Bray®

SERIES 30H/31H Wafer/Lug
50mm - 500mm (2"-20")
16 bar

HVAC BUTTERFLY VALVES

50mm-500mm (2"-20")
Bray Valve & Controls is proud to offer a line of superior quality, high pressure butterfly valves that meet today's industrial requirements. The Series 30H wafer type and Series 31H lug version are rated for 16 bar

FEATURES

• Wafer valve has flange location holes that meet ANSI Class 125/150, BS 10 Tables D and E, BS 4504 NP 10/16, DIN ND 10/16, AS 2129 and JIS 10. PN 16/ ANSI is the standard wafer drilling.
• Bi-directional and tested in accordance with BS 5155.
• The unique close tolerance, double "D" connection drives the valve disc. This design eliminates exposure of stem retention components, such as disc screws and taper pins, to the line media which commonly results in leak paths, corrosion, and vibration failures. Due to wear and corrosion, disc screws and taper pins often require difficult machining for disassembly. Disassembly of the Bray stem is just a matter of pulling the stem out of the disc.
• Disc casting is spherically machined and hand polished to provide a bubble tight shut-off, with minimum torque and an extended seat cycle life.
• Patented "Spirolox®" retaining ring and stem retaining C-rings provide blow-out proof stem.
• Unique "tongue and groove" seat design features lower torque and improved seat to body retention. The seat is specifically designed to seal with slip-on or weld-neck flanges. Seat totally encases the valve interior to isolate the line media from the body.
• Molded seat O-ring eliminates the use of flange gaskets for installation.
• Primary and secondary seals are interference fits between seat and disc hub, and stem and seat stem hole respectively.
• Non corrosive, heavy duty acetal bushing absorbs actuator side thrusts.
• Double "U" cup seal design is self-adjusting and gives positive sealing in both directions.
• Actuator mounting flange meets ISO 5211 and allows direct mounting of Bray power actuators and manual operators.

NYLON 11 DISC COATING

Nylon 11 coating is a thermoplastic produced from a vegetable base rather than a petroleum base. Nylon 11 offers excellent corrosion resistance to salt solutions and marine atmospheres. The material has been salt spray tested in excess of 2,000 hours and seawater immersion tested for over 10 years without corrosion to metal substrates. In summary, nylon coated ductile iron discs are an economical and superior alternative to aluminum bronze material for water applications and are superior even to 316SS for seawater applications. It has excellent abrasion resistance, impact resistance, and resistance to ultraviolet radiation. The low coefficient of friction of Nylon 11 increases valve cycle life and reduces seating/unseating torque. Nylon 11 is *USDA Approved*, inert to fungus growth and has high stain resistance.

The High Performance Company

SPECIFICATIONS

INSTALLATION AND MAINTENANCE Please refer to Bray Technical Bulletin 1071.

PRESSURE RATINGS
When valve is placed between the flanges for bi-directional bubble-tight shut off, disc in closed position:
50mm-500mm (2"-20") 16 bar

TEMPERATURE RANGE OF SEAT EPDM
Maximum: 120°C (+250°F)
Minimum: -40°C (-40°F)

VELOCITY LIMITS
For On/Off Services:
Fluids – 9m/sec (30 ft/sec)
Gases – 54m/sec (175 ft/sec)

MATERIALS SELECTION

BODY: Cast Iron, Ductile Iron
DISC: Ductile Iron, Nylon 11 coated Ductile Iron, Aluminum Bronze
STEM: 416 Stainless Steel
SEAT: EPDM

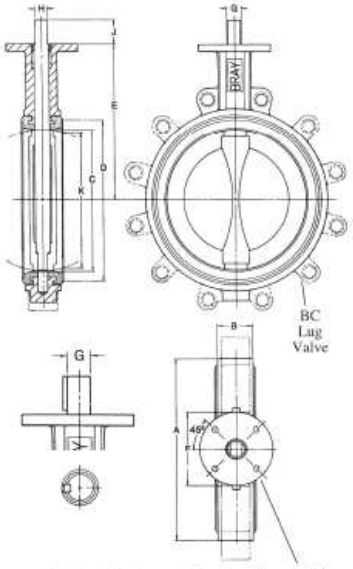
K_V VALUES–VALVE SIZING COEFFICIENT

Valve Size		Disc Position (degrees)								
mm	ins	90°	80°	70°	60°	50°	40°	30°	20°	10°
50	2	124	98	72	53	37	23	14	6	.9
65	2 1/2	243	192	140	92	58	37	21	10	1.3
80	3	397	313	230	132	83	53	30	13	1.7
100	4	723	603	427	236	147	94	53	23	2.6
125	5	1183	986	667	368	231	146	84	37	4.3
150	6	1591	1326	882	488	304	194	111	48	5.2
200	8	2852	2444	1601	876	585	362	207	88	10.3
250	10	4670	3892	2535	1471	925	574	329	139	16.3
300	12	6946	5789	3778	2204	1371	864	477	202	23.2
350	14	9063	7632	5108	2910	1848	1135	650	257	29.2
400	16	12011	10115	6766	3855	2448	1504	861	341	38.7
450	18	14804	12467	8656	4933	3133	1924	1102	436	49.9
500	20	19212	16178	10780	6144	3901	2326	1372	544	61.9

C_V is defined as the volume of water in U.S.G.P.M. that will flow through a given restriction or valve opening with a pressure drop of one (1) p.s.i. at room temperature. Recommended control angles are between 25°–70° open. Preferred angle for control valve sizing is 60°–65° open.

EXPECTED SEATING/UNSEATING TORQUES (Nm)

Full-Rated Pressure Valves Δ P (Bar)				
3.5	7	10	12	17
14	15	15	16	17
22	23	24	25	26
29	31	33	34	36
45	48	51	53	56
69	76	82	85	92
91	103	113	118	129
167	186	206	216	236
253	285	316	332	364
386	437	488	514	565
559	644	729	814	899
723	870	1017	1164	1311
893	1119	1345	1571	1797
1164	1458	1752	2046	2340



See chart for Actuator Mounting Flange Drilling.

DIMENSIONS Series 30H Wafer

Valve Size		A	B	C	D	E	F	Mounting Flange Drlg.			G	H	J	K
mm	ins							BC	No. Holes	Hole Dia.				
50	2	94	43	51	72	140	90	70	4	9.5	14	10	32	33
65	2 1/2	106	46	64	85	152	90	70	4	9.5	14	10	32	49
80	3	124	46	76	102	159	90	70	4	9.5	14	10	32	65
100	4	154	52	102	131	178	90	70	4	9.5	16	11	32	91
125	5	181	56	127	156	190	90	70	4	9.5	19	13	32	118
150	6	206	56	146	178	203	90	70	4	9.5	19	13	32	138
200	8	267	60	197	241	241	150	125	4	14	22	16	32	189
250	10	324	68	248	291	273	150	125	4	14	30	22	50	242
300	12	378	78	298	342	311	150	125	4	14	30	22	50	291

Valve Size		A	B	C	D	E	F	Mounting Flange Drlg.			G	J	KEY SIZE	K
mm	ins							BC	No. Holes	Hole Dia.				
350	14	430	78	337	388	346	150	125	4	14	35	51	10x10	331
400	16	484	102	387	442	375	150	125	4	14	35	51	10x10	377
450	18	537	108	438	495	406	210	165	4	21	50	64	10x12	428
500	20	591	127	489	548	438	210	165	4	21	50	64	10x12	475

Series 31H Lug

Lug Bolting Data		
PCD	No. Holes	ISO Coarse Threads
125	4	M16
145	4	M16
160	8	M16
180	8	M16
210	8	M16
240	8	M20
295	8	M20
350	12	M20
400	12	M20

Lug Bolting Data		
PCD	No. Holes	ISO Coarse Threads
460	16	M20
515	16	M24
565	20	M24
620	20	M24

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