Maximum Purity with Guaranteed Ra

MaxPure

Bio-Pharm Fittings
(ASME BPE)

NEUMO VNE EGMO

NEUMO Ehrenberg Group

MaxPure - Maximum Purity with Guaranteed Ra

Where cleanability of fittings is the issue, every step in the production process must be carefully controlled. Our production methods insure that no mechanical damage or flaws occur during manufacturing. The cleaning procedures incorporate multi-process degreasing and washing steps provided to eliminate any residues of hydrocarbons and stains, using deionized water. Our procedures and process capabilities ensure formation of a stabilized passive layer providing increased corrosion resistance.

Our products proudly offer:

Maximum Cleanability

Cleanability defines how easily contaminants can be removed from a surface.
Our process guarantees the correct finish requirements, chemical composition and passivity state, with no major physical and / or metallurgical flaws.

Full Traceability

We have full traceability for each of our products.
Our traceability starts with certifications and incoming inspection of raw materials, through in-process quality control, final inspection, marking and packaging. The process is also completely documented with a unique job number for each BPE process component.

Every Fitting is Quality Inspected

All around quality and meticulous inspection insures that every fitting will be of the highest quality and in total compliance with all ASME-BPE 2009 standards.

The NEUMO Ehrenberg group

The NEUMO Ehrenberg Group, a diversified multi-national organization headquartered in Germany, was founded by Senator Henry Ehrenberg in 1947.
Over the last decade, the Group has become a leading manufacturer for worldwide Biopharmaceutical process fittings and components. With its three leading companies, NEUMO, VNE and EGMO, the group has developed a worldwide distribution network supporting major Biopharmaceutical multinational accounts.
The NEUMO Ehrenberg Group's synergy and strategy toward the Biopharmaceutical sectors provide customers with innovation, all around quality and efficiency.
Through our Group's volunteer participation in leading standards organizations, we are actively involved in shaping the future for a cleaner, safer and more productive workplace in the Biopharmaceutical Processing Industry.

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Fittings Specifications

Product:

Stainless Steel fittings comply with ASME BPE standards.
Gaskets are made from compounds which are
FDA approved and USP 87, 88 Pharmaceutical Class VI certified.

Sizes:

Stainless Steel fittings are available in sizes
½" - 6" O.D. tube size.

Material:

Fittings are fabricated in AISI 316L Stainless Steel with sulfur content of 0.005-0.017% achieving superior repeatability for automatic orbital welding process.

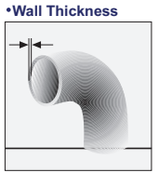
Dimensions & Tolerances:

Dimensions as specified in ASME BPE Part DT.

Nominal OD Size		½"	¾"	1"	1½"	2"	2½"	3"	4"	6"
O.D. Tolerance		±.005	±.005	±.005	±.008	±.008	±.010	±.010	±.015	±.030
Nominal Wall Thickness		.065	.065	.065	.065	.065	.065	.065	.083	.109
Wall Thickness Tolerance before EP		+.005/-.008	+.005/-.008	+.005/-.008	+.005/-.008	+.005/-.008	+.005/-.008	+.005/-.008	+.008/-.010	+.015/-.015
Wall Thickness Tolerance after EP		+.005/- .010	+.005/-.010	+.005/-.010	+.005/-.010	+.005/-.010	+.005/-.010	+.005/-.010	+.008/-.012	+.015/-.017
Control Length	C	.750	.750	.750	.750	.750	.750	.750	.750	.750
Tangent Length	T	1.500	1.500	1.500	1.500	1.500	1.500	1.750	2.000	2.500
Squareness Face to Tangent	B	.005	.005	.008	.008	.008	.010	.016	.016	.030
Off Angle	O	.014	.018	.025	.034	.043	.054	.068	.086	.135
Off Plane	P	±.030	±.030	±.030	±.050	±.050	±.050	±.050	±.060	±.060

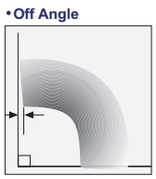
• Roundness

• Wall Thickness

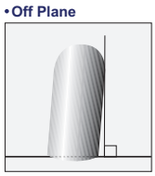


• Squareness Face to Tangent

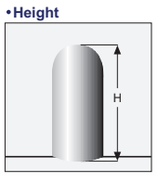
• Off Angle

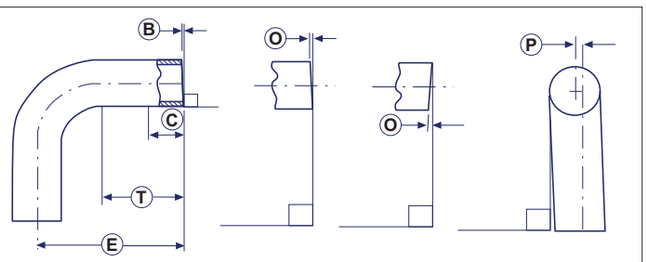


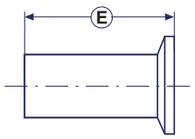
• Off Plane



• Height







General Note:
Tolerance on E
End-to-End
Center-to-End:
0.050 in. (=1.27 mm)

Fittings Specifications

Surface Finish:

Reference: ASME BPE Part SF, table SF-3.

General notes:
(a) All Ra readings are taken across the lay, wherever possible.
(b) No single Ra reading shall exceed the Ra max. value in this table.
(c) Other Ra readings are available if agreed upon between owner/user and manufacturer, not to exceed values in this table.

Note:
[1] Or any other finishing method that meets the Ra max.

Cleaning:

A multi step cleaning cycle is conducted to ensure that fittings are cleaned with a perfect passivation layer.
The cleaning process involves degreasing, pickling, electro polishing (as required) and passivation. During the final stage, the fittings are double-rinsed using D.I. water.

Inspection Procedures:

All fittings produced by EGMO production are 100% visually inspected for any surface finish imperfections, as mentioned in Table SF-1 and SF-2 in the ASME BPE specification. All dimensional characteristics are inspected for tolerances listed in Table DT-5-1,DT-5-2, DT-5-3/DT-6 in the ASME BPE specification.

Marking:

Each BPE fitting is marked with the following:

- Heat number
- Job number
- Material grade
- Standard
- Surface finish (SF), as specified in ASME BPE, Part DT.
- Brand name

Packaging:

Each fitting is capped, bagged and labeled in full compliance with the ASME BPE standard.

Documentation:

Full Material Test Reports are supplied with the finished products and are available On-Line at www.MaxPure.net

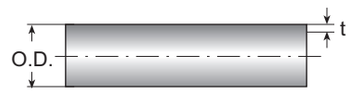
Tube Specifications

Standards:

- ASTM A-269 / A270S2
- ASME BPE

Surface Finish:

- Surface finish specifications are the same for fittings & tubes. Please refer to table SF-3 on page 3.



Tubing Dimension & Tolerances: Tubing specifications, ASTM A-269/A270S2

O.D. Tubing Diameter		Gauge (wall thickness)		O.D. Dimensional Specification	Length	(t) Wall Thickness Size & Tolerances
Inch	mm	Inch	mm	ASTM Spec.	ASTM Spec.	ASTM Spec.
½"	12.7	16G (.065"/1.65mm wall)		+.005/-.005	+1/8	0.065 +/-10%
¾"	19.0	16G (.065"/1.65mm wall)		+.005/-.005	+1/8	0.065 +/-10%
1"	25.4	16G (.065"/1.65mm wall)		+.005/-.005	+1/8	0.065 +/-10%
1½"	39.1	16G (.065"/1.65mm wall)		+.008/-.008	+1/8	0.065 +/-10%
2"	50.8	16G (.065"/1.65mm wall)		+.008/-.008	+1/8	0.065 +/-10%
2½"	63.5	16G (.065"/1.65mm wall)		+.010/-.010	+1/8	0.065 +/-10%
3"	76.2	16G (.065"/1.65mm wall)		+.015/-.015	+1/8	0.065 +/-10%
4"	101.6	14G (.083"/2.11mm wall)		+.015/-.015	+3/16	0.083 +/-10%
6"	152.4	10.4G (.109"/2.77mm wall)		+.030/-.030	+3/16	0.0109 +/-10%

Ordering Information

To specify the part completely, start with the product description and select the additional options as shown below:

Example

Description (1) — Material (2)
Other materials can be supplied upon request

TE2S | 6L | .5 | PL

Size (3)
.5", .75", 1", 1.5", 2", 2.5", 3", 4", 6"

(4) Surface Finish (SF)
PX, PC, PL, PM, PD, PR

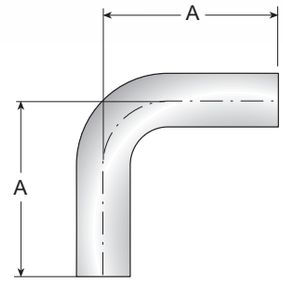
90° weld ends elbow, ½" size, PL surface finish.

MaxPure

Elbows - 90°

TE2S - 90° ELBOW

Nominal Size in.	Dimensions		Ordering Code
	A in.	A mm	
½	3.00	76.2	TE2S6L.5-..
¾	3.00	76.2	TE2S6L.75-..
1	3.00	76.2	TE2S6L1.0-..
1½	3.75	95.3	TE2S6L1.5-..
2	4.75	120.7	TE2S6L2.0-..
2½	5.50	139.7	TE2S6L2.5-..
3	6.25	158.8	TE2S6L3.0-..
4	8.00	203.2	TE2S6L4.0-..
6	11.50	292.1	TE2S6L6.0-..

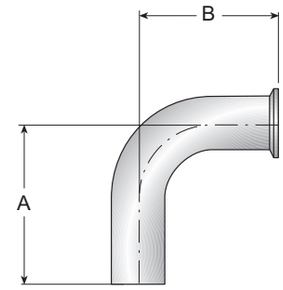


BPE TABLE # DT-7

TE2C - 90° ELBOW CLAMP ONE END

Nominal Size in.	Dimensions				Ordering Code
	A in.	A mm	B in.	B mm	
½	3.00	76.2	1.625	41.3	TE2C6L.5-..
¾	3.00	76.2	1.625	41.3	TE2C6L.75-..
* 1	3.00	76.2	2.000	50.8	TE2C6L1.0-..
1½	3.75	95.3	2.750	69.9	TE2C6L1.5-..
2	4.75	120.7	3.500	88.9	TE2C6L2.0-..
2½	5.50	139.7	4.250	108.0	TE2C6L2.5-..
3	6.25	158.8	5.000	127.0	TE2C6L3.0-..
4	8.00	203.2	6.625	168.3	TE2C6L4.0-..
6	11.50	292.1	10.500	266.7	TE2C6L6.0-..

* **Note:** 1" Clamp Ferrule can also be ordered with 'Type A' connections according to the ASME BPE 2009 standard.

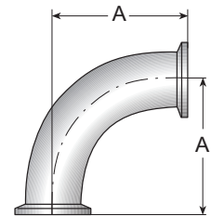


BPE TABLE # DT-12

TEG2C - 90° ELBOW

Nominal Size in.	Dimensions		Ordering Code
	A in.	A mm	
½	1.625	41.3	TEG2C6L.5-..
¾	1.625	41.3	TEG2C6L.75-..
* 1	2.00	50.8	TEG2C6L1.0-..
1½	2.75	69.9	TEG2C6L1.5-..
2	3.50	88.9	TEG2C6L2.0-..
2½	4.25	108.0	TEG2C6L2.5-..
3	5.00	127.0	TEG2C6L3.0-..
4	6.625	168.3	TEG2C6L4.0-..
6	10.50	266.7	TEG2C6L6.0-..

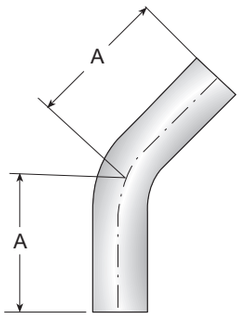
* **Note:** 1" Clamp Ferrule can also be ordered with 'Type A' connections according to the ASME BPE 2009 standard.



BPE TABLE # DT-16

Elbows - 45°

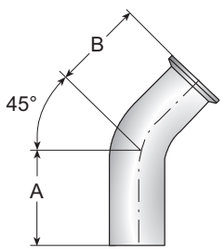
TE2KS - 45° ELBOW



BPE TABLE # DT-8

Nominal Size in.	Dimensions		Ordering Code
	A in.	A mm	
½	2.250	57.2	TE2KS6L.5-..
¾	2.250	57.2	TE2KS6L.75-..
1	2.250	57.2	TE2KS6L1.0-..
1½	2.500	63.5	TE2KS6L1.5-..
2	3.000	76.2	TE2KS6L2.0-..
2½	3.375	85.7	TE2KS6L2.5-..
3	3.625	92.1	TE2KS6L3.0-..
4	4.500	114.3	TE2KS6L4.0-..
6	6.250	158.8	TE2KS6L6.0-..

TE2KC - 45° ELBOW CLAMP ONE END

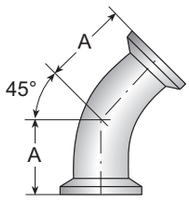


BPE TABLE # DT-13

Nominal Size in.	Dimensions				Ordering Code
	A in.	A mm	B in.	B mm	
½	2.250	57.2	1.000	25.4	TE2KC6L.5-..
¾	2.250	57.2	1.000	25.4	TE2KC6L.75-..
* 1	2.250	57.2	1.125	28.6	TE2KC6L1.0-..
1½	2.500	63.5	1.438	36.5	TE2KC6L1.5-..
2	3.000	76.2	1.750	44.5	TE2KC6L2.0-..
2½	3.375	85.7	2.063	52.4	TE2KC6L2.5-..
3	3.625	92.1	2.380	60.3	TE2KC6L3.0-..
4	4.500	114.3	3.125	79.4	TE2KC6L4.0-..
6	6.250	158.8	5.250	133.4	TE2KC6L6.0-..

* **Note:** 1" Clamp Ferrule can also be ordered with 'Type A' connections according to the ASME BPE 2009 standard.

TEG2K - 45° ELBOW



BPE TABLE # DT-17

Nominal Size in.	Dimensions		Ordering Code
	A in.	A mm	
½	1.000	25.4	TEG2K6L.5-..
¾	1.000	25.4	TEG2K6L.75-..
* 1	1.125	28.6	TEG2K6L1.0-..
1½	1.483	37.67	TEG2K6L1.5-..
2	1.750	44.5	TEG2K6L2.0-..
2½	2.063	52.4	TEG2K6L2.5-..
3	2.375	60.3	TEG2K6L3.0-..
4	3.125	79.4	TEG2K6L4.0-..
6	5.250	133.4	TEG2K6L6.0-..

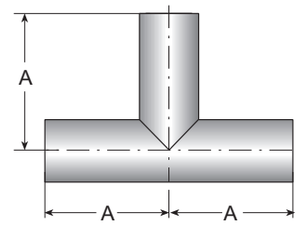
* **Note:** 1" Clamp Ferrule can also be ordered with 'Type A' connections according to the ASME BPE 2009 standard.

MaxPure

Tees - Symmetric

TE7WWW - TEE

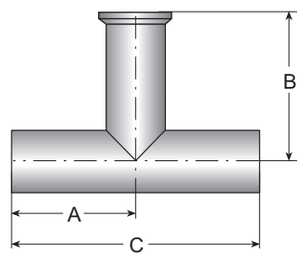
Nominal Size in.	Dimensions		Ordering Code
	A in.	A mm	
½	1.875	47.6	TE7WWW6L.5-..
¾	2.000	50.8	TE7WWW6L.75-..
1	2.125	54.0	TE7WWW6L1.0-..
1½	2.375	60.3	TE7WWW6L1.5-..
2	2.875	73.0	TE7WWW6L2.0-..
2½	3.125	79.4	TE7WWW6L2.5-..
3	3.375	85.7	TE7WWW6L3.0-..
4	4.125	104.8	TE7WWW6L4.0-..
6	5.625	142.9	TE7WWW6L6.0-..



BPE TABLE # DT-9

TE7WWC - TEE

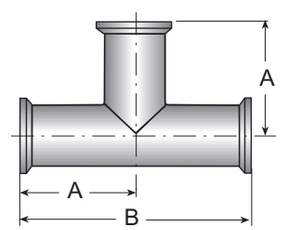
Nominal Size in.	Dimensions						Ordering Code
	A in.	A mm	B in.	B mm	C in.	C mm	
½	1.875	47.6	2.250	57.2	3.75	95.2	TE7WWC6L.5-..
¾	2.000	50.8	2.375	60.3	4.00	101.6	TE7WWC6L.75-..
* 1	2.125	54.0	2.625	66.68	4.25	108.0	TE7WWC6L1.0-..
1½	2.375	60.3	2.875	73.03	4.75	120.6	TE7WWC6L1.5-..
2	2.875	73.0	3.375	85.70	5.75	146.0	TE7WWC6L2.0-..
2½	3.125	79.4	3.625	92.08	6.25	158.8	TE7WWC6L2.5-..
3	3.375	85.7	3.875	98.43	6.75	171.4	TE7WWC6L3.0-..
4	4.125	104.8	4.750	120.65	8.25	209.6	TE7WWC6L4.0-..
6	5.625	142.9	7.125	181.0	11.25	285.8	TE7WWC6L6.0-..



* **Note:** 1" Clamp Ferrule can also be ordered with 'Type A' connections according to the ASME BPE 2009 standard.

TEG7 - TEE

Nominal Size in.	Dimensions				Ordering Code
	A in.	A mm	B in.	B mm	
½	2.250	57.2	4.50	114.4	TEG76L.5-..
¾	2.375	60.3	4.75	120.6	TEG76L.75-..
* 1	2.625	66.7	5.25	133.4	TEG76L1.0-..
1½	2.875	73.0	5.75	146.0	TEG76L1.5-..
2	3.375	85.7	6.75	175.4	TEG76L2.0-..
2½	3.625	92.1	7.25	184.2	TEG76L2.5-..
3	3.875	98.4	7.75	196.8	TEG76L3.0-..
4	4.750	120.7	9.50	241.4	TEG76L4.0-..
6	7.125	181.0	14.25	362.0	TEG76L6.0-..

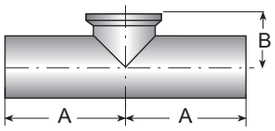


BPE TABLE # DT-18

* **Note:** 1" Clamp Ferrule can also be ordered with 'Type A' connections according to the ASME BPE 2009 standard.

Tees - Short Outlet

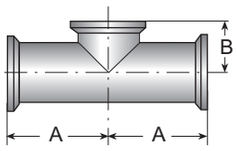
TE7WWCS - SHORT OUTLET TEE



BPE TABLE # DT-15

Nominal Size in.	Dimensions				Ordering Code
	A in.	A mm	B in.	B mm	
½	1.875	47.6	1.000	25.4	TE7WWCS6L.5-..
¾	2.000	50.8	1.125	28.6	TE7WWCS6L.75-..
1	2.125	54.0	1.125	28.6	TE7WWCS6L1.0-..
1½	2.375	60.3	1.375	34.9	TE7WWCS6L1.5-..
2	2.875	73.0	1.625	41.3	TE7WWCS6L2.0-..
2½	3.125	79.4	1.875	47.6	TE7WWCS6L2.5-..
3	3.375	85.7	2.125	54.0	TE7WWCS6L3.0-..
4	4.125	104.8	2.750	69.9	TE7WWCS6L4.0-..
6	5.625	142.9	4.625	117.5	TE7WWCS6L6.0-..

TEG7S - SHORT OUTLET TEE

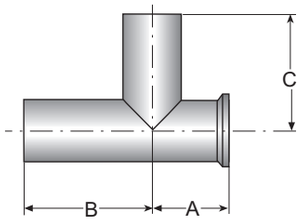


BPE TABLE # DT-27

Nominal Size in.	Dimensions				Ordering Code
	A in.	A mm	B in.	B mm	
½	2.250	57.2	1.000	25.4	TEG7S6L.5-..
¾	2.375	60.3	1.125	28.6	TEG7S6L.75-..
* 1	2.625	66.7	1.125	28.6	TEG7S6L1.0-..
1½	2.875	73.0	1.375	34.9	TEG7S6L1.5-..
2	3.375	85.7	1.625	41.3	TEG7S6L2.0-..
2½	3.625	92.1	1.875	47.6	TEG7S6L2.5-..
3	3.875	98.4	2.125	54.0	TEG7S6L3.0-..
4	4.750	120.7	2.750	69.9	TEG7S6L4.0-..
6	7.125	181.0	4.625	117.5	TEG7S6L6.0-..

* **Note:** 1" Clamp Ferrule can also be ordered with 'Type A' connections according to the ASME BPE 2009 standard.

TE7WCSW - SHORT OUTLET RUN TEE



BPE TABLE # DT-25

Nominal Size in.	Dimensions						Ordering Code
	A in.	A mm	B in.	B mm	C in.	C mm	
½	0.875	22.2	1.879	47.7	1.875	47.6	TE7WCSW6L.5-..
¾	1.00	25.4	2.00	50.8	2.00	50.8	TE7WCSW6L.75-..
* 1	1.125	28.6	2.125	54.0	2.125	54.0	TE7WCSW6L1.0-..
1½	1.375	34.9	2.375	60.3	2.375	60.3	TE7WCSW6L1.5-..
2	1.625	41.5	2.875	73.0	2.875	73.0	TE7WCSW6L2.0-..
2½	1.875	47.6	3.125	79.4	3.125	79.4	TE7WCSW6L2.5-..
3	2.125	54.0	3.375	85.7	3.375	85.7	TE7WCSW6L3.0-..
4	2.75	69.9	4.125	104.8	4.125	104.8	TE7WCSW6L4.0-..
6	4.625	117.5	5.625	142.9	5.625	142.9	TE7WCSW6L6.0-..

* **Note:** 1" Clamp Ferrule can also be ordered with 'Type A' connections according to the ASME BPE 2009 standard.

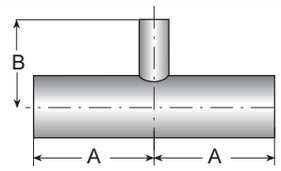
MaxPure

Tees - Reducing

TE7RWWW - REDUCING TEE

Nominal Size in.	Dimensions				Ordering Code
	A in.	A mm	B in.	B mm	
¾ × ½	2.000	50.8	2.000	50.8	TE7RWWW6L.75x.5-..
1 × ½	2.125	54.0	2.125	54.0	TE7RWWW6L1.0x.5-..
1 × ¾	2.125	54.0	2.125	54.0	TE7RWWW6L1.0x.75-..
1½ × ½	2.375	60.3	2.375	60.3	TE7RWWW6L1.5x.5-..
1½ × ¾	2.375	60.3	2.375	60.3	TE7RWWW6L1.5x.75-..
1½ × 1	2.375	60.3	2.375	60.3	TE7RWWW6L1.5x1.0-..
2 × ½	2.875	73.0	2.625	66.7	TE7RWWW6L2.0x.5-..
2 × ¾	2.875	73.0	2.625	66.7	TE7RWWW6L2.0x.75-..
2 × 1	2.875	73.0	2.625	66.7	TE7RWWW6L2.0x1.0-..
2 × 1½	2.875	73.0	2.625	66.7	TE7RWWW6L2.0x1.5-..
2½ × ½	3.125	79.4	2.875	73.0	TE7RWWW6L2.5x.5-..
2½ × ¾	3.125	79.4	2.875	73.0	TE7RWWW6L2.5x.75-..
2½ × 1	3.125	79.4	2.875	73.0	TE7RWWW6L2.5x1.0-..
2½ × 1½	3.125	79.4	2.875	73.0	TE7RWWW6L2.5x1.5-..
2½ × 2	3.125	79.4	2.875	73.0	TE7RWWW6L2.5x2.0-..
3 × ½	3.375	85.7	3.125	79.4	TE7RWWW6L3.0x.5-..
3 × ¾	3.375	85.7	3.125	79.4	TE7RWWW6L3.0x.75-..
3 × 1	3.375	85.7	3.125	79.4	TE7RWWW6L3.0x1.0-..
3 × 1½	3.375	85.7	3.125	79.4	TE7RWWW6L3.0x1.5-..
3 × 2	3.375	85.7	3.125	79.4	TE7RWWW6L3.0x2.0-..
3 × 2½	3.375	85.7	3.125	79.4	TE7RWWW6L3.0x2.5-..
4 × ½	4.125	104.8	3.625	92.1	TE7RWWW6L4.0x.5-..
4 × ¾	4.125	104.8	3.625	92.1	TE7RWWW6L4.0x.75-..
4 × 1	4.125	104.8	3.625	92.1	TE7RWWW6L4.0x1.0-..
4 × 1½	4.125	104.8	3.625	92.1	TE7RWWW6L4.0x1.5-..
4 × 2	4.125	104.8	3.875	98.4	TE7RWWW6L4.0x2.0-..
4 × 2½	4.125	104.8	3.875	98.4	TE7RWWW6L4.0x2.5-..
4 × 3	4.125	104.8	3.875	98.4	TE7RWWW6L4.0x3.0-..
6 × 3	5.625	142.9	4.875	123.8	TE7RWWW6L6.0x3.0-..
6 × 4	5.625	142.9	5.125	130.2	TE7RWWW6L6.0x4.0-..

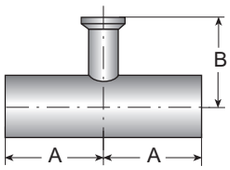
Note: Additional sizes are available upon request.



BPE TABLE # DT-10

Tees - Reducing

TE7RWWC - REDUCING TEE



Nominal Size in.	Dimensions				Ordering Code
	A in.	A mm	B in.	B mm	
¾ × ½	2.000	50.8	2.500	63.5	TE7RWWC6L.75x.5-..
1 × ½	2.125	53.9	2.625	66.7	TE7RWWC6L1.0x.5-..
1 × ¾	2.125	53.9	2.625	66.7	TE7RWWC6L1.0x.75-..
1½ × ½	2.375	60.3	2.875	73.0	TE7RWWC6L1.5x.5-..
1½ × ¾	2.375	60.3	2.875	73.0	TE7RWWC6L1.5x.75-..
1½ × 1*	2.375	60.3	2.875	73.0	TE7RWWC6L1.5x1.0-..
2 × ½	2.875	73.0	3.125	79.4	TE7RWWC6L2.0x.5-..
2 × ¾	2.875	73.0	3.125	79.4	TE7RWWC6L2.0x.75-..
2 × 1*	2.875	73.0	3.125	79.4	TE7RWWC6L2.0x1.0-..
2 × 1½	2.875	73.0	3.125	79.4	TE7RWWC6L2.0x1.5-..
2½ × ½	3.125	79.4	3.375	85.7	TE7RWWC6L2.5x.5-..
2½ × 1½	3.125	79.4	3.375	85.7	TE7RWWC6L2.5x1.5-..
2½ × 2	3.125	79.4	3.375	85.7	TE7RWWC6L2.5x2.0-..
3 × 1*	3.375	85.7	3.625	92.1	TE7RWWC6L3.0x1.0-..
3 × 1½	3.375	85.7	3.625	92.1	TE7RWWC6L3.0x1.5-..
3 × 2	3.375	85.7	3.625	92.1	TE7RWWC6L3.0x2.0-..
3 × 2½	3.375	85.7	3.625	92.1	TE7RWWC6L3.0x2.5-..
4 × 1*	4.125	104.8	4.125	104.8	TE7RWWC6L4.0x1.0-..
4 × 1½	4.125	104.8	4.125	104.8	TE7RWWC6L4.0x1.5-..
4 × 2	4.125	104.8	4.375	111.1	TE7RWWC6L4.0x2.0-..
4 × 2½	4.125	104.8	4.375	111.1	TE7RWWC6L4.0x2.5-..
4 × 3	4.125	104.8	4.375	111.1	TE7RWWC6L4.0x3.0-..
6 × 3	5.625	142.9	5.375	136.5	TE7RWWC6L6.0x3.0-..
6 × 4	5.625	142.9	5.750	146.1	TE7RWWC6L6.0x4.0-..

Note: Additional sizes are available upon request.

* **Note:** 1" Clamp Ferrule can also be ordered with 'Type A' connections according to the ASME BPE 2009 standard.

MaxPure

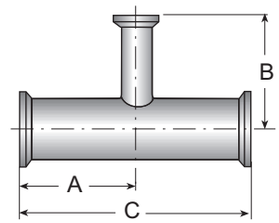
Tees - Reducing

TEG7R - REDUCING TEE

Nominal Size in.		Dimensions						Ordering Code
		A in.	A mm	B in.	B mm	Ref C in.	Ref C mm	
¾	× ½	2.500	63.5	2.500	63.5	5.00	127.0	TEG7R6L.75x.5...
* 1	× ½	2.625	66.7	2.625	66.7	5.25	133.4	TEG7R6L1.0x.5...
* 1	× ¾	2.625	66.7	2.625	66.7	5.25	133.4	TEG7R6L1.0x.75...
1½	× ½	2.875	73.0	2.875	73.0	5.75	146.0	TEG7R6L1.5x.5...
1½	× ¾	2.875	73.0	2.875	73.0	5.75	146.0	TEG7R6L1.5x.75...
1½	× 1 *	2.875	73.0	2.875	73.0	5.75	146.0	TEG7R6L1.5x1.0...
2	× ½	3.375	85.7	3.125	79.4	6.75	171.4	TEG7R6L2.0x.5...
2	× ¾	3.375	85.7	3.125	79.4	6.75	171.4	TEG7R6L2.0x.75...
2	× 1 *	3.375	85.7	3.125	79.4	6.75	171.4	TEG7R6L2.0x1.0...
2	× 1½	3.375	85.7	3.125	79.4	6.75	171.4	TEG7R6L2.0x1.5...
2½	× ½	3.625	92.1	3.375	85.7	7.25	184.2	TEG7R6L2.5x.5...
2½	× ¾	3.625	92.1	3.375	85.7	7.25	184.2	TEG7R6L2.5x.75...
2½	× 1 *	3.625	92.1	3.375	85.7	7.25	184.2	TEG7R6L2.5x1.0...
2½	× 1½	3.625	92.1	3.375	85.7	7.25	184.2	TEG7R6L2.5x1.5...
2½	× 2	3.625	92.1	3.375	85.7	7.25	184.2	TEG7R6L2.5x2.0...
3	× ½	3.875	98.4	3.625	92.1	7.75	196.8	TEG7R6L3.0x.5...
3	× ¾	3.875	98.4	3.625	92.1	7.75	196.8	TEG7R6L3.0x.75...
3	× 1 *	3.875	98.4	3.625	92.1	7.75	196.8	TEG7R6L3.0x1.0...
3	× 1½	3.875	98.4	3.625	92.1	7.75	196.8	TEG7R6L3.0x1.5...
3	× 2	3.875	98.4	3.875	98.4	7.75	196.8	TEG7R6L3.0x2.0...
3	× 2½	3.875	98.4	3.875	98.4	7.75	196.8	TEG7R6L3.0x2.5...
4	× ½	4.750	120.7	4.125	104.8	9.50	241.4	TEG7R6L4.0x.5...
4	× ¾	4.750	120.7	4.125	104.8	9.50	241.4	TEG7R6L4.0x.75...
4	× 1 *	4.750	120.7	4.125	104.8	9.50	241.4	TEG7R6L4.0x1.0...
4	× 1½	4.750	120.7	4.125	104.8	9.50	241.4	TEG7R6L4.0x1.5...
4	× 2	4.750	120.7	4.375	111.1	9.50	241.4	TEG7R6L4.0x2.0...
4	× 2½	4.750	120.7	4.375	111.1	9.50	241.4	TEG7R6L4.0x2.5...
4	× 3	4.750	120.7	4.375	111.1	9.50	241.4	TEG7R6L4.0x3.0...
6	× 3	7.125	181.0	5.375	136.5	14.25	362.0	TEG7R6L6.0x3.0...
6	× 4	7.125	181.0	5.750	146.1	14.25	362.0	TEG7R6L6.0x4.0...

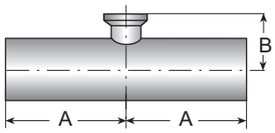
Note: Additional sizes are available upon request.

* **Note:** 1" Clamp Ferrule can also be ordered with 'Type A' connections according to the ASME BPE 2009 standard.



BPE TABLE # DT-19

Tees - Reducing



BPE TABLE # DT-14

TE7RWWCS - SHORT OUTLET REDUCING TEE

Nominal Size in.	Dimensions				Ordering Code
	A in.	A mm	B in.	B mm	
¾ × ½	2.000	50.8	1.000	25.4	TE7RWWCS6L.75x.5-..
1 × ½	2.125	54.0	1.125	28.6	TE7RWWCS6L1.0x.5-..
1 × ¾	2.125	54.0	1.125	28.6	TE7RWWCS6L1.0x.75-..
1½ × ½	2.375	60.3	1.375	34.9	TE7RWWCS6L1.5x.5-..
1½ × ¾	2.375	60.3	1.375	34.9	TE7RWWCS6L1.5x.75-..
1½ × 1 *	2.375	60.3	1.375	34.9	TE7RWWCS6L1.5x1.0-..
2 × ½	2.875	73.0	1.625	41.3	TE7RWWCS6L2.0x.5-..
2 × ¾	2.875	73.0	1.625	41.3	TE7RWWCS6L2.0x.75-..
2 × 1 *	2.875	73.0	1.625	41.3	TE7RWWCS6L2.0x1.0-..
2 × 1½	2.875	73.0	1.625	41.3	TE7RWWCS6L2.0x1.5-..
2½ × ½	3.125	79.4	1.875	47.6	TE7RWWCS6L2.5x.5-..
2½ × ¾	3.125	79.4	1.875	47.6	TE7RWWCS6L2.5x.75-..
2½ × 1 *	3.125	79.4	1.875	47.6	TE7RWWCS6L2.5x1.0-..
2½ × 1½	3.125	79.4	1.875	47.6	TE7RWWCS6L2.5x1.5-..
2½ × 2	3.125	79.4	1.875	47.6	TE7RWWCS6L2.5x2.0-..
3 × ½	3.375	85.7	2.125	54.0	TE7RWWCS6L3.0x.5-..
3 × ¾	3.375	85.7	2.125	54.0	TE7RWWCS6L3.0x.75-..
3 × 1 *	3.375	85.7	2.125	54.0	TE7RWWCS6L3.0x1.0-..
3 × 1½	3.375	85.7	2.125	54.0	TE7RWWCS6L3.0x1.5-..
3 × 2	3.375	85.7	2.125	54.0	TE7RWWCS6L3.0x2.0-..
3 × 2½	3.375	85.7	2.125	54.0	TE7RWWCS6L3.0x2.5-..
4 × ½	4.125	104.8	2.625	66.7	TE7RWWCS6L4.0x.5-..
4 × ¾	4.125	104.8	2.625	66.7	TE7RWWCS6L4.0x.75-..
4 × 1 *	4.125	104.8	2.625	66.7	TE7RWWCS6L4.0x1.0-..
4 × 1½	4.125	104.8	2.625	66.7	TE7RWWCS6L4.0x1.5-..
4 × 2	4.125	104.8	2.625	66.7	TE7RWWCS6L4.0x2.0-..
4 × 2½	4.125	104.8	2.625	66.7	TE7RWWCS6L4.0x2.5-..
4 × 3	4.125	104.8	2.625	66.7	TE7RWWCS6L4.0x3.0-..
6 × ½	4.125	142.9	2.625	92.1	TE7RWWCS6L6.0x.5-..
6 × ¾	4.125	142.9	2.625	92.1	TE7RWWCS6L6.0x.75-..
6 × 1 *	4.125	142.9	2.625	92.1	TE7RWWCS6L6.0x1.0-..
6 × 1½	4.125	142.9	2.625	92.1	TE7RWWCS6L6.0x1.5-..
6 × 2	4.125	142.9	2.625	92.1	TE7RWWCS6L6.0x2.0-..
6 × 2½	4.125	142.9	2.625	92.1	TE7RWWCS6L6.0x2.5-..
6 × 3	4.125	142.9	2.625	92.1	TE7RWWCS6L6.0x3.0-..
6 × 4	5.625	142.9	3.750	95.3	TE7RWWCS6L6.0x4.0-..

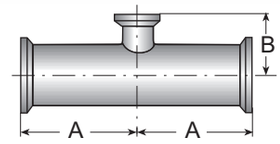
* **Note:** 1" Clamp Ferrule can also be ordered with 'Type A' connections according to the ASME BPE 2009 standard.

MaxPure

Tees - Reducing

TEG7RS - SHORT OUTLET REDUCING TEE

Nominal Size in.	Dimensions				Ordering Code
	A in.	A mm	B in.	B mm	
¾ × ½	2.500	63.5	1.000	25.4	TEG7RS6L.75x.5-..
* 1 × ½	2.625	66.7	1.125	28.6	TEG7RS6L1.0x.5-..
* 1 × ¾	2.625	66.7	1.125	28.6	TEG7RS6L1.0x.75-..
1½ × ½	2.875	73.0	1.375	34.9	TEG7RS6L1.5x.5-..
1½ × ¾	2.875	73.0	1.375	34.9	TEG7RS6L1.5x.75-..
1½ × 1 *	2.875	73.0	1.375	34.9	TEG7RS6L1.5x1.0-..
2 × ½	3.375	85.7	1.625	41.3	TEG7RS6L2.0x.5-..
2 × ¾	3.375	85.7	1.625	41.3	TEG7RS6L2.0x.75-..
2 × 1 *	3.375	85.7	1.625	41.3	TEG7RS6L2.0x1.0-..
2 × 1½	3.375	85.7	1.625	41.3	TEG7RS6L2.0x1.5-..
2½ × ½	3.625	92.1	1.875	47.6	TEG7RS6L2.5x.5-..
2½ × ¾	3.625	92.1	1.875	47.6	TEG7RS6L2.5x.75-..
2½ × 1 *	3.625	92.1	1.875	47.6	TEG7RS6L2.5x1.0-..
2½ × 1½	3.625	92.1	1.875	47.6	TEG7RS6L2.5x1.5-..
2½ × 2	3.625	92.1	1.875	47.6	TEG7RS6L2.5x2.0-..
3 ×½	3.875	98.4	2.125	54.0	TEG7RS6L3.0x.5-..
3 × ¾	3.875	98.4	2.125	54.0	TEG7RS6L3.0x.75-..
3 × 1 *	3.875	98.4	2.125	54.0	TEG7RS6L3.0x1.0-..
3 × 1½	3.875	98.4	2.125	54.0	TEG7RS6L3.0x1.5-..
3 × 2	3.875	98.4	2.125	54.0	TEG7RS6L3.0x2.0-..
3 × 2½	3.875	98.4	2.125	54.0	TEG7RS6L3.0x2.5-..
4 × ½	4.75	120.7	2.625	66.7	TEG7RS6L4.0x.5-..
4 × ¾	4.75	120.7	2.625	66.7	TEG7RS6L4.0x.75-..
4 × 1 *	4.75	120.7	2.625	66.7	TEG7RS6L4.0x1.0-..
4 × 1½	4.75	120.7	2.625	66.7	TEG7RS6L4.0x1.5-..
4 × 2	4.75	120.7	2.625	66.7	TEG7RS6L4.0x2.0-..
4 × 2½	4.75	120.7	2.625	66.7	TEG7RS6L4.0x2.5-..
4 × 3	4.75	120.7	2.625	66.7	TEG7RS6L4.0x3.0-..
6 × ½	4.75	181.0	2.625	92.1	TEG7RS6L6.0x.5-..
6 × ¾	4.75	181.0	2.625	92.1	TEG7RS6L6.0x.75-..
6 × 1 *	4.75	181.0	2.625	92.1	TEG7RS6L6.0x1.0-..
6 × 1½	4.75	181.0	2.625	92.1	TEG7RS6L6.0x1.5-..
6 × 2	4.75	181.0	2.625	92.1	TEG7RS6L6.0x2.0-..
6 × 2½	4.75	181.0	2.625	92.1	TEG7RS6L6.0x2.5-..
6 × 3	4.75	181.0	2.625	92.1	TEG7RS6L6.0x3.0-..
6 × 4	7.13	181.0	3.750	95.3	TEG7RS6L6.0x4.0-..

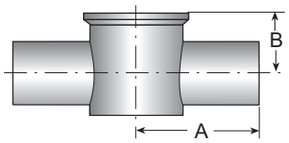


BPE TABLE # DT-20

* **Note:** 1" Clamp Ferrule can also be ordered with 'Type A' connections according to the ASME BPE 2009 standard.

Tees - Instrument

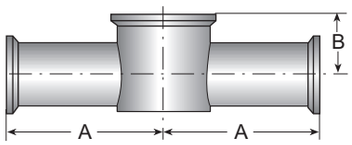
TE7IWWCS - INSTRUMENT TEE



BPE TABLE # DT-28

Nominal Size in.	Dimensions				Ordering Code
	A in.	A mm	B in.	B mm	
½ × 1½	2.500	63.5	0.875	22.2	TE7IWWCS6L.5x1.5-..
¾ × 1½	2.500	63.5	1.000	25.4	TE7IWWCS6L.75x1.5-..
1 × 1½	2.500	63.5	1.125	28.6	TE7IWWCS6L1.0x1.5-..
½ × 2	2.750	69.9	1.000	25.4	TE7IWWCS6L.5x2.0-..
¾ × 2	2.750	69.9	1.125	28.6	TE7IWWCS6L.75x2.0-..
1 × 2	2.750	69.9	1.250	31.8	TE7IWWCS6L1.0x2.0-..
1½ × 2	2.750	69.9	1.500	38.1	TE7IWWCS6L1.5x2.0-..

TEG7IS - INSTRUMENT TEE

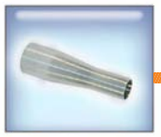


BPE TABLE # DT-29

Nominal Size in.	Dimensions				Ordering Code
	A in.	A mm	B in.	B mm	
½ × 1½	3.000	76.2	0.875	22.2	TEG7IS6L.5x1.5-..
¾ × 1½	3.000	76.2	1.000	25.4	TEG7IS6L.75x1.5-..
* 1 × 1½	3.000	76.2	1.125	28.6	TEG7IS6L1.0x1.5-..
½ × 2	3.250	82.6	1.000	25.4	TEG7IS6L.5x2.0-..
¾ × 2	3.250	82.6	1.125	28.6	TEG7IS6L.75x2.0-..
* 1 × 2	3.250	82.6	1.250	31.8	TEG7IS6L1.0x2.0-..
1½ × 2	3.250	82.6	1.500	38.1	TEG7IS6L1.5x2.0-..

* **Note:** 1" Clamp Ferrule can also be ordered with 'Type A' connections according to the ASME BPE 2009 standard.

MaxPure

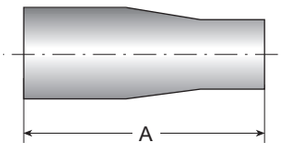


Reducers - Concentric

TE31WW - CONCENTRIC REDUCER

Nominal Size in.	Dimensions		Ordering Code
	A in.	A mm	
⅜ × ¼	3.250	82.6	TE31WW6L.375x.25-..
½ × ¼	3.250	82.6	TE31WW6L.5x.25-..
½ ×⅜	3.250	82.6	TE31WW6L.5x.375-..
¾ ×⅜	3.250	82.6	TE31WW6L.75x.5-..
¾ × ½	4.000	101.6	TE31WW6L.75x.5-..
1 × ½	4.500	114.3	TE31WW6L1.0x.5-..
1 × ¾	4.000	101.6	TE31WW6L1.0x.75-..
1½ × ¾	5.000	127.0	TE31WW6L1.5x.75-..
1½ × 1	5.000	127.0	TE31WW6L1.5x1.0-..
2 × 1	7.250	184.2	TE31WW6L2.0x1.0-..
2 × 1½	5.250	133.4	TE31WW6L2.0x1.5-..
2½ × 1½	7.250	184.2	TE31WW6L2.5x1.5-..
2½ × 2	5.500	139.7	TE31WW6L2.5x2.0-..
3 × 1½	9.250	235.0	TE31WW6L3.0x1.5-..
3 × 2	7.500	190.5	TE31WW6L3.0x2.0-..
3 × 2½	5.500	139.7	TE31WW6L3.0x2.5-..
4 × 2	11.750	298.5	TE31WW6L4.0x2.0-..
4 × 2½	9.750	247.7	TE31WW6L4.0x2.5-..
4 × 3	7.750	196.9	TE31WW6L4.0x3.0-..
6 × 3	10.000	254.0	TE31WW6L6.0x3.0-..
6 × 4	10.000	254.0	TE31WW6L6.0x4.0-..

Note: Additional sizes are available upon request.



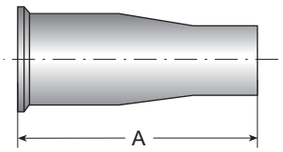
BPE TABLE # DT-11

TE31CW - CONCENTRIC REDUCER

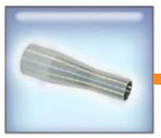
Nominal Size in.	Dimensions		Ordering Code
	A in.	A mm	
¾ × ½	3.000	76.2	TE31CW6L.75x.5-..
* 1 × ½	3.500	88.9	TE31CW6L1.0x.5-..
* 1 × ¾	3.000	76.2	TE31CW6L1.0x.75-..
1½ × ¾	4.000	101.6	TE31CW6L1.5x.75-..
1½ × 1	4.000	101.6	TE31CW6L1.5x1.0-..
2 × 1	6.000	152.4	TE31CW6L2.0x1.0-..
2 × 1½	4.000	101.6	TE31CW6L2.0x1.5-..
2½ × 1½	6.000	152.4	TE31CW6L2.5x1.5-..
2½ × 2	4.250	107.9	TE31CW6L2.5x2.0-..
3 × 1½	8.000	203.2	TE31CW6L3.0x1.5-..
3 × 2	6.250	158.8	TE31CW6L3.0x2.0-..
3 × 2½	4.250	108.0	TE31CW6L3.0x2.5-..
4 × 2	10.375	263.5	TE31CW6L4.0x2.0-..
4 × 2½	8.375	212.7	TE31CW6L4.0x2.5-..
4 × 3	6.375	161.9	TE31CW6L4.0x3.0-..
6 × 3	9.000	228.6	TE31CW6L6.0x3.0-..
6 × 4	9.000	228.6	TE31CW6L6.0x4.0-..

Note: Additional sizes are available upon request.

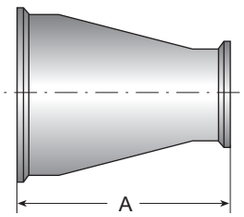
* **Note:** 1" Clamp Ferrule can also be ordered with 'Type A' connections according to the ASME BPE 2009 standard.



BPE TABLE # DT-26



Reducers - Concentric



BPE TABLE # DT-21

TEG31CC - CONCENTRIC REDUCER

Nominal Size in.	Dimensions		Ordering Code
	A in.	A mm	
¾ × ½	2.000	50.8	TEG31CC6L.75x5-..
* 1 × ½	2.500	63.5	TEG31CC6L1.0x.5-..
* 1 × ¾	2.000	50.8	TEG31CC6L1.0x.75-..
1½ × ½	3.000	88.9	TEG31CC6L1.5x.5-..
1½ × 1*	3.000	76.2	TEG31CC6L1.5x1.0-..
2 × 1½	3.000	76.2	TEG31CC6L2.0x1.5-..
2½ × 1½	5.000	127.0	TEG31CC6L2.5x1.5-..
2½ × 2	3.000	76.2	TEG31CC6L2.5x2.0-..
3 × 1½	7.000	177.8	TEG31CC6L3.0x1.5-..
3 × 2	5.000	127.0	TEG31CC6L3.0x2.0-..
3 × 2½	3.000	76.2	TEG31CC6L3.0x2.5-..
4 × 2	9.125	231.8	TEG31CC6L4.0x2.0-..
4 × 2½	7.125	181.0	TEG31CC6L4.0x2.5-..
4 × 3	5.125	130.2	TEG31CC6L4.0x3.0-..
6 × 3	7.500	190.5	TEG31CC6L6.0x3.0-..
6 × 4	7.625	193.7	TEG31CC6L6.0x4.0-..

Note: Additional sizes are available upon request.

* **Note:** 1" Clamp Ferrule can also be ordered with 'Type A' connections according to the ASME BPE 2009 standard.

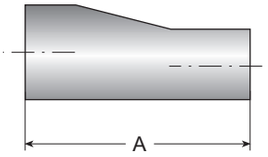
MaxPure

Reducers - Eccentric

TE32WW - ECCENTRIC REDUCER

Nominal Size in.	Dimensions		Ordering Code
	A in.	A mm	
⅜ × ¼	4.000	101.6	TE32WW6L.375x.25-..
½ × ¼	4.000	101.6	TE32WW6L.5x.25-..
½ ×⅜	4.000	101.6	TE32WW6L.5x.375-..
¾ ×⅜	4.000	101.6	TE32WW6L.75x.5-..
¾ × ½	4.000	101.6	TE32WW6L.75x.5-..
1 × ½	4.500	114.3	TE32WW6L1.0x.5-..
1 × ¾	4.000	101.6	TE32WW6L1.0x.75-..
1½ × ¾	5.000	127.0	TE32WW6L1.5x.75-..
1½ × 1	5.000	127.0	TE32WW6L1.5x1.0-..
2 × 1	7.250	184.2	TE32WW6L2.0x1.0-..
2 × 1½	5.250	133.4	TE32WW6L2.0x1.5-..
2½ × 1½	7.250	184.2	TE32WW6L2.5x1.5-..
2½ × 2	5.500	139.7	TE32WW6L2.5x2.0-..
3 × 1½	9.250	235.0	TE32WW6L3.0x1.5-..
3 × 2	7.500	190.5	TE32WW6L3.0x2.0-..
3 × 2½	5.500	139.7	TE32WW6L3.0x2.5-..
4 × 2	11.750	298.5	TE32WW6L4.0x2.0-..
4 × 2½	9.750	247.7	TE32WW6L4.0x2.5-..
4 × 3	7.750	196.9	TE32WW6L4.0x3.0-..
6 × 3	10.000	247.7	TE32WW6L6.0x3.0-..
6 × 4	10.000	254.0	TE32WW6L6.0x4.0-..

Note: Additional sizes are available upon request.



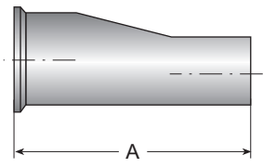
BPE TABLE # DT-11

TE32CW - ECCENTRIC REDUCER

Nominal Size in.	Dimensions		Ordering Code
	A in.	A mm	
¾ × ½	3.000	76.2	TE32CW6L.75x.5-..
* 1 × ½	3.500	88.9	TE32CW6L1.0x.5-..
* 1 × ¾	3.000	76.2	TE32CW6L1.0x.75-..
1½ × ¾	4.000	101.6	TE32CW6L1.5x.75-..
1½ × 1	4.000	101.6	TE32CW6L1.5x1.0-..
2 × 1	6.000	152.4	TE32CW6L2.0x1.0-..
2 × 1½	4.000	101.6	TE32CW6L2.0x1.5-..
2½ × 1½	6.000	152.4	TE32CW6L2.5x1.5-..
2½ × 2	4.250	107.9	TE32CW6L2.5x2.0-..
3 × 1½	8.000	203.2	TE32CW6L3.0x1.5-..
3 × 2	6.250	158.8	TE32CW6L3.0x2.0-..
3 × 2½	4.250	108.0	TE32CW6L3.0x2.5-..
4 × 2	10.375	263.5	TE32CW6L4.0x2.0-..
4 × 2½	8.375	212.7	TE32CW6L4.0x2.5-..
4 × 3	6.375	161.9	TE32CW6L4.0x3.0-..
6 × 3	9.000	222.3	TE32CW6L6.0x3.0-..
6 × 4	9.000	228.6	TE32CW6L6.0x4.0-..

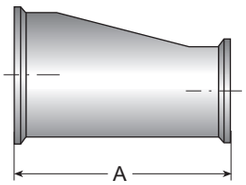
Note: Additional sizes are available upon request.

* **Note:** 1" Clamp Ferrule can also be ordered with 'Type A' connections according to the ASME BPE 2009 standard.



BPE TABLE # DT-26

Reducers - Eccentric



BPE TABLE # DT-21

TEG32CC - ECCENTRIC REDUCER

Nominal Size in.	Dimensions		Ordering Code
	A in.	A mm	
¾ × ½	2.000	50.8	TEG32CC6L.75x5-..
* 1 × ½	2.500	63.5	TEG32CC6L1.0x.5-..
* 1 × ¾	2.000	50.8	TEG32CC6L1.0x.75-..
1½ × ½	3.000	76.2	TEG32CC6L1.5x.5-..
1½ × 1 *	3.000	76.2	TEG32CC6L1.5x1.0-..
2 × 1½	3.000	76.2	TEG32CC6L2.0x1.5-..
2½ × 1½	5.000	127.0	TEG32CC6L2.5x1.5-..
2½ × 2	3.000	76.2	TEG32CC6L2.5x2.0-..
3 × 1½	7.000	177.8	TEG32CC6L3.0x1.5-..
3 × 2	5.000	127.0	TEG32CC6L3.0x2.0-..
3 × 2½	3.000	76.2	TEG32CC6L3.0x2.5-..
4 × 2	9.125	231.8	TEG32CC6L4.0x2.0-..
4 × 2½	7.125	181.0	TEG32CC6L4.0x2.5-..
4 × 3	5.125	130.2	TEG32CC6L4.0x3.0-..
6 × 3	7.625	193.7	TEG32CC6L6.0x3.0-..
6 × 4	7.625	193.7	TEG32CC6L6.0x4.0-..

Note: Additional sizes are available upon request.

* **Note:** 1" Clamp Ferrule can also be ordered with 'Type A' connections according to the ASME BPE 2009 standard.

MaxPure

Elbows 88° & 92°

TE2S - 88° ELBOW

Nominal Size in.	Dimensions					Ordering Code
	T inch (mm)	α=88° A in.	A mm	B in.	B mm	
½	.065 (1.65)	3.06	77.72	2.96	75.18	TE2S88 6L.5-..
¾	.065 (1.65)	3.06	77.72	2.96	75.18	TE2S88 6L.75-..
1	.065 (1.65)	3.43	87.12	2.95	74.93	TE2S88 6L1.0-..
1½	.065 (1.65)	3.8	96.52	3.67	93.22	TE2S88 6L1.5-..
2	.065 (1.65)	4.81	122.17	4.64	117.86	TE2S88 6L2.0-..
2½	.065 (1.65)	5.56	141.22	5.37	139.40	TE2S88 6L2.5-..
3	.065 (1.65)	6.31	160.27	6.09	154.69	TE2S88 6L3.0-..
4	.083 (2.115)	8.07	204.98	7.79	197.87	TE2S88 6L4.0-..

TE2S - 92° ELBOW

Dimensions				Ordering Code
α=92° A in.	A mm	B in.	B mm	
2.94	74.68	3.04	77.22	TE2S92 6L.5-..
2.95	74.93	3.04	77.22	TE2S92 6L.75-..
2.95	74.93	3.05	77.22	TE2S92 6L1.0-..
3.74	95.00	3.83	97.28	TE2S92 6L1.5-..
4.73	120.14	4.85	123.19	TE2S92 6L2.0-..
5.44	138.18	5.63	143.00	TE2S92 6L2.5-..
6.19	157.23	6.41	162.81	TE2S92 6L3.0-..
7.93	201.42	8.21	208.53	TE2S92 6L4.0-..

TEG2C - 88° ELBOW

Nominal Size in.	Dimensions					Ordering Code
	T inch (mm)	α=88° A in.	A mm	B in.	B mm	
½	.065 (1.65)	1.64	41.66	1.59	40.39	TEG2C88 6L.5-..
¾	.065 (1.65)	1.64	41.66	1.59	40.39	TEG2C88 6L.75-..
* 1	.065 (1.65)	2.02	51.31	1.95	49.53	TEG2C88 6L1.0-..
1½	.065 (1.65)	2.77	70.36	2.67	67.82	TEG2C88 6L1.5-..
2	.065 (1.65)	3.52	89.41	3.4	86.36	TEG2C88 6L2.0-..
2½	.065 (1.65)	4.26	108.20	4.12	104.65	TEG2C88 6L2.5-..
3	.065 (1.65)	5.02	127.51	4.84	122.94	TEG2C88 6L3.0-..
4	.083 (2.115)	6.64	168.66	6.42	163.07	TEG2C88 6L4.0-..

TEG2C - 92° ELBOW

Dimensions				Ordering Code
α=92° A in.	A mm	B in.	B mm	
1.63	41.40	1.66	42.16	TEG2C92 6L .5-..
1.63	41.40	1.66	42.16	TEG2C92 6L .75-..
2	50.80	2.05	52.07	TEG2C92 6L 1.0-..
2.75	69.85	2.83	71.88	TEG2C92 6L 1.5-..
3.5	88.90	3.6	91.44	TEG2C92 6L 2.0-..
4.25	107.95	4.38	122.68	TEG2C92 6L 2.5-..
5	127.00	5.16	131.06	TEG2C92 6L 3.0-..
6.62	168.15	6.83	173.48	TEG2C92 6L 4.0-..

* **Note:** 1" Clamp Ferrule can also be ordered with 'Type A' connections according to the ASME BPE 2009 standard.

TE2C - 88° ELBOW

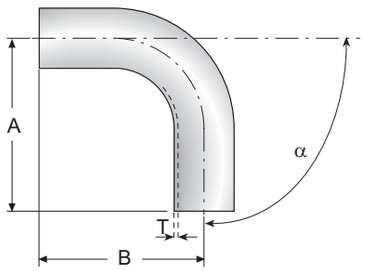
Nominal Size in.	Dimensions					Ordering Code
	T inch (mm)	α=88° A in.	A mm	B in.	B mm	
½	.065 (1.65)	3.02	76.71	1.59	40.39	TE2C88 6L.5-..
¾	.065 (1.65)	3.02	76.71	1.59	40.39	TE2C88 6L.75-..
* 1	.065 (1.65)	3.02	76.71	1.95	40.39	TE2C88 6L1.0-..
1½	.065 (1.65)	3.77	95.76	2.67	67.82	TE2C88 6L1.5-..
2	.065 (1.65)	4.77	121.16	3.4	86.36	TE2C88 6L2.0-..
2½	.065 (1.65)	5.52	140.21	4.12	104.65	TE2C88 6L2.5-..
3	.065 (1.65)	6.27	159.26	4.84	122.94	TE2C88 6L3.0-..
4	.083 (2.115)	8.02	203.71	6.42	163.07	TE2C88 6L4.0-..

TE2C - 92° ELBOW

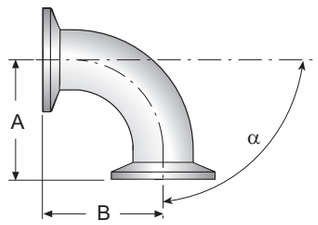
Dimensions				Ordering Code
α=92° A in.	A mm	B in.	B mm	
2.98	75.69	1.66	42.16	TE2C92 6L .5-..
2.98	75.69	1.66	42.16	TE2C92 6L .75-..
2.98	75.69	2.05	52.07	TE2C92 6L 1.0-..
3.73	94.74	2.83	71.88	TE2C92 6L 1.5-..
4.73	120.14	3.6	91.44	TE2C92 6L 2.0-..
5.48	139.19	4.38	122.68	TE2C92 6L 2.5-..
6.25	158.75	5.16	131.06	TE2C92 6L 3.0-..
7.98	202.69	6.83	173.48	TE2C92 6L 4.0-..

Note: 89º & 91º elbows are available upon request.

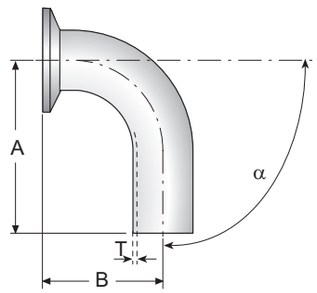
* **Note:** 1" Clamp Ferrule can also be ordered with 'Type A' connections according to the ASME BPE 2009 standard.



TE2S - 88°/92° ELBOW

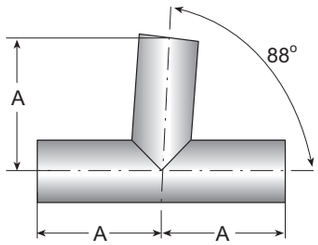


TEG2C - 88°/92° ELBOW



TE2C - 88°/92° ELBOW

Tees - 88°



TE7WWW886L - TEE 88°

Nominal Size in.	Dimensions		Ordering Code
	A in.	A mm	
1	2.125	54.0	TE7WWW886L1.0-..
1½	2.375	60.3	TE7WWW886L1.5-..
2	2.875	73.0	TE7WWW886L2.0-..
2½	3.125	79.4	TE7WWW886L2.5-..
3	3.375	85.7	TE7WWW886L3.0-..
4	4.125	104.8	TE7WWW886L4.0-..

Note: Reducing sizes and special end configurations can be supplied upon request.

MaxPure

Use Points

TE2UBWWW - 180° BOTTOM OUTLET WELD USE POINT

Nominal Size in.	Dimensions A in.	A mm	B in.	B mm	C in.	C mm	Ordering Code
¾ × ½	4.500	114.3	3.750	95.3	1.875	47.6	TE2UBWWW6L.75x.5-..
¾ × ¾	4.500	114.3	3.750	95.3	1.875	47.6	TE2UBWWW6L.75x.75-..
1 × ½	3.000	76.2	3.000	76.2	2.062	52.4	TE2UBWWW6L1.0x.5-..
1½ × ½	4.500	114.3	4.500	114.3	2.312	58.7	TE2UBWWW6L1.5x.5-..
2 × ½	6.000	152.4	5.000	127.0	2.562	65.1	TE2UBWWW6L2.0x.5-..
2½ × ½	7.500	190.5	5.750	146.1	2.812	71.4	TE2UBWWW6L2.5x.5-..
3 × ½	9.000	228.6	6.500	165.1	3.062	77.8	TE2UBWWW6L3.0x.5-..
4 × ½	12.000	304.8	8.500	215.9	3.562	90.5	TE2UBWWW6L4.0x.5-..

TE2UBWWC - 180° BOTTOM OUTLET CLAMP USE POINT

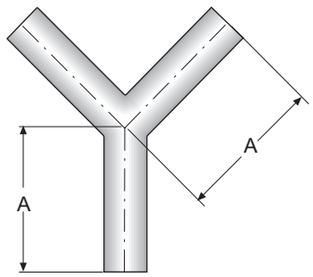
Nominal Size in.	Dimensions A in.	A mm	B in.	B mm	C in.	C mm	Ordering Code
¾ × ½	4.500	114.3	3.750	95.3	0.875	22.2	TE2UBWWC6L.75x.5-..
¾ × ¾	4.500	114.3	3.750	95.3	0.875	22.2	TE2UBWWC6L.75x.75-..
1 × ½	3.000	76.2	3.000	76.2	1.062	27.0	TE2UBWWC6L1.0x.5-..
1½ × ½	4.500	114.3	4.500	114.3	1.312	33.3	TE2UBWWC6L1.5x.5-..
2 × ½	6.000	152.4	5.000	127.0	1.562	39.7	TE2UBWWC6L2.0x.5-..
2½ × ½	7.500	190.5	5.750	146.1	1.812	46.0	TE2UBWWC6L2.5x.5-..
3 × ½	9.000	228.6	6.500	165.1	2.062	52.4	TE2UBWWC6L3.0x.5-..
4 × ½	12.000	304.8	8.500	215.9	2.562	65.1	TE2UBWWC6L4.0x.5-..

TE2USWWC - 180° SIDE OUTLET CLAMP USE POINT

Nominal Size in.	Dimensions A in.	A mm	B in.	B mm	C in.	C mm	Ordering Code
¾ × ½	4.500	114.3	3.750	95.3	0.875	22.2	TE2USWWC6L.75x.5-..
¾ × ¾	4.500	114.3	3.750	95.3	0.875	22.2	TE2USWWC6L.75x.75-..
1 × ½	3.000	76.2	3.000	76.2	1.062	26.9	TE2USWWC6L1.0x.5-..
1½ × ½	4.500	114.3	4.500	114.3	1.312	33.3	TE2USWWC6L1.5x.5-..
2 × ½	6.000	152.4	5.000	127.0	1.562	39.7	TE2USWWC6L2.0x.5-..
2½ × ½	7.500	190.5	5.750	146.1	1.812	46.0	TE2USWWC6L2.5x.5-..
3 × ½	9.000	228.6	6.500	165.1	2.062	52.4	TE2USWWC6L3.0x.5-..
4 × ½	12.000	304.8	8.500	215.9	2.562	65.0	TE2USWWC6L4.0x.5-..

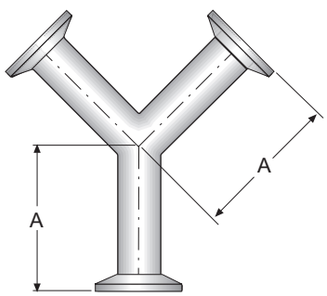
True & Latteral Y's

TE28WB - TRUE Y



Nominal Size in.	Dimensions A in.	A mm	Nom. Wall	Ordering Code
1	3.00	76.2	.065	TE28WB6L1.0-..
1½	3.00	76.2	.065	TE28WB6L1.5-..
2	4.00	101.6	.065	TE28WB6L2.0-..
2 ½	5.00	127.0	.065	TE28WB6L2.5-..
3	6.00	152.4	.065	TE28WB6L3.0-..
4	8.00	302.2	.083	TE28WB6L4.0-..
6	8.00	302.2	.109	TE28WB6L6.0-..

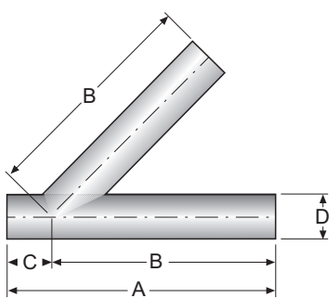
TEG28B - CLAMP TRUE Y



Nominal Size in.	Dimensions A in.	A mm	Ordering Code
* 1	3.50	88.9	TEG28B6L1.0-..
1½	3.50	88.9	TEG28B6L1.5-..
2	4.50	114.9	TEG28B6L2.0-..
2 ½	5.50	139.7	TEG28B6L2.5-..
3	6.50	165.1	TEG28B6L3.0-..
4	8.625	219.1	TEG28B6L4.0-..
6	8.875	225.4	TEG28B6L6.0-..

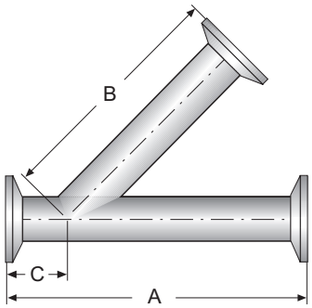
* **Note:** 1" Clamp Ferrule can also be ordered with 'Type A' connections according to the ASME BPE 2009 standard.

TE28WA - 45° LATERAL



Nominal Size in.	Dimensions A in.	A mm	B in.	B mm	C in.	C mm	D in.	D mm	Ordering Code
1	6.00	152.4	5.00	127.0	1.00	25.4	1.00	25.4	TE28WA6L1.0-..
1½	7.38	187.45	6.19	157.2	1.19	30.2	1.50	38.1	TE28WA6L1.5-..
2	8.75	222.3	7.12	181.0	1.63	41.4	2.00	50.8	TE28WA6L2.0-..
2 ½	10.00	254.0	8.50	215.9	1.50	38.1	2.50	63.50	TE28WA6L2.5-..
3	10.75	270.1	8.87	225.4	1.87	47.5	3.00	76.2	TE28WA6L3.0-..
4	12.81	325.4	10.75	273.1	2.06	52.4	4.00	101.6	TE28WA6L4.0-..
6	16.50	419.1	12.50	317.5	4.00	101.6	6.00	152.4	TE28WA6L6.0-..

TEG28A - 45° CLAMP LATERAL



Nominal Size in.	Dimensions A in.	A mm	B in.	B mm	C in.	C mm	Ordering Code
* 1	7.000	177.8	5.500	139.7	1.500	38.1	TEG28A6L1.0-..
1½	8.375	212.7	6.687	169.9	1.687	42.9	TEG28A6L1.5-..
2	9.750	247.7	7.625	193.7	2.125	54.0	TEG28A6L2.0-..
2 ½	11.000	279.4	9.000	228.6	2.000	50.8	TEG28A6L2.5-..
3	11.750	298.5	9.375	238.1	2.375	60.3	TEG28A6L3.0-..
4	14.062	357.2	11.375	288.9	2.687	68.3	TEG28A6L4.0-..
6	18.250	479.4	15.375	390.5	4.875	111.1	TEG28A6L6.0-..

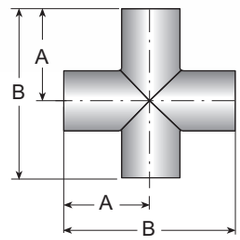
* **Note:** 1" Clamp Ferrule can also be ordered with 'Type A' connections according to the ASME BPE 2009 standard.

MaxPure

Crosses

TE9WWWW - CROSS

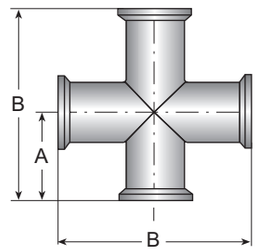
Nominal Size in.	Dimensions				Ordering Code
	A in.	A mm	B in.	B mm	
½	1.875	47.6	3.750	95.2	TE9WWWW6L.5-..
¾	2.000	50.8	4.000	101.6	TE9WWWW6L.75-..
1	2.125	54.0	4.250	108.0	TE9WWWW6L1.0-..
1½	2.375	60.3	4.750	120.6	TE9WWWW6L1.5-..
2	2.875	73.0	5.750	146.0	TE9WWWW6L2.0-..
2½	3.125	79.4	6.250	158.8	TE9WWWW6L2.5-..
3	3.375	85.7	6.750	171.4	TE9WWWW6L3.0-..
4	4.125	104.8	8.250	209.6	TE9WWWW6L4.0-..
6	5.625	142.9	11.250	285.8	TE9WWWW6L6.0-..



BPE TABLE # DT-9

TEG9 - CROSS

Nominal Size in.	Dimensions				Ordering Code
	A in.	A mm	B in.	B mm	
½	2.250	57.2	4.50	114.4	TEG96L.5-..
¾	2.375	60.3	4.75	120.6	TEG96L.75-..
* 1	2.625	66.7	5.25	133.4	TEG96L1.0-..
1½	2.875	73.0	5.75	146.0	TEG96L1.5-..
2	3.375	85.7	6.75	171.4	TEG96L2.0-..
2½	3.625	92.1	7.25	184.2	TEG96L2.5-..
3	3.875	98.4	7.75	196.8	TEG96L3.0-..
4	4.750	120.7	9.50	241.4	TEG96L4.0-..
6	7.125	181.0	14.25	362.0	TEG96L6.0-..

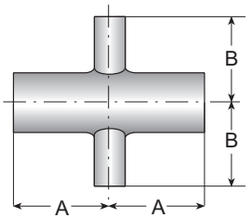


BPE TABLE # DT-18

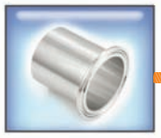
* **Note:** 1" Clamp Ferrule can also be ordered with 'Type A' connections according to the ASME BPE 2009 standard.

TE9RWWWW - REDUCING CROSS

Nominal Size in.	Dimensions				Ordering Code
	A in.	A mm	B in.	B mm	
¾ × ½	2.000	50.8	2.000	50.8	TE9RWWWW6L.75x.5-..
1 × ½	2.125	54.0	2.125	54.0	TE9RWWWW6L1.0x.5-..
1 × ¾	2.125	54.0	2.125	54.0	TE9RWWWW6L1.0x.75-..
1½ × ½	2.375	60.3	2.375	60.3	TE9RWWWW6L1.5x.5-..
1½ × ¾	2.375	60.3	2.375	60.3	TE9RWWWW6L1.5x.75-..
1½ × 1	2.375	60.3	2.375	60.3	TE9RWWWW6L1.5x1.0-..
2 × ½	2.875	73.0	2.625	66.7	TE9RWWWW6L2.0x.5-..
2 × ¾	2.875	73.0	2.625	66.7	TE9RWWWW6L2.0x.75-..
2 × 1	2.875	73.0	2.625	66.7	TE9RWWWW6L2.0x1.0-..
2 × 1½	2.875	73.0	2.625	66.7	TE9RWWWW6L2.0x1.5-..
2½ × 1	3.125	79.4	2.875	73.0	TE9RWWWW6L2.5x1.0-..
2½ × 1½	3.125	79.4	2.875	73.0	TE9RWWWW6L2.5x1.5-..
2½ × 2	3.125	79.4	2.875	73.0	TE9RWWWW6L2.5x2.0-..
3 × 1	3.375	85.7	3.125	79.4	TE9RWWWW6L3.0x1.0-..
3 × 1½	3.375	85.7	3.125	79.4	TE9RWWWW6L3.0x1.5-..
3 × 2	3.375	85.7	3.125	79.4	TE9RWWWW6L3.0x2.0-..
3 × 2½	3.375	85.7	3.125	79.4	TE9RWWWW6L3.0x2.5-..
4 × 1	4.125	104.8	3.625	92.1	TE9RWWWW6L4.0x1.0-..
4 × 1½	4.125	104.8	3.625	92.1	TE9RWWWW6L4.0x1.5-..
4 × 2	4.125	104.8	3.875	98.4	TE9RWWWW6L4.0x2.0-..
4 × 2½	4.125	104.8	3.875	98.4	TE9RWWWW6L4.0x2.5-..
4 × 3	4.125	104.8	3.875	98.4	TE9RWWWW6L4.0x3.0-..
6 × 3	5.625	142.9	4.875	123.8	TE9RWWWW6L6.0x3.0-..
6 × 4	5.625	142.9	5.125	130.2	TE9RWWWW6L6.0x4.0-..

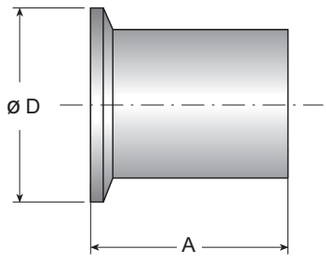


Note: Additional sizes are available upon request.



Ferrules

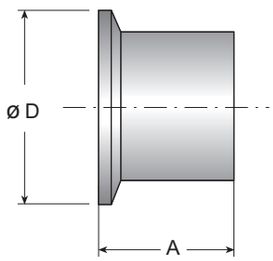
TEG14AM7 - CLAMP FERRULE LONG



BPE TABLE # DT-22
Long

Nominal Size in.	Flange Type	Dimensions				Ordering Code
		A in.	A mm	D in.	D mm	
½	A	1.750	44.5	0.984	24.9	TEG14AM7 6L.5-..
¾	A	1.750	44.5	0.984	24.9	TEG14AM7 6L.75-..
1	A	1.750	44.5	1.339	34.0	TEG14AM7 6L1.0-A..
1	B	1.750	44.5	1.984	50.3	TEG14AM7 6L1.0-..
1½	B	1.750	44.5	1.984	50.3	TEG14AM7 6L1.5-..
2	B	2.250	57.2	2.516	63.9	TEG14AM7 6L2.0-..
2 ½	B	2.250	57.2	3.047	77.3	TEG14AM7 6L2.5-..
3	B	2.250	57.2	3.579	90.9	TEG14AM7 6L3.0-..
4	B	2.250	57.2	4.682	118.9	TEG14AM7 6L4.0-..
6	B	3.000	76.2	6.570	166.8	TEG14AM7 6L6.0-..

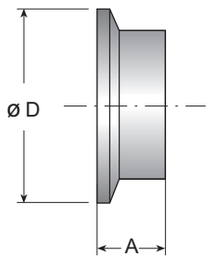
TEG14BM7 - CLAMP FERRULE MEDIUM



BPE TABLE # DT-22
Medium

Nominal Size in.	Flange Type	Dimensions				Ordering Code
		A in.	A mm	D in.	D mm	
½	A	1.130	28.7	0.984	24.9	TEG14BM7 6L.5-..
¾	A	1.130	28.7	0.984	24.9	TEG14BM7 6L.75-..
1	A	1.130	28.7	1.339	34.0	TEG14BM7 6L1.0-A..
1	B	1.130	28.7	1.984	50.3	TEG14BM7 6L1.0-..
1½	B	1.130	28.7	1.984	50.3	TEG14BM7 6L1.5-..
2	B	1.130	28.7	2.516	63.9	TEG14BM7 6L2.0-..
2 ½	B	1.130	28.7	3.047	77.3	TEG14BM7 6L2.5-..
3	B	1.130	28.7	3.579	90.9	TEG14BM7 6L3.0-..
4	B	1.130	28.7	4.682	118.9	TEG14BM7 6L4.0-..
6	B	1.500	38.1	6.570	166.8	TEG14BM7 6L6.0-..

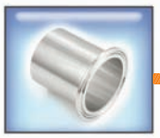
TEG2CS - CLAMP FERRULE SHORT



BPE TABLE # DT-22
Short

Nominal Size in.	Flange Type	Dimensions				Ordering Code
		A in.	A mm	D in.	D mm	
½	A	0.500	12.7	0.984	24.9	TEG2CS6L.5-..
¾	A	0.500	12.7	0.984	24.9	TEG2CS6L.75-..
1	A	0.500	12.7	1.339	34.0	TEG2CS6L1.0-A..
1	B	0.500	12.7	1.984	50.3	TEG2CS6L1.0-..
1½	B	0.500	12.7	1.984	50.3	TEG2CS6L1.5-..
2	B	0.500	12.7	2.516	63.9	TEG2CS6L2.0-..
2 ½	B	0.500	12.7	3.047	77.3	TEG2CS6L2.5-..
3	B	0.500	12.7	3.579	90.9	TEG2CS6L3.0-..
4	B	0.625	15.9	4.682	118.9	TEG2CS6L4.0-..
6	B	0.750	19.1	6.570	166.8	TEG2CS6L6.0-..

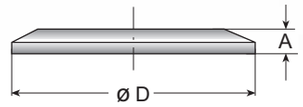
MaxPure



End Caps, Caps & Gaskets

TEG16A - SOLID END CAP

Nominal Size in.	Dimensions				Ordering Code
	A in.	A mm	D in.	D mm	
½ & ¾	0.187	4.7	0.984	24.9	TEG16A6L.75-..
1 Type A	0.250	6.3	1.339	34.0	TEG16A6L1.0-A..
1 & 1½	0.250	6.3	1.984	50.3	TEG16A6L1.5-..
2	0.250	6.3	2.516	63.9	TEG16A6L2.0-..
2½	0.250	6.3	3.047	77.3	TEG16A6L2.5-..
3	0.250	6.3	3.579	90.9	TEG16A6L3.0-..
4	0.312	7.9	4.682	118.9	TEG16A6L4.0-..
6	0.437	11.1	6.570	166.8	TEG16A6L6.0-..

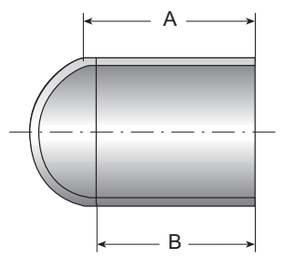


BPE TABLE # DT-31

TE16W - CAP

Nominal Size in.	Dimensions		Ordering Code
	A in.	A mm	
½	1.500	38.1	TE16W6L.5-..
¾	1.500	38.1	TE16W6L.75-..
1	1.500	38.1	TE16W6L1.0-..
1½	1.500	38.1	TE16W6L1.5-..
2	1.500	38.1	TE16W6L2.0-..
2½	1.500	38.1	TE16W6L2.5-..
3	1.750	44.5	TE16W6L3.0-..
4	2.000	50.8	TE16W6L4.0-..
6	2.500	63.5	TE16W6L6.0-..

Note: Minimum I.D. control portion length, *B*, is 0.375 in. (9.53 mm) for all sizes.

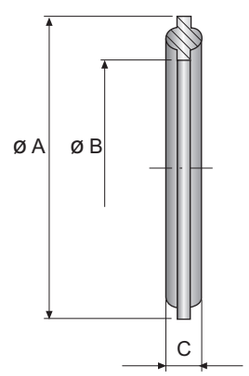


BPE TABLE # DT-30

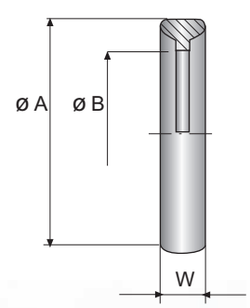
TEG40 - GASKET

Nominal	Dimensions								Ordering Code
Size in.	A in.	A mm	B in.	B mm	C in.	C mm	W in.	W mm	
½	1.00	25.40	0.3701	9.40	-	-	0.22	5.50	TEG40.5*
¾	1.00	25.40	0.6181	15.70	-	-	0.22	5.50	TEG40.75*
1 Type A	1.34	34.00	0.8661	22.00	0.18	4.50	0.22	5.50	TEG401.0-A*
1	1.99	50.50	0.8661	22.00	0.18	4.50	-	-	TEG401.0*
1½	1.99	50.50	1.3701	34.80	0.18	4.50	-	-	TEG401.5*
2	2.52	64.00	1.8701	47.50	0.18	4.50	-	-	TEG402.0*
2 ½	3.05	77.50	2.3701	60.20	0.18	4.50	-	-	TEG402.5*
3	3.58	91.00	2.874	73.00	0.18	4.50	-	-	TEG403.0*
4	4.69	119.00	3.8346	97.40	0.18	4.50	-	-	TEG404.0*

* Please specify the gasket material.
Note: Gaskets are type USP Class VI Pharmaceutical Grade.

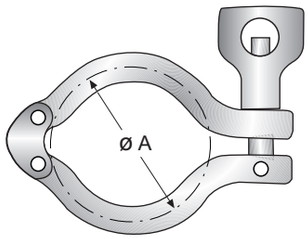


GASKET MATERIALS:
PTFE®
VITON®
Envelope type - TEFLON with EPDM Filler
TEFLON with VITON Filler
SILICON
BUNA
EPDM and TEF-STEEL®



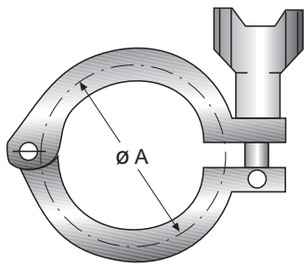
Clamps

13MHHMD - DOUBLE HINGED HEAVY DUTY CLAMP



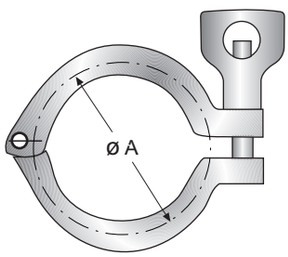
Nominal Size in.	Dimensions		Ordering Code
	A in.	A mm	
1½	2.122	53.9	13MHHMD1.5
2	2.654	67.4	13MHHMD2.0
2½	3.185	80.8	13MHHMD2.5
3	3.717	94.4	13MHHMD3.0
4	4.820	108.7	13MHHMD4.0

13MHHM - HEAVY DUTY CLAMP



Nominal Size in.	Dimensions		Ordering Code
	A in.	A mm	
½ & ¾	1.125	28.5	13MHHM.75
1 Type A	1.472	37.4	13MHHM1.0-A
1 & 1½	2.122	53.9	13MHHM1.5
2	2.654	64.5	13MHHM2.0
2½	3.185	80.8	13MHHM2.5
3	3.717	94.4	13MHHM3.0
4	4.820	122.42	13MHHM4.0
6	6.695	170.05	13MHHM6.0

13MHHM-H - HEAVY DUTY CLAMP (Wing Nut With Hole)



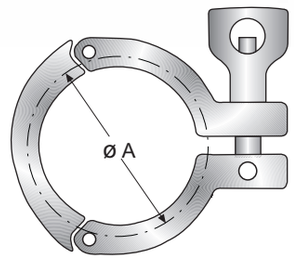
Nominal Size in.	Dimensions		Ordering Code
	A in.	A mm	
½ & ¾	1.125	28.9	13MHHM.75-H
1 Type A	1.472	37.4	13MHHM1.0-H-A
1 & 1½	2.122	53.9	13MHHM1.5-H
2	2.654	67.4	13MHHM2.0-H
2½	3.185	80.8	13MHHM2.5-H
3	3.717	94.4	13MHHM3.0-H
4	4.820	122.4	13MHHM4.0-H
6	6.695	170.05	13MHHM6.0-H

MaxPure

Clamps

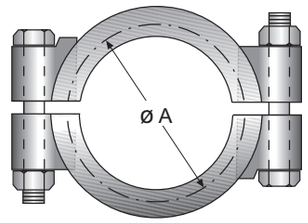
13MHHS - THREE PIECE HEAVY DUTY CLAMP

Nominal Size in.	Dimensions		Ordering Code
	A in.	A mm	
1½	2.122	53.9	13MHHS1.5
2	2.654	67.4	13MHHS2.0
2½	3.185	80.8	13MHHS2.5
3	3.717	94.4	13MHHS3.0
4	4.820	108.7	13MHHS4.0



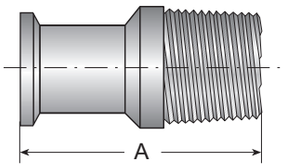
13MHP - HIGH PRESSURE CLAMP

Nominal Size in.	Dimensions		Ordering Code
	A in.	A mm	
½ & ¾	1.062	26.97	13MHP.75
1½	2.046	51.97	13MHP1.5
2	2.578	65.48	13MHP2.0
2½	3.110	78.99	13MHP2.5
3	3.640	92.46	13MHP3.0
4	4.744	120.50	13MHP4.0
6	6.632	168.45	13MHP6.0

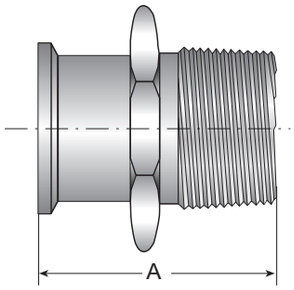


Adapters

TEG21 - CLAMP ADAPTER X MALE NPT



½" & ¾" SIZES

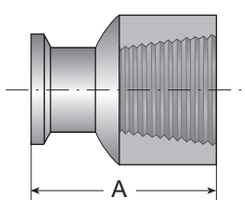


1" THROUGH 4"

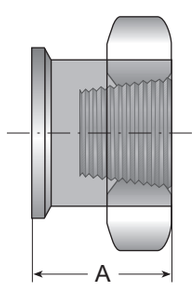
Nominal Size in.	Dimensions		Ordering Code
	A in.	A mm	
½ × ⅛	2.00	50.8	TEG21 6L.5x.125-..
½ × ¼	2.00	50.8	TEG21 6L.5x.25-..
½ × ⅜	2.00	50.8	TEG21 6L.5x.375-..
½ × ½	2.00	50.8	TEG21 6L.5-..
½ × ¾	2.00	50.8	TEG21 6L.5x.75-..
¾ × ⅛	2.00	50.8	TEG21 6L.75x.125-..
¾ × ¼	2.00	50.8	TEG21 6L.75x.25-..
¾ × ⅜	2.00	50.8	TEG21 6L.75x.375-..
¾ × ½	2.00	50.8	TEG21 6L.75x.5-..
¾ × ¾	2.00	50.8	TEG21 6L.75-..
* 1	2.25	57.1	TEG21 6L1.0-..
1½	2.44	61.9	TEG21 6L1.5-..
2	2.66	67.5	TEG21 6L2.0-..
2½	3.28	83.3	TEG21 6L2.5-..
3	3.50	88.9	TEG21 6L3.0-..
4	3.81	96.7	TEG21 6L4.0-..

* **Note:** 1" Clamp Ferrule can also be ordered with 'Type A' connections according to the ASME BPE 2009 standard.

TEG22 - CLAMP ADAPTER X FEMALE NPT



½" & ¾" SIZES



1" THROUGH 4"

Nominal Size in.	Dimensions		Ordering Code
	A in.	A mm	
½ × ⅛	1.25	31.7	TEG22 6L.5x.125-..
½ × ¼	1.50	38.1	TEG22 6L.5x.25-..
½ × ⅜	1.50	38.1	TEG22 6L.5x.375-..
½ × ½	1.50	38.1	TEG22 6L.5-..
½ × ¾	1.62	41.1	TEG22 6L.5x.75-..
¾ × ⅛	1.25	31.7	TEG22 6L.75x.125-..
¾ × ¼	1.50	38.1	TEG22 6L.75x.25-..
¾ × ⅜	1.50	38.1	TEG22 6L.75x.375-..
¾ × ½	1.50	38.1	TEG22 6L.75x.5-..
¾ × ¾	1.62	41.1	TEG22 6L.75-..
* 1	1.62	41.1	TEG22 6L1.0-..
1½	2.25	57.1	TEG22 6L1.5-..
2	2.34	59.4	TEG22 6L2.0-..
2½	2.09	53.08	TEG22 6L2.5-..
3	2.19	55.6	TEG22 6L3.0-..
4	2.66	67.5	TEG22 6L4.0-..

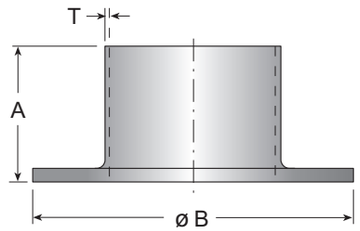
* **Note:** 1" Clamp Ferrule can also be ordered with 'Type A' connections according to the ASME BPE 2009 standard.

MaxPure

Stub Ends, Hose Adapters & Slip On Flanges

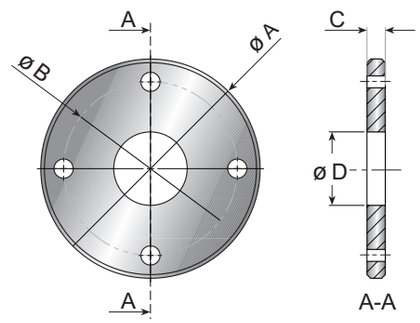
TE14WA - TYPE A STUB END WITH GROOVES

Nominal Size in.	Dimensions						Ordering Code
	A in.	A mm	B in.	B mm	T in.	T mm	
½	2.000	50.8	1.625	41.3	.065	1.65	TE14WA6L.5-..
¾	2.000	50.8	1.687	42.9	.065	1.65	TE14WA6L.75-..
1	2.000	50.8	2.000	50.8	.065	1.65	TE14WA6L1.0-..
1½	2.000	50.8	2.875	73.0	.065	1.65	TE14WA6L1.5-..
2	2.500	63.5	3.265	92.1	.065	1.65	TE14WA6L2.0-..
2½	2.500	63.5	4.125	104.8	.065	1.65	TE14WA6L2.5-..
3	2.500	63.5	5.000	127.0	.065	1.65	TE14WA6L3.0-..
4	2.500	63.5	6.187	157.2	.083	2.11	TE14WA6L4.0-..
6	3.000	76.2	8.500	215.9	.109	2.77	TE14WA6L6.0-..



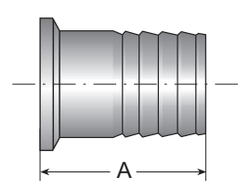
E38SL - SLIP ON FLANGE

Nominal Size in.	Dimensions							
	A in.	A mm	B in.	B mm	C in.	C mm	D in.	D mm
1	4.25	108.0	3.125	79.4	0.375	9.5	1.01	25.7
1½	5	127.0	3.875	98.4	0.437	11.1	1.51	38.4
2	6	152.4	4.75	120.7	0.5	12.7	2.01	51.1
2½	7	177.8	5.5	139.7	0.562	14.3	2.51	63.8
3	7.5	190.5	6	152.4	0.625	15.9	3.01	76.5
4	9	228.6	7.5	190.5	0.689	17.5	4.01	101.9
6	11	297.4	9.5	241.3	0.811	20.6	6.01	152.9



TEG14RT - HOSE ADAPTER

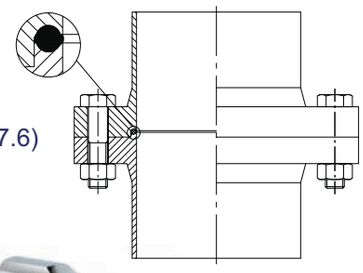
Nominal Size in.	Dimensions		Ordering Code
	A in.	A mm	
½ × ¼	1.50	38.1	TEG14RT6L.5x.25-..
½ × ⅜	1.50	38.1	TEG14RT6L.5x.375-..
½ × ½	1.50	38.1	TEG14RT6L.5-..
¾ × ¼	1.50	38.1	TEG14RT6L.75x.25-..
¾ × ⅜	1.50	38.1	TEG14RT6L.75x.375-..
¾ × ½	1.50	38.1	TEG14RT6L.75x.5-..
¾	1.50	38.1	TEG14RT6L.75-..
* 1	1.69	42.9	TEG14RT6L1.0-..
1½	1.69	42.9	TEG14RT6L1.5-..
2	2.31	58.7	TEG14RT6L2.0-..
2½	2.34	59.5	TEG14RT6L2.5-..
3	3.09	78.6	TEG14RT6L3.0-..
4	3.41	86.5	TEG14RT6L4.0-..



* **Note:** 1" Clamp Ferrule can also be ordered with 'Type A' connections according to the ASME BPE 2009 standard.

Bio Fittings

BioConnect® - Clean tube connection

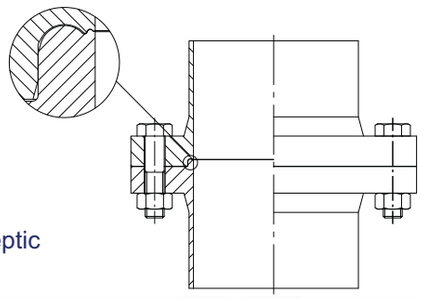


- Optimized recess contour (patent approved)
- Highest press-on power at the transitions to wetted areas prevents dirt and germs getting into the sealing space (see ASME-BPE, Ch. SD-3.7.2 and 3.7.6)
- Defined expansion pockets excludes dangerous "escalator effect" between wetted area and elastomer seat (see ASME-BPE, Ch. SD-3.7.2)
- Self-draining even after expansion of seal due to high temperature (see ASME-BPE, Ch. SD-3.7.7)
- Metal-to-metal-stop avoids stress or overcompression of gaskets (O-ring) (see ASME-BPE, Ch. SD-3.7.8)
- Nominal pressure PN16 (D6 - DN100, ½“ - 4”)

Connect S® - a unique solution without elastomer gasket

- Optimal recess contour and design of the sealing metallic surface (patent approved)
- Excellent cleanability
- Tested by Fraunhofer-Institut for Grenzflächen-und Bioverfahrenstechnik
- Hermetic tightness even under repeated temperature changes
- Defined pre-stressing on the metallic sealing surface
- No gasket - no elevator effect
- Protection of the sealing contour against damage
- Axial positioning by metal-to-metal-stop
- Exact positioning by central guidance
- Material grade 1.4435/316 L; other grades on request
- Wetted areas with roughness Ra<0,8µm (Ra<0,5µm on demand)
- Dimensions acc. ASME-BPE, DIN11866, DIN 11850,ISO 1127
- Material Test Report according EN 10204-3.1 (on request ADW 2)
- Approval for pressure application: issued by TÜV Germany (Süddeutschland)

  a) Nominal Pressure: PN 16 (DN 6 until DN 50)
  PN 10 (DN 65 until DN 100)
  PN 100 (DN 6 until DN 40, high pressure-aseptic connection)



MaxPure

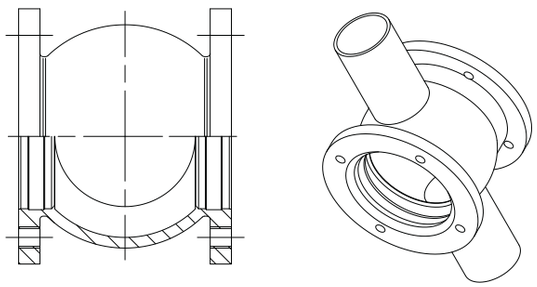
BioControl®

BioControl® is a fully aseptic modular system with TÜV-approval for pressure application. BioControl® provides the user with a fully hygienic port for connecting control instruments, gauges, sight glasses, etc..., allowing cleaning and sterilizing in place.
BioControl® system is supported by the following manufacturers of instruments and special equipment:

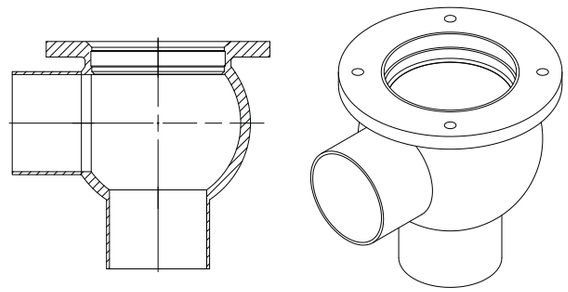
- Endress + Hauser
- WIKA
- LABOM
- Fisher Rosemount (EMERSON)
- Papenmeier
- Others

BioControl® allows 100% Cleaning-In-Place where typical instrument tees stay with uncleaned dead pockets.

Example: **Inline - Housing**



Example: **Angle - Housing**



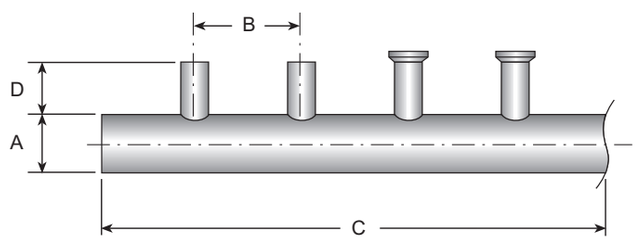
Manifolds

EGMO develops, designs and manufactures a wide range of stainless steel manifolds by using advanced welding and tube forming technologies.

All around quality and meticulous inspection ensures that every manifold will be of the highest quality and in total compliance with ASME BPE standard.

Advantages

- Minimum welds per manifold
- Advanced welding technology - improved seam surface
- Electropolish and passivation after welding
- Short installation time - Cost reduction
- Various outlets: weld, clamp, diaphragm valve



MANIFOLD

A	B	C	D	
O.D.	Min. Pitch	Total Length	Branch Height	Branch O.D.
½	70	According to Request (Max. 6m)	33	½
¾			35	≤ ¾
1			38	≤ 1
1½	80		41	≤ 1½
2			45	≤ 2
2 ½	110		48	≤ 2 ½
3			52	≤ 3
4	140		55	≤ 4

Note: In case of reducing branch or other outlets, B and D may change.

MaxPure

Customized Components

EGMO, VNE and NEUMO specialize in manufacturing customized stainless steel components and sub-assemblies from customer specifications, sketches or drawings.

Technical Information

Pressure service ratings for sanitary stainless steel clamps

Size Tube OD	13MHHM(-H)				13MHHS				13MHP			
	@70°F / 21°C		@250°F / 121°C		@70°F / 21°C		@250°F / 121°C		@70°F / 21°C		@250°F / 121°C	
	PSI	bar	PSI	bar	PSI	bar	PSI	bar	PSI	bar	PSI	bar
½″ & ¾″	1500	103	1200	83					1500	103	1200	83
1 & 1½″	500	34	250	17	600	41	300	21	1500	103	1200	83
2″	450	31	250	17	550	38	275	19	1000	69	800	55
2½″	400	28	200	14	450	31	225	16	1000	69	800	55
3″	350	24	150	10	350	24	160	11	1000	69	800	55
4″	200	14	125	9	250	17	150	10	1000	69	800	55
5″	175	12	100	7								
6″	150	10	75	5								
8″	100	7	50	3								
10″	40	3	30	2								
12″	30	2	25	2								

Note: The pressure information doesn't refer to the gaskets.

Gasket Material Properties

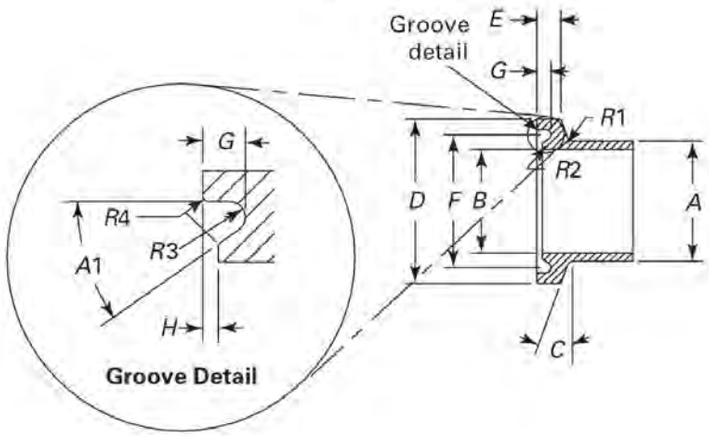
Property	PTFE®	VITON®	SILICON	EPDM
Temperature Range	-40 to 450° F -40 to 232° C	-20 to 400° F -29 to 204° C	-80 to 450° F -62 to 232° C	-55 to 275° F -48 to 135° C
Acid Resistance	Excellent	Good	Good	Good - excellent
Alkali Resistance	Excellent	Poor - good	Poor - fair	Good - excellent
Abrasion Resistance	Excellent	Good	Good - excellent	Good - excellent
Compression Set	Cold flows	Good - excellent	Good - excellent	Fair

Conversion Table Of Surface Finishes

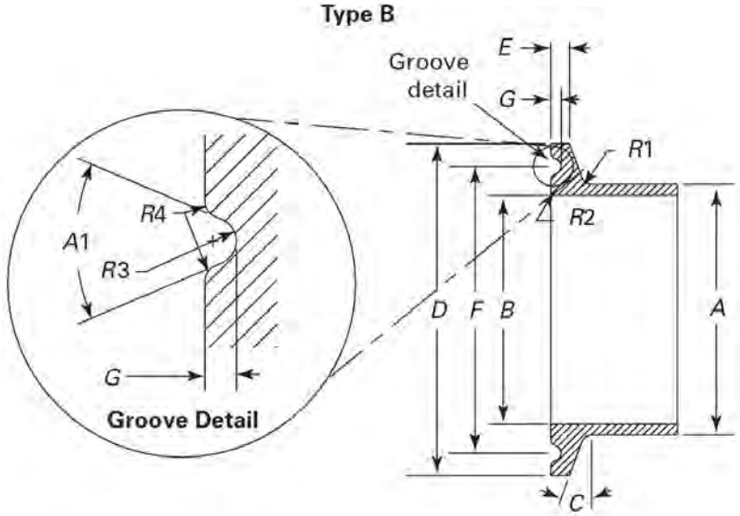
Mechanical Finish		
µ-in.	µm	Grit
32 Ra	0.8 Ra	150
24 Ra	0.6 Ra	180
20 Ra	0.5 Ra	240
12 Ra	0.3 Ra	320

ASME BPE Table DT-5-2 Hygienic Clamp Ferrule Standard Dimensions and Tolerances

Type A (according to the ASME BPE 2009 standard)



Type B



Industry Terms Glossary

Term	Acronym	Definition
A		
Alloy	**----**	A material composed of two or more metals which are mixed and united - usually when they are in a molten state. Alloys are created to improve properties such as the appearance, strength and durability of metals. Common alloys include cast iron, stainless steel, brass, bronze, sterling silver and alpha cellulose, that part of a material made of cellulose that is insoluble in a 17.5% solution of sodium hydroxide at 20°C under specified conditions. While alpha cellulose consists principally of cellulose, it does include other components that are insoluble under the test conditions.
American Society of Mechanical Engineers	**ASME**	Creates consensus standards for Mechanical Engineering.
American Society for the Testing & Materials	**ASTM**	Creates consensus standards for material quality and material quality testing methods
Aseptic	**----**	Free of pathogenic (disease causing) micro-organisms.
ASTM-A 269	**ASTM-A 269**	Specification titled "Seamless and Welded Austenitic Stainless Steel Tubing for General Service". This specification covers a variety of grades of austenitic stainless steel tubing.
ASTM-A 270	**ASTM-A 270**	Specification titled "Welded Austenitic Stainless Steel Tubing" for use in the pharmaceutical industries and need to withstand secondary cold forming operations. This specification covers a variety of grades of austenitic stainless steel tubing.
B		
Bio Processing Equipment	**BPE**	ASME Standard is intended for the design, materials, construction, inspection and testing of vessels, piping and related process components used in the biopharmaceutical industry and other aseptic applications.
Bio Processing Equipment Committee	**BPEC**	A sub-committee of the ASME BPE Main committee working to develop the ASME BPE standard while meeting three times per year.
B31.3 ASME Process Piping	**B31.3**	American National Standard that covers piping typically found in pharmaceutical, semiconductor, and cryogenic plants, and related processing plants and terminals. It must be noted that B31.3 does not address hygienic tubing and/or piping; it applies mostly to inspection, examination, and testing of systems.

Industry Terms Glossary

Term	Acronym	Definition
C		
Chemical reaction	----	The process by which chemicals combine with each other to form products, which differ from, or alter, the original substances.
Clean in Place	**CIP**	The technique of cleaning process line components without the need for disassembly.
Conductivity	----	Measurement of a substance's ability to conduct an electric current.
current Good Manufacturing Practice	**cGMP**	Written and enforced by the FDA. Consists of some specific, but mostly "umbrella" regulations covering personnel, records, and equipment, leaving much to the interpretation of the Inspector and the court system. cGMP's are evolutionary, reflecting the least common denominator of practices in the industry at present (hence the term "current").
D		
Dead Leg	----	A section of pipe in a closed recirculation loop that does not have a continuous flow through it.
Deutsches Institut fur Normung (German Institute for Standardization)	**DIN**	Creates engineering standards for Germany Contributing body to CEN and ISO. Other countries and companies give adopted DIN standards.
E		
Electron Spectroscopy for Chemical Analysis	**ESCA**	A procedure that uses electron beams to characterize the extreme outer surface of a metal. Typically used to determine levels of chromium oxide on the surface of austenitic stainless steel.
Electro-Polish	**EP or E/P**	Polishing process for metal components where the part is placed in an acid bath (typically sulfuric or phosphoric) containing a cathode. As current is passed through the cathode, metal ions are removed from the surface of the metal.
Epidemiology	----	Study of the distribution and determinants of diseases in populations.
European Hygienic Equipment Design Group	**EHEDG**	Comprised of representatives from research institutes, equipment manufacturers, the food and bio-pharm industry and legislative bodies . The group's objective is to provide standardization organizations (CEN and ISO) with specialist views on hygienic and aseptic design by publishing requirements and test methods.

Industry Terms Glossary

Term	Acronym	Definition
F		
Fermentation	----	The biochemical synthesis of organic compounds by microorganisms or cultivated cells.
Food and Drug Administration (USA)	**FDA**	Enforcement agency of the U.S. government for food, drug and cosmetics manufacturing. Author of the U.S. cGMP's. Responsible for new product approvals, plant inspections and product recalls.
G		
Gas Tungsten Arc Welding	**GTAW**	(a.k.a. TIG) A welding process where the welding arc is maintained between a non-consumable tungsten electrode and the base metal to be welded. The arc is shielded with an inert gas, typically argon.
Good Manufacturing Practices	**GMP**	Refers specifically to FDA cGMP's (see cGMP) or to the standards of manufacturing in a particular country and industry (e.g.:EU GMP). Generally refers to standards that are written and enforced.
H		
Heat Tracing	----	Permanent identification used to trace a part back to the mill heat (batch) from which the part was manufactured. Each heat number traces back to an MTR (see MTR).
I		
International Standards Organization	**ISO**	Creates consensus standards for engineering and quality systems.
International Society for Pharmaceutical Engineering	**ISPE**	A global not-for-profit membership organization that provides education, training and technical publications to pharmaceutical manufacturing professionals.
J		
Joining Techniques	----	Connections between tube and tube or tube and fitting, and even tube/fitting to equipment during system fabrication and/or construction can be accomplished by diverse means.

Industry Terms Glossary

Term	Acronym	Definition
M		
Mill Test Report or Material Test Report	**MTR**	(a.k.a. "Mill Certs") A document certifying the composition of a metal from a particular heat batch.
O		
Orbital Welding	**----**	An automated TIG (or GTAW) welding process that is designed to produce repeatable fusion welds for tubular components. A system consists of a programmable power supply and weld head. The power supply controls the weld parameters of current and electrode speed. The weld head holds the two parts, purges the weld and moves the electrode using an electric motor.
Ovality	**----**	A quantitative measurement of how 'round' a tube is by comparing width to height. Limits are specified on the appropriate ASTM specification of a product.
P		
Parenteral Drug Association	**PDA**	Association for manufacturers of injectable drug products. Publishes technical reports and other publications of interest to the industry.
Passivation	**----**	The process of rinsing stainless steel with acid (typically nitric) to form a corrosion resistant chromium-oxide layer on the surface.
Pharma-coepidemiology	**----**	The study of the utilization and effects of drugs in large numbers of people. To accomplish this study, pharmacoepidemiology borrows from both pharmacology and epidemiology.
Point of Use	**POU**	A valved branch in a recirculating utility system (typically a water system).
Process Qualification/ Process Validation	**PQ/PV**	The demonstration and documentation that the various units and procedures of a process operate as they should. This logically establishes that the product is of the quality the system is purported to yield. Performed after the IQ/OQ has been executed and approved. Typically, the acceptance criteria is the same as the product acceptance criteria, and the product run is considered product-for-sale. Executed by the manufacturing personnel of the operating company according to the SOP.

Industry Terms Glossary

Term	Acronym	Definition
R		
Roughness Average (Ra)	**Ra**	An expression of measured surface roughness or texture, typically, of a polished or machined metal surface. The arithmetic average value of the departure (peaks and valleys) of a surface profile from the center-line throughout the sampling length, generally expressed in micro-inch(µin) or micro-meter(µm) units and measured with profilometers and/or orescopes.
S		
Seamless Pipe	**----**	Pipe produced from a solid billet that is heated and rotated under pressure. This rotating pressure creates a hole in the middle of the billet, which is then formed into a pipe by a mandrel.
Solvent Cleaning	**----**	The removal of contaminants such as oil, grease, dirt, salts, etc. by cleaning with a solvent, steam, vapor, alkali, or emulsion.
Standard Operating Procedure	**SOP**	(a.k.a. EOP, OP) A controlled document that outlines the procedure for operating equipment/ systems. An operator's adherence to a written SOP is an integral part of the validation process. It is the connecting link between the initial validation process and the daily manufacturing operation.
Steam in Place	**SIP**	Sanitization of process line components by the use of steam without the need for disassembly.
Sterile	**----**	Free of living organisms.
Sulfur	**----**	A non-metallic element that exists in several forms-the ordinary one being a yellow, rhombic, crystalline solid-and which burns with a blue flame and a suffocating smell. Some sulfur compounds, particularly sulphides and oxides, can cause severe chemical deterioration in objects.
Surface Finish	**SF**	Surface finishes are all interior surface finishes accessible and inaccessible, that directly or indirectly come in contact with the designated product in bioprocessing equipment and distribution system components. Surface roughness specification and measurement standard shall be determined by Ra values rather than by polishing methods.

Industry Terms Glossary

Term	Acronym	Definition
T		
Tubing Dimensions	**----**	O.D. - outside diameter I.D. - inside diameter Wall thickness or gauge. All tube dimensions are specific; pipe dimensions are nominal. Specific – actual measurements in inches. Nominal – theoretical or stated value of a dimension.
Tungsten Inert Gas	**TIG**	(a.k.a. GTAW) A welding process where the welding arc is maintained between a non-consumable tungsten electrode and the base metal to be welded. The arc is shielded with an inert gas, typically argon.
U		
Ultra Filter or Ultra-Filtration	**UF**	Filters formed from polymer membranes. UFs have the ability to retain larger molecules while permitting the passage of smaller ones. Often used for the separation of proteins.
Ultraviolet Light or Ultraviolet Radiation	**UV**	Radiation in the ultraviolet portion of the spectrum (200 to 400 nm) is used to destroy micro-organisms. Also used to neutralize ozone.
US Pharmaceutical Class VI-XXII	**USP**	An official public standards-setting authority for healthcare products manufactured and sold in the United States. USP sets standards for the quality of these products which are also recognized and used outside the United States.
W		
Water For Injection	**WFI**	Water for use as a solvent for the preparation of parenteral products conforming to USPXXIII (EP and JP) guidelines. Obtained most commonly by distillation. However, other processes are allowed depending on particular pharmacopoeia.
Welded Tubing	**----**	Tubular products, which are rolled, formed and then joined continuously along a longitudinal seam by a material fusion process. The process employed at Gibson Tube is, Gas Tungsten Arc Welding (GTAW). See Gas Tungsten Arc Welding'.

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