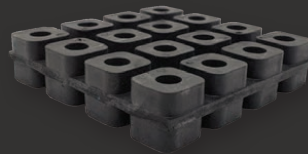




**SEISMIC  
AND VIBRATION  
ISOLATION  
SYSTEMS**

PART OF THE ZIP-CLIP ATLAS RANGE



A Division of the Zip-Clip Group

Specialist systems for seismic bracing and vibration isolation

## ZIP-CLIP COMPANY OVERVIEW



# SUSPENSION AND BRACING ZIP-CLIP SOLUTIONS

Zip-Clip is a manufacturer of high specification wire rope suspension and bracing systems with its headquarters in Wales, United Kingdom.

For over 19 years Zip-Clip have been designing and manufacturing a variety of wire rope support systems that are now utilized globally in an ever-increasing range of sectors.

Zip-Clip wire rope systems are typically used within the construction industry for the suspension and/or bracing of:

- Electrical containment trays, baskets or ladders,

- Lighting,
- Heating, Ventilation and Air Conditioning (HVAC) and mechanical services,
- Acoustic and radiant heating panels,
- Signage, screens and partitions.

Our wire locking devices are unique within the industry, being capable of performing a number of different functions, for a variety of applications, including seismic bracing. This flexibility of use is predominantly due to the strong patented design of our internal locking mechanisms.

Our unique systems are robust with the added benefit of being quick and easy to install.

Zip-Clip design and production capabilities allow us to tailor our wire suspension systems to meet exacting customer specifications.



A Division of the Zip-Clip Group

Specialist systems for seismic bracing and vibration isolation

# INTRODUCING ATLAS


**Atlas** is a division of the Zip-Clip Group dedicated to offering engineered solutions for specialist applications, including systems and products designed specifically for seismic restraint and for vibration isolation.

This guide gives an introduction to products that can be utilised for the latter, for vibration isolation and control, and showcases systems that can be utilised for both floor and ceiling mounted services.

Products within the **Atlas** range are premium-rated products and have been designed for applications that require a truly value-engineered solution.

All products offered by **Atlas** have been tested by third-party institutions to verify their capabilities, and are fully certified and underwritten.


**Atlas** seismic isolation systems have been tested to: ANSI/ASHRAE Standard 171-2017.



**Atlas**  
SEISMIC SOLUTIONS

Zip-Clip Atlas Seismic Bracing Systems offer a simple and engineered solution designed to brace and secure non-structural building services improving the resilience and safety of buildings in the event of an earthquake.

Specialist systems for seismic bracing and vibration isolation.



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# VIBRATION ISOLATION SYSTEMS

The following pages offer an introduction to Zip-Clip Atlas solutions for vibration isolation and control, and showcase systems that can be utilised for both floor and ceiling mounted services. These pages only illustrate a small part of the range available. Please contact Zip-Clip for further information on additional options available.

## SPRING HANGERS

Atlas spring hangers are utilised to isolate the transmission of vibration from ceiling-supported applications such as MEP services, through the primary support and into the building structure.

### Standard spring hangers (HS Series)

Steel springs housed in rectangular steel housings. Assembly incorporates dual (steel and elastomer) washers for uniform load distribution and high-frequency isolation. Available with 19 mm (0.75"), 25 mm (1"), 50 mm (2") and 75 mm (3") deflection.

### Spring hangers with elastomer elements (HNS Series)

Steel springs and double-deflection elastomer elements housed in series in rectangular steel housings. Assembly incorporates dual (steel and elastomer) washers for uniform load distribution and high-frequency isolation. Available with 25 mm (1"), 38 mm (1.5"), 50 mm (2"), 64 mm (2.5"), 76 mm (3"), and 89 mm (3.5") deflection.

### Features and Application Information

- Powder-coated steel bracket (50-70 micron ASTM D4138-07a).
- Load distribution steel washer.
- Colour-coded for easy field verification.
- High deflection, low natural frequency.
- Ozone and water-resistant elastomer elements with embedded steel plates and projected collar to prevent metal-to-metal contact between rod and bracket (HNS).

For additional performance data please contact Zip-Clip.



◀ HS Type



◀ HNS Types ▶



▶ OHSA, OHSD and OHSF spring types utilised within hangers – OHSA shown.

19 MM (3/4") DEFLECTION SERIES – HS SERIES*	
Type Code	Load Range
ATLVHSS19 (OHSF)	From 0.45 kg to 56 kg (1 to 125 lbs)

25 MM (1") DEFLECTION SERIES – HS SERIES*	
Type Code	Load Range
ATLVHSF25 (OHSF)	From 0.45 kg to 84 kg (1 to 185 lbs)
ATLVHSA25 (OHSA)	From 84.5 kg to 317.5 kg (186 to 700 lbs)
ATLVHSB25 (OHSB)	From 318 kg to 567 kg (701 to 1,250 lbs)
ATLVHSD25 (OHSD)	From 567.5 kg to 1,181 kg (1,251 to 2,603 lbs)

50 MM (2") DEFLECTION SERIES – HS SERIES*	
Type Code	Load Range
ATLVHSB50 (OHSA)	From 0.45 kg to 942 kg (1 to 2,076 lbs)

75 MM (3") DEFLECTION SERIES – HS SERIES*	
Type Code	Load Range
ATLVHSE75 (OHSD)	From 0.45 kg to 828 kg (1 to 1,825 lbs)

38 MM (1-1/2") DEFLECTION SERIES – HNS SERIES*	
Type Code	Load Range
ATLVHNSA38	From 0.45 kg to 264 kg (1 to 582 lbs)
ATLVHNSB38	From 264.5 kg to 567 kg (583 to 1,250 lbs)
ATLVHNSE38	From 567.5 kg to 1,181 kg (1,251 to 2,603 lbs)

64 MM (2-1/2") DEFLECTION SERIES – HNS SERIES*	
Type Code	Load Range
ATLVHNSA64	From 0.45 kg to 259.5 kg (1 to 572 lbs)
ATLVHNSB64	From 303 kg to 942 kg (668 to 2,076 lbs)

89 MM (3-1/2") DEFLECTION SERIES – HNS SERIES*	
Type Code	Load Range
ATLVHNSE89	From 0.45 kg to 828 kg (1 to 1,825 lbs)

\*Tables list only a small selection of spring hangers available. For further options please contact Zip-Clip.

## HOUSED SPRING MOUNTS

Atlas housed spring mounts are designed to be installed onto floor-mounted equipment such as heavy-duty electro-mechanical plant.

Housed spring mounts consist of high-deflection steel springs contained in a cast iron telescopic housing. They feature elastomeric acoustic pads bonded to the bottom surface and horizontal snubbers for lateral stability. Models are available with multiple springs for higher loads and with both internal and external levelling options. Available with 25 mm (1") or 50 mm (2") deflection.

### Features and Application Information

- Powder-coated cast iron housings (70-110 micron ASTM D4138-07a).
- Internal elastomeric snubbers prevent metal-to-metal contact.
- Anti-skid elastomeric acoustical pad.
- Built-in levelling device.
- Spring elements colour-coded for easy field verification.

#### SINGLE SPRING – 25 mm (1") deflection series

Product Codes	Load Range	Height
ATLVZA1-25	Available for load ranges covering 0.5 kg to 317 kg (1 to 700 lbs)	100 mm (4")
ATLVZB1-25		108 mm (4-1/4")
ATLVZC1-25		108 mm (4-1/4")
ATLVZD1-25		115 mm (4-1/2")
ATLVAA1-25	Available for load ranges covering 318 kg to 831 kg (701 to 1,832 lbs)	140 mm (5-1/2")
ATLVAB1-25		150 mm (5-7/8")
ATLVAC1-25		150 mm (5-7/8")
ATLVAD1-25		155 mm (6-1/8")

#### TWO SPRING – 25 mm (1") deflection series

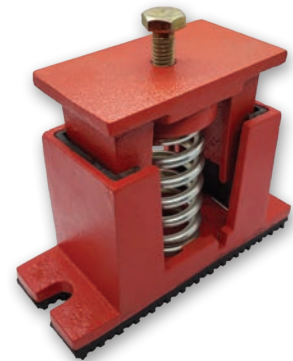
Product Codes	Load Range	Height
ATLVAA2-25	Available for load ranges covering 832 kg to 1662 kg (1,833 to 3,665 lbs)	146 mm (5-3/4")
ATLVAB2-25		159 mm (6-1/4")
ATLVAC2-25		159 mm (6-1/4")
ATLVAD2-25		165 mm (6-1/2")

#### FOUR SPRING – 25 mm (1") deflection series

Product Codes	Load Range	Height
ATLVAA4-25	Available for load ranges covering 1663 kg to 3325 kg (3,666 to 7,330 lbs)	152 mm (6")
ATLVAB4-25		165 mm (6-1/2")
ATLVAC4-25		165 mm (6-1/2")
ATLVAD4-25		171 mm (6-3/4")

For 50 mm (2") deflection series and for additional isolator performance data please contact Zip-Clip.

**Please Note:** Housed spring mounts are not seismic rated. For details of our Seismic Restrained Spring Mounts contact Zip-Clip.



**TYPE A**  
External height adjustment  
(Single spring model illustrated)



**TYPE B**  
Internal height adjustment, pin top  
(Two spring model illustrated)



**TYPE C**  
Internal height adjustment, flat top  
(Four spring model illustrated)



**TYPE D**  
Internal height adjustment, pad top  
(Single spring model illustrated)

## SPRING ISOLATORS / MOUNTS

### Free-standing Spring Mounts – Weld-Free Construction (ATLSBxSIM Series)

Unhoused spring mounts with laterally stable steel springs contained in moulded elastomeric acoustical cups with levelling bolt assembly. The series features 3 different sizes with optional mounting plates. Available with 19 mm (0.75"), 25 mm (1"), 50 mm (2") and 75 mm (3") deflection.



**BP, BG, BH Types**  
Fixed height, no anchoring option or base plate



**BN, BA, BB Types**  
Height adjustable, no base plate

### Free-standing Spring Mounts – Welded Construction (ATLSOSM1A or 1B Series and ATLSOSMx Series)

Unhoused spring mounts with laterally stable steel springs welded to steel spring cup (top) and plate (bottom) in the case of OSM1A and 1B models or steel plates top and bottom in the case of OSMx models. The upper load cup/plate includes a levelling bolt assembly. Lower steel plate features an elastomeric acoustical friction pad. Available with 25 mm (1"), 50 mm (2") and 75 mm (3") deflection.



**BR/BS/BT Types**  
Height adjustable with rubber base plate



**BQ/BK/BL Types**  
Height adjustable with top metal cup and rubber base plate



**OSM-1A (Cup Type)**

### Vertically-Restrained Spring Mounts (ATLSRSMx Series)

Unhoused spring mounts with laterally stable steel springs welded to top and bottom steel plates. The series incorporates a bracket assembly that allows vertical movement limits to be set as per engineer specifications. Lower steel plate features elastomeric acoustical pads. Available with 25 mm (1"), 50 mm (2") and 75 mm (3") deflection.



**OSM-1 (Plate Type)**



**OSM-2 (Plate Type)**

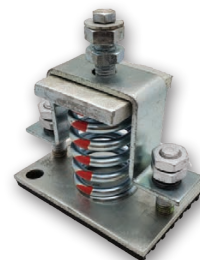


**OSM-4 (Plate Type)**

### Features and Application Information

- Large diameter laterally stable springs.
- Anti-skid elastomeric acoustical cup/pad.
- Built-in levelling device (except BP/BG/BH series).
- Spring elements colour-coded for easy field verification.

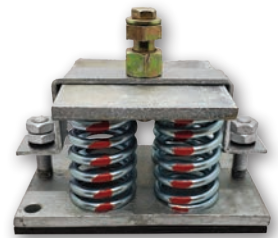
Free-standing Spring Mounts – Weld Free	
Series: BA/BB/BG/BH/BN/BP models	
Deflection Option	Available Load Range (Depending on model)
19 mm (3/4")	0.45 kg to 56.5 kg (1 to 125 lbs)
25 mm (1")	0.45 kg to 1,180.7 kg (1 to 2,603 lbs)
50 mm (2")	0.45 kg to 828.7 kg (1 to 1,827 lbs)
75 mm (3")	0.45 kg to 827.8 kg (1 to 1,825 lbs)



**RSM-1**



**RSM-2**



**RSM-4**

For additional performance data please contact Zip-Clip.

Free-standing Spring Mounts – Welded		
Deflection Option	Series: OSM1A and OSM1B (Cup Type) models	Series: OSMx (Plate Type) – 1, 2 or 4 spring options
	Available Load Range (Depending on model)	
25 mm (1")	0.45 to 1,180.7 kg (1 to 2,603 lbs)	0.45 to 4,724.6 kg (1 to 10,416 lbs)
50 mm (2")	0.45 to 828.7 kg (1 to 1,827 lbs)	0.45 to 3,767.5 kg (1 to 8,306 lbs)
75 mm (3")	0.45 to 827.8 kg (1 to 1,825 lbs)	0.45 to 3,315.7 kg (1 to 7,310 lbs)

Vertically Restrained Spring Mounts	
Series: RSM	
Deflection Option	Available Load Range (Depending on model)
25 mm (1")	0.45 to 4,724.6 kg (1 to 10,416 lbs)
50 mm (2")	0.45 to 3,767.5 kg (1 to 8,306 lbs)
75 mm (3")	0.45 to 3,315.7 kg (1 to 7,310 lbs)

## 3-AXIS SNUBBER

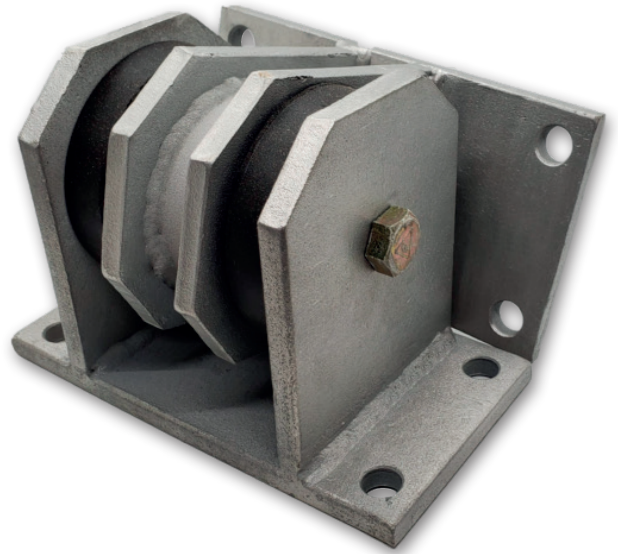
### PRODUCT CODE: ATLSNB3

Atlas 3-axis snubber is an all-directional device designed to restrain and decelerate motion of resiliently mounted equipment resulting from external loads or seismic activity to acceptable limits.

The 3-axis snubber device consists of interlocking welded steel members separated by moulded neoprene inserts designed to prevent direct metal-to-metal contact and provide a minimum of 19 mm (3/4") snubbing material in all directions.

The device is manufactured to allow free unrestricted movement of equipment of not less than ~3 mm (1/8"), limited to a maximum of ~6 mm (1/4") before coming into contact with an energy-absorbing neoprene insert. The design also allows for the removal of the neoprene elements for visual inspection and/or replacement.

**Maximum approved loads:** 1,383 kg (3,050 lbs) horizontal and vertical.



For additional information and technical specifications please contact Zip-Clip.

## VIBRATION ABSORBER PADS

Atlas vibration absorber pad isolators are used to dampen the vibration emitted by high-frequency equipment that is floor-mounted and can also be used for acoustic isolation or suppressing shock loads.

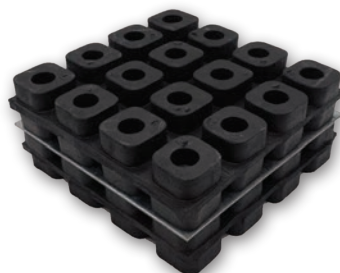
Vibration absorber pads are available in a number of different types. Primary vibration absorbing material in ECRMP, SRMP, RMP, and CRMP series pads is a high-quality ozone + water resistant elastomer. The CRMP series also incorporates low-density cork between the two layers of elastomer for added acoustic isolation. All pads feature anti-skid surfaces.

The FRFP type pad is a triple-core foam rubber pad with closed-cell construction and offers excellent resistance to oil, water, and ozone.



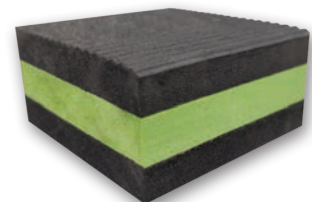
ATLPRMP Type

ATLPECRMP Type



ATLPSRMP Type

## FLOATING FLOORS



ATLFRFP Type



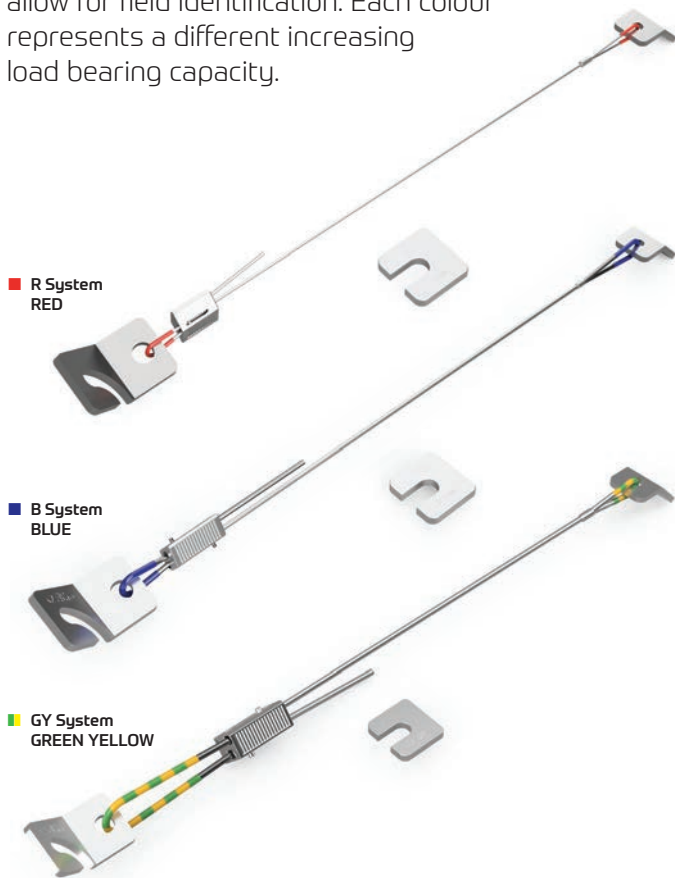
ATLFCRMP Type

## ATLAS BRACING SYSTEMS OVERVIEW

Zip-Clip Atlas provide 3 different sizes of wire rope seismic brace which are used to restrain non-structural components at regular intervals.

- R System (RED)
- B System (BLUE)
- GY System (GREEN YELLOW)

The systems are colour coded, which is visible from the top and bottom of each brace to allow for field identification. Each colour represents a different increasing load bearing capacity.



Each system is supplied as a complete kit which includes the following:

- **Seismic bracket** – to anchor the brace to a supporting structure;
- **Wire rope** – which transfers the load to the building structure;
- **Zip-Clip seismic locking device** – to attach the brace to the services;
- **Retro-fit bracket** – to anchor the wire rope to the primary supports;
- **PVC sleeve** – for ground identification and protection;
- **Seismic restraint washer** – to clamp the retro-fit bracket to the services.

## Testing and Conformity

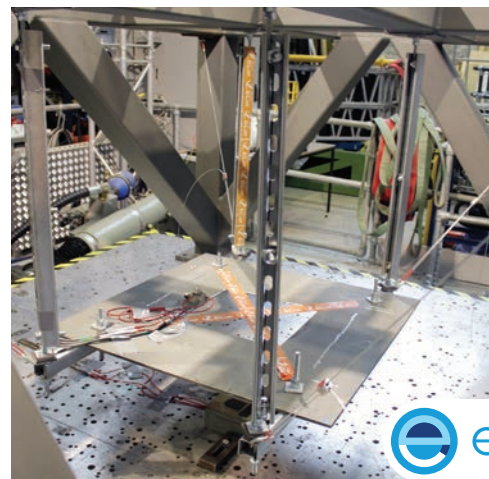
Zip-Clip Atlas seismic braces have been independently strength tested following ASCE 19, ASTM A1023, ASTM A931 and NZS 4219 to determine Characteristic Break Strengths.

They have also been seismically tested using tri-axial shake table apparatus by Element Materials Technology at the Earthquake and Engineering Laboratory in Bristol University, UK, following ICC ES AC156 and IEE344 – seismic qualification for equipment in nuclear power stations.

## System Strengths

Advantages of wire rope seismic braces are:

- Speed of installation and adjustment
- The wire rope can be any length
- Angular adjustment is very easy
- The tensile load on the primary supports are not affected by the use of wire rope seismic braces.



Shake table testing by Element Materials Technology



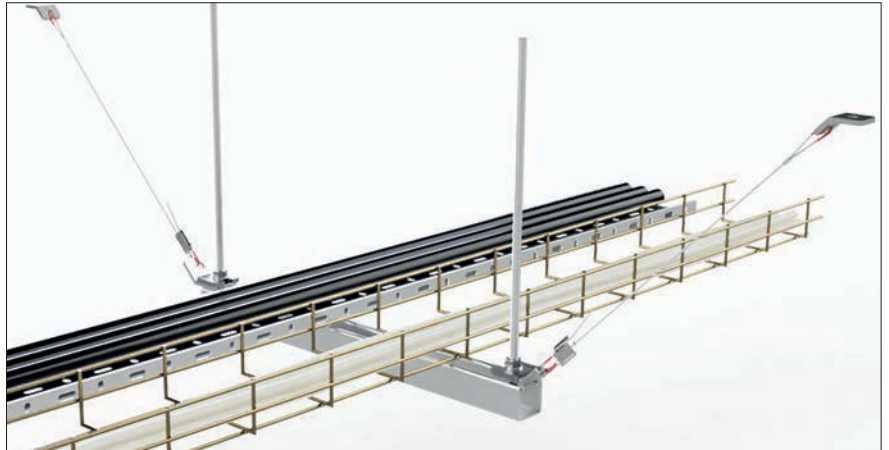


# BRACING CONFIGURATION ILLUSTRATIONS

## TRANSVERSE BRACING

Cables installed **perpendicular** (at 90°) to the run of services, or in-line with the bracket (at 180°).

*NOTE:*  
Rod stiffeners should be included where designed (Not shown in images).

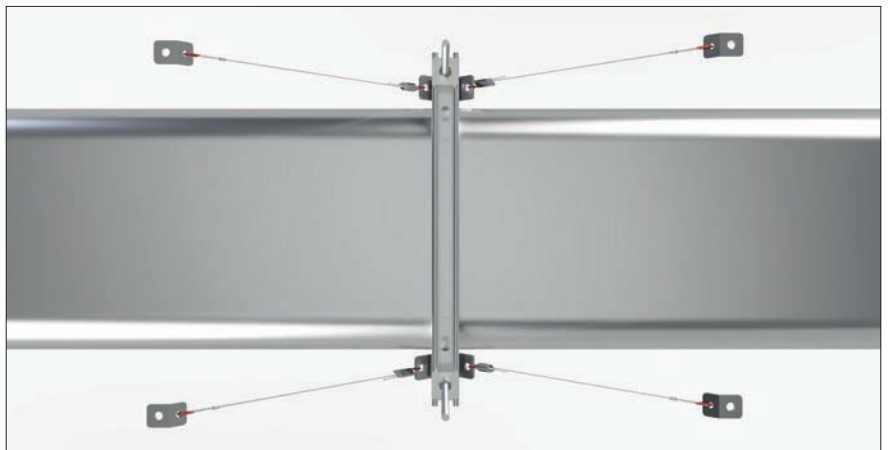


▲ Plan view example of electrical containment on trapeze bracket

## LONGITUDINAL BRACING

Cables installed **parallel** (in-line) with the run of the services, or 90° from the bracket.

*NOTE:*  
Rod stiffeners should be included where designed (Not shown in images).

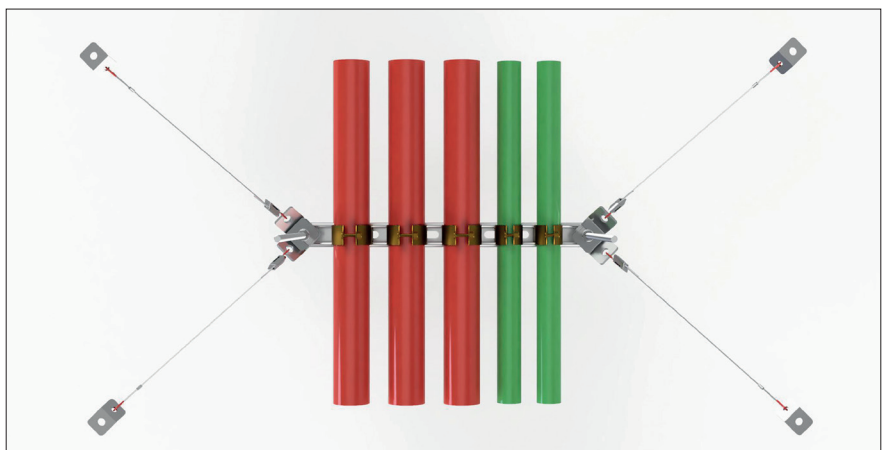


▲ Plan view example of flat-oval ductwork

## 4-WAY BRACING

Provides both lateral and longitudinal restraint to building services. Cables installed at **oblique** angles (45°) to the run of services.

*NOTE:*  
Rod stiffeners should be included where designed (Not shown in images).



▲ Plan view example of pipework on trapeze bracket

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To request a copy of Zip-Clip Atlas **SEISMIC SOLUTIONS FOR BUILDING SERVICES DESIGN GUIDE** – An overview of typical seismic design requirements for non-structural building components and the functionality and capacity of Zip-Clip seismic bracing systems, please email [SEISMIC@ZIP-CLIP.COM](mailto:SEISMIC@ZIP-CLIP.COM)

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