

# PTFE-LINED BUTTERFLY VALVE TYP T 212-A



Double flanged PTFE-Lined butterfly valve for shut-off and control services in the chemical Industry.

## TECHNICAL DATA

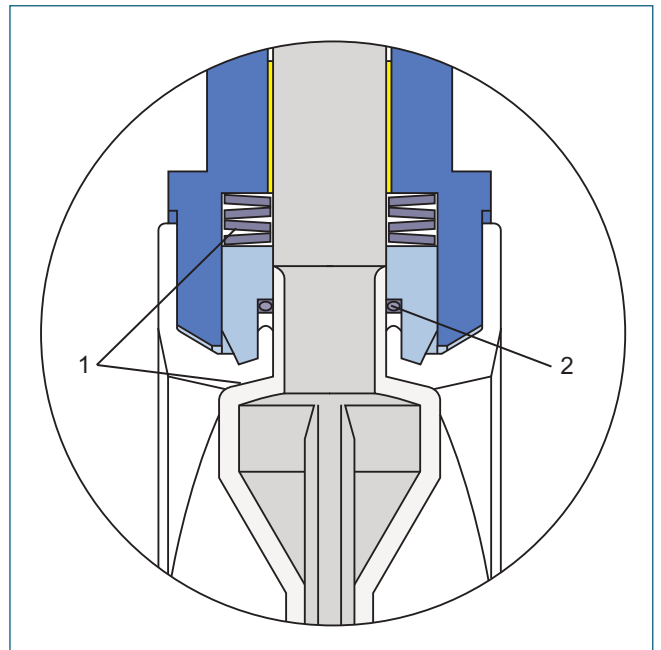
Nominal diameter:	DN 350 – DN 600
Face-to-face:	EN 558 Series 20 ISO 5752 Series 20 API 609 Table 1 BS 5155, Tab. 6 Series 4 NF E 29-305.1
Flange accommodation:	DIN 2501 PN 10/16 ANSI B 16.5, Class 150 MSS SP44 Class 150 AWWA C 207 AS 2129 Table D and E BS 10 Table D and E JIS B 2211-5 K JIS B 2212-10K
Flange surface design:	DIN 2526 Form A-E, ANSI B 16.5 RF, FF
Top flange:	EN ISO 5211 NF E 29-402
Marking:	DIN EN 19
Tightness check:	DIN 3230 T3 BO (Leakage Rate 1) ISO 5208, Category 3 API 598 Table 5 and ANSI B 16-104, Class VI
Temperature range:	-40 °C to +200 °C (depending on operation pressure)
Operating pressure:	max. 10 bar, (16 bar for spec. version)
Differential pressure:	max. $\Delta p$ 10 bar, (16 bar for spec. version)
Vacuum:	up to 1 mbar absolute (with silicon elastomer inserts) from -10 °C to +160 °C

## FEATURES

- PTFE-lined butterfly valve for chemically toxic and highly corrosive media
- Environmental protection via EBRO-Safety seal
- Splitted body design
- Isolation height according to plant prescription
- Can be installed in any desired position
- Maintenance-free
- Can be disassembled, material-specific recycling possible
- Material conform to FDA

## GENERAL APPLICATIONS

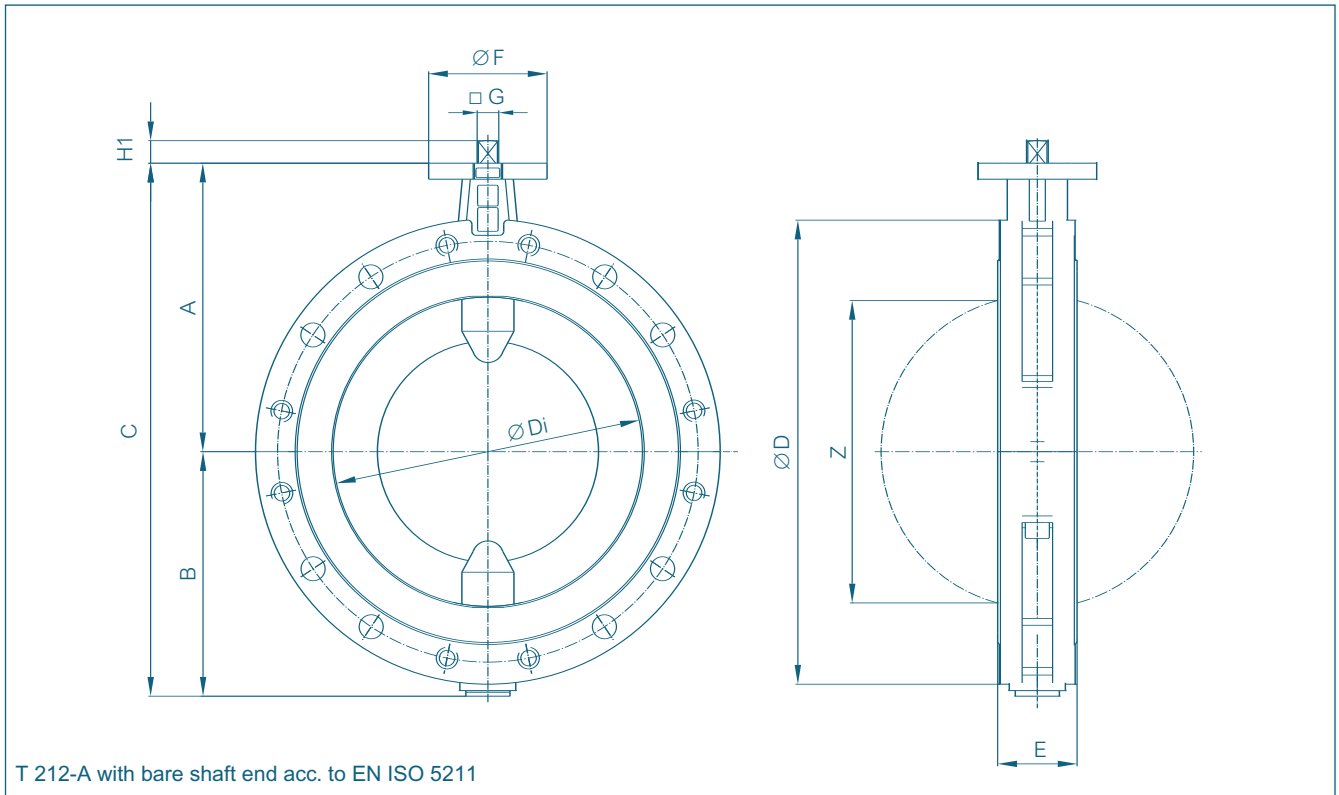
- Chemically highly corrosive and toxic media
- Purification plants
- Pharmaceutical Industry
- Adhesives, Paper Industry, Fuel Transport
- Paint manufacture and processing
- Food Industry
- Transport of hazardous materials
- Wet chloric gas
- Conditioning of materials, e.g. galvanizing and pickling
- Processing of ore
- Fuel transport and storage



Safety seal at both shaft ends in accordance with the EBRO Twin Seal principle:

- 1 Primary sealing by means of a Belleville spring washer, transmitting prestress on the spherical segment area.
- 2 Secondary sealing of the shaft by means of PTFE-Chevron and O-Ring.

# PTFE-LINED BUTTERFLY VALVE TYP T 212-A



DN [mm]	Size [in]	Dimensions [mm]											Weight [kg]
		A	B	C	D	Di	E	F	Flange	G	H1	Z	
350	14	330	277	607	535	338	92	150	F12	27	29	327	68
400	16	360	305	665	580	389	102	150	F12	27	29	377	95
450	18	397	363	760	639	437	114	175	F14	36	38	423	130
500	20	437	390	827	715	490	127	175	F14	36	38	475	170
600	24	498	462	960	830	579	154	210	F16	46	48	560	270

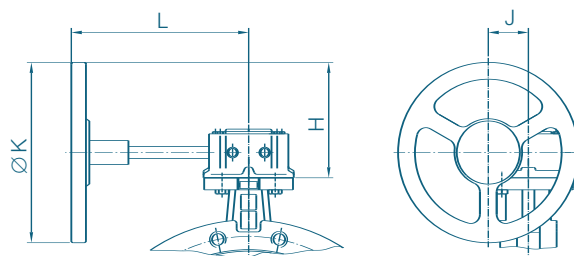
Subject to change without notice.

# ACTUATORS T 212-A

## WORM GEAR

DN [mm]	Size [in]	Gear	H	J	K	L	Weight [kg]
350	14	Size V	158	76	250	280	6,3
400	16	Size XII	192	67	300	295	10,1
450-500	18-20	Size VI	228	90	356	322	16,0
600	24	Size VII	278	123	457	406	30,5

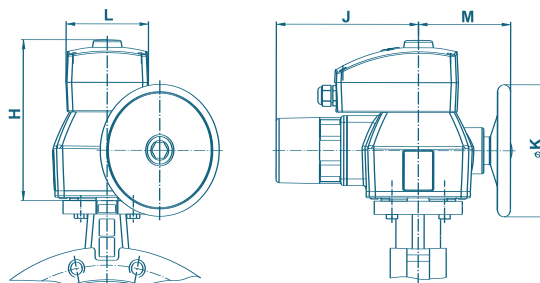
The dimensioning of actuators refers to a control air pressure of 6 bar.



## ELECTRIC ACTUATOR

DN [mm]	Size [in]	Actuator Type	H	J	K	L	M	Weight [kg]
350-400	14-16	E 160	239	279	198	139	157	25,0
450-600	18-24	E 210	276	369	315	139	215	40,0

The dimensioning of actuators refers to a control air pressure of 6 bar.



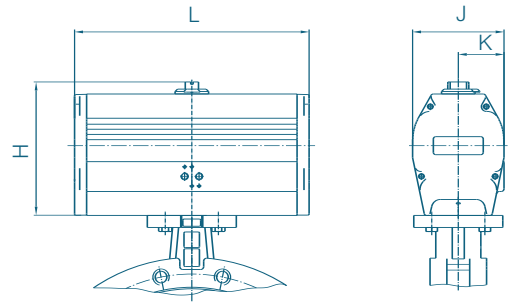
Subject to change without notice.

# ACTUATORS T 212-A

## PNEUMATIC DOUBLE ACTING

DN [mm]	Size [in]	Actuator Type	H	J	K	L	Weight [kg]
350	14	EB 12-DW	182	159	94	367	12,0
400	16	EB 16 DA	232	152	76	390	18,0
450-500	18-20	EB 270 DA	278	220	110	445	32,0
600	24	EB 280 DA	278	220	110	600	42,0

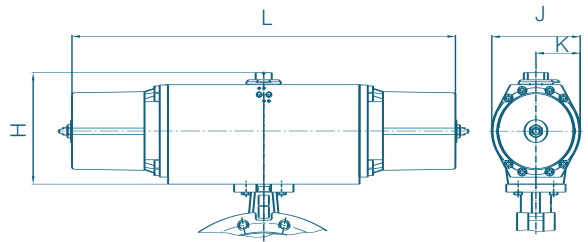
The dimensioning of actuators refers to a control air pressure of 6 bar.



## PNEUMATIC SPRING RETURN

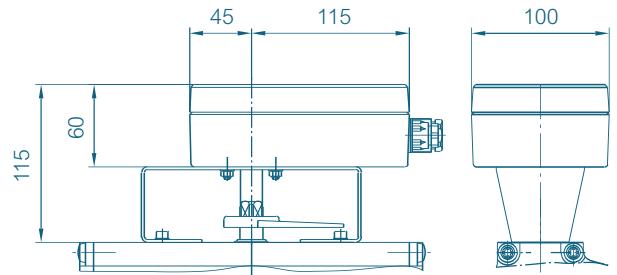
DN [mm]	Size [in]	Actuator Type	H	J	K	L	Weight [kg]
350	14	EB 270 SR	278	220	110	655	45,0
400-450	16-18	EB 280 SR	278	220	110	1020	68,0

The dimensioning of actuators refers to a control air pressure of 6 bar.



## SWITCHBOX SERIES MSK/NSK

MSK: Switchbox with integrated micro limit switches  
NSK: Switchbox with integrated proximity switches

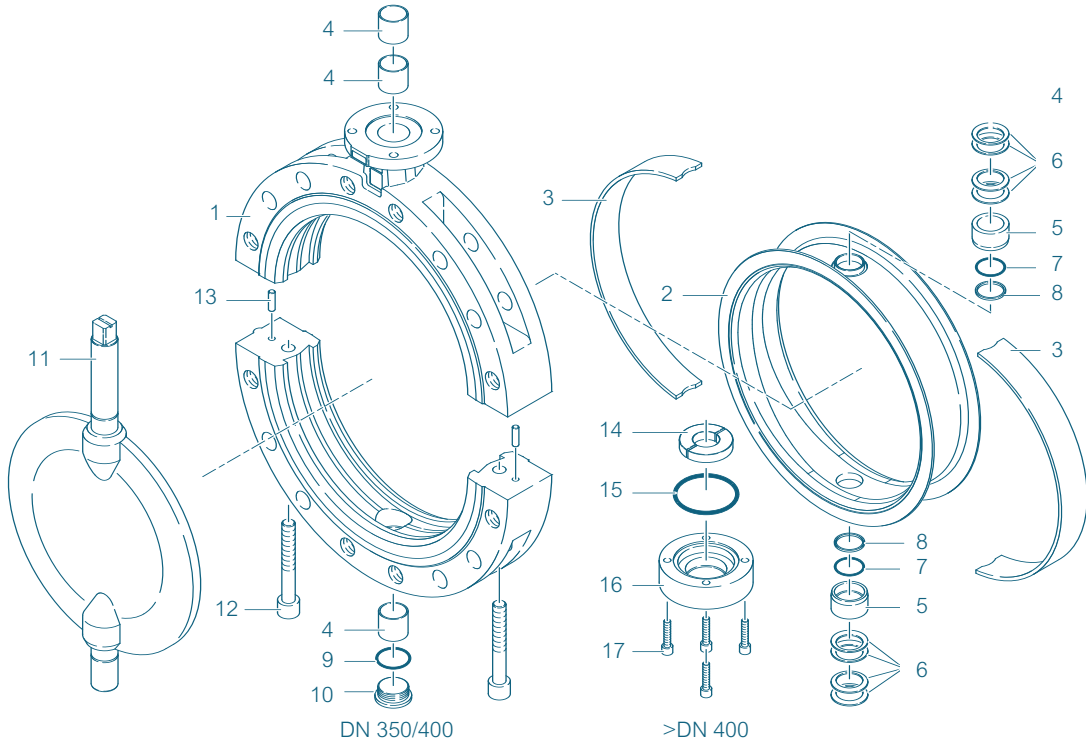


Other Actuators: See Documentation of the Manufacturer.

Subject to change without notice.

# PTFE-LINED BUTTERFLY VALVE TYP T 212-A

## MATERIAL SPECIFICATION AND PARTS LIST



Pt.	Description	Material	Material-No.	ASTM	Pt.	Description	Material	Material-No.	ASTM
1	<b>Body</b>				10	<b>Plug screw DIN 908</b> only DN350-400			
	Nodular Cast Iron	GGG-40.3	0.7043	A395		Stainless Steel	G-X5CrNiMo19-11-2	1.4408	CF8M
2	<b>Seat</b>				11	<b>Disc/Shaft</b>			
	PTFE	Polytetrafluorethylen	PTFE	PTFE		St. Steel/St. Steel	X2CrNiMo 22-5-3	1.4462	F 51
3	<b>Elastomer insert</b>					St/PFA-coated	St 52.3	1.0570	A572-50
	Silicon	Silicon rubber	MVQ	VMQ			Perfluorlkoxyyl	PFA	PFA
	EPDM	Etylene propylene caoutchouc	EPDM	EPDM				1.4462/1.4462	
	FPM	Flourcarbon caoutchouc				St - PFA		1.4462	*1
4	<b>DU-bearing</b>				12	<b>Screw</b>			
	Steel/PTFE coated					Stainless Steel	A4-70	1.4401	B8M
5	<b>Trust collar</b>				13	<b>Set screw</b>			
	Stainless Steel	X5CrNiMo 17-12-2	1.4401	316		Iron	9SMnPb28K	1.0718	SAE12L14
6	<b>Bellev.spr.washer</b>				14	<b>Shaft Retainer</b>			
	Stainless Steel	X12CrNi177	1.4310	301		Iron	St37-2		
7	<b>O-Ring</b>				15	<b>O-Ring</b>			
	FPM	Flourcarbon caoutchouc	FPM	FKM		FPM	Flourcarbon caoutchouc	FPM	FKM
	Silicon opt.				16	<b>Cover plate</b>			
	FPM/PTFE-coated opt.	Polytetrafluorethylen	PTFE	PTFE		Iron	St37-2		
8	<b>Chevron seal</b>	X5CrNi 18-10	1.4301	304	17	<b>Screw</b>			
	PTFE					Stainless Steel	A4-70	1.4401	B8M
9	<b>Seal</b>								
	Stainless Steel								
									Other materials upon request.

- Recommended spare parts
- ⊙ Recommended for coated discs

Subject to change without notice.

\*1) Optional: electrically conductive

# PTFE-LINED BUTTERFLY VALVE T 212-A

## TORQUE

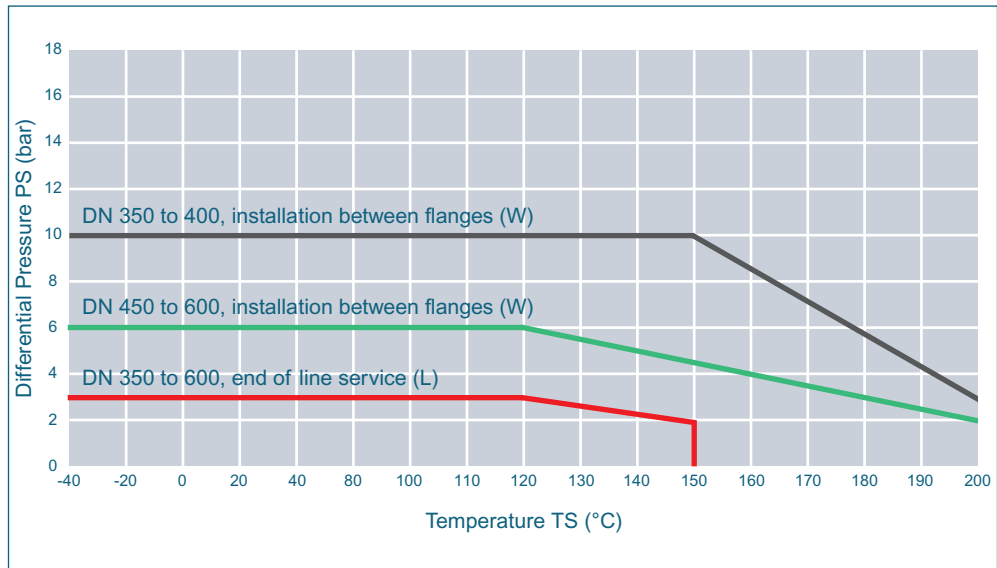
- The torque values specified (MD) are based on dry media and are measured with air at a temperature of 20 °C.
- The values specified are based on the initial breakaway torque (disc disengages from seat, torque then drops).
- Dynamic torque specification available upon request.

Regarding the dimensioning of actuators, please contact our engineers.

<b>DN [mm]</b>	350	400	450	500	600
<b>Size [in]</b>	14	16	18	20	24
<b>MD (Nm)</b>	720	980	1200	1500	2500

## PRESSURE/TEMPERATURE DIAGRAM

for valves with silicone elastomer inserts



Vacuum service to 1 mbar, from -10°C up to 160°C

## K<sub>V</sub>-VALUES

- The K<sub>V</sub>-value (m<sup>3</sup> per hour) is the flow of water at a temperature of 5 °C to 30 °C ( 41 °F to 86 °F) at Δp of 1 bar.
- The K<sub>V</sub>-values specified are based on tests carried out by the Delfter Hydraulics Laboratories, the Netherlands.
- Permissible velocity of flow V<sub>max</sub> 4,5 m/s for liquids and V<sub>max</sub> 70 m/s for gases.
- The throttle function is linear at an angle 30° to 70°.
- Avoid cavitation!

For further values, please contact our engineers.

DN [mm]	Size [in]	K <sub>V</sub> -Values (Valve fully opened)	
		K <sub>V</sub> -values metal disc	K <sub>V</sub> -values PTFE-disc
350	15	13500	11500
400	16	15000	12000
450	18	18500	14000
500	20	22000	16000
600	24	28000	20000