

About our Tri Clamps, Ferrules and Seals:

Zenith Stainless Solutions offers an extensive range of clamps including single hinge, double hinge, three piece and High pressure clamps in 304 and 316 Stainless Steel in sizes ½" to 12". Tri Clamp Fittings are one of the easiest unions to dismantle, expediting the cleaning of pipework systems. They conform to US 3A, BS4825 PT3, DIN Standard, ISO, ASME BPE and are suitable for tube and Nominal Bore pipe. A Tri Clamp union consists of a clamp, 2 ferrules and a gasket.

All ferrules are produced from forgings. Forgings provide greater strength, improved weldability and better surface finish.

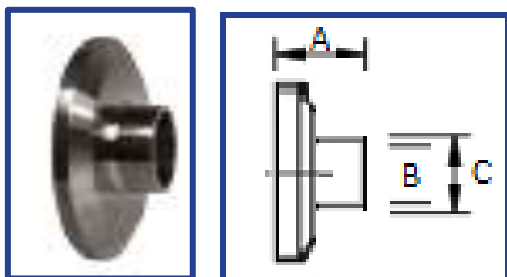
Ferrules are available with lengths of 0.500 inch, 0.847 inch, 1.130 inch, 1.500 inch and 2.000 inch to suit OD Tube, Sch 5, Sch 10, Sch 40 pipe as well as DIN, ISO and Metric tubes. All our ferrules are produced from forgings and our standard OD/ID finish is <0.8Ra. We also supply ferrules to ASME BPE standard.

All our gaskets are available in both standard and flanged (lipped type) and be supplied in Buna, Nitrile, Silicone, Viton and PTFE. We also offer screen gaskets and orifice plates. Size range from ½"-12".

Special Features:

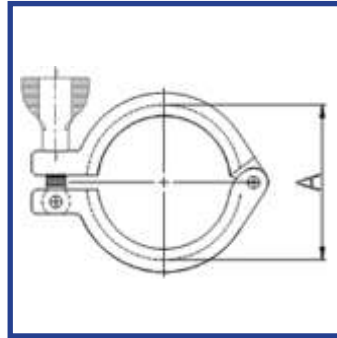
- Full material traceability is guaranteed during the manufacturing process.
- Ferrules are produced from forgings.
- All clamps are bright polished and supplied wrapped in plastic ensuring optimum cleanliness.
- We offer a range of clamp and wing nut designs to suit customer's applications.
- All ferrules are machined finished to <0.8 Ra um and stamped with size, heat number and material type.
- All fittings can be supplied with EN 10204 3.1 certification upon request
- Market leading quality products.

31WMP - CONCENTRIC REDUCING FERRULES



PART NO.	SIZE	A (INCH)	B (INCH)	B (INCH)
31WMP	2" x 1"	0.500	0.870	1.000
31WMP	2" x 1.5"	0.500	1.370	1.500
31WMP	2.5" x 1.5"	0.500	1.370	1.500
31WMP	2.5" x 2"	0.500	1.870	2.000
31WMP	3" x 2"	0.500	1.870	2.000
31WMP	3" x 2.5"	0.500	2.370	2.500
31WMP	4" x 2"	0.625	1.870	2.000
31WMP	4" x 2.5"	0.625	2.370	2.500
31WMP	4" x 3"	0.625	2.870	3.000

13 MHH - HEAVY SINGLE HINGED CLAMP 304/316

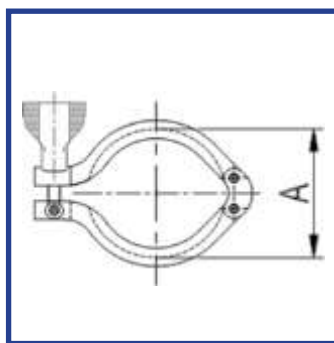


PART NO.	SIZE	A (INCH)
13MHH	½" - ¾"	1.102
13MHH	1" - 1½"	2.110
13MHH	2"	2.638
13MHH	2½"	3.173
13MHH	3"	3.701
13MHH	3½"	4.803
13MHH	4"	1.102
13MHH	4½"	5.275
13MHH	6"	6.693
13MHH	8"	8.693

13 MHH - HEAVY SINGLE HINGED CLAMP - PRESSURE RATING (PSI) WITH WING NUT TIGHTENED TO 25IN - LB OF TORQUE

TEMPERATURE		TUBE SIZE O.D.							
(°F)	(°C)	½" - ¾"	1"-1.5"	2"	2.5"	3"	4"	6"	8"
70	21	1500	500	450	400	350	200	150	100
250	121	1200	250	250	200	150	125	75	50

13 MHHM - DOUBLE HINGED CLAMP 304/316

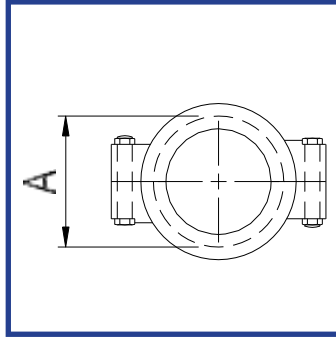


PART NO.	SIZE	A (INCH)
13MHHM	½" - ¾"	1.102
13MHHM	1" - 1 ½"	2.110
13MHHM	2"	2.638
13MHHM	2½"	3.173
13MHHM	3"	3.701
13MHHM	4"	4.803
13MHHM	6"	6.890

13 MHHM - DOUBLE HINGED CLAMP - PRESSURE RATING (PSI) WITH WING NUT TIGHTENED TO 25IN - LB OF TORQUE

TEMPERATURE		TUBE SIZE O.D.							
(°F)	(°C)	½" - ¾"	1"-1.5"	2"	2.5"	3"	4"	6"	8"
70	21	1500	500	450	400	350	200	150	100
250	121	1200	250	250	200	150	125	75	50

13 MHP - BOLTED HIGH P RESSURE CLAMP 304/316

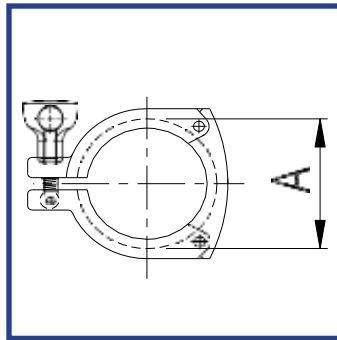


PART NO.	SIZE	A (INCH)
13MHP	1½"	2.047
13MHP	2"	2.579
13MHP	2½"	3.110
13MHP	3"	3.642
13MHP	4"	4.744
13MHP	6"	6.693

13 MHP - BOLTED HIGH PRESSURE CLAMP - PRESSURE RATING (PSI) WITH WING NUT TIGHTENED TO 25IN - LB OF TORQUE

TEMPERATURE		TUBE SIZE O.D.							
(°F)	(°C)	½" - ¾"	1"-1.5"	2"	2.5"	3"	4"	6"	8"
70	21	1500	1500	1000	1000	1000	1000	300	100
250	121	1200	1200	800	800	800	800	200	50

3 PIECE TRI CLAMP 304/316



PART NO.	SIZE	A (INCH)
13MHHS	1"-1 ½"	2.126
13MHHS	2"	2.657
13MHHS	2½"	3.185
13MHHS	3"	3.717
13MHHS	4"	4.819

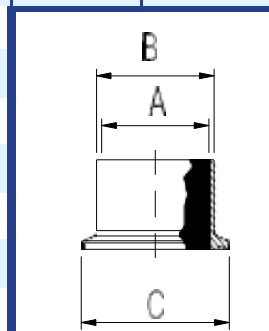
3 PIECE TRI CLAMP - PRESSURE RATING (PSI) WITH WING NUT TIGHTENED TO 25IN - LB OF TORQUE

TEMPERATURE		TUBE SIZE O.D.						
(°F)	(°C)	1"-1.5"	2"	2.5"	3"	4"	6"	8"
70	21	600	550	450	350	350	100	100
250	121	300	275	225	175	175	50	50

To convert Pressure values from psig to kPa use the following formula: $\text{psi} \times 6.895 = \text{kPa}$ (approx).
Example: $200\text{psi} \times 6.895 = 1379\text{kPa}$. (also $1\text{Bar} = 14.5\text{psi}$ Approximation)

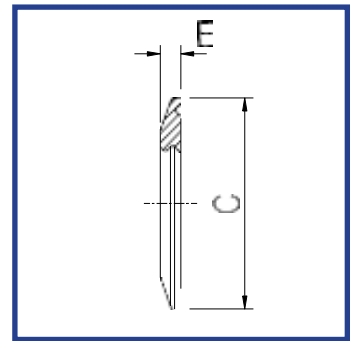
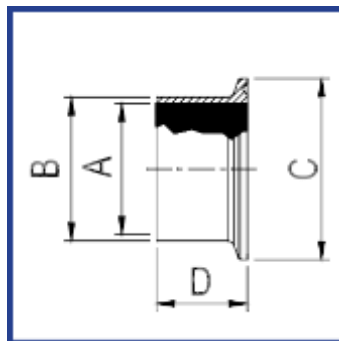
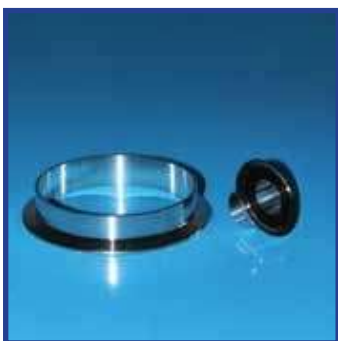
CLAMP HYGIENIC FERRULE CROSS REFERENCE TABLE

OD WELD SIZE	A (INCH)	B (INCH)	C (INCH)	CLAMP	CLAMP TYPE TO SUIT			
					DIN	13MHH	13MHMM	13MHP
½"	0.370	0.370	1.000	½"-¾"	-	½"-¾"	½"-¾"	-
¾"	0.620	0.620	1.000	½"-¾"	-	½"-¾"	½"-¾"	-
DN10	0.390	0.390	1.339	-	DN10-20	-	-	-
DN15	0.630	0.630	1.339	-	DN10-20	-	-	-
DN20	0.787	0.787	1.339	-	DN10-20	-	-	-
1"	0.870	0.870	1.988	1-1½"	DN25	1-1½"	1-1½"	1-1½"
DN25	1.020	1.020	1.988	1-1½"	DN25	1-1½"	1-1½"	1-1½"
DN32	1.260	1.260	1.988	1-1½"	DN25	1-1½"	1-1½"	1-1½"
1½"	1.370	1.370	1.988	1-1½"	DN25	1-1½"	1-1½"	1-1½"
DN40	1.496	1.496	1.988	1-1½"	DN25	1-1½"	1-1½"	1-1½"
2"	1.870	1.870	2.520	2"	DN50	2"	2"	2"
DN50	1.969	1.969	2.520	2"	DN50	2"	2"	2"
2 ½"	2.370	2.370	3.051	2½"	-	2½"	2½"	2½"
DN65	2.598	2.598	3.583	3"	DN65	3"	3"	3"
3"	2.870	2.870	3.583	3"	DN65	3"	3"	3"
DN80	3.189	3.189	4.173	-	DN80	3½"	-	-
3½"	3.335	3.335	4.173	-	DN80	3½"	-	-
4"	3.843	3.843	4.685	4"	DN100	4"	4"	4"
DN100	3.937	3.937	4.685	4"	DN100	4"	4"	4"
DN115	4.343	4.343	5.118	-	DN115	4½"	-	-
4½"	4.343	4.343	5.118	-	DN115	4½"	-	-
5"	4.843	4.843	5.685	5"	-	-	-	-
DN125	4.921	4.921	6.102	-	DN125	5½"	-	-
5½"	5.345	5.345	6.102	-	DN125	5½"	-	-
6"	5.780	5.780	6.571	6"	-	6"	6"	6"
154mm	5.906	5.906	6.571	6"	-	6"	6"	6"
DN150	5.906	5.906	7.205	-	DN150	-	-	-
6.63"	6.421	6.421	7.205	6.63"	DN150	6.63"	-	-
8"	7.780	7.780	8.571	8"	-	8"	8"	-
204mm	7.874	7.874	8.571	8"	-	8"	8"	-
8.63"	8.421	8.421	9.193	8.63"	DN200	8.63"	-	-
10"	9.732	9.732	10.571	10"	DN250	-	-	-
254mm	9.846	9.846	10.571	10"	DN250	-	-	-
10.63"	10.484	10.484	11.264	-	-	10.63"	-	-
12"	11.732	11.732	12.571	12"	DN300	-	-	-
DN300	11.811	11.811	12.571	12"	DN300	-	-	-
304mm	11.843	11.843	12.571	12"	DN300	-	-	-



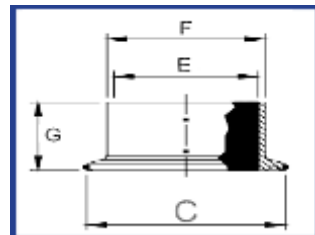
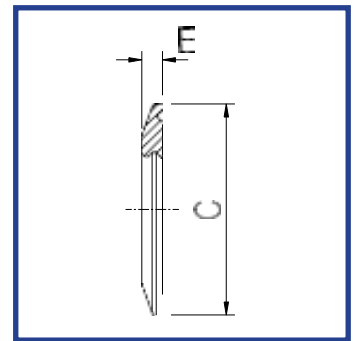
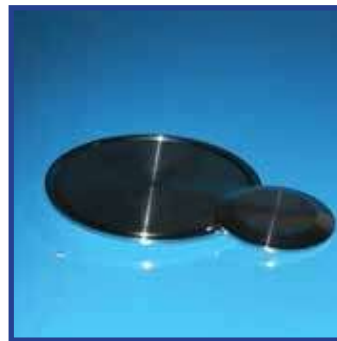
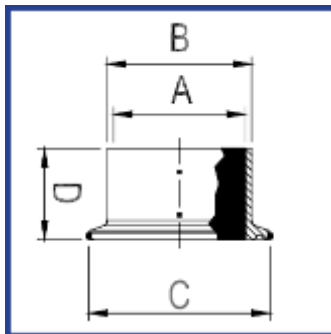
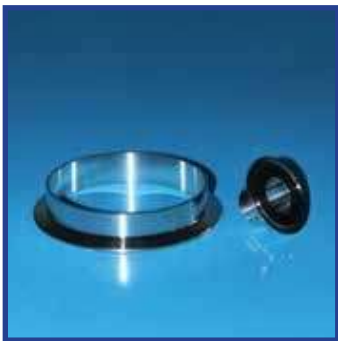
OD WELD SIZE	A (INCH)	B (INCH)	C (INCH)	STOCK CODE	FERRULE			BLANK CAP	
					BS 14MMP	3A 14WMP	3A 14AMP	BPE AWF	CAP 16AMP
					D (INCH)	D (INCH)	D (INCH)	E (INCH)	E (INCH)
1/2"	0.372	0.500	0.992	N/A	0.846	0.500	1.125	1.750	0.197
3/4"	0.620	0.750	0.992	N/A	0.846	0.500	1.125	1.750	0.197
1"	0.870	1.000	1.988	N/A	0.846	0.500	1.125	1.750	0.250
1 1/2"	1.370	1.500	1.988	N/A	0.846	0.500	1.125	1.750	0.250
2"	1.870	2.000	2.520	N/A	0.846	0.500	1.125	2.250	0.250
2 1/2"	2.370	2.500	3.051	N/A	0.846	0.500	1.125	2.250	0.250
3"	2.870	3.000	3.583	N/A	0.846	0.500	1.125	2.250	0.250
3 1/2"	3.335	3.500	4.173	N/A	0.846	0.500	1.125	2.250	0.250
4"	3.834	4.000	4.685	N/A	0.846	0.625	1.125	2.250	0.250
4 1/2"	4.342	4.524	5.118	N/A	1.126	-	-	-	0.394
5"	4.842	5.000	5.685	N/A	1.126	0.750	1.500	-	0.394
5 1/2"	5.344	5.530	6.102	N/A	1.126	-	-	-	0.437
6"	5.760	6.000	6.571	N/A	1.126	0.750	1.500	-	0.437
154mm	5.904	6.063	6.571	N/A	1.126	-	-	-	0.437
6.63"	6.420	6.667	7.205	N/A	1.126	-	-	-	0.437
8"	7.760	8.000	8.571	N/A	1.126	0.875	1.500	-	0.437
204mm	7.872	8.031	8.571	N/A	1.126	-	-	-	0.437
8.63"	8.420	8.683	9.193	N/A	1.126	-	-	-	0.437
10"	9.730	10.000	10.571	N/A	1.126	0.875	1.500	-	0.437
254mm	9.846	10.000	10.571	N/A	1.126	-	-	-	0.437
10.63"	10.484	10.748	11.264	N/A	1.126	-	-	-	0.437
12"	11.732	12.000	12.571	N/A	1.126	1.000	1.500	-	0.437
304mm	11.843	12.000	12.571	N/A	1.126	-	-	-	0.437

All Ferrules & Blank Caps are engraved with - Product Size, Material Type, and Heat Number.



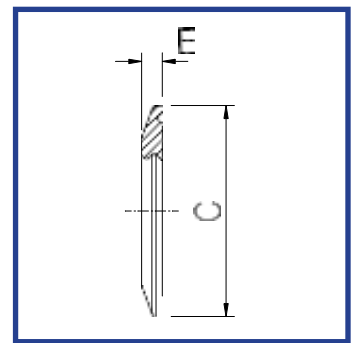
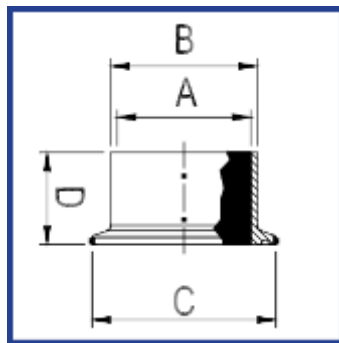
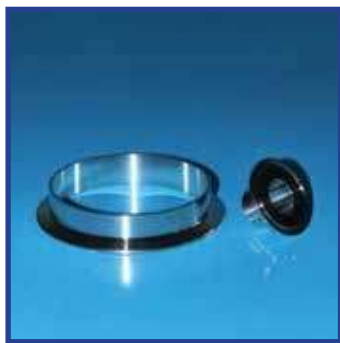
US 3A - ASME BPE HEAVY (14MPW) TANK FERRULES & LIGHT (14WLMP) TANK FERRULES

STOCK CODE	SIZE	A 14MPW (INCH)	B 14MPW (INCH)	C (INCH)	D (INCH)	E (INCH)	F 14WLMP INCH	G 14WLMP INCH	CLAMP
N/A	½"	0.370	0.502	1.000	1.625	0.370	0.500	3.000	½" - ¾"
N/A	¾"	0.620	0.750	1.000	1.625	0.620	0.748	3.000	½" - ¾"
N/A	1"	0.874	1.160	1.988	1.625	0.874	1.000	3.000	1½"
N/A	1 ½"	1.370	1.676	1.988	1.625	1.370	1.500	3.000	1½"
N/A	2"	1.870	2.192	2.520	1.750	1.870	2.000	3.000	2"
N/A	2 ½"	2.370	2.708	3.051	1.750	2.370	2.500	3.000	2½"
N/A	3"	2.870	3.224	3.583	1.813	2.870	3.000	4.000	3"
N/A	4"	3.835	4.256	4.685	2.125	3.835	4.000	4.000	4"
N/A	6"	5.783	6.192	6.571	2.500	5.783	6.000	6.000	6"



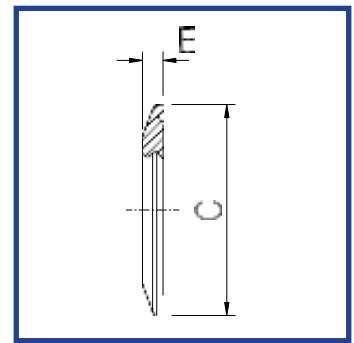
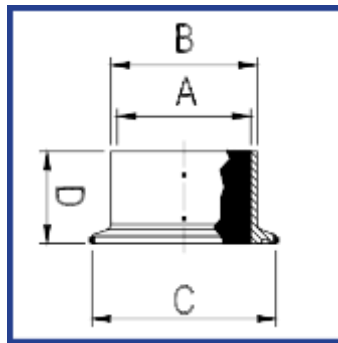
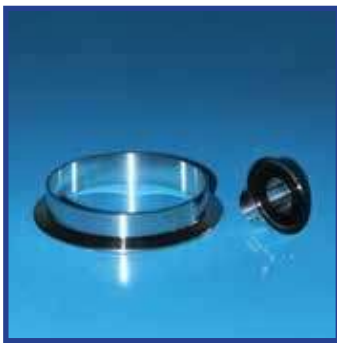
SCHEDULE - STANDARD FERRULES 316,316L (14AMV, 14AMX, 14WMX ALSO AVAILABLE)

PART NO.	SIZE	SCH 5 14WMV A (INCH)	SCH 10 14WMX A (INCH)	SCH 40 A (INCH)	FERRULE			BLANK CAP 16AMV D (INCH)	CLAMP SIZE	
					B (INCH)	C (INCH)	D (INCH)		INCH	DIN
SCH	½"	0.710	0.674	0.622	0.840	1.988	0.846	0.250	1½"	DN25
SCH	¾"	0.920	0.884	0.824	1.050	1.988	0.846	0.250	1½"	DN25
SCH	1"	1.185	1.097	1.049	1.315	1.988	0.846	0.250	1½"	DN25
SCH	1 ¼"	1.530	1.442	1.380	1.660	2.520	0.846	0.250	2"	DN40
SCH	1 ½"	1.770	1.682	1.610	1.900	2.520	0.846	0.250	2"	DN50
SCH	2"	2.245	2.157	2.067	2.375	3.051	0.846	0.250	2½"	-
SCH	2 ½"	2.709	2.635	2.469	2.875	3.583	0.846	0.250	3"	DN65
SCH	3"	3.334	3.260	3.068	3.500	4.173	0.846	0.250	3½"	DN80
SCH	3 ½"	3.834	3.760	3.548	4.000	4.685	0.846	0.312	4"	DN100
SCH	4"	4.334	4.260	4.026	4.500	5.118	1.126	0.314	4½"	DN115
SCH	5"	5.345	5.295	5.047	5.563	6.102	1.126	0.437	5½"	DN125
SCH	6"	6.407	6.357	6.065	6.625	7.205	1.126	0.437	6.63"	DN150
SCH	8"	8.407	8.329	7.981	8.625	9.193	1.126	0.437	8.63"	DN200
SCH	10"	10.482	10.416	10.020	10.750	11.264	1.126	0.437	10.63"	-



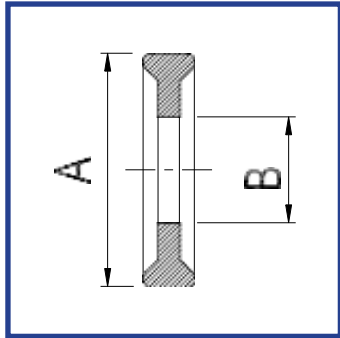
SCHEDULE - TANK FERRULES 316,316L

PART NO.	SIZE	SCH 5	SCH 10	SCH 40	FERRULE			BLANK CAP	CLAMP SIZE	
		14WLMV A (INCH)	L14AMV A (INCH)	A (INCH)	B (INCH)	C (INCH)	D (INCH)	D (INCH)	INCH	DIN
SCHT	½"	0.710	0.674	0.622	0.840	1.988	1.181	0.252	1½"	DN25
SCHT	¾"	0.920	0.884	0.824	1.050	1.988	1.181	0.252	1½"	DN25
SCHT	1"	1.185	1.097	1.049	1.315	1.988	1.575	0.252	1½"	DN25
SCHT	1 ¼"	1.530	1.442	1.380	1.660	2.520	1.575	0.252	2"	DN40
SCHT	1 ½"	1.770	1.682	1.610	1.900	2.520	1.575	0.252	2"	DN50
SCHT	2"	2.245	2.157	2.067	2.375	3.051	1.772	0.252	2½"	-
SCHT	2 ½"	2.709	2.635	2.469	2.875	3.583	1.772	0.252	3"	DN65
SCHT	3"	3.334	3.260	3.068	3.500	4.173	1.969	0.252	3½"	DN80
SCHT	3 ½"	3.834	3.760	3.548	4.000	4.685	1.969	0.315	4"	DN100
SCHT	4"	4.334	4.260	4.026	4.500	5.118	2.362	0.315	4½"	DN115
SCHT	5"	5.345	5.295	5.047	5.563	6.102	2.953	0.437	5½"	DN125
SCHT	6"	6.407	6.357	6.065	6.625	7.205	3.937	0.437	6.63"	DN150
SCHT	8"	8.407	8.329	7.981	8.625	9.193	3.937	0.437	8.63"	DN200



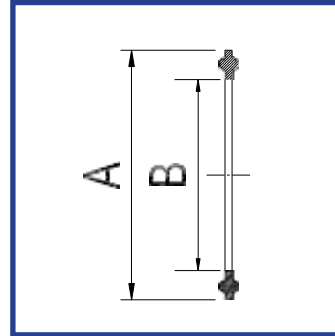
TYPE 1 STANDARD

1/2" & 3/4"



SIZE	A (INCH)	B (INCH)
1/2"	0.858	0.390
3/4"	0.858	0.640

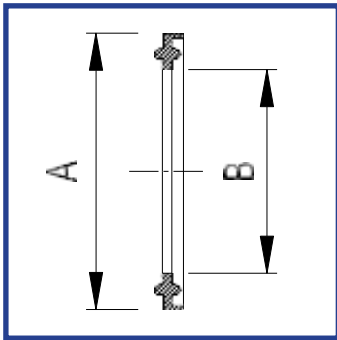
TYPE 1 STANDARD



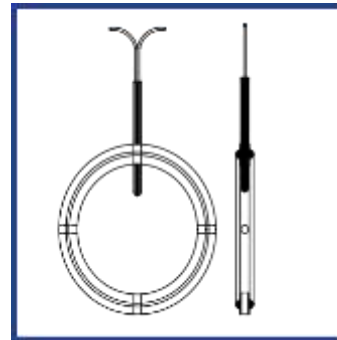
SIZE	A (INCH)	B (INCH)
1"	0.874	1.010
1 1/2"	1.374	1.510
2"	1.874	2.010
2 1/2"	2.374	2.510
3"	2.874	3.010
4"	3.843	4.010

TYPE 2 FLANGED

1" & 12"

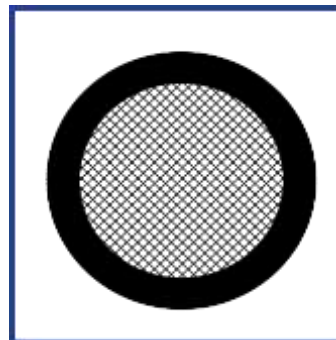


SIZE	A (INCH)	B (INCH)
1"	0.874	1.010
1 1/2"	1.374	1.510
2"	1.874	2.010
2 1/2"	2.374	2.510
3"	2.874	3.010
4"	3.843	4.010
6"	6.657	5.825
8"	8.661	7.835
10"	10.657	9.803
12"	12.657	11.810



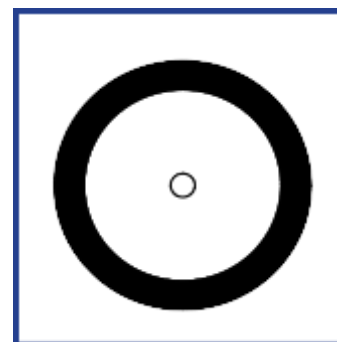
SMART SEALS

We also offer the Smart Seals line of specialty seals for use with Smart Clamps. These Gaskets install between two standard sanitary flanges and allow the use of sensors (thermocouples) and spore traps (details on application).



SCREEN SEALS

Fluid conditioning seals are available in a wide variety of meshes and materials (reference chart available on application)



ORIFACE PLATES

Oriface gaskets are available in many materials (details on application)



PROPERTY	EPDM	TEFLON	BUNA-N	VITON	SILICONE
	40MP-E	40MP-G	40MP-U	40MP-V	40MP-X
Temperature range	-55°C to 150°C	-25°C to 250°C	-40°C to 107°C	-30°C to 250°C	-90°C to 200°C
Acid Resistance	Good-Excellent	Excellent	Good	Good	Good
Alkali Resistance	Good-Excellent	Excellent	Fair-Good	Poor-Good	Poor-Fair
Petroleum Oil Resistance	Poor	Excellent	Excellent	Excellent	Good
Vegetable Oil Resistance	Good (Most)	Excellent	Good	Excellent	Good
Abrasion Resistance	Good-Excellent	Excellent	Good	Good	Good-Excellent
Compression Set: Steam Sterillisation	Good	Cold Flows	Good	Good-Excellent	Good-Excellent

AVAILABLE SEAL MATERIAL

Buna-N (Black or White)

- Least expensive elastomer gasket
- Nitrile compound is very elastic making for a leak proof connection
- Good chemical resistance for use with petroleum solvents, alcohol etc.

- 3A qualified
- Meets 21CFR 177.2600
- Useful temperature range from (-40°F to 224.6°F) or (-40°C to 107°C)

Teflon (PTFE)

- 3A qualified
- Commonly used for food and pharmaceutical applications
- Excellent chemical resistance
- Not suitable for great temperature fluctuations,
- Teflon tends to cold flow and will not return to its original shape.

- Meets 21CFR 177.2600
- Passes cytotoxicity testing
- Pharmaceutical Class VI approved
- Useful temperature range from (-22°F to 482°F) or (-30°C to 250°C)

Silicone (Platinum cured)

- 3A qualified
- Meets 21CFR 177.2600
- Passes cytotoxicity testing

- Pharmaceutical Class VI approved
- Useful temperature range from (-130°F to 392°F) or (-90°C to 200°C)

Silicone (Peroxide cured)

- 3A qualified
- Meets 21CFR 177.2600
- Passes cytotoxicity testing

- Pharmaceutical Class VI approved
- Useful temperature range from (-130°F to 392°F) or (-90°C to 200°C)

Viton (Flourel)

- 3A qualified
- Meets 21CFR 177.2600
- Passes cytotoxicity testing

- Pharmaceutical Class VI approved
- Useful temperature range from (-22°F to 482°F) or (-30°C to 250°C)

EPDM

- 3A qualified
- Meets 21CFR 177.2600
- Passes cytotoxicity testing

- Pharmaceutical Class VI approved
- Useful temperature range from (-67°F to 302°F) or (-55°C to 150°C)

Tef Steel

- Does not cold flow (creep), retains shape and seal properties
- Excellent chemical resistance
- Steam resistance
- Minimal thermal expansion
- Teflon & PM316L

- 3A qualified
- Meets 21CFR 177.2600
- Passes cytotoxicity testing
- Pharmaceutical Class VI approved
- Useful temperature range from (-110°F to 400°F) or (-79°C to 204°C)