

The Figure 320 is an economical resilient seated butterfly valve with dimensions according ISO standards.

Features

- Bubble-tight shut-off at full rating in both directions.
- One piece, specially profiled, wafer thin disc stem.
- Extended body neck allows free access to actuator in case of pipe isolation.
- The seat and disc are the only two parts in contact with the medium.
- Face to face dimensions according ISO 3202 Part 3, K1 (ISO 5752 series 20) and DIN EN 558-1, series 20
- The F320 wafer version has four flange locating holes for end of line service under certain conditions.
- Standard actuation:
 - Handle (F414) on 50-200 mm valves.
 - Gear operators (F455) on 250-300 mm.
- The F322 lugged version is suitable for bi-directional end of line service.
- Suitable for pneumatic, electric and hydraulic actuation.

General application

Figure 320/322 is designed for applications requiring shut-off control. The valve has a non-replaceable seat and can be used in combination with manual or a gear operator, or any other common type of pneumatic, electric or hydraulic actuator.



Technical data

Size range:

Figure 320 (wafer style) 50-300 mm
Figure 322 (lugged style) 50-300 mm

Pressure:

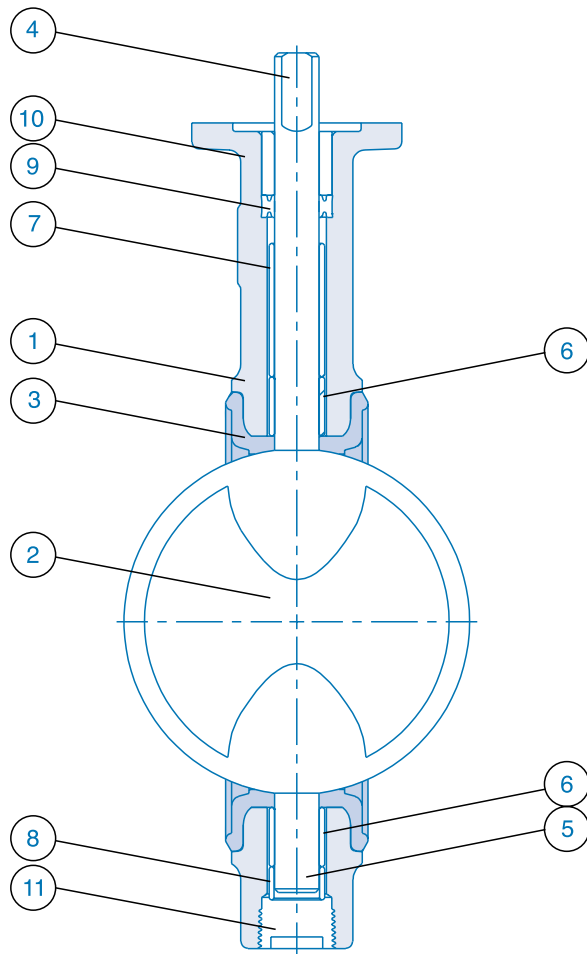
16 bar (in line and end of line)

Temperature (°C):

Minus 28°C to 120°C (EPDM seat)
Minus 15°C to 100°C (Buna-N seat)

End connections	Between flanges	End of line
F320	DN50-300: PN6-PN10-PN16 ANSI 150	DN50-300: PN16 ANSI 150
		DN50-150: PN10
F322	DN50-300: PN6-PN10-PN16 ANSI 150	DN50-300: PN6-PN10-PN16 ANSI 150

Butterfly Valve Figure 320 wafer and Figure 322 lugged 50-300 mm



Part list

No.	Description	Material	Standard	Material number
1.	Body	Ductile Iron	ASTM 536 Gr 65-45-12	DIN 0.7040
2.	Disc	Stainless Steel	ASTM A 351 Gr CF8M	DIN 1.4408
		Aluminum Bronze	ASTM B 148 UNS C95200 A	DIN 2.0940.01
		Nickel Aluminum Bronze	BS EN 1982 CC 333 G	DIN 2.0975.01
3.	Seat	EPDM Buna-N		
4.	Top stem	416 S/S	ASTM A 582, 416 cond. H	
5.	Bottom stem	416 S/S	ASTM A 582, 416 cond. H	
6.	Bushing	Thermoplastic Polyester	ASTM D 4507 TPES 110M10	A22310
7.	Upper spacer			
8.	Lower spacer			
9.	Packing			
10.	Upper bushing			
11.	Plug			

Butterfly Valve Figure 320 wafer and Figure 322 lugged

50-300 mm

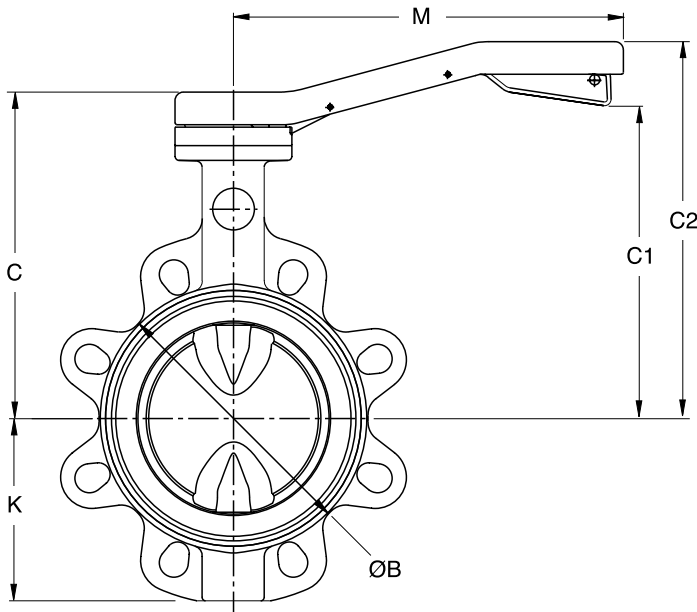
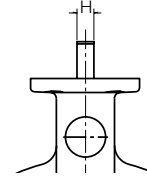
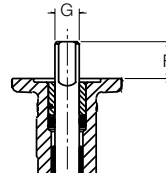
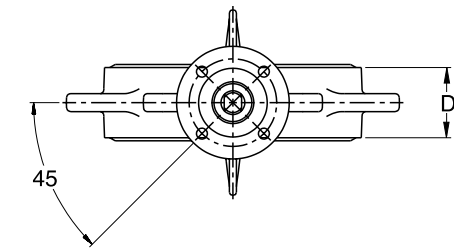


Figure 320 wafer

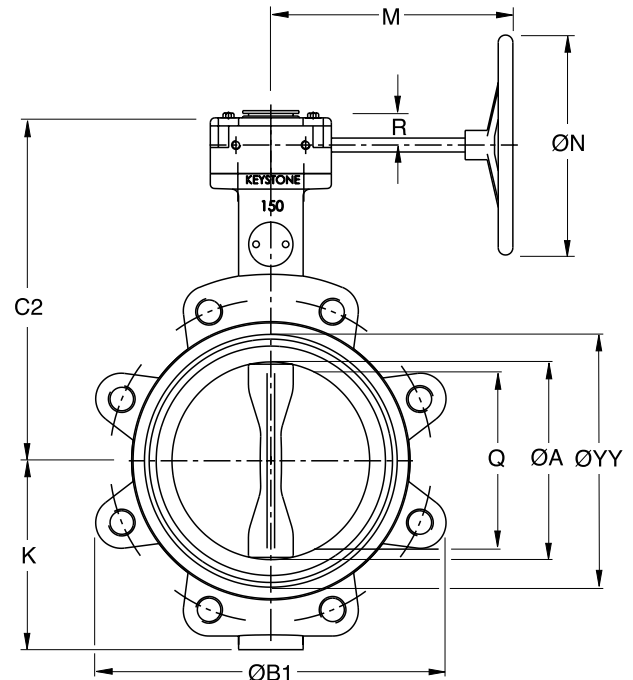


Figure 322 lugged

Dimensions (mm)

Size	ØA	ØB	ØB1	C	C1	C2	D	Stem connections			ISO Type	K	M	ØN	Q	R	ØYY	Mass kg#		Kv fully open
								F	ØG _{h9}	H ^{o-0.05}								F320	F322	
50	52	98	157	172	147	197	43	25	12	8	F05	78	230	31	87	3.7	4.4	108		
65	64	116	177	194	180	230	46	30	15.88	11	F07	83	300	47	98	5.9	6.5	217		
80	77	126	192	204	190	240	46	30	15.88	11	F07	91	300	63	114	6.4	7.6	409		
100	103	156	283	224	110	260	52	30	15.88	11	F07	105	300	90	146	7.9	9.7	807		
125	128	182	254	239	225	275	56	30	20	14	F07	127	300	116	168	9.4	12.7	1251		
150	147	207	279	254	240	290	56	30	20	14	F07	140	300	137	197	11.3	14.1	1946		
200	198	264	336	240		311	60	30	20	14	F07	174	327	300	190	37	258	26.1	30.2	3516
250	249	317	406	275		346	68	50	30	22	F12	203	327	300	241	37	309	35.0	43.0	5806
300	300	373	476	310		381	78	50	30	22	F12	235	327	300	291	37	354	46.1	55.4	8910

ISO 5211 Mounting details

Type	PCD	Bolt holes
F05	50	4 x Ø7
F07	70	4 x Ø9
F12	125	4 x Ø14

Notes

Dimensions are nominal ± 1 mm.

- Q is the disc chordal dimension at face of valve for disc clearance into pipe fitting or equipment.
 - Valves 50-200 mm are supplied standard with handles (F414).
Valves 250-300 mm are supplied standard with gear operators (F455).
 - YY is outside diameter of seat face.
- # The mass shown includes the standard operator.

Butterfly Valve Figure 320 wafer and Figure 322 lugged 50-300 mm

Sizing torques (Nm)

ΔP in kPa	size in mm	50	65	80	100	125	150	200	250	300
Application 1										
350		13	19	26	37	58	81	148	241	345
700		13	20	27	40	63	88	164	271	387
1000		14	21	30	44	70	99	188	315	451
1400		15	23	33	49	80	113	219	374	536
1600		15	24	35	51	85	120	235	403	578
Application 2										
350		14	21	29	42	66	93	169	274	392
700		14	22	31	45	71	100	185	303	434
1000		15	23	33	49	78	111	208	347	498
1400		16	26	36	54	88	125	240	406	583
1600		17	27	38	56	93	132	255	435	625
Application 3										
350		15	23	32	48	74	105	190	306	439
700		16	24	34	50	79	112	206	336	481
1000		16	26	36	54	86	122	229	380	545
1400		17	28	40	59	96	136	261	439	629
1600		18	29	41	61	101	143	276	468	672

Notes

- Application 1:** Water, seawater, lubricating types of hydrocarbons. Temp.: 0-80°C; Valve opens at least once a month.
Application 2: All other liquid applications and lubricating gasses.
Application 3: Non lubricating and dry media.
- 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.
- The effect of dynamic torque is not considered in tabulation.
- In sizing operators it is not necessary to include safety-factors.
- Rated Kv = the volume of water in m³/hr that will pass through a given valve opening at a pressure drop of 1 bar.

Maximum allowable shaft torques (Nm)

size in mm	50	65	80	100	125	150	200	250	300
torques	49	47	92	86	307	290	393	623	777

Trim codes

Figure no.	Trim Code	Body	Disc	Shaft	Seat
F320/322	112	Ductile iron	S/S	S/S	EPDM
F320/322	116	Ductile iron	S/S	S/S	Buna-N
F320/322	135	Ductile iron	NiAlBz	S/S	EPDM
F320/322	137	Ductile iron	NiAlBz	S/S	Buna-N
F320/322	333	Ductile iron	AlBz	S/S	EPDM
F320/322	334	Ductile iron	AlBz	S/S	Buna-N