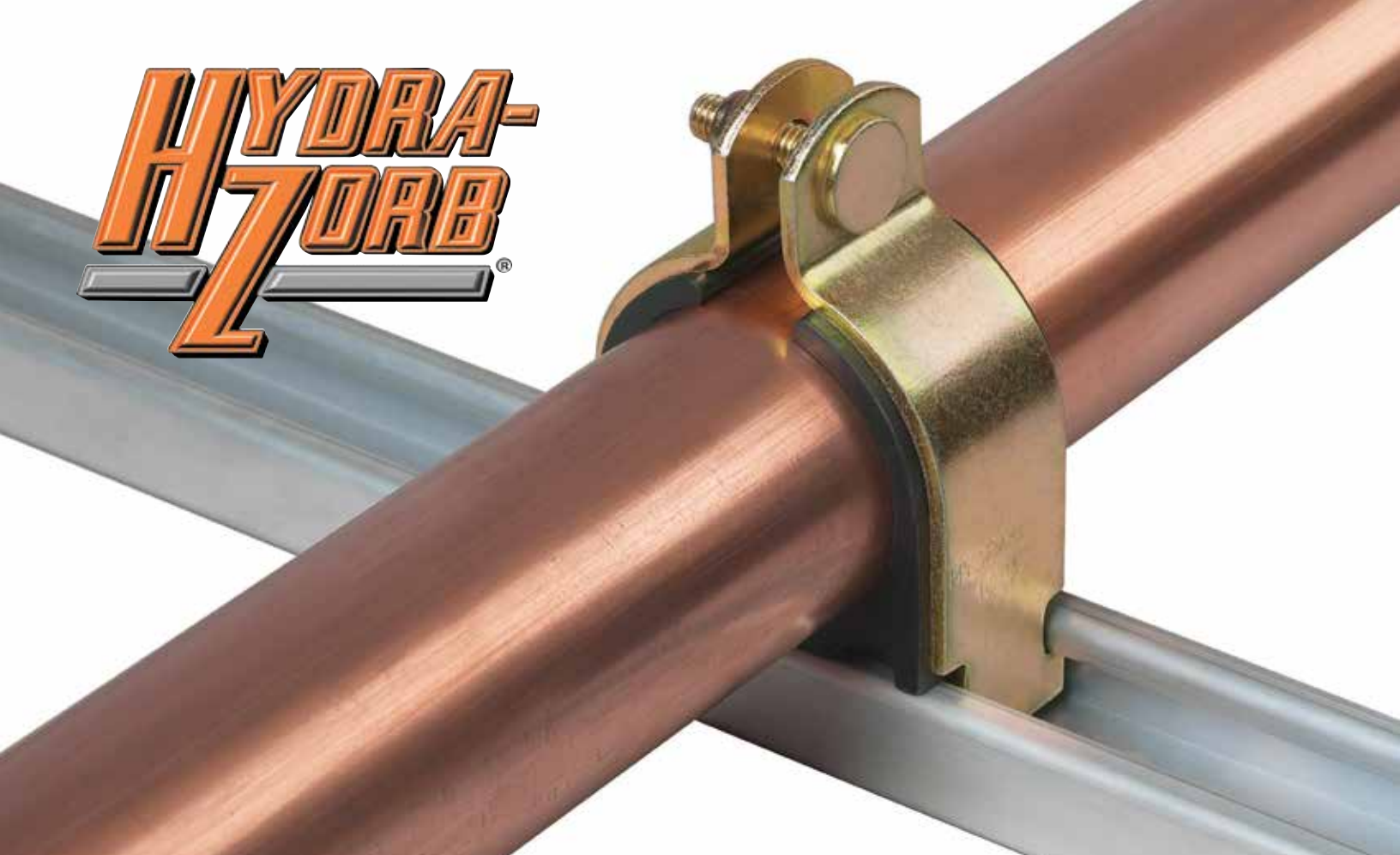


**HYDRA-
H7ORB**



Cushion Clamp Assemblies & Insulation Coupling Systems

**KLO-
SCHURE**





▲ **Hydra-Zorb® Strut Mounted Clamps** [page 2]

▼ **Klo-Shure® Insulation Couplings** [page 9]





Hydra-Zorb Co.® has been the leader in the strut mounted clamp market for over 50 years, offering a wide variety of solutions when shock, vibration and corrosion are a problem. As the originator of the cushion clamp assembly, Hydra-Zorb® is the name to request in the fluid power, pneumatic, refrigeration, HVAC and plumbing/mechanical industries.

Hydra-Zorb® cushion clamps:

- Cushion material is a thermoplastic elastomer rated from -65°F to +275°F
- Resist most fuels, oils, gases, greases, solvents, mineral acids and other harsh materials
- Allow fluid conductors to be added or removed from installations without disturbing adjacent lines
- Permit various size lines to be mixed to suit installation
- All metal components have a Tri-Valent (non-hex) plating
- Provide fast and simple installation. Only one man and one tool needed for assembly after base channel is in place
- Available in 304 and 316 stainless steel, aluminum and galvanized powder coated
- UL Classified Flame/Smoke
- Made in USA



Strut Mounted Cushion Clamp Assembly Numbers

Ordering is simple.

First, determine if you require tube or pipe series.

Second, determine the size of the line to be clamped.

That's it.



All standard clamp assemblies consist of a 6-digit part number. A complete listing of part numbers for the pipe and tube series is on pages 5-6. The clamp assemblies are shown by series 100 and 200 as:

100 – tube (O.D. tube)

200 – pipe (Nominal pipe)

The cushion size is indicated by decimal inch. The example will show how to order both tube and pipe series.

E X A M P L E

Ordering a 3/4" O.D. tube assembly

100 075
series decimal
inch

Ordering a 2 1/2" nominal pipe assembly

200 250
series decimal
inch

All standard strut mounted cushion clamps have the following features:

- Cushion material is a thermoplastic elastomer rated from -65°F to +275°F
- Clamps are 1008-1010 carbon steel
- Studs are projection welded
- Nylon insert locknut
- All metal components have a Tri-Valent (non-hex) plating



Additional Materials

These are commonly requested materials for special applications. Just add one of the following suffix numbers to your 6-digit part number.

(series)	(decimal inch)	(suffix)	
_____	_____	<u>- 4 - 555</u>	304 stainless steel clamps 304 stainless stud (welded) 304 locknut
_____	_____	<u>- 4 - 565</u>	304 stainless steel clamps 316 hex head bolt (loose) 304 locknut
_____	_____	<u>- 4 - 655</u>	316 stainless steel clamps 304 stainless stud (welded) 304 locknut
_____	_____	<u>- 4 - 666</u>	316 stainless steel clamps 316 hex head bolt (loose) 316 locknut
_____	_____	<u>- 4 - 865</u>	aluminum (5052) clamps* 316 hex head bolt (loose) 304 locknut

* Special Orders Only

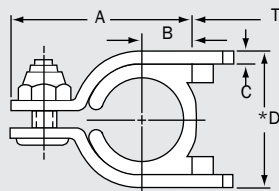


Cushion Clamp Assemblies

TUBE

Tube Outside Diameter		.250	.312	.375	.470	.500	.625	.750	.875	1.000	1.125	1.190	1.250	1.375
Clamp Assembly Part Number		100025	100031	100037	100047	100050	100062	100075	100087	100100	100112	100119	100125	100137
Quantity Per Box		25	25	25	25	25	25	25	25	25	20	20	20	20
ACR Tube				■	■	■	■	■	■		■			■
Refrigeration Serv.		■	■	■	■	■	■	■	■		■			■
Type “K” Copper				■	■	■	■	■	■		■			■
Type “L” Copper				■	■	■	■	■	■		■			■
Type “M” Copper				■	■	■	■	■	■		■			■
Steel		■	■	■	■	■	■	■	■	■	■	■	■	■
Stainless Steel		■	■	■	■	■	■	■	■	■	■	■	■	■
Aluminum				■		■	■	■	■	■			■	
PB				■		■	■		■		■			■
PVC				■			■		■		■			■
CPVC				■		■	■		■		■			■
PE				■			■		■		■			■
see diagram below)	A	1.11	1.24	1.24	1.36	1.36	1.50	1.78	1.91	2.03	2.16	2.30	2.30	2.75
	B	.22	.28	.28	.34	.34	.41	.53	.58	.66	.72	.72	.78	.91
	C	.075	.075	.075	.075	.075	.075	.075	.075	.075	.075	.105	.105	.119
	*D	.62	.75	.75	.87	.87	1.00	1.33	1.45	1.66	1.79	1.92	1.92	2.22

PIPE

Nominal Pipe Size	1/4	3/8	1/2	3/4	1	
Pipe O.D.	.54	.675	.84	1.05	1.315	
Clamp Assembly Part Number	200025	200037	200050	200075	200100	
Quantity Per Box	25	25	25	20	20	
Carbon Steel 5S, 10S, 40 & 80	■	■	■	■	■	
Stainless 5S, 10S, 40 & 80	■	■	■	■	■	
Red & Yellow Brass & Copper	■	■	■	■	■	
Aluminum 5S, 10S, 40 & 80	■	■	■	■	■	
PVC 48, 80 & 120	■	■	■	■	■	
CPVC 40 & 80	■	■	■	■	■	
PE 40 & 80	■	■	■	■	■	
PP 40 & 80	■	■	■	■	■	
PVDF 80		■	■	■	■	
PB 40		■	■	■	■	
ABS 40 & 80		■	■	■	■	
Fiberglass			■	■	■	
	A	1.41	1.59	1.91	2.16	2.75
	B	.63	.45	.59	.72	.91
	C	.075	.075	.075	.075	.119
	*D	.91	1.07	1.45	1.79	2.22
	*Minimum Required Installation Dimension					
For hoses: measure hose outside diameter and select nearest o.d. size						

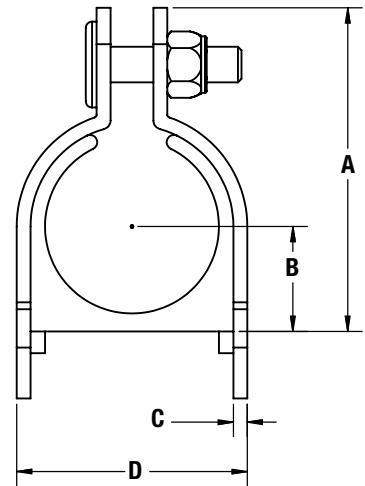
Engineering Information & Piping Assembly Chart

1.500	1.625	1.750	1.875	2.000	2.125	2.250	2.375	2.500	2.625	3.000	3.125	3.625	4.125	5.000	5.125	6.000	6.125
100150	100162	100175	100187	100200	100212	100225	100237	100251	100262	100300	100312	100362	100412	100500	100512	100600	100612
20	20	20	20	10	10	10	10	5	5	5	5	5	5	Each	Each	Each	Each
	■				■		■		■		■	■	■	■	■	■	■
	■																
	■				■				■		■	■	■	■	■	■	■
	■				■				■		■	■	■	■	■	■	■
	■				■				■		■	■	■	■	■	■	■
■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
■				■	■			■	■		■	■	■	■	■	■	■
	■				■				■		■	■	■	■	■	■	■
	■			■					■		■	■	■	■	■	■	■
				■					■		■	■	■	■	■	■	■
									■		■	■	■	■	■	■	■
2.75	3.03	3.03	3.28	3.28	3.53	3.78	3.78	4.03	4.03	4.52	4.52	5.03	5.66	6.75	6.75	7.75	7.75
.91	1.03	1.03	1.16	1.16	1.28	1.41	1.41	1.53	1.53	1.78	1.78	2.03	2.34	2.81	2.81	3.31	3.31
.119	.119	.119	.119	.119	.119	.119	.119	.119	.119	.119	.119	.119	.119	.119	.119	.119	.119
2.22	2.47	2.47	2.47	2.72	2.97	3.22	3.22	3.47	3.47	3.97	3.97	4.47	5.09	6.25	6.25	7.50	7.50

1-1/4	1-1/2	2	2-1/2	3	3-1/2	4	5	6
1.66	1.90	2.375	2.875	3.5	4.0	4.5	5.563	6.625
200125	200150	200200	200250	200300	200350	200400	200500	200600
20	20	10	5	5	5	5	Each	Each
■	■	■	■	■	■	■	■	■
■	■	■	■	■	■	■	■	■
■	■	■	■	■	■	■		
■	■	■	■	■	■	■	■	■
■	■	■	■	■	■	■	■	■
■	■	■	■	■	■	■	■	■
■	■	■	■	■	■	■	■	■
■	■	■	■	■	■	■	■	■
■	■	■	■	■	■	■	■	■
■	■	■	■	■	■	■	■	■
■	■	■	■	■	■	■	■	■
■	■	■	■	■	■	■	■	■
3.03	3.28	3.78	4.27	4.91	5.53	6.03	7.03	8.03
1.03	1.16	1.41	1.66	1.97	2.28	2.53	3.03	3.53
.119	.119	.119	.119	.119	.119	.119	.135	.135
2.47	2.47	3.22	3.72	4.36	4.97	5.47	6.47	7.47

NEW!

Cushion Clamps For Metric Pipe Sizes



Hydra-Zorb® Cushion Clamps for Metric Pipe Sizes:

- Cushion material is a thermoplastic elastomer rated from -65°F to +275°F
- Guards against shock, vibration and corrosion
- Supports metric polypropylene pipe.
- Classified UL Flame/Smoke for use in air handling systems
- Made in USA

PART NUMBER	DESCRIPTION	A	B	C	D
20 MMHZ	20mm Clamp Assembly	1.78	0.53	0.07	1.33
25 MMHZ	25mm Clamp Assembly	2.03	0.66	0.07	1.66
25 MMHZ	25mm Clamp Assembly	2.30	0.78	0.07	1.92
40 MMHZ	40mm Clamp Assembly	2.75	0.91	0.11	2.22
50 MMHZ	50mm Clamp Assembly	3.28	1.16	0.11	2.72
63 MMHZ	63mm Clamp Assembly	4.03	1.53	0.11	3.47
75 MMHZ	75mm Clamp Assembly	4.52	1.78	0.11	3.97
90 MMHZ	90mm Clamp Assembly	4.91	1.97	0.11	4.36
110 MMHZ	110mm Clamp Assembly	5.76	2.44	0.11	5.30
125 MMHZ	125mm Clamp Assembly	6.55	2.71	0.11	6.15
160 MMHZ	160mm Clamp Assembly	7.95	3.41	0.11	7.70

* Additional sizes available (see page 29).





Specification Data & Guidelines

Specification Data For Tube, Pipe & Hose Clamping

- All tube, pipe and hose lines are to be secured using resilient Hydra-Zorb cushions with clamps and anchoring channel or other similar approved equal method.
- Tube, pipe and hose are to be secured to the machine base or frame. Clamp assemblies shall allow:
 - pipe and tube sizes to be intermixed on variable centers to conserve space
 - for addition or removal of tube or pipe without unclamping other elements
 - tubes, pipes and hoses to be stacked back to back
 - installation without removing lines from supply or receiver.
- Cushions shall be of resilient material: resistant to oils, hydraulic fluids, grease, fuels, common solvents, dilute bases and mineral acids, and not degrade at operating temperatures of 275° F.
- Entire clamp assembly can be assembled or disassembled with a single hand or power wrench. Clamps should be spaced not more than 60 diameters apart or a maximum of 5 feet.
- Available in sizes from 1/4" to 6-1/8" o.d. tube and 1/4" to 6" nominal pipe. Available in mild steel, 304 and 316 stainless and aluminum (special order).
- Classified by UL for use in air handling systems

Guidelines For Reducing Vibration Shock And Noise In Fluid Systems

A. Isolate Pumps

- Use flexible couplings between pump and prime mover.
- Use adequately-sized hose between pump pressure port and start of tubing runs. A two or three foot length is adequate.
- Avoid solid contact between suction and return lines and fluid reservoir.
- Isolation mounts between the pump and prime mover & the reservoir or machine frame are highly desirable.

B. Rigidly Mount all Valves

- Mount all larger directional and flow control valves to the machine base or frame. Avoid in-line mounting.
- Smaller two-port solenoid, in-line flow and in-line check valves can be considered rigidly-mounted when installed directly next to a clamp point.



C. Minimize Fluid Resistance

- Use adequately-sized components and lines.
- Avoid drilled junction blocks.
- Keep conductor runs as straight as possible.
- Use bends rather than right angle fittings. Straight fittings for disassemble and service may be used as required.

D. Secure The Fluid Conductor System

- Use resilient cushion clamps.
- Normally, clamp spacing distance should not be more than 60 diameters.
- Where severe vibration is present, clamp spacing distance should not be more than 30 diameters.
- On long runs, vary clamp spacings by approximately 15% to break up and change vibration frequency.
- Provide clamps as close as possible to each side of a bend.
- Use unions rather than rigidly-mounted bulkhead fittings. Use clamps on each side of union to maintain alignment during service or reinstallation.
- All clamping should be made to the machine frame. However, clamping lines to each other is much better than not clamping.
- Use adequate lengths of flexible hose where required. Clamp tube directly adjacent to hose connection point. Clamp hose to base or frame when practical.





▲ With KLO-Shure®

▼ Without KLO-Shure®





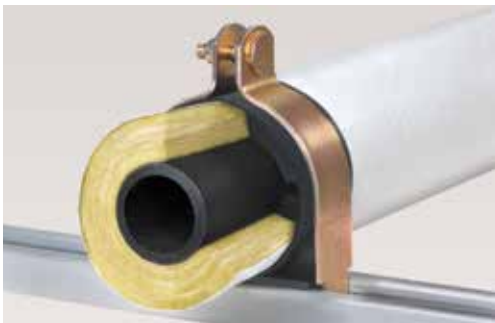
Patented Klo-Shure® Insulation Couplings allow sections of closed-cell, elastomeric or fiberglass insulation to be secured, eliminating most secondary operations at suspension points. It can also be used to simply join and secure two lengths of insulation.



7-Series Strut Mount supports and secures tubing in strut mounted applications.



8-Series Strut Mount installs in seconds without metal clamps.



9-Series Strut Mount for fiberglass insulation. Available for copper tube, iron pipe and millimeter sizing.



Clevis System locks the coupling into clevis hanger.

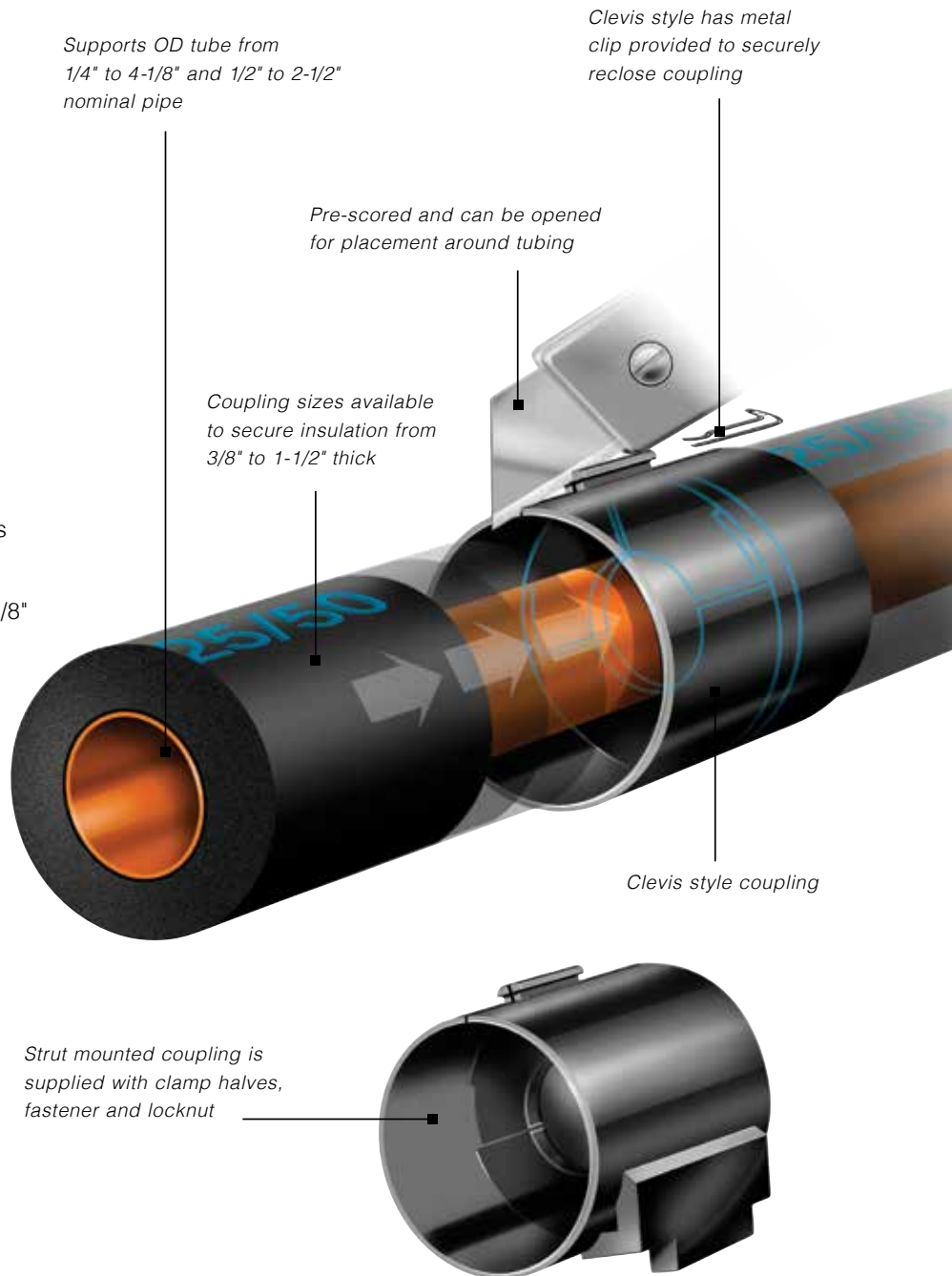


Klo-Shure® Features

Classified by UL for use in air handling systems.

UL 2043 spread / smoke index.

- Manufactured from high strength TPO plastic.
- Meets the 25/50 flame spread/ smoke developed index.
- Made in USA
- Superior vapor barrier
- Three times faster installation of closed-cell elastomeric and fiber glass insulation.
- Dramatically improved finished appearance of insulated tubing.
- Eliminates insulation compression at suspension points.
- For use with strut mounted clamps and clevis hangers.
- Supports OD tube from 1/4" to 4-1/8" and 1/2" to 2-1/2" nominal pipe
- Millimeter sizes available from 25mm - 90mm.
- Available with 304 or 316 stainless steel hardware.





Specification Data & Guidelines

Specification and Insulation Data

- All insulated copper tube and iron pipe lines are to be secured using resilient Klo-Shure® Insulation Couplings and Hydra-Zorb® anchor channel.
- Tubing supported and secured by internal part design.
- Insulation is to be inserted inside coupling with insulation contacting internal wall.
- Secondary operations (glue and tape) can be performed at the installer's discretion.
- Entire assembly can be assembled or disassembled with a single hand or power wrench.
- Proudly manufactured in the USA.

Klo-Shure Recommendations

- Coupling spacing should be no more than 60 diameters.
- Keep conductor runs as straight as possible.
- Overwrap of Klo-Shure® coupling with insulation is not required.
- 7 and 9-series acceptable for horizontal and vertical installations.



7-Series Strut Mount



8-Series Strut Mount



9-Series Strut Mount

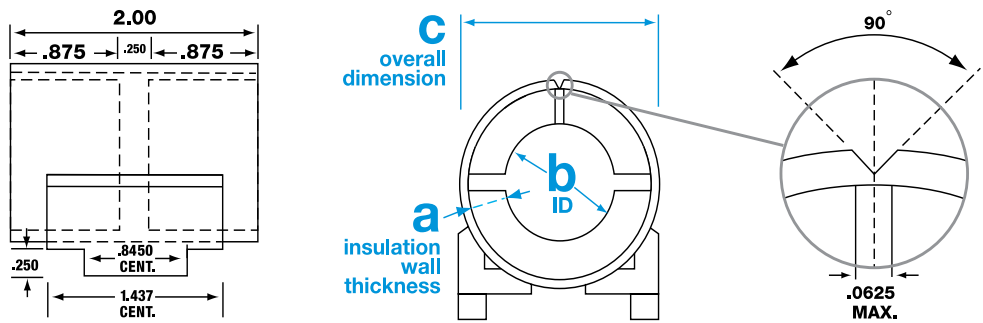


Clevis System



7-series Strut Mount Insulation Couplings

Klo-Shure® strut mounted parts include the Klo-Shure® Coupling, clamp halves with welded fastener and locknut. For use with elastomeric insulation.



Part Numbers:

All Klo-Shure® couplings consist of a 6-digit part number. This shows the breakdown of typical part numbers:

(i.e. Strut mounted coupling for 1-5/8" tube with 1" wall insulation)

728162

first digit
7= series

second digit
2 = strut mount
0 = clevis

third digit
insulation wall thickness
based on 1/8" increments
3 = 3/8"
4 = 1/2"
6 = 3/4"
8 = 1"
9 = 1-1/2"

last three digits
outer diameter
of the tubing/inner
diameter of
Klo-Shure®
Coupling
(decimal equivalent
in inches)

a
see diagram above

* b
Klo-Shure® ID
tube OD
c
overall
dimension

			part no.	quantity per box
Klo-Shure® Strut Mounted Coupling for 3/8" wall insulation	1/4" OD	1.12	723025	40
	3/8" OD	1.25	723037	25
	1/2" OD	1.37	723050	20
	5/8" OD	1.50	723062	20
	3/4" OD	1.62	723075	20
	7/8" OD	1.75	723087	20
	1" OD	1.87	723100	20
	1-1/8" OD	2.00	723112	20
	1-3/8" OD	2.25	723137	20
	1-5/8" OD	2.50	723162	10
	2-1/8" OD	3.00	723212	10

a

see diagram on previous page

***b**Klo-Shure® ID
tube OD**c**overall
dimension

part no.

quantity
per box

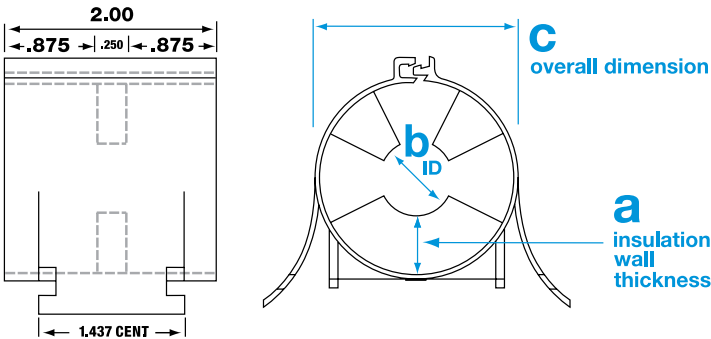
Klo-Shure® Strut Mounted Coupling for 1/2" wall insulation	1/2" OD	1.37	724 025	25
	3/8" OD	1.50	724 037	25
	1/2" OD	1.62	724 050	20
	5/8" OD	1.75	724 062	20
	3/4" OD	1.87	724 075	20
	7/8" OD	2.00	724 087	20
	1" OD	2.12	724 100	20
	1-1/8" OD	2.25	724 112	20
	1-3/8" OD	2.50	724 137	20
	1-5/8" OD	2.75	724 162	10
	2-1/8" OD	3.25	724 212	10
	2-5/8" OD	3.75	724 262	10
	3-1/8" OD	4.25	724 312	10
	3-5/8" OD	4.75	724 362	10
	4-1/8" OD	5.25	724 412	10
Klo-Shure® Strut Mounted Coupling for 3/4" wall insulation	1/4" OD	1.87	726 025	20
	3/8" OD	2.00	726 037	20
	1/2" OD	2.12	726 050	10
	5/8" OD	2.25	726 062	10
	3/4" OD	2.37	726 075	10
	7/8" OD	2.50	726 087	10
	1-1/8" OD	2.75	726 112	10
	1-3/8" OD	3.00	726 137	10
	1-5/8" OD	3.25	726 162	10
	2-1/8" OD	3.75	726 212	10
	2-5/8" OD	4.25	726 262	10
	3-1/8" OD	4.75	726 312	10
	3-5/8" OD	5.25	726 362	10
	4-1/8" OD	5.75	726 412	10
Klo-Shure® Strut Mounted Coupling for 1" wall insulation	5/16" OD	2.43	728 031	10
	3/8" OD	2.50	728 037	10
	1/2" OD	2.62	728 050	10
	5/8" OD	2.75	728 062	10
	3/4" OD	2.87	728 075	10
	7/8" OD	3.00	728 087	10
	1-1/8" OD	3.25	728 112	10
	1-3/8" OD	3.50	728 137	10
	1-5/8" OD	3.75	728 162	10
	2-1/8" OD	4.25	728 212	10
	2-5/8" OD	4.75	728 262	10
	3-1/8" OD	5.25	728 312	10
	3-5/8" OD	5.75	728 362	10
	4-1/8" OD	6.25	728 412	5
Klo-Shure® Strut Mounted Coupling for 1-1/2" wall insulation	5/16" OD	3.43	729 031	10
	3/8" OD	3.50	729 037	10
	1/2" OD	3.62	729 050	10
	5/8" OD	3.75	729 062	10
	7/8" OD	4.00	729 087	10
	1-1/8" OD	4.25	729 112	10
	1-3/8" OD	4.50	729 137	10
	1-5/8" OD	4.75	729 162	10
	2-1/8" OD	5.25	729 212	10
	2-5/8" OD	5.75	729 262	10
	3-1/8" OD	6.25	729 312	5

***Note:** Klo-Shure® ID equals copper tube OD. Chart indicates coupling sizes currently available from Klo-Shure®. All metal parts have Tri-Valent plating. Please contact Klo-Shure® for 304 or 316 stainless steel hardware pricing.



8-Series Strut Mount Insulation Couplings

The Klo-Shure® 8-series coupling allows the installer to insert the Klo-Shure coupling into channel and lock the top. No metal clamps needed. For use with elastomeric insulation. Optional hand tool is available.



Part Numbers:

All Klo-Shure® couplings consist of a 6-digit part number. This shows the breakdown of typical part numbers:

(i.e. Strut mounted coupling for 1-3/8" tube with 1/2" wall insulation)

824137

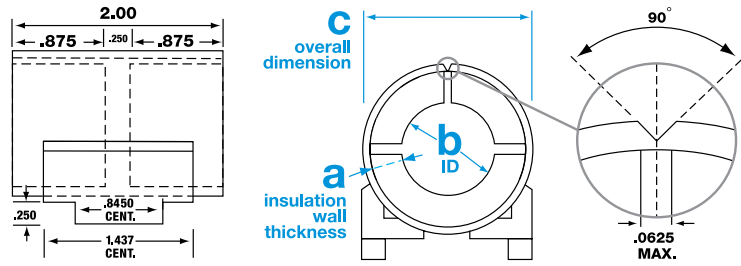
- first digit**
8 = series
- second digit**
2 = strut mount
- third digit**
insulation wall thickness based on 1/8" increments
3 = 3/8"
4 = 1/2"
6 = 3/4"
8 = 1"
- last three digits**
outer diameter of the tubing/inner diameter of Klo-Shure® Coupling (decimal equivalent in inches)

a see diagram above	* b Klo-Shure® ID tube OD	c overall dimension	part no.
Klo-Shure® Coupling for 1/2" wall insulation	1/2" OD	1.62	824 050
	5/8" OD	1.75	824 062
	7/8" OD	2.00	824 087
	1-1/8" OD	2.25	824 112
	1-3/8" OD	2.50	824 137
	1-5/8" OD	2.75	824 162
	2-1/8" OD	3.25	824 212
Klo-Shure® Coupling for 3/4" wall insulation	5/8" OD	2.25	826 062
	7/8" OD	2.50	826 087
	1-1/8" OD	2.75	826 112
	1-3/8" OD	3.00	826 137
Klo-Shure® Coupling for 1" wall insulation	7/8" OD	3.00	828 087
	1-1/8" OD	3.25	828 112
	1-3/8" OD	3.50	828 137
	1-5/8" OD	3.75	828 162
	2-1/8" OD	4.25	828 212
	2-5/8" OD	4.75	828 262



9-Series Strut Mount Insulation Couplings

Includes Klo-Shure® Coupling, clamp halves with welded fastener & locknut. For use with fiberglass insulation.



Part Numbers:

This example shows the breakdown of typical part numbers. (i.e. Strut mounted coupling for 1-5/8" tube with 1" wall insulation)
**Klo-Shure ID equals copper tube OD.*

928162

first digit
9 = series

second digit
2 = strut mount

third digit
insulation wall thickness based on 1/8" increments
4 = 1/2"
8 = 1"
9 = 1-1/2"

last three digits
outer diameter of the tube/pipe equals the inner diameter of Klo-Shure® Coupling (decimal equivalent in inches)

a
see diagram above

	* b Klo-Shure® ID pipe/tube OD	C overall dimension	part no.	quantity per box
Klo-Shure® Strut Mounted Coupling copper tube sizes for 1/2" wall fiberglass insulation	5/8" OD	1.785	924 062	20
	7/8" OD	2.025	924 087	20
	1-1/8" OD	2.285	924 112	20
	1-3/8" OD	2.500	924 137	10
	1-5/8" OD	2.845	924 162	10
	2-1/8" OD	3.285	924 212	10
Klo-Shure® Strut Mounted Coupling copper tube sizes for 1" wall fiberglass insulation	5/8" OD	3.008	928 062	10
	7/8" OD	3.008	928 087	10
	1-1/8" OD	3.008	928 112	10
	1-3/8" OD	3.638	928 137	10
	1-5/8" OD	3.638	928 162	10
	2-1/8" OD	4.138	928 212	10
	2-5/8" OD	4.648	928 262	10
Klo-Shure® Strut Mounted Coupling copper tube sizes for 1-1/2" wall fiberglass insulation	3-1/8" OD	5.138	928 312	10
	7/8" OD	4.138	929 087	10
	1-1/8" OD	4.138	929 112	10
	1-3/8" OD	4.648	929 137	10
	1-5/8" OD	5.138	929 162	10
Klo-Shure® Strut Mounted Coupling iron pipe sizes for 1/2" wall fiberglass insulation	2-1/8" OD	5.138	929 212	10
	1/2" pipe (0.84)**	2.025	924 084	20
	3/4" pipe (1.05)**	2.285	924 105	20
	1" pipe (1.31)**	2.500	924 131	10
	1-1/4" pipe (1.66)**	2.845	924 166	10
Klo-Shure® Strut Mounted Coupling iron pipe sizes for 1" wall fiberglass insulation	1-1/2" pipe (1.90)**	3.285	924 190	10
	1/2" pipe (0.84)**	3.008	928 084	10
	3/4" pipe (1.05)**	3.008	928 105	10
	1" pipe (1.31)**	3.638	928 131	10
	1-1/4" pipe (1.66)**	3.638	928 166	10
	1-1/2" pipe (1.90)**	3.950	928 190	10
	2" pipe (2.37)**	4.648	928 237	10
	2-1/2" pipe (2.87)**	5.138	928 287	10
Klo-Shure® Strut Mounted Coupling iron pipe sizes for 1-1/2" wall fiberglass insulation	1/2" pipe (0.84)**	4.138	929 084	10
	3/4" pipe (1.05)**	4.138	929 105	10
	1" pipe (1.31)**	4.648	929 131	10
	1-1/4" pipe (1.66)**	5.138	929 166	10
	1-1/2" pipe (1.90)**	5.138	929 190	10

* Note: Klo-Shure® ID equals copper pipe/tube OD.

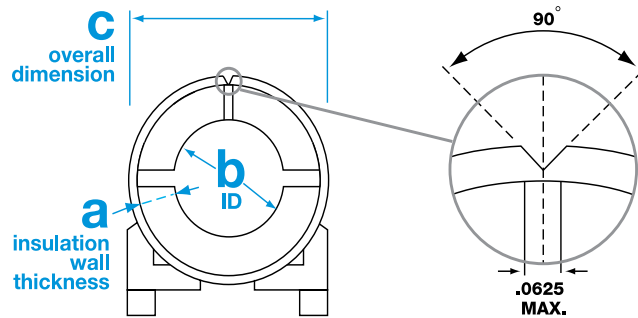
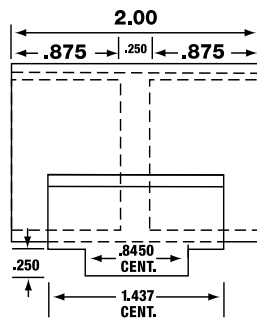
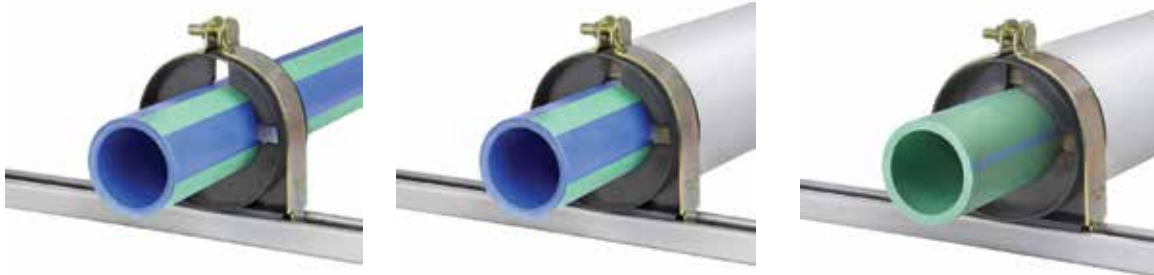
Chart indicates coupling sizes currently available from Klo-Shure®. All metal parts have Tri-Valent plating.

** Note: Nominal pipe OD listed in parenthesis.



9-series Strut Mount Insulation Couplings for Millimeter Pipe

Klo-Shure® strut mounted parts include the Klo-Shure® Coupling, clamp halves with welded fastener and locknut.



Part Numbers:

All Klo-Shure® couplings consist of a 6-digit part number. This shows the breakdown of typical part numbers:

(i.e. Strut mounted coupling for 63mm pipe with 1" wall insulation)

928M63. millimeter

first digit 9 = series

second digit 2 = strut mount
0 = clevis

third digit insulation wall thickness based on 1/8" increments
3 = 3/8"
4 = 1/2"
6 = 3/4"
8 = 1"
9 = 1-1/2"

last two digits outer diameter of the tubing/inner diameter of Klo-Shure® Coupling (decimal equivalent in mm)

a
see diagram above

*** b**
Klo-Shure® ID
pipe OD

c
overall
dimension

part no. **quantity per box**

Klo-Shure®
Strut Mounted Coupling for
1" wall insulation

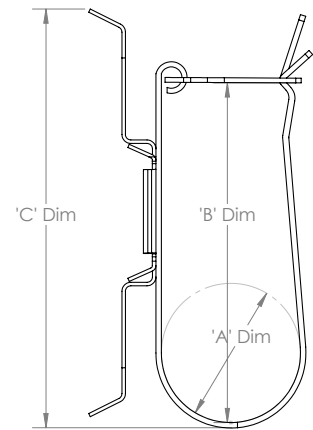
25 mm	3.008	928 M25	10
32 mm	3.638	928 M32	10
40 mm	3.638	928 M40	10
50 mm	4.138	928 M50	10
63 mm	4.638	928 M63	10
75 mm	5.138	928 M75	10
90 mm	5.750	928 M90	10





TRH Hanger System

The TRH Hanger System provides a superior fit and finish to better meet contractor and engineer specifications. By simply squeezing the tips together, the spring steel hanger can be secured or adjusted in seconds.



PART NUMBER	THREADED ROD DIAMETER	A	B	C
TRH-2	1/4" - 3/8"	1.28	3.12	3.82
TRH-3	1/4" - 3/8"	1.40	3.28	3.70
TRH-4	1/4" - 3/8"	2.40	4.17	5.00
TRH-5	1/4" - 3/8"	3.38	6.26	7.03

TRH Hanger System Features

The TRH Hanger System supports a pair of insulated flow and return refrigerant lines on 1/4" to 3/8" threaded rod. Simply fold the lock-tab over to secure the lines into the strap.

The spring steel hanger grips the rod tightly, and the black zinc coating offers corrosion resistance while matching the insulation color. The clamp can be detached from the rod hanger and used to secure lines to flat surfaces.

Works with 1/4"-3/8" threaded rod

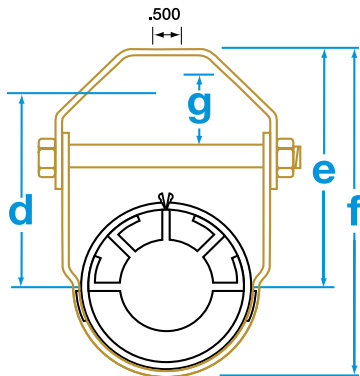
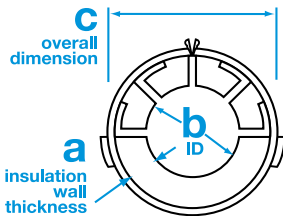
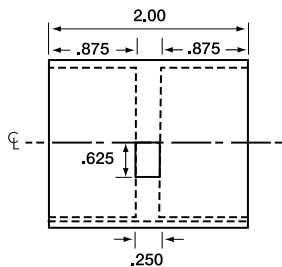
Supports a pair of insulated liquid and suction lines

Spring steel rod hanger can be fitted or adjusted in seconds



Clevis Hanger Insulation Couplings

Klo-Shure® clevis hanger system includes clevis hanger, plastic coupling and fastening clip.



coupling "C" dimension	material size	cross bolt size	max recommended load/lbs
2.12 to 3.25	14 ga. x 1.25	5/16"	250
3.50 to 5.75	12 ga. x 1.25	5/16"	350

Part Numbers:

All Klo-Shure® couplings consist of a 6-digit part number. This shows the breakdown of typical part numbers:

(i.e. Clevis Mounted part number for 2-1/8" tube with 3/4" wall insulation)

706212

first digit
7 = series

second digit

0 = clevis/round
2 = strut mount

third digit

insulation wall thickness based on 1/8" increments
3 = 3/8"
4 = 1/2"
6 = 3/4"
8 = 1"

last three digits

outer diameter of the tubing/inner diameter of Klo-Shure® Coupling (decimal equivalent in inches)



a	b	c	d	e	f	g	part no.
Klo-Shure® Clevis Hanger Coupling for 3/8" wall insulation	1/4" OD	1.12	-	-	-	-	703025
	3/8" OD	1.25	-	-	-	-	703037
	1/2" OD	1.37	-	-	-	-	703050
	5/8" OD	1.50	-	-	-	-	703062
	3/4" OD	1.62	-	-	-	-	703075
	7/8" OD	1.75	2-1/2	3-3/8	4-3/8	7/16	703087*
	1" OD	1.87	2-5/8	3-7/16	4-1/2	1/2	703100*
	1-1/8" OD	2.00	2-7/8	3-1/2	4-5/8	5/8	703112*
	1-3/8" OD	2.25	3-3/16	3-13/16	5	15/16	703137*
	1-5/8" OD	2.50	3-1/2	4	5-1/2	1-1/16	703162*
Klo-Shure® Clevis Hanger Coupling for 1/2" wall insulation	2-1/8" OD	3.00	4-3/16	4-3/4	6-1/2	1-5/16	703212*
	3/8" OD	1.50	-	-	-	-	704037
	1/2" OD	1.62	-	-	-	-	704050
	5/8" OD	1.75	2-1/2	3-3/8	4-3/8	7/16	704062*
	3/4" OD	1.87	2-5/8	3-7/16	4-1/2	1/2	704075*
	7/8" OD	2.00	2-7/8	3-1/2	4-5/8	5/8	704087*
	1" OD	2.12	3	3-5/8	4-7/8	7/8	704100*
	1-1/8" OD	2.25	3-3/16	3-13/16	5	15/16	704112*
	1-3/8" OD	2.50	3-1/2	4	5-1/2	1-1/16	704137*
	1-5/8" OD	2.75	3-3/4	4-3/8	5-7/8	1-1/4	704162*
Klo-Shure® Clevis Hanger Coupling for 3/4" wall insulation	2-1/8" OD	3.25	4-1/2	5-1/8	6-7/8	1-7/16	704212*
	2-5/8" OD	3.75	5	5-5/8	7-5/8	1-11/16	704262*
	3-1/8" OD	4.25	5-13/16	6-7/16	8-3/4	2-1/8	704312*
	3-5/8" OD	4.75	6-5/16	6-7/8	9-3/8	2-15/16	704362*
	4-1/8" OD	5.25	6-7/8	7-1/2	10-1/8	2-9/16	704412*
	1/4" OD	1.87	2-5/8	3-7/16	4-1/2	1/2	706025*
	3/8" OD	2.00	2-7/8	3-1/2	4-5/8	5/8	706037*
	1/2" OD	2.12	3	3-5/8	4-7/8	7/8	706050*
	5/8" OD	2.25	3-3/16	3-13/16	5	15/16	706062*
	3/4" OD	2.37	3-5/16	3-15/16	5-1/4	1	706075*
Klo-Shure® Clevis Hanger Coupling for 1" wall insulation	7/8" OD	2.50	3-1/2	4	5-1/2	1-1/16	706087*
	1-1/8" OD	2.75	3-3/4	4-3/8	5-7/8	1-1/4	706112*
	1-3/8" OD	3.00	4-3/16	4-3/4	6-1/2	1-5/16	706137*
	1-5/8" OD	3.25	4-1/2	5-1/8	6-7/8	1-7/16	706162*
	2-1/8" OD	3.75	5	5-5/8	7-5/8	1-11/16	706212*
	2-5/8" OD	4.25	5-13/16	6-7/16	8-3/4	2-1/8	706262*
	3-1/8" OD	4.75	6-5/16	6-7/8	9-3/8	2-5/16	706312*
	3-5/8" OD	5.25	6-7/8	7-1/2	10-1/8	2-9/16	706362*
	4-1/8" OD	5.75	7-1/4	7-7/8	10-3/4	2-3/4	706412*
	5/8" OD	2.75	3-3/4	4-3/8	5-7/8	1-1/4	708062*
Klo-Shure® Clevis Hanger Coupling for 1" wall insulation	7/8" OD	3.00	4-3/16	4-3/4	6-1/2	1-5/16	708087*
	1-1/8" OD	3.25	4-1/2	5-1/8	6-7/8	1-7/16	708112*
	1-3/8" OD	3.50	4-3/4	5-3/8	7-1/4	1-9/16	708137*
	1-5/8" OD	3.75	5	5-5/8	7-5/8	1-11/16	708162*
	2-1/8" OD	4.25	5-13/16	6-7/16	8-3/4	2-1/8	708212*
	2-5/8" OD	4.75	6-5/16	6-7/8	9-3/8	2-5/16	708262*
	3-1/8" OD	5.25	6-7/8	7-1/2	10-1/8	2-9/16	708312*
	3-5/8" OD	5.75	7-1/4	7-7/8	10-3/4	2-3/4	708362*

Note: Klo-Shure® ID equals copper tube OD. Chart indicates coupling sizes currently available from Klo-Shure®. Plastic coupling available without clevis hanger. Contact factory for price and availability. * Part number includes metal clevis hanger. All metal parts have Tri-Valent plating.



Modu-Stak Cushion Series

Hydra-Zorb®'s Modu-Stak cushion clamps are available in a wide variety of configurations. To assist in the ordering procedure, we are highlighting the most popular single and multi-tier assemblies.



General Characteristics

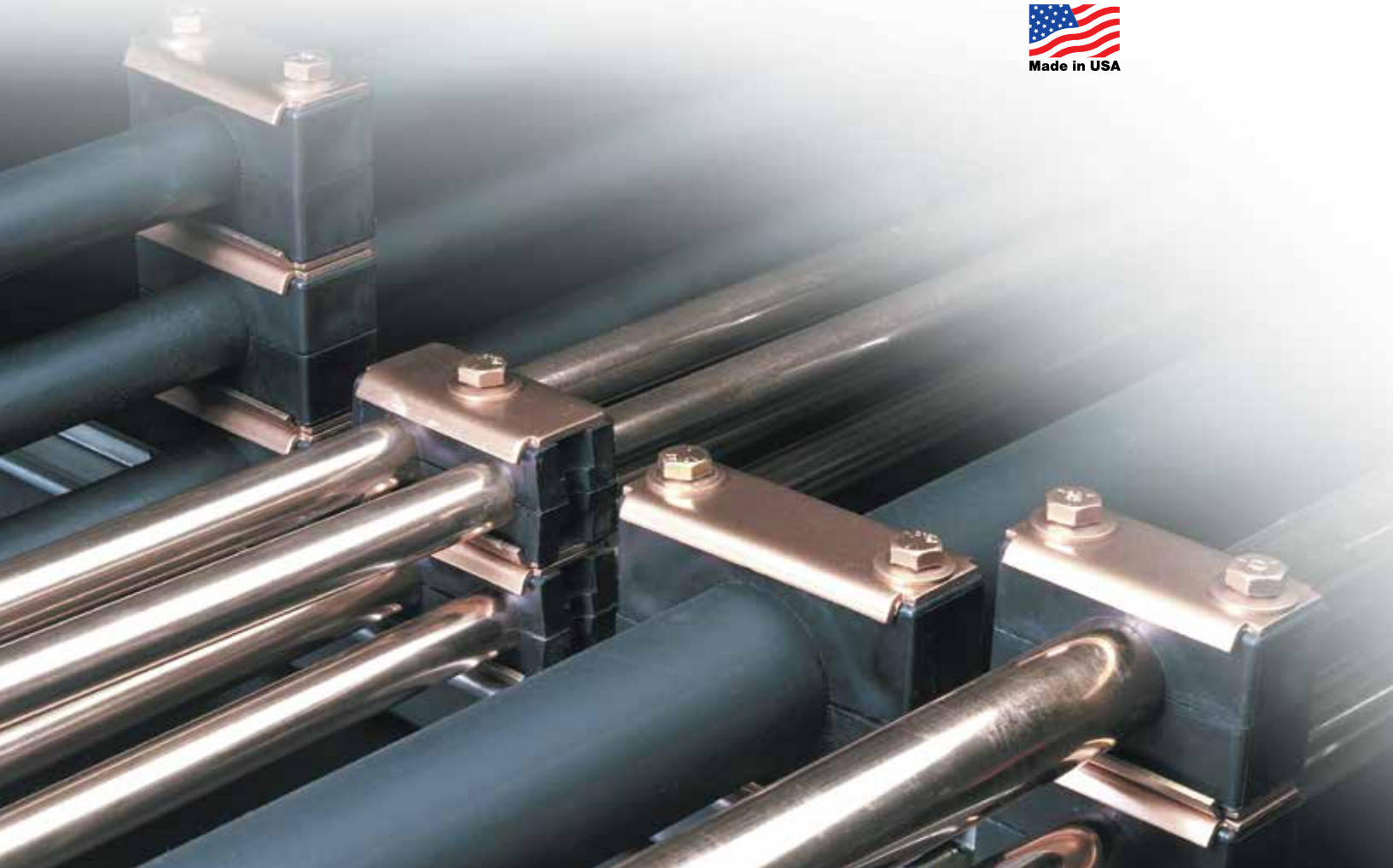
- Cushion material is polypropylene with working temperature from -20°F to 212°F.
- Reduce noise, shock and vibration caused by surges in fluid conductors.
- Eliminate metal to metal contact between fluid conductors & clamps preventing galvanic reaction.
- Resists most fuels, oils, gases, greases, solvents, etc.
- Provide fast and simple installation.
- Extensive selection of components for assemblies can meet varying application requirements.
- Assemblies available in either single or double line.

Mounting Features

- Clamp assemblies can use weld plates, be bolted directly into place, utilize channel mounting or be suspended using customer supplied threaded rod.
- Formed weld bases have integral weld nuts secured from the underside. Weld failure cannot cause clamp failure.
- Heavy weld plates, including integral weld nuts, are available for heavy duty applications.

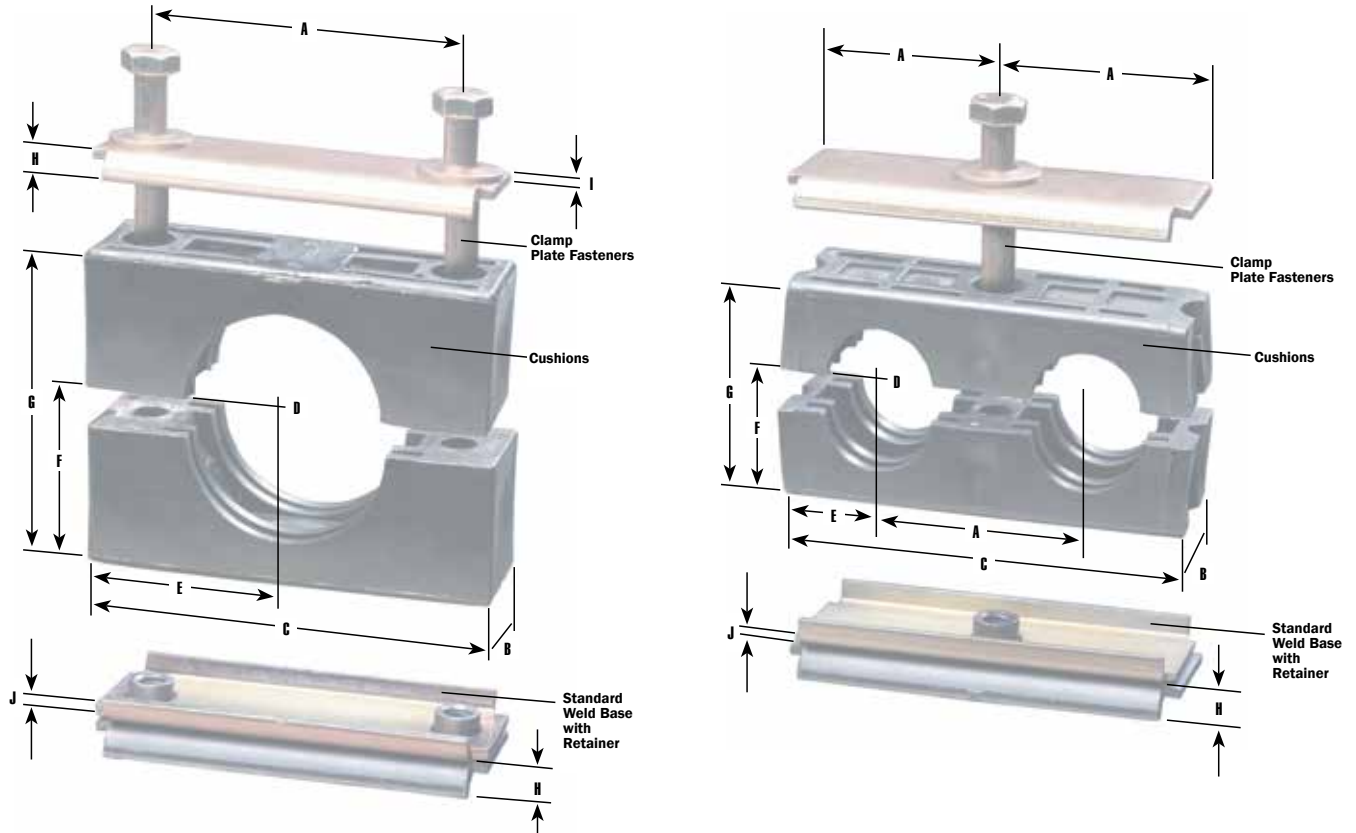
Stacking & Tiering

- Center distance of mounting holes (bolt holes) and height of the assembly are identical.
- All assembly sizes (like series) are the same width for good appearance when stacked together.
- Double retainer plates are used for heavier duty applications (required when stacking or tiering).



Component Selection

Modu-Stak are available in a wide variety of configurations. A twelve digit assembly number completely specifies all components of a standard assembly. The first step is to determine the cushion series type, page 23. Next, determine the cushion I.D. size for your application, page 24. Pages 25 and 26 will show the most popular ways of mounting single and double tier Modu-Stak assemblies.



Clamp Series & Type	A	B	C	D	E	F	G	H	I	J
511		1.16	1.45	Cushion I.D. (see page 24)			.85			
521	1	1.16	1.90		.95	.425	.85	.30	.075	.075
522	1	1.16	1.94		.45	.425	.85	.30	.075	.075
524	1	1.16	3.88		.45	.425	.85	.30	.075	.075
531	1 1/2	1.16	2.40		1.20	.675	1.35	.30	.105	.075
532	1 1/2	1.16	2.94		.72	.675	1.35	.30	.105	.075
541	2	1.16	2.90		1.45	.925	1.85	.30	.105	.075
542	2	1.16	3.94		1.87	.925	1.85	.30	.105	.075
561	3	1.16	3.90		1.95	1.395	2.79	.30	.105	.105

Modu-Stak Cushion Series

0

See page 22 for dimensions. Drawings are 1/2" scale.



511



521



522



524



531



532



541



542



561



Stock size shown shaded. Other cushion I.D. sizes are available when production quantities warrant, including two different cushion I.D. sizes in a double clamp. Use only single cushions for bulkhead applications.

Modu-Stak Single-Tier Arrangements

To simplify the ordering process, these pages show the most popular methods of mounting Modu-Stak assemblies. To complete the numbering process, you will need to indicate the series number and the cushion I.D. Detailed on pages 23 and 24).

Drill and Tap Mount

series type cushion I.D. 00 0111



Standard Weld Base

series type cushion I.D. 00 1111



Spring Nut Mount
(Channel not included)

series type cushion I.D. 00 3211



Heavy Duty Weld Base (NEW)
(7 GA.)

series type cushion I.D. 00 8111



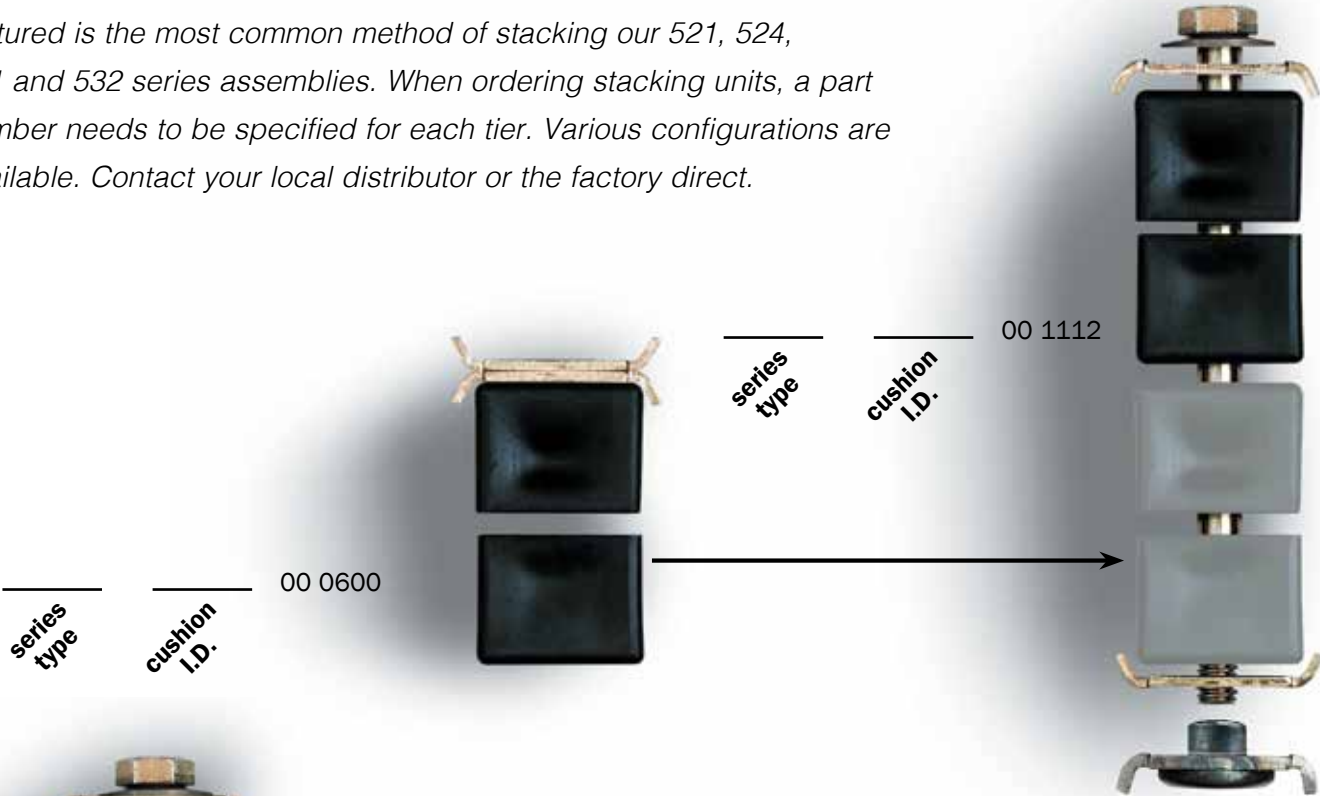
Old Style Still Available
(.375" steel/special order)



series type cushion I.D. 00 6111

Modu-Stak Multi-Tier-Arrangements

Pictured is the most common method of stacking our 521, 524, 531 and 532 series assemblies. When ordering stacking units, a part number needs to be specified for each tier. Various configurations are available. Contact your local distributor or the factory direct.



The most common way to stack our 541, 542 and 561 Modu-Stak series is shown. When ordering stacking units, a part number needs to be specified for each tier.



series type cushion I.D. 00 4111

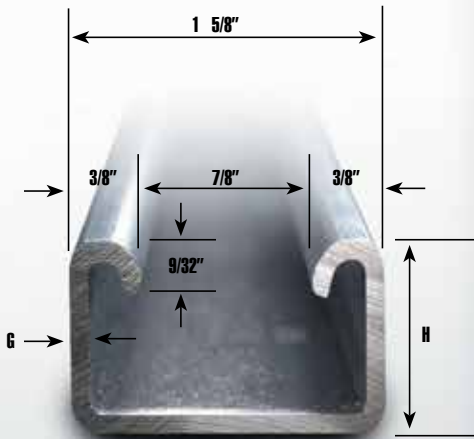
series type cushion I.D. 00 1771



Anchor Channels

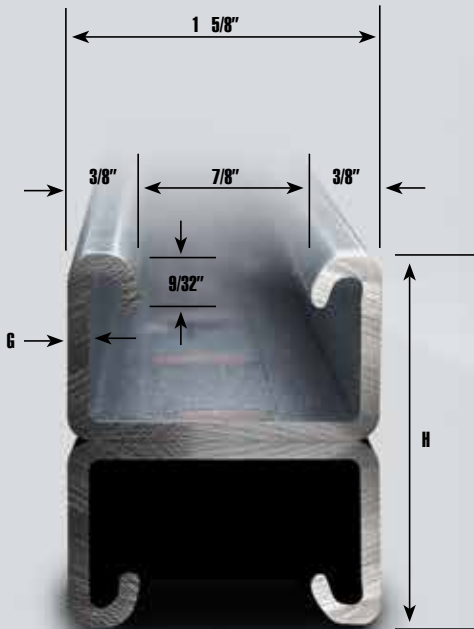
SINGLE

Part Number	Height (H)	Gauge (G)
121036-1-203	1"	12 GA.
121048-1-203	1"	12 GA.
121120-1-203	1"	12 GA.
121036-1-202	7/8"	12 GA.
121048-1-202	7/8"	12 GA.
121120-1-202	7/8"	12 GA.
121048-1-101	13/16"	14 GA.
121120-1-101	13/16"	14 GA.
121048-5-101	13/16"	14 GA.
121120-5-101	13/16"	14 GA.
121048-6-101	13/16"	14 GA.
121120-6-101	13/16"	14 GA.



DOUBLE

Part Number	Height (H)	Gauge (G)
122048-1-203	2"	12 GA.
122120-1-203	2"	12 GA.
122048-1-202	1 3/4"	12 GA.
122120-1-202	1 3/4"	12 GA.
122048-1-101	1 5/8"	14 GA.
122120-1-101	1 5/8"	14 GA.
122048-5-101	1 5/8"	14 GA.
122120-5-101	1 5/8"	14 GA.
122048-6-101	1 5/8"	14 GA.
122120-6-101	1 5/8"	14 GA.





Material	Length	
Steel	36"	<p>All channel widths are 1-5/8"</p> <p>All steel channel shipped with plain finish (hot rolled p.o.)</p> <p>Lengths listed are stock sizes. Special lengths are available; please contact your local distributor or the factory.</p> <p>All special cut tolerances are $\pm 1/8"$</p>
Steel	48"	
Steel	120"	
Steel	36"	
Steel	48"	
Steel	120"	
Steel	48"	
Steel	120"	
304 SS	48"	
304 SS	120"	
316 SS	48"	
316 SS	120"	

Material	Length	
Steel	48"	<p>All channel widths are 1-5/8"</p> <p>All steel channel shipped with plain finish (hot rolled p.o.).</p> <p>Lengths listed are stock sizes. Special lengths are available; please contact your local distributor or the factory.</p> <p>All special cut tolerances are $\pm 1/8"$</p>
Steel	120"	
Steel	48"	
Steel	120"	
Steel	48"	
Steel	120"	
304 SS	48"	
304 SS	120"	
316 SS	48"	
316 SS	120"	

Hydra-Zorb® Component Parts List *

PART NUMBER OD TUBE SERIES	OD Tube Size	PART NUMBER NOM PIPE SIZE	Nom Pipe Size	PART NUMBER MM SERIES	mm Size	CUSHION NUMBER	CUSHION ID SIZE (Inches)	CUSHION ID SIZE (mm)	CLAMP NUMBER	CLAMP SIZE (Inches)	FASTENER
100025	1/4"			6MMHZ	6	1 .250	0.250	6.3	101037	0.375	1/4-20
100031	5/16"			8MMHZ	8	1 .312	0.312	7.9	101050	0.500	1/4-20
100037	3/8"			10MMHZ	10	1 .375	0.375	9.5	101050	0.500	1/4-20
100047	.47"			12MMHZ	12	1 .470	0.470	11.9	101062	0.625	1/4-20
100050	1/2"			13MMHZ	13	1 .500	0.500	12.7	101062	0.625	1/4-20
		200025	1/4"	14MMHZ	14	2 .250	0.540	13.7	101067	0.675	1/4-20
				15MMHZ	15	1 .625	0.625	15.9	101067	0.675	1/4-20
100062	5/8"			16MMHZ	16	1 .625	0.625	15.9	101075	0.750	1/4-20
		200037	3/8"	17MMHZ	17	2 .375	0.675	17.1	101084	0.840	1/4-20
				18MMHZ	18	2 .375	0.675	17.1	101087	0.875	1/4-20
100075	3/4"			19MMHZ	19	1 .750	0.750	19.0	101100	1.000	1/4-20
				20MMHZ	20	1 .750	0.750	19.0	101100	1.000	1/4-20
		200050	1/2"		21	2 .500	0.750	21.3	101112	1.000	1/4-20
100087	7/8"			22MMHZ	22	1 .875	0.875	22.2	101112	1.125	1/4-20
				25MMHZ	25	1 1.00	1.000	25.0	100125	1.250	1/4-20
100100	1"			26MMHZ	26	1 1.00	1.000	25.4	101125	1.250	1/4-20
		200075	3/4"	27MMHZ	27	2 .750	1.050	28.0	101137	1.375	1/4-20
100112	1-1/8"			28MMHZ	28	1 1.12	1.125	29.2	101137	1.375	1/4-20
100119	1.19"			30MMHZ	30	1 1.19	1.190	30.2	101150	1.500	1/4-20
100125	1-1/4"			32MMHZ	32	1 1.25	1.250	31.8	101150	1.500	1/4-20
		200100	1"	34MMHZ	34	2 1.00	1.315	33.5	101175	1.750	5/16-18
100137	1-3/8"			35MMHZ	35	1 1.37	1.375	34.9	101162	1.620	5/16-18
100150	1-1/2"			38MMHZ	38	1 1.50	1.500	38.1	101175	1.750	5/16-18
				40MMHZ	40	1 1.50	1.500	40.0	101187	1.870	5/16-18
100162	1-5/8"				41	1 1.62	1.625	41.1	101187	1.870	5/16-18
		200125	1-1/4"	42MMHZ	42	2 1.25	1.660	42.2	101200	2.000	5/16-18
100175	1-3/4"			45MMHZ	45	1 1.75	1.750	44.5	101200	2.000	5/16-18
100187	1-7/8"	200150	1-1/2"	48MMHZ	48	2 1.50	1.900	48.2	101225	2.250	5/16-18
				50MMHZ	50	1 2.00	2.000	50.0	101225	2.250	5/16-18
100200	2"			51MMHZ	51	1 2.00	2.000	50.8	101225	2.250	5/16-18
100212	2-1/8"			54MMHZ	54	1 2.12	2.125	54.1	101250	2.500	5/16-18
100225	2-1/4"				57	1 2.25	2.250	57.1	101275	2.750	5/16-18
100237	2-3/8"	200200	2"	60MMHZ	60	2 2.00	2.375	60.4	101275	2.750	5/16-18
				63MMHZ	63	1 2.50	2.500	63.0	101300	3.000	5/16-18
100251	2-1/2"			64MMHZ	64	1 2.50	2.500	63.5	101300	3.000	5/16-18
100262	2-5/8"			66MMHZ	66	1 2.62	2.625	66.5	101300	3.000	5/16-18
	2-7/8"	200250	2-1/2"	72MMHZ	72	2 2.50	2.875	73.2	101325	3.250	5/16-18
				75MMHZ	75	1 3.12	3.120	75.0	101337	3.370	5/16-18
100300	3"				77	1 3.00	3.000	76.2	101350	3.500	5/16-18
100312	3-1/8"			80MMHZ	80	1 3.12	3.120	79.2	101350	3.500	5/16-18
100337	3-3/8"				86	2 3.00	3.500	88.9	101375	3.750	3/8-16
	3-1/2"	200300	3"	90MMHZ	90	2 3.00	3.500	88.9	101387	3.875	3/8-16
100362	3-5/8"				92	2 3.00	3.500	88.9	101400	4.000	3/8-16
100400	4"	200350	3-1/2"		102	2 3.50	4.000	101.6	101450	4.500	3/8-16
100412	4-1/8"				105	2 3.50	4.000	105.0	101462	4.625	3/8-16
100425	4-1/4"				108	2 3.50	4.000	108.0	101475	4.750	3/8-16
100431				110MMHZ	110	2 4.00	4.500	111.0	101487	4.875	3/8-16
100437	4-3/8"				111	2 4.00	4.500	111.0	101487	4.875	3/8-16
	4-1/2"	200400	4"		113	2 4.00	4.500	113.0	101500	5.000	3/8-16
100462	4-5/8"				118	2 4.00	4.500	118.0	101512	5.125	3/8-16
100492				125MMHZ	125	2 4.00	4.500	125.0	101550	5.500	3/8-16
100500	5"				127	1 5.12	5.125	127.0	101550	5.500	3/8-16
100512	5-1/8"				130	1 5.12	5.125	130.0	101550	5.500	3/8-16
		200500	5"		141	2 5.00	5.563	141.2	101600	6.000	3/8-16
100600	6"				152	1 6.12	6.125	152.0	101637	6.375	3/8-16
100612	6-1/8"				155	1 6.12	6.125	155.0	101637	6.375	3/8-16
100631				160MMHZ	160	2 6.00	6.625	160.0	101637	6.375	3/8-16
100637	6-3/8"				162	2 6.00	6.625	162.0	101675	6.750	3/8-16
100650	6-1/2"	200600	6"		165	2 6.00	6.625	165.0	101700	7.000	3/8-16

* See Terms and Conditions of Sale

Terms and Conditions of Sale

Agreements:

All agreements are subject to availability of material, accidents, or other causes beyond our control.

Warranty:

Hydra-Zorb Co. and Klo-Shure Inc., (Company), warrants only products manufactured by Company to be free from defects for a period of 12 months from shipment date. Products must be used for their intended purpose. If goods are found to be defective, Company will replace the product but will not be responsible for labor or expense of replacing or repairing defective goods or damage resulting from same. The Company makes no other warranty of any kind, expressed or implied. Any implied warranties made by resellers of Company's product are hereby disclaimed by Company and are excluded from this warranty. Warranty will be void if Company manufactured clamps and/or cushions are substituted with components produced by other manufacturers.

Claims:

No claims for shortages allowed unless made in writing within ten days of receipt of goods. All materials sent out will be carefully examined, counted, and packed. Claims for goods damaged or lost in transit should be made on the carrier, as our responsibility ceases on delivery to the carrier.

Returns:

Complete customer satisfaction is our goal. However, if our product does not meet your expectations, we offer the following return policies:

1. Return requests must occur within 30 days of shipment. No return requests will be honored more than 30 days after the original shipment date.
2. All returns are at the discretion of the Company, and we reserve the right to limit or refuse a return for any reason.
3. Special order products cannot be returned. This includes, but is not limited to, custom labeled product, all anchor channel, and stainless steel, hot-dip galvanized and aluminum assemblies.
4. Requests to return product must be accompanied by the original invoice number, sales order number, or purchase order number on which the purchase occurred.

5. Return Material Authorization (RMA) must be issued by Company before return shipment occurs. RMA # must be clearly marked on all packages.
6. Product returns are subject to a 35% restocking fee. Parts must be in unopened, saleable condition, and include all component parts.
7. Upon receipt of the return, product will be inspected. Any parts requiring new packaging will be subject to a 50% restocking fee.
8. Return freight charges to the Company must be pre-paid by Customer.
9. Upon inspection of parts, a credit will be issued to your account which may be applied to open invoices or future invoices. Cash refunds will not be issued.
10. This Agreement and the rights and obligations of the parties hereunder shall be governed exclusively by the applicable laws of the State of Michigan. Further any and all disputes hereunder shall be resolved exclusively by the courts located in Oakland County, Michigan and the parties stipulate to exclusive jurisdiction in Oakland County, Michigan to resolve any said disputes.
11. Any and all costs and expenses of the Company, including all reasonable attorney fees, incurred in enforcing its rights hereunder shall be recoverable from Purchaser hereunder.

Terms And Design:

Subject to change without notice. Refer to current price list for terms of sale. Hydra-Zorb reserves the right to revise product design, product offerings, and catalog without notification.

Freight Terms:

All prices are F.O.B. point of shipment.

Dimensions And Weights:

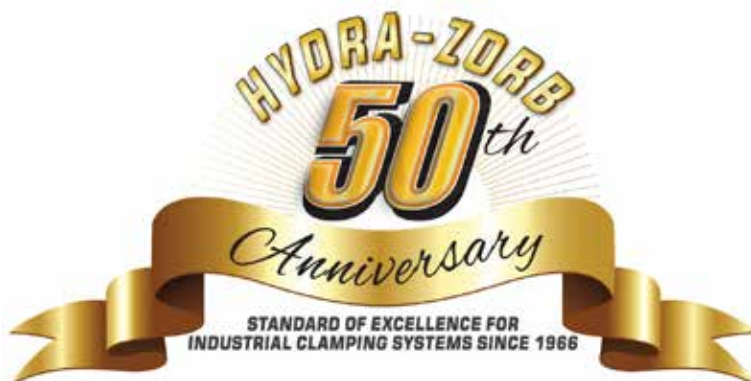
Although the Company makes every attempt to be as accurate as possible, all listed dimensions and weights are approximations and are not guaranteed.

International Shipments:

Purchaser is responsible for any import duty or fees related to your purchase.



Cushion Clamp Assemblies & Insulation Coupling Systems



www.hydra-zorb.com - www.klo-shure.com

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