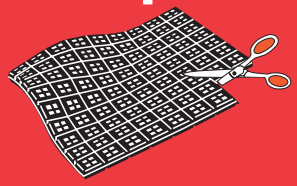
MASON WHOLESALE
A Division of Mason Industries

Product Catalog and Reference Guide

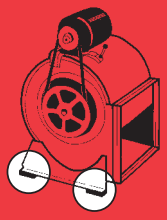
Neoprene Pads, Mounts & Hangers



Super W Pads

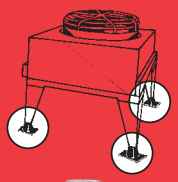






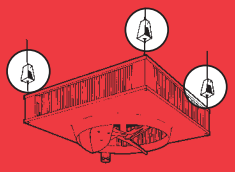
ND Mounts





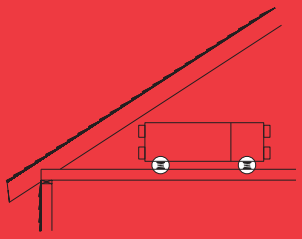
HD Hangers





Spring Mounts & Hangers

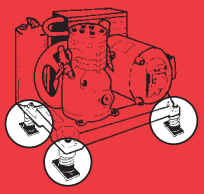


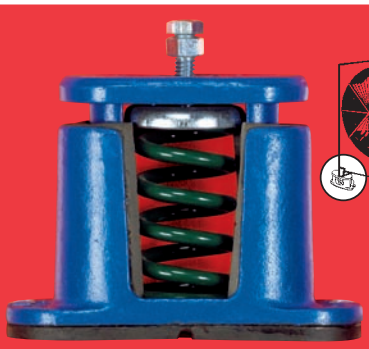


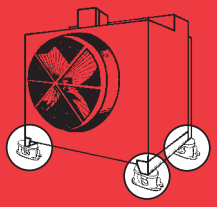
IMF Mounts



SLFH Mounts

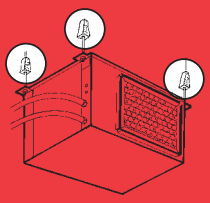






C Mounts

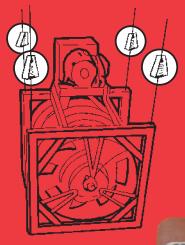


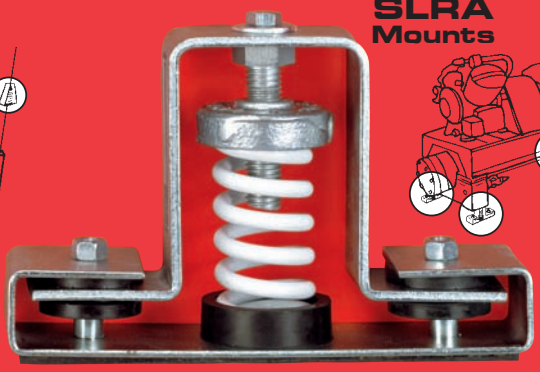




HS Hangers

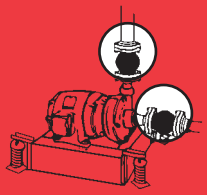
30N Hangers





SLRA Mounts

Flexible Connectors



SFU Connectors

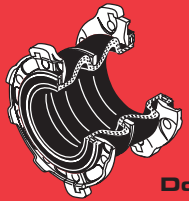




ULCPS
UL Approved Refrigerant Hose



SFEJ
Single Sphere



SFDEJ
Double Sphere

Also Available—



MN
Male Nipples



FFL
Fixed & Floating Flanges

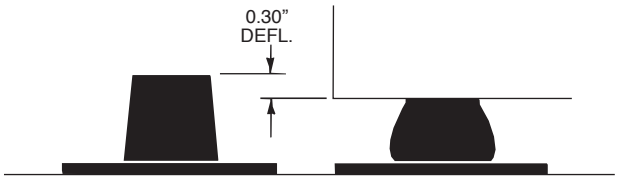
Selection and Performance of Vibration Pads, Mounts and Hangers

DEFLECTION

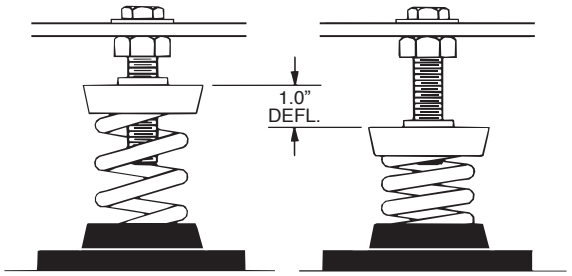
The More The Better.

Deflection is the change in a flexible element's unloaded to loaded height. It is the deflection that determines how well the isolator works. More deflection means less vibration transmission. A soft, yielding support is better than a stiff one.

There are three classes of vibration isolators based on deflection: 1) Pads deflect the least (unless stacked), so they act mostly as noise breaks. They interrupt hard surface-to-surface contact and reduce high frequency vibration. 2) Neoprene mounts and hangers deflect more and are the first step in true vibration control. 3) Spring isolators have the greatest deflection for maximum vibration reduction.



ND NEOPRENE MOUNT



SLFH SPRING MOUNT

LOCATION

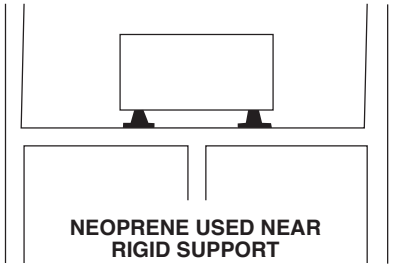
Sensitive Structural Supports Require Greater Deflections.

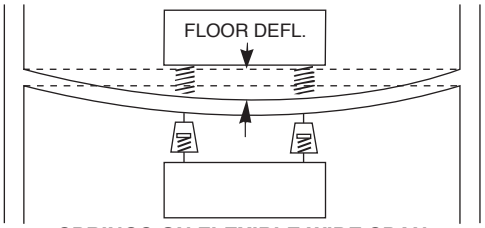
The location of your equipment in the building is the main deciding factor in selecting either neoprene mounts or springs. Neoprene mountings are satisfactory under equipment on a very stiff support structure such as a ground supported concrete slab. On upper building levels where the structure can be very susceptible to vibration, springs are necessary.

The key to proper isolator selection in upper levels is to make sure isolator deflection is much greater than floor deflection.

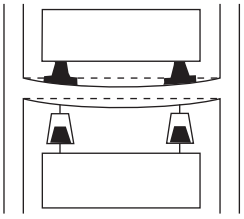
If equipment is running below 1200 rpm, springs are required regardless of location.

(The importance of location is the same for isolating suspended equipment.)


NEOPRENE USED NEAR RIGID SUPPORT



SPRINGS ON FLEXIBLE WIDE SPAN


NEOPRENE USED ON RIGID NARROW SPAN

SELECTION

Making It Work!

To select the proper isolation for mechanical equipment in most applications you need to ask:

1. Is slowest equipment SPEED ABOVE 1200 rpm?

   If NO, use spring mountings.
   If YES, see 2.

   Vibration from equipment running at slow or variable speeds can pass through low deflection isolators and possibly be amplified by them.

2. Is equipment LOCATED on a RIGID concrete building structure or a FLEXIBLE VIBRATION SENSITIVE structure?

   If RIGID, use tall "double deflection" neoprene or springs
   If FLEXIBLE, use springs only.

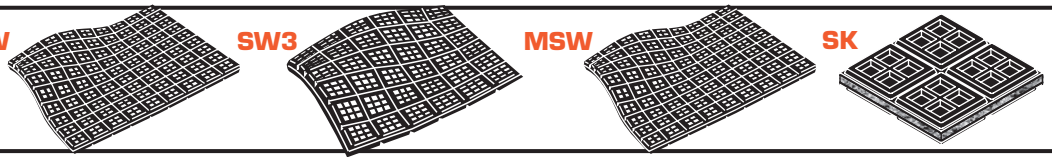
   The key is to select isolators that are "softer" than the supporting building structure. Ideally isolator deflection should be more than three times greater than the deflection or "sag" of the support.

3. What is the equipment's "corner weight" or weight at each mounting point?

   The load rating of each spring or rubber mounting must be matched with the portion of the equipment's weight at the corners or mounting points. Equipment corner weights usually differ and require the use of mountings with different load capacities. Oversized mountings may be used but can reduce vibration control. Select mountings with load capacities equal to or slightly greater than the portion of the equipment weight they are to support.

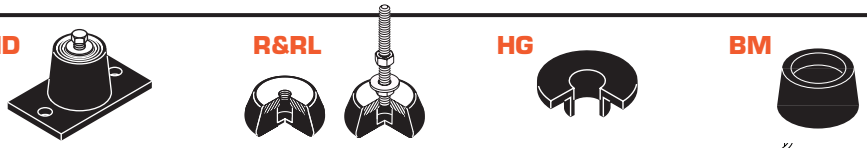
Table of Contents

PADS

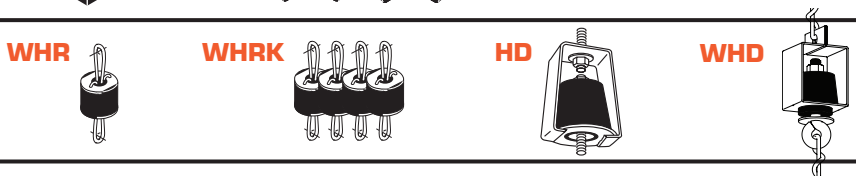


Pads — Pages 4 - 5

RUBBER

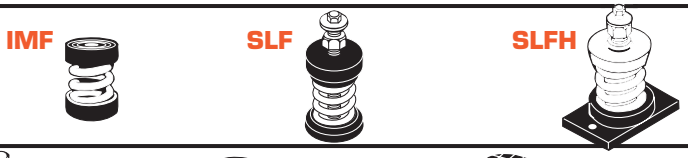


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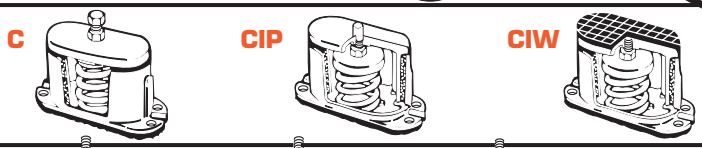


LDS Rubber Hangers — Page 7

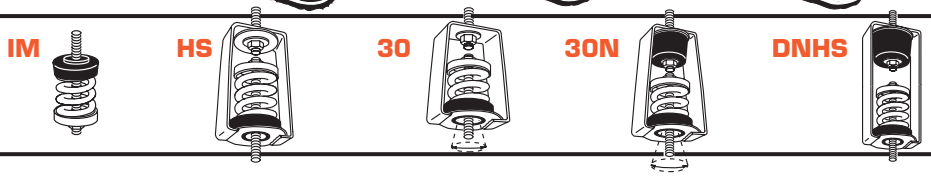
SPRINGS



Unhoused Spring Mounts — Pages 8 - 9

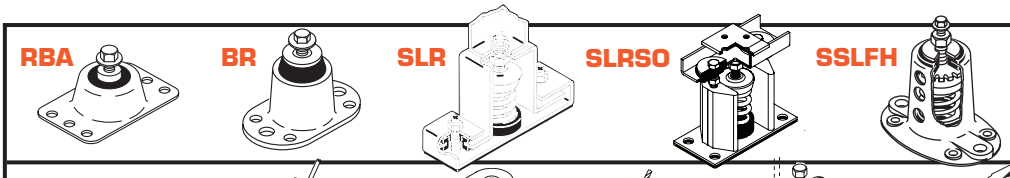


Housed Spring Mounts — Page 10

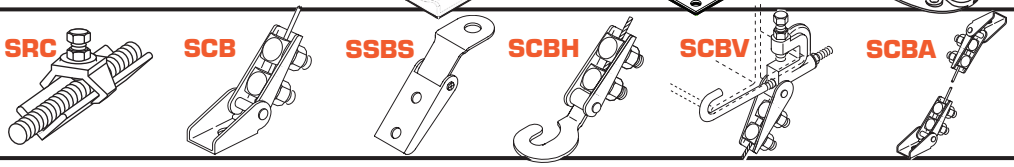


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SEISMIC

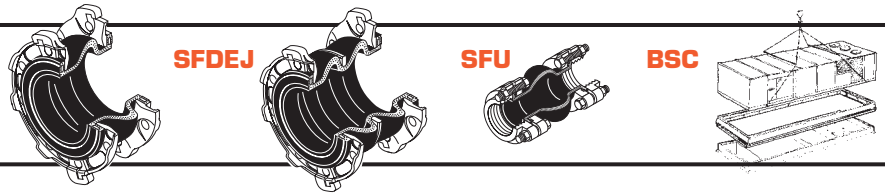


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Seismic Sway Brace System — Page 17

EXP. JOINTS & CURBS



Expansion Joints & Roof Curbs — Pages 18 - 19

BRAIDED HOSE

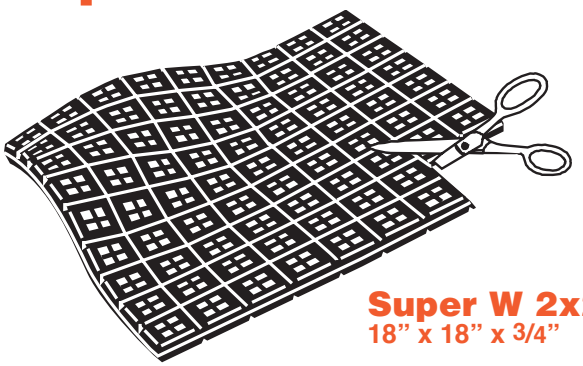


Stainless Steel & Bronze Products — Page 20 - 23

Super W 2x2 Pads

MASON WHOLESALE

Inexpensive, Easy to Use

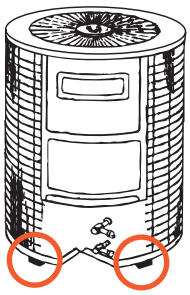


reduce annoying noise and minor vibration generated by air conditioners, refrigeration equipment, pumps and much more. The higher deflection waffle design with its suction cup action eliminates the need for bolting down.

Super W Pads out perform cork and rubber "sandwich" pads by giving longer life and greater resiliency with consistent and reliable service.

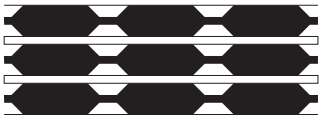
Super W 2x2-
18" x 18" x 3/4"

Pads reduce noise, high frequency vibration and impact from typical equipment:



- Single Package Air Conditioners and Heat Pumps
- Fan Coil Units
- Condensing Units
- Electronic Air Cleaners
- Beverage Coolers
- Pumps
- Air Compressors

Noise and vibration control pads should be relied upon only as a noise break and minor vibration control to be placed between equipment and a stiff support surface. Significant vibrations require "tall" rubber or spring mounts that yield higher deflections.



Pads may be stacked with 16 gauge shims between layers for increased deflection (For example, 3 layers offer 3 times the deflection).

SUPER W 2X2 LOAD RATINGS (per Square)

Type & Size	Standard Durometer	Load per 2" x 2" Square (lbs)	Rated Defl. (in)
SW-R18 x 18 x 3/4	40	120	0.10

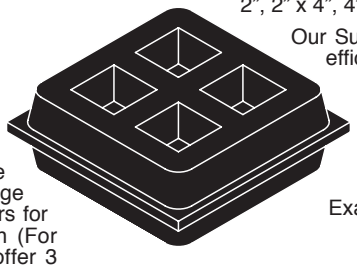
Mason Super W Pads are Molded in 3 elastomers:

Standard Natural Rubber for maximum resilience and vibration isolation.

Neoprene for longer life and moderate oil resistance. In 3/4" thick pads only.

Bridge-bearing Neoprene for maximum life, excellent oil resistance and resiliency approaching natural rubber. Available in 3/4" thick pads only.

Standard 18" x 18" sheets consist of 81 - 2" squares each supporting 120 pounds. The squares are separated by a thin web that is easily cut to provide evenly dimensioned pads such as 2" x 2", 2" x 4", 4" x 4", 6" x 8", etc.

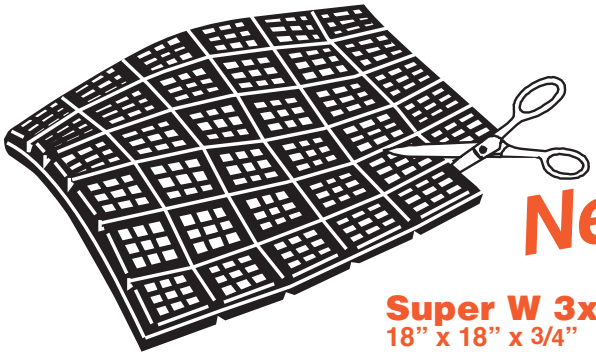


Our Super W Pad is one of the thickest most versatile and efficient pads available.

Super W Pads should be used in 2" x 2" squares. Select the minimum number of squares required and design pads to the most convenient shape. The use of additional squares results in more conservative loading.

Example- Load is 700 lbs., capacity is 120 lbs/square. 700/120 = 5.83 squares. Use 6 squares configured as 2 squares by 3 squares (4" x 6") or 1 square by 6 squares (2" x 12")

Super W 3x3 Pads



New!

Super W 3x3 -
18" x 18" x 3/4"

The new 3" Design Super W Pads provide the same noise and vibration control as the existing 2" squares, but now offered in another convenient size. Molded in 40 Duro natural rubber for greater resiliency, the 3" pads are available in 18" x 18" sheets that consist of 36 – 3" x 3" squares. The squares are separated by a thin web that is easily cut into any 3" increments. They are also available in precut 3" x 3" box quantities of 72 pieces (2 sheets).

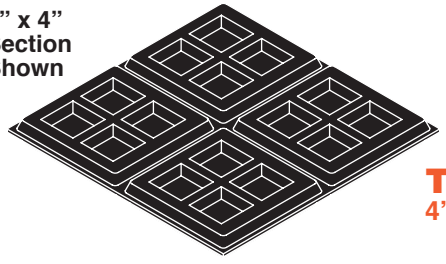
With a weight capacity of 270 lbs. per 3x3, they can be used under heavier equipment or a larger mounting leg where a broader surface area may be needed.

SUPER W 3X3 LOAD RATINGS (per Square)

Type & Size	Standard Durometer	Load per 3" x 3" Square (lbs)	Rated Defl. (in)
SW3-R18 x 18 x 3/4	40	270	0.10

Mini Super W Pads

4" x 4" Section Shown



Type MSW -
4" x 4" x 3/8"

Mini Super W Pads have the same design as Super W Pads but are thinner (3/8"). They can be used as noise breaks where the added height of the 3/4" thick Super W is prohibitive. Mini Super W Pads are only made in 45 durometer natural rubber.

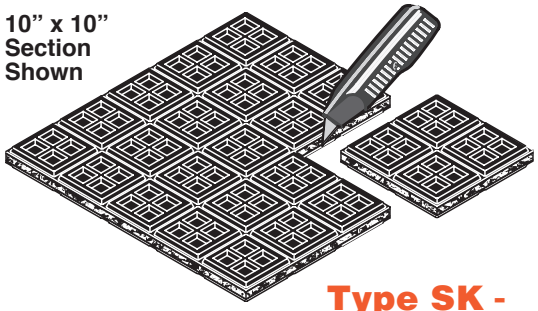
MINI SUPER W LOAD RATINGS (per Square)

Type & Size	Standard Durometer	Load per 2" x 2" Square (lbs)	Rated Defl. (in)
Mini SW-R18 x 18 x 3/8	45	180	0.05

Super K
Cork and Rubber Pads

MASON WHOLESALE

The all-rubber Super W pad is usually the best pad for isolating vibration. However, many contractors are used to the cork and rubber composite pad and are hesitant to change. We have a new cork and rubber pad, the Super K, that is a great improvement over what's out there now. A lower duro rubber, glued to both sides of a cork core, gives the equipment a quieter ride. The modular 2" x 2" design with a thin membrane between allows the contractor to easily cut and separate the Super K pad with a box cutter or utility knife for just the size he needs.



Type SK -
18" x 18" x 3/4"

SK LOAD RATINGS (per Square)

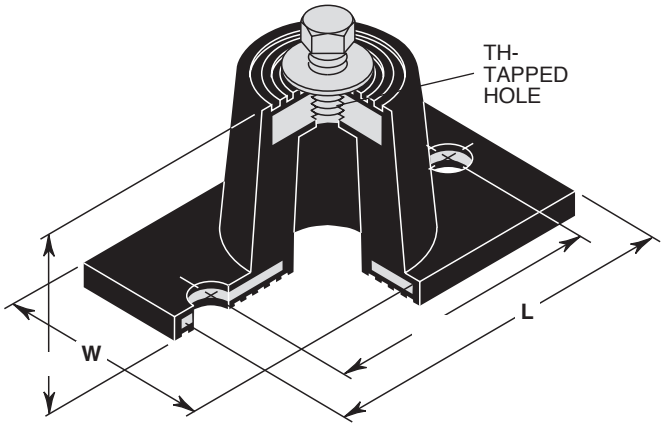
Type	Size (inches)	Load per 2" x 2" square (lbs)	Rated Defl. (in)
SK	18 x 18 x 3/4	200	0.07

Neoprene Isolators

For Even Better Isolation

Prevent noise and high frequency vibration from being transmitted to the support structure and local environment by mounting equipment on **Mason Industries' Neoprene Isolators**. With more than three times the static deflection of pads, double deflection neoprene isolators notably improve vibration control. Isolated equipment runs quieter and more reliably with less internal wear.

ND Neoprene Mounts

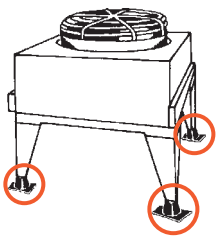


Mason Type ND Neoprene Mounts are designed for both high static deflections and simplified installation. The rubber is loaded in both shear and compression to provide rubber in shear performance as well as overload protection. They are one piece molded assemblies with skid resistant rubber ridged base plates and circular rubber ridged tops. The complete neoprene covering of the metal parts provides corrosion protection in either humid indoor or outdoor service.

ND DOUBLE DEFLECTION NEOPRENE MOUNTS

Type & Dim.	Max. Capacity (lbs)	Max. Static Defl (in)	Hard-ness (duro-meter)	Dimensions (inches) H	L	W	BC	TH
ND-A-Black	45		30					
ND-A-Green	75	0.35	40	1 1/2	3 3/16	1 5/8	2 3/8	5/16 -18
ND-A-Red	125		50					
ND-B-Black	100		30					
ND-B-Green	150		40					
ND-B-Red	235	0.40	50	1 7/8	3 7/8	2 5/16	3	3/8 -16
ND-B-White	380		60					
ND-B-Yellow	600		70					
ND-C-Green	260		40					
ND-C-Red	400	0.50	50	2 3/4	5 1/2	3 5/16	4 1/8	1/2 -13
ND-C-White	600		60					

Use double deflection neoprene mounts to isolate equipment having slowest rotational component speeds above 1200 RPM that are located in non-critical areas. When equipment is located on wide vibration sensitive spans, higher deflection spring isolators are generally required to cancel the effect of the floor span's deflection.

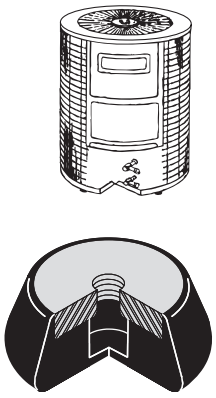


Bolting is not necessary on most installations. When the equipment has a flush drain pan or tank on the bottom, mounts can be inverted as shown so the baseplate provides support over a larger area.

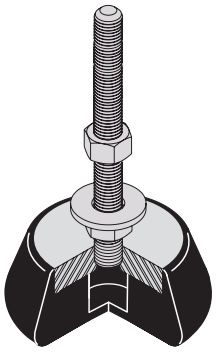
ND Mounts perform best when placed under equipment located on ground support concrete slabs, above stiff support walls and columns and rigid upper building spans.

R & RL
Neoprene Machine Leveling Mounts

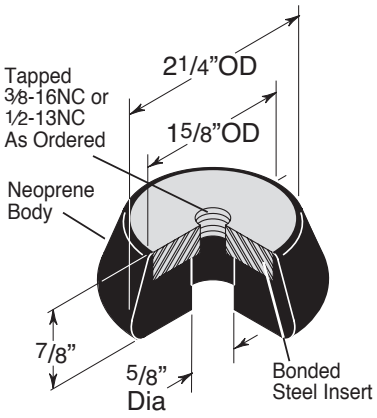
Mounts can be used without leveling bolts (R) or with (RL). Furnished with 3/8-16 or 1/2-13 tapped holes (R) or studs (RL) to accommodate large or small holes in the machinery leg. Neoprene resists oil, oxygen and ozone. The upper steel insert provides uniform mounting loading. Neoprene friction base also keeps equipment in place.



Type R



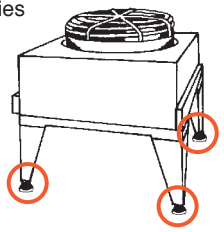
Type RL



R & RL LEVELING MOUNTS*

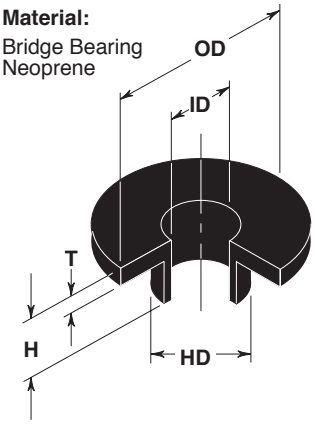
Type & Size	Max Load (lbs)	Color Code	Tapped Hole or Stud
R-4 or RL-4	150	Green	3/8-16
R-5 or RL-5	150	Green	1/2-13

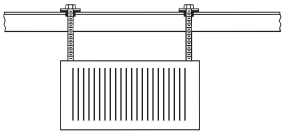
*Other capacities available



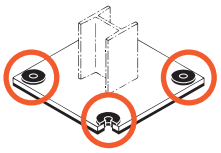
HG
Isolation Washer Bushing

Material:
Bridge Bearing
Neoprene





Acoustical Isolation



Bolt isolator and seismic relief application

Mason Bolt and Rod Isolation Washer-Bushings are for isolating noise and serve as minimum isolation of vibration where mounts and hangers are not required. They are made of high quality bridge-bearing neoprene for maximum performance and life.

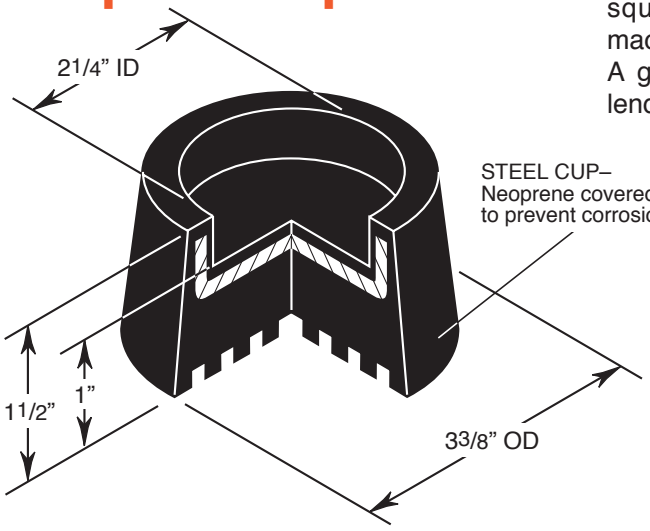
HG WASHER DIMENSIONS (inches)

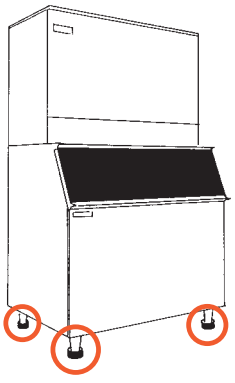
Type & Size	Bolt Dia.	H	T	HD	ID	OD
HG-25	1/4	3/8	1/8	1/2	1/4	1
HG-38	3/8	1/2	1/8	5/8	3/8	11/4
HG-50	1/2	1/2	1/8	3/4	1/2	15/8
HG-63	5/8	5/8	3/16	7/8	5/8	2
HG-75	3/4	5/8	3/16	1	3/4	21/4
HG-100	1	7/8	1/4	11/4	1	23/4
HG-125	11/4	7/8	1/4	11/2	11/4	31/4
HG-150	11/2	1	1/4	13/4	11/2	33/4

In seismic applications, HG's reduce bolt shearing impact forces which can occur in seismic areas. These shearing forces are responsible for significant equipment movement observed after recent California earthquakes.

BM
Neoprene Cup Mount

The BM Cup Mount provides a simple attachment method for machines on casters up to 3" diameter or square legs up to 1" square. Applications are as diverse as ice machines, office machines, packaged air conditioners on legs or pianos on casters. A general purpose mounting for those odd situations that do not lend themselves to bolting.





BM RATINGS

Type & Size (Color Mark)	Durometer	Rated Capacity Range (lbs)	Max Rated Defl (in)
BM-Green	40	Up to 225	
BM-Red	50	175-400	0.20
BM-White	60	300-625	

WHR, WHRK & HD
LDS Rubber Hangers

MASON WHOLESALE

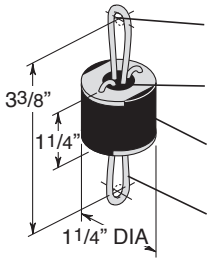
Mason WHR LDS Rubber Hangers are an inexpensive but effective method of reducing noise and minor vibration transmission. LDS (Low Dynamic Stiffness) Rubber is a special Natural Rubber compound known for its excellent aging characteristics.

WHR - Light Duty Hangers

WHR hangers are noise breaks for use with wire, chain or horizontal screws for hung ceiling applications.



TYPICAL WIRE INSTALLATION



Clearance for 3/16" dia. Wire, Bolt or Nail

Projecting bushing prevents metal to metal contact.

LDS RUBBER ELEMENT

All Metal Parts are Zinc Electroplated

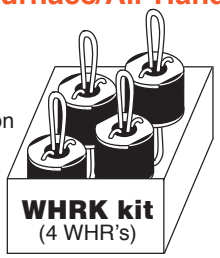
WHR HANGERS

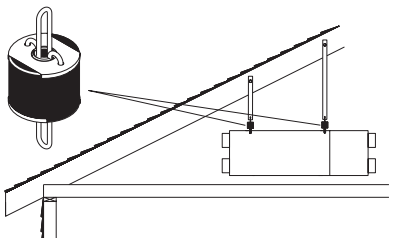
Type &Size (Duro-meter)	Rated Capacity Range (lbs)	Rated Defl (in)	Color Mark
WHR-40	Up to 60	0.20	Green
WHR-50	55-95	0.20	Red
WHR-60	90-155	0.20	White
WHR-70	150-220	0.20	Yellow

Hanger elements have straight line deflection curves.

WHRK - Hanging Furnace/Air Handler Kit

WHRK kits come packaged with 4 WHRs and installation instructions.

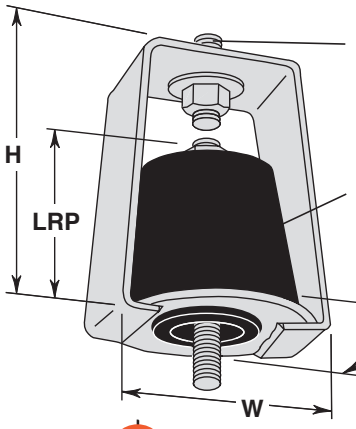




WHRK KITS (set of 4 WHR's)

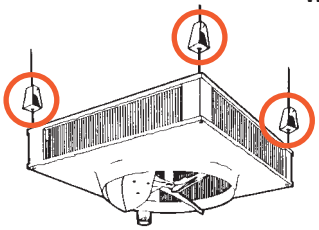
Type &Size (Duro-meter)	Max. Load (lbs)	Rated Defl (in)	Color Mark
WHRK-40	240	0.20	Green
WHRK-50	380	0.20	Red
WHRK-60	620	0.20	White
WHRK-70	880	0.20	Yellow

HD - Double Deflection LDS Rubber Hangers



UPPER & LOWER RODS BY OTHERS

DOUBLE DEFLECTION LDS RUBBER ELEMENT with a projecting bushing to prevent steel to steel contact



HD hangers perform the best when used on equipment located adjacent to stiff support walls and columns, and suspended from narrow rigid upper building spans.

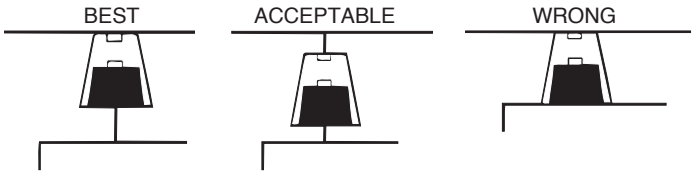
When suspending equipment from very wide vibration sensitive spans it may be necessary to select spring hangers with even higher deflections in order to cancel the effects of the span's own deflection or "sag". The isolator selected must have a static deflection at least three times greater than the span's deflection to insure minimum effective vibration control.

Mason HD LDS Rubber Hangers offer the same increased static deflection and vibration control as ND mounts but in a sturdy steel hanger box. LDS (Low Dynamic Stiffness) Rubber is a special Natural Rubber compound known for its excellent aging characteristics.

HD LDS RUBBER HANGERS

LRP-Lower Rod Penetration
MRD-Maximum Rod Dia.

Type & Size (Color Mark)	Duro-meter	Rated Capacity Range (lbs)	Max Rated Defl (in)	Dimensions (inches) D	H	W	LRP	MRD
HD-Green	40	Up to 35	0.20	1 3/4	2 1/4	1 7/8	1 1/4	3/8
HD-White	60	35-75	0.20					
HD-A-Black	30	Up to 45	0.35	2	2 3/4	2 1/4	2 1/4	1/2
HD-A-Green	40	30-75	0.35					
HD-A-Red	50	60-125	0.35					
HD-B-Red	50	Up to 235	0.40	3 1/4	4 1/2	4 1/4	3	3/4
HD-B-White	60	180-380	0.40					
HD-B-Yellow	70	320-625	0.40					

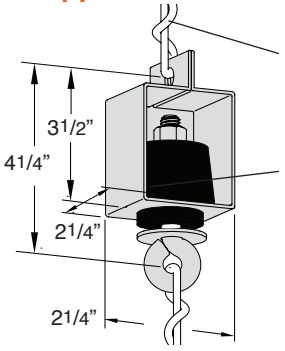


HD HANGER INSTALLATION

Install hangers with gap on the underside as shown. This allows the isolators to operate efficiently. The gaps also compensate for minor misalignment.

Direct contact of the unit and hanger box "short circuits" the isolation.

WHD - Double Deflection LDS Rubber Element with Upper Attachment Hole and Lower Eyebolt



Use 12 Ga wire or 3/8" x 3/4" Bolt & Nut

Double Deflection LDS Rubber Element with Lock-In Grommet to minimize noise transmission Frequency 8 Hz

WHD LDS RUBBER HANGERS

Size	Durometer	Rated Capacity Range (lbs)	Max. Rated Deflection (in)
WHD-A-Green	40	20 - 50	0.35
WHD-A-Red	50	40 - 90	
WHD-A-White	60	80 - 180	

NOTE: Standard sizes shown.
For heavier capacities, consult factory.

Spring Isolators

For Maximum Vibration Control

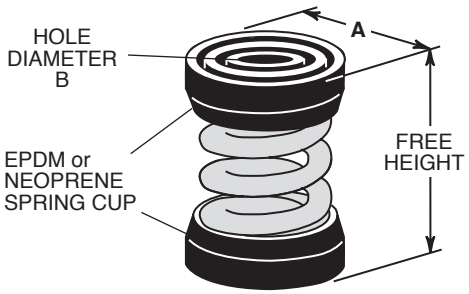
Virtually eliminate structurally transmitted noise and vibration by installing equipment on Mason Industries' Spring Isolators. Properly selected and installed spring isolators offer the greatest assurance that destructive vibration and noise will be eliminated or greatly reduced.

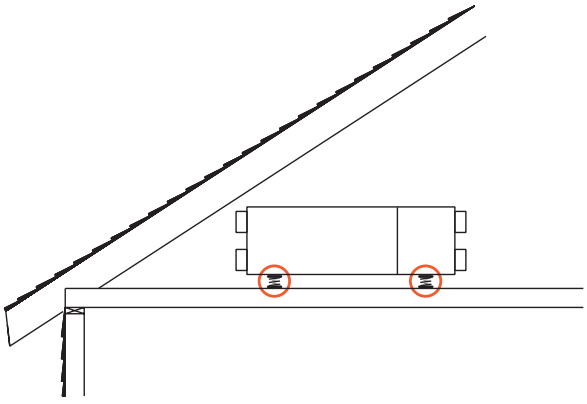
Spring isolators should be installed where maximum vibration and noise control is needed. They are most frequently required on upper building levels and on equipment located near inhabited areas with rotational speeds below 1200 RPM.

When installing equipment on very wide vibration sensitive building spans it may be necessary to select isolators with even higher deflection than shown in this guide in order to cancel the effect of the span's deflection or "sag". The isolator selected must have a static deflection at least three times greater than the floor span deflection to insure minimum effective vibration control.

One inch deflection springs have a minimum deflection of 3/4"; two inch deflection springs have a minimum deflection of 1 1/2". This minimum deflection allows for 25% error in equipment weight and is normally exceeded.

IMF
Simple Spring Mounts





Simple spring mounts work best for indoor applications on lightweight equipment that does not have to be level and does not need to be bolted down.

Mason IMF Spring Mounts are the most inexpensive way to maximize vibration control.

IMF 1" DEFL. NO-ADJUSTMENT SPRING MOUNTS*

Type & Size	Rated Capacity (lbs)	Rated Defl (in)	Mount Constant (lbs/in)	Spring Color/ Stripe	Dimensions (inches) A	Dimensions (inches) B	Free Height (in)
IMF-X-12	12	1.25	10	Orange			
IMF-X-23	23	1.30	18	Brown			
IMF-X-33	33	1.10	30	Red			
IMF-X-54	54	1.20	45	White			
IMF-X-76	76	1.02	73	Black	2	7/16	2 3/4
IMF-X-113	113	1.00	113	Yellow			
IMF-X-130	130	1.00	130	Purple			
IMF-X-175	175	1.00	175	Silver			
IMF-X-210	210	1.00	210	Blue			
IMF-A-12	12	1.00	12	Red			
IMF-A-18	18	1.00	18	Gray	2 1/8	7/16	2 1/4
IMF-A-25	25	1.00	25	Orange			
IMF-A-45	45	1.60	28	Blue			
IMF-A-75	75	1.50	50	Orange			
IMF-A-125	125	1.33	94	Brown	2 1/8	7/16	3 3/8
IMF-A-200	200	1.15	174	Black			
IMF-A-310	310	1.00	310	Yellow			
IMF-A-400	400	1.00	400	Green			
IMF-A-510	510	1.00	510	Red	2 1/8	7/16	3 1/2
IMF-A-625	625	1.00	625	White	2 1/8	7/16	3 3/4

*3/4" minimum deflection

IMF 2" DEFL. NO-ADJUSTMENT SPRING MOUNTS*

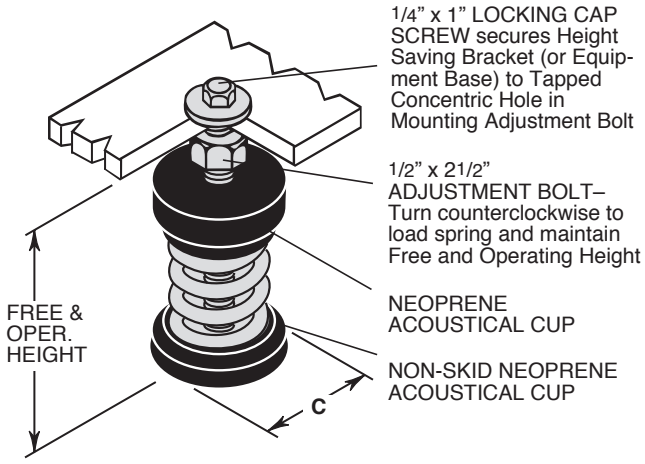
Type & Size	Rated Capacity (lbs)	Rated Defl (in)	Mount Constant (lbs/in)	Spring Color/ Stripe	Dimensions (inches) A	Dimensions (inches) B	Free Height (in)
IMF-B-20	20	2.40	8	Tan			
IMF-B-26	26	2.18	12	White/Blue			
IMF-B-35	35	2.20	16	Purple			
IMF-B-50	50	2.20	24	White/Red	2 3/4	7/8	5
IMF-B-65	65	2.10	31	Brown			
IMF-B-85	85	2.10	40	White/Black			
IMF-B-115	115	2.00	57	Silver			
IMF-B-150	150	2.00	75	Orange			
IMF-B2-210	210	2.12	99	Silver			
IMF-B2-290	290	2.00	144	Blue	2 3/4	7/8	5 3/8
IMF-B2-450	450	2.00	224	Tan			

*1 1/2" minimum deflection

SLF & SLFH
Unhoused Spring Mounts

Mason SLF & SLFH Unhoused Spring Mounts provide the greatest deflection– up to 2" to ensure excellent isolation. They are used to support equipment located on upper building levels where there are wide vibration sensitive spans. For outdoor applications where wind loads may affect lateral stability, see Mason SLR or SSLFH restrained spring mounts.

SLF - Unhoused Spring Mounts

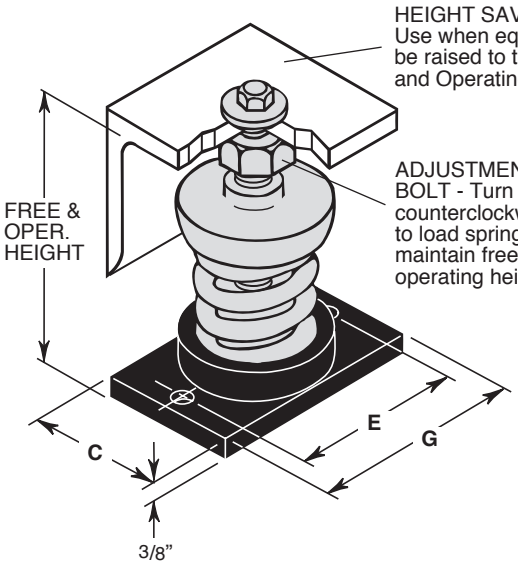


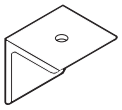
SLF 1" DEFL. UNHOUSED SPRING MOUNTS*

Type & Size	Rated Capacity (lbs)	Rated Defl (in)	Mount Constant (lbs/in)	Spring Color/ Stripe	Dimensions (inches) C	Free & Oper. (in)
SLF-X-12	12	1.25	10	Orange		
SLF-X-23	23	1.30	18	Brown		
SLF-X-33	33	1.10	30	Red		
SLF-X-54	54	1.20	45	White		
SLF-X-76	76	1.02	73	Black	2	3 3/4
SLF-X-113	113	1.00	113	Yellow		
SLF-X-130	130	1.00	130	Purple		
SLF-X-175	175	1.00	175	Silver		
SLF-X-210	210	1.00	210	Blue		

*3/4" minimum deflection

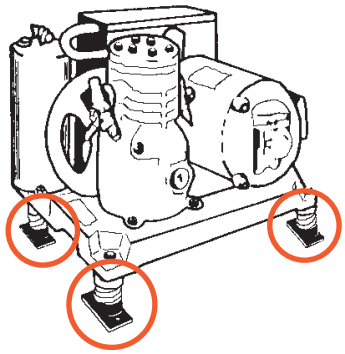
SLFH - Unhoused Spring Mounts





Height Saving Bracket-

Use when equipment cannot be raised to the mount's Free & Operating Height.



SLFH 1" DEFL. UNHOUSED SPRING MOUNTS*

Type & Size	Rated Capacity (lbs)	Rated Defl (in)	Mount Constant (lbs/in)	Spring Color/ Stripe	Dimensions (inches) C	E	G	Free & Oper. (in)
SLFH-A-45	45	1.60	28	Blue				
SLFH-A-75	75	1.50	50	Orange				
SLFH-A-125	125	1.33	94	Brown	2 1/4	3	3 5/8	4 1/4
SLFH-A-200	200	1.15	174	Black				
SLFH-A-310	310	1.00	310	Yellow				
SLFH-A-400	400	1.00	400	Green				
SLFH-A-510	510	1.00	510	Red	2 1/4	3	3 5/8	4 5/8
SLFH-A-625	625	1.00	625	White				

*3/4" minimum deflection

Mason SLFH one inch deflection spring mounts provide far greater vibration control than the lower deflection neoprene mounts. Each Powder coated steel spring is in series with neoprene, providing excellent isolation efficiency. The spring serves to isolate a broad range of disturbing vibration frequencies, while the rubber is a high frequency or noise break. Start and stop as well as horizontal wind force will require the use of C, SLR or SSLFH Type mounts that have built-in horizontal limits.

SLFH 2" DEFL. UNHOUSED SPRING MOUNTS*

Type & Size	Rated Capacity (lbs)	Rated Defl (in)	Mount Constant (lbs/in)	Spring Color/ Stripe	Dimensions (inches) C	E	G	Free & Oper. (in)
SLFH-B-20	20	2.40	8	Tan				
SLFH-B-26	26	2.18	12	White/Blue				
SLFH-B-35	35	2.20	16	Purple				
SLFH-B-50	50	2.20	24	White/Red	2 3/4	4 1/4	5 1/8	6
SLFH-B-65	65	2.10	31	Brown				
SLFH-B-85	85	2.10	40	White/Black				
SLFH-B-115	115	2.00	57	Silver				
SLFH-B-150	150	2.00	75	Orange				
SLFH-B2-210	210	2.12	99	Silver				
SLFH-B2-290	290	2.00	144	Blue	2 3/4	4 1/8	5 1/4	6 3/4
SLFH-B2-450	450	2.00	224	Tan				

*1 1/2" minimum deflection

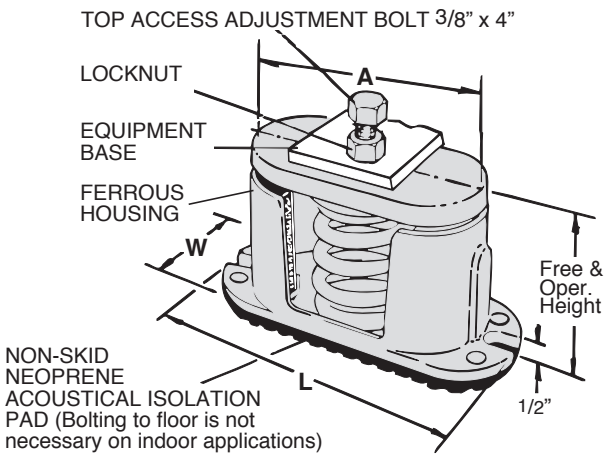
Mason SLFH two inch deflection spring mounts are for use on equipment located on upper level wide building spans, where more than one inch of deflection is needed to cancel the effect of the building span's deflection. Two inch deflection springs use the same holders as one inch springs.

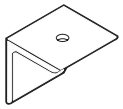
INSTALLATION

Block up equipment to mount's required free and operating height (see tables), then make connections to the unit. Position mounts under unit. Take two turns on each adjustment bolt working around the unit until springs are compressed just enough to remove blocks. Do not "jack up" equipment significantly during spring adjustment. All springs have additional travel to solid equal to 50% of the rated deflection except SLFH-B2-450, which has 38% at rated capacity.

C, CIP & CIW
Housed Spring Mounts

C - HOUSED SPRING MOUNTS





Height Saving Bracket-

Use when equipment cannot be raised to the mount's Free & Operating Height.

INSTALLATION

Type C housings are Cast Iron. They perform well but improper installation can cause failure.

Supporting surfaces must be flat and level under mounts. Relative elevations must be no more than 1/2" from the highest to the lowest position. Grout or provide full spacers to compensate for larger differences.

1. Mountings are supplied with friction pads cemented to the bottom. In most cases, there is no need to bolt the mounting down. When bolting is required, remove bottom pad before bolting. Bolt tightening with pad in place often cracks or breaks bottom housing across the center or around bolt holes.
2. When equipment is mounted directly on Type "C" Mounts, place mountings under the equipment bolt holes and install the mounting adjustment bolts as shown above. The load must be around the adjustment bolt. Neither the top or bottom housings can be used as a bridge.
3. Take 6 initial complete downward (clockwise) turns on adjustment bolt or internal adjustment nut of all mounts. After first round, reduce number to 2 equal turns on all mounts. Repeat this procedure as many times as necessary until clearance "A" is a minimum of 1/4" for direct mounting or equipment lifts off temporary blocking.
4. Level equipment by taking additional turns on low side or corner.
5. Tighten lock nut against equipment base if external adjustment.

NOTE: Mason Industries, Inc. will not replace mountings installed improperly.

Mason C Housed Spring Mounts have semi-circular neoprene sponge inserts that limit movement due to start and stop horizontal motion. They have lateral stability and are recommended for applications without seismic restraint requirements.

C 1" DEFL. SPRING MOUNTS*

Type & Size	Rated Capacity (lbs)	Rated Defl (in)	Mount Constant (lbs/in)	Spring Color/ Stripe	Dimensions (inches) A	L	W	Free & Op.Ht. (in)
C-A-45	45	1.60	28	Blue				
C-A-75	75	1.50	50	Orange				
C-A-125	125	1.33	94	Brown	4	53/4	21/8	41/2
C-A-200	200	1.15	174	Black				
C-A-310	310	1.00	310	Yellow				
C-A-400	400	1.00	400	Green				
C-A-510	510	1.00	510	Red	4	53/4	21/8	41/2
C-A-625	625	1.00	625	White				

*3/4" minimum deflection

"C" one inch minimum deflection spring mounts provide greater vibration control than the lower deflection neoprene mounts. They function the same as SLF mounts but have semi-circular neoprene sponge inserts that limit movement due to start and stop horizontal motion. These inserts prevent contact between the projections of the upper and lower semi-circular casting. C spring mounts are recommended for all air conditioning applications, under compressors, air handling units, centrifugal fans and most other constant frequency vibration problems.

C 2" DEFL. SPRING MOUNTS*

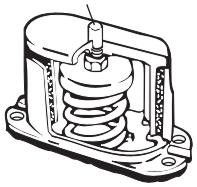
Type & Size	Rated Capacity (lbs)	Rated Defl (in)	Mount Constant (lbs/in)	Spring Color/ Stripe	Dimensions (inches) A	L	W	Free & Op.Ht. (in)
C-B-20	20	2.40	8	Tan				
C-B-26	26	2.18	12	White/Blue				
C-B-35	35	2.20	16	Purple				
C-B-50	50	2.20	24	White/Red	53/4	81/4	23/4	53/4
C-B-65	65	2.10	31	Brown				
C-B-85	85	2.10	40	White/Black				
C-B-115	115	2.00	57	Silver				
C-B-150	150	2.00	75	Orange				
C-B2-210	210	2.12	99	Silver				
C-B2-290	290	2.00	144	Blue	53/4	81/4	23/4	53/4
C-B2-450	450	2.00	224	Tan				

*11/2" minimum deflection

"C" two inch deflection spring mounts are for use on equipment located on wide upper level building spans where more than one inch of deflection is needed to cancel the effect of the building span's deflection.

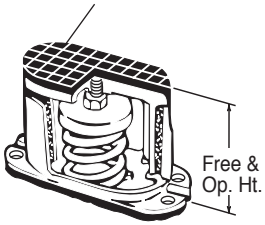
CIP - HOUSED SPRING MOUNTS with Internal Adjustment

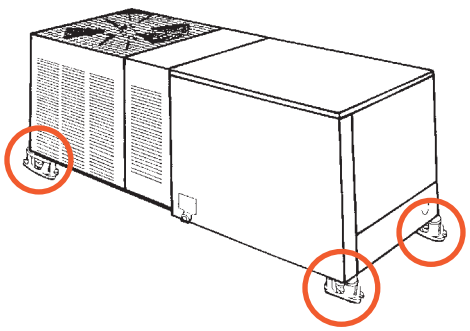
Dowel Pin is 3/8" dia for CIP-A & 1/2" for B & B2.



CIW - HOUSED SPRING MOUNTS with Internal Adjustment

FRICTION PAD— (Bolting to Equipment is not necessary)





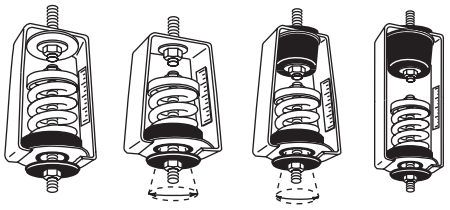
Spring Hangers

Mason High Deflection Spring Hangers provide far greater vibration control than the lower deflection rubber hangers. Each Powder coated steel spring is in series with a rubber cup, providing excellent isolation efficiency. The spring serves to isolate a broad range of disturbing vibration frequencies, while the rubber cup is a high frequency or noise break.

All box type spring hangers are available precompressed from the factory with a scale for adjusting spring tension (PC-).

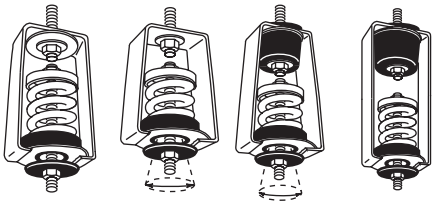
Our PC and RW series of hangers are similar to SLR restrained mounts in that they can be adjusted to limit vertical movement caused by weight changes during system start up, maintenance and seismic events. Spring Hangers are also available with eyebolts top and bottom (W-). All rubber cups and upper rubber elements are molded in LDS Rubber. LDS (Low Dynamic Stiffness) Rubber is a special Natural Rubber compound known for its excellent aging characteristics.

PC– PRECOMPRESSED HANGERS



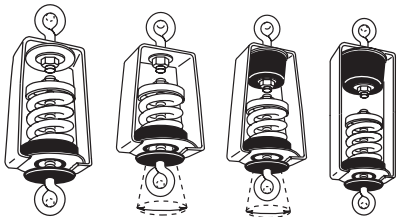
PCHS PC30 PC30N PCDNHS

RW– REBOUND WASHER



RWHS RW30 RW30N RWDNHS

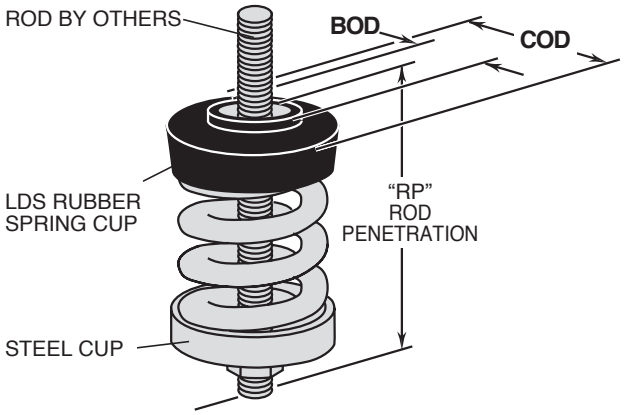
W– EYEBOLT HANGERS SERIES



WHS W30 W30N WDNHS

IM Simple Spring Hangers

BOD- Bushing Outside Dia.
COD- Cup Outside Dia.
MRD- Max. Rod Dia.
RP- Rod Penetration

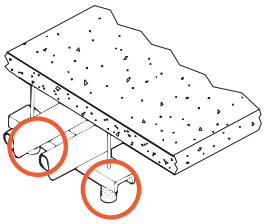


IM 1" DEFL. SPRING HANGERS*

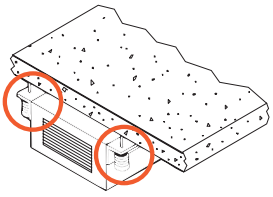
Type & Size	Rated Capacity (lbs)	Rated Defl (in)	Mount Constant (lbs/in)	Spring Color	Dimensions (inches) BOD	COD	MRD	RP
IM-X-12	12	1.25	10	Orange				
IM-X-23	23	1.30	18	Brown				
IM-X-33	33	1.10	30	Red				
IM-X-54	54	1.20	45	White				
IM-X-76	76	1.02	73	Black	1 1/8	2	3/8	2 3/4
IM-X-113	113	1.00	113	Yellow				
IM-X-130	130	1.00	130	Purple				
IM-X-175	175	1.00	175	Silver				
IM-X-210	210	1.00	210	Blue				
IM-A-12	12	1.00	12	Red				
IM-A-18	18	1.00	18	Gray	1 1/4	2 1/2	3/8	2 1/4
IM-A-25	25	1.00	25	Orange				
IM-A-45	45	1.60	28	Blue				
IM-A-75	75	1.50	50	Orange				
IM-A-125	125	1.33	94	Brown	1 1/4	2 1/2	1/2	3 3/8
IM-A-200	200	1.15	174	Black				
IM-A-310	310	1.00	310	Yellow				
IM-A-400	400	1.00	400	Green				
IM-A-510	510	1.00	510	Red	1 1/4	2 1/2	1/2	3 1/2
IM-A-625	625	1.00	625	White				

*3/4" minimum deflection

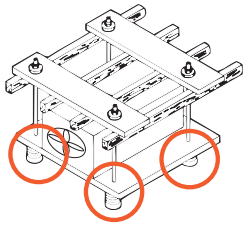
TYPICAL IM EQUIPMENT INSTALLATION AND PIPE HANGER ARRANGEMENTS



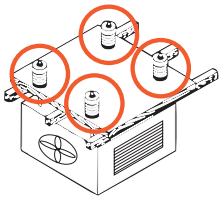
Pipe Trapeze



Unit with Large Angle Clips



Unit Suspended From Above



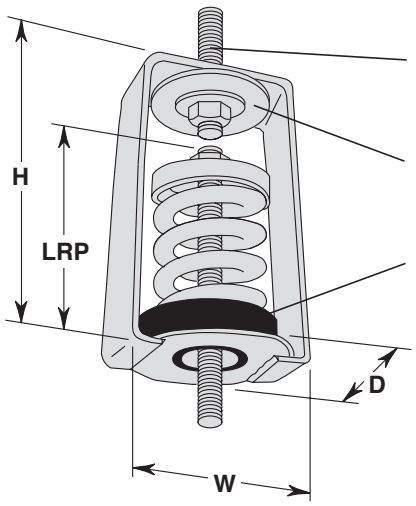
Cradled Unit

IM 2" DEFL. SPRING HANGERS*

Type & Size	Rated Capacity (lbs)	Rated Defl (in)	Mount Constant (lbs/in)	Spring Color/ Stripe	Dimensions (inches) BOD	COD	MRD	RP
IM-B-20	20	2.40	8	Tan				
IM-B-26	26	2.18	12	White/Blue				
IM-B-35	35	2.20	16	Purple				
IM-B-50	50	2.20	24	White/Red	1 7/8	3 1/8	3/4	4 7/8
IM-B-65	65	2.10	31	Brown				
IM-B-85	85	2.10	40	White/Black				
IM-B-115	115	2.00	57	Silver				
IM-B-150	150	2.00	75	Orange				
IM-B2-210	210	2.12	99	Silver				
IM-B2-290	290	2.00	144	Blue	1 7/8	3 1/8	3/4	5 3/8
IM-B2-450	450	2.00	224	Tan				

*1 1/2" minimum deflection

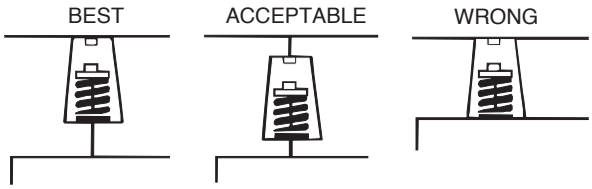
HS Spring Hangers



SPRING HANGER INSTALLATION

Install hangers with gap on the underside as shown. This allows the isolators to operate efficiently. The gaps also compensate for minor misalignment.

Direct contact of the unit and hanger box "short circuits" the isolation.



HS 1" DEFL. SPRING HANGERS*

LRP-Lower Rod Penetration
MRD-Maximum Rod Dia.

Type & Size	Rated Capacity (lbs)	Rated Defl (in)	Spring Constant (lbs/in)	Spring Color	Dimensions (inches) D	H	W	LRP	MRD
HS-X-12	12	1.25	10	Orange					
HS-X-23	23	1.30	18	Brown					
HS-X-33	33	1.10	30	Red					
HS-X-54	54	1.20	45	White					
HS-X-76	76	1.02	73	Black	21/2	41/4	27/8	31/2	3/8
HS-X-113	113	1.00	113	Yellow					
HS-X-130	130	1.00	130	Purple					
HS-X-175	175	1.00	175	Silver					
HS-X-210	210	1.00	210	Blue					
HS-A-12	12	1.00	12	Red					
HS-A-18	18	1.00	18	Gray	23/4	53/4	33/4	31/2	5/8
HS-A-25	25	1.00	25	Orange					
HS-A-41	41	1.18	35	Pink					
HS-A-56	56	1.14	49	Black	23/4	53/4	33/4	4	5/8
HS-A-73	73	1.06	69	Tan					
HS-A-95	95	1.01	94	Green					
HS-A-45	45	1.60	28	Blue					
HS-A-75	75	1.50	50	Orange					
HS-A-125	125	1.33	94	Brown	23/4	53/4	33/4	4	5/8
HS-A-200	200	1.15	174	Black					
HS-A-310	310	1.00	310	Yellow					
HS-A-400	400	1.00	400	Green					
HS-A-510	510	1.00	510	Red	23/4	53/4	33/4	4	5/8
HS-A-625	625	1.00	625	White					

*3/4" minimum deflection

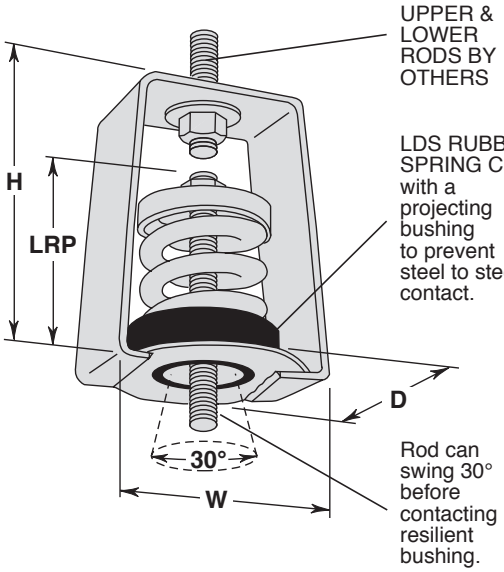
HS 2" DEFL. SPRING HANGERS*

LRP-Lower Rod Penetration
MRD-Maximum Rod Dia.

Type & Size	Rated Capacity (lbs)	Rated Defl (in)	Spring Constant (lbs/in)	Spring Color/ Stripe	Dimensions (inches) D	H	W	LRP	MRD
HS-B-20	20	2.40	8	Tan					
HS-B-26	26	2.18	12	White/Blue					
HS-B-35	35	2.20	16	Purple					
HS-B-50	50	2.20	24	White/Red	4	71/4	43/4	51/8	3/4
HS-B-65	65	2.10	31	Brown					
HS-B-85	85	2.10	40	White/Black					
HS-B-115	115	2.00	57	Silver					
HS-B-150	150	2.00	75	Orange					
HS-B2-210	210	2.12	99	Silver					
HS-B2-290	290	2.00	144	Blue	4	71/4	43/4	51/8	3/4
HS-B2-450	450	2.00	224	Tan					

*11/2" minimum deflection

30 30° Swing Hangers



Mason Type 30 Spring Hangers feature a lower rod that can swing up to 30° for ease in installation to compensate for misalignment.

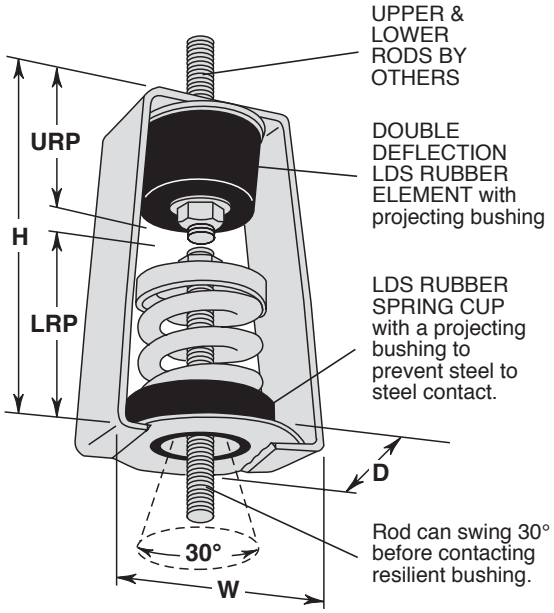
30 1" DEFL. 30° SWING HANGERS*

LRP-Lower Rod Penetration
MRD-Maximum Rod Dia.

Type & Size	Rated Capacity (lbs)	Rated Defl (in)	Spring Constant (lbs/in)	Spring Color	Dimensions (inches) D	H	W	LRP	MRD
30-X-12	12	1.25	10	Orange					
30-X-23	23	1.30	18	Brown					
30-X-33	33	1.10	30	Red					
30-X-54	54	1.20	45	White					
30-X-76	76	1.02	73	Black	21/2	41/4	27/8	31/2	3/8
30-X-113	113	1.00	113	Yellow					
30-X-130	130	1.00	130	Purple					
30-X-175	175	1.00	175	Silver					
30-X-210	210	1.00	210	Blue					
30-A-12	12	1.00	12	Red					
30-A-18	18	1.00	18	Gray	23/4	53/4	33/4	31/2	5/8
30-A-25	25	1.00	25	Orange					
30-A-41	41	1.18	35	Pink					
30-A-56	56	1.14	49	Black	23/4	53/4	33/4	4	5/8
30-A-73	73	1.06	69	Tan					
30-A-95	95	1.01	94	Green					
30-B-138	138	1.32	105	White					
30-B-222	222	1.16	191	Blue					
30-B-278	278	1.09	255	Purple	4	71/4	43/4	41/4	5/8
30-B-336	336	1.00	336	Silver					
30-B-410	410	1.07	385	Black					
30-B-540	540	1.00	540	Yellow					

*3/4" minimum deflection

30N 30° Swing Hangers
with Double Deflection LDS Rubber Element



Mason Type 30N Spring Hangers feature a lower rod that can swing up to 30° for ease in installation to compensate for misalignment. Spring and LDS rubber element in conjunction remove high and low frequency noise.

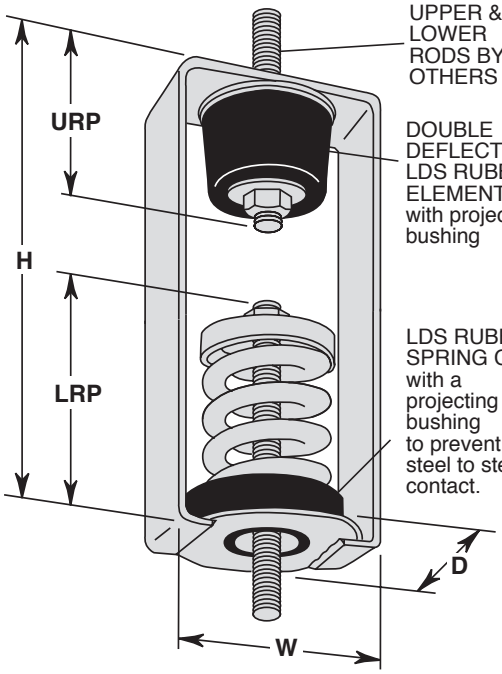
LRP-Lower Rod Penetration
URP-Upper Rod Penetration
MRD-Maximum Rod Dia.

30N 1" DEFL. SPRING HANGERS*

Type & Size	Rated Capacity (lbs)	Rated Defl (in)	Spring Constant (lbs/in)	Spring Color	Dimensions (inches) D	H	W	LRP	MRD	URP
30N-X-12	12	1.45	10	Orange						
30N-X-23	23	1.50	18	Brown						
30N-X-33	33	1.30	30	Red						
30N-X-54	54	1.40	45	White						
30N-X-76	76	1.22	73	Black	21/2	51/2	27/8	31/4	3/8	13/4
30N-X-113	113	1.20	113	Yellow						
30N-X-130	130	1.20	130	Purple						
30N-X-175	175	1.20	175	Silver						
30N-X-210	210	1.20	210	Blue						
30N-A-12	12	1.35	12	Red						
30N-A-18	18	1.35	18	Gray	23/4	63/4	31/4	31/4	5/8	21/4
30N-A-25	25	1.35	25	Orange						
30N-A-41	41	1.53	35	Pink						
30N-A-56	56	1.49	49	Black	23/4	63/4	31/4	35/8	5/8	21/4
30N-A-73	73	1.41	69	Tan						
30N-A-95	95	1.36	94	Green						
30N-B-138	138	1.67	105	White						
30N-B-222	222	1.51	191	Blue						
30N-B-278	278	1.44	255	Purple						
30N-B-336	336	1.35	336	Silver	4	63/4	43/4	33/4	5/8	23/4
30N-B-410	410	1.42	385	Black						
30N-B-540	540	1.35	540	Yellow						

*3/4" minimum deflection

DNHS Spring Hangers with Double Deflection LDS Rubber Element

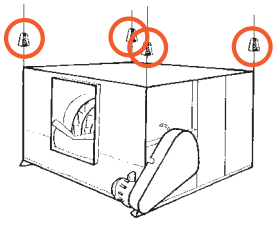


LRP-Lower Rod Penetration
URP-Upper Rod Penetration
MRD-Maximum Rod Dia.

DNHS 1" DEFL. SPRING HANGERS*

Type & Size	Rated Capacity (lbs)	Rated Defl (in)	Spring Constant (lbs/in)	Spring Color	Dimensions (inches) D	H	W	LRP	MRD	URP
DNHS-X-12	12	1.45	10	Orange						
DNHS-X-23	23	1.50	18	Brown						
DNHS-X-33	33	1.30	30	Red						
DNHS-X-54	54	1.40	45	White						
DNHS-X-76	76	1.22	73	Black	21/2	51/2	27/8	31/4	3/8	13/4
DNHS-X-113	113	1.20	113	Yellow						
DNHS-X-130	130	1.20	130	Purple						
DNHS-X-175	175	1.20	175	Silver						
DNHS-X-210	210	1.20	210	Blue						
DNHS-A-12	12	1.35	12	Red						
DNHS-A-18	18	1.35	18	Gray	23/4	63/4	31/4	31/2	5/8	21/4
DNHS-A-25	25	1.35	25	Orange						
DNHS-A-41	41	1.53	35	Pink						
DNHS-A-56	56	1.49	49	Black	23/4	63/4	31/4	4	5/8	21/4
DNHS-A-73	73	1.41	69	Tan						
DNHS-A-95	95	1.36	94	Green						
DNHS-A-45	45	1.95	28	Blue						
DNHS-A-75	75	1.85	50	Orange						
DNHS-A-125	125	1.68	94	Brown	23/4	63/4	31/4	4	5/8	21/4
DNHS-A-200	200	1.50	174	Black						
DNHS-A-310	310	1.35	310	Yellow						
DNHS-A-400	400	1.35	400	Green						
DNHS-A-510	510	1.35	510	Red	23/4	63/4	31/4	4	5/8	21/4
DNHS-A-625	625	1.35	625	White						

*3/4" minimum deflection



LRP-Lower Rod Penetration
URP-Upper Rod Penetration
MRD-Maximum Rod Dia.

DNHS 2" DEFL. SPRING HANGERS

Type & Size	Rated Capacity (lbs)	Rated Defl (in)	Spring Constant (lbs/in)	Spring Color/ Stripe	Dimensions (inches) D	H	W	LRP	MRD	URP
DNHS-B-20	20	2.75	8	Tan						
DNHS-B-26	26	2.53	12	White/Blue						
DNHS-B-35	35	2.55	16	Purple						
DNHS-B-50	50	2.55	24	White/Red	4	9	43/4	51/8	3/4	3
DNHS-B-65	65	2.45	31	Brown						
DNHS-B-85	85	2.45	40	White/Black						
DNHS-B-115	115	2.35	57	Silver						
DNHS-B-150	150	2.35	75	Orange						
DNHS-B2-210	210	2.47	99	Silver						
DNHS-B2-290	290	2.35	144	Blue	4	9	43/4	51/8	3/4	3
DNHS-B2-450	450	2.35	224	Tan						

*1 1/2" minimum deflection

Seismic Mounts

MASON WHOLESALE

Minor earthquakes often damage mechanical equipment by shearing anchor bolts and breaking connections. Mason Industries offers a broad selection of seismic mounts that control vibration and noise under normal conditions and limit damage through restraint during minor to moderate earthquakes. Isolation that helps reduce damage to equipment and keep them operational are often required by building code in seismic zones. Mason isolators meet or exceed most of these codes.

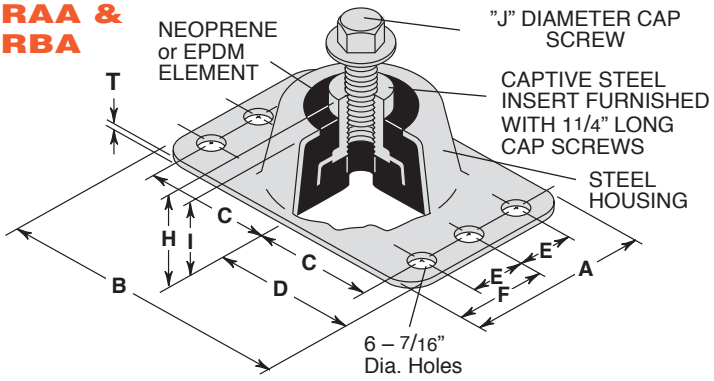
Seismic spring isolators (SSLFH and SLR) allow equipment to "float" freely on springs, offering optimum noise and vibration isolation during normal conditions. These mounts have built-in neoprene "snubbers" that engage to restrain equipment only when movement due to an earthquake is experienced. "Snubbers" prevent the steel-to-steel contact which causes most of the failures of resiliently mounted equipment subjected to small seismic forces. *Seismic mounts effectively restrain equipment from excessive movement due to fluid fluctuations and start and stop forces.*

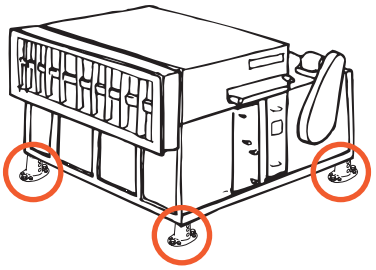
RBA & BR
Captive Neoprene Mounts

Mason RAA, RBA and BR Mounts are totally captive neoprene mounts ideal for seismic applications, mobile mounted equipment such as truck or marine and suspending commercial garage door openers. They function well in tension, compression or shear and are good for applications requiring wall mounted isolation.

RAA and RBA have California OSHPD Anchorage Preapproval Number OPA-0200 and BR has OPA-0201.

RAA & RBA





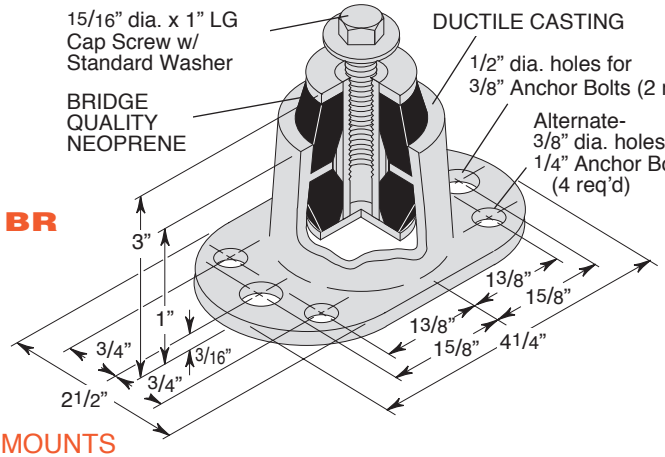
RAA & RBA CAPTIVE MOUNTS

Type & Size (Duro)	Color Mark	COMPRESSION Rated Capacity (lbs)	COMPRESSION Rated Defl (in)	TENSION Rated Capacity (lbs)	TENSION Rated Defl (in)	SHEAR Rated Capacity (lbs)	SHEAR Rated Defl (in)	Max. Horiz. Static G Rating
RAA-30	Black	200	0.10	150	0.08	150	0.08	7.0
RAA-45	Green	300	0.10	200	0.08	200	0.08	5.0
RAA-45	White	500	0.10	400	0.08	400	0.08	2.5
RBA-30	Black	250	0.15	200	0.12	200	0.09	17.0
RBA-45	Green	525	0.15	420	0.12	420	0.09	8.1

TYPE RAA & RBA DIMENSIONS & RATINGS (inches)

Type	A	B	C	D	E	F	G	H	I	J	T
RAA	25/8	41/4	111/16	21/8	7/8	15/16	7/16	11/2	11/8	3/8-16UNC x 1	3/32
RBA	3	43/4	115/16	23/8	1	11/2	7/16	17/8	11/2	1/2-13UNC x 11/4	3/32

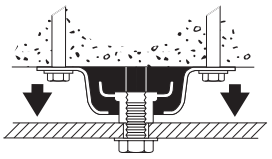
BR



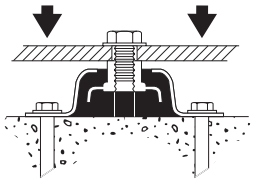
BR CAPTIVE MOUNTS

Type & Size (Duro)	Color Mark	COMPRESSION Rated Capacity (lbs)	COMPRESSION Rated Defl (in)	TENSION Rated Capacity (lbs)	TENSION Rated Defl (in)	SHEAR Rated Capacity (lbs)	SHEAR Rated Defl (in)	Max. Horiz. Static G Rating
BR-A-40	Green	85	0.20	85	0.18	20	0.13	10.4
BR-A-50	Red	125	0.20	125	0.18	30	0.13	7.0
BR-A-60	White	205	0.20	205	0.18	50	0.13	4.3
BR-A-70	Yellow	290	0.20	290	0.18	70	0.13	3.0

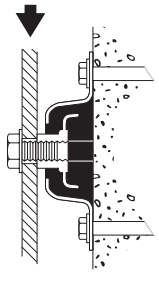
MOUNTING OPTIONS



TENSION



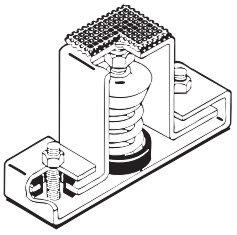
COMPRESSION



SHEAR

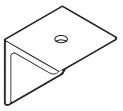
SLR
Restrained Spring Mounts

Mason SLR Restrained Spring Mounts give the same efficient control of structurally transmitted noise and vibration as do our SLFH and C mounts, but with limited movement. Equipment is restrained to less than 1/8 inch movement in any direction, reducing damage caused by conditions that would otherwise move equipment excessively, such as extreme wind loads or seismic events.



Mounts with type W Friction Pads on top are designated as SLRW.

Note: Do not use SLRW for seismic or wind load applications.

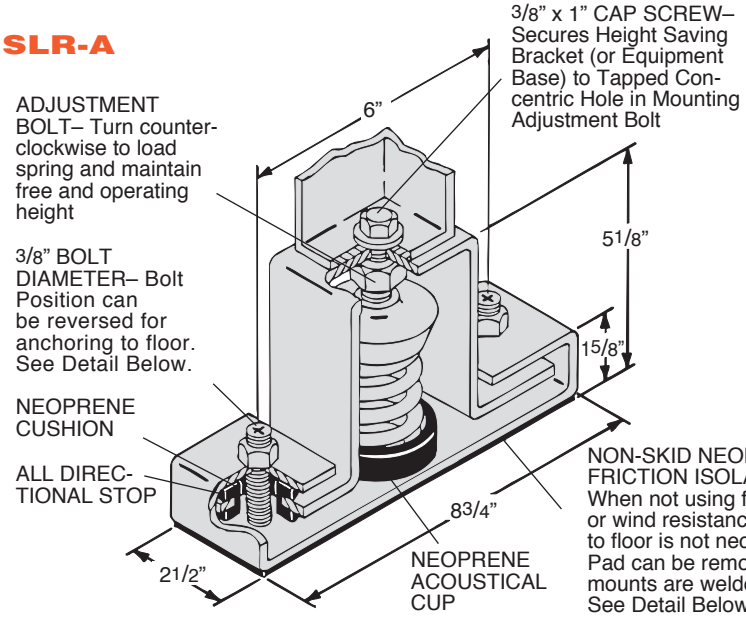


Height Saving Bracket- Use when equipment cannot be raised to the mount's Free & Operating Height.

SLR 1" deflection restrained mounts are ideal for protecting connections to cooling towers, boilers and chillers where weight can change with fluid fluctuations that cause the units to move vertically. They also meet or exceed most building code requirements where earthquakes and high wind load conditions are experienced. The all directional neoprene cushions (see illustration to the left) only engage when excessive wind load, weight change or seismic forces occur and leave the units "floating" freely on the springs during normal conditions.

SLR-A mounts have California OSHPD Anchorage Preapproval number OPA-0195.

SLR-A



SLRA INSTALLATION

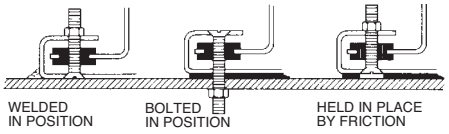
1. Remove the capscrew and washer. Place equipment on mountings and reinstall the capscrew and washer, leaving a 1/8" clearance under the head of the capscrew. For SLRWA mountings, place equipment on the mountings.
2. Take 2 full counterclockwise turns on each adjusting bolt and continue to do so until there is a clearance of 1/2" between the inside of the base and the bottom of the interior steel on one mount. It is important that the mounts be adjusted uniformly.
3. Continue taking 2 full turns on the other mounts until each has the 1/2" clearance. Stop adjusting any mount when you have this clearance.
4. An additional 1/4" of adjustment may be taken at the low corner or side to level equipment.
5. Tighten capscrews to lock adjustment.

SLR 1" DEFL. SPRING MOUNTS*

Type & Size	Rated Capacity (lbs)	Rated Defl (in)	Mount Constant (lbs/in)	Spring Color	Max. Horizontal Static G Rating
SLR-A-45	45	1.60	28	Blue	17.8
SLR-A-75	75	1.50	50	Orange	10.7
SLR-A-125	125	1.33	94	Brown	6.4
SLR-A-200	200	1.15	174	Black	4.0
SLR-A-310	310	1.00	310	Yellow	2.6
SLR-A-400	400	1.00	400	Green	2.0
SLR-A-510	510	1.00	510	Red	1.6
SLR-A-625	625	1.00	625	White	1.3

*3/4" minimum deflection

OPTIONAL SLR-A INSTALLATIONS

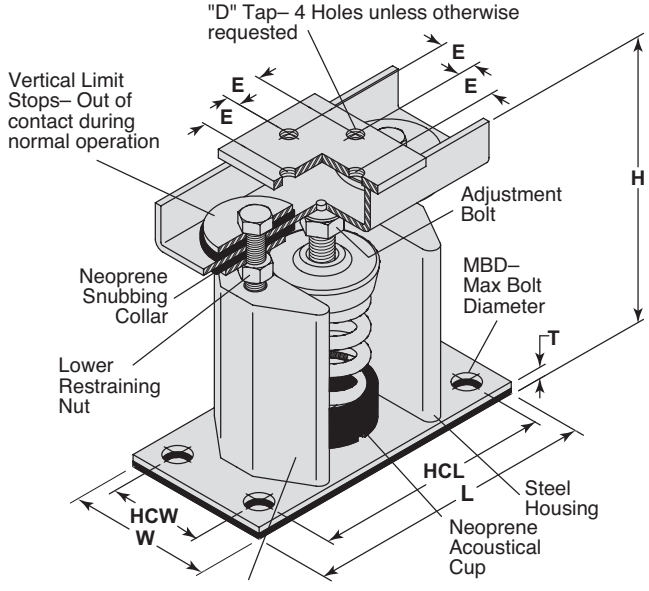


SLRSO 2" deflection restrained mounts are used in place of SLR-A mounts when installing equipment on wide and vibration sensitive building spans. SLRSOW-B & B2 (not shown) are also available.

SLRSO-B & B2

TYPE SLRSO DIMENSIONS (inches)

Size	H	T	D	E	L	HCL	W	HCW	MBD
B	8 3/4	3/8	1/2	1 1/8	8 1/2	7	4 1/4	2 3/4	5/8
B2	8 3/4	3/8	5/8	1 3/8	9 1/2	7 1/2	5 1/4	3 1/2	5/8



Non-Skid Pad is used in Non-Seismic zones only. Remove pad prior to installing in seismic zones. Reduce published height by 1/8" if pad is removed.

SLRSO 2" DEFL. SPRING MOUNTS*

Type & Size	Rated Capacity (lbs)	Rated Defl (in)	Mount Constant (lbs/in)	Spring Color	Max. Horizontal Static G Rating
SLRS0-B-20	20	2.40	8	Tan	70.0
SLRS0-B-26	26	2.18	12	White/Blue	53.9
SLRS0-B-35	35	2.20	16	Purple	40.0
SLRS0-B-50	50	2.20	24	White/Red	28.0
SLRS0-B-65	65	2.10	31	Brown	21.6
SLRS0-B-85	85	2.10	40	White/Black	16.5
SLRS0-B-115	115	2.00	57	Silver	12.2
SLRS0-B-150	150	2.00	75	Orange	6.8
SLRS0-B2-210	210	2.12	99	Silver	9.3
SLRS0-B2-290	290	2.00	144	Blue	4.9
SLRS0-B2-450	450	2.00	224	Tan	3.2

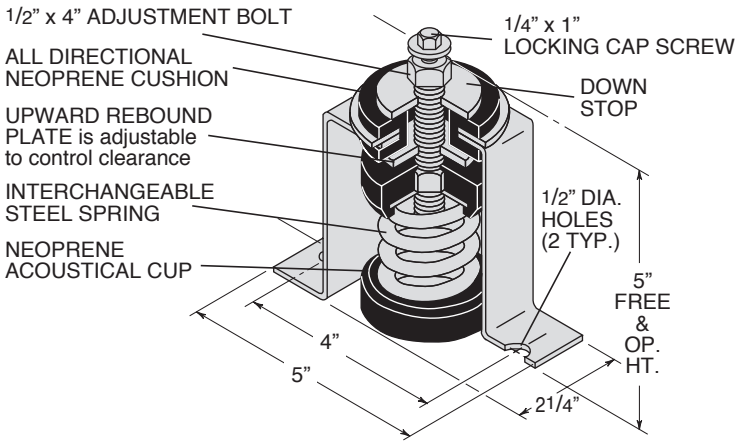
*1 1/2" minimum deflection

SLRSO INSTALLATION

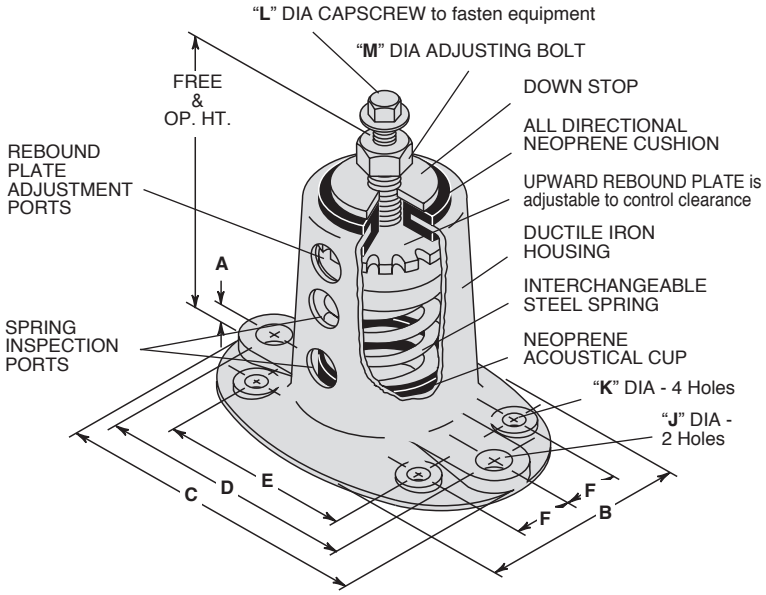
1. Place equipment on mountings and secure by bolting or welding.
2. Hold lower restraining nut in place and turn vertical limit stop bolt counterclockwise until there is a 1/8" gap between the bolt head and the steel washer.
3. Turn adjustment bolt 8 turns on each mount.
4. Take one additional complete turn on each adjustment bolt in sequence until the top plate lifts off of the lower restraining nuts. Take no additional turns on that mount. Continue with equal turns on the other mounts until the top plates lift off of the lower restraining nuts of all mounts.
5. Hold the limit stop bolt in place and turn the lower restraining nut clockwise and tighten it against the stanchion. Repeat on all mounts.

SSLFH Seismic Spring Mounts

SSLFH-X – FORMED STEEL SEISMIC SPRING MOUNTS



SSLFH-A, B & B2 – DUCTILE SEISMIC SPRING MOUNTS



TYPE SSLFH DIMENSIONS (inches)

††"J" Holes for Concrete Connection
‡"K" Holes for Steel Connection

Type & Size	A	B	C	D	E	F	J††	K‡	L	M	Free & Op Ht
SSLFH-A	1/4	4	61/4	43/4	4	11/8	3/4	1/2	3/8	3/4	6
SSLFH-B & B2	1/2	6	91/4	71/2	51/2	15/8	3/4	5/8	1/2	7/8	71/2

SSLFH 1" DEFL. SEISMIC SPRING MOUNTS*

Type & Size	Rated Capacity (lbs)	Rated Defl (in)	Mount Constant (lbs/in)	Spring Color/ Stripe	Max. Horizontal Static G Rating
SSLFH-A-45	45	1.60	28	Blue	37.8
SSLFH-A-75	75	1.50	50	Orange	22.7
SSLFH-A-125	125	1.33	94	Brown	13.6
SSLFH-A-200	200	1.15	174	Black	8.5
SSLFH-A-310	310	1.00	310	Yellow	5.5
SSLFH-A-400	400	1.00	400	Green	4.3
SSLFH-A-510	510	1.00	510	Red	3.3
SSLFH-A-625	625	1.00	625	White	2.7

*3/4" minimum deflection

Specifically designed for seismic service, the **SSLFH** mount has an all directional neoprene cushion which acts as a snubber to prevent impact damage due to earthquake forces. It is out of contact during normal operation.

IMPORTANT: A seismic restraint is only as good as its connections to both equipment and structure. Strong solid connections are required for proper operation.

Standard Baseplates can be used with drill-in anchors to fix equipment to concrete. However, to reach maximum published seismic restraint ratings, all baseplates must be enlarged to increase hole spacing.

SSLFH formed steel mounts have California OSHPD Anchorage Preapproval number OPA-0199.

SSLFH 1" DEFL. SEISMIC SPRING MOUNTS*

Type & Size	Rated Capacity (lbs)	Rated Defl (in)	Mount Constant (lbs/in)	Spring Color	Max. Horizontal Static G Rating
SSLFH-X-12	12	1.25	10	Orange	30.0
SSLFH-X-23	23	1.30	18	Brown	15.7
SSLFH-X-33	33	1.10	30	Red	10.9
SSLFH-X-54	54	1.20	45	White	6.7
SSLFH-X-76	76	1.02	73	Black	4.7
SSLFH-X-113	113	1.00	113	Yellow	3.2
SSLFH-X-130	130	1.00	130	Purple	2.8
SSLFH-X-175	175	1.00	175	Silver	2.1
SSLFH-X-210	210	1.00	210	Blue	1.7

*3/4" minimum deflection

INSTALLATION INSTRUCTIONS

1. Remove cap screw "L" and place mountings under hole in equipment base. If supports are badly off level, shim mounting level before securing.
2. Pass cap screw "L" through hole in equipment base and screw loosely into adjusting bolt "M".
3. Repeat this procedure in all mounting locations.
4. Keep "Upward Rebound Plate" from turning by restraining it with a screw driver through the adjustment port.
5. Take two full counter-clockwise turns on each adjusting bolt "M" and continue even adjustment of all mounts until all springs are loaded and mountings are back to Free and Operating Height.
6. Take no more than two additional counter-clockwise turns on any "M" adjusting bolt to level equipment.
7. Tighten cap screws "L" to secure equipment.
8. Turn rebound plate clockwise to lower or counter-clockwise to raise. Adjust plate so there is 1/8 inch clearance between top of plate and underside of all directional neoprene cushion.

SSLFH ductile seismic spring mounts have California OSHPD Anchorage Preapproval number OPA-0198.

SSLFH 2" DEFL. SEISMIC SPRING MOUNTS*

Type & Size	Rated Capacity (lbs)	Rated Defl (in)	Mount Constant (lbs/in)	Spring Color/ Stripe	Max. Horizontal Static G Rating
SSLFH-B-20	20	2.40	8	Tan	155.0
SSLFH-B-26	26	2.18	12	White/Blue	119.2
SSLFH-B-35	35	2.20	16	Purple	88.6
SSLFH-B-50	50	2.20	24	White/Red	62.0
SSLFH-B-65	65	2.10	31	Brown	47.7
SSLFH-B-85	85	2.10	40	White/Black	36.5
SSLFH-B-115	115	2.00	57	Silver	27.0
SSLFH-B-150	150	2.00	75	Orange	20.7
SSLFH-B2-210	210	2.12	99	Silver	14.8
SSLFH-B2-290	290	2.00	144	Blue	10.7
SSLFH-B2-450	450	2.00	224	Tan	6.9

*11/2" minimum deflection

All springs have additional travel to solid equal to 50% of the rated deflection except B2-450, which has 38% at rated capacity.

Seismic Sway Brace Assembly

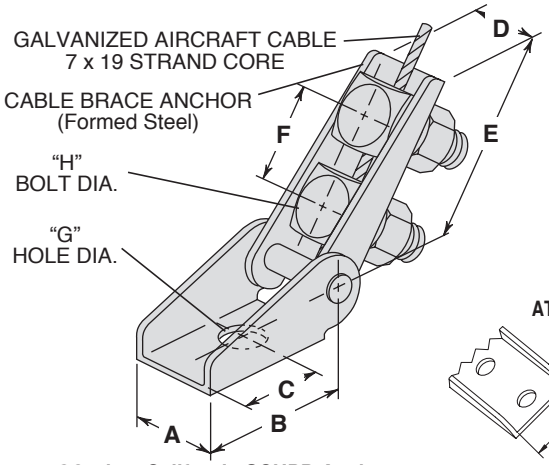
MASON WHOLESALE

Through the use of aircraft cable with swivel anchors, piping, ductwork and suspended equipment can be safely prevented from swinging out of control during earthquakes or when exposed to wind. Cable braces are designed so when they are installed with sufficient slack they do not interfere with neoprene or spring isolator function but effectively control movement, preventing equipment detachment and excessive damage.

Controlling sway is frequently not enough to insure safety. Rod stiffeners such as angle attached with seismic rod clamps (SRC) prevent suspended rods from buckling from vertical movements. Mason isolation hangers which have vertical limit stops should be used to minimize travel and reduce damage due to excessive acceleration. These vertical limit stops are standard on all Mason precompressed (PC-prefixed) isolation hangers.

SCB–

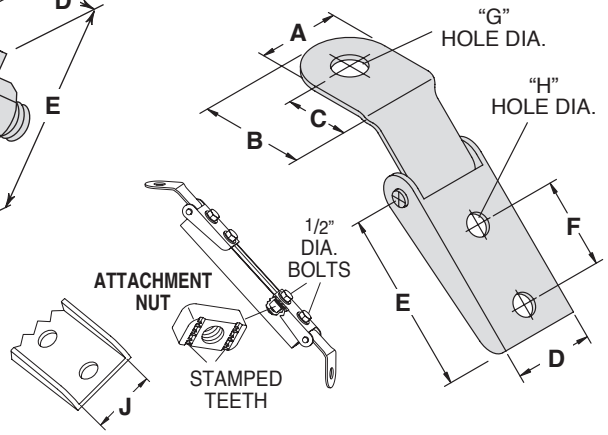
Seismic Cable Brace Swivel Anchor with All Parts Electro-Galvanized



SCB has California OSHPD Anchorage Preapproval number OPA-0349.

SSBS–

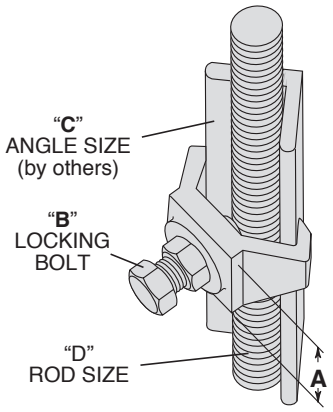
Seismic Solid Brace Strut Anchor with All Parts Electro-Galvanized



SSBS has California OSHPD Anchorage Preapproval number OPA-0349.

SRC–

Seismic Rod Clamp with Plated Nut and Bolt and Painted Clamp



SRC has California OSHPD Anchorage Preapproval number OPA-0349.

SCB & SSBS ANCHOR DIMENSIONS & RATINGS (inches)

Type & Size	Rated Capacity (lbs)	Cable Size	A	B	C	D	E	F	G	H	J
SCB-1	975	1/8	13/8	2	1	115/16	33/8	11/2	9/16	1/2	—
SSBS	*	—	2	21/4	11/4	115/16	33/4	17/8	*	17/32	111/16

* See table to right for individual SSBS sizes

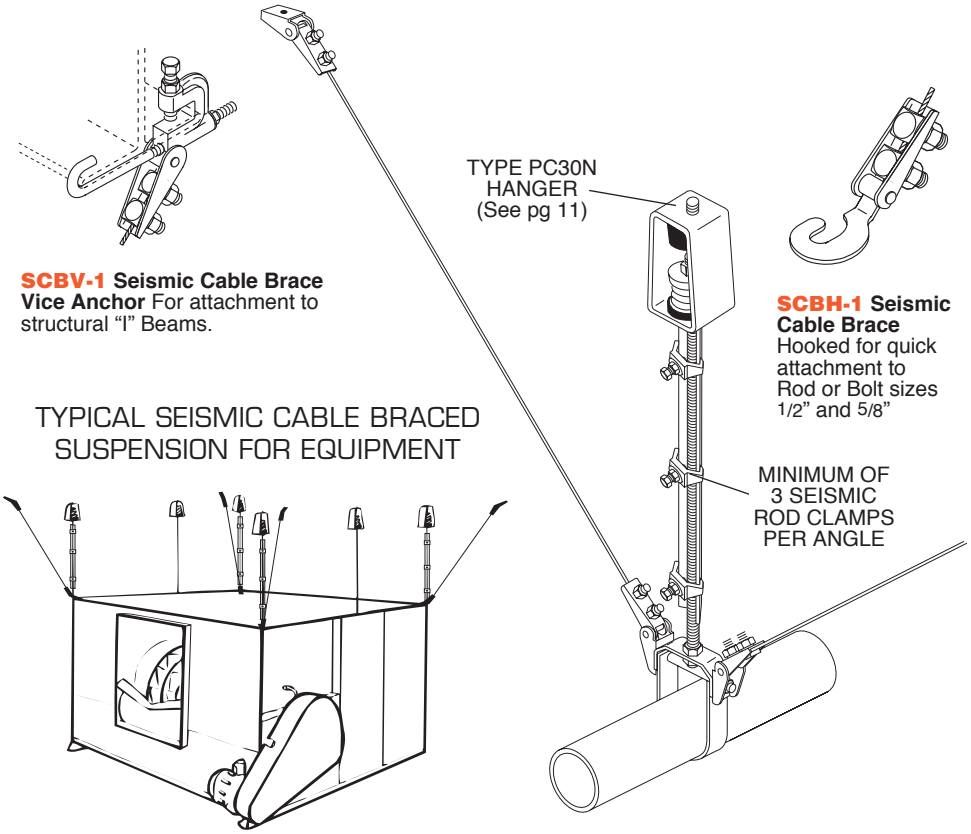
SSBS -12, -20 & -25 ANCHOR RATINGS

Type & Size	Hole Dia. G (in)	For Rod Sizes	Rated Capacity (lbs)	Min. Torque on Bolts (ft-lbs)
SSBS-12	17/32	3/8 & 1/2	3000	50
SSBS-20	25/32	5/8 & 3/4	3000	50
SSBS-25	11/32	7/8 & 1	3000	50

SRC DIMENSIONS (inches)

Type & Size	A	B	C	D Acceptable Rod Sizes
SRC-1	13/8	1/2	1x1x1/4	3/8 ,1/2 ,5/8
SRC-11/2	19/16	5/8	11/2 x11/2 x1/4	3/4,7/8,1,11/8,11/4

TYPICAL SEISMIC CABLE BRACED SUSPENSION FOR PIPING with Rod Stiffener and Type PC-Hanger



SCBV-1 Seismic Cable Brace Vice Anchor For attachment to structural "I" Beams.

SCBH-1 Seismic Cable Brace Hooked for quick attachment to Rod or Bolt sizes 1/2" and 5/8"

TYPICAL SEISMIC CABLE BRACED SUSPENSION FOR EQUIPMENT

SCBA Assembly– Two SCB-1 Swivel Anchors attached to Galvanized Aircraft Cable 7 x 19 Strand Core. SCBV-1 and SCBH-1 as required. All use 1/8" Cable.

SCBA ASSEMBLY DIMENSIONS

Type & Size	Rated Capacity (lbs)	Cable Dia. (in)	Cable Length (ft)
SCBA-1 x 4			4
SCBA-1 x 8			8
SCBA-1 x 12	975	1/8	12
SCBA-1 x 16			16
SCBA-1 x 20			20

SEISMIC NOTE:

SCB & SSB Capacity Ratings are from test data and calculations used to obtain California OSHPD Preapproval Number OPA-0202. Testing was supervised and certified by an independent engineer registered in the state of California.

Ratings are based on attachment to steel. Type SCB, SCBV and SCBH Ratings are controlled by Cable Break Strength.

Ratings will be controlled by attachment methods to concrete.

SFEJ & SFDEJ
Safeflex Expansion Joints

Safeflex is the culmination of 25 years of application experience and a driving desire to eliminate all possible failures. These improvements are costly, but the engineering and contracting communities and the consumers they serve have always been receptive to our improved longer lasting and safer products. Why risk failure when there is a better product.

SAFEFLEX IS SAFE BECAUSE...

- **All Safeflex Expansion Joints are factory tested to 150% of rated pressure before shipment.**
- Kevlar® high temperature tolerance is outstanding.
- Our peroxide cured EPDM covers, reinforcement rubber and tubes are superior to the sulfur cured EPDM and Natural Rubber, Nylon reinforced bodies that many competitors use.
- Kevlar® reinforcement wrapped around solid steel rings eliminates any possibility of the body pulling out of the flanges.
- Sealing pressure is higher using external stops as rotation points.

Call factory for Safeflex installation procedures.

SAFEFLEX Connectors are Expansion Joints, Flexible Connectors and Vibration Isolators all in one. As EXPANSION JOINTS they compensate for pipe thermal contraction and expansion, eliminating the need for costly expansion loops. They protect your system against harmful "start-up" and surge forces. The flexibility of the EPDM carcass makes them ideal FLEXIBLE CONNECTORS for handling minor misalignment and offset problems. SAFEFLEX connectors function as noise and vibration ISOLATORS resiliently break metal-to-metal pipe wall "flanking paths" guarding against piping damage and noisy installations.

SAFEFLEX connectors give additional savings by not requiring gaskets.

WE OFFER:

Ductile iron floating flanges finished in red baked enamel. Size range 1 1/2" to 12" (40mm to 300mm) diameter to match ASA, DIN, PN, JIS and British Standards.

Single sphere SAFEFLEX SFEJ for minimum space requirements and economy.

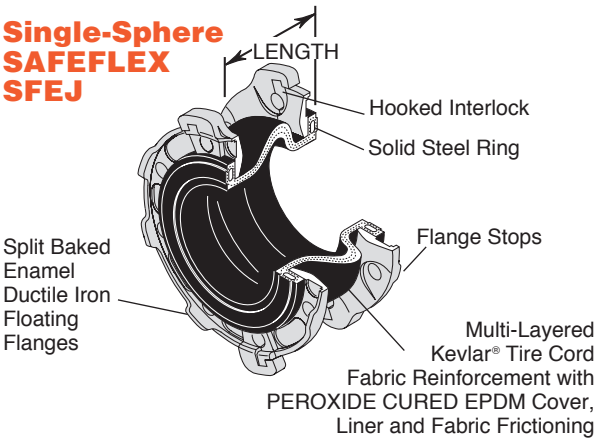
Twin sphere SAFEFLEX SFDEJ for maximum motion and acoustical performance Control Rods and Control Cables.

Duplex assemblies for extreme motion.

CAUTION: Consult a water treatment specialist before adding chemicals other than water to the piping system. Accessible shutoff valves are required for safety near all flexible connections.

ALL CONNECTORS SHOULD BE INSPECTED PERIODICALLY.

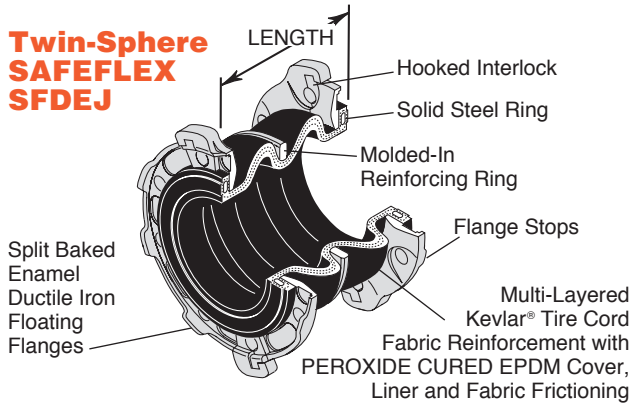
Single-Sphere SAFEFLEX SFEJ



SAFEFLEX SFEJ Dimensions and Allowable Movements

Pipe Size (in)	Length Face-to-Face (in)	Allowable Movements			
		Compression (in)	Elongation (in)	Transverse ±(in)	Angular (degrees)
1 1/2 2 2 1/2 3 4 5	4	5/8	1/2	5/8	21 20 19 18 17 16
6 8 10 12	6	1	5/8	5/8	15 14 13 12
14 16 18 20	9	1 1/8	7/8	7/8	10 9 8 7
24	10	1 1/8	1	1	6

Twin-Sphere SAFEFLEX SFDEJ

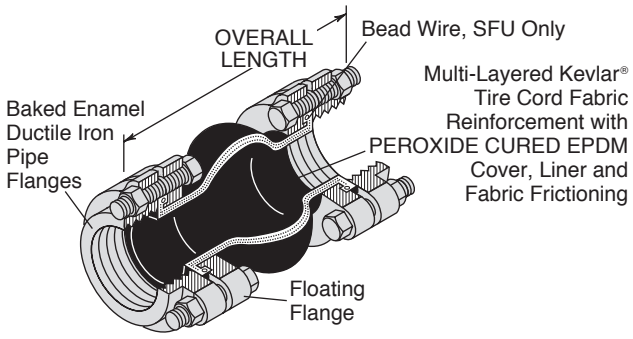


SAFEFLEX SFDEJ Dimensions and Allowable Movements

Pipe Size (in)	Length Face-to-Face (in)	Allowable Movements			
		Compression (in)	Elongation (in)	Transverse ±(in)	Angular (degrees)
1 1/2 2 2 1/2 3 4 5 6	7	1 1/4	3/4	3/4	36° 34° 32° 30° 28° 24° 22°
8 10 12	8	1 1/2	7/8	7/8	20° 18° 16°
14	10	1 5/8	1	1	14°

Large Sizes Available– Call Factory for Pricing.

SFU
Safeflex Connectors



SAFEFLEX SFU-DI
Ductile Iron Threaded End

Virtually all competitive products are limited to two-ply construction. Our superior design using four-ply Kevlar® tire cord reinforcement and DuPont Nordel (EPDM) cover and liner place these reliable small sized single-sphere connectors in the same temperature and pressure class as SAFEFLEX SFEJ.

SAFEFLEX SFU Dimensions and Allowable Movements

Pipe Size (in)	Length Face-to-Face (in)	Allowable Movements			
		Compression (in)	Elongation (in)	Transverse ±(in)	Angular (degrees)
3/4	7	3/4	3/8	3/8	25°
1	7				24°
1 1/4	8				23°
1 1/2	8				22°
2	8				21°

FITTING OPTIONS

SAFEFLEX SFU-CT Sweat End for Copper Tubing

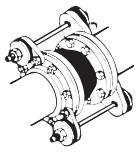
SAFEFLEX SFU-BT Brass Threaded End

INSTALLATION

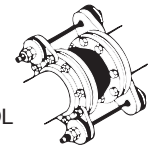
First attach end-fittings to pipe. Then bolt in carcass. IMPORTANT: Minimize stress to connections in hot water systems where pipes thermally expand and connectors axially elongate as pressure is applied by manually elongating the connectors at the time of installation. In cold water systems where pipes will contract, compress the connectors during installation. The amount of pre-compression or elongation should be calculated to cancel pipe movement caused by standard operating conditions, thus approximating the connectors relaxed end-to-end dimension after start-up. Flexible connectors attached to spring isolated equipment may require manual elongation upon installation to compensate for movement due to operating pressure which can offset the resiliently mounted units. Do not exceed allowable movements and temperatures.

SAFEFLEX SFEJ, SFDEJ & SFU
Standard and High Pressure Construction-Pressure Reduction

Type Construction & Size (in)	Nominal Rating at (°F)					Max Vacuum (in Hg)
	170°	190°	210°	230°	250°	
SFEJ Standard 11/2- 16”	250 psi	245 psi	235 psi	225 psi	215 psi	18”
SFEJ Standard 18”- 24”	180 psi	175 psi	170 psi	165 psi	155 psi	18”
SFDEJ Standard All Sizes	250 psi	245 psi	235 psi	225 psi	215 psi	14”
SFU Standard All Sizes	250 psi	245 psi	235 psi	225 psi	215 psi	18”
SFEJ High Pressure 11/2”- 16”	335 psi	325 psi	315 psi	300 psi	285 psi	29”
SFEJ High Pressure 18”- 24”	225 psi	220 psi	210 psi	200 psi	190 psi	29”
SFDEJ High Pressure All Sizes	335 psi	325 psi	315 psi	300 psi	285 psi	22”



CR
CONTROL RODS



ACC
CONTROL CABLES

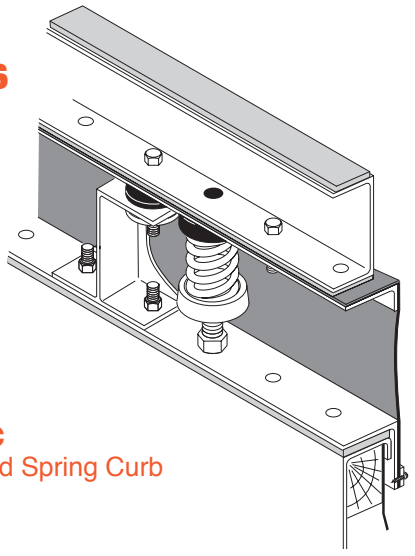
Standard Safeflex Connectors do not require control rods or cables in anti-vibration applications when pre-extended during installation in accordance with installation instructions.

Heavy Duty units should be installed with control rods or cables over 275 psi.

When Expansion Joints are used for piping expansion or contraction, Anchors must be provided on both sides of the expansion joint at the extreme ends of the protected run or the joints will not function properly.

Burst pressures are a minimum of three times Operating Pressures.

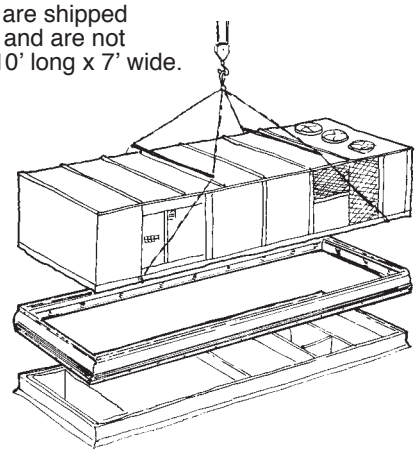
BSC
Roof Curbs



BSC
Bolted Spring Curb

Mason BSC bases with their 1” or 2” deflection capability are an excellent choice for isolating noise and vibration generated by rooftop equipment from the occupied space beneath. Bases are designed for seismic applications in zones 2A or lower.

BSC curbs are shipped assembled and are not to exceed 10’ long x 7’ wide.

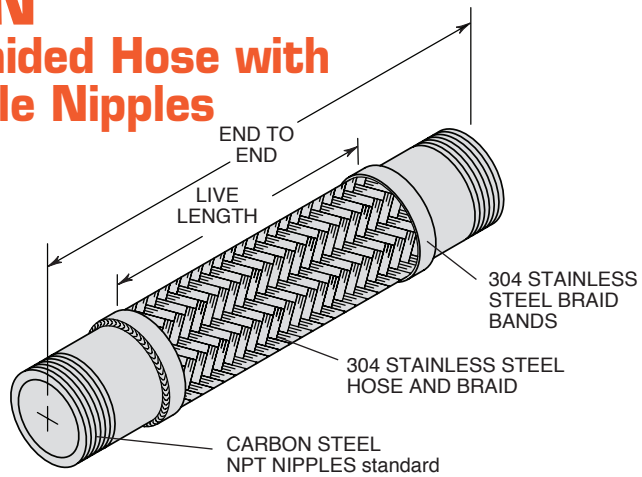


Braided Hoses

Metallic flexible hoses reduce pipe wall noise transmission, prevent pipe fatigue, simplify alignment problems and reduce equipment flange stress. The corrugated seamless hose body provides the flexibility and prevents leakage.

Since the braid is stretched taut by the pressure in the axial direction and kept that way, hoses cannot accept axial motion. All flexibility is at right angles to the axis so the hose flexes transversely like a reed. Most machinery vibrates in a radial direction from the main shaft. Therefore, the hose should be installed parallel to the shaft for best performance and at right angles to the motion in expansion applications.

MN
Braided Hose with Male Nipples



MN with MALE NIPPLES

Type	Pipe Size & End to End (in)	Live Length (in)	Corru-gations per foot	Maximum Lateral Offset (in)	Rated Pressure @70°F (psi)
MN	1/2 x 6 1/2*	2 1/4	92	1/8	1100
MN	1/2 x 12	7 3/4	92	1 1/4	1100
MN	1/2 x 18	13 3/4	92	4	1100
MN	**1/2 x 24**	**19 3/4**	**92**	**7 1/2**	**1100**
MN	1/2 x 36	32 1/8	92	16	1100
MN	3/4 x 7*	2 3/4	80	1/8	700
MN	3/4 x 12	7 3/4	80	1 1/8	700
MN	3/4 x 18	13 3/4	80	3 1/2	700
MN	**3/4 x 24**	**19 3/4**	**80**	**7**	**700**
MN	3/4 x 36	32 1/8	80	14	700
MN	1 x 8*	3 3/4	72	1/8	580
MN	1 x 12	7 3/4	72	1	580
MN	1 x 18	13 3/4	72	3	580
MN	**1 x 24**	**19 3/4**	**72**	**6 1/2**	**580**
MN	1 x 36	31 5/8	72	11	580
MN	1 1/4 x 8 1/2*	3 1/4	67	1/8	480
MN	1 1/4 x 12	6 3/4	67	3/4	480
MN	1 1/4 x 18	12 3/4	67	2 1/4	480
MN	**1 1/4 x 24**	**18 3/4**	**67**	**5**	**480**
MN	1 1/4 x 36	31 1/8	67	10	480
MN	1 1/2 x 9*	3 3/4	63	1/8	450
MN	1 1/2 x 12	6 3/4	63	5/8	450
MN	1 1/2 x 18	12 3/4	63	2	450
MN	**1 1/2 x 24**	**18 3/4**	**63**	**4 1/2**	**450**
MN	1 1/2 x 36	31 1/8	63	9	450
MN	2 x 10 1/2*	4 1/2	58	1/8	360
MN	2 x 12	6	58	3/8	360
MN	2 x 18	12	58	1 1/2	360
MN	**2 x 24**	**18**	**58**	**3 3/4**	**360**
MN	2 x 36	30 3/4	58	8	360
MN	2 1/2 x 12*	5	48	1/8	290
MN	2 1/2 x 18	11	48	1 1/4	290
MN	**2 1/2 x 24**	**17**	**48**	**3**	**290**
MN	2 1/2 x 36	29	48	7	290
MN	3 x 12*	5	46	1/8	280
MN	3 x 18	11	46	1	280
MN	**3 x 24**	**17**	**46**	**2 1/2**	**280**
MN	**3 x 36**	**29**	**46**	**6**	**280**
MN	4 x 18	11	32	3/4	225
MN	4 x 24	17	32	1 3/4	225
MN	**4 x 36**	**29**	**32**	**5**	**225**

Larger and Custom Sizes Available – Call Factory for Pricing.

Sizes in **RED** are Mason Minimum Recommended Lengths

Industry Pump Connector Lengths– Supplied on competitor or lack of specifications or specific requests, but not recommended.

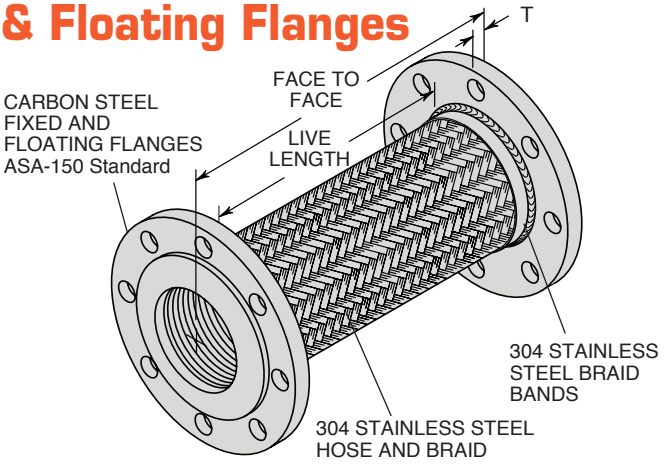
Lateral Offset is one side of centerline only and allows for normal machinery vibration. If intermittent in both directions, reduce value by 50%.

MASON WHOLESALE

The FFL Braided Stainless Steel Hose has carbon steel fixed and floating raised face flanges. This is important because it makes lining up the holes easier during installation, and eliminates the possibility of twisting the hose, when the holes do not line up. Twisting contributes to early failure.

Raised face flanges seal better. Most competitive plate flanges have flat faces to reduce machining costs, but the raised face is the better product as sealing pressures increase by factors of 2 & 3.

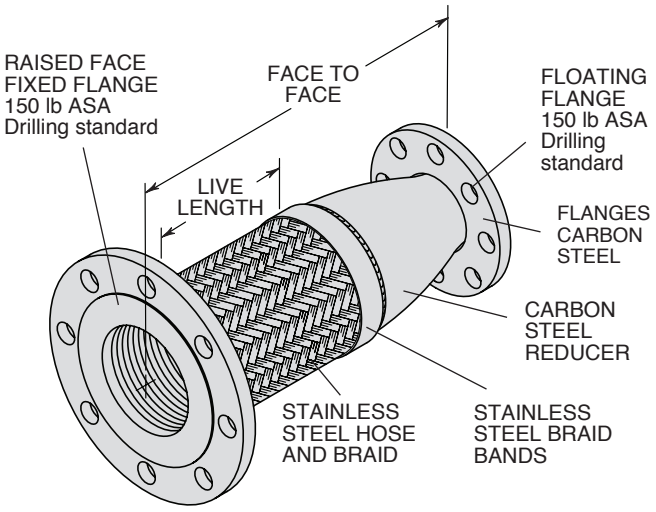
FFL Braided Hose with Fixed & Floating Flanges



FFL with FIXED AND FLOATING FLANGES

Type	Pipe Size & End to End (in)	Live Length (in)	Corru-gations per foot	Maximum Lateral Offset (in)	Rated Pressure @70°F (psi)
FFL	1 1/2 X 9*	6 7/8	63	1/8	450
FFL	1 1/2 X 12	9 7/8	63	1 1/4	450
FFL	1 1/2 X 18	15 7/8	63	3 1/2	450
FFL	**1 1/2 X 24**	**21 7/8**	**63**	**6 1/2**	**450**
FFL	2 X 9*	6 1/8	58	1/8	360
FFL	2 X 12	9 1/8	58	1 1/8	360
FFL	2 X 18	15 1/8	58	2 1/2	360
FFL	**2 X 24**	**21 1/8**	**58**	**5**	**360**
FFL	2 1/2 X 9*	6 1/8	48	1/8	290
FFL	2 1/2 X 12	9 1/8	48	1	290
FFL	2 1/2 X 18	15 1/8	48	2 1/4	290
FFL	**2 1/2 X 24**	**21 1/8**	**48**	**4 3/4**	**290**
FFL	3 X 9*	6 1/8	46	1/8	280
FFL	3 X 12	9 1/8	46	7/8	280
FFL	3 X 18	15 1/8	46	2	280
FFL	3 X 24	21 1/8	46	4	280
FFL	**3 X 36**	**33 1/8**	**46**	**8**	**280**
FFL	4 X 9*	6 1/8	32	1/8	225
FFL	4 X 12	9 1/8	32	3/4	225
FFL	4 X 18	15 1/8	32	1 1/2	225
FFL	4 X 24	21 1/8	32	3 1/2	225
FFL	**4 X 36**	**33 1/8**	**32**	**7**	**225**
FFL	5 X 12*	8 7/8	29	1/8	200
FFL	5 X 18	14 7/8	29	1 1/4	200
FFL	5 X 24	20 7/8	29	2 1/4	200
FFL	**5 X 36**	**32 7/8**	**29**	**5 1/2**	**200**
FFL	6 X 12*	8 7/8	25	1/8	200
FFL	6 X 18	14 7/8	25	1	200
FFL	6 X 24	20 7/8	25	2	200
FFL	**6 X 36**	**32 7/8**	**25**	**5**	**200**
FFL	8 X 12*	8 5/8	23	1/8	200
FFL	8 X 18	14 5/8	23	7/8	200
FFL	8 X 24	20 5/8	23	1 1/2	200
FFL	**8 X 36**	**32 5/8**	**23**	**4**	**200**
FFL	10 X 18	14 1/2	21	3/4	170
FFL	10 X 24	20 1/2	21	1 1/4	170
FFL	**10 X 36**	**32 1/2**	**21**	**3**	**170**
FFL	12 X 24	20 1/2	20	1	170
FFL	**12 X 36**	**32 1/2**	**20**	**2 1/2**	**170**
FFL	**14 X 36**	**32 1/2**	**18**	**1 1/4**	**170**
FFL	**16 X 36**	**32 1/2**	**16**	**1**	**170**

RFFL Reducer with Fixed & Floating Flanges



RFFL REDUCER with FIXED AND FLOATING FLANGES

Type	Pipe Sizes– Large End X Small End (in)	Face to Face (in)	Live Length (in)	Corru-gations per foot	Maximum Permanent Lateral Offset (in)	Rated Pressure @70°F (psi)
RFFL	21/2 X 2	14	73/4	48	1/8	290
RFFL	3 X 2	14	73/4	46	1/8	280
RFFL	3 X 21/2	14	73/4	46	1/8	280
RFFL	4 X 2	14	71/4	32	1/8	225
RFFL	4 X 21/2	14	71/4	32	1/8	225
RFFL	4 X 3	14	71/4	32	1/8	225
RFFL	5 X 3	17	91/8	29	1/8	200
RFFL	5 X 4	17	91/8	29	1/8	200
RFFL	6 X 3	18	95/8	25	1/8	200
RFFL	6 X 4	18	95/8	25	1/8	200
RFFL	6 X 5	18	95/8	25	1/8	200
RFFL	8 X 4	18	87/8	23	1/8	200
RFFL	8 X 5	18	87/8	23	1/8	200
RFFL	8 X 6	18	87/8	23	1/8	200
RFFL	10 X 6	20	97/8	21	1/8	170
RFFL	10 X 8	20	97/8	21	1/8	170
RFFL	12 X 10	22	107/8	20	1/8	170

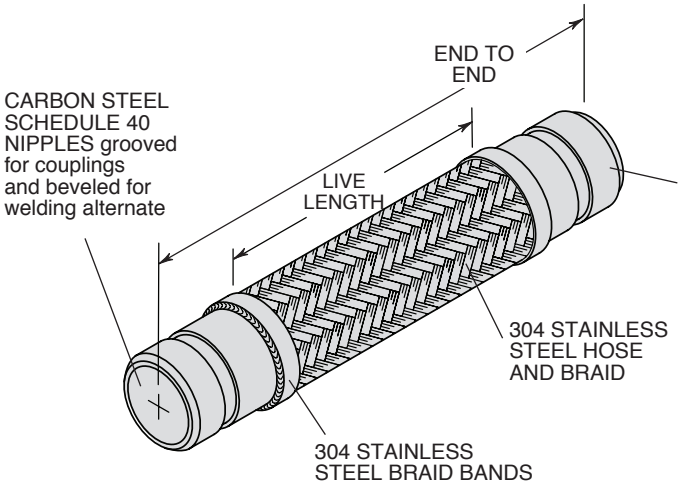
Custom Sizes Available – Call Factory for Pricing.

Face to Face Tolerance: minus 1% plus 3%. Minimum Burst is four times the Rated Pressure. Safety factor of 4.

Lateral Offset one side of centerline and normal machinery vibration. If intermittent in both directions, reduce by 50%.

Size 12" *(300mm)* has double braid.

GWN Braided Hose with Grooved Weld Nipples



GWN with GROOVED WELD NIPPLES

Type	Pipe Size & End to End (in)	Live Length (in)	Corru-gations per foot	Maximum Permanent Lateral Offset (in)	Rated Pressure @70°F (psi)
GWN	2 X 14	83/4	58	1	360
GWN	**2 X 24**	**183/4**	**58**	**33/4**	**360**
GWN	2 X 36	303/4	58	8	360
GWN	21/2 X 14	8	48	7/8	290
GWN	**21/2 X 24**	**18**	**48**	**3**	**290**
GWN	21/2 X 36	30	48	7	290
GWN	3 X 14	8	46	3/4	280
GWN	**3 X 36**	**30**	**46**	**6**	**280**
GWN	4 X 18	10	32	3/4	225
GWN	**4 X 36**	**28**	**32**	**5**	**225**
GWN	5 X 20	12	29	3/4	200
GWN	**5 X 36**	**28**	**29**	**4**	**200**
GWN	6 X 22	14	25	3/4	200
GWN	**6 X 36**	**28**	**25**	**31/2**	**200**
GWN	8 X 24	16	23	1/4	200
GWN	**8 X 36**	**28**	**23**	**3**	**200**
GWN	10 X 28	18	21	3/4	170
GWN	**10 X 36**	**26**	**21**	**2**	**170**
GWN	12 X 30	20	20	3/4	170
GWN	**12 X 36**	**26**	**20**	**13/4**	**170**

Custom Sizes Available – Call Factory for Pricing.

Sizes in **RED** are Mason Minimum Recommended Lengths

End to End Tolerance: minus 1% plus 3%. Minimum Burst is four times the Rated Pressure. Safety factor of 4.

Lateral Offset one side of centerline and normal machinery vibration. If intermittent in both directions, reduce by 50%.

Size 12" *(300mm)* has double braid.

Rated Pressure @ Elevated Temperatures for Stainless Steel Hoses

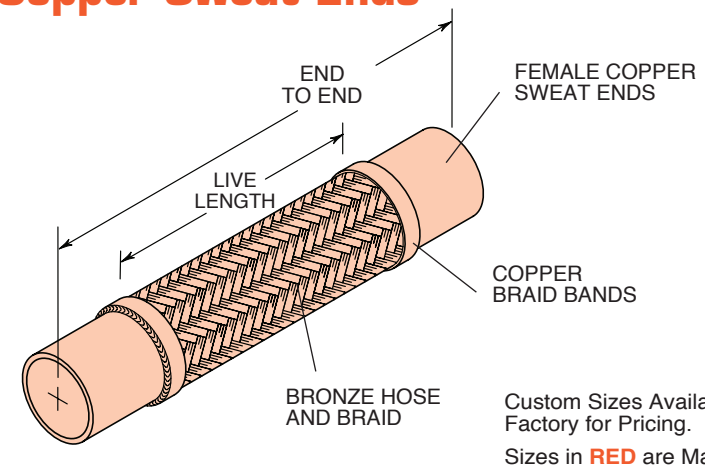
RATED PRESSURES @ ELEVATED TEMPERATURES (psi)

Hose Size (in)	250°F Factor 0.92	350°F Factor 0.86	450°F Factor 0.81
1/2	1010	950	890
3/4	640	600	570
1	530	500	470
11/4	442	413	389
11/2	410	387	365
2	330	310	290
21/2	270	250	235
3	260	240	230
4	210	200	190
5	190	180	170
6	190	180	170
8	170	160	150
10	160	150	140
12	160	150	140

SATURATED STEAM RECOMMENDED PRESSURE LIMITS

Size (in)	Max Gauge (psi)	Temp Reference (°F)
1/2	200	387
3/4	200	387
1	150	362
11/4	150	362
11/2	150	362
2	150	362
21/2	125	355
3	125	355
4	125	355
5	100	337
6	100	337
8	75	320
10	60	307
12	60	307

CPSB
Bronze Braided Hose with Copper Sweat Ends



RATED PRESSURES @ ELEVATED TEMPERATURES (psi)

Hose Size	150°F *Factor 0.92*	300°F *Factor 0.83*	400°F *Factor 0.78*
1/2 3/4	460 432	415 390	390 367
1 1 1/4 1 1/2	414 368 308	373 332 278	351 312 261
2 2 1/2 3 4	216 212 207 202	195 191 187 183	183 179 175 172

Custom Sizes Available – Call Factory for Pricing.

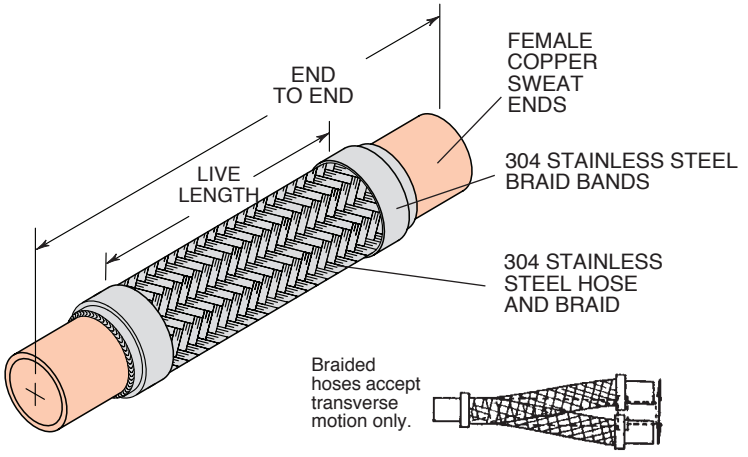
Sizes in **RED** are Mason Minimum Recommended Lengths

End to End Tolerance: minus 1% plus 3%. Minimum Burst is four times the Rated Pressure. Safety factor of 4.

Female end fits over copper tubing, e.g. 1/2 x 12 fits over 1/2" tubing.

Lateral Offset one side of centerline and normal machinery vibration. If intermittent in both directions, reduce by 50%.

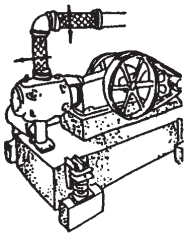
ULCPS Braided Hose with Copper Sweat Ends
U.L. Approved for Refrigerant Service



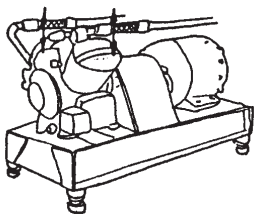
U.L. Approved Flexible Connector for refrigerant and other gas or fluid services.

All connectors are cleaned and bagged for refrigeration service.

Two hoses at right angles accept motion in all modes.



Single hoses should be installed parallel to the equipment shaft.



CPSB BRONZE HOSE with COPPER SWEAT ENDS

Type	Tubing Size & End to End (in)	Live Length (in)	Corru-gations per foot	Maximum Permanent Lateral Offset (in)	Rated Pressure @70°F (psi)
CPSB	1/2 X 6 1/2*	2 3/4	73	1/8	500
CPSB	1/2 X 12	8 1/4	73	1	500
CPSB	**1/2 X 18**	**14 1/4**	**73**	**3**	**500**
CPSB	1/2 X 24	20 1/4	73	6	500
CPSB	1/2 X 36	32 1/4	73	12 1/2	500
CPSB	3/4 X 7*	2 3/4	67	1/8	470
CPSB	3/4 X 12	7 3/4	67	3/4	470
CPSB	**3/4 X 18**	**13 3/4**	**67**	**2 1/2**	**470**
CPSB	3/4 X 24	19 3/4	67	5 1/2	470
CPSB	3/4 X 36	31 3/4	67	11	470
CPSB	1 X 8*	3 3/8	58	1/8	450
CPSB	1 X 12	7 3/8	58	5/8	450
CPSB	**1 X 18**	**13 3/8**	**58**	**2 1/4**	**450**
CPSB	1 X 24	19 3/8	58	5	450
CPSB	1 X 36	31 3/8	58	8 1/2	450
CPSB	1 1/4 X 8 1/2*	3 3/4	55	1/8	400
CPSB	1 1/4 X 12	7 1/4	55	1/2	400
CPSB	**1 1/4 X 18**	**13 1/4**	**55**	**1 3/4**	**400**
CPSB	1 1/4 X 24	19 1/4	55	4	400
CPSB	1 1/4 X 36	31 1/4	55	8	400
CPSB	1 1/2 X 9*	4	53	1/8	335
CPSB	1 1/2 X 12	7	53	1/2	335
CPSB	**1 1/2 X 18**	**13**	**53**	**1 1/2**	**335**
CPSB	1 1/2 X 24	19	53	3 1/2	335
CPSB	1 1/2 X 36	31	53	7 1/2	335
CPSB	2 X 12*	6 1/2	51	1/4	235
CPSB	**2 X 18**	**12 1/2**	**51**	**1 3/8**	**235**
CPSB	2 X 24	18 1/2	51	3 1/4	235
CPSB	2 X 36	30 1/2	51	7	235
CPSB	2 1/2 X 12*	4 3/4	34	1/8	230
CPSB	**2 1/2 X 18**	**10 3/4**	**34**	**7/8**	**230**
CPSB	2 1/2 X 24	16 3/4	34	2	230
CPSB	2 1/2 X 36	28 3/4	34	4 1/2	230
CPSB	3 X 12*	4 1/2	30	1/8	225
CPSB	**3 X 18**	**10 1/2**	**30**	**3/4**	**225**
CPSB	3 X 24	16 1/2	30	1 1/2	225
CPSB	3 X 36	28 1/2	30	4 1/4	225
CPSB	4 X 18*	9 1/2	28	1/2	220
CPSB	**4 X 24**	**15 1/2**	**28**	**1 1/4**	**220**
CPSB	4 X 36	27 1/2	28	4	220

ULCPS with COPPER SWEAT ENDS

Stamped Code	Size & End to End (in)	Fits Over Tubing Size	Tubing OD (In)	Live Length (in)	Maximum Permanent Lateral Offset (in)	Rated Pressure @70°F (psi)
NF1	3/8 X 8 1/2	1/4	3/8	6	1/8	650
NF2	1/2 X 9	3/8	1/2	6 1/4	1/8	650
NF3	5/8 X 9 3/4	1/2	5/8	6 5/8	1/8	650
NF4	3/4 X 10 1/2	5/8	3/4	6 3/4	1/8	650
NF5	7/8 X 12	3/4	7/8	7 1/2	1/8	650
NF6	1 1/8 X 13	1	1 1/8	7 7/8	1/8	600
NF7	1 3/8 X 15 1/2	1 1/4	1 3/8	9 3/4	1/8	550
NF8	1 5/8 X 17	1 1/2	1 5/8	10 1/2	1/8	510
NF9	2 1/8 X 20 1/2	2	2 1/8	13 1/4	1/8	400
NF10	2 5/8 X 24 1/4	2 1/2	2 5/8	15 1/2	1/8	350
NF11	3 1/8 X 27	3	3 1/8	17	1/8	320
NF12	4 1/8 X 33	4	4 1/8	21	1/8	190

End to End Tolerance: minus 1% plus 3%. Minimum Burst is four times the Rated Pressure. Safety factor of 5.

Lateral Offset one side of centerline and normal machinery vibration. If intermittent in both directions, reduce by 50%.

These meet or exceed the higher pressure requirements of R410A, R717 (NH_3) and R744 (CO_2).

ALSO AVAILABLE . . .

c UL us LISTED
FLEXIBLE JOINT FITTINGS
3VX9

NFPA®
NFPA 13

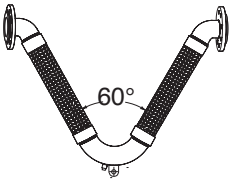
CLASSIFIED c UL us
WATER QUALITY
DRINKING WATER SYSTEM COMPONENT
ANNEX G of ANSI / NSF 61
(4RV6)

CSA, UL & NSF SERIES OF BRAIDED HOSE
Call for details

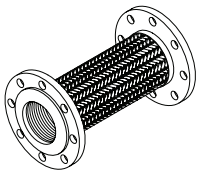
CSA® US

These assemblies have been "CSA" approved for use on gas pipelines. "CSA" is the current certification agency for gas industry products, assuming the authority formerly associated with the American Gas Association (AGA).

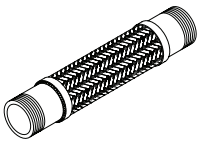
Our Certification Report is #230720-1764990. This Certification meets all requirements of ANSI/UL #536-1997 Standards for Flexible Metal Hose.



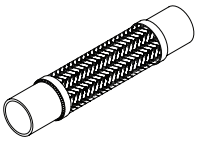
CSAVFL, VFL-UL or VFLSS-NSF
BRAIDED SS VEE HOSE with Floating Flanges



CSAFFL, FFL-UL or FFLSS-NSF
BRAIDED SS HOSE with Fixed & Floating Flanges

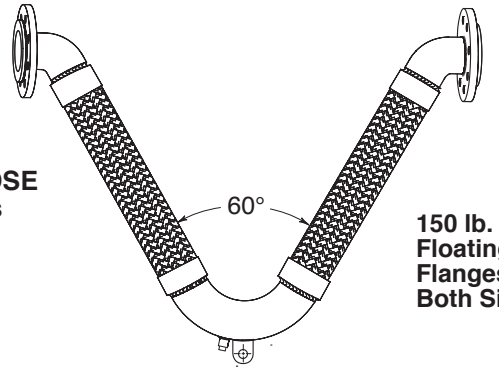


CSAMN, MN-UL or MNSS-NSF
BRAIDED SS HOSE with Male Nipples



CPSB-NSF
BRONZE BRAIDED HOSE with Copper Sweat Ends

60° VEE HOSE ASSEMBLIES
Call for details



VFL
BRAIDED SS VEE HOSE with Floating Flanges

150 lb. ASA Floating Flanges Both Sides

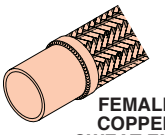
OTHER FITTING OPTIONS



MALE THREADED NIPPLES



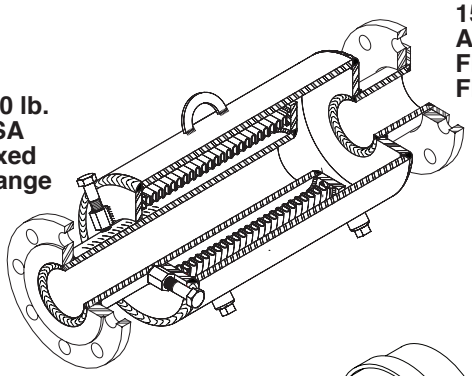
GROOVED NIPPLES



FEMALE COPPER SWEAT ENDS

EXPANSION COMPENSATORS
Call for details

150 lb. ASA Fixed Flange



150 lb. ASA Floating Flange

ECFFL
EXPANSION COMPENSATOR with Floating & Fixed Flanges

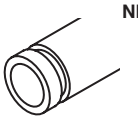
OTHER FITTING OPTIONS



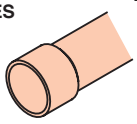
MALE THREADED NIPPLES



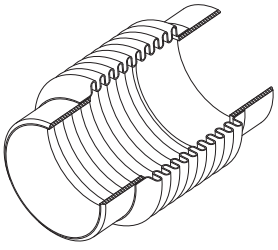
WELD ENDS



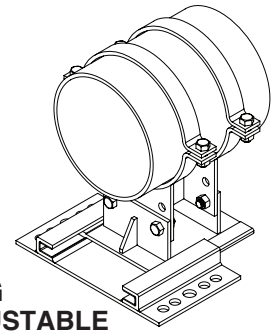
GROOVED NIPPLES



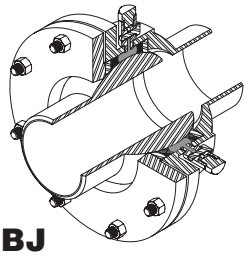
FEMALE COPPER SWEAT ENDS



EW
EXPANSION JOINT



ASG
ADJUSTABLE PIPE SLIDING GUIDES



BJ
BALL JOINT

STAINLESS STEEL FLEXIBLE HOSE AND EXPANSION JOINT SPECIAL ORDERS

Many stainless steel products are custom manufactured. The construction varies, depending on the operating pressure and the required movements. We can provide these unusual constructions in virtually every configuration. We can build to your specific product description or complete our own recommendations based on your movement and pressure requirements. There are too many variations for any company to have a meaningful inventory, so they are always built to order.

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