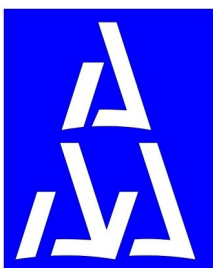
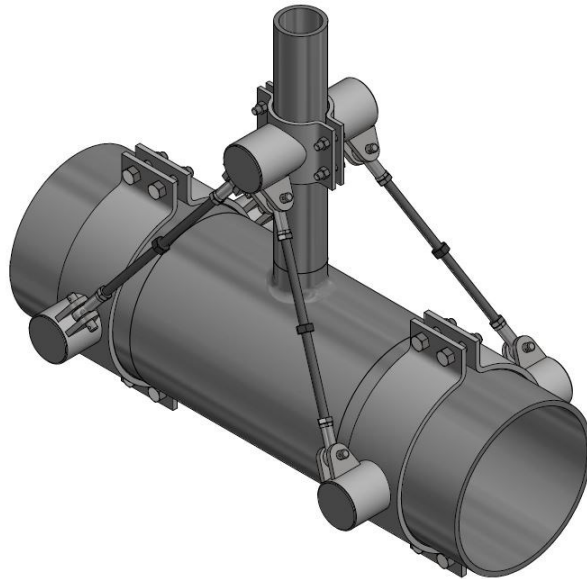
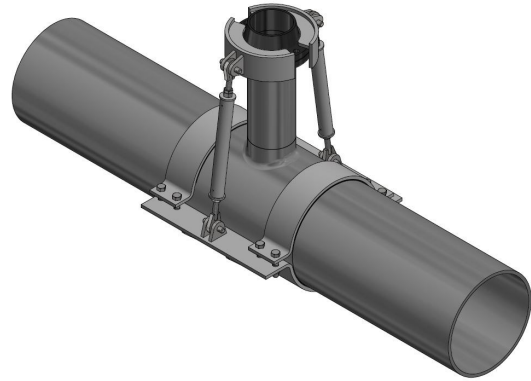
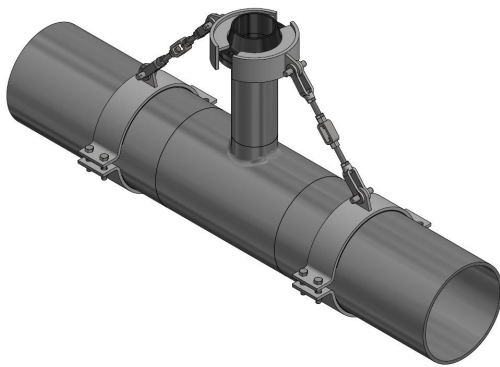


SOLUTIONS FOR SMALL BRANCH LINE VIBRATION

TRI*BRACE™ BRACING SOLUTIONS



AAA Technology & Specialties Co., Inc.

6219 Brittmoore Road - Houston, Texas 77041-5114 USA

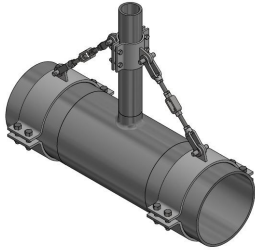
Tel: 1-713-849-3366 - Fax: 1-713-849-3654

URL: www.aaatech.com - E-Mail: info@aaatech.com

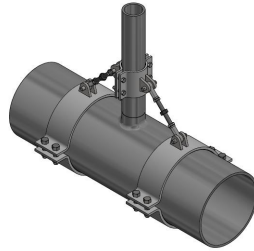
Serving Industry with Quality Pipe Supports Since 1971



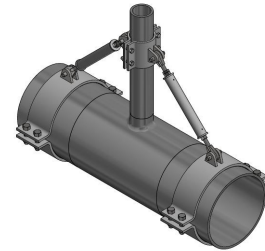
BRACING SOLUTIONS



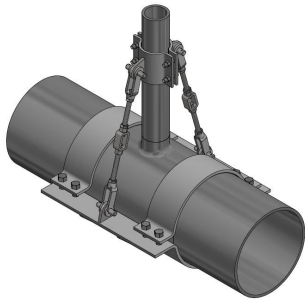
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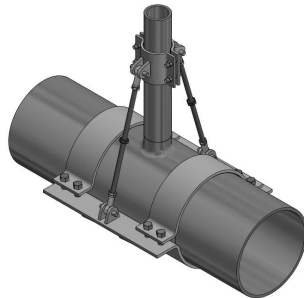
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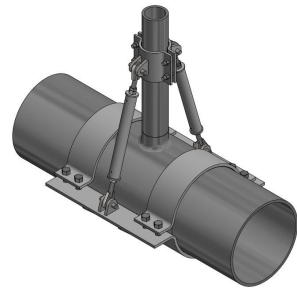
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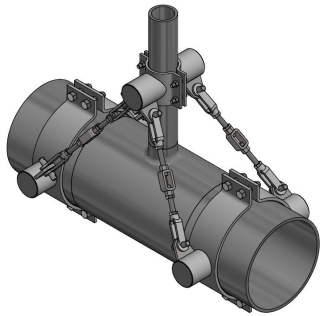
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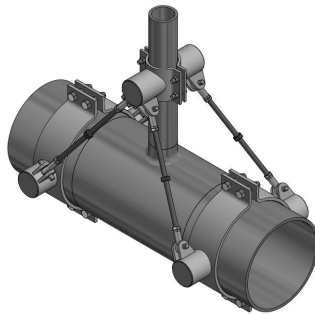
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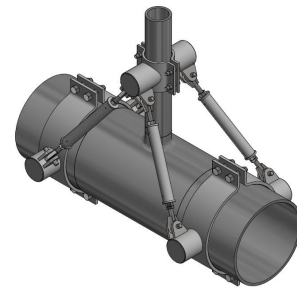
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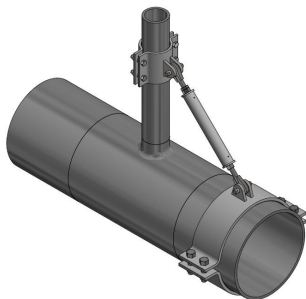
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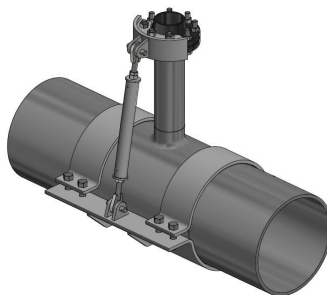
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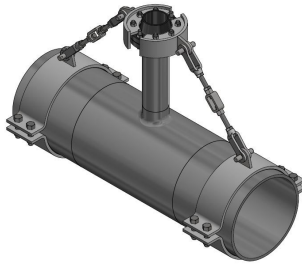
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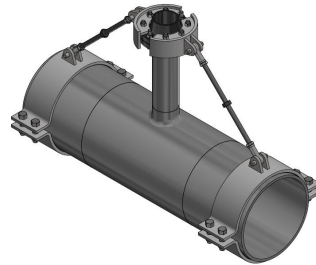
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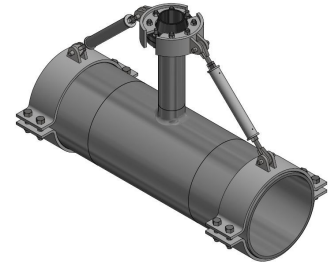
BRACING SOLUTIONS



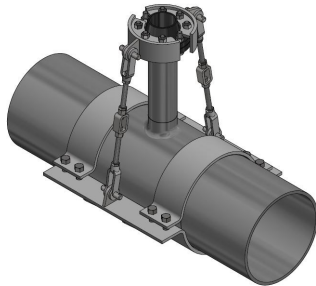
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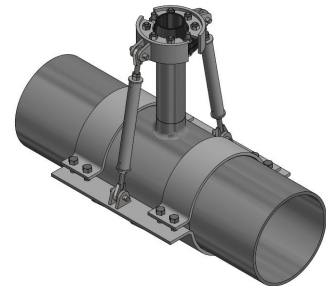
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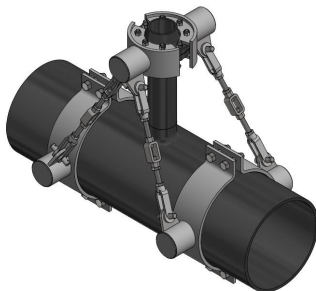
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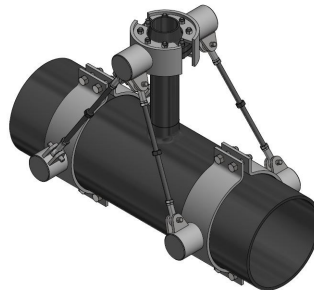
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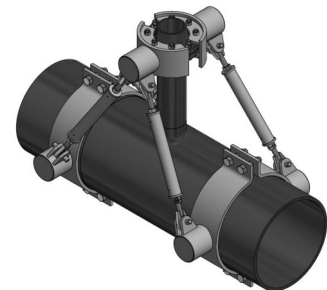
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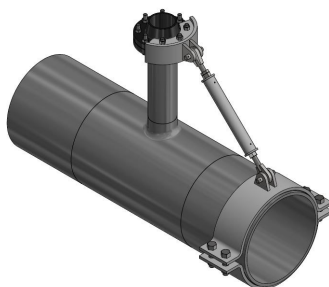
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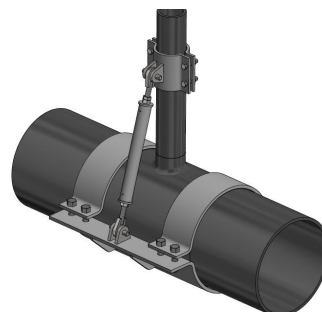
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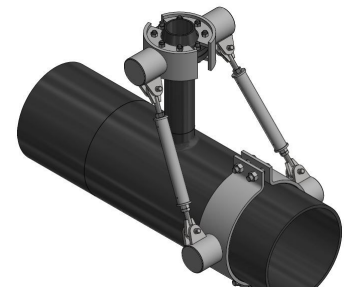
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TBR-
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AAA TECHNOLOGY'S PRODUCTS

Engineered Hangers and Supports

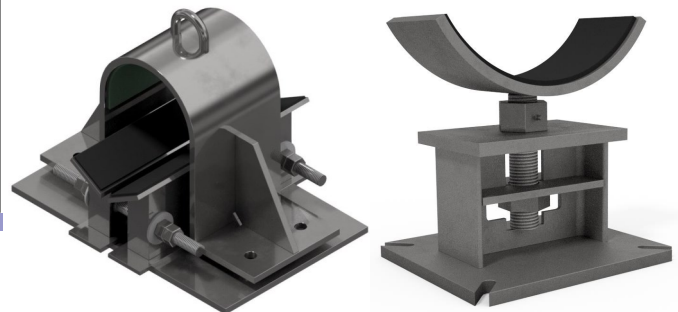
- EQUAL™ Variable Spring Hangers
- EQUALBALANCE™ Constant Spring Hangers
- EQUAL™ Hi-Load Box Springs
- EQUAL™ Hydraulic Snubber Assemblies
- EQUAL™ Sway Strut Assemblies
- EQUAL™ Sway Braces Assemblies
- EQUAL™ Limit Stop Assemblies
- EQUAL™ Large Dia. Pipe Rollers
- TRI*SLIDE™ Low Friction Bearings
- TRI*FOAM™ Cryo (cold) Insulated Shoes
- TRI*CAL™ High Temp Insulated Shoes
- Vibration Control Hold Down Clamps
- Horizontal Travelers
- Rigid Hanger Hardware including:
 - Rods (Machine Thread & All Thread), Eyerods & Anchor Bolts
 - Weldless Eynuts, Forged Steel Clevises & Turnbuckles
 - Clamps, Clevis & Socket Clamps
 - Welded Beam Attachments & Lugs
 - U-bolts, Bolts, Nuts & Pipe Straps
 - Pipe Rolls & Pipe Roll Stands
 - Insulation Protection Shields

Fabrication

- Pipe Shoes (Weld-on, U-Bolt-on & Clamp-on) with & without Guides & Line Stops
- Pipe Stands & Base Ells (Adjustable/Fixed)
- Instrument Stands & Angle Stands
- Riser Clamps & Trapeze Assemblies
- Custom Clamps & Saddles

Related Product Lines

- TRI*WEAR™ Anticorrosion Pads
- TRI*COMPOSITE™ Non-metallic Pipe Shoes
- TRI*GUARD™ Thermoplastic Support Bars
- TRI*CLIP™ Thermoplastic Pipe Clamp Liners
- TRI*BOLT™ PVC-Coated U-bolts
- TRI*BRACE™ Vibration Damping Solutions for Small Branch Lines
- Elastomeric Bearings
- Phenolic Isolators - Permal[®] Blocks, Micarta Blocks, Sleeves & Washers
- Platforms, Ladders & Stairways



To view our complete catalog, see our Website at <http://www.aaatech.com>.

We at AAA Technology welcome an opportunity to serve you!



AAA TECHNOLOGY & SPECIALTIES CO., INC.

6219 Brittmoore Road ♦ Houston, Texas 77041-5114, U.S.A.

Telephone: 713-849-3366 ♦ FAX: 713-849-3654

E-mail: info@aaatech.com ♦ Website: <http://www.aaatech.com>





BRACING SOLUTIONS

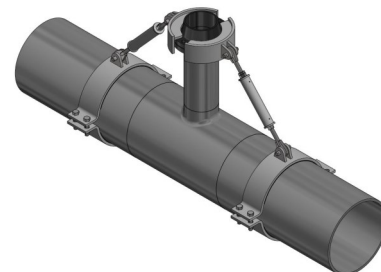
TRI*BRACE™ - BRANCH LINE VIBRATION SOLUTIONS

TRI*BRACE™ has been developed to address the frequently encountered issue of small branch lines vibrating and cracking at the connection to the header. It is common to see field fabricated arrangements generally fabricated of angles and plates. The clamps utilized typically have a rubber liner and the bracing members are angles. When the attachment point is a flange, a plate is typically attached by placing a arc plate with the flange shape and with the flange bolt pattern drilled in it. Failure typically occurs at the welded connections between the angles and the clamps or plates.

AAA Technology studied this problem and developed a superior solution that addresses the problems now encountered in the above described arrangements. AAA Technology has the design and fabrication capability to produce the required thickness clamps lined with elastomeric bearing pads so that the required forces and moments can be properly taken repeatedly without early fatigue failure. Rather than having fatigue failures at the connection points, AAA Technology offers connections with freedom to move rotationally in all three planes while not wearing the connections from cyclic loadings.

When space allows for bracing on both sides of a branch line, we provide bracing on both sides in the plane of the movement. This design of bracing works predominantly in tension. When bracing can be installed on only one side of the branch line, then AAA Technology provides bracing that restrains in tension and in compression. So, AAA Technology's solutions are tailored to your specific requirements.

When you are unable to attach to the branch line with a pipe clamp, AAA Technology works with our customers to provide functional attachments like the attachments shown to the right. Our designs are secure and fatigue resistant. We provide attachments that allow rotation rather than fatiguing a rigid connection.



When required, AAA Technology's sister company, PipingSolutions, Inc. can perform static and dynamic analyses to determine the best selection for the bracing design and, given the necessary vibration data, can determine the loading on the bracing during the operation of the piping systems.

Associated Services Offered by PipingSolutions

- **Piping Stress Analysis Services** - Need to know what pipe supports to select or why the loads on your equipment or the stresses in your piping system are too high? We can perform a TRIFLEX® piping stress analysis and tell you and we can recommend solutions.
- **Pipe Support Fitness for Service Studies** - Need to sort out whether the pipe supports and spring hangers in your plant are performing as originally intended or if corrosion has affected their ability to perform or if they have been installed correctly? We can help make these determinations and provide you with complete documentation as well as offer recommendations for improvements.

AAA Technology and PipingSolutions are ready to share our experience and technical expertise with you to solve your branch line vibration problems. Contact AAA Technology by telephone, FAX or email at your convenience.



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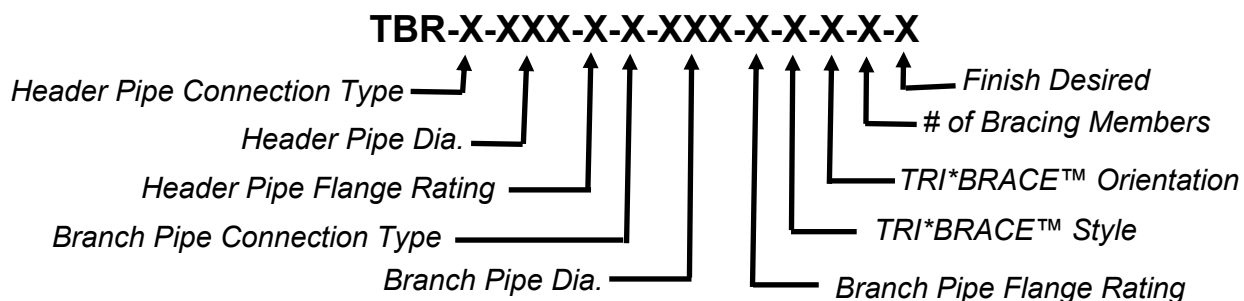




BRACING SOLUTIONS

TRI*BRACE™ - BRANCH LINE VIBRATION SOLUTIONS

Nomenclature - Model Numbers and Descriptions



Variable	Nomenclature for Selections
TRI*BRACE	TBR
<i>Header Pipe Connection Type</i>	1. Pipe Clamp, 2. Trunnion on Pipe Clamp 3. Bracket on Flange Attachment, 4. Trunnion on Flange Attachment
<i>Header Pipe Diameter</i>	Dia. in Inches
<i>Header Pipe Flange Rating</i>	0=None, 1=150, 2=300, 3=400, 4=600, 5=900, 6=1500 & 7=2500
<i>Branch Pipe Connection Type</i>	1. Pipe Clamp, 2. Trunnion on Pipe Clamp 3. Bracket on Flange Attachment, 4. Trunnion on Flange Attachment
<i>Branch Pipe Diameter</i>	Dia. in Inches
<i>Branch Pipe Flange Rating</i>	0=None, 1=150, 2=300, 3=400, 4=600, 5=900, 6=1500 & 7=2500
TRI*BRACE™ Style	1=Rod, 2=Rods & Turnbuckle, 3=Tube
TRI*BRACE™ Orientation	1=Along Header, 2>About Header, 3=Both
# of Bracing Members	Enter number of Brace Members Desired
Finish Desired	1=HDG, 2=Plain, 3=Red Oxide Primer, 4=To be defined

AAA Technology is ready to assist you in the design of special or custom TRI*BRACE™ solutions to address your small branch line vibration difficulties. Contact AAA Technology by telephone at 1-713-849-3366, by FAX 1-713-849-3654 or email at info@aaatech.com.



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