



3A Standard Stainless Steel
Sanitary tubing, fittings,
valves and filters

3A

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ISSUE DATE: August 03, 2015 CERTIFICATE AUTHORIZATION NUMBER: 1823


 THIS IS TO CERTIFY THAT

P&E Flow Technology Co., Ltd.
 Shacheng Industry Park, Longwan, 325000, Wenzhou, China

is hereby authorized to continue to apply the
 3-A Symbol to the models of equipment, conforming to 3-A Sanitary Standards for:

Number 78-03
 78-03 (Spray Cleaning Devices Intended to Remain in Place)

set forth below

Clean-in-Place Model Number: Spray Ball 7002 in 304, 304L, 316, 316L.

VALID THROUGH: **December 31, 2023**

Timothy R. Rugh
Executive Director
3-A Sanitary Standards, Inc.

The issuance of this authorization for the use of the 3-A Symbol is based upon the voluntary certification, by the applicant for it, that the equipment listed above complies fully with the 3-A Sanitary Standard(s) designated. Legal responsibility for compliance is solely that of the holder of this Certificate of Authorization, and 3-A Sanitary Standards, Inc. does not warrant that the holder of an authorization at all times complies with the provisions of the said 3-A Sanitary Standards. This in no way affects the responsibility of 3-A Sanitary Standards, Inc. to take appropriate action in such cases in which evidence of nonconformance has been established.

NEXT TPV INSPECTION/REPORT DUE: **September 2026**

ISSUE DATE: November 04, 2014 CERTIFICATE AUTHORIZATION NUMBER: 1773


 THIS IS TO CERTIFY THAT

P&E Flow Technology Co., Ltd.
 Shacheng Industry Park, Longwan, 325000, Wenzhou, China

is hereby authorized to continue to apply the
 3-A Symbol to the models of equipment, conforming to 3-A Sanitary Standards for:

Number 33-03
 33-03 (Metal Tubing)

set forth below

CIP Models: 3A-TUBE-XX, where XX is sizes from 1/4" to 28; in 304, 304L and 316L.

VALID THROUGH: **December 31, 2023**

Timothy R. Rugh
Executive Director
3-A Sanitary Standards, Inc.

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NEXT TPV INSPECTION/REPORT DUE: **September 2024**

ISSUE DATE: November 04, 2014 CERTIFICATE AUTHORIZATION NUMBER: 1774


 THIS IS TO CERTIFY THAT

P&E Flow Technology Co., Ltd.
 Shacheng Industry Park, Longwan, 325000, Wenzhou, China

is hereby authorized to continue to apply the
 3-A Symbol to the models of equipment, conforming to 3-A Sanitary Standards for:

Number 63-04
 63-04 (Sanitary Fittings)

set forth below

CIP Model Number(s): Fittings in 304 and 316 stainless steel, including the following types: Weld Types: 90-degree Short Elbows (0.5"-6") 2WCL, 90-degree Long Elbows (0.5"-4") L2S7, 45-degree Short Elbows (0.75"-6") 2WK7, 45-degree Long Elbows (1"-4") L2KS7, 180-degree Elbows (1"-4") 2WUL7, Concentric Short Tee (0.5"-4") L28B-7, Concentric Long Tee (0.5"-4") L7W7, Reducing Short Tee (0.75"x0.5" - 4"x3") L7RW7W7, Instrument Short Tee (1"-4") L7W7W7, Cross (1"-4") L9W7W7, Concentric Reducer (1"x0.5" - 4"x3") L317, Eccentric Reducer (1"x0.5" - 4"x3") L327, Y 45 (0.5"-6") L28A-7; Fernules: Standard 14WMP (0.5"-4"), Short 14MPW (1"-4"), Long WLMP (1"-4"), L14AM (0.5"-4"), Line 15W/14W/15WL/14WL (1"-4"); Clamp: Concentric Reducer (1.5"x1" - 4"x3") 31-14MP, Eccentric Reducer (1.5"x1" - 4"x3") 32-14MP, Concentric Short Tee (0.5" - 4") 7MP, Reducing Short Tee (0.75"x0.5" - 4"x3") 7RMP, Cross (1"-4") 9MP, 90-degree Elbow (0.5"-4") 2CMP, 45-degree Short Elbow (1"-4") 2KMP, End Cap (0.5"-12") 16AMP, End Cap (1"-4") 16A, Line End CapS (1"-8") 16AJ-15I & 16AJ-14I, Hose Adapter (0.5"-4") 14MPHR, Hose Expansion Fitting (1"-4") 14RMP, Y 45 (0.5"-6") 28AMP, Clamp Weld: 90-degree Long Elbows (0.5"-4") L2CM7, 45-degree Short Elbows (1"-4") L2KM7, Concentric Reducer (1.5"x1" - 4"x3") L31M7, Eccentric Reducer (1.5"x1" - 4"x3") L32M7, Concentric Short Tee (0.5"-4") L7W7W7.

VALID THROUGH: **December 31, 2023**

Timothy R. Rugh
Executive Director
3-A Sanitary Standards, Inc.

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NEXT TPV INSPECTION/REPORT DUE: **August 2026**

ISSUE DATE: August 03, 2015 CERTIFICATE AUTHORIZATION NUMBER: 1824


 THIS IS TO CERTIFY THAT

P&E Flow Technology Co., Ltd.
 Shacheng Industry Park, Longwan, 325000, Wenzhou, China

is hereby authorized to continue to apply the
 3-A Symbol to the models of equipment, conforming to 3-A Sanitary Standards for:

Number 84-02
 84-02 (Personnel Access Ports for Wet Applications)

set forth below

Clean-in-Place Model Numbers: 7011 NPDC (sizes 500 and 600), 7021 LIWEI (sizes 500 and 600), 7022 LPSD (sizes 500 and 600), 7051 ZISD (sizes 500) in 304, 304L, 316 and 316L stainless steel, with silicone seals

VALID THROUGH: **December 31, 2023**

Timothy R. Rugh
Executive Director
3-A Sanitary Standards, Inc.

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NEXT TPV INSPECTION/REPORT DUE: **August 2026**

ASTM A269/ASTM A270 STAINLESS STEEL TUBING

**Size range:**

- ½" - 12" OD tube

Materials:

- 304 stainless steel
- 316L stainless steel

**Finish:**

- 3A sanitary finish ID and OD
- unpolished
- BPE finishes are available

Notes:

- tubing available in 20' lengths only
- other sizes may be available
- tubing is NOT returnable

Tube OD	Nominal Wall Thickness (inches)	Gage Number	Wt. Pounds per Ft.
½"	.065	16	0.31
¾"	.065	16	0.49
1"	.065	16	0.67
1½"	.065	16	1.02
2"	.065	16	1.36
2½"	.065	16	1.71
3"	.065	16	2.06
4"	.083	14	3.45
6"	.109	12	6.92

Operating Pressure**304 Stainless Steel Tube**

Tube OD Size	Nominal Wall Thickness (inches)	Pressure (PSI)		
		working	yield	burst
½"	.065	4,870	7,800	19,500
¾"	.065	3,250	5,200	13,000
1"	.065	2,440	3,900	9,800
1½"	.065	1,630	2,600	6,500
2"	.065	1,220	2,000	4,900
2½"	.065	980	1,600	3,900
3"	.065	810	1,300	3,300
4"	.083	780	1,200	3,100
6"	.109	680	1,090	2,720

The pressures shown in the table above are calculated using Barlow's Formula and the following properties:

- material: 304
- yield strength (PSI): 30,000
- tensile strength (PSI): 75,000

Working Pressure = ¼ of Burst Pressure, these are calculated from -20°F to 100°F.

316L Stainless Steel Tube

Tube OD Size	Nominal Wall Thickness (inches)	Pressure (PSI)		
		working	yield	burst
½"	.065	3,250	6,500	19,500
¾"	.065	2,167	4,330	13,000
1"	.065	2,280	3,300	9,100
1½"	.065	1,520	2,200	6,100
2"	.065	1,140	1,600	4,600
2½"	.065	910	1,300	3,600
3"	.065	760	1,100	3,000
4"	.083	730	1,000	2,900
6"	.109	635	900	2,540

The pressures shown in the table above are calculated using Barlow's Formula and the following properties:

- material: 316L
- yield strength (PSI): 25,000
- tensile strength (PSI): 70,000

Working Pressure = ¼ of Burst Pressure, these are calculated from -20°F to 100°F.



Pipe size and Tube OD size materials are not interchangeable

ASTM A270 STAINLESS STEEL SANITARY TUBING

Dimensional Tolerances

Size OD	Tolerances, OD	Wall thickness	Tolerances on wall thickness ^{a)}	Tolerances on Length	Weight Kg/M
1/2" (12.7)	+/-0.005" (0.13)	0.065" (1.65)	+/-10.0%	+1/8" (3.18)	0.4571
3/4" (19.1)	+/-0.005" (0.13)	0.065" (1.65)	+/-10.0%	+1/8" (3.18)	0.7218
1" (25.4)	+/-0.005" (0.13)	0.065" (1.65)	+/-10.0%	+1/8" (3.18)	0.9824
1-1/4" (31.8)	+/-0.008" (0.20)	0.065" (1.65)	+/-10.0%	+1/8" (3.18)	1.2412
1-1/2" (38.1)	+/-0.008" (0.20)	0.065" (1.65)	+/-10.0%	+1/8" (3.18)	1.5078
2" (50.8)	+/-0.008" (0.20)	0.065" (1.65)	+/-10.0%	+1/8" (3.18)	2.0331
2-1/2" (63.5)	+/-0.010" (0.25)	0.065" (1.65)	+/-10.0%	+1/8" (3.18)	2.5585
3" (76.2)	+/-0.010" (0.25)	0.065" (1.65)	+/-10.0%	+1/8" (3.18)	3.0797
4" (101.6)	+/-0.015" (0.38)	0.065" (1.65)	+/-10.0%	+1/8" (3.18)	5.2628
6" (152.4)	+/-0.030" (0.76)	0.083" (2.11)	+/-10.0%	+3/16" (4.8)	7.9116
6" (152.4)	+/-0.030" (0.76)	0.109" (2.77)	+/-10.0%	+3/16" (4.8)	10.3909
8" (203.2)	+0.061" (1.55) - 0.031" (0.79)	0.109" (2.77)	+/-10.0%	+3/16" (4.8)	13.9166

***Uniform wall thickness for 1/2" through 3" size measure .065(16ga). In 4" Size, wall thickness measures .083(14ga), 6" and 8" .109(12ga).

Chemical Composition

Elements	304 (wt%)	304L (wt%)	316L (wt%)
(C) Carbon, Max.	0.080	0.035	0.035
(Mn) Manganese, Max.	2.00	2.00	2.00
(P) Phosphorus, Max.	0.040	0.040	0.040
(S) Sulfur, Max.	0.030	0.030	0.030**
(Si) Silicon, Max.	0.75	0.75	0.75
(Ni) Nickel	8.0–11.0	8.0–13.0	10.0–15.0
(Cr) Chromium	18.0–20.0	18.0–20.0	16.0–18.0
(Mo) Molybdenum	N/A	N/A	2.0–3.0
(Fe) Iron	Bal.	Bal.	Bal.
(Cu) Copper	N/A	N/A	N/A
(N) Nitrogen	N/A	N/A	N/A

Product Marking

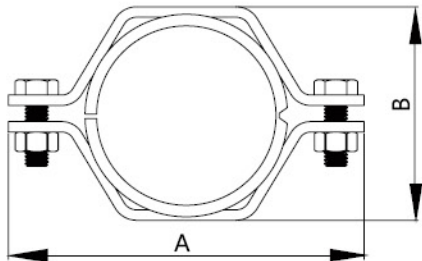
In addition to the marking prescribed in Specification

A 1016/A 1016M and specified in the order, the marking shall include whether the tubing is seamless (SML), welded (WLD), or heavily cold worked (HCW), and the surface finish.



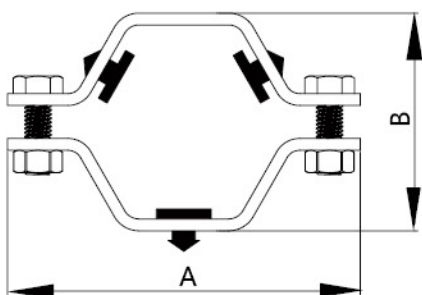
HANGERS

24PV PIPE Hex Hanger With PVC



Size	A		B	
	inch	mm	inch	mm
1"	3.625	92.1	2.125	54.0
1.5"	4.312	109.5	2.625	66.7
2"	4.875	123.8	3.125	79.4
2.5"	4.812	122.2	3.125	79.4
3"	6	152.4	4.25	108.0
4"	7.5	190.5	5.625	142.9
6"	9.75	247.7	7.375	187.3

24RV Hex Hanger with Rubber Grommets



Size	A		B	
	inch	mm	inch	mm
1"	3.625	92.1	2.125	54.0
1.5"	3.625	92.1	2.125	54.0
2"	4.312	109.5	2.625	66.7
2.5"	4.875	123.8	3.125	79.4
3"	5.375	136.5	3.625	92.1
4"	6.562	166.7	4.75	120.7
6"	9	228.6	6.625	168.3

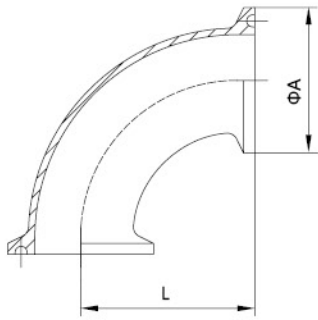
CLAMP TYPE

VN*	ALF* LAVA*	WAUKESH*/SP*	P&E	STEE* & O'BRIE*
EG2C	2CMP	2CMP	2CMP	2CMP
EG2C31CC	2CMP-31MP	2CMP-31MP	2CMP-31MP	2CMP-31MP
EG2FPR	2FMP-14	2FMP-14	2FMP-14	2FMP-14
EG2WU	-	2UMP	2UMP	2UMP
EG2FTR	2FMP-15	2FMP-15	2FMP-15	2FMP-15
EG2K	2KMP	2KMP	2KMP	2KMP
EG7	7MP	7MP	7MP	7MP
EG7R	7RMP	7RMP	7RMP	7RMP
EG9	9MP	9MP	9MP	9MP
EG13	13MHLA	-	-	-
13MHHM	13MHHM	13MHHM	13MHHM	13MHHM
13MHP	13MHP	13MHP	13MHP	13MHP
EG14HT	14MPHT	14MPHT	14MPHT	14MPHT
EG14W	14MPW	14MPW	14MPW	14MPW
EG14WL	14WLMP	14WLMP	14WLMP	14WLMP
EG14AM7	L14AM7	L14AM7	L14AM7	L14AM7
EG2CS	14WMP	14WMP	14WMP	14WMP
EG14RT	14MPHR	14MPHR	14MPHR	14MPHR
EG16A	16AMP	16AMP	16AMP	16AMP
EG17PR	17MP-14	17MP-14	17MP-14	17MP-14
EG17TR	17MP-15	17MP-15	17MP-15	17MP-15
EG21	21MP	21MP	21MP	21MP
EG22	22MP	22MP	22MP	22MP
EG31R	31RMP	31RMP	31RMP	31RMP
EG31CC	31-14MP	31-14MP	31-14MP	31-14MP
EG32CC	32-14MP	32-14MP	32-14MP	32-14MP
EG31PC	31PMP	31PMP	31PMP	31PMP
EG32PC	32PMP	32PMP	32PMP	32PMP
EG31CP	31MPP	31MPP	31MPP	31MPP
EG32CP	32MPP	32MPP	32MPP	32MPP
EG31TC	31TMP	31TMP	31TMP	31TMP
EG32TC	32TMP	32TMP	32TMP	32TMP
EG31CT	31MPT	31MPT	31MPT	31MPT
EG32CT	32MPT	32MPT	32MPT	32MPT
EG40	40MPU	40MPU	40MPU	40MPU
EG40T	40MPG	40MPG	40MPG	40MPG
EG32B	23BMP	23BMP	23BMP	23BMP
EG28A	28AMP	28AMP	28AMP	28AMP
EG28B	28BMP	28BMP	28BMP	28BMP

A

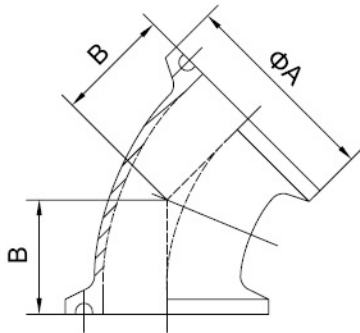
3A CLAMP FITTINGS / S-LINE

2CMP 90° Clamp Elbow



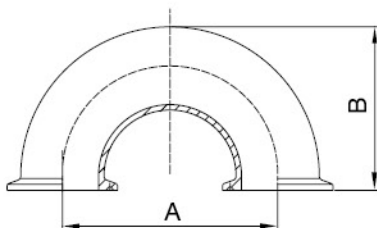
Size	A		L	
	inch	mm	inch	mm
1.0"	1.99	50.5	2.00	50.8
1.5"	1.99	50.5	2.75	69.9
2.0"	2.52	64.0	3.50	88.9
2.5"	3.05	77.5	4.25	107.9
3.0"	3.58	91.0	5.00	127.0
4.0"	4.69	119.0	6.62	168.2

2KMP 45° Clamp Elbow



Size	A		B	
	inch	mm	inch	mm
1.0"	1.99	50.5	1.12	28.5
1.5"	1.99	50.5	1.44	36.5
2.0"	2.52	64.0	1.75	44.45
2.5"	3.05	77.5	2.06	52.3
3.0"	3.58	91.0	2.37	60.3
4.0"	4.69	119.0	3.12	79.4

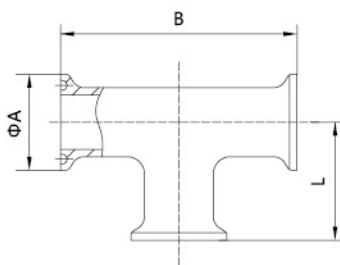
2UMP Clamp 180° U Bend



Size	A		B	
	inch	mm	inch	mm
1"	3	76.2	2.5	63.5
1.5"	4.5	114.3	3.5	88.9
2"	6	152.4	4.5	114.3
2.5"	7.5	190.5	5.5	139.7
3"	9	228.6	6.5	165.1
4"	12	304.8	8.625	219.1

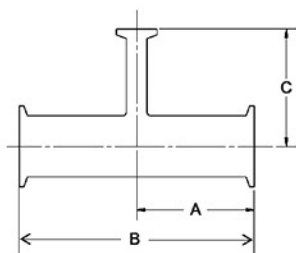
CLAMP FITTINGS / S-LINE

7MP Clamp Equal Tee



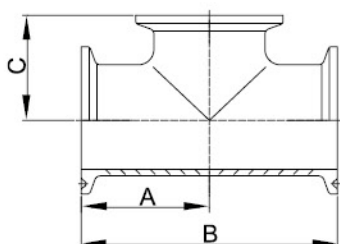
Size	A		B		L	
	inch	mm	inch	mm	inch	mm
1.0"	1.99	50.5	4.75	120.6	2.37	60.3
1.5"	1.99	50.5	5.50	139.8	2.75	69.9
2.0"	2.52	64.0	7.00	177.8	3.50	88.9
2.5"	3.05	77.5	7.00	177.8	3.50	88.9
3.0"	3.58	91.0	7.50	190.6	3.75	95.3
4.0"	4.69	119.0	8.99	228.4	4.50	114.2

7RMP Clamp End Reducing Tee



Size	A		B		C	
	inch	mm	inch	mm	inch	mm
1.5"×1"	2.156	54.8	4.312	109.5	1.875	47.6
2"×1"	2.562	65.1	5.125	130.2	2.125	54.0
2"×1.5"	2.562	65.1	5.125	130.2	2.406	61.1
2.5"×1.5"	2.844	72.2	5.688	144.5	2.656	67.5
2.5"×2"	2.844	72.2	5.688	144.5	2.812	71.4
3"×1.5"	3.093	78.6	6.188	157.2	2.906	73.8
3"×2"	3.093	78.6	6.188	157.2	3.063	77.8
3"×2.5"	3.093	78.6	6.188	157.2	3.093	78.6
4"×1.5"	4.063	103.2	8.125	206.4	3.406	86.5
4"×2"	4.063	103.2	8.125	206.4	3.563	90.5
4"×2.5"	4.063	103.2	8.125	206.4	3.594	91.3
4"×3"	4.063	103.2	8.125	206.4	3.594	91.3

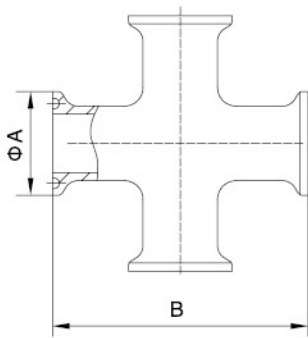
7MPS Clamp End Short Outlet Tee



Size	A		B		C	
	inch	mm	inch	mm	inch	mm
1"	2.375	60.3	4.75	120.6	1.125	28.6
1.5"	2.75	69.8	5.5	139.7	1.375	34.9
2"	3.5	88.9	7	177.8	1.625	41.3
2.5"	3.5	88.9	7	177.8	1.875	47.6
3"	3.75	95.2	7.5	190.5	2.125	54.0
4"	4.5	114.3	9	228.6	2.75	69.9

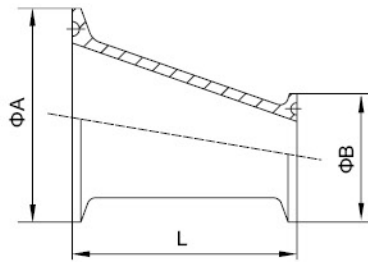
CLAMP FITTINGS / S-LINE

9MP Clamp Equal Cross

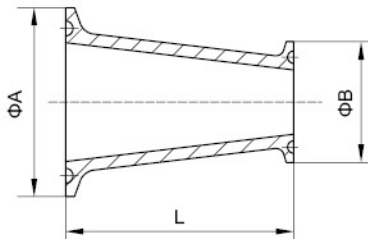


Size	A		B	
	inch	mm	inch	mm
1.0"	1.988	50.5	4.748	120.6
1.5"	1.988	50.5	5.504	139.8
2.0"	2.520	64.0	7.000	177.8
2.5"	3.051	77.5	7.000	177.8
3.0"	3.583	91.0	7.504	190.6
4.0"	4.685	119.0	8.992	228.4

Clamp Reducers



32-14MP Eccentric Reducer

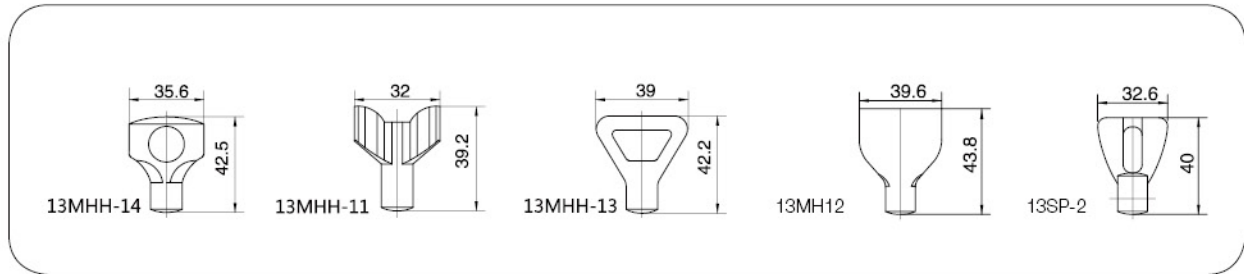


31-14MP Concentric Reducer

Size	A		B		L	
	inch	mm	inch	mm	inch	mm
1.5"×1.0"	1.988	50.5	1.988	50.5	3.000	76.2
2.0"×1.0"	2.520	64.0	1.988	50.5	5.000	127.0
2.0"×1.5"	2.520	64.0	1.988	50.5	3.000	76.2
2.5"×1.0"	3.051	77.5	1.988	50.5	7.000	177.8
2.5"×1.5"	3.051	77.5	1.988	50.5	5.000	127.0
2.5"×2.0"	3.051	77.5	2.520	64.0	3.000	76.2
3.0"×1.0"	3.583	91.0	1.988	50.5	9.000	228.6
3.0"×1.5"	3.583	91.0	1.988	50.5	7.000	177.8
3.0"×2.0"	3.583	91.0	2.520	64.0	5.000	127.0
3.0"×2.5"	3.583	91.0	3.051	77.5	3.000	76.2
4.0"×1.5"	4.685	119.0	1.988	50.5	11.125	282.5
4.0"×2.0"	4.685	119.0	2.520	64.0	9.125	231.7
4.0"×2.5"	4.685	119.0	3.051	77.5	7.125	180.9
4.0"×3.0"	4.685	119.0	3.583	91.0	5.125	130.1

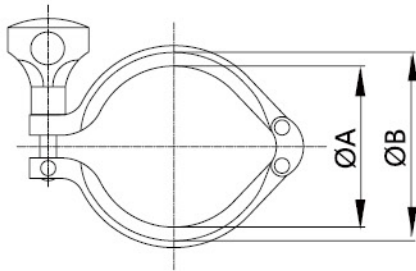
CLAMP FITTINGS / S-LINE

Nut



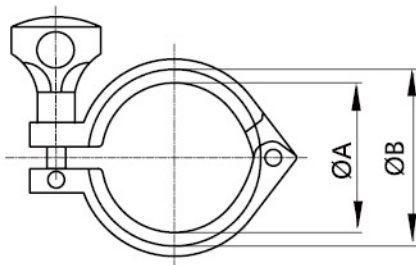
A

13MHHM Double Hinged Heavy Duty Clamp



Size	A		B	
	inch	mm	inch	mm
1"-1.5"	1.748	44.4	2.122	53.6
2"	2.276	57.8	2.654	67
2.5"	2.881	71.4	3.185	80.6
3"	3.307	84	3.717	94.2
3.5"	3.898	99	4.299	109.2
4"	4.331	110	4.820	122.2
4.5"	4.843	123	5.244	133.2
6"	6.118	155.4	6.695	170.4

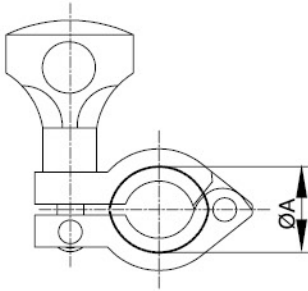
13MHHM Single Hinged Heavy Duty Clamp



Size	A		B	
	inch	mm	inch	mm
0.5"-0.75"	0.787	20	1.062	28
1"-1.5"	1.748	44.4	2.122	53.6
2"	2.276	57.8	2.654	67
2.5"	2.811	71.4	3.185	80.6
3"	3.307	84	3.717	94.2
3.5"	3.898	99	4.299	109.2
4"	4.331	110	4.820	122.2
4.5"	4.843	123	5.244	133.2
6"	6.118	155.4	6.695	170.4
8"	8.071	205	8.695	220
10"	10.118	257	10.695	272
12"	12.126	308	12.695	323

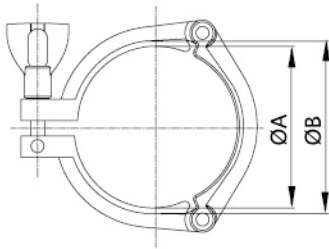
CLAMP FITTINGS / S-LINE

13MHHS /A13MHHS** Fractional Clamp



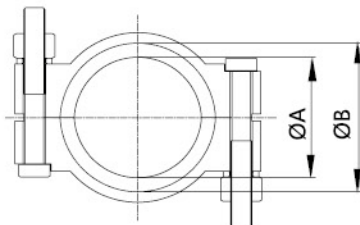
Size		A	
in	mm	in	mm
0.75	19.0	1.13	28.6

13MHHS 3-Segment Heavy Duty Clamp



Size	A		B	
	inch	mm	inch	mm
1"-1.5"	1.748	44.4	2.122	53.6
2"	2.276	57.8	2.654	67
2.5"	2.811	71.4	3.185	80.6
3"	3.307	84	3.717	94.2
3.5"	3.898	99	4.299	109.2
4"	4.331	110	4.820	122.2
4.5"	4.843	123	5.244	133.2
6"	6.118	155.4	6.695	170.4

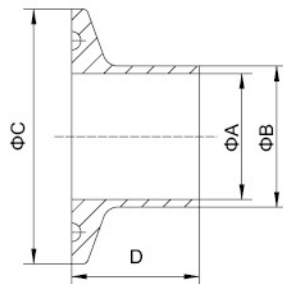
13MHP High Pressure Clamp



Size	A		B	
	inch	mm	inch	mm
1"-1.5"	1.748	44.4	2.046	53.6
2"	2.276	57.8	2.578	67
2.5"	2.811	71.4	3.110	80.6
3"	3.307	84	3.640	94.2
3.5"	3.898	99	4.299	109.2
4"	4.331	110	4.744	122.2
4.5"	4.843	123	5.244	133.2
6"	6.118	155.4	6.632	170.4

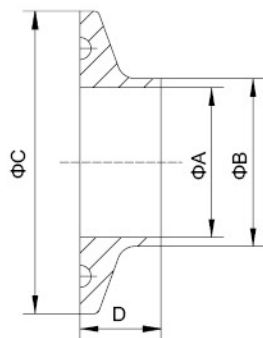
CLAMP FITTINGS / S-LINE

L14AM7 Long Weld Ferrule



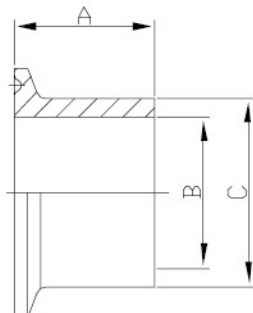
Size	A		B		C		D	
	inch	mm	inch	mm	icnh	mm	inch	mm
0.5"	0.370	9.4	0.500	12.7	0.992	25.2	1.126	28.6
0.75"	0.620	15.7	0.750	19.05	0.992	25.2	1.126	28.6
1"	0.874	22.2	1.000	25.4	1.988	50.5	1.126	28.6
1.5"	1.370	34.8	1.500	38.1	1.988	50.5	1.126	28.6
2"	1.870	47.5	2.000	50.8	2.520	64.0	1.126	28.6
2.5"	2.370	60.2	2.500	63.5	3.051	77.5	1.126	28.6
3"	2.870	72.9	3.000	76.2	3.583	91.0	1.126	28.6
4"	3.834	97.4	4.000	101.6	4.685	119.0	1.126	28.6
6"	5.782	146.9	6.000	152.4	6.567	166.8	1.500	38.1
8"	3.845	97.7	8.000	203.2	8.571	217.7	1.500	38.1
10"	9.732	247.2	10.000	254.0	10.571	268.5	1.500	38.1
12"	11.732	298	12.000	304.8	12.571	319.3	1.750	44.4

14WMP Short Weld Ferrule



Size	A		B		C		D	
	inch	mm	inch	mm	icnh	mm	inch	mm
0.5"	0.370	9.4	0.500	12.7	0.992	25.2	0.500	12.7
0.75"	0.620	15.75	0.750	19.05	0.992	25.2	0.500	12.7
1"	0.870	22.1	1.000	25.4	1.988	50.5	0.500	12.7
1.5"	1.370	34.8	1.500	38.1	1.988	50.5	0.500	12.7
2"	1.870	47.5	2.000	50.8	2.520	64.0	0.500	12.7
2.5"	2.370	60.2	2.500	63.5	3.051	77.5	0.500	12.7
3"	2.870	72.9	3.000	76.2	3.583	91.0	0.500	12.7
4"	3.834	97.4	4.000	101.6	4.685	119.0	0.625	15.8
6"	5.782	146.9	6.000	152.4	6.567	166.8	0.875	22.2
8"	7.760	197.1	8.000	203.2	8.571	217.7	0.875	22.2
10"	9.782	248.5	10.000	254.0	10.571	268.5	0.875	22.2
12"	11.760	298.7	12.000	304.8	12.571	319.3	0.875	22.2

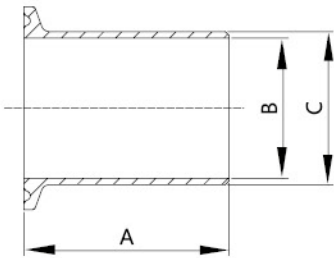
14MPW Heavy Wall Tank Weld Ferrule(Spud)



Size	A		B		C	
	inch	mm	inch	mm	inch	mm
0.5"	1.625	41.3	0.321	8.1	0.502	12.7
0.75"	1.625	41.3	0.574	14.6	0.75	19.0
1"	1.625	41.3	0.87	22.1	1.16	29.4
1.5"	1.625	41.3	1.37	34.8	1.676	42.6
2"	1.75	44.4	1.87	47.5	2.192	55.7
2.5"	1.75	44.4	2.37	60.2	2.708	68.8
3"	1.813	46.0	2.87	72.9	3.224	81.9
4"	2.125	54.0	3.834	97.4	4.256	108.1
6"	2.5	63.5	5.758	146.2	6.192	157.3
8"	2.5	63.5	7.758	197.0	8.192	208.1

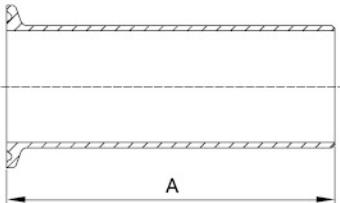
CLAMP FITTINGS / S-LINE

TL14AM7 Automatic Weld Ferrules



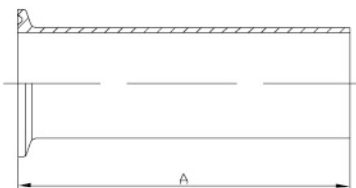
Size	A		B		C	
	inch	mm	inch	mm	inch	mm
0.5"	1.75	44.4	0.37	9.4	0.5	12.7
0.75	1.75	44.4	0.62	15.7	0.75	19.05
1"	1.75	44.4	0.87	22.1	1	25.4
1.5"	1.75	44.4	1.37	34.8	1.5	38.1
2"	2.25	57.1	1.87	47.5	2	50.8
2.5"	2.25	57.1	2.37	60.2	2.5	63.5
3"	2.25	57.1	2.87	72.9	3	76.2
4"	2.25	57.1	3.834	97.4	4	101.6
6"	3	76.2	5.782	146.9	6	152.4

14WLMP Light Wall Tank Weld Ferrule



Size	A	
	inch	mm
0.5"	3	76.2
0.75"	3	76.2
1"	3	76.2
1.5"	3	76.2
2"	3	76.2
2.5"	3	76.2
3"	4	101.6
4"	4	101.6
6"	6	152.4
8"	6	152.4
10"	6	152.4
12"	6	152.4

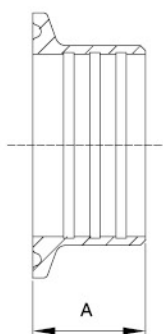
14MPHR Rubber Hose Adapter



Size	A	
	inch	mm
1"	4.5	114.3
1.5"	4.5	114.3
2"	4.5	114.3
2.5"	4.5	114.3
3"	4.5	114.3
4"	4.625	117.5

CLAMP FITTINGS / S-LINE

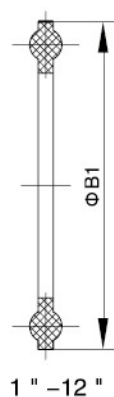
14RMP Roll-On Ferrule(expanding)



Size	A	
	inch	mm
1"	0.75	19.0
1.5"	1.125	28.6
2"	1.313	33.4
2.5"	1.375	34.9
3"	1.438	36.5
4"	1.5	38.1

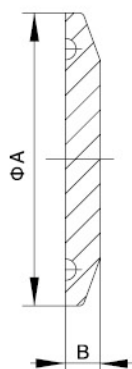
A

40MP Gasket



Size	B1	
	inch	mm
0.5"-0.75"	0.858	21.8
1"-1.5"	1.988	50.5
2"	2.520	64
2.5"	3.051	77.5
3"	3.583	91
4"	4.685	119
4.5"	5.118	130
6"	6.567	166.8
8"	8.571	217.7
10"	10.571	268.5
12"	12.571	319.3

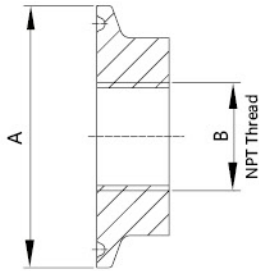
16AMP Solid End Cap



Size	A		B	
	inch	mm	inch	mm
0.5"-0.75"	0.992	25.2	0.252	6.4
	1.339	34	0.252	6.4
1"-1.5"	1.988	50.5	0.252	6.4
2"	2.520	64	0.252	6.4
2.5"	3.051	77.5	0.252	6.4
3"	3.583	91.0	0.252	6.4
4"	4.685	119.0	0.311	7.9
6"	6.567	166.8	0.437	11.1
8"	8.571	217.7	0.437	11.1
10"	10.571	268.5	0.437	11.1
12"	12.571	319.3	0.437	11.1

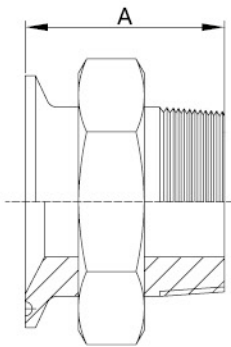
CLAMP FITTINGS / S-LINE

23BMP Thermometer Cap



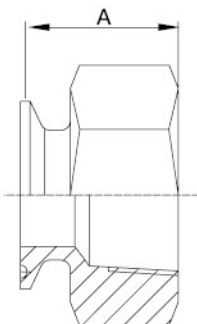
Size	A		B
	inch	mm	inch
1"	1.988	50.5	1/2 NPT
1.5"	1.988	50.5	3/4 NPT
2"	2.520	64.0	3/4 NPT
2.5"	3.050	77.5	3/4 NPT
3"	3.580	91.0	3/4 NPT
4"	4.685	119.0	3/4 NPT

21MP Clamp X Male NPT Adapter



Size	A	
	inch	mm
0.5"	2	40.1
0.75"	1.787	45.4
1"	2.25	57.15
1.5"	2.25	57.15
2"	2.638	67.0
2.5"	2.875	73.0
3"	3.07	78.0
4"	3.155	80.1

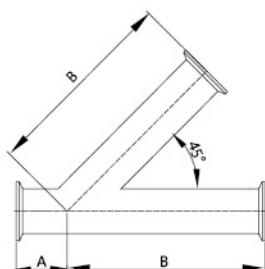
22MP Clamp X Female NPT Adapter



Size	A	
	inch	mm
0.5"	1.5	38.1
0.75"	1.625	41.3
1"	1.625	41.3
1.5"	2.25	57.1
2"	2.406	59.4
2.5"	2.187	53.1
3"	2.187	55.5
4"	2.625	66.7

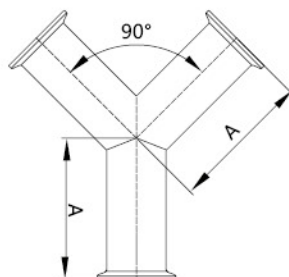
CLAMP FITTINGS / S-LINE

28AMP 45° Clamp End Lateral WYE



Size	A		B	
	inch	mm	inch	mm
0.5"	1.5	38.1	5.5	139.7
0.75"	1.5	38.1	5.5	139.7
1"	1.5	38.1	5.5	139.7
1.5"	1.687	42.8	6.688	169.9
2"	2.125	54.0	7.625	193.7
2.5"	2	50.8	9	228.6
3"	2.375	60.3	9.375	238.1
4"	2.687	68.2	11.375	288.9
6"	4.375	111.1	13.25	336.5

28BMP Clamp End True Y



size	A	
	inch	mm
0.5"	2.5	63.5
0.75"	2.5	63.5
1"	3.5	88.9
1.5"	3.5	88.9
2"	4.5	114.3
2.5"	5.5	139.7
3"	6.5	165.1
4"	8.625	219.1
6"	8.75	222.2

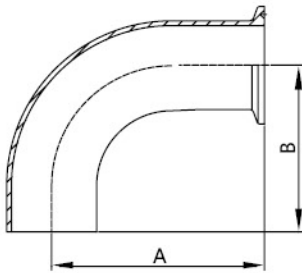
31WMP Reducing Ferrule



size	A	
	inch	mm
0.75"x0.5"	0.5	12.7
1"x0.5"	0.5	12.7
1"x0.75"	0.5	12.7
1.5"x1"	0.5	12.7
1.5"x0.5"	0.5	12.7
1.5"x0.75"	0.5	12.7
2"x1"	0.5	12.7
2"x1.5"	0.5	12.7
2.5"x2"	0.5	12.7
3"x2"	0.5	12.7
4"x3"	0.625	15.9

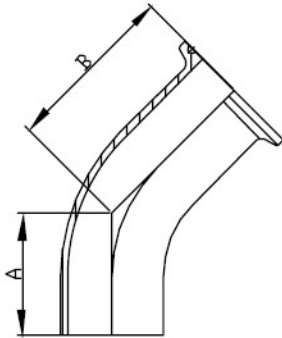
3A CLAMP FITTINGS / S-LINE

L2CM Weld X Tri-Clamp 90° Elbow



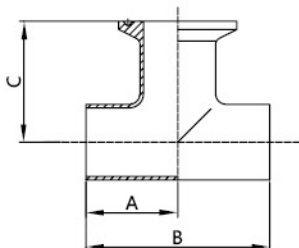
Size	A		B	
	inch	mm	inch	mm
1"	2.563	65.1	2.063	52.4
1.5"	3.438	87.3	2.938	74.6
2"	4.563	115.9	4.063	103.2
2.5"	5.688	144.5	5.188	131.8
3"	6.813	173.0	6.313	160.3
4"	8.938	227.0	8.313	211.1

L2KM Clamp X Weld 45° Elbow



Size	A		B	
	inch	mm	inch	mm
1"	1.188	30.2	1.688	42.9
1.5"	1.625	41.3	2.125	54.0
2"	2.312	58.7	2.812	71.4
2.5"	3	76.2	3.5	88.9
3"	3.688	93.7	4.188	106.4
4"	4.812	122.2	5.437	138.1

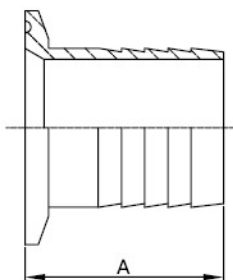
7WWM Weld X Clamp Outlet Tee



Size	A		B		C	
	inch	mm	inch	mm	inch	mm
1"	1.125	28.6	2.25	57.1	1.625	41.3
1.5"	1.656	42.1	3.312	84.1	2.156	54.8
2"	2.063	52.4	4.125	104.8	2.563	65.1
2.5"	2.344	59.5	4.688	119.1	2.844	72.2
3"	2.594	65.9	5.188	131.8	3.094	78.6
4"	3.438	87.3	6.875	174.6	4.063	103.2

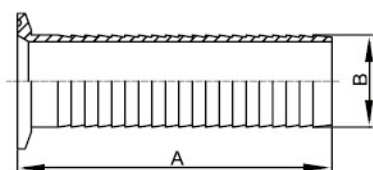
CLAMP FITTINGS / S-LINE

14MPHR Rubber Hose Adapter



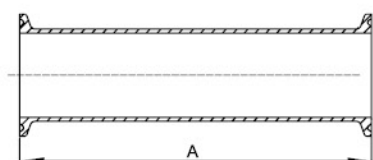
Size	A	
	inch	mm
1"	1.687	42.8
1.5"	1.687	42.8
2"	2.312	58.7
2.5"	2.343	59.5
3"	3.093	78.5
4"	3.406	86.5
6"	3.406	86.5
8"	3.406	86.5

14MPHRL Brewery Hose Barb Adapters



Size	A		B	
	inch	mm	inch	mm
1"	3.5	88.9	1.045	26.5
1.5"	5	127	1.545	39.2
2"	5	127	2.045	51.9
2.5"	5.5	139.7	2.545	64.6
3"	5.5	139.7	3.045	77.3
4"	5.5	139.7	4.045	102.7

Spool Assembly



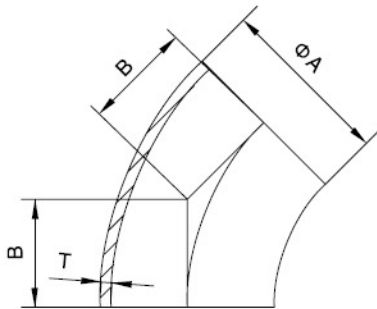
Size	A	
	inch	mm
0.5"	2.25	57.1
0.75	2.25	57.1
1"	2.25	57.1
1.5"	2.25	57.1
2"	2.25	57.1
2.5"	2.25	57.1
3"	2.25	57.1
4"	2.25	57.1
6"	3	76.2

WELDED TYPE

VN*	ALF* LAVA*	WAUKESH*/SP*	P&E	STEE* & O'BRIE*
E2S	L2S	2CW	L2S	L2S
E2C	L2CM	2CKW	L2CM	L2CM
E2T	L2C	2TW	L2C	L2C
E2F	L2F	2FW	L2F	L2F
E2KS	L2KS	2KW	L2KS	L2KS
E2KC	L2KM	2KKW	L2KM	L2KM
E2KT	L2K	2KT	—	L2K
E2KP	L2P	2KP	—	L2P
E2WU	L2WU	2WU	2WU	2WU
E7WWW	L7WWW	7W	7WWW	7WWW
E7WWC	L7WWM	7WWK	7WWM	7WWM
E7WWT	L7WWT	7WWT	—	—
E7WCW	L7WMW	7WKW	7WMW	7WMW
E7WTW	L7WTW	7WTW	—	—
E7WCC	L7WMM	7WKK	7WMM	7WMM
E7WTT	L7WTT	7WTT	—	—
E7CCW	L7MMW	7KKW	7MMW	7MMW
E7TTW	L7TTW	7TTW	—	—
E7RWWW	L7RWWW	7WR	7WR	7WR
E9WWWW	L9WWWW	9W	9WWWW	9WWWW
E31WW	L31	31W	31W	31W
E32WW	L32	32W	32W	32W
E28WA	L28WA	28WA	28WA	28WA
E28WB	L28WB	28WB	28WB	28WB
E2WK			2WK	2WK

WELDED FITTINGS

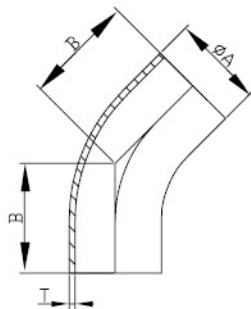
2WK Bend 45°, No Tangent



Size	A		B		T	
	inch	mm	inch	mm	inch	mm
1.0"	1.000	25.4	0.625	15.8	0.065	1.65
1.5"	1.500	38.1	0.937	23.8	0.065	1.65
2.0"	2.000	50.8	1.250	31.7	0.065	1.65
2.5"	2.500	63.5	1.562	39.6	0.065	1.65
3.0"	3.000	76.2	1.875	47.6	0.065	1.65
4.0"	4.000	101.6	2.500	63.5	0.083	2.11

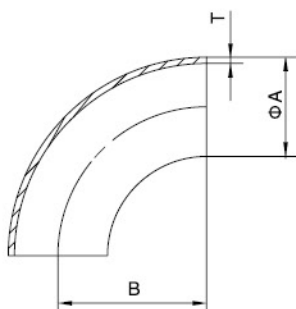
A

L2KS Long Elbow 45° With Tangent



Size	A		B		T	
	inch	mm	inch	mm	inch	mm
1.0"	1.000	25.4	1.189	30.2	0.065	1.65
1.5"	1.500	38.1	1.626	41.3	0.065	1.65
2.0"	2.000	50.8	2.311	58.7	0.065	1.65
2.5"	2.500	63.5	3.000	76.2	0.065	1.65
3.0"	3.000	76.2	3.689	93.7	0.065	1.65
4.0"	4.000	101.6	4.811	122.2	0.083	2.11

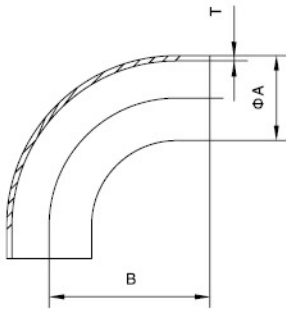
2WCL Elbow 90°, No Tangent



Size	A		B		T	
	inch	mm	inch	mm	inch	mm
1.0"	1.000	25.4	1.500	38.1	0.065	1.65
1.5"	1.500	38.1	2.252	57.2	0.065	1.65
2.0"	2.000	50.8	3.000	76.2	0.065	1.65
2.5"	2.500	63.5	3.750	95.25	0.065	1.65
3.0"	3.000	76.2	4.500	114.3	0.065	1.65
4.0"	4.000	101.6	6.000	152.4	0.083	2.11
6.0"	6.000	152.4	9.000	228.6	0.109	2.77
8.0"	8.000	203.2	12.00	304.8	0.109	2.77

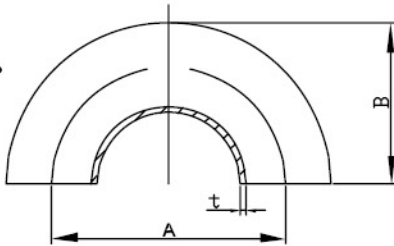
WELDED FITTINGS

L2S Long Elbow 90° With Tangent



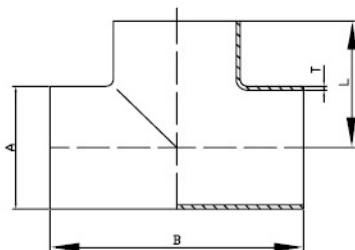
Size	A		B		T	
	inch	mm	inch	mm	inch	mm
1.0"	1.000	25.4	2.063	52.4	0.065	1.65
1.5"	1.500	38.1	2.937	74.6	0.065	1.65
2.0"	2.000	50.8	4.063	103.2	0.065	1.65
2.5"	2.500	63.5	5.189	131.8	0.065	1.65
3.0"	3.000	76.2	6.311	160.3	0.065	1.65
4.0"	4.000	101.6	8.311	211.1	0.083	2.11

2WU 180° U Bend Weld End



Size	B		A		T	
	inch	mm	inch	mm	inch	mm
1.0"	3	76.2	2	50.8	0.065	1.65
1.5"	4.5	114.3	3	76.2	0.065	1.65
2.0"	6	152.4	4	101.6	0.065	1.65
2.5"	7.5	190.5	5	127	0.065	1.65
3.0"	9	228.6	6	152.4	0.065	1.65
4.0"	12	304.8	8	203.2	0.083	2.11

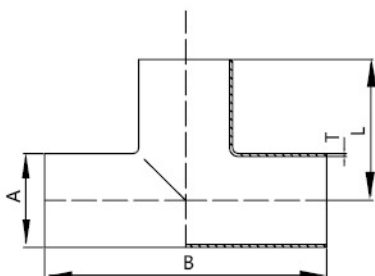
7WWW Short Equal Tee, No Tangent



Size	A		B		L		T	
	inch	mm	inch	mm	inch	mm	inch	mm
1.0"	1.000	25.4	2.252	57.2	1.126	28.6	0.065	1.65
1.5"	1.500	38.1	3.315	84.2	1.657	42.1	0.065	1.65
2.0"	2.000	50.8	4.126	104.8	2.063	52.4	0.065	1.65
2.5"	2.500	63.5	4.685	119.0	2.343	59.5	0.065	1.65
3.0"	3.000	76.2	5.189	131.8	2.594	65.9	0.065	1.65
4.0"	4.000	101.6	6.874	174.6	3.437	87.3	0.083	2.11
6.0"	6.000	152.4	10	254	5	127	0.109	2.77
8.0"	8.000	203.2	14	356	7	178	0.109	2.77

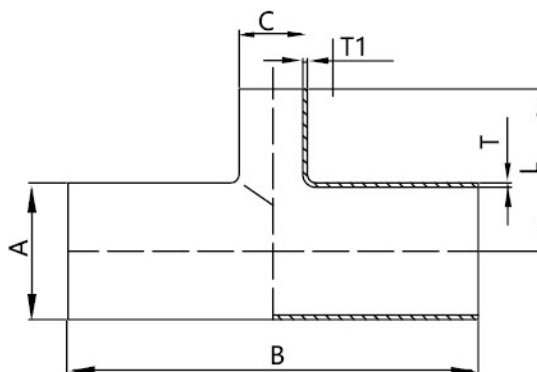
WELDED FITTINGS

7W Long Equal Tee, With Tangent



Size	A		B		L		T	
	inch	mm	inch	mm	inch	mm	inch	mm
0.5"	0.500	12.7	3.750	95.2	1.875	47.6	0.065	1.65
0.75"	0.750	19.05	4.000	101.6	2.000	50.8	0.065	1.65
1.0"	1.000	25.4	3.750	95.2	1.875	47.6	0.065	1.65
1.5"	1.500	38.1	4.500	114.3	2.250	57.2	0.065	1.65
2.0"	2.000	50.8	6.000	152.4	3.000	76.2	0.065	1.65
2.5"	2.500	63.5	6.000	152.4	3.000	76.2	0.065	1.65
3.0"	3.000	76.2	6.500	165.2	3.250	82.6	0.065	1.65
4.0"	4.000	101.6	7.750	196.8	3.875	98.4	0.083	2.11
6.0"	6.000	152.4	11.250	285.7	5.625	142.9	0.109	2.77
8.0"	8.000	203.2	14.000	355.6	7.000	177.8	0.120	3.05

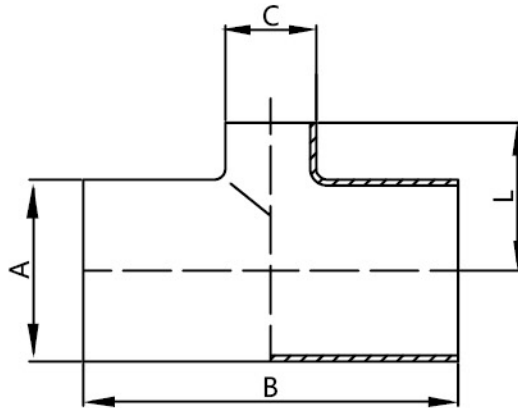
7RW Long Reducing Tee



Size	A		C		B		L		T		T1	
	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm
1.5"x1.0"	1.500	38.1	1.000	25.4	4.500	114.3	2.125	54.0	0.065	1.65	0.065	1.65
2.0"x1.0"	2.000	50.8	1.000	25.4	6.000	152.4	2.374	60.3	0.065	1.65	0.065	1.65
2.0"x1.5"	2.000	50.8	1.500	38.1	6.000	152.4	2.500	63.5	0.065	1.65	0.065	1.65
2.5"x1.5"	2.500	63.5	1.500	38.1	6.000	152.4	2.750	69.8	0.065	1.65	0.065	1.65
2.5"x2.0"	2.500	63.5	2.000	50.8	6.000	152.4	3.250	82.5	0.065	1.65	0.065	1.65
3.0"x1.5"	3.000	76.2	1.500	38.1	6.500	165.1	3.000	76.2	0.065	1.65	0.065	1.65
3.0"x2.0"	3.000	76.2	2.000	50.8	6.500	165.1	3.500	88.9	0.065	1.65	0.065	1.65
3.0"x2.5"	3.000	76.2	2.500	38.1	6.500	165.1	3.250	82.5	0.065	1.65	0.065	1.65
4.0"x2.0"	4.000	101.6	2.000	50.8	7.750	196.8	4.000	101.6	0.083	2.11	0.065	1.65
4.0"x2.5"	4.000	101.6	2.500	63.5	7.750	196.8	3.750	95.2	0.083	2.11	0.065	1.65
4.0"x3.0"	4.000	101.6	3.000	76.2	7.750	196.8	3.750	95.2	0.083	2.11	0.065	1.65

WELDED FITTINGS

7RWW Short Reducing Tee

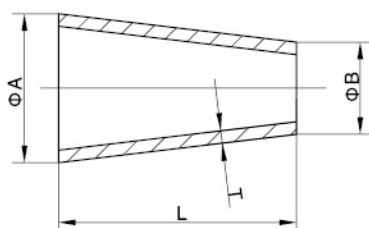


Size	A		B		C		L	
	inch	mm	inch	mm	inch	mm	inch	mm
0.75"x0.5"	0.750	19.0	4.000	101.6	0.500	12.7	2.000	50.8
1"x0.5"	1.000	25.4	4.250	107.9	0.500	12.7	2.125	54.0
1"x0.75"	1.000	25.4	4.250	107.9	0.750	19.0	2.125	54.0
1.5"x0.5"	1.500	38.1	4.750	120.6	0.500	12.7	2.375	60.3
1.5"x0.75"	1.500	38.1	4.750	120.6	0.750	19.0	2.375	60.3
1.5"x1"	1.500	38.1	3.312	84.12	1.000	25.4	1.375	34.9
2"x0.5"	2.000	50.8	5.750	146.0	0.500	12.7	2.625	66.7
2"x0.75"	2.000	50.8	5.750	146.0	0.750	19.0	2.625	66.7
2"x1"	2.000	50.8	4.124	104.7	1.000	25.4	1.625	41.3
2"x1.5"	2.000	50.8	4.124	104.7	1.500	38.1	1.906	48.4
2.5"x1.5"	2.500	63.5	4.688	119.1	1.500	38.1	2.156	54.8
2.5"x2"	2.500	63.5	4.688	119.1	2.000	50.8	2.312	58.7
3"x1.5"	3.000	76.2	5.188	131.8	1.500	38.1	2.406	61.1
3"x2"	3.000	76.2	5.188	131.8	2.000	50.8	2.562	65.1
3"x2.5"	3.000	76.2	5.188	131.8	2.500	63.5	2.594	65.9
4"x1.5"	4.000	101.6	6.876	174.6	1.500	38.1	2.906	73.8
4"x2"	4.000	101.6	6.876	174.6	2.000	50.8	3.062	77.8
4"x2.5"	4.000	101.6	6.876	174.6	2.500	63.5	3.094	78.6
4"x3"	4.000	101.6	6.876	174.6	3.000	76.2	3.094	78.6
6"x2"	6.000	152.4	11.250	285.7	2.000	50.8	4.500	114.3
6"x3"	6.000	152.4	11.250	285.7	3.000	76.2	4.875	123.8
6"x4"	6.000	152.4	11.250	285.7	4.000	101.6	5.125	130.2

**T304 and T316L are available.

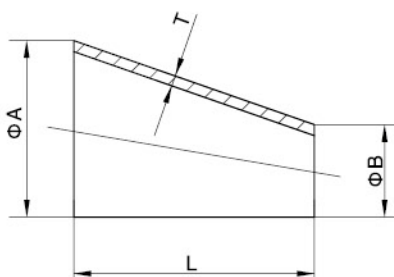
WELDED FITTINGS

31W Concentric Reducer Butt Weld



Size	A		B		L		T	
	inch	mm	inch	mm	inch	mm	inch	mm
1.5"×1.0"	1.500	38.1	1.000	25.4	2.000	50.8	0.065	1.65
2.0"×1.0"	2.000	50.8	1.000	25.4	4.000	101.6	0.065	1.65
2.0"×1.5"	2.000	50.8	1.500	38.1	2.000	50.8	0.065	1.65
2.5"×1.0"	2.500	63.5	1.000	25.4	6.000	152.4	0.065	1.65
2.5"×1.5"	2.500	63.5	1.500	38.1	4.000	101.6	0.065	1.65
2.5"×2.0"	2.500	63.5	2.000	50.8	2.000	50.8	0.065	1.65
3.0"×1.0"	3.000	76.2	1.000	25.4	8.000	203.2	0.065	1.65
3.0"×1.5"	3.000	76.2	1.500	38.1	6.000	152.4	0.065	1.65
3.0"×2.0"	3.000	76.2	2.000	50.8	4.000	101.6	0.065	1.65
3.0"×2.5"	3.000	76.2	2.500	63.5	2.000	50.8	0.065	1.65
4.0"×1.5"	4.000	101.6	1.500	38.1	10.000	254.0	0.083	2.11
4.0"×2.0"	4.000	101.6	2.000	50.8	8.000	203.2	0.083	2.11
4.0"×2.5"	4.000	101.6	2.500	63.5	6.000	152.4	0.083	2.11
4.0"×3.0"	4.000	101.6	3.000	76.2	4.000	101.6	0.083	2.11
8.0"×2.0"	8.000	203.2	2.000	50.8	6.000	152.4	0.109	2.77

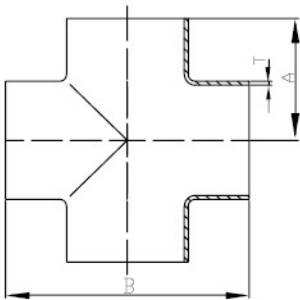
32W Eccentric Reducer Butt Weld



Size	A		B		L		T	
	inch	mm	inch	mm	inch	mm	inch	mm
1.5"×1.0"	1.500	38.1	1.000	25.4	2.000	50.8	0.065	1.65
2.0"×1.0"	2.000	50.8	1.000	25.4	4.000	101.6	0.065	1.65
2.0"×1.5"	2.000	50.8	1.500	38.1	2.000	50.8	0.065	1.65
2.5"×1.0"	2.500	63.5	1.000	25.4	6.000	152.4	0.065	1.65
2.5"×1.5"	2.500	63.5	1.500	38.1	4.000	101.6	0.065	1.65
2.5"×2.0"	2.500	63.5	2.000	50.8	2.000	50.8	0.065	1.65
3.0"×1.0"	3.000	76.2	1.000	25.4	8.000	203.2	0.065	1.65
3.0"×1.5"	3.000	76.2	1.500	38.1	6.000	152.4	0.065	1.65
3.0"×2.0"	3.000	76.2	2.000	50.8	4.000	101.6	0.065	1.65
3.0"×2.5"	3.000	76.2	2.500	63.5	2.000	50.8	0.065	1.65
4.0"×1.5"	4.000	101.6	1.500	38.1	10.000	254.0	0.083	2.11
4.0"×2.0"	4.000	101.6	2.000	50.8	8.000	203.2	0.083	2.11
4.0"×2.5"	4.000	101.6	2.500	63.5	6.000	152.4	0.083	2.11
4.0"×3.0"	4.000	101.6	3.000	76.2	6.000	101.6	0.083	2.11

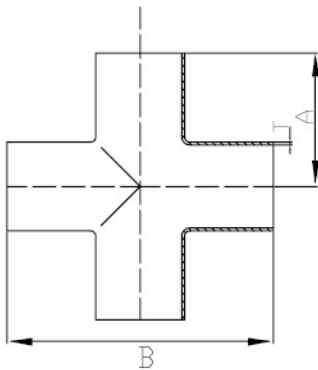
WELDED FITTINGS

9WWW Short Equal Cross



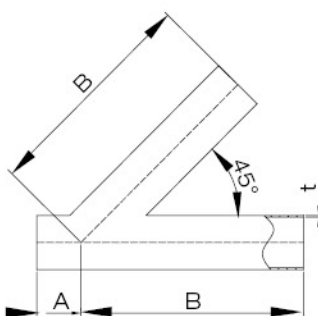
Size	B		A		T	
	inch	mm	inch	mm	inch	mm
1.0"	2.250	57.2	1.126	28.6	0.065	1.65
1.5"	3.312	84.2	1.657	42.1	0.065	1.65
2.0"	4.125	104.6	2.063	52.4	0.065	1.65
2.5"	4.687	119.0	2.343	59.5	0.065	1.65
3.0"	5.187	131.8	2.594	65.9	0.065	1.65
4.0"	6.875	174.6	3.437	87.3	0.083	2.11

9W Long Equal Cross



Size	A		B		t	
	inch	mm	inch	mm	inch	mm
1"	1.875	47.6	3.75	95.2	0.065	1.65
1.5"	2.25	57.1	4.5	114.3	0.065	1.65
2"	3	76.2	6	152.4	0.065	1.65
2.5"	3	76.2	6	152.4	0.065	1.65
3"	3.25	82.5	6.5	165.1	0.065	1.65
4"	3.875	98.4	7.75	196.8	0.083	2.11

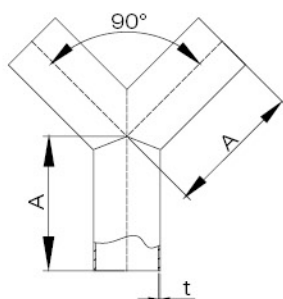
28WA 45° Butt Weld Lateral Wye



Size	A		B		t	
	inch	mm	inch	mm	inch	mm
1"	1	25.4	5	127	0.065	1.65
1.5"	1.188	30.2	6.188	157.2	0.065	1.65
2"	1.625	41.3	7.125	181	0.065	1.65
2.5"	1.5	38.1	8.5	215.9	0.065	1.65
3"	1.875	47.6	8.875	225.4	0.065	1.65
4"	2.015	51.2	10.75	273.0	0.083	2.11

WELDED FITTINGS

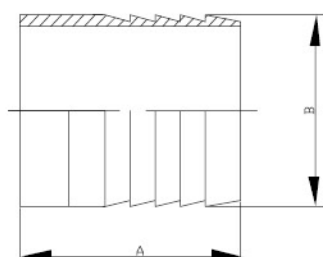
28WB True Wye Butt Weld Ends



Size	A		B	
	inch	mm	inch	mm
1"	2.000	50.8	2.438	61.9
1.5"	2.000	50.8	2.438	61.9
2"	2.625	66.7	3.250	82.5
2.5"	3.370	85.6	4.125	104.8
3"	4.000	101.6	4.875	123.8
4"	5.375	136.5	5.375	136.5

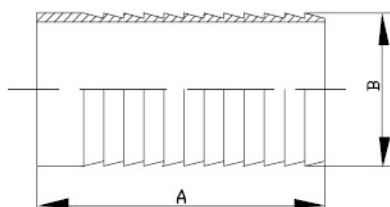
A

14WHR Weld Hose Adapters



Size	A		t	
	inch	mm	inch	mm
0.5"	1.5	38.1	0.5	12.7
0.75"	1.5	38.1	0.75	19.05
1"	1.688	42.9	1	25.4
1.5"	1.688	42.9	1.5	38.1
2"	2.315	58.7	2	50.8
2.5"	2	50.8	2.5	63.5
3"	3.093	78.6	3	76.2
4"	3.406	86.5	4	101.6

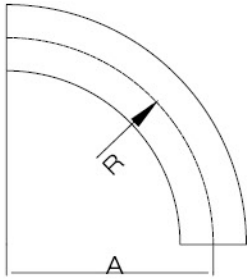
14WHRL Long Weld Hose Adapters



Size	A		B	
	inch	mm	inch	mm
1"	3	76.2	1.03	26.2
1.5"	4.5	114.3	1.53	38.9
2"	4.5	114.3	2.03	51.6
2.5"	5	127	2.53	64.2
3"	5	127	3.03	77.0
4"	4.875	123.825	4.03	102.4

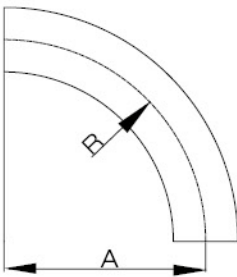
WELDED FITTINGS

2SXL Polished 12" 90° Weld Sweep Elbows



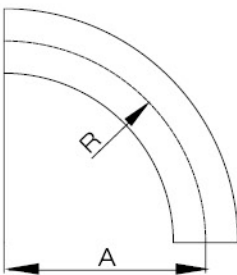
Size	A		R	
	inch	mm	inch	mm
1.5"	12	304.8	12	304.8
2"	12	304.8	12	304.8
3"	12	304.8	12	304.8
4"	12	304.8	12	304.8

2SXL Polished 18" 90° Weld Sweep Elbows



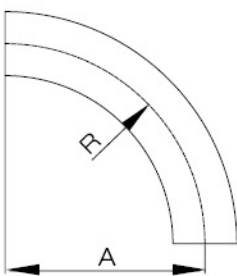
Size	A		R	
	inch	mm	inch	mm
1.5"	18	457.2	18	457.2
2"	18	457.2	18	457.2
2.5"	18	457.2	18	457.2
3"	18	457.2	18	457.2

2SXL Polished 24" 90° Weld Sweep Elbows



Size	A		R	
	inch	mm	inch	mm
1.5"	24	609.6	24	609.6
2"	24	609.6	24	609.6
2.5"	24	609.6	24	609.6
3"	24	609.6	24	609.6

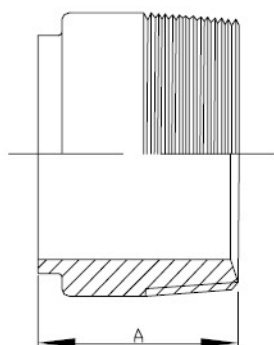
2SXL Polished 36" 90° Weld Sweep Elbows



Size	A		R	
	inch	mm	inch	mm
3"	36	914.4	36	914.4
4"	36	914.4	36	914.4

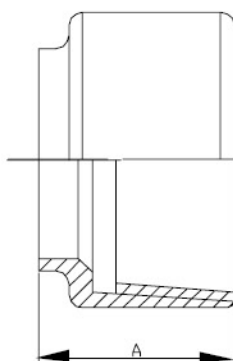
WELDED FITTINGS

19WB Weld X Male NPT Adapter



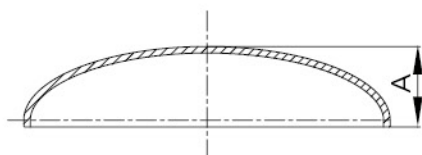
Size	A	
	inch	mm
0.5"	1.625	41.3
0.75"	1.625	41.3
1"	1.75	44.4
1.5"	1.75	44.4
2"	1.812	46.0
2.5"	2.312	58.7
3"	2.5	63.5
4"	2.562	65.1

22WB Weld X Female NPT Adapter



Size	A	
	inch	mm
0.5"	1.25	31.7
0.75"	1.625	41.3
1"	1.75	44.4
1.5"	1.75	44.4
2"	1.812	46.0
2.5"	2.312	58.7
3"	2.5	63.5
4"	2.5	63.5

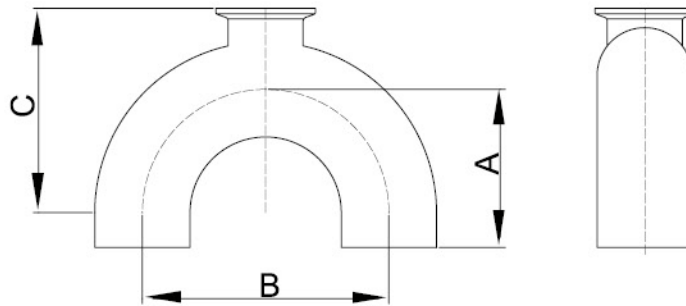
16W Weld Cap



Size	A	
	inch	mm
1"	0.375	9.5
1.5"	0.562	14.3
2"	0.75	19.05
2.5"	1	25.4
3"	1.25	31.7
4"	1.5	38.1
6"	1.875	47.6
8"	2.5	63.5

WELDED FITTINGS

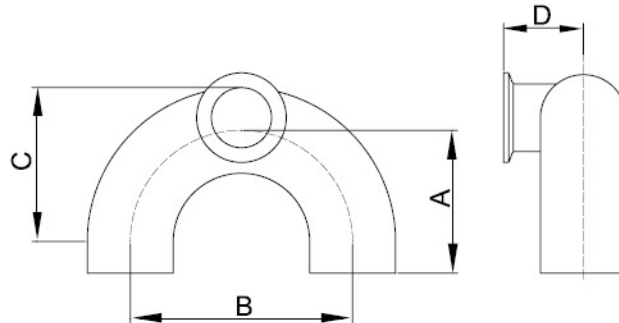
180° Bottom Outlet Use Point Fitting



Size	A		B		C	
	inch	mm	inch	mm	inch	mm
1"×0.5"	3.75	95.25	4.5	114.3	5	127.0
1"×0.75"	3.75	95.25	4.5	114.3	5	127.0
1.5"×0.5"	4.5	114.3	6	152.4	6	152.4
1.5"×0.75"	4.5	114.3	6	152.4	6	152.4
1.5"×1"	4.5	114.3	6	152.4	6.13	155.7
2"×0.5"	5	127	6	152.4	6.75	171.5
2"×0.75"	5	127	6	152.4	6.75	171.5
2"×1"	5	127	6	152.4	7	177.8
2"×1.5"	5	127	6	152.4	6.75	171.5
2.5"×0.5"	5.75	146.05	7.5	190.5	7.75	177.8
2.5"×0.75"	5.75	146.05	7.5	190.5	7.75	171.5
2.5"×1"	5.75	146.05	7.5	190.5	7.94	196.9
2.5"×1.5"	5.75	146.05	7.5	190.5	7.75	196.9
2.5"×2"	5.75	146.05	7.5	190.5	8.13	206.5
3"×0.5"	6.5	165.1	9	228.6	8.75	222.3
3"×0.75"	6.5	165.1	9	228.6	8.75	222.3
3"×1"	6.5	165.1	9	228.6	9	228.6
3"×1.5"	6.5	165.1	9	228.6	8.81	223.8
3"×2"	6.5	165.1	9	228.6	8.75	222.3
3"×2.5"	6.5	165.1	9	228.6	9.13	231.9
4"×0.5"	8.5	215.9	12	304.8	11.25	285.8
4"×0.75"	8.5	215.9	12	304.8	11.25	285.8
4"×1"	8.5	215.9	12	304.8	11.56	293.6
4"×1.5"	8.5	215.9	12	304.8	11.44	290.6
4"×2"	8.5	215.9	12	304.8	11.25	285.8
4"×2.5"	8.5	215.9	12	304.8	11.63	295.4
4"×3"	8.5	215.9	12	304.8	11.63	295.4

WELDED FITTINGS

180° Side Outlet Use-Point Fitting

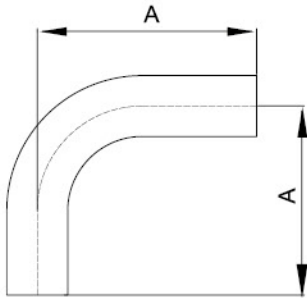


A

Size	A		B		C		D	
	inch	mm	inch	mm	inch	mm	inch	mm
1"x0.75"	3.75	95.2	4.5	114.3	3.88	98.6	1.25	31.8
1.5"x0.75"	4.5	114.3	6	152.4	4.88	124.0	1.75	44.5
1.5"x1"	4.5	114.3	6	152.4	4.75	120.7	1.75	44.5
2"x0.75"	5	127	6	152.4	5.63	143.0	1.75	44.5
2"x1"	5	127	6	152.4	5.5	139.7	1.75	44.5
2"x1.5"	5	127	6	152.4	5.25	133.4	1.75	44.5
2.5"x1"	5.75	146.0	7.5	190.5	6.5	165.1	1.75	44.5
2.5"x1.5"	5.75	146.0	7.5	190.5	6.25	158.8	1.75	44.5
2.5"x2"	5.75	146.0	7.5	190.5	6	152.4	2.25	57.2
3"x1"	6.5	165.1	9	228.6	7.5	190.5	2.25	57.2
3"x1.5"	6.5	165.1	9	228.6	7.25	184.2	2.25	57.2
3"x2"	6.5	165.1	9	228.6	7	177.8	2.25	57.2
3"x2.5"	6.5	165.1	9	228.6	6.75	171.5	2.25	57.2
4"x1"	8.5	215.9	12	304.8	10	254.0	-	-
4"x1.5"	8.5	215.9	12	304.8	9.75	247.7	-	-
4"x2"	8.5	215.9	12	304.8	9.5	241.3	-	-
4"x2.5"	8.5	215.9	12	304.8	9.25	235.0	-	-
4"x3"	8.5	215.9	12	304.8	9	228.6	-	-

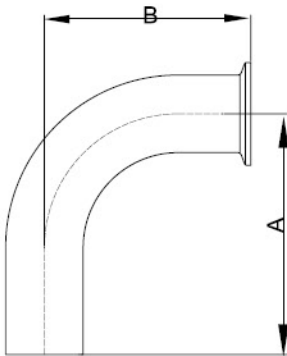
WELDED FITTINGS

2S 90° Weld Elbows



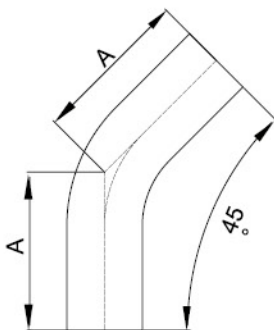
size	A	
	inch	mm
0.5"	3	76.2
0.75"	3	76.2
1"	3	76.2
1.5"	3.75	95.25
2"	4.75	120.65
2.5"	5.5	139.7
3"	6.25	158.75
4"	8	203.2
6"	11.5	292.1

2CM Weld X Tri-Clamp 90° Elbow



Size	A		B	
	inch	mm	inch	mm
0.5"	3	76.2	1.63	41.4
0.75"	3	76.2	1.63	41.4
1"	3	76.2	2	50.8
1.5"	3.75	95.25	2.75	69.85
2"	4.75	120.65	3.5	88.9
2.5"	5.5	139.7	4.25	107.95
3"	6.25	158.75	5	127
4"	8	203.2	6.63	168.4
10"	0.687	17.4	16	406.4

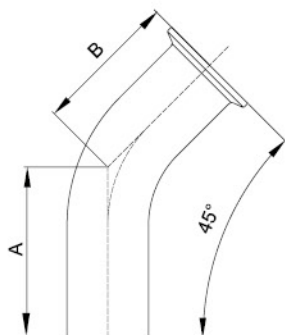
2KS 45° Weld Elbows



size	A	
	inch	mm
0.5"	2.25	57.2
0.75"	2.25	57.2
1"	2.25	57.2
1.5"	2.5	63.5
2"	3	76.2
2.5"	3.38	85.9
3"	3.63	92.2
4"	4.5	114.3
6"	6.25	158.8

WELDED FITTINGS

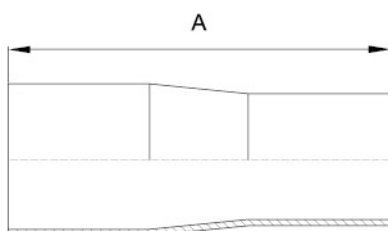
2KM Clamp X Weld 45° Elbow



size	A		B	
	inch	mm	inch	mm
1"	1.188	30.2	1.688	42.9
1.5"	1.625	41.3	2.125	54.0
2"	2.312	58.7	2.812	71.4
2.5"	3.000	76.2	3.500	88.9
3"	3.688	93.7	4.188	106.4
4"	4.812	122.2	5.437	138.1

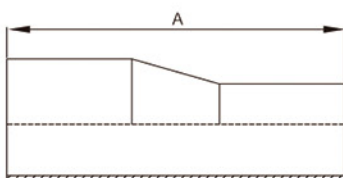
A

31 Concentric Reducer Automatic Weld



size	A	
	inch	mm
0.75"×0.5"	4	101.6
1"×0.5"	4.5	114.3
1"×0.75"	4	101.6
1.5"×0.5"	5.5	139.7
1.5"×0.75"	5	127.0
1.5"×1"	5	127.0
2"×0.75"	7.25	184.2
2"×1"	7.25	184.2
2"×1.5"	5.25	133.4
2.5"×1.5"	7.5	190.5
2.5"×2"	5.5	139.7
3"×1.5"	9.25	235.0
3"×2"	7.5	190.5
3"×2.5"	5.5	139.7
4"×2"	11.75	298.5
4"×2.5"	9.75	247.7
4"×3"	7.75	196.9
6"×3"	10	254.0
6"×4"	10	254.0

32 Eccentric Reducer Automatic Weld

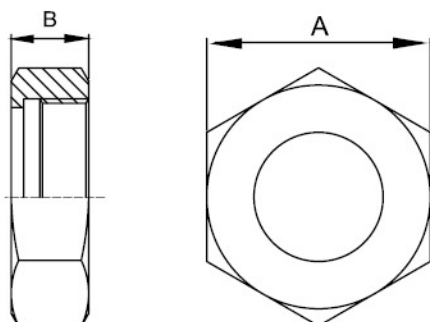


BEVEL SEAT TYPE

*VN	* LFA*AVAL	*AUKESHA / *PX	P&E	*TEEL & *'BRIEN
2C	2C	2C	2C	2C
2E	2E	2E	2E	2E
2F	2F	2F	2F	2F
2F-31	2F-31	2F-31	-	2F-31
2K	2K	2K	2K	2K
2P	2P	2P	2P	2P
7	7	7	7	7
7A	7A	7A	7A	7A
7B	7B	7B	-	7B
9	9	9	-	9
9A	9A	9A	-	9A
13H	13H	13H	13H	13H
14	14	14	14	14
14A	L14A7	14A	14A	14A
14AHR	14AHR	14AHR	14AHR	14AHR
14AHT	14AHT	14AHT	14AHT	14AHT
14R	14R	14R	14R	14R
14W	14W	14W	14W	14W
14-22	14-22	14-22	-	14-
14WL	14WL	14WL	14WL	14WL
14-19	14-19	21F	-	14-
14PR	14PRF	14RW	14PRF	14++
15	15	15	15	15
15TR	15TRF	15RW	15TRF	15++
15A	L15A7	15A	15A	15A
15AHR	15AHR	15AHR	-	15AHR
15AHT	15AHT	15AHT	15AHT	15AHT
15R	15R	15R	15R	15R
15W	15W	15W	15W	15W
15WL	15WL	15WL	15WL	15WL
16A	16A	16A	16A	16A
21	21	21	-	21
23B	23B	23B	31TT	23B
22	22	22	31TP	22
31TT	31TT	31TT		31TT
31TP	31TP	31TP		31TP
31-14F	31-14F	31-14F	-	31-
31-15F	31-15F	31-15F	-	31-
32-14F	32-14F	32-14F	-	32-
32-15F	32-15F	32-15F	-	32-

BEVEL SEAT FITTINGS

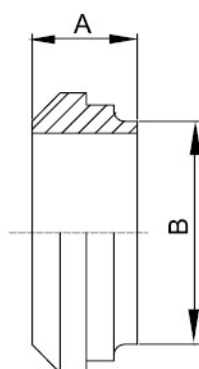
13H Hex Nut B



size	A		B	
	inch	mm	inch	mm
1"	1.812	46.0	0.906	23.0
1.5"	2.406	61.1	0.968	24.6
2"	3	76.2	1.062	27.0
2.5"	3.594	91.3	1.187	30.1
3"	4.188	106.4	1.281	32.5
4"	5.438	138.1	1.5	38.1

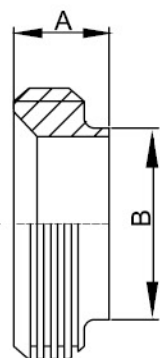
A

14PRF Short Plain Bevel Seat Weld Ferrules



size	A		B	
	inch	mm	inch	mm
1"	0.718	18.2	1	25.4
1.5"	0.718	18.2	1.5	38.1
2"	0.75	19.1	2	50.8
2.5"	0.875	22.2	2.5	63.5
3"	0.906	23.0	3	76.2
4"	1.031	26.2	4	101.6

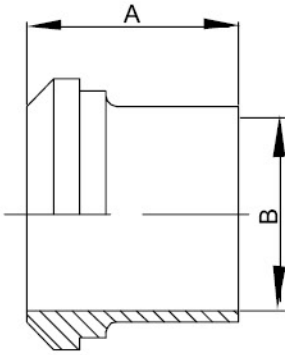
15TRF Short Threaded Bevel Seat Ferrules



size	A		B	
	inch	mm	inch	mm
1"	0.718	18.2	1	25.4
1.5"	0.718	18.2	1.5	38.1
2"	0.75	19.1	2	50.8
2.5"	0.875	22.2	2.5	63.5
3"	0.906	23.0	3	76.2
4"	1.031	26.2	4	101.6

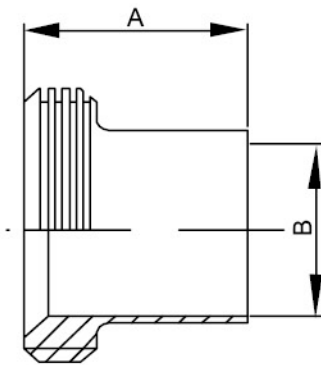
BEVEL SEAT FITTINGS

14A Long Plain Bevel Seat Weld Ferrules



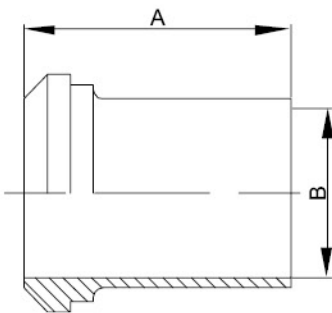
size	A		B	
	inch	mm	inch	mm
1"	1.375	34.9	0.87	22.1
1.5"	1.5	38.1	1.37	34.8
2"	1.5	38.1	1.87	47.5
2.5"	1.75	44.4	2.37	60.2
3"	1.75	44.4	2.87	72.9
4"	1.75	44.4	3.834	97.4

15A Long Threaded Bevel Seat Weld Ferrules



size	A		B	
	inch	mm	inch	mm
1"	1.375	34.9	0.87	22.1
1.5"	1.5	38.1	1.37	34.8
2"	1.5	38.1	1.87	47.5
2.5"	1.75	44.4	2.37	60.2
3"	1.75	44.4	2.87	72.9
4"	1.75	44.4	3.834	97.4

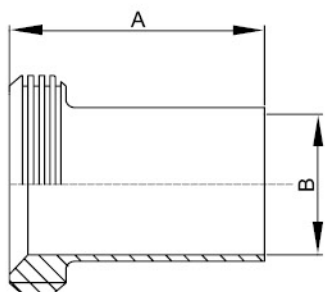
14WL Light Wall Tank Plain Bevel Seat Ferrules



size	A		B	
	inch	mm	inch	mm
1"	2	50.8	0.87	22.1
1.5"	2.25	57.1	1.37	34.8
2"	2.5	63.5	1.87	47.5
2.5"	2.75	69.8	2.37	60.2
3"	3	76.2	2.87	72.9
4"	4	101.6	3.834	97.4

BEVEL SEAT FITTINGS

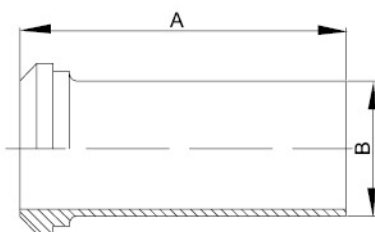
15WL Light Wall Tank Threaded Bevel Seat Ferrules



size	A		B	
	inch	mm	inch	mm
1"	2	50.8	0.87	22.1
1.5"	2.25	57.1	1.37	34.8
2"	2.5	63.5	1.87	47.5
2.5"	2.75	69.8	2.37	60.2
3"	3	76.2	2.87	72.9
4"	4	101.6	3.834	97.4

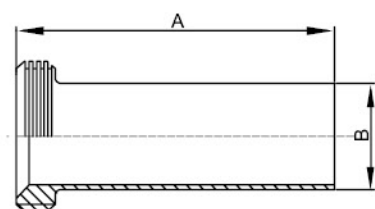
A

14AHT Plain Bevel Seat Tygon Hose Adapters



size	A		B	
	inch	mm	inch	mm
1"	4.688	119.1	1	25.4
1.5"	4.719	119.9	1.5	38.1
2"	4.719	119.9	2	50.8
2.5"	4.844	123.0	2.5	63.5
3"	4.906	124.6	3	76.2
4"	5.218	132.5	4	101.6

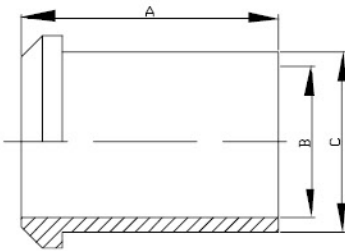
15AHT Threaded Bevel Seat Tygon Hose Adapters



size	A		B	
	inch	mm	inch	mm
1"	4.5	114.3	1	25.4
1.5"	4.5	114.3	1.5	38.1
2"	4.5	114.3	2	50.8
2.5"	4.5	114.3	2.5	63.5
3"	4.5	114.3	3	76.2
4"	5	127	4	101.6

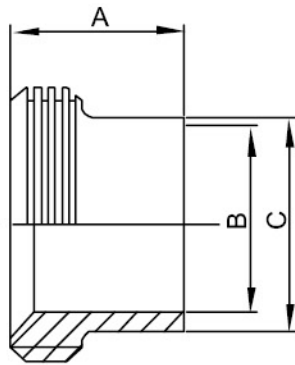
BEVEL SEAT FITTINGS

14W Heavy Wall Tank Plain Bevel Seat Ferrules



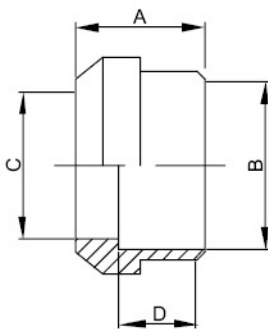
size	A		B		C	
	inch	mm	inch	mm	inch	mm
1"	2.375	60.3	0.87	22.1	1.16	29.5
1.5"	2.531	64.3	1.37	34.8	1.676	42.6
2"	2.781	70.6	1.87	47.5	2.192	55.7
2.5"	3.062	77.8	2.37	60.2	2.708	68.8
3"	3.531	89.7	2.87	72.9	3.224	81.9
4"	4.312	109.5	3.834	97.4	4.256	108.1

15W Heavy Wall Tank Threaded Bevel Seat Ferrules



size	A		B		C	
	inch	mm	inch	mm	inch	mm
1"	1.5	38.1	0.87	22.1	1.16	29.5
1.5"	1.625	41.3	1.37	34.8	1.676	42.6
2"	1.75	44.4	1.87	47.5	2.192	55.7
2.5"	1.75	44.4	2.37	60.2	2.708	68.8
3"	1.812	46.0	2.87	72.9	3.224	81.9
4"	2.125	54.0	3.834	97.4	4.256	108.1

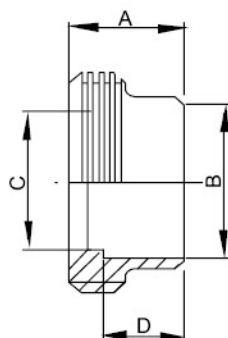
14 Recessed Plain Bevel Seat Weld Ferrules



size	A		B		C		D	
	inch	mm	inch	mm	inch	mm	inch	mm
1"	0.75	19.05	1	25.4	0.87	22.1	0.5	12.7
1.5"	0.875	22.2	1.5	38.1	1.37	34.8	0.625	15.9
2"	0.969	24.6	2	50.8	1.87	47.5	0.688	17.5
2.5"	1.062	27.0	2.5	63.5	2.37	60.2	0.75	19.05
3"	1.125	28.6	3	76.2	2.87	72.9	0.813	20.6
4"	1.25	31.7	4	101.6	3.834	97.4	0.938	23.8

BEVEL SEAT FITTINGS

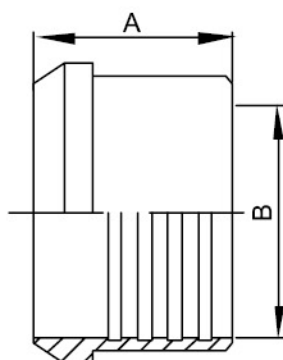
15 Recessed Threaded Bevel Seat Ferrules



size	A		B		C		D	
	inch	mm	inch	mm	inch	mm	inch	mm
1"	0.812	20.6	1	25.4	0.87	22.1	0.5	12.7
1.5"	0.875	22.2	1.5	38.1	1.37	34.8	0.625	15.9
2"	1.031	26.2	2	50.8	1.87	47.5	0.688	17.5
2.5"	1.125	28.6	2.5	63.5	2.37	60.2	0.75	19.05
3"	1.25	31.7	3	76.2	2.87	72.9	0.813	20.6
4"	1.375	34.9	4	101.6	3.834	97.4	0.938	23.8

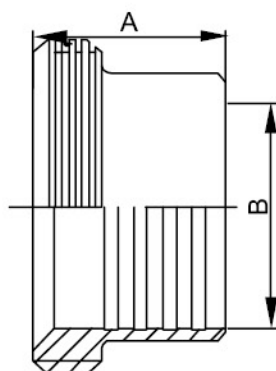
A

14R Recessless (Roll-on) Plain Bevel Seat Weld Ferrules for Expanding



size	A		B	
	inch	mm	inch	mm
1"	0.75	19.05	1	25.4
1.5"	1.125	28.6	1.5	38.1
2"	1.312	33.3	2	50.8
2.5"	1.375	34.9	2.5	63.5
3"	1.437	36.5	3	76.2
4"	1.5	38.1	4	101.6

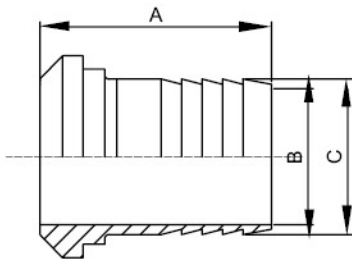
15R Recessless (Roll-on) Threaded Bevel Seat Ferrules for Expanding



size	A		B	
	inch	mm	inch	mm
1"	0.812	20.6	1	25.4
1.5"	1.125	28.6	1.5	38.1
2"	1.375	34.9	2	50.8
2.5"	1.5	38.1	2.5	63.5
3"	1.675	42.5	3	76.2
4"	1.675	42.5	4	101.6

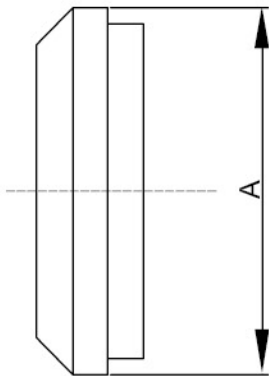
BEVEL SEAT FITTINGS

14AHR Plain Bevel Seat Rubber Hose Adapters



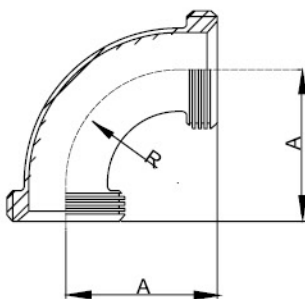
size	A		B		C	
	inch	mm	inch	mm	inch	mm
1"	1.7	42.8	0.87	22.1	1	25.4
1.5"	1.7	42.8	1.37	34.8	1.5	38.1
2"	2.3	58.7	1.87	47.5	2	50.8
2.5"	2.3	59.5	2.37	60.2	2.5	63.5
3"	3.5	88.9	2.87	72.9	3	76.2
4"	4.0	101.6	3.834	97.4	4	101.6

16A Plain Bevel Seat Solid End Caps



size	A	
	inch	mm
1"	1.312	33.3
1.5"	1.843	46.8
2"	2.375	60.3
2.5"	2.906	73.8
3"	3.437	87.3
4"	4.5	114.3

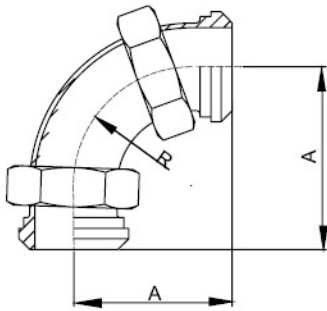
2C Thread X Thread Bevel Seat 90 Degree Elbow



size	A		B	
	inch	mm	inch	mm
1"	2.218	56.3	1	25.4
1.5"	2.968	75.4	1.5	38.1
2"	3.75	95.2	2	50.8
2.5"	4.625	117.5	2.5	63.5
3"	5.406	137.3	3	76.2
4"	7.031	178.6	4	101.6

BEVEL SEAT FITTINGS

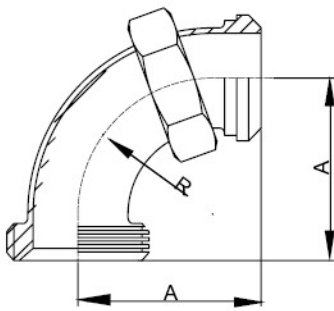
2E Plain X Plain Bevel Seat 90 Degree Elbow



size	A		B	
	inch	mm	inch	mm
1"	2.218	56.3	1	25.4
1.5"	2.969	75.4	1.5	38.1
2"	3.75	95.2	2	50.8
2.5"	4.625	117.5	2.5	63.5
3"	5.406	137.3	3	76.2
4"	7.031	178.6	4	101.6

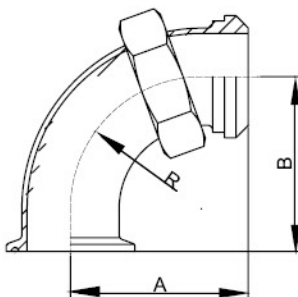
A

2F Thread X Plain Bevel Seat 90 Degree Elbow



size	A	
	inch	mm
1"	2.218	56.3
1.5"	2.969	75.4
2"	3.75	95.2
2.5"	4.625	117.5
3"	5.406	137.3
4"	7.031	178.6

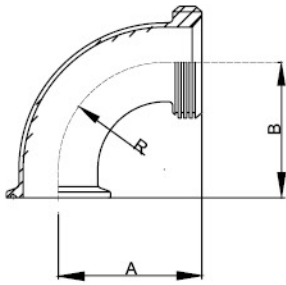
2FMP-14 Clamp X Plain Bevel Seat 90 Degree Elbow



size	A		B	
	inch	mm	inch	mm
1"	2.218	56.3	2	50.8
1.5"	2.969	75.4	2.75	69.85
2"	3.75	95.2	3.5	88.9
2.5"	4.625	117.5	4.25	107.95
3"	5.406	137.3	5	127
4"	7.031	178.6	6.625	168.275

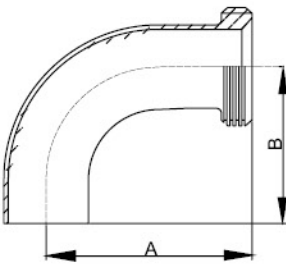
BEVEL SEAT FITTINGS

2FMP-15 Clamp X Threaded Bevel Seat 90 Degree Elbow



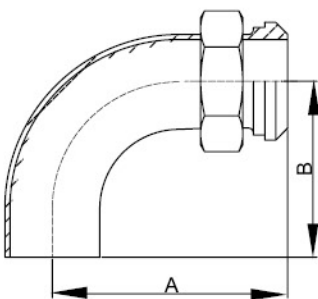
size	A		B	
	inch	mm	inch	mm
1"	2.218	56.3	2	50.8
1.5"	2.968	75.4	2.75	69.9
2"	3.75	95.3	3.5	88.9
2.5"	4.625	117.5	4.25	108.0
3"	5.406	137.3	5	127.0
4"	7.031	178.6	6.625	168.3

L2C Weld X Threaded Bevel Seat 90 Degree Elbow



size	A		B	
	inch	mm	inch	mm
1"	2.78	70.6	2.062	52.4
1.5"	3.656	92.9	2.937	74.6
2"	4.812	122.2	4.062	103.2
2.5"	6.062	154.0	5.187	131.7
3"	7.218	183.3	6.312	160.3
4"	9.343	237.3	8.312	211.1

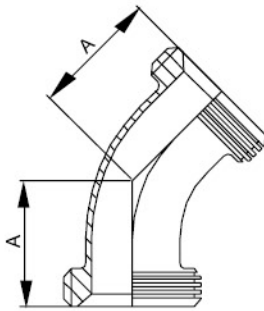
L2F Weld X Plain Bevel Seat 90 Degree Elbow



size	A		B	
	inch	mm	inch	mm
1"	2.78	70.6	2.062	52.4
1.5"	3.656	92.9	2.937	74.6
2"	4.812	122.2	4.062	103.2
2.5"	6.062	154.0	5.187	131.7
3"	7.218	183.3	6.312	160.3
4"	9.343	237.3	8.312	211.1

BEVEL SEAT FITTINGS

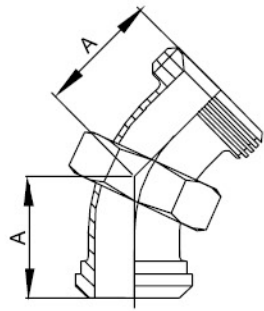
2K Thread X Thread Bevel Seat 45 Degree Elbow



size	A	
	inch	mm
1"	1.343	34.1
1.5"	1.655	42.0
2"	2	50.8
2.5"	2.437	61.9
3"	2.781	70.6
4"	3.531	89.7

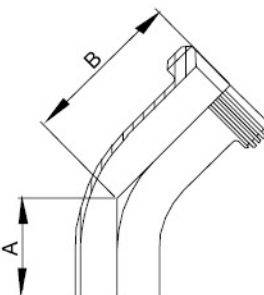
A

2P Thread X Plain Bevel Seat 45 Degree Elbow



size	A	
	inch	mm
1"	1.343	34.1
1.5"	1.655	42.0
2"	2	50.8
2.5"	2.437	61.9
3"	2.781	70.6
4"	3.531	89.7

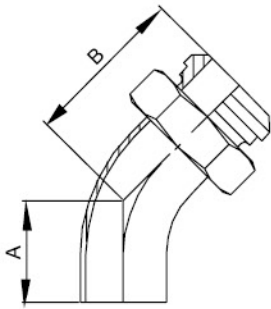
L2K Weld X Threaded Bevel Seat 45 Degree Elbow



size	A		B	
	inch	mm	inch	mm
1"	1.188	30.2	1.907	48.4
1.5"	1.625	41.3	2.344	59.5
2"	2.312	58.7	3.031	77.0
2.5"	3	76.2	3.719	94.5
3"	3.688	93.7	4.406	111.9
4"	4.812	122.2	5.531	140.5

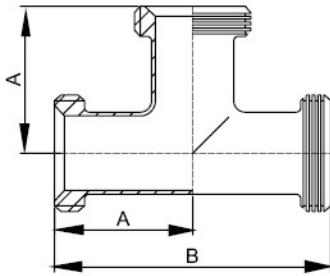
BEVEL SEAT FITTINGS

L2P Weld X Plain Bevel Seat 45 Degree Elbow



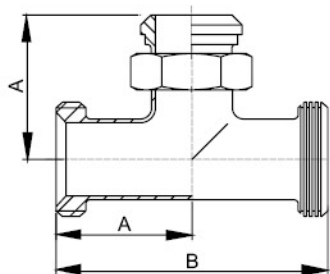
size	A		B	
	inch	mm	inch	mm
1"	1.188	30.2	1.875	47.6
1.5"	1.625	41.3	2.344	59.5
2"	2.312	58.7	3.035	77.1
2.5"	3	76.2	3.844	97.6
3"	3.688	93.7	4.59	116.6
4"	4.812	122.2	5.812	147.6

7 Bevel Seat Threaded Ends Equal Tee



size	A		B	
	inch	mm	inch	mm
1"	1.813	46.0	3.626	92.1
1.5"	2.375	60.3	4.75	120.6
2"	2.813	71.4	5.626	142.9
2.5"	3.188	81.0	6.376	161.9
3"	3.527	89.6	7.054	179.2
4"	4.657	118.3	9.314	236.6

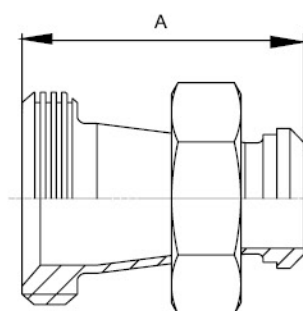
7A Thread X Thread X Plain Bevel Seat Outlet Equal Tee



size	A		B		C	
	inch	mm	inch	mm	inch	mm
1"	1.813	46.0	3.626	92.1	1.812	46.0
1.5"	2.375	60.3	4.75	120.6	2.375	60.3
2"	2.813	71.4	5.626	142.9	2.786	70.8
2.5"	3.188	81.0	6.376	161.9	3.188	81.0
3"	3.527	89.6	7.054	179.2	3.5	88.9
4"	4.657	118.3	9.314	236.6	4.438	112.7

BEVEL SEAT FITTINGS

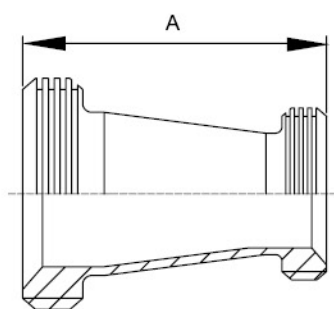
31TP Threaded X Plain Bevel Seat Concentric Reducer



size	A	
	inch	mm
1.5"×1"	3.436	87.3
2.5"×2"	3.625	92.1
2"×1.5"	3.468	88.1
3"×2"	5.656	143.7
3"×2.5"	3.781	96.0
4"×3"	5.937	150.8

A

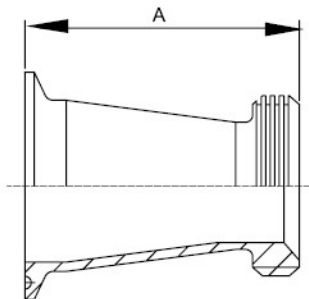
31TT Threaded Ends Bevel Seat Concentric Reducer



size	A		B	
	inch	mm	inch	mm
1.5"×1"	3.436	87.3	1.875	47.6
2.5"×2"	3.625	92.1	2.344	59.5
2"×1.5"	3.468	88.1	3.035	77.1
3"×2"	5.656	143.7	3.844	97.6
3"×2.5"	3.781	96.0	4.59	116.6
4"×3"	5.937	150.8	5.812	147.6

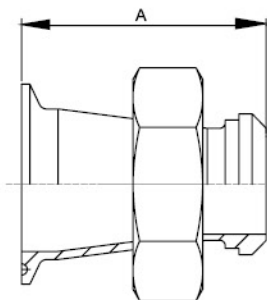
BEVEL SEAT FITTINGS

31MPT Clamp X Threaded Bevel Seat Concentric Reducer



size	A	
	inch	mm
1.5"×1"	3.188	81.0
2.5"×1.5"	5.219	132.6
2.5"×2"	3.219	81.8
2"×1"	5.188	131.8
2"×1.5"	3.188	81.0
3"×2"	5.406	137.3
3"×2.5"	3.406	86.5
4"×2.5"	7.719	196.1
4"×3"	5.719	145.3

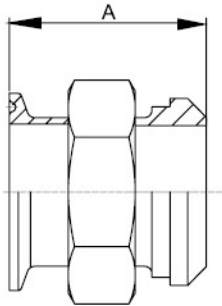
31MPP Clamp X Plain Bevel Seat Concentric Reducer



size	A	
	inch	mm
1.5"×1"	3.875	98.4
2.5"×1.5"	5.219	132.6
2.5"×2"	3.219	81.8
2"×1"	5.188	131.8
2"×1.5"	3.219	81.8
3"×2"	5.406	137.3
3"×2.5"	3.406	86.5
4"×2.5"	7.719	196.1
4"×3"	5.719	145.3

BEVEL SEAT FITTINGS

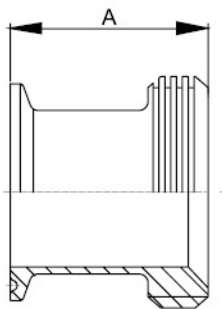
17MP-14 Clamp X Plain Bevel Seat Adapters



size	A	
	inch	mm
1"	3	76.2
1.5"	3	76.2
2"	3	76.2
2.5"	3.5	88.9
3"	3.75	95.2
4"	4	101.6

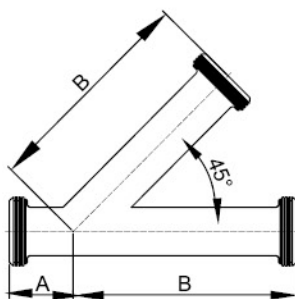
A

17MP-15 Clamp X Threaded Bevel Seat Adapters



size	A	
	inch	mm
1"	1.813	46.0
1.5"	1.844	46.8
2"	1.875	47.6
2.5"	2	50.8
3"	2.031	51.6
4"	2.156	54.8

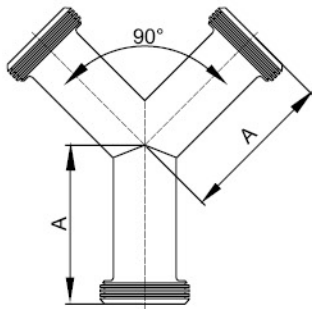
28A Threaded Ends Lateral Wye



size	A		B	
	inch	mm	inch	mm
1"	1.688	42.9	5.688	144.5
1.5"	1.908	48.5	6.906	175.4
2"	2.37	60.2	7.875	200.0
2.5"	2.375	60.3	9.344	237.3
3"	2.808	71.3	9.808	249.1
4"	3.282	83.4	12.006	305.0

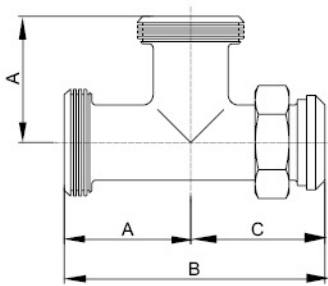
BEVEL SEAT FITTINGS

28B Threaded Ends True Wye



size	A	
	inch	mm
1"	3.688	93.6752
1.5"	3.718	94.4372
2"	4.75	120.65
2.5"	5.844	148.4376
3"	6.933	176.0982
4"	9.219	234.1626

7A&7B TEE



size	A		B		C	
	inch	mm	inch	mm	inch	mm
1"	1.81	46.0	3.63	92.2	2.69	68.3
1.5"	2.34	59.4	4.69	119.1	3.41	86.6
2"	2.78	70.6	5.56	141.2	3.71	94.2
2.5"	3.19	81.0	6.38	162.1	4.25	108.0
3"	3.53	89.3	7.06	179.3	4.63	117.6
4"	4.66	118.4	9.31	236.5	6.13	155.7

I-LINE FITTINGS

*NE	*OBERT *AMES	*AUKESHA / *PX	P&E	*teel & *Brien
E2CI	RJ2CZ	2CI	2CI	HDI-2C
E2FI	RJ2FZ	2FI	2FI	HDI-2F
E2EI	----	2EI	2EI	HDI-2E
E2KI	RJ2KZ	2KI	2KI	HDI-2K
E2PI	RJ2PZ	2PI	2PI	HDI-2P
E7I	RJ7Z	7I	7I	HDI-7
E7AI	RJ7AZ	7AI	7AI	----
E7EI	RJ7EZ	7EI	7EI	----
E7BI	RJ7BZ	7BI	----	----
E9I	RJ9Z	9I	9I	----
E13IS	RJ13ZS	13IS	13IS	HDI-13-UD
E13IU	RJ13Z	13IU	13I	HDI-13-U
E14WI	RJ14WZ	14WI	14WI	14WH
E15WI	RJ15WZ	15WI	15WI	15WH
E14WLI	RJ14WLZ	14WLI	14WLI	14WLH
E15WLI	RJ15WLZ	15WLI	15WLI	15WLH
E14HRI	RJ14HRZ	14HRI	14HRI	----
E14HTI	RJ14HTZ	14HTI	14HTI	----
E15HRI	RJ15HRZ	15HRI	15HRI	----
E15HTI	RJ15HTZ	15HTI	15HTI	----
E17-14I-15I	RJ17-14Z-15Z	17-14I-15I	17-14I-15I	----
E17-15I-15I	RJ17-15Z-15Z	17-15I-15I	17-15I-15I	----
E17-14I-14I	RJ17-14Z-14Z	17-14I-14I	17-14I-14I	----
E17-14I-14	RJ17-14Z-14	17-14I-14	17-14I-14	----
E17-14I-14MP	RJ17-14Z-14MP	17-14I-14MP	17-14I-14MP	----
E17-14I-15	RJ17-14Z-15	17-14I-15	17-14I-15	----
E17-15I-14	RJ17-15Z-14	17-15I-14	17-15I-14	----
E17-15I-15	RJ17-15Z-15	17-15I-15L	17-15I-15	----
E17-15I-14MP	RJ17-15Z-14MP	17-15I-14MP	17-15I-14MP	----
E21I-14I	RJ21-14Z	21FI-14I	21FI-14I	----
E21I-15I	RJ21-15Z	21FI-15I	21FI-15I	----
E22I-14I	RJ22-14Z	22FI-14I	22FI-14I	----
E22I-15I	RJ22-15Z	22FI-15I	22FI-15I	----
E16AI-14I	RJ16AZ-14Z	16AI-14I	16AI-14I	HDI-16A-14
E16AI-15I	RJ16AZ-15Z	16AI-15I	16AI-15I	HDI-16A-15
E31I-14I	RJ31Z-14Z	31I-14FI	31I-14I	HDI-31-14F
E31I-15I	RJ31Z-15Z	31I-15FI	31I-15I	HDI-31-15F
E31I-15I-14I	RJ31Z-15Z-14Z	----	----	----
E31I-15I-15I	RJ31Z-15Z-15Z	----	----	----
E32I-14I	RJ32Z-14Z	32I-14FI	----	HDI-32-14F
E32I-15I	RJ32Z-15Z	32I-15FI	----	HDI-32-15F
E14WHI	----	14WHI	14WHI	
E15WHI	----	15WHI	15WHI	

A

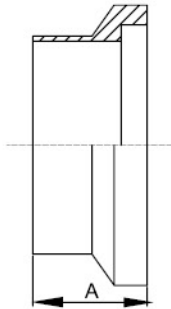
I-LINE FITTINGS

14WI Male I-Line Short Weld Ferrule



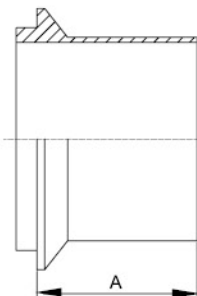
size	A	
	inch	mm
1"	0.6	15.2
1.5"	0.746	18.9
2"	0.78	19.8
2.5"	0.85	21.6
3"	0.906	23.0
4"	1.031	26.2
6"	0.94	23.9
8"	0.94	23.9

15WI Female I-Line Short Weld Ferrule



size	A	
	inch	mm
1"	0.786	20.0
1.5"	0.95	24.1
2"	1.036	26.3
2.5"	1.161	29.5
3"	1.223	31.1
4"	1.348	34.2
6"	1.13	28.7
8"	1.13	28.7

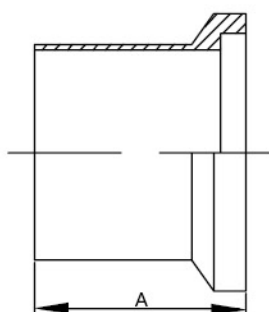
14WLI Male I-Line Long Weld Ferrule



size	A	
	inch	mm
1"	1.562	39.7
1.5"	1.843	46.8
2"	2.062	52.4
2.5"	2.188	55.6
3"	2.375	60.3
4"	2.688	68.3
6"	2.688	68.3

I-LINE FITTINGS

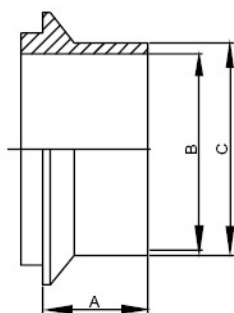
15WLI Female I-Line Long Weld Ferrule



size	A	
	inch	mm
1"	1.75	44.4
1.5"	2.031	51.6
2"	2.312	58.7
2.5"	2.5	63.5
3"	2.688	68.3
4"	3	76.2
6"	3	76.2

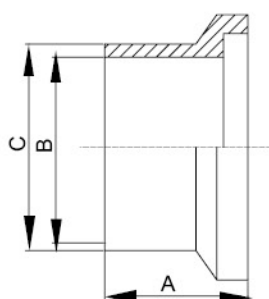
A

14WHI Male I-Line Heavy Wall Tank Weld Ferrule



size	A		B		C	
	inch	mm	inch	mm	inch	mm
1"	1.312	33.3	0.87	22.1	1.25	31.7
1.5"	1.457	37.0	1.37	34.8	1.688	42.9
2"	1.5	38.1	1.87	47.5	2.25	57.1
2.5"	1.437	36.5	2.37	60.2	2.75	69.8
3"	1.5	38.1	2.87	72.9	3.313	84.1
4"	1.812	46.0	3.834	97.4	4.25	107.9

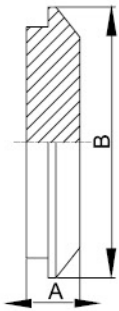
15WHI Female I-Line Heavy Wall Tank Weld Ferrule



size	A		B		C	
	inch	mm	inch	mm	inch	mm
1"	1.5	38.1	0.87	22.1	1.25	31.7
1.5"	1.625	41.3	1.37	34.8	1.688	42.9
2"	1.75	44.4	1.87	47.5	2.25	57.1
2.5"	1.75	44.4	2.37	60.2	2.75	69.8
3"	1.812	46.0	2.87	72.9	3.313	84.1
4"	2.125	54.0	3.834	97.4	4.25	107.9

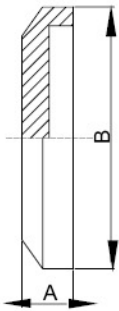
I-LINE FITTINGS

16AI-14I Male I-Line Solid End Cap



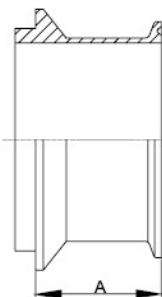
size	A		B	
	inch	mm	inch	mm
1"	0.5	12.7	1.985	50.4
1.5"	0.5	12.7	1.985	50.4
2"	0.562	14.3	2.64	67.0
2.5"	0.75	19.05	3.307	84.0
3"	0.75	19.05	3.87	98.3
4"	0.75	19.05	4.87	123.7
6"	0.75	19.05	7.495	190.4

16AI-15I Female I-Line Solid End Cap



size	A		B	
	inch	mm	inch	mm
1"	0.5	12.7	1.985	50.4
1.5"	0.5	12.7	1.985	50.4
2"	0.562	14.3	2.64	67.0
2.5"	0.75	19.05	3.307	84.0
3"	0.75	19.05	3.87	98.3
4"	0.75	19.05	4.87	123.7
6"	0.75	19.05	7.495	190.4

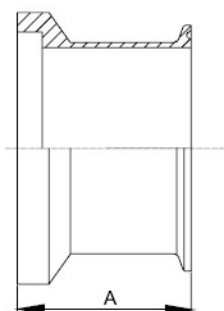
17-14I-14MP Male I-Line X Clamp Adapter



size	A	
	inch	mm
1"	1.093	27.8
1.5"	1.265	32.1
2"	1.29	32.8
2.5"	1.312	33.3
3"	1.406	35.7
4"	1.656	42.1

I-LINE FITTINGS

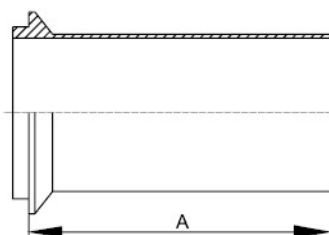
17-15I-14MP Female I-Line X Clamp Adapter



size	A	
	inch	mm
1"	1.28	32.5
1.5"	1.45	36.8
2"	1.54	39.1
2.5"	1.625	41.3
3"	1.718	43.6
4"	1.968	50.0

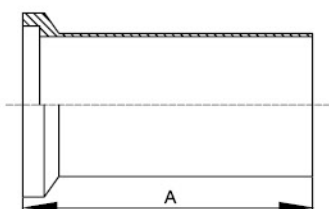
A

14HTI I-LINE Male To Tygon Tube Adapter



size	A	
	inch	mm
1"	4.06	103.1
1.5"	4.28	108.7
2"	4.5	114.3
2.5"	4.81	122.2
3"	5.06	128.5
4"	5.19	131.8

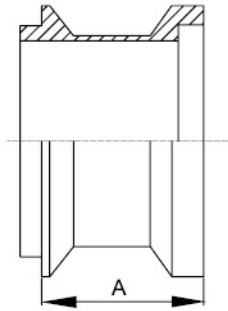
15HTI I-LINE Female To Tygon Tube Adapter



size	A	
	inch	mm
1"	4.25	107.9
1.5"	4.47	113.5
2"	4.75	120.6
2.5"	5.13	130.3
3"	5.38	136.6
4"	5.5	139.7

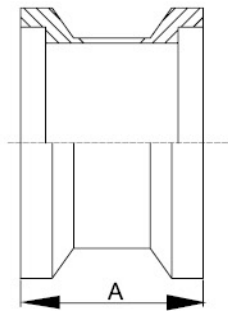
I-LINE FITTINGS

17-14I-15I I-LINE Male X Female Adapter



size	A	
	inch	mm
1"	1.34	34.0
1.5"	1.66	42.2
2"	1.81	46.0
2.5"	1.97	50.0
3"	2.09	53.1
4"	2.34	59.4

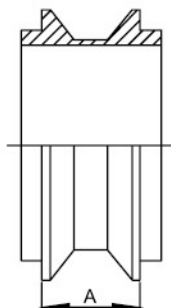
17-15I-15I I-LINE Female X Female Adapter



size	A	
	inch	mm
1"	1.56	39.6
1.5"	1.88	47.7
2"	2.06	52.3
2.5"	2.31	58.7
3"	2.44	62.0
4"	2.69	68.3

I-LINE FITTINGS

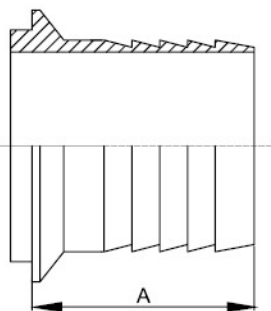
17-14I-14I I-LINE Male X Male Adapter



size	A	
	inch	mm
1"	1.19	30.2
1.5"	1.5	38.1
2"	1.56	39.6
2.5"	1.69	42.9
3"	1.81	46.0
4"	2.06	52.3

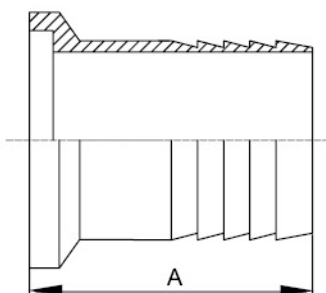
A

14HRI I-Line Male To Rubber Hose Adapter



size	A	
	inch	mm
1"	1.69	42.9
1.5"	1.63	41.4
2"	2.28	57.9
2.5"	2.38	60.4
3"	3.19	81.0
4"	3.47	88.1

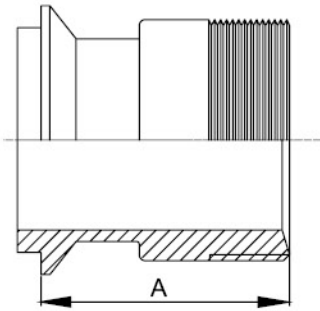
15HRI I-LINE Female To Rubber Hose Adapter



size	A	
	inch	mm
1"	1.88	47.7
1.5"	1.81	46.0
2"	2.56	65.0
2.5"	2.69	68.3
3"	3.5	88.9
4"	3.78	96.0

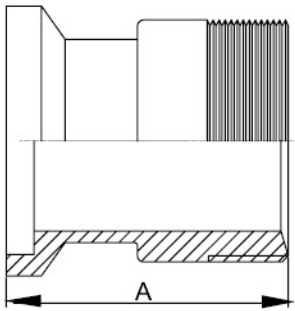
I-LINE FITTINGS

21FI -14I I-LINE Male X Male NPT Adapter



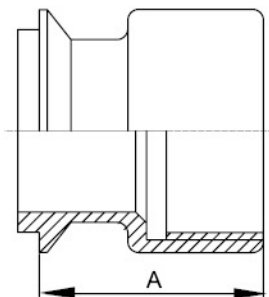
size	A	
	inch	mm
1"	2.25	57.1
1.5"	2.19	55.6
2"	2.56	65.0
2.5"	2.91	73.9
3"	3.09	78.5
4"	3.25	82.5

21FI -15I I-LINE Female X Male NPT Adapter



size	A	
	inch	mm
1"	2.44	62.0
1.5"	2.38	60.4
2"	2.56	65.0
2.5"	3.16	80.3
3"	3.41	86.6
4"	3.56	90.4

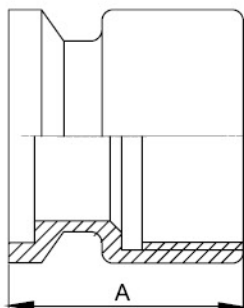
22FI -14I I-LINE Male X Female NPT Adapter



size	A	
	inch	mm
1"	1.88	47.7
1.5"	1.84	46.7
2"	1.91	48.5
2.5"	2.28	57.9
3"	2.47	62.7
4"	2.63	66.8

I-LINE FITTINGS

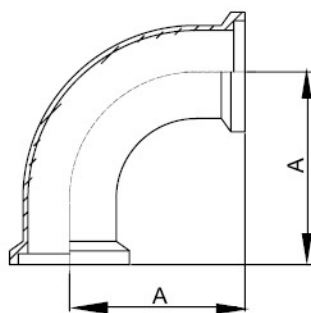
22FI - 15I I-LINE Female X Female NPT Adapter



size	A	
	inch	mm
1"	2.06	52.3
1.5"	2.03	51.6
2"	2.19	55.6
2.5"	2.59	65.8
3"	2.78	70.6
4"	2.47	62.7

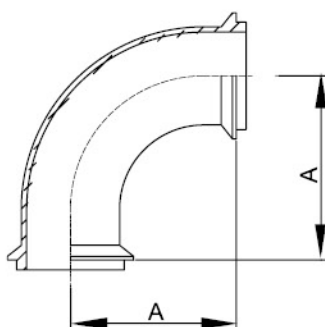
A

2CI Female I-LINE 90 Degree Elbow



size	A	
	inch	mm
1"	2.286	58.1
1.5"	3.192	81.1
2"	4.036	102.5
2.5"	4.911	124.7
3"	5.723	145.4
4"	7.348	186.6

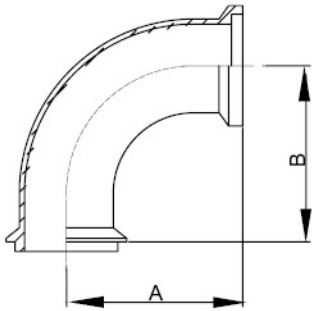
2EI Male I-LINE 90 Degree Elbow



size	A	
	inch	mm
1"	2.089	53.1
1.5"	3	76.2
2"	3.78	96.0
2.5"	4.6	116.8
3"	5.412	137.5
4"	7.037	178.7

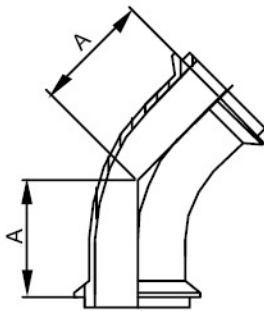
I-LINE FITTINGS

2FI I-LINE Female X Male End 90 Degree Elbow



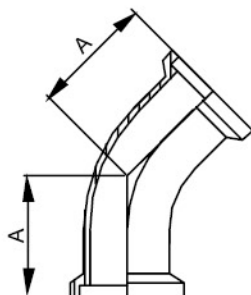
size	A		B	
	inch	mm	inch	mm
1"	2.281	57.9	2.093	53.2
1.5"	3.188	81.0	3	76.2
2"	4.031	102.4	3.78	96.0
2.5"	4.906	124.6	4.6	116.8
3"	5.718	145.2	5.41	137.4
4"	7.344	186.5	7.031	178.6

2HI I-LINE Male Ends 45 Degree Elbow



size	A	
	inch	mm
1"	1.214	30.8
1.5"	1.526	38.8
2"	2.03	51.6
2.5"	2.412	61.3
3"	2.787	70.8
4"	3.537	89.8

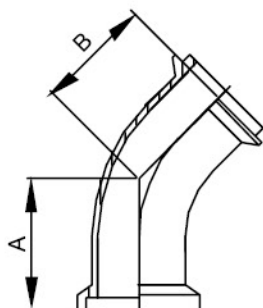
2KI I-LINE Female Ends 45 Degree Elbow



size	A	
	inch	mm
1"	1.411	35.8
1.5"	1.879	47.7
2"	2.286	58.1
2.5"	2.723	69.2
3"	3.098	78.7
4"	3.848	97.7

I-LINE FITTINGS

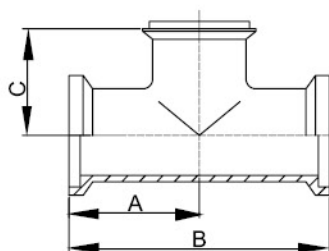
2PI I-LINE Female X Male End 45 Degree Elbow



size	A		B		C	
	inch	mm	inch	mm	inch	mm
1"	1.411	35.8	1.214	30.8	1.5	38.1
1.5"	1.879	47.7	1.526	38.8	2.25	57.1
2"	2.286	58.1	2.03	51.6	3	76.2
2.5"	2.723	69.2	2.412	61.3	3.75	95.2
3"	3.098	78.7	2.787	70.8	4.5	114.3
4"	3.848	97.7	3.537	89.8	6	152.4

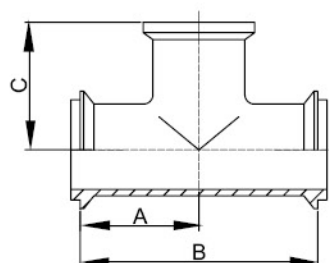
A

7AI I-LINE Female Run X Male Outlet Tee



size	A		B		C	
	inch	mm	inch	mm	inch	mm
1"	1.911	48.5	3.822	97.1	1.714	43.5
1.5"	2.598	66.0	5.196	132.0	2.402	61.0
2"	3.099	78.7	6.198	157.4	2.843	72.2
2.5"	3.505	89.0	7.01	178.0	3.194	81.1
3"	3.817	96.9	7.634	193.9	3.506	89.0
4"	4.786	121.6	9.572	243.1	4.475	113.7

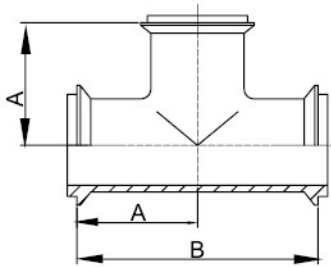
7EI I-LINE Male Run X Female Outlet Tee



size	A		B		C	
	inch	mm	inch	mm	inch	mm
1"	1.714	43.5	3.428	87.1	1.911	48.5
1.5"	2.402	61.0	4.804	122.0	2.598	66.0
2"	2.843	72.2	5.686	144.4	3.099	78.7
2.5"	3.194	81.1	6.388	162.2	3.505	89.0
3"	3.506	89.0	7.012	178.1	3.817	96.9
4"	4.475	113.7	8.95	227.3	4.786	121.6

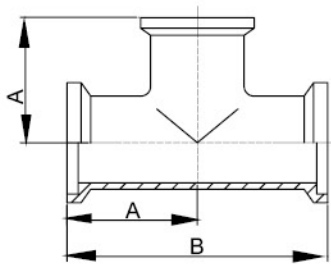
I-LINE FITTINGS

7HI I-LINE Male Ends Tee



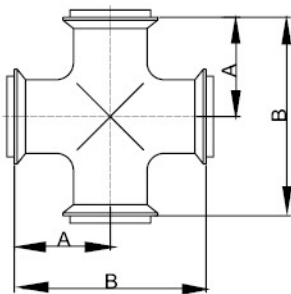
size	A		B	
	inch	mm	inch	mm
1"	1.714	43.5	3.428	87.1
1.5"	2.402	61.0	4.804	122.0
2"	2.843	72.2	5.686	144.4
2.5"	3.194	81.1	6.388	162.2
3"	3.506	89.0	7.012	178.1
4"	4.475	113.7	8.95	227.3

7I I-LINE Female Ends Tee



size	A		B	
	inch	mm	inch	mm
1"	1.911	48.5	3.822	97.1
1.5"	2.598	66.0	5.196	132.0
2"	3.099	78.7	6.198	157.4
2.5"	3.505	89.0	7.01	178.0
3"	3.817	96.9	7.634	193.9
4"	4.786	121.6	9.572	243.1

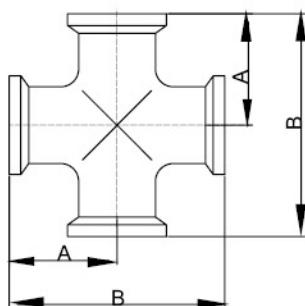
9HI I-LINE Male Ends Cross



size	A		B	
	inch	mm	inch	mm
1"	1.714	43.5	3.428	87.1
1.5"	2.402	61.0	4.804	122.0
2"	2.843	72.2	5.686	144.4
2.5"	3.194	81.1	6.388	162.2
3"	3.506	89.0	7.012	178.1
4"	4.475	113.7	8.95	227.3

I-LINE FITTINGS

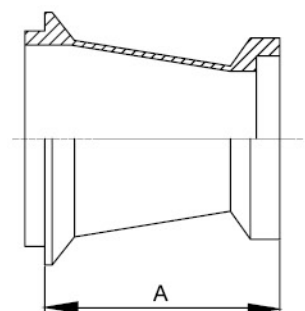
9I I-LINE Female Ends Cross



size	A		B	
	inch	mm	inch	mm
1"	1.911	48.5	3.822	97.1
1.5"	2.598	66.0	5.196	132.0
2"	3.099	78.7	6.198	157.4
2.5"	3.505	89.0	7.01	178.0
3"	3.817	96.9	7.634	193.9
4"	4.786	121.6	9.572	243.1

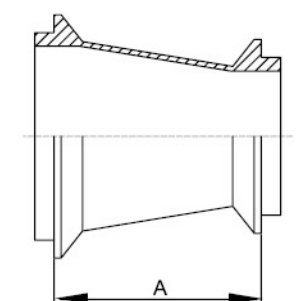
A

31I-15FI I-LINE Male X Female Concentric Reducer



size	A	
	inch	mm
1.5"×1"	3.13	79.5
2"×1.5"	3.09	78.5
2.5"×2"	3.28	83.3
3"×2"	5.38	136.6
3"×2.5"	3.44	87.4
4"×3"	5.66	143.8

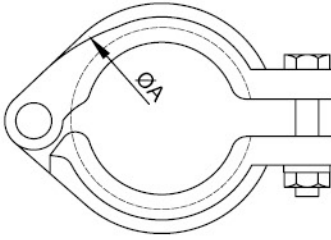
31I-14FI I-LINE Male X Male Concentric Reducer



size	A	
	inch	mm
1.5"×1"	3.31	84.1
2"×1.5"	3.25	82.5
2.5"×2"	3.38	85.8
3"×2"	4.69	119.1
3"×2.5"	4.75	120.6
4"×3"	4.91	124.7

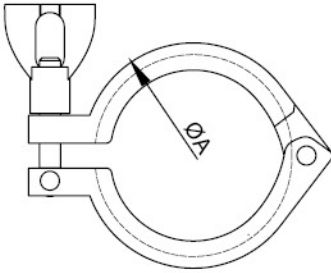
I-LINE FITTINGS

13I Bolted I-Line Clamp



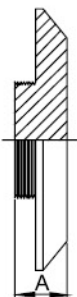
size	A	
	inch	mm
1"	2.122	53.9
1.5"	2.122	53.9
2"	2.654	67.4
2.5"	3.185	80.9
3"	3.717	94.4
4"	4.82	122.4

13IS Wing Nut I-Line Clamp



size	A	
	inch	mm
1"	2.122	53.9
1.5"	2.122	53.9
2"	2.654	67.4
2.5"	3.185	80.9
3"	3.717	94.4
4"	4.82	122.4

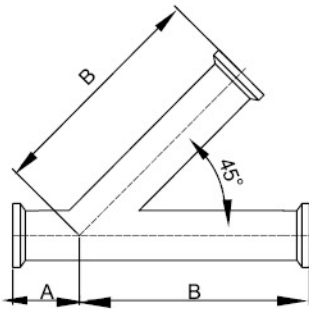
23BI I-LINE Male Thermometer Cap



size	A	
	inch	mm
1"x1/2 NPT	0.505	12.827
1.5"x3/4 NPT	0.505	12.827
2"x3/4 NPT	0.505	12.827
2.5"x3/4 NPT	0.692	17.5768
3"x3/4 NPT	0.692	17.5768
4"x3/4 NPT	0.755	19.177

I-LINE FITTINGS

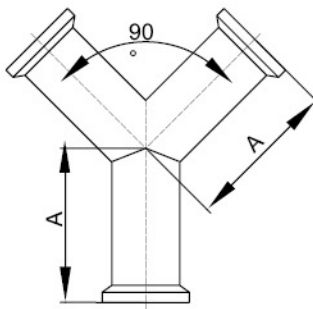
28AI I-LINE Female Ends Lateral Wye



size	A		B	
	inch	mm	inch	mm
1"	1.786	45.4	5.786	147.0
1.5"	2.132	54.1	7.132	181.1
2"	2.656	67.5	8.156	207.2
2.5"	2.661	67.6	9.661	245.4
3"	3.103	78.8	10.103	256.6
4"	3.408	86.6	12.148	308.5

A

28BI I-LINE Female Ends True Wye



size	A	
	inch	mm
1"	3.786	96.2
1.5"	3.942	100.1
2"	5.036	127.9
2.5"	6.161	156.5
3"	7.223	183.5
4"	9.348	237.4

BUTTERFLY VALVES



Tech Specs

Working pressure:	0-10 bar
Control air pressure:	5-8 bar
Working temperature:	-20°C~135°C (EPDM)
Sterilization temperature:	150°C (Max 20min)
Materials:	non-contact product parts 304 (1.4301), Contact product parts 316L (1.4404)
Seal material:	Standard (EPDM) Option (FPM, Silicone, NBR)
Surfaces:	Internal Ra≤ 0.8μm External Ra≤ 1.6μm
Connection:	welding, clamp, thread, flange, etc

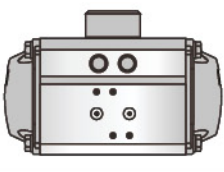
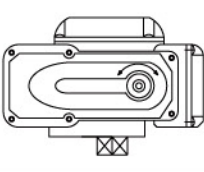


Minimum torque range of the actuator

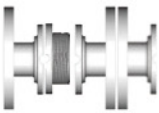
Standard size	Torque(Kgf.m)
1.0"	0.3
1.5"	0.4
2.0"	0.5
2.5"	1.2
3.0"	2
4.0"	2.5
5.0"	3
6.0"	3.5
8.0"	4.5

BUTTERFLY VALVES

S = Welded end
G = Male
K/M = Liner / nut
FI = Flange
CI = Clamp

Pneumatical			
Stainless Steel Pneumatic Actuator	Aluminium Pneumatic Actuator	Electric Actuator	
			

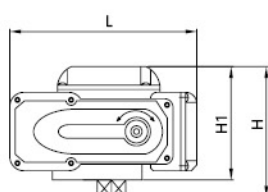
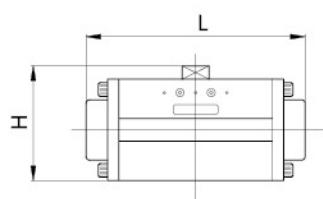
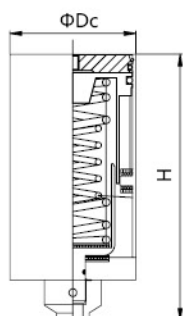
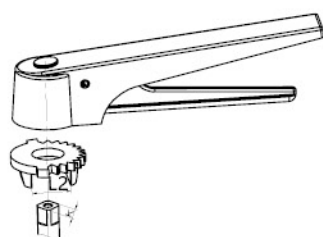
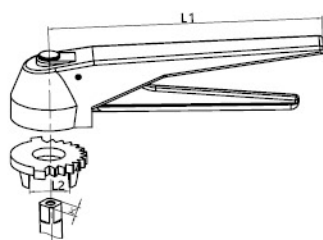
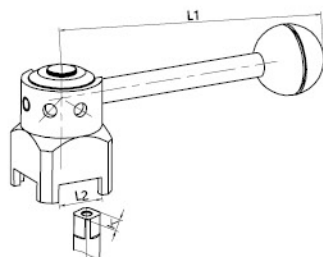
Manually Operated			
hand lever Blue type A.	hand lever Black type A.	hand lever Blue type B.	hand lever Black type B.
			
hand lever Blue type C.	hand lever stainless steel A	hand lever stainless steel B	hand lever stainless steel
			

Connection Type					
S - S	G - S	G - G	K/M - G	K/M - S	FI (PN10) - G FI - FI (PN10)
					
CI - CI	Intermediate - butterfly Valve				
		S - S			

Seals			
Silicone	EPDM	FKM	HNBR
			

A

BUTTERFLY VALVES



Pulling Handle

Size	L1	L2	K x K
0.5"-1.5"	126	20.2	8x8
2"	133	20.2	10x10
2.5"-3"	144	22.2	10x10
3.5"-4"	160	22.2	11x11
5"-6"	220	22.2	11x11
8"	284	30.2	14x14

Plastic Multi-Position Handle

Size	L1	L2	K x K
0.5"-1.5"	150	20.2	8x8
2"-3"	150	20.2	10x10
3.5"-4"	150	22.2	11x11

Stainless Steel Multi-Position Handle

Size	L1	L2	K x K
0.5"-1.5"	155	20.2	8x8
2"-3"	155	20.2	10x10
3.5"-6"	155	22.2	11x11
8"	230	30.2	14x14

Stainless Steel Pneumatic Actuator

Size	Dc	H	match with butterfly valve	match with ball valve
Ø85	85.0	180.5	1"-4"	1"-2"
Ø108	108	223	5"-6"	2.5"-3"
Ø133	133	400	8"	4"

Aluminium Pneumatic Actuator

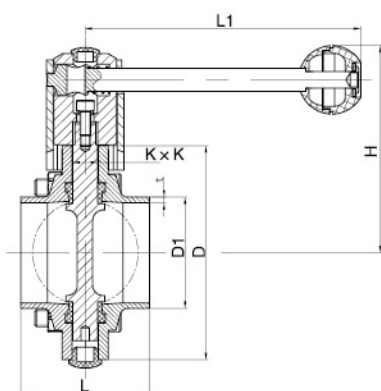
Size	H	L	match with butterfly valve	match with ball valve
AT1	91.0	131.0	1/2"-1 1/4"	1/2"-1"
AT2	112.0	185.0	2"-4"	1 1/4"-2"
AT3	128.0	230.0	5"	2 1/2"-3"
AT4	154.0	290.0	6"-8"	3 1/2"-4"

Electric Actuator

Size	L	H	H1	match with butterfly valve	match with ball valve
HL-05	157.5	115.0	103.0	1"-4"	1"-2"
HL-10	208.0	124.0	115.0	5"-8"	2.5"-3"
HL-20	280.0	135.0	109.0		4"

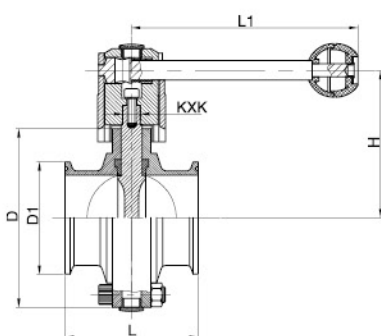
BUTTERFLY VALVES

Welded Butterfly Valve



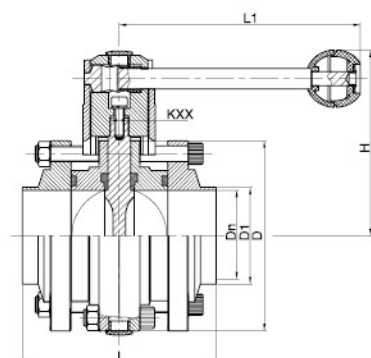
Size	D1	D	L	L1	H	KxK
1/2"	12.7	78	50	126	86	8x8
3/4"	19	78	50	126	86	8x8
1"	25.4	78	50	126	86	8x8
1 1/4"	31.8	78	50	126	86	8x8
1 1/2"	38.1	86	50	126	90	8x8
2"	50.8	102	52	133	102	8x8
2 1/2"	63.5	115	56	144	109	10x10
3"	76.2	128	56	144	115	10x10
3.5"	89	139	60	144	123.5	11x11
4"	102	154	64	144	131	11x11
5"	127	185	80	220	146.5	11x11
6"	152.4	215	90	220	161.5	11x11
8"	203.2	285	90	284	199	14x14

Clamped Butterfly Valve



Size	D1	D	L	L1	H	KxK
1/2"	25.4	78	66	126	86	8x8
3/4"	25.4	78	66	126	86	8x8
1"	50.5	78	66	126	86	8x8
1 1/4"	50.5	78	66	126	86	8x8
1 1/2"	50.5	86	70	126	90	8x8
2"	64	102	76	133	102	10x10
2 1/2"	77.5	115	80	144	109	10x10
3"	91	128	84	144	115	10x10
3.5"	106	139	86	144	123.5	11x11
4"	119	154	104	144	131	11x11
5"	144.5	185	122	220	146.5	11x11
6"	167	215	146	220	161.5	11x11
8"	217.4	285	166.8	284	199	14x14

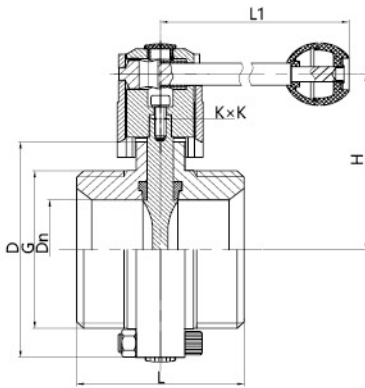
Three-Piece Butterfly Valve



Size	D1	D	L	L1	H	KxK
1/2"	12.7	78	100	126	86	8x8
3/4"	19	78	100	126	86	8x8
1"	25.4	78	100	126	86	8x8
1 1/4"	31.8	78	100	126	86	8x8
1 1/2"	38.1	86	100	126	90	8x8
2"	50.8	102	104	133	102	10x10
2 1/2"	63.5	115	112	144	109	10x10
3"	76.2	128	112	144	115	10x10
3.5"	89	139	120	144	123.5	11x11
4"	101.6	154	128	144	131	11x11
5"	127	185	160	220	146.5	11x11
6"	152.4	215	180	220	161.5	11x11
8"	203.2	285	180	284	199	14x14

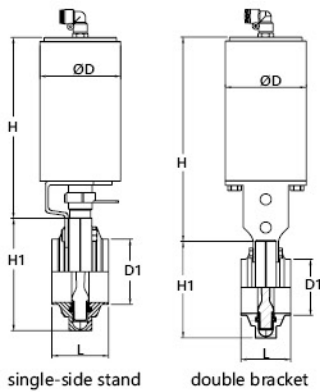
BUTTERFLY VALVES

Threaded Butterfly Valve



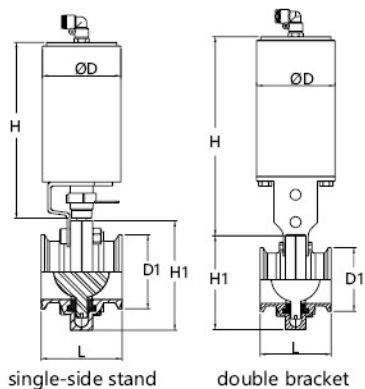
Size	DN	D	L	L1	H	G	Kxk
1"	22.1	78	66	126	86	37.1×1/8Acme	8×8
1 1/4"	28.8	78	70	126	86	45.9×1/8Acme	8×8
1 1/2"	34.8	86	70	126	90	50.6×1/8Acme	8×8
2"	47.5	102	76	133	102	64.1×1/8Acme	10×10
2 1/2"	60.5	115	80	144	109	77.6×1/8Acme	10×10
3"	72.9	128	84	144	115	91.1×1/8Acme	10×10
4"	97.4	154	104	160	131	119.2×1/8Acme	11×11

Pneumatic Welded Butterfly Valve



Size	D1	L	D	H1	H
1"	25.4	50	85	72	172.5
1 1/2"	38.1	50	85	78	172.5
2"	50.8	52	85	101	172.5
2.5"	63.5	56	85	115	172.5
3"	76.2	60	85	130	172.5
4"	101.6	64	85	162	172.5

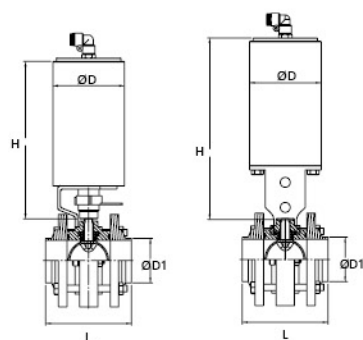
Pneumatic Clamp Butterfly Valve



Size	D1	L	D	H	H1
1"	50.5	66	85	172.5	72
1 1/2"	50.5	70	85	172.5	78
2"	64	76	85	172.5	101
2.5"	77.5	80	85	172.5	115
3"	91	84	85	172.5	130
4"	119	104	85	172.5	162

BUTTERFLY VALVES

Pneumatic Three-piece Butterfly Valve



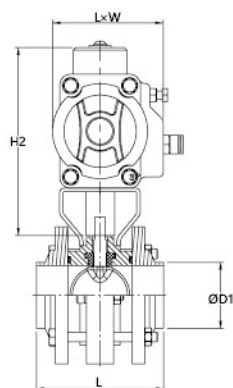
single-side stand

double bracket

Size	D1	L	D	H
1"	25.4	102	85	172.5
1 1/2"	38.1	104	85	172.5
2"	50.8	107	85	172.5
2.5"	63.5	106	85	172.5
3"	76.2	103	85	172.5
4"	101.6	115	85	172.5

A

Pneumatic Three-piece Butterfly Valve



Size	D1	L	H2	LxW
1"	25.4	102	102	140.5x60.5
1 1/2"	38.1	104	133	158.5x83
2"	50.8	107	133	158.5x83
2.5"	63.5	106	133	158.5x83
3"	76.2	103	150	210.5x94.5
4"	101.6	115	150	210.5x94.5

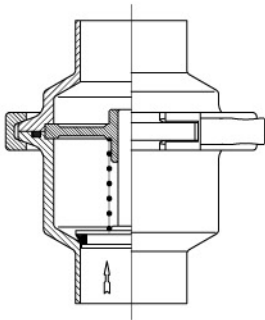
CHECK VALVES



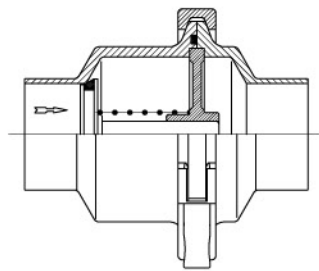
Tech Specs

Working pressure:	10 bar(Max)
Opening pressure:	0.08 bar
Working temperature:	-20 °C ~ 135 °C (EPDM)
Sterilization temperature:	150 °C (Max 20min)
Materials:	non-contact product parts 304 (1.4301), Contact product parts 316L (1.4404)
Seal material:	Standard (EPDM) Option (FPM, Silicone, NBR)
Surfaces:	Internal Ra $\leq$ 0.8 μ m External Ra $\leq$ 1.6 μ m
Connection:	welding, clamp, thread, flange

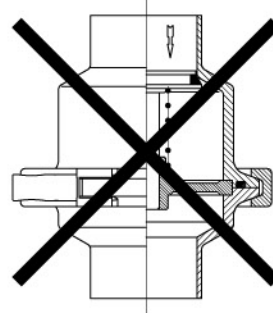
The Correct Installation Method



Optimal Installation Location



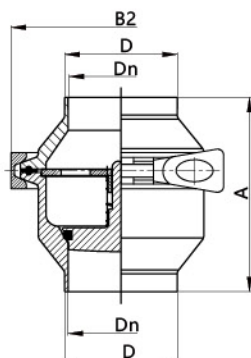
Correct Installation Location



Wrong Installation Location

CHECK VALVES

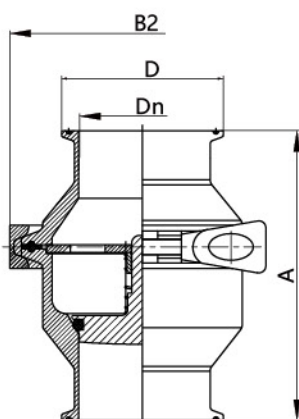
Welded Check Valve



Size	A	B2	D	Dn
1/2"	70	76.5	12.7	9.4
3/4"	70	76.5	19.05	15.8
1"	70	76.5	25.4	22.1
1.5"	70	87	38.1	34.8
2"	80	100	50.8	47.5
2.5"	90	115	63.5	60.2
3"	100	128	76.2	72.9
4"	100	164	101.6	97.4

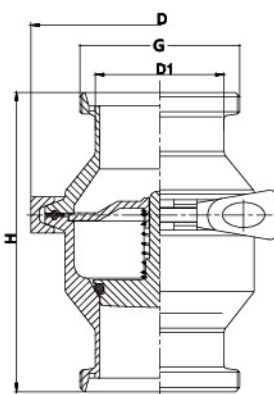
A

Clamped Check Valve



Size	A	B2	D	Dn
1/2"	81	76.5	25.4	9.4
3/4"	81	76.5	25.4	15.8
1"	95	76.5	50.5	22.1
1.5"	95	87	50.5	34.8
2"	105	100	64	47.5
2.5"	115	115	77.5	60.2
3"	125	128	91	72.9
4"	137	164	119	97.4

Threaded Check Valve



Size	H	D1	D	G
1"	108	25.4	76.5	37.13×1/8 Acme
1.25"	113	31.8	76.5	45.9×1/8 Acme
1.5"	113	38.1	87	50.65×1/8 Acme
2"	126	50.8	100	64.1×1/8 Acme
2.5"	141	63.5	115	77.6×1/8 Acme
3"	152	76.2	128	91.1×1/8 Acme
4"	167	101.6	164	119.25×1/6 Acme

CHECK VALVES

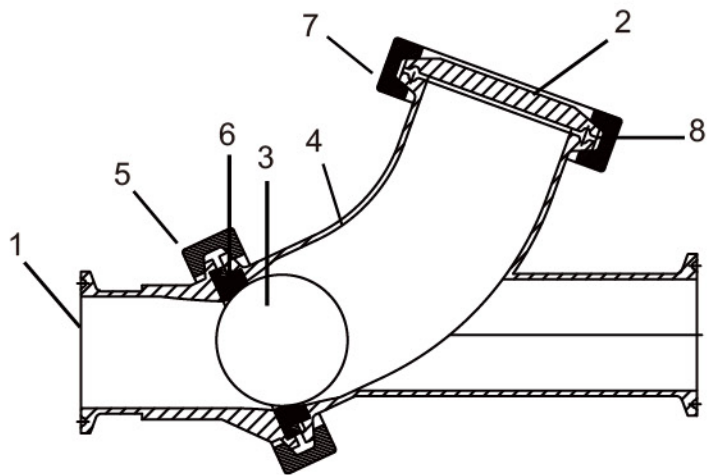
Information

- Precision machined seat to ensure positive shut-off
- Two-piece construction for easier alignment during installation
- Other connections available upon request
- Buna-N and Viton® elastomers
- Polished ID and OD
- All metal contact surfaces of T316L stainless steel
- Sizes range from 1 1/2" through 3"
- Buna Ball & Gaskets Standard

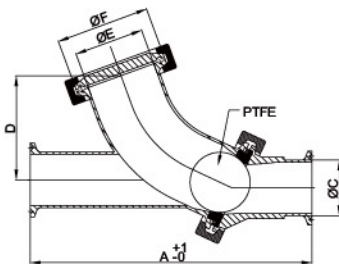


Parts Breakdown

- 1. Seat body - (Clamp)
- 1W. Seat body - (Weld)
- 2. Cap
- 3B. Ball-(Buna-N)
- 3V. Ball-(Viton®)
- 3P. Ball-(PTFE)
- 4. Angle body
- 4W. Angle body-(Weld)
- 5. Body clamp
- 6B. Body gasket-(Buna-N)
- 6V. Body gasket-(Viton®)
- 7. Cap clamp
- 8B. Cap gasket-(Buna-N)
- 8V. Cap gasket-(Viton®)

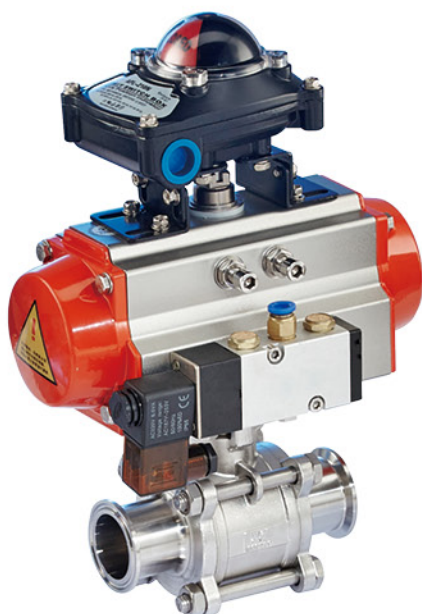


Y Ball Check Valve



Size	A	C	D	E	F
1 1/2"	7.50	1.50	3.30	1.87	2.52
2"	8.50	2.00	3.90	2.33	3.05
2 1/2"	10.00	2.50	4.50	2.87	3.58
3"	11.50	3.00	5.30	3.83	4.69

BALL VALVES



Tech Specs

Working pressure:	10 bar
Working temperature:	-20°C~135°C (EPDM)
Sterilization temperature:	150°C (Max 20min)
Materials:	non-contact product parts 304 (1.4301), Contact product parts 316L (1.4404)
Seal material:	Standard (PTFE/EPDM) Option (PTFE/FPM, PTFE/Silicone, PTFE/NBR)
Surfaces:	Internal Ra≤ 0.8μm External Ra≤ 1.6μm
Connection:	welding, clamp, thread, flange

A

Ball valve Specific air consumption

Size	Air pressure(bar)	Open	Close
0.5 ^s	4-6bar	0.06	0.08
0.75 ^s	4-6bar	0.09	0.12
1 ^s	4-6bar	0.09	0.12
1.25 ^s	4-6bar	0.14	0.2
1.5 ^s	4-6bar	0.21	0.3
2 ^s	4-6bar	0.21	0.3
2.5 ^s	6-7bar	0.7	0.99
3 ^s	6-7bar	1.2	1.6
4 ^s	6-7bar	1.2	1.6

Ball valve Minimum torque range for driving device

Size	Torque (Kgf.m)
DN10/0.5 ^s	0.9
DN15/0.75 ^s	1.1
DN25/1 ^s	1.4
DN40/1.5 ^s	2.7
DN50/2 ^s	3.1
DN65/2.5 ^s	5.0
DN80/3 ^s	7.3
DN100/4 ^s	10.7

BALL VALVES

Modular system

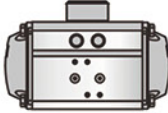
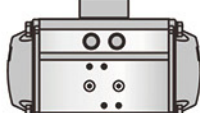
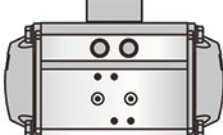
S = Welded end

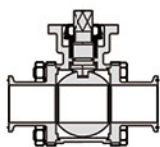
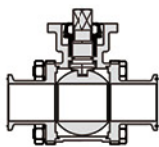
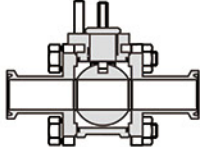
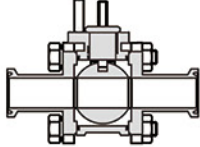
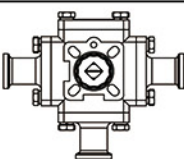
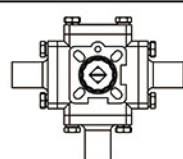
G = Male

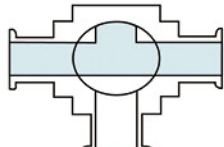
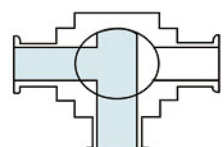
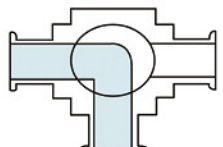
K/M = Liner / nut

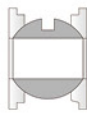
Fl = Flange

Cl = Clamp

Pneumatical		
140.5x60.5	158.5x83	210.5x94.5
		

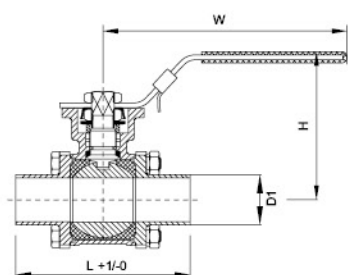
Body Configuration			
Cl-CI	S-S	Cl-CI	S-S
			
Cl-CI	S-S		
			

Ball Type			
"T" Port			
			
"L" Port			
			

Sealing Material	
Encapsulated	Standard
	

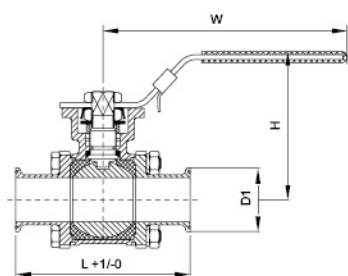
BALL VALVES

Weld Ball Valve With High Platform



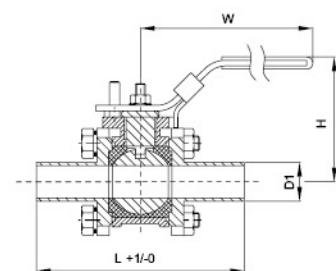
Size	D1	L	W	H
1/2"	12.7	90	130	70
3/4"	19.05	102.2	125	80
1"	25.4	115.3	166	90
1 1/2"	38.1	137.6	193	105
2"	50.8	156	212	112
2 1/2"	63.5	171	370	174
3"	76.2	196.7	370	185
4"	101.6	242	400	205

Clamp Ball Valve With High Platform



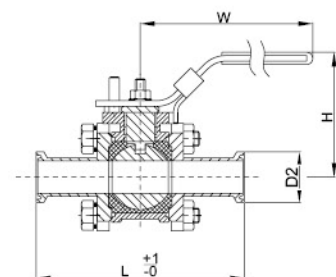
Size	D2	L	W	H
1/2"	25.2	90	130	70
3/4"	25.2	102.2	125	80
1"	50.5	115.3	166	90
1 1/2"	50.5	137.6	193	105
2"	64	156	212	112
2 1/2"	77.5	171	370	174
3"	91	196.7	370	185
4"	119	242	400	205

Weld Ball Valve With Low Platform



Size	D1	L	W	H
1/2"	12.7	91	130	62
3/4"	19.05	102.5	130	68.5
1"	25.4	114.8	176	74.5
1 1/4"	31.8	125	170	74.5
1 1/2"	38.1	137.3	226	98
2"	50.8	156.4	226	100
2 1/2"	63.5	171	326	123.5
3"	76.2	196.7	325	150
4"	101.6	242	332	159

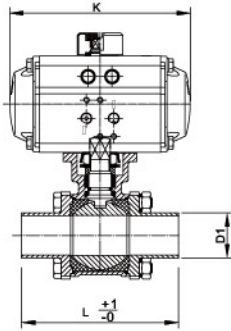
Clamp Ball Valve With Low Platform



Size	D2	L	W	H
1/2"	25.2	91	130	62
3/4"	25.2	102.5	130	68.5
1"	50.5	114.8	176	74.5
1 1/4"	50.5	125	170	74.5
1 1/2"	50.5	137.3	226	98
2"	64	156.4	226	100
2 1/2"	77.5	171	326	123.5
3"	91	196.7	325	150
4"	119	242	332	159

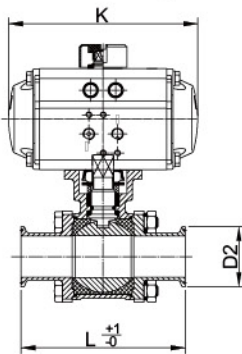
BALL VALVES

Pneumatic Weld Ball Valve



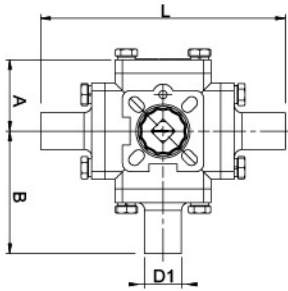
Size	D1	L	K
1/2"	12.7	90	130
3/4"	19.05	102.2	125
1"	25.4	115.3	166
1 1/2"	38.1	137.6	193
2"	50.8	156	212
2 1/2"	63.5	171	370
3"	76.2	196.7	370
4"	101.6	242	400

Pneumatic Clamp Ball Valve



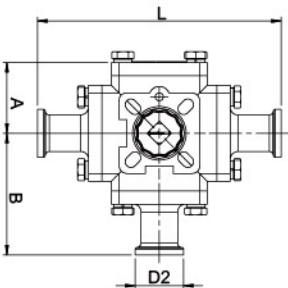
Size	D2	L	K
1/2"	25.2	90	130
3/4"	25.2	102.2	125
1"	50.5	115.3	166
1 1/2"	50.5	137.6	193
2"	64	156	212
2 1/2"	77.5	171	370
3"	94	196.7	370
4"	119	242	400

Sanitary Three-way Weld Ball Valve



Size	D1	A	B	L
1/2"	12.7	34	59	118
3/4"	19.05	37	63.5	127
1"	25.4	41	76.3	152.6
1 1/2"	38.1	52.5	87.5	175
2"	50.8	65	100.7	201.4
2 1/2"	63.5	75	113.85	227.7
3"	76.2	95	130.3	260.6
4"	101.6	120	160	320

Sanitary Three-way Clamp Ball Valve



Size	D2	A	B	L
1/2"	25.2	34	59	118
3/4"	25.2	37	63.5	127
1"	50.5	41	76.3	152.6
1 1/2"	50.5	52.5	87.5	175
2"	64	65	100.7	201.4
2 1/2"	77.5	75	113.85	227.7
3"	91	95	130.3	260.6
4"	119	120	160	320

DIAPHRAGM VALVES



Tech Specs

Working pressure:	0-10 bar
Control air pressure:	5-8 bar
Working temperature:	-20°C~135°C (EPDM)
Sterilization temperature:	150°C (Max 20min)
Materials:	non-contact product parts 304 (1.4301), Contact product parts 316L (1.4404)
Seal material:	Standard (PTFE+EPDM) Option (VMQ)
Surfaces:	Internal Ra≤ 0.8μm External Matt
Connection:	welding, clamp, flange, etc

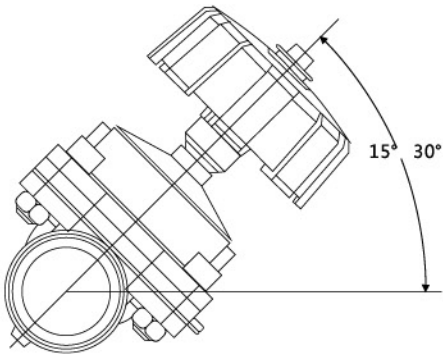


No.	Description
01	Cap
02	Handwheel
03	Screw
04	Valve Rod
05	Valve Cap
06	Valve Core
07	Diaphragm
08	Valve Body
09	Nut

A

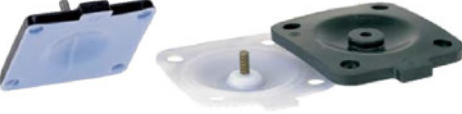
Optimal Installation Angle Diagram

According to the structure feature, fifteen to thirty degree is optimal, which makes for complete drain after cleaning and keep no residue.



DIAPHRAGM VALVES

Actuator			
01	02	03	04
Composite material	Composite material	Stainless steel	Stainless steel
			

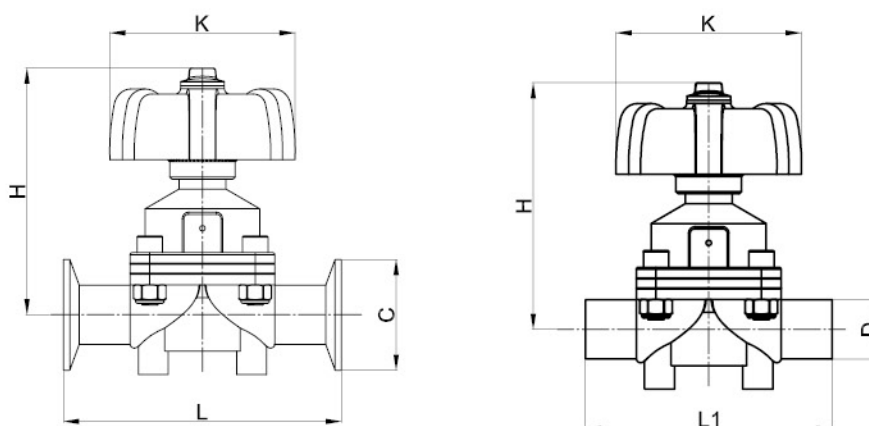
Diaphragms	
Elastomer diaphragms EPDM	PTFE diaphragms PTFE/EPDM, PTFE/FPM
	

Valve Body Versions			
Straight-through Type	T-type	Multi-way	SAP / GMP
			

Connections		
Clamp	Unions	Flange
		

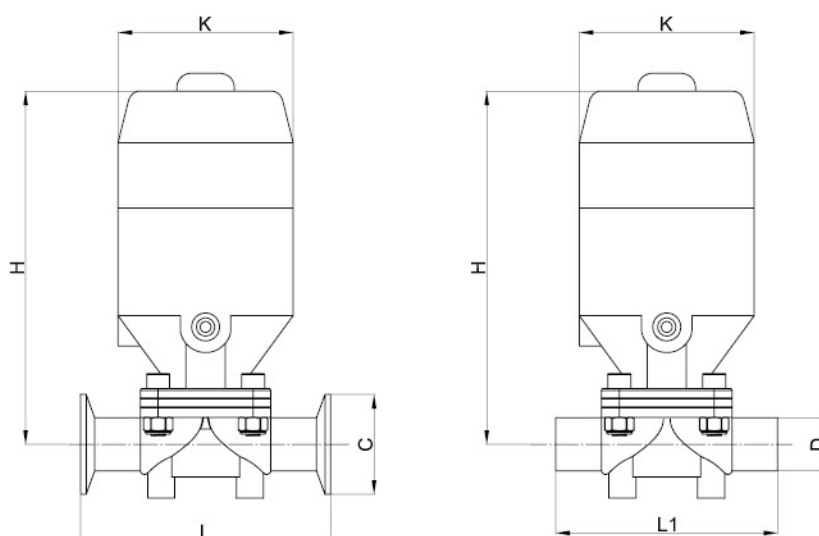
DIAPHRAGM VALVES

Manual Diaphragm Valve



Size	L	L1	K	D	C	H
0.5"	108	102	65	12.7	50.5	103
0.75"	126	120	87	19.05	50.5	103
1"	126	120	87	25.4	50.5	122
1.5"	160	140	104	38.1	50.5	160
2"	193	150	114	50.8	64	190

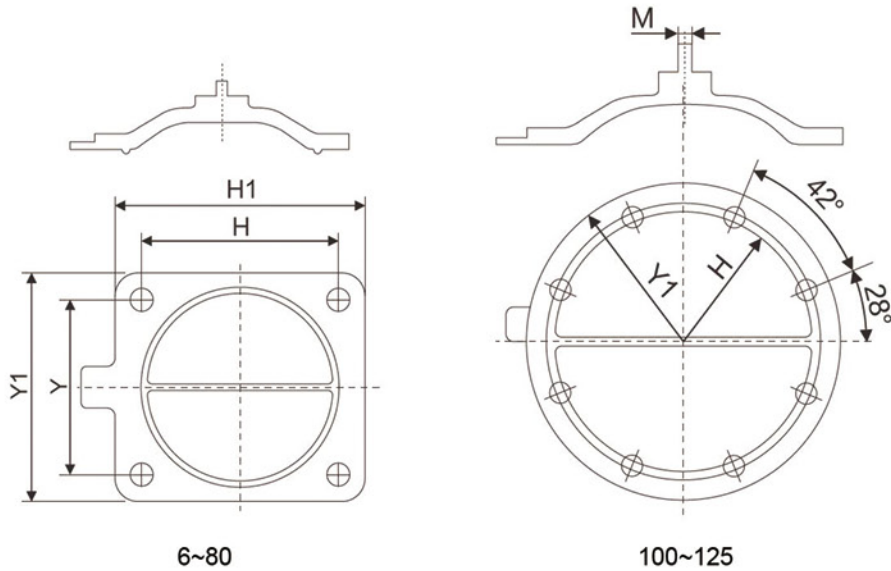
Pneumatic Diaphragm Valve



Size	L	L1	K	D	C	H
0.5"	108	125	62	12.7	50.5	135
0.75"	126	152	72	19.05	50.5	203
1"	126	154	72	25.4	50.5	207.5
1.5"	160	193	92	38.1	50.5	225
2"	193	225	114	50.8	64	240

DIAPHRAGM VALVES

Manual Diaphragm Valve



Size	H×Y	H×Y1	M	K
6	22×22	32×32	9.5	5
8	22×22	32×32	9.5	5
10	22×22	32×32	9.5	5
15	37×32	50×46	M4	6
20	57×47	70×65	M6	9
25	57×47	70×65	M6	9
32	70×64	97×89	M6	11
40	70×64	97×89	M6	11
50	85×75	110×103	M6	13
65	105×91	134×126	M8	15
70	127×114	185×156	M8	15
80	127×114	185×156	M8	15
100	194×8	135	M8	15
125	194×8	135	M8	15

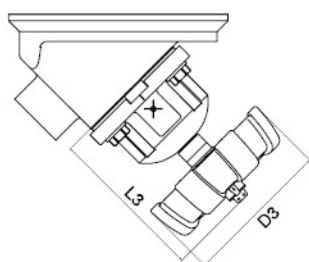


TANK BOTTOM VALVES

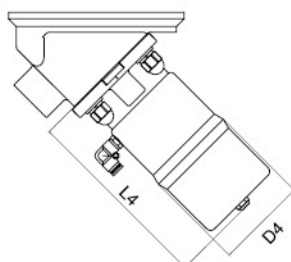
Aseptic Diaphragm Tank Bottom Valve

Tank bottom valve is applied to proportioning vessel for emptying in biological pharmacy, food and fine chemical engineering etc. When stirrer is started, bottom material can be stirred evenly together with water. Connection mode includes welded type and flange type.

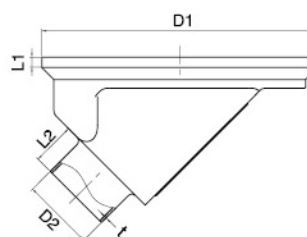
Installation and use of 45° material discharge can ensure that material inside vessel can be discharged completely, conforming to GMP requirements. It is sanitary valve for pipelines.



Manual diaphragm bottom valve



Pneumatic diaphragm bottom valve



Size	D1	D2	D3	D4	L1	L2	L3	L4	t
1"	120	25.4	90	85	6	25	103	172	1.5
1.25"	160	31.8	114	85	6.4	25	111	165	1.5
1.5"	160	38.1	114	85	6.4	25	111	165	1.5
2"	200	50.5	140	126	6	30	141	216	1.5



TANK BOTTOM VALVES

3A

A



Tech Specs

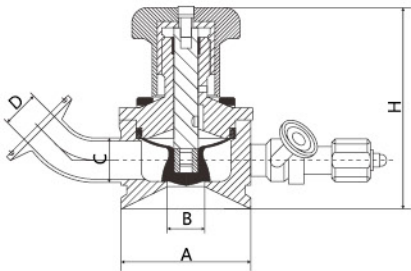
Working pressure:	0-10 bar
Working temperature:	-20°C~135°C (EPDM)
Sterilization temperature:	150°C (Max 20min)
Materials:	non-contact product parts 304 (1.4301), Contact product parts 316L (1.4404)
Seal material:	PTFE/EPDM
Surfaces:	Internal Ra≤ 0.8μm External Matt
Connection:	welding, clamp
Option:	Staem inlet, disinfection valve

Characteristic

P&E series valves provide high performance liquid flow control for pharmaceutical and biopharmaceutical fluid treatment. Using hydraulic optimization design, P&E combines the inherent cleanability of flat diaphragm valve and the best characteristics of plug valve. The characteristics of both ensures that the P&E provides lowflow resistance and has a unique combination of health design verification.The P&E structure is made of durable material and ensures long service life under the requirement of working condition.

Hygienic Design Of Biological Pharmaceutical Application

P&E has a unique patented design, that is, the use of clamp fixed valve diaphragm in the valve body and the driving head of the structure. All moving parts of the drive head are isolated from the liquid treatment,and most of the specifications of the valve do not require the use of tools for disassembly or maintenance.Valve cavity and pipe connection is no blind segment from the exhaust. Compared with the traditional flat diaphragm valve, with the use of P&E products in the system, the amount of valve can be reduced by up to 30%.This leads to a reduction in the amount of liquid remaining in the pipeline system.



Size	A	B	C	D	H
3/4"	75	22	19	16	120
1"	75	22	25.4	22.1	120
1.25"	85	35	32	29	135
1.5"	85	35	38	35	135
2"	110	49	51	49	135

ASEPTIC SAMPLING VALVES



Tech Specs

Working pressure:	0-10 bar
Working temperature:	-20°C~135°C (EPDM)
Sterilization temperature:	150°C (Max 20min)
Materials:	non-contact product parts 304 (1.4301), Contact product parts 316L (1.4404)
Seal material:	Standard (PTFE/EPDM) Option (PTFE/Silicone, PTFE/FPM)
Surfaces:	Internal Ra≤ 0.8μm External Matt
Connection:	welding, clamp, KF

A

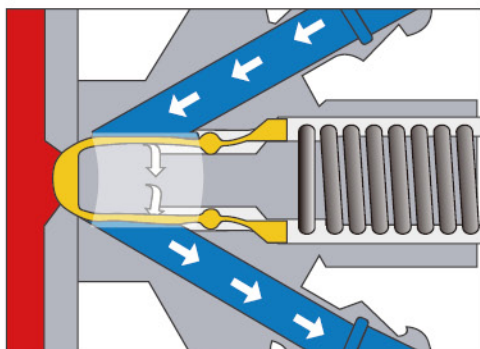


Valve Design Points

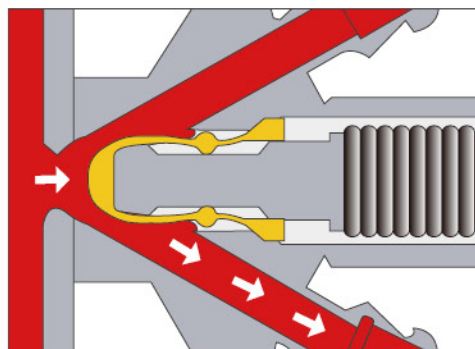
- All valves without dead corner design
- All valves with PTFE diaphragm, ensure clean liquid
- There is taper inside the valve, after sampling the liquid can be completely discharged, no residue.

ASEPTIC SAMPLING VALVES

Body Configuration		
Weld Connection	Clamp Connection	KF- connection
		



closing valve, sterilization operating structure



opening valve, sampling operating structure

Sampling

- Open valve, sampling;
- After the sampling is completed, close the valve;
- Clean the valve with steam. Please refer to "sterilization"

Sterilization

- Connect the steam hose to the upper part of the valve;
- Open the steam source, so that it flows through the valve to carry out sterilization. Last for 1 minutes at 121°C ;
- Close the steam source;
- Remove the steam hose, then install a sterile rubber plug or sterile mask onto the upper connecting pipe.

ASEPTIC SAMPLING VALVES

Fig. 1. Dimensions - valve.

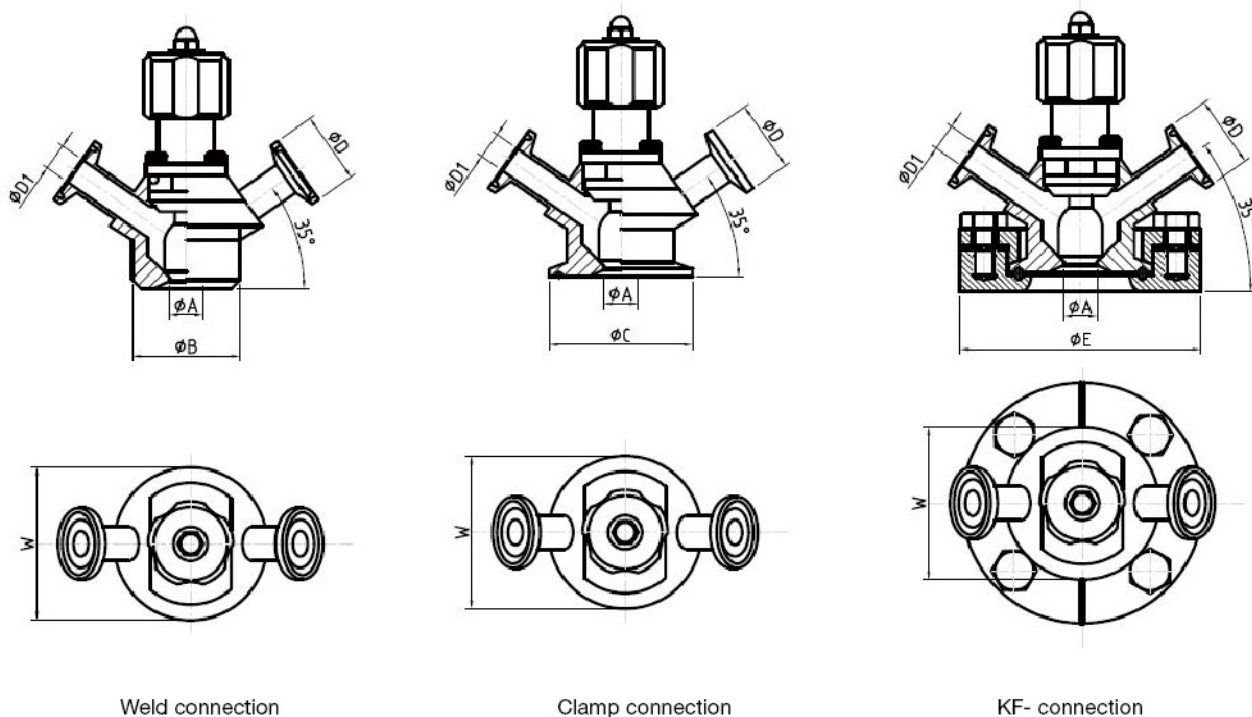
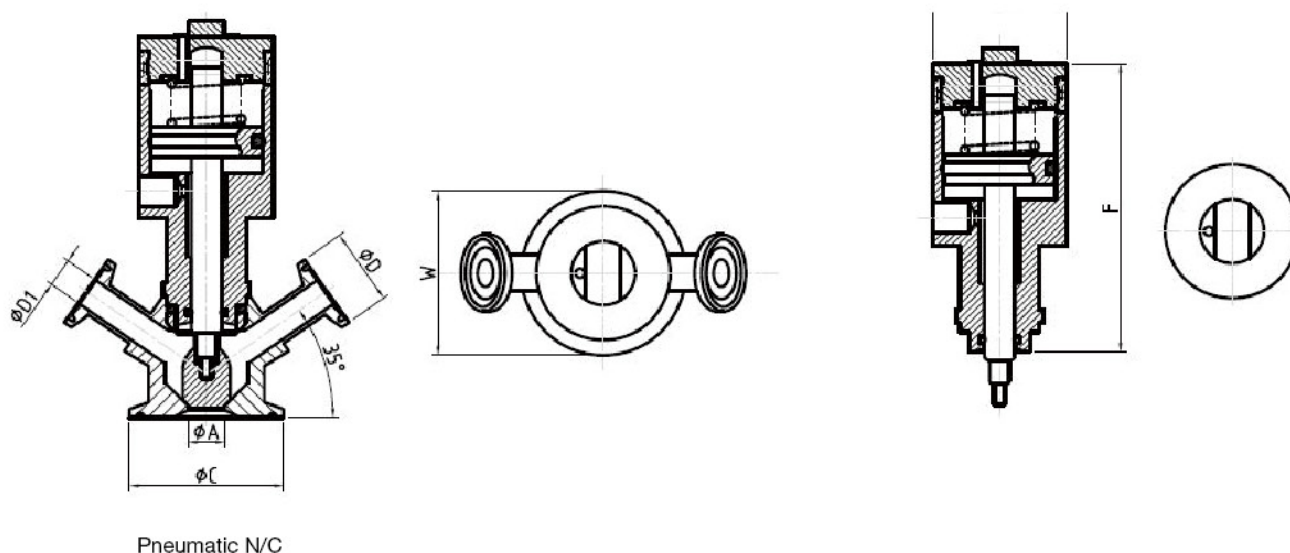


Fig. 2. Dimensions - actuator



Size	A	B	C	D	D1	E	F	O	W
3/4"	0.236	0.75	0.99	0.99	0.196				1.51
1 1/2"	0.472	1.50	1.98	0.99	0.370	3.34	3.74	1.73	2.11

ANGLE SEAT VALVES

Tech Specs

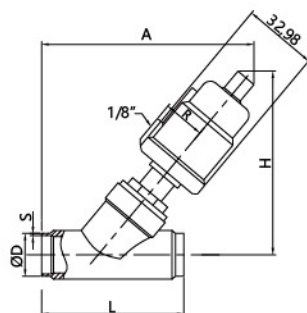
Working pressure:	0-16 bar
Medium temperature:	-10°C~180°C
Ambient temperature:	-100°C~600°C
Valve Materials:	SUS316L
Seal material:	Poly tetra fluoroethylene PTFE
Control gas:	neutral gas, air
Connection:	welding, thread, clamp, flange

- With open or closed position display
- External pneumatic pilot for increased service life and maintenance free
- Self-adjusting sealing gland between the overflow port and the slider for improved sealing performance.
- The valve body angle seat structure can realize large flow rate(especially compared with ordinary stop valve), and the structure is compact and fast.
- Large flow,small flow resistance,no water hammer
- Y-type design,increasing flow by 30%
- Long life
- Seat automatic calibration,self lubricating,maintenance free
- The cylinder is made of stainless steel or PA(polyacrylic acid)to meet the needs of harsh environments
- It can be installed at any position and can be rotated 360 degrees



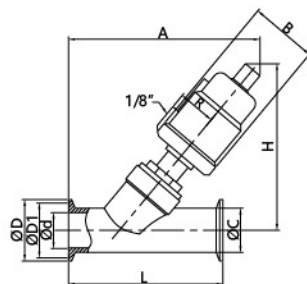
ANGLE SEAT VALVES

Stainless Steel Angle Seat Valve



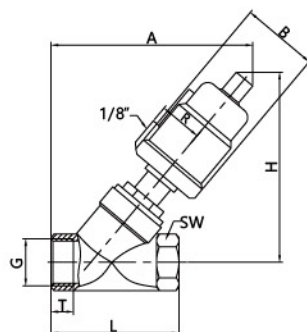
Size	Actuator	B	R	H	D	S	A	L
1/2"	40	50.5	27	112	12.7	1.65	118	70
	50	60	33	125			128	
1"	50	60	33	136	25.4	1.65	150	100
	63	75	41	162			175	
	90AL	112	57	210			216	
	90	106	55	211			218	
1 1/4"	63	75	41	174	31.75	1.65	186	125
	90AL	112	57	220			230	
	90	106	55	223			232	
1 1/2"	63	75	41	175	38.1	1.65	190	130
	90AL	112	57	220			232	
	90	106	55	223			235	
2"	63	75	41	183	50.8	1.65	206	155
	90AL	112	57	232			247	
	90	106	55	232			250	
	125AL	148	74	287			250	

Tri-clamp Angle Seat Valve



Size	Actuator	D	D1	C	d	L	A	H
3/4"	50	25.2	27.5	19.1	15.8	80	140	126
1"	50	50.5	43.5	25.4	22.1	130	165	140
	63						188	166
1.25"	63	50.5	43.5	31.8	28.5	146	200	174
	90						245	223
1.5"	63	50.5	56.5	38.1	34.8	160	210	175
	90						255	223
2"	63	64	56.5	50.8	47.5	175	221	185
	90						265	235

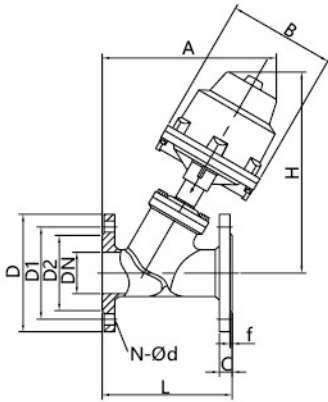
Stainless Steel Angle Seat Valve



Size	Actuator	B	R	H	G	T	A	L	SW
3/8"	40	50.5	27	112	3/8"	12	124	68	27
	50	60	33	125			135		
1/2"	40	50.5	27	112	1/2"	15	124	68	27
	50	60	33	125			135		
1"	50	60	33	136	1"	17	150	90	40
	63	75	41	162			172		
	90AL	112	57	210			215		
	90	106	55	211			216		
1 1/4"	63	75	41	174	1 1/4"	21	190	116	50
	90AL	112	57	220			230		
	90	106	55	223			235		
1 1/2"	63	75	41	175	1 1/2"	21	190	116	56
	90AL	112	57	220			230		
	90	106	55	223			235		
2"	63	75	41	183	2"	26	205	138	69
	90AL	112	57	232			245		
	90	106	55	232			250		
	125AL	148	74	287			294		
2 1/2"	90AL	112	57	262	2 1/2"	26	282	178	85
	90	106	55	265			285		
	125AL	148	74	302			320		
3"	125AL	148	74	313	3"	27	372	210	100

ANGLE SEAT VALVES

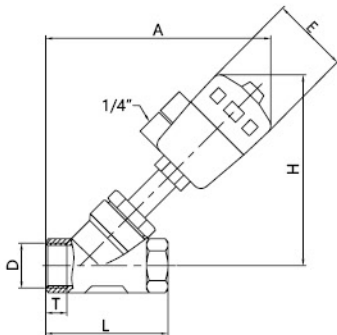
Angle Seat Valve(Bolted Bonnet)



Size	Actuator	L	C	F	D
2 1/2"	Ø125	203	18	3	180
3"	Ø125	241	20	3	195
3"	Ø160	241	20	3	195
4"	Ø160	254	20	3	215

D1	D2	A	H	B	N-Ød
145	120	275	318	168	4-Ø18
160	135	302	345	168	8-Ø18
160	135	330	380	220	8-Ø18
180	155	338	395	220	8-Ø18

Pneumatic Threaded Angle Seat Valve



Size	Actuator	L	A	H	D	E
3/8"	Ø50	65	165	120	3/8"	64
1/2"	Ø50	86	172	137	1/2"	64
3/4"	Ø50	95	178	145	3/4"	64
1"	Ø50	105	210	165	1"	64
1 1/4"	Ø63	120	220	180	1 1/4"	80

PRESSURE/VACUUM RELIEF VALVES



Tech Specs

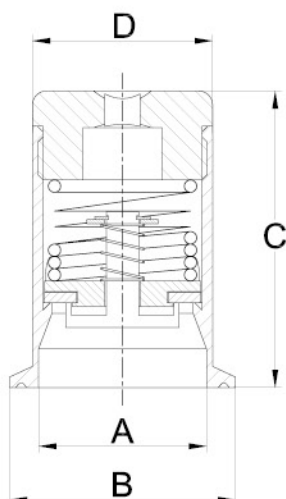
Positive pressure:	0.5-2 bar, 1 bar as default.
Negative pressure(vacuum):	0.3-0.9 bar, 0.9 bar as default
Temperature range:	-10°C~135°C
Materials:	stainless steel 304 (1.4301), 316L (1.4404)
Seal material:	Standard (EPDM) Option (Silicone, FPM, NBR)
Surfaces:	Internal Ra≤ 0.8μm External Ra≤ 1.6μm
Connection:	clamp

A

Working Principle

When the internal pressure of the container is higher than the set pressure, the valve will automatically open to exhaust air to the outside of the container, and otherwise it will be closed;

When vacuum pressure is generated in the container, the valve will automatically open (standard vacuum <0.9ber), the container will absorb air; the valve remains normally closed.



Size	A	B	C	D
	mm	mm	mm	mm
Ø34	25	34	49	30.5
1.0"	25	50.5	49	30.5
1.5"	35	50.5	72	42
2.0"	47	64	85	51
2.5"	59	78	90	64
3.5"	83	105	135	88

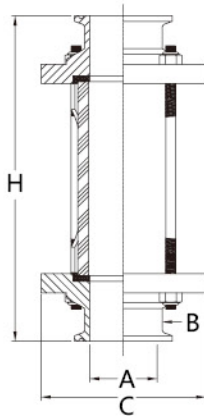
SIGHT GLASS

A

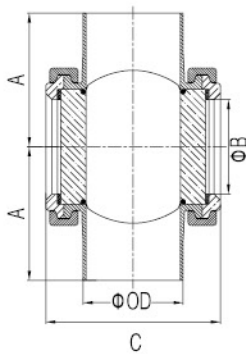


Tech Specs

Working pressure:	10 bar (max)
Temperature range:	-20°C~135°C (EPDM)
Materials:	stainless steel 304 (1.4301), 316L (1.4404)
Sight glass:	Tempered glass, Borosilicate glass or polycarbonate
Seal material:	Standard (EPDM) Option (Silicone, PTFE, FPM, NBR)
Surfaces:	Internal Ra≤ 0.8μm External Ra≤ 1.6μm
Connection:	welding, thread, clamp, flange



Size	A	B	C	H
1.0"	22.1	25.4	76	162
1.5"	31.8	38.1	85	166
2.0"	47.5	50.8	100	170
2.5"	60.2	63.5	112	174
3.0"	72.9	76.2	125	174
4.0"	97.38	101.6	162	192



Size	A	B	C	OD
1.5"	65	38	80	38.1
2.0"	75	50	97	50.8
2.5"	85	63.5	111	63.5
3.0"	95	73	124	76.2
4.0"	120	100	149	101.6

SPRAY BALL

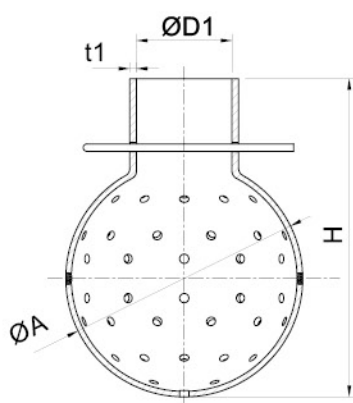
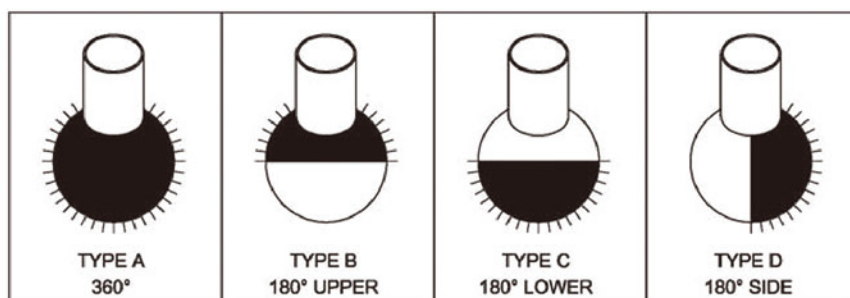


Tech Specs

Working pressure:	1 - 2.5 bar (14.5 - 36.3 psi)
Cleaning diameter:	up to 8 m (26.2 ft)
Flow rate:	0.9 - 66.7 m³/h (15 - 1,112 l/min / 4 - 294 USgpm)
Spray angle:	180° - 360°
Operating Temperature:	max. 95°C (203°F)
Pipe connection:	Clip on or weld
Surfaces:	ground, electro polished
Material:	stainless steel 316L (1.4404)

A

SPRAY PATTERNS:



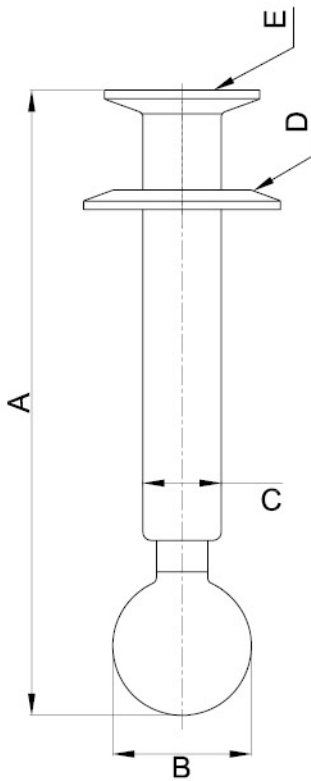
Size	D1	t1	A	H
1"	25.8	1.8	64	86
1 1/2"	38.4	1.8	75	97.6
2"	51.2	2.3	90	112

ROTARY SPRAY BALL



Tech Specs

Working pressure:	2 bar (30psi)
Cleaning diameter:	max. 4 m
Flow rate:	5.6m³/h - 12m³/h
Spray angle:	360°
Operating temperature:	max. 90 °C (194 °F)
Ambient temperature/SIP:	max. 140 °C (284 °F), 30 min
Materials:	stainless steel 316L (1.4404) / 304 (1.4301)
Preferred mounting position:	vertical down



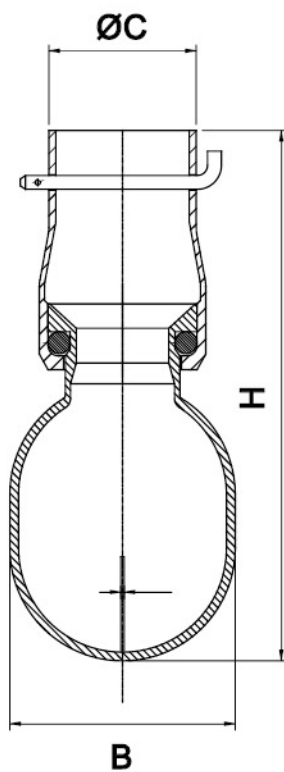
Size	A	B	C	D	E
11"×2.5"×1.5"	11"(279.4mm)	1.75"/2.08"(44mm/53mm)	1.5"(38.1mm)	2.5" TC	1.5" TC
16"×2.5"×1.5"	16"(406.4mm)	1.75"/2.08"(44mm/53mm)	1.5"(38.1mm)	2.5" TC	1.5" TC
24"×2.5"×1.5"	24"(609.6mm)	1.75"/2.08"(44mm/53mm)	1.5"(38.1mm)	2.5" TC	1.5" TC
24"×3"×1.5"	24"(609.6mm)	1.75"/2.08"(44mm/53mm)	1.5"(38.1mm)	3" TC	1.5" TC

ROTARY SPRAY BALL



Tech Specs

Working pressure:	2 - 10 bar (29 - 87 psi)
Cleaning diameter:	max. 10 m
Flow rate:	12 - 24.5 m ³ /h
Spray angle:	360°
Operating temperature:	max. 90 °C (194 °F)
Ambient temperature/SIP:	max. 140 °C (284 °F), 30 min
Materials:	stainless steel 316L (1.4404) / 304 (1.4301)
Preferred mounting position:	vertical down



Size	Connection	O	C	B	H
Inch		mm	mm	mm	mm
1.0"	Clip on	1.0	28.5	45	131.0
1 1/2"	Clip on	1.0	42.5	65	153.0

FILTERS

Tech Specs

Working pressure:	10 bar (max)	
Working temperature:	-10°C to +120°C (EPDM) +140°C (SIP max. 30 min)	14°F to 248°F 248°F
Max.working pressure:	10 bar	145 PSI
Materials:	stainless steel 304 (1.4301), 316L (1.4404)	
Seal material:	Standard (EPDM) Option (Silicone, FPM, NBR)	
Surfaces:	Internal Ra≤ 0.8µm External Matt	
Connection:	welding, clamp	

Application

Filters have a wide range of applications in the food-processing, cosmetics and some chemical industries as well as in auxiliary services of the pharmaceutical industry.

They have a hygienic design and are used to filter particles which may damage pumps and other equipments.

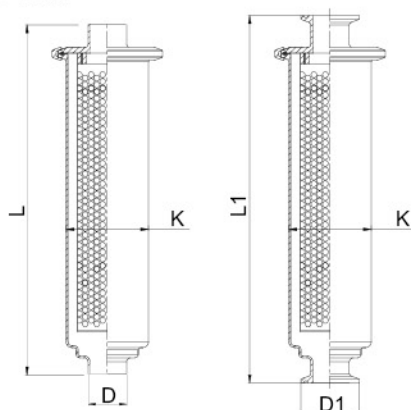
Operating Principle

The filter basically consists of a filter body with an inlet and an outlet for the product. The screen is fixed inside the body. The screen retains all particles that are equal to or larger than the size of the screen openings.



FILTERS

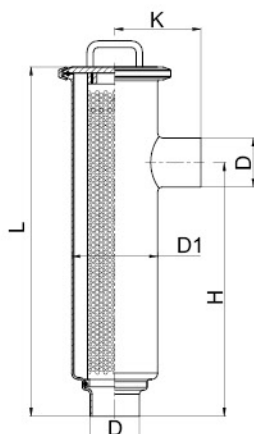
Straight Filter



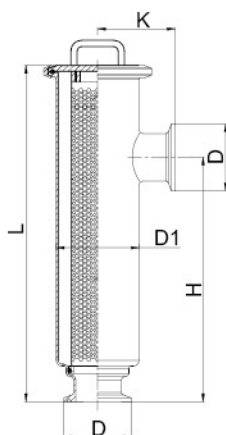
Weld / Clamp					
Size	ØD	ØD1	ØK	L(Weld)	L1(Clamp)
1"	25.4	50.5	76.2	299.6	325
1½"	38.1	50.5	76.2	299.6	325
2"	50.8	64.0	101.6	334.6	360
2½"	63.5	77.5	101.6	369.6	395
3"	76.2	91.0	114.3	426.6	452
4"	101.6	119	139.7	614.6	640

A

Angular Filter



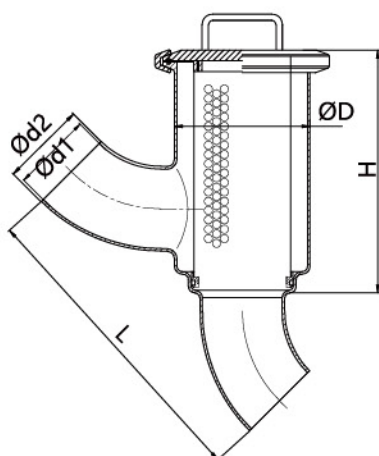
Weld					
Size	ØD	ØD1	K	H	L
1"	25.4	76	76	249	344
1½"	38.1	76	76	249	344
2"	50.8	89	89	264	369
2½"	63.5	101.6	101.6	330	460
3"	76.2	114.3	114.3	365	510
4"	101.6	140	140	470	640



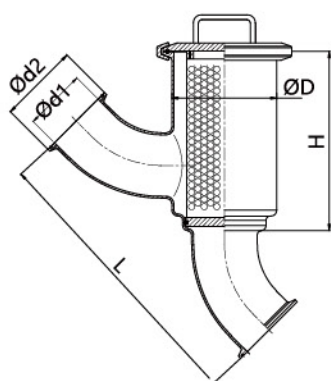
Clamp					
Size	ØD	ØD1	K	H	L
1"	50.5	76	88.7	261.7	356.7
1½"	50.5	76	88.7	261.7	356.7
2"	64.0	89	101.7	276.7	381.7
2½"	77.5	101.6	114.3	342.7	472.7
3"	91.0	114.3	127	377.5	522.7
4"	119.0	140	156	486	656

FILTERS

Y Filter

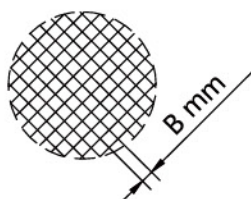


Weld					
Size	Ød1	Ød2	ØD	L	H
1"	22.1	25.4	76	115	92
1½"	34.8	38.1	76	160	147
2"	47.5	50.8	89	195	150
2½"	60.2	63.5	102	240	184
3"	72.9	76.2	114.3	270	209
4"	97.4	101.6	140	262	272



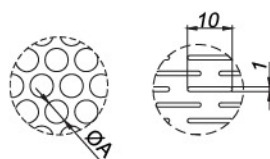
Clamp					
Size	Ød1	Ød2	ØD	L	H
1"	22.1	50.5	76	200	138
1½"	34.8	50.5	76	185	138
2"	47.5	64.0	89	225	153
2½"	60.2	77.5	102	275	173
3"	72.9	91.0	114.3	305	193
4"	97.4	119.0	140	391	258

Metal Mesh



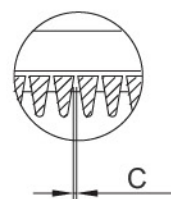
Mesh equiv.	B (mm)	Useful surface (%)
30	0.55	48
40	0.40	46
60	0.30	52.6
80	0.20	42
100	0.15	36.2
165	0.10	45.4

Perforated Plate



A (mm)	Useful surface (%)
0.5	15
1	28
1.5	33
2	30
3	33
5	46

Wedge Wire



Mesh equiv.	B (mm)	Useful surface (%)
30	0.55	48
40	0.40	46
60	0.30	52.6
80	0.20	42
100	0.15	36.2
165	0.10	45.4