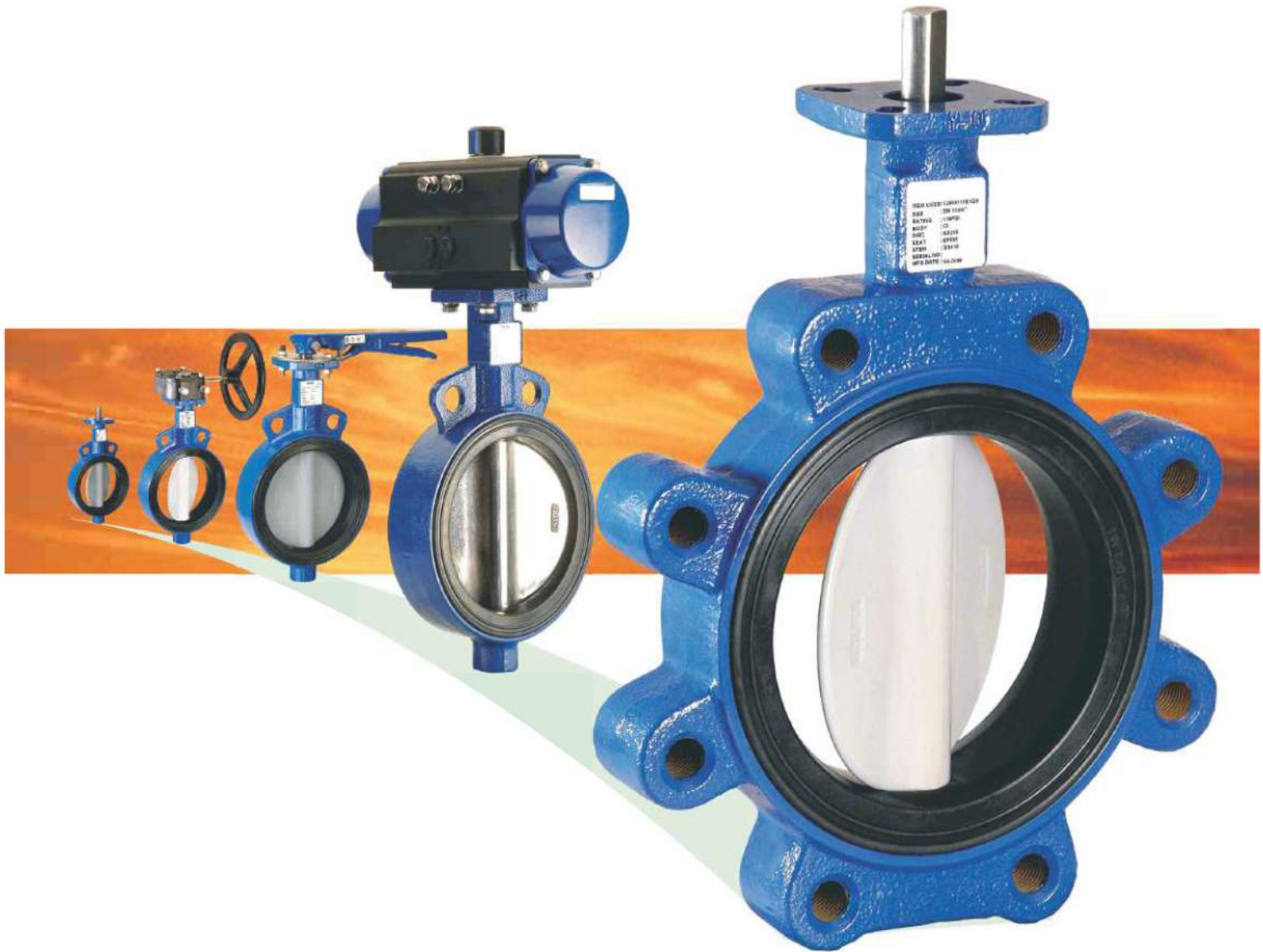


INCOVAL SERIES 150/152

Resilient Seated Butterfly Valves

Wafer & Lug

Sizes 2"-24" / DN 50 - DN 600

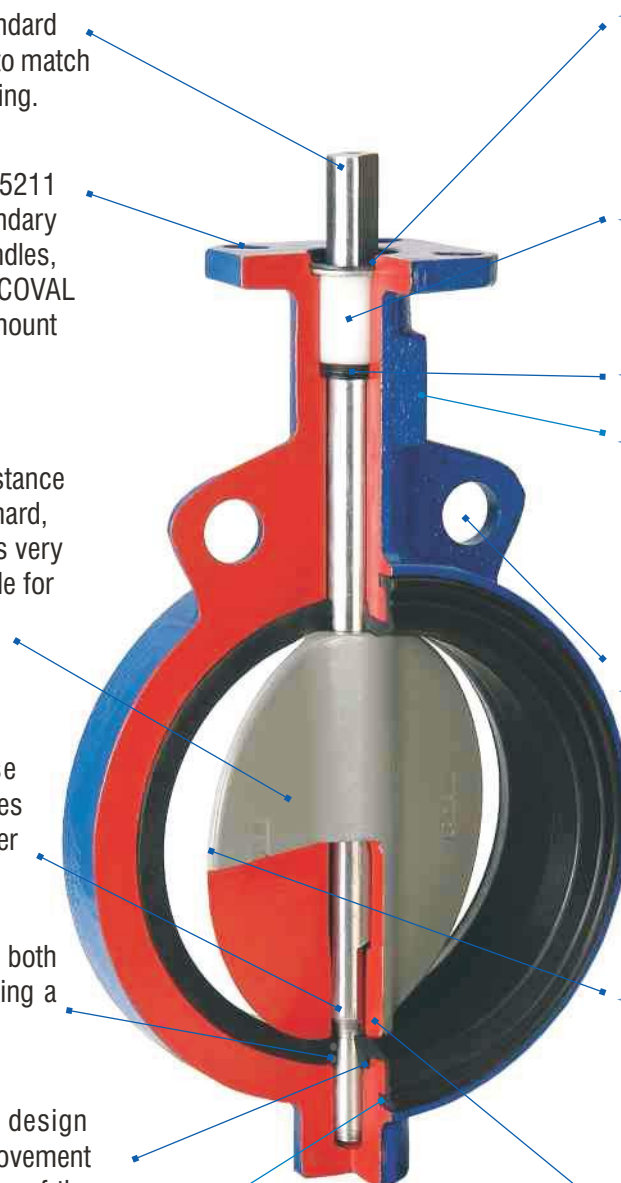


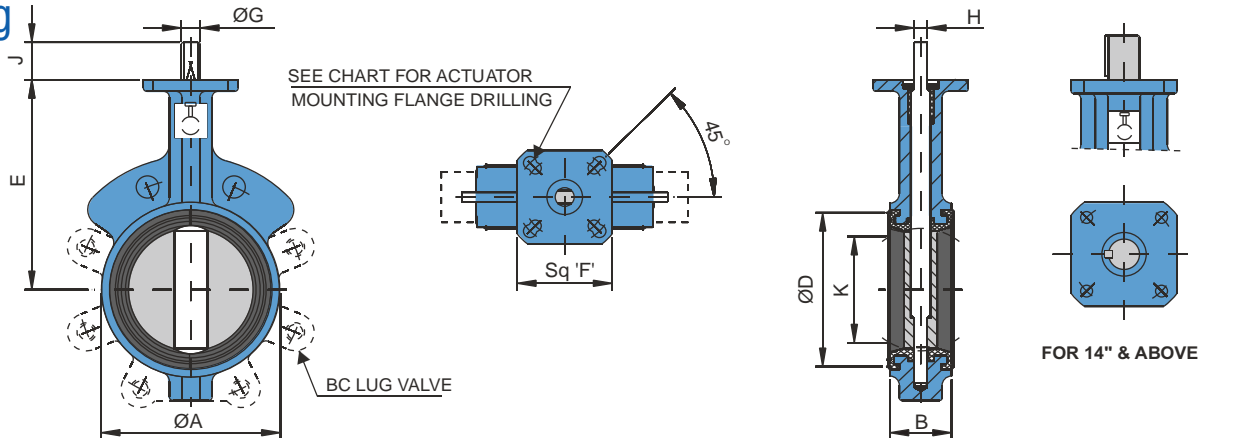
Leading the Industry with Innovation by Design

INCOVAL Controls is pleased to offer top-of-the-line products in pipeline flow control. The INCOVAL Series 150 (wafer) and Series 152 (lug) Butterfly Valves have been developed with extensive application, design and manufacturing expertise. These products are produced by employing modern manufacturing practices under a robust quality assurance system. These practices ensure consistent product quality and dependable performance. The INCOVAL Series 150/152 Butterfly Valves have been designed to include state-of-the-art features that are described in this bulletin.

Features

- + Stem connection available in standard INCOVAL sizes or optional sizes to match standard secondary top plate drilling.
- + Top plate double drilled to fit ISO 5211 dimensions and standard secondary bolt circle dimensions. All handles, gear operators and pneumatic INCOVAL actuators are designed to mount directly to INCOVAL Valves.
- + Nylon PA 12 coated disc option ensures excellent corrosion resistance to several chemical media. The hard, non-porous sintered polymer has very low hygroscopicity and is suitable for use in drinking water and non-alcoholic foodstuffs.
- + One piece stem with close tolerance double D drive eliminates the need for disc screws or taper pins.
- + Double O-rings are molded in both upper and lower journals providing a superior secondary seal.
- + Unique "Center-Lock" seat design virtually eliminates any seat movement during the seating and un-seating of the disc.
- + Heavy duty square-grooved seat design with molded O-ring seals to serve as flange gaskets. EPDM and Buna-N seats are peroxide cured to yield the best elastic properties of the elastomer.
- + Unique stem retention system to provide blow-out proof stem and easy assembly and disassembly of valve.
- + Heavy duty acetal bushing absorbs the forces acting on the stem/disc assembly due to line pressure.
- + Bi-directional 'U' cup stem seal.
- + Heavy duty one-piece body with extended neck for 2" piping insulation. Standard coating is two coats of hard, Zinc-rich epoxy for excellent corrosion resistance.
- + Two flange locating holes for sizes up to 12" and four flange locating holes from size 14" to 24" for easy alignment of valve during installation. They meet ANSI #125 /150 or other world drilling standards.
- + High strength disc with hand polished disc edge and hubs.
- + Precision machined radius on the upper and lower disc hubs is pressed against upper and lower seat sealing faces for achieving primary sealing between disc and seat.
- + "Center-Lock" seat design





DIMENSIONS (Inches)

Valve Size		ØA	*B	ØD	E	Sq'F'	Top Plate Drilling			ØG	H	J	Key Size	K	Lug Bolting Data			Weight in Lbs.	
Inches	DN						BC	No. of Holes	Hole Dia						BC	No. of Holes	Threads UNC-2B	Wafer (Series 150)	Lug (Series 152)
2	50	3.46	1.69	2.99	5.51	3.15	2.76 / 3.25	4	0.39/0.438	0.55	0.39	1.25	---	1.35	4.75	4	5/8-11	5.50	7.70
2 ½	65	4.02	1.81	3.54	5.98	3.15	2.76 / 3.25	4	0.39/0.438	0.55	0.39	1.25	---	2.08	5.50	4	5/8-11	6.38	8.36
3	80	4.72	1.81	4.17	6.30	3.15	2.76 / 3.25	4	0.39/0.438	0.55	0.39	1.25	---	2.72	6.00	4	5/8-11	7.70	9.24
4	100	5.91	2.06	5.20	7.09	3.15	2.76 / 3.25	4	0.39/0.438	0.63	0.43	1.25	---	3.59	7.50	8	5/8-11	12.32	17.60
5	125	6.89	2.19	6.30	7.56	3.15	2.76 / 3.25	4	0.39/0.438	0.75	0.51	1.25	---	4.62	8.50	8	3/4-10	14.08	21.56
6	150	7.87	2.19	7.36	8.07	3.15	2.76 / 3.25	4	0.39/0.438	0.75	0.51	1.25	---	5.50	9.50	8	3/4-10	15.84	24.86
8	200	10.04	2.38	9.45	9.49	4.72	4.92 / 5.00	4	0.55/0.563	0.87	0.63	1.25	---	7.39	11.75	8	3/4-10	31.68	40.48
10	250	12.21	2.69	11.50	10.75	4.72	4.92 / 5.00	4	0.55/0.563	1.18	0.87	2.00	---	9.31	14.25	12	7/8-9	47.30	62.70
12	300	14.17	3.06	13.58	12.24	4.72	4.92 / 5.00	4	0.55/0.563	1.18	0.87	2.00	---	11.12	17.00	12	7/8-9	67.10	91.30
14	350	16.34	3.06	15.28	13.62	4.72	4.92 / 5.00	4	0.55/0.563	1.38	---	2.00	0.39x0.39	12.96	18.75	12	1-8	103.40	124.30
16	400	18.58	4.00	17.40	14.76	4.72	4.92	4	0.55	1.38	---	2.00	0.39x0.39	14.81	21.25	16	1-8	147.40	201.30
18	450	20.67	4.50	19.49	15.98	6.70	6.50	4	0.83	1.97	---	2.50	0.39x0.47	16.59	22.75	16	11/8-7	206.80	242.00
20	500	22.83	5.00	21.57	17.24	6.70	6.50	4	0.83	1.97	---	2.50	0.39x0.47	18.65	25.00	20	11/8-7	271.00	325.60
24	600	27.24	6.06	25.75	19.49	6.70	6.50	4	0.83	2.50	---	4.00	0.62x0.62	22.53	29.50	20	11/4-7	430.00	513.80

DIMENSIONS (mm)

Valve Size		ØA	*B	ØD	E	Sq'F'	Top Plate Drilling			ØG	H	J	Key Size	K	Lug Bolting Data			Weight in Kg.	
Inches	DN						BC	No. of Holes	Hole Dia						BC	No. of Holes	Threads UNC-2B	Wafer (Series 150)	Lug (Series 152)
2	50	88	43	76	140	80	70/82.5	4	10/11	14	10	32	---	34.3	120.7	4	5/8-11	2.5	3.5
2 ½	65	102	46	90	152	80	70/82.5	4	10/11	14	10	32	---	52.8	139.7	4	5/8-11	2.9	3.8
3	80	120	46	106	160	80	70/82.5	4	10/11	14	10	32	---	69.1	152.4	4	5/8-11	3.5	4.2
4	100	150	52	132	180	80	70/82.5	4	10/11	16	11	32	---	91.2	190.5	8	5/8-11	5.6	8.0
5	125	175	56	160	192	80	70/82.5	4	10/11	19	13	32	---	117.3	215.9	8	3/4-10	6.4	9.8
6	150	200	56	187	205	80	70/82.5	4	10/11	19	13	32	---	139.7	241.3	8	3/4-10	7.2	11.3
8	200	255	60	240	241	120	125/127	4	14/14.3	22	16	32	---	187.6	298.5	8	3/4-10	14.4	18.4
10	250	310	68	292	273	120	125/127	4	14/14.3	30	22	51	---	236.4	362.0	12	7/8-10	21.5	28.5
12	300	360	78	345	311	120	125/127	4	14/14.3	30	22	51	---	282.4	431.8	12	7/8-10	30.5	41.5
14	350	415	78	388	346	120	125/127	4	14/14.3	35	---	51	10x10	329.2	476.2	12	1-8	47	56.5
16	400	472	102	442	375	120	125	4	14	35	---	51	10x10	376.2	539.7	16	1-8	67	91.5
18	450	525	114	495	406	170	165	4	21	50	---	64	10x12	421.5	577.8	16	1 1/8-7	94	110
20	500	580	127	548	438	170	165	4	21	50	---	64	10x12	473.8	635.0	20	1 1/8-7	123	148
24	600	692	154	654	495	170	165	4	21	63.5	---	102	15.88x15.88	572.3	749.3	20	1 1/4-7	195	233

* Face to Face dimension "B", generally conforming to API 609/BS EN 558-1 / ISO 5752

TORQUE (Lb.-Inches)

Valve Size		2"	2.5"	3"	4"	5"	6"	8"	10"	12"	14"	16"	18"	20"	24"
Full Rated Pressure Valve Δ P, PSI	50	89	133	177	283	381	566	1098	1761	2629	3806	4912	6036	7930	12001
	100	97	159	204	301	416	637	1221	1983	2974	4381	5904	7576	9931	15603
	150	102	164	212	319	451	681	1354	2195	3319	4957	6904	9117	11922	19470
	175	106	168	221	328	469	726	1416	2301	3496	---	---	---	---	---
Reduced Disc Dia. Δ P, PSI	50	89	133	177	186	283	372	752	1151	1761	2540	3284	4054	5284	7611

TORQUE (Nm)

Full Rated Pressure Valve ΔP, Bar	3.5	10	15	20	32	43	64	124	199	297	430	555	682	896	1356
	7	11	18	23	34	47	72	138	224	336	495	667	856	1122	1763
	10	11.5	18.5	24	36	51	77	153	248	375	560	780	1030	1347	2200
	12	12	19	25	37	53	82	160	260	395	---	---	---	---	---
Reduced Disc Dia. ΔP, Bar	3.5	10	15	20	21	32	42	85	130	199	287	371	458	597	860

Material of Construction

Body

- ❖ Cast Iron ASTM A126 Class B
- ❖ Ductile Iron ASTM A536 Grade 65-45-12
- ❖ Carbon steel ASTM A 216 WCB

Disc

- ❖ Nylon 12 Coated Ductile Iron ASTM A536 Grade 65-45-12
- ❖ DI ASTM A 536 Grade 65-45-12 + Aroxy coated
- ❖ 316 Stainless Steel ASTM A351 Grade CF8M

Stem

- ❖ 410 Stainless Steel ASTM A479 Type 410
- ❖ 316 Stainless Steel ASTM A276 Type 316
- ❖ Carbon steel BS 970
- ❖ ASTM A564 17-4-PH TYPE 630

Seat

- ❖ EPDM - Food Grade
- ❖ Buna-N - Food Grade
- ❖ White Buna-N - Food Grade
- ❖ Viton® / FKM - Food Grade
- ❖ Silicone

General Design and Manufacturing

Standard: API 609 / BS EN -593

Testing Standard: API 598 / BS EN 12266-1

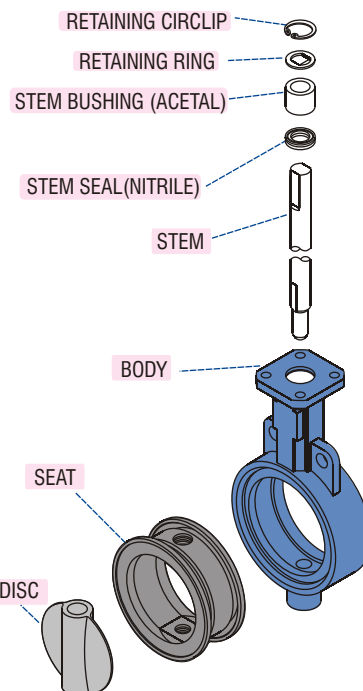
Pressure Rating:

For bi-directional bubble tight shut off and full vacuum service with disc in the closed position.

Inch	DN	PSIG	BARG
2" - 12"	50-300	175	12
2" - 24"	50-600	150	10
2" - 24"	50-600	50	3.5

*Optional, contact factory for details.

Dead-End Service : Without a downstream flange installed, the dead-end pressure ratings are equal to the values stated above.



Seat Temperature Range:

Seat Type	Temperature Range	
	Min.	Max.
EPDM	-13° F (-25°C)	302° F (150°C)
BUNA-N	-13° F (-25°C)	212° F (100°C)
White BUNA-N	-13° F (-25°C)	212° F (100°C)
Viton® / FKM	23° F (-5°C)	392° F (200°C)
Silicone	-58° F (-50°C)	356° F (180°C)

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Operators



Valves up to size 12" can be supplied with lever handles for manual operation. Optional accessories for hand-lever operation can be provided for various flow control requirements. Pad locking can also be provided for preventing unauthorized operation.



Valves up to size 24" can be direct mounted with gear operators for manual operation. Gear operators can also be attached with chain-wheel operators for opening or closing valves located on pipelines at high elevations.



All valves can be direct mounted with pneumatic actuators or electric actuators and accessories for complete automation options such as fail open/close & positioner controlled. Valves can be mounted with manual overrides.

All statements, technical information and recommendations in the bulletin are for general use only. INCOVAL is not responsible for suitability or compatibility of these products in relation to system requirements. Consult INCOVAL distributors or factory for the specific requirements and material selection for your intended application. INCOVAL reserves the right to change or modify product design or product without prior notice.

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