.5″ (2)
900					12xM36x80								12x1.5″x5″

(1) = pipe flange thickness
(2) = required studs

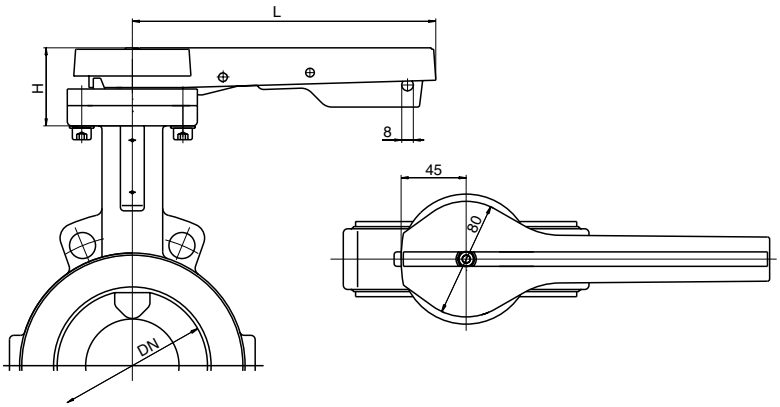
Type C



Dimensions

Handle lever Type C			Handle lever Type Z		
Size	**L**	**H**	**Size**	**L**	**H**
40	267	46	40	210	51
50	267	46	50	210	51
65	267	46	65	210	54
80	267	46	80	210	54
100	267	46	100	210	54
125	356	49	125	300	54
150	356	54	150	300	54

Type Z



Handle lever material list

Part name	Material	DIN designation	DIN mat.no	Remarks
Type C				
Handle bar	Ductile iron	EN-GJS-400-15 (GGG 40)	0.7040	
Handle lever	Ductile iron	EN-GJS-400-15 (GGG 40)	0.7040	
Spring	Stainless steel	X 5 CrNiMo 17 12 2	1.4401	
Groove pin	Stainless steel	X 10 CrNiS 18 9	1.4305	
Throttling plate	Stainless steel	X 5 CrNI 18 10	1.4301	
Handle screw	Stainless steel	X 5 CrNI 18 10	1.4301	
Screw	Stainless steel	X 5 CrNI 18 10	1.4301	
Type Z				
Handle bar	Technopolymer			
Nut	Stainless steel	X 5 CrNiMo 17 13 3	1.4436	
Spring	Stainless steel	X 12 CrNi 17 7	1.4310	
Short handle	Stainless steel	X 5 CrNi 18 8	1.4301	
Plate	Investment cast	G-X 6 CrNi 18 6	1.4308	
Screw	Stainless steel	DIN 912		Zn - plated
Spring pin	Stainless steel	X 5 CrNi 18 8	1.4301	

ISO-dimensions

ISO-no.	d1	d2	d3	n * d4
F05	65	35	50	4 x 7
F07	90	55	70	4 x 9
F10	125	70	102	4 x 11
F12	150	85	125	4 x 13
F14	175	100	140	4 x 17
F16	210	130	165	4 x 22
F25	300	200	254	8 x 17
F30	350	230	298	8 x 22

Flange thickness cast-on flange

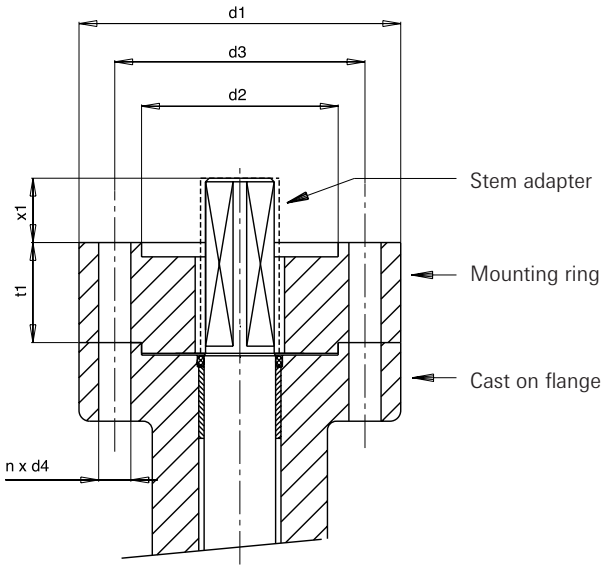
Valve size (DN)	
40	14
50	14
65	14
80	14
100	14
125	17
150	17
200	20
250	20
300	20

Notes

1) All oversized flanges and adapters are subject to a surcharge.
2) c/w keyway

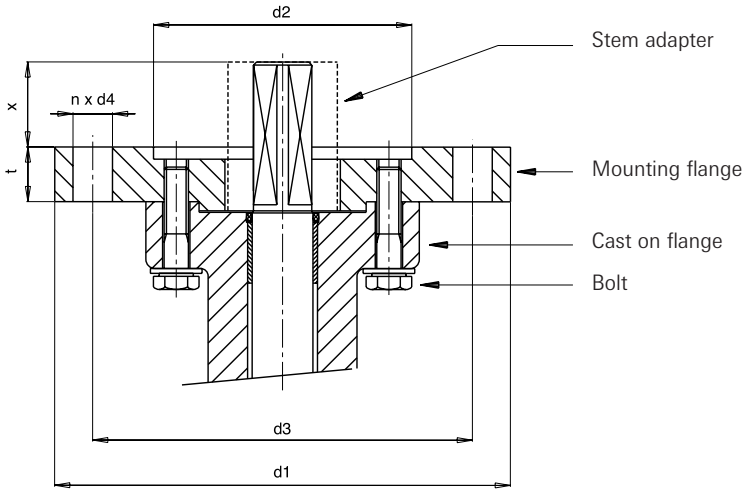
Mounting ring

Required when an ISO actuator to DIN 3337 with the same flange size is to be mounted.
Not required for an actuator or gear with a hollow shaft and the same flange size.



Mounting flange

Three oversized mounting flanges per size valve are available to direct mount a larger ISO actuator to DIN 3337 complete with all hardware.



Standard mounting flange / Optional oversizes mounting flange

Valve size (DN)	Cast on flange	x_1	t_1	Stem adapter	Oversize flange 1) #1	x	t	Stem adapter	Oversize flange 1) #2	x	t	Stem adapter	Oversize flange 1) #3	x	t	Stem adapter
40	F05	14	16	14/14	F07	17	16	17/17	F10	19	18	22/22	F12	21	20	27/27
50	F05	14	16	14/14	F07	17	16	17/17	F10	19	18	22/22	F12	21	20	27/27
65	F07	16	18	17/17	F10	20	18	22/22	F12	22	20	27/27	F14	30	14	36/36
80	F07	18	18	17/17	F10	22	18	22/22	F12	24	20	27/27	F14	32	14	36/36
100	F07	18	18	17/17	F10	22	18	22/22	F12	24	20	27/27	F14	32	14	36/36
125	F07	18	28	17/17	F10	22	24	22/22	F12	20	26	27/27	F14	28	18	36/36
150	F07	18	28	17/17	F10	22	24	22/22	F12	20	26	27/27	F14	28	18	36/36
200	F10	21	0	19/19	F12	25	20	27/27	F14	38	25	36/36	F16	44	16	46/46
250	F12	28	0	27/27	F14	36	29	36/36	F16	36	29	46/46	F25	36	29	55/55
300	F12	28	0	27/27	F14	36	29	36/36	F16	36	29	46/46	F25	36	29	55/55
350	F12	25	20	27/27	F14	28	17	36/36	F16	27	18	46/46				
400	F14	33	22	36/36	F16	32	23	46/46	F25	30	25	55/55				
450	F14	33	22	36/36	F16	32	23	46/46	F25	30	25	55/55				
500	F14	35	40	36/36	F16	43	32	46/46								
600	F16	92	28	ø70 2)												
700	F16	80														
750	F16	90														
800	F25	110														
900	F30	128														