

Sanitary Fittings



CSI offers Alfa Laval sanitary fittings for your food, dairy or beverage processing application. Smooth, crevice-free interiors and secure, self-aligning joints are characteristic of our Tri-Clover fittings. Each offers superior corrosion-resistance and unmatched service life. Designed and manufactured to ensure dimensional accuracy and structural integrity, our fittings are easy to install.

csidesigns.com

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Tri-Clamp®



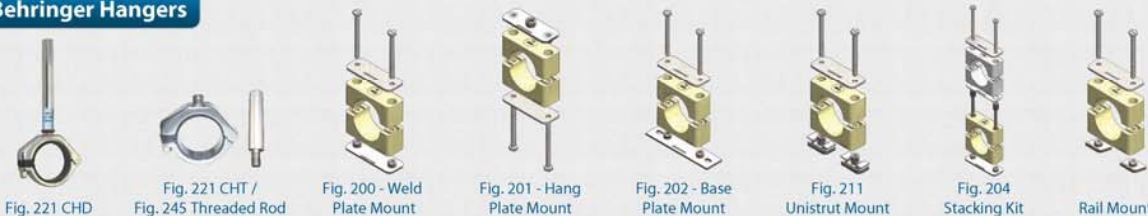
Tri-Weld®



Bevel Seat



Behringer Hangers



Ordering Information

When ordering, please specify the complete part number including: description, size, material and surface finish.



Finishes Available						
MATERIAL	1	7	PC	PL	PD	PM
304	X	X				
316L	X	X	X	X	X	X

Surface Finish Codes			
FINISH CODE	ID or PRODUCT CONTACT SURFACE FINISH MAXIMUM RA (micrometers)	ID POLISHING METHOD	ID or PRODUCT NON-CONTACT SURFACE
1		Unpolished	Unpolished
3	32	Mechanical	Unpolished
7	32	Mechanical	Polished to RA 32µ/0.8µm

Tri-Clamp Dimensions			
A (OD) (inches)	B (ID) (inches)	C (inches)	WALL THICKNESS (inches / gauge)
1/2	0.37	0.984	0.065 / 16 ga
3/4	0.62	0.984	0.065 / 16 ga
1	0.87	1.984	0.065 / 16 ga
1 1/2	1.37	1.984	0.065 / 16 ga
2	1.87	2.516	0.065 / 16 ga
2 1/2	2.37	3.047	0.065 / 16 ga
3	2.87	3.579	0.065 / 16 ga
4	3.87	4.602	0.083 / 14 ga

Service Ratings* (PSI) for Tri-Clamp Connections							
TEMP (°F)	1/2 - 3/4 inch	1 - 1 1/2 inch	2 inch	2 1/2 inch	3 inch	4 inch	6 inch
A13MHHM (wing nut tightened to 25 in. lb. of torque)							
70	--	500	450	400	350	300	150
250	--	300	250	200	175	150	75
13MHHM (wing nut tightened to 25 in. lb. of torque)							
70	--	500	450	400	350	300	150
250	--	300	300	200	195	150	75
13MHHS (wing nut tightened to 25 in. lb. of torque)							
70	2200	600	550	450	350	300	--
250	1200	300	275	225	175	150	--
13MHP (bolts tightened to 20 ft. lb. of torque)							
70	--	1500	1000	1000	1000	800	300
250	--	1200	800	800	800	600	200
A13MO (1-3" tightened to 20 in. lb., 4" to 30 in. lb.)							
70	--	500	350	300	200	100	75
250	--	250	200	150	100	100	50
13MHLA (screw tightened to maximum)							
70	--	150	150	150	150	100	--
250	--	125	125	125	125	75	--

*Service ratings are based on hydrostatic tests using standard-molded Buna-N material gaskets, with proper installation of ferrules, assembly of joints and absence of shock pressure. Contact Alfa Laval for service of other type and material gaskets, and for ratings at higher temperatures. All ratings shown are dependent upon related components within the systems and proper installation. For temperatures above 250°F we recommend using only 13MHP clamps. This information is only valid if Alfa Laval clamps, ferrules, and gaskets are used.

Tri-Clamp Gasket Materials					
CHARACTERISTIC	BUNA-N (N)	EPDM (E)	FLUOROELASTOMER (VITON) (V)	SILICONE (S)	PTFE (P)
Hardness (Shore A)	70	70	70	70	--
Tensile Strength (PSI)	1875	1650	1212	1340	--
Elongation (%)	340	317	272	260	--
Temperature Range (°F)	-65 to 200	-60 to 300	-20 to 350	-40 to 450	-40 to 200
Acid/Alk. Resistance	Good	Good to Excellent	Good to Excellent	Poor to Good	Good to Excellent
Alkali Resistance	Fair to Good	Excellent	Good to Excellent	Poor to Fair	Excellent
Resistance to fats/oils	Good to Excellent	Poor	Good to Excellent	Poor to Good	Excellent
Abrasion resistance	Excellent	Good	Good to Excellent	Poor	Fair
Compression set resistance	Good	Fair	Good to Excellent	Good to Excellent	Cold Flows