

2/2 Way Pilot Operated Diaphragm Type**"ISD" Solenoid Valve****For Air / Water / Gas / Oil / Chemical**

BHI offers HIGH FLOW Diaphragm type solenoid valves, are specially engineered in the construction of Investment Cast CF8 / CF8M / CF3M body with Electro plating for multiple and long lasting operations.

Types :

1. Normally close - Engrised to Open 2. Normally Open - Energised to Close

Application : Air, Water, Light Oil, Gas, Light Chemical

Size Range : 1/4" To 6" Screwed / Flanged / Triclover

BHI solenoid valves are the best for the inflammable media / environment. The Flameproof / Explosion proof solenoid coils are available in such application.

Technical Specifications :

Body & Cover	ASTM A351 Gr. CF8 / CF8M / CF3M
Seals / Diaphragm	Nitrile / Neoprene (optional - silicon, viton & other)
Pressure Range	0.5 to 10 bar
Temperature Range	-5° C to 85° C (On Request upto 95° C)
Coil Voltage	12V, 24V, 48V, 110V, 230V, AC/DC
Coil Insulation	'F' Class
Coil Rating	Continuous Rated

Applications :

Textile Processing Machinery, Chemical Plants, Water Treatment, Sugar Machinery, Cement Machinery, Pumps, Irrigation, Combustion Equipment, Heat Exchanger, Air Dryer, Pollution Controls, Laundry Equipments and where dependable ON/OFF type control is required.

Solenoid Coil

(for General)



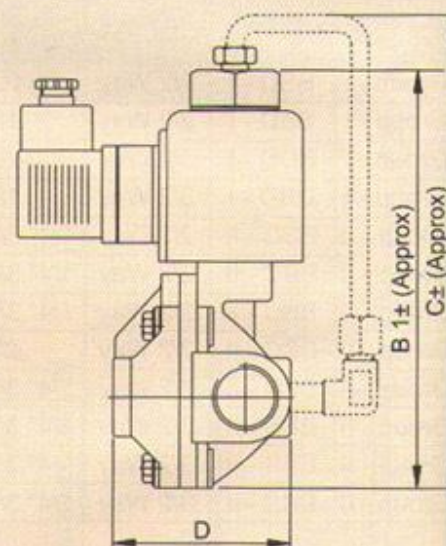
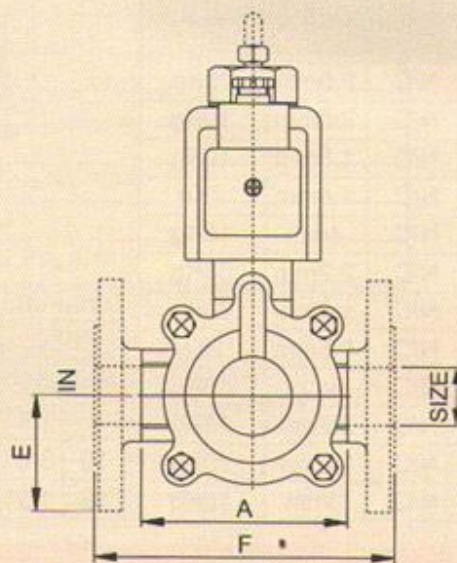
IP - 65 & IS:2147

(for Weather Proof)



Explosion & flame proof solenoid available on request.

(As per IS : 2148 Standard approved by Central Mining Research Institute - CMRI)

**Dimensions :**

(All Dimensions are in mm)

Valve Model	Valve Size		Flow Factor Kv m ³ /hr	A Screwed	F Flanged	B (Approx)	C (Approx)	D	E	Weight (Approx)	
	MM	Inch								S/E	F/E
ISD - 6	6	1/4"	2.5	65	130	122	170	53	-	0.825	1.500
ISD - 10	10	3/8"	2.5	65	130	122	170	53	-	0.800	1.450
ISD - 15	15	1/2"	3.5	65	130	122	170	53	44.5	0.760	1.400
ISD - 20	20	3/4"	5.0	80	150	130	180	74	49.5	1.100	1.880
ISD - 25	25	1"	11.0	95	160	148	200	75	54	1.500	2.270
ISD - 32	32	1.1/4"	13.0	121.5	180	159	212	105	58.5	2.340	6.160
ISD - 40	40	1.1/2"	20.0	121.5	200	159	212	105	63.5	2.250	6.160
ISD - 50	50	2"	38.0	140	230	177	225	120	76.5	3.350	6.500
ISD - 65	65	2.1/2"	67.6	172	290	198	230	140	89	4.030	9.350
ISD - 80	80	3"	97.6	195	310	235	260	160	95	5.970	12.200
ISD - 100	100	4"	-	300	350	280	318	160	114	13.500	22.850
ISD - 150	150	6"	-	344	482.5	-	-	-	-	30.300	50.100

BHI offers ISO 5211 Standard Pneumatic Actuator Operated Investment Casting WCB / CF8 / CF8M / Ball Valve in Three Piece design. engineered for multiple ON/OFF operations in the down stream.

Size Range : 1/2" to 14" Screwed / Flanged / Triclover / Socket weld

Actuator**Technical Specifications :**

Type	Rack and Pinion Type
Actuation	Double Acting / Single Acting (Spring Return)
Mounting Std.	ISO 5211 An International Standard
Pneumatic Connections	NAMUR Standard

For more details please refer Catalogue APL/1001

Ball Valve**Technical Specifications :**

Body	ASTM A216 Gr. WCB / ASTM A351 Gr. CF8 / CF8M
Ball	ASTM A351 Gr. CF8 / CF8M
Stem	Stainless Steel AISI 304 / AISI 316 / AISI 410
Gland	Stainless Steel AISI 304 / AISI 316 / M.S.
Seat Packing	PTFE (Gland Filled, Carbon Filled, Teflon - Optional in case of high Temperature)
End Connection	Screwed to - BSP / NPT / Socket Weld Ends to ANSI B 16.11 Flanged to - ANSI B 16.5 Class 150 / 300 Table - D,E,F, (On Request) Triclover Ends - (On Request) Socket Weld - (On Request)



Item	Type of Test	Testing Pressure	Working Pressure	Operating Temperature (High Temp. On Request)
Actuator	Pneumatic Bubble Test	180 PSIG	45 To 150 PSIG	-20 °C to 80 °C
Valve Body Screwed End	Hydraulic	450 PSIG	315 PSIG	Max. 180 °C
Valve Body Flanged 150#	Hydraulic	450 PSIG	315 PSIG	Max. 180 °C
Valve Body Flanged 300#	Hydraulic	1125 PSIG	815 PSIG	Max. 180 °C

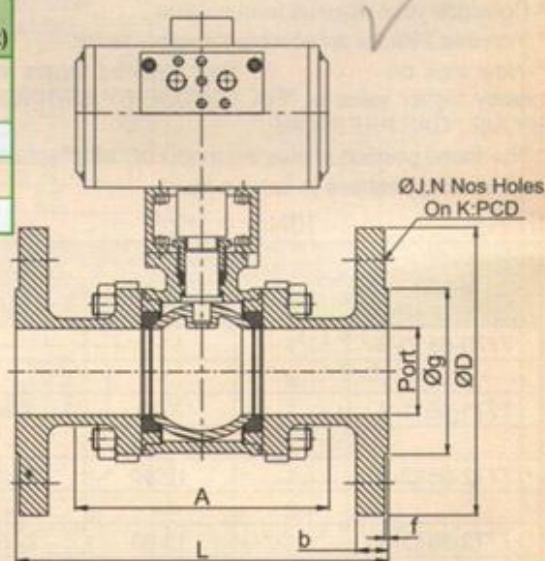
Note:- Fire Safe Design Available on Request

Accessories :

- On / OFF Indicator
- NAMUR Standard Solenoid Valve in all Standard Coil Voltage (Flame Proof Solenoid Coil - on request)
- I/P Transducer (Converter)
- Pneumatic valve positioner
- Electro-Pneumatic valve positioner
- Declutchable Manual Over - ride
- Limit Switches for On / Off Indication at Panel board
- Filter + Regulator Combination with Pressure Gauge
- Air Lock Valve

Dimensions :

Valve Model	Valve Size		Screwed		Flanged 150#										Flanged 300#									
	MM	Inch	A	Weight	L	b	f	Port	Øg	ØD	ØJ	N	K:PCD	Weight	L	b	f	Port	Øg	ØD	ØJ	N	K:PCD	
BMW - 15	15	1/2"	68	1.160	107.95	9.65	1.6	12.5	35.05	88.9	15.75	4	60.45	1.960	139.7	14.22	1.6	12.5	35.05	98.25	15.75	4	66.55	
BMW - 20	20	3/4"	72	1.620	117.35	10.41	1.6	17	42.95	98.56	15.75	4	69.85	2.720	152.4	15.75	1.6	17	42.95	117.35	19.05	4	82.55	
BMW - 25	25	1"	84	1.920	127.0	11.17	1.6	24	50.8	107.9	15.75	4	79.25	3.170	165.1	17.53	1.6	24	50.8	123.95	19.05	4	88.9	
BMW - 32	32	1.1/4"	107	3.470	139.7	12.70	1.6	30	63.5	117.34	15.75	4	88.9	5.150	177.8	19.05	1.6	30	63.5	133.45	19.05	4	98.55	
BMW - 40	40	1.1/2"	119	4.070	165.1	14.22	1.6	37	73	127	15.75	4	98.55	6.520	190.5	20.57	1.6	37	73	155.44	22.35	4	114.3	
BMW - 50	50	2"	130	4.970	177.8	15.75	1.6	49	91.95	152.4	19.05	4	120.65	8.870	215.9	22.35	1.6	49	91.9	165.1	19.05	8	127	
BMW - 65	65	2.1/2"	155	8.600	190.5	17.53	1.6	64	104.65	177.8	19.05	4	139.7	13.550	241.3	25.4	1.6	64	104.6	190.5	22.35	8	149.35	
BMW - 80	80	3"	175	14	203.2	19.05	1.6	75	127	190.5	19.05	4	152.4	19.650	282.4	28.44	1.6	75	127	209.55	22.35	8	168.14	
BMW - 100	100	4"	210	21.900	228.6	23.88	1.6	98	157.23	228.6	19.05	8	190.4	30.750	304.8	31.75	1.6	98	157.2	254	22.35	8	200.15	
BMW - 125	125	5"	-	-	254	23.88	1.6	124	185.67	254	22.35	8	215.9	55	381	35.05	1.6	124	185.67	279.4	22.35	8	234.95	
BMW - 150	150	6"	-	-	266.8	25.4	1.6	148	216	279.4	22.35	8	241.3	65	403.3	36.75	1.6	148	216	317.5	22.35	12	269.74	
BMW - 200	200	8"	-	-	292.1	28.45	1.6	198	269.75	342.9	22.35	8	298.45	86	419.1	36.57	1.6	195	269.7	381	25.4	12	330.2	
BMW - 250	250	10"	-	-	330.2	30.23	1.6	248	323.85	406.4	25.4	12	361.95	135	547.2	41.15	1.6	248	323.8	444.5	28.44	16	387.35	
BMW - 300	300	12"	-	-	609.6	31.75	1.6	298	381	482.6	25.4	12	431.8	-	647.7	47.75	1.6	298	381	520.7	31.75	16	450.85	
BMW - 350	350	14"	-	-	685.8	35.05	1.6	335	412.75	533.4	28.45	12	476.25	-	762	50.8	1.6	335	412.75	584.2	31.75	20	514.35	



(All Dimensions are in mm)

BHI offers ISO 5211 Standard Pneumatic Rotary Actuator Operated "FIRE SAFE" Two Piece Design Ball Valve, engineered for multiple ON/OFF operations in the highly inflammable fluids.

Size Range : 1/2" to 12" Screwed / Flanged / Triclover

Actuator**Technical Specifications :**

Type	Rack and Pinion Type
Actuation	Double Acting / Single Acting (Spring Return)
Mounting Std.	ISO 5211 An International Standard
Pneumatic Connections	NAMUR Standard

For more details please refer Catalogue APL/1001

Ball Valve

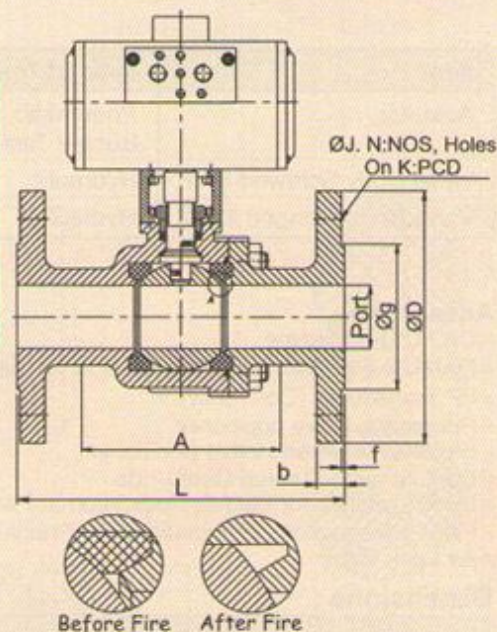
Body	ASTM A216 Gr. WCB / ASTM A351 Gr. CF8 - CF8M
Ball	ASTM A351 Gr. CF8 - CF8M
Stem	Stainless Steel AISI 304 / AISI 316 / AISI 410
Gland	Stainless Steel AISI 304 / AISI 316 / M.S.
Seat Packing	PTFE / 25% Carbon Filled PTFE / GFT / Grafite
Gland Packing	Grafoil / Graphite / PTFE / CFT
End Connection	Screwed to - BSP / NPT Socket Weld Ends to ANSI B16.11 Flanged to - ANSI B16.5 Class 150 / 300 Triclover Ends - On request



Item	Type of Test	Testing Pressure	Working Pressure	Operating Temperature (High Temp. On Request)
Actuator	Pneumatic Bubble Test	180 PSIG	45 To 150 PSIG	-20 °C to 80 °C
Valve Body Screwed End	Hydraulic	450 PSIG	315 PSIG	Max. 180 °C
Valve Body Flanged 150#	Hydraulic	450 PSIG	315 PSIG	Max. 180 °C
Valve Body Flanged 300#	Hydraulic	1125 PSIG	815 PSIG	Max. 180 °C

Accessories :

- On / OFF Indicator
- NAMUR Standard Solenoid Valve in all Standard Coil Voltage (Flame Proof Solenoid Coil - on request)
- I/P Transducer (Converter)
- Pneumatic valve positioner
- Electro-Pneumatic valve positioner
- Decutchable Manual Over - ride
- Limit Switches for On / Off Indication at Panel board
- Filter + Regulator Combination with Pressure Gauge
- Air Lock Valve



Detail 'A'

(All Dimensions are in mm)

Dimensions :

Valve Model	Valve Size		Screwed		Flanged 150#										Flanged 300#									
	MM	Inch	A	Weight	L	b	f	Port	Øg	ØD	ØJ	N	K:PCD	Weight	L	b	f	Port	Øg	ØD	ØJ	N	K:PCD	
RBI - 15	15	1/2"	68	1.160	107.95	9.65	1.6	12.5	35.05	88.9	15.75	4	60.45	1.960	139.7	14.22	1.6	12.5	35.05	95.25	15.75	4	60.45	
RBI - 20	20	3/4"	72	1.620	117.35	10.41	1.6	17	42.95	98.56	15.75	4	69.85	2.720	152.4	15.75	1.6	17	35.05	117.35	15.75	4	69.85	
RBI - 25	25	1"	84	1.920	127.0	11.18	1.6	24	50.8	107.9	15.75	4	79.25	3.170	165.1	17.53	1.6	24	42.95	123.95	15.75	4	79.25	
RBI - 32	32	1 1/4"	107	3.470	139.7	12.78	1.6	30	63.5	117.34	15.75	4	88.9	5.120	177.8	19.05	1.6	30	50.0	133.35	15.75	4	88.9	
RBI - 40	40	1 1/2"	119	4.070	165.1	14.22	1.6	37	73	127	15.75	4	98.55	6.520	190.5	20.57	1.6	37	63.5	155.44	15.75	4	98.55	
RBI - 50	50	2"	130	4.970	177.8	15.75	1.6	49	91.95	152.4	19.05	4	120.65	8.870	215.9	22.35	1.6	49	73	165.1	19.05	4	120.65	
RBI - 65	65	2 1/2"	155	8.600	190.5	17.53	1.6	64	104.65	177.8	19.05	4	139.7	13.550	241.3	25.4	1.6	64	91.9	190.5	19.05	4	139.7	
RBI - 80	80	3"	175	14	203.2	19.05	1.6	75	127	190.5	19.05	4	152.4	19.650	282.4	28.44	1.6	75	104.6	209.55	19.05	4	152.4	
RBI - 100	100	4"	210	21.900	228.6	23.88	1.6	98	159.23	220.6	19.05	8	190.5	30.750	304.8	31.75	1.6	98	127	254	19.05	8	190.5	
RBI - 150	150	6"	-	-	266.8	25.4	1.6	148	216	279.4	22.35	8	241.3	65	403.3	36.75	1.6	148	157.2	317.5	22.35	8	241.3	
RBI - 200	200	8"	-	-	292.1	28.45	1.6	196	269.75	342.9	22.35	8	298.45	86	419.1	36.57	1.6	190	216	381	22.35	8	298.45	
RBI - 250	250	10"	-	-	330.2	30.23	1.6	248	323.85	406.4	25.4	12	361.95	135	457.2	41.15	1.6	248	269.7	444.5	25.4	12	361.95	
RBI - 300	300	12"	-	-	609.6	31.75	1.6	298	381	482.6	25.4	12	431.8	-	647.7	47.75	1.6	298	323.8	520.7	25.4	12	431.8	

BHI offers ISO 5211 Standard Pneumatic Rotary Actuator Operated "Three Way - Four Way" Design Investment Casting CF8 / CF8M / WCB Ball Valve, engineered for multiple Diverting / Mixing Operations in the down stream. TYPE : "T" . PORT / "L" . PORT / "X" . PORT In Full Bore / Reduce Bore

Size Range : 1/2" to 8" Screwed / Flanged / Triclover / Socket Weld

**Actuator****Technical Specifications :**

Type	Rack and Pinion Type
Actuation	Double Acting / Single Acting (Spring Return)
Mounting Std.	ISO 5211 An International Standard
Pneumatic Connections	NAMUR Standard

For more details please refer Catalogue APL/1001

Ball Valve

Body	ASTM A351 Gr. CF 8 - CF 8M / ASTM A216 Gr. WCB
Ball	ASTM A351 Gr. CF 8 - CF 8M
Stem	Stainless Steel AISI 304 / AISI 316
Gland	Stainless Steel AISI 304 / AISI 316
Seat & Seals	PTFE (Glass Filled, Carbon Filled Teflon - Optional in case of high temp.)
Working Pressure	ANSI 150 / ANSI 300 / PN 16, PN 25, PN 40
Temperature Range	-25 °C to 180 °C
End Connection	Screwed to BSP / NPT Flanged to ANSI 150 / ANSI 300 / PN 16
	Triclover end / SOCKET WELD (On Request)

Accessories :

- On / Off Indicator
- NAMUR Standard Solenoid Valve in all Standard Coil Voltage (Flame Proof Solenoid Coil - on request)
- Declutchable Manual Over - ride
- Limit Switches for On / Off Indication at Panel board
- Filter + Regulator Combination with Pressure Gauge
- Air Lock Valve

Features :

- Body & End are Investment Cast
- Self adjusting stem packing
- Available in 3 way & 4 way & 5 Way L - Port / T Port / X Port
- 4 piece ball seats
- Blow - out proof stem design / Anti Blow - out proof stem Design
- 100% air tested under water at 80 - 100 psi
- ISO 5211 direct mounting pad

FLOW PATTERNS**3-WAY**

'L' Port 3-90°



'T' Port 3-90°



'T' Port 4-90°

**4-WAY**

'L' Port 5-180°



'T' Port 5-180°



'X' Port 90°



BHI offers rubber lined Butterfly Valves for HVAC & utilities. These Valves are truly 'Fit & Forget Valve', which requires minimum maintenance. The body lines which also functions as the soft seat, comes in an integrally moulded version & offers bi-directional sealing against vacuum upto the pressure of PN 10 / PN 16

Size Range : 1.1/2" To 40"

Actuator**Technical Specifications :**

Type	Rack and Pinion Type
Actuation	Double Acting / Single Acting (Spring Return)
Mounting Std.	ISO 5211 An International Standard
Pneumatic Connections	NAMUR Standard

For more details please refer Catalogue APL/1001

Valve**Technical Specifications :**

Body	I.C. / CI (IS 210 Gr. FG 200 / 220) WCB / S.S. 304 / S.S. 316
Disc	CF8 / CF8M / CF3M / S.G. Iron / Teflon Coated / Powder Coated Nylon Coated / Rubber Line
Seat	EPDM / Nitrile / Hayplon / Viton / Moulded or Replaceable muffler type
Shaft	AISI 410 / CF8 / CF8M / CF3M
Valve Type	Centric Disc Butterfly Valve with a single piece rubber lined body
Body Type	Short wafer (sandwiched between flanges)
Seat Type	Integrally moulded with the body
End Connection	Wafer Sandwiched (Lug Type On Request)
Pressure rating	PN 10 / PN 16 (On Request)
Oper. Temp. range	-25 °C to 130 °C (depending on MOC)
Seat Leakage	Tight shut off
Operation	Hand lever for sizes from 40 mm to 350 mm Worm gear boxes for 40 mm to 1000 mm

**Accessories :**

- On / OFF Indicator
- NAMUR Standard Solenoid Valve in all Standard Coil Voltage (Flame Proof Solenoid Coil - on request)
- I/P Transducer (Converter)
- Pneumatic valve positioner
- Electro-Pneumatic valve positioner
- Decutchable Manual Over - ride
- Limit Switches for On / Off Indication at Panel board
- Filter + Regulator Combination with Pressure Gauge
- Air Lock Valve

Standards :

Design and manufacturing : API 609 category A/BS 5155 MSS SP-67 / C-504

Valve face to face dimensions : Short wafer as per ISO 5752 Tab 5 / API 609 Category A

Top flange drilling : ISO 5211 Part II

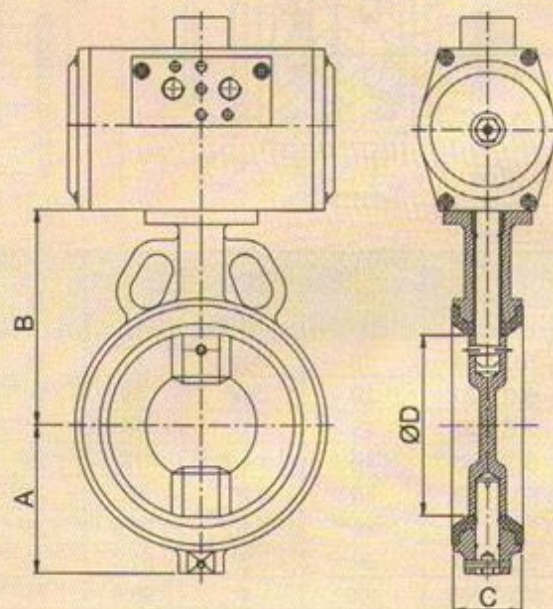
Inspection and testing : API 598 / BS 6755

Flange standard conformity : ANSI 150, DIN PN6 / 10, JIS 5K/ 10K / BS 10 Tad D & E, IS 6392 PN 0.6 / 1.0

Dimensions:

(All Dimensions are in mm)

Valve Model	Valve Size		A	B	C	ØD	Weight (Approx)
	MM	Inch					
ECO-IC-40	40	1.1/2"	58	103	33	40	3
ECO-IC-50	50	2"	70	117	43	50	3.25
ECO-IC-65	65	2.1/2"	67	122	46	65	5
ECO-IC-80	80	3"	75	129	46	80	5.25
ECO-IC-100	100	4"	97	147	57	100	6.5
ECO-IC-125	125	5"	108	158	56	125	10.6
ECO-IC-150	150	6"	120	174	56	150	11.5
ECO-IC-200	200	8"	147	198	60	200	20
ECO-CI-250	250	10"	215	260	68	241	36
ECO-CI-300	300	12"	250	284	78	290	45
ECO-CI-350	350	14"	265	310	78	334	60
ECO-CI-400	400	16"	303	350	102	382	85
ECO-CI-450	450	18"	333	378	114	433	112
ECO-CI-500	500	20"	355	410	127	476	160
ECO-CI-550	550	22"	365	424	140	448	175
ECO-CI-600	600	24"	435	457	154	590	250
ECO-CI-650	650	26"	454	490	165	640	-
ECO-CI-700	700	28"	487.5	536.5	165	685	-
ECO-CI-750	750	30"	533	572	190	740	-
ECO-CI-800	800	32"	572	618	190	790	-
ECO-CI-850	850	34"	615	645	190	835	-
ECO-CI-900	900	36"	665	684	203	890	-
ECO-CI-950	950	38"	690	695	203	940	-
ECO-CI-1000	1000	40"	710	720	216	990	-



BHI offers ISO 5211 Standard Pneumatic Rotary Actuator Operated Double Flange Butterfly Valve, engineered for multiple ON/OFF operations in the Larger pipe lines. and full flow down streams.

Size Range : 6" To 40"

Actuator

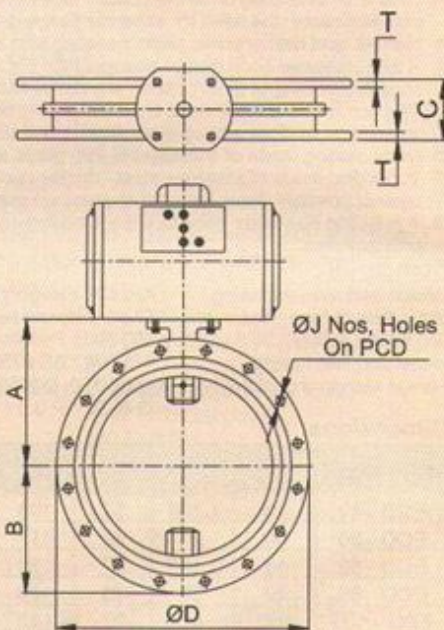
Technical Specifications :

Type	Rack and Pinion Type
Actuation	Double Acting / Single Acting (Spring Return)
Mounting Std.	ISO 5211 An International Standard
Pneumatic Connections	NAMUR Standard

For more details please refer Catalogue APL/1001

Technical Specifications :

Body	I.C. (IS 210 Gr. FG 200 / 220) WCB / S.S. 304 / S.S. 316
Disc	CF8 / CF8M / CF3M / S.G. Iron / Teflon Coated / Powder Coated Nylon Coated / Rubber Line
Seat	EPDM / Nitrile / Hayplon / Viton / Moulded or Replaceable muffler type
Shaft	AISI 410 / CF8 / CF8M / CF3M
Valve Type	Centric Disc Butterfly Valve with a single piece rubber lined body
Body Type	Short wafer Type Double Flange
Seat Type	Integrally moulded with the body
End Connection	Wafer Type Double flange Suit for #150 'D' Table 'E' & IS6392 Table 11 (PN10 / PN1.6)
Pressure rating	PN 10 / PN 16 (On Request)
Oper. Temp. range	-25 °C to 130 °C (depending on MOC)
Seat Leakage	Tight shut off
Operation	Hand lever for sizes from 100 mm to 350 mm Worm gear boxes for 40 mm to 1000 mm



Accessories :

- On / OFF Indicator
- NAMUR Standard Solenoid Valve in all Standard Coil Voltage (Flame Proof Solenoid Coil - on request)
- I/P Transducer (Converter)
- Pneumatic valve positioner
- Electro-Pneumatic valve positioner
- Declutchable Manual Over - ride
- Limit Switches for On / Off Indication at Panel board
- Filter + Regulator Combination with Pressure Gauge
- Air Lock Valve

Standards :

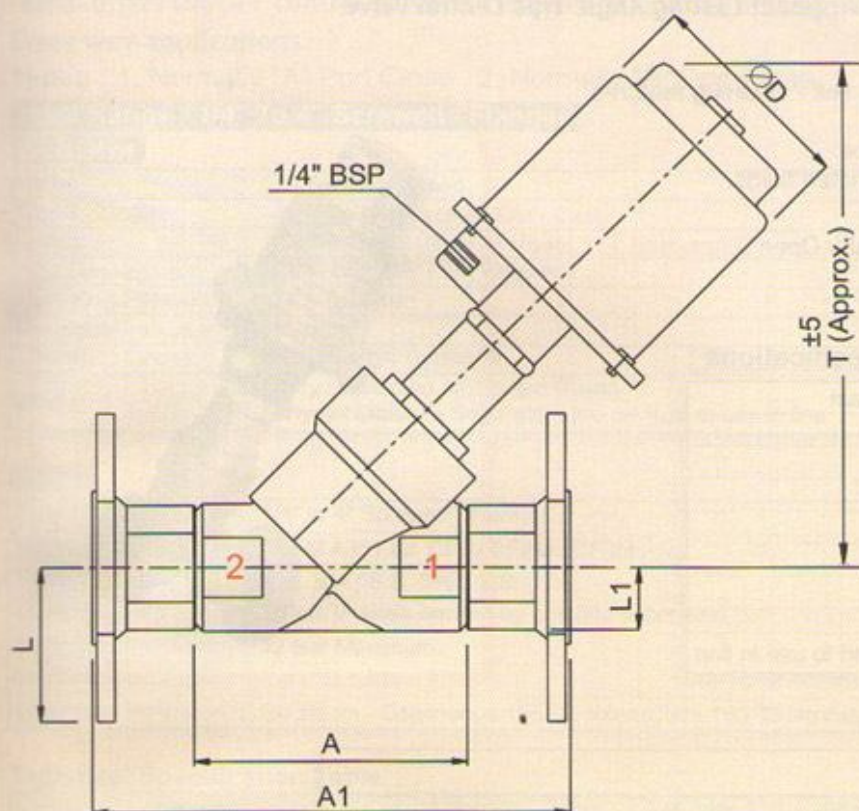
- Design and manufacturing : API 609 category A/BS 5155 / MSS SP-67
- Valve face to face dimensions : Short wafer as per ISO 5752
Tab 5 API 609 Category A
- Top flange drilling : ISO 5211 Part II
- Inspection and testing : API 598 / BS 6755
- Flange standard conformity : ANSI 150, DIN PN6 / 10,
JIS 5K / 10K BS 10 Tab
D & E, IS 6392 PN 0.6 / 10

Dimensions :

(All Dimensions are in mm)

Valve Model	Valve Size		A	B	ØD	C	T	ØJ	N	PCD
	MM	Inch								
DFW - ECO - 150	150	6"	174	140	280	56	10	22.35	8	241.3
DFW - ECO - 200	200	8"	214	170.5	343	60	12.5	22.35	8	398.24
DFW - ECO - 250	250	10"	260.5	203.5	407	68	15	24.5	12	361.95
DFW - ECO - 300	300	12"	300	240	483	78	15	24.5	12	431.8
DFW - ECO - 350	350	14"	336.5	265.5	534	78	18	28.45	12	476.25
DFW - ECO - 400	400	16"	362	296	597	102	20	28.45	16	539.75
DFW - ECO - 450	450	18"	389.5	314	635	114	24	31.75	16	577.85
DFW - ECO - 500	500	20"	425	346	698.5	127	26	31.75	20	635
DFW - ECO - 600	600	24"	496.5	403	812.8	154	28.5	35.05	20	749.3
DFW - ECO - 700	700	28"	498.5	463.5	927.1	165	31.5	35.052	28	863.6
DFW - ECO - 750	750	30"	574	492	984.25	165	34	35.052	28	914.4
DFW - ECO - 800	800	32"	620	530	1060.45	190	36.5	41.148	28	977.9
DFW - ECO - 900	900	36"	686	584	1168.4	203	38	41.148	32	1085.85
DFW - ECO - 1000	1000	40"	722	642	1289.05	216	44	41.148	36	1200.15

2/2 Way Pneumatic Cylinder Operated Angle Type On/Off "SRT / ALS" Control Valve

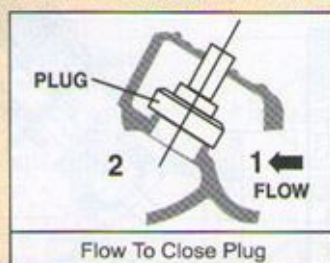
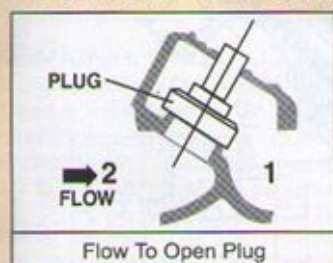


Dimensions :

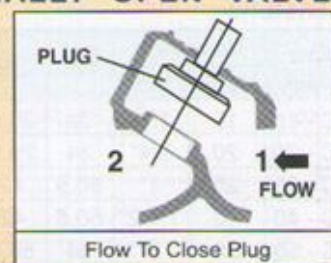
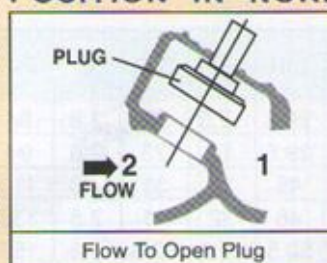
(All Dimensions are in mm)

Valve Model	Valve Size		A Screwed	A1 Flanged	Act. Bore	L Flanged	L1 Screwed	T(Approx.) Screwed	ØD	Weight (Approx)	
	MM	Inch								S/E	F/E
SRV / ALF - 6	6	1/4"	64	130	50	44.45	14	155	52.5	-	-
SRV / ALF - 15	15	1/2"	64	130	50	44.45	14	155	52.5	1.040	1.760
SRV / ALF - 20	20	3/4"	75	150	50	49.27	16.5	160	52.5	1.180	1.960
SRV / ALF - 25	25	1"	90	160	70	53.97	20	170	73	1.840	3.240
SRV / ALF - 32	32	1.1/4"	102	188	70	58.67	24.25	177	73	2.720	5.000
SRV / ALF - 40	40	1.1/2"	125	188	70	63.50	27.5	185	73	2.520	4.600
SRV / ALF - 50	50	2"	151	230	70	76.20	34.5	195	73	3.380	6.240
SRV / ALF - 65	65	2.1/2"	195.5	216	100	88.90	42.25	250	104.5	6.760	12.880
SRV / ALF - 80	80	3"	195	241.5	120	95.25	49	288	124.5	8.600	15.160
SRV / ALF - 100	100	4"	314	292	120	114.30	65.25	295	124.5	13.740	22.680

POSITION IN NORMALLY CLOSE VALVE



POSITION IN NORMALLY OPEN VALVE



3/2 - 2/2 Way Pneumatic Cylinder Operated Straight Type Mixing And / Diverting Medium Pressure On/Off "3LCS" Control Valve

BHI offers ON/OFF control valve in compact design for mixing and / or diverting three way applications.

Types: 1. Normally "A" Port Close 2. Normally "B" Port Close

Size Range : 1/4" To 4" Screwed / Flanged

Actuator

Technical Specifications :

Body	S/S 304 Pressed
Cover Flange	Aluminium Pressure Die-Cast
Spring	Spring Steel (IS 4454 Gr. II)
Port Connection	1/4" BSP [NPT on request]
Operating Pressure	3.5 To 7 Bar
Position Indicator	Nylon
Operating Cycles	350 To 650 Cycles/Hr
Media	Dry Lubricated Air / Inert Gases Hydint Moisture Separators are advised to use in line

Valve

Size	1/4" To 4" Screwed / Flanged
Body	ASTM A 351 Gr. CF8 / CF8M / CF3M
Trim / Spindle	S.S. AISI 304 / 316 / 316L
Gland Packing	Teflon 'V' seals backed by graphite wiper seal [self compensating]
Body Test Pressure	16 Bar Maximum
Working Fluid Press	Refer to table
Operating Temp	On steam - Continuous 155 °C Intermittent 180 °C Maximum



Technical Specification Table

Valve Model	Valve Size		Orifice mm	Max. Op. Press Bar	Flow Factor Kv M ³ /hr	Actuator Bore mm	Air Consumption Lit./Cycle	Weight (Approx)	
	MM	Inch						S/E	F/E
3LCS / 3LCF - 6	6	1/4"	14	10	3.3	50	0.151	1.500	2.750
3LCS / 3LCF - 15	15	1/2"	14	10	3.3	50	0.151	1.500	2.750
3LCS / 3LCF - 20	20	3/4"	15	10	4.7	50	0.151	2.200	3.000
3LCS / 3LCF - 25	25	1"	22	10	8.5	70	0.172	2.500	4.000
3LCS / 3LCF - 32	32	1 1/4"	28	10	22.5	70	0.172	2.500	9.000
3LCS / 3LCF - 40	40	1 1/2"	36	10	22.5	70	0.172	2.500	9.000
3LCS / 3LCF - 50	50	2"	45	7	35	70	0.309	9.000	13.500
3LCS / 3LCF - 65	65	2 1/2"	60	-	-	100	0.329	9.080	17.260
3LCS / 3LCF - 80	80	3"	60	-	-	120	-	11.540	20.460
3LCS / 3LCF - 100	100	4"	78	-	-	120	-	14.200	29.700

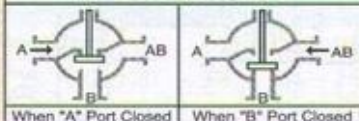
For Any Different Technical Requirement - Available On Request

Dimensions :

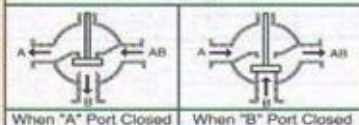
(All dimensions are in MM)

Valve Model	Valve Size		L	L1	A	A1	ØE	Pneu. Cylinder ID ØD
	MM	Inch						
3LCS / 3LCF - 6	6	1/4"	70.5	108	50	69	75.5	50
3LCS / 3LCF - 15	15	1/2"	70.5	108	50	69	75.5	50
3LCS / 3LCF - 20	20	3/4"	85.5	117.3	58	73.5	75.5	50
3LCS / 3LCF - 25	25	1"	90.5	127	60.5	78.5	102	70
3LCS / 3LCF - 32	32	1 1/4"	98.5	139.7	64	85	102	70
3LCS / 3LCF - 40	40	1 1/2"	115	165	72.5	97.5	102	70
3LCS / 3LCF - 50	50	2"	120	178	78	104	102	70
3LCS / 3LCF - 65	65	2 1/2"	148	210	113	144	134	100
3LCS / 3LCF - 80	80	3"	177	225.5	116	140	164	120
3LCS / 3LCF - 100	100	4"	190	251	131.5	162	164	120

DIVERTING



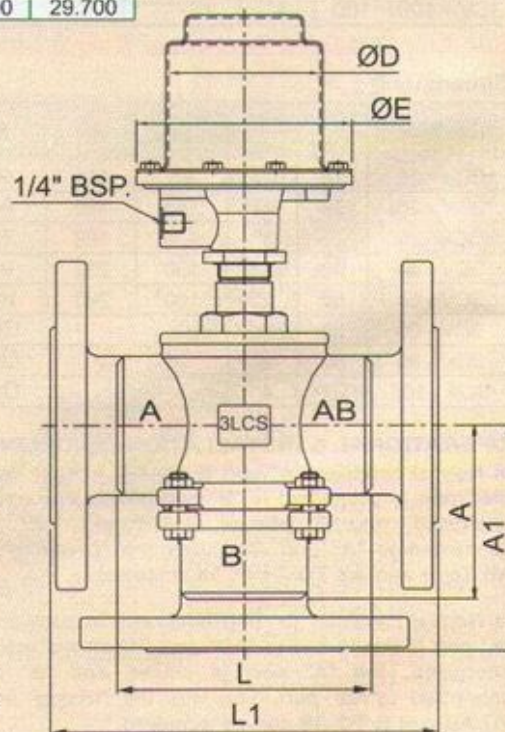
MIXING



OPERATIONAL & INSTALLATION GUIDELINE

In Normal condition "A" port is closed. In such condition "AB" port is connected to "B" port. When the actuator is energised, the "B" port is closed and "AB" port is connected to "A" port. This way the "Diverting" action AB TO B and AB TO A can be achieved.

In Normal condition "B" port is closed. In such condition "A" port is connected to "AB" port. When the actuator is energised, the "A" port is closed and "B" port is connected to "AB" port. This way the "Mixing" action A TO AB and B TO AB can be achieved.



Accessories :

- » 3/2 Way Solenoid Valve
- » Pilot Valve
- » On/Off type limit switch
- » Combination (Filter + Regulator)
- » Moisture Separator
- » Quick Exhaust Valve

3/2 - 2/2 Way Pneumatic Diaphragm Operated Medium Pressure On/Off Type "3DLCV - 2DLCV" Control Valve

BHI offers Pneumatic Diaphragm Operated Investment Casting body control valves for heavy duty Application

Size Range : 1/2" To 4" Screwed

Actuator

Diaphragm Cover	Sheet metal pressing
Diaphragm	Nylon impregnated neoprene NBR / PU
Bottom Cover	SGI / Sheet metal pressing
Yoke	ASTM A216 WCB
Actuator Spring	Spring Steel (IS 4454 Gr.II) duty painted
Actuator Working	2 to 3.5 bar
Single Pressure	(Main line pressure dependent)
Oper. Cycles per hour (Tested On Air)	15mm, 20mm, 25mm upto 800 cy/hr 35mm and 50mm upto 300 cy/hr
Life Expectancy	Over Ten Lacs cycles (lab tested in ideal condition)

Technical Specifications :

Valve

Technical Specifications :

Body and End Piece	ASTM A351 Gr. CF8 / CF8M / CF3M
Pressure Temp. Rating	As per ANSI Class 300.
End Connections	Standard BSP (F) NPT Flanged Class 150 or Socket Weld.
Seating	PTFE
Leakage	As per ANSI B16.104 - 1976 Teflon Seating Class
Trim (Spindle)	S.S. AISI 400 / S.S. hard chrome plated.
Stem Packing	Self compensating, Spring loaded Teflon packing
Characteristics	On - Off, Normally Close
Working Fluid Pressure	Refer to table below
Working Temperature	On steam - continuous 180 °C Intermittent 205 °C
Air Quality	Dry air or non corrosive gas.
Accessories	Air Lock Valve, Solenoid Valve, Filter + Regulator with Gauge Other Accessories available on application.
Application	For control for air, water, oil, gas, steam, hydraulic oil, specially where heavy duty operations are called for specially on tyre and tube building process, power generation, atomic energy, Chemical & petrochemical plants, PSA Nitrogen system, Air Gas dryers, Gas generators and others.



Actuator

Spring return type, high duty Pneumatic Diaphragm Actuator

Accessories :

- » 3/2 Way Solenoid Valve
- » Pilot Valve
- » On/Off type limit switch
- » Combination (Filter + Regulator)
- » Moisture Separator
- » Quick Exhaust Valve

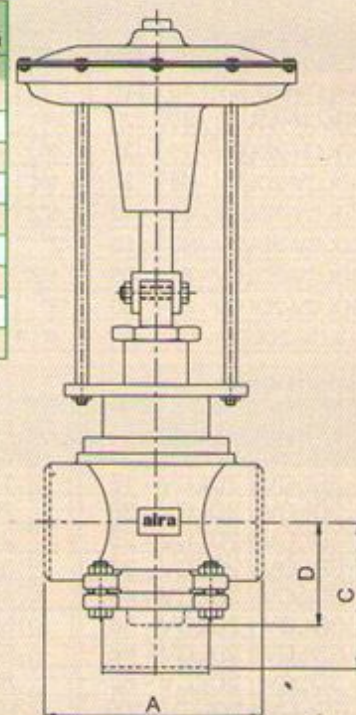
Technical Specification Table

Valve Model	Size		Orifice	Flow Factor kv m³/hr	Maximum Working Pressure			Safe Working Pressure	Air Consumption
	MM	Inch			Air/Gas	Hot Water	Steam		
					Bar	Bar	Bar	Bar	Bar
3DLCV-2DLCV - 15	15	1/2"	14	2.8	21	16	16	42	0.150
3DLCV-2DLCV - 20	20	3/4"	15	4.3	21	16	16	42	0.176
3DLCV-2DLCV - 25	25	1"	22	7.0	21	16	16	42	0.471
3DLCV-2DLCV - 32	32	1.1/4"	28	7.0	21	16	16	42	0.471
3DLCV-2DLCV - 40	40	1.1/2"	36	22.7	21	16	16	42	0.966
3DLCV-2DLCV - 50	50	2"	45	36.0	21	16	16	42	0.966
3DLCV-2DLCV - 65	65	2.1/2"	60	On Request					
3DLCV-2DLCV - 80	80	3"	60	On Request					
3DLCV-2DLCV - 100	100	4"	78	On Request					

Dimensions :

(All Dimensions are in mm)

Valve Model	Valve Size		A	C	D
	MM	Inch			
3DLCV / 2DLCV - 15	15	1/2"	70.5	50	35
3DLCV / 2DLCV - 20	20	3/4"	85.5	58	41
3DLCV / 2DLCV - 25	25	1"	90.5	60.5	43
3DLCV / 2DLCV - 32	32	1.1/4"	98.5	64	44
3DLCV / 2DLCV - 40	40	1.1/2"	115	72.5	51
3DLCV / 2DLCV - 50	50	2"	120	78	52
3DLCV / 2DLCV - 65	65	2.1/2"	148	113	70
3DLCV / 2DLCV - 80	80	3"	177	116	71
3DLCV / 2DLCV - 100	100	4"	190	131.5	82.5



3/2 - 2/2 Way Pneumatic Diaphragm Operated**For Thermic Fluid "VND" Control Valve
(upto 450 °C)****BHI offers 3/2 - 2/2 Way pneumatic diaphragm operated control valve for thermic fluid.****Size Range : 1/2" To 4" Flanged****Technical Specifications :**

Body & Bonnet	ASTM A216 Gr. WCB. (ASTM A351 Gr CF8 / CF8M) On Request.
End Connection	Flange End to ANSI B16.5 RF 150# / 300# / 600#
Trims	AISI 410 Gr. (Hard chrome Plated On Request)
Stem Packing	Self Adjusting Spring Loaded Teflon 'V' Packing
Plug & Seating	AISI 410 Gr. (S.S. 304 / 316 Stellite & Hardened Seat available on request)
Pressure - Temp. Rating	As per ANSI B 16.5 150# / 300# / 600#
Testing Standard	Metal to Metal Seated Class III - IV as per ANSI B 16.104
Type ON / OFF	Diverting and / or Mixing
Working Temp.	Upto 450 °C Metal to Metal Seated
Actuator Cover	Sheet Metal Pressing
Yoke	Fabricated Steel
Diaphragm	Polyurethane
Spring	Spring Steel with Zinc Plated
Pneu. Pressure	2.5 to 3.5 Kg/cm ²
Oper. Cycles	240 cyl/hr. (approx.) upto 25mm (Tested on Air, on other Fluids, this Figure may vary.)

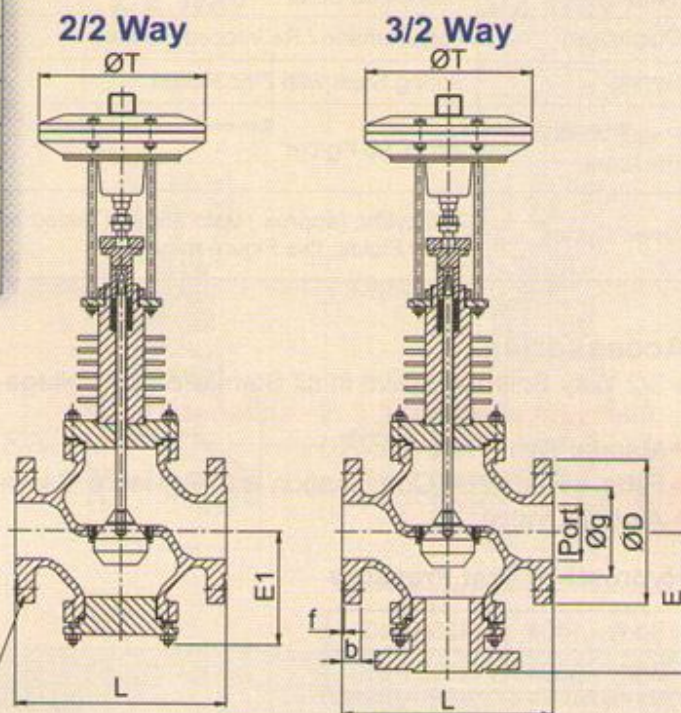
**Accessories :**

- 3/2 Way Solenoid Valve in all Standard Coil Voltage
(Flame Proof Solenoid Coil - on request)
- Manual Over - ride
- Filter + Regulator Combination with Pressure Gauge
- Air Lock Valve

Hydrostatic Test Pressure

Body - 150#	425 PSIG
Body - 300#	1100 PSIG

ØJ, N Nos Holes,
On K:PCD

**Dimensions :**

(All Dimensions are in mm)

Valve Model	Valve Size		Port	L	ØD	ØT	E	E1	Øg	b	f	ØJ	N	PCD	Weight
	MM	Inch													
VND - 15	15	1/2"	12.5	128	89	190	96.5	61.5	35	11.5	1.6	16	4	60.5	11.500
VND - 20	20	3/4"	20	128	98	190	96.5	61.5	43	12.7	1.6	16	4	70	11.500
VND - 25	25	1"	25	158	117.3	190	101.5	66.5	51	14.3	1.6	16	4	79.25	12.000
VND - 40	40	1.1/2"	40	198	127	220	137	97	73	17.5	1.6	16	4	98.50	22.500
VND - 50	50	2"	50	227	152	220	159	104	92	19.1	1.6	19	4	120.5	32.000
VND - 65	65	2.1/2"	65	288	178	295	181	-	105	22.3	1.6	19	4	139.5	47.000
VND - 80	80	3"	80	297	190	295	200	135	127	23.9	1.6	19	4	152.5	54.000
VND - 100	100	4"	100	350	229	295	236	170	157	23.9	1.6	19	8	190.5	80.000

3/2 - 2/2 Way Pneumatic Diaphragm Operated**For Thermic Fluid "CND" Control Valve (upto 450 °C)**

BHI offers 3/2 - 2/2 way pneumatic diaphragm operated precise Regulating design control valve for thermic fluid & High Temperature Application

Size Range : 1/2" To 12" Flanged**Salient Feature**

- » Precise Regulating with High flow capacity
- » Large type of trim Top Operating designs for various duty conditions
- » In line Repairable Design for easy maintenance
- » Tight closure even in extreme operating conditions
- » Multi action type Actuator (Direct / Reverse acting)
- » Wide Range of actuators to meet different application

Diaphragm Actuator Specifications :

Actuator	Diaphragm & Multi Spring type, Air to Open / Air to Close as a standard (Piston actuators / Electrical actuator on request)
Pneumatic Pressure	1.44 Kgs to 2.44 Kgs for more Detail refer to Technical Table Catalogue No. 1066

Technical Specifications :

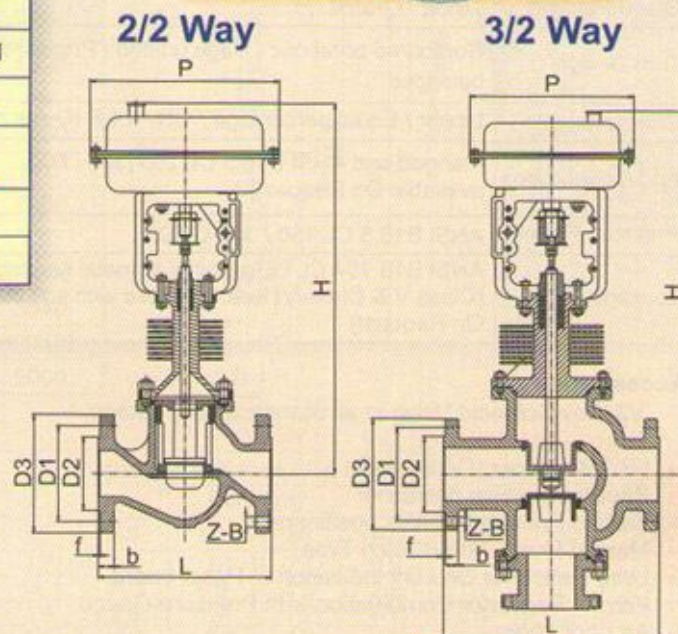
Body & Bonnet	ASTM 216 Gr. WCB / CF8 / CF8M
Internals	S.S. 304 [316 Hard facing Other material on request]
Gland Packings	Grafoil
Trim Design	Contoured parabol / Cage guided / Pressure balanced
Characteristic	Liner / Equal percentage / ON - OFF (Quick opening)
End Connections	Flanged end ANSI B16.5 CL 150 [300 / 600 available on request]
Pressure Ratings	ANSI B16.5 CL 150 / 300 / 600
Leakage	ANSI B16.104 CL IV for metal to metal seating.

Accessories :

- » 3/2 Way Solenoid Valve in all Standard Coil Voltage (Flame Proof Solenoid Coil - on request)
- » I/P Transducer (Converter)
- » Pneumatic valve positioner
- » Electro-Pneumatic valve positioner
- » Manual Over - ride (Clutch Type)
- » Limit Switch for On / Off Indication at Panel board
- » Filter + Regulator Combination with Pressure Gauge
- » Air Lock Valve

Dimensions :

Valve Model	Size				Class 150								Class 300				
	MM	Inch	H	P	L	D1	D2	D3	b	f	Z-B	L	D1	D2	D3	b	f
CND - 15	15	1/2"	490	288	178	60.5	35	89	11.5	1.6	4-16	190	66.5	35	95	14.3	1.6
CND - 20	20	3/4"	495	288	181	70	43	98	12.7	1.6	4-16	194	82.5	43	117	15.9	1.6
CND - 25	25	1"	590	288	184	79.25	51	108	14.3	1.6	4-16	197	89	51	124	17.5	1.6
CND - 32	32	1.1/4"	595	288	200	89	64	117.3	15.9	1.6	4-16	213	98.5	64	133	19.5	1.6
CND - 40	40	1.1/2"	600	288	222	98.5	73	127	17.5	1.6	4-16	235	114.5	73	156	20.7	1.6
CND - 50	50	2"	605	360	254	120.5	92	152	19.1	1.6	4-19	267	127	92	165	22.3	1.6
CND - 65	65	2.1/2"	750	360	276	139.5	105	178	22.3	1.6	4-19	292	149	105	190	25.4	1.6
CND - 80	80	3"	790	470	298	152.5	127	190	23.9	1.6	4-19	317	168	127	210	28.6	1.6
CND - 100	100	4"	810	470	352	190.5	157	229	23.9	1.6	8-19	368	200	157	254	31.8	1.6
CND - 150	150	6"	990	470	451	241	216	279	25.4	1.6	8-22	473	270	216	318	36.6	1.6
CND - 200	200	8"	1050	470	553	298.5	270	342	28.6	1.6	8-22	568	330	270	381	41.3	1.6
CND - 250	250	10"	1340	580	673	362	324	406	30.2	1.6	12-25	708	387.5	324	444	47.7	1.6
CND - 300	300	12"	1370	580	737	432	381	483	31.8	1.6	12-25	775	451	381	521	50.8	1.6



(All Dimensions are in mm)

2/2 Way Direct Acting "BSD" Solenoid Valve**For Air / Gas / Oil / Water / Chemical**

BHI solenoid valves are the best for the inflammable media. The Flame Proof Explosion proof solenoid coil are available in such application.

Size Range : 1/8", 1/4", 3/8" & 1/2" BSP / NPT**Types:** Normally Close (N/C) / Normally Open (N/O) / Universal

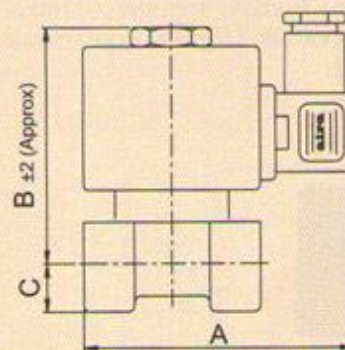
- Compact design light weight & long durability.
- Constructed from advanced technology & design.
- 600 operation per minute.
- Easy installation, universal mounting.

GROUP- ISuitable for 0 to 10 Kg/Cm²**GROUP- II**Suitable for 2, 10, 35 & 70 Kg/ Cm²**Technical Specifications :**

Body Construction	Brass Forged / Aluminium / I.C. / S.S. 304
Seat	Viton
Temperature of fluid	-5 °C to 85 °C (high temperature on request)
Coil Voltage	12V, 24V, 48V, 110V, 220V, AC / DC
Media	Air / Gas / Oil / Water / Chemical

**Technical Specification Table**

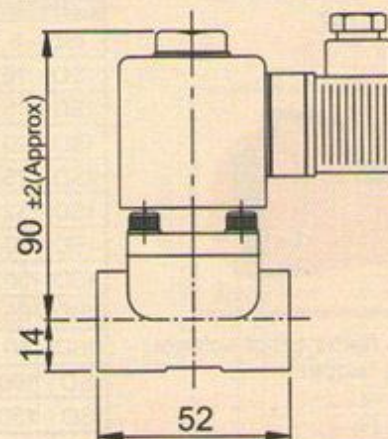
Group	Model	Type	Size	Position	Orifice	Pressure
Group - I	BSD - I	2/2 Way	1/4", 1/2"	N/C	2.5mm	10Kg
Group - I	SBD - I	2/2 Way	1/4"	N/C	2.5mm	10Kg
Group - I	BUD - I	3/2 Way	1/4", 1/2"	N/C	1.8mm	10Kg
Group - I	UBD - I	3/2 Way	1/4"	N/C	1.8mm	7Kg
Group - II	BBC - II	2/2 Way	1/4", 3/8", 1/2"	N/C	4mm	10Kg
Group - II	BBC - II	2/2 Way	1/4", 3/8", 1/2"	N/C	2.2mm	35Kg
Group - II	BBC - II	2/2 Way	1/4", 3/8", 1/2"	N/C	1.2mm	70Kg
Group - II	BBC - II	2/2 Way	1/2"	N/C	1.5mm	2Kg
Group - II	BBS - II	3/2 Way	1/4", 3/8", 1/2"	N/C	4mm	10Kg
Group - II	BBS - II	3/2 Way	1/4", 3/8", 1/2"	N/C	2.2mm	35Kg
Group - II	BBS - II	3/2 Way	1/4", 3/8", 1/2"	N/C	1.2mm	70Kg
Group - II	BBS - II	3/2 Way	1/4", 3/8", 1/2"	N/O	3mm	10Kg

**Dimensions :** (All dimensions are in MM)

SIZE		Group-I			Group-II		
MM	Inch	A	B	C	A	B	C
6	1/4"	68	71	10	92	100	14
10	3/8"	72	74	14	92	100	14
15	1/2"	72	74	14	92	100	14

**2/2 Way Diaphragm Operated Solenoid Valves****Technical Specifications :**

Model	GSDM
Size	1/2" (15mm)
Body Construction	Brass Forged
Diaphragm & Seals	Nitrile / E.P.D.M.
Pressure	0 To 6 Kg / Cm ²
Temperature	80 °C
Orifice	12 mm

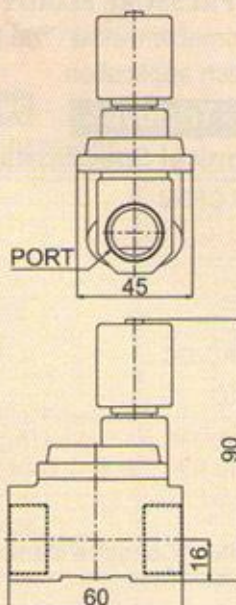


2/2 Way Pilot Operated Diaphragm Type**"USD" Solenoid Valve**

BHI offers High FLOW Diaphragm type solenoid valves, are specially engineered in the construction of Forged Brass body with Electro plating for multiple and long lasting operations.

Technical Specifications :

Model	USD
Size	1/2" BSP / NPT
Orifice	15 mm
CV	4.5
Pressure	0.5 Kg to 8 Kg/cm ²
Temperature	Upto 80 °C
Operating Type	Normally Closed
Body	Forged Brass
Seals	NBR (Viton EPDM On Request)
Coil Voltage	12V, 24V, 48V, 110V, 230V AC/DC
Media	Water, Air, Oil & Gas

**2/2 Way Pilot Operated Piston Type "HPQX"****Solenoid Valves For High Pressure Fluids (110 Kg)**

BHI offers HIGH FLOW piston type solenoid valves, are specially engineered in the construction of Investment Cast CF8 / CF8M / CF3M body for multiple and long lasting operations, especially for HIGH PRESSURE FLUIDS

BHI solenoid valves are the best for the inflammable media. The Flameproof Explosion proof solenoid coils are available in such application.

Size Range : 1/4" To 3" Screwed / Flanged / Triclover

Technical Specifications :

Valve Body	ASTM A351 - CF8 / CF8M / CF3M
Seat & Seals	Teflon (Silicon, Viton, EPDM on request)
Pressure	2 To 110 bar
Temperature	Up to 90 °C
Coil Voltage	12V, 24V, 48V, 110V, 230V, AC / DC
Insulation	H Class Suitable Up to 140 °C
Coil Encloser meets	IP 20 / IP 65 / IP 67 (Flame Proof / Explosion Proof as per IS 2148 STD for Class II A, II B, II C Zone)
Coil Rating	Continuous Rated
Media	Hot Water / LD Oil / Air / Water / Corrosive Media

Dimensions :

(All dimensions are in MM)

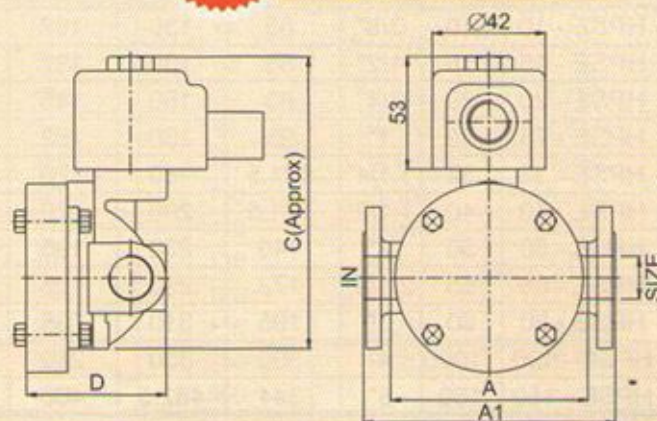
Valve Model	Valve Size		A	A1	C (Approx.)	D	Weight(Approx)	
	Inch	MM	Screwed	Flanged			S/E	F/E
HPQX - 6	1/4"	6	65	-	137	69	-	-
HPQX - 10	3/8"	10	65	-	137	69	-	-
HPQX - 15	1/2"	15	65	-	137	69	2.042	-
HPQX - 20	3/4"	20	80	-	145	85	2.665	-
HPQX - 25	1"	25	95	160	162	96	3.665	-
HPQX - 32	1.1/4"	32	121.5	180	170	120	6.000	-
HPQX - 40	1.1/2"	40	121.5	200	170	120	5.895	-
HPQX - 50	2"	50	140	230	195	145	9.810	-
HPQX - 65	2.1/2"	65	172	290	215	150	-	-
HPQX - 80	3"	80	195	310	300	180	-	-



CMRI



Pressure
upto
110 bar



Solenoid Valve For High Pressure Fluids (40 kg)

BHI offers HIGH FLOW piston type solenoid valves, are specially engineered in the construction of Investment Cast CF8 / CF8M / CF3M body for multiple and long lasting operations, especially for HIGH PRESSURE FLUIDS

BHI Solenoid valves are the best for the inflammable media. The Flameproof Explosion proof solenoid coils are available in such application.

Size Range : 1/4" To 6" Screwed / Flange / Triclover

Technical Specifications :

Valve body	ASTMA351 - CF8 / CF8M / CF3M
Seat & Seals	Teflon (Silicon, Viton, EPDM on request)
Pressure	2 To 40 bar
Temperature	Upto 90 °C
Coil Voltage	12V, 24V, 48V, 110V, 230V AC/DC
Insulation	H Class Suitable Upto 140 °C
Coil Encloser Meets	IP 20 / IP 65 / IP 67 (Flame Proof / Explosion Proof as per IS 2148 STD for Class II A, II B, II C Zone)
Coil Rating	Continuous Rated
Media	Hot Water / LD Oil / Air / Water / Corrosive Media

Caution :

- Do not use for steam application
- Hot water temperature limited up to 95°C only
- Avoid Back Pressure
- INSTALLATION OF "FILTER" IN INLET SIDE IS HIGHLY RECOMMENDED

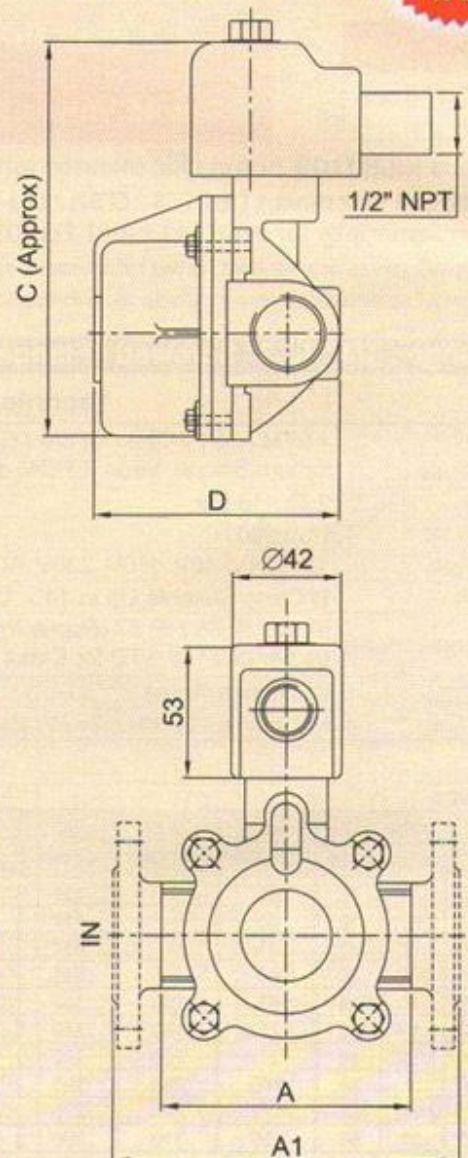
Technical Specification Table

Size Inch	Orifice mm	Flow factor kv M ³ /hr.	Minimum Pressure bar	Maximum operating pressure (Bar)					
				AC			DC		
				Air/ Gas	Water	Light Oil	Air/ Gas	Water	Light Oil
1/4"	10	1.8	2	28	26	24	40	35	30
3/8"	16	2.6	2	28	26	24	40	35	30
1/2"	16	3.4	2	28	26	24	40	35	30
3/4"	20	5.2	2	32	28	24	40	30	30
1"	25	8.5	2	34	28	17	40	30	30
1.1/4"	28	14.0	2	34	25	17	40	30	30
1.1/2"	34	17.3	2	34	25	22	40	30	30
2"	45	30.5	2	30	25	22	40	30	30
3"	72	55.0	2	18	13	10	20	16	16

Dimensions :

(All Dimensions*are in mm)

Valve Model	Valve Size		A Screwed	A1 Flanged	C (Approx)	D	Weight (Approx)	
	MM	Inch					S/E	F/E
HPSE - 6	6	1/4"	65	130	137	68	-	-
HPSE - 10	10	3/8"	65	130	137	68	-	-
HPSE - 15	15	1/2"	65	130	137	68	1.240	1.890
HPSE - 20	20	3/4"	80	150	145	85	1.620	2.575
HPSE - 25	25	1"	95	160	162	90	2.100	3.280
HPSE - 32	32	1.1/4"	121.5	180	170	110	3.300	5.050
HPSE - 40	40	1.1/2"	121.5	200	170	110	3.240	4.960
HPSE - 50	50	2"	140	230	195	130	4.800	7.770
HPSE - 65	65	2.1/2"	172	290	195	160	-	-
HPSE - 80	80	3"	195	310	235	170	8.250	14.500
HPSE - 100	100	4"	300	350	280	230	-	-
HPSE - 150	150	6"	344	482.5	400	300	-	-



2/2 Way Pilot Operated Piston Type "HVS"

Solenoid Valve For
Steam & High Temperature Fluids

* BHI offers HIGH FLOW piston type solenoid valves, are specially engineered in the construction of Investment Cast CF8 / CF8M / CF3M body for multiple and long lasting operations, especially in STEAM & HIGH Temperature FLUIDS.

* BHI Solenoid valves are the best for the inflammable media. The Flameproof Explosion proof solenoid coils are available in such application.

Size Range : 1/4" To 6" Screwed / Flanged / Triclover

Technical Specifications :

Valve body	ASTM A351 - CF8 / CF8M / CF3M
Seat & Seals	Teflon
Pressure	8 PSI to 180 PSI
Temperature	Upto 180 °C
Coil Voltage	12V, 24V, 48V, 110V, 230V AC/DC
Insulation	H Class Suitable Upto 180 °C
Coil Encloser Meets	IP 20 / IP 65 / IP 67 (Flame Proof / Explosion Proof as per IS 2148 STD for Class II A, II B, II C Zone)
Coil Rating	Continuous Rated
Media	Hot Water / Steam / High Temperature Fluids

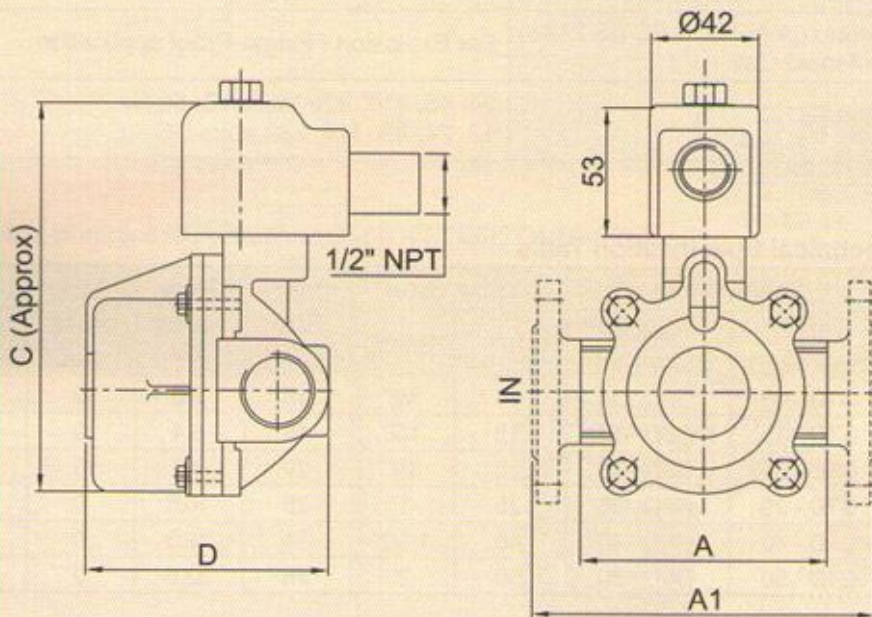


Caution :

- » Suitable for Dry Steam
- » Hot water temperature limited up to 95°C only
- » Avoid Back Pressure
- » INSTALLATION OF "FILTER" IN INLET SIDE IS HIGHLY RECOMMENDED

Technical Specification Table

Size Inch	Orifice mm	Flow factor kv M ³ /hr.	Minimum pressure bar	Maximum operating pressure (Bar)	
				Hot Water	Steam
1/4"	10	2.8	1	9	9
3/8"	15	3.4	1	9	9
1/2"	15	4	1	9	9
3/4"	20	7	1	9	9
1"	25	12	1	9	9
1.1/4"	28	15	1	9	9
1.1/2"	34	23	1	9	9
2"	45	38	1	9	9
2.1/2"	On Request				
3"					
4"					
6"					



Dimensions :

(All Dimensions are in mm)

Valve Model	Valve Size		A Screwed	A1 Flanged	C (Approx)	D	Weight (Approx)	
	MM	Inch					S/E	F/E
HVS - 6	6	1/4"	65	130	137	68	-	-
HVS - 10	10	3/8"	65	130	137	68	-	-
HVS - 15	15	1/2"	65	130	137	68	1.240	1.890
HVS - 20	20	3/4"	80	150	145	85	1.620	2.575
HVS - 25	25	1"	95	160	162	90	2.100	3.280
HVS - 32	32	1.1/4"	121.5	180	170	110	3.300	5.050
HVS - 40	40	1.1/2"	121.5	200	170	110	3.240	4.960
HVS - 50	50	2"	140	230	195	130	4.800	7.770
HVS - 65	65	2.1/2"	172	290	195	160	-	-
HVS - 80	80	3"	195	310	235	170	8.250	14.500
HVS - 100	100	4"	300	350	380	230	16.200	25.100
HVS - 150	150	6"	344	482.5	400	300	-	-

"GSD / GTD" Semi Lift Diaphragm Solenoid Valve**For Low Pressure Fluids**

BHI offers 2/2 way semi pilot, high performance diaphragm type solenoid Valves, for high volume and low pressure application in air, gas, water, vacuum, light oil, corrosive fluids. available in normally close and normally open design.

Suitable For :

Autoclaves, Gas burning equipments, Oil centrifuge plants, Vacuum plants, Pump seal water application, Low pressure water circulation system, solar heating systems, Gas generator etc...

Size Range : 3/8" To 4" Screwed / Flanged / Triclover

Technical Specifications :

Body and Bonnet Construction	ASTM A351 Gr. CF8 / CF8M / CF3M
Diaphragm	Nitrile or Neoprene PTFE, Nitrile Diaphragm
Temperature of Fluid	-50 °C to 80 °C max. (High Temperature On Request)
Pressure Rating	0 to 5 bar max. (0 to 6 bar On Request)
IP 20 (IS 2147) Solenoid Coil	General Purpose.
IP 65 (IS 2147) Solenoid Coil	For Water Proof application.
Group I, IIA, IIB, & IIC (IS 2148) Solenoid Coil	For Explosion / Flame-Proof application.
Voltage	24, 48, 110, 220 Volts AC, 50 Hz. 12, 24, 48, 110, 220 Volts DC.

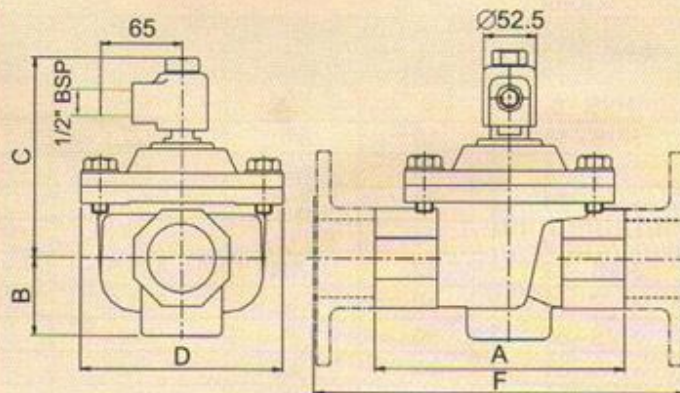
**Technical Specification Table**

Valve Model		Valve Size		Orifice Size (mm)	Flow Factor KV	Min. press. bar	Max. Operating Pressure (Bar)					
Teflon Diaphragm	Rubber Diaphragm	mm	Inch				AC			DC		
							Air/Gas	Water	Light Oil	Air/Gas	Water	Light Oil
GTD - 10	GSD - 10	10	3/8"	15	2.6	0	6	4.0	3.0	6	5.0	3.0
GTD - 15	GSD - 15	15	1/2"	16	3.4	0	* 6	4.0	3.0	6	5.0	3.0
GTD - 20	GSD - 20	20	3/4"	20	4.3	0	6	3.5	3.0	6	4.0	3.0
GTD - 25	GSD - 25	25	1"	25	10.3	0	6	3.5	2.0	6	4.0	2.5
GTD - 40	GSD - 40	40	1.1/2"	34	19.3	0	5	3	2.0	5	4.0	2.0
GTD - 50	GSD - 50	50	2"	45	32.5	0	4	3	2.0	4	3.0	2.0

Dimensions :

(All dimensions are in MM)

Valve Size		A Screwed	B	C	D	F Flanged	Weight (Approx)	
MM	Inch						S/E	F/E
10	3/8"	65	13.5	109.5	57	130	-	-
15	1/2"	65	13.5	109.5	57	130	0.960	1.726
20	3/4"	80	21	115	68.5	150	1.200	2.220
25	1"	95	29	121	82	160	1.600	2.425
40	1.1/2"	118	35	133	100	200	2.200	3.930
50	2"	137	43.5	143.5	120	230	3.200	6.260
65	2.1/2"	172	58	175	185	290	4.370	9.700
80	3"	195	58	175	185	310	6.310	12.540
100	4"	300	58	175	203	350	13.840	23.190



Catalogue No.

APL / 1035

"SSD" 2/2 Way Direct Acting Semi Steam Solenoid Valve For Hot Air / Hot Oil / Hot Water / Steam

BHI Offers 2/2 way direct acting solenoid valves are the best for the inflammable media. The Flameproof Explosion proof solenoid coils are available in such application.

Size Range : 1/4" & 1/2" BSP / NPT

Type : Normally Close

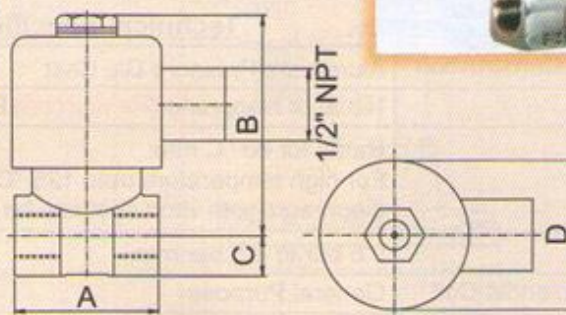
- Compact design light weight & long durability.
- Constructed from advanced technology & design.
- 600 operation per minute.
- Easy installation, universal mounting.

Technical Specifications :

Body Construction	Brass forged
Seat	Viton
Pressure	0 to 12 Kg/cm ² (High Pressure On Request)
Temperature of fluid	-5 °C to 150 °C
Coil Voltage	12V, 24V, 48V, 110V, 220V AC / DC
Coil Insulation	'H' Class
Port Size	2.5 mm
Coil Rating	Continuous Rated
Media	Oil / Water / Chemical / Hot Water / Steam

Dimensions : (All dimenisons are in MM)

Valve Model	Valve Size		A	B	C	D
	MM	Inch				
SSDA - 6	6	1/4"	40	68	10	52
SSDA - 15	15	1/2"	52	72	14	52



Catalogue No.

APL / 1036

"WSV" 2/2 Way Pilot Operated Diaphragm Type Solenoid Valves for Wet Steam

"aira" For Steam and hot water application upto 9 bar pressure NORMALLY CLOSED, ENERGISED TO OPEN

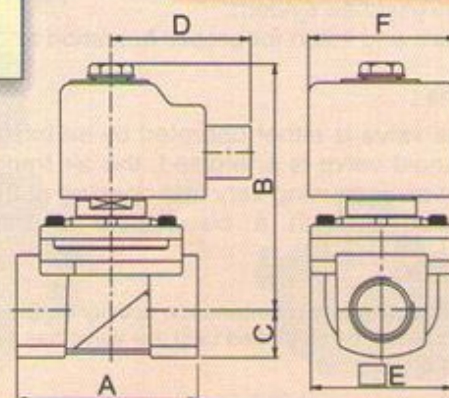
Size Range : 1/2" & 3/4"

Technical Specifications :

Body	ASTM A351 - CF8 / CF8M
Diaphragm	Standard Glass filled PTFE (Teflon)
Working Pressure	Upto 10 Kg/cm ²
End Connection	Screwed to BSP
Coil Voltage	12V / 24V / 48V / 110V / 230V / AC - DC
Coil Temperature	Ambient upto 42 °C
Coil Insulation	Class 'H' Insulated upto 180 °C
Coil Rating	Continuously rated
Enclosure	Standard-General Purpose IP - 20, Optional-Weather proof IP - 67, Flame proof Upto FLV IIB - IIC.
Fluids	Steam Temperature Upto 150 °C Hot Water Upto 95 °C
Application	Steaming equipment, textile, Processing equipment, Ironing Equipment, Kitchen Equipment Sterlizers, Tanning plant, Tobacco Plants and others

Dimensions : (All dimenisons are in MM)

Valve Model	Valve Size		A	B	C	D	□E	F
	MM	Inch						
WSV - 15	15	1/2"	48.5	78	14.25	65	40	53
WSV - 20	20	3/4"	65	85	17	65	51	53



BHI offers high performance diaphragm operated pulse and pilot solenoid valves with threaded ports. Available with integral pilot or as remotely pilot valves. Out let at 90° to inlet. The pulse valves have just one moving part, the diaphragm Springless construction of diaphragm providing fast ON-OFF operation. This high speed operation saves compressed air and provides kind of shock wave necessary to free the dust from filter bags.

Suitable for :

Dust collector application, in particular for reverse pulse jet filter cleaning including bag filters, cartridge filters, envelope filters, ceramic filters and sintered metal fiber filters.

Size Range : 1/2" To 6" Screw

Technical Specifications :

Body and Bonnet Construction	Aluminium Pressure Die Cast
Diaphragm	Nitrile or Neoprene (Reinforced) P.U
Temperature	Rated for 80 °C max. For high temperature upto 125 °C Viton diaphragm with viton seat can be provided
Pressure Rating	0.6 bar to 8.5 bar max.
IP 20 (IS 2147) Solenoid Coil	General Purpose
IP 65 (IS 2147) Solenoid Coil	For Waterproof application
Group I, IIA, IIB & IIC (IS 2148) Solenoid Coil	For Explosion / Flame - Proof application
Coil Rating	Continuous Rated
Voltage	24, 48, 110, 220 Volts AC, 50 Hz. 12, 24, 48, 110, 220 Volts DC

Installation :

1. Prepare supply and blowtube pipes to suit valve specification.
2. Valves are mountable in any position without affecting operation, but as a general practice, to fit the valve keeping solenoid upright and above header tank is desirable. This prevents scale and water entering the valve.
3. Ensure tank and pipes are free from dirt, rust or other particulate.
4. Ensure supply air is clean and dry.
5. Mount valves to inlet pipes and blow tube to valves, ensuring no excess thread sealant can enter the valve itself.
6. Make electrical connections to solenoid or connect remote pilot solenoid valve to pilot port **(For remotely piloted valves only)**.
7. Selection of the proper pilot valve orifice is important for the remote control solenoid valves as well as length of the connecting tube, which should be kept as short as possible.
8. Apply moderate pressure to system and check for installation leaks.
9. Fully pressurise system.
10. Test fire and listen for proper actuation and crisp pulse noise.

Operations :

The pulse valve is either operated by an integral solenoid operator or a remote pilot solenoid valve. When the pilot solenoid valve is energised, the air trapped above the diaphragm is quickly exhausted through the pilot solenoid valve, causing very fast opening of the main pulse valve. When the pilot solenoid valve is deenergised air supplied through a bleed hole is trapped above main diaphragm, causing to close the valve.

Maintenance :

Before conducting any maintenance activity on the system ensure that components are fully isolated from pressure and power should not be reapplied until the valve has been fully assembled. Diaphragm and pilot inspection should be conducted annually.



BHI Pneumatic-Pneumatic Positioner (3-15 pst / rotary off linear type) are advanced control devices which provide unparalleled stability in difficult environment.

Description :

The ' **BHI** APP-1200-R/L series positioners converts a controller output (usually 3 to 15 psig to Linearly/Rotary proportional Travel/Rotational & Pneumatic outputs. The Positioners are based on a force balance design for control applications that requires a high degree of reliability & repeatability at an economical cost. Optional NEMA 4X (IP65/IP66)-explosion proof versions allows for splashdown/explosive atmosphere and outdoor installation.

The ' **BHI** APP-1200-R/L series positioners are used for Linear/Rotary movement with ranges 3-9 and 9-15 psig. control signal, when you select split range. Standard range is 3-15 psig. The positioners can handle the supply pressure upto 100 psig for higher pressure Industrial pneumatic and process control system requirements.

Principle of operation

The operation of **BHI** APP-1200-R/L series positioners is based on a force balanced system. Tension on the feedback spring provides feedback to the positioner which will vary as the actuator shaft rotates with cam. The spring Loading force is applied through the cam shaft & cam to the positioner's instrument signal capsule through the balance beam.

Output from the controller (usually 3-15 Psig) is applied to the diaphragm in the instrument signal capsule serving as a force balance membrane, matching the actuator shaft position to the instrument signal.

Split ranging

If split ranging is required may be mounted on Linear Actuator/Rotary Actuator as per installation and operational manual.

Mounting

The **BHI** APP-1200-R/L FC series positioners may be mounted on Linear Actuator/Rotary Actuator as per installation and operational manual

Field reversible

To change from direct acting to reverse acting simply reverse the cam and fix it on cam shaft and make sure of the signal SPAN which is printed on the cam and recalibrate for Actuator fully open or close position incase of Pneumatic to Pneumatic.

Technical specifications

TYPE	APP-1200-L/R	
	Linear / Rotary Type	
ITEM	Single	Double
Input Signal	3~15psi (0.2-1.0 kgf/cm ²) (NOTE 1)	
Supply Air Pressure	100 psi Max. (7.0 kgf/cm ²)	
Standard Stroke	10~80mm (NOTE 2)	
Air Piping Connection	1/4" NPT (F)	
Ambient Temperature	-20°C to 70°C	
Pressure Gauge	Stainless Steel	
Explosion-proof Classification	Exia II BT6, Exdm II BT6, Exdm II CT6	
Degree of Protection	IP66	
Pressure Gauge	Stainless Steel 0-2 kg/cm ²	
	0-4 kg/cm ²	
	0-10 kg/cm ²	
Output Characteristics	Linear	
Linearity	Within ± 1.0% F.S.	
Sensitivity	Within 0.2% F.S.	
Hysteresis	Within 0.2% F.S.	
Repeatability	Within ± 0.75% F.S.	
Air Consumption	5.0 LPM (1.4 kg/cm ²) Supply	
Flow Capacity	80 LPM (1.4 kg/cm ²) Supply	
Material	Aluminium Diecast Body	
Weight	1.8 Kg. (Approx)	

Integrated characteristics

- Suitable for Rotary / Linear Actuators.
- Low Air Consumption.
- Corrosion-Resistance Aluminium Diecast Body.
- Simple Conversion to Direct Acting or Reverse Acting.
- Precise Calibration with simple SPAN and Zero Adjustments.
- Suitable for Single/Double acting Actuators.
- Split Ranging.
- Optional Built-in Limit Switches or 4-20mA Position Transmitter for feedback.
- Extremely Vibration Resistance Design.
- Easy Maintenance.



Model : APP-1200-R/L

Features

- Designed block build structure for maintenance and repair
- Precise calibration with simple SPAN and ZERO adjustments
- Simple conversion to Direct Acting or Reverse Acting
- Split range control available by simple adjustments without changing parts
- Simple structure for feedback connection
- Corrosion-resistant aluminium die cast body
- Sensitive response for high performance
- Vibration resistant design
- Stainless Steel Gauge Standard
- A restricted pilot valve orifice kit for small actuators included
- Optional built-in limit switched or 4-20 mA position transmitter for feedback
- Optional directly-mountable positioner
- Proved the reliability through over 5,00,000 times of repeat test & Vibration test.

Application

The ' **BHI** APP - 1200 R/E Positioners converts pneumatic/electrical signal to a pneumatic output which can be used to operate the following:

- Valve, Valve-Actuators
- Damper and Louver Actuators
- Air-Cylinders
- Relays
- Clutches
- Web Tensioners and Brakes

USED IN :

- Petrochemical Processing Systems
- Energy Management
- Hvac Systems
- Textile Processing Systems
- Pharmaceutical Processing System
- Paper & Pulp Handling Controls

NOTE : 1. 1/2 split range can be adjusted

2. Feedback lever for stroke 80-150mm is available (PPL)

TRANSDUCERS SERIES 500 IP ELECTRO-PNEUMATIC**(I/P E/P) CURRENT / VOLTAGE TO PRESSURE****Description**

The **BHI** 500 IP series transducers are ideally used to convert current or voltage input signal to a linearly proportional pneumatic output pressure. This versatile instrument is rugged and reliable force balance transducers for use in both process control and industrial applications, for standard process control applications which typically utilize 3 to 15 psig output and industrial & high pressure application which typically utilize pressure output up to 120 psig. **BHI** 500 IP series transducers combines low cost, high accuracy and minimum air consumption with field proven technology. Versatile design features and rugged, compact housing with a choice of CMRI and ATEX* approved versions for explosion proof or intrinsically safe operation when used with a suitable barrier.

Principle of Operation

The **BHI** 500 IP series transducer is a balance device in which, when electrical current is passed through the coil of transducer, a magnetic field is created which acts on the magnet assembly, causing the anvil & diaphragm to move away from or forward the nozzle (flapper nozzle) depending on the direction of current flow. Motion at the nozzle assembly is proportional to the amount of current passing through the coil.

The flapper/anvil move away from or forward towards the nozzle creates back pressure which acts as pilot pressure to an integral booster relay. When input electrical current increases (or decreases for reverse acting) causes proportional output pressure increases.

Zero and Span are calibrated by turning easily accessible adjusting screw on the front face of the unit. The zero adjusting screw causes the nozzle to move relative to the flapper/anvil. The span adjusting screw is a potentiometer that limits the current through the coil. A thermistor circuit in series with the coil provides temperature compensation.

Split Ranging

If split ranging is required the 4-20 mA input and 3-15 psig output version (**BHI** 500 IP) can be recalibrated to provide 3-9 psig or 9-15 psig output.

Mounting

The **BHI** 500IP series transducers can be pipe, panel or bracket mounted in any position. Position other than vertical will require recalibration of the zero and span adjustment. Transducers should be mounted in a vibration-free area.

Field Reversible

All 500IP series transducers are calibrated at the factory for direct acting operation but may be used in reverse acting mode by reversing the polarity of signal leads and recalibrating. When calibrated for reverse acting applications it provide a minimum of their full rated output pressure (i.e. 3 psig) upon input signal failure.

Integrated Characteristics

- Compact Design.
- Low Air Consumption.
- Integral Volume Booster flow capacity up to 20 SCFM is boosted by the built in volume booster.
- Field Reversible Output provides inversely proportional to input signal.
- Flexible Adjustments of Zero & Span.
- Standard Process Inputs.
- Split Ranging.
- NEMA 4X (IP65) Enclosure Optional.
- Saving in Investments.
- CMRI and ATEX approval pending

Application

The **BHI** 500 IP series transducers converts electrical signal to a pneumatic output which can be used to operate the followings:

- Valve, Valve-Actuators,
- Valve Positioners
- Relays
- Web Tensioners and Brakes
- Damper and Louver Actuators
- Air-Cylinders
- Clutches

Used in

- Petrochemical Processing Systems
- Energy Management
- HVAC Systems
- Textile Processing Systems
- Pharmaceutical Processing System
- Pulp and Handling Controls



2/2 Way Pilot Operated Diaphragm Type**"ISD" Solenoid Valve****For Air / Water / Gas / Oil / Chemical**

BHI offers HIGH FLOW Diaphragm type solenoid valves, are specially engineered in the construction of Investment Cast CF8 / CF8M / CF3M body with Electro plating for multiple and long lasting operations.

Types :

1. Normally close - Engrised to Open 2. Normally Open - Energised to Close

Application : Air, Water, Light Oil, Gas, Light Chemical

Size Range : 1/4" To 6" Screwed / Flanged / Triclover

BHI solenoid valves are the best for the inflammable media / environment. The Flameproof / Explosion proof solenoid coils are available in such application.

Technical Specifications :

Body & Cover	ASTM A351 Gr. CF8 / CF8M / CF3M
Seals / Diaphragm	Nitrile / Neoprene (optional - silicon, viton & other)
Pressure Range	0.5 to 10 bar
Temperature Range	-5° C to 85° C (On Request upto 95° C)
Coil Voltage	12V, 24V, 48V, 110V, 230V, AC/DC
Coil Insulation	'F' Class
Coil Rating	Continuous Rated

Applications :

Textile Processing Machinery, Chemical Plants, Water Treatment, Sugar Machinery, Cement Machinery, Pumps, Irrigation, Combustion Equipment, Heat Exchanger, Air Dryer, Pollution Controls, Laundry Equipments and where dependable ON/OFF type control is required.

Solenoid Coil

(for General)



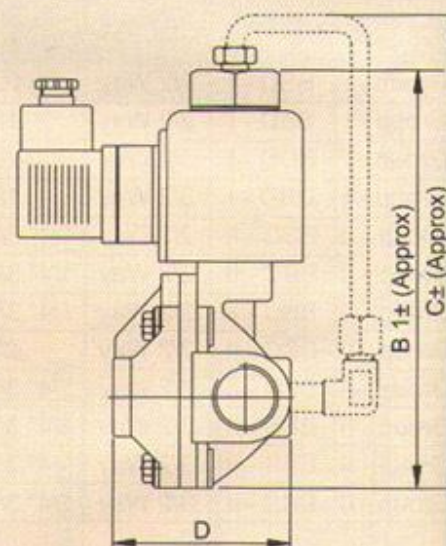
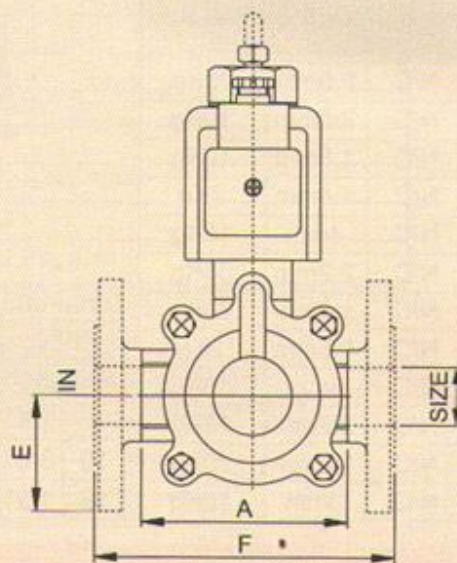
IP - 65 & IS:2147

(for Weather Proof)



Explosion & flame proof solenoid available on request.

(As per IS : 2148 Standard approved by Central Mining Research Institute - CMRI)

**Dimensions :**

(All Dimensions are in mm)

Valve Model	Valve Size		Flow Factor Kv m ³ /hr	A	F	B	C	D	E	Weight (Approx)	
	MM	Inch		Screwed	Flanged	(Approx)	(Approx)			S/E	F/E
ISD - 6	6	1/4"	2.5	65	130	122	170	53	-	0.825	1.500
ISD - 10	10	3/8"	2.5	65	130	122	170	53	-	0.800	1.450
ISD - 15	15	1/2"	3.5	65	130	122	170	53	44.5	0.760	1.400
ISD - 20	20	3/4"	5.0	80	150	130	180	74	49.5	1.100	1.880
ISD - 25	25	1"	11.0	95	160	148	200	75	54	1.500	2.270
ISD - 32	32	1.1/4"	13.0	121.5	180	159	212	105	58.5	2.340	6.160
ISD - 40	40	1.1/2"	20.0	121.5	200	159	212	105	63.5	2.250	6.160
ISD - 50	50	2"	38.0	140	230	177	225	120	76.5	3.350	6.500
ISD - 65	65	2.1/2"	67.6	172	290	198	230	140	89	4.030	9.350
ISD - 80	80	3"	97.6	195	310	235	260	160	95	5.970	12.200
ISD - 100	100	4"	-	300	350	280	318	160	114	13.500	22.850
ISD - 150	150	6"	-	344	482.5	-	-	-	-	30.300	50.100