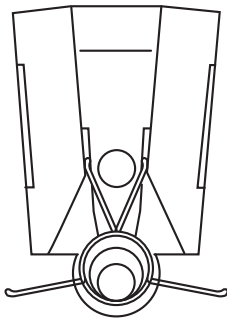


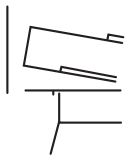


## WAFER TYPE CHECK VALVE

## • Duo Plate (Dual Disc) Check Valve Design Features



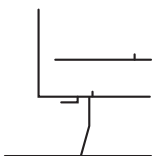
1



2



3



4

### • Wafer Duo Plate Design Advantage

The short face to face design inherently makes this check valve significantly lighter. The valve is designed to fit between two flanges and requires no flanges of its own. The dual disc check valve can be installed in any position as the spring aids in keeping the valve closed. These features allow you to design your piping layout in the most efficient and least expensive fashion.

### • Shock Bumpers

An integral cast bumper (Fig.1) is present on all Duo Plate Check Valve (Except class 125 lb.). The bumpers can be found on both discs, which meet when the valve reaches a fully open position. This design feature prevents the discs from pressing against the stop pin and eliminates leverage that would cause unnecessary stresses and wear. The purpose of the stop pin is to prevent over travel of either disc, which would result in valve failure.

### • Resilient Seat

The basic design of the Duo Plate Check Valve is illustrated in Fig.2. This seat is chemically bonded using specially designed adhesives that provide rubber tearing bonds throughout the operating range of the seat material. In case of resilient seat failure, the valve design permits the disc to float and make contact with the metal surface the seats were adhered to. This feature allows the valve to function even if the resilient seat is not present. We also have provided a seat design illustrated in Fig.3. This design results in a controlled seat squeeze and provides a metal-to-metal backup seal (Fig.4).



5



6



7

### • Minimal Seat Wear

The Duo Plate Check Valve was designed to eliminate the possibility of seat wear caused by friction at the heel of the dual disc while maintaining low back pressure sealing capabilities. The clearance between the body, disc and hinge pin results in the discs cracking open at the heel location first (Fig.5). When the valve opens, the heel does not drag across the seating surface and cause wear (Fig.6). As the valve closes, the spring will take the toe of the disc into the seating surface first, while the pipeline back pressure will force the heels and hinge pin back to the seat to complete the seal (Fig.7).

## • Product Type Code

Example : EH77X510QB1: Series EH, Wafer, Duo Plate, NBR Seat, 1.0 MPa(150PSI), DI Body, DI Disc.

1	2	3	4	5	6	7	8
<b>1 Series</b>	<b>Code</b>	NR	X1	12Cr1Mo1v Gr.F22	V		
Europe Wafer Duo Plate Check Valve	EH	EPDM	X3	ALB	T		
API Duo Plate Check Valve	AH	NBR	X5	CF8	P		
Lined Duo Plate Check Valve	BH	VITON	X7	CF8M	R		
Wafer Swing Check Valve	MH	NSF-EPDM	XC			<b>7 Disc Material</b>	<b>Code</b>
<b>2 Connection Type</b>	<b>Code</b>	<b>5 Pressure Rating</b>	<b>Code</b>	DI	B1	ALB	B2
Wafer	7	1.0 MPa	10	1.2501 Duplex Stainless Steel	B4	CF8M	B5
<b>3 Structure</b>	<b>Code</b>	1.6 MPa	16	1.4529 Duplex Stainless Steel	B6	CF8	B7
Swing	4	2.5 MPa	25	Hastelloy Alloy	B8		
	7	<b>6 Body Material</b>	<b>Code</b>	Monel	B9		
<b>4 Seat Material</b>	<b>Code</b>	CI	Z				
Alloy Steel	H	DI	Q				
		WCB	C				
		Cr5Mo Gr.F5a	I				

## • Technical Specifications

		EH	AH		BH		MH	
DN Nominal Diameter		"40 ~ 700(1.5" ~ 28")"	"50 ~ 750(2" ~ 30")"	"50 ~ 300(2" ~ 12")"	"50 ~ 500(2" ~ 20")"	"50 ~ 300(2" ~ 12")"	"50 ~ 600(2" ~ 24")"	50 ~ 400 (2" ~ 16")
PN Nominal Pressure		1.0 MPa	150 PSI	200 PSI	150 PSI	200 PSI	1.0 MPa	1.6 MPa
Testing Pressure	Shell	1.5 MPa	225 PSI	300 PSI	225 PSI	300 PSI	1.5 MPa	2.4 MPa
	Sealing	1.1 MPa	165 PSI	220 PSI	165 PSI	220 PSI	1.1 MPa	1.76 MPa
Working Temperature		-15 ~ + 150 (Depend on Seat Material)						
Suitable Mediums		Fresh water, Sewage, Sea water, Air, Vapour, Food, Medicine, Oils, Acids, Alkalis, Salts, etc.						

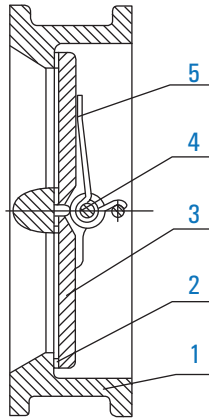
### Flange Connection:

- Series EH, MH conform to EN1092;
- Series AH, BH conform to ANSI B16.1;

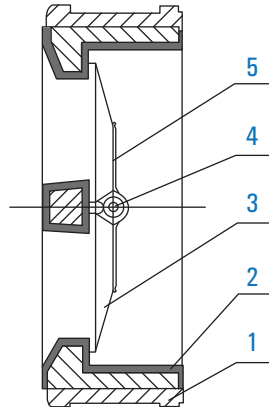
### Face to Face:

- Series EH conform to EN558-1 Series AH conform to ANSI B16.10

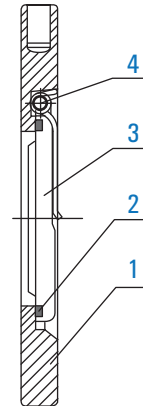
• Materials of Main Parts



Series EH & AH



Series BH

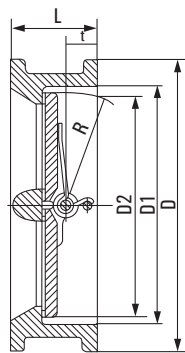


Series MH

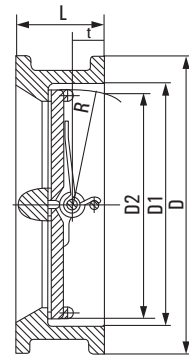


No.	Part	EH	AH	BH	MH	
1	Body	CI CF8 CF8M	DI WCB ALB	CI CF8 CF8M	DI WCB ALB	WCB CF8 CF8M ALB
2	Seat	NBR VITON	EPDM	DI Covered Rubber	NBR VITON	EPDM
3	Disc	DI CF8 CF8M	ALB	DI CF8 CF8M	ALB	WCB CF8 CF8M ALB
4	Stem	304/316		304/316		N/A
5	Spring		316	316, Inconel x 750		N/A

## • Overall Dimensions & Weights



Series EH



Series AH

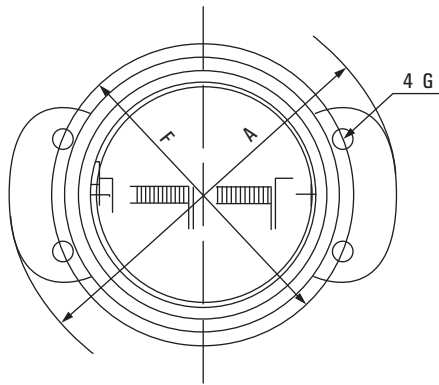
### • Series EH

Size		D	D1	D2	L	R	t	Weight (kg)
(mm)	(inch)							
DN50	2"	107/102	65	43.3	43	28.8	19	1.5
DN65	2 1/2"	127/121	80	60.2	46	36.1	20	2.4
DN80	3"	142/133	94	66.4	64	43.4	28	3.6
DN100	4"	162/171	117	90.8	64	52.8	27	5.7
DN125	5"	192	145	116.9	70	65.7	30	7.3
DN150	6"	218	170	144.6	76	78.6	31	9.0
DN200	8"	273/276	224	198.2	89	104.4	33	17
DN250	10"	328/336	265	233.7	114	127	50	26
DN300	12"	378/382/406	310	283.9	114	148.3	43	42
DN350	14"	438/442/448	360	332.9	127	172.4	45	55
DN400	16"	488/495/511	410	381.0	140	197.4	52	75
DN450	18"	538/555/546	450	419.9	152	217.8	58	101
DN500	20"	592/617/603	505	467.8	152	241	58	111
DN600	24"	690/720/734	624	572.6	178	295.4	73	172
DN700	28"	809/828	720	680	229	354	98	219

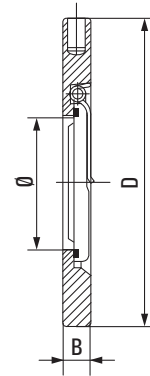
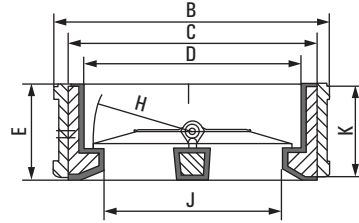
Note: For products of PN1.6 MPa, please consult factory.

### • Series AH

Size		D	D1	R	L	t	D2	Weight (kg)
(mm)	(inch)							
DN50	2"	105 (4.134)	65 (2.559)	29.73 (1.17)	54 (2.12)	25 (0.984)	32.18 (1.26)	2.8
DN65	2.5"	124 (4.882)	78 (3.071)	36.14 (1.423)	60 (2.38)	29.3 (1.154)	42.31 (1.666)	3
DN80	3"	137 (5.39)	94 (3.701)	43.42 (1.709)	67 (2.62)	27.7 (1.091)	66.87 (2.633)	3.8
DN100	4"	175 (6.89)	117 (4.606)	55.66 (2.191)	67 (2.62)	26.7 (1.051)	97.68 (3.846)	5.5
DN125	5"	187 (7.362)	145 (5.709)	67.68 (2.665)	83 (3.25)	38.6 (1.52)	111.19 (4.378)	7.4
DN150	6"	222 (8.74)	171 (6.732)	78.64 (3.096)	95 (3.75)	46.3 (1.823)	127.13 (5.005)	10.9
DN200	8"	279 (10.984)	222 (8.740)	102.5 (4.035)	127 (5)	66 (2.598)	161.8 (6.370)	22.5
DN250	10"	340 (13.386)	276 (10.866)	126 (4.961)	140 (5.5)	70.7 (2.783)	213.6 (8.490)	36
DN300	12"	410 (16.142)	327 (12.874)	154 (6.063)	181 (7.12)	102 (4.016)	237.9 (9.366)	54
DN350	14"	451 (17.756)	375 (14.764)	179.9 (7.083)	184 (7.25)	89.2 (3.512)	312.5 (12.303)	80
DN400	16"	514 (20.236)	416 (16.378)	198.4 (7.811)	191 (7.5)	92.5 (3.642)	351.0 (13.819)	116
DN450	18"	549 (21.614)	467 (18.386)	226.2 (8.906)	203 (8)	96.2 (3.787)	409.4 (16.118)	138
DN500	20"	606 (23.858)	514 (20.236)	248.2 (9.72)	213 (8.374)	102.7 (4.043)	451.9 (17.791)	175
DN600	24"	718 (28.268)	616 (24.252)	297.4 (11.709)	222 (8.75)	107.3 (4.224)	554.7 (21.839)	239
DN750	30"	884 (34.8)	772 (30.39)	374 (14.724)	305 (12)	150 (5.905)	685.2 (26.976)	659



Series BH



Series MH

• Series BH

(Unit : mm, kg)

Size		A	B	C	D	E	F	G	H	J	K	Weight (kg)
(mm)	(inch)											
50.00	2"	159.00	101.60	84.14	66.68	52.39	120.65	19.05	28.45	47.63	53.98	2.30
65.00	2.5"	178.00	120.65	98.43	79.38	52.39	139.70	19.05	36.51	58.74	53.98	2.80
80.00	3"	191.00	133.35	115.89	92.08	52.39	152.40	19.05	41.28	69.85	53.98	3.70
100.00	4"	235.00	171.45	142.88	117.48	61.91	190.50	19.05	53.98	87.31	63.50	6.80
125.00	5"	270.00	193.68	171.45	144.46	65.02	215.90	22.35	67.47	112.71	66.68	9.10
150.00	6"	305.00	222.25	200.03	171.45	77.79	241.30	22.35	80.17	141.29	79.38	11.80
200.00	8"	368.00	269.88	254.00	222.25	96.84	298.45	22.35	105.57	192.09	98.43	19.50
250.00	10"	429.00	336.55	307.98	276.23	100.01	361.95	25.40	130.18	230.19	101.60	26.40
300.00	12"	495.00	4.6.40	365.13	327.03	128.59	431.80	25.40	158.75	274.64	130.18	45.40
350.00	14"	572.00	447.68	396.88	358.78	177.80	476.25	28.45	171.45	306.39	180.98	61.30
400.00	16"	632.00	511.18	450.85	409.58	158.75	539.75	28.45	196.85	355.60	161.93	77.20
450.00	18"	641.00	546.10	508.00	460.37	180.97	577.85	31.75	222.25	406.14	184.15	100.00
500.00	20"	699.00	596.90	555.62	511.17	212.72	635.00	31.75	247.65	469.90	215.90	130.00

Note: This series of valve can be manufactured according to ANY standard.

• Series MH

PN1.0

PN2.5

PN1.6

Size		Ø	D	B	Weight
(mm)	(inch)				
DN50	2"	32	107	14	0.9
DN65	2.5"	40	127	14	1.2
DN80	3"	54	142	14	1.5
DN100	4"	70	162	18	2.4
DN125	5"	92	192	18	3.3
DN150	6"	112	218	20	4.7
DN200	8"	154	273	22	8
DN250	10"	200	328	26	13.5
DN300	12"	240	378	32	21
DN350	14"	270	438	38	35
DN400	16"	310	489	44	49
DN450	18"	360	539	50	67
DN500	20"	405	594	56	91
DN600	24"	486	695	62	132

Size		Ø	D	B	Weight
(mm)	(inch)				
DN50	2"	30	108	19	1.27
DN65	2.5"	41	126	19	1.9
DN80	3"	54	141	19	2.13
DN100	4"	72	170	19	3.1
DN125	5"	94	191	19	4.13
DN150	6"	115	217	19	5.7
DN200	8"	156	275	28	10.8
DN250	10"	192	332	32	17.4
DN300	12"	222	390	38	28.1
DN350	14"	262	440	44	46.8
DN400	16"	304.8	500	52	67.1
DN450	18"	350	542	62	90.8
DN500	20"	382	600	68	121.6
DN600	24"	482	710	80	186

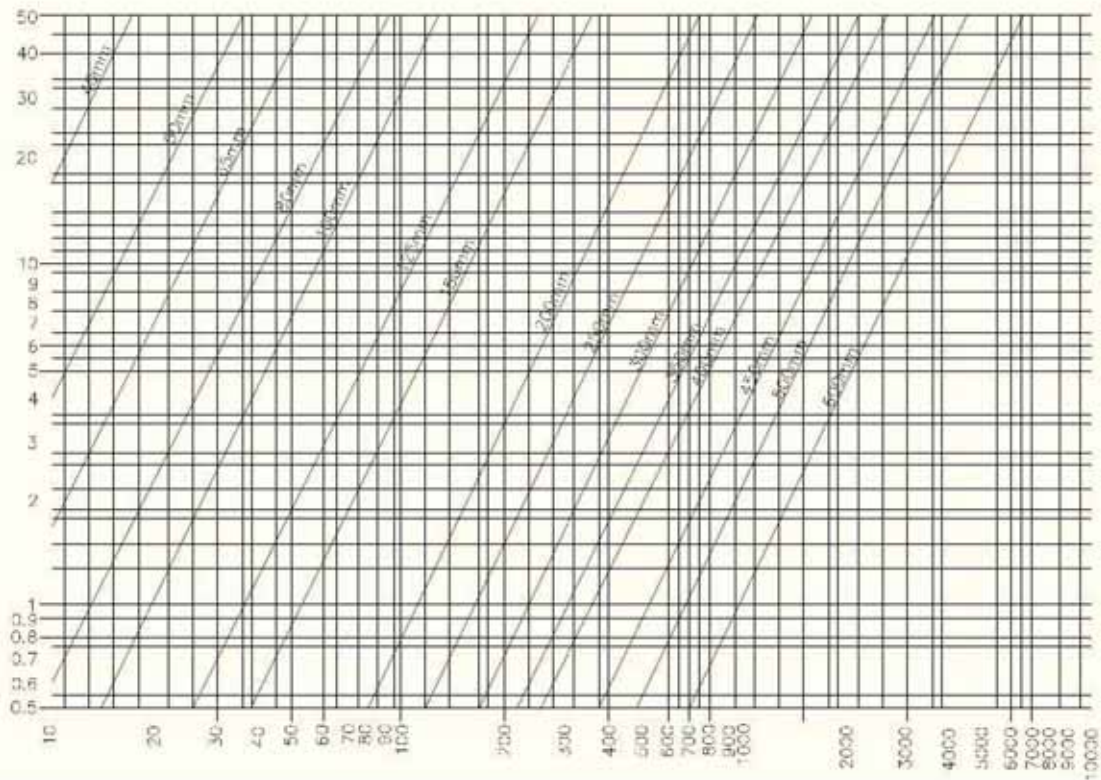
Size		Ø	D	B	Weight
(mm)	(inch)				
DN50	2"	27	108	19	1.12
DN65	2.5"	38	126	19	1.5
DN80	3"	47	141	19	1.88
DN100	4"	71	161	19	2.7
DN125	5"	90	191	19	3.8
DN150	6"	114	216.5	19	5.3
DN200	8"	142	271	28	9.4
DN250	10"	190	326	28	14.8
DN300	12"	220	376	38	26.3
DN350	14"	260	436	44	42.1
DN400	16"	298	486	51	59.3
DN450	18"	355	536	60	75.9
DN500	20"	387	591	60	99.7
DN600	24"	482	710	70	156.8

Min. Opening pressure of Series AH, BH & EH

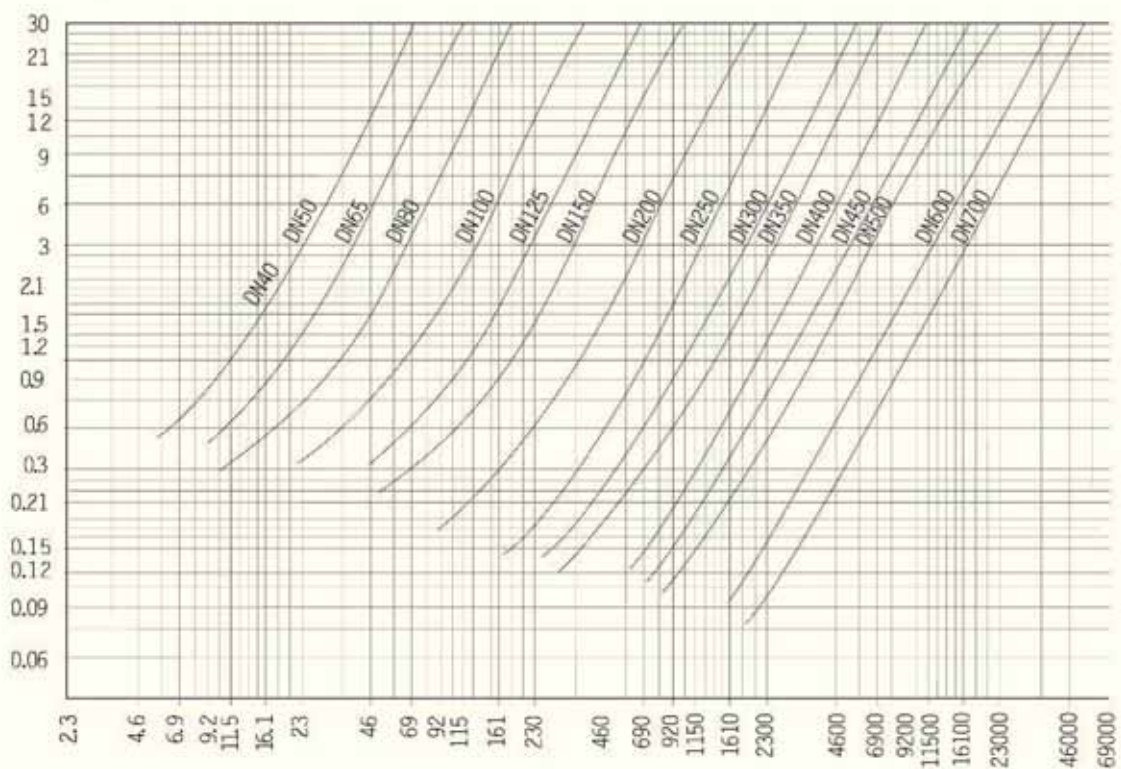
- The min.opening pressure of series AH, BH & EH is about 0.03 bar when installed horizontally.
- The min.opening is about 0.1 bar when installed vertically.
- The min.opening pressure of series MH is about 0.05 bar.

- Curve of Loss in Head

- Series AH, BH, EH



- Series EH



## • Chemical Resistance Guide

### Explanation of Ratings

A - Excellent

B - Good

C - Fair

P - Poor

This guide has been prepared to aid in selecting the proper material for various media. This information is intended only as a general guide and should not be taken as guarantee. To insure reliable performance, conduct factory for suggested elastomer and the planned media and pressure conditions.

CHEMICALS	BUNA-N	EPDM	HYPALON	NEOPRENE	VITON	BRONZE	DUCTILE IRON	STAINLESS STEEL
Acetone	P	B	P	P	P	A	A	A
Air	A	A	A	A	A	A	A	A
Alcohol, Butyl	B	B	B	B	A	B	A	A
Alcohol, Ethyl	A	A	B	B	-	B	A	B
Alcohol, Methyl	B	A	A	A	A	B	A	A
Asphalt	C	P	-	-	B	A	A	A
Aluminum Acetate	C	B	-	-	C	P	P	A
Ammonia Gas	B	A	P	B	P	A	-	A
Ammonia Liquid	C	A	P	B	P	P	-	A
Aniline Dies	P	B	C	C	B	P	B	A
Barium Nitrate	A	A	B	A	A	P	A	A
Beer	A	A	A	B	A	B	P	-
Beet sugar Liquors	-	A	A	B	C	A	B	A
Benzene(Benzol)	P	P	P	P	B	B	A	B
Brines Saturated	B	B	B	B	B	B	P	B
Butane	P	A	B	B	B	A	A	B
Calcium Chloride	C	A	A	A	A	B	A	B
Carbon Tetrachloride	P	P	-	-	C	P	C	A
Chlorinate (10ppm)	C	B	-	-	B	P	-	B
Citric Acid	B	B	A	A	-	P	P	A
Diesel Oil Fuels	A	P	C	C	A	A	A	A
Dioxane	P	P	B	B	P	A	A	A
Ethylene Glycol	A	A	A	A	A	B	A	B
Freon	B	A	A	A	P	B	B	A
Fructose	A	A	-	-	A	-	A	P
Fule Oil	A	P	C	C	A	B	B	A
Gas Natural	B	P	A	A	A	B	A	A
Gas Sour	C	P	-	-	B	B	B	B
Gasoline Refined	A	P	B	B	A	B	A	A
Glucose	A	B	A	A	-	A	A	-
Grease	A	P	-	-	A	P	A	A
Ink, Newsprint	B	A	-	B	B	P	A	A
JP-4 Fuel	A	P	P	P	A	A	A	A
Kerosene	A	P	C	B	A	A	A	A
Ketones	P	A	P	P	P	A	A	A
Latex	A	C	C	C	B	-	A	A
Linseed Oil	A	C	B	B	A	A	A	A

CHEMICALS	BUNA-N	EPDM	HYPALON	NEOPRENE	VITON	BRONZE	DUCTILE IRON	STAINLESS STEEL
LPG	A	P	P	C	B	A	A	B
Mineral Oils	A	P	B	B	A	A	A	A
Minewater	A	B	C	C	A	C	P	-
Molasses	A	P	A	A	B	A	A	A
Natpha	B	P	P	P	B	B	A	P
Nitric Acid 10%	P	B	A	B	A	P	P	B
Nitric Acid 100%	P	P	-	-	C	P	P	B
Nitrogen	-	A	-	-	-	A	A	A
Oleic Acid	B	C	B	B	C	B	C	B
Oxygen	C	A	A	A	A	A	A	A
Paints, Solvents	P	A	-	-	-	A	A	A
Paraffin	A	P	A	A	A	A	B	A
Phenol Gas	P	C	C	C	B	P	P	A
Tar	C	P	-	C	B	A	A	A
Salt Water	A	A	A	B	A	C	P	A
Sewage	A	B	A	A	A	C	B	B
Soap Solution	A	A	A	A	A	B	B	A
Sugar	A	A	B	B	A	P	B	A
Sulfate Liquor	P	C	B	B	B	P	-	A
Sulfite Liquor	C	A	B	B	B	P	B	B
Sufuric Acid 0-77%	C	B	B	P	B	P	P	B
Sufuric Acid 100%	P	P	B	P	P	P	P	P
Tannic Acid (Tannin)	B	A	A	A	B	B	B	B
Toluol (toluene)	C	P	P	P	B	A	A	A
Trichlorethylene	-	P	P	P	B	A	-	A
Turpentine	C	P	C	C	A	A	A	A
Varnish	B	P	-	-	B	B	-	-
Vinegar	P	A	A	B	A	P	P	A
Water and Lime	A	A	B	B	A	P	P	A

#### BODY:

CI	85°F ~ 418°F
DI	-34°F ~ 598°F
WCB	-34°F ~ 733°F
CF8	-515°F ~ 1408°F
CF8M	-515°F ~ 940°F

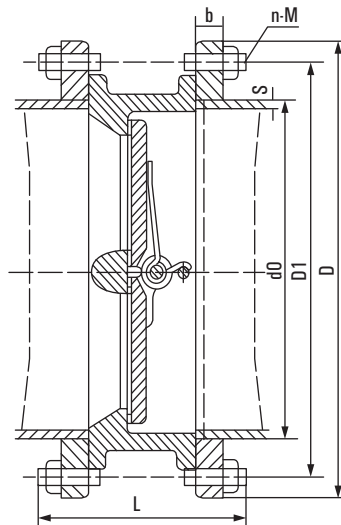
#### TRIM:

BUNA-N	+10°F ~ 180°F
EPDM	-30°F ~ 275°F
HYPALON	-20°F ~ 275°F
NEOPRENE/FDA	-20°F ~ 200°F
VITON	-20°F ~ 400°F
CF8&CF8M	-450°F ~ 600°F
ALB	-460°F ~ 450°F

Note : If the medium is not in the guide above, please consult factory.



• Pipe Dimensions of Series EH



Connection Dimensions When Using Flanges & Stud Bolts

Size (mm)	Size (inch)	O.D. of Pipe d0*	Min. Wall Thickness S*	Dia. of Circular of Hole D1	O.D. of Flange D	Thickness of Flange b*	Qty. of Bolts n	Dia of Bolts M	Length of Bolts L	Inside Dia. of Flange d*
40	1.5"	57	3.5	110	150	20	4	M16	140	59
50	2"	57	3.5	125	165	22	4	M16	140	59
65	2 1/2"	73	4	145	185	24	4	M16	140	75
80	3"	89	4	160	200	24	8	M16	160	91
100	4"	108	4	180	220	26	8	M16	160	110
125	5"	133	4	210	250	28	8	M16	170	135
150	6"	159	4.5	240	285	28	8	M20	190	161
200	8"	219	6	295	340	30	8	M20	200	221
250	10"	273	8	350		32	12	M20	230	275
300	12"	325	8	400		32	12	M20	230	327
350	14"	377	9	460		34	16	M20	250	379
400	16"	426	9	515	565	38	16	M20	280	429
450	18"	478	9	565		42	20	M20	300	481
500	20"	529	9	620	670	48	20	M24	310	532
600	24"	630	9	725	780	50	20	M27	350	633
700	28"	720	10	840	895	52	24	M27	410	723

- Notes :
1. The dimensions with "\*" are only for reference and can be determined by designer.
  2. The flange connection dimensions are in accordance with the regulations given in "Welded Steel Flange of Pipe" of GB/T9119.7-1988GB/T9119.8-1988. The outside diameter of pipe(d0)is accordance with the regulations given in"Seamless Steel Pipe for Liquid" of GB/T8163-1999. The inside diameter of flange is determined based on the outside diameter(d0), for other pipe the inside diameter of flange may be different, please specify in ordering.