

# LINED BUTTERFLY VALVE T 212-A



Double flanged LINED Butterfly valve for shut-off and Control Services in the chemical Industry.

## TECHNICAL DATA

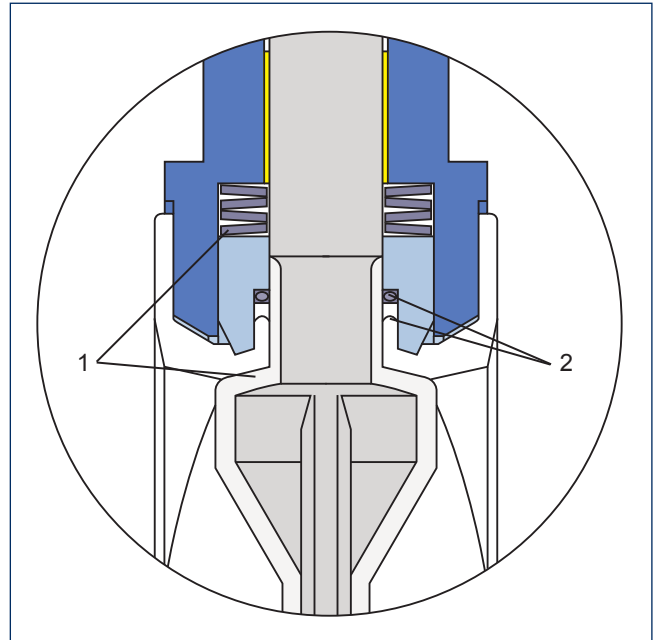
Nominal diameter:	14 in – 24 in
Face-to-face:	EN 558 Series 20 ISO 5752 Series 20 API 609 Table 1 BS 5155, Tab. 6 Series 4 NF E 29-305.1
Flange accommodation:	DIN 2501 PN 10/16 ANSI B 16.5, Class 150 MSS SP44 Class 150 AWWA C 207 AS 2129 Table D and E BS 10 Table D and E JIS B 2211-5 K JIS B 2212-10K
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:	14 °F / 392 °F (depending on operation pressure)
Operating pressure:	max. 232 psi
Differential pressure:	max. $\Delta p$ 145 psi

## FEATURES

- LINED butterfly valve for chemically corrosive media
- Environmental protection via EBRO-safety seal
- Split body design
- Isulation height as per plant regulations
- Can be installed in any desired position
- Maintenance free
- Can be disassembled, material-specific recycling possible
- The double flanged body enables the one side lugging of pipes

## GENERAL APPLICATIONS

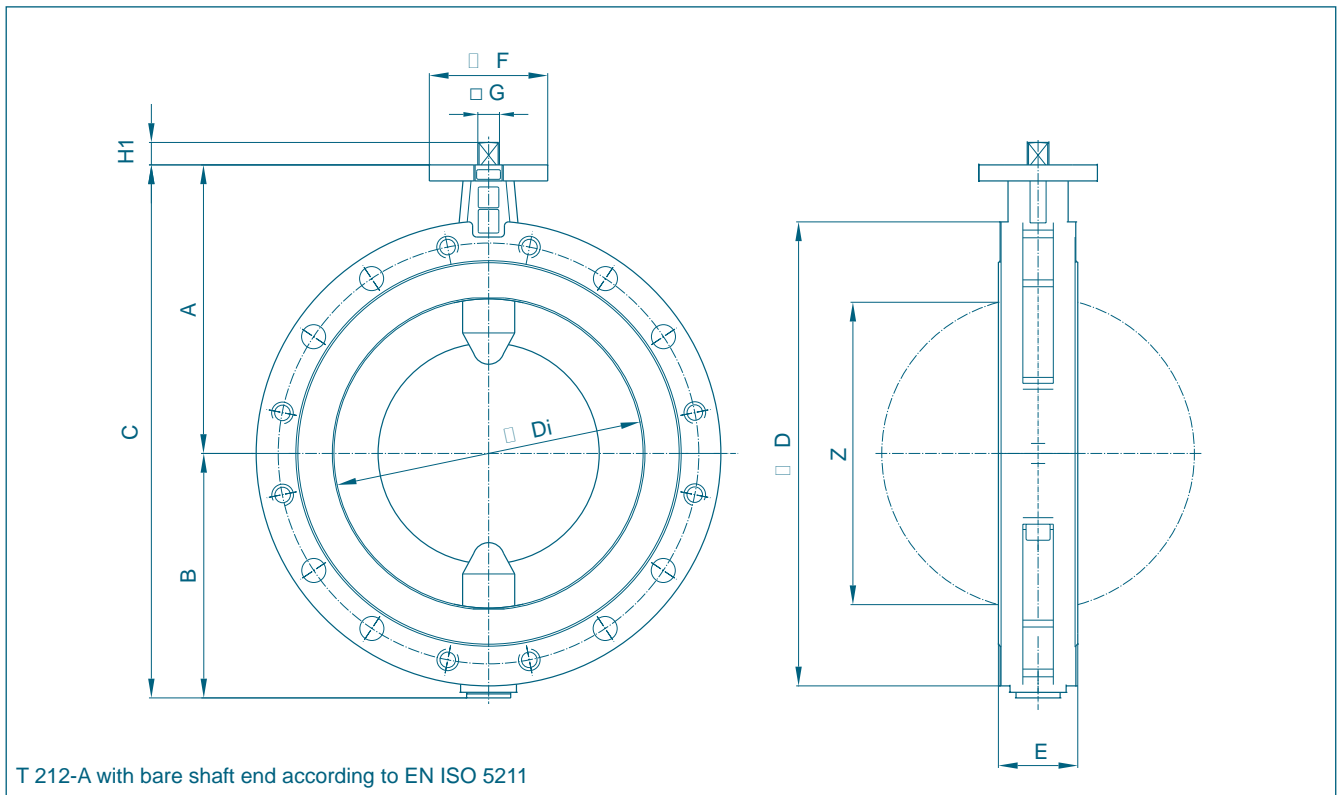
- Chemically corrosive media
- Purification plants
- Pharmaceutical Industry
- Adhesives, Paper Industry, Fuel Transport
- Paint manufacture and processing
- Food Industry



Safety seal 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-gaskets and O-Rings.

# PTFE-LINED BUTTERFLY VALVE TYP T 212-A

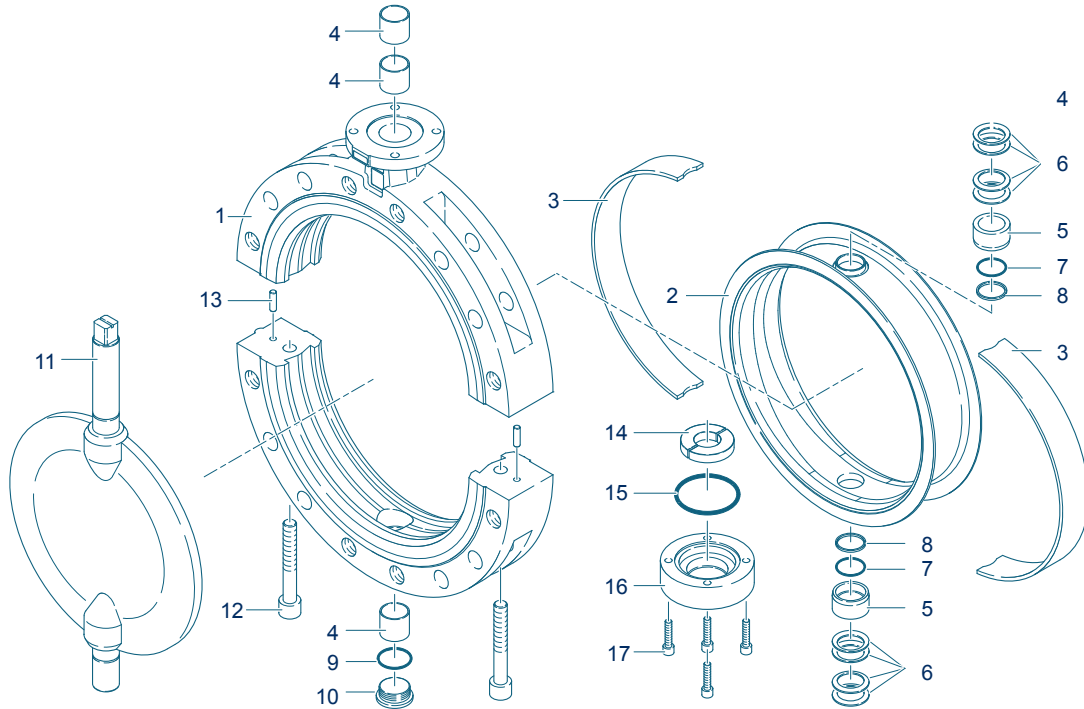


DN [mm]	Size [in]	Dimensions [in]											Weight [lb]
		A	B	C	D	Di	E	F	Flange	G	H1	Z	
350	14	13.00	10.91	23.92	21.08	13.32	3.62	5.91	F12	1.06	1.14	12.88	149.94
400	16	14.18	12.02	26.20	22.85	15.33	4.02	5.91	F12	1.06	1.14	14.85	209.48
450	18	15.64	14.30	29.94	25.18	17.22	4.49	6.90	F14	1.42	1.50	16.67	286.65
500	20	17.22	15.37	32.58	28.17	19.31	5.00	6.90	F14	1.42	1.50	18.72	374.85
600	24	19.62	18.20	37.82	32.70	22.81	6.07	8.27	F16	1.81	1.89	22.06	595.35

Subject to change without notice.

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## MATERIALS SPECIFICATION AND PARTS LIST



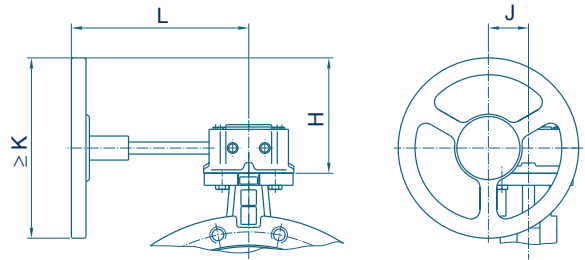
Pt.	Description	Material	Material-No.	ASTM	Pt.	Description	Material	Material-No.	ASTM
<b>1</b>	<b>Body</b>				<b>10</b>	<b>Plug screw DIN 908</b>			
	Nodular Cast Iron	GGG-40.3	0.7043			Stainless Steel	G-X5CrNiMo19-11-2	1.4408	CF8M
<b>2</b>	<b>Seat</b>				<b>11</b>	<b>Disc/Shaft</b>			
	M-PTFE	Polytetrafluorethylen	M-PTFE	M-PTFE		St. Steel/St. Steel	X2CrNiMo 22-5-3	1.4462	F 51
<b>3</b>	<b>Elastomer insert</b>					Steel PFA coated	11SMnPb30	1.0718 ni.-pld.	SAE12L14
	Silicon	Silicon rubber	MVQ	VMQ				PFA	PFA
	EPDM	Etylene propylene caoutchouc	EPDM	EPDM	<b>12</b>	<b>Screw</b>			
	FPM	Fluorcarbon caoutchouc				Stainless Steel	A4-70	1.4401	B8M
<b>4</b>	<b>DU-bearing</b>				<b>13</b>	<b>Set Screw</b>			
	Steel/M-PTFE coated					Steel	9SMnPb28K	1.0718	SAE12L14
<b>5</b>	<b>Trust collar</b>				<b>14</b>	<b>Shaft Retainer</b>			
	Stainless Steel	X5CrNiMo 17-12-2	1.4401	316		Steel	St37-2		
<b>6</b>	<b>Bellev.spr.washer</b>				<b>15</b>	<b>O-ring</b>			
	Stainless Steel	X12CrNi177	1.4310	301		Viton	Fluorcarbon caoutchoucFPM		FKM
<b>7</b>	<b>O-ring</b>				<b>16</b>	<b>Cover plate</b>			
	Viton	Fluorcarbon caoutchouc FPM		FKM		Steel	St37-2		
<b>8</b>	<b>Chevron seal</b>				<b>17</b>	<b>Screw</b>			
	M-PTFE	Polytetrafluorethylen	M-PTFE	M-PTFE		Stainless Steel	A4-70	1.4401	B8M
<b>9</b>	<b>Seal</b>								
	Stainless Steel	X5CrNi 18-10	1.4301	304					
	Copper	Cu		Copper					
						Other materials upon request			

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# ACTUATORS T 212-A

## WORM GEAR

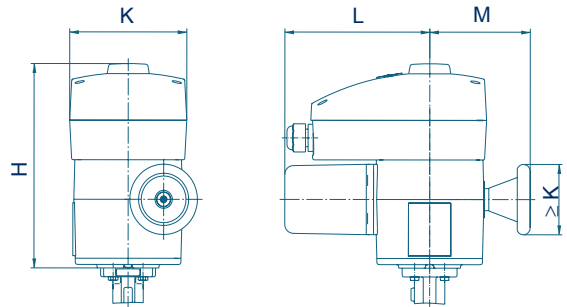
DN [mm]	Size [in]	Gear	H	J	K	L	Weight [lb]
350	14	Size V	6.23	2.99	9.85	11.03	13
400	16	Size XII	7.56	2.64	11.82	11.62	22
450-500	18-20	Size VI	8.98	3.55	14.03	12.69	35
600	24	Size VII	10.95	4.85	18.01	16.00	67



## ELECTRIC ACTUATOR

DN [mm]	Size [in]	Actuator Type	H	J	K	L	M	Weight [lb]
350-400	14-16	E 160	9.41	10.84	7.80	5.47	6.18	55
450-600	18-24	E 210	10.87	12.21	12.40	5.47	8.46	88

The dimensioning of actuators refers to an operating pressure of 145 psi.



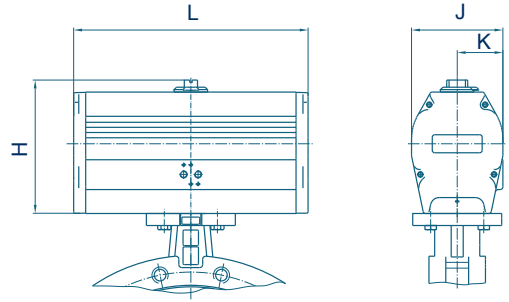
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# ACTUATORS T 212-A

## PNEUMATIC DOUBLE ACTING

DN [mm]	Size [in]	Actuator Type	H	J	K	L	Weight [lb]
350	14	EB 12-DA	7.17	6.26	3.70	14.46	12
400	16	EB 16 DA	9.14	5.99	2.99	15.37	18
450-500	18-20	EB 270 DA	10.95	8.67	4.33	17.53	32
600	24	EB 280 DA	10.95	8.67	4.33	23.64	42

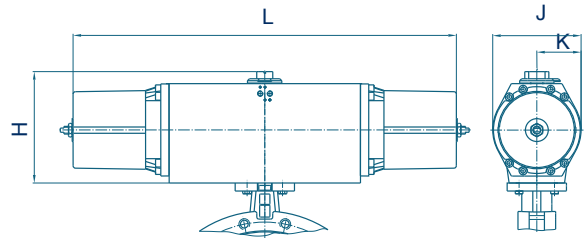
The dimensioning of actuators refers to a control air pressure of 90 psi.



## PNEUMATIC SPRING RETURN

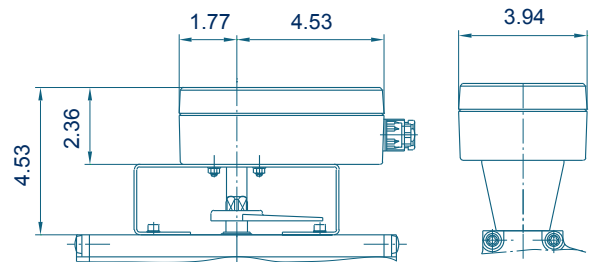
DN [mm]	Size [in]	Actuator Type	H	J	K	L	Weight [lb]
350	14	EB 270 SR	10.95	8.67	4.33	25.81	99
400-450	16-18	EB 280 SR	10.95	8.67	4.33	40.19	149

The dimensioning of actuators refers to a control air pressure of 90 psi.



## SWITCHBOX SERIES MSK/NSK

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



Other Actuators: See Documentation of the Manufacturer.

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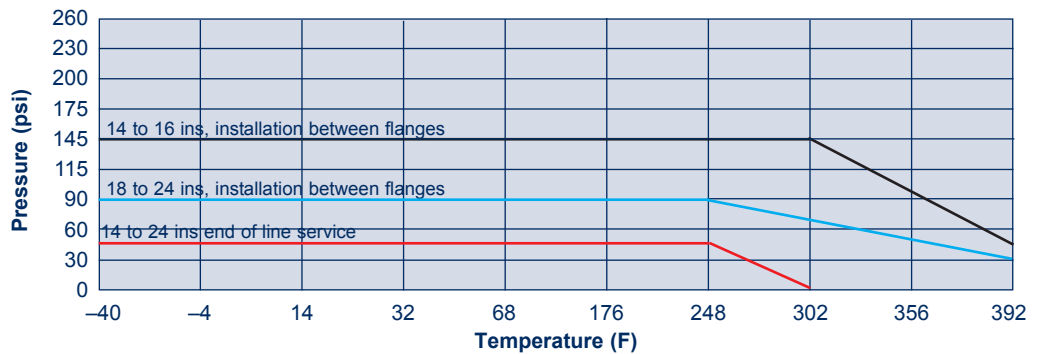
## TORQUE

- The torque values specified (MD) are based on dry media and are measured with air at a temperature of 68 °F.
- 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.

DN [mm]	350	400	450	500	600
Size [in]	14	16	18	20	24
Inch/Lbs	6480	8820	10800	13500	22500

## PRESSURE/TEMPERATURE DIAGRAM



## C<sub>v</sub>-VALUES

- The C<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> 15 ft/s for liquids and V<sub>max</sub> 230 ft/s for gases.

DN [mm]	Size [in]	C <sub>v</sub> -Values (Valve fully opened)	
		C <sub>v</sub> -values metal disc	C <sub>v</sub> -values PTFE-disc
350	14	15700	13374
400	16	17445	13956
450	18	21515	16282
500	20	25586	18608
600	24	32564	23260

- The throttle function is linear at an angle 30° to 70°.

- Avoid cavitation!

For further values, please contact our engineers.