



**D-ECKWEILER**  
connecting flow to **purity**

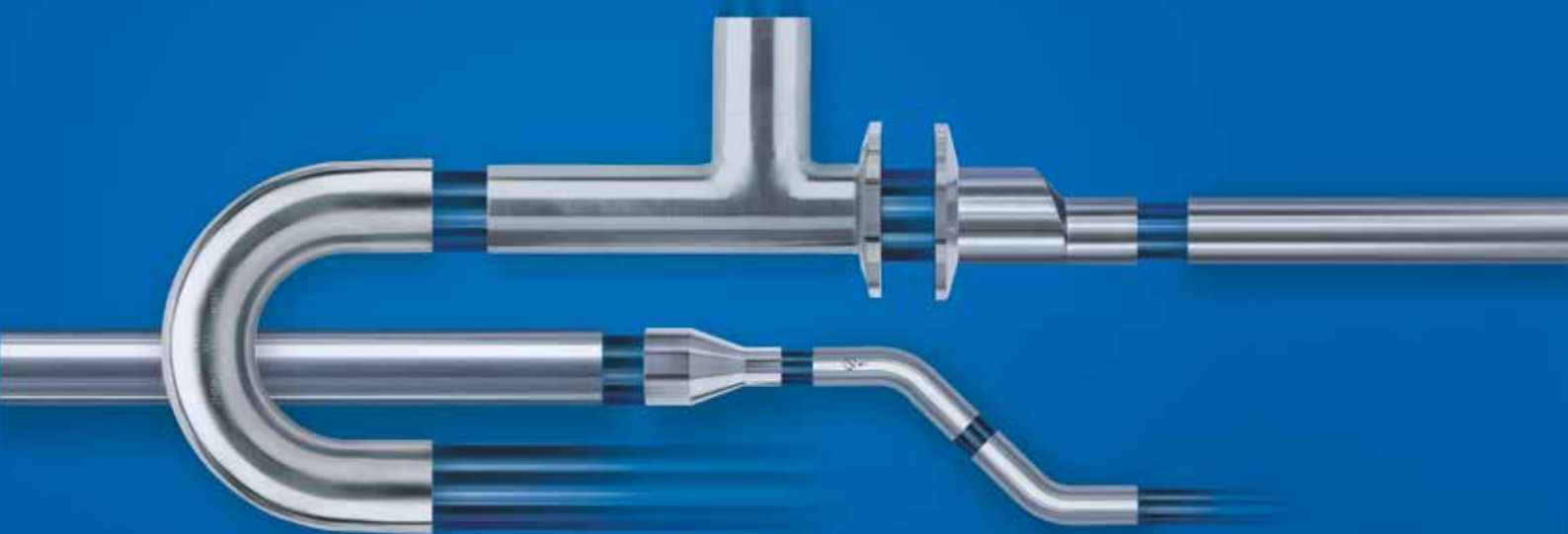
# LIFE SCIENCE

## TUBES, FITTINGS AND CONNECTIONS



FOR PHARMA, BIOTECH AND  
OTHER LIFE SCIENCE INDUSTRIES

 ASME BPE Certified



ASIA PACIFIC REGION

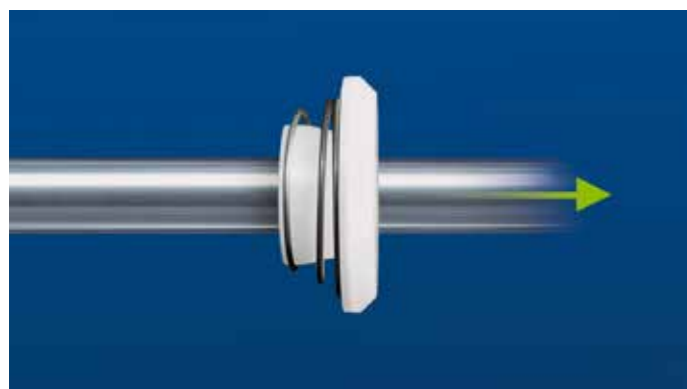




## Tubes, Fittings and Components for Life Science Applications

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**HOW-TO ORDER**  
DOCKWEILER TUBES AND FITTINGS

**Dockweiler Order Code System: Easy to select and combine**

The Dockweiler Order Code is built up of three elements:

- 1. Quality** (Inner Surface SF1 or SF4)
- 2. Product Code**
- 3. Diameter**
- 4. BPE Reference** (last two digits)

Selection for Tubes = Surface Quality + Outer Diameter (1 + 3)

Order Code Sample for **ASME BPE, SF-1, Tube 1/4 Inch:** 1 - 2  
SF1 - 04

**1. QUALITY**

Code Quality	Specification
SF1	ASME BPE 2024
SF4	ASME BPE 2024

**2. BASIC CODE FITTING TYPE**

Code Product	Description
E4	45° Elbow
E8	88° Elbow
E2	92° Elbow
E9	90° Elbow
EU	180° Return Bend
TE	Tee Equal
TR	Reducing Tee
CE	Straight Cross
RC	Concentric Reducer
RE	Eccentric Reducer
FA, FB, FC	Ferrule
WC	Weld Cap
FTC	Solid End Cap
CL-SP-WN	Clamp (Single Pin Wing Nut)
TC-GK	Triclamp Gasket

**3. BASIC CODE OUTER DIAMETER**

Code Diameter	Size (Inch)
02	1/8
04	1/4
06	3/8
08	1/2
10	5/8
12	3/4
16	1
24	1 1/2
32	2
40	2 1/2
48	3
64	4
96	6




**4. REFERENCE ACC. TO ASME-BPE**

Code Elbows	Code T-Pieces	Code Reducers	Code Ferrules	Code Caps
1-1	2-1	3-1	4-1	5-1
1-2	2-2	3-2		5-2
1-3	2-3	3-3		
1-4	2-4			
1-5	2-5			
1-6	2-6			
1-7	2-7			
1-8	2-8			
1-9	2-9			
1-10	2-10			
	2-11			

Selection for Fittings = Surface Quality + Fitting Type + Outer Diameter + ASME Ref. (1. + 2. + 3. + 4.)

Order Code Sample for **ASME BPE, SF-4, Hygienic Clamp Joint:** 1 - 2+3 - 4  
SF4 - E9-12 - 1-3

## ASME BPE Tubes, Fittings and Connections

■ ASME BPE		Technical Specifications	8
Products	Code	Designations according to ASME BPE	Page
	DT-4-1	Tube	10
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	DT-4.1.1-10	Automatic Tube Weld: 92° Elbow	21
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	DT-4.1.2-1	Automatic Tube Weld: Straight Cross	23
	DT-4.1.2-2	Automatic Tube Weld: Short Outlet Hygienic Clamp Joint Tee	24
	DT-4.1.2-3	Hygienic Mechanical Joint: Short Outlet Run Tee	25
	DT-4.1.2-4	Hygienic Clamp Joint: Straight Tee	26
	DT-4.1.2-4	Hygienic Clamp Joint: Straight Cross	27
	DT-4.1.2-5	Hygienic Clamp Joint: Short Outlet Tee	28

Products	Code	Designations according to ASME BPE	Page
	DT-4.1.2-6	Automatic Tube Weld: Reducing Tee	30
	DT-4.1.2-7	Automatic Tube Weld: Short Outlet Hygienic Clamp, Joint Reducing Tee	32
	DT-4.1.2-8	Hygienic Clamp Joint: Reducing Tee	34
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**Specification**  
**ASME BPE**

For pharma, biotech and other life science industries

**ASME BPE**

 **ASME BPE SF1 / mechanically polished**

 **ASME BPE SF4 / electropolished**




**1. SURFACE QUALITIES**

Tubes and fittings: Inner surface (mechanically polished)\*


ASME BPE SF0 - on request	No finish requirements
 <b>ASME BPE SF1</b>	<b>Ra<sub>max.</sub> ≤ 0,51 µm / 20 µin</b> (Dockweiler Standard)
ASME BPE SF2 - on request	Ra <sub>max.</sub> ≤ 0,64 µm / 25 µin
ASME BPE SF3 - on request	Ra <sub>max.</sub> ≤ 0,76 µm / 30 µin

Tubes and fittings: Inner surface (electropolished)

 <b>ASME BPE SF4</b>	<b>Ra<sub>max.</sub> ≤ 0,38 µm / 15 µin</b> (Dockweiler Standard)
ASME BPE SF5 - on request	Ra <sub>max.</sub> ≤ 0,51 µm / 20 µin
ASME BPE SF6 - on request	Ra <sub>max.</sub> ≤ 0,64 µm / 25 µin

Surface treatment:	<ul style="list-style-type: none"> <li>- Mechanically polished (or any other finishing method that meets the Ra max.): Cleaning and test procedure ASTM A 632, S3</li> <li>- Electropolished: Procedure acc. to Spec. Doc. 8.4-40/3.2/3.3.2</li> <li>- Free of oil and grease acc. to CGA G-4.1-2018 and ASTM G93 – level B (SF4) / level C (SF1)</li> </ul>
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**2. MATERIALS**

 <b>ASME BPE</b>	UNS S31603 (316L)*, UNS S31603 (316L), 1.4404, 1.4435*
	* defined sulphur of 0.005 - 0.017%

Hardness equivalent to:	<ul style="list-style-type: none"> <li>- max. 180 HV* according to DIN EN ISO 6507-1</li> <li>- max. 90 HRB* according to DIN EN ISO 6508-1</li> </ul>
	* comparable to ASTM E-384 (HV) and ASTM E 18-22 (HRB)

**3. DIMENSIONS**

Imperial:	acc. to ASME BPE, Part DT	
OD x WT	1/4" to 6" (0.250 x 0.035 inch to 6.000 x 0.109 inch)	6,35 x 0,89 mm to 152,40 x 2,77 mm

Manufacturing process:	Welded or seamless tubes
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**4. QUALITY AND TEST PROCEDURES**



Verification of basic test certificate



Visual inspection



Endoscopic inspection of bright finished tubes



Verification of dimensions



Roughness measurements

**5. TECHNICAL TERMS OF DELIVERY**

**Tubes and fittings**

Acc. to ASME BPE-2024, ASTM A 269/270, tubes with a length of 5900 - 6090 mm (19.35 ft - 19.98 ft), max. 10% short lengths of min. 3000 mm (9.84 ft)

**Marking always with**

DOCKWEILER / DW-Number / Dimension / Material / Heat Number / ASME Certification Mark, Surface Finish Designation

Tubes, pipes and fittings shall be permanently marked as per ASME BPE-2024, DT-11. The marking must provide all necessary information to trace back the heat number and the material grade.

**6. DOCUMENTATION, PACKAGING AND SHIPPING**

**Documentation**

The documentation result by the Dockweiler Inspection Certificate 3.1 according to DIN EN 10204. Optional online documentation WebCert.

**Packaging**

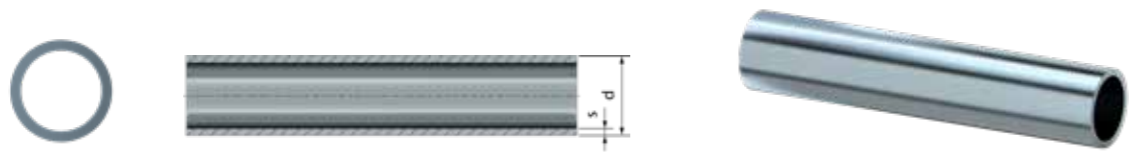
Mechanically polished tubes and fittings are closed with transparent PE caps and are individually sealed in PE foil. The batch label on the foil contains the information ASME BPE SF1.

Electropolished tubes and fittings are closed with PA/PE squares and yellow PE caps, sleeved and sealed in PE. The batch label on the foil contains the information ASME BPE SF4.

**Shipping**

Delivery in tubular container or wooden crate, fittings in strong cardboard box with shock absorbing filler.

**DT-4-1**  
Tube

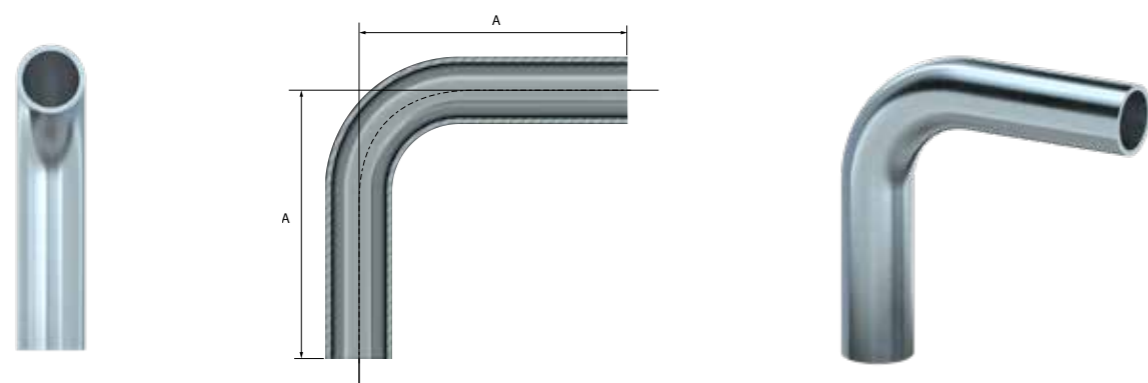


ASME BPE / DT-4-1

Size	d x s		Weight		ASME BPE SF1	ASME BPE SF4	316L	Code
	Inch	mm	Inch	kg / m				
1/4	6,35	0,89	0.250 x 0.035	0,1241	0.2736	SF1	SF4	- 04
3/8	9,53	0,89	0.375 x 0.035	0,1966	0.4334	SF1	SF4	- 06
1/2	12,70	1,65	0.500 x 0.065	0,4571	1.0077	SF1	SF4	- 08
3/4	19,05	1,65	0.750 x 0.065	0,7198	1.5869	SF1	SF4	- 12
1	25,40	1,65	1.000 x 0.065	0,9824	2.1658	SF1	SF4	- 16
1 1/2	38,10	1,65	1.500 x 0.065	1,5077	3.3239	SF1	SF4	- 24
2	50,80	1,65	2.000 x 0.065	2,0331	4.4822	SF1	SF4	- 32
2 1/2	63,50	1,65	2.500 x 0.065	2,5585	5.6405	SF1	SF4	- 40
3	76,20	1,65	3.000 x 0.065	3,0838	6.7986	SF1	SF4	- 48
4	101,60	2,11	4.000 x 0.083	5,2627	11.6023	SF1	SF4	- 64
6	152,40	2,77	6.000 x 0.109	10,3909	22.9080	SF1	SF4	- 96

Further dimensions and materials on request. Subject to alteration.

**DT-4.1.1-1**  
Automatic Tube Weld: 90° Elbow

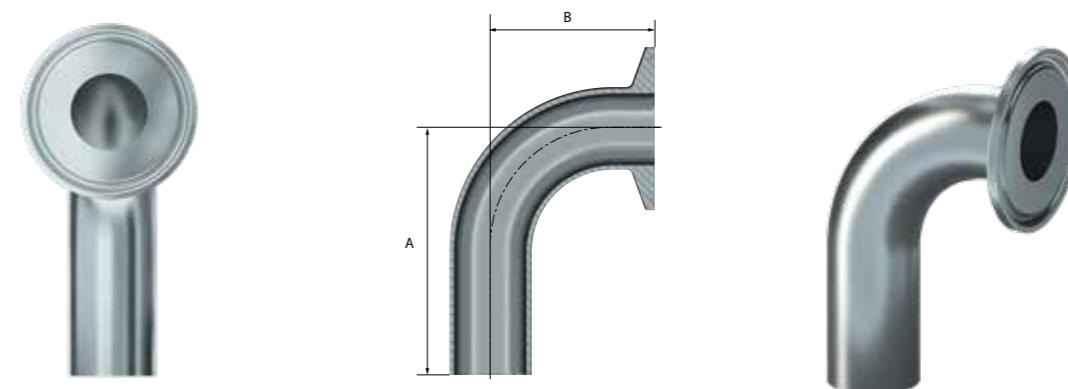


ASME BPE / DT-4.1.1-1

Size		A		ASME BPE SF1	ASME BPE SF4	Ref. According to ASME BPE	
Inch	mm	Inch	mm	316L	Code	DT	
1/4	6,35	2.625	66,70	SF1 SF4	E9-04	1-1	
3/8	9,53	2.625	66,70	SF1 SF4	E9-06	1-1	
1/2	12,70	3.000	76,20	SF1 SF4	E9-08	1-1	
3/4	19,05	3.000	76,20	SF1 SF4	E9-12	1-1	
1	25,40	3.000	76,20	SF1 SF4	E9-16	1-1	
1 1/2	38,10	3.750	95,30	SF1 SF4	E9-24	1-1	
2	50,80	4.750	120,70	SF1 SF4	E9-32	1-1	
2 1/2	63,50	5.500	139,70	SF1 SF4	E9-40	1-1	
3	76,20	6.250	158,80	SF1 SF4	E9-48	1-1	
4	101,60	8.000	203,20	SF1 SF4	E9-64	1-1	
6	152,40	11.500	292,10	SF1 SF4	E9-96	1-1	

Further dimensions and materials on request. Subject to alteration.

**DT-4.1.1-2**  
Automatic Tube Weld: Hygienic Clamp Joint, 90° Elbow

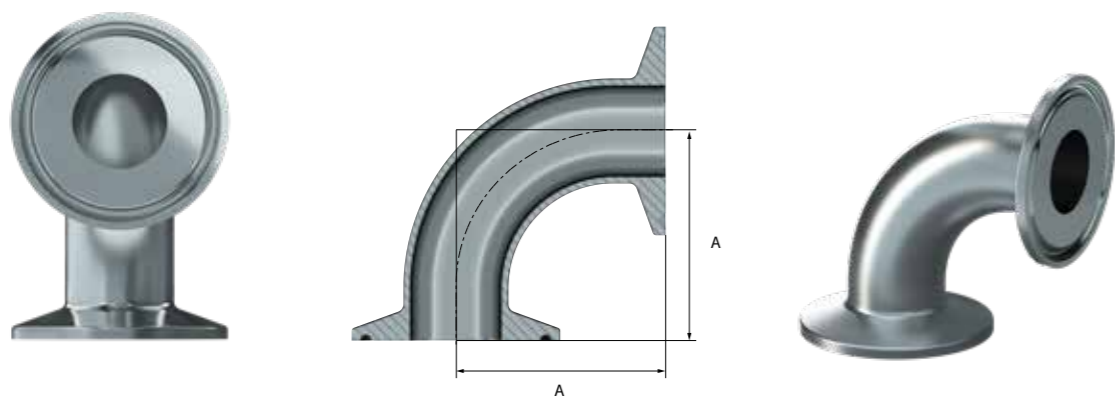


ASME BPE / DT-4.1.1-2

Size		A		B		ASME BPE SF1	ASME BPE SF4	Ref. According to ASME BPE	
Inch	mm	Inch	mm	Inch	mm	316L	Code	DT	
1/4	6,35	2.625	66,70	1.625	41,30	SF1 SF4	E9-04	1-2	
3/8	9,53	2.625	66,70	1.625	41,30	SF1 SF4	E9-06	1-2	
1/2	12,70	3.000	76,20	1.625	41,30	SF1 SF4	E9-08	1-2	
3/4	19,05	3.000	76,20	1.625	41,30	SF1 SF4	E9-12	1-2	
1	25,40	3.000	76,20	2.000	50,80	SF1 SF4	E9-16	1-2	
1 1/2	38,10	3.750	95,30	2.750	69,90	SF1 SF4	E9-24	1-2	
2	50,80	4.750	120,70	3.500	88,90	SF1 SF4	E9-32	1-2	
2 1/2	63,50	5.500	139,70	4.250	108,00	SF1 SF4	E9-40	1-2	
3	76,20	6.250	158,80	5.000	127,00	SF1 SF4	E9-48	1-2	
4	101,60	8.000	203,20	6.625	168,20	SF1 SF4	E9-64	1-2	
6	152,40	11.500	292,10	10.500	266,70	SF1 SF4	E9-96	1-2	

Further dimensions and materials on request. Subject to alteration.

**DT-4.1.1-3**  
Hygienic Clamp Joint: 90° Elbow

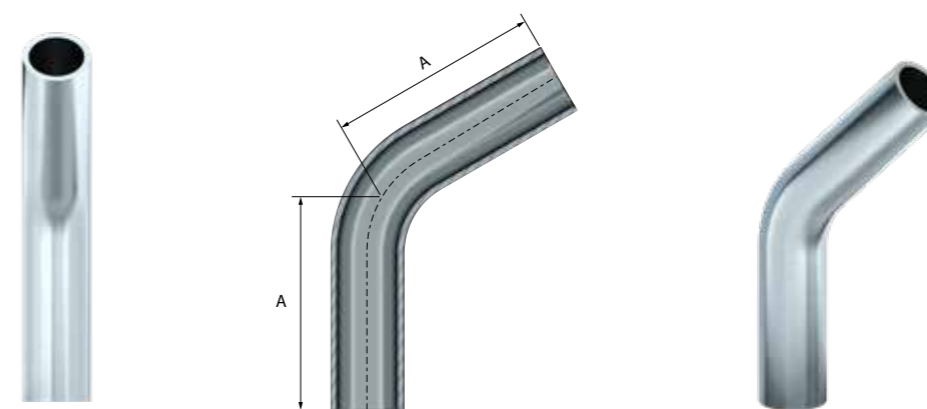


ASME BPE / DT-4.1.1-3

Size		A		ASME BPE SF1	ASME BPE SF4	Ref. According to ASME BPE		
Inch	mm	Inch	mm	316L	Code	DT		
1/4	6,35	1.625	41,30	SF1 SF4	- E9-04 -	1-3		
3/8	9,53	1.625	41,30	SF1 SF4	- E9-06 -	1-3		
1/2	12,70	1.625	41,30	SF1 SF4	- E9-08 -	1-3		
3/4	19,05	1.625	41,30	SF1 SF4	- E9-12 -	1-3		
1	25,40	2.000	50,80	SF1 SF4	- E9-16 -	1-3		
1 1/2	38,10	2.750	69,90	SF1 SF4	- E9-24 -	1-3		
2	50,80	3.500	88,90	SF1 SF4	- E9-32 -	1-3		
2 1/2	63,50	4.250	108,00	SF1 SF4	- E9-40 -	1-3		
3	76,20	5.000	127,00	SF1 SF4	- E9-48 -	1-3		
4	101,60	6.625	168,20	SF1 SF4	- E9-64 -	1-3		
6	152,40	10.500	266,70	SF1 SF4	- E9-96 -	1-3		

Further dimensions and materials on request. Subject to alteration.

**DT-4.1.1-4**  
Automatic Tube Weld: 45° Elbow



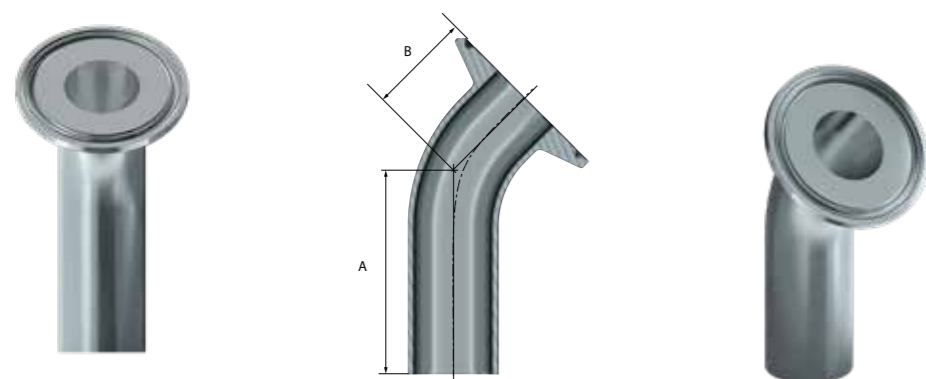
ASME BPE / DT-4.1.1-4

Size		A		ASME BPE SF1	ASME BPE SF4	Ref. According to ASME BPE		
Inch	mm	Inch	mm	316L	Code	DT		
1/4	6,35	2.000	50,80	SF1 SF4	- E4-04 -	1-4		
3/8	9,53	2.000	50,80	SF1 SF4	- E4-06 -	1-4		
1/2	12,70	2.250	57,20	SF1 SF4	- E4-08 -	1-4		
3/4	19,05	2.250	57,20	SF1 SF4	- E4-12 -	1-4		
1	25,40	2.250	57,20	SF1 SF4	- E4-16 -	1-4		
1 1/2	38,10	2.500	63,50	SF1 SF4	- E4-24 -	1-4		
2	50,80	3.000	76,20	SF1 SF4	- E4-32 -	1-4		
2 1/2	63,50	3.375	85,70	SF1 SF4	- E4-40 -	1-4		
3	76,20	3.625	92,10	SF1 SF4	- E4-48 -	1-4		
4	101,60	4.500	114,30	SF1 SF4	- E4-64 -	1-4		
6	152,40	6.250	158,80	SF1 SF4	- E4-96 -	1-4		

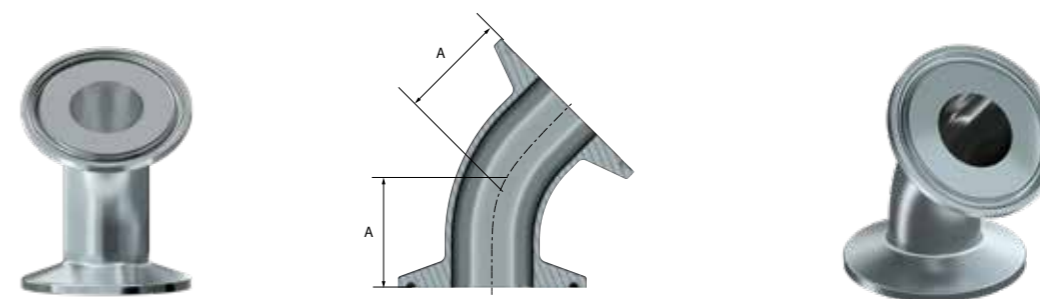
Further dimensions and materials on request. Subject to alteration.



**DT-4.1.1-5**  
Automatic Tube Weld: Hygienic Clamp Joint, 45° Elbow



**DT-4.1.1-6**  
Hygienic Clamp Joint: 45° Elbow



ASME BPE / DT-4.1.1-5

Size		A		B		ASME BPE SF1	ASME BPE SF4	Ref. According to ASME BPE			
Inch	mm	Inch	mm	Inch	mm	316L	Code	DT			
1/4	6,35	2.000	50,80	1.000	25,40	SF1	SF4	- E4-04 -	1-5		
3/8	9,53	2.000	50,80	1.000	25,40	SF1	SF4	- E4-06 -	1-5		
1/2	12,70	2.250	57,20	1.000	25,40	SF1	SF4	- E4-08 -	1-5		
3/4	19,05	2.250	57,20	1.000	25,40	SF1	SF4	- E4-12 -	1-5		
1	25,40	2.250	57,20	1.125	28,60	SF1	SF4	- E4-16 -	1-5		
1 1/2	38,10	2.500	63,50	1.438	36,50	SF1	SF4	- E4-24 -	1-5		
2	50,80	3.000	76,20	1.750	44,50	SF1	SF4	- E4-32 -	1-5		
2 1/2	63,50	3.375	85,70	2.063	52,40	SF1	SF4	- E4-40 -	1-5		
3	76,20	3.625	92,10	2.375	60,30	SF1	SF4	- E4-48 -	1-5		
4	101,60	4.500	114,30	3.125	79,40	SF1	SF4	- E4-64 -	1-5		
6	152,40	6.250	158,80	5.250	133,40	SF1	SF4	- E4-96 -	1-5		

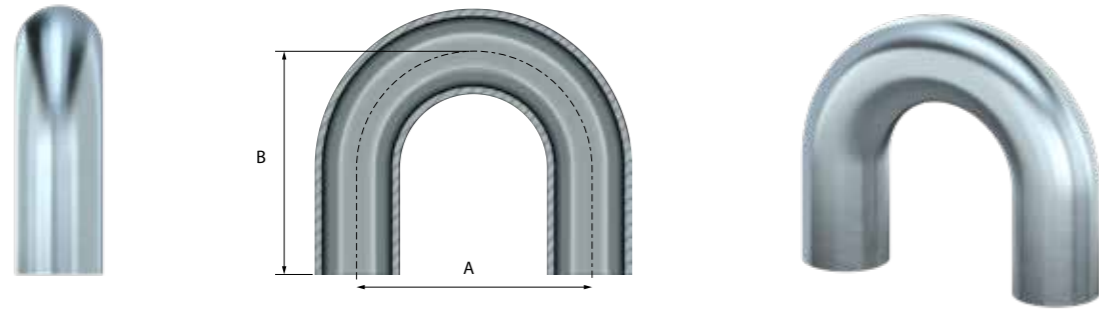
Further dimensions and materials on request. Subject to alteration.

ASME BPE / DT-4.1.1-6

Size		A		ASME BPE SF1	ASME BPE SF4	Ref. According to ASME BPE			
Inch	mm	Inch	mm	316L	Code	DT			
1/4	6,35	1.000	25,40	SF1	SF4	- E4-04 -	1-6		
3/8	9,53	1.000	25,40	SF1	SF4	- E4-06 -	1-6		
1/2	12,70	1.000	25,40	SF1	SF4	- E4-08 -	1-6		
3/4	19,05	1.000	25,40	SF1	SF4	- E4-12 -	1-6		
1	25,40	1.125	28,60	SF1	SF4	- E4-16 -	1-6		
1 1/2	38,10	1.438	36,50	SF1	SF4	- E4-24 -	1-6		
2	50,80	1.750	44,50	SF1	SF4	- E4-32 -	1-6		
2 1/2	63,50	2.063	52,40	SF1	SF4	- E4-40 -	1-6		
3	76,20	2.375	60,30	SF1	SF4	- E4-48 -	1-6		
4	101,60	3.125	79,40	SF1	SF4	- E4-64 -	1-6		
6	152,40	5.250	133,40	SF1	SF4	- E4-96 -	1-6		

Further dimensions and materials on request. Subject to alteration.

**DT-4.1.1-7**  
Automatic Tube Weld: 180° Return Bend

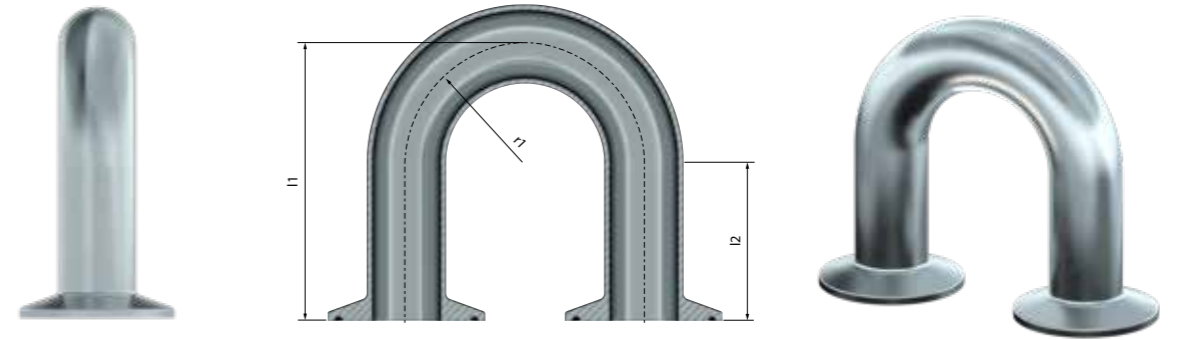


ASME BPE / DT-4.1.1-7

Size		A		B		ASME BPE SF1	ASME BPE SF4	Ref. According to ASME BPE	
Inch	mm	Inch	mm	Inch	mm	316L	Code	DT	
1/4	6,35	4.500	114,30	2.625	66,70	SF1	SF4	- EU-04 -	1-7
3/8	9,53	4.500	114,30	2.625	66,70	SF1	SF4	- EU-06 -	1-7
1/2	12,70	4.500	114,30	3.000	76,20	SF1	SF4	- EU-08 -	1-7
3/4	19,05	4.500	114,30	3.000	76,20	SF1	SF4	- EU-12 -	1-7
1	25,40	3.000	76,20	3.000	76,20	SF1	SF4	- EU-16 -	1-7
1 1/2	38,10	4.500	114,30	4.500	114,30	SF1	SF4	- EU-24 -	1-7
2	50,80	6.000	152,40	5.000	127,00	SF1	SF4	- EU-32 -	1-7
2 1/2	63,50	7.500	190,50	5.750	146,10	SF1	SF4	- EU-40 -	1-7
3	76,20	9.000	228,60	6.500	165,10	SF1	SF4	- EU-48 -	1-7
4	101,60	12.000	304,80	8.500	215,90	SF1	SF4	- EU-64 -	1-7
6	152,40	18.000	457,20	11.500	292,10	SF1	SF4	- EU-96 -	1-7

Further dimensions and materials on request. Subject to alteration.

**DT-4.1.1-8**  
Hygienic Clamp Joint: 180° Return Bend

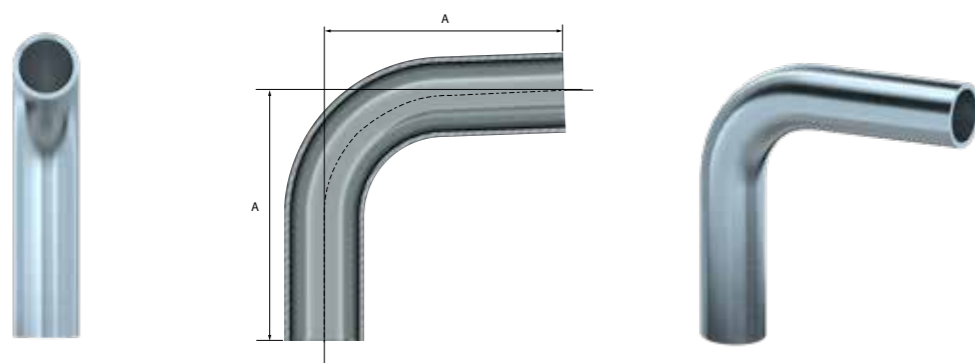


ASME BPE / DT-4.1.1-8

Size		A		B		ASME BPE SF1	ASME BPE SF4	Ref. According to ASME BPE	
Inch	mm	Inch	mm	Inch	mm	316L	Code	DT	
1/4	6,35	4.500	114,30	3.125	79,40	SF1	SF4	- EU-04 -	1-8
3/8	9,53	4.500	114,30	3.125	79,40	SF1	SF4	- EU-06 -	1-8
1/2	12,70	4.500	114,30	3.500	88,90	SF1	SF4	- EU-08 -	1-8
3/4	19,05	4.500	114,30	3.500	88,90	SF1	SF4	- EU-12 -	1-8
1	25,40	3.000	76,20	3.500	88,90	SF1	SF4	- EU-16 -	1-8
1 1/2	38,10	4.500	114,30	5.000	127,00	SF1	SF4	- EU-24 -	1-8
2	50,80	6.000	152,40	5.500	139,70	SF1	SF4	- EU-32 -	1-8
2 1/2	63,50	7.500	190,50	6.250	158,80	SF1	SF4	- EU-40 -	1-8
3	76,20	9.000	228,60	7.000	177,80	SF1	SF4	- EU-48 -	1-8
4	101,60	12.000	304,80	9.125	231,80	SF1	SF4	- EU-64 -	1-8
6	152,40	18.000	457,20	13.000	330,20	SF1	SF4	- EU-96 -	1-8

Further dimensions and materials on request. Subject to alteration.

**DT-4.1.1-9**  
Automatic Tube Weld: 88° Elbow

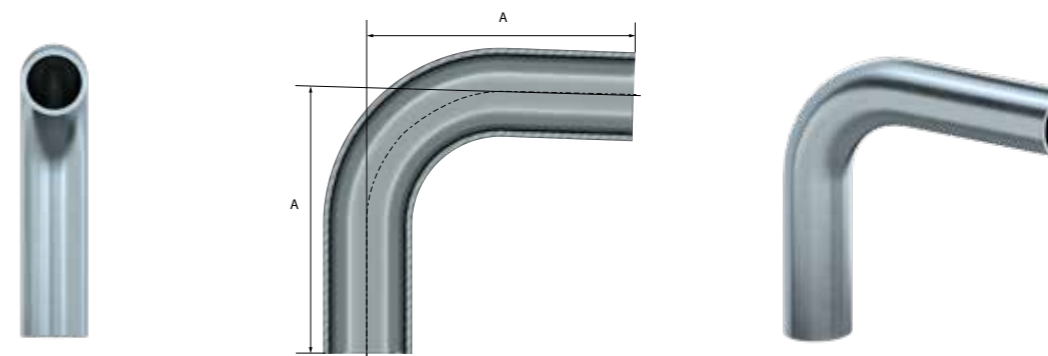


ASME BPE / DT-4.1.1-9

Size		A		ASME BPE SF1	ASME BPE SF4	Ref. According to ASME BPE	
Inch	mm	Inch	mm	316L	Code	DT	
1/4	6,35	2.700	68,58	SF1 SF4	- E8-04 -	1-9	
3/8	9,53	2.700	68,58	SF1 SF4	- E8-06 -	1-9	
1/2	12,70	3.065	77,85	SF1 SF4	- E8-08 -	1-9	
3/4	19,05	3.065	77,85	SF1 SF4	- E8-12 -	1-9	
1	25,40	3.050	77,47	SF1 SF4	- E8-16 -	1-9	
1 1/2	38,10	3.800	96,52	SF1 SF4	- E8-24 -	1-9	
2	50,80	4.810	122,17	SF1 SF4	- E8-32 -	1-9	
2 1/2	63,50	5.560	141,22	SF1 SF4	- E8-40 -	1-9	
3	76,20	6.310	160,27	SF1 SF4	- E8-48 -	1-9	
4	101,60	8.065	204,85	SF1 SF4	- E8-64 -	1-9	
6	152,40	11.580	294,13	SF1 SF4	- E8-96 -	1-9	

Further dimensions and materials on request. Subject to alteration.

**DT-4.1.1-10**  
Automatic Tube Weld: 92° Elbow

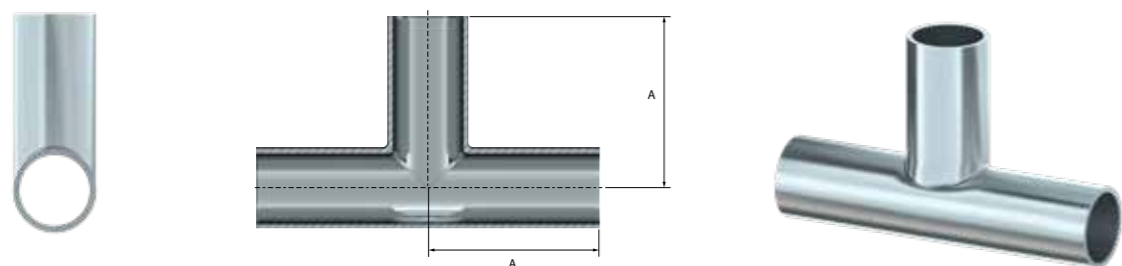


ASME BPE / DT-4.1.1-10

Size		A		ASME BPE SF1	ASME BPE SF4	Ref. According to ASME BPE	
Inch	mm	Inch	mm	316L	Code	DT	
1/4	6,35	2.700	68,58	SF1 SF4	- E2-04 -	1-10	
3/8	9,53	2.700	68,58	SF1 SF4	- E2-06 -	1-10	
1/2	12,70	3.065	77,85	SF1 SF4	- E2-08 -	1-10	
3/4	19,05	3.065	77,85	SF1 SF4	- E2-12 -	1-10	
1	25,40	3.050	77,47	SF1 SF4	- E2-16 -	1-10	
1 1/2	38,10	3.800	96,52	SF1 SF4	- E2-24 -	1-10	
2	50,80	4.810	122,17	SF1 SF4	- E2-32 -	1-10	
2 1/2	63,50	5.560	141,22	SF1 SF4	- E2-40 -	1-10	
3	76,20	6.310	160,27	SF1 SF4	- E2-48 -	1-10	
4	101,60	8.065	204,85	SF1 SF4	- E2-64 -	1-10	
6	152,40	11.580	294,13	SF1 SF4	- E2-96 -	1-10	

Further dimensions and materials on request. Subject to alteration.

**DT-4.1.2-1**  
Automatic Tube Weld: Straight Tee

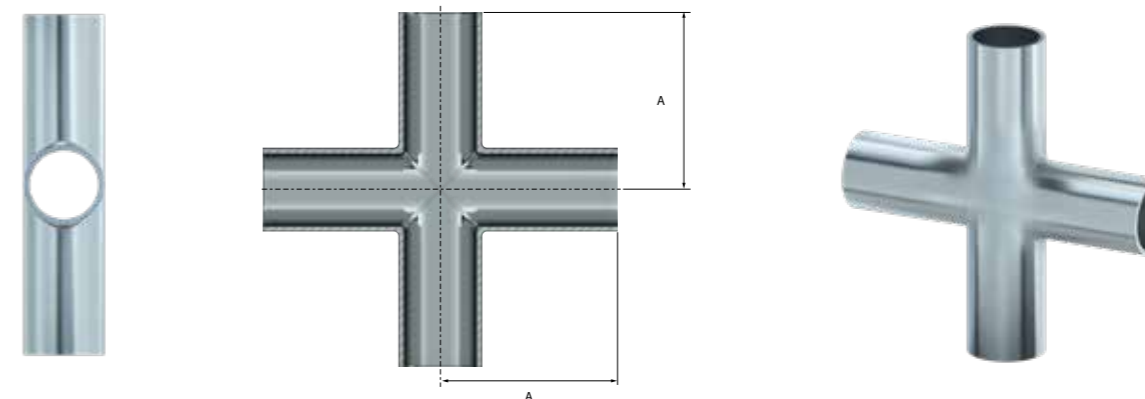


ASME BPE / DT-4.1.2-1

Size		A		ASME BPE SF1	ASME BPE SF4	Ref. According to ASME BPE		
Inch	mm	Inch	mm	316L	Code	DT		
1/4	6,35	1.750	44,50	SF1 SF4	TE-04	2-1		
3/8	9,53	1.750	44,50	SF1 SF4	TE-06	2-1		
1/2	12,70	1.875	47,60	SF1 SF4	TE-08	2-1		
3/4	19,05	2.000	50,80	SF1 SF4	TE-12	2-1		
1	25,40	2.125	54,00	SF1 SF4	TE-16	2-1		
1 1/2	38,10	2.375	60,30	SF1 SF4	TE-24	2-1		
2	50,80	2.875	73,00	SF1 SF4	TE-32	2-1		
2 1/2	63,50	3.125	79,40	SF1 SF4	TE-40	2-1		
3	76,20	3.375	85,70	SF1 SF4	TE-48	2-1		
4	101,60	4.125	104,80	SF1 SF4	TE-64	2-1		
6	152,40	5.625	142,90	SF1 SF4	TE-96	2-1		

Further dimensions and materials on request. Subject to alteration.

**DT-4.1.2-1**  
Automatic Tube Weld: Straight Cross

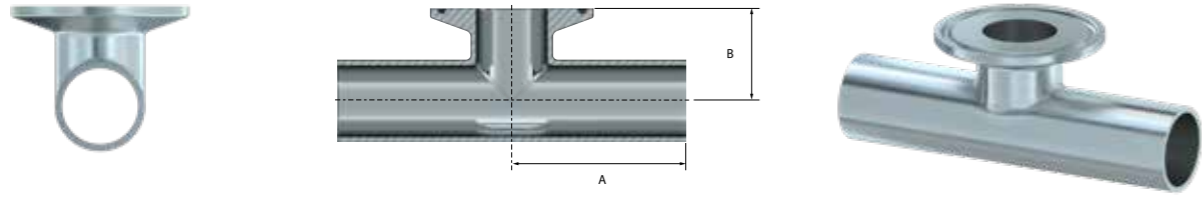


ASME BPE / DT-4.1.2-1

Size		A		ASME BPE SF1	ASME BPE SF4	Ref. According to ASME BPE		
Inch	mm	Inch	mm	316L	Code	DT		
1/4	6,35	1.750	44,50	SF1 SF4	CE-04	2-1		
3/8	9,53	1.750	44,50	SF1 SF4	CE-06	2-1		
1/2	12,70	1.875	47,60	SF1 SF4	CE-08	2-1		
3/4	19,05	2.000	50,80	SF1 SF4	CE-12	2-1		
1	25,40	2.125	54,00	SF1 SF4	CE-16	2-1		
1 1/2	38,10	2.375	60,30	SF1 SF4	CE-24	2-1		
2	50,80	2.875	73,00	SF1 SF4	CE-32	2-1		
2 1/2	63,50	3.125	79,40	SF1 SF4	CE-40	2-1		
3	76,20	3.375	85,70	SF1 SF4	CE-48	2-1		
4	101,60	4.125	104,80	SF1 SF4	CE-64	2-1		
6	152,40	5.625	142,90	SF1 SF4	CE-96	2-1		

Further dimensions and materials on request. Subject to alteration.

**DT-4.1.2-2**  
Automatic Tube Weld: Short Outlet Hygienic Clamp Joint Tee

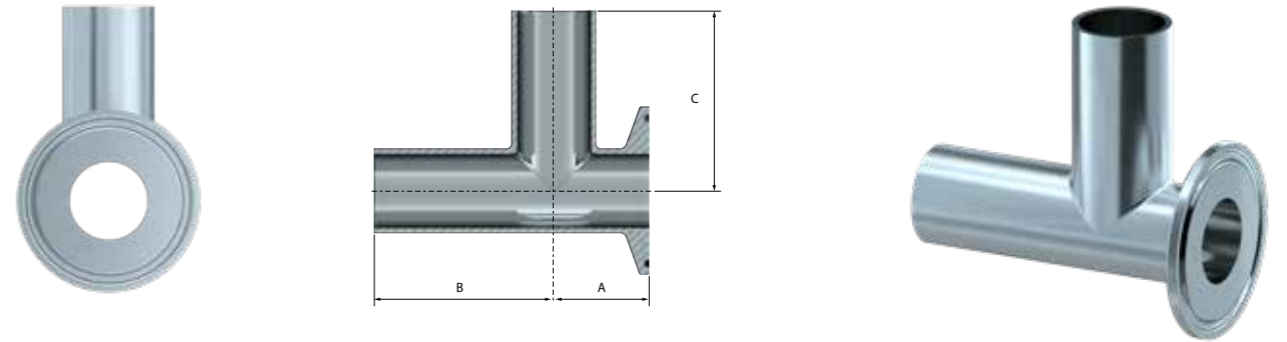


ASME BPE / DT-4.1.2-2

Size		A		B		ASME BPE SF1	ASME BPE SF4	Ref. According to ASME BPE				
Inch	mm	Inch	mm	Inch	mm	316L	Code	DT				
1/4	6,35	1.750	44,50	1.000	25,40	SF1	SF4	- TE-04 -	2-2			
3/8	9,53	1.750	44,50	1.000	25,40	SF1	SF4	- TE-06 -	2-2			
1/2	12,70	1.875	47,60	1.000	25,40	SF1	SF4	- TE-08 -	2-2			
3/4	19,05	2.000	50,80	1.125	28,60	SF1	SF4	- TE-12 -	2-2			
1	25,40	2.125	54,00	1.125	28,60	SF1	SF4	- TE-16 -	2-2			
1 1/2	38,10	2.375	60,30	1.375	34,90	SF1	SF4	- TE-24 -	2-2			
2	50,80	2.875	73,00	1.625	41,30	SF1	SF4	- TE-32 -	2-2			
2 1/2	63,50	3.125	79,40	1.875	47,60	SF1	SF4	- TE-40 -	2-2			
3	76,20	3.375	85,70	2.125	54,00	SF1	SF4	- TE-48 -	2-2			
4	101,60	4.125	104,80	2.750	69,00	SF1	SF4	- TE-64 -	2-2			
6	152,40	5.625	142,90	4.625	117,50	SF1	SF4	- TE-96 -	2-2			

Further dimensions and materials on request. Subject to alteration.

**DT-4.1.2-3**  
Hygienic Mechanical Joint: Short Outlet Run Tee



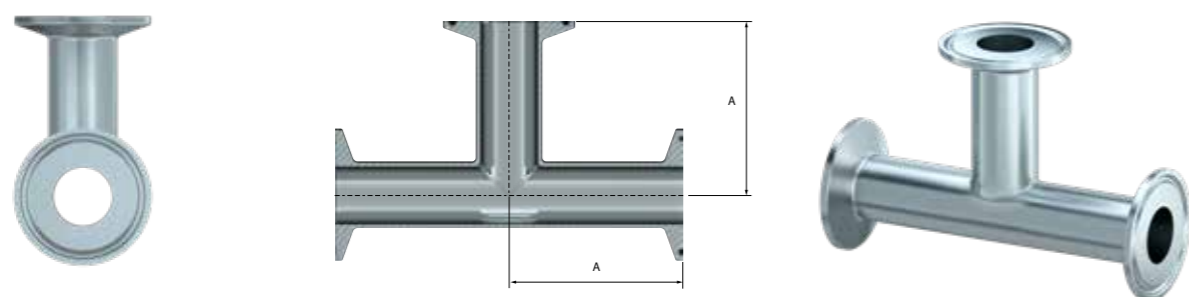
ASME BPE / DT-4.1.2-3

Size		A		B		C		ASME BPE SF1	ASME BPE SF4	Ref. According to ASME BPE		
Inch	mm	Inch	mm	Inch	mm	Inch	mm	316L	Code	DT		
1/4	6,35	0.875	22,20	1.750	44,50	1.750	44,50	SF1	SF4	- TE-04 -	2-3	
3/8	9,53	0.875	22,20	1.750	44,50	1.750	44,50	SF1	SF4	- TE-06 -	2-3	
1/2	12,70	0.875	22,20	1.875	47,60	1.875	47,60	SF1	SF4	- TE-08 -	2-3	
3/4	19,05	1.000	25,40	2.000	50,80	2.000	50,80	SF1	SF4	- TE-12 -	2-3	
1	25,40	1.125	28,60	2.125	54,00	2.125	54,00	SF1	SF4	- TE-16 -	2-3	
1 1/2	38,10	1.375	34,90	2.375	60,30	2.375	60,30	SF1	SF4	- TE-24 -	2-3	
2	50,80	1.625	41,30	2.875	73,00	2.875	73,00	SF1	SF4	- TE-32 -	2-3	
2 1/2	63,50	1.875	47,60	3.125	79,40	3.125	79,40	SF1	SF4	- TE-40 -	2-3	
3	76,20	2.125	54,00	3.375	85,70	3.375	85,70	SF1	SF4	- TE-48 -	2-3	
4	101,60	2.750	69,90	4.125	104,80	4.125	104,80	SF1	SF4	- TE-64 -	2-3	
6	152,40	4.625	117,50	5.625	142,90	5.625	142,90	SF1	SF4	- TE-96 -	2-3	

Further dimensions and materials on request. Subject to alteration.



**DT-4.1.2-4**  
Hygienic Clamp Joint: Straight Tee

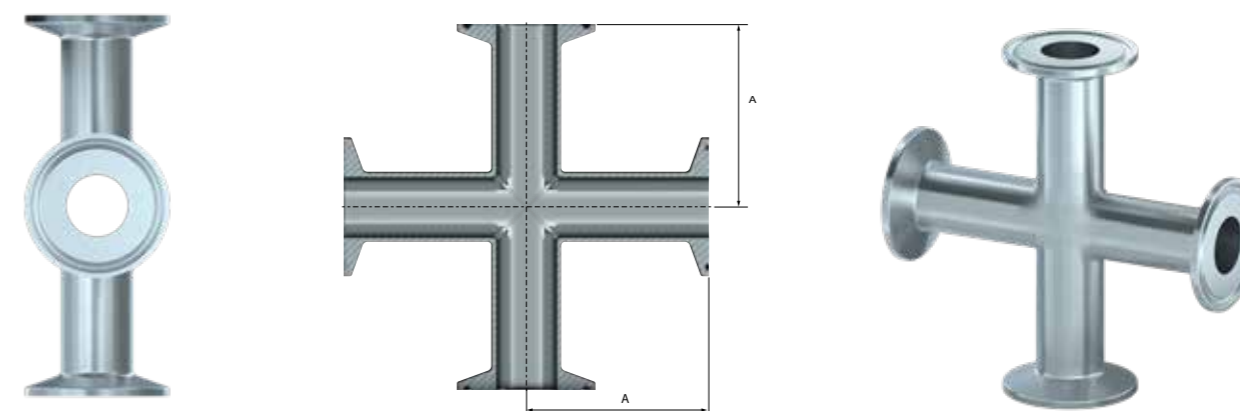


ASME BPE / DT-4.1.2-4

Size		A		ASME BPE SF1	ASME BPE SF4	Ref. According to ASME BPE	
Inch	mm	Inch	mm	316L	Code	DT	
1/4	6,35	2.250	57,20	SF1 SF4	TE-04	2-4	
3/8	9,53	2.250	57,20	SF1 SF4	TE-06	2-4	
1/2	12,70	2.250	57,20	SF1 SF4	TE-08	2-4	
3/4	19,05	2.375	60,30	SF1 SF4	TE-12	2-4	
1	25,40	2.625	66,70	SF1 SF4	TE-16	2-4	
1 1/2	38,10	2.875	73,00	SF1 SF4	TE-24	2-4	
2	50,80	3.375	85,70	SF1 SF4	TE-32	2-4	
2 1/2	63,50	3.625	92,10	SF1 SF4	TE-40	2-4	
3	76,20	3.875	98,40	SF1 SF4	TE-48	2-4	
4	101,60	4.750	120,70	SF1 SF4	TE-64	2-4	
6	152,40	7.125	181,00	SF1 SF4	TE-96	2-4	

Further dimensions and materials on request. Subject to alteration.

**DT-4.1.2-4**  
Hygienic Clamp Joint: Straight Cross

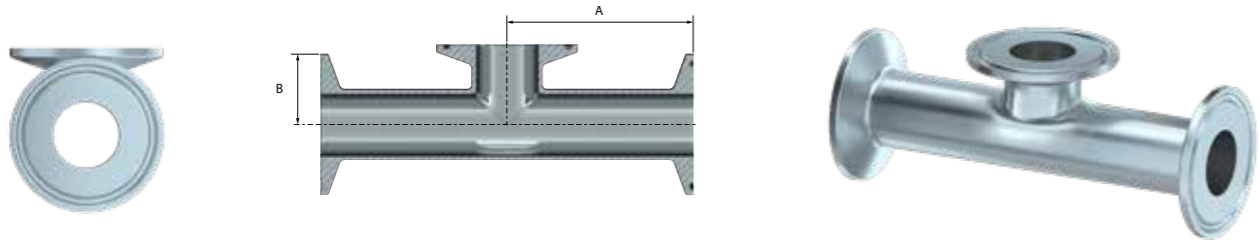


ASME BPE / DT-4.1.2-4

Size		A		ASME BPE SF1	ASME BPE SF4	Ref. According to ASME BPE	
Inch	mm	Inch	mm	316L	Code	DT	
1/4	6,35	2.250	57,20	SF1 SF4	CE-04	2-4	
3/8	9,53	2.250	57,20	SF1 SF4	CE-06	2-4	
1/2	12,70	2.250	57,20	SF1 SF4	CE-08	2-4	
3/4	19,05	2.375	60,30	SF1 SF4	CE-12	2-4	
1	25,40	2.625	66,70	SF1 SF4	CE-16	2-4	
1 1/2	38,10	2.875	73,00	SF1 SF4	CE-24	2-4	
2	50,80	3.375	85,70	SF1 SF4	CE-32	2-4	
2 1/2	63,50	3.625	92,10	SF1 SF4	CE-40	2-4	
3	76,20	3.875	98,40	SF1 SF4	CE-48	2-4	
4	101,60	4.750	120,70	SF1 SF4	CE-64	2-4	
6	152,40	7.125	181,00	SF1 SF4	CE-96	2-4	

Further dimensions and materials on request. Subject to alteration.

**DT-4.1.2-5**  
Hygienic Clamp Joint: Short Outlet Tee

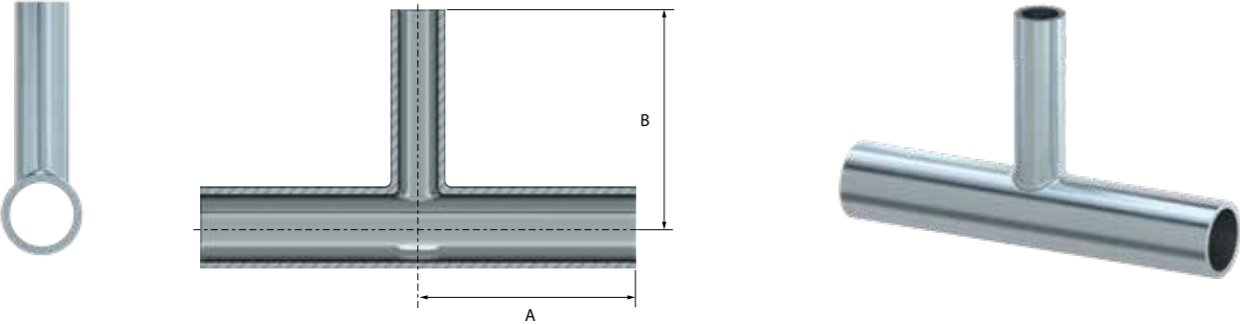


ASME BPE / DT-4.1.2-5

Size		A		B		ASME BPE SF1	ASME BPE SF4	Ref. According to ASME BPE	
Inch	mm	Inch	mm	Inch	mm	316L	Code	DT	
1/2	12,70	2.625	66,70	1.125	28,60	SF1 SF4	- TE-08 -	2-5	
3/4	19,05	2.875	73,00	1.375	34,90	SF1 SF4	- TE-12 -	2-5	
1	25,40	3.375	85,70	1.625	41,30	SF1 SF4	- TE-16 -	2-5	
1 1/2	38,10	3.625	92,10	1.875	47,60	SF1 SF4	- TE-24 -	2-5	
2	50,80	3.875	98,40	2.125	54,00	SF1 SF4	- TE-32 -	2-5	
2 1/2	63,50	4.750	120,70	2.750	69,90	SF1 SF4	- TE-40 -	2-5	
3	76,20	7.125	181,00	4.625	117,50	SF1 SF4	- TE-48 -	2-5	
4	101,60	4.125	104,80	2.750	69,00	SF1 SF4	- TE-64 -	2-2	
6	152,40	5.625	142,90	4.625	117,50	SF1 SF4	- TE-96 -	2-2	

Further dimensions and materials on request. Subject to alteration.

**DT-4.1.2-6**  
Automatic Tube Weld: Reducing Tee



ASME BPE / DT-4.1.2-6

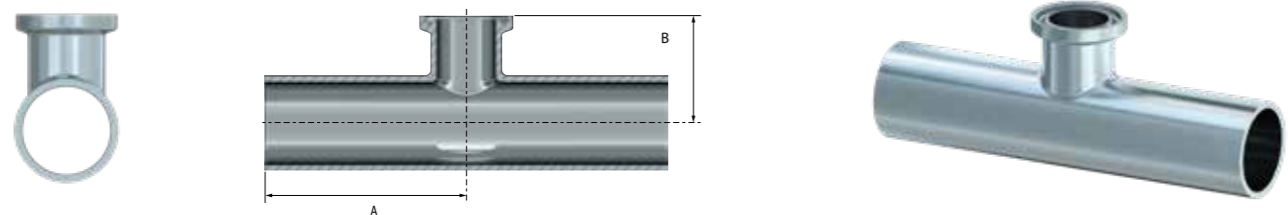
Size		A		B		ASME BPE SF1	ASME BPE SF4	Ref. According to ASME BPE			
Inch	mm	Inch	mm	Inch	mm	316L	Code	DT			
3/8 x 1/4	9,53 x 6,35	1.750	44,50	1.750	44,50	SF1	SF4	-	TR-06-04	-	2-6
1/2 x 1/4	12,70 x 6,35	1.875	47,60	1.875	47,60	SF1	SF4	-	TR-08-04	-	2-6
1/2 x 3/8	12,70 x 9,53	1.875	47,60	1.875	47,60	SF1	SF4	-	TR-08-06	-	2-6
3/4 x 1/4	19,05 x 6,35	2.000	50,80	2.000	50,80	SF1	SF4	-	TR-12-04	-	2-6
3/4 x 3/8	19,05 x 9,53	2.000	50,80	2.000	50,80	SF1	SF4	-	TR-12-06	-	2-6
3/4 x 1/2	19,05 x 12,70	2.000	50,80	2.000	50,80	SF1	SF4	-	TR-12-08	-	2-6
1 x 1/4	25,40 x 6,35	2.125	54,00	2.125	54,00	SF1	SF4	-	TR-16-04	-	2-6
1 x 3/8	25,40 x 9,53	2.125	54,00	2.125	54,00	SF1	SF4	-	TR-16-06	-	2-6
1 x 1/2	25,40 x 12,70	2.125	54,00	2.125	54,00	SF1	SF4	-	TR-16-08	-	2-6
1 x 3/4	25,40 x 19,05	2.125	54,00	2.125	54,00	SF1	SF4	-	TR-16-12	-	2-6
1 1/2 x 1/2	38,10 x 12,70	2.375	60,30	2.375	60,30	SF1	SF4	-	TR-24-08	-	2-6
1 1/2 x 3/4	38,10 x 19,05	2.375	60,30	2.375	60,30	SF1	SF4	-	TR-24-12	-	2-6
1 1/2 x 1	38,10 x 25,40	2.375	60,30	2.375	60,30	SF1	SF4	-	TR-24-16	-	2-6
2 x 1/2	50,80 x 12,70	2.875	73,00	2.625	66,70	SF1	SF4	-	TR-32-08	-	2-6
2 x 3/4	50,80 x 19,05	2.875	73,00	2.625	66,70	SF1	SF4	-	TR-32-12	-	2-6
2 x 1	50,80 x 25,40	2.875	73,00	2.625	66,70	SF1	SF4	-	TR-32-16	-	2-6
2 x 1 1/2	50,80 x 38,10	2.875	73,00	2.625	66,70	SF1	SF4	-	TR-32-24	-	2-6

Further dimensions and materials on request. Subject to alteration.

Size		A		B		ASME BPE SF1	ASME BPE SF4	Ref. According to ASME BPE			
Inch	mm	Inch	mm	Inch	mm	316L	Code	DT			
2 1/2 x 1/2	63,50 x 12,70	3.125	79,40	2.875	73,00	SF1	SF4	-	TR-40-08	-	2-6
2 1/2 x 3/4	63,50 x 19,05	3.125	79,40	2.875	73,00	SF1	SF4	-	TR-40-12	-	2-6
2 1/2 x 1	63,50 x 25,40	3.125	79,40	2.875	73,00	SF1	SF4	-	TR-40-16	-	2-6
2 1/2 x 1 1/2	63,50 x 38,10	3.125	79,40	2.875	73,00	SF1	SF4	-	TR-40-24	-	2-6
2 1/2 x 2	63,50 x 50,80	3.125	79,40	2.875	73,00	SF1	SF4	-	TR-40-32	-	2-6
3 x 1/2	76,20 x 12,70	3.375	85,70	3.125	79,40	SF1	SF4	-	TR-48-08	-	2-6
3 x 3/4	76,20 x 19,05	3.375	85,70	3.125	79,40	SF1	SF4	-	TR-48-12	-	2-6
3 x 1	76,20 x 25,40	3.375	85,70	3.125	79,40	SF1	SF4	-	TR-48-16	-	2-6
3 x 1 1/2	76,20 x 38,10	3.375	85,70	3.125	79,40	SF1	SF4	-	TR-48-24	-	2-6
3 x 2	76,20 x 50,80	3.375	85,70	3.125	79,40	SF1	SF4	-	TR-48-32	-	2-6
3 x 2 1/2	76,20 x 63,50	3.375	85,70	3.125	79,40	SF1	SF4	-	TR-48-40	-	2-6
4 x 1/2	101,60 x 12,70	4.125	104,80	3.625	92,10	SF1	SF4	-	TR-64-08	-	2-6
4 x 3/4	101,60 x 19,05	4.125	104,80	3.625	92,10	SF1	SF4	-	TR-64-12	-	2-6
4 x 1	101,60 x 25,40	4.125	104,80	3.625	92,10	SF1	SF4	-	TR-64-16	-	2-6
4 x 1 1/2	101,60 x 38,10	4.125	104,80	3.625	92,10	SF1	SF4	-	TR-64-24	-	2-6
4 x 2	101,60 x 50,80	4.125	104,80	3.875	98,40	SF1	SF4	-	TR-64-32	-	2-6
4 x 2 1/2	101,60 x 63,50	4.125	104,80	3.875	98,40	SF1	SF4	-	TR-64-40	-	2-6
4 x 3	101,60 x 76,20	4.125	104,80	3.875	98,40	SF1	SF4	-	TR-64-48	-	2-6
6 x 1/2	152,40 x 12,70	5.625	142,90	4.625	117,48	SF1	SF4	-	TR-96-08	-	2-6
6 x 3/4	152,40 x 19,05	5.625	142,90	4.625	117,48	SF1	SF4	-	TR-96-12	-	2-6
6 x 1	152,40 x 25,40	5.625	142,90	4.625	117,48	SF1	SF4	-	TR-96-16	-	2-6
6 x 1 1/2	152,40 x 38,10	5.625	142,90	4.625	117,48	SF1	SF4	-	TR-96-24	-	2-6
6 x 2	152,40 x 50,80	5.625	142,90	4.625	117,48	SF1	SF4	-	TR-96-32	-	2-6
6 x 2 1/2	152,40 x 63,50	5.625	142,90	4.625	117,48	SF1	SF4	-	TR-96-40	-	2-6
6 x 3	152,40 x 76,20	5.625	142,90	4.875	123,80	SF1	SF4	-	TR-96-48	-	2-6
6 x 4	152,40 x 101,60	5.625	142,90	5.125	130,20	SF1	SF4	-	TR-96-64	-	2-6

Further dimensions and materials on request. Subject to alteration.

**DT-4.1.2-7**  
Hygienic Clamp Joint: Reducing Tee



ASME BPE / DT-4.1.2-7

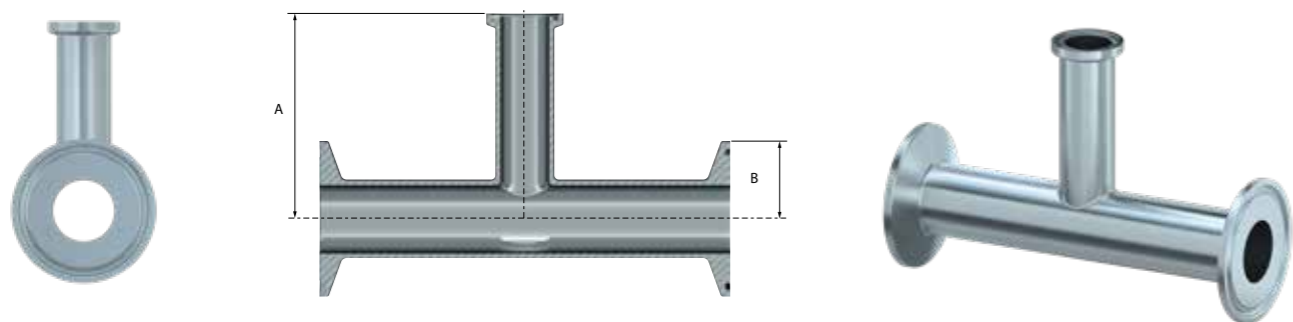
Size		A		B		ASME BPE SF1	ASME BPE SF4	Ref. According to ASME BPE			
Inch	mm	Inch	mm	Inch	mm	316L	Code	DT			
3/8 x 1/4	9,53 x 6,35	1.750	44,50	1.000	25,40	SF1	SF4 -	TR-06-04 -	2-7		
1/2 x 1/4	12,70 x 6,35	1.875	47,60	1.000	25,40	SF1	SF4 -	TR-08-04 -	2-7		
1/2 x 3/8	12,70 x 9,53	1.875	47,60	1.000	25,40	SF1	SF4 -	TR-08-06 -	2-7		
3/4 x 1/4	19,05 x 6,35	2.000	50,80	1.000	25,40	SF1	SF4 -	TR-12-04 -	2-7		
3/4 x 3/8	19,05 x 9,53	2.000	50,80	1.000	25,40	SF1	SF4 -	TR-12-06 -	2-7		
3/4 x 1/2	19,05 x 12,70	2.000	50,80	1.000	25,40	SF1	SF4 -	TR-12-08 -	2-7		
1 x 1/4	25,40 x 6,35	2.125	54,00	1.125	28,60	SF1	SF4 -	TR-16-04 -	2-7		
1 x 3/8	25,40 x 9,53	2.125	54,00	1.125	28,60	SF1	SF4 -	TR-16-06 -	2-7		
1 x 1/2	25,40 x 12,70	2.125	54,00	1.125	28,60	SF1	SF4 -	TR-16-08 -	2-7		
1 x 3/4	25,40 x 19,05	2.125	54,00	1.125	28,60	SF1	SF4 -	TR-16-12 -	2-7		
1 1/2 x 1/2	38,10 x 12,70	2.375	60,30	1.375	34,90	SF1	SF4 -	TR-24-08 -	2-7		
1 1/2 x 3/4	38,10 x 19,05	2.375	60,30	1.375	34,90	SF1	SF4 -	TR-24-12 -	2-7		
1 1/2 x 1	38,10 x 25,40	2.375	60,30	1.375	34,90	SF1	SF4 -	TR-24-16 -	2-7		
2 x 1/2	50,80 x 12,70	2.875	73,00	1.625	41,30	SF1	SF4 -	TR-32-08 -	2-7		
2 x 3/4	50,80 x 19,05	2.875	73,00	1.625	41,30	SF1	SF4 -	TR-32-12 -	2-7		
2 x 1	50,80 x 25,40	2.875	73,00	1.625	41,30	SF1	SF4 -	TR-32-16 -	2-7		
2 x 1 1/2	50,80 x 38,10	2.875	73,00	1.625	41,30	SF1	SF4 -	TR-32-24 -	2-7		

Further dimensions and materials on request. Subject to alteration.

Size		A		B		ASME BPE SF1	ASME BPE SF4	Ref. According to ASME BPE			
Inch	mm	Inch	mm	Inch	mm	316L	Code	DT			
2 1/2 x 1/2	63,50 x 12,70	3.125	79,40	1.875	47,60	SF1	SF4 -	TR-40-08 -	2-7		
2 1/2 x 3/4	63,50 x 19,05	3.125	79,40	1.875	47,60	SF1	SF4 -	TR-40-12 -	2-7		
2 1/2 x 1	63,50 x 25,40	3.125	79,40	1.875	47,60	SF1	SF4 -	TR-40-16 -	2-7		
2 1/2 x 1 1/2	63,50 x 38,10	3.125	79,40	1.875	47,60	SF1	SF4 -	TR-40-24 -	2-7		
2 1/2 x 2	63,50 x 50,80	3.125	79,40	1.875	47,60	SF1	SF4 -	TR-40-32 -	2-7		
3 x 1/2	76,20 x 12,70	3.375	85,70	2.125	54,00	SF1	SF4 -	TR-48-08 -	2-7		
3 x 3/4	76,20 x 19,05	3.375	85,70	2.125	54,00	SF1	SF4 -	TR-48-12 -	2-7		
3 x 1	76,20 x 25,40	3.375	85,70	2.125	54,00	SF1	SF4 -	TR-48-16 -	2-7		
3 x 1 1/2	76,20 x 38,10	3.375	85,70	2.125	54,00	SF1	SF4 -	TR-48-24 -	2-7		
3 x 2	76,20 x 50,80	3.375	85,70	2.125	54,00	SF1	SF4 -	TR-48-32 -	2-7		
3 x 2 1/2	76,20 x 63,50	3.375	85,70	2.125	54,00	SF1	SF4 -	TR-48-40 -	2-7		
4 x 1/2	101,60 x 12,70	4.125	104,80	2.625	66,70	SF1	SF4 -	TR-64-08 -	2-7		
4 x 3/4	101,60 x 19,05	4.125	104,80	2.625	66,70	SF1	SF4 -	TR-64-12 -	2-7		
4 x 1	101,60 x 25,40	4.125	104,80	2.625	66,70	SF1	SF4 -	TR-64-16 -	2-7		
4 x 1 1/2	101,60 x 38,10	4.125	104,80	2.625	66,70	SF1	SF4 -	TR-64-24 -	2-7		
4 x 2	101,60 x 50,80	4.125	104,80	2.625	66,70	SF1	SF4 -	TR-64-32 -	2-7		
4 x 2 1/2	101,60 x 63,50	4.125	104,80	2.625	66,70	SF1	SF4 -	TR-64-40 -	2-7		
4 x 3	101,60 x 76,20	4.125	104,80	2.625	66,70	SF1	SF4 -	TR-64-48 -	2-7		
6 x 1/2	152,40 x 12,70	5.625	142,90	3.625	92,10	SF1	SF4 -	TR-96-08 -	2-7		
6 x 3/4	152,40 x 19,05	5.625	142,90	3.625	92,10	SF1	SF4 -	TR-96-12 -	2-7		
6 x 1	152,40 x 25,40	5.625	142,90	3.625	92,10	SF1	SF4 -	TR-96-16 -	2-7		
6 x 1 1/2	152,40 x 38,10	5.625	142,90	3.625	92,10	SF1	SF4 -	TR-96-24 -	2-7		
6 x 2	152,40 x 50,80	5.625	142,90	3.625	92,10	SF1	SF4 -	TR-96-32 -	2-7		
6 x 2 1/2	152,40 x 63,50	5.625	142,90	3.625	92,10	SF1	SF4 -	TR-96-40 -	2-7		
6 x 3	152,40 x 76,20	5.625	142,90	3.625	92,10	SF1	SF4 -	TR-96-48 -	2-7		
6 x 4	152,40 x 101,60	5.625	142,90	3.750	95,30	SF1	SF4 -	TR-96-64 -	2-7		

Further dimensions and materials on request. Subject to alteration.

**DT-4.1.2-8**  
Hygienic Clamp Joint: Reducing Tee



ASME BPE / DT-4.1.2-8

Size		A		B		ASME BPE SF1	ASME BPE SF4	Ref. According to ASME BPE			
Inch	mm	Inch	mm	Inch	mm	316L	Code	DT			
3/8 x 1/4	9,53 x 6,35	2.250	57,20	2.250	57,20	SF1	SF4	-	TR-06-04	-	2-8
1/2 x 1/4	12,70 x 6,35	2.375	60,30	2.375	60,30	SF1	SF4	-	TR-08-04	-	2-8
1/2 x 3/8	12,70 x 9,53	2.375	60,30	2.375	60,30	SF1	SF4	-	TR-08-06	-	2-8
3/4 x 1/4	19,05 x 6,35	2.500	63,50	2.500	63,50	SF1	SF4	-	TR-12-04	-	2-8
3/4 x 3/8	19,05 x 9,53	2.500	63,50	2.500	63,50	SF1	SF4	-	TR-12-06	-	2-8
3/4 x 1/2	19,05 x 12,70	2.500	63,50	2.500	63,50	SF1	SF4	-	TR-12-08	-	2-8
1 x 1/4	25,40 x 6,35	2.625	66,70	2.625	66,70	SF1	SF4	-	TR-16-04	-	2-8
1 x 3/8	25,40 x 9,53	2.625	66,70	2.625	66,70	SF1	SF4	-	TR-16-06	-	2-8
1 x 1/2	25,40 x 12,70	2.625	66,70	2.625	66,70	SF1	SF4	-	TR-16-08	-	2-8
1 x 3/4	25,40 x 19,05	2.625	66,70	2.625	66,70	SF1	SF4	-	TR-16-12	-	2-8
1 1/2 x 1/2	38,10 x 12,70	2.875	73,00	2.875	73,00	SF1	SF4	-	TR-24-08	-	2-8
1 1/2 x 3/4	38,10 x 19,05	2.875	73,00	2.875	73,00	SF1	SF4	-	TR-24-12	-	2-8
1 1/2 x 1	38,10 x 25,40	2.875	73,00	2.875	73,00	SF1	SF4	-	TR-24-16	-	2-8
2 x 1/2	50,80 x 12,70	3.375	85,70	3.125	79,40	SF1	SF4	-	TR-32-08	-	2-8
2 x 3/4	50,80 x 19,05	3.375	85,70	3.125	79,40	SF1	SF4	-	TR-32-12	-	2-8
2 x 1	50,80 x 25,40	3.375	85,70	3.125	79,40	SF1	SF4	-	TR-32-16	-	2-8
2 x 1 1/2	50,80 x 38,10	3.375	85,70	3.125	79,40	SF1	SF4	-	TR-32-24	-	2-8

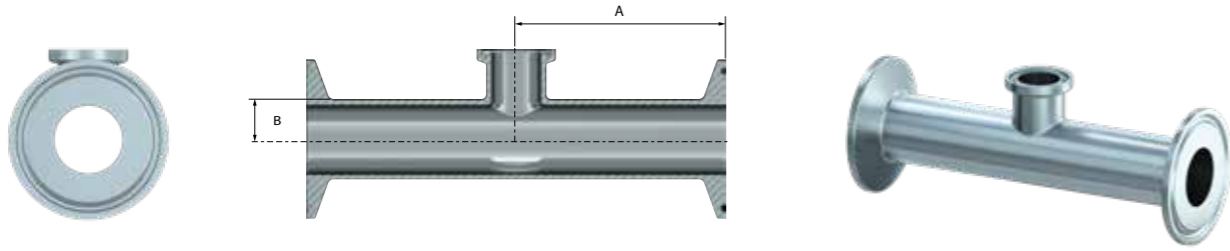
Further dimensions and materials on request. Subject to alteration.

Size		A		B		ASME BPE SF1	ASME BPE SF4	Ref. According to ASME BPE			
Inch	mm	Inch	mm	Inch	mm	316L	Code	DT			
2 1/2 x 1/2	63,50 x 12,70	3.625	92,10	3.375	85,70	SF1	SF4	-	TR-40-08	-	2-8
2 1/2 x 3/4	63,50 x 19,05	3.625	92,10	3.375	85,70	SF1	SF4	-	TR-40-12	-	2-8
2 1/2 x 1	63,50 x 25,40	3.625	92,10	3.375	85,70	SF1	SF4	-	TR-40-16	-	2-8
2 1/2 x 1 1/2	63,50 x 38,10	3.625	92,10	3.375	85,70	SF1	SF4	-	TR-40-24	-	2-8
2 1/2 x 2	63,50 x 50,80	3.625	92,10	3.375	85,70	SF1	SF4	-	TR-40-32	-	2-8
3 x 1/2	76,20 x 12,70	3.875	98,40	3.625	92,10	SF1	SF4	-	TR-48-08	-	2-8
3 x 3/4	76,20 x 19,05	3.875	98,40	3.625	92,10	SF1	SF4	-	TR-48-12	-	2-8
3 x 1	76,20 x 25,40	3.875	98,40	3.625	92,10	SF1	SF4	-	TR-48-16	-	2-8
3 x 1 1/2	76,20 x 38,10	3.875	98,40	3.625	92,10	SF1	SF4	-	TR-48-24	-	2-8
3 x 2	76,20 x 50,80	3.875	98,40	3.625	92,10	SF1	SF4	-	TR-48-32	-	2-8
3 x 2 1/2	76,20 x 63,50	3.875	98,40	3.625	92,10	SF1	SF4	-	TR-48-40	-	2-8
4 x 1/2	101,60 x 12,70	4.750	120,70	4.125	104,80	SF1	SF4	-	TR-64-08	-	2-8
4 x 3/4	101,60 x 19,05	4.750	120,70	4.125	104,80	SF1	SF4	-	TR-64-12	-	2-8
4 x 1	101,60 x 25,40	4.750	120,70	4.125	104,80	SF1	SF4	-	TR-64-16	-	2-8
4 x 1 1/2	101,60 x 38,10	4.750	120,70	4.125	104,80	SF1	SF4	-	TR-64-24	-	2-8
4 x 2	101,60 x 50,80	4.750	120,70	4.375	111,10	SF1	SF4	-	TR-64-32	-	2-8
4 x 2 1/2	101,60 x 63,50	4.750	120,70	4.375	111,10	SF1	SF4	-	TR-64-40	-	2-8
4 x 3	101,60 x 76,20	4.750	120,70	4.375	111,10	SF1	SF4	-	TR-64-48	-	2-8
6 x 1/2	152,40 x 12,70	7.125	180,98	5.125	130,18	SF1	SF4	-	TR-96-08	-	2-8
6 x 3/4	152,40 x 19,05	7.125	180,98	5.125	130,18	SF1	SF4	-	TR-96-12	-	2-8
6 x 1	152,40 x 25,40	7.125	180,98	5.125	130,18	SF1	SF4	-	TR-96-16	-	2-8
6 x 1 1/2	152,40 x 38,10	7.125	180,98	5.125	130,18	SF1	SF4	-	TR-96-24	-	2-8
6 x 2	152,40 x 50,80	7.125	180,98	5.125	130,18	SF1	SF4	-	TR-96-32	-	2-8
6 x 2 1/2	152,40 x 63,50	7.125	180,98	5.125	130,18	SF1	SF4	-	TR-96-40	-	2-8
6 x 3	152,40 x 76,20	7.125	181,00	5.375	136,50	SF1	SF4	-	TR-96-48	-	2-8
6 x 4	152,40 x 101,60	7.125	181,00	5.750	146,10	SF1	SF4	-	TR-96-64	-	2-8

Further dimensions and materials on request. Subject to alteration.



**DT-4.1.2-9**  
Hygienic Clamp Joint: Short Outlet Reducing Tee



ASME BPE / DT-4.1.2-9

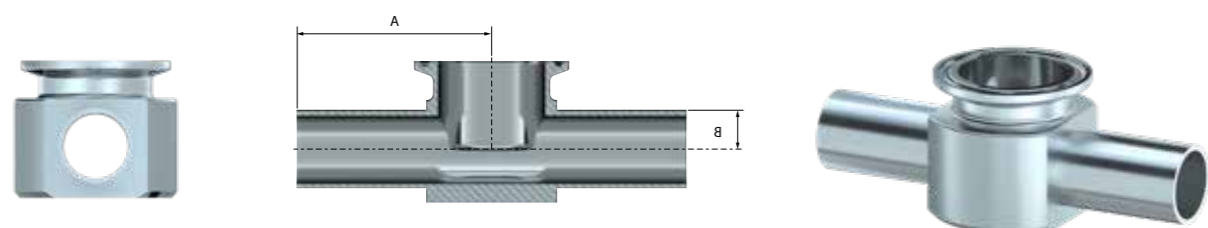
Size		A		B		ASME BPE SF1	ASME BPE SF4	Ref. According to ASME BPE			
Inch	mm	Inch	mm	Inch	mm	316L	Code	DT			
3/8 x 1/4	9,53 x 6,35	2.250	57,20	1.000	25,40	SF1	SF4 -	TR-06-04 -	2-9		
1/2 x 1/4	12,70 x 6,35	2.375	60,30	1.000	25,40	SF1	SF4 -	TR-08-04 -	2-9		
1/2 x 3/8	12,70 x 9,53	2.375	60,30	1.000	25,40	SF1	SF4 -	TR-08-06 -	2-9		
3/4 x 1/4	19,05 x 6,35	2.500	63,50	1.000	25,40	SF1	SF4 -	TR-12-04 -	2-9		
3/4 x 3/8	19,05 x 9,53	2.500	63,50	1.000	25,40	SF1	SF4 -	TR-12-06 -	2-9		
3/4 x 1/2	19,05 x 12,70	2.500	63,50	1.000	25,40	SF1	SF4 -	TR-12-08 -	2-9		
1 x 1/4	25,40 x 6,35	2.625	66,70	1.125	28,60	SF1	SF4 -	TR-16-04 -	2-9		
1 x 3/8	25,40 x 9,53	2.625	66,70	1.125	28,60	SF1	SF4 -	TR-16-06 -	2-9		
1 x 1/2	25,40 x 12,70	2.625	66,70	1.125	28,60	SF1	SF4 -	TR-16-08 -	2-9		
1 x 3/4	25,40 x 19,05	2.625	66,70	1.125	28,60	SF1	SF4 -	TR-16-12 -	2-9		
1 1/2 x 1/2	38,10 x 12,70	2.875	73,00	1.375	34,90	SF1	SF4 -	TR-24-08 -	2-9		
1 1/2 x 3/4	38,10 x 19,05	2.875	73,00	1.375	34,90	SF1	SF4 -	TR-24-12 -	2-9		
1 1/2 x 1	38,10 x 25,40	2.875	73,00	1.375	34,90	SF1	SF4 -	TR-24-16 -	2-9		
2 x 1/2	50,80 x 12,70	3.375	85,70	1.625	41,30	SF1	SF4 -	TR-32-08 -	2-9		
2 x 3/4	50,80 x 19,05	3.375	85,70	1.625	41,30	SF1	SF4 -	TR-32-12 -	2-9		
2 x 1	50,80 x 25,40	3.375	85,70	1.625	41,30	SF1	SF4 -	TR-32-16 -	2-9		
2 x 1 1/2	50,80 x 38,10	3.375	85,70	1.625	41,30	SF1	SF4 -	TR-32-24 -	2-9		

Further dimensions and materials on request. Subject to alteration.

Size		A		B		ASME BPE SF1	ASME BPE SF4	Ref. According to ASME BPE			
Inch	mm	Inch	mm	Inch	mm	316L	Code	DT			
2 1/2 x 1/2	63,50 x 12,70	3.625	92,10	1.875	47,60	SF1	SF4 -	TR-40-08 -	2-9		
2 1/2 x 3/4	63,50 x 19,05	3.625	92,10	1.875	47,60	SF1	SF4 -	TR-40-12 -	2-9		
2 1/2 x 1	63,50 x 25,40	3.625	92,10	1.875	47,60	SF1	SF4 -	TR-40-16 -	2-9		
2 1/2 x 1 1/2	63,50 x 38,10	3.625	92,10	1.875	47,60	SF1	SF4 -	TR-40-24 -	2-9		
2 1/2 x 2	63,50 x 50,80	3.625	92,10	1.875	47,60	SF1	SF4 -	TR-40-32 -	2-9		
3 x 1/2	76,20 x 12,70	3.875	98,40	2.125	54,00	SF1	SF4 -	TR-48-08 -	2-9		
3 x 3/4	76,20 x 19,05	3.875	98,40	2.125	54,00	SF1	SF4 -	TR-48-12 -	2-9		
3 x 1	76,20 x 25,40	3.875	98,40	2.125	54,00	SF1	SF4 -	TR-48-16 -	2-9		
3 x 1 1/2	76,20 x 38,10	3.875	98,40	2.125	54,00	SF1	SF4 -	TR-48-24 -	2-9		
3 x 2	76,20 x 50,80	3.875	98,40	2.125	54,00	SF1	SF4 -	TR-48-32 -	2-9		
3 x 2 1/2	76,20 x 63,50	3.875	98,40	2.125	54,00	SF1	SF4 -	TR-48-40 -	2-9		
4 x 1/2	101,60 x 12,70	4.750	120,70	2.625	66,70	SF1	SF4 -	TR-64-08 -	2-9		
4 x 3/4	101,60 x 19,05	4.750	120,70	2.625	66,70	SF1	SF4 -	TR-64-12 -	2-9		
4 x 1	101,60 x 25,40	4.750	120,70	2.625	66,70	SF1	SF4 -	TR-64-16 -	2-9		
4 x 1 1/2	101,60 x 38,10	4.750	120,70	2.625	66,70	SF1	SF4 -	TR-64-24 -	2-9		
4 x 2	101,60 x 50,80	4.750	120,70	2.625	66,70	SF1	SF4 -	TR-64-32 -	2-9		
4 x 2 1/2	101,60 x 63,50	4.750	120,70	2.625	66,70	SF1	SF4 -	TR-64-40 -	2-9		
4 x 3	101,60 x 76,20	4.750	120,70	2.625	66,70	SF1	SF4 -	TR-64-48 -	2-9		
6 x 1/2	152,40 x 12,70	7.125	181,00	3.625	92,10	SF1	SF4 -	TR-96-08 -	2-9		
6 x 3/4	152,40 x 19,05	7.125	181,00	3.625	92,10	SF1	SF4 -	TR-96-12 -	2-9		
6 x 1	152,40 x 25,40	7.125	181,00	3.625	92,10	SF1	SF4 -	TR-96-16 -	2-9		
6 x 1 1/2	152,40 x 38,10	7.125	181,00	3.625	92,10	SF1	SF4 -	TR-96-24 -	2-9		
6 x 2	152,40 x 50,80	7.125	181,00	3.625	92,10	SF1	SF4 -	TR-96-32 -	2-9		
6 x 2 1/2	152,40 x 63,50	7.125	181,00	3.625	92,10	SF1	SF4 -	TR-96-40 -	2-9		
6 x 3	152,40 x 76,20	7.125	181,00	3.625	92,10	SF1	SF4 -	TR-96-48 -	2-9		
6 x 4	152,40 x 101,60	7.125	181,00	3.750	95,30	SF1	SF4 -	TR-96-64 -	2-9		

Further dimensions and materials on request. Subject to alteration.

**DT-4.1.2-10**  
Automatic Tube Weld: Instrument Tee

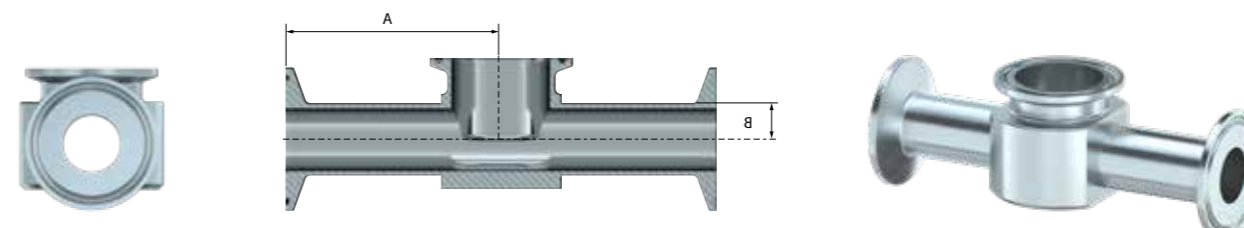


ASME BPE / DT-4.1.2-10

Size		A		B		ASME BPE SF1	ASME BPE SF4	Ref. According to ASME BPE			
Inch	mm	Inch	mm	Inch	mm	316L	Code	DT			
1/2 x 1 1/2	12,70 x 38,10	2.500	63,50	0.875	22,20	SF1	SF4 -	TR-08-24 -	2-10		
3/4 x 1 1/2	19,05 x 38,10	2.500	63,50	1.000	25,40	SF1	SF4 -	TR-12-24 -	2-10		
1 x 1 1/2	25,40 x 38,10	2.500	63,50	1.125	28,60	SF1	SF4 -	TR-16-24 -	2-10		
1/2 x 2	12,70 x 50,80	2.750	69,90	1.000	25,40	SF1	SF4 -	TR-08-32 -	2-10		
3/4 x 2	19,05 x 50,80	2.750	69,90	1.125	28,60	SF1	SF4 -	TR-12-32 -	2-10		
1 x 2	25,40 x 50,80	2.750	69,90	1.250	31,80	SF1	SF4 -	TR-16-32 -	2-10		
1 1/2 x 2	38,10 x 50,80	2.750	69,90	1.500	38,10	SF1	SF4 -	TR-24-32 -	2-10		

Further dimensions and materials on request. Subject to alteration.

**DT-4.1.2-11**  
Hygienic Clamp Joint: Instrument Tee

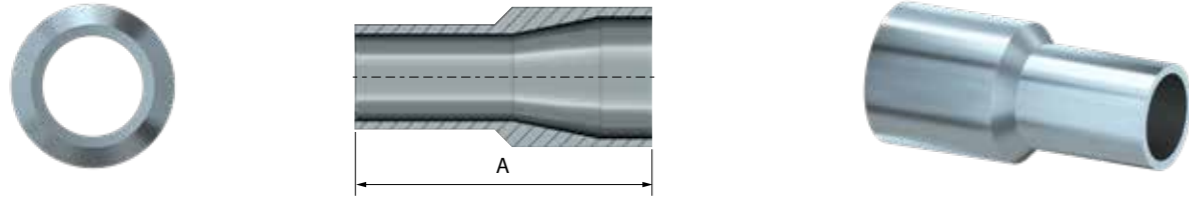


ASME BPE / DT-4.1.2-11

Size		A		B		ASME BPE SF1	ASME BPE SF4	Ref. According to ASME BPE			
Inch	mm	Inch	mm	Inch	mm	316L	Code	DT			
1/2 x 1 1/2	12,70 x 38,10	2.500	63,50	0.875	22,20	SF1	SF4 -	TR-08-24 -	2-11		
3/4 x 1 1/2	19,05 x 38,10	2.500	63,50	1.000	25,40	SF1	SF4 -	TR-12-24 -	2-11		
1 x 1 1/2	25,40 x 38,10	2.500	63,50	1.125	28,60	SF1	SF4 -	TR-16-24 -	2-11		
1/2 x 2	12,70 x 50,80	2.750	69,90	1.000	25,40	SF1	SF4 -	TR-08-32 -	2-11		
3/4 x 2	19,05 x 50,80	2.750	69,90	1.125	28,60	SF1	SF4 -	TR-12-32 -	2-11		
1 x 2	25,40 x 50,80	2.750	69,90	1.250	31,80	SF1	SF4 -	TR-16-32 -	2-11		
1 1/2 x 2	38,10 x 50,80	2.750	69,90	1.500	38,10	SF1	SF4 -	TR-24-32 -	2-11		

Further dimensions and materials on request. Subject to alteration.

**DT-4.1.3-1**  
Automatic Tube Weld: Concentric Reducer

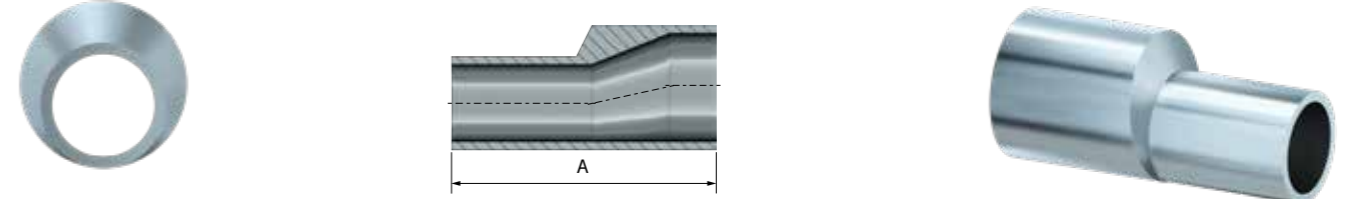


ASME BPE / DT-4.1.3-1

Size				A	ASME BPE SF1	ASME BPE SF4	Ref. According to ASME BPE
Inch	mm	Inch	mm				
3/8 x 1/4	9,53 x 6,35	1.625	41,30	316L	SF1 SF4 -	RC-06-04	DT 3-1
1/2 x 1/4	12,70 x 6,35	1.875	47,60	SF1 SF4 -	RC-08-04	DT 3-1	
1/2 x 3/8	12,70 x 9,53	1.875	47,60	SF1 SF4 -	RC-08-06	DT 3-1	
3/4 x 3/8	19,05 x 9,53	2.000	50,80	SF1 SF4 -	RC-12-06	DT 3-1	
3/4 x 1/2	19,05 x 12,70	2.125	54,00	SF1 SF4 -	RC-12-08	DT 3-1	
1 x 1/2	25,40 x 12,70	2.500	63,50	SF1 SF4 -	RC-16-08	DT 3-1	
1 x 3/4	25,40 x 19,05	2.125	54,00	SF1 SF4 -	RC-16-12	DT 3-1	
1 1/2 x 3/4	38,10 x 19,05	3.000	76,20	SF1 SF4 -	RC-24-12	DT 3-1	
1 1/2 x 1	38,10 x 25,40	2.500	63,50	SF1 SF4 -	RC-24-16	DT 3-1	
2 x 1	50,80 x 25,40	3.375	85,70	SF1 SF4 -	RC-32-16	DT 3-1	
2 x 1 1/2	50,80 x 38,10	2.500	63,50	SF1 SF4 -	RC-32-24	DT 3-1	
2 1/2 x 1 1/2	63,50 x 38,10	3.375	85,70	SF1 SF4 -	RC-40-24	DT 3-1	
2 1/2 x 2	63,50 x 50,80	2.500	63,50	SF1 SF4 -	RC-40-32	DT 3-1	
3 x 1 1/2	76,20 x 38,10	4.250	108,00	SF1 SF4 -	RC-48-24	DT 3-1	
3 x 2	76,20 x 50,80	3.375	85,70	SF1 SF4 -	RC-48-32	DT 3-1	
3 x 2 1/2	76,20 x 63,50	2.625	66,70	SF1 SF4 -	RC-48-40	DT 3-1	
4 x 2	101,60 x 50,80	5.125	130,20	SF1 SF4 -	RC-64-32	DT 3-1	
4 x 2 1/2	101,60 x 63,50	4.250	108,00	SF1 SF4 -	RC-64-40	DT 3-1	
4 x 3	101,60 x 76,20	3.875	98,40	SF1 SF4 -	RC-64-48	DT 3-1	
6 x 3	152,40 x 76,20	7.250	184,20	SF1 SF4 -	RC-96-48	DT 3-1	
6 x 4	152,40 x 101,60	5.625	142,90	SF1 SF4 -	RC-96-64	DT 3-1	

Further dimensions and materials on request. Subject to alteration.

**DT-4.1.3-1**  
Automatic Tube Weld: Eccentric Reducer

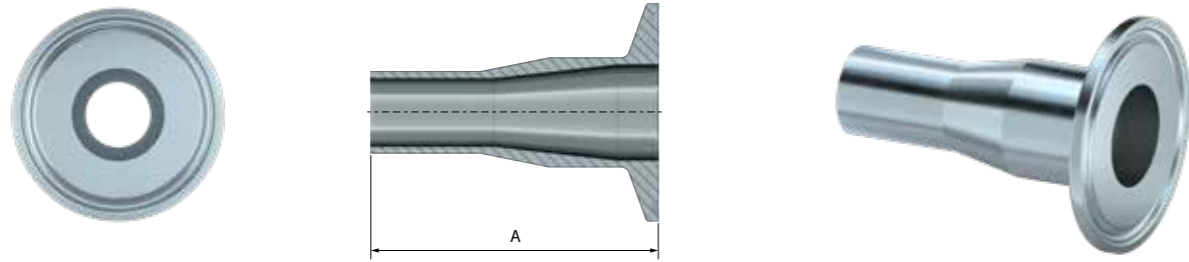


ASME BPE / DT-4.1.3-1

Size				A	ASME BPE SF1	ASME BPE SF4	Ref. According to ASME BPE
Inch	mm	Inch	mm				
3/8 x 1/4	9,53 x 6,35	1.625	41,30	316L	SF1 SF4 -	RE-06-04	DT 3-1
1/2 x 1/4	12,70 x 6,35	1.875	47,60	SF1 SF4 -	RE-08-04	DT 3-1	
1/2 x 3/8	12,70 x 9,53	1.875	47,60	SF1 SF4 -	RE-08-06	DT 3-1	
3/4 x 3/8	19,05 x 9,53	2.000	50,80	SF1 SF4 -	RE-12-06	DT 3-1	
3/4 x 1/2	19,05 x 12,70	2.125	54,00	SF1 SF4 -	RE-12-08	DT 3-1	
1 x 1/2	25,40 x 12,70	2.500	63,50	SF1 SF4 -	RE-16-08	DT 3-1	
1 x 3/4	25,40 x 19,05	2.125	54,00	SF1 SF4 -	RE-16-12	DT 3-1	
1 1/2 x 3/4	38,10 x 19,05	3.000	76,20	SF1 SF4 -	RE-24-12	DT 3-1	
1 1/2 x 1	38,10 x 25,40	2.500	63,50	SF1 SF4 -	RE-24-16	DT 3-1	
2 x 1	50,80 x 25,40	3.375	85,70	SF1 SF4 -	RE-32-16	DT 3-1	
2 x 1 1/2	50,80 x 38,10	2.500	63,50	SF1 SF4 -	RE-32-24	DT 3-1	
2 1/2 x 1 1/2	63,50 x 38,10	3.375	85,70	SF1 SF4 -	RE-40-24	DT 3-1	
2 1/2 x 2	63,50 x 50,80	2.500	63,50	SF1 SF4 -	RE-40-32	DT 3-1	
3 x 1 1/2	76,20 x 38,10	4.250	108,00	SF1 SF4 -	RE-48-24	DT 3-1	
3 x 2	76,20 x 50,80	3.375	85,70	SF1 SF4 -	RE-48-32	DT 3-1	
3 x 2 1/2	76,20 x 63,50	2.625	66,70	SF1 SF4 -	RE-48-40	DT 3-1	
4 x 2	101,60 x 50,80	5.125	130,20	SF1 SF4 -	RE-64-32	DT 3-1	
4 x 2 1/2	101,60 x 63,50	4.250	108,00	SF1 SF4 -	RE-64-40	DT 3-1	
4 x 3	101,60 x 76,20	3.875	98,40	SF1 SF4 -	RE-64-48	DT 3-1	
6 x 3	152,40 x 76,20	7.250	184,20	SF1 SF4 -	RE-96-48	DT 3-1	
6 x 4	152,40 x 101,60	5.625	142,90	SF1 SF4 -	RE-96-64	DT 3-1	

Further dimensions and materials on request. Subject to alteration.

**DT-4.1.3-2**  
Automatic Tube Weld: Concentric Reducer

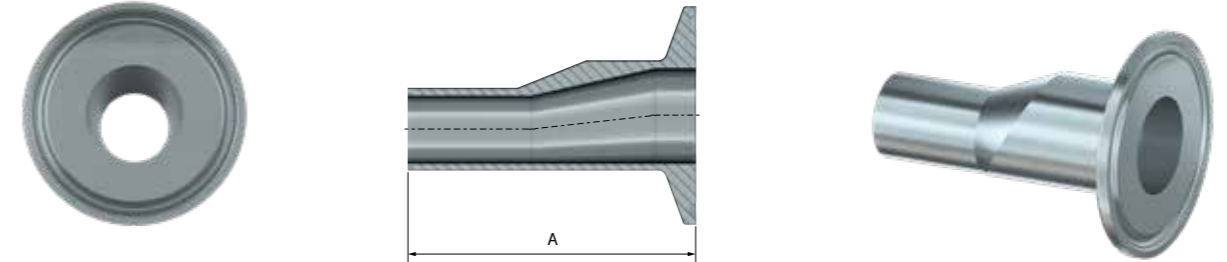


ASME BPE / DT-4.1.3-2

Size				A	ASME BPE SF1	ASME BPE SF4	Ref. According to ASME BPE	
Inch	mm	Inch	mm		316L	Code	DT	
3/8 x 1/4	9,53 x 6,35	2.125	53,98		SF1	SF4 - RC-06-04	- 3-2	
1/2 x 1/4	12,70 x 6,35	2.375	60,33		SF1	SF4 - RC-08-04	- 3-2	
1/2 x 3/8	12,70 x 9,53	2.375	60,33		SF1	SF4 - RC-08-06	- 3-2	
3/4 x 3/8	19,05 x 9,53	2.500	63,50		SF1	SF4 - RC-12-06	- 3-2	
3/4 x 1/2	19,05 x 12,70	2.625	66,68		SF1	SF4 - RC-12-08	- 3-2	
1 x 1/2	25,40 x 12,70	3.000	76,20		SF1	SF4 - RC-16-08	- 3-2	
1 x 3/4	25,40 x 19,05	2.625	66,68		SF1	SF4 - RC-16-12	- 3-2	
1 1/2 x 3/4	38,10 x 19,05	3.500	88,90		SF1	SF4 - RC-24-12	- 3-2	
1 1/2 x 1	38,10 x 25,40	3.000	76,20		SF1	SF4 - RC-24-16	- 3-2	
2 x 1	50,80 x 25,40	3.875	98,43		SF1	SF4 - RC-32-16	- 3-2	
2 x 1 1/2	50,80 x 38,10	3.000	76,20		SF1	SF4 - RC-32-24	- 3-2	
2 1/2 x 1 1/2	63,50 x 38,10	3.875	98,43		SF1	SF4 - RC-40-24	- 3-2	
2 1/2 x 2	63,50 x 50,80	3.000	76,20		SF1	SF4 - RC-40-32	- 3-2	
3 x 1 1/2	76,20 x 38,10	4.750	120,65		SF1	SF4 - RC-48-24	- 3-2	
3 x 2	76,20 x 50,80	3.875	98,43		SF1	SF4 - RC-48-32	- 3-2	
3 x 2 1/2	76,20 x 63,50	3.125	79,38		SF1	SF4 - RC-48-40	- 3-2	
4 x 2	101,60 x 50,80	5.750	146,05		SF1	SF4 - RC-64-32	- 3-2	
4 x 2 1/2	101,60 x 63,50	4.875	123,83		SF1	SF4 - RC-64-40	- 3-2	
4 x 3	101,60 x 76,20	4.500	114,30		SF1	SF4 - RC-64-48	- 3-2	
6 x 3	152,40 x 76,20	8.000	203,20		SF1	SF4 - RC-96-48	- 3-2	
6 x 4	152,40 x 101,60	6.375	161,93		SF1	SF4 - RC-96-64	- 3-2	

Further dimensions and materials on request. Subject to alteration.

**DT-4.1.3-2**  
Automatic Tube Weld: Eccentric Reducer

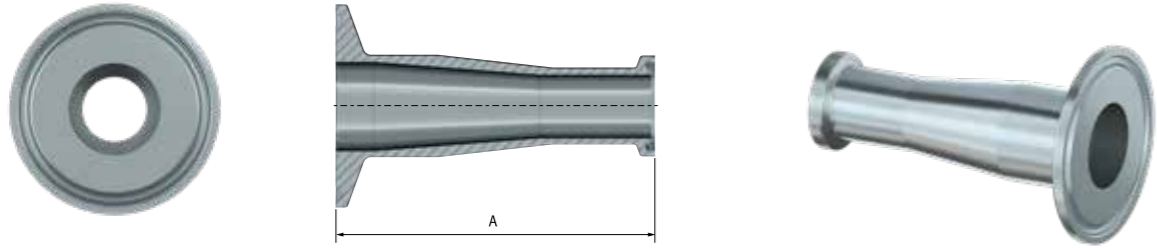


ASME BPE / DT-4.1.3-2

Size				A	ASME BPE SF1	ASME BPE SF4	Ref. According to ASME BPE	
Inch	mm	Inch	mm		316L	Code	DT	
3/8 x 1/4	9,53 x 6,35	2.125	53,98		SF1	SF4 - RE-06-04	- 3-2	
1/2 x 1/4	12,70 x 6,35	2.375	60,33		SF1	SF4 - RE-08-04	- 3-2	
1/2 x 3/8	12,70 x 9,53	2.375	60,33		SF1	SF4 - RE-08-06	- 3-2	
3/4 x 3/8	19,05 x 9,53	2.500	63,50		SF1	SF4 - RE-12-06	- 3-2	
3/4 x 1/2	19,05 x 12,70	2.625	66,68		SF1	SF4 - RE-12-08	- 3-2	
1 x 1/2	25,40 x 12,70	3.000	76,20		SF1	SF4 - RE-16-08	- 3-2	
1 x 3/4	25,40 x 19,05	2.625	66,68		SF1	SF4 - RE-16-12	- 3-2	
1 1/2 x 3/4	38,10 x 19,05	3.500	88,90		SF1	SF4 - RE-24-12	- 3-2	
1 1/2 x 1	38,10 x 25,40	3.000	76,20		SF1	SF4 - RE-24-16	- 3-2	
2 x 1	50,80 x 25,40	3.875	98,43		SF1	SF4 - RE-32-16	- 3-2	
2 x 1 1/2	50,80 x 38,10	3.000	76,20		SF1	SF4 - RE-32-24	- 3-2	
2 1/2 x 1 1/2	63,50 x 38,10	3.875	98,43		SF1	SF4 - RE-40-24	- 3-2	
2 1/2 x 2	63,50 x 50,80	3.000	76,20		SF1	SF4 - RE-40-32	- 3-2	
3 x 1 1/2	76,20 x 38,10	4.750	120,65		SF1	SF4 - RE-48-24	- 3-2	
3 x 2	76,20 x 50,80	3.875	98,43		SF1	SF4 - RE-48-32	- 3-2	
3 x 2 1/2	76,20 x 63,50	3.125	79,38		SF1	SF4 - RE-48-40	- 3-2	
4 x 2	101,60 x 50,80	5.750	146,05		SF1	SF4 - RE-64-32	- 3-2	
4 x 2 1/2	101,60 x 63,50	4.875	123,83		SF1	SF4 - RE-64-40	- 3-2	
4 x 3	101,60 x 76,20	4.500	114,30		SF1	SF4 - RE-64-48	- 3-2	
6 x 3	152,40 x 76,20	8.000	203,20		SF1	SF4 - RE-96-48	- 3-2	
6 x 4	152,40 x 101,60	6.375	161,93		SF1	SF4 - RE-96-64	- 3-2	

Further dimensions and materials on request. Subject to alteration.

**DT-4.1.3-3**  
Hygienic Clamp Joint: Concentric Reducer

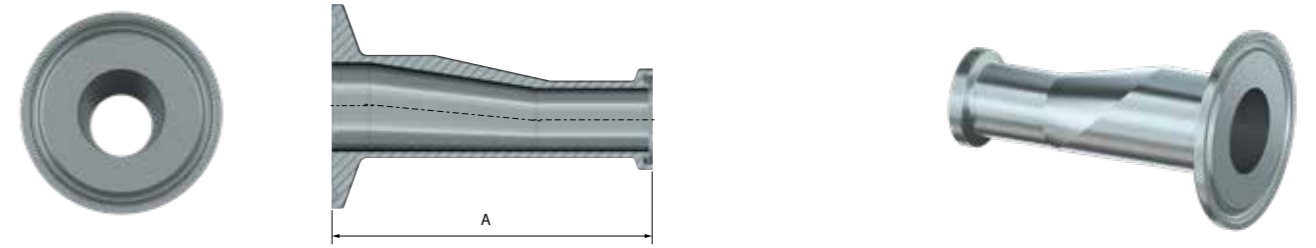


ASME BPE / DT-4.1.3-3

Size				A	ASME BPE SF1	ASME BPE SF4	Ref. According to ASME BPE
Inch	mm	Inch	mm				
3/8 x 1/4	9,53 x 6,35	2.625	66,68		SF1 SF4 -	RC-06-04	3-3
1/2 x 1/4	12,70 x 6,35	2.875	73,03		SF1 SF4 -	RC-08-04	3-3
1/2 x 3/8	12,70 x 9,53	2.875	73,03		SF1 SF4 -	RC-08-06	3-3
3/4 x 3/8	19,05 x 9,53	3.000	76,20		SF1 SF4 -	RC-12-06	3-3
3/4 x 1/2	19,05 x 12,70	3.125	79,38		SF1 SF4 -	RC-12-08	3-3
1 x 1/2	25,40 x 12,70	3.500	88,90		SF1 SF4 -	RC-16-08	3-3
1 x 3/4	25,40 x 19,05	3.125	79,38		SF1 SF4 -	RC-16-12	3-3
1 1/2 x 3/4	38,10 x 19,05	4.000	101,60		SF1 SF4 -	RC-24-12	3-3
1 1/2 x 1	38,10 x 25,40	3.500	88,90		SF1 SF4 -	RC-24-16	3-3
2 x 1	50,80 x 25,40	4.375	111,13		SF1 SF4 -	RC-32-16	3-3
2 x 1 1/2	50,80 x 38,10	3.500	88,90		SF1 SF4 -	RC-32-24	3-3
2 1/2 x 1 1/2	63,50 x 38,10	4.375	111,13		SF1 SF4 -	RC-40-24	3-3
2 1/2 x 2	63,50 x 50,80	3.500	88,90		SF1 SF4 -	RC-40-32	3-3
3 x 1 1/2	76,20 x 38,10	5.250	133,35		SF1 SF4 -	RC-48-24	3-3
3 x 2	76,20 x 50,80	4.375	111,13		SF1 SF4 -	RC-48-32	3-3
3 x 2 1/2	76,20 x 63,50	3.625	92,08		SF1 SF4 -	RC-48-40	3-3
4 x 2	101,60 x 50,80	6.250	158,75		SF1 SF4 -	RC-64-32	3-3
4 x 2 1/2	101,60 x 63,50	5.375	136,53		SF1 SF4 -	RC-64-40	3-3
4 x 3	101,60 x 76,20	5.000	127,00		SF1 SF4 -	RC-64-48	3-3
6 x 3	152,40 x 76,20	8.500	214,90		SF1 SF4 -	RC-96-48	3-3
6 x 4	152,40 x 101,60	7.000	177,80		SF1 SF4 -	RC-96-64	3-3

Further dimensions and materials on request. Subject to alteration.

**DT-4.1.3-3**  
Hygienic Clamp Joint: Eccentric Reducer



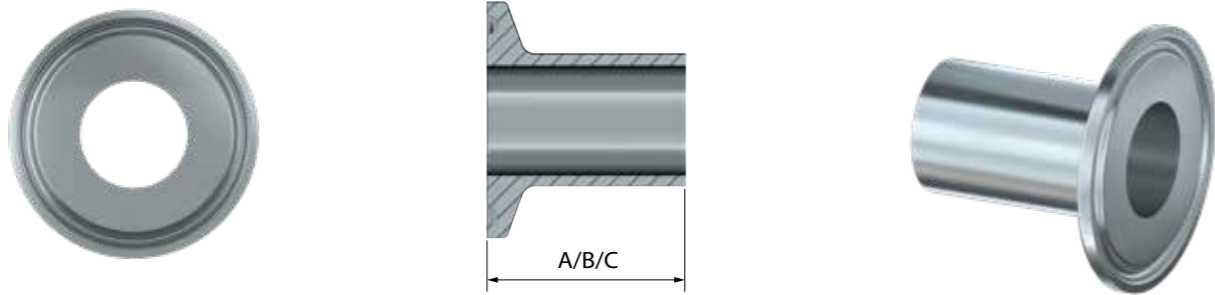
ASME BPE / DT-4.1.3-3

Size				A	ASME BPE SF1	ASME BPE SF4	Ref. According to ASME BPE
Inch	mm	Inch	mm				
3/8 x 1/4	9,53 x 6,35	2.625	66,68		SF1 SF4 -	RE-06-04	3-3
1/2 x 1/4	12,70 x 6,35	2.875	73,03		SF1 SF4 -	RE-08-04	3-3
1/2 x 3/8	12,70 x 9,53	2.875	73,03		SF1 SF4 -	RE-08-06	3-3
3/4 x 3/8	19,05 x 9,53	3.000	76,20		SF1 SF4 -	RE-12-06	3-3
3/4 x 1/2	19,05 x 12,70	3.125	79,38		SF1 SF4 -	RE-12-08	3-3
1 x 1/2	25,40 x 12,70	3.500	88,90		SF1 SF4 -	RE-16-08	3-3
1 x 3/4	25,40 x 19,05	3.125	79,38		SF1 SF4 -	RE-16-12	3-3
1 1/2 x 3/4	38,10 x 19,05	4.000	101,60		SF1 SF4 -	RE-24-12	3-3
1 1/2 x 1	38,10 x 25,40	3.500	88,90		SF1 SF4 -	RE-24-16	3-3
2 x 1	50,80 x 25,40	4.375	111,13		SF1 SF4 -	RE-32-16	3-3
2 x 1 1/2	50,80 x 38,10	3.500	88,90		SF1 SF4 -	RE-32-24	3-3
2 1/2 x 1 1/2	63,50 x 38,10	4.375	111,13		SF1 SF4 -	RE-40-24	3-3
2 1/2 x 2	63,50 x 50,80	3.500	88,90		SF1 SF4 -	RE-40-32	3-3
3 x 1 1/2	76,20 x 38,10	5.250	133,35		SF1 SF4 -	RE-48-24	3-3
3 x 2	76,20 x 50,80	4.375	111,13		SF1 SF4 -	RE-48-32	3-3
3 x 2 1/2	76,20 x 63,50	3.625	92,08		SF1 SF4 -	RE-48-40	3-3
4 x 2	101,60 x 50,80	6.250	158,75		SF1 SF4 -	RE-64-32	3-3
4 x 2 1/2	101,60 x 63,50	5.375	136,53		SF1 SF4 -	RE-64-40	3-3
4 x 3	101,60 x 76,20	5.000	127,00		SF1 SF4 -	RE-64-48	3-3
6 x 3	152,40 x 76,20	8.500	214,90		SF1 SF4 -	RE-96-48	3-3
6 x 4	152,40 x 101,60	7.000	177,80		SF1 SF4 -	RE-96-64	3-3

Further dimensions and materials on request. Subject to alteration.



**DT-4.1.4-1**  
Automatic Tube Weld: Ferrule



ASME BPE / DT-4.1.4-1 / FERRULE A

Size		A		Clamp Dimensions		ASME BPE SF1	ASME BPE SF4	Ref. According to ASME BPE			
Inch	mm	Inch	mm	Inch	mm	316L	Code	DT			
1/4	6,35	1.750	44,50	0.984	25,00	SF1	SF4	- FA-04 -	4-1		
3/8	9,53	1.750	44,50	0.984	25,00	SF1	SF4	- FA-06 -	4-1		
1/2	12,70	1.750	44,50	0.984	25,00	SF1	SF4	- FA-08 -	4-1		
3/4	19,05	1.750	44,50	0.984	25,00	SF1	SF4	- FA-12 -	4-1		
1	25,40	1.750	44,50	1.984	50,50	SF1	SF4	- FA-16 -	4-1		
1 1/2	38,10	1.750	44,50	1.984	50,50	SF1	SF4	- FA-24 -	4-1		
2	50,80	2.250	57,20	2.516	64,00	SF1	SF4	- FA-32 -	4-1		
2 1/2	63,50	2.250	57,20	3.047	77,50	SF1	SF4	- FA-40 -	4-1		
3	76,20	2.250	57,20	3.579	91,00	SF1	SF4	- FA-48 -	4-1		
4	101,60	2.250	57,20	4.682	119,00	SF1	SF4	- FA-64 -	4-1		
6	152,40	3.000	76,20	6.570	167,00	SF1	SF4	- FA-96 -	4-1		

Further dimensions and materials on request. Subject to alteration.

ASME BPE / DT-4.1.4-1 / FERRULE B

Size		B		Clamp Dimensions		ASME BPE SF1	ASME BPE SF4	Ref. According to ASME BPE			
Inch	mm	Inch	mm	Inch	mm	316L	Code	DT			
1/4	6,35	1.130	28,58	0.984	25,00	SF1	SF4	- FB-04 -	4-1		
3/8	9,53	1.130	28,58	0.984	25,00	SF1	SF4	- FB-06 -	4-1		
1/2	12,70	1.130	28,58	0.984	25,00	SF1	SF4	- FB-08 -	4-1		
3/4	19,05	1.130	28,58	0.984	25,00	SF1	SF4	- FB-12 -	4-1		
1	25,40	1.130	28,58	1.984	50,50	SF1	SF4	- FB-16 -	4-1		
1 1/2	38,10	1.130	28,58	1.984	50,50	SF1	SF4	- FB-24 -	4-1		
2	50,80	1.130	28,58	2.516	64,00	SF1	SF4	- FB-32 -	4-1		
2 1/2	63,50	1.130	28,58	3.047	77,50	SF1	SF4	- FB-40 -	4-1		
3	76,20	1.130	28,58	3.579	91,00	SF1	SF4	- FB-48 -	4-1		
4	101,60	1.130	28,58	4.682	119,00	SF1	SF4	- FB-64 -	4-1		
6	152,40	1.500	38,10	6.570	167,00	SF1	SF4	- FB-96 -	4-1		

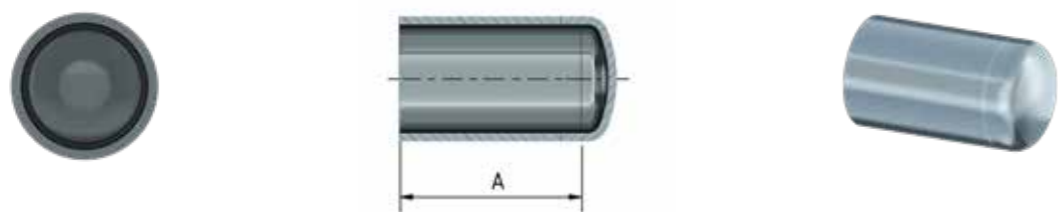
Further dimensions and materials on request. Subject to alteration.

ASME BPE / DT-4.1.4-1 / FERRULE C

Size		C		Clamp Dimensions		ASME BPE SF1	ASME BPE SF4	Ref. According to ASME BPE			
Inch	mm	Inch	mm	Inch	mm	316L	Code	DT			
1/4	6,35	0.500	12,70	0.984	25,00	SF1	SF4	- FC-08 -	4-1		
3/8	9,53	0.500	12,70	0.984	25,00	SF1	SF4	- FC-06 -	4-1		
1/2	12,70	0.500	12,70	0.984	25,00	SF1	SF4	- FC-08 -	4-1		
3/4	19,05	0.500	12,70	0.984	25,00	SF1	SF4	- FC-12 -	4-1		
1	25,40	0.500	12,70	1.984	50,50	SF1	SF4	- FC-16 -	4-1		
1 1/2	38,10	0.500	12,70	1.984	50,50	SF1	SF4	- FC-24 -	4-1		
2	50,80	0.500	12,70	2.516	64,00	SF1	SF4	- FC-32 -	4-1		
2 1/2	63,50	0.500	12,70	3.047	77,50	SF1	SF4	- FC-40 -	4-1		
3	76,20	0.500	12,70	3.579	91,00	SF1	SF4	- FC-48 -	4-1		
4	101,60	0.625	15,90	4.682	119,00	SF1	SF4	- FC-64 -	4-1		
6	152,40	0.750	19,05	6.570	167,00	SF1	SF4	- FC-96 -	4-1		

Further dimensions and materials on request. Subject to alteration.

**DT-4.1.5-1**  
Automatic Tube Weld: Cap Type A

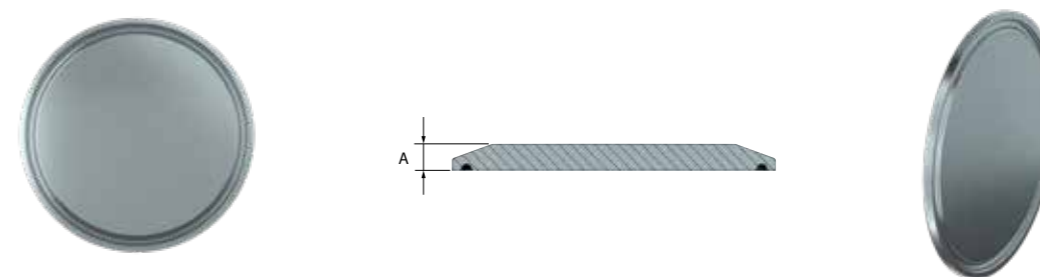


ASME BPE / DT-4.1.5-1 / CAP TYPE A

Size		A		ASME BPE SF1	ASME BPE SF4	Ref. According to ASME BPE
Inch	mm	Inch	mm			
1/2	12,70	1.555	39,50	SF1	SF4 - WC-08	5-1
3/4	19,05	1.555	39,50	SF1	SF4 - WC-12	5-1
1	25,40	1.555	39,50	SF1	SF4 - WC-16	5-1
1 1/2	38,10	1.555	39,50	SF1	SF4 - WC-24	5-1
2	50,80	1.555	39,50	SF1	SF4 - WC-32	5-1
2 1/2	63,50	1.555	39,50	SF1	SF4 - WC-40	5-1
3	76,20	1.811	46,00	SF1	SF4 - WC-48	5-1
4	101,60	2.067	52,50	SF1	SF4 - WC-64	5-1
6	152,40	2.559	65,00	SF1	SF4 - WC-96	5-1

Further dimensions and materials on request. Subject to alteration.

**DT-4.1.5-2**  
Hygienic Clamp Joint: Solid End Cap



ASME BPE / 4.1.5-2 / SOLID END CAP

Size		A		Flange Dimensions		ASME BPE SF1	ASME BPE SF4	Ref. According to ASME BPE
Inch	mm	Inch	mm	Inch	mm			
1/4	6,35	0.187	4,70	0.984	25,00	SF1	SF4 - FTC-04-12	5-2
3/8	9,53	0.187	4,70	0.984	25,00	SF1	SF4 - FTC-04-12	5-2
1/2	12,70	0.187	4,70	0.984	25,00	SF1	SF4 - FTC-04-12	5-2
3/4	19,05	0.187	4,70	0.984	25,00	SF1	SF4 - FTC-04-12	5-2
1	25,40	0.250	6,40	1.984	50,50	SF1	SF4 - FTC-16-24	5-2
1 1/2	38,10	0.250	6,40	1.984	50,50	SF1	SF4 - FTC-16-24	5-2
2	50,80	0.250	6,40	2.516	64,00	SF1	SF4 - FTC-32	5-2
2 1/2	63,50	0.250	6,40	3.047	77,50	SF1	SF4 - FTC-40	5-2
3	76,20	0.250	6,40	3.579	91,00	SF1	SF4 - FTC-48	5-2
4	101,60	0.312	7,90	4.682	119,00	SF1	SF4 - FTC-64	5-2
6	152,40	0.437	11,10	6.570	167,00	SF1	SF4 - FTC-96	5-2

Further dimensions and materials on request. Subject to alteration.

## Clamps

Standard Clamp acc. to ASME BPE

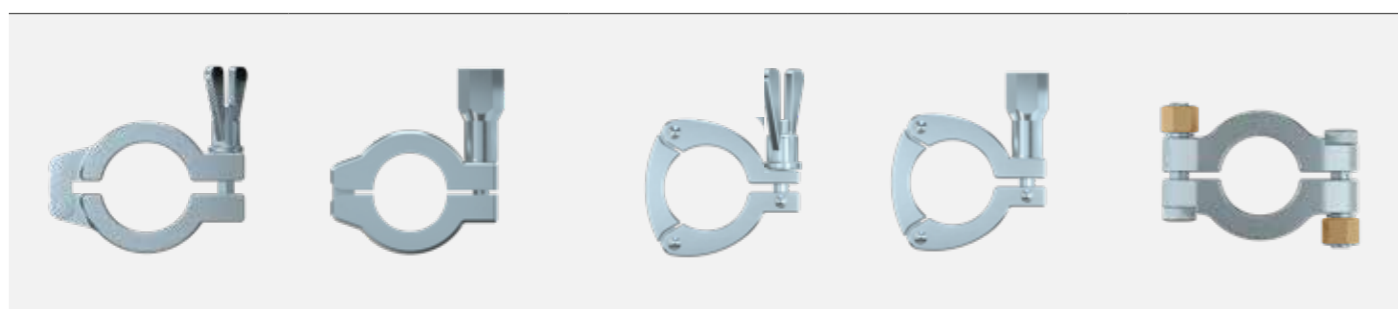


CLAMP / ASME BPE				
Nominal Size		Flange Dimensions		Clamp
Inch	Inch	mm	Size	Code
1/4	0.984	25,00	1	CL-SP-WN-1
3/8	0.984	25,00	1	CL-SP-WN-1
1/2	0.984	25,00	1	CL-SP-WN-1
3/4	0.984	25,00	1	CL-SP-WN-1
1	1.984	50,50	2	CL-SP-WN-2
1 1/2	1.984	50,50	2	CL-SP-WN-2
2	2.516	64,00	3	CL-SP-WN-3
2 1/2	3.047	77,50	4	CL-SP-WN-4
3	3.579	91,00	5	CL-SP-WN-5
4	4.682	119,00	7	CL-SP-WN-7
6	6.570	167,00	9	CL-SP-WN-9

Further dimensions and materials on request. Subject to alteration.

## Special Clamps / optional

Safety Clamp      Clamp with Hexagon      3-Segment-Clamp      3-Segment-Clamp with Hexagon      High Pressure Clamp



## Gaskets

Materials Overview



## GASKETS / Imperial

Inch	Size mm	Code	PTFE	FKM	FKM/PTFE	EPDM	MVQ	PTFE/316	PTFE/EPDM
1/4	6,35	TC-GK-04-1-	P	F	FP	E	M	P16	PTE
3/8	9,53	TC-GK-06-1-	P	F	FP	E	M	P16	PTE
1/2	12,70	TC-GK-08-1-	P	F	FP	E	M	P16	PTE
3/4	19,05	TC-GK-12-1-	P	F	FP	E	M	P16	PTE
1	25,40	TC-GK-16-2-	P	F	FP	E	M	P16	PTE
1 1/2	38,10	TC-GK-24-2-	P	F	FP	E	M	P16	PTE
2	50,80	TC-GK-32-3-	P	F	FP	E	M	P16	PTE
2 1/2	63,50	TC-GK-40-4-	P	F	FP	E	M	P16	PTE
3	76,20	TC-GK-48-5-	P	F	FP	E	M	P16	PTE
4	101,60	TC-GK-64-7-	P	F	FP	E	M	P16	PTE
6	152,40	TC-GK-96-9-	P	F	FP	E	M	P16	PTE

Further dimensions and materials on request. Subject to alteration.



**Screen Gaskets** provide prefiltration for critical membrane filters, coalescence of water vapour from process exhaust lines, particulate removal before fill and finish and more.



The **Smart Gasket** values are proven when validating sterility in high purity pharmaceutical systems.



The **Controlled Compression** Gaskets cannot be overtightened but controls clamp compression to exactly the correct amount, allowing the properly positioned gasket to make a perfect surface I.D. seal with ferrules.



**Orifice Plates** advance your system's performance, adjust flow rates, balance backflow and equalize back pressure during SIP procedures.

**Gaskets**  
Technical Specifications

All standard sanitary gaskets are moulded from FDA compliant compounds and fulfil USP class VI.

**Total traceability for the complete system**

Dockweiler gaskets are cleaned and dried.

Mix-ups after removal from the packaging are eliminated.

**Lasermarking information:** DOCKWEILER / DW-No.

Material	PTFE	FKM	FKM / PTFE	EPDM	MVQ	PTFE / 316L	PTFE / EPDM
Material acc. to ISO 1629 / ASTM D1418	<b>Polytetrafluoroethylene</b>	<b>Perfluorinated rubber</b>	<b>PTFE enveloped FKM</b>	<b>Ethylene propylene diene rubber</b>	<b>Platinum cured silicone rubber</b>	<b>Composite of stainless steel 316L and PTFE</b>	<b>PTFE enveloped EPDM</b>
Trade name	Teflon® Dyneon®	Viton® Fluorel®		Buna® Nordel®	Silopren® Silastic®	TufSteel	TufFlex
Diameter*	Flange size ≤ 1": Gasket without Lip, Flange size ≥ 1 1/2": Gasket with Lip			Flange size ≤ 1": Gasket without Lip, Flange size ≥ 1 1/2": Gasket with Lip			
* Not all diameters are available in all materials	Imperial 1/4" – 6"			Imperial 1/4" – 6"			
Temperature variations	–	+	o	+	+	+	+
Continuous steam	+	+	+	+	+	+	+
Non-polar solvents	+	+	+	–	–	+	+
Polar solvents	+	–	+	–	–	+	+
Acid and active oxygen	+	+	+	+	+	+	+
Acid	+	+	+	+	+	+	+
Alkaline	+	+	+	+	–	+	+
Hardness	68 Shore A	82 Shore A	45 Shore A	45 Shore A	65 – 75 Shore A	80 Shore A	70 +/- 5 Shore A
Density	3,45 g/cm³	1,28 g/cm³	1,9 g/cm³	2,1 g/cm³	1,2 g/cm³	1,85 g/cm³	1,25 g/cm³
Compression set	18,5 %	13 %	15 %	10 %	20 %	7 %	5 %
	70 Hour	24 Hour	24 Hour	24 Hour	24 Hour	24 Hour	24 Hour
	200 °C / 392 °F	175 °C / 347 °F	175 °C / 347 °F	150 °C / 302 °F	175 °C / 347 °F	150 °C / 302 °F	175 °C / 347 °F
Temperature range	-15 to 230 °C 5 to 446 °F	-20 to 210 °C -4 to 410 °F	-60 to 180 °C -76 to 356 °F	-40 to 140 °C -40 to 284 °F	-60 to 200 °C -76 to 392 °F	-70 to 260 °C -94 to 500 °F	-70 to 180 °C -94 to 356 °F

+ = highly suitable

o = suitable

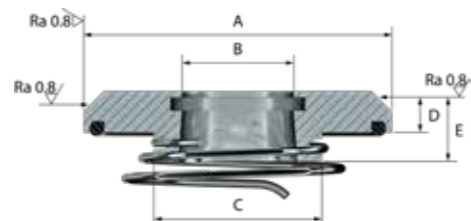
– = not suitable

+ = highly suitable

o = suitable

– = not suitable

**CleanShut**  
Wall and Ceiling Feedthroughs



**METRIC**

Size	OD Tube	A	B	C	D	E	Order Code				
DN	mm						Code		PVDF		
10	13,00	64,00	13,20	34,00	10,00	18,00	WFT	-	10M	-	PV
15	19,00	75,00	19,20	45,00	10,00	18,00	WFT	-	15M	-	PV
20	23,00	75,00	23,20	45,00	10,00	18,00	WFT	-	20M	-	PV
25	29,00	87,00	29,20	57,00	10,00	18,00	WFT	-	25M	-	PV
32	35,00	87,00	35,20	57,00	10,00	18,00	WFT	-	32M	-	PV
40	41,00	105,00	41,20	75,00	10,00	20,00	WFT	-	40M	-	PV
50	53,00	105,00	53,20	75,00	10,00	20,00	WFT	-	50M	-	PV
65	70,00	138,00	70,20	108,00	10,00	22,00	WFT	-	65M	-	PV
80	85,00	138,00	85,20	108,00	10,00	22,00	WFT	-	80M	-	PV
100	104,00	149,00	104,20	127,00	10,00	22,00	WFT	-	100M	-	PV

**ISO**

Size	OD Tube	A	B	C	D	E	Order Code				
DN	mm						Code		PVDF		
8	13,50	64,00	13,70	34,00	10,00	18,00	WFT	-	8I	-	PV
15	21,30	75,00	21,50	45,00	10,00	18,00	WFT	-	15I	-	PV
20	26,90	75,00	27,10	45,00	10,00	18,00	WFT	-	20I	-	PV
25	33,70	87,00	33,90	57,00	10,00	18,00	WFT	-	25I	-	PV
32	42,40	105,00	42,60	75,00	10,00	20,00	WFT	-	32I	-	PV
40	48,30	105,00	48,50	75,00	10,00	20,00	WFT	-	40I	-	PV
50	60,30	138,00	60,50	108,00	10,00	22,00	WFT	-	50I	-	PV
65	76,10	138,00	76,30	108,00	10,00	22,00	WFT	-	65I	-	PV
80	88,90	149,00	89,10	127,00	10,00	22,00	WFT	-	80I	-	PV

**IMPERIAL**

Size	OD Tube	A	B	C	D	E	Order Code				
Inch	mm						Code		PVDF		
1/2	12,70	64,00	12,90	34,00	10,00	18,00	WFT	-	08	-	PV
3/4	19,05	75,00	19,25	45,00	10,00	18,00	WFT	-	12	-	PV
1	25,40	75,00	25,60	45,00	10,00	18,00	WFT	-	16	-	PV
1 1/2	38,10	105,00	38,30	75,00	10,00	20,00	WFT	-	24	-	PV
2	50,80	105,00	51,00	75,00	10,00	20,00	WFT	-	32	-	PV
2 1/2	63,50	138,00	63,70	108,00	10,00	22,00	WFT	-	40	-	PV
3	76,20	138,00	76,40	108,00	10,00	22,00	WFT	-	48	-	PV
4	101,60	149,00	101,80	127,00	10,00	22,00	WFT	-	64	-	PV

Further dimensions and materials on request. Subject to alteration.

**Life Science Solutions**  
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Customized fittings manufactured to your specifications are the tailor-made solution when standard fittings do not meet customer requirements. Our service starts with drafting and extends to 3.1 documentation.





## Elements in stainless steels Materials Overview

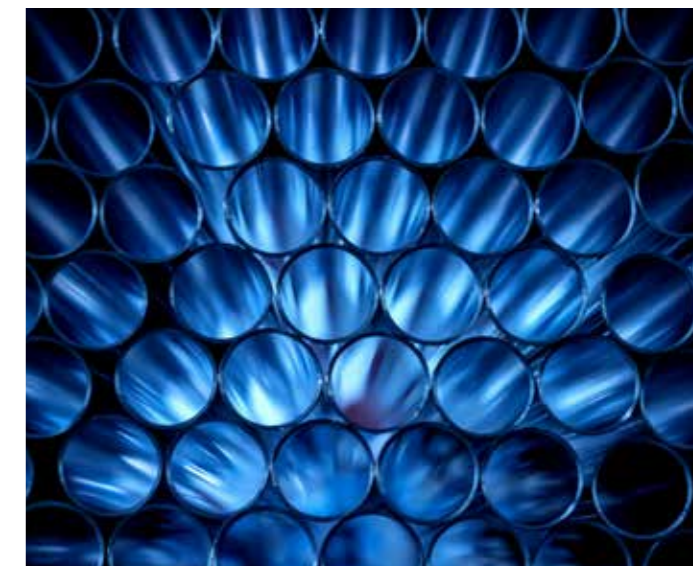
Steel is one of the most commonly used alloys and consists mainly of iron. In general the carbon content is less than 2%. It contains also other components that may emerge due to the manufacturing process or are added to obtain certain characteristics.

Stainless steels according to EN 10020 are alloyed and unalloyed steels with a special purity level like for example steels with a sulphur and phosphorous content (a so-called iron companion) that is not higher than 0.025%.

Stainless steels are characterized by an amount of chromium of more than 10.5%. Due to that high chromium content a protective and dense passive layer of chromium oxide establishes on the material surface. The term "stainless steel" is therefore misleading since materials cannot be stainless in any field of application.

The right choice of the convenient material is crucial for its application. A variety of steels and alloys have been developed to counteract against the possible forms of corrosion in the different industry branches. The requirement for a suitable, corrosionResistant use of a material is still the appropriate manufacturing.

Regarding the application it is important to know and to assess besides the material also the process parameter like medium, concentration, time and temperature.



Type	AISI	JIS G 3459	Short name	UNS	C	Mn	P	S	Si	Cr	Ni	Mo	W	V	Co	Ti	Cu	N	PREN
Austenite	304		X5CrNi18-10	S30400	0.08	2	0.045	0.03	1	17.5-19.5	8.0-10.5	-	-	-	-	-	-	-	19
	304L		X2CrNi19-11	S30403	0.03	2	0.045	0.015	1	18.0-20.0	10.0-13.0	-	-	-	-	-	-	-	20
	304L		X2CrNi18-9	S30403	0.03	2	0.045	0.015	1	17.5-19.5	8.0-10.5	-	-	-	-	-	-	-	19
	316L		X2CrNiMo17-12-2	S31603	0.03	2	0.045	0.015	1	16.5-18.5	10.0-14.5	2.00-2.50	-	-	-	-	-	-	23
	316L		X2CrNiMo18-14-3	S31603	0.03	2	0.045	0.015	1	17.0-19.0	12.5-15.0	2.50-3.00	-	-	-	-	-	-	26
		316LTP		X2CrNiMo18-14-3	S31603	0.03	1	0.045	0.010	1	16.0- 18.0	12.0-14.0	2.00- 3.00	-	-	-	0.02	-	-
	316Ti		X6CrNiMoTi17-12-2	S31635	0.08	2	0.045	0.015	1	16.5-18.5	10.0-13.5	2.00-2.50	-	-	-	0.5	-	-	23
Super Austenitic	317L		X2CrNiMoN-18-15-4	S31703	0.03	2	0.045	0.03	1	17.5-19.5	13.0-17.0	3.0-4.0	-	-	-	-	-	0.11	29
	904L		X1NiCrMoCu25-20-5	N08904	0.02	2	0.03	0.01	0.7	19.0-21.0	24.0-26.0	4.0-5.0	-	-	-	-	1.2 - 2.0	0.15	36
	6Mo		X2 NiCrMoCuN20-18-6	S31254	0.02	1	0.03	-	1	19.5-20.5	17.5-18.5	6.0-7.0	-	-	-	-	0.50-1.00	0.18-0.25	42
			AL-6XN	N08367	0.03	2	0.03	0.01	0.5	19.0-20.0	24.0-26.0	6.0-7.0	-	-	-	-	-	0.18	42
Duplex									1	21.0-23.0	4.5-6.5	2.50-3.5	-	-	-	-	-	0.10-0.22	31
	F53		X2CrNiMoN 25-7-4	S32750	0.02	2	0.035	0.015	1	25	7	4	-	-	-	-	-	0.27	43
	S31254		254 SMO	S31254	0.01	1	0.03	0.01	1	20	18	6.1	-	-	-	-	-	0.2	42
Nickel based alloy	C22		Hastelloy C-22	N06022	0.01	0.5	-	-	0.08	22	56	13	3	0.35	2.5	0	0	0	46
	C276		Hastelloy C-276	N10276	0.01	1	0.025	0.01	0.08	14.5	57	15	3	0.35	2.5	0	0	0	45

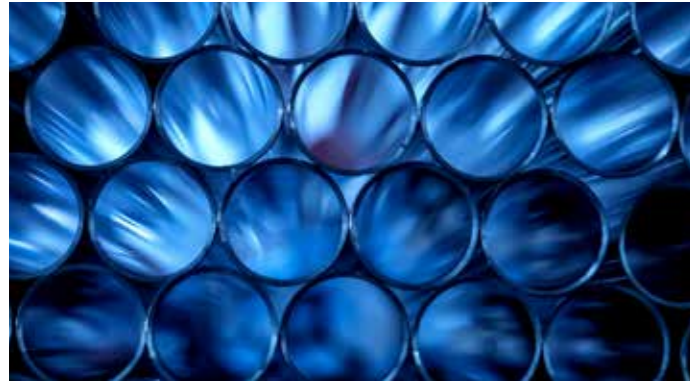
### Pitting Resistance Equivalent Number (PREN)

Steel PREN = %Cr + 3,3 x %Mo + 16 x %N  
 Nickel based Alloy PREN = %Cr + 1,5 x (%Mo + %W + Nb)  
 Seawater resistance PREN ≥ 40

\* Not all materials available from stock



**Dockweiler Quality.**  
In every solution. In any detail. Without compromise.

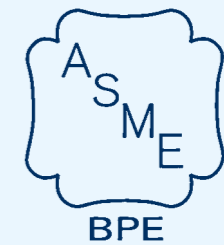
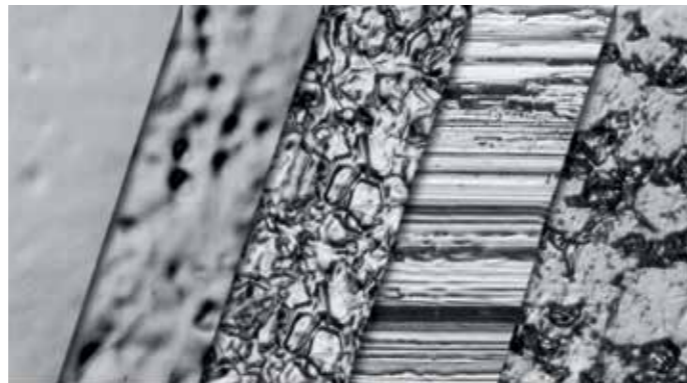


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