

Cushion Clamps

Cushioned Clamping Systems

Behringer now offers a complete line of cushioned clamps. Cushioned clamps are typically used in pneumatic, refrigeration, HVAC, and some low pressure hydraulic lines. Behringer's cushioned clamps also eliminate metal to metal contact between the fluid lines and the support hardware. Standard material for the hardware is a clear trivalent zinc plated steel with options for both 304 and 316 grades stainless steel. Additional special options include aluminum and powder coating.



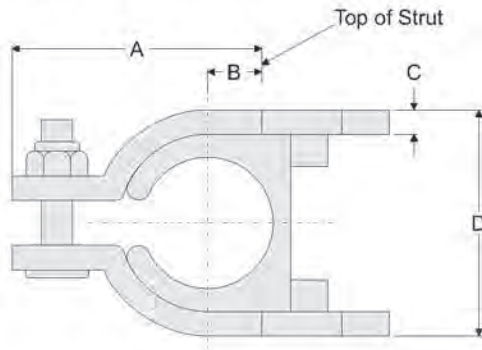
Specifications

Cushion:

Thermoplastic Elastomer
-65°F to 275°F operating temperature

Hardware:

Fits industry standard strut channel
with 1-5/8 in. width.



Cushion Ordering

Order Number Material

CC _____ - _____

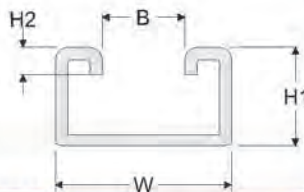
Hardware Material

Z	Electro-Zinc Dichromate Plating
T	AISI 304 Stainless Steel (A2 - 1.4301/1.4305)
X	AISI 316/316Ti Stainless Steel (A4 - 1.4401/1.4571)

To order, use the ordering code above. Fill in the order number from the light blue shaded boxes in the chart to the right. Then add the material designation from the Hardware Materials chart above.

Ex. For 1 in. pipe with zinc plated hardware the order number is CC1315-Z.

Channel Ordering



Strut Channel Rail

Height	Order Number	Length	H1	H2	W	B
7/8"	ST-SCR-088-^048	48.0 in.	0.875 in.	0.281 in.	1.625 in.	0.875 in.
	ST-SCR-088-^120	120.0 in.	(22.2 mm)	(7 mm)	(41.4 mm)	(22.2 mm)
1"	ST-SCR-100-^048	48.0 in.	1.0 in.	0.281 in.	1.625 in.	0.875 in.
	ST-SCR-100-^120	120.0 in.	(25.5 mm)	(7 mm)	(41.4 mm)	(22.2 mm)

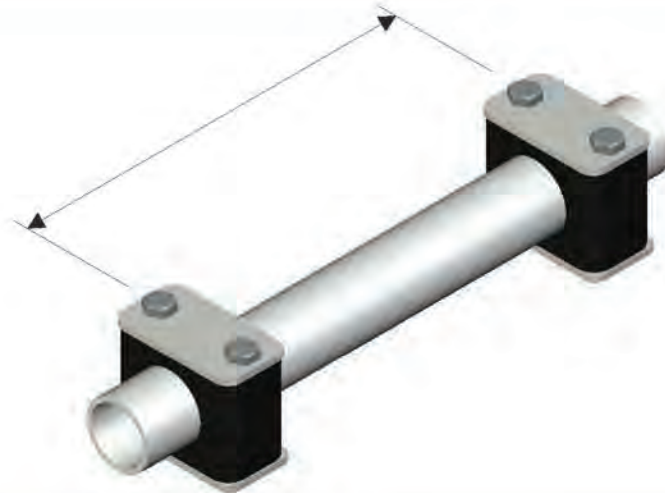
*Materials:
C Unplated Mild Steel
T AISI 304 Grade Stainless (A2 - 1.4301/1.4305)
X AISI 316 Grade Stainless (A4 - 1.4401/1.4571)
Z Zinc Plated Steel

Cushion Clamp Size Table

Size	Order Number	OD	A	B	C	D*
1/4 T	0250	0.250	1.110	0.220	0.075	0.620
3/8 T	0375	0.375	1.240	0.280	0.075	0.750
1/2 T	0500	0.500	1.360	0.340	0.075	0.870
1/4 P	0540	0.540	1.410	0.630	0.075	0.910
5/8 T	0625	0.625	1.500	0.410	0.075	1.000
3/8 P	0675	0.675	1.590	0.450	0.075	1.070
3/4 T	0750	0.750	1.780	0.530	0.075	1.330
1/2 P	0840	0.840	1.910	0.590	0.075	1.450
7/8 T	0875	0.875	1.910	0.580	0.075	1.450
1 T	1000	1.000	2.030	0.660	0.105	1.660
3/4 P	1050	1.050	2.160	0.720	0.105	1.790
1 1/8 T	1125	1.125	2.160	0.720	0.105	1.790
1 1/4 T	1250	1.250	2.300	0.780	0.105	1.920
1 P	1315	1.315	2.750	0.910	0.119	2.220
1 3/8 T	1375	1.375	2.750	0.910	0.119	2.220
1 1/2 T	1500	1.500	2.750	0.910	0.119	2.220
1 5/8 T	1625	1.625	3.030	1.030	0.119	2.470
1 1/4 P	1660	1.660	3.030	1.030	0.119	2.470
1 3/4 T	1750	1.750	3.030	1.030	0.119	2.470
1 7/8 T	1875	1.875	3.280	1.160	0.119	2.470
1 1/2 P	1900	1.900	3.280	1.160	0.119	2.470
2 T	2000	2.000	3.280	1.160	0.119	2.470
1 1/8 T	2125	2.125	3.530	1.280	0.119	2.970
2 1/4 T	2250	2.250	3.780	1.410	0.119	3.220
2 3/8 T	2375	2.375	3.780	1.410	0.119	3.220
2 P	2375	2.375	3.780	1.410	0.119	3.220
2 1/2 T	2500	2.500	4.030	1.530	0.119	3.470
2 5/8 T	2625	2.625	4.030	1.530	0.119	3.470
2 1/2 P	2875	2.875	4.270	1.660	0.119	3.720
3 T	3000	3.000	4.520	1.780	0.119	3.970
3 1/8 T	3125	3.125	4.520	1.780	0.119	3.970
3 P	3500	3.500	4.910	1.970	0.119	4.360
3 5/8 T	3625	3.625	5.030	2.030	0.119	4.470
3 1/2 P	4000	4.000	5.530	2.280	0.119	4.970
4 1/8 T	4125	4.125	5.660	2.340	0.119	5.090
4 P	4500	4.500	6.030	2.530	0.119	5.470
5 P	5563	5.563	7.030	3.030	0.119	6.470
6 P	6625	6.625	8.030	3.530	0.119	7.470

Material Properties Technical Data				
Clamp Pair Material Other materials have been used and are available upon request.	PP	SP	AL	NN
	Polypropylene	Santoprene	Aluminum	HDPE
Color	Black	Tan	Natural Aluminum	White
Description	Thermoplastic Copolymer	Thermoplastic Elastomer	AlSi12	High Density Polyethylene
Mechanical Properties				
Tensile Strength	3300 psi (at yield, 73 ° F) (ASTM D638)	1740 psi (at yield, 73 ° F) (ASTM D638)	19,000 psi (at yield, 73 ° F) (ASTM D638)	4500 psi (at yield, 73 ° F) (ASTM D638)
Tensile Elongation	6.6% (at yield, 73 ° F) (ASTM D638)	31% (at yield, 73 ° F) (ASTM D638)	3.5% (at yield, 73 ° F) (ASTM D638)	
Hardness		50 Shore D (ASTM D2240)		65 R (Rockwell "R" Scale)
Thermal Properties				
Temperature Range (Brief Exposure)	-22° F to + 215° F (-30° C to + 102° C)	-40° F to + 302° F (-40° C to + 150° C)	-65° F to + 750° F*1 (-54° C to + 399° C)	
Temperature Range (Continuous Exposure)	-22° F to + 194° F (-30° C to + 90° C)	-40° F to + 275° F (-40° C to + 135° C)	-65° F to + 500° F*1 (-54° C to + 260° C)	-58° F to + 175° F (-50° C to + 79° C)
Electrical Properties				
Dielectric Strength	475 V/mil (ASTM D149)	920 V/mil (ASTM D149)		510 V/mil (ASTM D149)
Dielectric Constant	2.26 - 2.36 (ASTM D150)	2.300 (ASTM D150)		2.35 (ASTM D150)
Volume Resistivity	> 2 x 10 ¹⁶ ohm-cm (ASTM D257)	>1 x 10 ¹⁴ ohm-cm (ASTM D257)	4.4 x 10 ⁶ ohm-cm (ASTM D257)	>6 x 10 ¹⁵ ohm-cm (ASTM D257)
Standards and Specifications				
	FDA Regulation Title 21 CFR 177.1520	UL Listed File# QMFZ2.E80017		FDA Regulation Title 21 CFR 177.1520
	Meets Multiple Automotive Industry Specifications	Meets Multiple Automotive Industry Specifications		ASTM D 1248-84 Type III, Class A
	EU Directive 2002/95/EC (RoHS) Compliant	EU Directive 2002/95/EC (RoHS) Compliant		Federal Specification LP-390 Type III, Class H, Grade I
Special Notes				
Notes:	*1: Tensile and fatigue strength rise as temperature decreases. The tensile elongation decreases as the temperature decreases.			
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Recommended Spacing



Recommended Spacing				
Pipe or Tube OD	Operating Pressure	Recommended Spacing	Operating Pressure	Recommended Spacing
0.250 in. to 0.675 in.	up to 3000 psi	5 - 7 Ft.	over 3000 psi	3 - 5 Ft.
0.750 in. to 1.050 in.	up to 3000 psi	6 - 8 Ft.	over 3000 psi	4 - 6 Ft.
1.125 in. to 1.500 in.	up to 3000 psi	7 - 9 Ft.	over 3000 psi	5 - 7 Ft.
1.750 in. to 2.500 in.	up to 3000 psi	8 - 10 Ft.	over 3000 psi	6 - 8 Ft.
2.750 in. to 3.500 in.	up to 3000 psi	9 - 11 Ft.	over 3000 psi	7 - 9 Ft.
4.000 in. to 4.500 in.	up to 3000 psi	10 - 12 Ft.	over 3000 psi	8 - 10 Ft.
5.563 in. to 6.625 in.	up to 3000 psi	11 - 13 Ft.	over 3000 psi	8 - 11 Ft.
6.625 in. to 8.625 in.	up to 3000 psi	12 - 14 Ft.	over 3000 psi	9 - 11 Ft.
10.750 in. to 12.750 in.	up to 3000 psi	13 - 15 Ft.	over 3000 psi	8 - 10 Ft.
13.750 in. to 19.750 in.	up to 3000 psi	14 - 16 Ft.	over 3000 psi	10 - 12 Ft.

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Recommended Mounting Practices

Bends

Behringer recommends that all pipe bends be supported by clamps placed as close to the bend as possible. The clamps should be directly after the connection (coupler, threaded connector, flange, or other).



Components

Behringer recommends that all system components be supported by clamps directly before and after the component in order to protect against vibrations and shock. The clamps should be located as close to the component as possible.



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