

# LUG TYPE BUTTERFLY VALVE Z 614-A



Resilient seated lug type butterfly valves for semi-corrosive media.

## TECHNICAL DATA

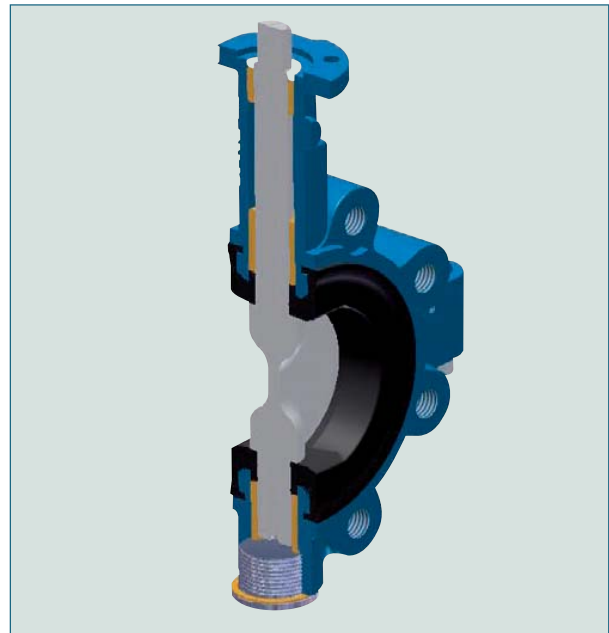
Nominal diameter:	DN 50 - DN 300
Face-to-face:	EN 558 Series 20 (DIN 3202 T3 K1) ISO 5752 Series 20 API 609 Table 1 BS 5155 Series 4
Flange accommodation:	DINE EN 1092 PN 10/16 ANSI B 16.5, Class 150
Flange surface design:	DIN 2526 Form A-E DIN 2642 ASME B 16.5 RF, FF
Top flange:	EN ISO 5211
Marking:	DIN / EN 19
Tightness check:	DIN EN 12266, Leakage rate A ISO 5208, Category 3 API 598 Table 5 ASME B 16-104, Class VI
Standard of fitness for use:	EN 593 (DIN 3354)
Temperature range:	-20 °C bis +160 °C (depending on pressure, medium and material)
Operating pressure:	max. 16 bar
Differential pressure:	max. $\Delta p$ 10 bar
Vacuum:	0,2 bar absolute (depending on medium and temperature)

## FEATURES

- One piece disc/shaft, centric bearing
- Split body with stainless steel screws
- Insulation height as per plant regulations
- Can be installed in any desired position
- Triple shaft bearing
- Disc's sealing surface mirror polished
- Materials complying with FDA standards available

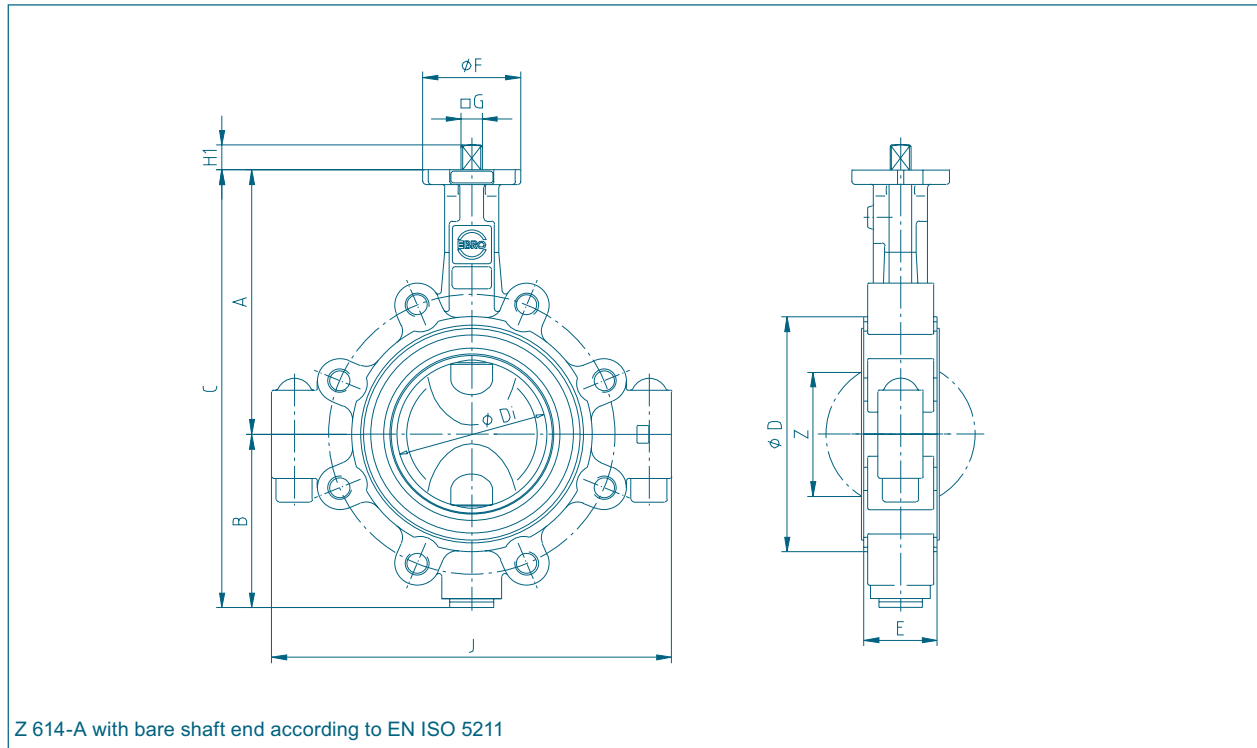
## GENERAL APPLICATIONS

- Food and beverage industry
- Purifications plants
- Pharmaceutical industry
- Chemical and petrochemical industry
- Water and waste water industry
- Pneumatic materials handling technology
- Shipbuilding
- Power plants
- Civil engineering
- For paint and lacquers, a silicone-free version is available



The splitted body design allows quick and easy maintenance. Therefore this type is ideally suited for CIP applications.

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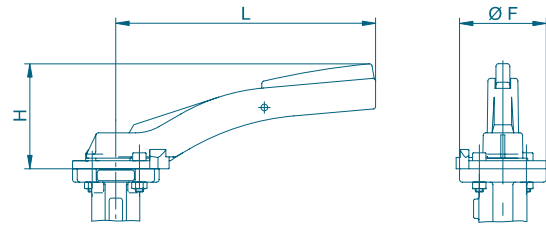
DN [mm]	Size [in]	Dimensions [mm]											Weight [kg]	
		A	B	C	D	Di	E	F	Flange	G	H1	J		Z
50	2	126	84	210	112	49	43	54	F04	11	13,5	167	25	4,9
65	2½	134	93	227	120	64	46	54	F04	11	13,5	181	45	5,6
80	3	157	104	261	138	79	46	65	F05	14	17	227	64	8,7
100	4	167	115	282	160	99	52	65	F05	14	17	266	84	10,0
125	5	180	127	307	190	124	56	65	F05	14	17	300	110	10,2
150	6	203	150	353	215	149	56	88	F07	17	20	322	138	13,2
200	8	228	176	404	269	199	60	88	F07	17	20	390	189	19,0
250	10	266	212	478	324	249	68	125	F10	22	23,5	481	239	29,7
300	12	291	237	528	374	297	78	125	F10	22	23,5	558	286	37,2

Subject to change without notice

# ACTUATORS Z 614-A

## HAND LEVER

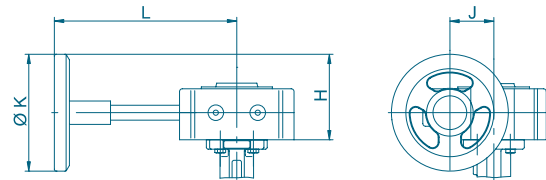
DN [mm]	Size [in]	Hand lever	F	H	L	Weight [kg]
50-65	2-2½	Size I	54	70	155	0,1
80-100	3-4	Size II	65	80	195	0,15
125	5	Size III	90	100	276	0,5



## WORM GEAR

DN [mm]	Size [in]	Gear	H	J	K	L	Weight [kg]
50-65	2-2½	Size I	89	39	125	152	1,9
80-125	3-5	Size II	89	39	125	159	1,4
150-200	6-8	Size III	129	47	200	202	2,3
250	10	Size IV	129	60	200	252	2,8
300	12	Size V	158	76	250	280	6,3

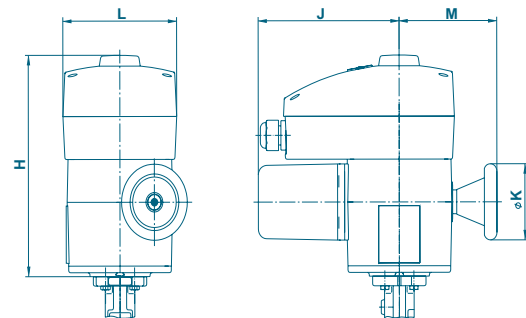
The dimensioning of actuators refers to an operating pressure of 10 bar.



## ELECTRIC ACTUATOR

DN [mm]	Size [in]	Actuator	H	J	K	L	M	Weight [kg]
50-150	2-6	E 65	233	172	80	139	119	7,0
200-250	8-10	E 110	251	245	125	139	134	14,0
300	12	E 160	239	279	198	139	157	25,0

The dimensioning of actuators refers to an operating pressure of 10 bar.



Actuators for larger sizes: See documentation of the producer.

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# ACTUATORS Z 614-A

## PNEUMATIC DOUBLE ACTING

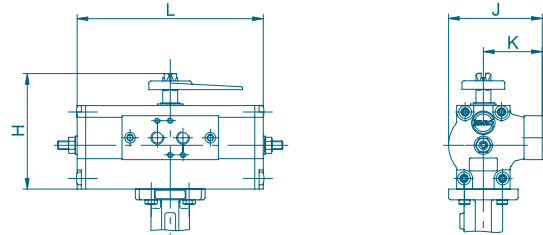
DN [mm]	Size [in]	Actuator	H	J	K	L	Weight [kg]
50-65	2-2½	EB4	96	74	49	145	1,1
80-125	3-5	EB5	108	88	55	174	1,7
150	6	EB6	123	103	62	208	2,6
200	8	EB8	136	115	68	250	4,3
250-300	10-12	EB10	155	135	79	312	6,8

The dimensioning of actuators refers to the following data:

Control pressure: 6 bar

Operating pressure: 10 bar

Actuator selection for deviating conditions upon request.



## PNEUMATIC SINGLE ACTING

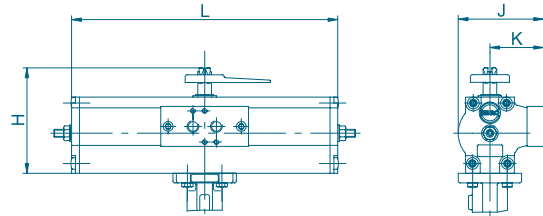
DN [mm]	Size [in]	EBF Actuator	H	J	K	L	Weight [kg]
50-65	2-2½	EB5	108	88	55	273	3,0
80-125	3-5	EB6	123	103	62	326	5,0
150	6	EB8	136	115	68	389	7,7
200	8	EB10	155	135	79	526	14,3
250	10	EB12	182	159	94	658	25,4
300	12	EB265	232	152	76	634	27,0

The dimensioning of actuators refers to the following data:

Control pressure: 6 bar

Operating pressure: 10 bar

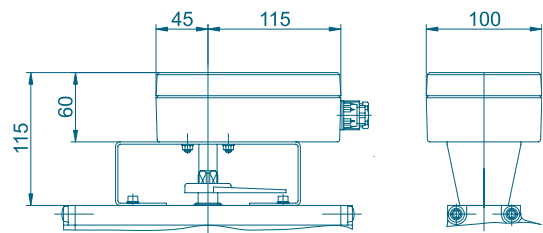
Actuator selection for deviating conditions upon request.



## SWITCH BOX SERIES MSK/NSK

MSK: Switch box with integrated micro limit switches.

NSK: Switch box with integrated proximity switches.

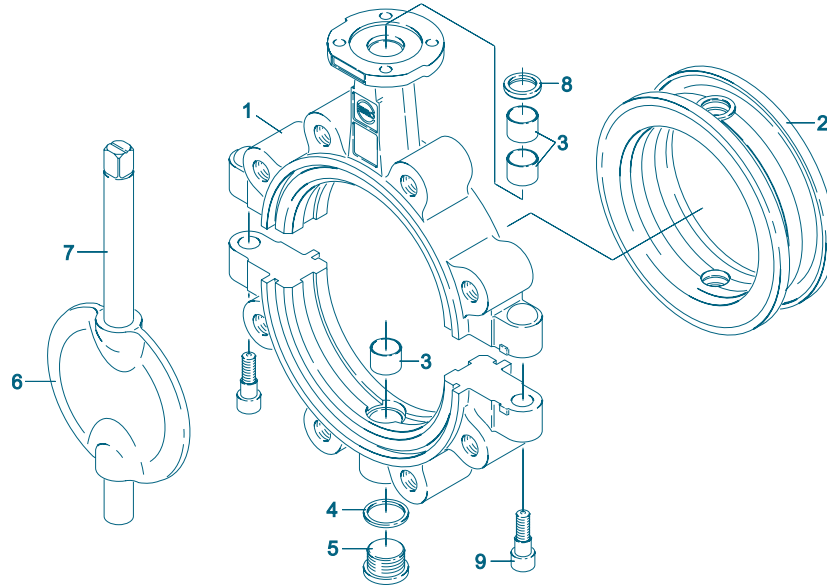


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## MATERIAL SPECIFICATION AND PARTS LIST



Pos.	Description	Material	Material-No.	ASTM	Pos.	Description	Material	Material-No.	ASTM
1	<b>Body</b>					<b>Shaft/disc one piece</b>			
	Nodular cast iron	GGG-40	0.7040	60-40-18	6	<b>Disc</b>			
						Stainless steel	G-X5CrNiMo19-11-2	1.4408	CF8M
2	<b>Seat</b>						G-X2CrNiMoN26-7-4	1.4469	A995
	NBR	Acrylonitrile butadiene rubber				Coating	Halar		
	EPDM	Ethylene propylene caoutchouc				Surface quality	electropolished mirror finished		
	CSM	Chlorsulphonated polyethylene							
	FPM	Flouorocarbon caoutchouc							
	VSI	Silicon rubber			7	<b>Shaft</b>			
	AU	Polyurethane elastomer				Stainless steel	G-X5CrNiMo19-11-2	1.4408	CF8M
3	<b>Bearing bush</b>						X2CrNiMoN22-5-3	1.4462	F51
	Brass	MS 58	2.0401	B45			X5CrNiMo17-12-2	1.4401	316
4	<b>Seal DIN 7603</b>				8	<b>Wiper ring</b>			
	Copper	Cu		Copper		PTFE	Polytetrafluorethylene PTFE		PTFE
5	<b>Plug screw DIN 908</b>				9	<b>Screw</b>			
	Stainless steel	G-X5CrNiMo19-11-2	1.4408	CF8M		Stainless steel	A4-70	1.4401	B8M
									Other materials upon request.

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## TORQUE

- The torque values specified (Md) are based on liquid and lubricant media.
- Powdery (non-lubricant) media  
Md x 1,3
- Dry gases/high viscous media  
Md x 1,2
- The values specified are based on the initial breakaway torque.
- Dynamic torque specification available upon request.

<b>DN [mm]</b>	50	65	80	100	125	150	200	250	300
<b>Size [in]</b>	2	2½	3	4	5	6	8	10	12
<b>Md [Nm]</b>	7	15	18	28	45	110	140	200	280

Regarding the dimensioning of actuators, please contact our engineers.

## 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!

DN [mm]	Size [in]	Opening angle ∅°							
		20°	30°	40°	50°	60°	70°	80°	90°
50	2	1,2	8	13	22	38	50	65	85
65	2½	2	9	22	42	77	115	170	215
80	3	8	24	50	95	150	240	330	420
100	4	13	28	65	130	180	340	550	800
125	5	26	65	130	230	350	530	870	1010
150	6	35	90	200	360	640	900	1350	2100
200	8	43	180	350	580	1000	1600	3000	4000
250	10	125	360	660	1100	1800	3100	5300	6400
300	12	200	550	1000	1600	2600	5000	7500	8500

For further values, please contact our engineers.



**V&A**

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