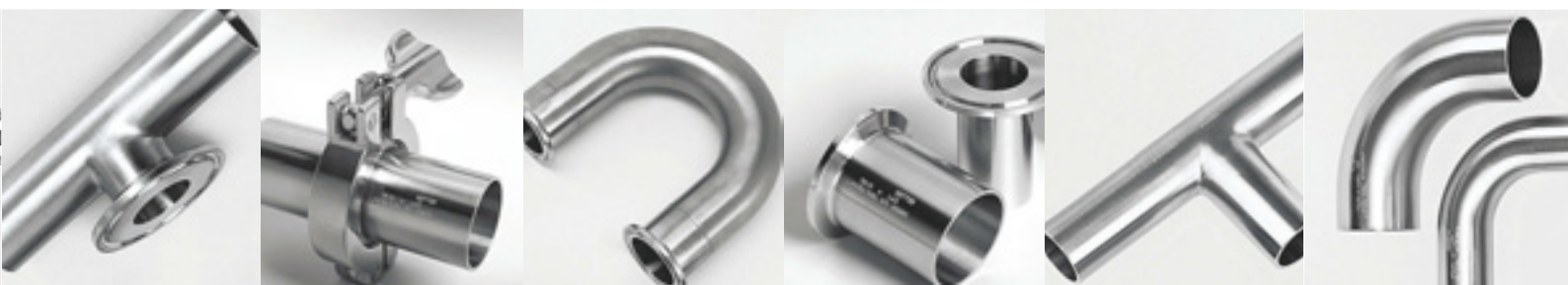




DOCKWEILER

bpe-direct[®]

The better, cheaper, faster source for your ASME BPE demands



bpe-direct®

The **better, cheaper, faster** source for your ASME BPE demands

- **Better**
We supply only the highest quality level fittings: SFF1 and SFF4 in not more than two heats per size and item
- **Cheaper**
Bulk production and lean structures are the source of our competitive pricing
- **Faster**
Extensive stocks in Europe and Asia will serve your needs well in time.

ASME BPE

The **American Society of Mechanical Engineers** first published this standard in 1997 for **Bioprocessing Equipment** and it has since become a standard specification worldwide for the biotechnological and pharmaceutical industries. **bpe-direct®** supplies in accordance with the current revision.

An overview of all fittings can be found at the end of this brochure.

bpe-direct®

bpe-direct, the fittings program in accordance with ASME BPE which draws on the Dockweiler expertise in stainless steel tube systems for the semiconductor, biotechnology and pharmaceutical industries.

For a further wide range of tubes and fittings visit www.dockweiler.com



Product Specification

All technical information refer to the current revision of the ASME BPE standard

Material

316L, chemical composition in accordance with Table DT-3

(in weights %)

C max. 0.0035	Ni = 10.00 – 15.00
Cr = 16.00 – 18.00	P max. 0.045
Mn max. 2.00	Si max. 1.00
Mo = 2.00 – 3.00	S = 0.005 – 0.017

Dimensions

1/4" to 6"

Tube Length

5940 mm – 6090 mm / 19,5 ft. - 20,0 ft.

5% short lengths 4470 mm – 5910 mm / 15,0 ft. - 19,4 ft. are possible

Tolerances

Acc. to Table DT-5 and Table DT-6

Weld ends

Weld ends of tubes and fittings are prepared for orbital welding

Inner surface

Tubing, Table SF-2

as drawn and/or mechanically polished	mechanically polished and electropolished, or electropolished
---------------------------------------	---

	Ra max.			Ra max.	
	μ-in	μm		μ-in	μm
SFT1	20	0.5	SFT4	15	0.375

Fittings, Table SF-4

mechanically polished	mechanically polished and electropolished
-----------------------	---

	Ra max.			Ra max.	
	μ-in	μm		μ-in	μm
SFF1	20	0.5	SFF4	15	0.375

Test Procedures

- Verification of material grade
- Control of dimensions
- Visual inspection (with endoscope and unaided eye):
 - Internal surface
 - Welds
- End preparation
- Internal surface roughness measurements

Marking

- DW bpe-direct
- Surface designation as per ASME BPE, section SF
- Dimension
- Material type
- Heat number
- Job number
- ASME BPE

Documentation

Certified material test report 3.1 as per DIN EN 10204 / ASTM A1016. Prematerial certification available on request (surcharge)

Packing

Ends of tubes and fittings are capped.

For easy distinction of different interior surface finishes refer to the colour code below:

Mechanically polished	SFT1/SFF1	transparent
Electropolished	SFT4/SFF4	yellow

Fittings are packed in bags and labled with:
DW bpe-direct, part number, heat number(s),
Job number, ASME BPE, surface finish designation

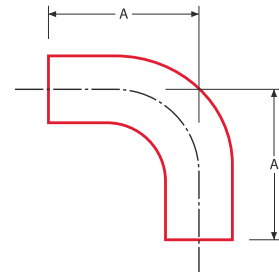
DT 1

Tubes

Nominal Size		Order Code		Tube Wall Thickness	
inch	mm	SFT1	SFT4	inch	mm
1/4	6,35	01 a 1	01 a 4	0.035	0,89
3/8	9,53	01 b 1	01 b 4	0.035	0,89
1/2	12,70	01 c 1	01 c 4	0.065	1,65
3/4	19,05	01 d 1	01 d 4	0.065	1,65
1	25,40	01 e 1	01 e 4	0.065	1,65
1 1/2	38,10	01 f 1	01 f 4	0.065	1,65
2	50,80	01 g 1	01 g 4	0.065	1,65
2 1/2	63,50	01 h 1	01 h 4	0.065	1,65
3	76,20	01 i 1	01 i 4	0.065	1,65
4	101,60	01 j 1	01 j 4	0.083	2,11
6	152,40	01 k 1	01 k 4	0.109	2,77

DT 7

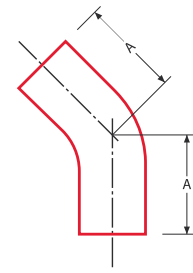
Automatic Tube Weld:
90° Elbow, also 88° and 92° Elbows



Nominal Size		Order Code		A	
inch	mm	SFF1	SFF4	inch	mm
1/4	6,35	07 a 1	07 a 4	2.625	66,70
3/8	9,53	07 b 1	07 b 4	2.625	66,70
1/2	12,70	07 c 1	07 c 4	3.000	76,20
3/4	19,05	07 d 1	07 d 4	3.000	76,20
1	25,40	07 e 1	07 e 4	3.000	76,20
1 1/2	38,10	07 f 1	07 f 4	3.750	95,30
2	50,80	07 g 1	07 g 4	4.750	120,70
2 1/2	63,50	07 h 1	07 h 4	5.500	139,70
3	76,20	07 i 1	07 i 4	6.250	158,80
4	101,60	07 j 1	07 j 4	8.000	203,20
6	152,40	07 k 1	07 k 4	11.500	292,10

DT 8

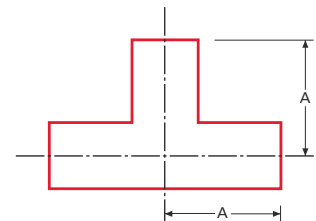
Automatic Tube Weld:
45° Elbow



Nominal Size		Order Code		A	
inch	mm	SFF1	SFF4	inch	mm
1/4	6,35	08 a 1	08 a 4	2.000	50,80
3/8	9,53	08 b 1	08 b 4	2.000	50,80
1/2	12,70	08 c 1	08 c 4	2.250	57,20
3/4	19,05	08 d 1	08 d 4	2.250	57,20
1	25,40	08 e 1	08 e 4	2.250	57,20
1 1/2	38,10	08 f 1	08 f 4	2.500	63,50
2	50,80	08 g 1	08 g 4	3.000	76,20
2 1/2	63,50	08 h 1	08 h 4	3.375	85,70
3	76,20	08 i 1	08 i 4	3.625	92,10
4	101,60	08 j 1	08 j 4	4.500	114,30
6	152,40	08 k 1	08 k 4	6.250	158,80

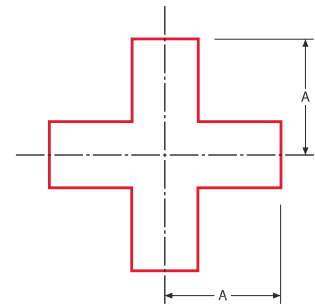
DT 9

Automatic Tube Weld:
Straight Tee



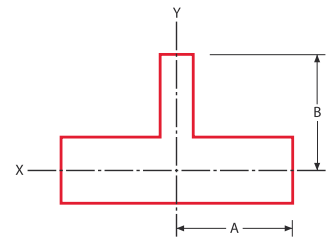
Nominal Size		Order Code		A	
inch	mm	SFF1	SFF4	inch	mm
1/4	6,35	09Ta 1	09Ta 4	1.750	44,50
3/8	9,53	09Tb 1	09Tb 4	1.750	44,50
1/2	12,70	09Tc 1	09Tc 4	1.875	47,60
3/4	19,05	09Td 1	09Td 4	2.000	50,80
1	25,40	09Te 1	09Te 4	2.125	54,00
1 1/2	38,10	09Tf 1	09Tf 4	2.375	60,30
2	50,80	09Tg 1	09Tg 4	2.875	73,00
2 1/2	63,50	09Th 1	09Th 4	3.125	79,40
3	76,20	09Ti 1	09Ti 4	3.375	85,70
4	101,60	09Tj 1	09Tj 4	4.125	104,80
6	152,40	09Tk 1	09Tk 4	5.625	142,90

DT 9

Automatic Tube Weld:
Cross

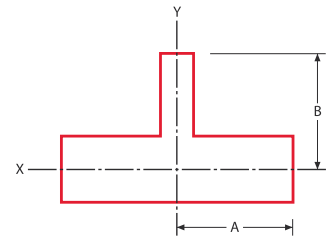
Nominal Size		Order Code		A	
inch	mm	SFF1	SFF4	inch	mm
1/4	6,35	09Xa 1	09Xa 4	1.750	44,50
3/8	9,53	09Xb 1	09Xb 4	1.750	44,50
1/2	12,70	09Xc 1	09Xc 4	1.875	47,60
3/4	19,05	09Xd 1	09Xd 4	2.000	50,80
1	25,40	09Xe 1	09Xe 4	2.125	54,00
1 1/2	38,10	09Xf 1	09Xf 4	2.375	60,30
2	50,80	09Xg 1	09Xg 4	2.875	73,00
2 1/2	63,50	09Xh 1	09Xh 4	3.125	79,40
3	76,20	09Xi 1	09Xi 4	3.375	85,70
4	101,60	09Xj 1	09Xj 4	4.125	104,80
6	152,40	09Xk 1	09Xk 4	5.625	142,90

DT 10

Automatic Tube Weld:
Reducing Tee

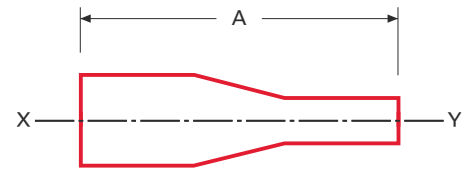
Nominal Size		Order Code		A		B	
inch	mm	SFF1	SFF4	inch	mm	inch	mm
3/8 x 1/4	9,53 x 6,35	10 b-a 1	10 b-a 4	1.750	44,45	1.750	44,50
1/2 x 1/4	12,70 x 6,35	10 c-a 1	10 c-a 4	1.875	47,60	1.875	47,60
x 3/8	x 9,53	10 c-b 1	10 c-b 4	1.875	47,60	1.875	47,60
3/4 x 1/4	19,05 x 6,35	10 d-a 1	10 d-a 4	2.000	50,80	2.000	50,80
x 3/8	x 9,53	10 d-b 1	10 d-b 4	2.000	50,80	2.000	50,80
x 1/2	x 12,70	10 d-c 1	10 d-c 4	2.000	50,80	2.000	50,80
1 x 1/4	25,40 x 6,35	10 e-a 1	10 e-a 4	2.125	54,00	2.125	54,00
x 3/8	x 9,53	10 e-b 1	10 e-b 4	2.125	54,00	2.125	54,00
x 1/2	x 12,70	10 e-c 1	10 e-c 4	2.125	54,00	2.125	54,00
x 3/4	x 19,05	10 e-d 1	10 e-d 4	2.125	54,00	2.125	54,00
1 1/2 x 1/2	38,10 x 12,70	10 f-c 1	10 f-c 4	2.375	60,30	2.375	60,30
x 3/4	x 19,05	10 f-d 1	10 f-d 4	2.375	60,30	2.375	60,30
x 1	x 25,40	10 f-e 1	10 f-e 4	2.375	60,30	2.375	60,30

DT 10

Automatic Tube Weld:
Reducing Tee

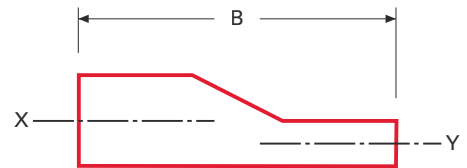
Nominal Size		Order Code		A		B		
inch	mm	SFF1	SFF4	inch	mm	inch	mm	
2	x 1/2	50,80 x 12,70	10 g-c 1	10 g-c 4	2.875	73,00	2.625	66,70
	x 3/4	x 19,05	10 g-d 1	10 g-d 4	2.875	73,00	2.625	66,70
	x 1	x 25,40	10 g-e 1	10 g-e 4	2.875	73,00	2.625	66,70
	x 1 1/2	x 38,10	10 g-f 1	10 g-f 4	2.875	73,00	2.625	66,70
2 1/2	x 1/2	63,50 x 12,70	10 h-c 1	10 h-c 4	3.125	79,40	2.875	73,00
	x 3/4	x 19,05	10 h-d 1	10 h-d 4	3.125	79,40	2.875	73,00
	x 1	x 25,40	10 h-e 1	10 h-e 4	3.125	79,40	2.875	73,00
	x 1 1/2	x 38,10	10 h-f 1	10 h-f 4	3.125	79,40	2.875	73,00
3	x 2	x 50,80	10 h-g 1	10 h-g 4	3.125	79,40	2.875	73,00
	x 1/2	76,20 x 12,70	10 i-c 1	10 i-c 4	3.375	85,70	3.125	79,40
	x 3/4	x 19,05	10 i-d 1	10 i-d 4	3.375	85,70	3.125	79,40
	x 1	x 25,40	10 i-e 1	10 i-e 4	3.375	85,70	3.125	79,40
	x 1 1/2	x 38,10	10 i-f 1	10 i-f 4	3.375	85,70	3.125	79,40
	x 2	x 50,40	10 i-g 1	10 i-g 4	3.375	85,70	3.125	79,40
4	x 2 1/2	x 63,50	10 i-h 1	10 i-h 4	3.375	85,70	3.125	79,40
	x 1/2	101,60 x 12,70	10 j-c 1	10 j-c 4	4.125	104,80	3.625	92,10
	x 3/4	x 19,05	10 j-d 1	10 j-d 4	4.125	104,80	3.625	92,10
	x 1	x 25,40	10 j-e 1	10 j-e 4	4.125	104,80	3.625	92,10
	x 1 1/2	x 38,10	10 j-f 1	10 j-f 4	4.125	104,80	3.625	92,10
	x 2	x 50,40	10 j-g 1	10 j-g 4	4.125	104,80	3.875	98,40
6	x 2 1/2	x 63,50	10 j-h 1	10 j-h 4	4.125	104,80	3.875	98,40
	x 3	x 76,20	10 j-i 1	10 j-i 4	4.125	104,80	3.875	98,40
	x 3	152,40 x 76,20	10 k-i 1	10 k-i 4	5.625	142,90	4.875	123,80
	x 4	x 101,60	10 k-j 1	10 k-j 4	5.625	142,90	5.125	130,20

DT 11

Automatic Tube Weld:
Concentric Reducer

Nominal Size		Order Code		A		B	
inch	mm	SFF1	SFF4	inch	mm	inch	mm
3/8 x 1/4	9,53 x 6,35	11Kb-a1	11Kb-a4	3.250	82,60		
1/2 x 1/4	12,70 x 6,35	11Kc-a1	11Kc-a4	3.250	82,60		
x 3/8	x 9,53	11Kc-b1	11Kc-b4	3.250	82,60		
3/4 x 1/4	19,05 x 6,35	11Kd-a1	11Kd-a4	3.250	82,60		
x 3/8	x 9,53	11Kd-b1	11Kd-b4	3.250	82,60		
x 1/2	x 12,70	11Kd-c1	11Kd-c4	4.000	101,60		
1 x 1/4	25,40 x 6,35	11Ke-a1	11Ke-a4	4.500	114,30		
x 3/8	x 9,53	11Ke-b1	11Ke-b4	4.500	114,30		
x 1/2	x 12,70	11Ke-c1	11Ke-c4	4.500	114,30		
x 3/4	x 19,05	11Ke-d1	11Ke-d4	4.000	101,60		
1 1/2 x 1/2	38,10 x 12,70	11Kf-c1	11Kf-c4	5.500	139,70		
x 3/4	x 19,05	11Kf-d1	11Kf-d4	5.000	127,00		
x 1	x 25,40	11Kf-e1	11Kf-e4	5.000	127,00		
2 x 1/2	50,80 x 12,70	11Kg-c1	11Kg-c4	7.750	196,90		
x 3/4	x 19,05	11Kg-d1	11Kg-d4	7.250	184,20		
x 1	x 25,40	11Kg-e1	11Kg-e4	7.250	184,20		
x 1 1/2	x 38,10	11Kg-f1	11Kg-f4	5.250	133,40		
2 1/2 x 1/2	63,50 x 12,70	11Kh-c1	11Kh-c4	9.750	247,70		
x 3/4	x 19,05	11Kh-d1	11Kh-d4	9.250	235,00		
x 1	x 25,40	11Kh-e1	11Kh-e4	9.250	235,00		
x 1 1/2	x 38,10	11Kh-f1	11Kh-f4	7.250	184,20		
x 2	x 50,80	11Kh-g1	11Kh-g4	5.500	139,70		
3 x 1	76,20 x 25,40	11Ki-e1	11Ki-e4	11.250	285,80		
x 1 1/2	x 38,10	11Ki-f1	11Ki-f4	9.250	235,00		
x 2	x 50,80	11Ki-g1	11Ki-g4	7.500	190,50		
x 2 1/2	x 63,50	11Ki-h1	11Ki-h4	5.500	139,70		
4 x 1	101,60 x 25,40	11Kj-e1	11Kj-e4	15.500	393,70		
x 1 1/2	x 38,10	11Kj-f1	11Kj-f4	13.500	342,90		
x 2	x 50,80	11Kj-g1	11Kj-g4	11.750	298,50		
x 2 1/2	x 63,50	11Kj-h1	11Kj-h4	9.750	247,70		
x 3	x 76,20	11Kj-i1	11Kj-i4	7.750	196,90		
6 x 3	152,40 x 76,20	11Kk-i1	11Kk-i4	10.000	254,00		
x 4	x 101,60	11Kk-j1	11Kk-j4	10.000	254,00		

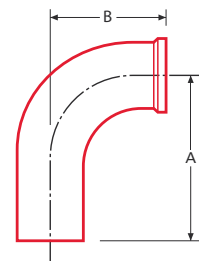
DT 11

Automatic Tube Weld:
Eccentric Reducer

Nominal Size		Order Code		A		B	
inch	mm	SFF1	SFF4	inch	mm	inch	mm
3/8 x 1/4	9,53 x 6,35	11Eb-a1	11Eb-a4			4.000	101,60
1/2 x 1/4	12,70 x 6,35	11Ec-a1	11Ec-a4			4.000	101,60
x 1/2	x 9,53	11Ec-b1	11Ec-b4			4.000	101,60
3/4 x 1/4	19,05 x 6,35	11Ed-a1	11Ed-a4			4.000	101,60
x 3/8	x 9,53	11Ed-b1	11Ed-b4			4.000	101,60
x 1/2	x 12,70	11Ed-c1	11Ed-c4			4.000	101,60
1 x 1/4	25,40 x 6,35	11Ee-a1	11Ee-a4			4.500	114,30
x 3/8	x 9,53	11Ee-b1	11Ee-b4			4.500	114,30
x 1/2	x 12,70	11Ee-c1	11Ee-c4			4.500	114,30
x 3/4	x 19,05	11Ee-d1	11Ee-d4			4.000	101,60
1 1/2 x 1/2	38,10 x 12,70	11Ef-c1	11Ef-c4			5.500	139,70
x 3/4	x 19,05	11 E-d1	11Ef-d4			5.000	127,00
x 1	x 25,40	11Ef-e1	11Ef-e4			5.000	127,00
2 x 1/2	50,80 x 12,70	11Eg-c1	11Eg-c4			7.750	196,90
x 3/4	x 19,05	11Eg-d1	11Eg-d4			7.250	184,20
x 1	x 25,40	11Eg-e1	11Eg-e4			7.250	184,20
x 1 1/2	x 38,10	11Eg-f1	11Eg-f4			5.250	133,40
2 1/2 x 1/2	63,50 x 12,70	11Eh-c1	11Eh-c4			9.750	247,70
x 3/4	x 19,05	11Eh-d1	11Eh-d4			9.250	235,00
x 1	x 25,40	11Eh-e1	11Eh-e4			9.250	235,00
x 1 1/2	x 38,10	11Eh-f1	11Eh-f4			7.250	184,20
x 2	x 50,80	11Eh-g1	11Eh-g4			5.500	139,70
3 x 1	76,20 x 25,40	11Ei-e1	11Ei-e4			11.250	285,80
x 1 1/2	x 38,10	11 Ei-f1	11 Ei-f 4			9.250	235,00
x 2	x 50,80	11Ei-g1	11Ei-g4			7.500	190,50
x 2 1/2	x 63,50	11Ei-h1	11Ei-h4			5.500	139,70
4 x 1	101,60 x 25,40	11Ej-e1	11Ej-e4			15.500	393,70
x 1 1/2	x 38,10	11 Ej-f1	11 Ej-f 4			13.500	342,90
x 2	x 50,80	11Ej-g1	11Ej-g4			11.750	298,50
x 2 1/2	x 63,50	11Ej-h1	11Ej-h4			9.750	247,70
x 3	x 76,20	11 Ej-i 1	11 Ej-i 4			7.750	196,90
6 x 3	152,40 x 76,20	11Ek-i1	11Ek-i4			9.750	247,70
x 4	x101,60	11Ek-j1	11Ek-j4			10.000	254,00

DT 12

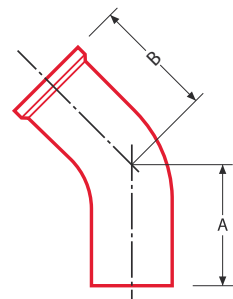
Automatic Tube Weld:
Hygienic Clamp Joint,
90° Elbow



Nominal Size		Order Code		A		B	
inch	mm	SFF1	SFF4	inch	mm	inch	mm
1/4	6,35	12a1	12a4	2.625	66,70	1.625	41,30
3/8	9,53	12b1	12b4	2.625	66,70	1.625	41,30
1/2	12,70	12c1	12c4	3.000	76,20	1.625	41,30
3/4	19,05	12d1	12d4	3.000	76,20	1.625	41,30
1	25,40	12e1	12e4	3.000	76,20	2.000	50,80
1 1/2	38,10	12f1	12f4	3.750	95,30	2.750	69,90
2	50,80	12g1	12g4	4.750	120,70	3.500	88,90
2 1/2	63,50	12h1	12h4	5.500	139,70	4.250	108,00
3	76,20	12i1	12i4	6.250	158,80	5.000	127,00
4	101,60	12j1	12j4	8.000	203,20	6.625	168,20
6	152,40	12k1	12k4	11.500	292,10	10.500	266,70

DT 13

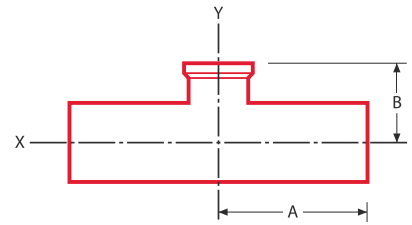
Automatic Tube Weld:
Hygienic Clamp Joint,
45° Elbow



Nominal Size		Order Code		A		B	
inch	mm	SFF1	SFF4	inch	mm	inch	mm
1/4	6,35	13a1	13a4	2.000	50,80	1.000	25,40
3/8	9,53	13b1	13b4	2.000	50,80	1.000	25,40
1/2	12,70	13c1	13c4	2.250	57,20	1.000	25,40
3/4	19,05	13d1	13d4	2.250	57,20	1.000	25,40
1	25,40	13e1	13e4	2.250	57,20	1.125	28,60
1 1/2	38,10	13f1	13f4	2.500	63,50	1.438	36,50
2	50,80	13g1	13g4	3.000	76,20	1.750	44,50
2 1/2	63,50	13h1	13h4	3.375	85,70	2.063	52,40
3	76,20	13i1	13i4	3.625	92,10	2.375	60,30
4	101,60	13j1	13j4	4.500	114,30	3.125	79,40
6	152,40	13k1	13k4	6.250	158,80	5.250	133,40

DT 14

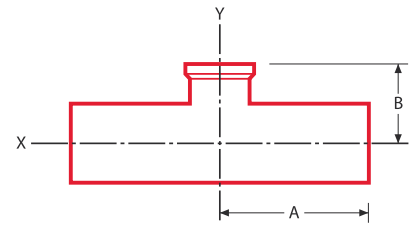
Automatic Tube Weld:
Short Outlet Hygienic Clamp Joint
Reducing Tee



Nominal Size		Order Code		A		B	
inch	mm	SFF1	SFF4	inch	mm	inch	mm
3/8 x 1/4	9,53 x 6,35	14 b-a1	14 b-a4	1.750	44,50	1.000	25,40
1/2 x 1/4	12,70 x 6,35	14 c-a1	14 c-a4	1.875	47,60	1.000	25,40
x 3/8	x 9,53	14 c-b1	14 c-b4	1.875	47,60	1.000	25,40
3/4 x 1/4	19,05 x 6,35	14 d-a1	14 d-a4	2.000	50,80	1.000	25,40
x 3/8	x 9,53	14 d-b1	14 d-b4	2.000	50,80	1.000	25,40
x 1/2	x 12,70	14 d-c1	14 d-c4	2.000	50,80	1.000	25,40
1 x 1/4	25,40 x 6,35	14 e-a1	14 e-a4	2.125	54,00	1.125	28,60
x 3/8	x 9,53	14 e-b1	14 e-b4	2.125	54,00	1.125	28,60
x 1/2	x 12,70	14 e-c1	14 e-c4	2.125	54,00	1.125	28,60
x 3/4	x 19,05	14 e-d1	14 e-d4	2.125	54,00	1.125	28,60
1 1/2 x 1/2	38,10 x 12,70	14 f-c 1	14 f-c 4	2.375	60,30	1.375	34,90
x 3/4	x 19,05	14 f-d 1	14 f-d 4	2.375	60,30	1.375	34,90
x 1	x 25,40	14 f-e 1	14 f-e 4	2.375	60,30	1.375	34,90
2 x 1/2	50,80 x 12,70	14 g-c1	14 g-c4	2.875	73,00	1.625	41,30
x 3/4	x 19,05	14 g-d1	14 g-d4	2.875	73,00	1.625	41,30
x 1	x 25,40	14 g-e1	14 g-e4	2.875	73,00	1.625	41,30
x 1 1/2	x 38,10	14 g-f1	14 g-f 4	2.875	73,00	1.625	41,30
2 1/2 x 1/2	63,50 x 12,70	14 h-c1	14 h-c4	3.125	79,40	1.875	47,60
x 3/4	x 19,05	14 h-d1	14 h-d4	3.125	79,40	1.875	47,60
x 1	x 25,40	14 h-e1	14 h-e4	3.125	79,40	1.875	47,60
x 1 1/2	x 38,10	14 h-f1	14 h-f 4	3.125	79,40	1.875	47,60
x 2	x 50,80	14 h-g1	14 h-g4	3.125	79,40	1.875	47,60
3 x 1/2	76,20 x 12,70	14 i-c 1	14 i-c 4	3.375	85,70	2.125	54,00
x 3/4	x 19,05	14 i-d 1	14 i-d 4	3.375	85,70	2.125	54,00
x 1	x 25,40	14 i-e 1	14 i-e 4	3.375	85,70	2.125	54,00
x 1 1/2	x 38,10	14 i-f 1	14 i-f 4	3.375	85,70	2.125	54,00
x 2	x 50,80	14 i-g 1	14 i-g 4	3.375	85,70	2.125	54,00
x 2 1/2	x 63,50	14 i-h 1	14 i-h 4	3.375	85,70	2.125	54,00
4 x 1/2	101,60 x 12,70	14 j-c 1	14 j-c 4	4.125	104,80	2.625	66,70
x 3/4	x 19,05	14 j-d 1	14 j-d 4	4.125	104,80	2.625	66,70
x 1	x 25,40	14 j-e 1	14 j-e 4	4.125	104,80	2.625	66,70
x 1 1/2	x 38,10	14 j-f 1	14 j-f 4	4.125	104,80	2.625	66,70
x 2	x 50,80	14 j-g 1	14 j-g 4	4.125	104,80	2.625	66,70
x 2 1/2	x 63,50	14 j-h 1	14 j-h 4	4.125	104,80	2.625	66,70
x 3	x 76,20	14 j-i 1	14 j-i 4	4.125	104,80	2.625	66,70

DT 14

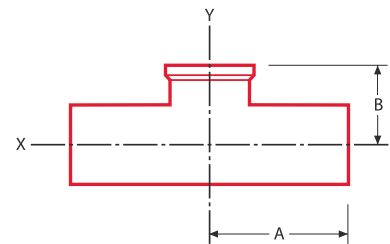
Automatic Tube Weld:
Short Outlet Hygienic Clamp Joint
Reducing Tee



Nominal Size		Order Code		A		B	
inch	mm	SFF1	SFF4	inch	mm	inch	mm
6 x 1/2	152,40 x 12,70	14 k-c1	14 k-c 4	5.625	142,90	3.625	92,10
x 3/4	x 19,05	14 k-d1	14 k-d 4	5.625	142,90	3.625	92,10
x 1	x 25,40	14 k-e1	14 k-e 4	5.625	142,90	3.625	92,10
x 1 1/2	x 38,10	14 k-f1	14 k-f 4	5.625	142,90	3.625	92,10
x 2	x 50,80	14 k-g1	14 k-g 4	5.625	142,90	3.625	92,10
x 2 1/2	x 63,50	14 k-h1	14 k-h 4	5.625	142,90	3.625	92,10
x 3	x 76,20	14 k-i 1	14 k-i 4	5.625	142,90	3.625	92,10
x 4	x 101,60	14 k-j 1	14 k-j 4	5.625	142,90	3.750	95,30

DT 15

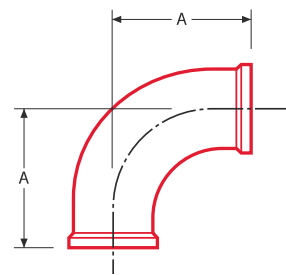
Automatic Tube Weld:
Short Outlet Hygienic Clamp Joint
Tee



Nominal Size		Order Code		A		B	
inch	mm	SFF1	SFF4	inch	mm	inch	mm
1/4	6,35	15a1	15a4	1.750	44,50	1.000	25,40
3/8	9,53	15b1	15b4	1.750	44,50	1.000	25,40
1/2	12,70	15c1	15c4	1.875	47,60	1.000	25,40
3/4	19,05	15d1	15d4	2.000	50,80	1.125	28,60
1	25,40	15e1	15e4	2.125	54,00	1.125	28,60
1 1/2	38,10	15 f1	15 f 4	2.375	60,30	1.375	34,90
2	50,80	15g1	15g4	2.875	73,00	1.625	41,30
2 1/2	63,50	15h1	15h4	3.125	79,40	1.875	47,60
3	76,20	15 i 1	15 i 4	3.375	85,70	2.125	54,00
4	101,60	15 j 1	15 j 4	4.125	104,80	2.750	69,90
6	152,40	15k1	15k4	5.625	142,90	4.625	117,50

DT 16

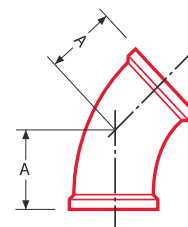
Hygienic Clamp Joint:
90° Elbow



Nominal Size		Order Code		A	
inch	mm	SFF1	SFF4	inch	mm
1/4	6,35	16 a 1	16 a 4	1.625	41,30
3/8	9,53	16 b 1	16 b 4	1.625	41,30
1/2	12,70	16 c 1	16 c 4	1.625	41,30
3/4	19,05	16 d 1	16 d 4	1.625	41,30
1	25,40	16 e 1	16 e 4	2.000	50,80
1 1/2	38,10	16 f 1	16 f 4	2.750	69,90
2	50,80	16 g 1	16 g 4	3.500	88,90
2 1/2	63,50	16 h 1	16 h 4	4.250	108,00
3	76,20	16 i 1	16 i 4	5.000	127,00
4	101,60	16 j 1	16 j 4	6.625	168,30
6	152,40	16 k 1	16 k 4	10.500	266,70

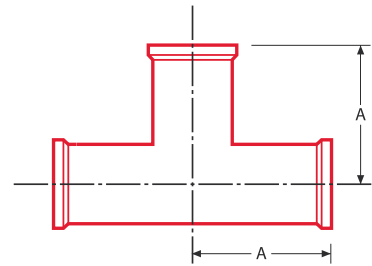
DT 17

Hygienic Clamp Joint:
45° Elbow



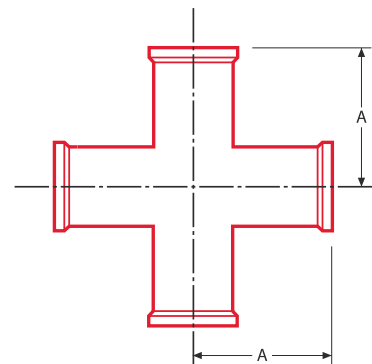
Nominal Size		Order Code		A	
inch	mm	SFF1	SFF4	inch	mm
1/4	6,35	17 a 1	17 a 4	1.000	25,40
3/8	9,53	17 b 1	17 b 4	1.000	25,40
1/2	12,70	17 c 1	17 c 4	1.000	25,40
3/4	19,05	17 d 1	17 d 4	1.000	25,40
1	25,40	17 e 1	17 e 4	1.125	28,60
1 1/2	38,10	17 f 1	17 f 4	1.483	37,70
2	50,80	17 g 1	17 g 4	1.750	44,50
2 1/2	63,50	17 h 1	17 h 4	2.063	52,40
3	76,20	17 i 1	17 i 4	2.375	60,30
4	101,60	17 j 1	17 j 4	3.125	79,40
6	152,40	17 k 1	17 k 4	5.250	133,40

DT 18

Hygienic Clamp Joint:
Straight Tee

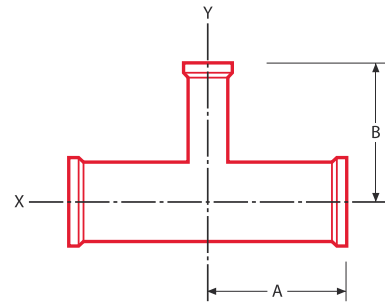
Nominal Size		Order Code		A	
inch	mm	SFF1	SFF4	inch	mm
1/4	6,35	18Ta 1	18 Ta 4	2.250	57,20
3/8	9,53	18Tb 1	18 Tb 4	2.250	57,20
1/2	12,70	18Tc 1	18 Tc 4	2.250	57,20
3/4	19,05	18Td 1	18 Td 4	2.375	60,30
1	25,40	18Te 1	18 Te 4	2.625	66,70
1 1/2	38,10	18 Tf 1	18 Tf 4	2.875	73,00
2	50,80	18Tg 1	18 Tg 4	3.375	85,70
2 1/2	63,50	18Th 1	18 Th 4	3.625	92,10
3	76,20	18 Ti 1	18 Ti 4	3.875	98,40
4	101,60	18 Tj 1	18 Tj 4	4.750	120,70
6	152,40	18Tk 1	18 Tk 4	7.125	181,00

DT 18

Hygienic Clamp Joint:
Straight Cross

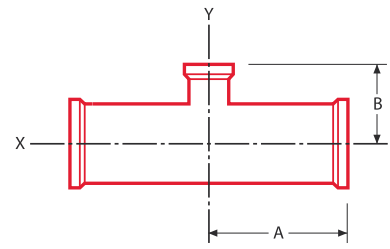
Nominal Size		Order Code		A	
inch	mm	SFF1	SFF4	inch	mm
1/4	6,35	18Xa 1	18Xa 4	2.250	57,20
3/8	9,53	18Xb 1	18Xb 4	2.250	57,20
1/2	12,70	18Xc 1	18Xc 4	2.250	57,20
3/4	19,05	18Xd 1	18Xd 4	2.375	60,30
1	25,40	18Xe 1	18Xe 4	2.625	66,70
1 1/2	38,10	18 Xf 1	18 Xf 4	2.875	73,00
2	50,80	18Xg 1	18Xg 4	3.375	85,70
2 1/2	63,50	18Xh 1	18Xh 4	3.625	92,10
3	76,20	18 Xi 1	18 Xi 4	3.875	98,40
4	101,60	18 Xj 1	18 Xj 4	4.750	120,70
6	152,40	18Xk 1	18Xk 4	7.125	181,00

DT 19

Hygienic Clamp Joint:
Reducing Tee

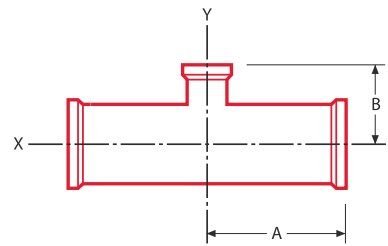
Nominal Size		Order Code		A		B	
inch	mm	SFF1	SFF4	inch	mm	inch	mm
3/8 x 1/4	9,53 x 6,35	19 b-a 1	19 b-a 4	2.250	57,20	2.250	57,20
1/2 x 1/4	12,70 x 6,35	19 c-a 1	19 c-a 4	2.375	60,30	2.375	60,30
x 3/8	x 9,53	19 c-b 1	19 c-b 4	2.375	60,30	2.375	60,30
3/4 x 1/4	19,05 x 6,35	19 d-a 1	19 d-a 4	2.500	63,50	2.500	63,50
x 3/8	x 9,53	19 d-b 1	19 d-b 4	2.500	63,50	2.500	63,50
x 1/2	x 12,70	19 d-c 1	19 d-c 4	2.500	63,50	2.500	63,50
1 x 1/4	25,40 x 6,35	19 e-a 1	19 e-a 4	2.625	66,70	2.625	66,70
x 3/8	x 9,53	19 e-b 1	19 e-b 4	2.625	66,70	2.625	66,70
x 1/2	x 12,70	19 e-c 1	19 e-c 4	2.625	66,70	2.625	66,70
x 3/4	x 19,05	19 e-d 1	19 e-d 4	2.625	66,70	2.625	66,70
1 1/2 x 1/2	38,10 x 12,70	19 f-c 1	19 f-c 4	2.875	73,00	2.875	73,00
x 3/4	x 19,05	19 f-d 1	19 f-d 4	2.875	73,00	2.875	73,00
x 1	x 25,40	19 f-e 1	19 f-e 4	2.875	73,00	2.875	73,00
2 x 1/2	50,80 x 12,70	19 g-c 1	19 g-c 4	3.375	85,70	3.125	79,40
x 3/4	x 19,05	19 g-d 1	19 g-d 4	3.375	85,70	3.125	79,40
x 1	x 25,40	19 g-e 1	19 g-e 4	3.375	85,70	3.125	79,40
x 1 1/2	x 38,10	19 g-f 1	19 g-f 4	3.375	85,70	3.125	79,40
2 1/2 x 1/2	63,50 x 12,70	19 h-c 1	19 h-c 4	3.625	92,10	3.375	85,70
x 3/4	x 19,05	19 h-d 1	19 h-d 4	3.625	92,10	3.375	85,70
x 1	x 25,40	19 h-e 1	19 h-e 4	3.625	92,10	3.375	85,70
x 1 1/2	x 38,10	19 h-f 1	19 h-f 4	3.625	92,10	3.375	85,70
x 2	x 50,80	19 h-g 1	19 h-g 4	3.625	92,10	3.375	85,70
3 x 1/2	76,20 x 12,70	19 i-c 1	19 i-c 4	3.875	98,40	3.625	92,10
x 3/4	x 19,05	19 i-d 1	19 i-d 4	3.875	98,40	3.625	92,10
x 1	x 25,40	19 i-e 1	19 i-e 4	3.875	98,40	3.625	92,10
x 1 1/2	x 38,10	19 i-f 1	19 i-f 4	3.875	98,40	3.625	92,10
x 2	x 50,80	19 i-g 1	19 i-g 4	3.875	98,40	3.625	92,10
x 2 1/2	x 63,50	19 i-h 1	19 i-h 4	3.875	98,40	3.625	92,10
4 x 1/2	101,60 x 12,70	19 j-c 1	19 j-c 4	4.750	120,70	4.125	104,80
x 3/4	x 19,05	19 j-d 1	19 j-d 4	4.750	120,70	4.125	104,80
x 1	x 25,40	19 j-e 1	19 j-e 4	4.750	120,70	4.125	104,80
x 1 1/2	x 38,10	19 j-f 1	19 j-f 4	4.750	120,70	4.125	104,80
x 2	x 50,80	19 j-g 1	19 j-g 4	4.750	120,70	4.375	111,10
x 2 1/2	x 63,50	19 j-h 1	19 j-h 4	4.750	120,70	4.375	111,10
x 3	x 76,20	19 j-i 1	19 j-i 4	4.750	120,70	4.375	111,10
6 x 3	152,40 x 76,20,	19 k-i 1	19 k-i 4	7.125	181,00	5.375	136,50
x 4	x 101,60	19 k-j 1	19 k-j 4	7.125	181,00	5.750	146,10

DT 20

Hygienic Clamp Joint:
Short Outlet Reducing Tee

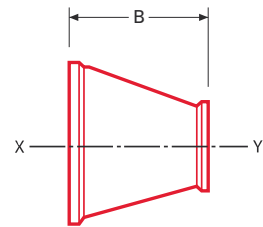
Nominal Size		Order Code		A		B	
inch	mm	SFF1	SFF4	inch	mm	inch	mm
3/8 x 1/4	9,53 x 6,35	20 b-a 1	20 b-a 4	2.250	57,20	1.000	25,40
1/2 x 1/4	12,70 x 6,35	20 c-a 1	20 c-a 4	2.375	60,30	1.000	25,40
x 3/8	x 9,53	20 c-b 1	20 c-b 4	2.375	60,30	1.000	25,40
3/4 x 1/4	19,05 x 6,35	20 d-a 1	20 d-a 4	2.500	63,50	1.000	25,40
x 3/8	x 9,53	20 d-b 1	20 d-b 4	2.500	63,50	1.000	25,40
x 1/2	x 12,70	20 d-c 1	20 d-c 4	2.500	63,50	1.000	25,40
1 x 1/4	25,40 x 6,35	20 e-a 1	20 e-a 4	2.625	66,70	1.125	28,60
x 3/8	x 9,53	20 e-b 1	20 e-b 4	2.625	66,70	1.125	28,60
x 1/2	x 12,70	20 e-c 1	20 e-c 4	2.625	66,70	1.125	28,60
x 3/4	x 19,05	20 e-d 1	20 e-d 4	2.625	66,70	1.125	28,60
1 1/2 x 1/2	38,10 x 12,70	20 f-c 1	20 f-c 4	2.875	73,00	1.375	34,90
x 3/4	x 19,05	20 f-d 1	20 f-d 4	2.875	73,00	1.375	34,90
x 1	x 25,40	20 f-e 1	20 f-e 4	2.875	73,00	1.375	34,90
2 x 1/2	50,80 x 12,70	20 g-c 1	20 g-c 4	3.375	85,70	1.625	41,30
x 3/4	x 19,05	20 g-d 1	20 g-d 4	3.375	85,70	1.625	41,30
x 1	x 25,40	20 g-e 1	20 g-e 4	3.375	85,70	1.625	41,30
x 1 1/2	x 38,10	20 g-f 1	20 g-f 4	3.375	85,70	1.625	41,30
2 1/2 x 1/2	63,50 x 12,70	20 h-c 1	20 h-c 4	3.625	92,10	1.875	47,60
x 3/4	x 19,05	20 h-d 1	20 h-d 4	3.625	92,10	1.875	47,60
x 1	x 25,40	20 h-e 1	20 h-e 4	3.625	92,10	1.875	47,60
x 1 1/2	x 38,10	20 h-f 1	20 h-f 4	3.625	92,10	1.875	47,60
x 2	x 50,80	20 h-g 1	20 h-g 4	3.625	92,10	1.875	47,60
3 x 1/2	76,20 x 12,70	20 i-c 1	20 i-c 4	3.875	98,40	2.125	54,00
x 3/4	x 19,05	20 i-d 1	20 i-d 4	3.875	98,40	2.125	54,00
x 1	x 25,40	20 i-e 1	20 i-e 4	3.875	98,40	2.125	54,00
x 1 1/2	x 38,10	20 i-f 1	20 i-f 4	3.875	98,40	2.125	54,00
x 2	x 50,80	20 i-g 1	20 i-g 4	3.875	98,40	2.125	54,00
x 2 1/2	x 63,50	20 i-h 1	20 i-h 4	3.875	98,40	2.125	54,00
4 x 1/2	101,60 x 12,70	20 j-c 1	20 j-c 4	4.750	120,70	2.625	66,70
x 3/4	x 19,05	20 j-d 1	20 j-d 4	4.750	120,70	2.625	66,70
x 1	x 25,40	20 j-e 1	20 j-e 4	4.750	120,70	2.625	66,70
x 1 1/2	x 38,10	20 j-f 1	20 j-f 4	4.750	120,70	2.625	66,70
x 2	x 50,80	20 j-g 1	20 j-g 4	4.750	120,70	2.625	66,70
x 2 1/2	x 63,50	20 j-h 1	20 j-h 4	4.750	120,70	2.625	66,70
x 3	x 76,20	20 j-i 1	20 j-i 4	4.750	120,70	2.625	66,70

DT 20

Hygienic Clamp Joint:
Short Outlet Reducing Tee

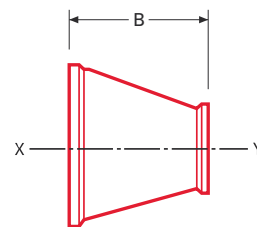
Nominal Size		Order Code		A		B	
inch	mm	SFF1	SFF4	inch	mm	inch	mm
6 x 1/2	152,40 x 12,70	20 k-c 1	20 k-c 4	7.125	181,00	3.625	92,10
x 3/4	x 19,05	20 k-d 1	20 k-d 4	7.125	181,00	3.625	92,10
x 1	x 25,40	20 k-e 1	20 k-e 4	7.125	181,00	3.625	92,10
x 1 1/2	x 38,10	20 k-f 1	20 k-f 4	7.125	181,00	3.625	92,10
x 2	x 50,80	20 k-g 1	20 k-g 4	7.125	181,00	3.625	92,10
x 2 1/2	x 63,50	20 k-h 1	20 k-h 4	7.125	181,00	3.625	92,10
x 3	x 76,20	20 k-i 1	20 k-i 4	7.125	181,00	3.625	92,10
x 4	x 101,60	20 k-j 1	20 k-j 4	7.125	181,00	3.750	95,30

DT 21

Hygienic Clamp Joint:
Concentric Reducer

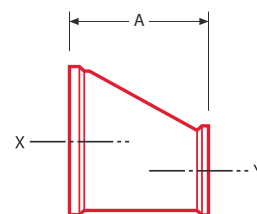
Nominal Size		Order Code		A		B	
inch	mm	SFF1	SFF4	inch	mm	inch	mm
3/4 x 1/2	19,05 x 12,70	21Kd-c1	21Kd-c4			2.000	50,80
1 x 1/2	25,40 x 12,70	21Ke-c1	21Ke-c4			2.500	63,50
x 3/4	x 19,05	21Ke-d1	21Ke-d4			2.000	50,80
1 1/2 x 1/2	38,10 x 12,70	21Kf-c1	21Kf-c4			3.500	88,90
x 3/4	x 19,05	21Kf-d1	21Kf-d4			3.000	76,20
x 1	x 25,40	21Kf-e1	21Kf-e4			3.000	76,20
2 x 1/2	50,80 x 12,70	21Kg-c1	21Kg-c4			5.500	139,70
x 3/4	x 19,05	21Kg-d1	21Kg-d4			5.000	127,00
x 1	x 25,40	21Kg-e1	21Kg-e4			5.000	127,00
x 1 1/2	x 38,10	21Kg-f1	21Kg-f4			3.000	76,20
2 1/2 x 1/2	63,50 x 12,70	21Kh-c1	21Kh-c4			7.500	190,50
x 3/4	x 19,05	21Kh-d1	21Kh-d4			7.000	177,80
x 1	x 25,40	21Kh-e1	21Kh-e4			7.000	177,80
x 1 1/2	x 38,10	21Kh-f1	21Kh-f4			5.000	127,00
x 2	x 50,80	21Kh-g1	21Kh-g4			3.000	76,20

DT 21

Hygienic Clamp Joint:
Concentric Reducer

Nominal Size		Order Code		A		B	
inch	mm	SFF1	SFF4	inch	mm	inch	mm
3 x 1	76,20 x 25,40	21Ki-e1	21Ki-e4			9.000	228,60
x 1 1/2	x 38,10	21 Ki-f1	21 Ki-f4			7.000	177,80
x 2	x 50,80	21Ki-g1	21Ki-g4			5.000	127,00
x 2 1/2	x 63,50	21Ki-h1	21Ki-h4			3.000	76,20
4 x 1	101,60 x 25,40	21Kj-e1	21Kj-e4			13.125	333,40
x 1 1/2	x 38,10	21 Kj-f1	21 Kj-f4			11.125	282,60
x 2	x 50,80	21Kj-g1	21Kj-g4			9.125	231,80
x 2 1/2	x 63,50	21Kj-h1	21Kj-h4			7.125	180,00
x 3	x 76,20	21 Kj-i1	21 Kj-i 4			5.125	130,20
6 x 3	152,40 x 76,20	21Kk-i1	21Kk-i4			7.625	193,70
x 4	x 101,60	21 Kkj 1	21Kk-j4			7.625	193,70

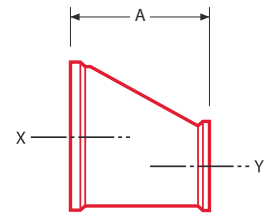
DT 21

Hygienic Clamp Joint:
Eccentric Reducer

Nominal Size		Order Code		A		B	
inch	mm	SFF1	SFF4	inch	mm	inch	mm
3/4 x 1/2	19,05 x 12,70	21Ed-c1	21Ed-c4	2.000	50,80		
1 x 1/2	25,40 x 12,70	21Ee-c1	21Ee-c4	2.500	63,50		
x 3/4	x 19,05	21Ee-d1	21Ee-d4	2.000	50,80		
1 1/2 x 1/2	38,10 x 12,70	21Ef-c1	21Ef-c4	3.500	88,90		
x 3/4	x 19,05	21Ef-d1	21Ef-d4	3.000	76,20		
x 1	x 25,40	21Ef-e1	21Ef-e4	3.000	76,20		
2 x 1/2	50,80 x 12,70	21Eg-c1	21Eg-c4	5.500	139,70		
x 3/4	x 19,05	21Eg-d1	21Eg-d4	5.000	127,00		
x 1	x 25,40	21Eg-e1	21Eg-e4	5.000	127,00		
x 1 1/2	x 38,10	21Eg-f1	21Eg-f4	3.000	76,20		
2 1/2 x 1/2	63,50 x 12,70	21Eh-c1	21Eh-c4	7.500	190,50		
x 3/4	x 19,05	21Eh-d1	21Eh-d4	7.000	177,80		
x 1	x 25,40	21Eh-e1	21Eh-e4	7.000	177,80		
x 1 1/2	x 38,10	21Eh-f1	21Eh-f4	5.000	127,00		
x 2	x 50,80	21Eh-g1	21Eh-g4	3.000	76,20		

DT 21

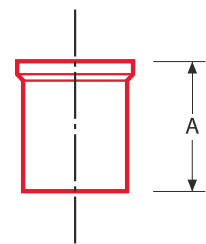
Hygienic Clamp Joint:
Eccentric Reducer



Nominal Size		Order Code		A		B	
inch	mm	SFF1	SFF4	inch	mm	inch	mm
3 x 1	76,20 x 25,40	21Ei-e1	21Ei-e4	9.000	228,60		
x 1 1/2	x 38,10	21Ei-f1	21Ei-f4	7.000	177,80		
x 2	x 50,80	21Ei-g1	21Ei-g4	5.000	127,00		
x 2 1/2	x 63,50	21Ei-h1	21Ei-h4	3.000	76,20		
4 x 1	101,60 x 25,40	21Ej-e1	21Ej-e4	13.125	333,40		
x 1 1/2	x 38,10	21Ej-f1	21Ej-f4	11.125	282,60		
x 2	x 50,80	21Ej-g1	21Ej-g4	9.125	231,80		
x 2 1/2	x 63,50	21Ej-h1	21Ej-h4	7.125	181,00		
x 3	x 76,20	21Ej-i1	21Ej-i4	5.125	130,20		
6 x 3	152,40 x 76,20	21Ek-i1	21Ek-i4	7.500	190,50		
x 4	x 101,60	21Ek-j1	21Ek-j4	7.625	193,70		

DT 22

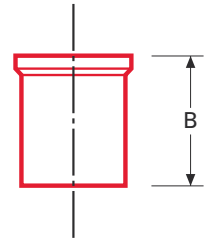
Automatic Tube Weld:
Ferrule, Length A



Nominal Size		Order Code		A	
inch	mm	SFF1	SFF4	inch	mm
1/4	6,35	22Aa 1	22Aa 4	1.750	44,50
3/8	9,53	22Ab 1	22Ab 4	1.750	44,50
1/2	12,70	22Ac 1	22Ac 4	1.750	44,50
3/4	19,05	22Ad 1	22Ad 4	1.750	44,50
1	25,40	22Ae 1	22Ae 4	1.750	44,50
1 1/2	38,10	22Af 1	22Af 4	1.750	44,50
2	50,80	22Ag 1	22Ag 4	2.250	57,20
2 1/2	63,50	22Ah 1	22Ah 4	2.250	57,20
3	76,20	22Ai 1	22Ai 4	2.250	57,20
4	101,60	22Aj 1	22Aj 4	2.250	57,20
6	152,40	22Ak 1	22Ak 4	3.000	76,20

DT 22

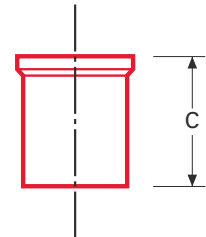
Automatic Tube Weld:
Ferrule, Length B



Nominal Size		Order Code		B	
inch	mm	SFF1	SFF4	inch	mm
1/4	6,35	22Ba 1	22Ba 4	1.130	28,70
3/8	9,53	22Bb 1	22Bb 4	1.130	28,70
1/2	12,70	22Bc 1	22Bc 4	1.130	28,70
3/4	19,05	22Bd 1	22Bd 4	1.130	28,70
1	25,40	22Be 1	22Be 4	1.130	28,70
1 1/2	38,10	22Bf 1	22Bf 4	1.130	28,70
2	50,80	22Bg 1	22Bg 4	1.130	28,70
2 1/2	63,50	22Bh 1	22Bh 4	1.130	28,70
3	76,20	22Bi 1	22Bi 4	1.130	28,70
4	101,60	22Bj 1	22Bj 4	1.130	28,70
6	152,40	22Bk 1	22Bk 4	1.500	38,10

DT 22

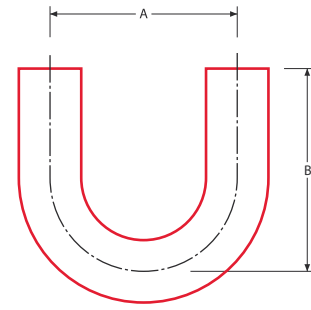
Automatic Tube Weld:
Ferrule, Length C



Nominal Size		Order Code		C	
inch	mm	SFF1	SFF4	inch	mm
1/4	6,35	22Ca 1	22Ca 4	0.500	12,70
3/8	9,53	22Cb 1	22Cb 4	0.500	12,70
1/2	12,70	22Cc 1	22Cc 4	0.500	12,70
3/4	19,05	22Cd 1	22Cd 4	0.500	12,70
1	25,40	22Ce 1	22Ce 4	0.500	12,70
1 1/2	38,10	22Cf 1	22Cf 4	0.500	12,70
2	50,80	22Cg 1	22Cg 4	0.500	12,70
2 1/2	63,50	22Ch 1	22Ch 4	0.500	12,70
3	76,20	22Ci 1	22Ci 4	0.500	12,70
4	101,60	22Cj 1	22Cj 4	0.625	15,90
6	152,40	22Ck 1	22Ck 4	0.750	19,10

DT 23

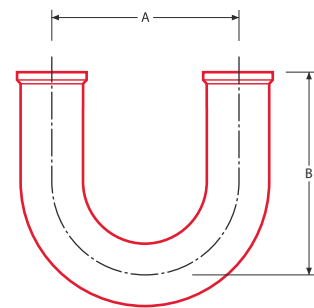
Automatic Tube Weld:
180° Return Bend



Nominal Size		Order Code		A		B	
inch	mm	SFF1	SFF4	inch	mm	inch	mm
1/4	6,35	23 a 1	23 a 4	4.500	114,30	2.625	66,70
3/8	9,53	23 b 1	23 b 4	4.500	114,30	2.625	66,70
1/2	12,70	23 c 1	23 c 4	4.500	114,30	3.000	76,20
3/4	19,05	23 d 1	23 d 4	4.500	114,30	3.000	76,20
1	25,40	23 e 1	23 e 4	3.000	76,20	3.000	76,20
1 1/2	38,10	23 f 1	23 f 4	4.500	114,30	4.500	114,30
2	50,80	23 g 1	23 g 4	6.000	152,40	5.000	127,00
2 1/2	63,50	23 h 1	23 h 4	7.500	190,50	5.750	146,10
3	76,20	23 i 1	23 i 4	9.000	228,60	6.500	165,10
4	101,60	23 j 1	23 j 4	12.000	304,80	8.500	215,90
6	152,40	23 k 1	23 k 4	18.000	457,20	11.500	292,10

DT 24

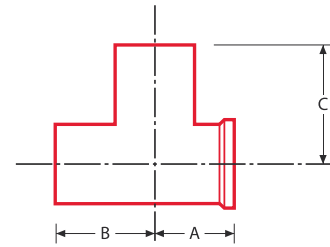
Hygienic Clamp Joint:
180° Return Bend



Nominal Size		Order Code		A		B	
inch	mm	SFF1	SFF4	inch	mm	inch	mm
1/4	6,35	24 a 1	24 a 4	4.500	114,30	3.125	79,40
3/8	9,53	24 b 1	24 b 4	4.500	114,30	3.125	79,40
1/2	12,70	24 c 1	24 c 4	4.500	114,30	3.500	88,90
3/4	19,05	24 d 1	24 d 4	4.500	114,30	3.500	88,90
1	25,40	24 e 1	24 e 4	3.000	76,20	3.500	88,90
1 1/2	38,10	24 f 1	24 f 4	4.500	114,30	5.000	127,00
2	50,80	24 g 1	24 g 4	6.000	152,40	5.500	139,70
2 1/2	63,50	24 h 1	24 h 4	7.500	190,50	6.250	158,80
3	76,20	24 i 1	24 i 4	9.000	228,60	7.000	177,80
4	101,60	24 j 1	24 j 4	12.000	304,80	9.125	231,80
6	152,40	24 k 1	24 k 4	18.000	457,20	13.000	330,20

DT 25

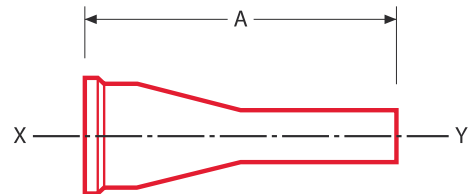
Hygienic Mechanical Joint:
Short Outlet Run Tee



Nominal Size		Order Code		A		B		C	
inch	mm	SFF1	SFF4	inch	mm	inch	mm	inch	mm
1/4	6,35	25a1	25 a 4	0.875	22,20	1.750	44,50	1.750	44,50
3/8	9,53	25b1	25b4	0.875	22,20	1.750	44,50	1.750	44,50
1/2	12,70	25c1	25 c 4	0.875	22,20	1.875	47,60	1.875	47,60
3/4	19,05	25d1	25d4	1.000	25,40	2.000	50,80	2.000	50,80
1	25,40	25e1	25 e 4	1.125	28,60	2.125	54,00	2.125	54,00
1 1/2	38,10	25 f 1	25 f 4	1.375	34,90	2.375	60,30	2.375	60,30
2	50,80	25g1	25g4	1.625	41,30	2.875	73,00	2.875	73,00
2 1/2	63,50	25h1	25h4	1.875	47,60	3.125	79,40	3.125	79,40
3	76,20	25 i 1	25 i 4	2.125	54,00	3.375	85,70	3.375	85,70
4	101,60	25 j 1	25 j 4	2.750	69,90	4.125	104,80	4.125	104,80
6	152,40	25k1	25 k 4	4.625	117,50	5.625	142,90	5.625	142,90

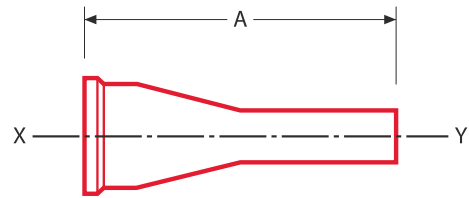
DT 26

Hygienic Clamp Joint:
Tube Weld Concentric Reducer



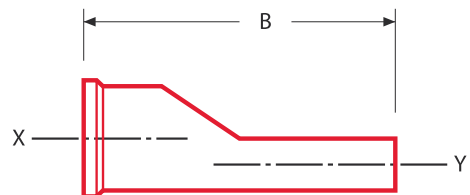
Nominal Size		Order Code		A		B	
inch	mm	SFF1	SFF4	inch	mm	inch	mm
3/4 x 1/2	19,05 x 12,70	26Kd-c1	26Kd-c4	3.000	76,20		
1 x 1/2	25,40 x 12,70	26Ke-c1	26Ke-c4	3.500	88,90		
x 3/4	x 19,05	26Ke-d1	26Ke-d4	3.000	76,20		
1 1/2 x 1/2	38,10 x 12,70	26Kf-c1	26Kf-c4	4.500	114,30		
x 3/4	x 19,05	26Kf-d1	26Kf-d4	4.000	101,60		
x 1	x 25,40	26Kf-e1	26Kf-e4	4.000	101,60		
2 x 1/2	50,80 x 12,70	26Kg-c1	26Kg-c4	6.500	165,10		
x 3/4	x 19,05	26Kg-d1	26Kg-d4	6.000	152,40		
x 1	x 25,40	26Kg-e1	26Kg-e4	6.000	152,40		
x 1 1/2	x 38,10	26Kg-f1	26Kg-f4	4.000	101,60		
2 1/2 x 1/2	63,50 x 12,70	26Kh-c1	26Kh-c4	8.500	215,90		
x 3/4	x 19,05	26Kh-d1	26Kh-d4	8.000	203,20		
x 1	x 25,40	26Kh-e1	26Kh-e4	8.000	203,20		
x 1 1/2	x 38,10	26Kh-f1	26Kh-f4	6.000	152,40		
x 2	x 50,80	26Kh-g1	26Kh-g4	4.250	107,90		

DT 26

Hygienic Clamp Joint:
Tube Weld Concentric Reducer

Nominal Size		Order Code		A		B	
inch	mm	SFF1	SFF4	inch	mm	inch	mm
3 x 1	76,20 x 25,40	26Ki-e1	26Ki-e4	10.000	254,00		
x 1 1/2	x 38,10	26Ki-f1	26Ki-f4	8.000	203,20		
x 2	x 50,80	26Ki-g1	26Ki-g4	6.250	158,80		
x 2 1/2	x 63,50	26Ki-h1	26Ki-h4	4.250	108,00		
4 x 1	101,60 x 25,40	26Kj-e1	26Kj-e4	14.125	358,80		
x 1 1/2	x 38,10	26Kj-f1	26Kj-f4	12.125	308,00		
x 2	x 50,80	26Kj-g1	26Kj-g4	10.375	263,50		
x 2 1/2	x 63,50	26Kj-h1	26Kj-h4	8.375	212,70		
x 3	x 76,20	26Kj-i1	26Kj-i4	6.375	161,90		
6 x 3	152,40 x 76,20	26Kk-i1	26Kk-i4	9.000	228,60		
x 4	x 101,60	26Kk-j1	26Kk-j4	9.000	228,60		

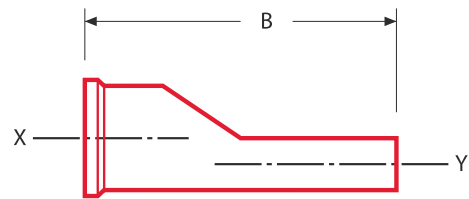
DT 26

Hygienic Clamp Joint:
Tube Weld Eccentric Reducer

Nominal Size		Order Code		A		B	
inch	mm	SFF1	SFF4	inch	mm	inch	mm
3/4 x 1/2	x 12,70	26Ed-c1	26Ed-c4			3.000	76,20
1 x 1/2	x 12,70	26Ee-c1	26Ee-c4			3.500	88,90
x 3/4	x 19,05	26Ee-d1	26Ee-d4			3.000	76,20
1 1/2 x 1/2	38,10 x 12,70	26Ef-c1	26Ef-c4			4.500	114,30
x 3/4	x 19,05	26Ef-d1	26Ef-d4			4.000	101,60
x 1	x 25,40	26Ef-e1	26Ef-e4			4.000	101,60
2 x 1/2	50,80 x 12,70	26Eg-c1	26Eg-c4			6.500	165,10
x 3/4	x 19,05	26Eg-d1	26Eg-d4			6.000	152,40
x 1	x 25,40	26Eg-e1	26Eg-e4			6.000	152,40
x 1 1/2	x 38,10	26Eg-f1	26Eg-f4			4.000	101,60
2 1/2 x 1/2	63,50 x 12,70	26Eh-c1	26Eh-c4			8.500	215,90
x 3/4	x 19,05	26Eh-d1	26Eh-d4			8.000	203,20
x 1	x 25,40	26Eh-e1	26Eh-e4			8.000	203,20
x 1 1/2	x 38,10	26Eh-f1	26Eh-f4			6.000	152,40
x 2	x 50,80	26Eh-g1	26Eh-g4			4.250	108,00

DT 26

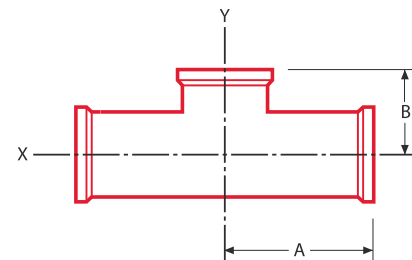
Hygienic Clamp Joint:
Tube Weld Eccentric Reducer



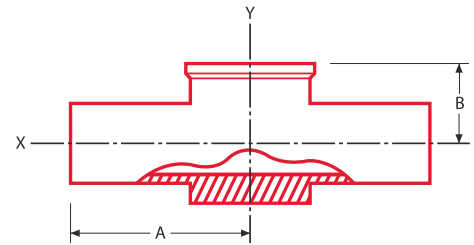
Nominal Size		Order Code		A		B	
inch	mm	SFF1	SFF4	inch	mm	inch	mm
3 x	1	26Ei-e1	26Ei-e4			10.000	254,00
	1 1/2					8.000	203,20
	2					6.250	158,80
	2 1/2					4.250	108,00
4 x	1	26Ej-e1	26Ej-e4			14.125	358,80
	1 1/2					12.125	308,00
	2					10.375	263,50
	2 1/2					8.375	212,70
x	3	26Ej-i1	26Ej-i4			6.375	161,90
	3					6.375	161,90
	3					6.375	161,90
6 x	3	26Ek-i1	26Ek-i4			8.750	222,30
	4					9.000	228,60

DT 27

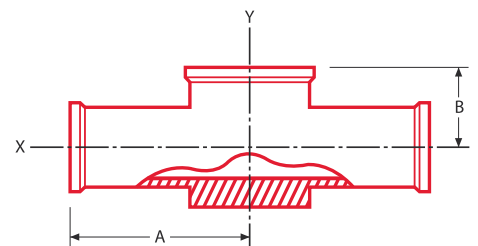
Hygienic Clamp Joint:
Short Outlet Tee



Nominal Size		Order Code		A		B	
inch	mm	SFF1	SFF4	inch	mm	inch	mm
1/2	12,70	27c1	27c4	2.250	57,20	1.000	25,40
3/4	19,05	27d1	27d4	2.350	60,30	1.125	28,60
1	25,40	27e1	27e4	2.625	66,70	1.125	28,60
1 1/2	38,10	27f1	27f4	2.875	73,00	1.375	34,90
2	50,80	27g1	27g4	3.375	85,70	1.625	41,30
2 1/2	63,50	27h1	27h4	3.625	92,10	1.875	47,60
3	76,20	27i1	27i4	3.875	98,40	2.125	54,00
4	101,60	27j1	27j4	4.750	120,70	2.750	69,90
6	152,40	27k1	27k4	7.125	181,00	4.625	117,50

DT 28**Automatic Tube Weld:
Instrument Tee**

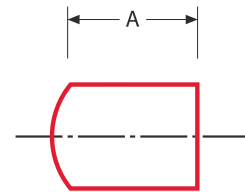
Nominal Size		Order Code		A		B	
inch	mm	SFF1	SFF4	inch	mm	inch	mm
1/2 x 1 1/2	12,70 x 38,10	28 c-f 1	28 c-f 4	2.500	63,50	0.875	22,20
3/4 x 1 1/2	19,05 x 38,10	28 d-f 1	28 d-f 4	2.500	63,50	1.000	25,40
1 x 1 1/2	25,40 x 38,10	28 e-f 1	28 e-f 4	2.500	63,50	1.125	28,60
1/2 x 2	12,70 x 50,80	28 c-g 1	28 c-g 4	2.750	69,90	1.000	25,40
3/4 x 2	19,05 x 50,80	28 d-g 1	28 d-g 4	2.750	69,90	1.125	28,60
1 x 2	25,40 x 50,80	28 e-g 1	28 e-g 4	2.750	69,90	1.250	31,80
1 1/2 x 2	38,10 x 50,80	28 f-g 1	28 f-g 4	2.750	69,90	1.500	38,10

DT 29**Hygienic Clamp Joint:
Instrument Tee**

Nominal Size		Order Code		A		B	
inch	mm	SFF1	SFF4	inch	mm	inch	mm
1/2 x 1 1/2	12,70 x 38,10	29 c-f 1	29 c-f 4	3.000	76,20	0.875	22,20
3/4 x 1 1/2	19,05 x 38,10	29 d-f 1	29 d-f 4	3.000	76,20	1.000	25,40
1 x 1 1/2	25,40 x 38,10	29 e-f 1	29 e-f 4	3.000	76,20	1.125	28,60
1/2 x 2	12,70 x 50,80	29 c-g 1	29 c-g 4	3.250	82,60	1.000	25,40
3/4 x 2	19,05 x 50,80	29 d-g 1	29 d-g 4	3.250	82,60	1.125	28,60
1 x 2	25,40 x 50,80	29 e-g 1	29 e-g 4	3.250	82,60	1.250	31,80
1 1/2 x 2	38,10 x 50,80	29 f-g 1	29 f-g 4	3.250	82,60	1.500	38,10

DT 30

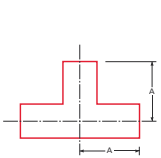
Automatic Tube Weld:
Cap



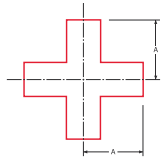
Nominal Size		Order Code		A	
inch	mm	SFF1	SFF4	inch	mm
1/2	12,70	30 c 1	30 c 4	1.500	38,10
3/4	19,05	30 d 1	30 d 4	1.500	38,10
1	25,40	30 e 1	30 e 4	1.500	38,10
1 1/2	38,10	30 f 1	30 f 4	1.500	38,10
2	50,80	30 g 1	30 g 4	1.500	38,10
2 1/2	63,50	30 h 1	30 h 4	1.500	38,10
3	76,20	30 i 1	30 i 4	1.750	44,50
4	101,60	30 j 1	30 j 4	2.000	50,80
6	152,40	30 k 1	30 k 4	2.500	63,50

An Overview

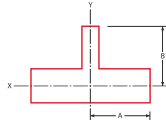
T-Pieces



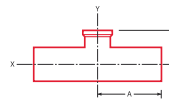
DT-9



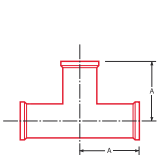
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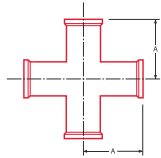
DT-14



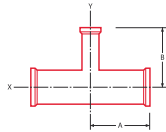
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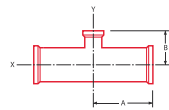
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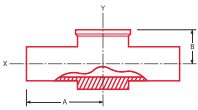
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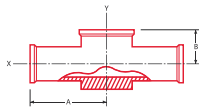
DT-20



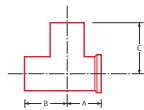
DT-27



DT-28

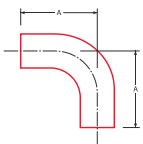


DT-29

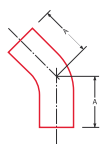


DT-25

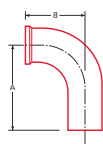
Elbows



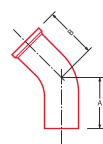
DT-7



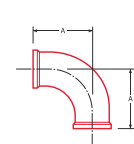
DT-8



DT-12



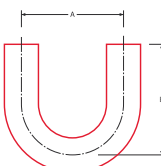
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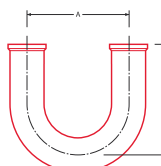
DT-16



DT-17

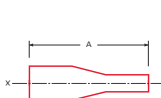


DT-23

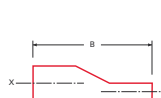


DT-24

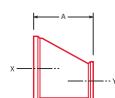
Reducers; Ferrule, Cap



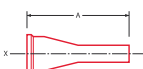
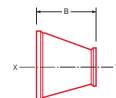
DT-11



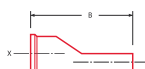
DT-21



DT-22



DT-26



DT-30



Complete your installation

Clamps



Material: stainless steel

Dimensions: 1/2" to 6"

Exact tightening

No deformation of the ferrule head

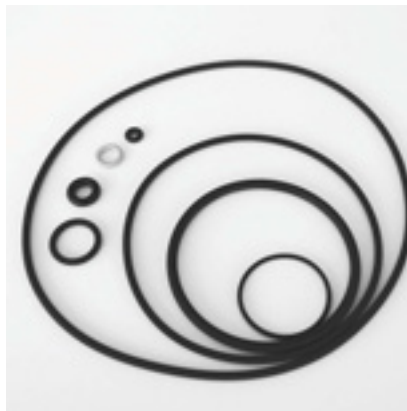
Safety clamp for the use in high temperature steam lines (patented)

Gaskets & O-Rings

Material: EPDM , Viton and others

Dimensions: 1/2" to 6"

Material in accordance with FDA requirements



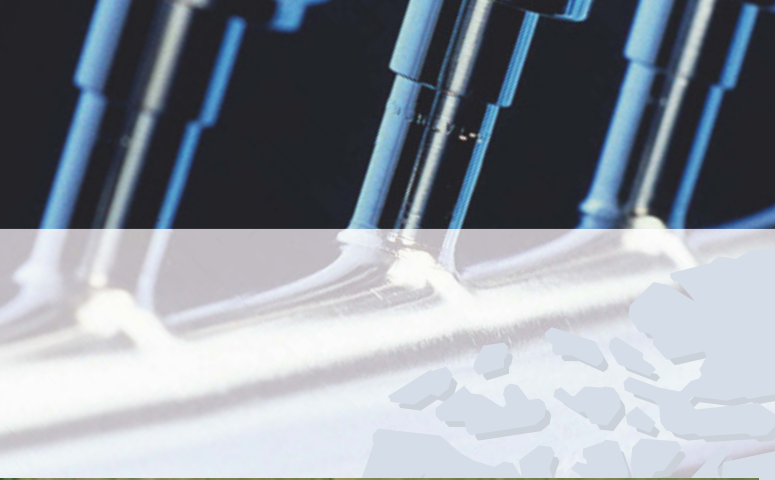
Tube Connection Systems

Material:

1.4404/1.4435/TP 316, gaskets material in accordance with FDA requirements



W E L C O M E T O



Dockweiler has been a partner of industry since 1955 and has developed into a leading supplier of tube systems worldwide. Dockweiler's stainless steel tube programs are considered today to be products of the highest technical standard of surface and purity and are widely specified by the planning companies and end users of the semiconductor and the pharmaceutical industry.



Pressure on time and costs increase steadily, while demands on quality intensify and become more complex. Dockweiler's modern production facility fulfils these demands. At the same time our production lines for prefabricated laterals, CIP lances and other special components, made in accordance with customer drawings mean time and cost savings of an economic dimension. The customer's applications determine the quality which may range from industrial standards to electropolished and clean room cleaned.





Why has the semiconductor industry taken the path of prefabrication on an industrial scale?

- Higher quality
- Faster installation and dry down times
- Lower total costs

Why has the pharmaceutical industry taken the path of prefabrication on an industrial scale?

- Higher quality
- Minimized dead volume
- Optimal cleanability, sterilizeability and rinseability
- Cheaper total costs through faster validation
- Dockweiler prefabrications fulfil all demands of the FDA



DOCKWEILER TODAY - THE KEY FACTS

Competence	Tube systems in stainless steel and prefabrications in accordance with customer's design
Employees	More than 250 worldwide
Presence	in more than 30 countries
Sales companies	9 subsidiaries worldwide
Production plants	3
Headquarter	Neustadt-Glewe, Germany

An extensive stock of finished products with more than one million components guarantees short delivery times and means flexibility and efficiency for planner and user.



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