



WE LISTEN. WE DELIVER. WE'RE TRUE.

FITTINGS, TUBING & VALVES

Supplying Sanitary Distributors who
Service the Beverage, Dairy,
Food & Pharmaceutical Industries



www.ctecsanitary.com

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WE LISTEN. WE DELIVER. WE'RE TRUE.

At CTEC Sanitary, we inventory high-quality stainless steel sanitary products and proudly supply distributors from coast to coast. Our extensive product line includes sanitary fittings, valves and tubing, made from T304 and T316/L stainless steel.

CTEC Sanitary is committed to exceptional customer service. We strive to provide the best service experience to our customers from request to fulfillment, including technical advice from our highly experienced sales and customer service team. We are focused on meeting or exceeding your expectations, and providing you with some of the shortest lead times in the industry. But our commitment does not stop there; we are continually looking for ways to enhance our service and processes.

CTEC Sanitary offers superior product quality to the market, and we are always searching for new and/or better products to add to our inventory. Some may be discovered while helping customers find a unique solution to a problem. Others come from evolving technology. We are committed to continuing to develop new products while maintaining the high quality standard we stand by.

We welcome the opportunity to earn your business. Call us at 888-798-2653.

Our commitment:

LISTEN to your needs and wants,
DELIVER on expectations, and offer
TRUE product performance.

CTEC Sanitary Quality Maintaining the Standards



3-A Sanitary Standards, Inc. (3-A SSI) is a non-profit association representing equipment manufacturers, processors, regulatory sanitarians and other public health professionals. Through many decades of cooperation, these groups have established a comprehensive inventory of 3-A Sanitary Standards and 3-A Accepted Practices now known around the world for dairy and food processing equipment and systems.

CTEC Sanitary has earned its 3-A symbols through the 3-A Third Party Verification (TPV) program, requiring a professional assessment rather than voluntary compliance, making certain each product conforms in all respects to the published standards. The 3-A standards are accepted by USDA and FDA.

CTEC Sanitary holds the following 3-A Certification:

Cole-Tech DBA CTEC Sanitary (Authorization Number 1704)
Sanitary Fittings meet 3-A Sanitary Standards for Sanitary Fittings. Number 63-03.

We carry 3-A material from other suppliers who have also earned their 3-A Authorizations through the TVP Program.





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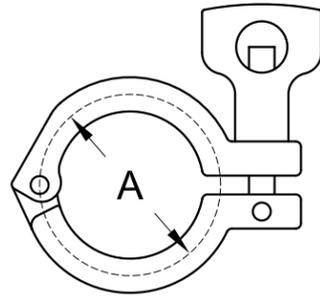
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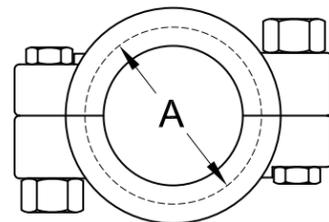
CLAMPS

SINGLE PIN HEAVY DUTY CLAMP WITH CROSS HOLE WING NUT **C13MHM**



TUBE O.D.	SERVICE PRESSURE RATING @ 70° F *	SERVICE PRESSURE RATING @ 250° F *	A	304 PART NUMBER
1/2" & 3/4"	1500	1200	1.062	C413MHM-.50-.75
1" & 1-1/2"	500	300	2.122	C413MHM-1/1.5
2"	450	250	2.654	C413MHM-2
2.5"	400	200	3.185	C413MHM-25
3"	350	175	3.717	C413MHM-3
4"	300	150	4.820	C413MHM-4
5"	225	100	5.820	C413MHM-5
6"	150	75	6.695	C413MHM-6
8"	100	50	8.695	C413MHM-8

* Wing nut tightened to 25 in. lb. of torque



HIGH PRESSURE BOLTED CLAMP **C13MHP**

TUBE O.D.	SERVICE PRESSURE RATING @ 70° F	SERVICE PRESSURE RATING @ 250° F	A	304 PART NUMBER
1/2" & 3/4"	1500	1200	1.062	C413MHP-.50-.75
1" & 1-1/2"	1500	1200	2.046	C413MHP-1/1.5
2"	1000	800	2.578	C413MHP-2
2.5"	1000	800	3.110	C413MHP-25
3"	1000	800	3.640	C413MHP-3
4"	800	600	4.744	C413MHP-4
6"	300	200	6.632	C413MHP-6
8"	250	150	8.638	C413MHP-8

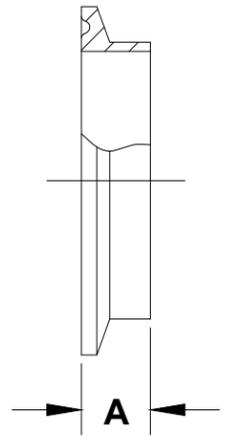
* All nuts are tightened to 20 ft. lb. of torque
PTFE Gaskets are not recommended for use on C13MHP

CLAMP FERRULES

SHORT WELD FERRULES **C14WMP**

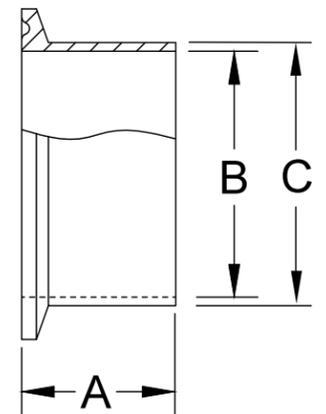


TUBE O.D.	A	304 PART NUMBER	316L PART NUMBER
1/2"	0.500	C414WMP-.50	C614WMP-.50
3/4"	0.500	C414WMP-.75	C614WMP-.75
1"	0.500	C414WMP-1	C614WMP-1
1-1/2"	0.500	C414WMP-15	C614WMP-15
2"	0.500	C414WMP-2	C614WMP-2
2-1/2"	0.500	C414WMP-25	C614WMP-25
3"	0.500	C414WMP-3	C614WMP-3
4"	0.625	C414WMP-4	C614WMP-4
5"	0.750	C414WMP-5	C614WMP-5
6"	0.875	C414WMP-6	C614WMP-6
8"	0.875	C414WMP-8	C614WMP-8
10"	0.875	C414WMP-10	C614WMP-10
12"	0.875	C414WMP-12	C614WMP-12



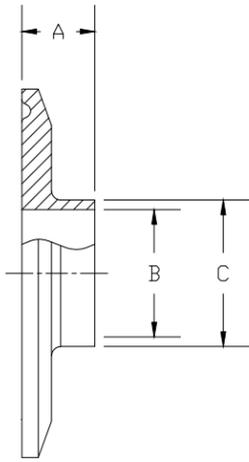
LONG WELD FERRULES **C14AM7**

TUBE O.D.	A	B	C	304 PART NUMBER	316L PART NUMBER
1/2"	1.125	0.370	0.500	C414AM7-.50	C614AM7-.50
3/4"	1.125	0.620	0.750	C414AM7-.75	C614AM7-.75
1"	1.125	0.870	1.000	C414AM7-1	C614AM7-1
1-1/2"	1.125	1.370	1.500	C414AM7-15	C614AM7-15
2"	1.125	1.870	2.000	C414AM7-2	C614AM7-2
2.5"	1.125	2.370	2.500	C414AM7-25	C614AM7-25
3"	1.125	2.870	3.000	C414AM7-3	C614AM7-3
4"	1.125	3.834	4.000	C414AM7-4	C614AM7-4
5"	1.125	4.782	5.000	C414AM7-5	C614AM7-5
6"	1.500	5.782	6.000	C414AM7-6	C614AM7-6
8"	1.500	7.760	8.000	C414AM7-8	C614AM7-8
10"	1.500	9.782	10.000	C414AM7-10	C614AM7-10
12"	1.750	11.760	12.000	C414AM7-12	C614AM7-12



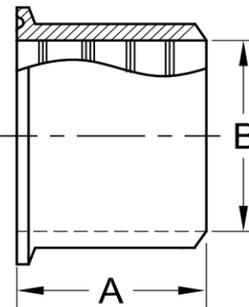
CLAMP FERRULES

REDUCING FERRULES C31WMP



TUBE O.D.	A	B	C	304 PART NUMBER	316L PART NUMBER
2" X 1"	0.500	0.870	1.000	C431WMP-2X1	C631WMP-2X1
2" X 1 1/2"	0.500	1.370	1.500	C431WMP-25X15	C631WMP-2X15
2 1/2" X 2"	0.500	1.870	2.000	C431WMP-25X2	C631WMP-25X2
3" X 2"	0.500	1.870	2.000	C431WMP-3X2	C631WMP-3X2
4" X 3"	0.625	2.870	3.000	C431WMP-3X2	C631WMP-4X3

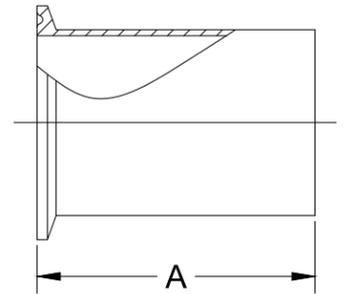
ROLL-ON FERRULES C14RMP



TUBE O.D.	A	B	304 PART NUMBER	316L PART NUMBER
1"	.750	1.005	C414RMP-1	C614RMP-1
1-1/2"	1.125	1.505	C414RMP-15	C614RMP-15
2"	1.313	2.005	C414RMP-2	C614RMP-2
2-1/2"	1.375	2.505	C414RMP-25	C614RMP-25
3"	1.438	3.005	C414RMP-3	C614RMP-3
4"	1.5	4.005	C414RMP-4	C614RMP-4

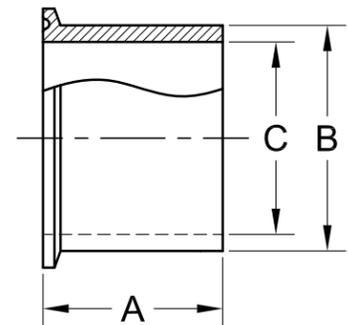
CLAMP FERRULES

TANK FERRULES (LIGHT DUTY) C14WLMP



TUBE O.D.	A	304 PART NUMBER	316L PART NUMBER
1/2"	3.000	N/A	C614WLMP-.50
3/4"	3.000	N/A	C614WLMP-.75
1"	3.000	C414WLMP-1	C614WLMP-1
1-1/2"	3.000	C414WLMP-15	C614WLMP-15
2"	3.000	C414WLMP-2	C614WLMP-2
2-1/2"	3.000	C414WLMP-25	C614WLMP-25
3"	4.000	C414WLMP-3	C614WLMP-3
4"	4.000	C414WLMP-4	C614WLMP-4
6"	6.000	C414WLMP-6	C614WLMP-6
8"	6.000	C414WLMP-8	C614WLMP-8
10"	6.000	C414WLMP-10	C614WLMP-10
12"	6.000	C414WLMP-12	C614WLMP-12

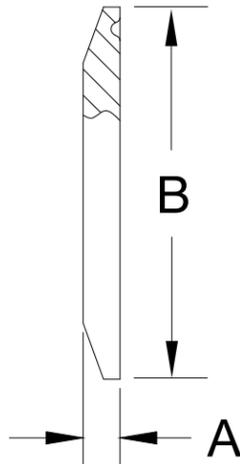
TANK FERRULES (HEAVY DUTY) C14MPW



TUBE O.D.	A	B	C	304 PART NUMBER	316L PART NUMBER
1/2"	1.625	0.502	0.321	N/A	C614MPW-.50
3/4"	1.625	0.750	0.574	N/A	C614MPW-.75
1"	1.625	1.160	0.870	C414MPW-1	C614MPW-1
1-1/2"	1.625	1.676	1.370	C414MPW-15	C614MPW-15
2"	1.750	2.192	1.870	C414MPW-2	C614MPW-2
2-1/2"	1.750	2.708	2.370	C414MPW-25	C614MPW-25
3"	1.813	3.224	2.870	C414MPW-3	C614MPW-3
4"	2.125	4.256	3.834	C414MPW-4	C614MPW-4
6"	2.500	6.192	5.758	C414MPW-6	C614MPW-6
8"	2.500	8.192	7.758	C414MPW-8	C614MPW-8

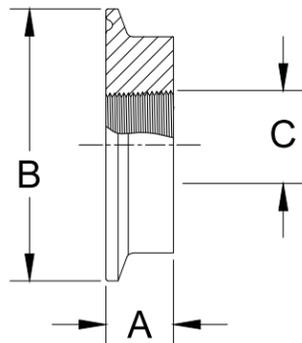
CLAMP CAPS

SOLID END CAPS C16AMP



BE O.D.	A	B	304 PART NUMBER	316L PART NUMBER
1/2" & 3/4"	0.187	0.992	C416AMP-.50 & .75	C616AMP-.50 & .75
1" & 1-1/2"	0.250	1.984	C416AMP-1-1.5	C616AMP-1-1.5
2"	0.250	2.516	C416AMP-2	C616AMP-2
2-1/2"	0.250	3.047	C416AMP-25	C616AMP-25
3"	0.250	3.579	C416AMP-3	C616AMP-3
4"	0.312	4.682	C416AMP-4	C616AMP-4
5"	0.312	5.687	C416AMP-5	C616AMP-5
6"	0.437	6.570	C416AMP-6	C616AMP-6
8"	0.437	8.570	C416AMP-8	C616AMP-8
10"	0.437	10.570	C416AMP-10	C616AMP-10
12"	0.437	12.570	C416AMP-12	C616AMP-12

THERMOMETER CAPS C23BMP

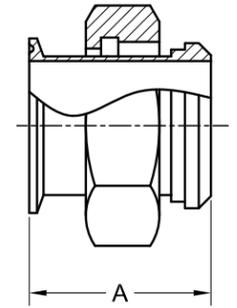


TUBE O.D.	A	B	C	304 PART NUMBER	316L PART NUMBER
1/2"	0.500	0.993	0.25NPT	N/A	C623BMP-.50
3/4"	0.500	0.993	0.25NPT	N/A	C623BMP-.75
1"	0.625	1.984	0.5NPT	C423BMP-1	C623BMP-1
1-1/2"	0.625	1.984	0.75NPT	C423BMP-15	C623BMP-15
2"	0.625	2.516	0.75NPT	C423BMP-2	C623BMP-2
2-1/2"	0.625	3.047	0.75NPT	C423BMP-25	C623BMP-25
3"	0.625	3.579	0.75NPT	C423BMP-3	C623BMP-3
4"	0.625	4.682	0.75NPT	C423BMP-4	C623BMP-4

CLAMP ADAPTERS

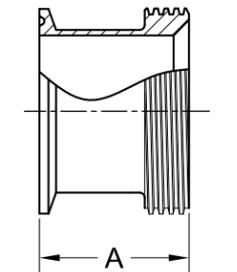
CLAMP X PLAIN BEVEL
SEAT ADAPTERS W/HEX NUT C17MP-14

TUBE O.D.	A	304 PART NUMBER	316L PART NUMBER
1"	3.000	C417MP-14-1	C617MP-14-1
1-1/2"	3.000	C417MP-14-15	C617MP-14-15
2"	3.000	C417MP-14-2	C617MP-14-2
2-1/2"	3.500	C417MP-14-25	C617MP-14-25
3"	3.750	C417MP-14-3	C617MP-14-3
4"	4.000	C417MP-14-4	C617MP-14-4



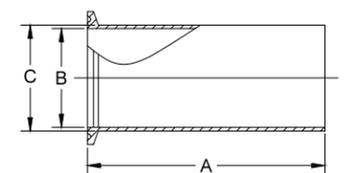
CLAMP X THREADED BEVEL SEAT ADAPTERS C17MP-15

TUBE O.D.	A	304 PART NUMBER	316L PART NUMBER
1"	1.843	C417MP-15-1	C617MP-15-1
1-1/2"	1.843	C417MP-15-15	C617MP-15-15
2"	1.875	C417MP-15-2	C617MP-15-2
2-1/2"	2.000	C417MP-15-25	C617MP-15-25
3"	2.031	C417MP-15-3	C617MP-15-3
4"	2.156	C417MP-15-4	C617MP-15-4



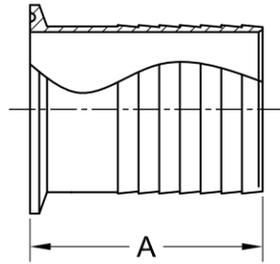
TYGON® HOSE ADAPTERS C14MPHT

TUBE O.D.	A	B	C	304 PART NUMBER	316L PART NUMBER
1/2"	4.000	0.370	0.500	N/A	C614MPHT-.50-7
3/4"	4.000	0.620	0.750	N/A	C614MPHT-.75-7
1"	4.500	0.870	1.000	C414MPHT-1-7	C614MPHT-1-7
1-1/2"	4.500	1.370	1.500	C414MPHT-15-7	C614MPHT-15-7
2"	4.500	1.870	2.000	C414MPHT-2-7	C614MPHT-2-7
2-1/2"	4.500	2.370	2.500	C414MPHT-25-7	C614MPHT-25-7
3"	4.500	2.870	3.000	C414MPHT-3-7	C614MPHT-3-7
4"	4.625	3.834	4.000	C414MPHT-4-7	C614MPHT-4-7
6"	6.000	5.782	6.000	C414MPHT-6-7	C614MPHT-6-7



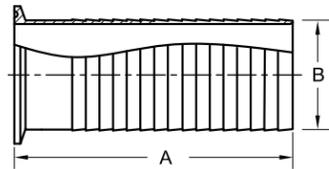
CLAMP ADAPTERS

RUBBER HOSE ADAPTERS C14MPHR



TUBE O.D.	A	304 PART NUMBER	316L PART NUMBER
1/2"	1.500	N/A	C614MPHR-.50
3/4"	1.500	N/A	C614MPHR-.75
1"	1.687	C414MPHR-1	C614MPHR-1
1-1/2"	1.687	C414MPHR-15	C614MPHR-15
2"	2.312	C414MPHR-2	C614MPHR-2
2-1/2"	2.343	C414MPHR-25	C614MPHR-25
3"	3.093	C414MPHR-3	C614MPHR-3
4"	3.406	C414MPHR-4	C614MPHR-4
6"	3.406	C414MPHR-6	C614MPHR-6
8"	3.406	C414MPHR-8	C614MPHR-8

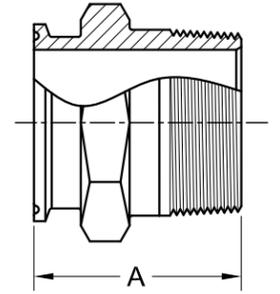
BREWERY HOSE BARB ADAPTERS C14MPHRL



TUBE O.D.	A	B	304 PART NUMBER	316L PART NUMBER
1	3.500	1.030	C414MPHRL-1	C614MPHRL-1
1-1/2"	5.000	1.530	C414MPHRL-15	C614MPHRL-15
2"	5.000	2.030	C414MPHRL-2	C614MPHRL-2
2-1/2"	5.500	2.530	C414MPHRL-25	C614MPHRL-25
3"	5.500	3.030	C414MPHRL-3	C614MPHRL-3
4"	5.500	4.030	C414MPHRL-4	C614MPHRL-4

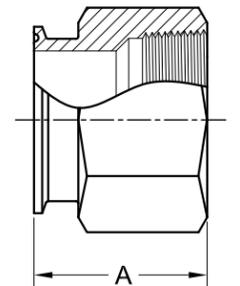
CLAMP ADAPTERS

MALE NPT ADAPTERS C21MP



TUBE O.D.	A	304 PART NUMBER	316L PART NUMBER
1/2"	2.000	N/A	C621MP-.50
3/4"	1.787	N/A	C621MP-.75
1"	2.250	C421MP-1	C621MP-1
1-1/2"	2.250	C421MP-15	C621MP-15
2"	2.638	C421MP-2	C621MP-2
2-1/2"	2.875	C421MP-25	C621MP-25
3"	3.070	C421MP-3	C621MP-3
4"	3.155	C421MP-4	C621MP-4

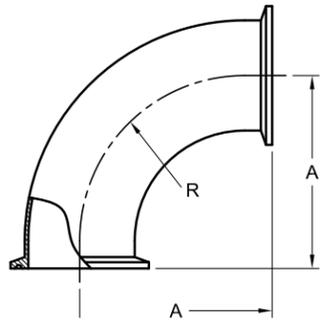
FEMALE NPT ADAPTERS C22MP



TUBE O.D.	A	304 PART NUMBER	316L PART NUMBER
1/2"	1.500	N/A	C622MP-.50
3/4"	1.625	N/A	C622MP-.75
1"	1.625	C422MP-1	C622MP-1
1-1/2"	2.250	C422MP-15	C622MP-15
2"	2.406	C422MP-2	C622MP-2
2-1/2"	2.187	C422MP-25	C622MP-25
3"	2.187	C422MP-3	C622MP-3
4"	2.187	C422MP-4	C622MP-4

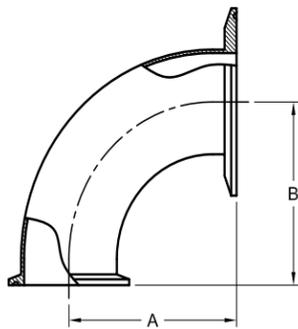
CLAMP ELBOWS

90° CLAMP ELBOWS C2CMP



TUBE O.D.	A	R	304 PART NUMBER	316L PART NUMBER
1/2"	1.625	1.125	C42CMP-.50	C62CMP-.50
3/4"	1.625	1.125	C42CMP-.75	C62CMP-.75
1"	2.000	1.500	C42CMP-1	C62CMP-1
1-1/2"	2.750	2.250	C42CMP-15	C62CMP-15
2"	3.500	3.000	C42CMP-2	C62CMP-2
2-1/2"	4.250	3.750	C42CMP-25	C62CMP-25
3"	5.000	4.500	C42CMP-3	C62CMP-3
4"	6.625	6.000	C42CMP-4	C62CMP-4
6"	9.875	9.000	C42CMP-6	C62CMP-6
8"	12.875	12.000	C42CMP-8	C62CMP-8
10"	15.875	15.000	C42CMP-10	C62CMP-10
12"	18.875	18.000	C42CMP-12	C62CMP-12

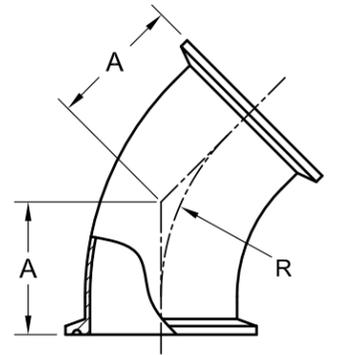
90° NON-TAPERED
REDUCING CLAMP ELBOWS C2CMP-31MP



TUBE O.D.	A	B	304 PART NUMBER	316L PART NUMBER
1-1/2" X 1"	2.000	2.000	C42CMP-31MP-15X1	C62CMP-31MP-15X1
2" X 1"	2.000	2.000	C42CMP-31MP-2X1	C62CMP-31MP-2X1
2" X 1-1/2"	2.750	2.750	C42CMP-31MP-2X1/2	C62CMP-31MP-2X1/2
2-1/2" X 1-1/2"	2.750	2.750	C42CMP-31MP-25X15	C62CMP-31MP-25X15
2-1/2" X 2"	3.500	3.500	C42CMP-31MP-25X2	C62CMP-31MP-25X2
3" X 1-1/2"	2.750	2.750	C42CMP-31MP-3X15	C62CMP-31MP-3X15
3" X 2"	3.500	3.500	C42CMP-31MP-3X2	C62CMP-31MP-3X2
3" X 2-1/2"	4.250	4.250	C42CMP-31MP-3X25	C62CMP-31MP-3X25
4" X 2-1/2"	4.375	4.250	C42CMP-31MP-4X25	C62CMP-31MP-4X25
4" X 3"	5.125	5.000	C42CMP-31MP-4X3	C62CMP-31MP-4X3

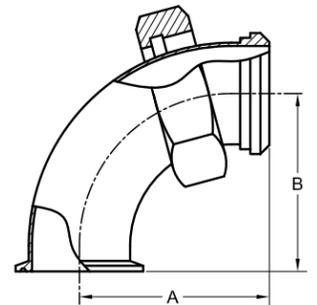
CLAMP ELBOWS

45° CLAMP ELBOWS C2KMP



TUBE O.D.	A	R	304 PART NUMBER	316L PART NUMBER
1/2"	0.966	1.125	N/A	C62KMP-.50
3/4"	0.966	1.125	N/A	C62KMP-.75
1"	1.125	1.500	C42KMP-1	C62KMP-1
1-1/2"	1.437	2.250	C42KMP-15	C62KMP-15
2"	1.750	3.000	C42KMP-2	C62KMP-2
2-1/2"	2.062	3.750	C42KMP-25	C62KMP-25
3"	2.375	4.500	C42KMP-3	C62KMP-3
4"	3.125	6.000	C42KMP-4	C62KMP-4
6"	4.625	9.000	C42KMP-6	C62KMP-6
8"	5.875	12.000	C42KMP-8	C62KMP-8
10"	7.125	15.000	C42KMP-10	C62KMP-10
12"	8.375	18.000	C42KMP-12	C62KMP-12

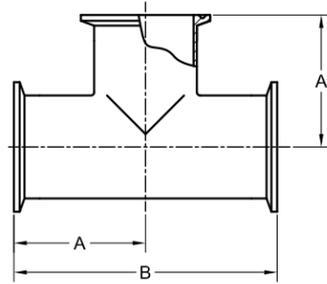
90° CLAMP BY PLAIN BEVEL SEAT
WITH HEX NUT ELBOWS C2FMP-14



TUBE O.D.	A	B	304 PART NUMBER	316L PART NUMBER
1"	2.218	2.000	C42FMP14-1	C62FMP14-1
1-1/2"	2.969	2.750	C42FMP14-15	C62FMP14-15
2"	3.750	3.500	C42FMP14-2	C62FMP14-2
2-1/2"	4.625	4.250	C42FMP14-25	C62FMP14-25
3"	5.406	5.000	C42FMP14-3	C62FMP14-3
4"	7.031	6.625	C42FMP14-4	C62FMP14-4

CLAMP TEES

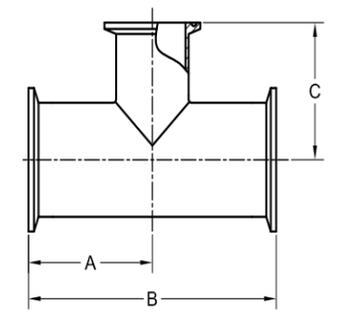
CLAMP TEES C7MP



TUBE O.D.	A	B	304 PART NUMBER	316L PART NUMBER
1/2"	2.375	4.750	N/A	C67MP-.50
3/4"	2.500	5.000	N/A	C67MP-.75
1"	2.375	4.750	C47MP-1	C67MP-1
1-1/2"	2.750	5.500	C47MP-15	C67MP-15
2"	3.500	7.000	C47MP-2	C67MP-2
2-1/2"	3.500	7.000	C47MP-25	C67MP-25
3"	3.750	7.500	C47MP-3	C67MP-3
4"	4.500	9.000	C47MP-4	C67MP-4
6"	6.500	13.000	C47MP-6	C67MP-6
8"	7.875	15.750	C47MP-8	C67MP-8
10"	9.735	18.750	C47MP-10	C67MP-10
12"	10.735	21.750	C47MP-12	C67MP-12

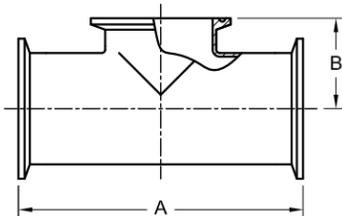
CLAMP TEES

CLAMP REDUCING TEES C7RMP



TUBE O.D.	A	B	C	304 PART NUMBER	316L PART NUMBER
1-1/2" X 1"	2.156	4.312	1.875	C47RMP-15X1	C67RMP-15X1
2" X 1"	2.562	5.125	2.125	C47RMP-2X1	C67RMP-2X1
2" X 1-1/2"	2.562	5.125	2.406	C47RMP-2X15	C67RMP-2X15
2-1/2" X 1-1/2"	2.844	5.688	2.656	C47RMP-25X15	C67RMP-25X15
2-1/2" X 2"	2.844	5.688	2.812	C47RMP-25X2	C67RMP-25X2
3" X 1-1/2"	3.093	6.188	2.906	C47RMP-3X15	C67RMP-3X15
3" X 2"	3.093	6.188	3.063	C47RMP-3X2	C67RMP-3X2
3" X 2-1/2"	3.093	6.188	3.093	C47RMP-3X25	C67RMP-3X25
4" X 1-1/2"	4.063	8.125	3.406	C47RMP-4X15	C67RMP-4X15
4" X 2"	4.063	8.125	3.563	C47RMP-4X2	C67RMP-4X2
4" X 2-1/2"	4.063	8.125	3.594	C47RMP-4X25	C67RMP-4X25
4" X 3"	4.063	8.125	3.594	C47RMP-4X3	C67RMP-4X3
6" X 3"	5.875	11.750	5.250	C47RMP-6X3	C67RMP-6X3
6" X 4"	5.875	11.750	5.500	C47RMP-6X4	C67RMP-6X4

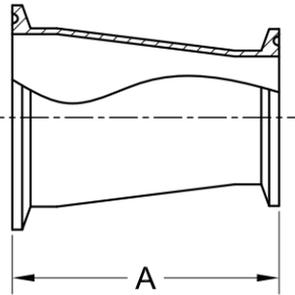
SHORT OUTLET TEES C7MPS



TUBE O.D.	A	B	304 PART NUMBER	316L PART NUMBER
1"	4.750	1.125	C47MPS-1	C67MPS-1
1-1/2"	5.500	1.375	C47MPS-15	C67MPS-15
2"	7.000	1.625	C47MPS-2	C67MPS-2
2-1/2"	7.000	1.875	C47MPS-25	C67MPS-25
3"	7.500	2.125	C47MPS-3	C67MPS-3
4"	9.000	2.750	C47MPS-4	C67MPS-4

CLAMP REDUCERS

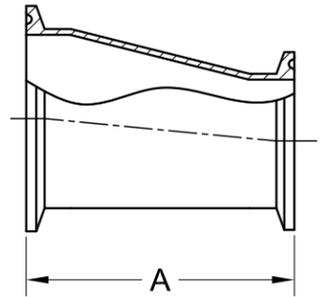
CLAMP CONCENTRIC REDUCERS C31-14MP



TUBE O.D.	A	304 PART NUMBER	316L PART NUMBER
3/4" X 1/2"	2.000	N/A	C631-14MP-3/4X1/2
1" X 1/2"	3.000	N/A	C631-14MP-1X1/2
1" X 3/4"	2.000	N/A	C631-14MP-1X3/4
1-1/2" X 3/4"	4.000	N/A	C631-14MP-15X3/4
1-1/2" X 1"	3.000	C431-14MP-15X1	C631-14MP-15X1
2" X 1"	5.000	C431-14MP-2X1	C631-14MP-2X1
2" X 1-1/2"	3.000	C431-14MP-2X15	C631-14MP-2X15
2-1/2" X 1-1/2"	5.000	C431-14MP-25X15	C631-14MP-25X15
2-1/2" X 2"	3.000	C431-14MP-25X2	C631-14MP-25X2
3" X 1-1/2"	7.000	C431-14MP-3X15	C631-14MP-3X15
3" X 2"	5.000	C431-14MP-3X2	C631-14MP-3X2
3" X 2-1/2"	3.000	C431-14MP-3X25	C631-14MP-3X25
4" X 2"	9.125	C431-14MP-4x2	C631-14MP-4x2
4" X 2-1/2"	7.125	C431-14MP-4x25	C631-14MP-4x25
4" X 3"	5.125	C431-14MP-4x3	C631-14MP-4x3
6" X 3"	6.875	C431-14MP-6x3	C631-14MP-6x3
6" X 4"	7.000	C431-14MP-6x4	C631-14MP-6x4
8" X 4"	7.500	C431-14MP-8x4	C631-14MP-8x4
8" X 6"	7.750	C431-14MP-8x6	C631-14MP-8x6

CLAMP REDUCERS

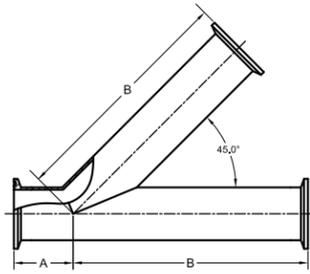
CLAMP ECCENTRIC REDUCERS C32-14MP



TUBE O.D.	A	304 PART NUMBER	316L PART NUMBER
1-1/2" X 1"	3.000	C432-14MP-15X1	C632-14MP-15X1
2" X 1"	5.000	C432-14MP-2X1	C632-14MP-2X1
2" X 1-1/2"	3.000	C432-14MP-2X15	C632-14MP-2X15
2-1/2" X 1-1/2"	5.000	C432-14MP-25X15	C632-14MP-25X15
2-1/2" X 2"	3.000	C432-14MP-25X2	C632-14MP-25X2
3" X 1-1/2"	7.000	C432-14MP-3X15	C632-14MP-3X15
3" X 2"	5.000	C432-14MP-3X2	C632-14MP-3X2
3" X 2-1/2"	3.000	C432-14MP-3X25	C632-14MP-3X25
4" X 2"	9.125	C432-14MP-4X2	C632-14MP-4X2
4" X 2-1/2"	7.125	C432-14MP-4X25	C632-14MP-4X25
4" X 3"	5.125	C432-14MP-4X3	C632-14MP-4X3
6" X 3"	6.875	C432-14MP-6X3	C632-14MP-6X3
6" X 4"	7.000	C432-14MP-6X4	C632-14MP-6X4
8" X 4"	7.500	C432-14MP-8X4	C632-14MP-8X4
8" X 6"	7.750	C432-14MP-8X6	C632-14MP-8X6

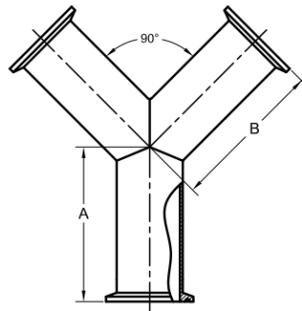
MISCELLANEOUS CLAMP CONFIGURATIONS

CLAMP LATERALS C28AMP



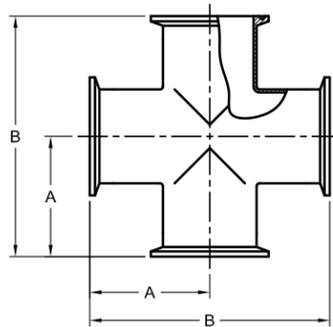
TUBE O.D.	A	B	304 PART NUMBER	316L PART NUMBER
1"	1.500	5.500	C428AMP-1	C628AMP-1
1-1/2"	1.687	6.688	C428AMP-15	C628AMP-15
2"	2.125	7.625	C428AMP-2	C628AMP-2
2-1/2"	2.000	9.000	C428AMP-25	C628AMP-25
3"	2.375	9.375	C428AMP-3	C628AMP-3
4"	2.687	11.375	C428AMP-4	C628AMP-4
6"	4.375	13.250	C428AMP-6	C628AMP-6

CLAMP TRUE Y C28BMP



TUBE O.D.	A	B	304 PART NUMBER	316L PART NUMBER
1"	2.500	2.938	C428BMP-1	C628BMP-1
1-1/2"	2.500	2.938	C428BMP-15	C628BMP-15
2"	3.125	3.750	C428BMP-2	C628BMP-2
2-1/2"	3.870	4.625	C428BMP-25	C628BMP-25
3"	4.500	5.375	C428BMP-3	C628BMP-3
4"	6.000	6.000	C428BMP-4	C628BMP-4

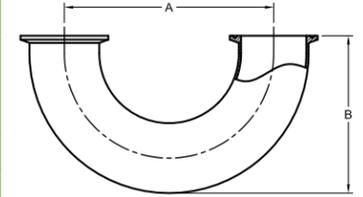
CLAMP CROSS C9MP



TUBE O.D.	A	B	304 PART NUMBER	316L PART NUMBER
1"	2.375	4.750	C49MP-1	C69MP-1
1-1/2"	2.750	5.500	C49MP-15	C69MP-15
2"	3.500	7.000	C49MP-2	C69MP-2
2-1/2"	3.500	7.000	C49MP-25	C69MP-25
3"	3.750	7.500	C49MP-3	C69MP-3
4"	4.500	9.000	C49MP-4	C69MP-4

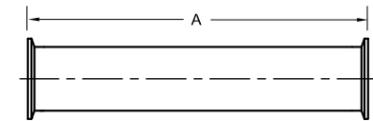
MISCELLANEOUS CLAMP CONFIGURATIONS

CLAMP 180° RETURN BENDS C2UMP



TUBE O.D.	A	B	304 PART NUMBER	316L PART NUMBER
1"	3.000	2.500	C42UMP-1	C62UMP-1
1-1/2"	4.500	3.500	C42UMP-15	C62UMP-15
2"	6.000	4.500	C42UMP-2	C62UMP-2
2-1/2"	7.500	5.500	C42UMP-25	C62UMP-25
3"	9.000	6.500	C42UMP-3	C62UMP-3
4"	12.000	8.625	C42UMP-4	C62UMP-4

SPOOL ASSEMBLY SPOOL



TUBE O.D.	A (minimum length)	304 PART NUMBER	316L PART NUMBER
1/2"	2.250	N/A	C6SPOOL*-.50
3/4"	2.250	N/A	C6SPOOL*-.75
1"	2.250	C4SPOOL*-1	C6SPOOL*-1
1-1/2"	2.250	C4SPOOL*-15	C6SPOOL*-15
2"	2.250	C4SPOOL*-2	C6SPOOL*-2
2-1/2"	2.250	C4SPOOL*-25	C6SPOOL*-25
3"	2.250	C4SPOOL*-3	C6SPOOL*-3
4"	2.250	C4SPOOL*-4	C6SPOOL*-4
6"	2.250	C4SPOOL*-6	C6SPOOL*-6

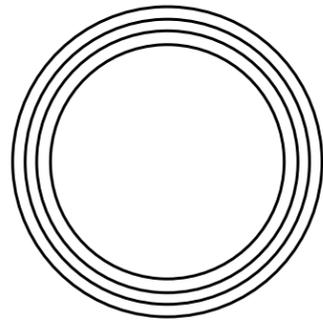
*Customer to specify length

CLAMP GASKETS

CLAMP GASKETS C40MP - C42MP

SIZE	GASKET O.D.	GASKET I.D.	EPDM #	PTFE #	FKM#	BUNA #	WHITE SILICONE #
1/2"	.860	.460	42MPE-.50	42MPG-.50	42MPSFY-.50	42MPU-.50	42MPX-.50
3/4"	.860	.640	42MPE-.75	42MPG-.75	42MPSFY-.75	42MPU-.75	42MPX-.75
1"	1.984	0.870	40MPE-1	40MPG-1	40MPSFY-1	40MPU-1	40MPX-1
1-1/2"	1.984	1.370	40MPE-15	40MPG-15	40MPSFY-15	40MPU-15	40MPX-15
2"	2.516	1.870	40MPE-2	40MPG-2	40MPSFY-2	40MPU-2	40MPX-2
2-1/2"	3.047	2.370	40MPE-25	40MPG-25	40MPSFY-25	40MPU-25	40MPX-25
3"	3.579	2.870	40MPE-3	40MPG-3	40MPSFY-3	40MPU-3	40MPX-3
4"	4.682	3.834	40MPE-4	40MPG-4	40MPSFY-4	40MPU-4	40MPX-4
5"	6.507	5.817	40MPE-5	40MPG-5	40MPSFY-5	40MPU-5	40MPX-5
6"	6.562	5.782	40MPE-6	40MPG-6	40MPSFY-6	40MPU-6	40MPX-6
8"	8.602	7.782	40MPE-8	40MPG-8	40MPSFY-8	40MPU-8	40MPX-8
10"	9.782	10.570	40MPE-10	40MPG-10	40MPSFY-10	40MPU-10	40MPX-10
12"	11.760	12.570	40MPE-12	40MPG-12	40MPSFY-12	40MPU-12	40MPX-12

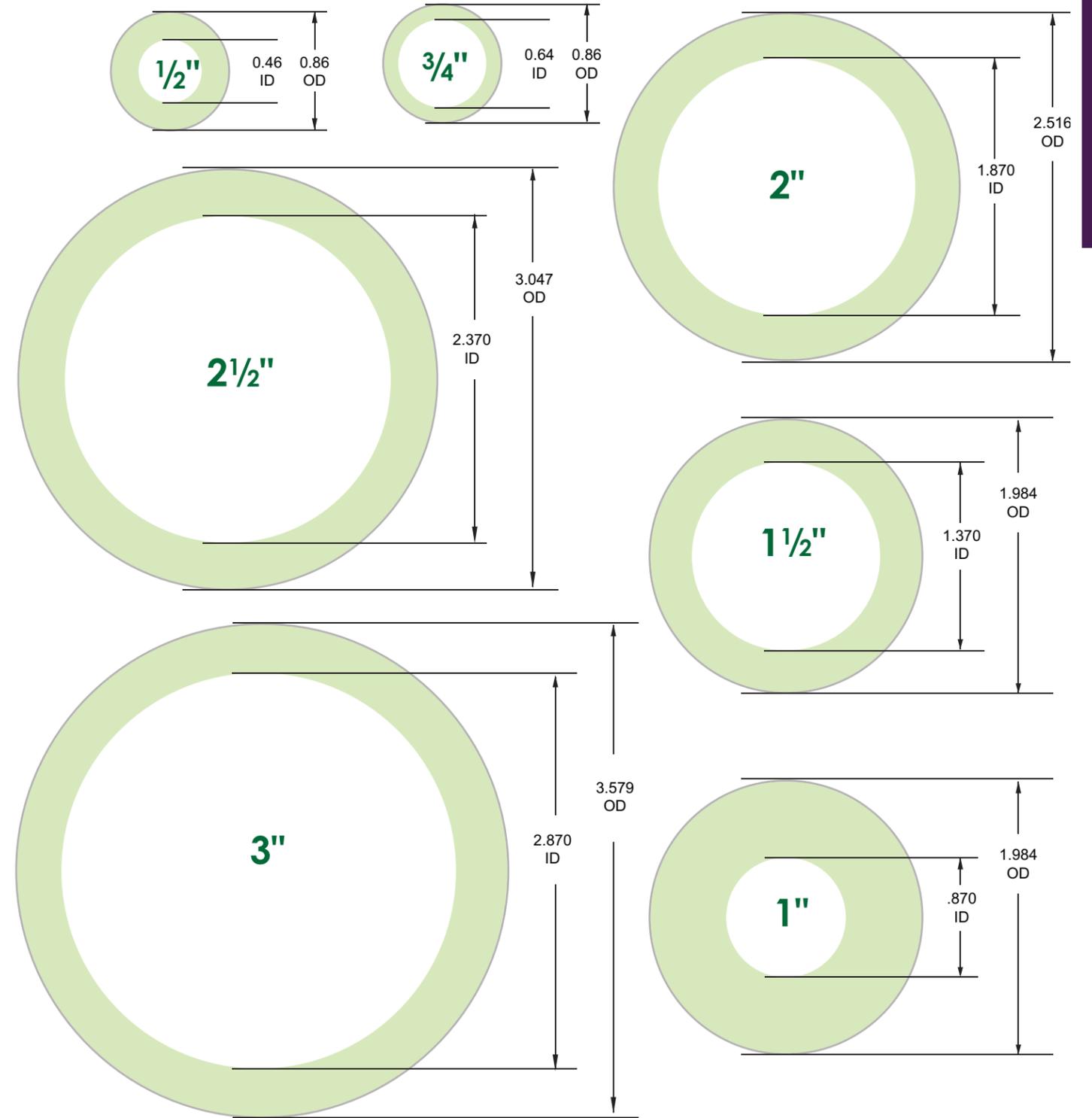
GASKET MATERIALS - COLOR CODING



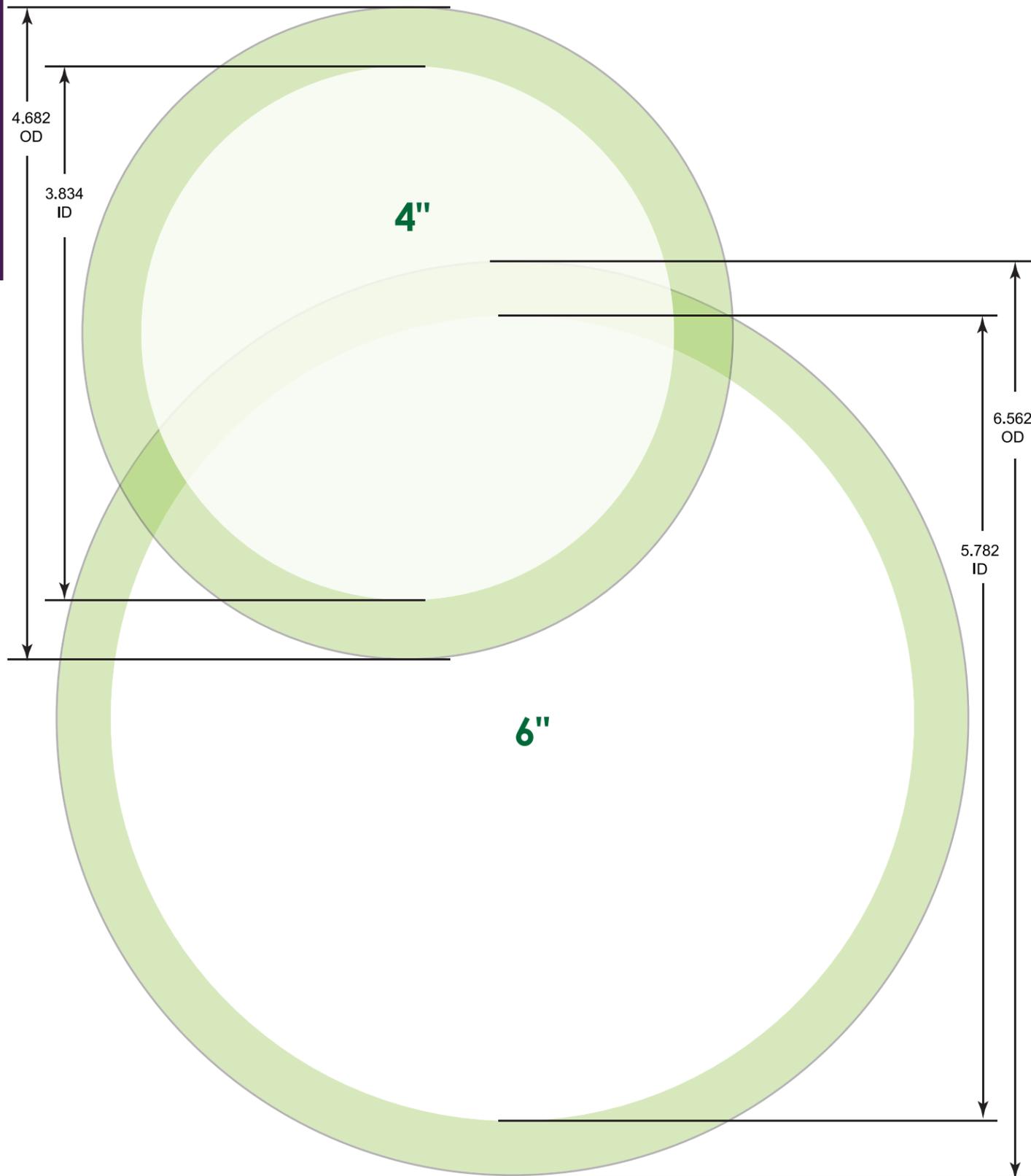
Many sanitary elastomeric materials are the same in appearance. Sanitary gaskets are specifically color coded with dots to easily identify the gasket material. Please refer to this chart to visually identify each material.

MATERIAL	PART # ID	COLOR	COLOR CODE	USEFUL TEMPERATURE
BUNA	U	BLACK	●	-25°F to 225°F
BUNA	UW	WHITE	●	-25°F to 225°F
EPDM SULFUR CURED	E	BLACK	●	-40°F to 275°F
EPDM PEROXIDE CURED	E	BLACK	●●●	-40°F to 275°F
FKM	SFY	BLACK / BROWN	○●	-15°F to 375°F
SILICONE PEROXIDE CURED	XW	WHITE	●	-50°F to 400°F
SILICONE PLATINUM CURED	XC	CLEAR	NO DOT	-50°F to 400°F
PTFE	G	WHITE	NO DOT	-10°F to 300°F
PTFE WITH 50% 316 PARTICLES	GTS	SILVER	NO DOT	-20°F to 450°F

CLAMP GASKET SIZING GUIDE



CLAMP GASKET SIZING GUIDE

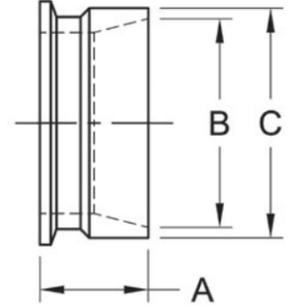


PIPE SIZE ADAPTERS



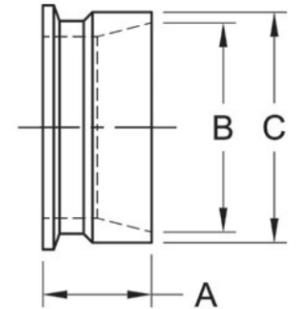
CLAMP X SCHEDULE 5S WELD ADAPTERS C19MPV

PIPE SIZE	A	B	C	316L PART NUMBER
1/2"	1.500	0.710	0.840	C619MPV-.50
3/4"	1.500	0.920	1.050	C619MPV-.75
1"	1.125	1.185	1.315	C619MPV-1
1-1/2"	1.125	1.770	1.900	C619MPV-15
2"	1.125	2.245	2.375	C619MPV-2
2-1/2"	1.125	2.709	2.875	C619MPV-25
3"	1.125	3.334	3.500	C619MPV-3
4"	1.125	4.334	4.500	C619MPV-4
6"	1.125	6.407	6.625	C619MPV-6



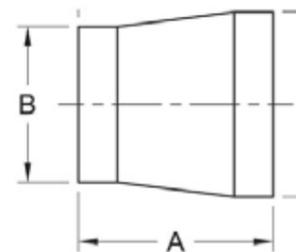
CLAMP X SCHEDULE IOS WELD ADAPTERS C19MPX

PIPE SIZE	A	B	C	316L PART NUMBER
1/2"	1.500	0.674	0.840	C619MPX-.50
3/4"	1.500	0.884	1.050	C619MPX-.75
1"	1.125	1.097	1.315	C619MPX-1
1-1/2"	1.125	1.682	1.900	C619MPX-15
2"	1.125	2.157	2.375	C619MPX-2
2-1/2"	1.125	2.635	2.875	C619MPX-25
3"	1.125	3.260	3.500	C619MPX-3
4"	1.125	4.260	4.500	C619MPX-4
6"	1.125	6.407	6.625	C619MPX-6



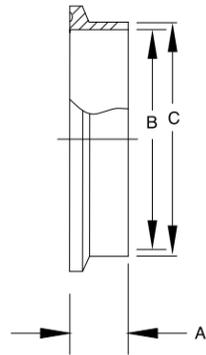
TUBE OD WELD X SCHEDULE IOS WELD ADAPTERS C19WX

PIPE SIZE	A	B	C	316L PART NUMBER
1/2"	1.500	0.500	0.840	C619WX-.50
3/4"	2.00	0.750	1.050	C619WX-.75
1"	2.00	1.000	1.315	C619WX-1
1-1/2"	2.500	1.500	1.900	C619WX-15
2"	2.500	2.000	2.375	C619WX-2
2-1/2"	2.500	2.500	2.875	C619WX-25
3"	2.500	3.000	3.500	C619WX-3
4"	3.000	4.000	4.500	C619WX-4



PIPE SIZE FERRULES

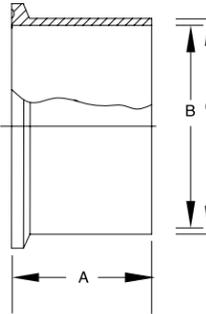
SCHEDULE IO SHORT WELD FERRULE **C14WMX**



PIPE SIZE	A	B	C	316L PART NUMBER
1"	.500	1.097	1.315	C614WMX-1
1-1/2"	.500	1.682	1.900	C614WMX-15
2"	.500	2.157	2.375	C614WMX-2
2-1/2"	.500	2.635	2.875	C614WMX-25
3"	.500	3.260	3.500	C614WMX-3
4"	.625	4.260	4.500	C614WMX-4

* Schedule 5 also available

SCHEDULE IO LONG WELD FERRULE **CL14AMX**

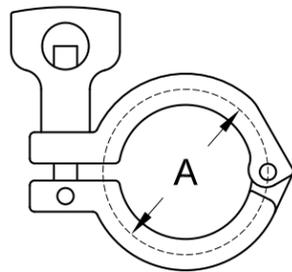


PIPE SIZE	A	B	C	316L PART NUMBER
1"	1.125	1.097	1.315	C6L14AMX-1
1-1/2"	1.125	1.682	1.900	C6L14AMX-15
2"	1.125	2.157	2.375	C6L14AMX-2
2-1/2"	1.125	2.635	2.875	C6L14AMX-25
3"	1.125	3.260	3.500	C6L14AMX-3
4"	1.125	4.260	4.500	C6L14AMX-4

* Schedule 5 also available

PIPE SIZE CLAMPS

SINGLE PIN HEAVY DUTY CLAMPS **C13MHV**

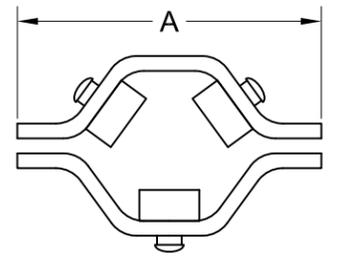


PIPE SIZE	A	SERVICE PRESSURE RATING AT 70°F	PART NUMBER
1"	2.122	500	C413MHV-1
1-1/2"	2.654	450	C413MHV-15
2"	3.185	400	C413MHV-2
2-1/2"	3.717	350	C413MHV-25
3"	4.263	250	C413MHV-3
4"	5.263	150	C413MHV-4

* Wing nut tightened to 25 in. lb. of torque

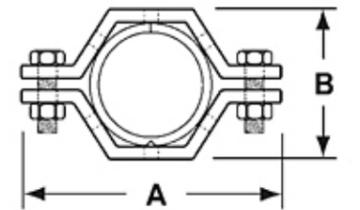
PIPE SIZE HANGERS

HEX HANGER WITH RUBBER GROMMETS **C24RV**



PIPE SIZE	A	PART NUMBER
1"	3.625	C424RV-1
1-1/2"	3.625	C424RV-15
2"	4.312	C424RV-2
2-1/2"	4.875	C424RV-25
3"	5.375	C424RV-3
4"	6.562	C424RV-4
6"	9.000	C424RV-6

HEX HANGER WITH POLYPROPYLENE SLEEVE **C24PV**



PIPE SIZE	A	B	PART NUMBER
1"	3.625	2.125	C424PV-1
1-1/2"	4.312	2.625	C424PV-15
2"	4.875	3.125	C424PV-2
2-1/2"	4.812	3.125	C424PV-25
3"	6.000	4.25	C424PV-3
4"	7.500	5.625	C424PV-4
6"	9.750	7.375	C424PV-6

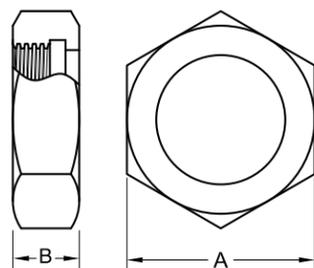
PIPE SIZE GASKETS

PIPE SIZE GASKETS **C40MP-V**

PIPE SIZE	GASKET I.D.	GASKET O.D.	EPDM #	PTFE #	FKM#	BUNA #
1"	0.870	1.984	40MPE-V-1	40MPG-V-1	40MPSFY-V-1	40MPU-V-1
1-1/2"	1.370	1.984	40MPE-V-15	40MPG-V-15	40MPSFY-V-15	40MPU-V-15
2"	1.870	2.516	40MPE-V-2	40MPG-V-2	40MPSFY-V-2	40MPU-V-2
2-1/2"	2.370	3.047	40MPE-V-25	40MPG-V-25	40MPSFY-V-25	40MPU-V-25
3"	2.870	3.579	40MPE-V-3	40MPG-V-3	40MPSFY-V-3	40MPU-V-3
4"	3.834	4.682	40MPE-V-4	40MPG-V-4	40MPSFY-V-4	40MPU-V-4
5"	5.817	6.507	40MPE-V-5	40MPG-V-5	40MPSFY-V-5	40MPU-V-5
6"	5.782	6.562	40MPE-V-6	40MPG-V-6	40MPSFY-V-6	40MPU-V-6

BEVEL SEAT NUTS

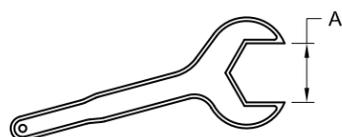
UNION HEX NUTS C13H



TUBE O.D.	A	B	304 PART NUMBER
1"	1.812	0.906	C413H-1
1-1/2"	2.406	0.968	C413H-15
2"	3.000	1.062	C413H-2
2-1/2"	3.594	1.187	C413H-25
3"	4.188	1.281	C413H-3
4"	5.438	1.500	C413H-4

* Hex Nut 400 PSI Maximum

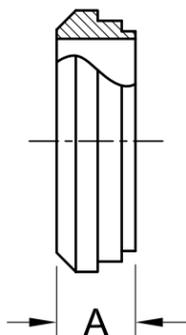
SINGLE SIDE HEX WRENCHES C25H



TUBE O.D.	PART NUMBER
1"	C25H-1
1-1/2"	C25H-15
2"	C25H-2
2-1/2"	C25H-25
3"	C25H-3
4"	C25H-4

BEVEL SEAT FERRULES

SHORT PLAIN BEVEL SEAT WELD FERRULES C14PRF



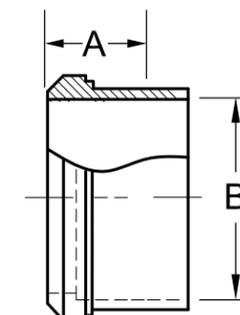
TUBE O.D.	A	304 PART NUMBER	316L PART NUMBER
1"	0.718	C414PRF-1	C614PRF-1
1-1/2"	0.718	C414PRF-15	C614PRF-15
2"	0.75	C414PRF-2	C614PRF-2
2-1/2"	0.875	C414PRF-25	C614PRF-25
3"	0.906	C414PRF-3	C614PRF-3
4"	1.031	C414PRF-4	C614PRF-4

BEVEL SEAT FERRULES

LONG PLAIN BEVEL SEAT FERRULES C14A

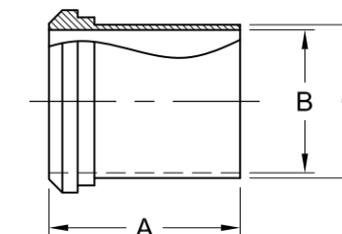


TUBE O.D.	A	B	304 PART NUMBER	316L PART NUMBER
1"	1.375	0.870	C414A-1	C614A-1
1-1/2"	1.500	1.370	C414A-15	C614A-15
2"	1.500	1.870	C414A-2	C614A-2
2-1/2"	1.750	2.370	C414A-25	C614A-25
3"	1.750	2.870	C414A-3	C614A-3
4"	1.750	3.834	C414A-4	C614A-4



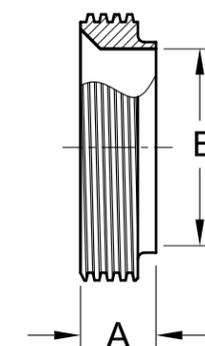
LIGHT WALL TANK PLAIN BEVEL SEAT FERRULES C14WL

TUBE O.D.	A	B	C	304 PART NUMBER	316L PART NUMBER
1"	2.000	0.870	1.000	C414WL-1	C614WL-1
1-1/2"	2.250	1.370	1.500	C414WL-15	C614WL-15
2"	2.500	1.870	2.000	C414WL-2	C614WL-2
2-1/2"	2.750	2.370	2.500	C414WL-25	C614WL-25
3"	3.000	2.870	3.000	C414WL-3	C614WL-3
4"	4.000	3.834	4.000	C414WL-4	C614WL-4



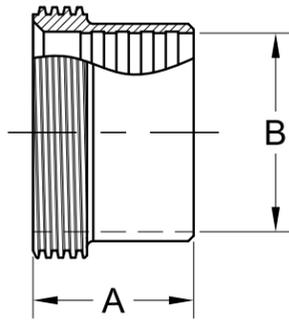
SHORT THREADED BEVEL SEAT FERRULES C15TRF

TUBE O.D.	A	B	304 PART NUMBER	316L PART NUMBER
1"	.718	0.870	C415TRF-1	C615TRF-1
1-1/2"	.718	1.370	C415TRF-15	C615TRF-15
2"	.750	1.870	C415TRF-2	C615TRF-2
2-1/2"	.875	2.370	C415TRF-25	C615TRF-25
3"	.906	2.870	C415TRF-3	C615TRF-3
4"	1.031	3.834	C415TRF-4	C615TRF-4



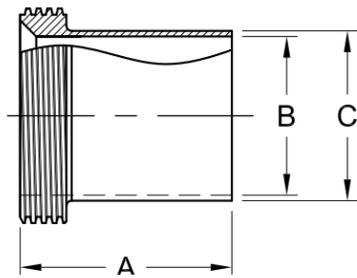
BEVEL SEAT FERRULES

LONG THREADED BEVEL SEAT FERRULES **C15A**



TUBE O.D.	A	B	304 PART NUMBER	316L PART NUMBER
1"	1.375	0.870	C415A-1	C615A-1
1-1/2"	1.500	1.370	C415A-15	C615A-15
2"	1.500	1.870	C415A-2	C615A-2
2-1/2"	1.750	2.370	C415A-25	C615A-25
3"	1.750	2.870	C415A-3	C615A-3
4"	1.750	3.834	C415A-4	C615A-4

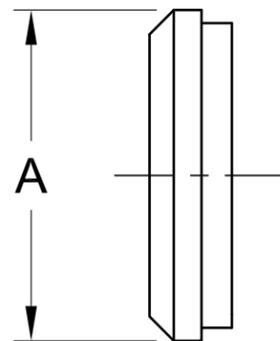
LIGHT WALL TANK
THREADED BEVEL SEAT FERRULES **C15WL**



TUBE O.D.	A	B	C	304 PART NUMBER
1"	2.000	0.870	1.000	C415WL-1
1-1/2"	2.250	1.370	1.500	C415WL-15
2"	2.500	1.870	2.000	C415WL-2
2-1/2"	2.750	2.370	2.500	C415WL-25
3"	3.000	2.870	3.000	C415WL-3
4"	4.000	3.834	4.000	C415WL-4

BEVEL SEAT END CAPS

PLAIN BEVEL SEAT SOLID END CAPS **C16A**

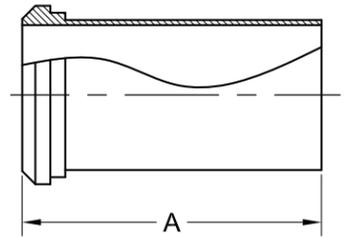


TUBE O.D.	A	304 PART NUMBER	316L PART NUMBER
1"	1.312	C416A-1	C616A-1
1-1/2"	1.843	C416A-15	C616A-15
2"	2.375	C416AL-2	C616AL-2
2-1/2"	2.906	C416A-25	C616A-25
3"	3.437	C416A-3	C616A-3
4"	4.500	C416A-4	C616A-4

BEVEL SEAT ADAPTERS

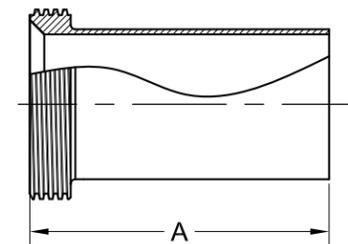
PLAIN BEVEL SEAT TYGON® HOSE ADAPTER **C14AHT**

TUBE O.D.	A	304 PART NUMBER	316L PART NUMBER
1"	4.688	C414AHT-1	C614AHT-1
1-1/2"	4.719	C414AHT-15	C614AHT-15
2"	4.719	C414AHT-2	C614AHT-2
2-1/2"	4.843	C414AHT-25	C614AHT-25
3"	4.906	C414AHT-3	C614AHT-3
4"	5.219	C414AHT-4	C614AHT-4



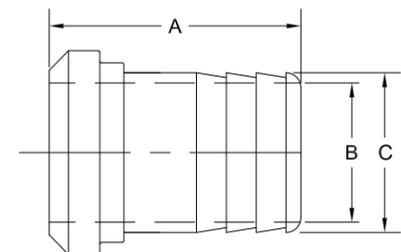
THREADED BEVEL SEAT TYGON® HOSE ADAPTER **C15AHT**

TUBE O.D.	A	304 PART NUMBER	316L PART NUMBER
1"	4.500	C415AHT-1	C615AHT-1
1-1/2"	4.500	C415AHT-15	C615AHT-15
2"	4.500	C415AHT-2	C615AHT-2
2-1/2"	4.500	C415AHT-25	C615AHT-25
3"	4.500	C415AHT-3	C615AHT-3
4"	5.000	C415AHT-4	C615AHT-4



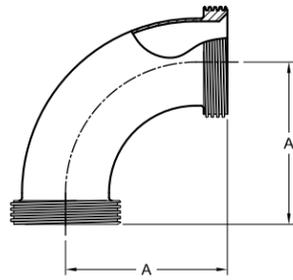
PLAIN BEVEL SEAT RUBBER HOSE ADAPTERS **C14AHR**

TUBE O.D.	A	B	C	304 PART NUMBER	316L PART NUMBER
1"	1.687	.870	1.000	C414AHR-1	C614AHR-1
1-1/2"	1.687	1.370	1.500	C414AHR-15	C614AHR-15
2"	2.312	1.870	2.000	C414AHR-2	C614AHR-2
2-1/2"	2.343	2.370	2.500	C414AHR-25	C614AHR-25
3"	3.500	2.870	3.000	C414AHR-3	C614AHR-3
4"	4.000	3.834	4.000	C414AHR-4	C614AHR-4



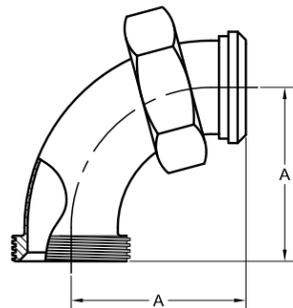
BEVEL SEAT ELBOWS

THREADED BEVEL SEAT X
THREADED BEVEL SEAT 90° ELBOWS **C2C**



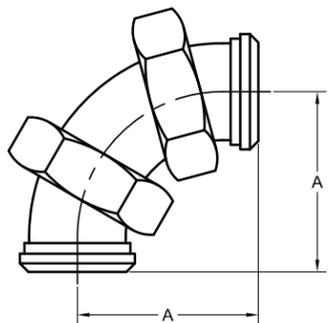
TUBE O.D.	A	304 PART NUMBER	316L PART NUMBER
1"	2.218	C42C-1	C62C-1
1-1/2"	2.968	C42C-15	C62C-15
2"	3.750	C42C-2	C62C-2
2-1/2"	4.625	C42C-25	C62C-25
3"	5.406	C42C-3	C62C-3
4"	7.031	C42C-4	C62C-4

THREADED BEVEL SEAT X
PLAIN BEVEL SEAT WITH HEX NUT 90° ELBOWS **C2F**



TUBE O.D.	A	304 PART NUMBER	316L PART NUMBER
1"	2.218	C42F-1	C62F-1
1-1/2"	2.968	C42F-15	C62F-15
2"	3.750	C42F-2	C62F-2
2-1/2"	4.625	C42F-25	C62F-25
3"	5.406	C42F-3	C62F-3
4"	7.031	C42F-4	C62F-4

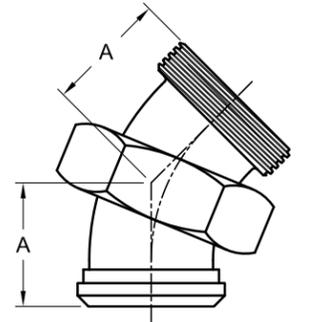
PLAIN BEVEL SEAT WITH HEX NUT X
PLAIN BEVEL SEAT WITH HEX NUT 90° ELBOWS **C2E**



TUBE O.D.	A	304 PART NUMBER	316L PART NUMBER
1"	2.218	C42E-1	C62E-1
1-1/2"	2.968	C42E-15	C62E-15
2"	3.750	C42E-2	C62E-2
2-1/2"	4.625	C42E-25	C62E-25
3"	5.406	C42E-3	C62E-3
4"	7.031	C42E-4	C62E-4

BEVEL SEAT ELBOWS

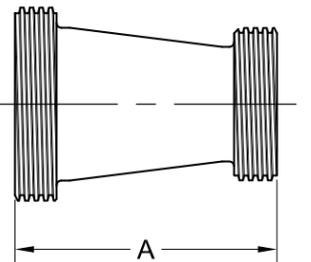
PLAIN BEVEL SEAT WITH HEX NUT X
THREADED BEVEL SEAT 45° ELBOWS **C2P**



TUBE O.D.	A	304 PART NUMBER	316L PART NUMBER
1"	1.343	C42P-1	C62P-1
1-1/2"	1.655	C42P-15	C62P-15
2"	2.000	C42P-2	C62P-2
2-1/2"	2.437	C42P-25	C62P-25
3"	2.781	C42P-3	C62P-3
4"	3.531	C42P-4	C62P-4

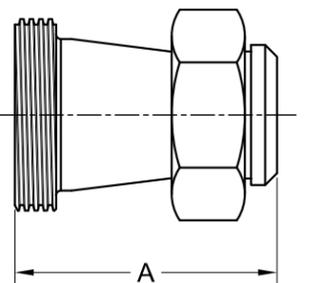
BEVEL SEAT REDUCERS

THREADED BEVEL SEAT X
THREADED BEVEL SEAT CONCENTRIC REDUCERS **C31TT**



TUBE O.D.	A	304 PART NUMBER
1-1/2" X 1"	3.438	C431TT-15X1
2" X 1-1/2"	3.468	C431TT-2X15
2-1/2" X 2"	3.625	C431TT-25X2
3" X 2"	5.656	C431TT-3X2
3" X 2-1/2"	3.781	C431TT-3X25
4" X 3"	5.937	C431TT-4X3

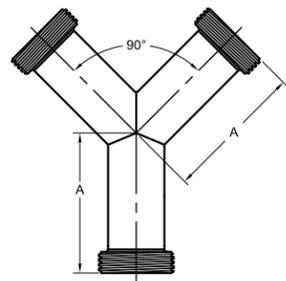
THREADED BEVEL SEAT X
PLAIN BEVEL W/ HEX NUT CONCENTRIC REDUCERS **C31TP**



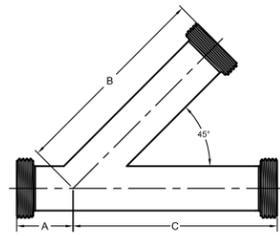
TUBE O.D.	A	304 PART NUMBER
1-1/2" X 1"	3.438	C431TP-15X1
2" X 1-1/2"	3.468	C431TP-2X15
2-1/2" X 2"	3.625	C431TP-25X2
3" X 2"	5.656	C431TP-3X2
3" X 2-1/2"	3.781	C431TP-3X25
4" X 3"	5.937	C431TP-4X3

MISCELLANEOUS BEVEL SEAT CONFIGURATIONS

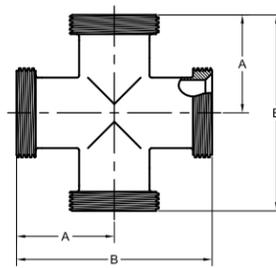
Other types of bevel seat configurations are available.
Call 888-798-2653 for information.



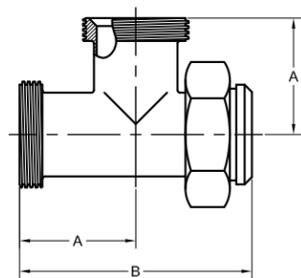
C28B



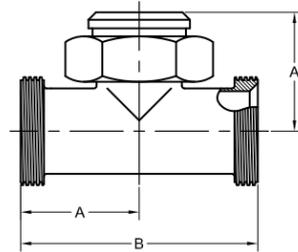
C28A



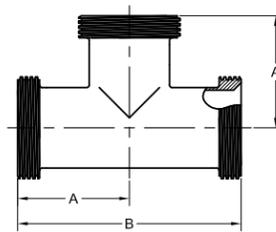
C9



C7B



C7A



C7

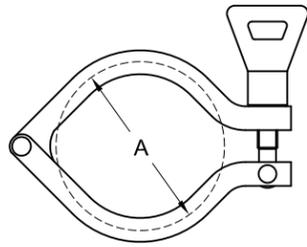
BEVEL SEAT GASKETS

BEVEL SEAT GASKETS C40BS

SIZE	GASKET O.D.	GASKET I.D.	EPDM #	PTFE #	FKM#	BUNA #	SILICONE #
1"	1.312	.870	40BS-E-1	40BS-T-1	40BS-V-1	40BS-B-1	40BS-X-1
1-1/2"	1.848	1.370	40BS-E-15	40BS-T-15	40BS-V-15	40BS-B-15	40BS-X-15
2"	2.380	1.870	40BS-E-2	40BS-T-2	40BS-V-2	40BS-B-2	40BS-X-2
2-1/2"	2.912	2.370	40BS-E-25	40BS-T-25	40BS-V-25	40BS-B-25	40BS-X-25
3"	3.444	2.870	40BS-E-3	40BS-T-3	40BS-V-3	40BS-B-3	40BS-X-3
4"	4.508	3.832	40BS-E-4	40BS-T-4	40BS-V-4	40BS-B-4	40BS-X-4

I-LINE CLAMPS

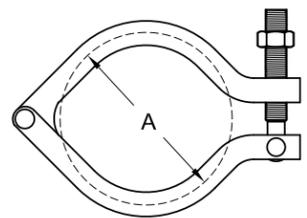
HEAVY DUTY CLAMPS C13IS



TUBE O.D.	SERVICE PRESSURE RATING @ 70° F	SERVICE PRESSURE RATING @ 250° F	A	304 PART NUMBER
1"	700 PSI	250 PSI	2.122	C413IS-1
1-1/2"	700 PSI	250 PSI	2.122	C413IS-15
2"	450 PSI	250 PSI	2.654	C413IS-2
2-1/2"	450 PSI	200 PSI	3.185	C413IS-25
3"	350 PSI	150 PSI	3.717	C413IS-3
4"	200 PSI	125 PSI	4.820	C413IS-4

* Wing nut tightened to 25 in. lb. of torque

BOLTED CLAMPS C13I



TUBE O.D.	SERVICE PRESSURE RATING @ 70° F	SERVICE PRESSURE RATING @ 250° F	A	304 PART NUMBER
1"	1220 PSI	1100 PSI	2.122	C413I-1
1-1/2"	1220 PSI	1100 PSI	2.122	C413I-15
2"	900 PSI	830 PSI	2.654	C413I-2
2-1/2"	720 PSI	660 PSI	3.185	C413I-25
3"	600 PSI	550 PSI	3.717	C413I-3
4"	570 PSI	525 PSI	4.820	C413I-4

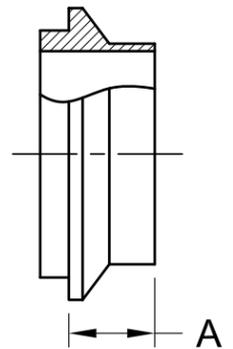
* Nut tightened to 20 in. ft. of torque

I-LINE FERRULES

MALE I-LINE SHORT WELD FERRULES C14WI

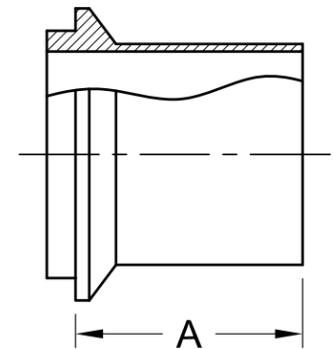


TUBE O.D.	A	304 PART NUMBER	316L PART NUMBER
1"	0.600	C414WI-1	C614WI-1
1-1/2"	0.746	C414WI-15	C614WI-15
2"	0.780	C414WI-2	C614WI-2
2-1/2"	0.850	C414WI-25	C614WI-25
3"	0.906	C414WI-3	C614WI-3
4"	1.031	C414WI-4	C614WI-4
6"	0.940	C414WI-6	C614WI-6



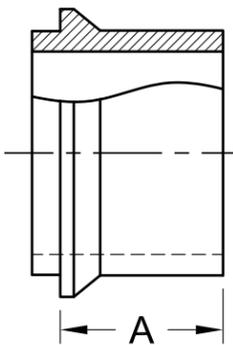
MALE I-LINE LONG WELD FERRULES C14WLI

TUBE O.D.	A	304 PART NUMBER	316L PART NUMBER
1"	1.562	C414WLI-1	C614WLI-1
1-1/2"	1.843	C414WLI-15	C614WLI-15
2"	2.062	C414WLI-2	C614WLI-2
2-1/2"	2.188	C414WLI-25	C614WLI-25
3"	2.375	C414WLI-3	C614WLI-3
4"	2.688	C414WLI-4	C614WLI-4
6"	2.688	C414WLI-6	C614WLI-6



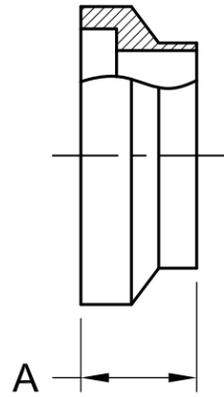
MALE I-LINE HEAVY WALL TANK WELD FERRULES C14WHI

TUBE O.D.	A	304 PART NUMBER	316L PART NUMBER
1-1/2"	1.457	C414WHI-15	C614WHI-15
2"	1.500	C414WHI-2	C614WHI-2
2-1/2"	1.437	C414WHI-25	C614WHI-25
3"	1.500	C414WHI-3	C614WHI-3
4"	1.812	C414WHI-4	C614WHI-4



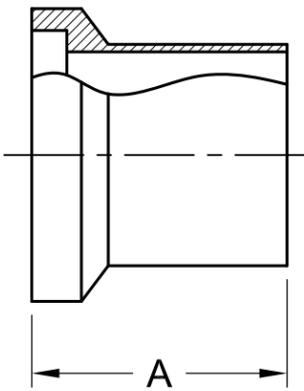
I-LINE FERRULES

FEMALE I-LINE SHORT WELD FERRULES **C15WI**



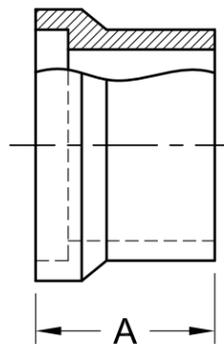
TUBE O.D.	A	304 PART NUMBER	316L PART NUMBER
1"	0.786	C415WI-1	C615WI-1
1-1/2"	0.950	C415WI-15	C615WI-15
2"	1.036	C415WI-2	C615WI-2
2-1/2"	1.161	C415WI-25	C615WI-25
3"	1.223	C415WI-3	C615WI-3
4"	1.348	C415WI-4	C615WI-4
6"	1.130	C415WI-6	C615WI-6

FEMALE I-LINE LONG WELD FERRULES **C15WLI**



TUBE O.D.	A	304 PART NUMBER	316L PART NUMBER
1"	1.750	C415WLI-1	C615WLI-1
1-1/2"	2.031	C415WLI-15	C615WLI-15
2"	2.312	C415WLI-2	C615WLI-2
2-1/2"	2.500	C415WLI-25	C615WLI-25
3"	2.688	C415WLI-3	C615WLI-3
4"	3.000	C415WLI-4	C615WLI-4
6"	3.000	C415WLI-6	C615WLI-6

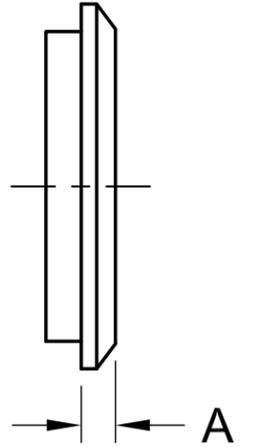
FEMALE I-LINE HEAVY WALL TANK WELD FERRULES **C15WHI**



TUBE O.D.	A	304 PART NUMBER	316L PART NUMBER
1"	1.500	C415WHI-1	C615WHI-1
1-1/2"	1.625	C415WHI-15	C615WHI-15
2"	1.750	C415WHI-2	C615WHI-2
2-1/2"	1.750	C415WHI-25	C615WHI-25
3"	1.812	C415WHI-3	C615WHI-3
4"	2.125	C415WHI-4	C615WHI-4

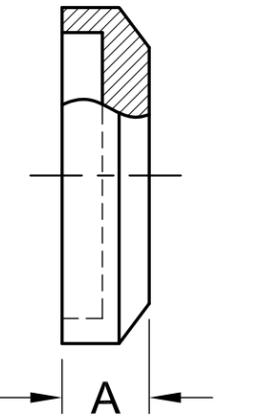
I-LINE END CAPS

MALE I-LINE SOLID END CAPS **C16AI-14I**



TUBE O.D.	A	304 PART NUMBER	316L PART NUMBER
1"	0.500	C416AI-14I-1	C616AI-14I-1
1-1/2"	0.500	C416AI-14I-15	C616AI-14I-15
2"	0.562	C416AI-14I-2	C616AI-14I-2
2-1/2"	0.750	C416AI-14I-25	C616AI-14I-25
3"	0.750	C416AI-14I-3	C616AI-14I-3
4"	0.750	C416AI-14I-4	C616AI-14I-4
6"	0.750	C416AI-14I-6	C616AI-14I-6

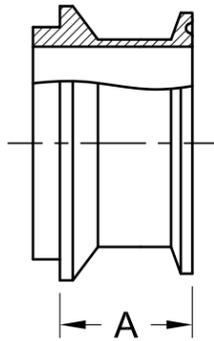
FEMALE I-LINE SOLID END CAPS **C16AI-15I**



TUBE O.D.	A	304 PART NUMBER	316L PART NUMBER
1"	0.500	C416AI-15I-1	C616AI-15I-1
1-1/2"	0.500	C416AI-15I-15	C616AI-15I-15
2"	0.562	C416AI-15I-2	C616AI-15I-2
2-1/2"	0.750	C416AI-15I-25	C616AI-15I-25
3"	0.750	C416AI-15I-3	C616AI-15I-3
4"	0.750	C416AI-15I-4	C616AI-15I-4
6"	0.750	C416AI-15I-6	C616AI-15I-6

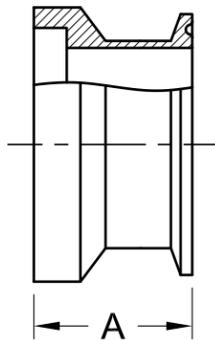
I-LINE ADAPTERS

MALE I-LINE X CLAMP ADAPTERS **C17-14I-14MP**



TUBE O.D.	A	304 PART NUMBER
1"	1.093	C417-14I-14MP-1
1-1/2"	1.265	C417-14I-14MP-15
2"	1.290	C417-14I-14MP-2
2-1/2"	1.312	C417-14I-14MP-25
3"	1.406	C417-14I-14MP-3
4"	1.656	C417-14I-14MP-4

FEMALE I-LINE X CLAMP ADAPTERS **C17-15I-14MP**



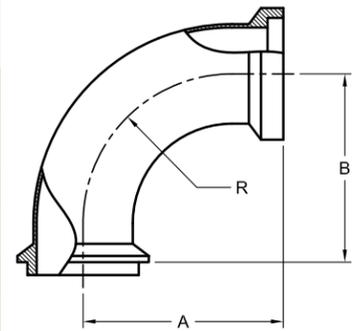
TUBE O.D.	A	304 PART NUMBER
1"	1.281	C417-15I-14MP-1
1-1/2"	1.450	C417-15I-14MP-15
2"	1.540	C417-15I-14MP-2
2-1/2"	1.625	C417-15I-14MP-25
3"	1.718	C417-15I-14MP-3
4"	1.968	C417-15I-14MP-4

I-LINE ELBOWS

FEMALE I-LINE X MALE I-LINE ELBOWS **C2FI**



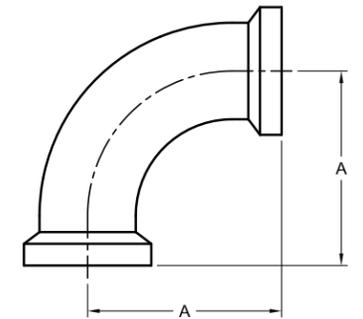
TUBE O.D.	A	B	R	304 PART NUMBER	316L PART NUMBER
1"	2.281	2.093	1.500	C42FI-1	C62FI-1
1-1/2"	3.188	3.000	2.250	C42FI-15	C62FI-15
2"	4.031	3.780	3.000	C42FI-2	C62FI-2
2-1/2"	4.906	4.600	3.750	C42FI-25	C62FI-25
3"	5.718	5.410	4.500	C42FI-3	C62FI-3
4"	7.344	7.031	6.000	C42FI-4	C62FI-4



90° FEMALE I-LINE ELBOWS **C2CI**



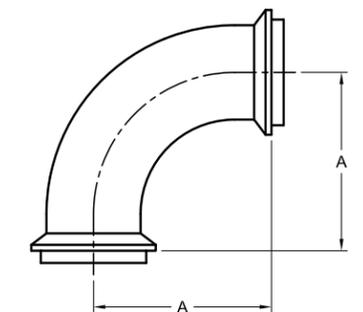
TUBE O.D.	A	304 PART NUMBER	316L PART NUMBER
1"	2.286	C42CI-1	C62CI-1
1-1/2"	3.192	C42CI-15	C62CI-15
2"	4.036	C42CI-2	C62CI-2
2-1/2"	4.911	C42CI-25	C62CI-25
3"	5.723	C42CI-3	C62CI-3
4"	7.348	C42CI-4	C62CI-4



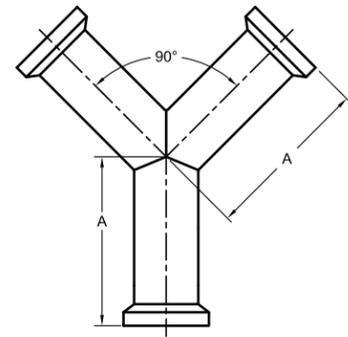
90° MALE I-LINE ELBOWS **C2EI**



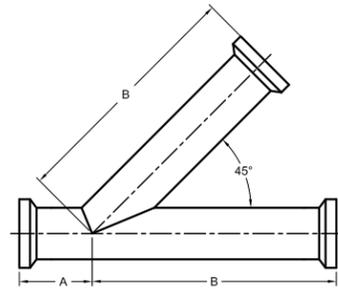
TUBE O.D.	A	304 PART NUMBER	316L PART NUMBER
1"	2.089	C42EI-1	C62EI-1
1-1/2"	3.000	C42EI-15	C62EI-15
2"	3.780	C42EI-2	C62EI-2
2-1/2"	4.600	C42EI-25	C62EI-25
3"	5.412	C42EI-3	C62EI-3
4"	7.037	C42EI-4	C62EI-4



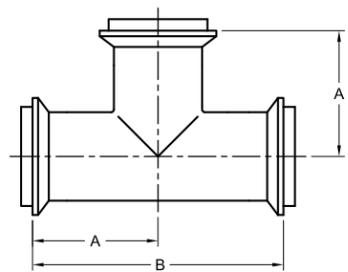
MISCELLANEOUS I-LINE CONFIGURATIONS



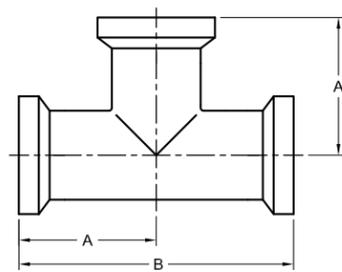
C28BI



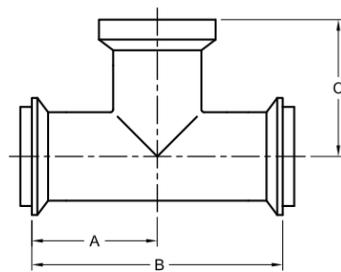
C28AI



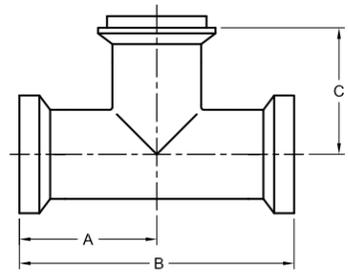
C7HI



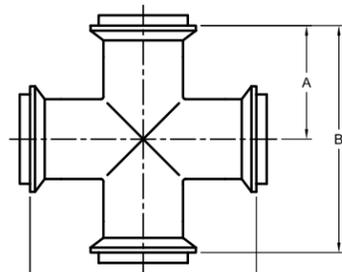
C7I



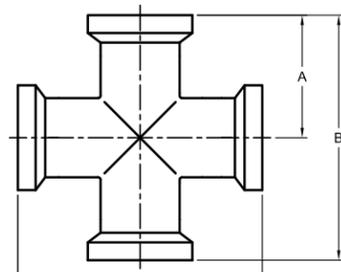
C7EI



C7AI



C9HI



C9I

I-LINE GASKETS

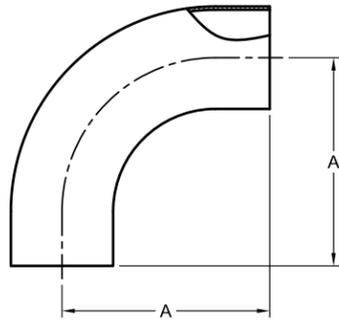
I-LINE GASKETS **C40I**

SIZE	GASKET O.D.	GASKET I.D.	EPDM #	PTFE # (TEFLON®)	BUNA #	FKM # (VITON®)	SILICONE #
1"	1.260	.870	40I-E-1	40I-T-1	40I-U-1	40I-V-1	40I-X-1
1-1/2"	1.750	1.370	40I-E-15	40I-T-15	40I-U-15	40I-V-15	40I-X-15
2"	2.250	1.870	40I-E-2	40I-T-2	40I-U-2	40I-V-2	40I-X-2
2-1/2"	2.760	2.370	40I-E-25	40I-T-25	40I-U-25	40I-V-25	40I-X-25
3"	3.310	2.870	40I-E-3	40I-T-3	40I-U-3	40I-V-3	40I-X-3
4"	4.310	3.832	40I-E-4	40I-T-4	40I-U-4	40I-V-4	40I-X-4
6"	6.910	5.782	40I-E-6	40I-T-6	40I-U-6	40I-V-6	40I-X-6

THESE GASKETS ARE USED FOR MALE AND FEMALE I-LINE APPLICATIONS ONLY.

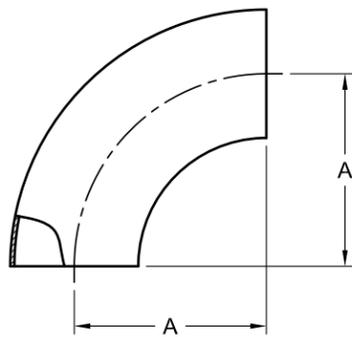
WELD ELBOWS

POLISHED 90° WELD ELBOWS WITH TANGENTS **CL2S**



TUBE O.D.	A	304 PART NUMBER	316L PART NUMBER
1/2"	3.000	N/A	C6L2S-.50-7
3/4"	3.000	N/A	C6L2S-.75-7
1"	2.062	C4L2S-1-7	C6L2S-1-7
1-1/2"	2.937	C4L2S-15-7	C6L2S-15-7
2"	4.062	C4L2S-2-7	C6L2S-2-7
2-1/2"	5.187	C4L2S-25-7	C6L2S-25-7
3"	6.312	C4L2S-3-7	C6L2S-3-7
4"	8.312	C4L2S-4-7	C6L2S-4-7
6"	12.460	C4L2S-6-7	C6L2S-6-7

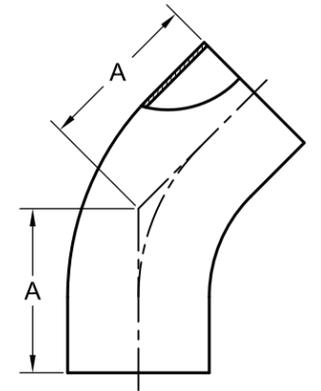
POLISHED 90° WELD ELBOWS **C2WCL**



TUBE O.D.	A	304 PART NUMBER	316L PART NUMBER
1/2"	1.125	C42WCL-.50-7	C62WCL-.50-7
3/4"	1.125	C42WCL-.75-7	C62WCL-.75-7
1"	1.500	C42WCL-1-7	C62WCL-1-7
1-1/2"	2.250	C42WCL-15-7	C62WCL-15-7
2"	3.000	C42WCL-2-7	C62WCL-2-7
2-1/2"	3.750	C42WCL-25-7	C62WCL-25-7
3"	4.500	C42WCL-3-7	C62WCL-3-7
4"	6.000	C42WCL-4-7	C62WCL-4-7
6"	9.000	C42WCL-6-7	C62WCL-6-7
8"	12.000	C42WCL-8-7	C62WCL-8-7
10"	15.000	C42WCL-10-7	C62WCL-10-7
12"	18.000	C42WCL-12-7	C62WCL-12-7

WELD ELBOWS

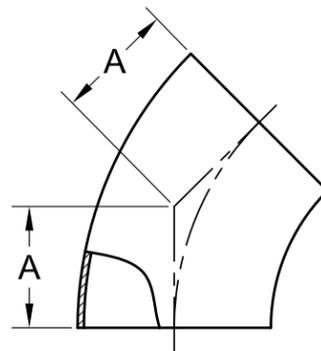
POLISHED 45° WELD ELBOWS WITH TANGENTS **CL2KS**



TUBE O.D.	A	304 PART NUMBER	316L PART NUMBER
1/2"	2.250	N/A	C6L2KS-.50-7
3/4"	2.250	N/A	C6L2KS-.75-7
1"	1.188	C4L2KS-1-7	C6L2KS-1-7
1-1/2"	1.625	C4L2KS-15-7	C6L2KS-15-7
2"	2.312	C4L2KS-2-7	C6L2KS-2-7
2-1/2"	3.000	C4L2KS-25-7	C6L2KS-25-7
3"	3.688	C4L2KS-3-7	C6L2KS-3-7
4"	4.812	C4L2KS-4-7	C6L2KS-4-7



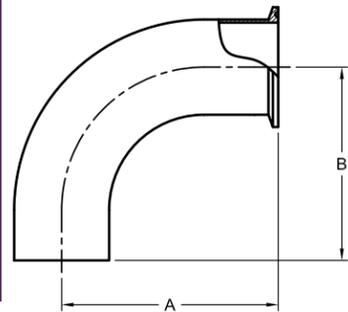
POLISHED 45° WELD ELBOWS **C2WK**



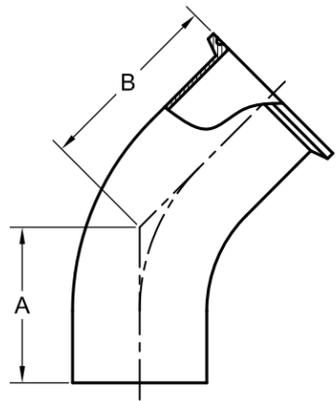
TUBE O.D.	A	304 PART NUMBER	316L PART NUMBER
1/2"	0.466	C42WK-.50-7	C62WK-.50-7
3/4"	0.466	C42WK-.75-7	C62WK-.75-7
1"	0.625	C42WK-1-7	C62WK-1-7
1-1/2"	0.937	C42WK-15-7	C62WK-15-7
2"	1.250	C42WK-2-7	C62WK-2-7
2-1/2"	1.562	C42WK-25-7	C62WK-25-7
3"	1.875	C42WK-3-7	C62WK-3-7
4"	2.500	C42WK-4-7	C62WK-4-7
6"	3.750	C42WK-6-7	C62WK-6-7
8"	5.000	C42WK-8-7	C62WK-8-7
10"	6.250	C42WK-10-7	C62WK-10-7
12"	7.500	C42WK-12-7	C62WK-12-7

WELD ELBOWS

POLISHED 90° CLAMP X WELD ELBOWS CL2CM



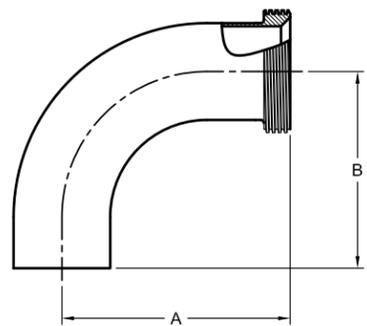
TUBE O.D.	A	B	304 PART NUMBER	316L PART NUMBER
1"	2.563	2.063	C4L2CM-1-7	C6L2CM-1-7
1-1/2"	3.438	2.938	C4L2CM-15-7	C6L2CM-15-7
2"	4.563	4.063	C4L2CM-2-7	C6L2CM-2-7
2-1/2"	5.688	5.188	C4L2CM-25-7	C6L2CM-25-7
3"	6.813	6.313	C4L2CM-3-7	C6L2CM-3-7
4"	8.938	8.313	C4L2CM-4-7	C6L2CM-4-7



POLISHED 45° CLAMP X WELD ELBOWS CL2KM



TUBE O.D.	A	B	304 PART NUMBER	316L PART NUMBER
1"	1.188	1.688	C4L2KM-1-7	C6L2KM-1-7
1-1/2"	1.625	2.125	C4L2KM-15-7	C6L2KM-15-7
2"	2.312	2.812	C4L2KM-2-7	C6L2KM-2-7
2-1/2"	3.000	3.500	C4L2KM-25-7	C6L2KM-25-7
3"	3.688	4.188	C4L2KM-3-7	C6L2KM-3-7
4"	4.812	5.437	C4L2KM-4-7	C6L2KM-4-7



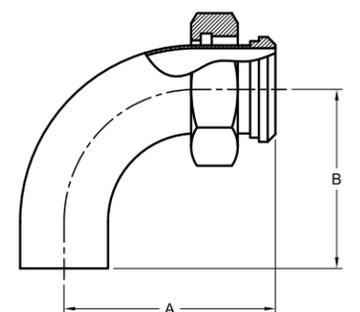
POLISHED 90° THREADED BEVEL SEAT X WELD ELBOWS C2C



TUBE O.D.	A	B	304 PART NUMBER	316L PART NUMBER
1"	2.780	2.062	C42C-1-7	C62C-1-7
1-1/2"	3.656	2.937	C42C7-15-7	C62C-15-7
2"	4.812	4.062	C42C-2-7	C62C-2-7
2-1/2"	6.062	5.187	C42C-25-7	C62C-25-7
3"	7.218	6.312	C42C-3-7	C62C-3-7
4"	9.343	8.312	C42C-4-7	C62C-4-7

WELD ELBOWS

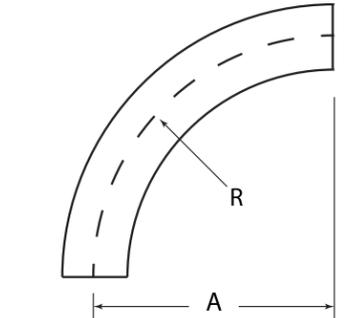
POLISHED 90° PLAIN BEVEL SEAT W/HEX NUT X WELD ELBOWS CL2F



TUBE O.D.	A	B	304 PART NUMBER	316L PART NUMBER
1"	2.780	2.062	C4L2F-1-7	C6L2F-1-7
1-1/2"	3.656	2.937	C4L2F-15-7	C6L2F-15-7
2"	4.812	4.062	C4L2F-2-7	C6L2F-2-7
2-1/2"	6.062	5.187	C4L2F-25-7	C6L2F-25-7
3"	7.218	6.312	C4L2F-3-7	C6L2F-3-7
4"	9.343	8.312	C4L2F-4-7	C6L2F-4-7

SWEEP ELBOWS C2SXL

POLISHED 12" 90° WELD SWEEP ELBOWS



TUBE O.D.	A	B	316L PART NUMBER
1-1/2"	12.0	12.0	C62SXL12-15-7
2"	12.0	12.0	C62SXL12-2-7
3"	12.0	12.0	C62SXL12-3-7
4"	12.0	12.0	C62SXL12-4-7

POLISHED 18" 90° WELD SWEEP ELBOWS



TUBE O.D.	A	B	316L PART NUMBER
1-1/2"	18.0	18.0	C62SXL18-15-7
2"	18.0	18.0	C62SXL18-2-7
2-1/2"	18.0	18.0	C62SXL18-25-7
3"	18.0	18.0	C62SXL18-3-7

POLISHED 24" 90° WELD SWEEP ELBOWS



TUBE O.D.	A	B	316L PART NUMBER
1-1/2"	24.0	24.0	C62SXL24-15-7
2"	24.0	24.0	C62SXL24-2-7
2-1/2"	24.0	24.0	C62SXL24-25-7
3"	24.0	24.0	C62SXL24-3-7

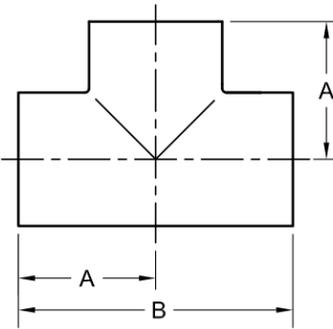
POLISHED 36" 90° WELD SWEEP ELBOWS



TUBE O.D.	A	B	316L PART NUMBER
3"	36.0	36.0	C62SXL36-3-7
4"	36.0	36.0	C62SXL36-4-7

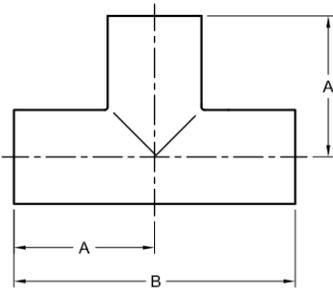
WELD TEES

POLISHED SHORT WELD TEES C7WWW



TUBE O.D.	A	B	304 PART NUMBER	316L PART NUMBER
1"	1.125	2.250	C47WWW-1-7	C67WWW-1-7
1-1/2"	1.656	3.312	C47WWW-15-7	C67WWW-15-7
2"	2.063	4.125	C47WWW-2-7	C67WWW-2-7
2-1/2"	2.344	4.688	C47WWW-25-7	C67WWW-25-7
3"	2.594	5.188	C47WWW-3-7	C67WWW-3-7
4"	3.438	6.875	C47WWW-4-7	C67WWW-4-7
6"	5.625	11.250	C47WWW-6-7	C67WWW-6-7
8"	7.000	14.000	C47WWW-8-7	C67WWW-8-7

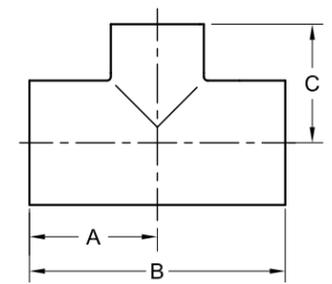
POLISHED LONG WELD TEES C7W



TUBE O.D.	A	B	304 PART NUMBER	316L PART NUMBER
1/2"	1.875	3.750	N/A	C67W-.50-7
3/4"	2.000	4.000	N/A	C67W-.75-7
1"	1.875	3.750	C47W-1-7	C67W-1-7
1-1/2"	2.250	4.500	C47W-15-7	C67W-15-7
2"	3.000	6.000	C47W-2-7	C67W-2-7
2-1/2"	3.000	6.000	C47W-25-7	C67W-25-7
3"	3.250	6.500	C47W-3-7	C67W-3-7
4"	3.875	7.750	C47W-4-7	C67W-4-7

WELD TEES

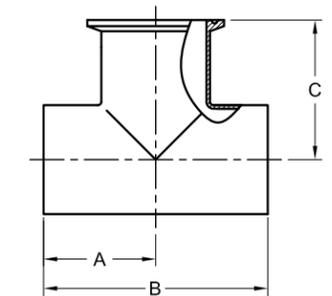
POLISHED REDUCING SHORT WELD TEES C7RWWW



TUBE O.D.	A	B	C	304 PART NUMBER	316L PART NUMBER
1-1/2" X 1"	1.656	3.312	1.375	C47RWWW-15X1-7	C67RWWW-15X1-7
2" X 1"	2.062	4.125	1.625	C47RWWW-2X1-7	C67RWWW-2X1-7
2" X 1-1/2"	2.062	4.125	1.905	C47RWWW-2X15-7	C67RWWW-2X15-7
2-1/2" X 1"	2.344	4.688	1.875	C47RWWW-25X1-7	C67RWWW-25X1-7
2-1/2" X 1-1/2"	2.344	4.688	2.156	C47RWWW-25X15-7	C67RWWW-25X15-7
2-1/2" X 2"	2.344	4.688	2.312	C47RWWW-25X2-7	C67RWWW-25X2-7
3" X 1"	2.594	5.188	2.125	C47RWWW-3X1-7	C67RWWW-3X1-7
3" X 1-1/2"	2.594	5.188	2.406	C47RWWW-3X15-7	C67RWWW-3X15-7
3" X 2"	2.594	5.188	2.562	C47RWWW-3X2-7	C67RWWW-3X2-7
3" X 2-1/2"	2.594	5.188	2.594	C47RWWW-3X25-7	C67RWWW-3X25-7
4" X 1"	3.438	6.875	2.625	C47RWWW-4X1-7	C67RWWW-4X1-7
4" X 1-1/2"	3.438	6.875	2.906	C47RWWW-4X15-7	C67RWWW-4X15-7
4" X 2"	3.438	6.875	3.062	C47RWWW-4X2-7	C67RWWW-4X2-7
4" X 2-1/2"	3.438	6.875	3.094	C47RWWW-4X25-7	C67RWWW-4X25-7
4" X 3"	3.438	6.875	3.157	C47RWWW-4X3-7	C67RWWW-4X3-7
6" X 3"	5.625	11.250	4.875	C47RWWW-6X3-7	C67RWWW-6X3-7
6" X 4"	5.625	11.250	5.125	C47RWWW-6X4-7	C67RWWW-6X4-7



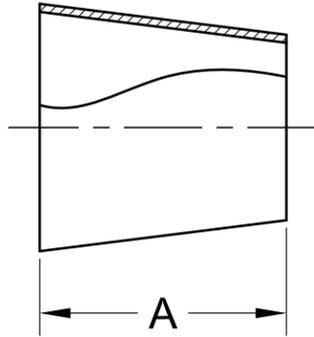
POLISHED WELD RUN X CLAMP BRANCH TEES C7WWM



TUBE O.D.	A	B	C	304 PART NUMBER	316L PART NUMBER
1"	1.125	2.250	1.625	C47WWM-1-7	C67WWM-1-7
1-1/2"	1.656	3.312	2.156	C47WWM-15-7	C67WWM-15-7
2"	2.063	4.125	2.563	C47WWM-2-7	C67WWM-2-7
2-1/2"	2.344	4.688	2.844	C47WWM-25-7	C67WWM-25-7
3"	2.594	5.188	3.094	C47WWM-3-7	C67WWM-3-7
4"	3.438	6.875	4.063	C47WWM-4-7	C67WWM-4-7

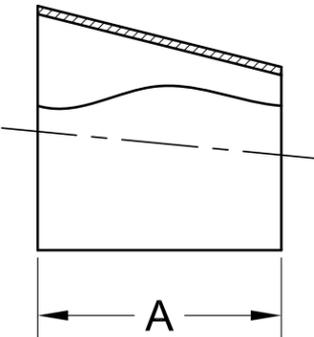
WELD REDUCERS

POLISHED CONCENTRIC WELD REDUCERS C31W



TUBE O.D.	A	304 PART NUMBER	316L PART NUMBER
1-1/2" X 1"	2.000	C431W-15X1-7	C631W-15X1-7
2" X 1"	4.000	C431W-2X1-7	C631W-2X1-7
2" X 1-1/2"	2.000	C431W-2X15-7	C631W-2X15-7
2-1/2" X 1-1/2"	4.000	C431W-25X15-7	C631W-25X15-7
2-1/2" X 2"	2.000	C431W-25X2-7	C631W-25X2-7
3" X 2"	4.000	C431W-3X2-7	C631W-3X2-7
3" X 2-1/2"	2.000	C431W-3X25-7	C631W-3X25-7
4" X 2"	8.000	C431W-4X2-7	C631W-4X2-7
4" X 3"	4.000	C431W-4X3-7	C631W-4X3-7
6" X 3"	5.500	C431W-6X3-7	C631W-6X3-7
6" X 4"	5.500	C431W-6X4-7	C631W-6X4-7
8" X 4"	6.000	C431W-8X4-7	C631W-8X4-7
8" X 6"	6.000	C431W-8X6-7	C631W-8X6-7

POLISHED ECCENTRIC WELD REDUCERS C32W



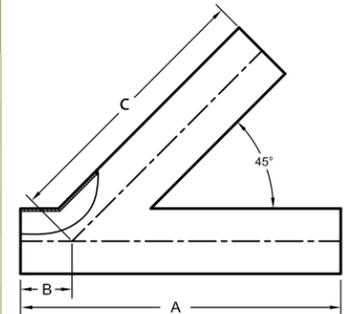
TUBE O.D.	A	304 PART NUMBER	316L PART NUMBER
1-1/2" X 1"	2.000	C432W-15X1-7	C632W-15X1-7
2" X 1"	4.000	C432W-2X1-7	C632W-2X1-7
2" X 1-1/2"	2.000	C432W-2X15-7	C632W-2X15-7
2-1/2" X 1-1/2"	4.000	C432WA-25X15-7	C632WA-25X15-7
2-1/2" X 2"	2.000	C432W-25X2-7	C632W-25X2-7
3" X 2"	4.000	C432W-3X2-7	C632W-3X2-7
3" X 2-1/2"	2.000	C432W-3X25-7	C632W-3X25-7
4" X 2"	8.000	C432W-4X2-7	C632W-4X2-7
4" X 3"	4.000	C432W-4X3-7	C632W-4X3-7
6" X 3"	5.500	C432W-6X3-7	C632W-6X3-7
6" X 4"	5.500	C432W-6X4-7	C632W-6X4-7
8" X 4"	6.000	C432W-8X4-7	C632W-8X4-7
8" X 6"	6.000	C432W-8X6-7	C632W-8X6-7

MISCELLANEOUS WELD CONFIGURATIONS



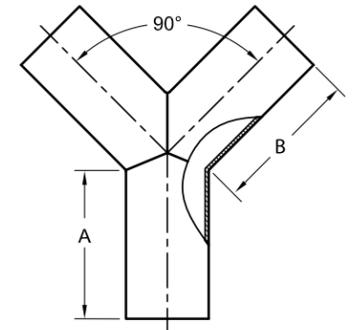
POLISHED WELD LATERALS C28WA

TUBE O.D.	A	B	C	304 PART NUMBER	316L PART NUMBER
1"	6.000	1.000	5.000	C428WA-1-7	C628WA-1-7
1-1/2"	7.375	1.188	6.188	C428WA-15-7	C628WA-15-7
2"	8.750	1.625	7.125	C428WA-2-7	C628WA-2-7
2-1/2"	10.000	1.500	8.500	C428WA-25-7	C628WA-25-7
3"	10.750	1.875	8.875	C428WA-3-7	C628WA-3-7
4"	12.812	2.015	10.750	C428WA-4-7	C628WA-4-7



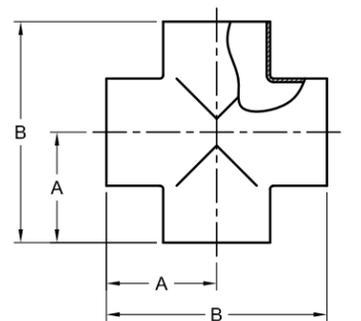
POLISHED WELD TRUE Y C28WB

TUBE O.D.	A	B	304 PART NUMBER	316L PART NUMBER
1"	2.000	2.438	C428WB-1-7	C628WB-1-7
1-1/2"	2.000	2.438	C428WB-15-7	C628WB-15-7
2"	2.625	3.250	C428WB-2-7	C628WB-2-7
2-1/2"	3.370	4.125	C428WB-25-7	C628WB-25-7
3"	4.000	4.875	C428WB-3-7	C628WB-3-7
4"	5.375	5.375	C428WB-4-7	C628WB-4-7



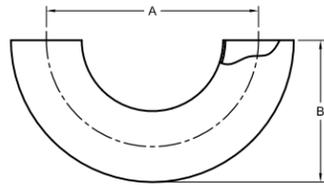
POLISHED WELD CROSS C9WWWW

TUBE O.D.	A	B	304 PART NUMBER	316L PART NUMBER
1/2"	0.750	1.500	N/A	C69WWWW-.50-7
3/4"	1.125	2.250	N/A	C69WWWW-.75-7
1"	1.125	2.250	C49WWWW-1-7	C69WWWW-1-7
1-1/2"	1.656	3.312	C49WWWW-15-7	C69WWWW-15-7
2"	2.063	4.125	C49WWWW-2-7	C69WWWW-2-7
2-1/2"	2.343	4.688	C49WWWW-25-7	C69WWWW-25-7
3"	2.594	5.188	C49WWWW-3-7	C69WWWW-3-7
4"	3.438	6.875	C49WWWW-4-7	C69WWWW-4-7



MISCELLANEOUS WELD CONFIGURATIONS

POLISHED WELD 180° RETURN BEND C2WU



TUBE O.D.	A	B	304 PART NUMBER	316L PART NUMBER
1"	3.000	2.000	C42WU-1-7	C62WU-1-7
1-1/2"	4.500	3.000	C42WU-15-7	C62WU-15-7
2"	6.000	4.000	C42WU-2-7	C62WU-2-7
2-1/2"	7.500	5.000	C42WU-25-7	C62WU-25-7
3"	9.000	6.000	C42WU-3-7	C62WU-3-7
4"	12.000	8.000	C42WU-4-7	C62WU-4-7



POLISHED ORBITAL WELD FITTINGS

WE OFFER 32Ra POLISHED ID AND OD ORBITAL WELD FITTINGS IN TUBE SIZES 1/2" - 4" 304 OR 316L STAINLESS STEEL. CALL FOR DETAILS.

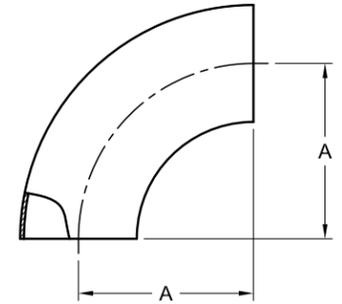
CUSTOM FABRICATION

LET OUR EXPERIENCED SALES TECHNICIANS HELP WITH YOUR CUSTOM FABRICATION PROJECTS. CALL FOR DETAILS.



UNPOLISHED ELBOWS

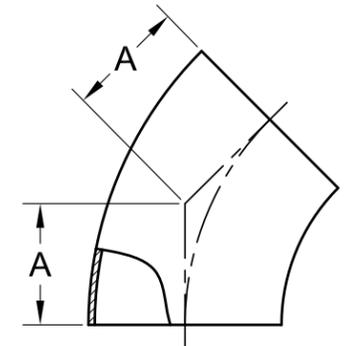
UNPOLISHED 90° WELD ELBOWS C2WCL



TUBE O.D.	A	304 PART NUMBER	316L PART NUMBER
1/2"	1.125	C42WCL-.50-1	C62WCL-.50-1
3/4"	1.125	C42WCL-.75-1	C62WCL-.75-1
1"	1.500	C42WCL-1-1	C62WCL-1-1
1-1/2"	2.250	C42WCL-15-1	C62WCL-15-1
2"	3.000	C42WCL-2-1	C62WCL-2-1
2-1/2"	3.750	C42WCL-25-1	C62WCL-25-1
3"	4.500	C42WCL-3-1	C62WCL-3-1
4"	6.000	C42WCL-4-1	C62WCL-4-1
6"	9.000	C42WCL-6-1	C62WCL-6-1
8"	12.000	C42WCL-8-1	C62WCL-8-1
10"	15.000	C42WCL-10-1	C62WCL-10-1
12"	18.000	C42WCL-12-1	C62WCL-12-1

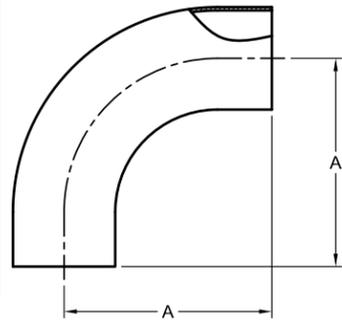
UNPOLISHED 45° WELD ELBOWS C2WK

TUBE O.D.	A	304 PART NUMBER	316L PART NUMBER
1/2"	0.466	C42WK-.50-1	C62WK-.50-1
3/4"	0.466	C42WK-.75-1	C62WK-.75-1
1"	0.625	C42WK-1-1	C62WK-1-1
1-1/2"	0.937	C42WK-15-1	C62WK-15-1
2"	1.250	C42WK-2-1	C62WK-2-1
2-1/2"	1.562	C42WK-25-1	C62WK-25-1
3"	1.875	C42WK-3-1	C62WK-3-1
4"	2.500	C42WK-4-1	C62WK-4-1
6"	3.750	C42WK-6-1	C62WK-6-1
8"	5.000	C42WK-8-1	C62WK-8-1
10"	6.250	C42WK-10-1	C62WK-10-1
12"	7.500	C42WK-12-1	C62WK-12-1

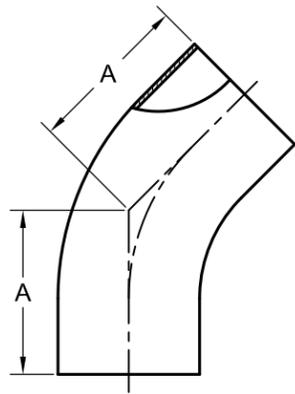


UNPOLISHED ELBOWS

UNPOLISHED 90° WELD ELBOWS WITH TANGENTS **CL2S**



TUBE O.D.	A	304 PART NUMBER	316L PART NUMBER
1/2"	3.000	N/A	C6L2S-.50-1
3/4"	3.000	N/A	C6L2S-.75-1
1"	2.062	C4L2S-1-1	C6L2S-1-1
1-1/2"	2.937	C4L2S-15-1	C6L2S-15-1
2"	4.062	C4L2S-2-1	C6L2S-2-1
2-1/2"	5.187	C4L2S-25-1	C6L2S-25-1
3"	6.312	C4L2S-3-1	C6L2S-3-1
4"	8.312	C4L2S-4-1	C6L2S-4-1



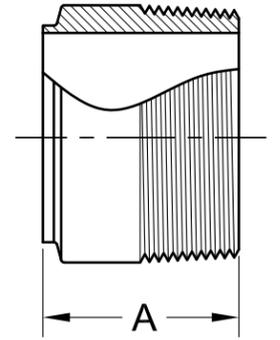
UNPOLISHED 45° WELD ELBOWS WITH TANGENTS **CL2KS**

TUBE O.D.	A	304 PART NUMBER	316L PART NUMBER
1/2"	2.250	N/A	C6L2KS-.50-1
3/4"	2.250	N/A	C6L2KS-.75-1
1"	1.188	C4L2KS-1-1	C6L2KS-1-1
1-1/2"	1.625	C4L2KS-15-1	C6L2KS-15-1
2"	2.312	C4L2KS-2-1	C6L2KS-2-1
2-1/2"	3.000	C4L2KS-25-1	C6L2KS-25-1
3"	3.688	C4L2KS-3-1	C6L2KS-3-1
4"	4.812	C4L2KS-4-1	C6L2KS-4-1

UNPOLISHED ADAPTERS

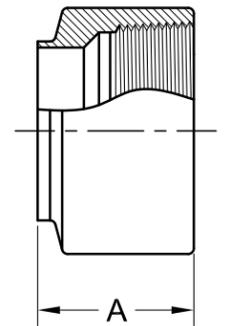
UNPOLISHED MALE NPT X WELD END ADAPTERS **C19WB**

TUBE O.D.	A	304 PART NUMBER	316L PART NUMBER
1/2"	1.625	N/A	C619WB-.5-1
3/4"	1.625	N/A	C619WB-.75-1
1"	1.750	C419WB-1-1	C619WB-1-1
1-1/2"	1.750	C419WB-15-1	C619WB-15-1
2"	1.812	C419WB-2-1	C619WB-2-1
2-1/2"	2.312	C419WB-25-1	C619WB-25-1
3"	2.500	C419WB-3-1	C619WB-3-1
4"	2.562	C419WB-4-1	C619WB-4-1



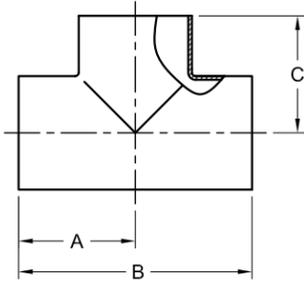
UNPOLISHED FEMALE NPT X WELD END ADAPTERS **C22WB**

TUBE O.D.	A	304 PART NUMBER	316L PART NUMBER
1/2"	1.250	N/A	C622WB-.5-1
3/4"	1.625	N/A	C622WB-.75-1
1"	1.750	C422WB-1-1	C622WB-1-1
1-1/2"	1.750	C422WB-15-1	C622WB-15-1
2"	1.812	C422WB-2-1	C622WB-2-1
2-1/2"	2.312	C422WB-25-1	C622WB-25-1
3"	2.500	C422WB-3-1	C622WB-3-1
4"	2.500	C422WB-4-1	C622WB-4-1



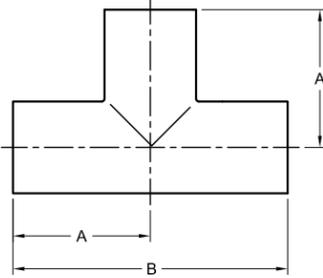
UNPOLISHED TEES

UNPOLISHED SHORT WELD TEES **C7WWW**



TUBE O.D.	A	B	304 PART NUMBER	316L PART NUMBER
1"	1.125	2.250	C47WWW-1-1	C67WWW-1-1
1-1/2"	1.656	3.312	C47WWW-15-1	C67WWW-15-1
2"	2.063	4.125	C47WWW-2-1	C67WWW-2-1
2-1/2"	2.343	4.688	C47WWW-25-1	C67WWW-25-1
3"	2.594	5.188	C47WWW-3-1	C67WWW-3-1
4"	3.438	6.875	C47WWW-4-1	C67WWW-4-1

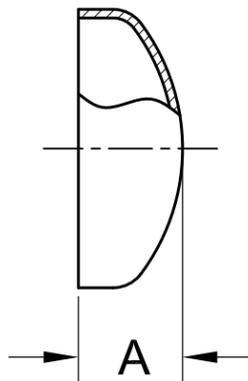
UNPOLISHED LONG WELD TEES **C7W**



TUBE O.D.	A	B	304 PART NUMBER	316L PART NUMBER
1/2"	1.875	3.750	N/A	C67W-.50-1
3/4"	2.000	4.000	N/A	C67W-.75-1
1"	1.875	3.750	C47W-1-1	C67W-1-1
1-1/2"	2.250	4.500	C47W-15-1	C67W-15-1
2"	3.000	6.000	C47W-2-1	C67W-2-1
2-1/2"	3.000	6.000	C47W-25-1	C67W-25-1
3"	3.250	6.500	C47W-3-1	C67W-3-1
4"	3.875	7.750	C47W-4-1	C67W-4-1

UNPOLISHED DOME CAPS

UNPOLISHED DOME CAPS **C16W**

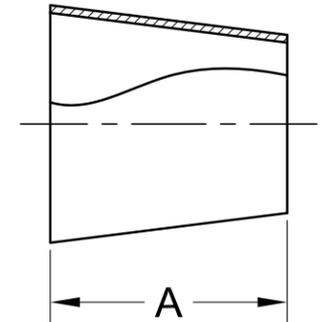


TUBE O.D.	A	304 PART NUMBER	316L PART NUMBER
1/2"	0.250	N/A	C616W-.50-1
3/4"	0.312	N/A	C616W-.75-1
1"	0.375	C416W-1-1	C616W-1-1
1-1/2"	0.562	C416W-15-1	C616W-15-1
2"	0.750	C416W-2-1	C616W-2-1
2-1/2"	1.000	C416W-25-1	C616W-25-1
3"	1.250	C416W-3-1	C616W-3-1
4"	1.500	C416W-4-1	C616W-4-1
6"	1.875	C416W-6-1	C616W-6-1
8"	2.500	C416W-8-1	C616W-8-1

UNPOLISHED REDUCERS

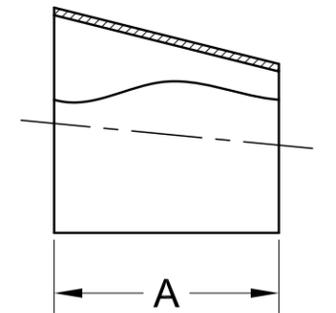
UNPOLISHED CONCENTRIC WELD REDUCERS **C31W**

TUBE O.D.	A	304 PART NUMBER	316L PART NUMBER
1-1/2" X 1"	2.000	C431W-15X1-1	C631W-15X1-1
2" X 1"	4.000	C431W-2X1-1	C631W-2X1-1
2" X 1-1/2"	2.000	C431W-2X15-1	C631W-2X15-1
2-1/2" X 1-1/2"	4.000	C431W-25X15-1	C631W-25X15-1
2-1/2" X 2"	2.000	C431W-25X2-1	C631W-25X2-1
3" X 2"	4.000	C431W-3X2-1	C631W-3X2-1
3" X 2-1/2"	2.000	C431W-3X25-1	C631W-3X25-1
4" X 2"	8.000	C431W-4X2-1	C631W-4X2-1
4" X 3"	4.000	C431W-4X3-1	C631W-4X3-1
6" X 3"	5.500	C431W-6X3-1	C631W-6X3-1
6" X 4"	5.500	C431W-6X4-1	C631W-6X4-1
8" X 4"	6.000	C431W-8X4-1	C631W-8X4-1
8" X 6"	6.000	C431W-8X6-1	C631W-8X6-1



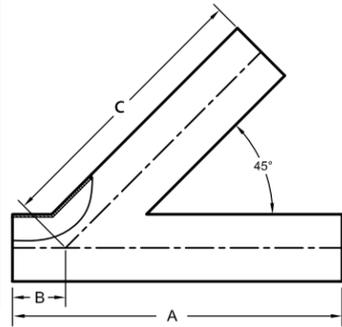
UNPOLISHED ECCENTRIC WELD REDUCERS **C32W**

TUBE O.D.	A	304 PART NUMBER	316L PART NUMBER
1-1/2" X 1"	2.000	C432W-15X1-1	C632W-15X1-1
2" X 1"	4.000	C432W-2X1-1	C632W-2X1-1
2" X 1-1/2"	2.000	C432W-2X15-1	C632W-2X15-1
2-1/2" X 1-1/2"	4.000	C432WA-25X15-1	C632WA-25X15-1
2-1/2" X 2"	2.000	C432W-25X2-1	C632W-25X2-1
3" X 2"	4.000	C432W-3X2-1	C632W-3X2-1
3" X 2-1/2"	2.000	C432W-3X25-1	C632W-3X25-1
4" X 2"	8.000	C432W-4X2-1	C632W-4X2-1
4" X 3"	4.000	C432W-4X3-1	C632W-4X3-1
6" X 3"	5.500	C432W-6X3-1	C632W-6X3-1
6" X 4"	5.500	C432W-6X4-1	C632W-6X4-1
8" X 4"	6.000	C432W-8X4-1	C632W-8X4-1
8" X 6"	6.000	C432W-8X6-1	C632W-8X6-1



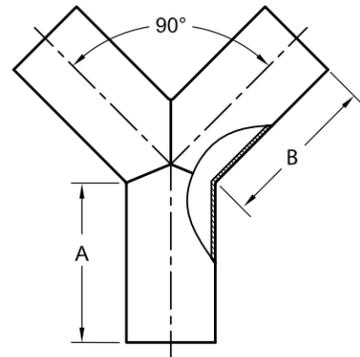
MISCELLANEOUS UNPOLISHED CONFIGURATIONS

UNPOLISHED WELD LATERALS **C28WA**



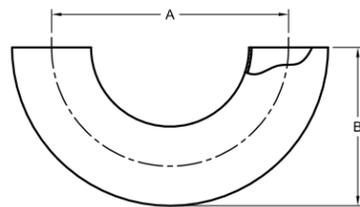
TUBE O.D.	A	B	C	304 PART NUMBER	316L PART NUMBER
1"	6.000	1.000	5.000	C428WA-1-1	C628WA-1-1
1-1/2"	7.375	1.188	6.188	C428WA-15-1	C628WA-15-1
2"	8.750	1.625	7.125	C428WA-2-1	C628WA-2-1
2-1/2"	10.000	1.500	8.500	C428WA-25-1	C628WA-25-1
3"	10.750	1.875	8.875	C428WA-3-1	C628WA-3-1
4"	12.812	2.015	10.750	C428WA-4-1	C628WA-4-1

UNPOLISHED WELD TRUE Y **C28WB**



TUBE O.D.	A	B	304 PART NUMBER	316L PART NUMBER
1"	2.000	2.438	C428WB-1-1	C628WB-1-1
1-1/2"	2.000	2.438	C428WB-15-1	C628WB-15-1
2"	2.625	3.250	C428WB-2-1	C628WB-2-1
2-1/2"	3.370	4.125	C428WB-25-1	C628WB-25-1
3"	4.000	4.875	C428WB-3-1	C628WB-3-1
4"	5.375	5.375	C428WB-4-1	C628WB-4-1

UNPOLISHED WELD 180° RETURN BEND **C2WU**

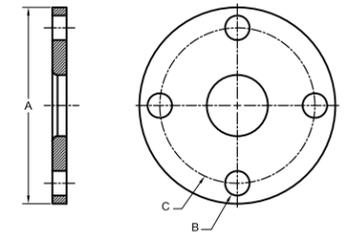


TUBE O.D.	A	B	304 PART NUMBER	316L PART NUMBER
1"	3.000	2.000	C42WU-1-1	C62WU-1-1
1-1/2"	4.500	3.000	C42WU-15-1	C62WU-15-1
2"	6.000	4.000	C42WU-2-1	C62WU-2-1
2-1/2"	7.500	5.000	C42WU-25-1	C62WU-25-1
3"	9.000	6.000	C42WU-3-1	C62WU-3-1
4"	12.000	8.000	C42WU-4-1	C62WU-4-1

UNPOLISHED FLANGES

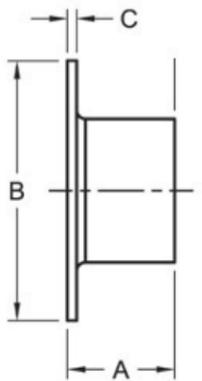
UNPOLISHED TUBE FLANGES **C38SL**

TUBE O.D.	A	B	C	304 PART NUMBER	316L PART NUMBER
1"	4.250	0.625	3.125	C438SL-1-1	C638SL-1-1
1-1/2"	5.000	0.625	3.875	C438SL-15-1	C638SL-15-1
2"	6.000	0.750	4.750	C438SL-2-1	C638SL-2-1
2-1/2"	7.000	0.750	5.500	C438SL-25-1	C638SL-25-1
3"	7.500	0.750	6.000	C438SL-3-1	C638SL-3-1
4"	9.000	0.750	7.500	C438SL-4-1	C638SL-4-1
6"	11.000	0.875	9.500	C438SL-6-1	C638SL-6-1



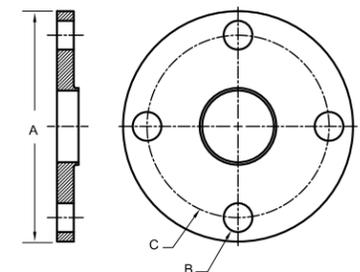
UNPOLISHED TYPE A STUB END **C14WA**

TUBE O.D.	A	B	C	316L PART NUMBER
1/2"	2.000	1.500	0.130	C614WA-.50-1
3/4"	2.000	1.500	0.130	C614WA-.75-1
1"	1.625	2.000	0.130	C614WA-1-1
1-1/2"	1.750	2.875	0.130	C614WA-15-1
2"	1.500	3.625	0.130	C614WA-2-1
2-1/2"	2.000	4.125	0.130	C614WA-25-1
3"	2.250	5.000	0.166	C614WA-3-1
4"	2.625	6.187	0.166	C614WA-4-1
6"	3.000	8.500	0.218	C614WA-6-1
8"	3.000	10.625	0.218	C614WA-8-1



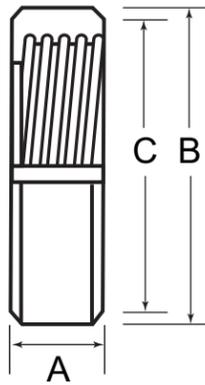
UNPOLISHED WELD NECK FLANGE **C38W**

TUBE O.D.	A	B	C	316L PART NUMBER
1"	4.250	0.625	3.125	C638W-1-1
1-1/2"	5.000	0.625	3.875	C638W-15-1
2"	6.000	0.750	4.750	C638W-2-1
2-1/2"	7.000	0.750	5.500	C638W-25-1
3"	7.500	0.750	6.000	C638W-3-1
4"	9.000	0.750	7.500	C638W-4-1
6"	11.000	0.8750	9.500	C638W-6-1

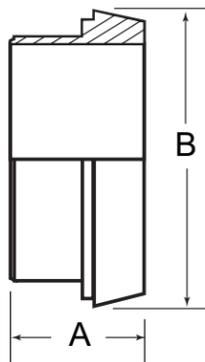


DIN 11851

DIN ROUND NUTS C13R-DIN

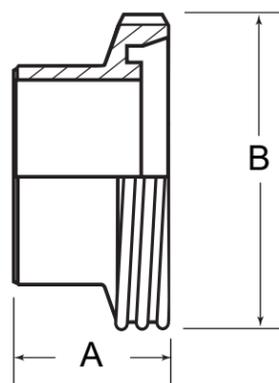


TUBE O.D.	DN SIZE	A	B	C	304 PART NUMBER
1"	25	.830	2.480	2.050	C413R-1-DIN
1-1/2"	40	.830	3.070	2.560	C413R-15-DIN
2"	50	.870	3.620	3.070	C413R-2-DIN
2-1/2"	65	.980	4.410	3.740	C413R-25-DIN
3"	80	1.140	5.000	4.330	C413R-3-DIN
4"	100	1.220	5.830	5.120	C413R-4-DIN



DIN WELDING LINER C14A-DIN

TUBE O.D.	DN SIZE	A	B	316L PART NUMBER
1"	25	.870	1.730	C614A-1-DIN
1-1/2"	40	1.020	2.200	C614A-15-DIN
2"	50	1.100	2.680	C614A-2-DIN
2-1/2"	65	1.260	3.390	C614A-25-DIN
3"	80	1.460	3.940	C614A-3-DIN
4"	100	1.730	4.760	C614A-4-DIN



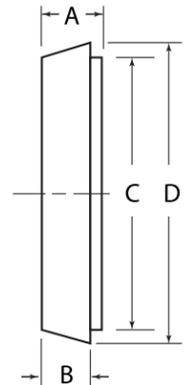
DIN WELDING MALE C15A-DIN

TUBE O.D.	DN SIZE	A	B	316L PART NUMBER
1"	25	1.140	2.040	C615A-1-DIN
1-1/2"	40	1.300	2.550	C615A-15-DIN
2"	50	1.380	3.070	C615A-2-DIN
2-1/2"	65	1.570	3.740	C615A-25-DIN
3"	80	1.770	4.310	C615A-3-DIN
4"	100	2.130	5.120	C615A-4-DIN

DIN 11851

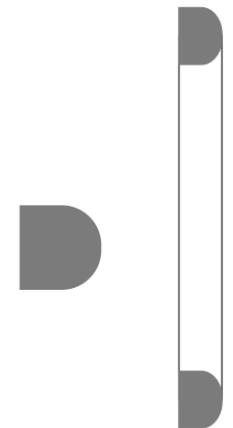
DIN END CAPS C16AMP-DIN

TUBE O.D.	DN SIZE	A	B	C	D	316L PART NUMBER
1"	25	.51	.39	1.38	1.73	C616AMP-1-DIN
1-1/2"	40	.51	.39	1.89	2.20	C616AMP-15-DIN
2"	50	.55	.43	2.40	2.68	C616AMP-2-DIN
2-1/2"	65	.63	.47	3.11	3.39	C616AMP-25-DIN
3"	80	.63	.47	3.39	3.66	C616AMP-3-DIN
4"	100	.79	.59	4.49	4.76	C616AMP-4-DIN



DIN BUNA EURO GASKETS C40MP-DIN

SIZE	DN SIZE	GASKET O.D.	GASKET I.D.	HEIGHT	BUNA #
1"	25	1.570	1.180	.20	40MP-U-1-DIN
1-1/2"	40	2.050	1.650	.20	40MP-U-15-DIN
2"	50	2.520	2.130	.20	40MP-U-2-DIN
2-1/2"	65	3.190	2.800	.20	40MP-U-25-DIN
3"	80	3.740	3.350	.20	40MP-U-3-DIN
4"	100	4.490	4.090	.24	40MP-U-4-DIN



CTEC TUBING

TYPES:

- ASTM A269 General Services
- ASTM A270 Sanitary/Pharmaceutical

GRADES:

- TS4 = 304 stainless steel
- TS6 = 316L stainless steel

QUALITY ASSURANCE/

TESTING:

All required ASTM A270 testing, plus additional tests:

- Flare
- Reverse Bend
- Flatten
- Flange

PACKAGING:

- Square packed, scored cardboard, heavy duty tri-wall box, paper/poly sleeve, interweave, cardboard tubes, hex pack, bulk skids

FINISH:

- 3A Polished ID and OD: 20 Ra / 32 Ra
- Unpolished



TUBING WEIGHTS & OPERATING PRESSURES

304 STAINLESS STEEL TUBE

SIZE (TUBE O.D.)	WEIGHT PER FOOT (LBS.)	PRESSURE (PSI)		
		WORKING	YIELD	BURST
1/2"	.30	4870	7800	19500
3/4"	.48	3250	5200	13000
1"	.66	2440	3900	9800
1-1/2"	1.00	1630	2600	6500
2"	1.35	1220	2000	4900
2-1/2"	1.70	980	1600	3900
3"	2.05	810	1300	3300
4"	3.50	780	1200	3100
6"	6.92	680	1090	2720

316L STAINLESS STEEL TUBE

SIZE (TUBE O.D.)	WEIGHT PER FOOT (LBS.)	PRESSURE (PSI)		
		WORKING	YIELD	BURST
1/2"	.30	3250	6500	19500
3/4"	.48	2167	4330	13000
1"	.66	2280	3300	9100
1-1/2"	1.00	1520	2200	6100
2"	1.35	1140	1600	4600
2-1/2"	1.70	910	1300	3600
3"	2.05	760	1100	3000
4"	3.50	730	1000	2900
6"	6.92	635	900	2540

POLISHED ID & OD SANITARY TUBING



POLISHED TUBING ASTM-A270

SIZE (TUBE O.D.)	GAUGE	WALL THICKNESS (TOLERANCE)	PART NUMBER	
			304	316L
1/2"	16	.065 ±10%	N/A	TS6LO00D.065
3/4"	16	.065 ±10%	N/A	TS6LO00E.065
1"	16	.065 ±10%	TS4LO010.065	TS6LO010.065
1-1/2"	16	.065 ±10%	TS4LO01D.065	TS6LO01D.065
2"	16	.065 ±10%	TS4LO020.065	TS6LO020.065
2-1/2"	16	.065 ±10%	TS4LO02D.065	TS6LO02D.065
3"	16	.065 ±10%	TS4LO030.065	TS6LO030.065
4"	14	.083 ±10%	TS4LO040.065	TS6LO040.065
6"	12	.109 ±10%	TS4LO060.065	TS6LO060.065

UNPOLISHED ID & OD TUBING

UNPOLISHED TUBING ASTM-A269

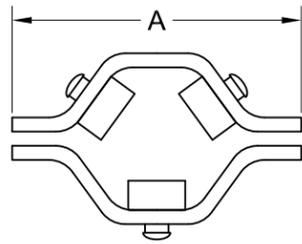
SIZE (TUBE O.D.)	GAUGE	WALL THICKNESS (TOLERANCE)	PART NUMBER	
			304	316L
1/2"	16	.065 ±10%	N/A	TM6LO00D.065
3/4"	16	.065 ±10%	N/A	TM6LO00E.065
1"	16	.065 ±10%	TM4LO010.065	TM6LO010.065
1-1/2"	16	.065 ±10%	TM4LO01D.065	TM6LO01D.065
2"	16	.065 ±10%	TM4LO020.065	TM6LO020.065
2-1/2"	16	.065 ±10%	TM4LO02D.065	TM6LO02D.065
3"	16	.065 ±10%	TM4LO030.065	TM6LO030.065
4"	14	.083 ±10%	TM4LO040.065	TM6LO040.065
6"	12	.109 ±10%	TM4LO060.065	TM6LO060.065

Notes:

Tubing available in 20' lengths only
 Tubing ships via truck
 Call for pricing & freight allowance details
 Other sizes may be available, call
 We are unable to accept tubing returns

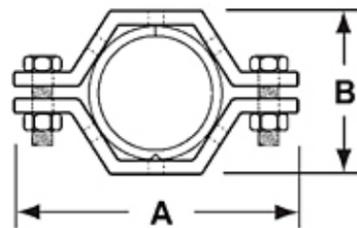
TUBE HEX HANGERS

HEX HANGER WITH NITRILE GROMMETS **RGHT**



TUBE SIZE	A	304 PART NUMBER
1"	3.425	RGHT-1
1-1/2"	4.000	RGHT-15
2"	4.500	RGHT-2
2-1/2"	4.950	RGHT-25
3"	5.500	RGHT-3
4"	6.950	RGHT-4
6"	9.250	RGHT-6

Notes:
Nitrile grommets maximum temperature: 230°F



HEX HANGER WITH ABS SLEEVE **PVCT**

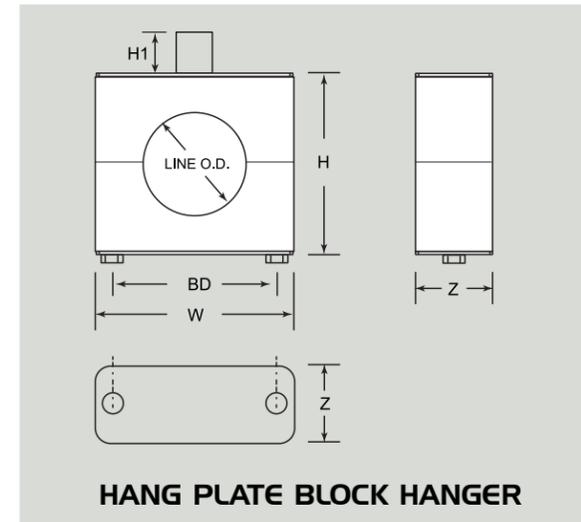
TUBE O.D.	A	B	304 PART NUMBER
1"	3.425	1.450	PVCT-1
1-1/2"	4.000	2.125	PVCT-15
2"	4.500	2.500	PVCT-2
2-1/2"	4.950	3.125	PVCT-25
3"	5.500	3.750	PVCT-3
4"	6.950	4.750	PVCT-4
6"	9.250	6.625	PVCT-6

Notes:
ABS sleeve maximum temperature: 230°F

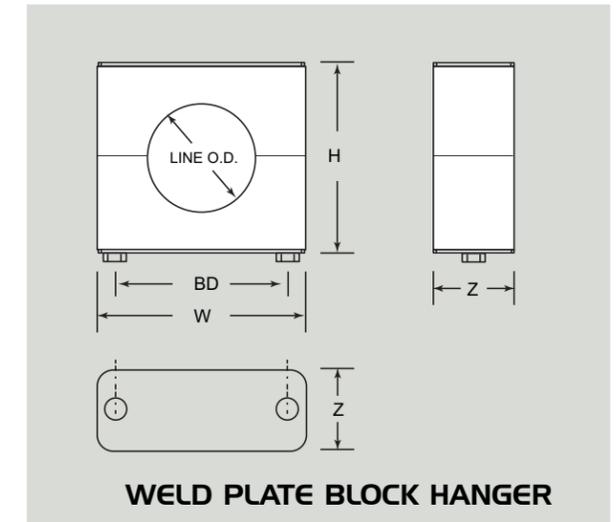
TUBE BLOCK HANGERS

HANG PLATE BLOCK HANGER **C24HP**

TUBE O.D.	BD	H	H1	L	LINE O.D.	W	THREAD	304 PART NUMBER
1/2"	1.44	1.69	0.60	1.93	0.50	0.75	3/8"-16	C424HP-.5
3/4"	1.44	1.69	0.60	1.93	0.75	0.75	3/8"-16	C424HP-.75
1"	1.44	1.69	0.60	1.93	1.00	0.75	3/8"-16	C424HP-1
1-1/2"	1.94	2.19	0.60	2.49	1.50	0.75	3/8"-16	C424HP-15
2"	2.44	2.69	0.60	2.99	2.00	0.88	1/2"-13	C424HP-2
2-1/2"	2.81	3.22	1.21	3.36	2.50	0.88	1/2"-13	C424HP-25
3"	3.44	3.97	1.21	3.99	3.00	0.88	1/2"-13	C424HP-3
4"	4.55	4.85	1.39	5.10	4.00	1.00	5/8"-11	C424HP-4



HANG PLATE BLOCK HANGER



WELD PLATE BLOCK HANGER

WELD PLATE BLOCK HANGER **C24WP**

TUBE O.D.	BD	H	W	LINE O.D.	Z	THREAD	304 PART NUMBER
1/2"	1.44	1.73	1.93	0.50	0.75	3/8"-16	C424WP-.5
3/4"	1.44	1.73	1.93	0.75	0.75	3/8"-16	C424WP-.75
1"	1.44	1.73	1.93	1.00	0.75	3/8"-16	C424WP-1
1-1/2"	1.94	2.23	2.49	1.50	0.75	3/8"-16	C424WP-15
2"	2.44	2.75	2.99	2.00	0.88	1/2"-13	C424WP-2
2-1/2"	2.81	3.25	3.36	2.50	0.88	1/2"-13	C424WP-25
3"	3.44	3.68	3.99	3.00	0.88	1/2"-13	C424WP-3
4"	4.55	4.87	5.10	4.00	1.00	5/8"-11	C424WP-4

BUTTERFLY VALVES

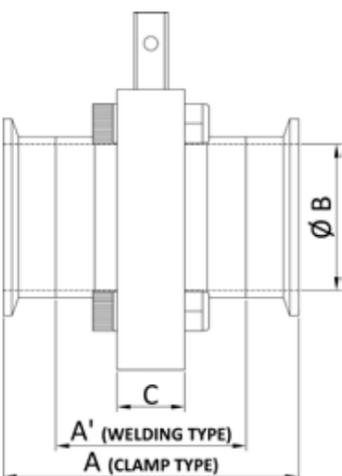
FEATURES:

- Material: 316L forged stainless steel body and disc
- Seat options: silicone, EPDM, FKM
- Low resistance to flow
- Bi-directional flow
- Polyacetal bushings for the valve disc for reduced friction and increased life cycle
- All wetted surfaces are sanitary finished to $\leq 32R_a$

REPAIR KITS AVAILABLE

DIMENSIONS

SIZE	A		B	C
	(CLAMP TYPE)	(WELDING TYPE)		
1"	3.512"	1.874"	0.874"	0.866"
1-1/2"	3.512"	1.874"	1.370"	0.866"
2"	3.780"	2.063"	1.870"	0.866"
2-1/2"	3.827"	2.118"	2.370"	0.866"
3"	4.134"	2.500"	2.866"	1.181"
4"	4.819"	3.177"	3.830"	1.181"



SPECIFICATIONS

Information below based on water media at 68°F/20°C

SIZE	BREAK TORQUE (IN LBS.)			PRESSURE RATING (PSI)	FLOW COEFFICIENT (C _v)	WEIGHT W/PULL HANDLE (LBS.)
	SILICONE	EPDM	FKM			
1"	20	75	70	140	23	2.2
1-1/2"	40	130	125	140	80	2.9
2"	55	165	175	140	230	3.5
2-1/2"	70	210	220	110	264	3.7
3"	165	350	310	110	372	4.4
4"	350	540	450	85	800	9.0

SANITARY VALVES



SANITARY VALVES

BUTTERFLY VALVES

CLAMP END BUTTERFLY VALVES C6BFVTC



SIZE	SILICONE SEATS	EPDM SEATS	FKM SEATS
1"	C6BFVTC-S-1	C6BFVTC-E-1	C6BFVTC-V-1
1-1/2"	C6BFVTC-S-1.5	C6BFVTC-E-1.5	C6BFVTC-V-1.5
2"	C6BFVTC-S-2	C6BFVTC-E-2	C6BFVTC-V-2
2-1/2"	C6BFVTC-S-2.5	C6BFVTC-E-2.5	C6BFVTC-V-2.5
3"	C6BFVTC-S-3	C6BFVTC-E-3	C6BFVTC-V-3
4"	C6BFVTC-S-4	C6BFVTC-E-4	C6BFVTC-V-4



BUTT WELD END BUTTERFLY VALVES C6BFVBW

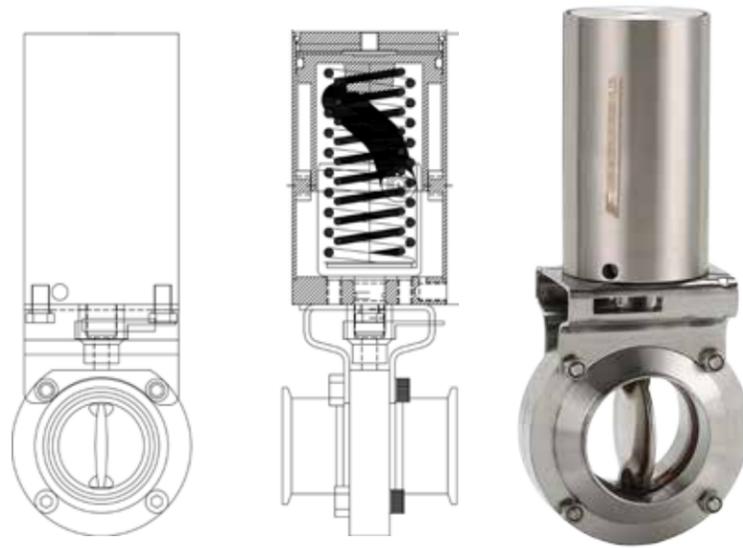
SIZE	SILICONE SEATS	EPDM SEATS	FKM SEATS
1"	C6BFVBW-S-1	C6BFVBW-E-1	C6BFVBW-V-1
1-1/2"	C6BFVBW-S-1.5	C6BFVBW-E-1.5	C6BFVBW-V-1.5
2"	C6BFVBW-S-2	C6BFVBW-E-2	C6BFVBW-V-2
2-1/2"	C6BFVBW-S-2.5	C6BFVBW-E-2.5	C6BFVBW-V-2.5
3"	C6BFVBW-S-3	C6BFVBW-E-3	C6BFVBW-V-3
4"	C6BFVBW-S-4	C6BFVBW-E-4	C6BFVBW-V-4



VERTICAL CANISTER ACTUATOR

FEATURES:

- Excellent protection and corrosion resistance
- 100% fully tested
- Double Acting or Spring Return
- Can be mounted on all butterfly valves up to 4"



VERTICAL CANISTER ACTUATOR C6VC

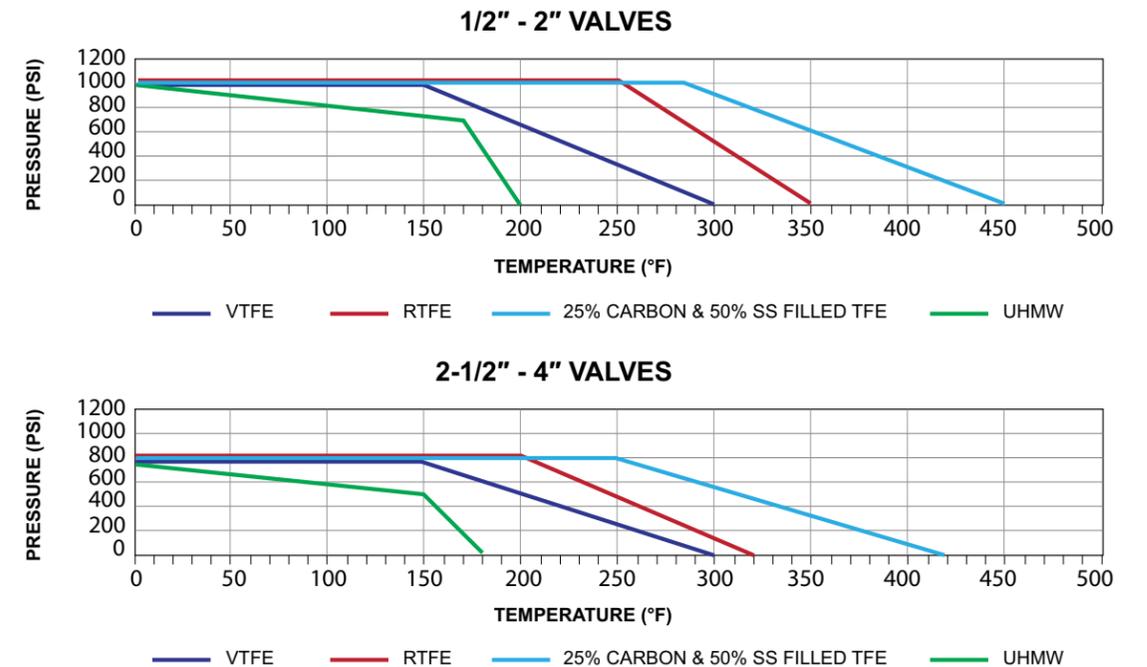
PART NUMBER DOUBLE ACTING	PART NUMBER SPRING RETURN
C6VC-101-DA	C6VC-101-SR

SPECIFICATIONS

TYPE	WEIGHT	AIR CONSUMPTION		OUTPUT TORQUE (IN LBS)	MAXIMUM PRESSURE RATING	SUPPLY PRESSURE RATING	AIR FITTING PORTS
		DOWN STROKE CW	UP STROKE CW				
VC - DOUBLE ACTING	5.1	8.5	20	550	120	80-100	1/8" NPT
VC - SPRING RETURN	6.0	8.5	18.5	550	120	80-100	1/8" NPT

SANITARY BALL VALVES

PRESSURE TEMPERATURE CHART



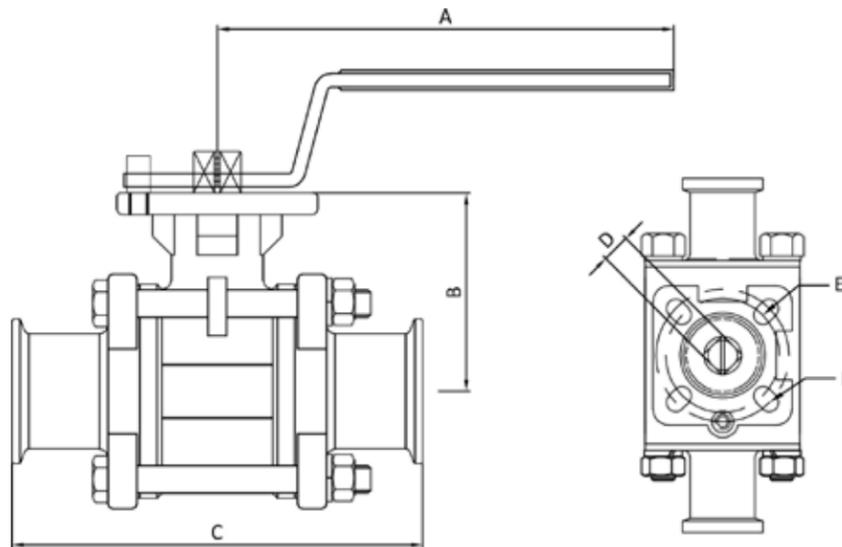
SEAT MATERIALS FOR BALL VALVES

DESCRIPTION	MATERIAL	APPLICATIONS
VIRGIN PTFE	Virgin polytetrafluoroethylene FOOD GRADE MATERIAL	100% PTFE Our standard seat material. Ideal for most sanitary services. Specified for applications requiring a low co-efficient of friction.
RTFE	15% glass reinforced tetrafluoroethylene	15% glass filled + 85% PTFE Slightly higher temperature and pressure rating than PTFE. Specified for applications requiring higher cycle life than PTFE.
25% CARBON PTFE	25% carbon reinforced tetrafluoroethylene	25% carbon + 75% PTFE Specified for higher temperature pressure applications. Higher cycle life than RTFE. Ideal for steam and thermal fluid applications.
STAINLESS STEEL PTFE	50% stainless steel filled tetrafluoroethylene FOOD GRADE MATERIAL	50% stainless steel + 50% PTFE Specified for higher temperature pressure applications in a sanitary process.

ENCAPSULATED 2-WAY BALL VALVES

FEATURES:

- Material: CF8M (316) stainless steel
- ID polish is R_a 32 minimum
- Blow-out proof stem
- Full port design offers lower pressure drop and less turbulent flow
- Compact design for areas with tight space restrictions
- Precision stainless steel balls reduce torque and friction losses while extending seat life
- ISO high mounting pad for direct mount automation
- Pressure rating: 1/2" ~ 2" 1000PSI WOG
2-1/2" ~ 4" 800PSI WOG



DIMENSIONS

SIZE	A	B	C	D	E	F
1/2"	4.900"	1.500"	4.300"	0.354"	F03	F04
3/4"	4.764"	1.800"	4.700"	0.354"	F03	F04
1"	5.394"	2.100"	4.900"	0.433"	F04	F05
1-1/2"	7.165"	2.700"	5.600"	0.551"	F05	F07
2"	7.165"	3.100"	6.400"	0.551"	F05	F07
2-1/2"	14.567"	3.800"	7.800"	0.669"	F07	F10
3"	14.567"	4.200"	9.000"	0.669"	F10	F12
4"	15.748"	5.300"	9.500"	0.866"	F10	F12

ENCAPSULATED 2-WAY BALL VALVES

ENCAPSULATED 2-WAY BALL VALVES C6BV

SEAT MATERIAL	SIZE	WEIGHT (LBS)	BREAK TORQUE	BALL VALVE PART NUMBER
VIRGIN PTFE	1/2"	1.5	105	C6BVTC-50
	3/4"	1.9	116	C6BVTC-75
	1"	2.7	336	C6BVTC-1
	1-1/2"	4.8	420	C6BVTC-15
	2"	8.9	473	C6BVTC-2
	2-1/2"	18.7	788	C6BVTC-25
	3"	29.7	1155	C6BVTC-3
	4"	43.6	1680	C6BVTC-4

OTHER SEAT MATERIALS AVAILABLE INCLUDING: RTFE, 25% CARBON PTFE AND STAINLESS STEEL PTFE.

REPAIR KITS AVAILABLE

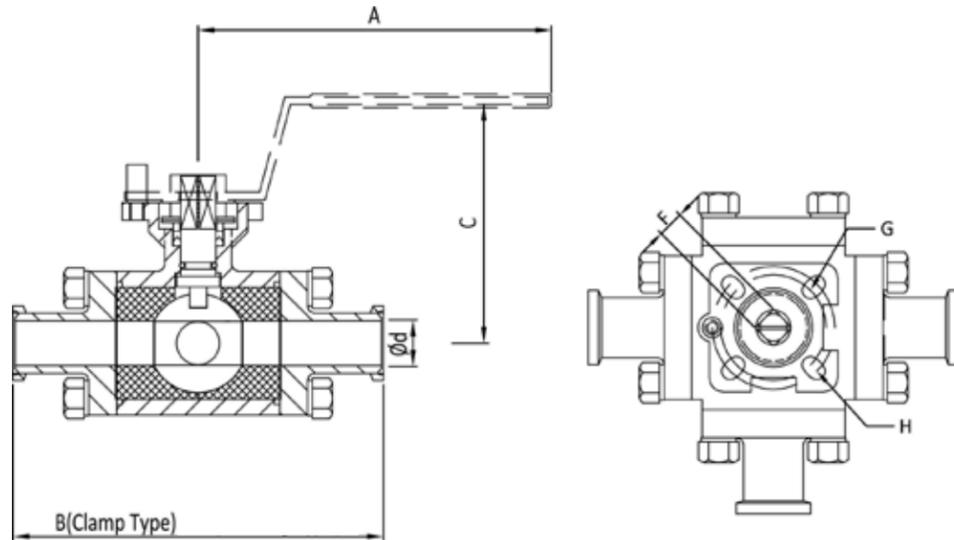
SANITARY 3-WAY BALL VALVES

FEATURES:

- Material: CF8M (316) stainless steel
- ID polish is R_a 32 minimum
- Blow-out proof stem
- Full port design (1/2"-3") offers lower pressure drop and less turbulent flow
- ISO high mounting pad for direct mount automation
- Precision stainless steel balls reduce torque and friction losses while extending seat life
- Port options: L Port and T Port
- Pressure rating: 1/2"~ 2" 1000PSI WOG
2-1/2"~ 4" 800PSI WOG



REPAIR KITS AVAILABLE



DIMENSIONS

SIZE	A	B	C	D	E	F
1/2"	4.900"	1.500"	4.300"	0.354"	F03	F04
3/4"	4.764"	1.800"	4.700"	0.354"	F03	F04
1"	5.394"	2.100"	4.900"	0.433"	F04	F05
1-1/2"	7.165"	2.700"	5.600"	0.551"	F05	F07
2"	7.165"	3.100"	6.400"	0.551"	F05	F07
2-1/2"	14.567"	3.800"	7.800"	0.669"	F07	F10
3"	14.567"	4.200"	9.000"	0.669"	F10	F12
4"	15.748"	5.300"	9.500"	0.866"	F10	F12

SANITARY 3-WAY BALL VALVES

3-WAY BALL VALVES C6BV3TC

SEAT MATERIAL	SIZE	WEIGHT (LBS)	BREAK TORQUE (IN LBS)		PART NUMBER	
			L PORT	T PORT	L PORT	T PORT
VIRGIN PTFE	1/2"	3.6	62	50	C6BV3TC-L-50	C6BV3TC-T-50
	3/4"	4.3	75	60	C6BV3TC-L-75	C6BV3TC-T-75
	1"	6.8	100	80	C6BV3TC-L-1	C6BV3TC-T-1
	1-1/2"	12.6	262	210	C6BV3TC-L-15	C6BV3TC-T-15
	2"	21.6	535	425	C6BV3TC-L-2	C6BV3TC-T-2
	2-1/2"	33.7	1250	1000	C6BV3TC-L-25	C6BV3TC-T-25
	3"	56.4	1625	1300	C6BV3TC-L-3	C6BV3TC-T-3
	4"	85.4	1875	1500	C6BV3TC-L-4	C6BV3TC-T-4

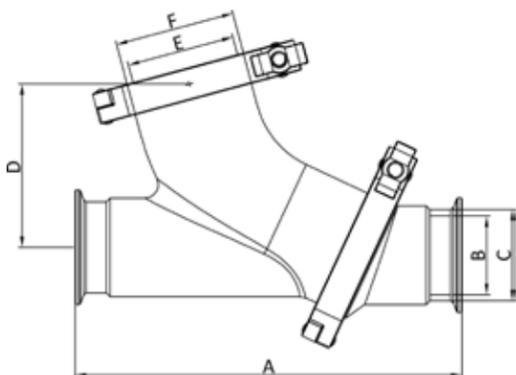
OTHER SEAT MATERIALS AVAILABLE INCLUDING: RTFE, 25% CARBON PTFE AND STAINLESS STEEL PTFE.

Y-BALL CHECK VALVES

FEATURES:

- Material: All metal product surfaces are 316L stainless steel
- Polished ID and OD to 3A standards
- PTFE ball provides better heat and abrasion resistance
- Easy cleaning without tools
- Two piece design for better alignment
- Air blow check valve can be added
- Operating Temperature Range: 15°F to 200°F
- Maximum Operating Pressure: 150 PSI

REPAIR KITS AVAILABLE



Y-BALL CHECK VALVES C645BY



SIZE	CAP/CLAMP SIZE	BALL DIAMETER	WEIGHT (LBS)	316L PART NUMBER
1-1/2"	2.0	1.6	4.9	C645BY-15
2"	2.5	2.1	6.6	C645BY-2
2-1/2"	3.0	2.7	10.5	C645BY-25
3"	4.0	3.6	17.5	C645BY-3

DIMENSIONS

VALVE SIZE	A	B	C	D	E	F
1-1/2"	7.500	1.370	1.500	3.300	1.900	2.500
2"	8.500	1.870	2.000	3.900	2.300	3.000
2-1/2"	10.000	2.370	2.500	4.500	2.900	3.600
3"	11.500	2.870	3.000	5.300	3.800	4.700

AIR BLOW CHECK VALVES

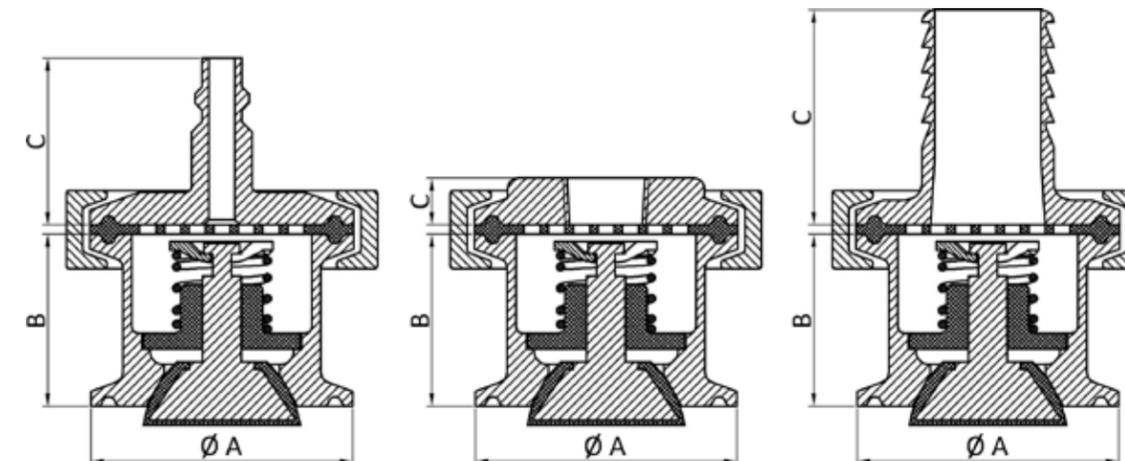
FEATURES:

- Material: 316L stainless steel w/ EPDM stem seat & gasket
- Y-ball check valve can be added
- Maximum Operating Temperature: 212°F
- Maximum Operating Pressure: 145 PSI

SIZING CHART

Reference this chart when using with Y-Ball check valves.

BALL CHECK VALVE SIZE	AIR BLOW CHECK VALVE SIZE
1-1/2"	2"
2"	2-1/2"
2-1/2"	3"
3"	4"



QUICK-CONNECT PLUG

FEMALE NPT

HOSE BARB



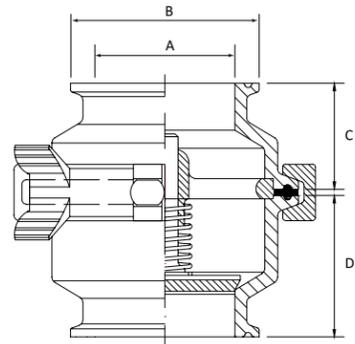
AIR BLOW CHECK VALVES C645

SIZE	A	B	C (PLUG)	PART NUMBER QUICK-CONNECT PLUG	C (FNPT)	PART NUMBER FEMALE NPT	C (HOSE BARB)	PART NUMBER HOSE BARB
1"	1.984	1.299	1.260	C645-QC-1	0.626	C645-FNPT-1	1.689	C645-HB-1
1-1/2"	1.984	1.299	1.260	C645-QC-15	0.626	C645-FNPT-15	1.689	C645-HB-15
2"	2.516	1.299	1.260	C645-QC-2	0.626	C645-FNPT-2	1.689	C645-HB-2
2-1/2"	3.047	1.299	1.260	C645-QC-25	0.626	C645-FNPT-25	1.689	C645-HB-25
3"	3.579	1.299	1.260	C645-QC-3	0.626	C645-FNPT-3	1.689	C645-HB-3
4"	4.682	1.299	1.260	C645-QC-4	0.626	C645-FNPT-4	1.689	C645-HB-4

SPRING CHECK VALVES

FEATURES:

- Material: Forged 316L stainless steel
- Lower resistance to flow
- Suitable for low and medium viscosity fluids
- Full size flow plate
- Long stem bushing for better life cycle
- All wetted surfaces are sanitary finished to $\leq 32R_a$
- Operating temperature range: 15°F to 200°F
- Maximum operating pressure: 145 PSI



SPRING CHECK VALVES C645MP

SIZE	A	B	C	D	316L PART NUMBER
1"	0.870	1.988	1.417	1.890	C645MP-1
1-1/2"	1.370	1.988	1.417	1.890	C645MP-15
2"	1.870	2.520	1.417	1.890	C645MP-2
2-1/2"	2.370	3.051	1.417	1.890	C645MP-25
3"	2.870	3.583	1.417	1.890	C645MP-3

SANITARY VALVES

SANITARY VALVES

SAMPLE VALVES

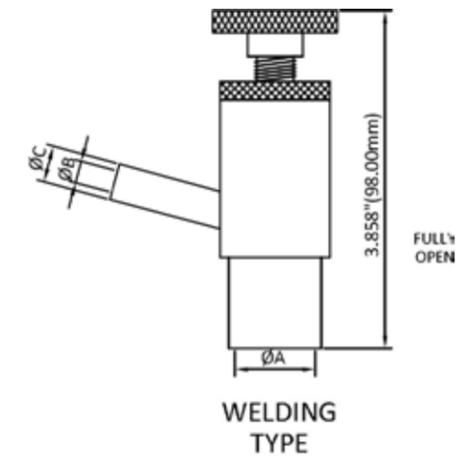
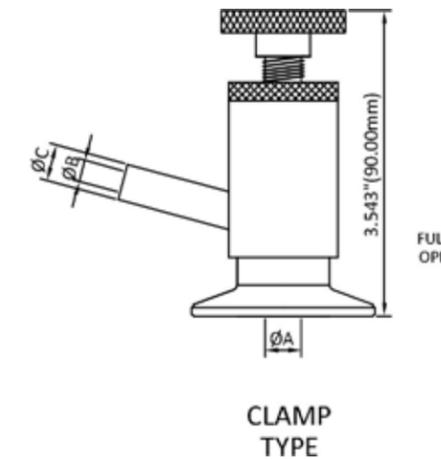
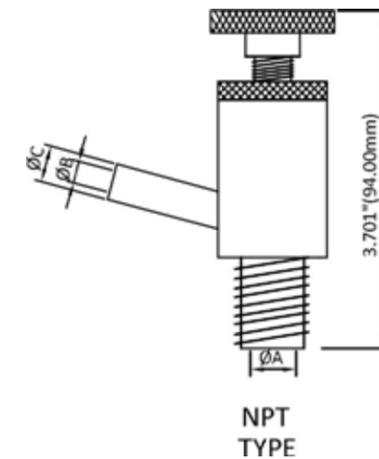
FEATURES:

- Material: 304 stainless steel
- Double silicone O-rings
- Silicone or PTFE seat ensures a leak-proof shutoff
- Surface finish polished to sanitary standards
- Temperature rating: 300°F
- Pressure rating: 200 PSI



SAMPLE VALVES CSVW

TUBE O.D.	STYLE	SEAT MATERIAL	A	B	C	OPEN	WEIGHT (LBS)	304 PART NUMBER
3/8"	NPT	SILICONE	.370"	.236"	.394"	3.701"	.72	CSVWN-S-375
3/8"	NPT	PTFE	.370"	.236"	.394"	3.701"	.72	CSVWN-P-375
1"	CLAMP	SILICONE	.370"	.236"	.394"	3.543"	.88	CSVWC-S-1
1"	CLAMP	PTFE	.370"	.236"	.394"	3.543"	.88	CSVWC-P-1
1"	BUTT-WELD	SILICONE	.370"	.236"	.394"	3.858"	.72	CSVWB-S-1
1"	BUTT-WELD	PTFE	.370"	.236"	.394"	3.858"	.72	CSVWB-P-1



3-A SANITARY PRESSURE GAUGES



Available with a 2.5" or 4" aluminum dial, our All-Purpose Sanitary Gauges are built to withstand all sanitary applications where 3-A approval is required including food, beverage and dairy installations.



- Quality series for all sanitary gauge systems
- Food grade glycerin filling standard
- High polish finish
- Industrial grade polycarbonate lens
- Clean-In-Place and Steam-In-Place design
- 0.75", 1.5" and 2" Tri-Clamp connection bottom and back
- ASME 840.100 compliant
- CRN registered
- 5 year warranty

CTEC CROSS REFERENCE CHART

CLAMP ELBOWS, TEES & CROSSES

CTEC	VNE	TOPLINE	DIXON
C2CMP	EG2C	2CMP	B2CMP
C2FMP-14	EG2FPR	2FMP-14	B2FMP-14
C2FMP-15	EG2FTR	2FMP-15	B2FM-15
C2CMP-31MP	EG2C-31PR	2FMP-31MP	---
C2KMP	EG2K	2KMP	B2KMP
C7MP	EG7	7MP	B7MP
C7MPS	EG7S	7MPS	---
C9MP	EG9	9MP	B9MP

CLAMP FERRULES, CAPS & ADAPTERS

CTEC	VNE	TOPLINE	DIXON
CL14AM7	EG14AM7	L14AM7	L14AM7
C14MPHR	EG14RT	14MPHR	14MPHR
C14MPHT	EG14HT	14MPHT	14MPHT
C14RMP	EG14RT	14RMP	14RMP
C14WMP	EG2CS	14WMP	14WMP
C14MPW	EG14W	14MPW	14MPW
C14WLMP	EG14WL	14WLMP	14WLMP
C16AMP	EG16A	16AMP	16AMP

BEVEL SEAT FITTINGS

CTEC	VNE	TOPLINE	DIXON
C13H	13H	13H	13H
CL14A	14A	---	14A
C14AHR	14AHR	14AHR	14MAHR
C14AHT	14AHT	14AHT	14MAHT
C14PRF	14RP	---	14PRF
CL15A	EG15A7	---	15A
C15AHR	15AHR	15AHR	15MAHR
C15AHT	15AHT	15AHT	15AHT
C15TRF	15TR	---	15TRF
C16A	16A	16A	16A

SANITARY WELD FITTINGS

CTEC	VNE	TOPLINE	DIXON
CL2S	E2S	L2S	B2S
C2WCL	E2T	---	B2T
CL2C	E2C	---	B2CM
CL2F	E2F	L2F	B2FP
CL2K	E2KT	L2K	B2KT
CL2P	EK2P	L2P	B2KP
C2WU	E2WU	L2WU	B2WUL

TUBE O.D. UNPOLISHED FITTINGS

CTEC	VNE	TOPLINE	DIXON
CT2WCL	V2WC	2WCL	B2WCL
CT2WK	V2WK	2WK	B2WK
CT7W	V7W	7W	---
CT7WR	V7WR	7WR	---
CT9W	V9W	9W	---
CT19WB	19WB	19WB	B19WB
CT28WA	V28WA	---	B28WA
CT31W	V31W	31W	B31W
C14-19	14-19	14-19	B14-19

I-LINE FITTINGS

CTEC	VNE	TOPLINE	DIXON
C2CI	EC 21	---	B2CI
C2FI	E2FI	---	B2FI
C2EI	E2EI	---	B2EI
C2KI	E2KI	---	B2KI
C2PI	E2PI	---	B2PI
C7I	E7I	---	B7I
C7AI	E7AI	---	B7AI
C7BI	E7BI	---	B7BI
C9I	E9I	---	B9I
C13IS	E13IS	13IS	13IL
C14WI	E14WI	14WI	14WI
C15WI	E15WI	15WI	15WI
C14WLI	E14WLI	14WLI	14WLI
C15WLI	E15WLI	15WLI	15WLI
C17-14I-15I	E17-14I-15I	---	17-14I-15I
C17-15I-15I	E17-15I-15I	---	17-15I-15I
C17-14I-14I	E17-14I-14I	---	17-14I-14I
C17-14I-14MP	E17-14I-14MP	---	17-14I-14MP
C17-14I-15I	E17-14I-15I	---	17-14I-15I
C17-15I-14	E17-15I-14	---	17-15I-14
C17-15I-15I	E17-15I-15I	---	17-15I-15I
C17-15I-14MP	E17-15I-14MP	---	17-15I-14MP
C16AI-14I	E16AI-14I	16AI-14I	16-AI-14I
C16AI-15I	E16AI-15I	16AI-15I	16AI-15I
C31I-14FI	E31I-14I	---	B31I-14I
C31I-15FI	E31I-15I	---	B31I-15I
C32I-14FI	E32I-14I	---	B32I-14I
C32I-15FI	E32I-15I	---	B32I-15I

FRACTION - DECIMAL - MM CONVERSION CHART

INCH FRACTION	INCH DECIMAL	MILLIMETERS	INCH FRACTION	INCH DECIMAL	MILLIMETERS
1/64	0.015625	0.3969	33/64	0.515625	13.0969
1/32	0.03125	0.7938	17/32	0.53125	13.4938
3/64	0.046875	1.1906	35/64	0.546875	13.8906
1/16	0.0625	1.5875	9/16	0.5625	14.2875
5/64	0.078125	1.9844	37/64	0.578125	14.6844
3/32	0.09375	2.3813	19/32	0.59375	15.0813
7/64	0.109375	2.7781	39/64	0.609375	15.4781
1/8	0.125	3.175	5/8	0.625	15.8750
9/64	0.140625	3.5719	41/64	0.640625	16.2719
5/32	0.15625	3.9688	21/32	0.65625	16.6688
11/64	0.171875	4.3656	43/64	0.671875	17.0656
3/16	0.1875	4.7625	11/16	0.6875	17.4625
13/64	0.203125	5.15940	45/64	0.703125	17.8594
7/32	0.21875	5.5563	23/32	0.71875	18.2563
15/64	0.234375	5.9531	47/64	0.734375	18.6531
1/4	0.25	6.35	3/4	0.75	19.05
17/64	0.265625	6.7469	49/64	0.765625	19.4469
9/32	0.28125	7.1438	25/32	0.78125	19.8438
19/64	0.296875	7.5406	51/64	0.796875	20.2406
5/16	0.3125	7.9375	13/16	0.8125	20.6375
21/64	0.328125	8.3344	53/64	0.828125	21.0344
11/32	0.34375	8.7313	27/32	0.84375	21.4313
23/64	0.359375	9.1281	55/64	0.859375	21.8281
3/8	0.375	9.525	7/8	0.875	22.225
25/64	0.390625	9.9219	57/64	0.890625	22.6219
13/32	0.40625	10.3188	29/32	0.90625	23.0188
27/64	0.421875	10.7156	59/64	0.921875	23.4156
7/16	0.4375	11.1125	15/16	0.9375	23.8125
29/64	0.453125	11.5094	61/64	0.953125	24.2094
15/32	0.46875	11.9063	31/32	0.96875	24.6063
31/64	0.484375	12.3031	63/64	0.984375	25.0031
1/2	0.500	12.7001	1	1.00	25.4001

MEASUREMENT CONVERSION FACTORS

CONVERT	TO	MULTIPLY BY
LENGTH CONVERSIONS		
centimeters	inches	0.39370
centimeters	feet	0.03281
cubic feet	cubic meters	0.02832
cubic meters	cubic feet	35.3145
cubic meters	cubic yards	1.30795
cubic yards	cubic meters	0.7646
feet	meters	0.3048
inches	millimeters	25.400
inches	centimeters	2.540
meters	feet	3.2808
meters	yards	1.0936
millimeters	inches	0.0394
yards	meters	0.9144

CONVERT	TO	MULTIPLY BY
WEIGHT CONVERSIONS		
grams	pounds	0.002205
kilograms	pounds	2.2046
ounces	grams	28.3495
ounces	pounds	0.0625
pounds	kilograms	0.4536
pounds	ounces	16
grams	fluid ounces (water)	.033818
fluid ounces (water)	grams	29.57

PRESSURE CONVERSIONS

PRESSURE	TO OBTAIN					
	atm	psi	bar	ft of H ₂ O at 60°F	inches of H ₂ O at 60°F	inches of Hg at 0°C
	MULTIPLY BY					
atm	—	14.696	1.01325	33.932	407.1827	29.921
psi	0.06805	—	0.068948	2.3089	27.70851	2.0360
bar	0.98692	14.50368	—	33.4883	401.8596	29.530
ft of H ₂ O at 60°F	0.02947	0.433107	0.029891	—	12	0.882646
in of H ₂ O at 60°F	0.00246	0.03609	0.002499	0.083333	—	0.073556
in of Hg at 0°C	0.03342	0.49115	0.033664	1.134	13.6	—

COMPOUND SELECTION FOR FLUIDS & CHEMICALS

A – SATISFACTORY B – FAIR C – SEVERE EFFECT – EXCEPT FOR SOME STATIC APPLICATIONS D – UNSATISFACTORY E – INSUFFICIENT INFORMATION

MATERIAL

FLUID	Buna	EPDM	FKM	PTFE	Silicone
Acetaldehyde	D	A	D	A	B
Acetamide	A	A	B	A	B
Acetic Acid, 30%	B	A	B	A	A
Acetone	D	A	D	A	C
Acetophenone	D	A	D	A	D
Acetyl Chloride	D	D	A	A	C
Acetylene	A	A	A	A	B
Acrylonitrile	D	D	C	A	D
Adipic Acid	A	A	E	E	E
Ammonia Gas (cold)	A	A	D	A	A
Ammonium Chloride (aq)	A	A	A	A	E
Ammonium Hydroxide (conc.)	D	A	B	A	A
Ammonium Nitrate (aq)	A	A	E	A	E
Ammonium Nitrite (aq)	A	A	E	E	B
Ammonium Phosphate (aq)	A	A	E	A	A
Ammonium Sulfate (aq)	A	A	D	A	E
Amyl Acetate (Banana Oil)	D	A	D	A	D
Amyl Alcohol	B	A	B	A	D
Amyl Borate	A	D	A	A	E
Arsenic Acid	A	A	A	E	A
Arsenic Trichloride (aq)	A	C	E	E	E
Barium Chloride (aq)	A	A	A	A	A
Barium Hydroxide (aq)	A	A	A	A	A
Barium Sulfate (aq)	A	A	A	A	A
Barium Sulfide (aq)	A	A	A	A	A
Benzaldehyde	D	A	D	A	B
Benzene	D	D	A	A	D
Benzoic Acid	C	C	A	A	C
Benzoyl Chloride	D	D	A	A	E
Benzyl Alcohol	D	A	A	A	B
Benzyl Chloride	D	D	A	A	D
Boric Acid	A	A	A	A	A
Brine	A	A	A	A	A
Bromine, Anhydrous	D	D	A	E	D
Bromine Water	D	B	A	E	D
Butadiene	D	C	A	A	D
Butane	A	D	A	A	D
Butyl Acetate	D	C	D	E	D
Butyl Acetyl Ricinoleate	C	A	A	E	E
Butyl Alcohol	A	B	A	A	B
Butylamine	C	B	D	E	D
Butyl Benzoate	D	B	A	E	E

MATERIAL

FLUID	Buna	EPDM	FKM	PTFE	Silicone
Butyl Carbitol	D	A	A	A	D
Butyl Cellosolve	D	A	D	A	E
Butyl Oleate	D	B	A	E	E
Butyl Stearate	B	C	A	E	E
Butylene	B	D	A	E	D
Butyraldehyde	D	B	D	E	D
Carbolic Acid (Phenol)	D	B	A	A	D
Carbon Bisulfide	C	D	A	E	D
Carbon Dioxide	A	B	A	E	B
Carbonic Acid	B	A	A	E	A
Carbon Monoxide	A	A	A	A	A
Carbon Tetrachloride	C	D	A	A	D
Castor Oil	A	B	A	A	A
Cellosolve Acetate	D	B	D	A	D
China Wood Oil (Tung Oil)	A	C	A	A	D
Chlorine (wet)	D	C	A	A	D
Chlorine Dioxide	D	C	A	A	E
Chloroacetic Acid	D	A	D	A	E
Chloroacetone	D	A	D	E	D
Chlorobenzene	D	D	A	E	D
Chlorobromomethane	D	B	A	E	D
Chloroform	D	D	A	A	D
Chlorotoluene	D	D	A	E	D
Chrome Plating Solutions	D	C	A	A	C
Chromic Acid	D	B	A	A	B
Cod Liver Oil	A	A	A	A	B
Copper Acetate (aq)	B	A	D	E	D
Copper Chloride (aq)	A	A	A	A	A
Copper Cyanide (aq)	A	A	A	A	A
Copper Sulfate (aq)	A	A	A	A	A
Creosote (coal tar)	A	D	A	A	D
Cresylic Acid	D	D	A	E	D
Cyclohexane	A	D	A	A	D
Cyclohexanol	C	C	A	E	D
Cyclohexanone	D	B	D	E	D
Denatured Alcohol	A	A	A	A	A
Detergent Solutions	A	A	A	A	A
Diacetone Alcohol	D	A	D	A	B
Dibenzyl Ether	D	B	D	A	E
Dibenzyl Sebecate	D	B	B	E	C
Dibromoethyl Benzene (Alkazene)	D	D	B	E	D
Dibutyl Amine	D	C	D	E	C

COMPOUND SELECTION FOR FLUIDS & CHEMICALS

A – SATISFACTORY B – FAIR C – SEVERE EFFECT – EXCEPT FOR SOME STATIC APPLICATIONS D – UNSATISFACTORY E – INSUFFICIENT INFORMATION

MATERIAL

FLUID	Buna	EPDM	FKM	PTFE	Silicone
Dibutyl Ether	D	C	C	E	D
Dibutyl Phthalate	D	B	C	A	B
Dibutyl Sebecate	D	B	B	E	B
O-Dichlorobenzene	D	D	A	E	D
Dichloro-Isopropyl Ether	D	C	C	E	D
Diethylamine	B	B	D	A	B
Diethyl Benzene	D	D	A	E	D
Diethyl Ether	D	D	D	E	D
Diethylene Glycol	A	A	A	E	B
Diethyl Sebecate	B	B	B	E	B
Diisobutylene	B	D	A	E	D
Diisopropyl Benzene	D	D	A	E	E
Diisopropyl Ketone	D	A	D	E	D
Diisopropylidene Acetone	D	C	D	E	D
Dimethyl Aniline (Xylidine)	C	B	D	E	D
Dimethyl Ether (Methyl Ether)	A	D	A	E	A
Dimethyl Formamide	B	B	D	E	B
Dimethyl Phthalate	D	B	B	E	E
Dinitrotoluene	D	D	D	E	D
Diocetyl Phthalate	C	B	B	E	C
Diocetyl Sebecate	D	B	B	E	C
Dioxane	D	B	D	E	D
Dioxolane	D	B	D	E	D
Dipentene	A	D	A	E	D
Diphenyl (Phenylbenzene)	D	D	A	E	D
Diphenyl Oxides	D	D	A	E	C
Dowtherm Oil	D	D	A	A	C
Ethane	A	D	A	A	D
Ethanolamine	B	B	D	E	B
Ethyl Acetate	D	B	D	E	B
Ethyl Acetoacetate	D	B	D	E	B
Ethyl Acrylate	D	B	D	E	B
Ethyl Alcohol	A	A	C	A	A
Ethyl Benzene	D	D	A	A	D
Ethyl Benzoate	D	A	A	A	D
Ethyl Cellosolve	D	B	D	E	D
Ethyl Cellulose	B	B	D	A	C
Ethyl Chloride	A	C	A	A	D
Ethyl Chlorocarbonate	D	B	A	A	D
Ethyl Chloroformate	D	B	D	E	D
Ethyl Ether	C	C	D	A	D
Ethyl Pentachlorobenzene	D	D	A	A	D

MATERIAL

FLUID	Buna	EPDM	FKM	PTFE	Silicone
Ethylene	A	B	A	A	E
Ethylene Chloride	D	C	B	E	D
Ethylene Diamine	A	A	D	E	A
Ethylene Dichloride	D	C	A	A	D
Ethylene Glycol	A	A	A	A	A
Fluoroboric Acid	A	A	E	E	E
Freon 11	B	D	A	A	D
Freon 12	A	B	B	A	D
Freon 22	D	A	D	A	D
Fumaric Acid	A	B	A	E	B
Gallic Acid	B	B	A	A	E
Gasoline	B	D	A	A	D
Glucose	A	A	A	A	A
Glycerin	A	A	A	A	A
Hexane	A	D	A	A	D
Hexyl Alcohol	A	C	A	A	B
Hydrazine	B	A	D	A	C
Hydrobromic Acid	D	A	A	E	D
Hydrocyanic Acid	B	A	A	A	C
Hydrofluoric Acid (conc.) cold	D	C	A	A	D
Hydrofluosilicic Acid	B	B	A	E	D
Hydrogen Gas	A	A	A	A	C
Hydrogen Peroxide (90%)	D	B	B	E	B
Hydrogen Sulfide (wet) cold	D	A	D	E	C
Hydroquinone	C	B	B	A	E
Iodoform	E	D	E	E	E
Isobutyl Alcohol	B	A	A	A	A
Isooctane	A	D	A	E	D
Isopropyl Acetate	D	B	D	A	D
Isopropyl Alcohol	B	A	A	A	A
Isopropyl Chloride	D	D	A	A	D
Isopropyl Ether	B	D	D	A	D
Kerosene	A	D	A	A	D
Lacquers	D	D	D	A	D
Lactic Acid (cold)	A	A	A	A	A
Lead Acetate (aq)	B	A	D	E	D
Lead Nitrite (aq)	A	A	E	E	B
Lime Bleach	A	A	A	E	B
Linoleic Acid	B	D	B	A	B
Maleic Acid	D	B	A	A	E
Malic Acid	A	B	A	E	B
Methane	A	D	B	A	D

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COMPOUND SELECTION FOR FLUIDS & CHEMICALS

A – SATISFACTORY B – FAIR C – SEVERE EFFECT – EXCEPT FOR SOME STATIC APPLICATIONS D – UNSATISFACTORY E – INSUFFICIENT INFORMATION

FLUID	MATERIAL				
	Buna	EPDM	FKM	PTFE	Silicone
Methyl Acetate	D	A	D	A	D
Methyl Acrylate	D	B	D	A	D
Methylacrylic Acid	D	B	D	E	D
Methyl Alcohol	A	A	D	A	A
Methyl Bromide	B	D	A	A	E
Methyl Butyl Ketone	D	A	D	A	C
Methyl Cellosolve	C	B	D	A	D
Methyl Chloride	D	C	B	A	D
Methyl Cyclopentane	D	D	B	E	D
Methylene Chloride	D	C	B	E	D
Methyl Ether	A	D	A	A	A
Methyl Ethyl Ketone	D	A	D	A	D
Methyl Isobutyl Ketone	D	B	D	A	D
Methyl Methacrylate	D	C	D	A	D
Milk	A	A	A	A	A
Mineral Oil	A	C	A	C	B
Monoethanol Amine	D	A	D	E	B
Monomethyl Ether	A	D	A	E	A
Monovinyl Acetylene	A	A	A	A	B
Mustard Gas	E	A	E	E	A
Naphthalenic Acid	B	D	A	A	D
Natural Gas	A	D	A	A	A
Nickel Acetate (aq)	B	A	D	E	D
Nickel Chloride (aq)	A	A	A	A	A
Nickel Sulfate (aq)	A	A	A	A	A
Nitric Acid (dilute)	D	B	A	A	B
Nitrobenzene (Ligroin)	A	D	A	A	D
Nitroethane	D	B	D	A	D
Nitrogen Tetroxide	D	C	D	A	D
Octachlorotoluene	D	D	A	E	D
Octadecane	A	D	A	E	D
N-Octane	B	D	A	A	D
Octyl Alcohol	B	C	A	A	B
Oleic Acid	C	D	B	A	D
Oxalic Acid	B	A	A	E	B
Oxonia	D	A	A	E	A
Oxygen - Cold	B	A	A	A	A
Ozone	D	A	A	E	A
Palmitic Acid	A	B	A	E	D
Perchloric Acid	D	B	A	E	D
Phenyl Ethyl Ether	D	D	D	E	D
Phosphoric Acid - 20%	B	A	A	E	B

FLUID	MATERIAL				
	Buna	EPDM	FKM	PTFE	Silicone
Phosphorus Trichloride	D	A	A	A	E
Piperidine	D	A	D	E	D
Polyvinyl Acetate Emulsion	E	A	E	E	E
Potassium Acetate (aq)	B	A	D	E	D
Potassium Chloride (aq)	A	A	A	A	A
Potassium Cyanide (aq)	A	A	A	A	A
Potassium Nitrate (aq)	A	A	A	A	A
i-Propyl Acetate	D	B	D	E	D
Propyl Nitrate	D	B	D	E	D
Propylene	D	D	A	A	D
Pyridine	D	B	D	E	D
Salicylic Acid	B	A	A	E	E
Silicone Oils	A	A	A	A	C
Soap Solutions	A	A	A	A	A
Sodium Acetate (aq)	B	A	D	E	D
Sodium Bicarbonate (aq)	A	A	A	A	A
Sodium Borate (aq)	A	A	A	A	A
Sodium Chloride (aq)	A	A	A	A	A
Sodium Hydroxide (aq)	B	A	B	A	B
Sodium Nitrate (aq)	B	A	E	E	D
Sodium Peroxide (aq)	B	A	A	E	D
Soybean Oil	A	C	A	A	A
Steam, under 300°F	D	A	D	A	C
Stearic Acid	B	B	E	A	B
Stoddard Solvent	A	D	A	A	D
Sulfur Chloride (aq)	C	D	A	B	C
Sulfuric Acid (dilute)	C	B	A	E	D
Sulfurous Acid	B	B	A	A	D
Tannic Acid	A	A	A	A	B
Tartaric Acid	A	B	A	A	A
Tetrachloroethylene	D	D	A	A	D
Toluene	D	D	A	A	D
Triethanol Amine	B	A	D	A	E
Trioctyl Phosphate	D	A	B	E	C
Tung Oil (China Wood Oil)	A	C	A	A	D
Turpentine	A	D	A	A	D
Vegetable Oils	A	C	A	A	B
Vinegar	B	A	A	A	A
Whiskey, Wines	A	A	A	A	A
White Pine Oil	B	D	A	E	D
Zinc Chloride (aq)	A	A	A	A	A

AUSTENITIC STAINLESS STEEL CHEMISTRY

ELEMENT	Carbon (C) max	Manganese (Mn) max	Phosphorus (P) max	Sulfur (S) max	Silicone (Si) max	Chromium (Cr)	Nickel (Ni)	Molybdenum (Mo)
304 ¹ (wt %)	0.080	2.00	0.045	0.030	0.75	18.0-20.0	8.0-10.5	n/a
316L ¹ (wt %)	0.035	2.00	0.045	0.030	0.75	16.0-18.0	10.0-14.0	2.0-3.0
316L BPE ²	0.03	2.00	0.045	0.05-0.17	1.00	16.0-18.0	10.0-14.0	2.0-3.0

¹ AISI specifications for wrought material

² ASME BPE 2012

Percentages are maximums unless a range is specified

Finish Designations for Tubing & Fittings

FINISHED NUMBER	FINISH CONDITIONS
1	Mill Finish (bright annealed, pickled, sand blast or tumbled)
3	Polished 180 grit inside diameter (ID) only
5	Polished 150 grit outside diameter (OD) only
7	Polished 180 grit outside/inside diameter (OD/ID) only
3A	Polished 150 grit outside (OD) 180 grit inside (ID)

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LIMITED WARRANTY

CTEC Sanitary warrants all products sold to be free from defects in material and workmanship for a period of one year from the date of shipment. All wearable products are warranted based on the use and application. Any product that proves to be defective shall be repaired or replaced by CTEC Sanitary, providing it has been used as recommended in the application and in strict accordance with recognized piping practices.

CTEC Sanitary makes no other warranties and will not be liable for any consequential, indirect, incidental or contingent damages.

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