

SPECIFICATIONS

FIGURE 731 - 732

BUTTERFLY VALVE

FNW®

RESILIENT-SEATED BUTTERFLY VALVE

FNW cartridge-style, resilient-seated butterfly valves are designed to meet the rigorous requirements of industrial applications, such as pulp and paper, water purification, power and utilities, chemical/petrochemical, food and beverage, OEM, and HVAC. Each valve is manufactured in accordance with independent standards specifications and is 100% tested in both directions of operation to assure bubble-tight service for many years.

FEATURES

- Designed for 125/150-lbs flanges
- Standard stainless steel disc and stem offer superior strength and chemical resistance
- Mounting pad with square shaft permits direct mount actuation that reduces hysteresis and cost (2"–12")
- Secured stem retainer plate for blowout-proof protection allows operator removal with valve in line
- High-strength two-piece stem eliminates taper pins and disc screws from flow path
- Rated to 255 PSI (2"–12"), 188 PSI (14"–24")
- Cartridge-style seat permits easy change without special tools
- Molded O-ring eliminates the need for flange gasket*
- Lockable handles
- Shell tested to 150% and seat tested to 110% of maximum working pressure
- Wafer bodies cast iron to 10", ductile iron 12"–24", and ductile iron lug bodies to 24"
- Dual PTFE shaft bearings for reduced torque and improved stem alignment
- Vacuum rated to 29.9" Hg (0.01 Torr)†
- Epoxy-coated body
- Low-maintenance design
- Sizes 2"–24"

PRODUCT SPECIFICATIONS

Standards

- NSF 61 and NSF 372 (UL) certified
Applies only to EPDM seated valves
- Design: API 609A and MSS SP-67
- Seat tested: MSS SP-61
- Top flange: ISO 5211

Options

FNW offers many options and modifications for valves. These include, but are not limited to: actuation including chain wheels, square drive nuts, worm-gear operators, and pneumatic and electric operators, control accessories, stem extensions, and custom mounting hardware. Contact FNW with your specific application needs.



Fig. 731

Fig. 732

* Pressed collar-style angle face rings (typically sizes 2" to 6") are not recommended due to the large radius of the inner diameter. Cast type angle face rings or stub ends should be used with light wall stainless steel piping. Prior to installation, always verify that the connecting piping flange face fully engages the valve seat face.

† Vacuum measurements are often made in inches of mercury below atmospheric pressure. The values calculated here assume standard atmospheric pressure of 29.92 inches of mercury.

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FIGURE 731 - 732
BUTTERFLY VALVE



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WEIGHT (LBS)

Size (in.)	Wafer/ Lever	Wafer/ Gear	Lug/ Lever	Lug/ Gear
2	7.8	15.9	8.0	16.0
2-1/2	8.8	16.9	9.9	18.0
3	9.4	17.5	10.3	18.4
4	10.8	19.0	15.3	23.5
5	15.2	23.4	19.4	27.6
6	18.4	26.6	21.5	29.7
8	27.3	42.9	36.1	51.7
10	—	61.1	58.1	74.8
12	—	82.0	81.1	103.0
14	—	107.6	—	146.2
16	—	161.8	—	196.0
18	—	202.0	—	268.3
20	—	305.1	—	367.8
24	—	472.1	—	522.6

TORQUE (IN.-LBS)

Size (in.)	EPDM & Buna Seat	Viton® Seat
2	367	477
2-1/2	367	477
3	480	624
4	593	771
5	649	844
6	971	1262
8	1896	2465
10	4006	5208
12	4627	6015
14	13385	17401
16	17506	22758
18	23542	30605
20	29076	37799
24	46874	60901

SEAT TEMPERATURES

Seat Material	Working Temperature
EPDM	-22° – 230°F (-30° – 110°C)
Buna-N	-4° – 194°F (-20° – 90°C)
Viton®	-14° – 320°F (-25° – 160°C)

1. All unseating torques based on non-corrosive clean, wet, or lubricating service at ambient temperatures. Contact FNW for dry or application specific torque.
2. For line velocities greater than 15 FPS, dynamic torque must be taken into consideration.
3. All torques are based on maximum pressure differential for the valve.
4. Torque values shown are reflective of a 30% safety factor.

CV (FLOW COEFFICIENT)

Size (in.)	Degrees of Disc Opening							
	20°	30°	40°	50°	60°	70°	80°	90°
2	8	9	18	28	55	72	110	135
2-1/2	10	15	27	44	85	110	168	210
3	15	23	39	65	130	165	250	310
4	27	41	71	115	230	300	465	540
5	58	86	150	245	480	610	980	1100
6	96	140	245	400	785	1010	1615	1910
8	165	245	410	685	1275	1715	2670	3185
10	255	380	650	1130	2100	2700	4250	4900
12	370	540	950	1570	3050	3950	5950	7350
14	450	750	1300	2210	4080	5610	8078	11200
16	640	900	1720	2790	5000	7650	10770	12900
18	730	1250	2295	3700	7050	9180	13900	17500
20	910	1595	2850	4630	8600	11500	17540	22400
24	1250	2290	4000	6090	12500	16500	23590	28300

CV is the volume of water in U.S. gallons per minute that passes through the valve at a pressure drop of 1 PSI at 68°F.

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FIGURE 731 - 732
BUTTERFLY VALVE



RESILIENT-SEATED BUTTERFLY VALVE

DIMENSIONS (INCHES) SIZES 2"–12"

Size	A	B	ØD	H1		H2		H3	H4	L1	L2
				731	732	731	732				
2	0.18	1.93	2.05	2.77	2.77	5.06	4.94	0.60	1.15	1.69	10.64
2-1/2	0.41	2.52	2.64	2.95	2.95	5.36	5.20	0.60	1.15	1.81	10.64
3	0.67	3.03	3.15	3.67	3.67	5.64	6.07	0.60	1.15	1.81	10.64
4	0.94	3.82	3.94	4.18	4.18	6.41	6.54	0.70	1.15	2.05	10.64
5	1.36	4.80	4.92	4.69	4.69	7.34	7.13	0.70	1.15	2.20	10.64
6	1.86	5.83	5.93	5.48	5.48	7.98	7.99	0.70	1.15	2.20	10.64
8	2.69	7.62	7.74	6.51	6.51	9.34	9.34	0.81	1.14	2.36	15.37
10	3.52	9.65	9.72	7.86	7.86	11.13	10.50	0.81	1.14	2.68	16.99
12	4.28	11.54	11.63	9.47	9.47	12.27	12.15	0.95	1.14	3.07	16.99

Size	G1	G2	ØC	ØH	N	ØU	P	ØQ	ØS	T	ØV
2	5.79	6.00	4.75	5/8"-11	4	3.54	0.55	2.76	0.35	0.43	0.55
2-1/2	5.79	6.00	5.49	5/8"-11	4	3.54	0.55	2.76	0.35	0.43	0.55
3	5.79	6.00	6.00	5/8"-11	4	3.54	0.55	2.76	0.35	0.43	0.55
4	5.79	6.00	7.50	5/8"-11	8	3.54	0.63	2.76	0.35	0.55	0.63
5	5.79	6.00	8.50	3/4"-10	8	3.54	0.63	2.76	0.35	0.55	0.71
6	5.79	6.00	9.51	3/4"-10	8	3.54	0.63	2.76	0.35	0.55	0.71
8	11.22	9.07	11.75	3/4"-10	8	3.54	0.67	2.76	0.35	0.67	0.87
10	11.22	9.07	14.25	7/8"-9	12	4.92	0.79	4.02	0.43	0.87	1.00
12	11.22	8.76	17.00	7/8"-9	12	4.92	0.79	4.02	0.43	0.87	1.10

DIMENSIONS (INCHES) SIZES 14"–24"

Size	A	B	ØD	H1	H2	G1	G2	L1	ØC	ØH
14	4.96	12.83	12.99	10.41	13.60	11.22	8.76	3.07	18.75	1"-8
16	5.45	14.82	14.92	11.75	13.76	11.22	8.76	4.02	21.25	1"-8
18	6.36	17.09	17.20	13.78	15.75	15.43	9.01	4.49	22.75	1-1/8"-7
20	7.15	19.13	19.29	14.96	17.32	15.43	10.66	5.00	25.00	1-1/8"-7
24	8.28	22.46	22.62	17.32	20.08	15.43	10.66	6.06	29.50	1-1/8"-7

Size	N	H3	ØU	P	ØQ	ØS	ØT	W1	W2	X
14	12	2.81	4.92	0.79	4.02	0.47	1.10	0.39	0.20	2.36
16	16	3.15	6.89	0.91	5.51	0.71	1.26	0.39	0.20	2.36
18	16	3.15	6.89	0.91	5.51	0.71	1.50	0.47	0.20	2.36
20	20	3.54	8.27	0.91	6.50	0.87	1.77	0.47	0.20	2.76
24	20	3.74	8.27	0.91	6.50	0.87	2.17	0.55	0.20	2.76

FIGURE 731 - 732

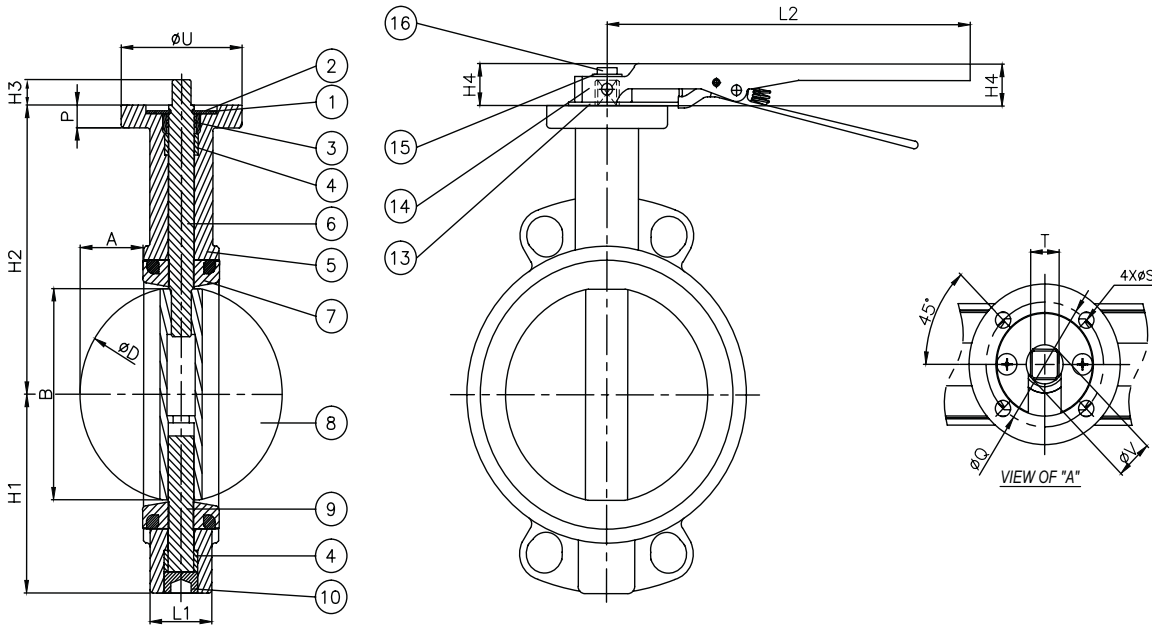
BUTTERFLY VALVE



RESILIENT-SEATED BUTTERFLY VALVE

731 WAFER AND 732 LUGGED – SIZES 2"–12" (ALSO AVAILABLE WITH GEAR)*

*Gear operator recommended above 8"



731 WAFER AND 732 LUGGED – SIZES 14"–24"

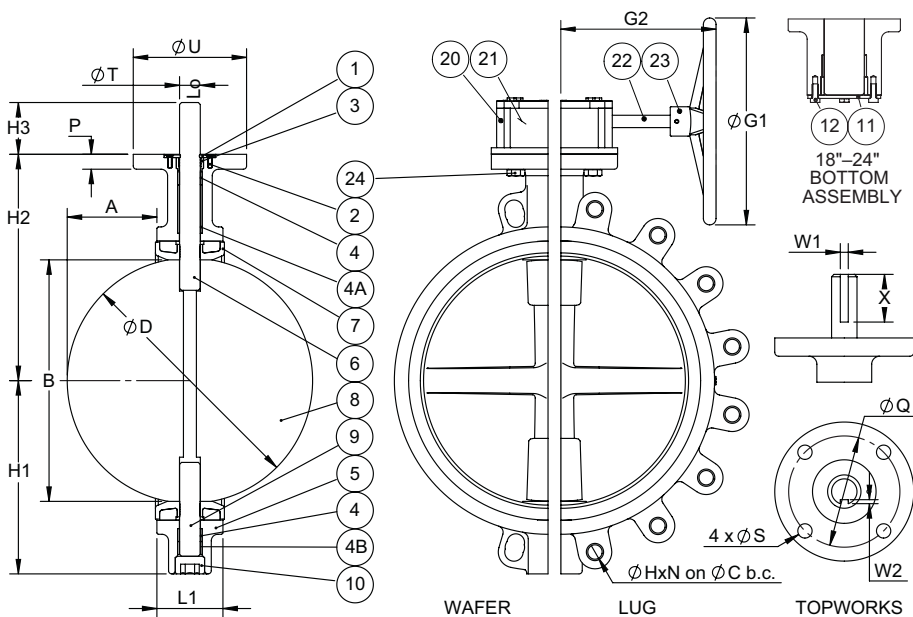


FIGURE 731 - 732

BUTTERFLY VALVE



RESILIENT-SEATED BUTTERFLY VALVE

PART MATERIALS AND QUANTITY

Ref #	Description	Material	Qty	Remarks
1	Retaining Plate	ASTM A283D-A36 STEEL	1	Galvanized
2	Retaining Plate Screw	ASTM A283D-A36 STEEL	2	Galvanized, Sizes 2"–14"
3	Ingress Stem Seal	SAME AS SEAT MATERIAL	3	Galvanized, Sizes 16"–24"
4	Stem Bushing	PTFE	1	—
4	Stem Bushing	PTFE	2	1 Upper, 1 Lower, Sizes 2"–3", 14"–24"
4A	Upper Hard Bushing	ASTM B584 C83600 BRONZE	4	2 Upper, 2 Lower, Sizes 4"–14"
4B	Lower Hard Bushing	ASTM B584 C83600 BRONZE	1	Sizes 14"–24"
5	Body	ASTM A126 CAST IRON ASTM A536 65-45-12 DUCTILE IRON	1	Fig 731, Sizes 2"–10" Fig 731, Sizes 12" and up, Fig 732 All
6	Upper Stem	ASTM A276 SUS 316 STAINLESS	1	—
7	Seat	EPDM or BUNA VITON	1	— Sizes 2"–12"
8	Disc	ASTM A351 CF8M, STAINLESS	1	—
9	Lower Stem	ASTM A276 SUS 316 STAINLESS	1	—
10	Plug	ASTM A283D-A36 STEEL	1	Sizes 2"–16"
11	Bottom Plate	ASTM A283D-A36 STEEL	1	Zinc Plated, Sizes 18"–24"
12	Bottom Plate Screw	ASTM A283D-A36 STEEL	4	Zinc Plated, Sizes 18"–24"
13	Lever Stop Plate	ASTM A283D-A36 STEEL	1	Nickel Plated, Sizes 2"–8"
14	Lever	ASTM A47 Gr 32510 MALLEABLE IRON	1	Sizes 2"–8"
15	Lever Washer	ASTM A283D-A36 STEEL	1	Zinc Plated, Sizes 2"–8"
16	Lever Bolt	ASTM A283D-A36 STEEL	1	Zinc Plated, Sizes 2"–8"
20	Gear Housing	ASTM A126 CAST IRON	1	Sizes 10"–24" Standard
21	Gear Drive	ASTM A536 65-45-12 DUCTILE IRON	1	Sizes 10"–24" Standard, Not Shown
22	Gear Input Shaft	STEEL	1	Nickel Plated, Sizes 10"–24"
23	Handwheel	ASTM A126 CAST IRON	1	Sizes 10"–24"
24	Gear Mounting bolt	ASTM A283D-A36 STEEL	4	Zinc Plated, Sizes 10"–24"

FIGURE NUMBER MATRIX

FNW 731/732			
BODY TYPE	SEAT	OPERATOR	SIZE (IN.)
Water = 731	EPDM = E	10 Position = Blank	2 = K 10 = 10
Lug = 732	Buna-N = B	Lever (2"–12")	2-1/2 = L 12 = 12
	Viton® = V	Gear Operator = G	3 = M 14 = 14
		(2"–24")	4 = P 16 = 16
			5 = S 18 = 18
			6 = U 20 = 20
			8 = X 24 = 24

REPLACEMENT SEATS

FNWB 731X		
KIT TYPE	SIZE (IN.)	
EPDM = E	2 = K	10 = 10
Buna-N = B	2-1/2 = L	12 = 12
	3 = M	14 = 14
	4 = P	16 = 16
	5 = S	18 = 18
	6 = U	20 = 20
	8 = X	24 = 24

ACCESSORY KIT CODES

FNW731	
SEAT	SIZE (IN.)
Handwheel = HW	2–6 = KU
	8–16 = X16
	18 = 18
	2–24 = 2024

Note: Order separately