Mechanical Support Systems, Inc. is certified as a women’s business enterprise through the Women’s Business Enterprise National Council (WBENC) certification number 205124332. Our innovative SmartSupports™ not only add diversity to your supply chain, but improve the performance and life of metal and fiberglass air ducts, hydronic, process and utility piping, tanks and equipment, cable tray supports, etc. for industrial, commercial, institutional, hi-tech, bio-medical, refineries and others.

Our supports are engineered for below grade, exterior and interior applications. Please see our Product Reference Guide on Page 14 in our new catalog. Our “Project Manual Product Specifications” (P. 12-13) is also included.

We continue to strive to meet our customer’s needs, goals, and objectives by being responsive and dependable. To that end, now directly from our website, www.theSmartSupports.com, our customers can easily and quickly generate requests for quotes, track and access online RFQs anytime.

MSS, Inc.’s updated catalog and website introduce some new and exciting support products such as our Cantilever Supports, Single and Over / Under Pipe Racks, Seismic Brace and stacked SmartSupports™ that can be designed in unlimited variations. These new products have been engineered for optimal installation efficiency and maximum space utilization.

We are committed to providing our customers with cost-savings products that meet and exceed codes. Visit our website today to learn more about the functionalities and benefits that MSS, Inc. SmartSupports™ provide.

Sincerely,

Linda M. Allivato,
CEO and Co-founder
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**DISCLAIMER OF FORMAL INTERPRETATION AND WARRANTIES:**

MECHANICAL SUPPORT SYSTEMS, INC. [MSS] makes no warranty either express or implied regarding the Data herein and MSS EXPRESSLY DISCLAIMS ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR PARTICULAR PURPOSE. By using the data contained herein user accepts the Data “AS IS” and assumes all risk of loss, harm or injury that may result from its use. User acknowledges that the Data is complex, subject to faults and requires verification by competent professionals, and that modification of parts of the Data by user may impact the results or other parts of the Data. IN NO EVENT SHALL MSS BE LIABLE TO USER, OR ANY OTHER PERSON FOR ANY INDIRECT, SPECIAL OR CONSEQUENTIAL DAMAGES ARISING DIRECTLY OR INDIRECTLY, OUT OF OR RELATED TO USER’S USE OF MSS’s PRODUCT OR MODIFICATION OF DATA THEREIN. This limitation of liability applies even if MSS has been advised of the possibility of such damages. IN NO EVENT SHALL MSS’s LIABILITY EXCEED THE AMOUNT PAID BY USER FOR MSS’s PRODUCT OR $1,000.00, whichever is less, regardless of legal theory. User by its use of MSS’s product acknowledges and accepts the foregoing limitation of liability and disclaimer of warranty and agrees to indemnify and hold harmless MSS from and against all injuries, claims, loss or damage arising, directly or indirectly, out of user’s access to or use of MSS’s product or the Data contained herein. MSS makes no guaranty or warranty as to the accuracy or completeness of any information published herein.
360° Cantilever Bracket Product No. 100-C and Wall Mount Vertical Riser Product 100-WR supports have both an upper and lower 180° half-saddle manufactured to O.D. of pipe with welded stem for added strength. Width is determined by saddle diameter. Saddle widths are manufactured in 4", 6" or 8". Saddle material thickness varies from .1345" to .5" depending on loads. Stem has 9/16" holes evenly spaced to accommodate other MSS accessories. Saddles are connected with Grade 5 zinc plated nuts and bolts. Our Cantilever Bracket supports easily adjust up or down and connector plates accommodate diagonal, longitudinal or transverse seismic bracing. Supports are fully lined with rubber type abrasion shields. Threaded rods cut to length. Nuts and bolts provided.

Available in:
ASTM A36 Mild Steel,
ASTM A653 G90 Steel Sheet
Zinc Coated (galvanized), ASTM
A480 Stainless Steel Plate and
ASTM B209-10 Aluminum Plate,
Powder Coated

Options: Seismic bracing

Please contact us for more information, additional stacking options, custom materials, etc.

Sales@theSmartSupports
Main: (408) 601-0155
Fax: +1 (855) 450-1222

www.theSmartSupports.com
SEISMIC BRACE
Field adjustable up to +/- 4°. Standard 45° angle can be field adjusted in 15° increments. Can be installed with diagonal, longitudinal, transverse connections on Product Nos. 100-C, 101-C, 100-S and 101-S. Mechanically secured to structure with provided nuts and bolts.
Product No. 710

Stacked SmartSupports™ designs for use with:
Product No. 100-R Roof 360° Support
Product No. 101-R Roof Straight Support
Product No. 100-G Grade 360° Support
Product No. 101-G Grade Straight Support

Description:
See above Product Descriptions.
Achieve optimal use of space and cost-savings by using our stacked SmartSupports™ for mechanical, electrical and plumbing systems together in one design. Our Single or Over / Under Pipe Racks can be used to carry electrical, plumbing, hydronic, refrigeration and process piping lines on the same support legs used for HVAC ducts. There’s no limit to the variety of combinations that can be built. Largest duct/pipes should be placed in lowest positions, if possible. Stacked SmartSupports™ require bracing, MSS Part No. 710. If your needs exceed a 3 x 3 configuration, please contact us directly at sales@theSmartSupports.com or call us at +1 (408) 601-0155 8:00 a.m. to 5:00 p.m. PST.

**Login to create custom configurations and save your specific projects at: www.theSmartSupports.com**

Available in:
ASTM A36 Mild Steel
ASTM A653 G90 Steel Sheet Zinc Coated (galvanized)
ASTM A480 Stainless Steel Plate and ASTM B209-10 Aluminum Plate
Powder Coated

Options:
Single Pipe Rack,
Over / Under Pipe Rack

MSS SmartSupports™ Accessories

SEISMIC BRACE
SINGLE PIPE RACK
Can be ordered independently or for stacking configurations. Comes cut to size with connection brackets. Support legs’ centerline is equal to pipe rack length plus 11”. Available on Grade and Roof Supports. Can be ordered in combination with Product No. 902 Over / Under Pipe Rack. Pipe conduit clamps not included.
Product No. 901

OVER / UNDER PIPE RACK
Can be ordered independently or for stacking configurations. Comes cut to size with connection brackets. Support legs’ centerline is equal to pipe rack length plus 11”. Available on Grade and Roof Supports. Can be ordered in combination with Product No. 901 Single Pipe Rack. Pipe conduit clamps not included.
Product No. 902
**ROOF MOUNT 360°**

**Description:**
Full 360° support has both an upper and lower 180° half-saddle manufactured to O.D. of pipe with welded stem for added strength. Saddle widths are manufactured in 4", 6" or 8". Support width is determined by diameter of saddle. Saddle steel thickness varies from .1345" to .5" depending on loads. Stem has 9/16" holes evenly spaced to accommodate other MSS accessories. Saddles connected with Grade 5 zinc plated nuts and bolts. Easily adjusted up or down in increments of .75". Upper and lower saddle lined with .0625" rubber type abrasion shield. Schedule 40 nominal 2" or 3" diameter Mild steel legs cut to size with welded base plate to accommodate roof curbs. Each leg has four (4) seismic brace points of connection at top. Nuts and bolts provided.

**Available in:** ASTM A36 Mild Steel, ASTM A653 G90 Steel Sheet Zinc Coated (galvanized), ASTM A480 Stainless Steel Plate and ASTM B209-10 Aluminum Plate, Powder Coated

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**GRADE MOUNT 360°**

**Description:**
Full 360° support with upper and lower 180° half-saddle manufactured to O.D. of pipe with welded stem for added strength. Support width is determined by diameter of support. Saddle widths are manufactured in 4", 6" or 8". Saddle material thickness varies from .1345" to .5" depending on loads. Stem has 9/16" holes evenly spaced to accommodate other MSS accessories. Saddle connected with Grade 5 zinc plated nuts and bolts. Easily adjusted up or down in increments of 75°. Upper and lower support lined with .0625" rubber type abrasion shield. Schedule 40 nominal 2" or 3" diameter Mild steel legs cut to size with welded base plate to accommodate mounting at grade. Each leg has four (4) seismic brace points of connection at the top. Nuts and bolts provided.

**Available in:** ASTM A36 Mild Steel, ASTM A653 G90 Steel Sheet Zinc Coated (galvanized), ASTM A480 Stainless Steel Plate and ASTM B209-10 Aluminum Plate, Powder Coated

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**ROOF MOUNT STRAIGHT**

**Description:**
Horizontal straight support with welded stem for added strength. Support width is determined by length of straight support. Widths manufactured in 4", 6" or 8". Support material thickness varies from .1345" to .5" depending on loads. Stem has 9/16" holes evenly spaced to accommodate other MSS accessories. Comes with a formed band constructed of 16 Ga. galvanized steel designed to retain the duct in place without the use of penetrating screws. Horizontal support connected with Grade 5 zinc plated nuts and bolts. Easily adjusted up or down in increments of 75°. Support is lined with .0625" rubber type abrasion shield. Schedule 40 nominal 2" or 3" diameter Mild steel legs cut to size with welded base plate to accommodate roof curbs. Each leg has four (4) seismic brace points of connection at the top. Nuts and bolts provided.

**Available in:** ASTM A36 Mild Steel, ASTM A653 G90 Steel Sheet Zinc Coated (galvanized), ASTM A480 Stainless Steel Plate and ASTM B209-10 Aluminum Plate, Powder Coated

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**GRADE MOUNT STRAIGHT**

**Description:**
Horizontal straight support with welded stem for added strength. Support width is determined by length of straight support. Widths manufactured in 4", 6" or 8". Metal thickness varies from .1345" to .5" depending on loads. Stem has 9/16" holes evenly spaced to accommodate other MSS accessories. Comes with a formed band constructed of 16 Ga. galvanized steel designed to retain the duct in place without the use of penetrating screws. Horizontal straight support connected with Grade 5 zinc plated nuts and bolts. Easily adjusted up or down in increments of 75°. Support is lined with .0625" rubber type abrasion shield. Schedule 40 nominal 2" or 3" diameter Mild steel legs cut to size with welded base plate to accommodate mounting at grade. Each leg has four (4) seismic brace points of connection at the top. Nuts and bolts provided.

**Available in:** ASTM A36 Mild Steel, ASTM A653 G90 Steel Sheet Zinc Coated (galvanized), ASTM A480 Stainless Steel Plate and ASTM B209-10 Aluminum Plate, Powder Coated

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**Options:**
- Seismic bracing, Single Pipe Rack, Over / Under Pipe Rack

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**Product No. 100-R**

**Product No. 101-R**

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**Product No. 100-G**

**Product No. 101-G**
SUSPENDED 360°

Description:
Full 360° support has both an upper and lower 180° half-saddle manufactured to O.D. of pipe with welded stem for added strength. Support width is determined by diameter of saddle. Saddle widths manufactured in 4", 6" or 8". Saddle material thickness varies from .1345" to .5" depending on loads. Stem has 9/16" holes evenly spaced to accommodate other MSS accessories. Saddles connected with Grade 5 zinc plated nuts and bolts. Easily adjusted up or down. Upper and lower support lined with .0625" rubber type abrasion shield. Suspended using ½"-16 threaded rod cut to length. Nuts and bolts provided.

Available in: ASTM A36 Mild Steel, ASTM A653 G90 Steel Sheet Zinc Coated (galvanized), ASTM A480 Stainless Steel Plate and ASTM B209-10 Aluminum Plate, Powder Coated

Product No. 100-S

SUSPENDED STRAIGHT

Description:
Horizontal straight support with welded stem for added strength. Support width is determined by length of straight support. Widths are manufactured in 4", 6" or 8". Metal thickness varies from .1345" to .5" depending on loads. Stem has 9/16" holes evenly spaced to accommodate other MSS accessories. Comes with a formed band constructed of 16 Ga. galvanized steel designed to retain the duct in place without the use of penetrating screws. Horizontal straight support is connected with Grade 5 zinc plated nuts and bolts. Easily adjusted up or down in increments of .75". Support is lined with .0625" rubber type abrasion shield. Connector plates manufactured to accept diagonal, longitudinal and transverse seismic bracing. Nuts and bolts provided.

Available in: ASTM A36 Mild Steel, ASTM A653 G90 Steel Sheet Zinc Coated (galvanized), ASTM A480 Stainless Steel Plate and ASTM B209-10 Aluminum Plate, Powder Coated

Product No. 101-S

SUSPENDED WITH ISOLATION 360°

Description:
Full 360° support with upper and lower 180° half-saddle manufactured to O.D. of pipe + 3/16" with welded stem for added strength. Width is determined by saddle diameter. Saddle widths manufactured in 4", 6" or 8". Metal thickness varies from .1345" to .5" depending on loads. Stem has 9/16" holes evenly spaced to accommodate other MSS accessories. Lower 180° half-saddle manufactured with retaining cup for spring isolation. Saddles connected with Grade 5 zinc plated nuts and bolts. Easily adjusted up or down. Upper and lower support lined with .0625" rubber type abrasion shield. Suspended using ½"-16 threaded rod cut to length. Nuts and bolts provided.

Available in: ASTM A36 Mild Steel, ASTM A653 G90 Steel Sheet Zinc Coated (galvanized), ASTM A480 Stainless Steel Plate and ASTM B209-10 Aluminum Plate, Powder Coated

Product No. 200-Si

SUSPENDED WITH ISOLATION STRAIGHT

Description:
Horizontal straight support with welded stem for added strength. Support width is determined by length of straight support. Widths are manufactured in 4", 6" or 8". Metal thickness varies from .1345" to .5" depending on loads. Stem has 9/16" holes evenly spaced to accommodate other MSS accessories. Support manufactured with retaining cup for spring isolation. Comes with a formed band constructed of 16 Ga. galvanized steel designed to retain the duct in place without the use of penetrating screws. Horizontal straight support is connected with Grade 5 zinc plated nuts and bolts. Easily adjusted up or down. Support is lined with .0625" rubber type abrasion shield. Nuts and bolts provided.

Available in: ASTM A36 Mild Steel, ASTM A653 G90 Steel Sheet Zinc Coated (galvanized), ASTM A480 Stainless Steel Plate and ASTM B209-10 Aluminum Plate, Powder Coated

Product No. 201-Si
WALL HORIZONTAL 360°

Description:
Full 360° support has both upper and lower 180° half-saddles manufactured to O.D. of pipe with welded stem for added strength. Support width is determined by diameter of saddle. Saddle widths are manufactured in 4", 6" or 8". Saddle material thickness varies from .1345" to .5" depending on loads. Stem has 9/16" holes evenly spaced to accommodate other MSS accessories. Saddles are connected with Grade 5 zinc plated nuts and bolts. Support is lined with .0625" rubber type abrasion shield. Nuts and bolts provided.

Available in: ASTM A36 Mild Steel, ASTM A653 G90 Steel Sheet Zinc Coated (galvanized), ASTM A480 Stainless Steel Plate and ASTM B209-10 Aluminum Plate, Powder Coated

Product No. 100-WH

CANTILEVER 360°

Description:
Full 360° support has both an upper and lower 180° half-saddle manufactured to O.D. of pipe with welded stem for added strength. Width is determined by saddle diameter. Saddle widths are manufactured in 4", 6" or 8". Saddle material thickness varies from .1345" to .5" depending on loads. Stem has 9/16" holes evenly spaced to accommodate other MSS accessories. Saddles are connected with Grade 5 zinc plated nuts and bolts. Easily adjusted up or down. Connector plates manufactured to accept diagonal, longitudinal and transverse seismic bracing. Upper and lower support is lined with .0625" rubber type abrasion shield. Suspended from cantilever bracket using ½"-16 threaded rod cut to length. Nuts and bolts provided.

Available in: ASTM A36 Mild Steel, ASTM A653 G90 Steel Sheet Zinc Coated (galvanized), ASTM A480 Stainless Steel Plate and ASTM B209-10 Aluminum Plate, Powder Coated

Product No. 101-C

WALL HORIZONTAL STRAIGHT

Description:
Horizontal straight support with welded stem for added strength. Support width is determined by length of straight support. Widths are manufactured in 4", 6" or 8". Metal thickness varies from .1345" to .5" depending on loads. Stem has 9/16" holes evenly spaced to accommodate other MSS accessories. Comes with a formed band constructed of 16 Ga. galvanized steel designed to retain the duct in place without the use of penetrating screws. Horizontal straight support is connected with Grade 5 zinc plated nuts and bolts. Support is lined with .0625" rubber type abrasion shield. Nuts and bolts provided.

Available in: ASTM A36 Mild Steel, ASTM A653 G90 Steel Sheet Zinc Coated (galvanized), ASTM A480 Stainless Steel Plate and ASTM B209-10 Aluminum Plate, Powder Coated

Product No. 101-WH

CANTILEVER STRAIGHT

Description:
Horizontal straight support with welded stem for added strength. Support width is determined by length of straight support. Widths are manufactured in 4", 6" or 8". Metal thickness varies from .1345" to .5" depending on loads. Stem has 9/16" holes evenly spaced to accommodate other MSS accessories. Comes with a formed band constructed of 16 Ga. galvanized steel designed to retain the duct in place without the use of penetrating screws. Horizontal straight support is connected with Grade 5 zinc plated nuts and bolts. Easily adjusted up or down. Connector plates manufactured to accept diagonal, longitudinal and transverse seismic bracing. Suspended from cantilever bracket using ½"-16 threaded rod cut to length. Nuts and bolts provided.

Available in: ASTM A36 Mild Steel, ASTM A653 G90 Steel Sheet Zinc Coated (galvanized), ASTM A480 Stainless Steel Plate and ASTM B209-10 Aluminum Plate, Powder Coated

Product No. 101-C
BELOW GRADE ANCHOR 360° SUPPORT

Description:
Full 360° support includes an upper and lower 180° half-saddle manufactured to O.D. of pipe with welded stem for added strength. Width is determined by saddle diameter. Saddle widths are manufactured in 4", 6" or 8". Metal thickness varies from .1345" to .5" depending on load. Saddles are connected with Grade 5 zinc plated nuts and bolts. Provided alignment plate allows for quick installation guiding installation of 18" or 26" earth anchors. Saddle is supported on ½" threaded rods provided and cut to length. Support height is adjustable + or - 3.0". Upper and lower support lined with .0625" rubber type abrasion shield. Nuts and bolts provided.

Available in: ASTM A36 Mild Steel, ASTM A653 G90 Steel Sheet Zinc Coated (galvanized), ASTM A480 Stainless Steel Plate and ASTM B209-10 Aluminum Plate

Product No. 300-A

SIDE X SIDE BELOW GRADE ANCHOR 360° SUPPORT

Description:
Each full 360° support has both an upper and lower 180° half-saddle manufactured to O.D. 180° with welded stem for added strength. Width is determined by saddle diameter. Saddle widths are manufactured in 4", 6" or 8". Metal thickness varies from .1345" to .5" depending on loads. Saddles connected with Grade 5 zinc plated nuts and bolts. Provided alignment plate allows for quick installation guiding installation of 18" or 26" earth anchors. Saddles are supported on ½" threaded rods cut to length. Support height is easily adjustable. Upper and lower supports are lined with .0625" rubber type abrasion shield. Nuts and bolts provided.

Available in: ASTM A36 Mild Steel, ASTM A653 G90 Steel Sheet Zinc Coated (galvanized), ASTM A480 Stainless Steel Plate and ASTM B209-10 Aluminum Plate

Product No. 300-SA

BELOW GRADE CHANNEL 360° SUPPORT

Description:
Full 360° support has both an upper and lower 180° half-saddle manufactured to O.D. of pipe with welded stem for added strength. Width is determined by saddle diameter. Saddle widths are manufactured in 4", 6" or 8". Metal thickness varies from .1345" to .5" depending on loads. Saddles connected with Grade 5 zinc plated nuts and bolts. Provided suspension channel allows for quick installation. Suspension channel held in place with two (2) 9" earth anchors. Saddle is suspended by ½" threaded rods cut to length. Suspended height is adjustable. Each upper and lower saddle is lined with .0625" rubber type abrasion shield. Nuts and bolts provided.

Available in: ASTM A36 Mild Steel, ASTM A653 G90 Steel Sheet Zinc Coated (galvanized), ASTM A480 Stainless Steel Plate and ASTM B209-10 Aluminum Plate

Product No. 300-C

SIDE X SIDE BELOW GRADE CHANNEL 360° SUPPORT

Description:
Each full 360° support has both an upper and lower 180° half-saddle manufactured to O.D. of pipe with welded stem for added strength. Width is determined by saddle diameter. Saddle widths are manufactured in 4", 6" or 8". Metal thickness varies from .1345" to .5" depending on loads. Saddles connected with Grade 5 zinc plated nuts and bolts. Provided suspension channel allows for quick installation. Suspension channel is held in place with two (2) 9" earth anchors. Saddles suspended by ½" threaded rods cut to length. Suspended height is adjustable. Each upper and lower saddle lined with .0625" rubber type abrasion shield. Nuts and bolts provided.

Available in: ASTM A36 Mild Steel, ASTM A653 G90 Steel Sheet Zinc Coated (galvanized), ASTM A480 Stainless Steel Plate and ASTM B209-10 Aluminum Plate

Product No. 300-SC
STRAIGHT EQUIPMENT SUPPORT FOR ROOF MOUNT OR GRADE MOUNT

Description: Horizontal straight equipment supports with welded stem for added strength. Quantity, support width and material thickness determined by equipment size (LxWxH) and weight. Widths manufactured in 4", 6", or 8". Support material thickness varies from .250" to .750". Angle clips designed to retain equipment in place included. Horizontal straight support connected with Grade 5 zinc plated nuts and bolts. Easily adjust up or down in increments of .75". Support lined with .0625" rubber type shield to reduce abrasion and vibration transmission. Schedule 40 nominal 2" or 3" diameter Mild steel legs cut to size. Standard Grade mount base plate is 6" x 6". Standard Roof mount base plate is 6" x 3.5". Other custom sizes available. Each leg has four (4) seismic brace points of connection at the top. Nuts and bolts provided.

Options: Seismic bracing
Available in: ASTM A36 Mild Steel, ASTM A653 G90 Steel Sheet Zinc Coated (galvanized), ASTM A480 Stainless Steel Plate and ASTM B209-10 Aluminum Plate, Powder Coated

Product No. 101E-R Roof Mount Equipment Support
Product No. 101E-G Grade Mount Equipment Support

SUSPENDED CYLINDER EQUIPMENT SUPPORT

Description: Full 360° support has both an upper and lower 180° half-saddle manufactured to O.D. of Tank, Vessel or other cylinder type equipment with welded stem for added strength. Quantity, support width and material thickness determined by equipment size or diameter and weight. Saddle widths are manufactured in 4", 6" or 8". Saddle material thickness varies from .250" to .75". Stem has 9/16" holes evenly spaced to accommodate other MSS accessories. Saddles connected with Grade 5 zinc plated nuts and bolts. Order Product No. 200E-SI if isolation springs are required. Height easily adjusted up or down. Upper and lower support is lined with .0625" rubber type shield to reduce abrasion and vibration transmission. Suspended using ½"-16 threaded rod cut to length. Nuts and bolts provided.

Options: Seismic bracing (Product No. 200E-S)
Available in: ASTM A36 Mild Steel, ASTM A653 G90 Steel Sheet Zinc Coated (galvanized), ASTM A480 Stainless Steel Plate and ASTM B209-10 Aluminum Plate, Powder Coated

Product No.100E-S Suspended 360° Equipment Support
Product No. 200E-SI Suspended With Isolation 360° Equipment Support

STRAIGHT SUSPENDED EQUIPMENT SUPPORT

Description: Horizontal straight support with welded stem for added strength. Quantity, support width and material thickness determined by equipment size (LxWxH) and weight. Widths are manufactured in 4", 6" or 8". Support material thickness varies from .250" to .75". Comes with angle clips designed to retain the equipment in place. Stem has 9/16" holes evenly spaced to accommodate other MSS accessories. Angle clips designed to retain equipment in place included. Horizontal straight support is connected with Grade 5 zinc plated nuts and bolts. Order Product No. 201E-SI if isolation springs are required. Connector plates manufactured to accept diagonal, longitudinal and transverse seismic bracing. Suspended using threaded rod cut to length. Nuts and bolts provided.

Available in: ASTM A36 Mild Steel, ASTM A653 G90 Steel Sheet Zinc Coated (galvanized), ASTM A480 Stainless Steel Plate and ASTM B209-10 Aluminum Plate, Powder Coated

Options: Seismic bracing (Product No. 101E-S)
Product No. 101E-S Suspended Straight Equipment Support
Product No. 201E-SI Suspended With Isolation Straight Equipment Support

MECHANICAL SUPPORT SYSTEMS, INC.

www.theSmartSupports.com  408.601.0155
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#### LOAD CARRYING CAPACITY OF SELECTIONS IN THIS AREA EXCEED THE REQUIREMENTS OF TYPICAL INDUSTRIAL APPLICATIONS

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#### LOAD CARRYING CAPACITY OF SELECTIONS IN THIS AREA EXCEED THE REQUIREMENTS OF TYPICAL INDUSTRIAL APPLICATIONS

### Bolt Stress Area

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Maximum Allowable Load at Points of Support - Carbon and Galvanized Steel Ducts. Loads are in Kips, 1 Kip = 1,000 lb. Loads are based on Roark’s Saddle Formula in proximity of a stiffener ring.

Maximum Allowable Load at Points of Support - Aluminum Ducts. Loads are in Kips, 1 Kip = 1,000 lb. Loads are based on Roark’s Saddle Formula in proximity of a stiffener ring.

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SECTION - MECHANICAL SUPPORTS

PART 1 GENERAL
This specification has been compiled from generally accepted engineering principles and standards from American National Standards Institute (ANSI), Sheet Metal Air Conditioning National Association (SMACNA), Manufacturers Standardization Society (MSS), Factory Mutual (FM), Underwriters Laboratories (UL*) and other pertinent documents. The manufacturer shall be Mechanical Support Systems, Inc., 825 Llagas Rd., Bldg. A., Morgan Hill, CA 95037 +1 (408) 601-0155 with mechanical support configurations as shown in the Mechanical Support Systems, Inc. (MSS, Inc.) catalog dated February, 2014.

PART 2 DESIGN and MANUFACTURE

1. Standards
   All duct/pipe/equipment hangers and supports are made of assembled prefabricated components and manufactured to comply with the latest referenced standards.
   A. ANSI / ASME Code for Pressure Piping.
   B. ANSI / SMACNA
      1. Duct Construction Standards - Metal and Flexible, 2006
      3. Accepted Industry Practice for Industrial Duct Construction, 2008.
   C. SMACNA
   D. All duct/pipe/equipment supports to surround all duct/pipe/equipment components for it’s full perimeter at all supporting points. The duct/pipes equipment shall be void of any partial point loaded support configuration and shall maintain a full 360° duct to support contact.
   E. All duct/pipe/equipment supports to be consistent in design, materials, fabrication, assembly, and installation void of all field-fabricated supports.
   F. The duct/pipe/equipment support system to be flexible to accommodate multiple and/or stacked pipe/duct/equipment runs using prefabricated components and vertically adjustable.

2. Materials
   Appropriate materials and protective coatings shall be used to prevent failure from environmental and galvanic corrosion. Materials that come in contact with the duct/pipe/equipment shall be compatible so that neither has deteriorating effect on each other. Duct and pipe hanger supports are to be manufactured from materials as specified by the design engineer and in accordance with industry standards as outlined;
   A. ASTM A653 G90 Steel Sheet Zinc Coated (galvanized).
   B. ASTM A480 Stainless Steel Plate.
   C. ASTM B209-10 Aluminum Plate, Powder Coated.
   E. All supports are assembled from prefabricated components with adjustable mounts.

3. Welding
   Comply with AWS D1.1/D1.1M procedures for shielded, metal arc welding; appearance and quality of welds. Using materials and methods that minimize distortion and develop strength and corrosion resistance of base metals. Exposed welds are finished so no roughness shows and the contours of the welded surfaces match adjacent contours.
4. Equipment Supports

Equipment supports are designed to accommodate size, shape and weight. These assemblies are fabricated from various materials such as Mild steel, aluminum and stainless steel. A variety of designs allows for suspension, roof/floor mountings, seismic bracing and isolation requirements.

5. Non-metallic Coatings

Neoprene, teflon, Polyurethane and Epoxy

6. Neoprene Abrasion Shields

For duct/pipe/equipment that is subject to scratching.

PART 3 LOAD CALCULATIONS

1. Hanger / Support Loads

Hangers and supports must be selected to withstand all static and dynamic loading conditions of the supported system and points of attachment to the structure based on Roark’s Saddle Formula of Formulas for Stress and Strain, 5th edition.

2. Hanger / Support Spacing

All hangers and supports shall comply with published guidelines and recommendations outlined in ANSI/ASME, ANSI/SMACNA and all applicable federal, state and local codes.

3. Under-slab / Below Grade

If it is known at the time of design that soil conditions at the job site are suitable for the support of underground ducting and piping, or if no information is available as to the soil conditions, all ducting and piping shall be supported as specified under maximum hanger and support spacing MSS SP-69, 1991.

PART 4 INSTALLATION

1. Duct / Pipe / Equipment Supports

All duct and pipe supports shall be assembled and installed by a qualified HVAC / Piping contractor in accordance with:

A. ANSI / ASME Code for Pressure Piping.

B. ANSI / SMACNA

   3. Accepted Industry Practice for Industrial Duct Construction, 2008.

C. SMACNA


D. Installations shall be void of all screw fasteners and any penetrations of any kind into the duct/pipe/equipment.

E. All duct/pipe/equipment supports shall be a proprietary system of all prefabricated components.

   No field fabrication, cutting, or bending will be allowed.

F. All duct/pipe/equipment supports shall have the ability to field-adjust the elevations to allow for specified slopes along length of duct/pipe/conduit runs.

G. Installations shall comply with all applicable federal, state and local codes.

NOTE TO ENGINEER

Project Manual Product Specifications is intended as a guide only and it is the design engineer’s responsibility to use it in conjunction with the data found in the Mechanical Support Systems, Inc. (MSS, Inc.) catalog dated February, 2014 as offered by Mechanical Support Systems, Inc., 825 Llagas Rd., Bldg. A, Morgan Hill CA 95037 +1 (408) 601-0155 using generally accepted and appropriate technical information, but is not intended to be solely relied upon for specific design or technical applications. Having no control over the elements of design, installation, workmanship or site conditions, Mechanical Support Systems, Inc. assumes that all design choices and installation will be made by professional persons trained and qualified in the appropriate disciplines. Mechanical Support Systems, Inc. disclaims all liability potentially arising from use or misuse of this specification.
Leg length for *round* duct/pipe support = Distance from mounting surface to centerline of duct/pipe.
Leg length for *rectangular* duct support = Distance from mounting surface to the *bottom* of duct.

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Email form to Sales@theSmartSupports.com or Fax to +1 (855) 450-1222.