



P&E TECHNOLOGY



Stainless Steel Sanitary Tubing,  
Fittings, Valves, Sight glass,  
Spray balls and Filters





P&E TECHNOLOGY

Provide our customers with the best solution accurately and efficiently.

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" x 0.5"), 2WCL, 90-degree Long Elbows (0.5" x 4"), L267, 45-degree Short Elbows (0.75" x 0.75"), 2WU7, 45-degree Long Elbows (1" x 4"), L267, 180-degree Elbows (1" x 4") 2WU7, Concentric Short Tee (0.5" x 4"), L288-7, Concentric Long Tee (0.5" x 4") L7W7, Reducing Short Tee (0.75" x 0.5" - 4" x 3") L7RW7, Instrument Short Tee (1" x 4") L7WWW7, Cross (1" x 4") L9WWW7, Concentric Reducer (1" x 0.5" - 4" x 3") L317, Eccentric Reducer (1" x 0.5" - 4" x 3") L327, 1" x 45 (0.5" x 4") L8A-7, Ferrules: Stand and 14WMP (0.5" x 4"), Short 14MPW (1" x 4"), Long WLMP (1" x 4"), L14AM (0.5" x 4"), Line 15W114W/15WL114WL (1" x 4"), Clamp: Concentric Reducer (1.5" x 1" - 4" x 3") 31-14MP, Eccentric Reducer (1.5" x 1" - 4" x 3") 32-14MP, Concentric Short Tee (0.5" x 4") 7MP, Reducing Short Tee (0.75" x 0.5" - 4" x 3") 7RMP, Cross (1" x 4") 9MP, 90-degree Elbow (0.5" x 4") 2CMP, 45-degree Short Elbow (1" x 4") 2KMP, End Cap (0.5" x 1.2") 16AMP, End Cap (1" x 4") 16A, Line End Caps (1" x 8") 16AI-15I & 16AI-16, Hose Adapter (0.5" x 4") 14MP-HR, Hose Expansion Fitting (1" x 4") 14RMP, 1" x 45 (0.5" x 8") 28AMP, Clamp Weld, 90-degree Long Elbows (0.5" x 4") L2CMP, 45-degree Short Elbows (1" x 4") L2KMP, Concentric Reducer (1.5" x 1" - 4" x 3") L31M7, Eccentric Reducer (1.5" x 1" - 4" x 3") L32M7, Concentric Short Tee (0.5" x 4") L7WWW.

VALID THROUGH: December 31, 2022

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 LWEE (sizes 500 and 600), 7022 LP6D (sizes 500 and 600), 7051 ZSD (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

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# TUBING & HANGERS

TUBING & HANGERS

# ASTM A270 Stainless Steel Sanitary Tubing

## Dimensional Tolerances

| Size OD       | Tolerances, OD                    | Wall thickness | Tolerances on wall thickness <sup>a)</sup> | 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)<br>- 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.



# ASTM A270 Inch Stainless Steel Sanitary Tubing

## Dimensional Tolerances

all dimensions in inches (mm)

| Size OD       | Tolerances, OD  | Wall thickness | Tolerances on wall thickness <sup>a)</sup> | Tolerances on Length | Weight Kg/M |
|---------------|-----------------|----------------|--|----------------------|-------------|
| 1/2" (12.7)   | +/-0.005 (0.13) | 0.059"(1.50)   | +/-10.0%                                   | +1/8" (3.18)         | 0.4185      |
| 3/4" (19.1)   | +/-0.005 (0.13) | 0.059"(1.50)   | +/-10.0%                                   | +1/8" (3.18)         | 0.6576      |
| 1" (25.4)     | +/-0.005 (0.13) | 0.059"(1.50)   | +/-10.0%                                   | +1/8" (3.18)         | 0.8930      |
| 1-1/4" (31.8) | +/-0.008 (0.20) | 0.059"(1.50)   | +/-10.0%                                   | +1/8" (3.18)         | 1.1322      |
| 1-1/2" (38.1) | +/-0.008 (0.20) | 0.059"(1.50)   | +/-10.0%                                   | +1/8" (3.18)         | 1.3676      |
| 2" (50.8)     | +/-0.008 (0.20) | 0.059"(1.50)   | +/-10.0%                                   | +1/8" (3.18)         | 1.8421      |
| 2-1/2" (63.5) | +/-0.010 (0.25) | 0.059"(1.50)   | +/-10.0%                                   | +1/8" (3.18)         | 2.3166      |
| 3" (76.2)     | +/-0.010 (0.25) | 0.059"(1.50)   | +/-10.0%                                   | +1/8" (3.18)         | 2.7912      |
| 4" (101.6)    | +/-0.015 (0.38) | 0.079"(2.00)   | +/-10.0%                                   | +1/8" (3.18)         | 4.9621      |
| 6" (152.4)    | +/-0.030 (0.76) | 0.079"(2.00)   | +/-10.0%                                   | +3/16" (4.8)         | 7.4929      |
| 6" (152.4)    | +/-0.030 (0.76) | 0.12"(3.05)    | +/-10.0%                                   | +3/16" (4.8)         | 11.3469     |
| 8"(203.2)     | +/-0.040(1.016) | 0.12"(3.05)    | +/-10.0%                                   | +3/16" (4.8)         | 15.2065     |
| 10"(254)      | +/-0.040(1.016) | 0.12"(3.05)    | +/-10.0%                                   | +3/16" (4.8)         | 19.0661     |
| 10"(254)      | +/-0.040(1.016) | 0.134"(3.4)    | +/-10.0%                                   | +3/16" (4.8)         | 21.2243     |
| 12"(304.8)    | +/-0.040(1.016) | 0.12"(3.05)    | +/-10.0%                                   | +3/16" (4.8)         | 22.9256     |
| 12"(304.8)    | +/-0.040(1.016) | 0,134"(3.4)    | +/-10.0%                                   | +3/16" (4.8)         | 25.5268     |

## Ordering Information

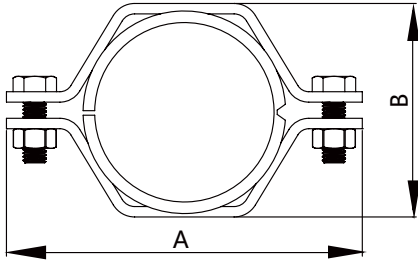
It is the responsibility of the purchaser to specify all requirements that are necessary for material ordered under this specification. Such requirements may be included, but are not limited to, the following:

- Quantity (feet, meters, or number of lengths).
- Name of material (austenitic steel tube).
- Process seamless (SML), welded (WLD), or heavily cold worked (HCW).
- Size (outside diameter and average wall thickness).
- Length (specific or random).
- Surface finish .
- Optional requirements (product analysis, hydrostatic or nondestructive electric test.
- Test report required (Certification Section of Specification A 1016/A 1016M).
- Specification designation.
- Special requirements, and any supplementary requirements.



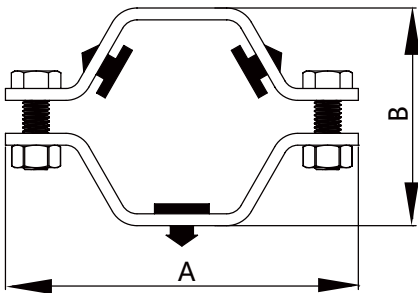
# HANGERS

## 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 FITTINGS

# CLAMP FITTINGS

The convenience of clamp fittings in the assembly and disassembly of production lines and equipments is incomparable.

Gaskets for Clamp Fittings are available in several different materials, including EPDM, silicone, FPM and PTFE.

Clamp Fittings meet



## Accessories Specification

Size Range: 1/2"OD through 12"

Materials: T304, T316L

Surface Finish:

Mechanically Polished

Internal 20Ra (0.51µm), External 32Ra (0.8µm)

No. 7 - ID & OD

No. 5 - OD only

No. 3 - ID only

No. 1 - unpolished

Customized - upon request

## For Example

| Description | Size | Material | Surface | Quantity |
|-------------|------|----------|---------|----------|
| 2CMP 90°    | 2"   | 1.4301   | NO.7    | 500      |

## Notes For Dimension Tables

- All Dimensions are in mm.
- Wall Thickness: Fittings 1.0"-3.0" sizes are manufactured with 16 gauge (0.065") wall thickness. The 4.0" tube size is manufactured with 14 gauge (0.083") wall thickness.

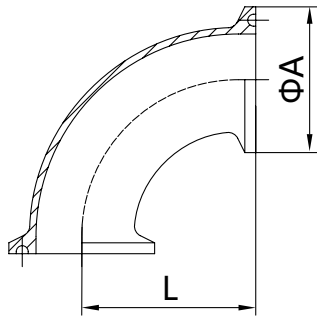
# CLAMP FITTINGS

## 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           |

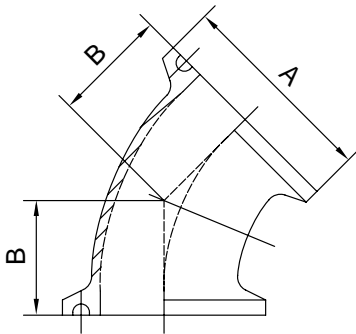
# CLAMP FITTINGS

## 2CMP 90° Clamp Elbow



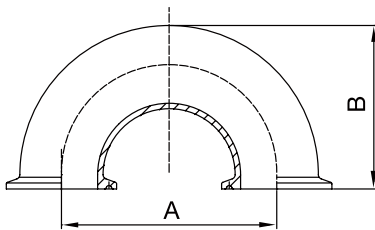
| Size | A    |       | L    |       |
|------|------|-------|------|-------|
|      | inch | mm    | inch | mm    |
| 1.0" | 1.99 | 50.5  | 2.00 | 50.8  |
| 1.5" | 1.99 | 50.5  | 2.75 | 69.9  |
| 2.0" | 2.52 | 64.0  | 3.50 | 88.9  |
| 2.5" | 3.05 | 77.5  | 4.25 | 107.9 |
| 3.0" | 3.58 | 91.0  | 5.00 | 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  |

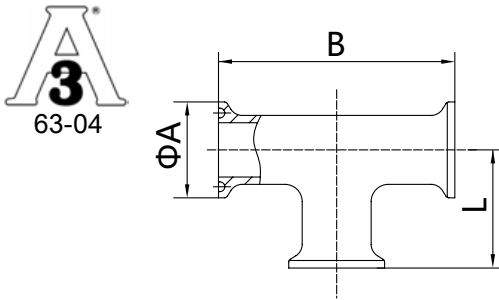
## 2UMP Clamp 180° Return Bend



| 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 |

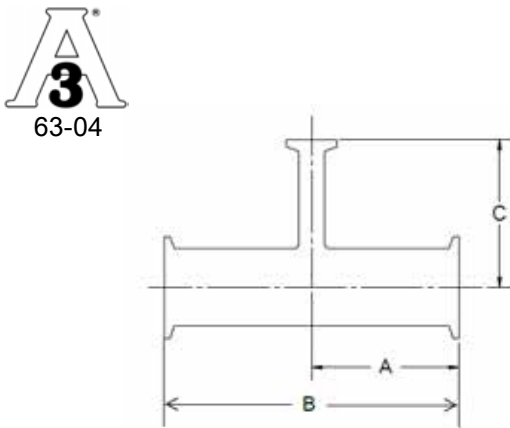
# CLAMP FITTINGS

## 7MP Clamp Equal Tee



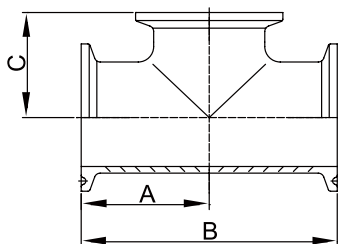
| Size | A    |       | B    |       | L    |       |
|------|------|-------|------|-------|------|-------|
|      | inch | mm    | inch | mm    | inch | mm    |
| 1.0" | 1.99 | 50.5  | 4.75 | 120.6 | 2.37 | 60.3  |
| 1.5" | 1.99 | 50.5  | 5.50 | 139.8 | 2.75 | 69.9  |
| 2.0" | 2.52 | 64.0  | 7.00 | 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"x1"   | 2.156 | 54.8  | 4.312 | 109.5 | 1.875 | 47.6 |
| 2"x1"     | 2.562 | 65.1  | 5.125 | 130.2 | 2.125 | 54.0 |
| 2"x1.5"   | 2.562 | 65.1  | 5.125 | 130.2 | 2.406 | 61.1 |
| 2.5"x1.5" | 2.844 | 72.2  | 5.688 | 144.5 | 2.656 | 67.5 |
| 2.5"x2"   | 2.844 | 72.2  | 5.688 | 144.5 | 2.812 | 71.4 |
| 3"x1.5"   | 3.093 | 78.6  | 6.188 | 157.2 | 2.906 | 73.8 |
| 3"x2"     | 3.093 | 78.6  | 6.188 | 157.2 | 3.063 | 77.8 |
| 3"x2.5"   | 3.093 | 78.6  | 6.188 | 157.2 | 3.093 | 78.6 |
| 4"x1.5"   | 4.063 | 103.2 | 8.125 | 206.4 | 3.406 | 86.5 |
| 4"x2"     | 4.063 | 103.2 | 8.125 | 206.4 | 3.563 | 90.5 |
| 4"x2.5"   | 4.063 | 103.2 | 8.125 | 206.4 | 3.594 | 91.3 |
| 4"x3"     | 4.063 | 103.2 | 8.125 | 206.4 | 3.594 | 91.3 |

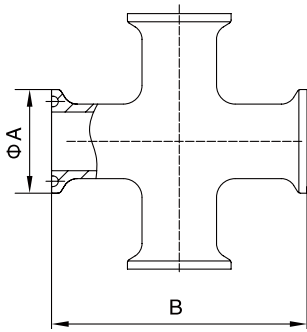
## 7MPS Clamp End Short Outlet Tee



| 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 |

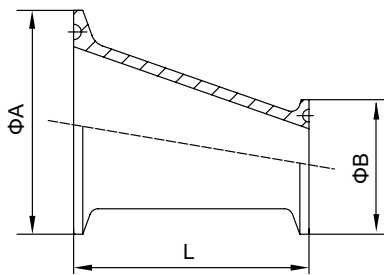
# CLAMP FITTINGS

## 9MP Clamp Equal Cross

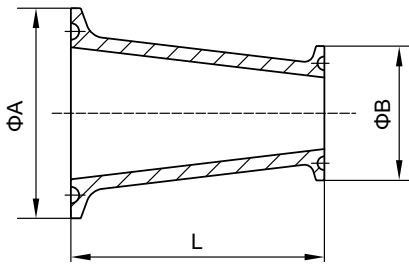


| Size | A     |       | B     |       |
|------|-------|-------|-------|-------|
|      | inch  | mm    | inch  | mm    |
| 1.0" | 1.988 | 50.5  | 4.748 | 120.6 |
| 1.5" | 1.988 | 50.5  | 5.504 | 139.8 |
| 2.0" | 2.520 | 64.0  | 7.000 | 177.8 |
| 2.5" | 3.051 | 77.5  | 7.000 | 177.8 |
| 3.0" | 3.583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

## Quick install size head



**32-14MP Eccentric Reducer**

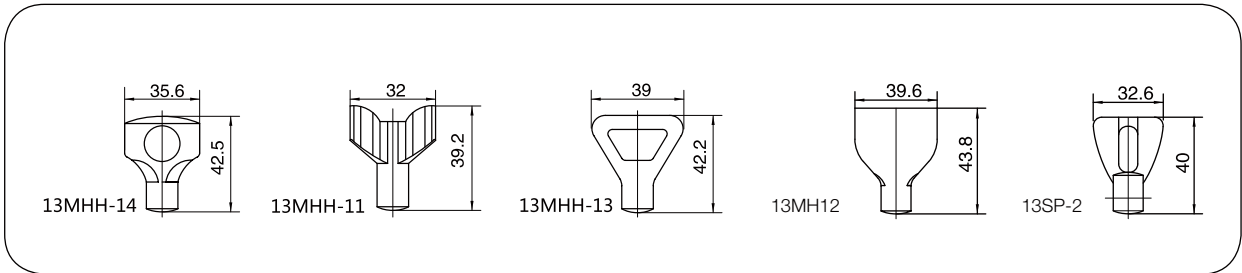


**31-14MP Concentric Reducer**

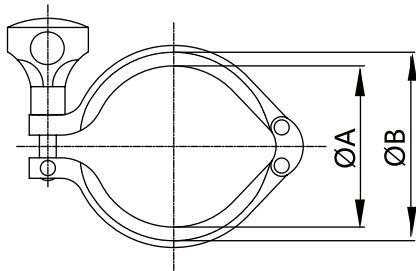
| Size      | A     |       | B     |      | L      |       |
|-----------|-------|-------|-------|------|--------|-------|
|           | inch  | mm    | inch  | mm   | inch   | mm    |
| 1.5"×1.0" | 1.988 | 50.5  | 1.988 | 50.5 | 3.000  | 76.2  |
| 2.0"×1.0" | 2.520 | 64.0  | 1.988 | 50.5 | 5.000  | 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

## Nut

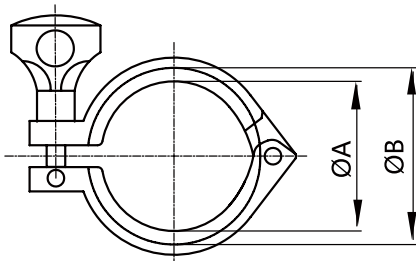


## 13MHHM Double Hinge Heavy Duty Clamp



| 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 |

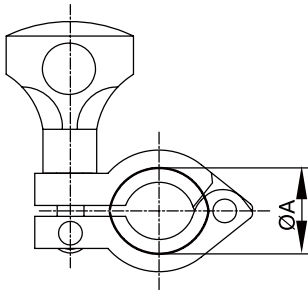
## 13MHHM Single Hinge Heavy Duty Clamp



| 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   |

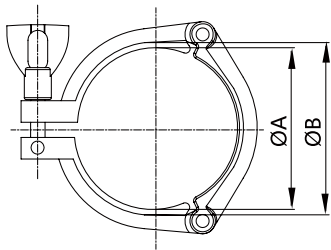
# CLAMP FITTINGS

## 13MHHS /A13MHHS\*\* Fractional Clamp



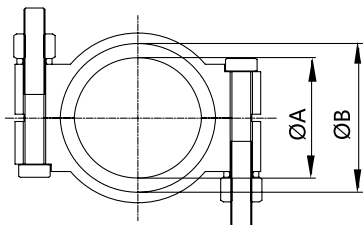
| Size |      | A    |      |
|------|------|------|------|
| in   | mm   | in   | mm   |
| 0.75 | 19.0 | 1.13 | 28.6 |

## 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

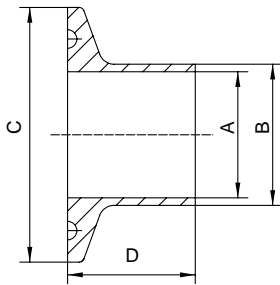


| Size    | A     |       | B     |       |
|---------|-------|-------|-------|-------|
|         | inch  | mm    | inch  | mm    |
| 1"-1.5" | 1.748 | 44.4  | 2.046 | 53.6  |
| 2"      | 2.276 | 57.8  | 2.578 | 67    |
| 2.5"    | 2.811 | 71.4  | 3.110 | 80.6  |
| 3"      | 3.307 | 84    | 3.640 | 94.2  |
| 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 |



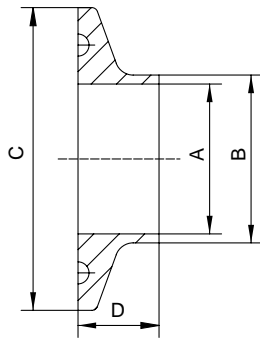
# CLAMP FITTINGS

## L14AM7 Long Weld Ferrule



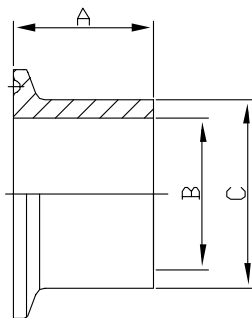
| Size  | A      |       | B      |       | C      |       | D     |      |
|-------|--------|-------|--------|-------|--------|-------|-------|------|
|       | inch   | mm    | inch   | mm    | inch   | mm    | inch  | mm   |
| 0.5"  | 0.370  | 9.4   | 0.500  | 12.7  | 0.992  | 25.2  | 1.126 | 28.6 |
| 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    | inch   | 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 |

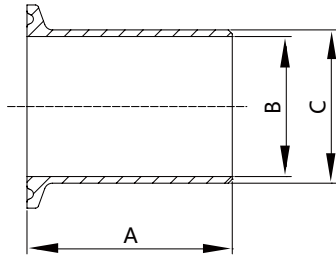
## 14MPW Heavy Wall Tank Weld Ferrule (Spud)



| 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 |

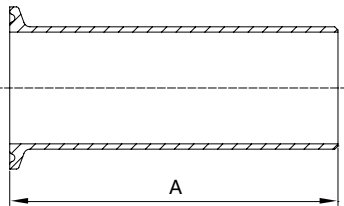
# CLAMP FITTINGS

## TL14AM7 Automatic Weld Ferrules



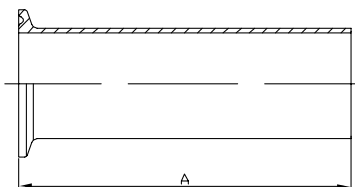
| Size | A    |      | B     |       | C    |       |
|------|------|------|-------|-------|------|-------|
|      | inch | mm   | inch  | mm    | inch | mm    |
| 0.5" | 1.75 | 44.4 | 0.37  | 9.4   | 0.5  | 12.7  |
| 0.75 | 1.75 | 44.4 | 0.62  | 15.7  | 0.75 | 19.05 |
| 1"   | 1.75 | 44.4 | 0.87  | 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 |

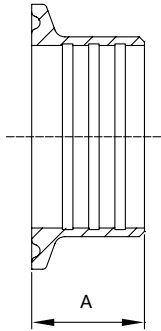
## 14MPHT Rubber Hose Adapter



| 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 |

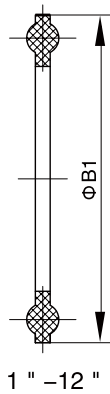
# CLAMP FITTINGS

## 14RMP Roll-On Ferrule(expanding)



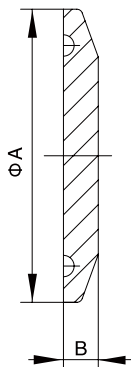
| Size | A     |      |
|------|-------|------|
|      | inch  | mm   |
| 1"   | 0.75  | 19.0 |
| 1.5" | 1.125 | 28.6 |
| 2"   | 1.313 | 33.4 |
| 2.5" | 1.375 | 34.9 |
| 3"   | 1.438 | 36.5 |
| 4"   | 1.5   | 38.1 |

## 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 |

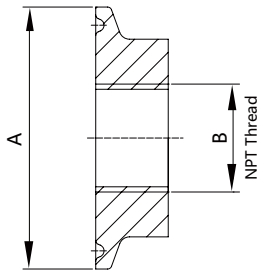
## 16AMP Solid End Cap



| 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 |

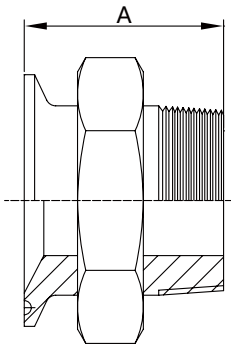
# CLAMP FITTINGS

## 23BMP Thermometer Cap



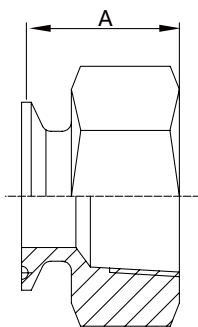
| Size | A     |       | B       |
|------|-------|-------|---------|
|      | inch  | mm    | inch    |
| 1"   | 1.988 | 50.5  | 1/2 NPT |
| 1.5" | 1.988 | 50.5  | 3/4 NPT |
| 2"   | 2.520 | 64.0  | 3/4 NPT |
| 2.5" | 3.050 | 77.5  | 3/4 NPT |
| 3"   | 3.580 | 91.0  | 3/4 NPT |
| 4"   | 4.685 | 119.0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

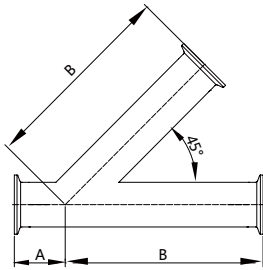
## 22MP Clamp X Female NPT Adapter



| 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 |

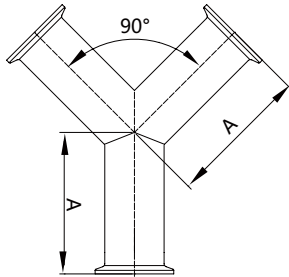
# CLAMP FITTINGS

## 28AMP 45 Degree Clamp End Lateral WYE



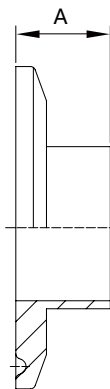
| Size  | A     |       | B      |       |
|-------|-------|-------|--------|-------|
|       | inch  | mm    | inch   | mm    |
| 0.5"  | 1.5   | 38.1  | 5.5    | 139.7 |
| 0.75" | 1.5   | 38.1  | 5.5    | 139.7 |
| 1"    | 1.5   | 38.1  | 5.5    | 139.7 |
| 1.5"  | 1.687 | 42.8  | 6.688  | 169.9 |
| 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 |

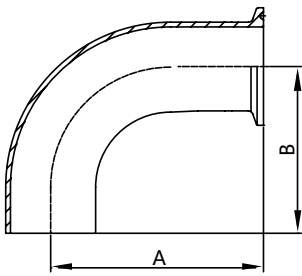
## 31WMP Reducing Ferrule



| size       | A     |      |
|------------|-------|------|
|            | inch  | mm   |
| 0.75"×0.5" | 0.5   | 12.7 |
| 1"×0.5"    | 0.5   | 12.7 |
| 1"×0.75"   | 0.5   | 12.7 |
| 1.5"×1"    | 0.5   | 12.7 |
| 1.5"×0.5"  | 0.5   | 12.7 |
| 1.5"×0.75" | 0.5   | 12.7 |
| 2"×1"      | 0.5   | 12.7 |
| 2"×1.5"    | 0.5   | 12.7 |
| 2.5"×2"    | 0.5   | 12.7 |
| 3"×2"      | 0.5   | 12.7 |
| 4"×3"      | 0.625 | 15.9 |

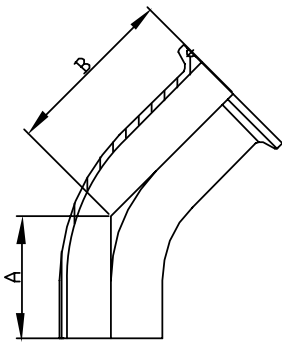
# CLAMP FITTINGS

## L2CM Weld X Tri-Clamp 90° Elbow



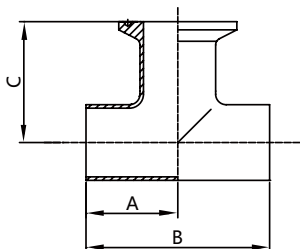
| Size | A     |       | B     |       |
|------|-------|-------|-------|-------|
|      | inch  | mm    | inch  | mm    |
| 1"   | 2.563 | 65.1  | 2.063 | 52.4  |
| 1.5" | 3.438 | 87.3  | 2.938 | 74.6  |
| 2"   | 4.563 | 115.9 | 4.063 | 103.2 |
| 2.5" | 5.688 | 144.5 | 5.188 | 131.8 |
| 3"   | 6.813 | 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 |

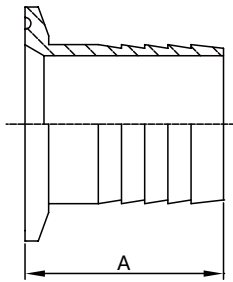
## 7WWM Weld X Clamp Outlet Tee



| 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 |

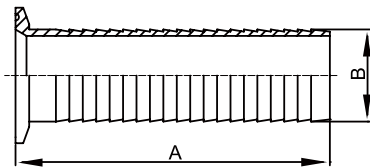
# CLAMP FITTINGS

## 14MPHR Rubber Hose Adapter



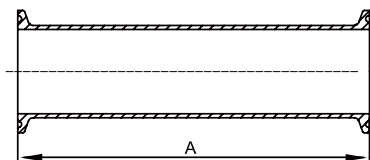
| Size | A     |      |
|------|-------|------|
|      | inch  | mm   |
| 1"   | 1.687 | 42.8 |
| 1.5" | 1.687 | 42.8 |
| 2"   | 2.312 | 58.7 |
| 2.5" | 2.343 | 59.5 |
| 3"   | 3.093 | 78.5 |
| 4"   | 3.406 | 86.5 |
| 6"   | 3.406 | 86.5 |
| 8"   | 3.406 | 86.5 |

## 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 |



# WELD FITTINGS



# WELD FITTINGS

Welded fittings give processors the highest degree of corrosion resistance and sanitation. Their streamlined design, flush joints and butt-weld assembly provides full, unrestricted flow for truly hygienic, permanent welded systems.

Weld Fittings meet



requirements.



## Accessories Specification

Size Range: 1/2"OD through 12" OD

Materials: T304, T316L

Surface Finish:

Mechanically Polished

Internal 20Ra (0.51µm), External 32Ra (0.8µm)

No. 7 - ID & OD

No. 5 - OD only

No. 3 - ID only

No. 1 - unpolished

Customized - upon request

## For Example

| Description | Size | Material | Surface | Quantity |
|-------------|------|----------|---------|----------|
| 2WK bend    | 2"   | 1.4301   | NO.7    | 500      |

## Notes For Dimension Tables

- All Dimensions are in mm.
- Wall Thickness: Fittings 1.0"-3.0" sizes are manufactured with 16 gauge (0.065") wall thickness.  
The 4.0" tube size is manufactured with 14 gauge (0.083") wall thickness.

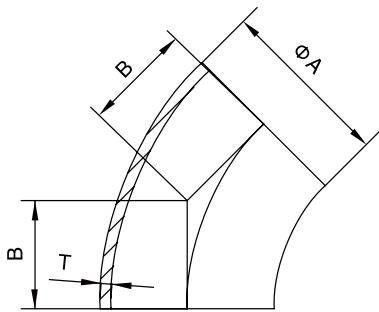
# WELD FITTINGS

## Weld 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      | 7WVK         | 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             |
| E9WWWWW | L9WWWWW    | 9W           | 9WWWWW | 9WWWWW          |
| E31WW   | L31        | 31W          | 31W    | 31W             |
| E32WW   | L32        | 32W          | 32W    | 32W             |
| E28WA   | L28WA      | 28WA         | 28WA   | 28WA            |
| E28WB   | L28WB      | 28WB         | 28WB   | 28WB            |
| E2WK    |            |              | 2WK    | 2WK             |

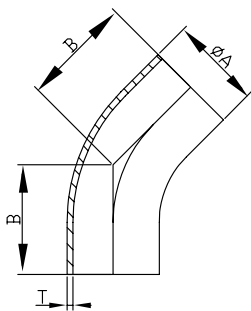
# WELD FITTINGS

## 2WK Bend 45°, No Tangent



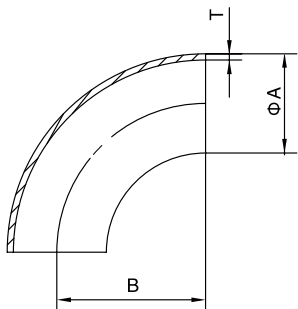
| Size | A     |       | B     |      | T     |      |
|------|-------|-------|-------|------|-------|------|
|      | inch  | mm    | inch  | mm   | inch  | mm   |
| 1.0" | 1.000 | 25.4  | 0.625 | 15.8 | 0.065 | 1.65 |
| 1.5" | 1.500 | 38.1  | 0.937 | 23.8 | 0.065 | 1.65 |
| 2.0" | 2.000 | 50.8  | 1.250 | 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 |

## L2KS Polished 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 |

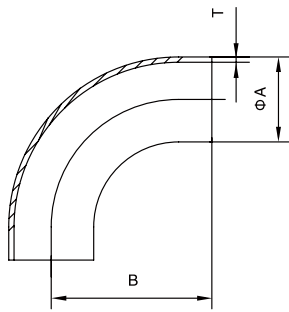
## 2WCL Elbow 90°, No Tangent



| 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 |

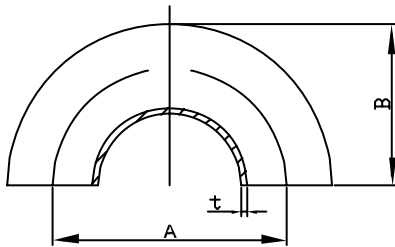
# WELD FITTINGS

## L2S Long Elbow 90° With Tangent



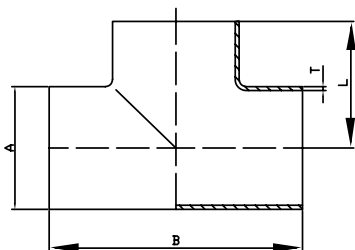
| Size | A     |       | B     |       | T     |      |
|------|-------|-------|-------|-------|-------|------|
|      | inch  | mm    | inch  | mm    | inch  | mm   |
| 1.0" | 1.000 | 25.4  | 2.063 | 52.4  | 0.065 | 1.65 |
| 1.5" | 1.500 | 38.1  | 2.937 | 74.6  | 0.065 | 1.65 |
| 2.0" | 2.000 | 50.8  | 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° Return 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 |

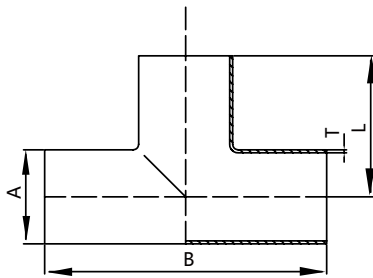
## 7WWW Short Equal Tee, No Tangent



| 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 |

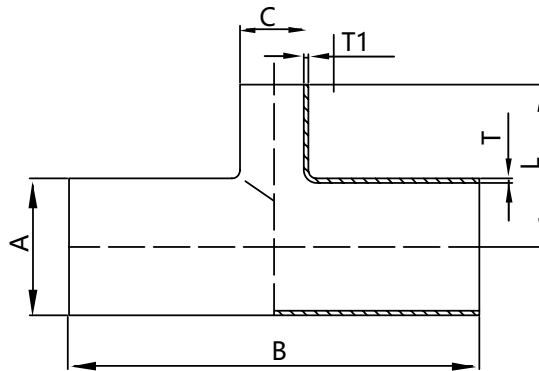
# WELD FITTINGS

## 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 |

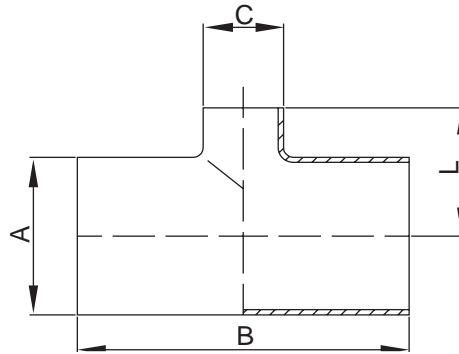
## 7RW Long Reducing Tee



| Size      | A     |       | C     |      | B     |       | L     |       | T     |      | T1    |      |
|-----------|-------|-------|-------|------|-------|-------|-------|-------|-------|------|-------|------|
|           | inch  | mm    | inch  | mm   | inch  | mm    | inch  | mm    | inch  | mm   | inch  | mm   |
| 1.5"×1.0" | 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"×1.0" | 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"×1.5" | 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"×1.5" | 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"×2.0" | 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"×1.5" | 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"×2.0" | 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"×2.5" | 3.000 | 76.2  | 2.500 | 63.5 | 6.500 | 165.1 | 3.250 | 82.5  | 0.065 | 1.65 | 0.065 | 1.65 |
| 4.0"×2.0" | 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"×2.5" | 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"×3.0" | 4.000 | 101.6 | 3.000 | 76.2 | 7.750 | 196.8 | 3.750 | 95.2  | 0.083 | 2.11 | 0.065 | 1.65 |

# WELD FITTINGS

## 7RWWW Short Reducing Tee

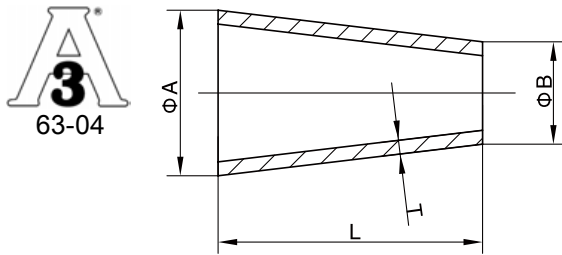


| Size       | A     |       | B      |       | C     |       | L     |       |
|------------|-------|-------|--------|-------|-------|-------|-------|-------|
|            | inch  | mm    | inch   | mm    | inch  | mm    | inch  | mm    |
| 0.75"x0.5" | .750  | 19.0  | 4.000  | 101.6 | 0.500 | 12.7  | 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.

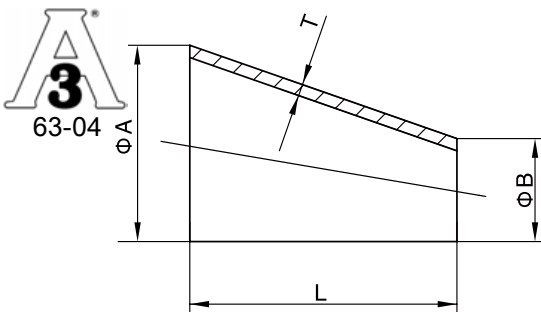
# WELD FITTINGS

## 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 |

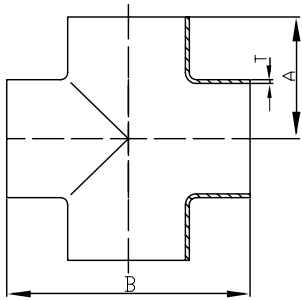
## 32W Eccentric Reducer Butt Weld



| 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 |

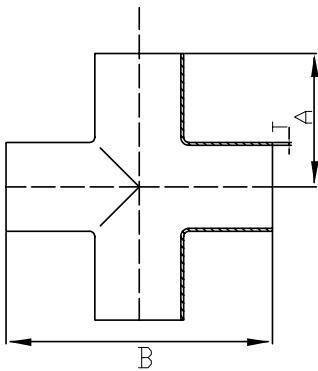
# WELD FITTINGS

## 9WWW Short Equal Cross



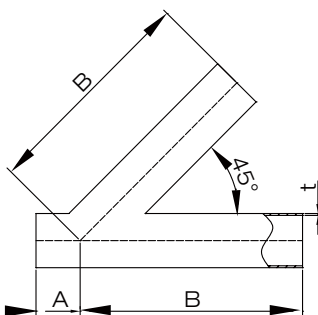
| Size | B     |       | A     |      | T     |      |
|------|-------|-------|-------|------|-------|------|
|      | inch  | mm    | inch  | mm   | inch  | mm   |
| 1.0" | 2.250 | 57.2  | 1.126 | 28.6 | 0.065 | 1.65 |
| 1.5" | 3.312 | 84.2  | 1.657 | 42.1 | 0.065 | 1.65 |
| 2.0" | 4.125 | 104.6 | 2.063 | 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 Lateral Wye

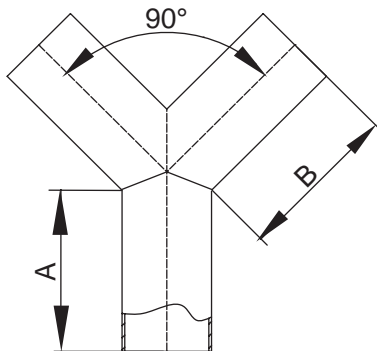


| Size | A     |      | B     |       | t     |      |
|------|-------|------|-------|-------|-------|------|
|      | inch  | mm   | inch  | mm    | inch  | mm   |
| 1"   | 1     | 25.4 | 5     | 127   | 0.065 | 1.65 |
| 1.5" | 1.188 | 30.2 | 6.188 | 157.2 | 0.065 | 1.65 |
| 2"   | 1.625 | 41.3 | 7.125 | 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 |



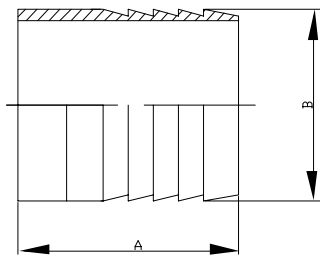
# WELD FITTINGS

## 28WB True Wye Butt Weld Ends



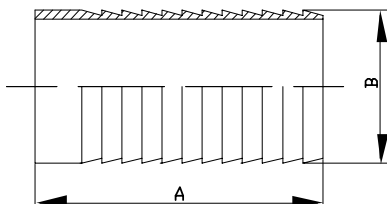
| Size | A     |       | B     |       |
|------|-------|-------|-------|-------|
|      | inch  | mm    | inch  | mm    |
| 1"   | 2.000 | 50.8  | 2.438 | 61.9  |
| 1.5" | 2.000 | 50.8  | 2.438 | 61.9  |
| 2"   | 2.625 | 66.7  | 3.250 | 82.5  |
| 2.5" | 3.370 | 85.6  | 4.125 | 104.8 |
| 3"   | 4.000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

## 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 |

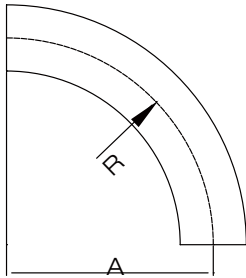
## 14WHRL Long Weld Hose Adapters



| 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 |

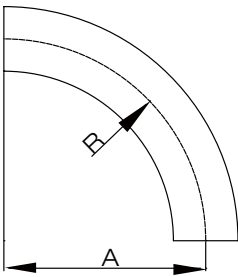
# WELD FITTINGS

## Polished 12" 90°Weld Sweep Elbows-2SXL



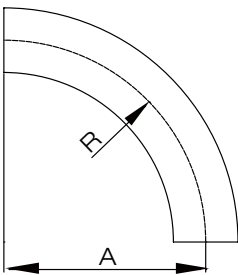
| Size | A    |       | R    |       |
|------|------|-------|------|-------|
|      | inch | mm    | inch | mm    |
| 1.5" | 12   | 304.8 | 12   | 304.8 |
| 2"   | 12   | 304.8 | 12   | 304.8 |
| 3"   | 12   | 304.8 | 12   | 304.8 |
| 4"   | 12   | 304.8 | 12   | 304.8 |

## Polished 18" 90°Weld Sweep Elbows-2SXL



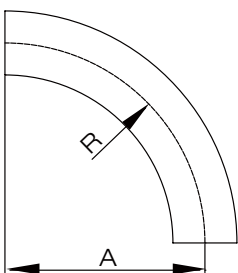
| Size | A    |       | R    |       |
|------|------|-------|------|-------|
|      | inch | mm    | inch | mm    |
| 1.5" | 18   | 457.2 | 18   | 457.2 |
| 2"   | 18   | 457.2 | 18   | 457.2 |
| 2.5" | 18   | 457.2 | 18   | 457.2 |
| 3"   | 18   | 457.2 | 18   | 457.2 |

## Polished 24" 90°Weld Sweep Elbows-2SXL



| 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 |

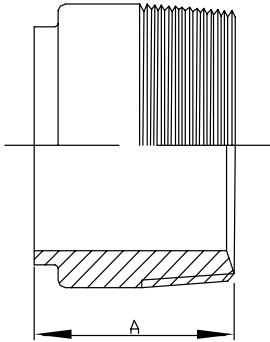
## Polished 36" 90°Weld Sweep Elbows-2SXL



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

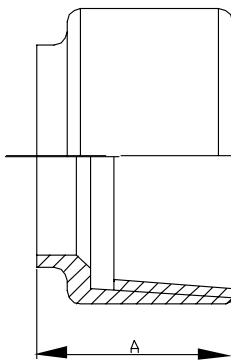
# WELD FITTINGS

## 19WB Weld X Male NPT Adapter



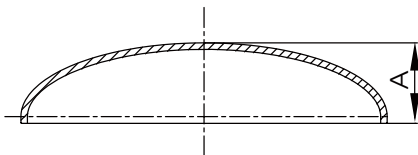
| Size  | A     |      |
|-------|-------|------|
|       | inch  | mm   |
| 0.5"  | 1.625 | 41.3 |
| 0.75" | 1.625 | 41.3 |
| 1"    | 1.75  | 44.4 |
| 1.5"  | 1.75  | 44.4 |
| 2"    | 1.812 | 46.0 |
| 2.5"  | 2.312 | 58.7 |
| 3"    | 2.5   | 63.5 |
| 4"    | 2.562 | 65.1 |

## 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 |

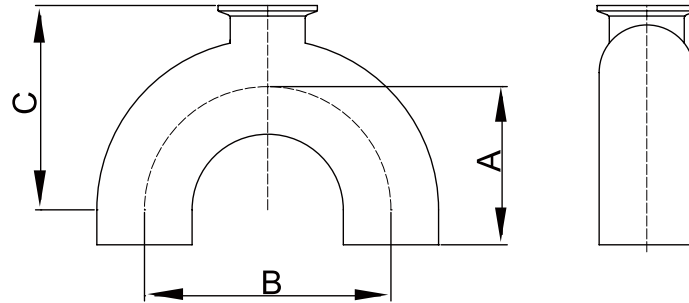
## 16W Butt Weld Dome Cap



| 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  |

# WELD FITTINGS

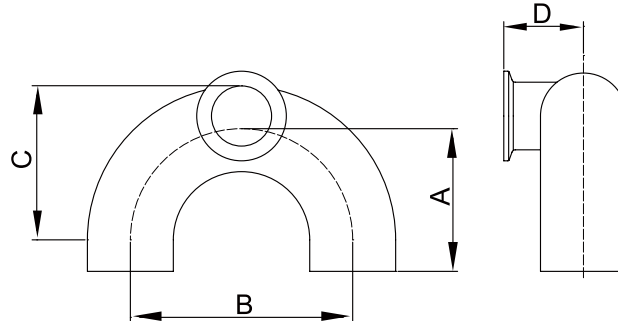
## 180 ° Bottom Outlet Use Point Fitting



| 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 |

# WELD FITTINGS

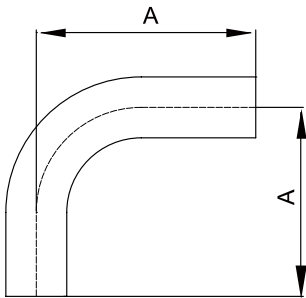
## 180° Side Outlet Use-Point Fitting



| Size       | A    |       | B    |       | C    |       | D    |      |
|------------|------|-------|------|-------|------|-------|------|------|
|            | inch | mm    | inch | mm    | inch | mm    | inch | mm   |
| 1"×0.75"   | 3.75 | 95.2  | 4.5  | 114.3 | 3.88 | 98.6  | 1.25 | 31.8 |
| 1.5"×0.75" | 4.5  | 114.3 | 6    | 152.4 | 4.88 | 124.0 | 1.75 | 44.5 |
| 1.5"×1"    | 4.5  | 114.3 | 6    | 152.4 | 4.75 | 120.7 | 1.75 | 44.5 |
| 2"×0.75"   | 5    | 127   | 6    | 152.4 | 5.63 | 143.0 | 1.75 | 44.5 |
| 2"×1"      | 5    | 127   | 6    | 152.4 | 5.5  | 139.7 | 1.75 | 44.5 |
| 2"×1.5"    | 5    | 127   | 6    | 152.4 | 5.25 | 133.4 | 1.75 | 44.5 |
| 2.5"×1"    | 5.75 | 146.0 | 7.5  | 190.5 | 6.5  | 165.1 | 1.75 | 44.5 |
| 2.5"×1.5"  | 5.75 | 146.0 | 7.5  | 190.5 | 6.25 | 158.8 | 1.75 | 44.5 |
| 2.5"×2"    | 5.75 | 146.0 | 7.5  | 190.5 | 6    | 152.4 | 2.25 | 57.2 |
| 3"×1"      | 6.5  | 165.1 | 9    | 228.6 | 7.5  | 190.5 | 2.25 | 57.2 |
| 3"×1.5"    | 6.5  | 165.1 | 9    | 228.6 | 7.25 | 184.2 | 2.25 | 57.2 |
| 3"×2"      | 6.5  | 165.1 | 9    | 228.6 | 7    | 177.8 | 2.25 | 57.2 |
| 3"×2.5"    | 6.5  | 165.1 | 9    | 228.6 | 6.75 | 171.5 | 2.25 | 57.2 |
| 4"×1"      | 8.5  | 215.9 | 12   | 304.8 | 10   | 254.0 | -    | -    |
| 4"×1.5"    | 8.5  | 215.9 | 12   | 304.8 | 9.75 | 247.7 | -    | -    |
| 4"×2"      | 8.5  | 215.9 | 12   | 304.8 | 9.5  | 241.3 | -    | -    |
| 4"×2.5"    | 8.5  | 215.9 | 12   | 304.8 | 9.25 | 235.0 | -    | --   |
| 4"×3"      | 8.5  | 215.9 | 12   | 304.8 | 9    | 228.6 | -    |      |

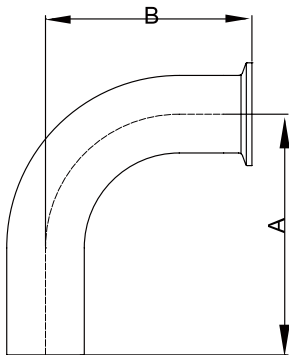
# WELD FITTINGS

## 2S 90° Weld Elbows



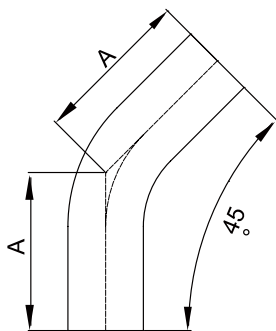
| size  | A    |        |
|-------|------|--------|
|       | inch | mm     |
| 0.5"  | 3    | 76.2   |
| 0.75" | 3    | 76.2   |
| 1"    | 3    | 76.2   |
| 1.5"  | 3.75 | 95.25  |
| 2"    | 4.75 | 120.65 |
| 2.5"  | 5.5  | 139.7  |
| 3"    | 6.25 | 158.75 |
| 4"    | 8    | 203.2  |
| 6"    | 11.5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

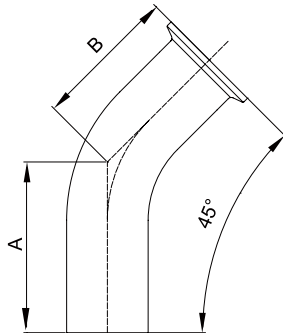
## 2KS 45° Weld Elbows



| 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 |

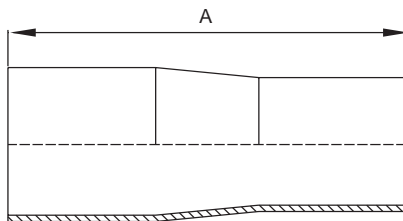
# WELD FITTINGS

## 2KM Clamp X Weld 45° Elbow



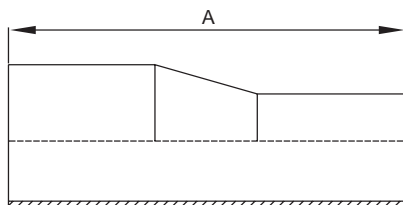
| Size | A     |       | B     |       |
|------|-------|-------|-------|-------|
|      | inch  | mm    | inch  | mm    |
| 1"   | 1.188 | 30.2  | 1.688 | 42.9  |
| 1.5" | 1.625 | 41.3  | 2.125 | 54.0  |
| 2"   | 2.312 | 58.7  | 2.812 | 71.4  |
| 2.5" | 3.000 | 76.2  | 3.500 | 88.9  |
| 3"   | 3.688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

## 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





## SANITARY VALVES



# BUTTERFLY VALVES



## Design and Features

- Compact and robust design
- Available in sizes D N25/1" to DN 150/6"
- The size of multi-position handle up to DN100/4"
- The size of pull handle up to DN125/150/6"
- Manual handle, pneumatic actuator and electric actuator can be exchangeable with each other
- Low pressure losses
- The valve body can be changeable with any kind of connection

## Technical Data

- Max.pressure: 10 bar (DN-25/100)  
8 bar (DN-125/150)
- Min.pressure: 0.2 bar p.abs
- Operating temperature: -10°C to +120°C (EPDM)




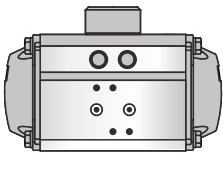
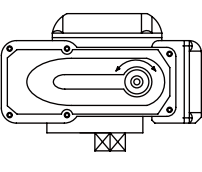
## Minimum torque range of the actuator









| 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           |






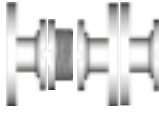





# BUTTERFLY VALVES

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

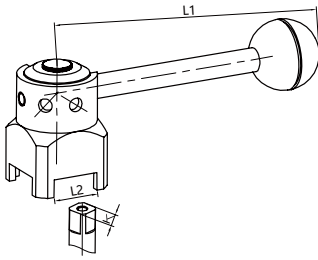
| Pneumatal   |   |  |  |
|---|---|--|--|
| Stainless Steel<br>Pneumatic Actuator   | Aluminium Pneumatic<br>Actuator   | Electric Actuator  |  |
|  |  |  |  |

| Manually Operated   |   |  |   |
|---|---|--|---|
| hand lever<br>Blue type A.  | hand lever<br>Black type A.   | hand lever<br>Blue type B.   | hand lever<br>Black type B.   |
|    |    |    |    |
| hand lever<br>Blue type C.  | hand lever<br>stainless steel A   | hand lever<br>stainless steel B  | hand lever<br>stainless steel   |
|  |  |  |  |

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

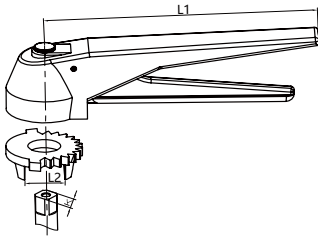
| Seals   |   |  |   |
|---|---|--|---|
| Silicone  | EPDM  | FKM  | HNBR  |
|  |  |  |  |

# BUTTERFLY VALVES



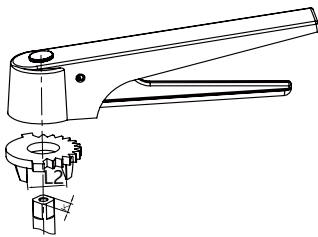
## Pulling Handle

| 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 |



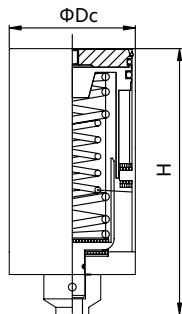
## Plastic Multi-Position Handle

| 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 |



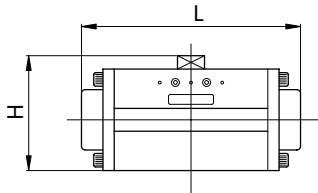
## Stainless Steel Multi-Position Handle

| 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 |



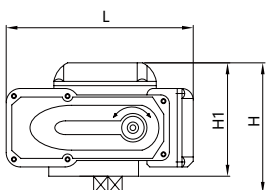
## Stainless Steel Pneumatic Actuator

| 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"             |

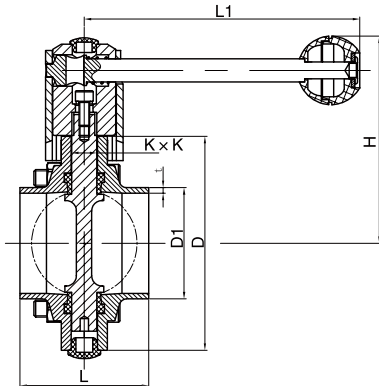


## Electric Actuator

| 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"                    |

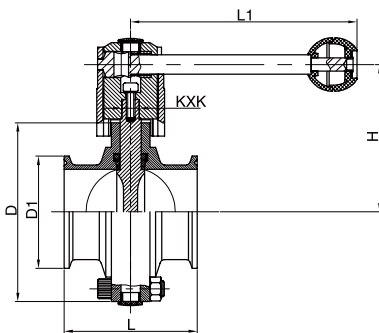
# BUTTERFLY VALVES

## Welded Butterfly Valve



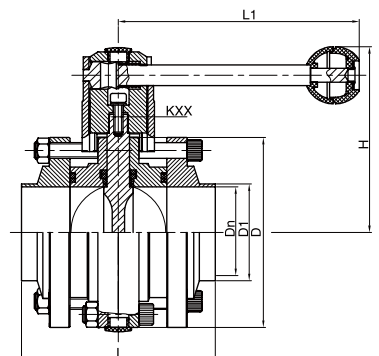
| Size   | D1    | D   | L  | L1  | H     | KxK   |
|--------|-------|-----|----|-----|-------|-------|
| 1/2"   | 12.7  | 78  | 50 | 126 | 86    | 8x8   |
| 3/4"   | 19    | 78  | 50 | 126 | 86    | 8x8   |
| 1"     | 25.4  | 78  | 50 | 126 | 86    | 8x8   |
| 1 1/4" | 31.8  | 78  | 50 | 126 | 86    | 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 |

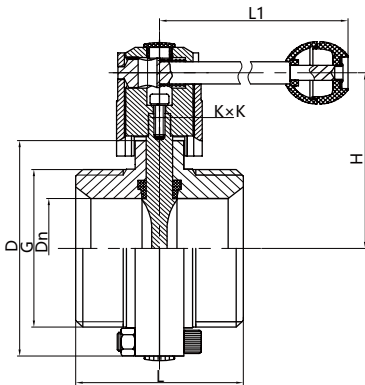
## Three-Piece Butterfly Valve



| 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 |

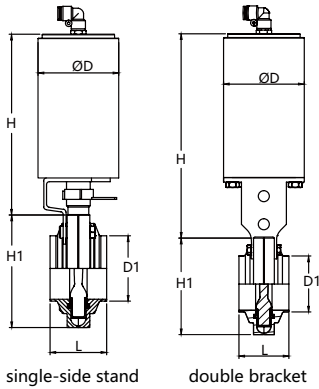
# BUTTERFLY VALVES

## Threaded Butterfly Valve



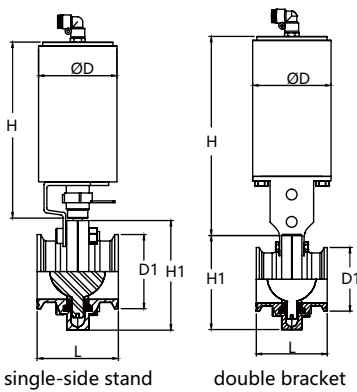
| Size   | DN   | D   | L   | L1  | H   | G             | Kxk   |
|--------|------|-----|-----|-----|-----|---------------|-------|
| 1"     | 22.1 | 78  | 66  | 126 | 86  | 37.1×1/8Acme  | 8×8   |
| 1 1/4" | 28.8 | 78  | 70  | 126 | 86  | 45.9×1/8Acme  | 8×8   |
| 1 1/2" | 34.8 | 86  | 70  | 126 | 90  | 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 |

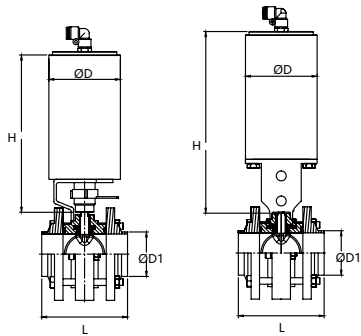
## Pneumatic Clamp Butterfly Valve



| 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

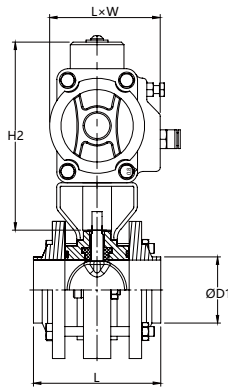


single-side stand

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 |

## Pneumatic Three-piece Butterfly Valve



| Size   | D1    | L   | H2  | LxW        |
|--------|-------|-----|-----|------------|
| 1"     | 25.4  | 102 | 102 | 140.5×60.5 |
| 1 1/2" | 38.1  | 104 | 133 | 158.5×83   |
| 2"     | 50.8  | 107 | 133 | 158.5×83   |
| 2.5"   | 63.5  | 106 | 133 | 158.5×83   |
| 3"     | 76.2  | 103 | 150 | 210.5×94.5 |
| 4"     | 101.6 | 115 | 150 | 210.5×94.5 |

# CHECK VALVES



## Operating principle

- The valve opens when the pressure of the fluid exceeds the pressure exerted by the pump spring. When the two pressures are equalised, the valve closes. A stronger counter-pressure allows the valve to close.

## Materials

- Casing/shaft: AISI 304/ AISI 316L
- Spring: AISI 304/ AISI 316L
- Seal: EPDM according to FDA 177.2600
- Surface finishing:  $Ra \leq 0.8 \mu m$



## Options

- Seals in NBR, FPM (Viton) or PTFE. All of them according to FDA 177.2600
- Connections: weld, thread, clamp, DIN, SMS, RJT, IDF, ISO, 3A

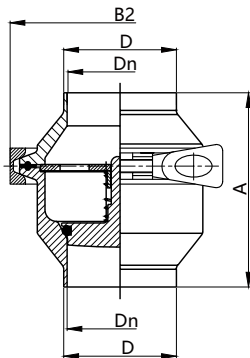
## Technical specifications

- Max. pressure: 10 bar
- Opening pressure: 0.3 bar (DN-25), 0.2 bar (DN-32/40), 0.1 bar (DN-50/100)
- Working temperature:  $-10^{\circ}C$  to  $+120^{\circ}C$  (EPDM)



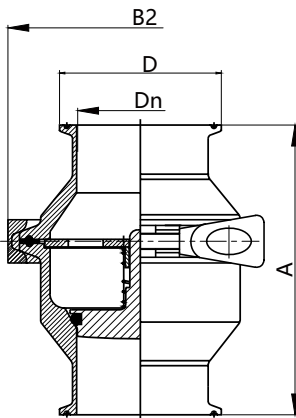
# CHECK VALVES

## Welded Check Valve



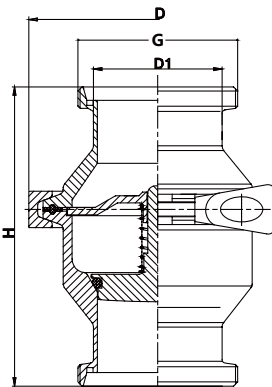
| Size | A   | B2   | D     | Dn   |
|------|-----|------|-------|------|
| 1/2" | 70  | 76.5 | 12.7  | 9.4  |
| 3/4" | 70  | 76.5 | 19.05 | 15.8 |
| 1"   | 70  | 76.5 | 25.4  | 22.1 |
| 1.5" | 70  | 87   | 38.1  | 34.8 |
| 2"   | 80  | 100  | 50.8  | 47.5 |
| 2.5" | 90  | 115  | 63.5  | 60.2 |
| 3"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

## 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 |



# BALL CHECK VALVES

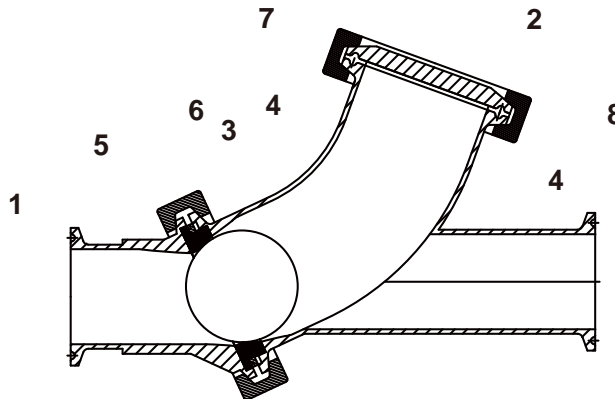
## Information

- 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

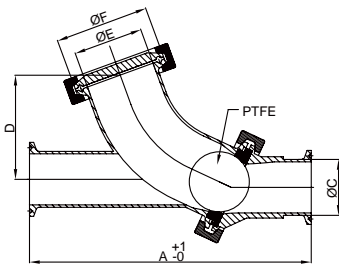


## Parts Breakdown

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



## Applications

It's widely used in Beverage, Brewing, Oil Refinery, Cosmetic, Chemical Industries.

## Design and features




- Free of maintenances
- Compact and portable
- Small operating torque
- Gasket complies with PTFE FDA 177.2600
- Hand lever can be installed on the side of the valve body, no matter what direction it flows.
- Connection ends: thread, clamp, weld, flange, DIN, SMS, RJT, FIL.
- It can match with pneumatic and electric actuators.
- Material for the part contacted with media is AISI 304/316L. Other part is AISI 304
- Type of valves: one-way ball valve, three-piece ball valve, three-way ball valve
- Type of cores: T type, L type, direct type.
- Material: AISI 304, 316L

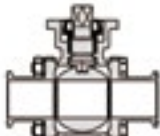
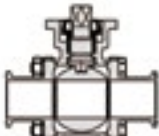
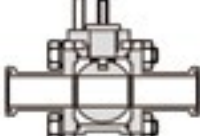
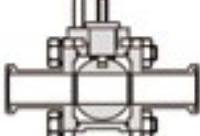
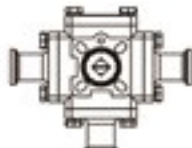
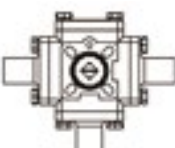




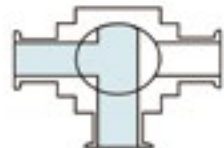



# BALL VALVES



## Modular system

S = Welded end  
 G = Male  
 K/M = Liner / nut  
 Fl = Flange  
 Cl = Clamp

| Pneumatical   |  |   |
|---|--|---|
| 140.5x60.5  | 158.5x83   | 210.5x94.5  |
|  |  |  |

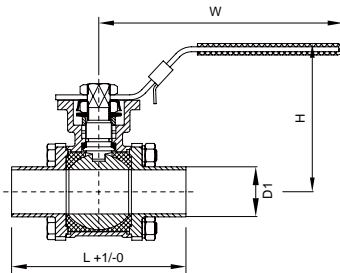
| Body Configuration   |  |  |   |
|--|--|--|---|
| Cl-Cl  | S-S  | Cl-Cl  | S-S   |
|   |   |  |  |
| Cl-Cl  | S-S  |  |   |
|  |  |  |   |

| Ball Type   |   |  |   |
|---|---|--|---|
| "T" Port  |   |  |   |
|  |  |  |  |
| "L" Port  |   |  |   |
|  |  |  |   |

| Sealing Material  |   |
|---|---|
| Encapsulated  | Standard  |
|  |  |

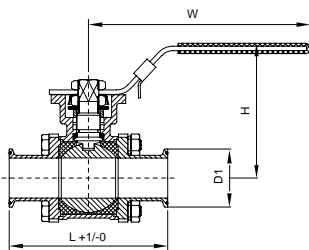
# BALL VALVES

## Weld Ball Valve With High Platform



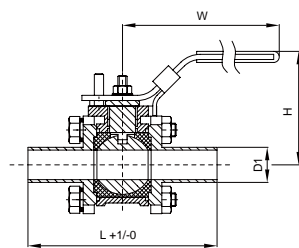
| Size   | D1    | L     | W   | H   |
|--------|-------|-------|-----|-----|
| 1/2"   | 12.7  | 90    | 130 | 70  |
| 3/4"   | 19.05 | 102.2 | 125 | 80  |
| 1"     | 25.4  | 115.3 | 166 | 90  |
| 1 1/2" | 38.1  | 137.6 | 193 | 105 |
| 2"     | 50.8  | 156   | 212 | 112 |
| 2 1/2" | 63.5  | 171   | 370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

## Clamp Ball Valve With High Platform



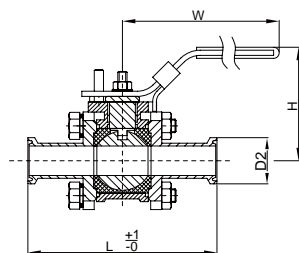
| Size   | D2   | L     | W   | H   |
|--------|------|-------|-----|-----|
| 1/2"   | 25.2 | 90    | 130 | 70  |
| 3/4"   | 25.2 | 102.2 | 125 | 80  |
| 1"     | 50.5 | 115.3 | 166 | 90  |
| 1 1/2" | 50.5 | 137.6 | 193 | 105 |
| 2"     | 64   | 156   | 212 | 112 |
| 2 1/2" | 77.5 | 171   | 370 | 174 |
| 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   |

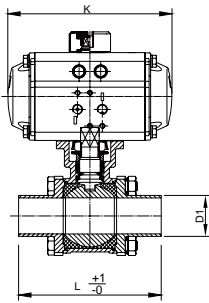
## Clamp Ball Valve With Low Platform



| 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   |

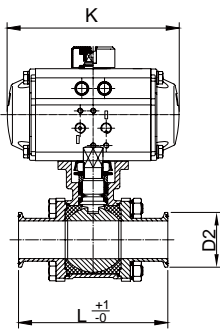
# BALL VALVES

## Pneumatic Weld Ball Valve



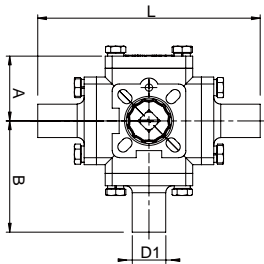
| Size   | D1    | L     | K   |
|--------|-------|-------|-----|
| 1/2"   | 12.7  | 90    | 130 |
| 3/4"   | 19.05 | 102.2 | 125 |
| 1"     | 25.4  | 115.3 | 166 |
| 1 1/2" | 38.1  | 137.6 | 193 |
| 2"     | 50.8  | 156   | 212 |
| 2 1/2" | 63.5  | 171   | 370 |
| 3"     | 76.2  | 196.7 | 370 |
| 4"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

## Pneumatic Clamp Ball Valve



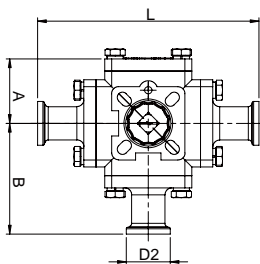
| Size   | D2   | L     | K   |
|--------|------|-------|-----|
| 1/2"   | 25.2 | 90    | 130 |
| 3/4"   | 25.2 | 102.2 | 125 |
| 1"     | 50.5 | 115.3 | 166 |
| 1 1/2" | 50.5 | 137.6 | 193 |
| 2"     | 64   | 156   | 212 |
| 2 1/2" | 77.5 | 171   | 370 |
| 3"     | 94   | 196.7 | 370 |
| 4"     | 119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



## Applications

- Diaphragm valves, manually or pneumatically operated, are specifically designed for use on hygienic and aseptic processes in the pharmaceutical industries.
- The valve is excellent for flow control as well as for open/close duties.

## Operating Principles

- The diaphragm provides the body seal as well as the seat seal. There are no paths to the outside environment and as such the valve is suitable for aseptic processes.
- As the valve is closed, a pressure pad which supports the diaphragm moves towards the sealing face on the body. As the pressure plate moves, the diaphragm flexes and will be forced down onto the seat area in the centre of the body thus closing off the flow path through the body.
- The inter-relationship of body to the pressure plate prevents over compression of the diaphragm.
- The valve can be actuated either manually or pneumatically and controlled by control tops and solenoid valves.






## Technical specifications





- Max. pressure: 10 BAR(145PSI)
- Working temperature: -10 °C to +120 °C ( EPDM) -14 °F to 248 °F (+140 °C (SIP, max. 30 min) 284 °F)






# DIAPHRAGM VALVES

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

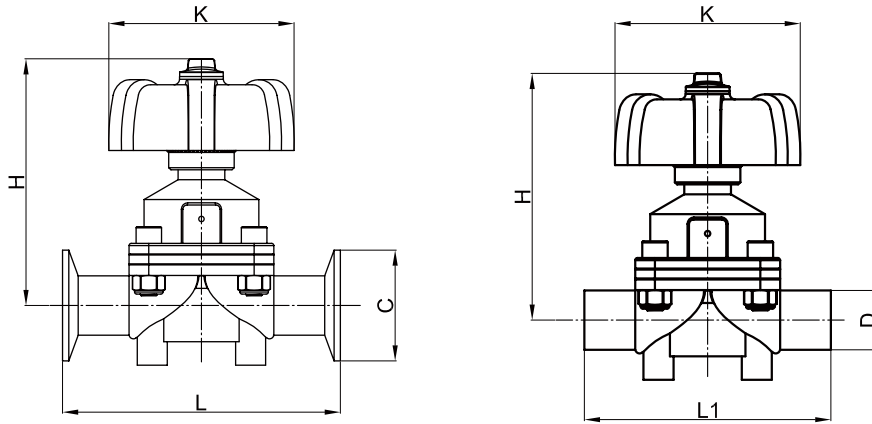
| Diaphragms  |  |
|---|--|
| Elastomer diaphragms EPDM   | TFE/EPDM, PTFE/FPM PTFE diaphragms<br>PTFE/EPDM, PTFE/FPM                            |
|  |  |

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

| Connections   |   |   |
|---|---|---|
| Clamp   | Unions  | Flange  |
|  |  |  |

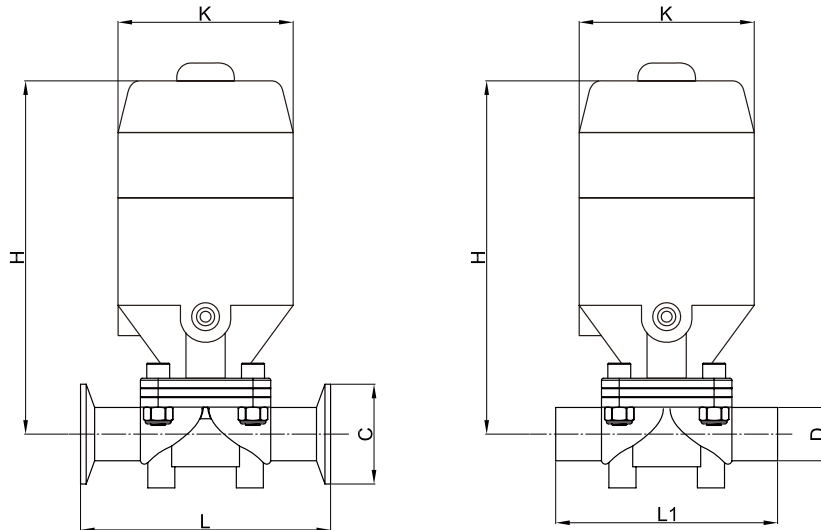
# DIAPHRAGM VALVES

## Manual Diaphragm Valve



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

## Pneumatic Diaphragm Valve

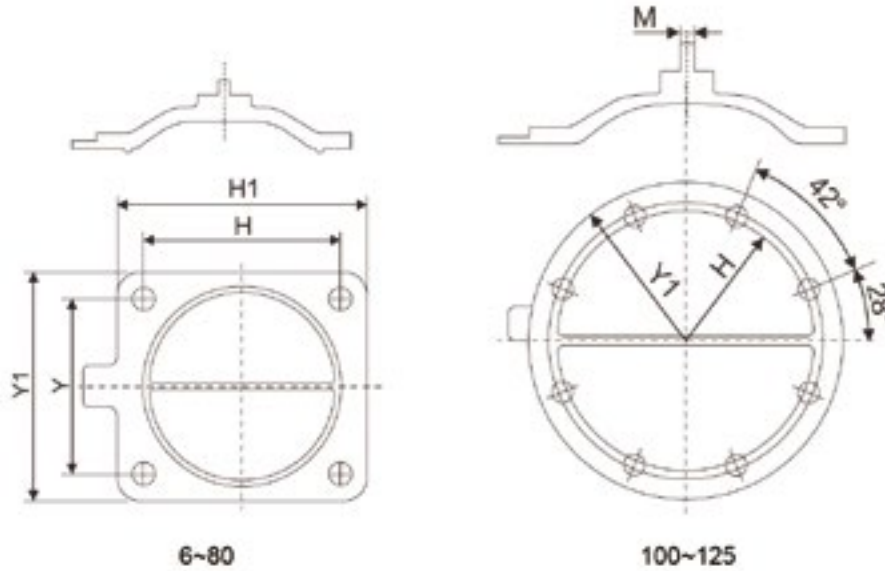


| Size  | L   | L1  | K   | D     | C    |
|-------|-----|-----|-----|-------|------|
| 0.5"  | 108 | 125 | 62  | 12.7  | 50.5 |
| 0.75" | 126 | 152 | 72  | 19.05 | 50.5 |
| 1"    | 126 | 154 | 72  | 25.4  | 50.5 |
| 1.5"  | 160 | 193 | 92  | 38.1  | 50.5 |
| 2"    | 193 | 225 | 114 | 50.8  | 64   |



# 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 |

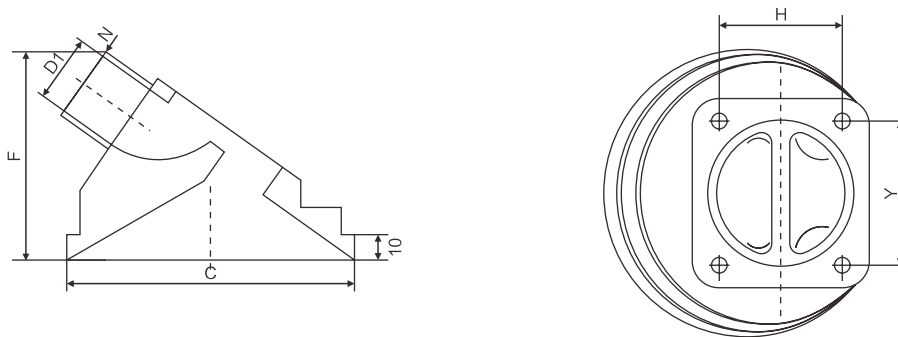


# TANK BOTTOM VALVES

## 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.



| DN | C   | F   | D1 | N   | D2   | D3   |
|----|-----|-----|----|-----|------|------|
| 15 | 70  | 40  | 13 | 1.5 | 19   | 25.2 |
| 20 | 105 | 64  | 16 | 1.5 | 43.5 | 50.5 |
| 25 | 105 | 64  | 22 | 1.5 | 43.5 | 50.5 |
| 32 | 140 | 85  | 29 | 1.5 | 43.5 | 50.5 |
| 40 | 140 | 85  | 35 | 1.5 | 43.5 | 50.5 |
| 50 | 160 | 94  | 49 | 1.5 | 56.5 | 64   |
| 65 | 195 | 110 | 59 | 2   | 70.5 | 77.5 |
| 70 | 238 | 120 | 72 | 2   | 83.5 | 91   |
| 80 | 238 | 120 | 85 | 2   | 97   | 106  |



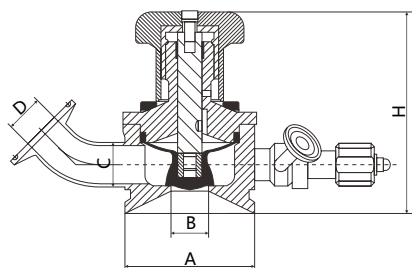
# TANK BOTTOM VALVES

## 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 | D    | A     | B    | H     |
|------|------|-------|------|-------|
|      | mm   | mm    | mm   | mm    |
| 3/4" | 19.1 | 60.0  | 16   | 104.0 |
| 1"   | 25.4 | 75.0  | 22   | 117.0 |
| 1.5" | 38.1 | 85.0  | 35   | 128.5 |
| 2"   | 50.8 | 110.0 | 47.5 | 148.0 |

# ASEPTIC SAMPLING VALVES



## 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 completely discharged, no residue.

## Material

- Valve body: AISI 316L (1.4404)
- Valve head: AISI 304(1.4301)
- Membrane: PTFE (white)



## Operating Devices

- Manual-PEX
- Automatic-Compact pneumatic actuator

## Pressure (max.)




- Working pressure: 6 bar
- Rubber plug 3 bar
- Steel plug 10 bar

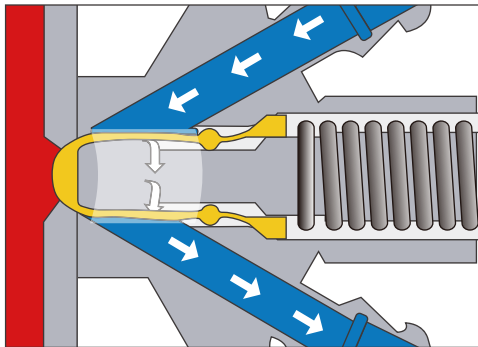
## Temperature (max.)

- Sterilization temp.: 121 °C / 250°F

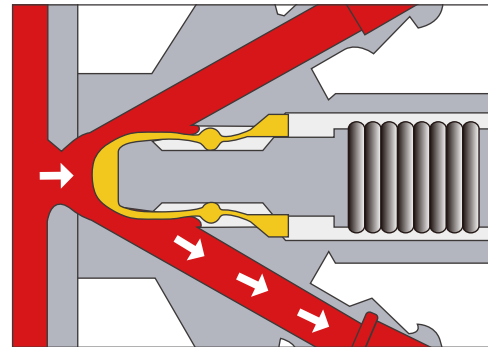


# ASEPTIC SAMPLING VALVES

| Body Configuration  |   |   |
|---|---|---|
| Weld Connection   | Clamp Connection  | KF- connection  |
|  |  |  |



closing valve, sterilization operating structure



opening valve , sampling operating structure

## Sampling

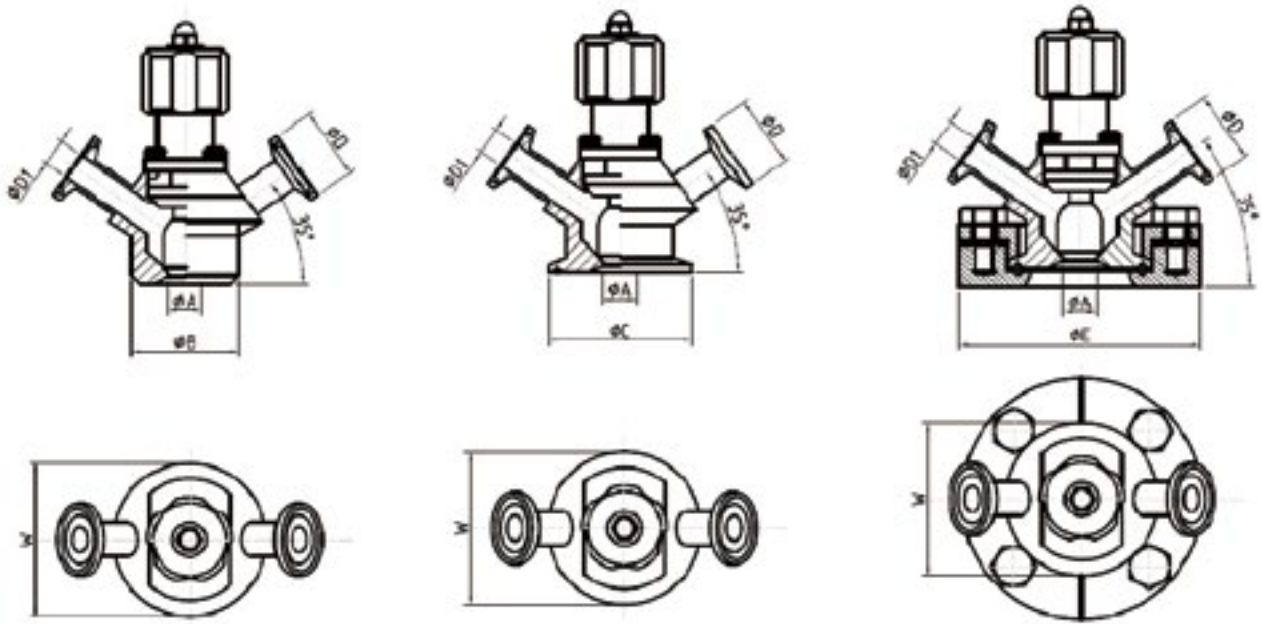
- Open valve, sampling;
- After the sampling is completed, close the valve;
- Clean the valve with steam. Please refer to "sterilization"

## 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.

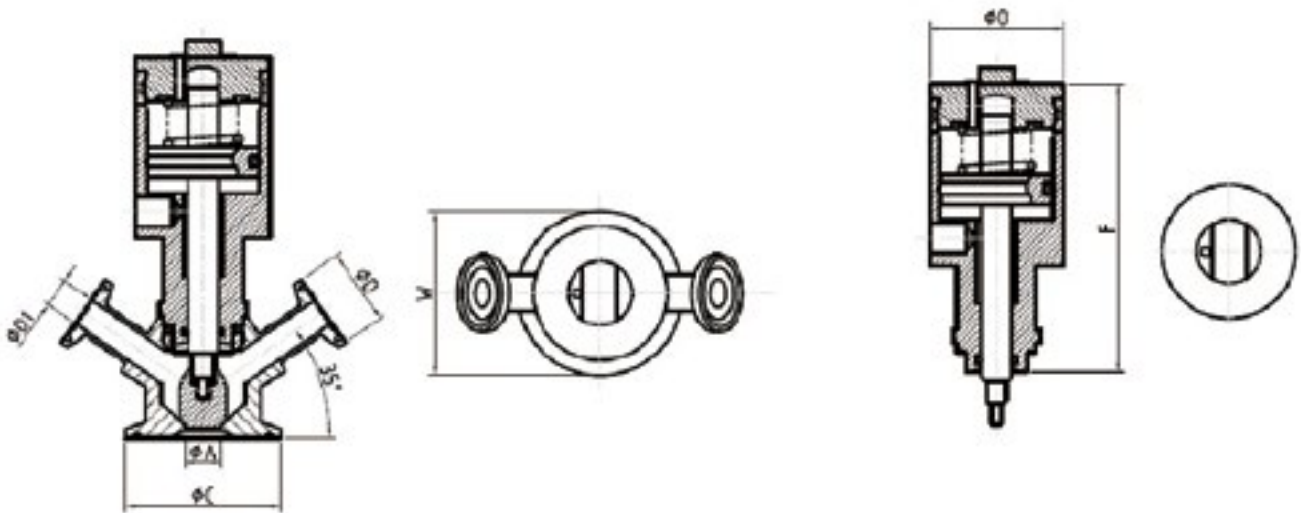


Weld connection

Clamp connection

KF- connection

Fig. 2. Dimensions - actuator



Pneumatic N/C

| 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



## Features

- ◆ 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

## Technical Parameters

Pressure range: 0~16 bar

Medium temperature: -10°C~+180°C

Ambient temperature: -100°C~+600°C

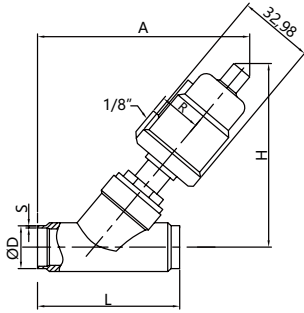
Valve material: SUS316L

Seal material: Poly tetra fluoroethylene PTFE

Control gas: neutral gas, air

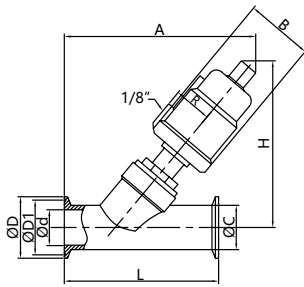
# ANGLE SEAT VALVES

## Stainless Steel Angle Seat Valve



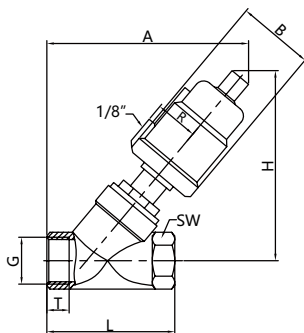
| Size   | Actuator | B    | R  | H   | D     | S    | A   | L   |
|--------|----------|------|----|-----|-------|------|-----|-----|
| 1/2"   | 40       | 50.5 | 27 | 112 | 12.7  | 1.65 | 118 | 70  |
|        | 50       | 60   | 33 | 125 |       |      | 128 |     |
| 1"     | 50       | 60   | 33 | 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

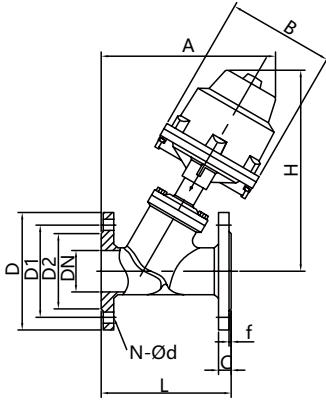


| Size   | Actuator | B    | R  | H   | G      | T  | A   | L   | SW  |
|--------|----------|------|----|-----|--------|----|-----|-----|-----|
| 3/8"   | 40       | 50.5 | 27 | 112 | 3/8"   | 12 | 124 | 68  | 27  |
|        | 50       | 60   | 33 | 125 |        |    | 135 |     |     |
| 1/2"   | 40       | 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

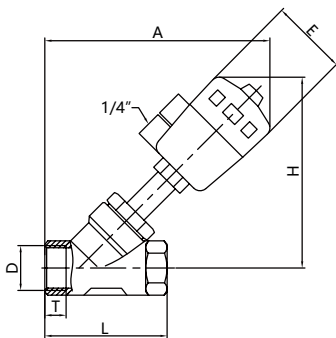
## Angle Seat Valve(Bolted Bonnet)



| 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



## 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.

## Calibration Range

Pressure: 0.2 to 3 bar

Pressure: 2.8 PSI to 43.5 PSI  
(depending on model)

Vacuum: 0.01 to 0.05 bar

Vacuum: 0.15 PSI to 0.75 PSI  
(depending on model)

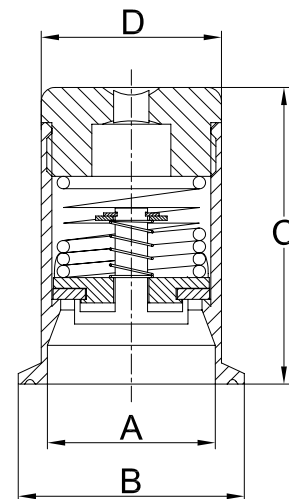
## Available Seal Types

The following seal types can be mounted on your valve:  
FOOD-GRADE SILICONE, VITON

Please contact our Technical Department to define the seal type suited to your process.

## Pneumatic Threaded Angle Seat Valve

| Size | A  | B    | C   | D    |
|------|----|------|-----|------|
|      | mm | mm   | mm  | mm   |
| Φ34  | 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   |



If you want to check for more details please check the following drawing

\*1bar ≈ 14.5psi ≈ 0.1mpa



## **SIGHT GLASSES & SPRAY BALLS**

# SIGHT GLASS

Sight glasses provide a clear view of product flow through process lines. Made with borosilicate glass and sealed with buna gaskets, various end configurations are available including: clamp, bevel seat, I-line, Q-line, and John Perry. P&E Brien offers many styles of sight glass including bolt style and socket head cap screw style. Bolt style sight glasses can also be supplied with a protective acrylic shield to prevent breakage of the glass from inadvertent contact.



## Design and features

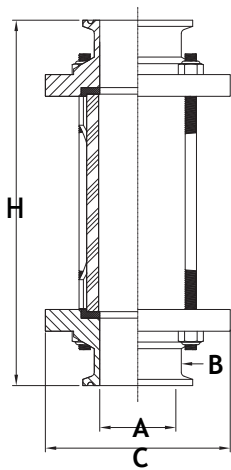
- Sizes: 1"–4".
- Full bore design.
- 360° viewing angle.
- Can be used in vertical or horizontal position.

## Materials

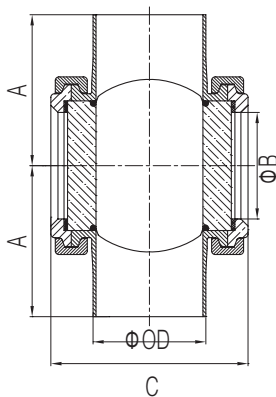
- Protective net: AISI304
- Glass: tempered glass
- Gasket: VMQ FDA177.2600
- Surface treatment: CNC machining

## Technical specifications

- Working temp: – 10°C to 120°C (Silicone)
- Max. operating pressure (bar)



| 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 |

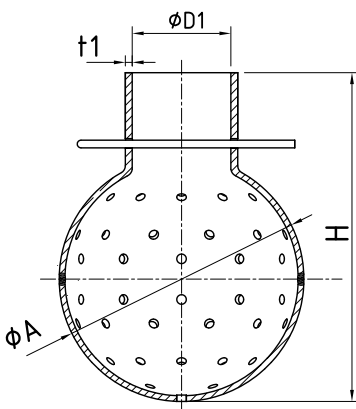
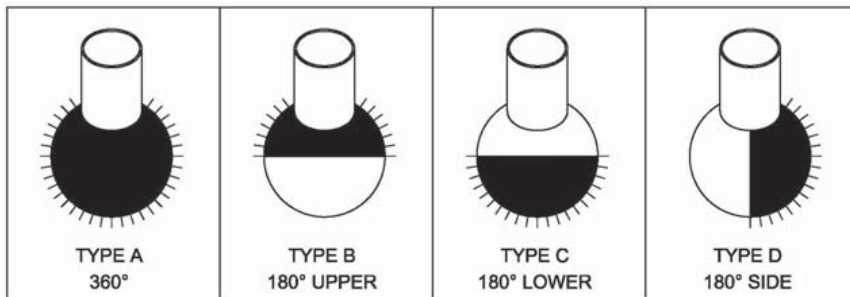
# SPRAY BALL



Spray balls are available in various spray patterns as shown. They are stationary and meant to be mounted to a tube or pipe. Typical uses are in the food and beverage industries for cleaning storage tanks.

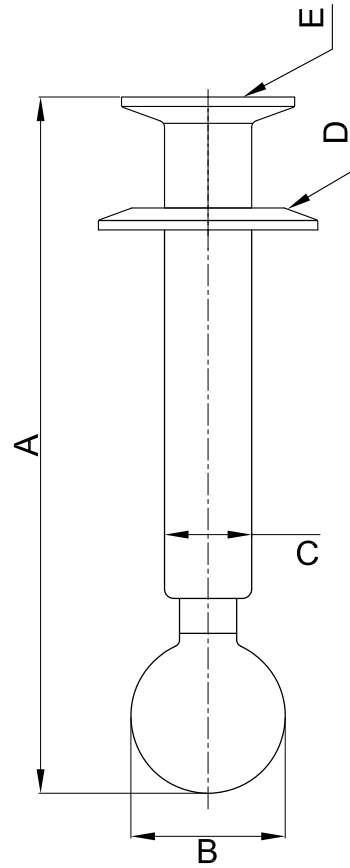
Made with heavy gauge material for longer life, they are available in both 304 & 316L grades.

## 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



| Size          | A            | B          | C            | D       | E       |
|---------------|--------------|------------|--------------|---------|---------|
| 11"×2.5"×1.5" | 11"(279.4mm) | 2"(50.8mm) | 1.5"(38.1mm) | 2.5" TC | 1.5" TC |
| 16"×2.5"×1.5" | 16"(406.4mm) | 2"(50.8mm) | 1.5"(38.1mm) | 2.5" TC | 1.5" TC |
| 24"×2.5"×1.5" | 24"(609.6mm) | 2"(50.8mm) | 1.5"(38.1mm) | 2.5" TC | 1.5" TC |
| 24"×3"×1.5"   | 24"(609.6mm) | 2"(50.8mm) | 1.5"(38.1mm) | 3" TC   | 1.5" TC |

## Technical Data

| Size | Pressure (bar) | Cleaning radius(m) | Fluxation m <sup>3</sup> /h |
|------|----------------|--------------------|-----------------------------|
| 2    | 2              | 1.5                | 38                          |



# FILTERS

# FILTERS



## 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 or larger than the size of the screen openings.

## Design And Features

There are several configurations:

- Cleaning of the screen without disassembling the filter:

Angular filter (82700): the inlet and the outlet form a right angle.

Y filter (83700): the product enters and leaves the filter in the same direction.

- Cleaning of the screen: need to disassemble the filter.

Straight filter (81700): the product enters and leaves the filter in the same direction.

Low pressure drops.

Connections: DIN EN 10357 series A and ASTM A269/270 (corresponds to OD pipe).

Screen with circular (from  $\varnothing$  0,5 mm to  $\varnothing$  5 mm) or longitudinal openings (10 x 1 mm).



# FILTERS

## Technical specifications

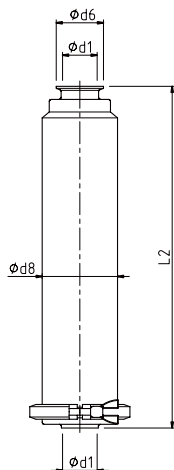
### Straight Filter / Angular Filter

Available sizes: 1" - 4"

Working temperature: -10°C to +120°C (EPDM) / 14 °F to 248 °F  
 +140°C (SIP, max. 30 min) / 284°F

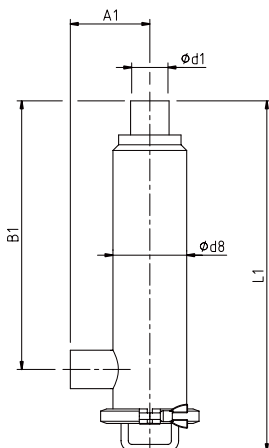
Max. working pressure: 10 bar / 145 PSI

### Straight Filter



| Weld / Clamp |       |      |       |     |
|--------------|-------|------|-------|-----|
| DN           | Ød1   | Ød6  | Ød8   | L2  |
| 1½"          | 34.8  | 50.5 | 76.2  | 325 |
| 2"           | 47.5  | 64.0 | 101.6 | 360 |
| 2½"          | 60.2  | 77.5 | 101.6 | 395 |
| 3"           | 72.9  | 91.0 | 114.3 | 452 |
| 4"           | 97.4  | 119  | 139.7 | 640 |
| 6"           | 146.8 | 167  | 204   | 640 |

### Angular Filter



| Weld / Clamp |      |       |     |     |     |
|--------------|------|-------|-----|-----|-----|
| DN           | Ød1  | Ød8   | A1  | B1  | L1  |
| 1"           | 22.1 | 76    | 76  | 254 | 384 |
| 1½"          | 34.8 | 76    | 95  | 254 | 384 |
| 2"           | 47.5 | 89    | 121 | 269 | 409 |
| 2½"          | 60.2 | 101.6 | 140 | 339 | 493 |
| 3"           | 72.9 | 114.3 | 159 | 371 | 553 |
| 4"           | 97.4 | 140   | 203 | 479 | 686 |

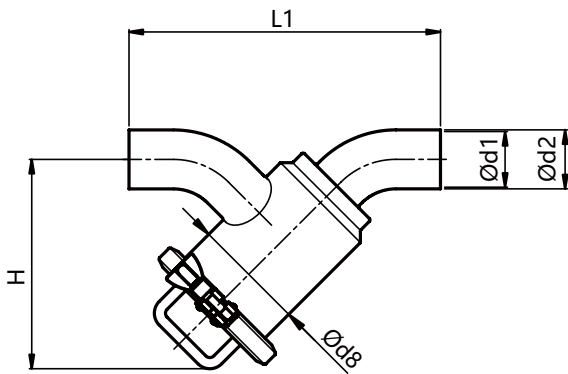
# FILTERS

## Y Filter

Available sizes: 1" - 4"

Working temperature: -10°C to +120°C (EPDM) / 14 °F to 248 °F  
 +140°C (SIP, max. 30 min) / 284°F

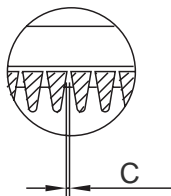
Max. working pressure: 10 bar / 145 PSI



| Weld / Clamp |      |       |       |     |     |
|--------------|------|-------|-------|-----|-----|
| DN           | Ød1  | Ød2   | Ød8   | L1  | H   |
| 1"           | 22.1 | 25.4  | 76.2  | 214 | 169 |
| 1½"          | 34.8 | 38.1  | 101.6 | 243 | 196 |
| 2"           | 47.5 | 50.8  | 101.6 | 300 | 201 |
| 2½"          | 60.2 | 63.5  | 114.3 | 346 | 246 |
| 3"           | 72.9 | 76.2  | 114.3 | 378 | 252 |
| 4"           | 97.4 | 101.6 | 154   | 470 | 2   |

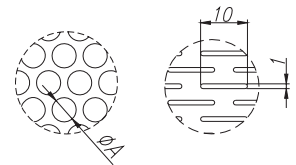
## Screen: Wedge Wire

| Mesh equiv. | C (mm) | Useful surface (%) |
|-------------|--------|--------------------|
| 40          | 0.40   | 28                 |
| 60          | 0.30   | 23                 |
| 80          | 0.20   | 17                 |
| 165         | 0.10   | 10                 |
| 325         | 0.05   | 5                  |



## Screen: Perforated Plate

| A (mm) | Useful surface (%) |
|--------|--------------------|
| 0.5    | 15                 |
| 1      | 28                 |
| 2      | 30                 |
| 5      | 46                 |
| 10×1   | 20                 |





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