tyco
Flow Control

Neotecha

A fully lined PTFE/PFA butterfly valve for extreme applications in the chemical, petrochemical, pharmaceutical and food industries.

Features

- The most important feature of the Neotecha butterfly valve is its stem seal. It utilizes the well known principle of the mechanical seal making a seal between PTFE and PFA.
  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.
- Precision ductile iron castings protected with a polyester coating can withstand a high degree of atmospheric corrosion.
- Serrated body flanges reduce the cold flow of the liner.
- One-piece disc-stem design provides a high K_V (C_V) value.
- Variable actuator mounting flanges according to ISO 5211 allow a close mounting of any actuator.
- No exposed stem eliminates the possibility of any liquid or gas entering the valve from the outside.
- Self-lubricating bearing reduces friction and is maintenance free.

Technical data

Pressure (bar)	: vacuum up to10
Temperature (°C)	: -40 up to +200
Sizes (mm)	: 40-600
Flange accommodation	: PN 10 ANSI 150 others on request

General application

The variety of liner and disc material, manual, pneumatic and electric actuators allows you to select the most inert and economical lined butterfly valve for your application.

They are used to shut-off, throttle and regulate highly corrosive gases, liquids, slurries and powders providing a bubble tight shut-off. These valves are designed to handle a variety of applications in the semi conductor, chemical, petrochemical, pulp and paper, mining, food and beverage, sugar refining, sewage, air pollution control, oil and gas, and shipbuilding industries. The Neotecha butterfly valve is therefore your best choice for controlling highly corrosive and abrasive fluids.

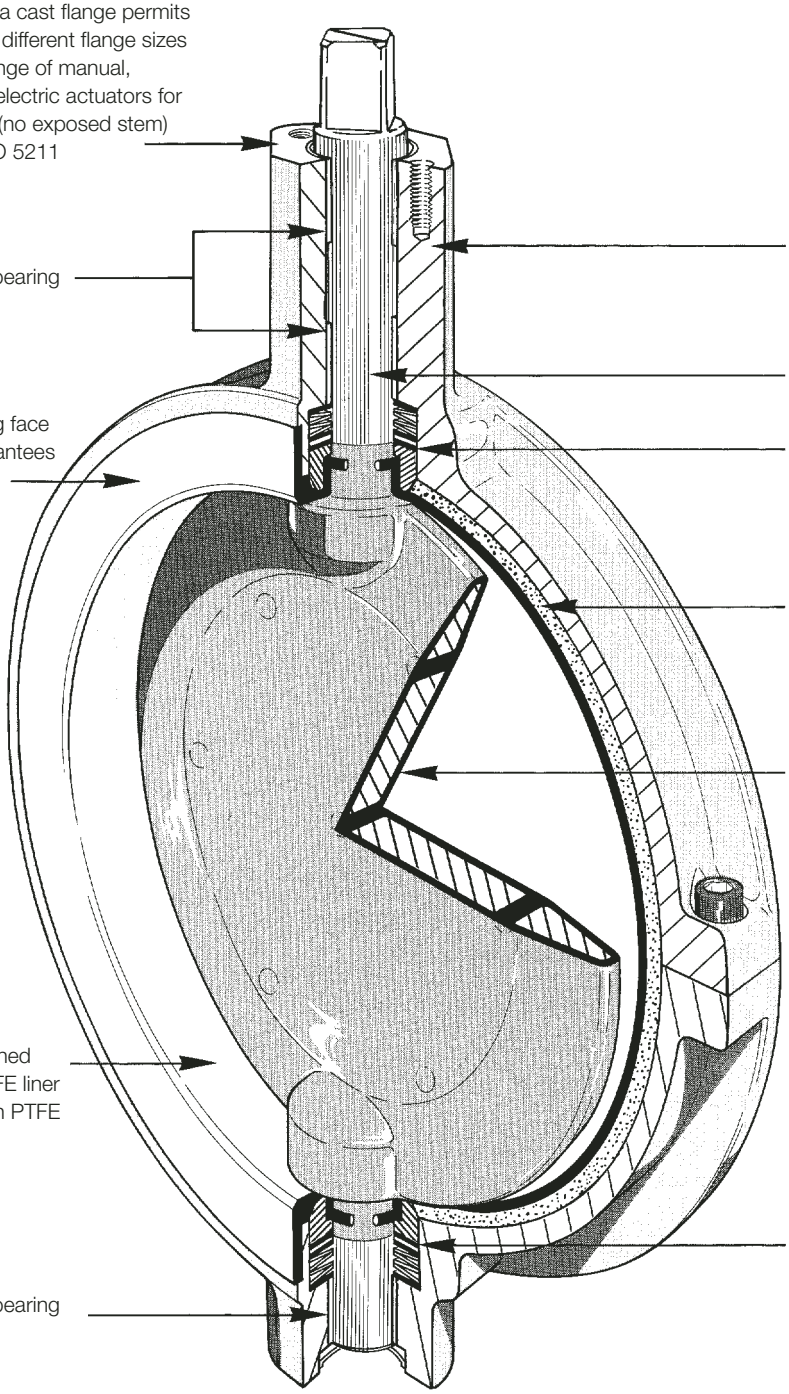
The absence of a cast flange permits the mounting of different flange sizes to match the flange of manual, pneumatic and electric actuators for close mounting (no exposed stem) according to ISO 5211

Self lubricating bearing

The wide sealing face of the liner guarantees a leakfree seal

Precision machined high density PTFE liner made from virgin PTFE

Self lubricating bearing



Two-piece body design, made of ductile iron GGG 40.3 with polyester coating.

One-piece disc-stem allows a thinner wafer, resulting in a higher K_V value.

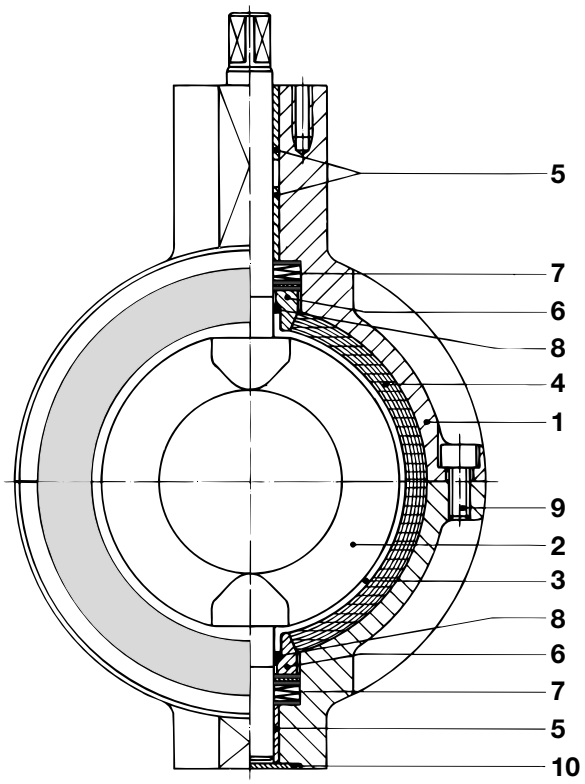
A set of Belleville disc springs exert uniform loading through the pusher, pressing the PTFE liner and the shoulder on the disc-stem together resulting in a leakfree mechanical stem seal.

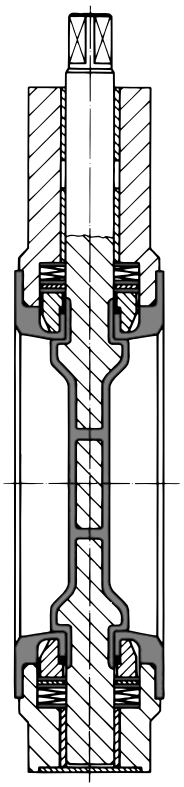
Resilient Elastomer backing provide a uniform pressure onto the circumference of the disc ensuring a bubble tight valve under all operating conditions.

Precision PFA encapsulation 2.5 mm (100 mil) thick, bonded and interlocked to the one-piece disc-stem, provides maximum permeation protection. Suitable for full vacuum at rated temperature without possibility of delamination.

A set of Belleville disc springs exert uniform loading through the pusher, pressing the PTFE liner and the shoulder on the disc-stem together resulting in a leakfree mechanical stem seal.

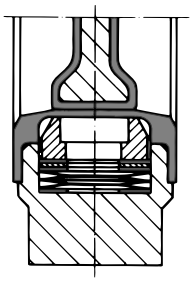
DN 200–600 (8"–24")



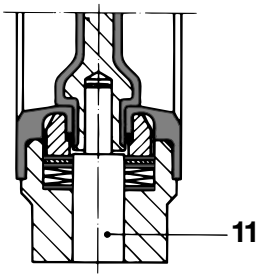


DN 200–600
(8"–24")

DN 40+50
(1 1/2"+2")



DN 65–150
(2 1/2"–6")

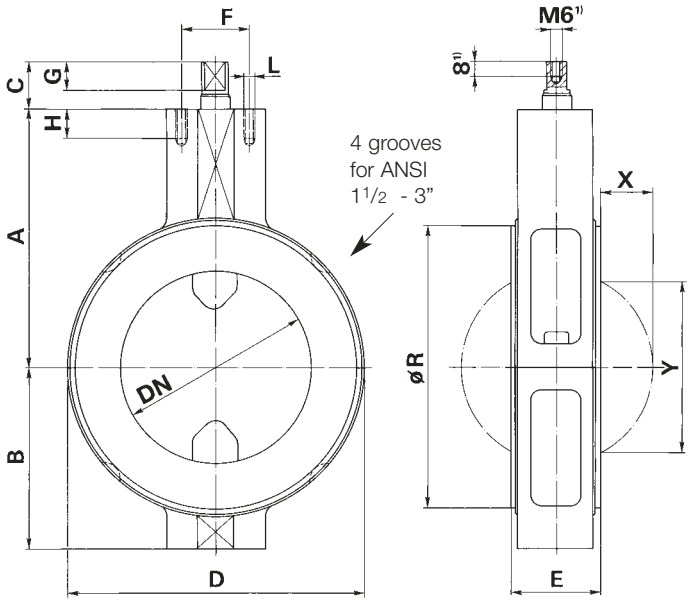


Material specification		
Pos.	**Description**	**Material**
1	Two-piece body	Ductile iron polyester coated GGG 40.3
2	One-piece disc-stem	PFA encapsulated alloy steel
3	Liner	Virgin PTFE
4	Elastomer back-up	Silicone or Viton
5	Bearing	Iglidur X (Thermoplast)
6	Pusher	SS 304
7	Spring package	Spring steel
8	O-Ring	Fluor elastomer
9	Int. hex screw	SS 304
10	Plug	Zinc plated steel
11	Pivot pin	Carbon steel (hardened)

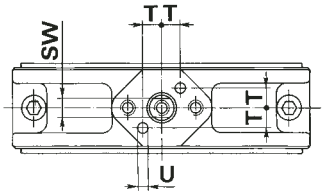
Breakaway torque (Nm)															
	40	**50**	**65**	**80**	**100**	**125**	**150**	**200**	**250**	**300**	**350**	**400**	**450**	**500**	**600**
Pefatef	18	20	25	45	60	85	140	190	320	420	500	550	620	680	950
Nirotef	25	30	40	50	75	110	160	220	330	420	540	600	680	750	1050
Pefagomm	12	16	25	32	45	60	75	150	270	350	420	470			
Polpol	30	35	50	60	85	120	175	330	390	500					

Complete Valve		Disc stem	Liner			
Code	**Name**	**Material**		**Temperature max. °C**	**Sizes available**	**Application**
SP1-BP1	**PEFATEF**	PFA encapsulated alloy	PTFE	200	DN 40 - 600	high corrosion high temperature
SU1-BU1	**POLPOL**	UHMWPE* encapsulated alloy	UHMWPE*	100	DN 40 - 300	high abrasion corrosion
SR1-BP1	**NIROTEF**	Stainless steel	PTFE	200	DN 40 - 600	corrosion high temperature
SP1-BE1	**PEFAGOMM E**	PFA encapsulated alloy	EPDM	140	DN 40 - 600	high corrosion (rubber lining)

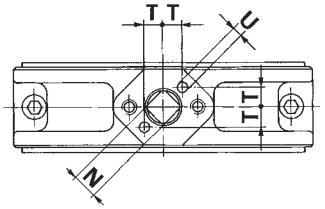
* UHMWPE = Ultra High Molecular Weight Poly Ethylene



DN 40-100
(1¹/₂ - 4")



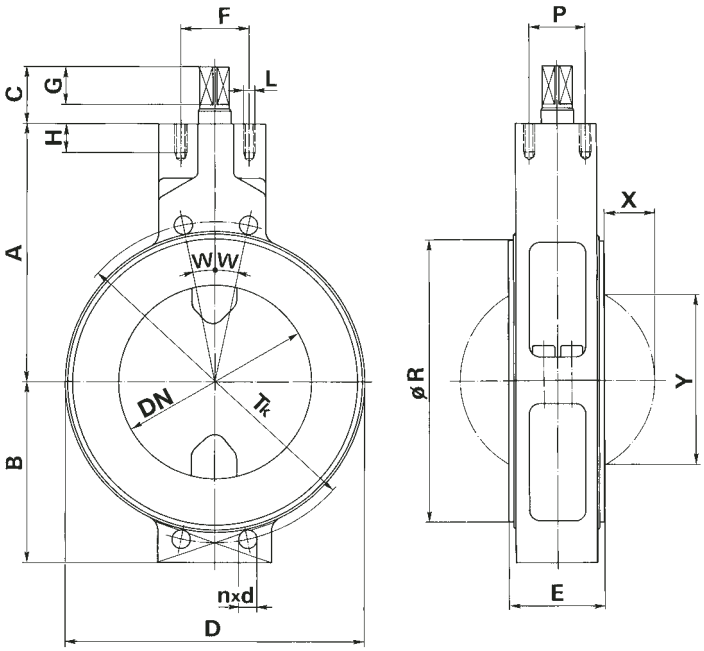
DN 125 - 150
(5 - 6")



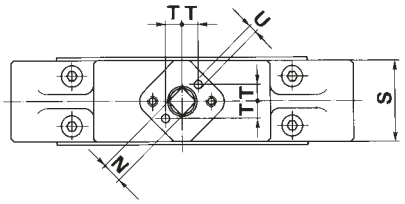
1) only for sizes DN 40 - 100 (1¹/₂ - 4")

Dimensions

Size																			Weight
mm	**inch**	**A**	**B**	**C**	**D**	**E***	**F**	**G**	**H**	**L**	**N**	**ØR**	**X**	**Y**	**SW**	**T**	**U**	**Depth u**	**kg**
40	**1¹/₂**	90	45	25	90	33	36	15	15	M 6	-	80	4,5	26	10	9,9	5	12	1,2
50	**2**	100	53	25	106	43	36	15	15	M 6	-	95	5,0	31	10	9,9	5	12	1,8
65	**2¹/₂**	110	75	25	125	46	36	15	15	M 6	-	120	11,5	52	10	9,9	5	12	2,5
80	**3**	120	85	25	140	46	36	15	15	M 6	-	132	18,5	69	10	9,9	5	12	3,0
100	**4**	135	95	25	160	52	36	15	15	M 6	-	153	26,0	90	10	9,9	5	12	3,8
125	**5**	150	115	35	190	56	36	25	15	M 6	14/14	183	35,5	114	-	13,0	6	15	5,7
150	**6**	165	130	40	218	56	42	25	18	M 8	16/16	209	48,5	143	-	13,0	8	18	7,5



DN 200 - 300
(8 - 12")



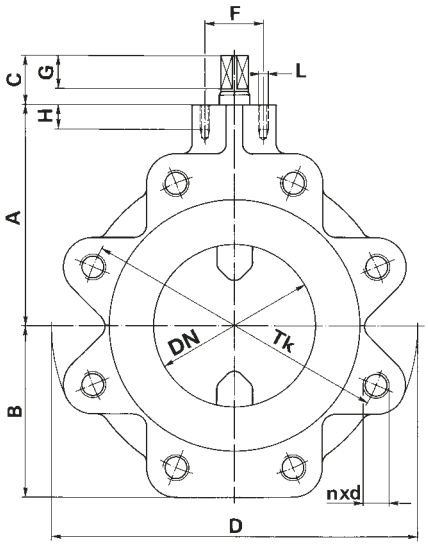
Bolt circle diameters for ANSI 150 flanges
are shown on separate data sheets.

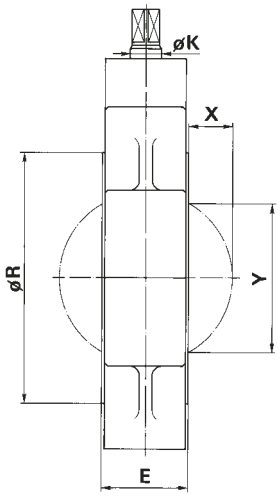
Dimensions

Size																				Weight
mm	**inch**	**A**	**B**	**C**	**D**	**E***	**F**	**G**	**H**	**L**	**N**	**ØR**	**X**	**Y**	**Tk**	**nxd**	**W**	**T**	**U**	**Depth u**	**kg**
200	**8**	215	163	42	273	60	50	28	18	M 8	19/19	259	72,5	196	295	8 x 22	22,5°	18,0	8	18	14,0
250	**10**	250	193	45	328	68	60	32	20	M10	22/22	309	92,5	244	350	12 x 22	15°	18,0	8	18	22,0
300	**12**	280	228	45	375	78	75	32	20	M12	27/27	364	112,5	293	400	12 x 22	15°	22	10	20	34,5

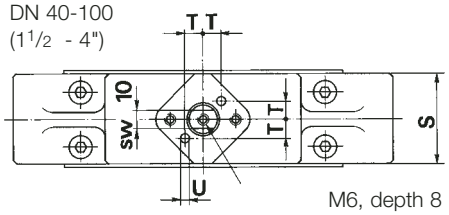
* DIN 3202, T3, K1/ISO 5752/API 609

➤ Length of Key



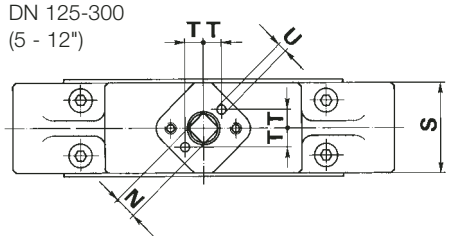


DN 40-100
(1½ - 4")



M6, depth 8

DN 125-300
(5 - 12")



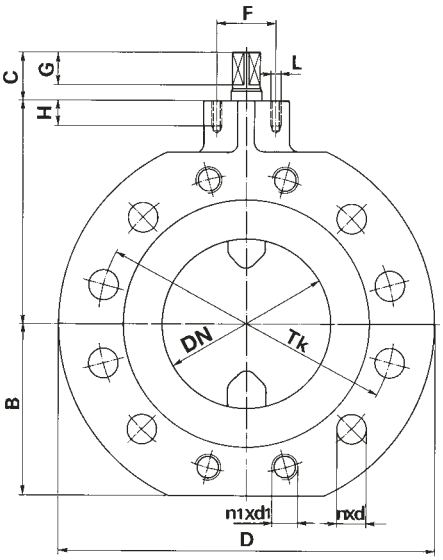
Bolt circle diameters for ANSI 150 flanges are shown on separate data sheets.

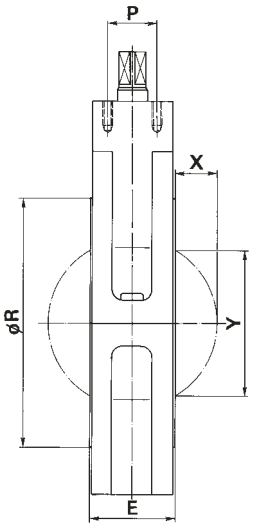
Dimensions

Size																						Weight
mm	inch	A	B	C	D	E*	F	G	H	ØK	L	N	ØR	X	Y	S	T	U	Depth u	Tk	nxd	kg
40	**1½**	90	53	25	148	33	36	15	15	15	M 6	-	80	4,5	26	31	9,9	5	12	110	4xM16	1,9
50	**2**	110	59	25	164	43	36	15	15	15	M 6	-	95	5,0	31	38	9,9	5	12	125	4xM16	2,9
65	**2½**	110	75	25	186	46	36	15	15	15	M 6	-	120	11,5	52	41	9,9	5	12	145	4xM16	3,7
80	**3**	120	93	25	200	46	36	15	15	15	M 6	-	132	18,5	69	41	9,9	5	12	160	8xM16	5,7
100	**4**	135	105	25	225	52	36	15	15	15	M 6	-	153	26,0	90	49	9,9	5	12	180	8xM16	7,7
125	**5**	150	115	35	250	56	36	25	15	18	M 6	14/14	183	35,5	114	54	13,0	6	15	210	8xM16	10,1
150	**6**	165	130	40	282	56	42	25	18	20	M 8	16/16	209	48,5	143	54	13,0	8	18	240	8xM20	12,8
200	**8**	215	163	42	340	60	50	28	18	28	M 8	19/19	259	72,5	196	57	18,0	8	18	295	8xM20	22,2
250	**10**	250	194	45	400	68	60	32	20	32	M10	22/22	309	92,5	244	65	18,0	8	18	350	12xM20	30,6
300	**12**	280	228	45	470	78	75	32	20	35	M12	27/27	364	112,5	293	75	22,0	10	20	400	12xM20	47,5

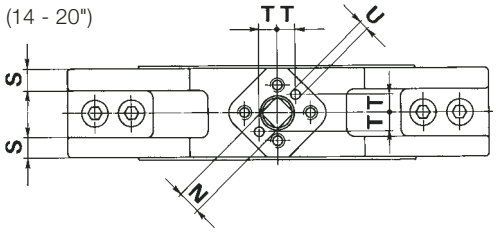
* DIN 3202, T3, K1/ISO 5752

Double flange body

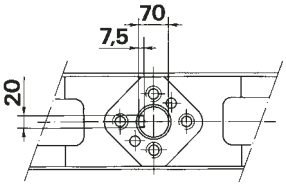




DN 350-500 mm
(14 - 20")



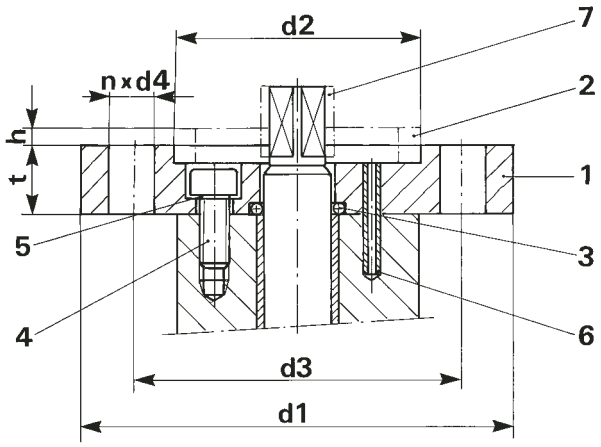
DN 600
(24")



Bolt circle dimensions for ANSI 150 flanges are shown on separate data sheets.

Dimensions

Size																							Weight
mm	inch	A	B	C	D	E*	F	G	H	L	N	P	ØR	X	Y	S	T	U	Depth u	Tk	nxd	n1xd1	kg
350	**14**	310	255	45	534	78	75	32	20	12	27/27	-	412	126,0	321	17	22	10	20	460	12x22	4xM20	57
400	**16**	350	290	55	597	102	105	35	20	12	32/32	70	475	149,0	387	19	32	12	25	515	12x26	4xM24	85
450	**18**	370	310	55	635	114	105	35	20	12	32/32	70	525	162,0	423	21	32	12	25	565	16x26	4xM24	106
500	**20**	400	350	75	700	127	120	50	20	12	36/36	90	578	186,5	484	23	31	12	25	620	16x26	4xM24	140
600	**24**	480	420	120	813	154	150	80	30	16	-	120	680	218,0	570	30	35	16	30	725	16x30	4xM27	242



No.	Description	Material
1	Mounting flange	Steel polyester coated
2*	Centering ring	Steel
3	O-Ring	Fluor elastomer
4	Socket screw	Steel galv.
5	Lock washer	Steel galv.
6	Spring pin	Spring steel
7	Stem adapter	Steel galv.

* for mounting with bracket only

Notes

1. **Table 1, index 5**
   shows the smallest possible ISO flange which can be mounted on a particular size valve to match an ISO/DIN manufactured actuator.

2. **Table 1, index 6**
   shows the required ISO mounting flange to mount our manual gear operators.

   The mounting flange is secured to valve body with two (2) (or 4, depending on size) internal socket screws. The shear force exerted between mounting flange and body is taken up by two (2) shear pins. This prevents the shear force from acting on mounting flange screws and provides a very stable mounting assembly.

ISO-dimensions

ISO-No.	d1	d2	d3	d4	h	Square[1]	Nm
F05	65	35	50	7	3	14	125
F07	90	55	70	9	3	17	250
F10	125	70	102	11	3	22	500
F12	150	85	125	13	3	27	1000
F14	175	100	140	17	4	36	2000
F16	210	130	165	22	5	46	4000

[1] Diagonal square to DIN 3337

Standard gear operators

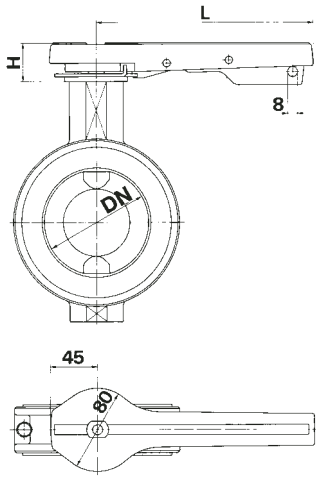
Type	ISO-No.
Gear operator Type 1	F07
Gear operator Type 2	F10
Gear operator Type 3	F12
Gear operator Type 4	F14
Gear operator Type 5	F16

Table 1

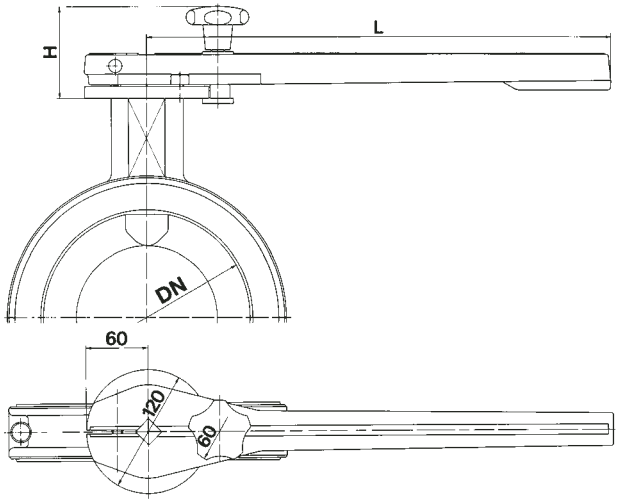
Size mm	40	50	65	80	100	125	150	200	250	300	350	400	450	500	600
Diagonal stem square	10 [2]	10 [2]	10 [2]	10 [2]	10 [2]	14	16	19	22	27	27	32	32	36	70 [3]
ISO-No. [4]	F05	F05	F05	F07	F07	F07	F07	F10	F10	F12	F12	F14	F14	F14	F14
ISO-No. [5]	F07	F07	F07	F07	F07	F07	F07	F10	F10	F12	F12	F14	F14	F14	F16
Dimension t [4]	14	14	14	14	14	17	22	19	22	20	20	22	22	40	150 [6]
Dimension t [5]	14	14	14	14	14	17	22	19	22	22	22	22	22	40	28

[2] Double «D»
[3] Round stem with keyway
[4] Smallest possible ISO-flange which can be mounted
[5] Required ISO-flange to mount standard gear operator
[6] Lantern

Handlever Type Z with intermediate positions
for size DN 40 – 150 (1½ – 6")



Handlever Type F Infinitely variable
for size DN 200 – 350 (8 – 14")



Dimensions

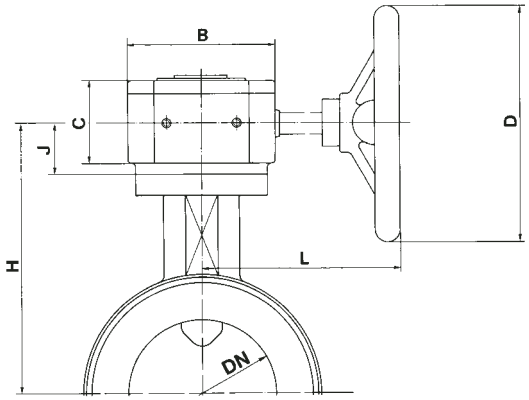
Size	mm	40	50	65	80	100	125	150[1]
	inch	1½	2	2½	3	4	5	6
H		36	36	36	36	36	36	41
L		210	210	210	210	210	300	300

Dimensions

Size	mm	200	250	300	350
	inch	8	10	12	14
H		89	92	92	92
L		450	600	600	600

[1] Manufacturer recommends to use gear operator.

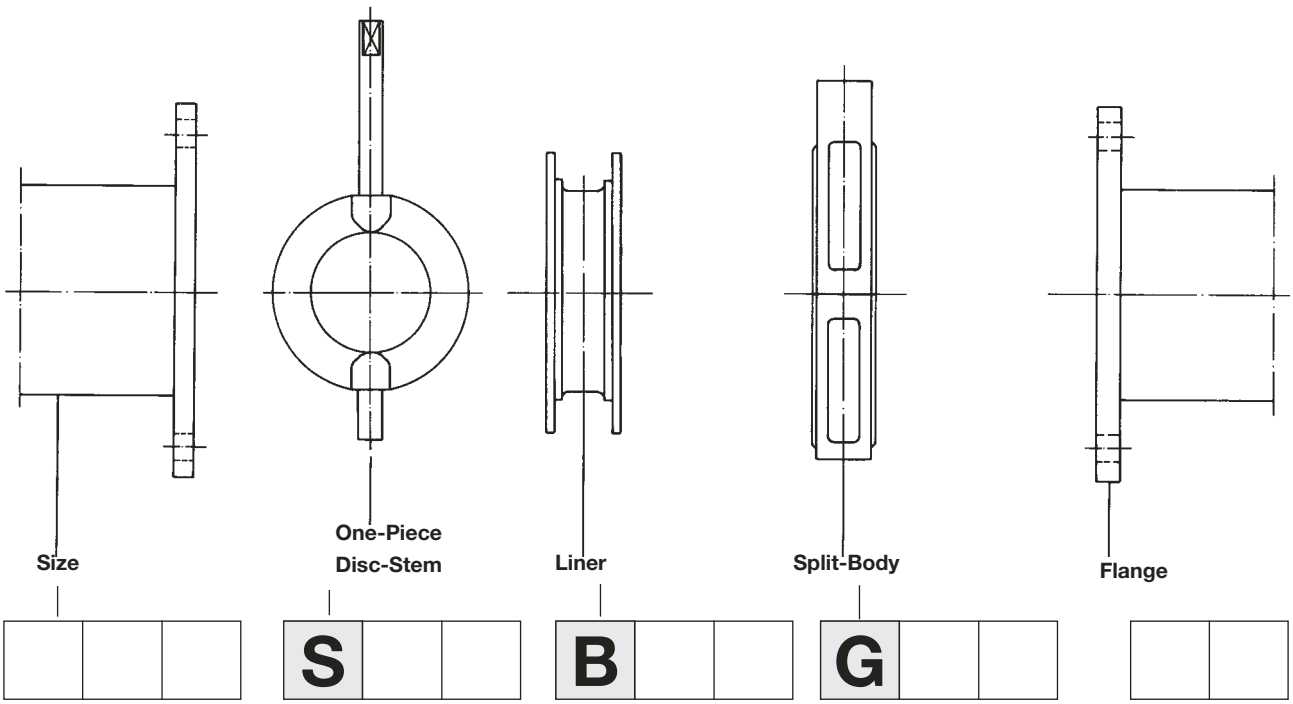
Gear operator Type 1 / 2 / 3 / 4 and 5 (worm gear)
Body: Cast iron polyester coated



Overall Dimensions

Size										Weight*
mm	inch	Type	ISO[2]	B	C	D	H	J	L	kg
40	1½	1	F07	102	60	150	136	27	187	3,7
50	2	1	F07	102	60	150	146	27	187	3,7
65	2½	1	F07	102	60	150	156	27	187	3,7
80	3	1	F07	102	60	150	166	27	187	3,7
100	4	1	F07	102	60	150	181	27	187	3,7
125	5	1	F07	102	60	150	199	27	187	3,7
150	6	1	F07	102	60	150	219	27	187	3,7
200	8	2	F10	138	87	200	273	40,5	203	9,7
250	10	2	F10	138	87	200	311	40,5	203	9,7
300	12	3	F12	138	87	300	341	40,5	209	9,6
350	14	3	F12	138	87	300	371	40,5	209	9,6
400	16	4	F14	200	90	300	432	42	232	17,2
450	18	4	F14	200	90	300	452	42	232	17,2
500	20	4	F14	200	90	300	500	42	232	17,2
600	24	5	F16	285	121	400	563	55	312	35,4

[2] Appropriate operator mounting flange according to ISO 5211



S

One-piece disc-stem

Material	Code	Temperature °C	Sizes available
PFA encapsulated alloy	**SP 1**	-30 to +200	DN 40 - 600
PFA conduc-tive encaps. alloy	**SL 1**	-30 to +200	DN 40 - 300
UHMWPE* encapsulated alloy	**SU 1**	-35 to +100	DN 40 - 300
Stainless steel 1.4435 (316 L)	**SR 1**	-35 to +200	DN 40 - 600
SS polished** 1.4435 (316 L)	**SR 2**	-35 to +200	DN 40 - 600

* RA micron 1.6
** RA micron 0.4

B

Liner

Material	Code	Temperature °C	Sizes available
Virgin PTFE*	**BP 1**	-30 to +200	DN 40 - 600
Virgin PTFE electr. conductive*	**BL 1**	-30 to +200	DN 40 - 300
UHMWPE*	**BU 1**	-35 to + 90	DN 40 - 300
Ethylene-Propylene Rubber EPDM	**BE 1**	-35 to +140	DN 40 - 600

* = including Silicone back-up pads

G

Split-body

Body style	Code	Material	Sizes available
Wafer Body	**GS 1**	Ductile iron	DN 40 – 300
Lug Body	**GF 1**	Ductile iron	DN 40 – 300
Double Flange Body	**GD 1**	Ductile iron	DN 350 – 600

Flange

Flange pattern	Code	Sizes available
ANSI 150 lbs	**A 1**	DN 40 – 600
DIN PN 10	**D 1**	DN 40 – 600
JIS 10 K	**J 0**	DN 40 – 500

Example

The code for a PTFE/PFA lined butterfly valve size DN 150, wafer body, bare shaft, mounted between DIN PN 10 flanges is as follows:
150-SP1-BP1-GS1-D1.