

## V110 (Wafer) / V112 (Lug) Series High Performance Butterfly Valves

PROVAL V110 Series PTFE seated high performance valves are of double eccentric design and are widely used in chemical, petrochemical, power, steel plants and common industrial applications as well as Shipbuilding industries.

PROVAL V110 Series high performance valves are available from DN50 to DN1200 sizes in wafer, full lug and flanged construction. Double eccentric design ensures 100% leak free operation, longer life cycle on sealing and seat materials and provides lower operating torques and low-cost actuation even at higher pressure applications.

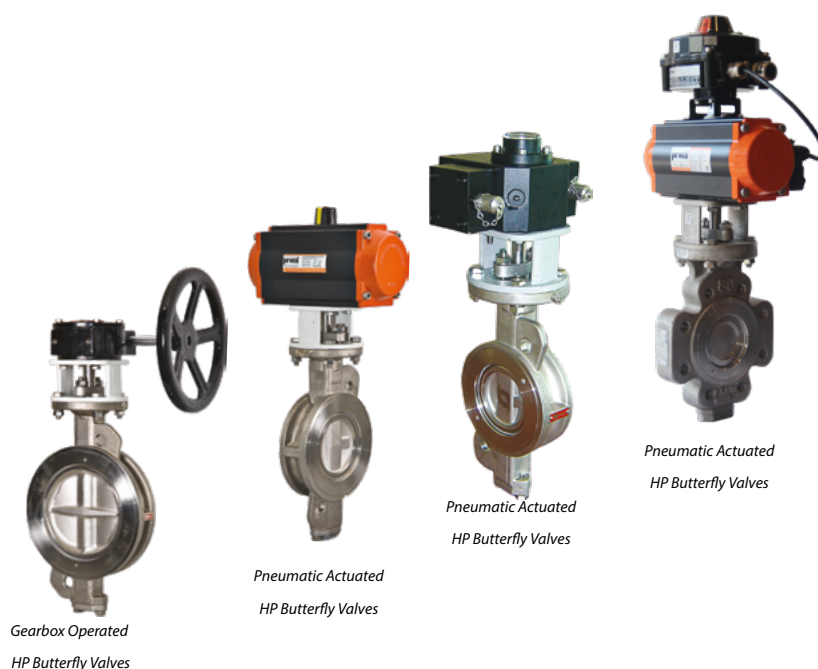


V110 Series valves can be supplied with hand levers and gear boxes as manual valves and with pneumatic, electric or hydraulic actuators

Proval V110 Series valves are Bureau Veritas design approved and can be inspected in accordance with 3.2.C for use in shipbuilding industry.

### Applicable Standards

Design Standards	ISO5752
	API 609
Flange Standards	EN1092-1
	ANSI B 16.15 Class 150 / 300
Top Flange Standard	ISO 5211
Leakage Test Standard	EN 12266/1-2
	ISO 5208
	API 598
	ANSI B16-104 Class IV
Pressure Class	Max 40 Bar (PN)
	Max Class 300 (ANSI)
Fire-Safe Standard	API607



### V110 Series High Performance Valves Kv Flow Coefficient Values (m3/h)

Size (DN)	Valve Opening Angle								
	10°	20°	30°	40°	50°	60°	70°	80°	90°
50	0,9	9,4	23,1	34,1	51,2	70,8	90,4	113,4	119,4
65	0,9	9,4	23,1	34,1	51,2	70,8	90,4	113,4	119,4
80	1,7	17,1	42,6	62,3	93,8	131,4	170,6	213,2	221,8
100	3,4	27,3	68,2	102,4	153,5	213,2	272,9	341,2	358,3
125	5,9	46,9	119,4	170,6	255,9	366,8	469,2	580,1	614,2
150	9,4	76,8	196,2	290,1	435,1	605,6	776,2	972,4	1023,6
200	17,1	127,9	332,6	477,6	725,1	1015,1	1296,6	1620,7	1706
250	25,6	204,7	511,8	742,1	1117,4	1569,5	2013,1	2507,8	2644,3
300	34,1	307,1	784,8	1134,5	1706	2388,4	3070,8	3838,5	4051,8
350	46,9	383,8	963,9	1398,9	2132,5	2985,5	3838,5	4691,5	4990,1
400	63,9	554,4	1364,8	1961,9	2985,5	4179,7	5373,9	6696,1	7079,9
450	81,1	682,4	1706	2473,7	3753,2	5203,3	6738,7	8444,7	8871,2
500	106,6	853	2303,1	3326,7	5032,7	6994,6	8956,5	11089	11771,4
600	170,6	1450	3753,2	5373,9	8103,5	11344,9	14501	18168,9	19192,5

### V110 Series Torque Values (Nm)

DN (mm)	PTFE Seat		PTFE + INCONEL		INCONEL	
	PN10	PN16	PN10	PN16	PN10	PN16
50	10	15	39	59	69	89
65	10	20	49	69	79	99
80	20	30	69	79	89	118
100	39	49	79	99	118	158
125	64	89	158	167	138	167
150	94	118	227	266	167	177
200	148	182	296	355	296	335
250	246	296	345	414	325	355
300	394	493	552	690	502	591
350	788	985	837	995	847	995
400	985	1182	1034	1212	1024	1251
450	1231	1478	1241	1428	1202	1507
500	1478	1724	1576	1970	1576	1970
600	3103	3743	1822	2463	1822	2463

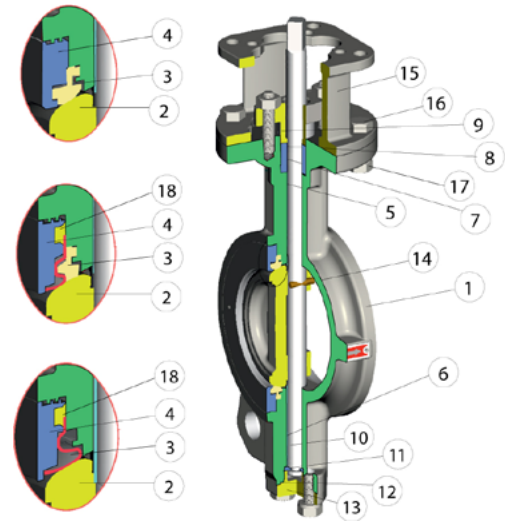


## V110 Series Wafer / V112 Series Lug Type Double Eccentric High Performance Valves

**PTFE Seat Valves:** PTFE/RTFE Seat high performance valves can be used between -30°C to 210°C temperatures and available in PN16/25/40 bar pressure ranges.

**PTFE/Metal Seat Valves:** PTFE/RTFE Seat high performance valves can be used between -30°C to 210°C temperatures and available in PN16/25/40 bar pressure ranges. For over temperatures than 210°C PTFE melts out and than valves are becoming metal/metal seat type.

**Metal/Metal Seat Valves:** Metal/Metal seat valves are used in higher temperature applications over than 210°C, up to max 650°C temperature conditions and available in PN16/25/40 bar pressure ranges.



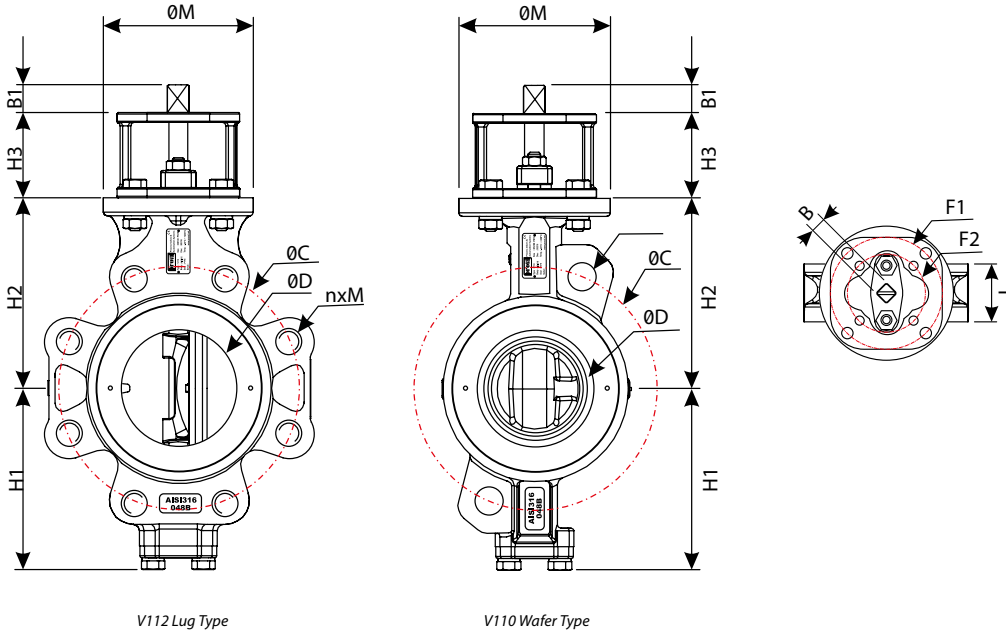
### Material List

No	Part Name	V110 Standard PTFE Seat HP Butterfly Valves	V110 Fire-Safe Type HP Butterfly Valves	V110 Metal/Metal Seat HP Butterfly Valves
1	Body	A216 WCB Carbon Steel	A216 WCB Carbon Steel	A216 WCB Carbon Steel
		AISI304 Stainless Steel	AISI304 Stainless Steel	AISI304 Stainless Steel
		AISI316 Stainless Steel	AISI316 Stainless Steel	AISI316 Stainless Steel
		AISI317 Stainless Steel	AISI317 Stainless Steel	AISI317 Stainless Steel
2	Disc	AISI304 Stainless Steel	AISI304 Stainless Steel	AISI304 Stainless Steel
		AISI316 Stainless Steel	AISI316 Stainless Steel	AISI316 Stainless Steel
		AISI317 Stainless Steel	AISI317 Stainless Steel	AISI317 Stainless Steel
3	Seat	PTFE	AISI316 + PTFE	AISI316 Stainless Steel
		PTFE + %15 Glassfiber	AISI316 + PTFE + %15 Glassfiber	
		PTFE + %15 Graphite	AISI316 + PTFE + %15 Graphite	
4	Retainer	AISI316 Stainless Steel	AISI316 Stainless Steel	AISI316 Stainless Steel
5	Bushing	PTFE+AISI316	PTFE+AISI316	AISI316 Stainless Steel
6	Bushing	PTFE+AISI316	PTFE+AISI316	AISI316 Stainless Steel
7	Packing Ring	PTFE	Graphite	Graphite
		PTFE+%15 Glassfiber		
8	Stud	AISI304 Stainless Steel	AISI304 Stainless Steel	AISI304 Stainless Steel
9	Gland	AISI304 Stainless Steel	AISI304 Stainless Steel	AISI304 Stainless Steel
10	Stem	AISI316 Stainless Steel	AISI316 Stainless Steel	AISI316 Stainless Steel
11	Thrust Ring	AISI316 Stainless Steel	AISI316 Stainless Steel	AISI316 Stainless Steel
12	Seat	PTFE	Graphite	Graphite
13	Bottom Cap	A216 WCB Carbon Steel	A216 WCB Carbon Steel	A216 WCB Carbon Steel
		AISI304 Stainless Steel	AISI304 Stainless Steel	AISI304 Stainless Steel
		AISI316 Stainless Steel	AISI316 Stainless Steel	AISI316 Stainless Steel
		AISI317 Stainless Steel	AISI317 Stainless Steel	AISI317 Stainless Steel
14	Pin	AISI316 Stainless Steel	AISI316 Stainless Steel	AISI316 Stainless Steel
15	Yoke	A216 WCB Carbon Steel	A216 WCB Carbon Steel	A216 WCB Carbon Steel
		Stainless Steel	Stainless Steel	Stainless Steel
16	Bolt	Stainless Steel	Stainless Steel	Stainless Steel
17	Nut	Stainless Steel	Stainless Steel	Stainless Steel
18	Packing	-	Graphite	Graphite



V110 Series Gearbox Op. HP Wafer Type Butterfly Valve

## V110 Series Wafer / V112 Series Lug Type Double Eccentric High Performance Valves



V112 Series Pneumatic Actuator Op. HP Lug  
Type Butterfly Valve



V110 Series Electric Actuator Op. HP Wafer  
Type Butterfly Valve

### Dimensions(mm)

Size (DN)	L	H1	H2	H3	ØD	ØC			nxM			ISO5211 Top Flange			B	B1	Weight (kg)	
						PN10	PN16	#150	PN10	PN16	#150	F1	F2	ØM			Wafer	Lug
						50	43	99	118	60	37	125	125	120.7			4xM12	4xM12
65	46	110	125	60	63	145	145	139.7	4xM12	4xM12	4x1/2"	F07	F05	70	11	18	4,5	5,5
80	47	128	140	70	78	160	160	152.4	4xM12	4xM12	4x1/2"	F10	F07	102	14	23	7	8,5
100	53	150	157	70	95	180	180	190.5	4xM16	4xM16	4x1/2"	F10	F07	102	14	23	9	14
125	56	163	170	70	118	210	210	215.9	4xM16	4xM16	4x1/2"	F10	F07	102	17	23	12	18
150	56	176	185	70	143	240	240	241.3	4xM16	4xM16	4x5/8"	F10	F07	102	17	23	13,5	19,5
200	60	206	220	80	188	295	295	298.5	4xM16	4xM16	4x5/8"	F12	F10	125	19	28	22	31
250	68	238	260	80	236	350	355	362	8xM16	8xM16	4x5/8"	F12	F10	125	22	28	32	47
300	78	269	290	100	282	400	410	431.8	8xM16	8xM16	8x5/8"	F14	F12	160	27	37	48	67
350	78/92	306	326	100	322	460	470	476.3	8xM16	8xM16	8x3/4"	F14	F12	160	27	37	66	81
400	102	342	370	120	371	515	525	539.8	8xM20	8xM20	8x3/4"	F16	F14	195	36	47	107	143
450	114	370	395	120	418	565	585	577.9	8xM20	12xM20	8x3/4"	F16	F14	195	36	47	130	163
500	127	399	430	120	466	620	650	635	12xM20	12xM24	12x7/8"	F16	F14	195	46	56	163	230
600	154	455	490	150	570	725	770	749.3	12xM20	12xM24	12x7/8"	F25	F16	300	46	56	278	377