JOVE®

Pipe Hangers and Supports for FRP/GRP, HDPE, PP, PVC and other non-metallic piping systems



Thompson Fabricating

Thompson Fabricating
Exclusive Manufacturer and
Distributor of JOVE® Products

JOVE® Pipe Support Products

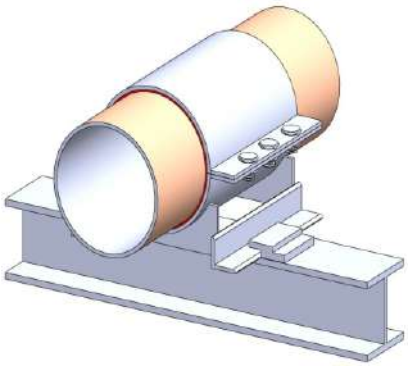
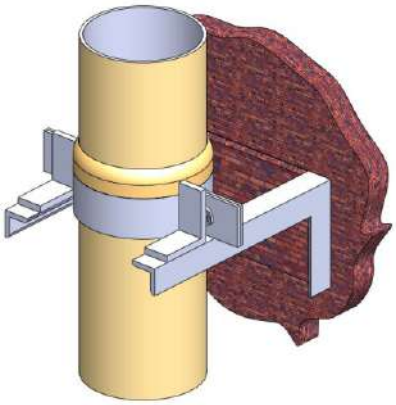
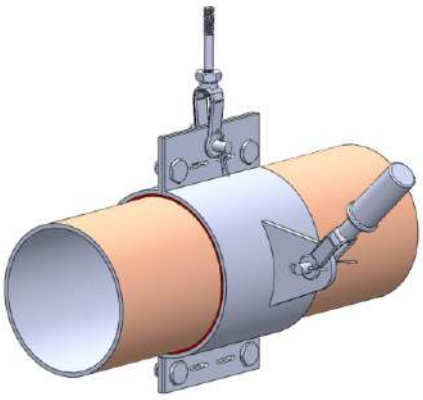
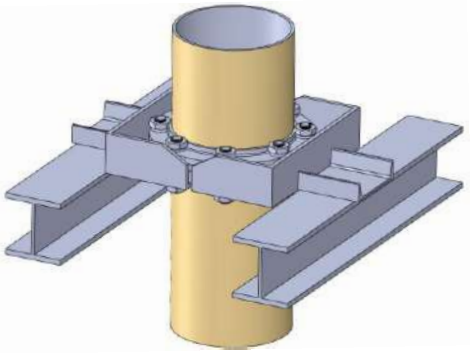


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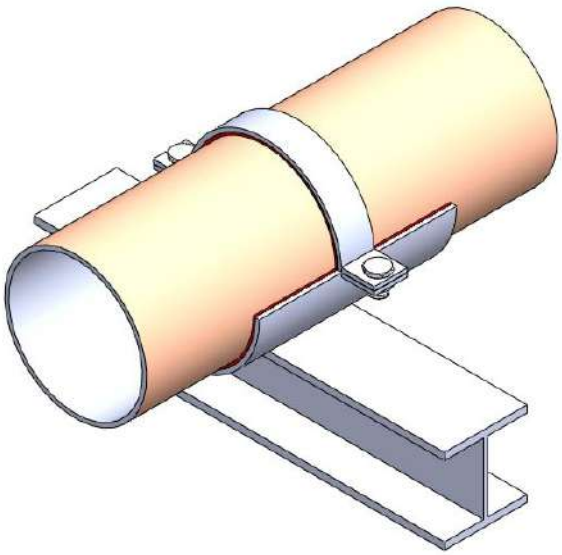




JOVE® SUPPORT - SADDLE

Model No. FS-1

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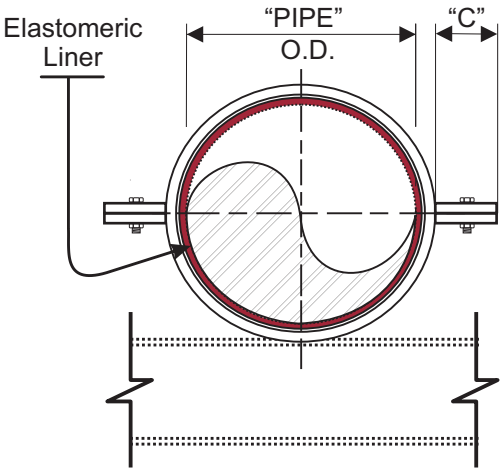


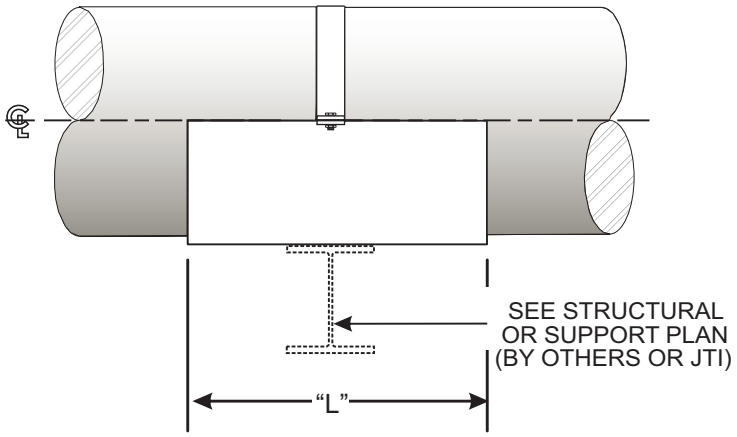
APPLICATION: Provides simple 180° support for cast, filament wound or contact molded FRP, and other non-metallic piping. Used where lateral and axial pipe movement is allowed and where support structure is below pipe.

MATERIALS: Carbon Steel, Stainless, and other alloys.

ELASTOMERIC LINER: Red rubber, Neoprene, EPDM, Viton.

FINISHES: Primed, Hot Dip Galvanized, and Special Three Coat Epoxy.





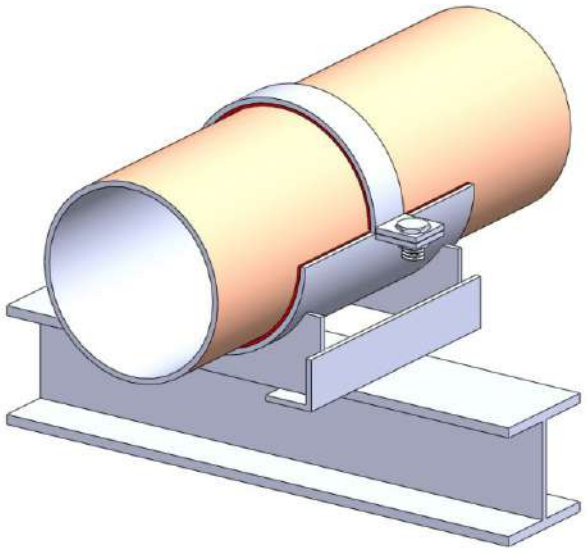
Pipe Dia.	1"	1-1/2"	2"	3"	4"	6" through 42"
"L"	8"	8"	8"	8"	8"	See Note No. 4
"C"	1 1/4"	1 1/4"	1 1/4"	1 1/4"	1 1/4"	
Vertical Load	400	400	400	600	800	

NOTES:

1. Stainless Steel strapping may substitute for the bolted strap only when no danger of falling from elevated support structure exists.
2. Order SS Banding separately.
3. Cradles can be longer if required.
4. FS-2 recommended above 4" nom.

JOVE® SUPPORT - SIMPLE

Model No. FS-2 © Copyright, 1998 REV 26 A

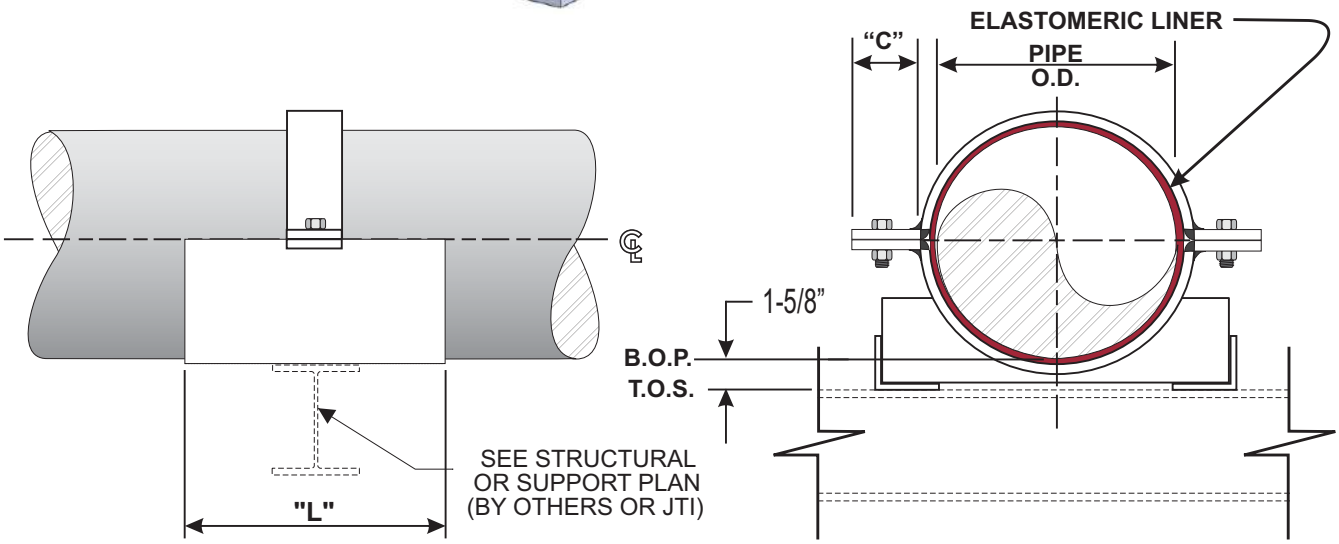


APPLICATION: Provides simple support for cast, filament wound or contact molded FRP, and other non-metallic piping. Used where lateral and axial pipe movements may occur and where support structure is below pipe.

MATERIALS: Carbon Steel, Stainless, and other alloys.

ELASTOMERIC LINER: Red rubber, Neoprene, EPDM, Viton.

FINISHES: Primed, Hot Dip Galvanized, and Special Three Coat Epoxy.



Pipe Dia.	2"	3"	4"	6"	8"	10"	12"	14"	16"	18"
"L"	8"	8"	8"	12"	12"	12"	12"	14"	14"	14"
"C"	1-1/4"	1-1/4"	1-1/4"	2"	2"	2"	2"	2"	2"	2"
Vertical Load	400	600	800	1,200	1,600	2,000	2,400	3,075	3,385	4,000

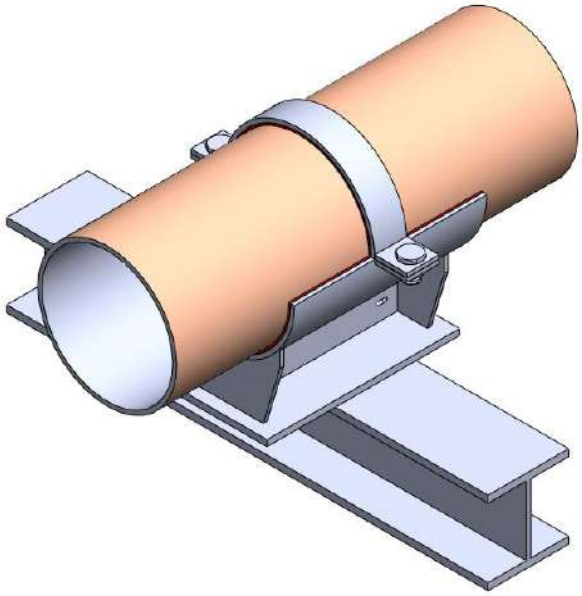
Pipe Dia.	20"	24"	30"	36"	42"
"L"	14"	16"	20"	20"	20"
"C"	2"	2"	2"	2"	2"
Vertical Load	4,710	6,750	8,525	11,550	16,300

NOTES:

1. Stainless Steel strapping may substitute for the bolted strap only when no danger of falling from elevated support structure exists.
2. Order SS Banding separately.
3. TOS-BOP dimension may be modified.
4. Cradle length can be modified.

JOVE® SUPPORT - INSULATED PIPE

Model No. FS-2R © Copyright, 1998 REV 26 A

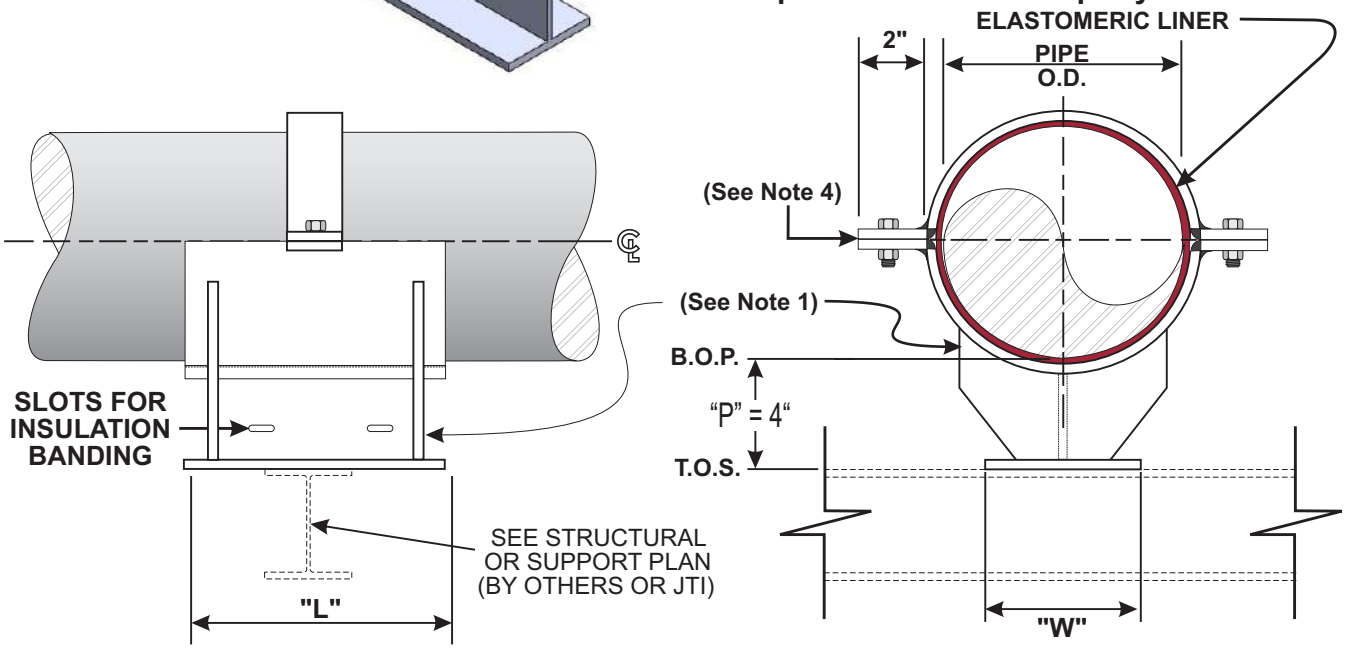


APPLICATION: Where insulation is required, Provides simple support for cast, filament wound or contact molded FRP, and other non-metalic piping. Used where horizontal pipe movements may occur and where support structure is below pipe.

MATERIALS: Carbon Steel, Stainless, and other alloys.

ELASTOMERIC LINER: Red rubber, Neoprene, EPDM, Viton.

FINISHES: Primed, Hot Dip Galvanized, and Special Three Coat Epoxy.



Pipe Dia.	2”	3”	4”	6”	8”	10”	12”	14”	16”	18”
"L"	8”	8”	8”	12”	12”	12”	12”	14”	14”	14”
"W"	4”	4”	4”	6”	6”	6”	6”	8”	8”	8”
Vertical Load	400	600	800	1,200	1,450	1,650	2,065	3,120	3,440	4,055

Pipe Dia.	20”	24”	30”	36”	42”
"L"	14”	16”	20”	20”	20”
"W"	8”	8”	10”	10”	10”
Vertical Load	4,775	6,835	8,625	11,750	16,425

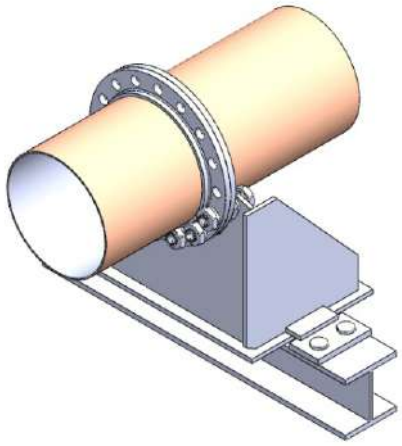
NOTES:

1. Gussets not required in sizes below six inch.
2. “P” dim. May be modified.
3. Cradle length can be modified.
4. Tab flange > 6” = 1 1/4”

JOVE® SUPPORT - FLANGED COMPONENT

Model No. FS-3

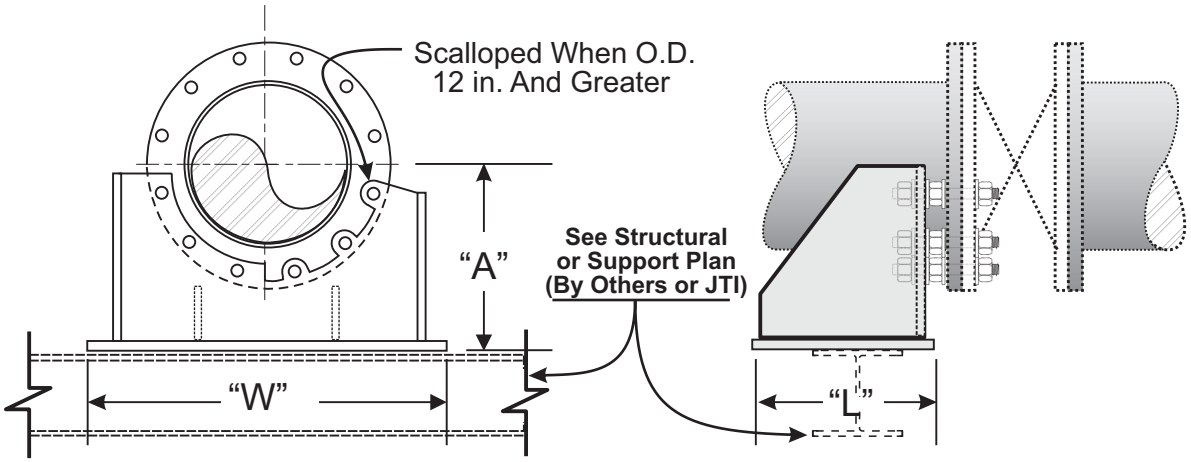
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APPLICATION: Used to support and anchor valves, regulators, flow meters or other components when cast, filament wound, or contact molded FRP, or other non-metallic material is used in piping systems.

MATERIALS: Carbon Steel, Stainless, and other alloys.

FINISHES: Primed, Hot Dip Galvanized, and Special Three Coat Epoxy.



PIPE DIA.	2"	3"	4"	6"	8"	10"	12"	14"	16"	18"
"A"	7"	7"	7"	14"	14"	14"	14"	20"	20"	20"
"L"	7"	7"	7"	12"	12"	12"	12"	15"	15"	15"
"W"	9"	10-1/2"	12"	14"	16-1/2"	19"	22"	25"	27-1/2"	29"
Bolt Circle	4-3/4"	6"	7-1/2"	9-1/2"	11-3/4"	14-1/4"	17"	18-3/4"	21-1/4"	22-3/4"
No. of Bolts	2	2	4	4	4	6	6	6	8	8
Vertical Load	400	600	800	1,200	1,600	2,000	2,550	3,150	4,020	5,090
Axial Load	3,000	3,000	3,000	11,000	11,000	11,000	11,000	10,000	10,000	9,000

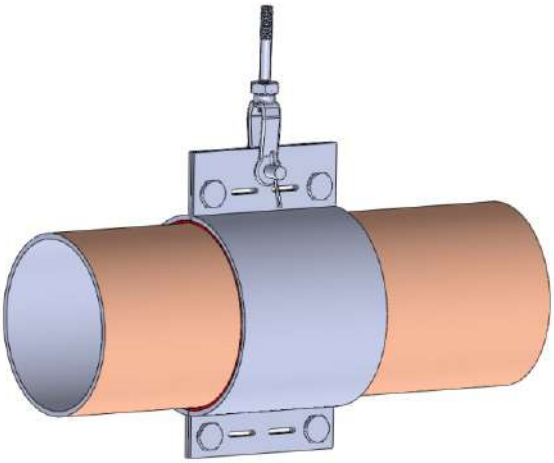
Pipe Dia.	20"	24"	30"	36"	42"
"A"	20"	20"	23"	27-3/8"	29"
"L"	15"	15"	19"	19"	19"
"W"	31"	36"	42-3/4"	50"	57"
Bolt Circle	25"	29-1/2"	36"	42-3/4"	49-1/2"
No. of Bolts	10	10	14	16	18
Vertical Load	6,360	8,820	11,000	14,000	16,300
Axial Load	9,000	8,000	15,000	15,000	15,000

NOTES:

1. **FS-3 may serve as a guide when Guide Clips are used to restrict lateral and vertical movement. (See Guide Clip Detail)**
2. **FS-3 may serve as an anchor by bolting or welding to structural members.**
3. **"A" dimension may be increased if pipe location requires, but load rating would not be applicable.**

JOVE® SUPPORT - HANGER

Model No. FS-4 & FS-4R © Copyright, 1998 REV 26 A

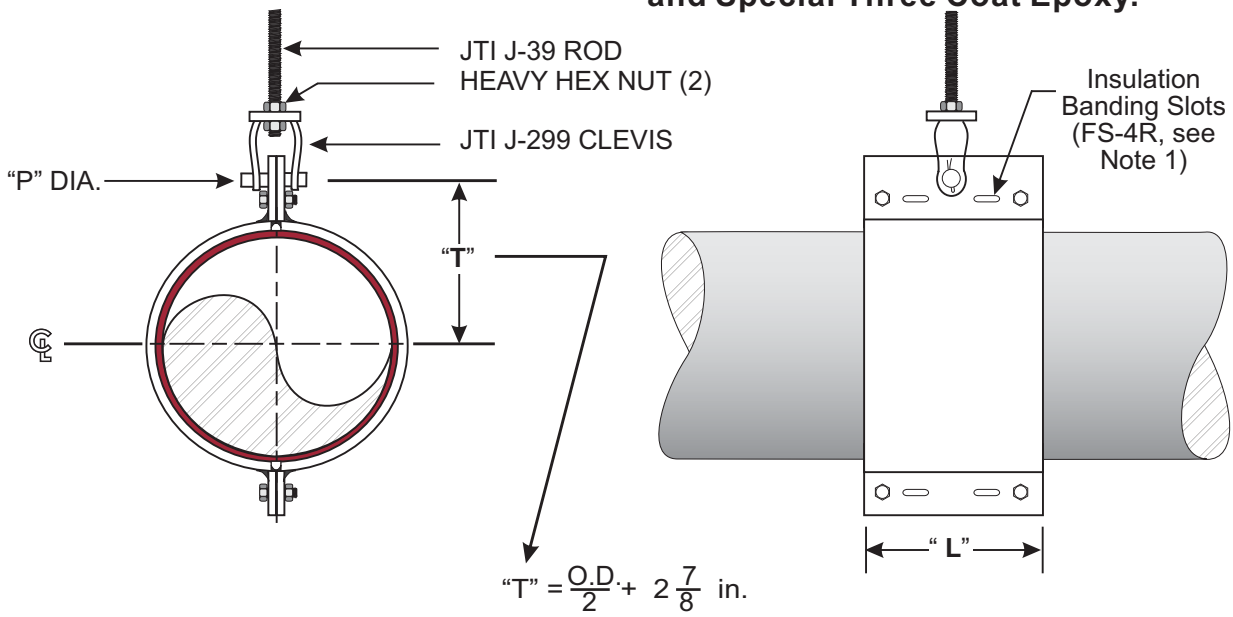


APPLICATION: This clamp-type support should be discriminately used where pipe is hung below support steel or another FRP or other non-metallic pipe to control buckling.

MATERIALS: Carbon Steel, Stainless, and other alloys.

ELASTOMERIC LINER: Red rubber, Neoprene, EPDM, Viton.

FINISHES: Primed, Hot Dip Galvanized, and Special Three Coat Epoxy.



Pipe Dia.	2"	3"	4"	6"	8"	10"	12"	14"	16"	18"
"L"	8"	8"	8"	8"	8"	8"	12"	12"	12"	12"
"P"	5/8"	5/8"	5/8"	5/8"	3/4"	3/4"	1"	1"	1-1/8"	1-1/8"
Rod	3/8"	3/8"	3/8"	3/8"	1/2"	5/8"	3/4"	3/4"	7/8"	7/8"
Vertical Load	610	610	610	610	1,130	1,810	2,710	2,710	3,770	3,770

Pipe Dia.	20"	24"	30"	36"	42"
"L"	14"	16"	16"	16"	16"
"P"	1-1/4"	1-3/8"	1-3/8"	1-3/8"	1-3/8"
Rod	1"	1-1/4"	1-1/4"	1-1/2"	2"
Vertical Load	4,960	6,833	8,000	11,630	16,300

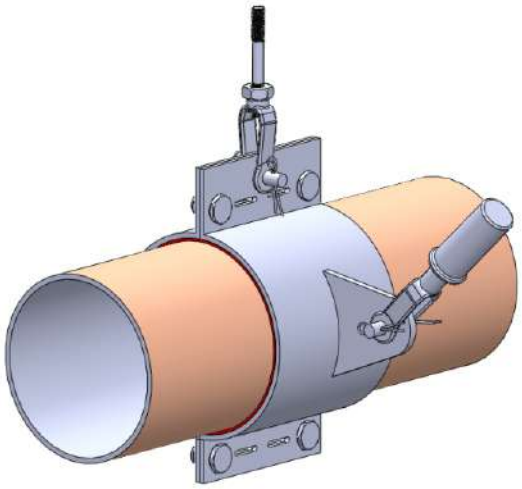
NOTES:

1. **FS-4R identical to FS-4 except that Slots are added for 3/4 in. insulation banding.**
2. **Rod Assembly, including J-299 must be ordered separately.**
3. **Not recommended for 24 in. and up.**

JOVE® SUPPORT - GUIDED HANGER

Model No. FS-4G & FS-4GR

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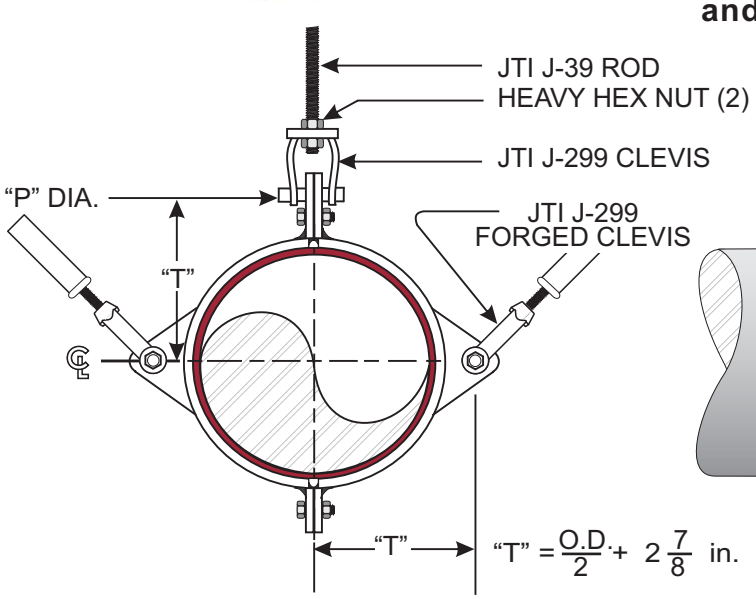


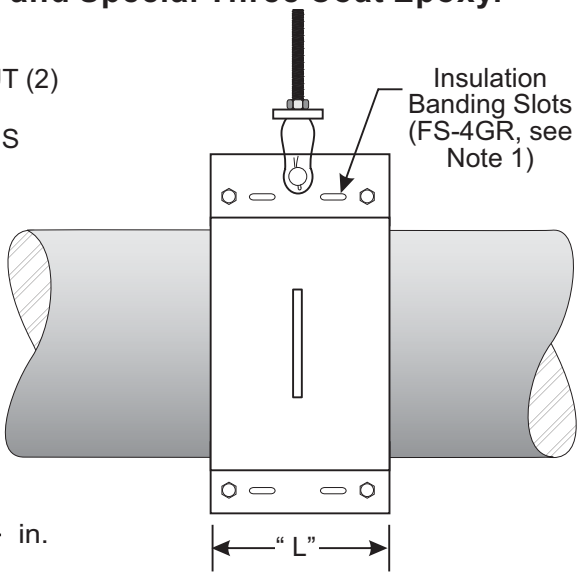
APPLICATION: This lateral guide should be discriminately used where pipe is hung below support steel or another FRP or other non-metallic pipe to control buckling.

MATERIALS: Carbon Steel, Stainless, and other alloys.

ELASTOMERIC LINER: Red rubber, Neoprene, EPDM, Viton.

FINISHES: Primed, Hot Dip Galvanized, and Special Three Coat Epoxy.





Pipe Dia.	2"	3"	4"	6"	8"	10"	12"	14"	16"	18"
"L"	8"	8"	8"	8"	8"	8"	12"	12"	12"	12"
"P"	5/8"	5/8"	5/8"	5/8"	3/4"	3/4"	1"	1"	1-1/8"	1-1/8"
Rod	3/8"	3/8"	3/8"	3/8"	1/2"	5/8"	3/4"	3/4"	7/8"	7/8"
Vertical Load	610	610	610	610	1,130	1,810	2,710	2,710	3,770	3,770

Pipe Dia.	20"	24"	30"	36"	42"
"L"	14"	16"	16"	16"	16"
"P"	1-1/4"	1-3/8"	1-3/8"	1-3/8"	1-3/8"
Rod	1"	1-1/4"	1-1/4"	1-1/2"	2"
Vertical Load	4,960	6,833	8,000	11,630	16,300

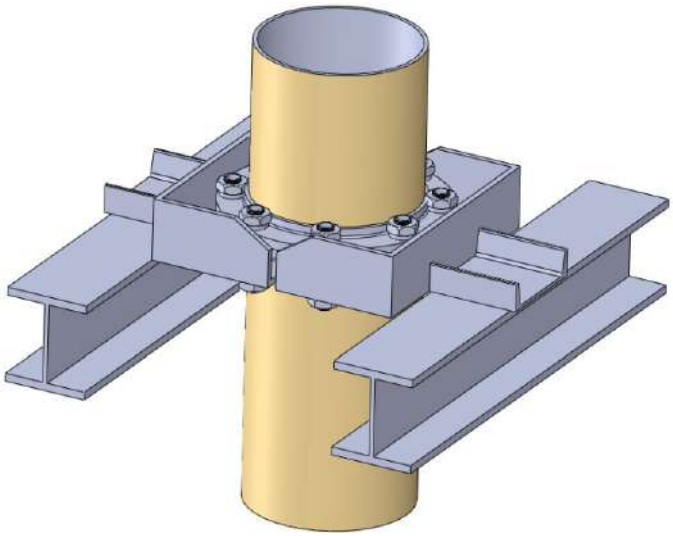
NOTES:

1. **FS-4GR identical to FS-4G except that Slots are added for 3/4 in. insulation banding.**
2. **Rod and Clevis Assemblies must be ordered separately from FS-4G.**
3. **Not recommended for 24 in. and up.**

JOVE® SUPPORT - FLANGED COMPONENT

Model No. FS-5

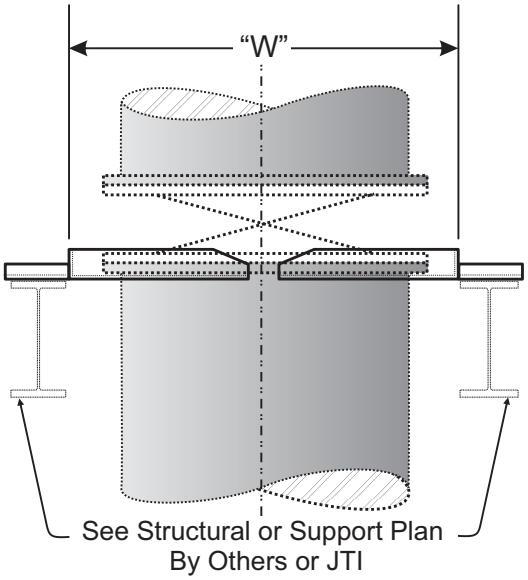
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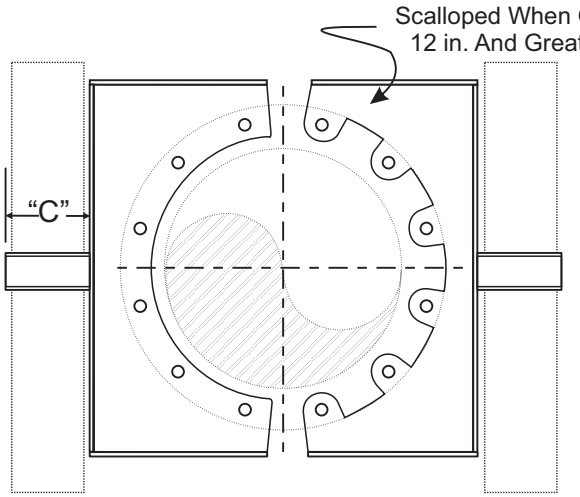


APPLICATION: Used to support and stabilize valves, regulators, flow meters or other components when cast, filament wound, or contact molded FRP, or other non-metallic material is used in vertical runs in pipe systems.

MATERIALS: Carbon Steel, Stainless, and other alloys.

FINISHES: Primed, Hot Dip Galvanized, and Special Three Coat Epoxy.





Duct Dia.	2"	3"	4"	6"	8"	10"	12"	14"	16"	18"
"W"	7.5"	9"	10.5"	12.5"	15"	17.5"	20.5"	22.5"	25"	26.5"
"C"	4"	4"	4"	6"	6"	6"	6"	6"	6"	6"
Bolt Circle	4.75"	6"	7.5"	9.5"	11.75"	14.25"	17"	18.75"	21.25"	22.75"
No. of Bolts	4	4	8	8	8	12	12	12	16	16
Vertical Load	400	400	400	600	1,150	1,640	2,550	3,150	4,020	4,300

Duct Dia.	20"	24"	30"	36"	42"
"W"	29"	33.5"	40.5"	47.5"	56.5"
"C"	6"	6"	6"	6"	6"
Bolt Circle	25"	29.5"	36"	42.75"	49.5"
No. of Bolts	20	20	28	32	36
Vertical Load	4,300	4,300	4,300	4,300	4,300

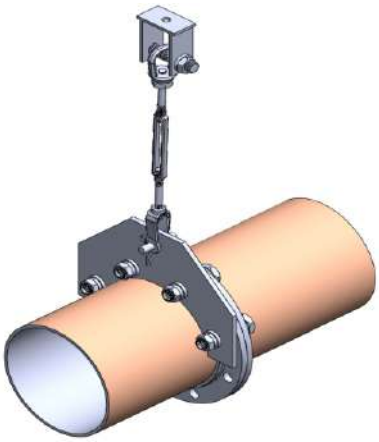
NOTES:

1. **Load tables are developed through 42 in. in diameter. Design for larger diameter pipe available by special request.**
2. **FS-5 may serve as an anchor by bolting or welding to structural members.**
3. **For ease of installation studs may be used in place of bolts. See Flange bolting detail for information.**

JOVE® SUPPORT - FLANGED HANGER

Model No. FS-5H

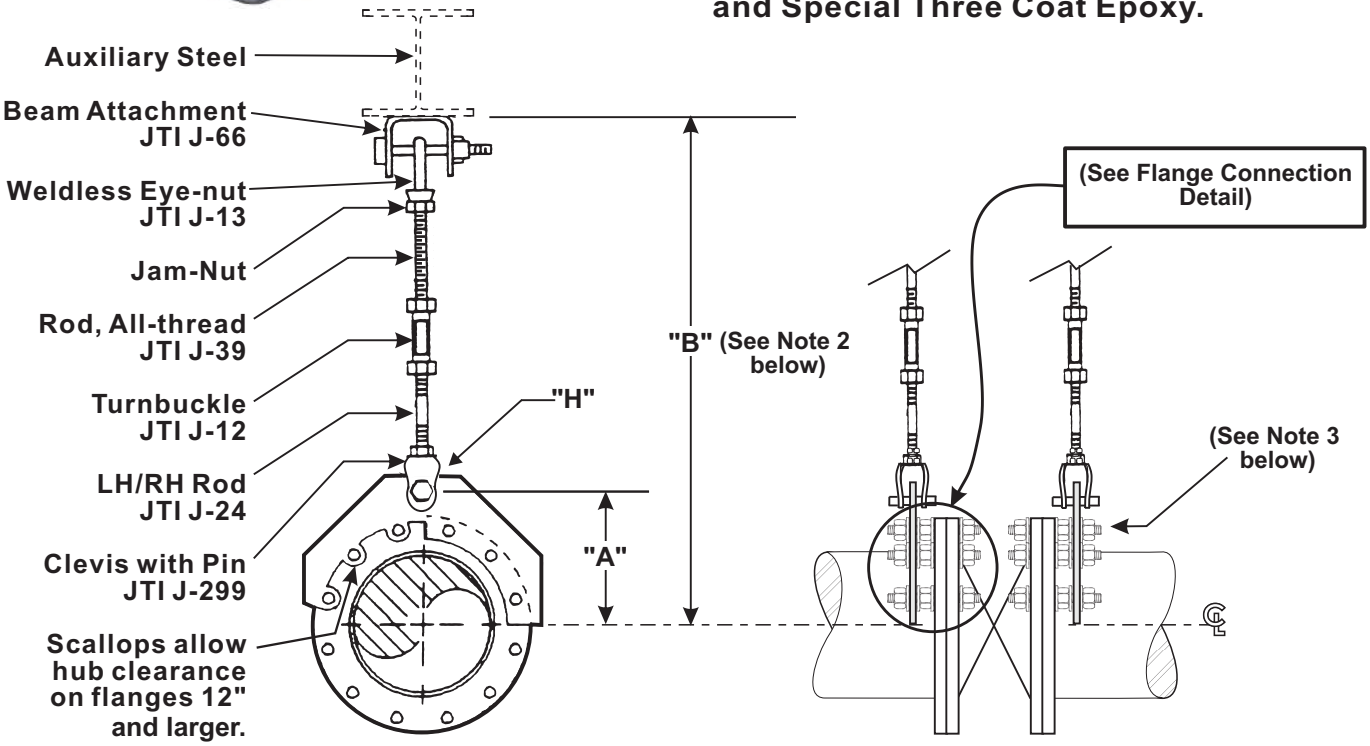
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APPLICATION: Provides support from structures above pipe for components such as valves, regulators, and flow meters used in non-metallic as well as metallic piping systems. Prevents local overstress due to component loads.

MATERIALS: Carbon Steel, Stainless, and other alloys.

FINISHES: Primed, Hot Dip Galvanized, and Special Three Coat Epoxy.



PIPE DIA.	2"	3"	4"	6"	8"	10"	12"	14"	16"	18"
"A"	4"	5-1/2"	6-1/4"	7-1/2"	8-7/8"	10-1/8"	11-3/4"	12-7/8"	14-5/8"	15-3/8"
"H" Hole Dia.	9/16"	9/16"	9/16"	9/16"	11/16"	13/16"	3/4"	1"	1-1/8"	1-1/8"
Rod Size	3/8"	3/8"	3/8"	3/8"	1/2"	5/8"	3/4"	3/4"	7/8"	7/8"
Vertical Load	610	610	610	610	1,130	1,810	2,710	2,710	3,770	3,770

Pipe Dia.	20"	24"	30"	36"	42"
"A"	16-3/4"	19"	22-1/2"	25-7/8"	29-1/4"
"H" Hole Dia.	1-1/4"	1-1/2"	1-1/2"	1-3/4"	1-3/4"
Rod Size	1"	1-1/4"	1-1/4"	1-1/2"	1-1/2"
Vertical Load	4,960	6,230	8,300	11,630	12,250

NOTES:

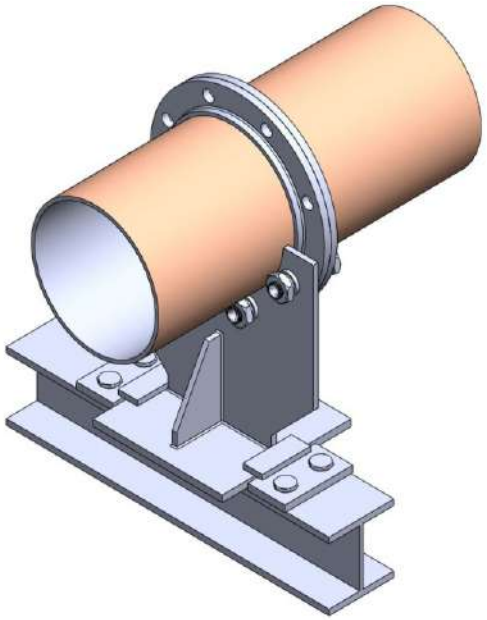
1. JTI can supply all auxiliary steel and rod hanger assemblies.
2. When RFQ specifies Dimension "B" JTI can quote Rod Hanger Assembly.
3. Two FS-5H Hangers required with long components.
4. See FS-5 for Bolt Circle Data. The number of bolts will be exactly half that of the FS-5.

JOVE® GUIDE - COMPONENT STANCHION

10A

Model No. FS-5S

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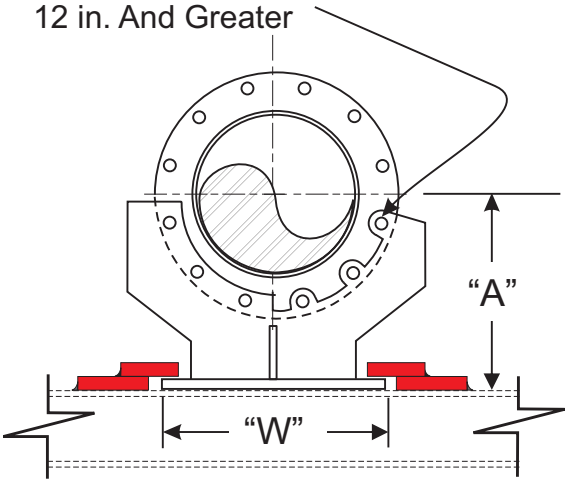


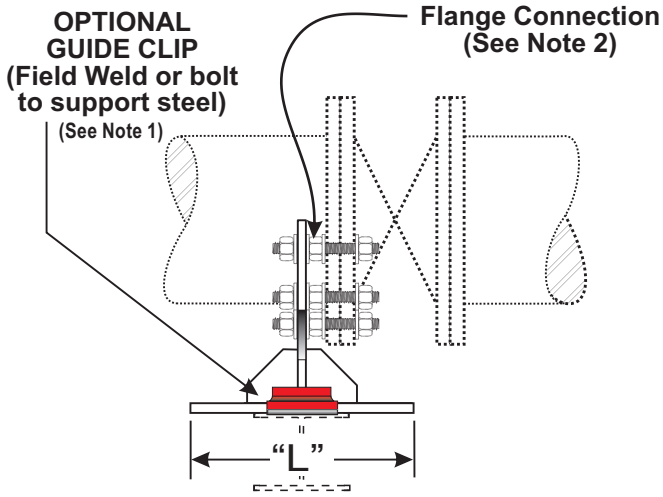
APPLICATION: Supports and guides components used in cast, filament wound, or contact molded FRP or other non-metallic pipe. Used to support valves, regulators, flow meters or other components used in piping systems. May be used without modification as an anchor for flanges 4“ in diameter and under.

MATERIALS: Carbon Steel, Stainless, and other alloys.

FINISHES: Primed, Hot Dip Galvanized, and Special Three Coat Epoxy.

Scalloped When O.D.
12 in. And Greater





PIPE DIA.	2”	3”	4”	6”	8”	10”	12”	14”	16”	18”
“A”	7.5”	7.5”	7.5”	14.5”	14.5”	14.5”	14.5”	20.625”	20.625”	20.625”
“L” & “W”	8”	8”	8”	10”	10”	10”	12”	12”	15”	15”
Bolt Circle	4.75”	6”	7.5”	9.5”	11.75”	14.25”	17”	18.75”	21.25”	22.75”
No. of Bolts	2	2	4	4	4	6	6	6	8	8
Vertical Load	400	400	400	600	1,400	1,600	2,000	3,000	3,300	3,900

Pipe Dia.	20”	24”	30”	36”	42”
“A”	20.625”	20.625”	23”	27.375”	29”
“L” & “W”	15”	15”	15”	15”	15”
Bolt Circle	25”	29.5”	36”	42.75”	49.5”
No. of Bolts	10	10	14	16	18
Vertical Load	4,600	6,600	8,300	11,630	16,300

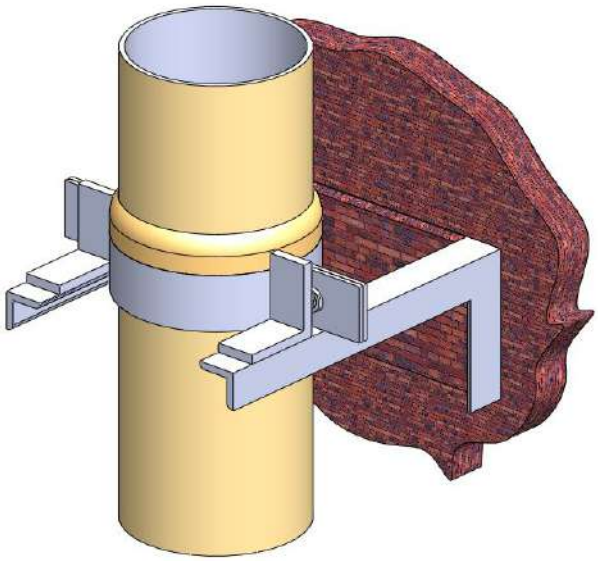
NOTES:

1. FS-5S may serve as a guide when Guide Clips are used to restrict lateral and vertical movement. (See Guide Clip Detail)
2. Flange connection may be effected by using bolts, but for ease of installation cutting studs from all-thread rod is acceptable. (See Flange Detail)

JOVE® SUPPORT - RISER

Model No. FS-6

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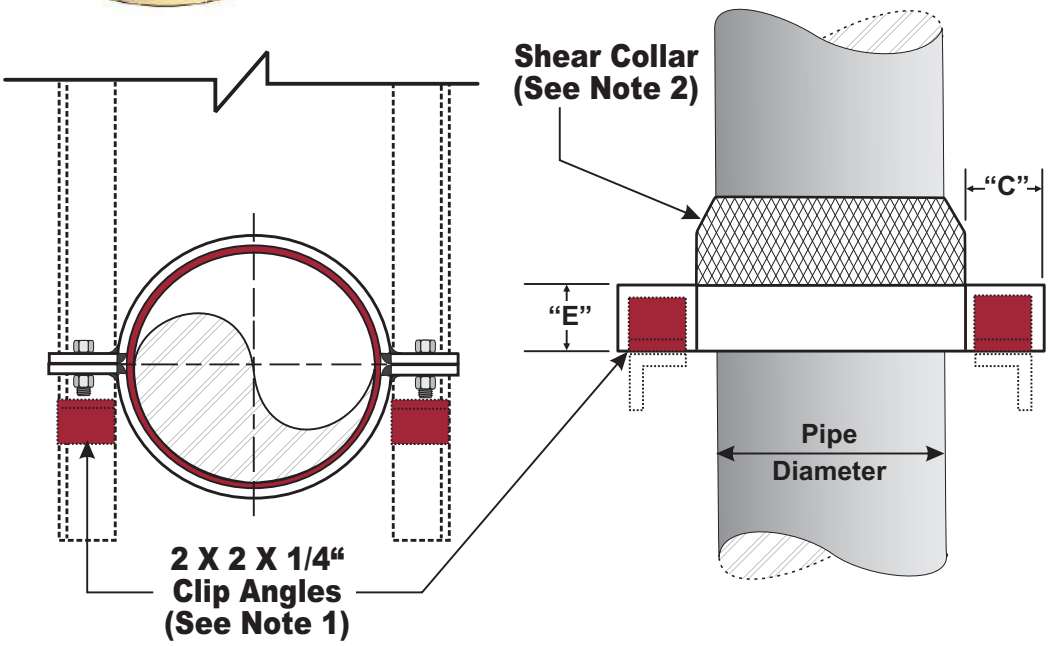


APPLICATION: Used to support and stabilize vertical runs of pipe to prevent buckling and overstress of adjacent horizontal runs when cast, filament wound, or contact molded FRP, or other non-metallics are used in piping systems.

MATERIALS: Carbon Steel, Stainless, and other alloys.

Elastomeric liner: Red rubber, Neoprene, EPDM, Viton.

FINISHES: Primed, Hot Dip Galvanized, and Special Three Coat Epoxy.



Pipe Dia.	2"	3"	4"	6"	8"	10"	12"	14"	16"	18"
"E"	2"	2"	3"	3"	3"	3"	3"	4"	5"	6"
"C"	6"	6"	6"	6"	6"	6"	6"	6"	6"	6"
Vertical Load	400	400	400	600	1,400	2,800	3,100	3,200	3,800	4,300

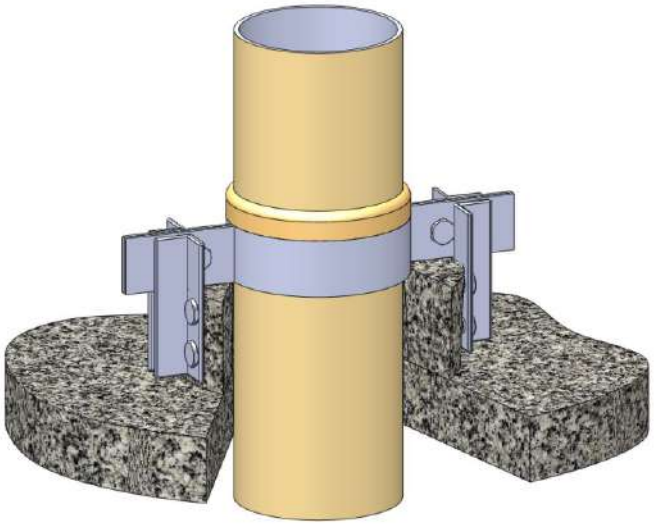
Pipe Dia.	20"	24"	30"	36"	42"
"E"	6"	6"	6"	8"	8"
"C"	6"	6"	6"	6"	6"
Vertical Load	4,300	6,500	8,700	14,900	16,300

NOTES:

1. **Clip Angles required, but are not supplied unless requested.**
2. **Shear Collar essential, but must be ordered separately from FS-6.**

JOVE® GUIDE - RISER

Model No. FS-6G © Copyright, 1998 REV 26 A

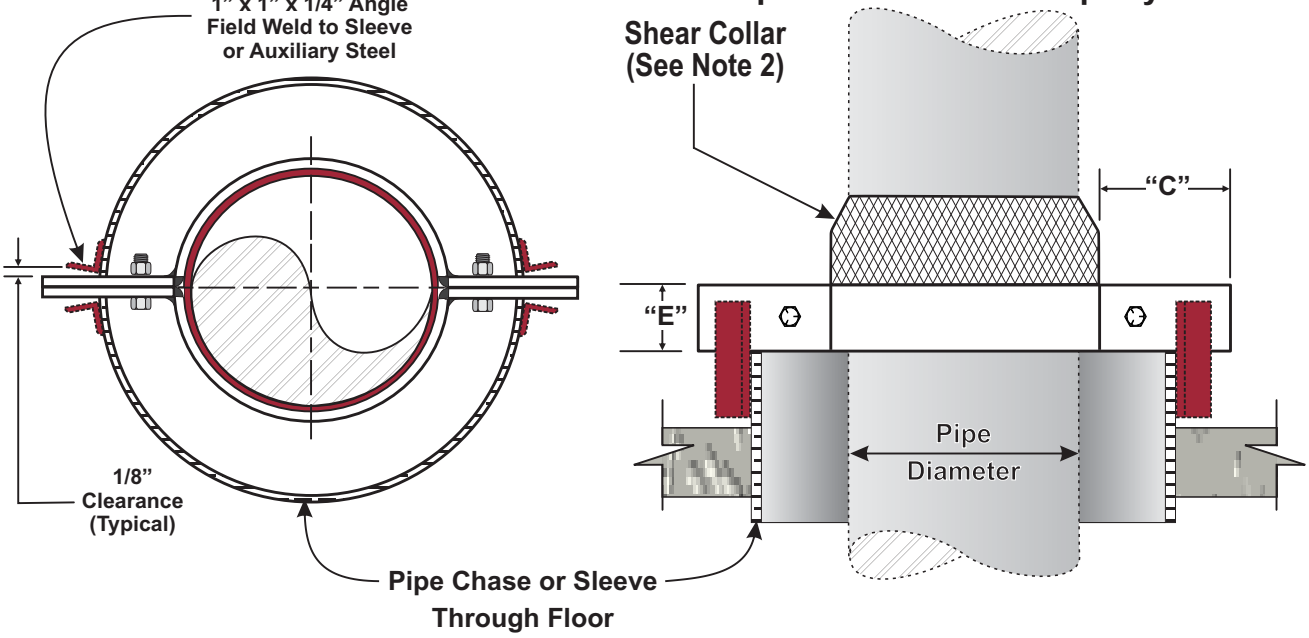


APPLICATION: Used to guide and stabilize vertical runs of pipe to prevent buckling and overstress of adjacent horizontal runs when cast, filament wound, or contact molded FRP, or other non-metallics are used in piping systems.

MATERIALS: Carbon Steel, Stainless, and other alloys.

ELASTOMERIC LINER: Red rubber, Neoprene, EPDM, Viton.

FINISHES: Primed, Hot Dip Galvanized, and Special Three Coat Epoxy.



Pipe Dia.	2"	3"	4"	6"	8"	10"	12"	14"	16"	18"
"E"	3"	3"	3"	3"	3"	3"	3"	3"	3"	4"
"C"	6"	6"	6"	6"	6"	6"	6"	6"	6"	6"
Vertical Load	400	400	400	600	600	600	600	1,200	1,200	1,600

Pipe Dia.	20"	24"	30"	36"	42"
"E"	4"	4"	6"	6"	6"
"C"	6"	6"	6"	6"	6"
Vertical Load	1,500	1,500	2,100	1,900	1,900

NOTES:

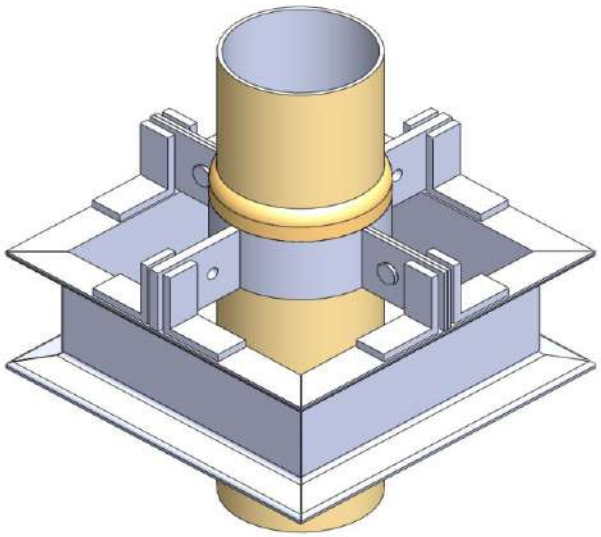
1. Clip Angles required, but are not supplied unless requested.
2. Shear Collars optional, but are ordered separately from FS-6G.

JOVE® GUIDE - RISER, HEAVY DUTY

13A

Model No. FS-6GQ

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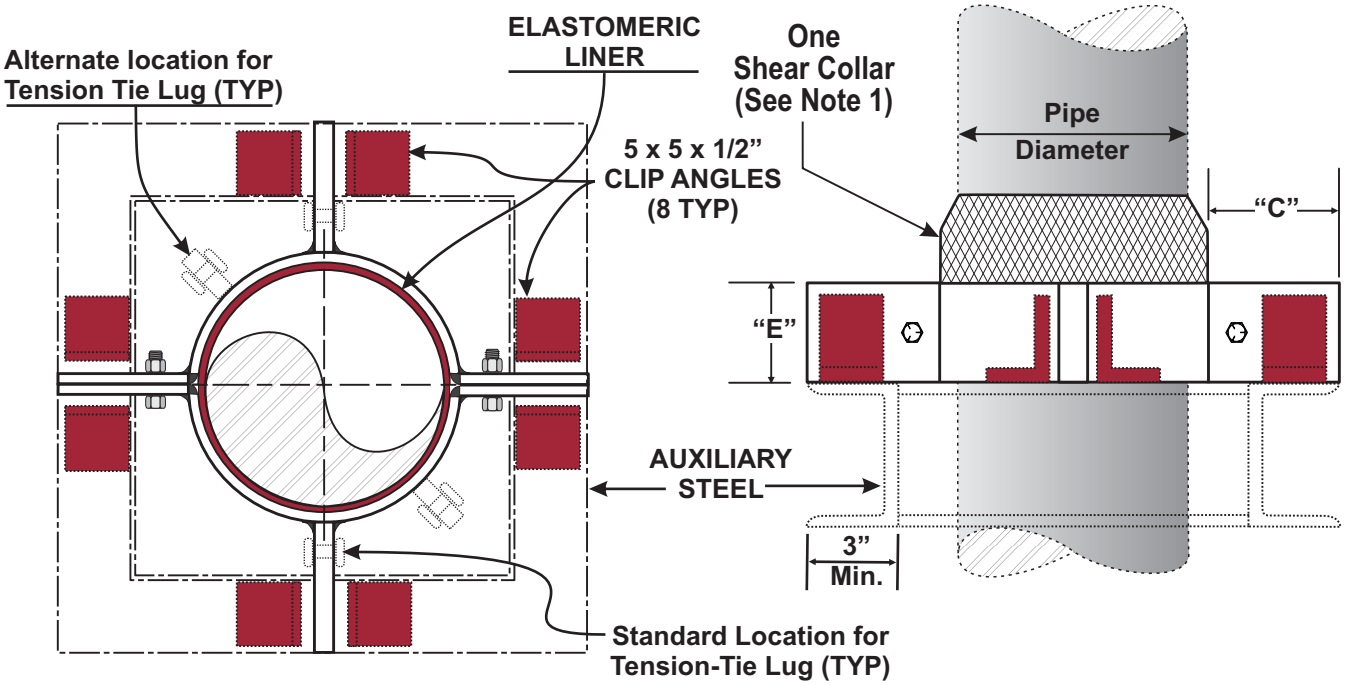


APPLICATION: Where riser movement down is restricted and lateral movement is limited, the FS-6GQ's four supporting lugs and greater load capacity ensures that vertical runs of non-metallic pipe (cast, filament wound, or contact molded FRP) are secured in the down direction while allowing movement up. The FS-6GQ was designed to be used with tension-tie systems (See FS-6T Dwg.) to secure very long risers with short offsets to equipment nozzles.

MATERIALS: Carbon Steel, Stainless, and other alloys.

ELASTOMERIC LINER: Red rubber, Neoprene, EPDM, Viton.

FINISHES: Primed, Hot Dip Galvanized, and Special Three Coat Epoxy.



Pipe Dia.	2"	3"	4"	6"	8"	10"	12"	14"	16"	18"
"E"	4"	4"	4"	4"	6"	6"	6"	6"	6"	6"
"C"	6"	6"	6"	6"	6"	6"	6"	6"	6"	6"
Vertical Load	400	600	800	1,200	1,600	2,000	2,400	3,125	3,440	4,060

Pipe Dia.	20"	24"	30"	36"	42"
"E"	6"	8"	8"	8"	8"
"C"	6"	6"	6"	6"	6"
Vertical Load	4,780	6,345	8,660	11,600	16,300

OPTIONS:

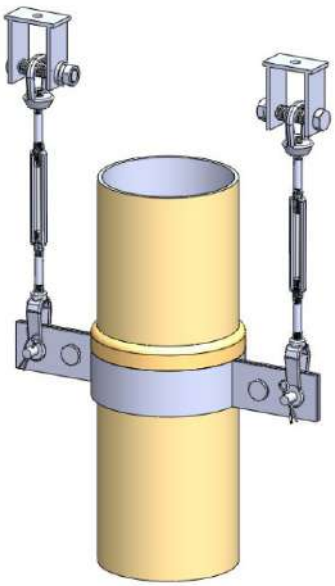
1. Shear Collars, (See Shear Collar Detail)
2. Clip Angles field welded (See Clip Detail)
3. Tension Tie Lugs (See FS-6T)
4. Aux. Steel, Trapezes, Pipe Racks, etc.

(NOTE: Options not supplied unless requested.)

JOVE® HANGER - RISER

Model No. FS-6H

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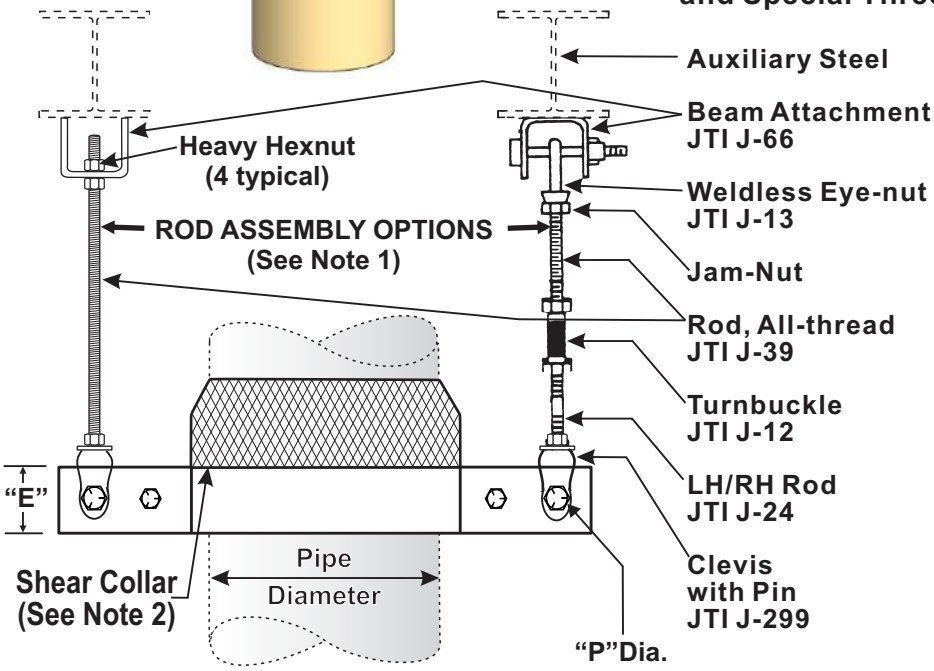


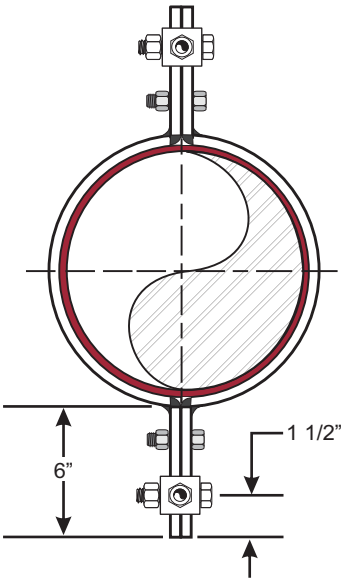
APPLICATION: Where support steel is not present, used to support and stabilize vertical runs of pipe to prevent buckling and overstress of adjacent horizontal runs when cast, filament wound, or contact molded FRP, other non-metallics are used in piping systems.

MATERIALS: Carbon Steel, Stainless, and other alloys.

ELASTOMERIC LINER: Red rubber, Neoprene, EPDM, Viton.

FINISHES: Primed, Hot Dip Galvanized, and Special Three Coat Epoxy.





Pipe Dia.	2"	3"	4"	6"	8"	10"	12"	14"	16"	18"
"E"	3"	3"	3"	3"	4"	4"	4"	6"	6"	6"
"P"	7/16"	7/16"	7/16"	7/16"	9/16"	9/16"	11/16"	11/16"	7/8"	7/8"
ROD SIZE	3/8"	3/8"	3/8"	3/8"	1/2"	1/2"	5/8"	5/8"	3/4"	3/4"
Vertical Load	400	400	400	600	1,400	1,800	2,300	2,600	4,500	4,500

Pipe Dia.	20"	24"	30"	36"	42"
"E"	6"	6"	6"	6"	6"
"P"	7/8"	1 1/8"	1 1/8"	1 1/4"	1 1/2"
ROD SIZE	3/4"	7/8"	7/8"	1 1/4"	1 1/4"
Vertical Load	4,500	8,600	8,000	10,000	11,500

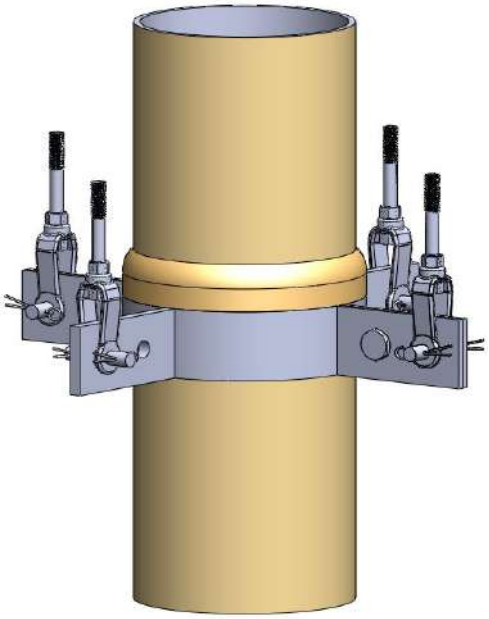
NOTES:

1. The two rod assemblies shown are options JTI can supply separately.
2. Optional Shear Collars must be ordered separately from JTI's FS-6H.

JOVE® HANGER - RISER, HEAVY DUTY

Model No. FS-6HQ

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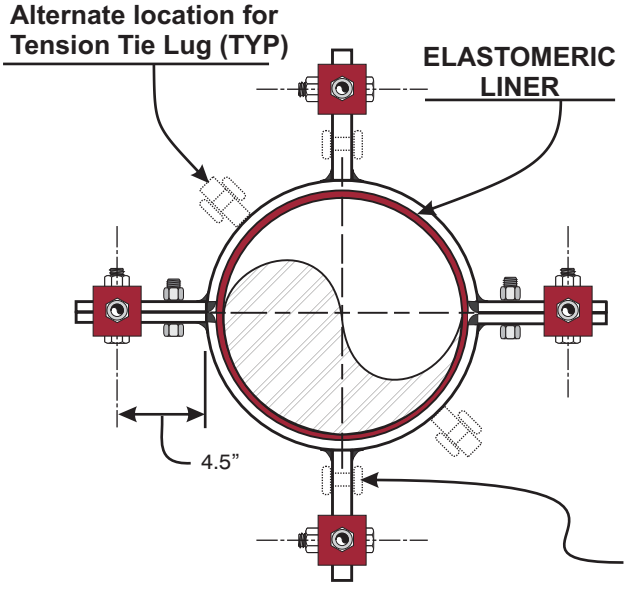


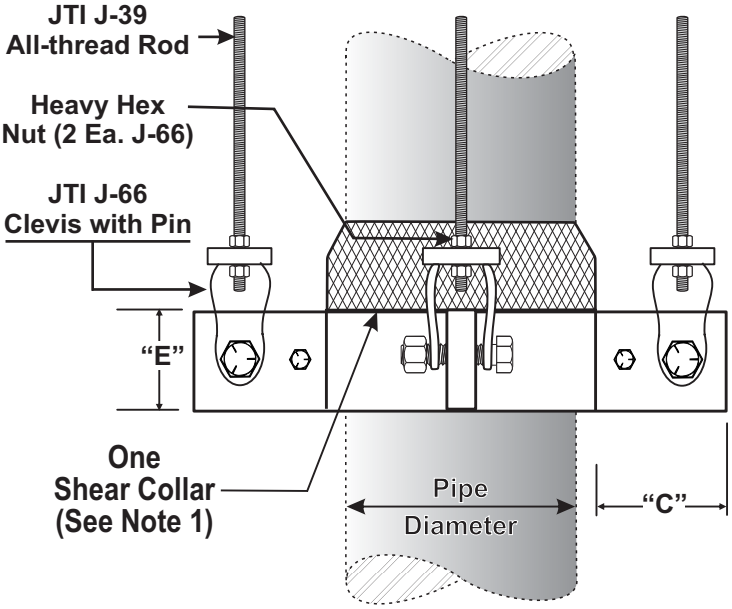
APPLICATION: Where support steel is not present, provides strength to hang large diameter vertical runs of non-metallic pipe (cast, filament wound, or contact molded FRP). The FS-6HQ was designed to be used with tension-tie systems (See FS-6T Dwg.) to secure very long risers with short offsets to equipment nozzles.

MATERIALS: Carbon Steel, Stainless, and other alloys.

ELASTOMERIC LINER: Red rubber, Neoprene, EPDM, Viton.

FINISHES: Primed, Hot Dip Galvanized, and Special Three Coat Epoxy.





Pipe Dia.	2"	3"	4"	6"	8"	10"	12"	14"	16"	18"
"E"	6"	6"	6"	6"	6"	6"	6"	6"	6"	6"
"C"	6"	6"	6"	6"	6"	6"	6"	6"	6"	6"
Vertical Load	400	600	800	1,200	1,600	2,000	2,400	3,125	3,440	4,060

Pipe Dia.	20"	24"	30"	36"	42"
"E"	6"	8"	8"	8"	8"
"C"	6"	6"	6"	6"	6"
Vertical Load	4,780	6,345	8,660	11,600	16,300

OPTIONS:

1. Shear Collars, (See Shear Collar Detail)
2. Rod Assemblies, J-299 Beam Attachments
3. Tension Tie Lugs (See FS-6T)
4. Aux. Steel, Trapezes, Pipe Racks, etc.

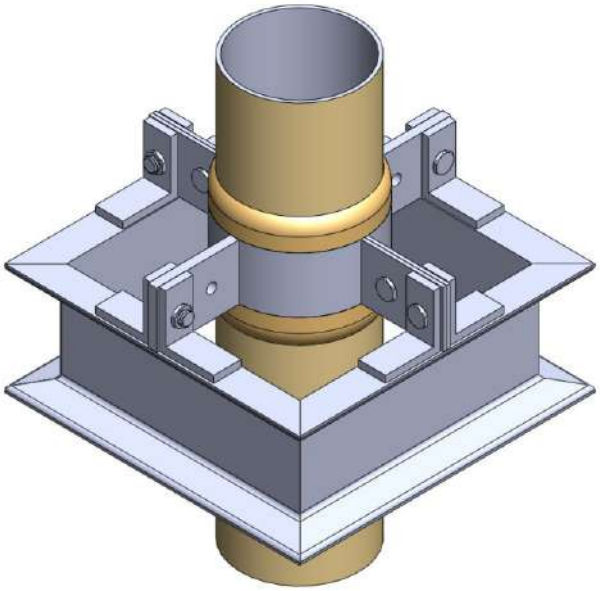
(NOTE: Options not supplied unless requested.)

JOVE® ANCHOR - RISER, HEAVY DUTY

16A

Model No. FS-6Q

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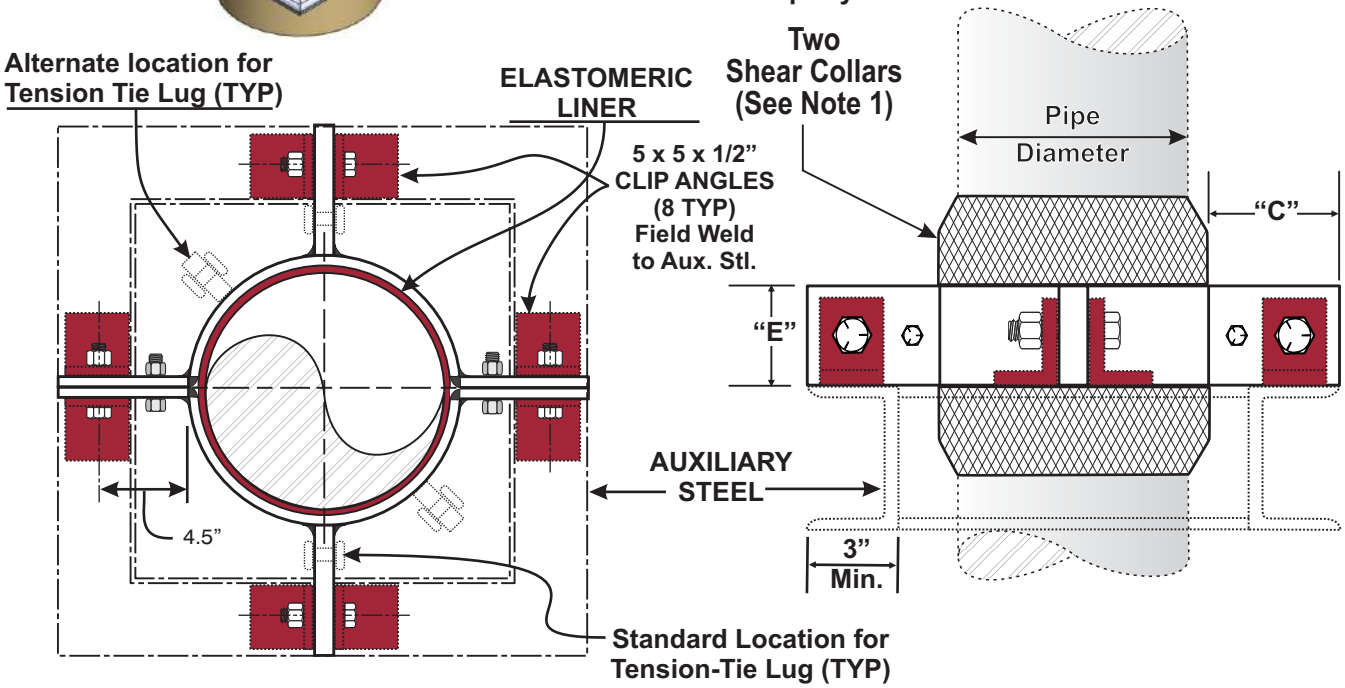


APPLICATION: Where strong anchoring is required, the FS-6Q's four supporting lugs and greater load capacity ensures that vertical runs of non-metallic pipe (cast, filament wound, or contact molded FRP) are securely anchored in all directions. The FS-6Q was designed to be used with tension-tie systems (See FS-6T Dwg.) to secure very long risers with short offsets to equipment nozzles.

MATERIALS: Carbon Steel, Stainless, and other alloys.

ELASTOMERIC LINER: Red rubber, Neoprene, EPDM, Viton.

FINISHES: Primed, Hot Dip Galvanized, and Special Three Coat Epoxy.



Pipe Dia.	2"	3"	4"	6"	8"	10"	12"	14"	16"	18"
"E"	4"	4"	4"	4"	6"	6"	6"	6"	6"	6"
"C"	6"	6"	6"	6"	6"	6"	6"	6"	6"	6"
Vertical Load	5,600	7,600	9,800	12,200	16,000	23,300	23,300	32,000	32,000	40,170

Pipe Dia.	20"	24"	30"	36"	42"
"E"	6"	8"	8"	8"	8"
"C"	6"	6"	6"	6"	6"
Vertical Load	39,600	52,100	67,100	83,100	79,900

OPTIONS:

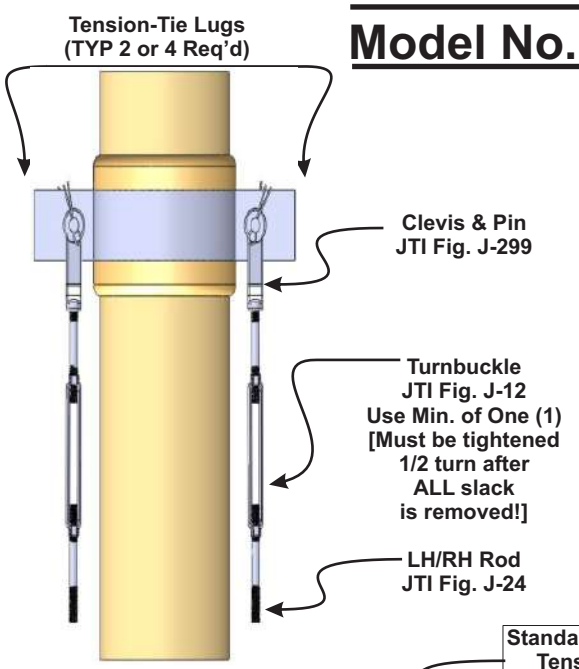
1. Shear Collars, (See Shear Collar Detail)
2. Clip Angles with bolting (See Clip Detail)
3. Tension Tie Lugs (See FS-6T)
4. Aux. Steel, Trapezes, Pipe Racks, etc.

(NOTE: Options not supplied unless requested.)

JOVE® ANCHOR - TENSION TIE SYSTEM 17A

Model No. FS-6T

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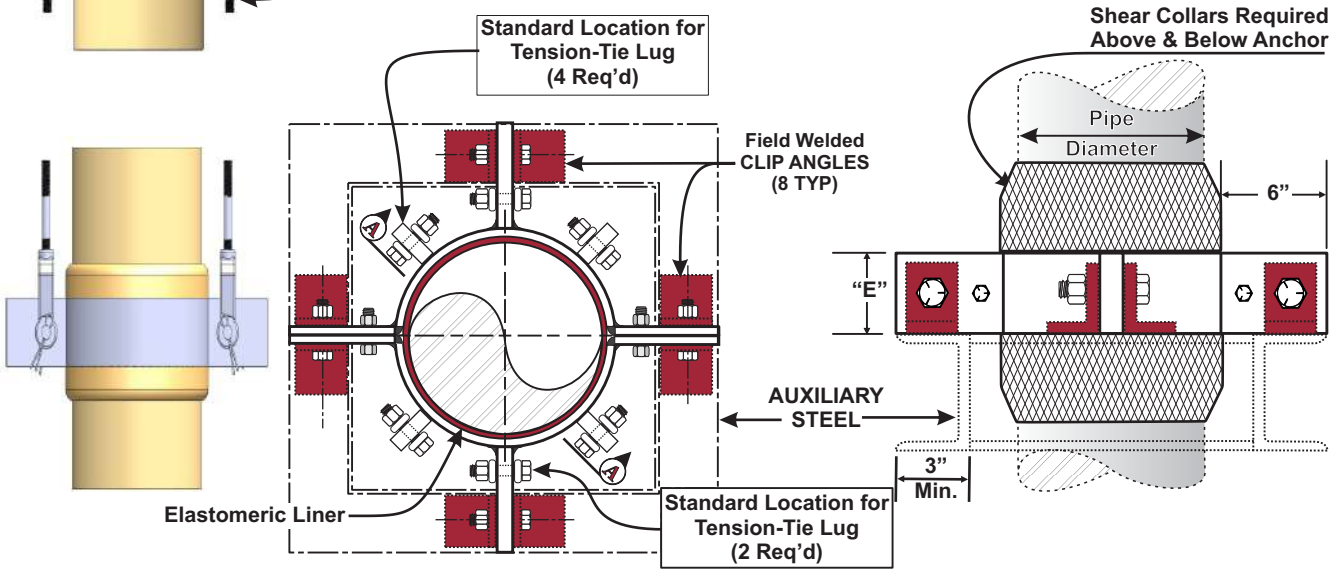


APPLICATION: When long risers with short offsets to equipment nozzles are required, JTI's Tension-Tie System provides the necessary anchoring and support for vertical runs of non-metallic pipe (cast, filament wound, or contact molded FRP). Both riser clamps in the Tension-Tie System should be FS-6Q, FS-6GQ, or FS-6HQ. (See FS-6Q for Isometric View)

MATERIALS: Carbon Steel, Stainless, and other alloys.

ELASTOMERIC LINER: Red rubber, Neoprene, EPDM, Viton.

FINISHES: Primed, Hot Dip Galvanized, and Special Three Coat Epoxy.



SECTION A-A **PLAN VIEW** **ELEVATION VIEW**

Pipe Dia.	2"	3"	4"	6"	8"	10"	12"	14"	16"	18"
"E" (Lug Width)	6"	6"	6"	6"	6"	6"	6"	6"	6"	6"
"W" (Lug Length)	3.5"	3.5"	3.5"	3.5"	3.5"	3.5"	3.5"	3.5"	3.5"	3.5"
Rod Diameter	7/8" (2)	1.0" (2)	1.0" (2)	1.25" (2)	1.25" (2)	1.5" (2)	1.5" (2)	1.25" (4)	1.25" (4)	1.5" (4)
Vertical Load	5,600	7,600	9,800	12,200	16,000	23,300	23,300	32,000	32,000	46,500

Pipe Dia.	20"	24"	30"	36"	42"
"E" (Lug Width)	6"	8"	8"	8"	8"
"W" (Lug Length)	3.5"	4.5"	6"	7"	7"
Rod Diameter	1.75" (4)	2" (4)	2" (4)	2" (4)	2" (4)
Vertical Load	62,800	82,800	82,800	82,800	82,800

OPTIONS:

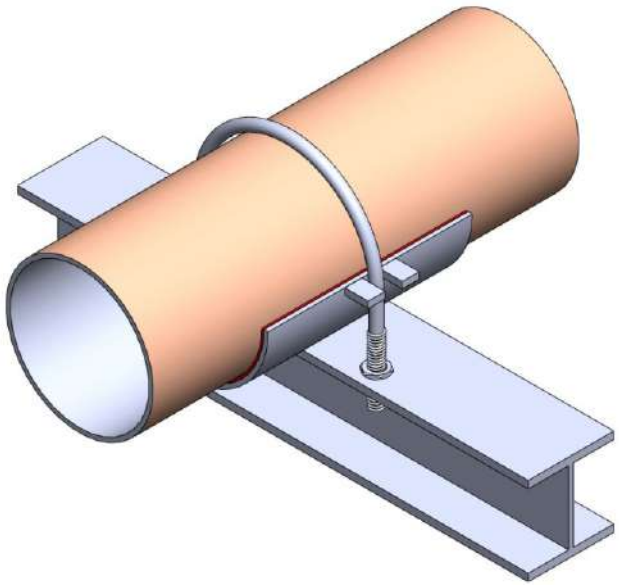
1. Shear Collars, (See Shear Collar Detail)
2. Clip Angles with bolting (See Clip Detail)
3. Two (2) rods standard for 2" to 12" Pipe as shown. Diagonal Locations (optional for two rod system) are required for 14" to 42" pipe.
4. C-channel Rings, Trapezes, Pipe Racks, etc.

(NOTE: Options not supplied unless requested.)

JOVE® GUIDE - SADDLE

Model No. FS-7

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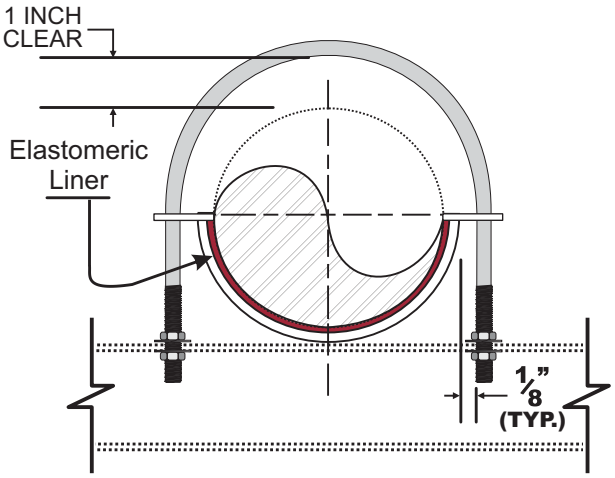


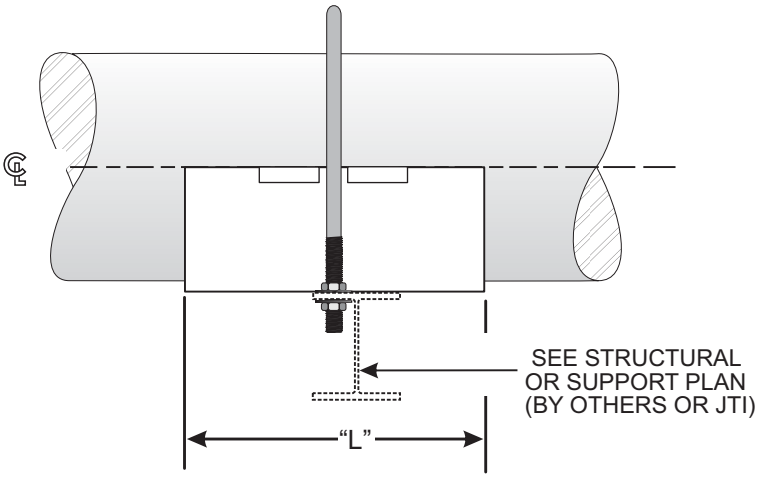
APPLICATION: Provides simple 180° support and guiding for cast, filament wound or contact molded FRP, and other non-metallic pipe. Used between full pipe anchors to allow axial movement while restraining lateral movement due to expansion.

MATERIALS: Carbon Steel, Stainless, and other alloys.

ELASTOMERIC LINER: Red rubber, Neoprene, EPDM, Viton.

FINISHES: Primed, Hot Dip Galvanized, and Special Three Coat Epoxy.





Duct Dia.	1"	1-1/2"	2"	3"	4"	6"- through - 42"
"L"	8"	8"	8"	8"	8"	See Note No. 3 below
Vertical Load	400	400	400	600	800	

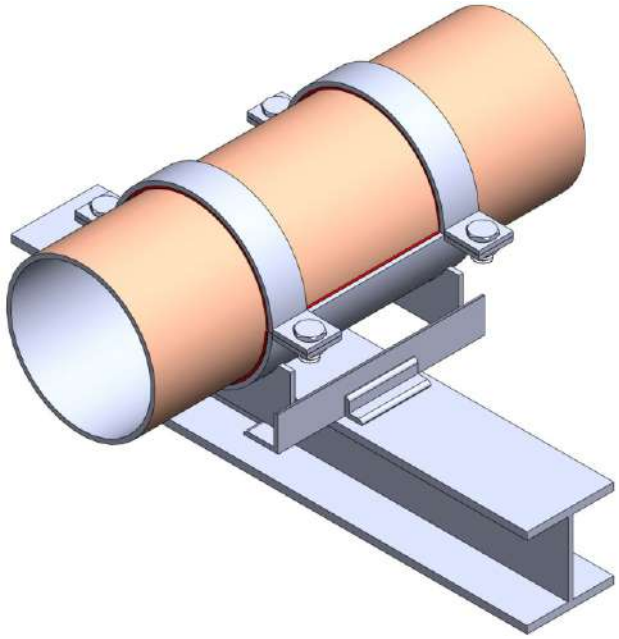
NOTES:

1. FS-7 Includes Long Tangent U-Bolt Saddle & Liner; SS Banding must be ordered separately.
2. FS-7 not recommended for locations above personnel areas.
3. FS-8 recommended above 4" nom.
4. Cradle length can be modified.

JOVE® GUIDE - w/TWO STRAPS

Model No. FS-8

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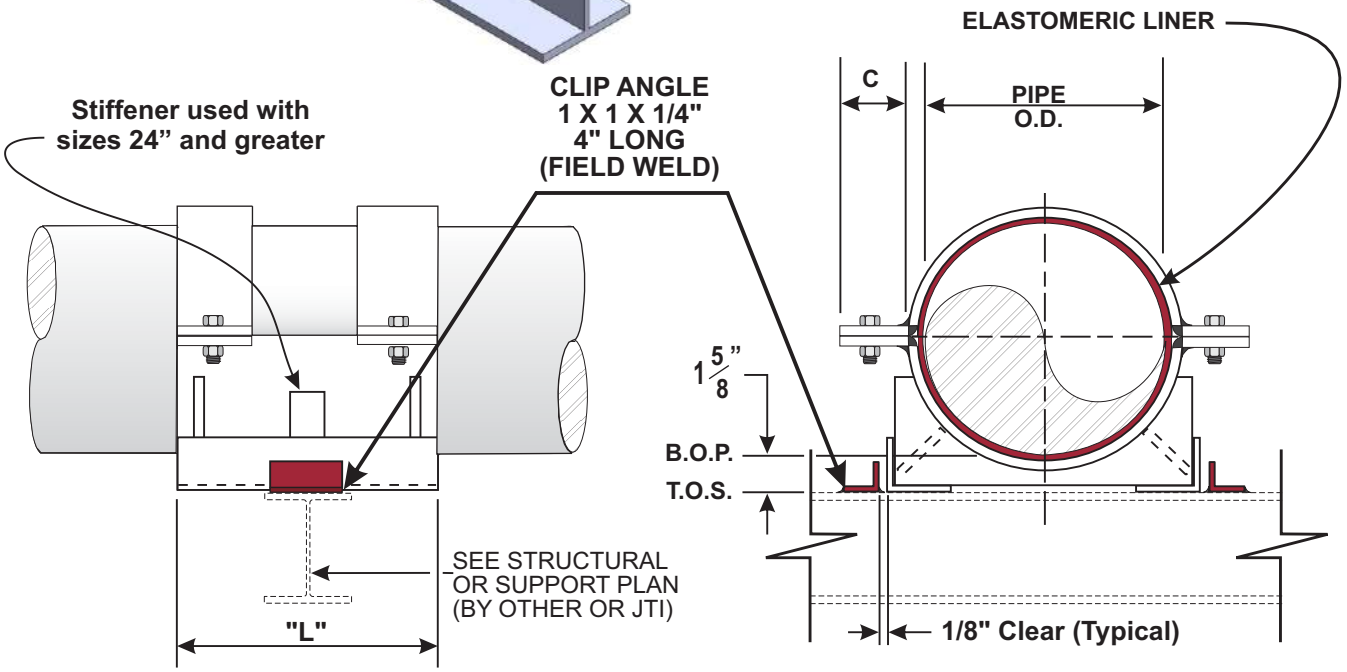


APPLICATION: Provides simple support and guiding for cast, filament wound or contact molded FRP, and other non-metallic piping. Used between full pipe anchors to allow axial movement while restraining lateral movement due to expansion.

MATERIALS: Carbon Steel, Stainless, and other alloys.

ELASTOMERIC LINER: Red rubber, Neoprene, EPDM, Viton.

FINISHES: Primed, Hot Dip Galvanized, and Special Three Coat Epoxy.



Pipe Dia.	2"	3"	4"	6"	8"	10"	12"	14"	16"	18"
"L"	8"	8"	8"	12"	12"	12"	12"	14"	14"	14"
"C"	1-1/4"	1-1/4"	1-1/4"	2"	2"	2"	2"	2"	2"	2"
Vertical Load	400	600	800	1,200	1,600	2,000	2,400	3,075	3,385	4,000

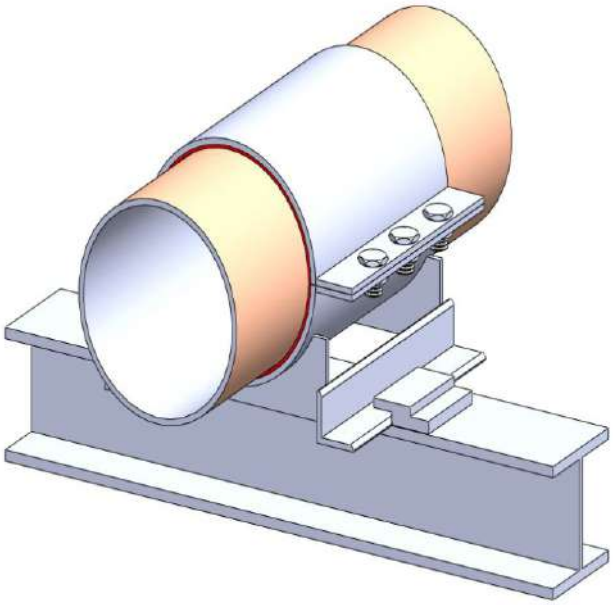
Pipe Dia.	20"	24"	30"	36"	42"
"L"	14"	16"	20"	20"	20"
"C"	2"	2"	2"	2"	2"
Vertical Load	4,710	6,750	8,525	11,550	16,300

NOTES:

1. Clip Angles not supplied unless requested.
2. FS-8 may be modified to allow only axial movement. (See Guide clip Catalog Cut Sheet.)
3. Cradle length can be modified.

JOVE® GUIDE - w/FULL CAP

Model No. FS-8G © Copyright, 1998 REV 26 A

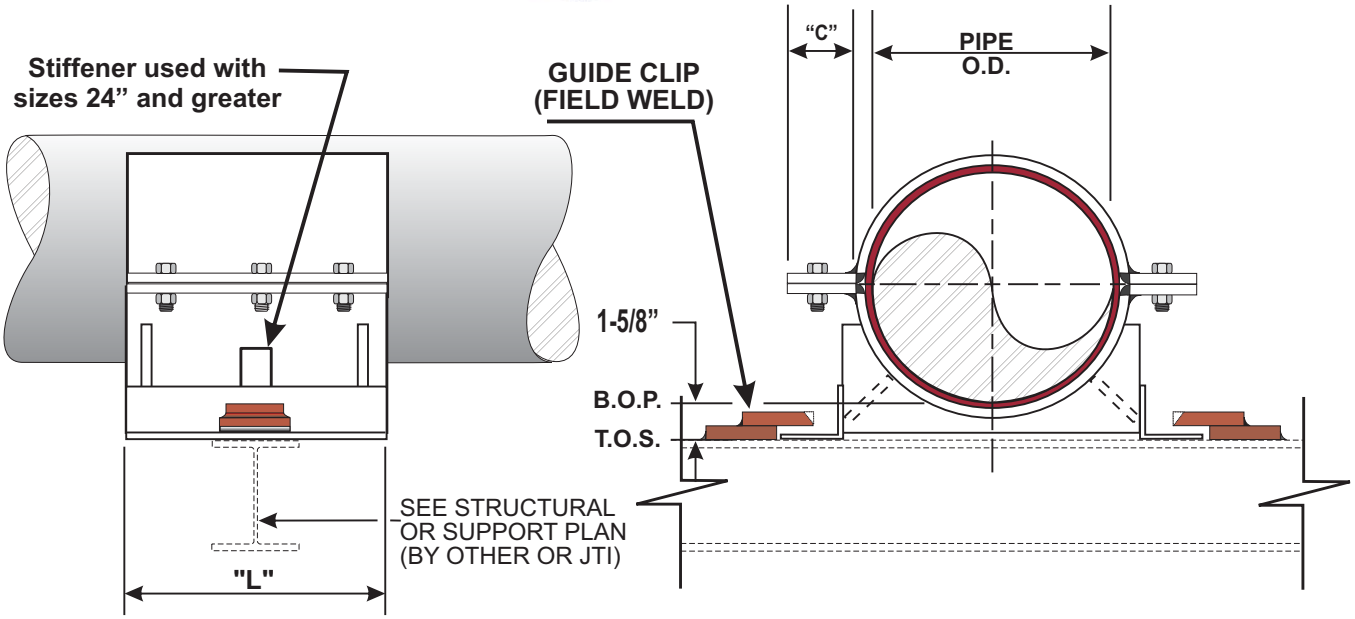


APPLICATION: Provides simple support and guiding for cast, filament wound or contact molded FRP, and other non-metallic piping. Used between full pipe anchors to allow axial movement while restraining lateral movement due to expansion.

MATERIALS: Carbon Steel, Stainless, and other alloys.

ELASTOMERIC LINER: Red rubber, Neoprene, EPDM, Viton.

FINISHES: Primed, Hot Dip Galvanized, and Special Three Coat Epoxy.



Pipe Dia.	2"	3"	4"	6"	8"	10"	12"	14"	16"	18"
"L"	8"	8"	8"	12"	12"	12"	12"	14"	14"	14"
"C"	1-1/4"	1-1/4"	1-1/4"	2"	2"	2"	2"	2"	2"	2"
Vertical Load	400	600	800	1,200	1,600	2,000	2,400	3,075	3,385	4,000

Pipe Dia.	20"	24"	30"	36"	42"
"L"	14"	16"	20"	20"	20"
"C"	2"	2"	2"	2"	2"
Vertical Load	4,710	6,750	8,525	11,550	16,300

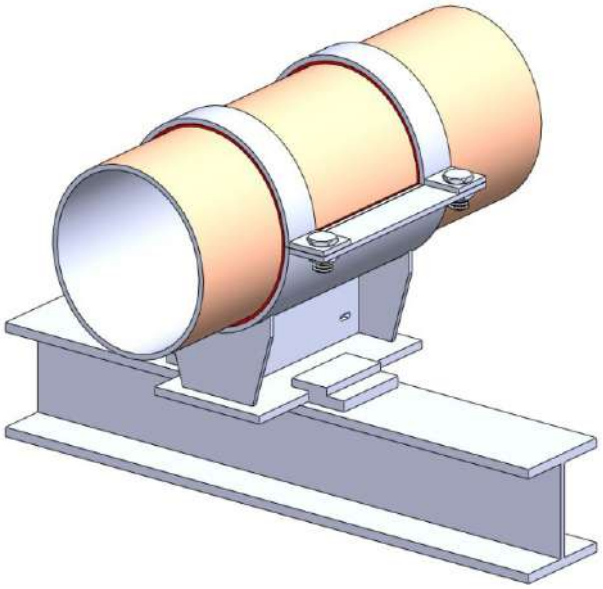
NOTES:

1. Guide Bars (shown above) not supplied. Available by request.
2. FS-8X allows restriction of both vertical and lateral movement.
3. Cradle length can be modified.

JOVE® GUIDE - INSULATED w/TWO STRAPS

21A

Model No. FS-8R © Copyright, 1998 REV 26 A

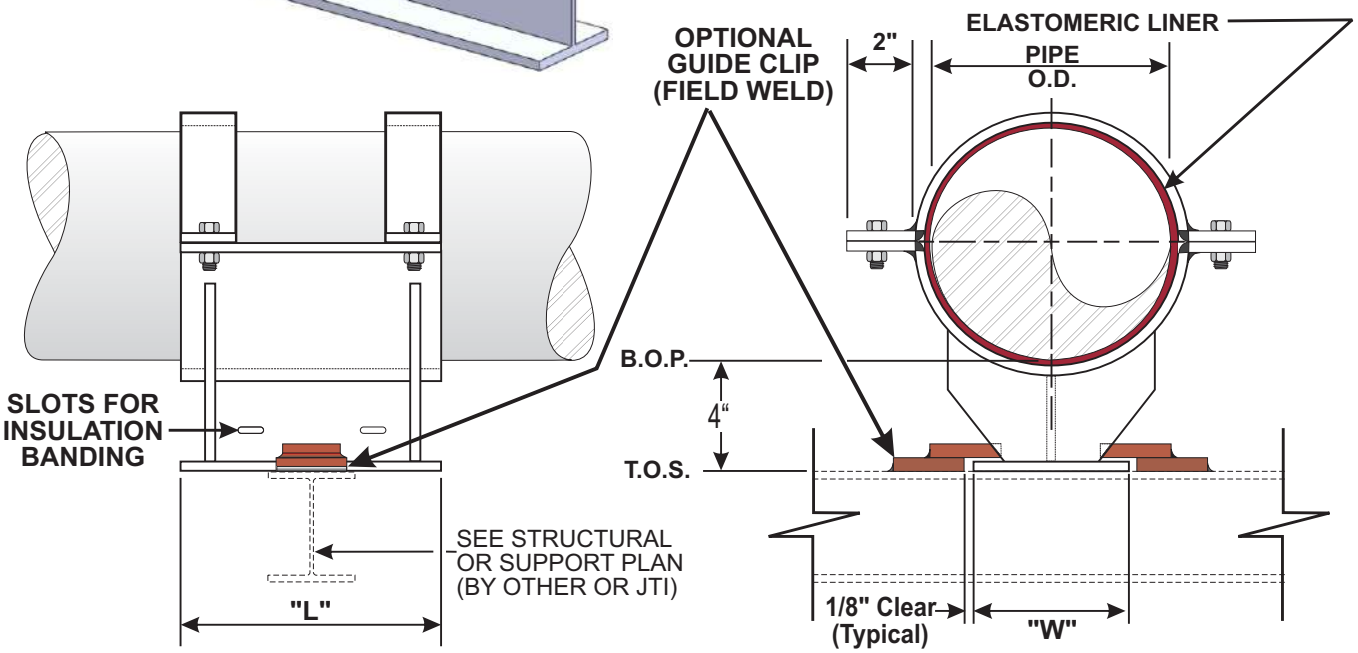


APPLICATION: Where insulation is required, provides simple support and guiding for cast, filament wound or contact molded FRP, and other non-metallic piping. Used between full pipe anchors to allow axial movement while restraining lateral movement due to expansion.

MATERIALS: Carbon Steel, Stainless, and other alloys.

ELASTOMERIC LINER: Red rubber, Neoprene, EPDM, Viton.

FINISHES: Primed, Hot Dip Galvanized, and Special Three Coat Epoxy.



Pipe Dia.	2"	3"	4"	6"	8"	10"	12"	14"	16"	18"
"L"	8“	8“	8“	12"	12"	12"	12"	14"	14"	14"
"W"	4“	4“	4“	6"	6"	6"	6"	8"	8"	8"
Vertical Load	400	600	800	1,200	1,450	1,650	2,065	3,120	3,440	4,055

Pipe Dia.	20"	24"	30"	36"	42"
"L"	14"	16"	20”	20”	20”
"W"	8"	8"	10”	10”	10”
Vertical Load	4,775	6,835	8,525	11,750	16,425

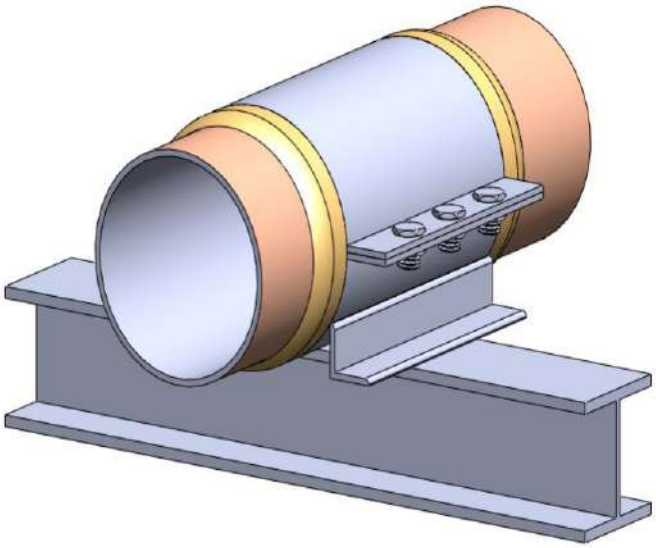
NOTES:

1. Guide Clips not supplied unless requested.
2. FS-8R may be used with Clip Angles when vertical movement is allowed. (See Guide Clip Catalog Cut Sheet.)
3. Cradle length can be modified.
4. Gussets not required in size below 6”.

JOVE® ANCHOR - LIGHT DUTY

Model No. FS-9

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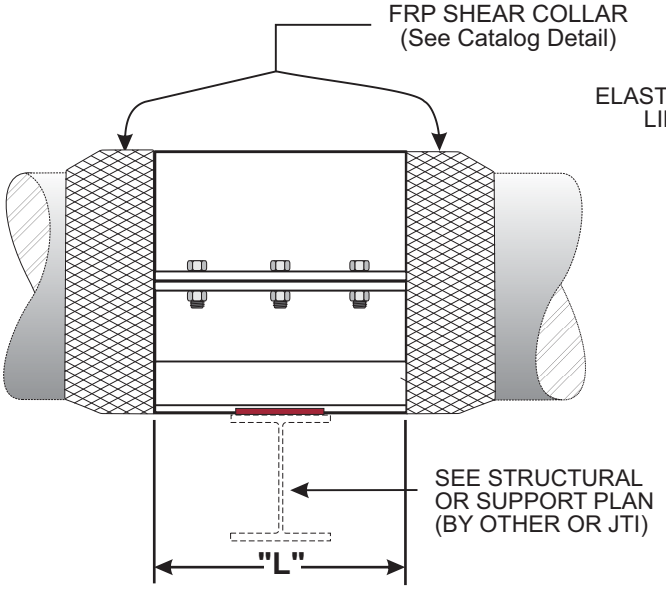


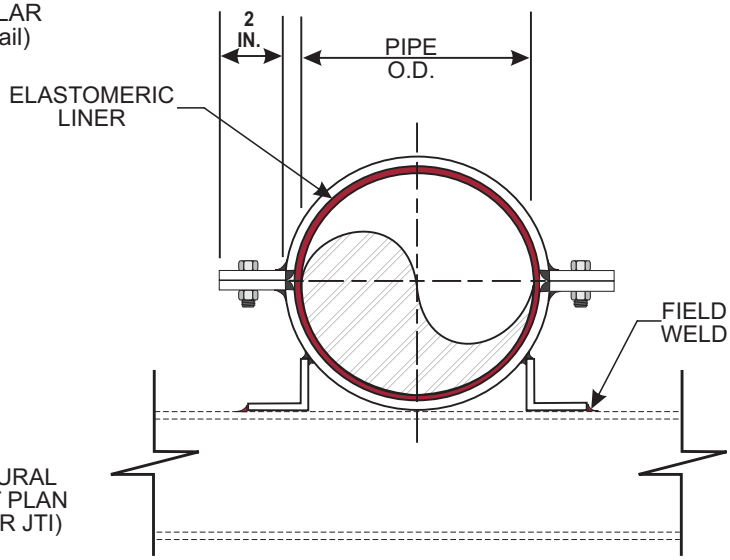
APPLICATION: Provides full anchor for restraining thermal expansion in long horizontal runs of cast, filament wound, contact molded FRP, and other non-metallic piping. When used with two Shear Collars, absorbs full anchor loads and fully restrains pipe without local overstress.

MATERIALS: Carbon Steel, Stainless, and other alloys.

ELASTOMERIC LINER: Red rubber, Neoprene, EPDM, Viton.

FINISHES: Primed, Hot Dip Galvanized, and Special Three Coat Epoxy.





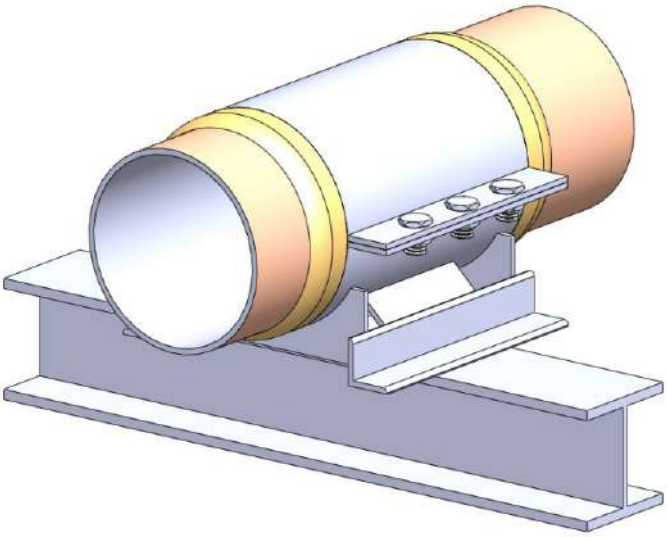
Pipe Dia.	2"	3"	4"	6"	8"	10"	12"	14" through 42"
"L"	8"	8"	8"	12"	12"	12"	12"	FS-9 NOT recommended for pipe sizes above 12"; FS-10 (see page 23) recommended for sizes greater than 4".
Vertical Load	400	600	800	1,200	1,600	2,000	2,400	
Axial Load	1,500	2,200	3,000	3,000	4,000	4,000	4,000	

NOTES:

1. **Shear Collars not supplied unless requested.**
2. **Axial Load Capacity based on use of two shear collars per anchor.**
3. **Cradle length can be modified.**

JOVE® ANCHOR - HEAVY DUTY

Model No. FS-10 © Copyright, 1998 REV 26 A

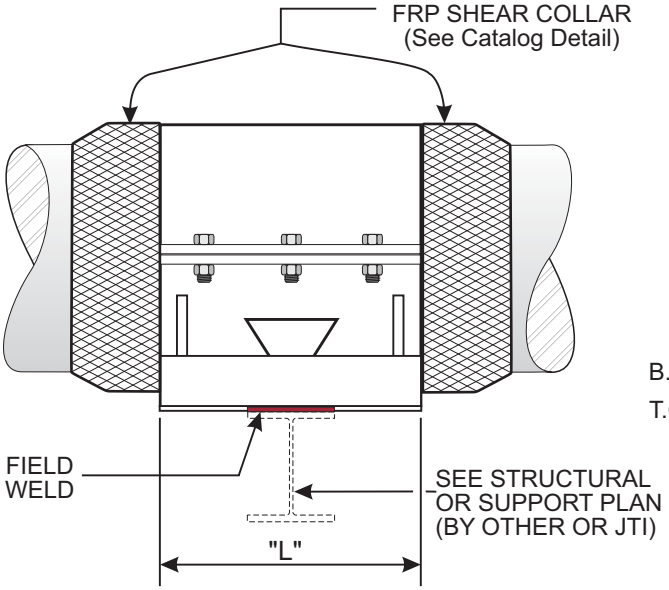


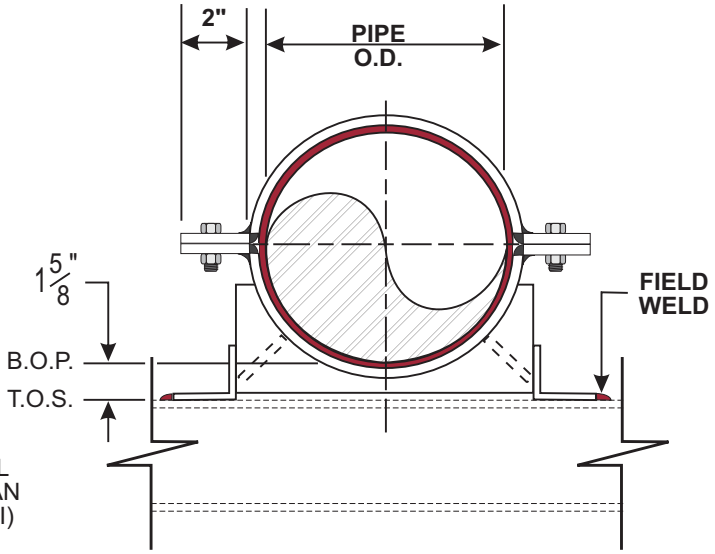
APPLICATION: Provides full anchor for restraining thermal expansion in long horizontal runs of cast, filament wound, contact molded FRP, and other non-metallic piping. Absorbs full anchor loads and fully restrains pipe without local overstress.

MATERIALS: Carbon Steel, Stainless, and other alloys.

ELASTOMERIC LINER: Red rubber, Neoprene, EPDM, Viton.

FINISHES: Primed, Hot Dip Galvanized, and Special Three Coat Epoxy.





Pipe Dia.	2"	3"	4"	6"	8"	10"	12"	14"	16"	18"
"L"	8"	8"	8"	12"	12"	12"	12"	14"	14"	14"
Vertical Load	400	600	800	1,200	1,600	2,000	2,400	3,125	3,440	4,060
Axial Load	1,500	2,200	3,000	4,000	7,000	10,200	14,600	20,000	26,000	28,000

Pipe Dia.	20"	24"	30"	36"	42"
"L"	14"	16"	20"	20"	20"
Vertical Load	4,780	6,345	8,660	11,600	16,300
Axial Load	30,000	40,000	50,000	60,000	50,000

NOTES:

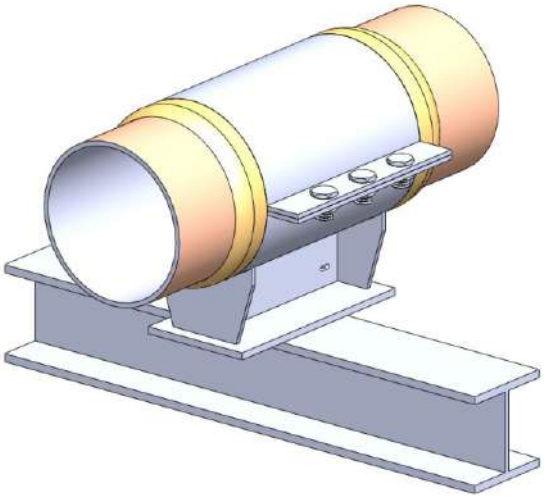
1. **Shear Collars not supplied unless requested.**
2. **Axial Load Capacity based on use of two shear collars per anchor.**
3. **Cradle length can be modified.**

JOVE® ANCHOR - INSULATED w/FULL CAP

24A

Model No. FS-10R

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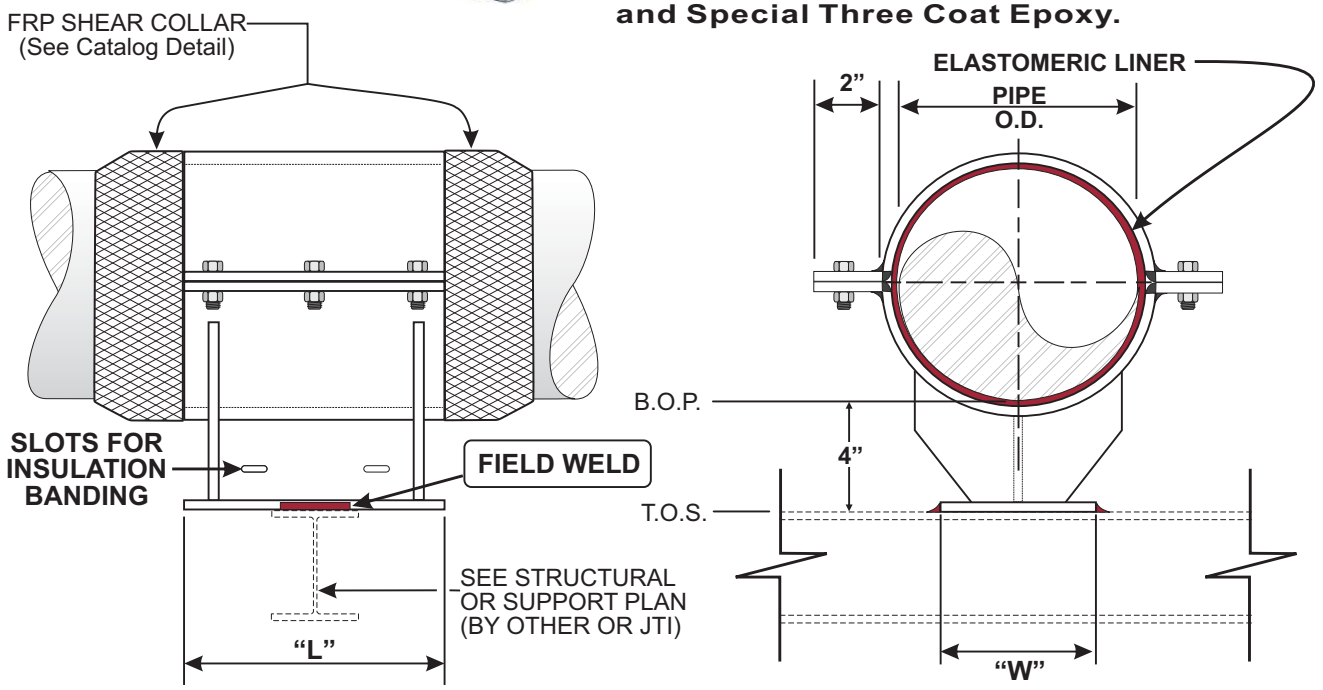


APPLICATION: Provides Insulated anchor for restraining thermal expansion in long horizontal runs of cast, filament wound, contact molded FRP, and other non metallic piping. Absorbs full anchor loads and fully restrains pipe without local overstress.

MATERIALS: Carbon Steel, Stainless, and other alloys.

ELASTOMERIC LINER: Red rubber, Neoprene, EPDM, Viton.

FINISHES: Primed, Hot Dip Galvanized, and Special Three Coat Epoxy.



Pipe Dia.	2"	3"	4"	6"	8"	10"	12"	14"	16"	18"
"L"	8"	8"	8"	12"	12"	12"	12"	14"	14"	14"
"W"	4"	4"	4"	6"	6"	6"	6"	8"	8"	8"
Vertical Load	400	400	400	600	1,450	1,650	2,065	3,120	3,440	4,055
Axial Load	550	1,130	1,810	4,000	6,700	10,200	14,600	20,000	26,000	28,000

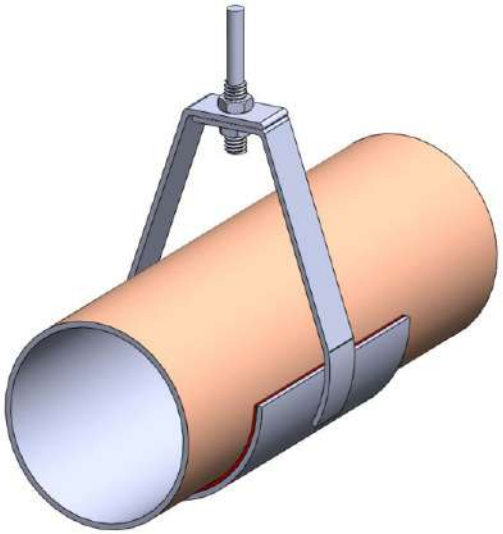
Pipe Dia.	20"	24"	30"	36"	42"
"L"	16"	20"	20"	20"	20"
"W"	8"	10"	10"	10"	10"
Vertical Load	4,775	6,850	8,660	11,600	16,300
Axial Load	30,000	40,000	50,000	60,000	50,000

NOTES:

1. Required Shear Collars not supplied unless specified with order.
2. Axial Load Capacity based on use of two shear collars per anchor.
3. Banding for insulation is not provided unless requested.
4. Cradle length can be modified.

JOVE® HANGER
Model No. FS-11

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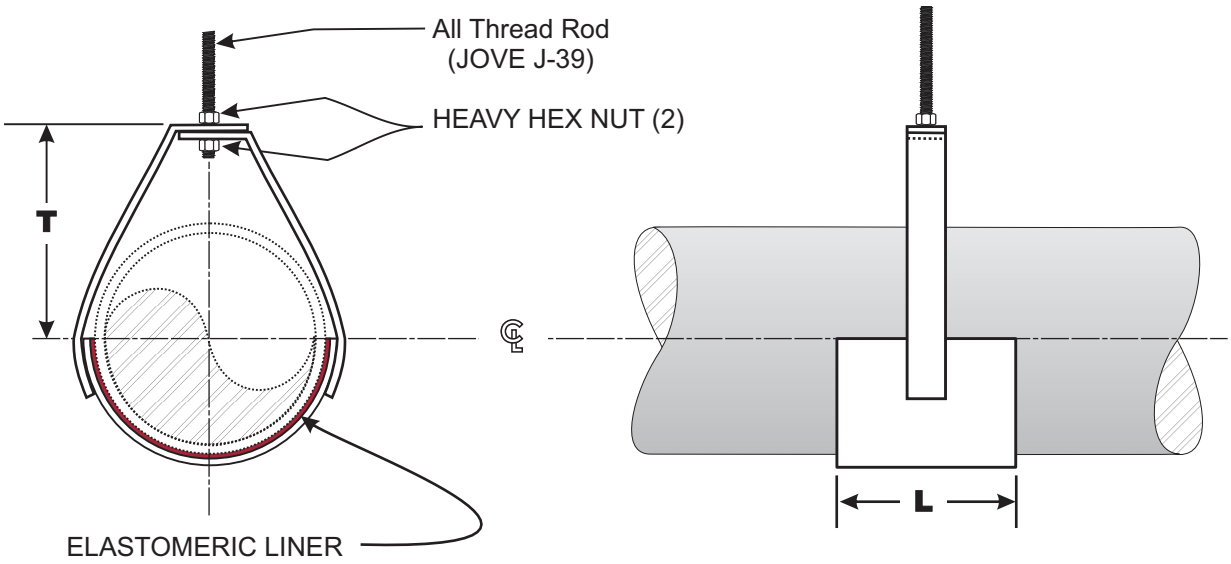


APPLICATION: Where support structure is above the pipe, provides hanger-type long saddle support for cast, filament wound, or contact molded FRP, or other non-metallics. Due to non-metallic pipe flexibility, FS-11s should not be used exclusively in long runs of pipe.

MATERIALS: Carbon Steel, Stainless, and other alloys.

ELASTOMERIC LINER: Red rubber, Neoprene, EPDM, Viton.

FINISHES: Primed, Hot Dip Galvanized, and Special Three Coat Epoxy.



Pipe Dia.	2"	3"	4"	6"	8"	10"	12"	14"	16"	18"
"L"	8"	8"	8"	12"	12"	12"	12"	14"	14"	14"
"T"	3"	4 3/4"	5 3/4"	7 3/4"	9 3/4"	11 3/4"	14"	16 1/4"	18 3/8"	20 5/8"
ROD SIZE	3/8"	3/8"	3/8"	3/8"	1/2"	5/8"	3/4"	3/4"	7/8"	7/8"
Vertical Load	610	610	610	610	1,130	1,810	2,710	2,710	3,770	3,770

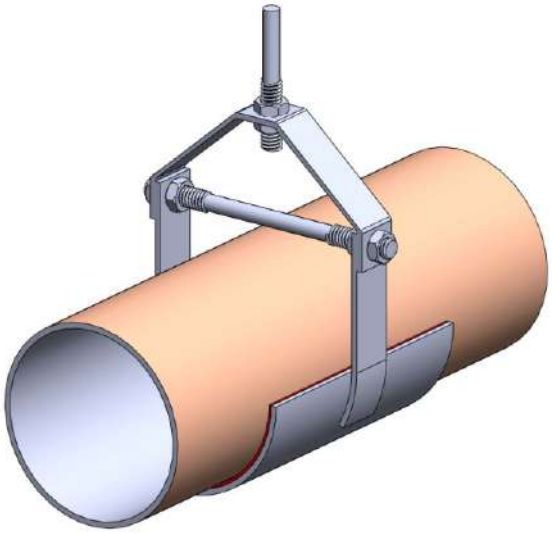
Pipe Dia.	20"	24" through 42"
"L"	14"	See Note No. 2
"T"	22 3/4"	
ROD SIZE	1"	
Vertical Load	4,960	

NOTES:

1. Rod Assemblies available from JTI. Order separately from each FS-11.
2. JTI recommends use of the FS-11C for pipe sizes greater than 20".
3. Cradle length can be modified.

JOVE® HANGER

Model No. FS-11C © Copyright, 1998, REV 26 A

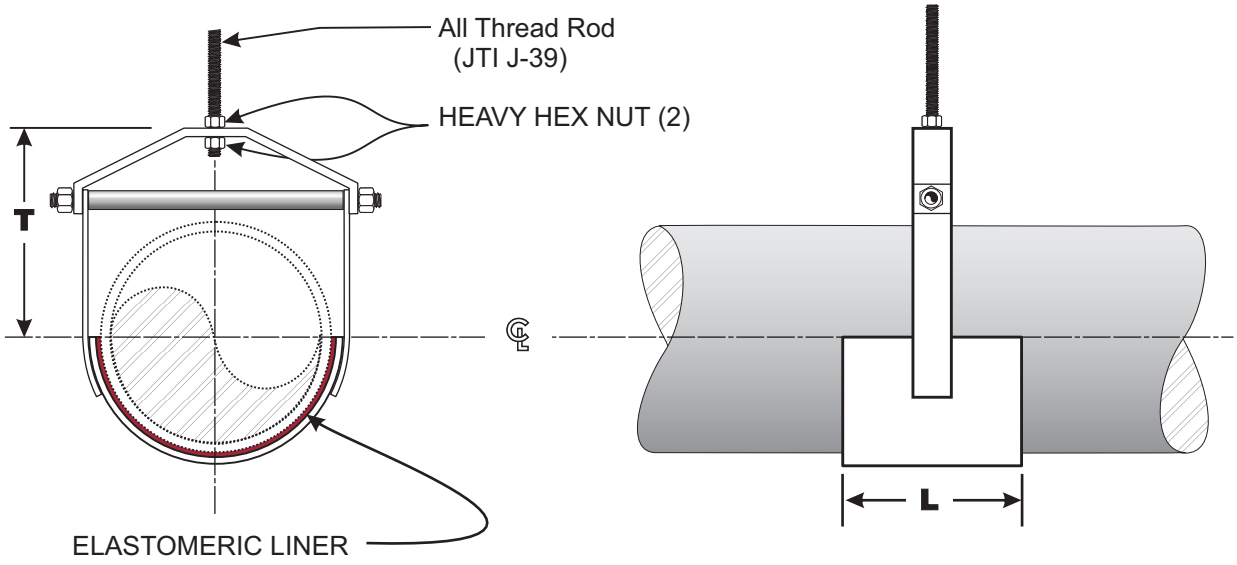


APPLICATION: Where support structure is above the pipe, provides hanger-type long saddle support for cast, filament wound, or contact molded FRP, or other non-metallics. Due to non-metallic pipe flexibility, FS-11Cs should not be used exclusively in long runs of pipe.

MATERIALS: Carbon Steel, Stainless, and other alloys.

ELASTOMERIC LINER: Red rubber, Neoprene, EPDM, Viton.

FINISHES: Primed, Hot Dip Galvanized, and Special Three Coat Epoxy.



Pipe Dia.	2"	3"	4"	6"	8"	10"	12"	14"	16"	18"
"L"	8"	8"	8"	12"	12"	12"	12"	14"	14"	14"
"T"	5 5/8"	6 1/8"	7 3/8"	8 7/8"	9 7/8"	11 3/4"	13"	14 1/2"	17 1/8"	18 1/4"
ROD SIZE	3/8"	3/8"	3/8"	3/8"	1/2"	5/8"	3/4"	3/4"	7/8"	7/8"
Vertical Load	610	610	610	610	1,130	1,810	2,710	2,710	3,770	3,770

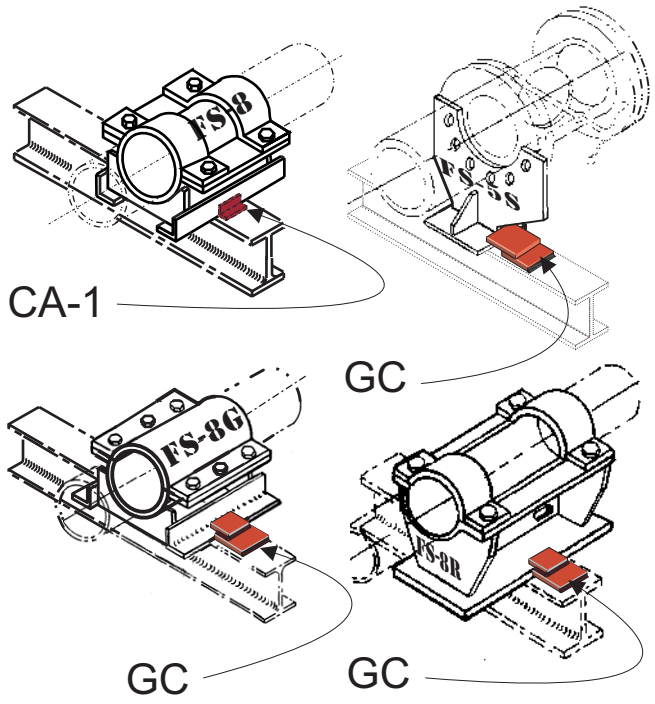
Pipe Dia.	20"	24"	30"	36"	42"
"L"	16"	20"	20"	20"	20"
"T"	19 7/8"	22 3/8"	26 1/8"	30 1/8"	33 1/8"
ROD SIZE	1"	1 1/4"	1 1/4"	1 1/2"	1 1/2"
Vertical Load	4,960	6,833	8,000	11,630	11,630

NOTES:

1. Rod Assemblies available from JTI. Order separately from each FS-11C.
2. Bolting assembly above saddle aids in fit-up after attaching yoke to rod.
3. Cradle length can be modified.

GUIDE CLIPS

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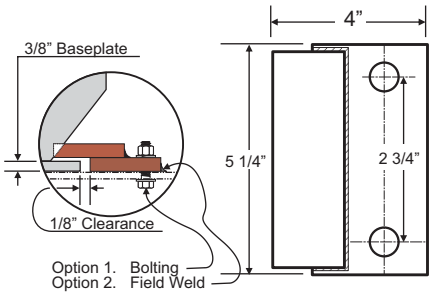


APPLICATION: Guide Clips restrict lateral pipe movement when combined with supports and guides. When vertical movement is to be restricted as well, JTI's GC-1 is recommended, though the use of the CA-1 (clip angle field welded on edge) is acceptable.

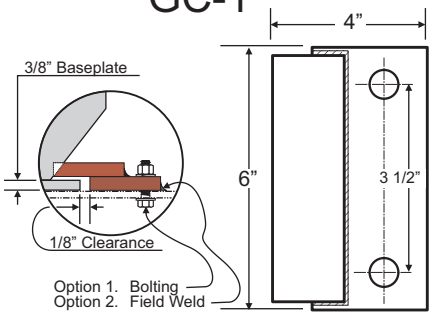
MATERIALS: Carbon Steel, Stainless, and other alloys.

FINISHES: Primed, Hot Dip Galvanized, and Special Three Coat Epoxy.

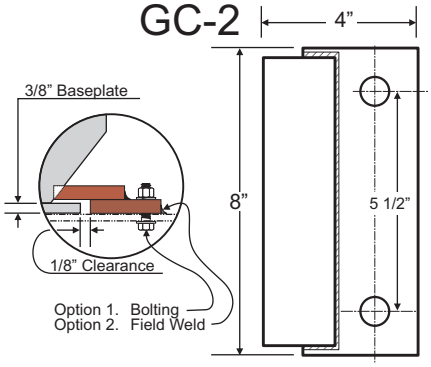
GC-0



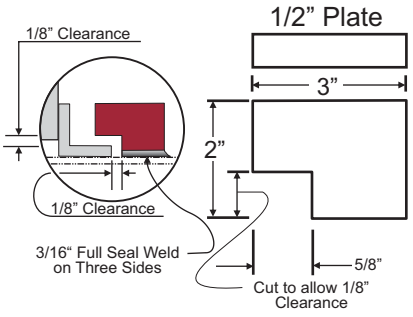
GC-1



GC-2

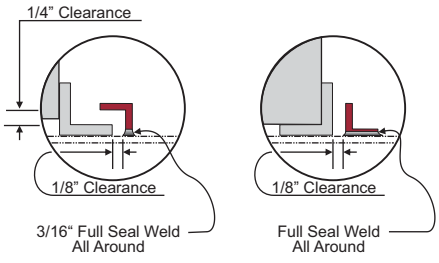


Guide Bar

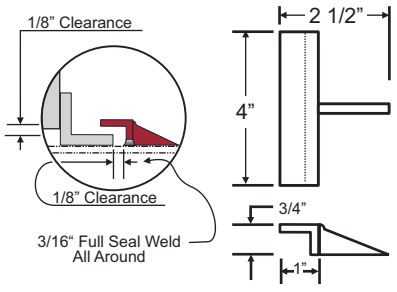


CA-1

1" X 1" X 1/4" Angle (4" Long)



CA-2

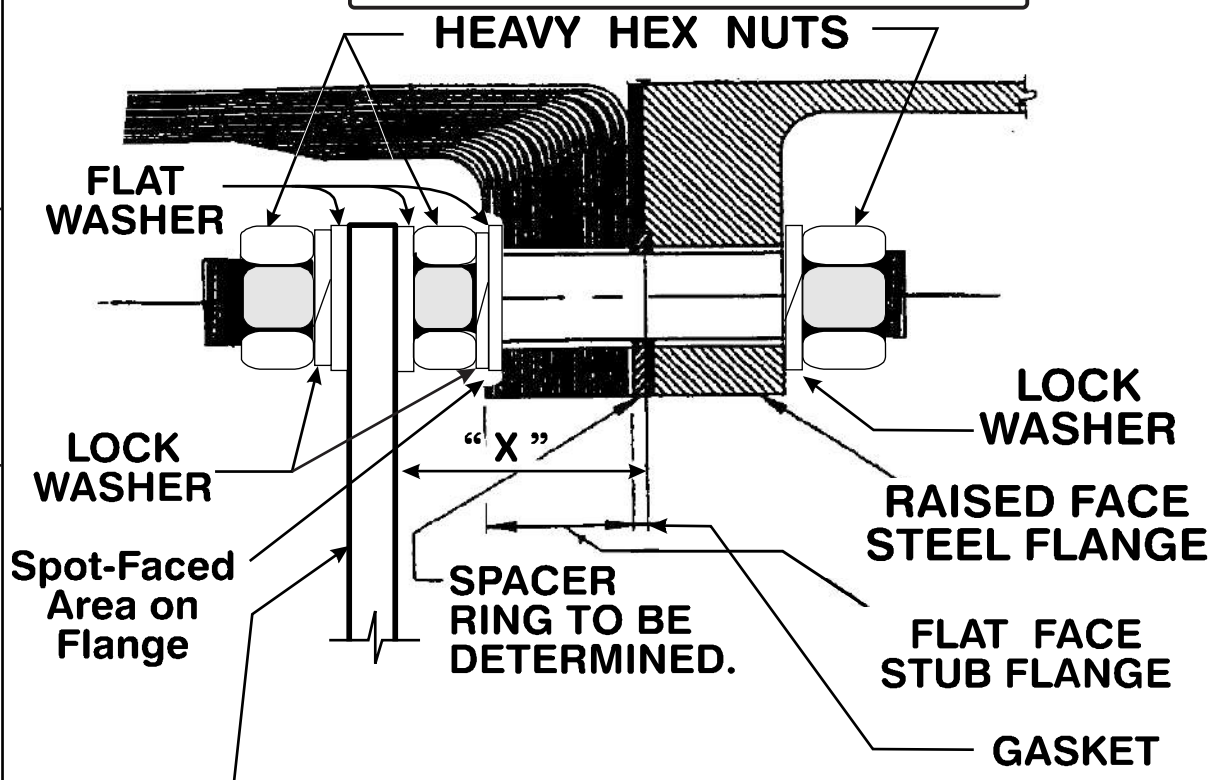


NOTES:

1. **Guide Clips ordered separately from guides.**
2. **Dimensions may be modified to allow for baseplate thicknesses.**

	QUAN.	PART NO.	SIZE	DESCRIPTION		
1.	1.		2”-144”	Component Support, 150 lb. Flange Bolt Pattern		
2.	1.			Stud, Cut from All Thread Rod		
3.	3.	(Note 3		Heavy Hex Nuts		
4.	2.	Below)		Lock Washers		
5.	2.			Flat Washers		
6.	1.			Gasket (Neoprene, Viton, or as specified)		
7.	1.			Spacer Ring		

FLANGE CONNECTION DETAIL



JTI
Component Support (FS/DS -3, -5, -5H, -5S)

Notes:

1. **Under no circumstances should a component support be bolted directly to the component flange or the pipe or duct flange. Using bolt or stud and nuts and washers as shown above, first attach component to pipe or duct fitting and torque as required. Finally, attach component support as shown above.**
2. **“ X ” Dimension = Pipe Flange + 1 Heavy Hex Nut + 1 Washer + Gasket.**
3. Quantities of Items 2 through 5 (Bill of Material at top of page) are per bolt hole in each support.

REV.	DATE	BY	CHK.	APP.	DESCRIPTION	DESIGN:	DRAWN:	CHECKED:	APPROVED:
						DATE:	DATE:	DATE:	DATE:

Thompson Fabricating

THOMPSON FABRICATING, LLC
1411 COMMERCE PL
BIRMINGHAM, AL 35217

INSTALLATION SKETCH

REFERENCE DWG. No.

PROJECT NAME:

SUPPORT No.

SHT. _____ OF _____

CONTRACT No. | P.O. No. | No. REQ’D.

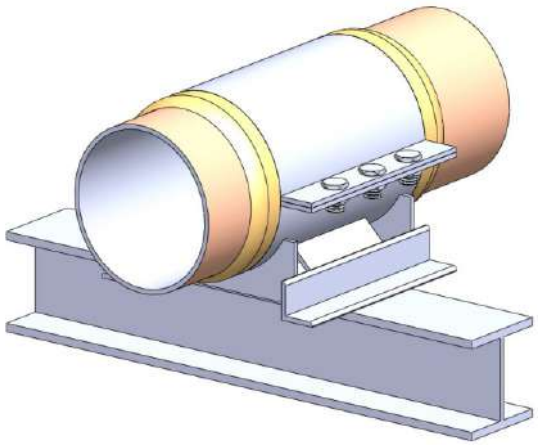
LOCATOR SKETCH No.

REV.

JOVE®
Thompson Fabricating
Thompson Fabricating
Exclusive Manufacturer and Distributor of JOVE® Products
Sales 205.914.1145
Tech Talk 256.404.9383
www.jovesupports.com

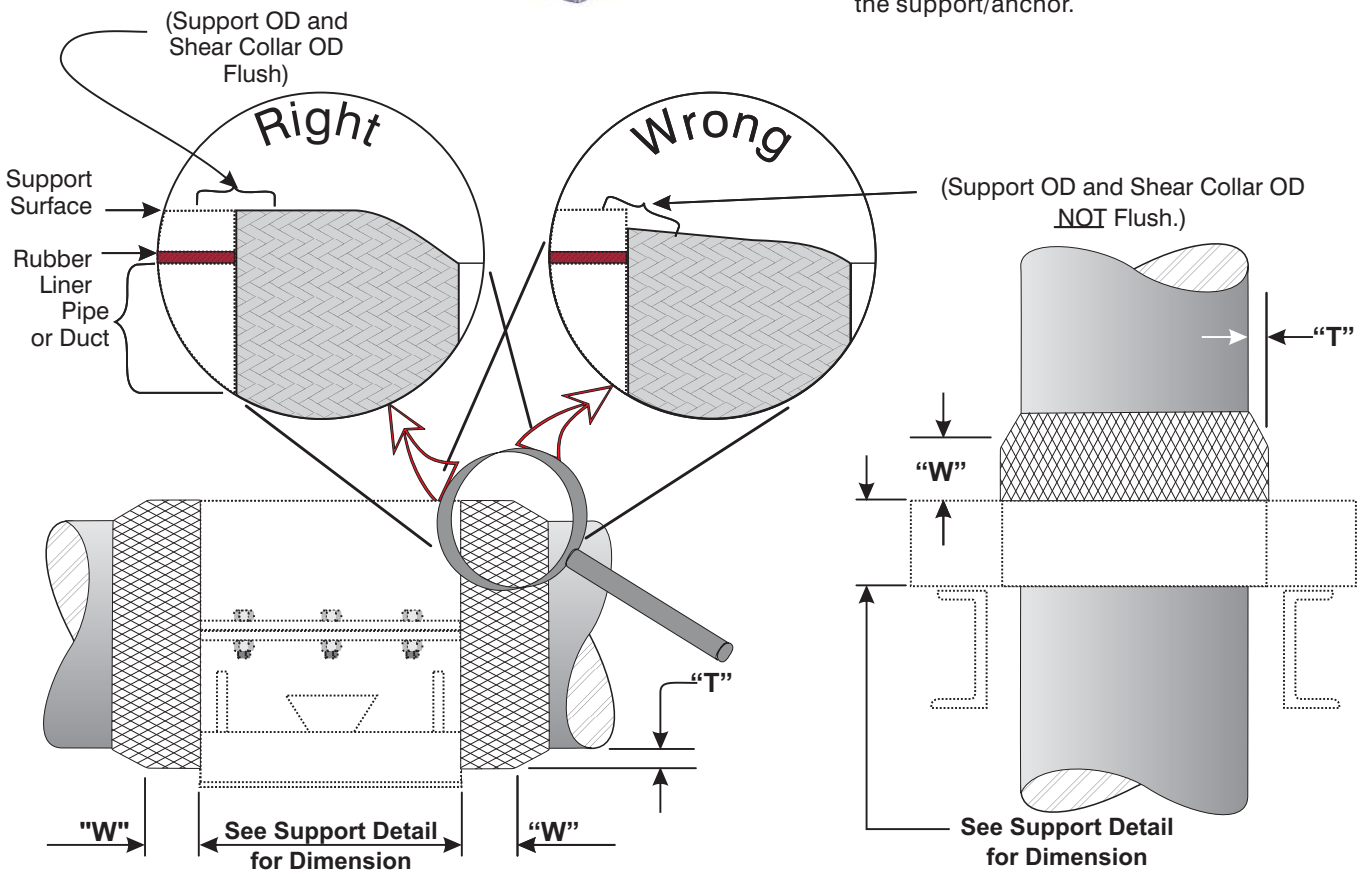
JTI SHEAR COLLAR DETAIL

Model No. SC-(#) © Copyright, 1998, REV 26 A



APPLICATION: Anchors and riser supports are to be locked to the pipe using FRP Shear Collars built up of layers of Fiberglass Mat and Resin. The layers of Mat shall be 1-1/2 Ounce/Square Foot.

Note: Shear Collars shall be installed in such a manner that the OD (Outside Diameter) of the finished collar is flush with the OD of the support/anchor.



Pipe Dia.	1"	2"	3"	4"	6"	8"	10"	12"	14"	16"	18"
"W"	3"	3"	3"	3"	3"	3"	3"	3"	3"	3"	4"
"T"	3/8"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	3/4"	3/4"	3/4"

Pipe Dia.	20"	24"	30"	36"	42"
"W"	4"	4"	6"	6"	6"
"T"	3/4"	3/4"	1"	1"	1"

NOTE:

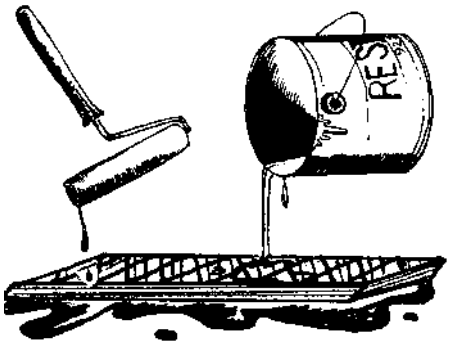
Installation kit includes disposable 3" wire-frame paint roller, resin cup for mixing, stir stick, mat cut to length, resin, and MEKP catalyst. Orders less than six kits include no tools.

SHEAR COLLAR INSTALLATION PROCEDURE 30A

1. Prepare pipe surface:
Grind through 1/16" of the outer resin layer right down to the first layer of fiberglass. Remove an area an inch wider than the fiber mat strips.

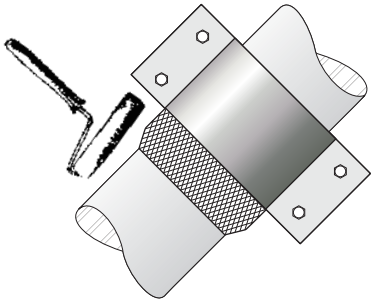
2. Mix resin and catalyst:
Mix only enough resin and catalyst to build up a layer of fiberglass and resin 1/4" thick. Do each shear collar in 1/4" (approx. 6-8 plies) stages.

3. Wet out fiberglass mat strips:
Using a mohair paint roller as an applicator, roll out a thin layer of catalyzed resin on a flat and clean work surface. Then place the first layer of fiberglass in the wet resin. Add more resin on top of the fiberglass making certain that the mat is thoroughly saturated. Repeat layer by layer building up to a thickness of 1/4" evenly wrapped around the pipe. Allow no dry area or air bubbles.



4. Apply shear collar to prepared pipe:
Place the combined wetted out layers of fiberglass and resin around the roughened area flush with the edge of the metal support. Overlap the ends to ensure even thickness.

5. Roll out air bubbles:
Using the mohair roller, gently roll the surface of the fiberglass mat to eliminate air pockets producing a smooth and even surface around the entire shear collar.



6. Allow time to cure:
Allow the shear collar to cure until the surface is hard enough to sand without rolling up into the sandpaper grit. After catalyzation begins cure time should be 15 - 20 minutes.

7. Apply in successive stages:
Repeat steps one through six for shear collar thicknesses of more than 1/4". Apply each stage only after the previous stage has cured enough to roughen with sandpaper or grinder.

8. Apply top coat:
When the final stage is cured, roughen the surface thoroughly, and roll on a final layer of catalyzed resin covering the shear collar and any sanded pipe extending beyond the shear collar. (If a pigmented resin gel coat will be the top coat, apply it directly over the rough areas in place of the catalyzed resin layer.)

RESIN MIXING and PREPARATION:

1. In the resin container, catalyze with 4 to 8 cc of MEKP catalyst per pound of resin to give a curing time of about 20-30 minutes. The use of catalyst amounts above this range can produce a poor joint. After one or two mixes, the proper resin to catalyst ratio will be found to produce the desired curing time.

2. The amount of time it takes to cure a resin mix is temperature sensitive. Therefore, the amount of catalyst required increases as the temperature decreases below approximately 50 degrees F.

3. Water will ruin the wrap. So, before applying resin, ensure that the fiberglass materials, tools, and pipe or duct surface are free of moisture.

This procedure has been included as a general guide ONLY. Variations in resin and atmospheric temperature will accelerate or retard the cure time. Individual assessment of the amount of catalyst to be used at the time of application is required. A barchol test is required to insure proper cure -40 to 50 reading is correct.

If calculated support loads exceed JTI's load ratings, please submit necessary load requirements.

NOM. DIA.	FS-1 VERT.	FS-2 VERT.	FS-2R VERT.	FS-3		FS-4 VERT.	FS-4G VERT.	FS-5 VERT.	FS-5H VERT.	FS-5S VERT.	FS-6 VERT.	FS-6G VERT.	FS-6H VERT.	FS-6Q VERT.
				VERT.	AXIAL									
2	400	400	400	400	3,000	610A	610A	400	610A	400	400	400	400A	14,200
3	600	600	600	600	3,000	610A	610A	400	610A	400	400	400	400A	16,400
4	800	800	800	800	3,000	610A	610A	400	610A	400	400	400	400A	20,200
6	N/A	1,200	1,200	1,200	11,000	610A	610A	600	610A	600	600	600	600A	24,000
8	N/A	1,600	1,450	1,600	11,000	1,130B	1,130B	1,150	1,130B	1,400	1,400	600	1,400B	35,300
10	N/A	2,000	1,650	2,000	11,000	1,810C	1,810C	1,640	1,810C	1,600	2,800	600	1,800B	40,400
12	N/A	2,400	2,065	2,550	11,000	2,710D	2,710D	2,550	2,710D	2,000	3,100	600	2,300C	35,500
14	N/A	3,075	3,120	3,150	10,000	2,710D	2,710D	3,150	2,710D	3,000	3,200	1,200	2,600C	41,450
16	N/A	3,385	3,440	4,020	10,000	3,770E	3,770E	4,020	3,770E	3,300	3,800	1,200	4,500D	40,800
18	N/A	4,000	4,055	5,090	9,000	3,770E	3,770E	4,300	3,770E	3,900	4,300	1,600	4,500D	40,170
20	N/A	4,710	4,775	6,360	9,000	4,960F	4,960F	4,300	4,960F	4,600	4,300	1,500	4,500D	39,600
24	N/A	6,750	6,835	8,820	8,000	6,833G	6,833G	4,300	6,230G	6,600	6,500	1,500	8,600F	52,100
30	N/A	8,525	8,625	11,000	15,000	8,000G	8,000G	4,300	8,300G	8,300	8,700	2,100	8,000F	67,100
36	N/A	11,550	11,750	14,000	15,000	11,630H	11,630H	4,300	11,630H	11,630	14,900	1,900	10,000G	83,100
42	N/A	16,300	16,425	16,300	15,000	16,300K	16,300K	4,300	16,300K	16,300	16,300	1,900	11,500G	79,900

NOTE: Rod size for use with hangers indicated by letters after the loads in the columns on this page.
Refer to the chart on the General Notes page for the Rod Size corresponding to each hanger load (See General Note No. 15).

NOM. DIA.	FS-6GQ VERT.	FS-6HQ VERT.	FS-6T VERT.	FS-7 VERT.	FS-8 VERT.	FS-8R VERT.	FS-9		FS-10		FS-10R		FS-11 VERT.	FS-11C VERT.
							VERT.	AXIAL	VERT.	AXIAL	VERT.	AXIAL		
2	14,200	5,600E	5,600E	400	400	400	400	1,500	400	1,500	400	550	610A	610A
3	16,500	7,600F	7,600F	600	600	600	600	2,200	600	2,200	400	1,130	610A	610A
4	20,200	9,800F	9,800F	800	800	800	800	3,000	800	3,000	400	1,810	610A	610A
6	24,000	12,200G	12,200G	1,200	1,200	1,200	1,200	3,000	1,200	4,000	600	4,000	610A	610A
8	35,300	14,400G	16,000G	1,600	1,600	1,450	1,600	4,000	1,600	7,000	1,450	7,000	1,130B	1,130B
10	40,400	16,000G	23,300H	2,000	2,000	1,650	2,000	4,000	2,000	10,200	1,650	10,200	1,810C	1,810C
12	35,500	30,000J	23,300H	2,400	2,400	2,065	2,400	4,000	2,400	14,600	2,065	14,600	2,710D	2,710D
14	41,450	29,000G	32,000G	N/A	3,120	3,120	N/A	N/A	3,125	20,000	3,120	20,000	2,710D	2,710D
16	40,800	31,000G	32,000G	N/A	3,440	3,440	N/A	N/A	3,440	26,000	3,440	26,000	3,770E	3,770E
18	40,170	44,000H	46,500H	N/A	4,055	4,055	N/A	N/A	4,060	28,000	4,055	28,000	3,770E	3,770E
20	39,600	46,500H	62,800H	N/A	4,775	4,775	N/A	N/A	4,780	30,000	4,775	30,000	4,960F	4,960F
24	52,100	75,000K	82,800K	N/A	6,835	6,835	N/A	N/A	6,345	40,000	6,850	40,000	N/A	6,833G
30	67,100	80,000K	82,800K	N/A	8,645	8,525	N/A	N/A	8,660	50,000	8,660	50,000	N/A	8,000G
36	83,100	80,000K	82,800K	N/A	11,590	11,750	N/A	N/A	11,600	60,000	11,600	60,000	N/A	11,630H
42	79,900	80,000K	82,800K	N/A	16,300	16,425	N/A	N/A	16,300	50,000	16,300	50,000	N/A	16,300K

GENERAL NOTES & SUPPORT SUBSTITUTION SCHEDULE

GENERAL NOTES ~ FRP PIPE SUPPORTS

1. All dimensions are in inch units. Size of support is based on nominal pipe diameter. Envelope dimensions that are affected by the pipe O.D. are approximate and will vary depending on pipe wall thickness.
2. Pipe supports are manufactured to the following tolerances:

TOLERANCES

SIZE	Inside Diameter	Roundness (Circularity)	Cylindricity (L = Length)
2 - 8	1/16"	0.070"	L / 260
10 - 42	1/8"	0.138"	L / 260
48 - 72	5/32"	0.172"	L / 280
84 - 144	3/16"	0.207"	L / 280

NOTE: All other dimensional tolerance plus or minus 1/8".

3. Supports that are designed to fit the O.D. of the pipe must be located to clear all pipe welds at fittings and joints.
4. Riser supports and anchors are to be locked to the pipe using FRP Shear Collars. JTI can supply the Shear Collars but they must be ordered separately from the pipe supports. Shear collars are required with the following: FS-6, FS-6G, FS-6GQ, FS-6H, FS-6HQ, FS-6Q, FS-6T, FS-9, FS-10. (See Shear Collar Detail for specifications) Anchors shall be secured to the support structure using field welds or bolts.

SUPPORT DESIGN SUBSTITUTION SCHEDULE

TYPE	SUPPORT	GUIDE	ANCHOR	INVERTED MOUNTING
FS-1	YES	NO	NO	NO
FS-2, 2R	YES	NO	NO	NO
FS-3	YES	Ⓐ FS-3G	Ⓐ FS-3A	YES
FS-4, 4R	YES	NO	NO	NO
FS-4G, 4GR	YES	YES	Ⓑ YES	NO
FS-5	YES	Ⓐ FS-5G	Ⓐ FS-5A	N/A
FS-5H	YES	NO	NO	NO
FS-5S	YES	FS-5SG	Ⓒ YES	YES
FS-6, 6Q, 6T	YES	Ⓐ YES	YES	N/A
FS-6G, 6GQ	YES	YES	NO	N/A
FS-6H, 6HQ	YES	Ⓐ YES	Ⓓ YES	N/A
FS-7	YES	YES	NO	NO
FS-8	YES	YES	NO	YES
FS-8R, 8X	YES	YES	YES	NO
FS-9	YES	YES	YES	YES
FS-10, 10R	YES	YES	YES	YES
FS-11	YES	NO	NO	NO
FS-11C	YES	NO	NO	NO

5. Pipe supports with a "G" suffix (e.g. FS-3G, FS-5G) shall be laterally restrained using guide clips. JTI can supply guide clips, but they must be ordered separately from pipe supports. (See Guide Clip Detail for specifications.)
6. FS-7 guides are to have U-Bolt clearances as indicated in the detail. Under no circumstances may FRP pipe be clamped tightly by a U-Bolt nor supported without a cradle.
7. Pipe supports FS-1 and FS-7 must be secured to the pipe using stainless steel banding (.075 x .020"). Bands and seals are not included and must be ordered separately.
8. All cradle type supports include an elastomeric liner of red rubber bonded to the cradle to prevent physical contact between the metallic cradle and the non-metallic pipe. Alternate materials such as neoprene and EPDM are available.
9. JTI's FS-3, FS-5H, and FS-5S support components such as valves, mixers, etc. and join them to pipe flanges. FRP flange bolts are longer by 1/2 inch than those used with metallic flanges. For ease of installation, all-thread rod studs may substitute for bolts. A washer and a nut should be placed between the support and the FRP flange to facilitate tightening of the flanges independent of securing the support. (See Flange Bolting Detail)
10. Component supports 12" and larger are scalloped to provide clearance for the FRP flange hub reinforcement.
11. JTI's supports have a standard finish of 2-1/2 Mil DFT of rust red epoxy primer or hot dip galvanized unless another finish is requested. Supports can be fabricated using stainless steel and other higher alloys when requested.
12. To avoid damage to pipe systems, all supports should be checked for proper installation prior to startup and testing.
13. For corrosive environments, all JTI supports have full seal welds to eliminate hidden corrosion areas.
14. When simple support is required over three feet in elevation the FS-2 is recommended. THE FS-1 SHALL NOT BE USED OVER THREE FEET IN ELEVATION.
15. Letters following loads in the LOADS TABLE are to designate the type of Rod to use as shown by chart. ⇒

Ⓐ Supports other than FS-7, FS-8, FS-9, or FS-10 when used as guides or anchors are designated by a suffix of "G" for Guide, and "A" for Anchor.

Ⓑ FS-4G can be used as a suspended anchor by special design.

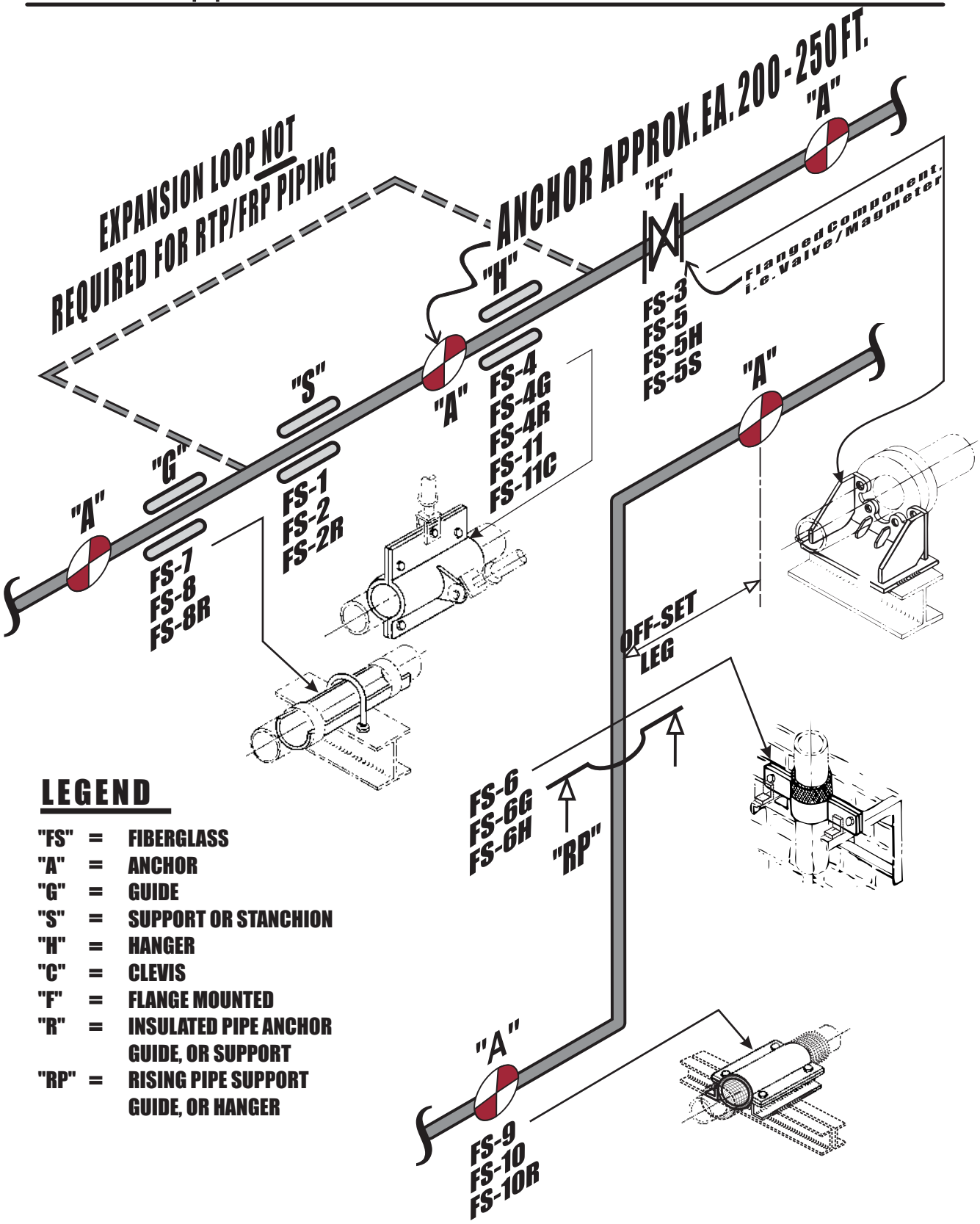
Ⓒ FS-5S Supports may be used as full stop anchors only for pipe 12 inches and less.

Ⓓ FS-6H and FS-6HQ may be used as anchors with shear collars above as well as below the riser support. Be sure to consider thermal growth and other load factors.

N/A Not Applicable

ROD SIZES		
Type	Dia.	Load
A	3/8"	610
B	1/2"	1,130
C	5/8"	1,810
D	3/4"	2,710
E	7/8"	3,770
F	1"	4,960
G	1-1/4"	8,000
H	1-1/2"	11,630
K	2"	20,700

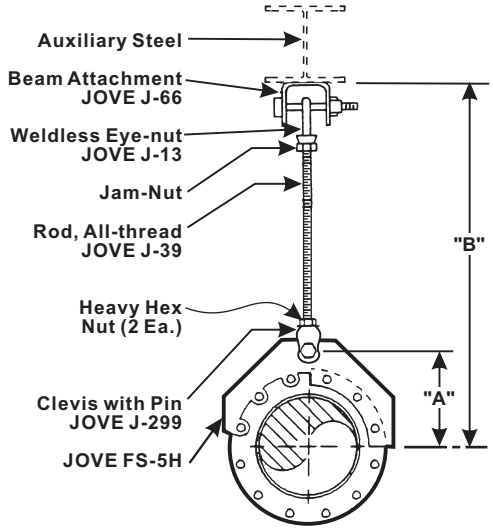
JTI's Support Location Guide for JOVE® Products



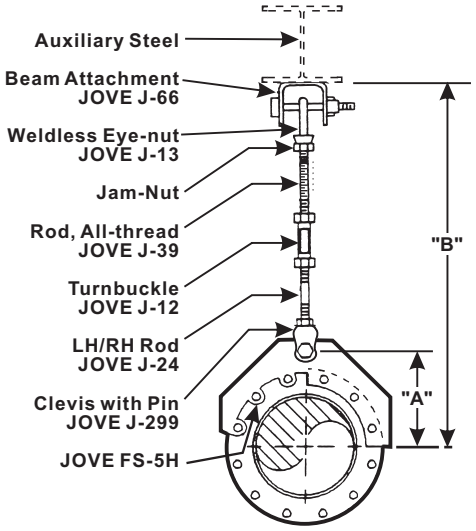
LEGEND

"FS"	=	FIBERGLASS
"A"	=	ANCHOR
"G"	=	GUIDE
"S"	=	SUPPORT OR STANCHION
"H"	=	HANGER
"C"	=	CLEVIS
"F"	=	FLANGE MOUNTED
"R"	=	INSULATED PIPE ANCHOR GUIDE, OR SUPPORT
"RP"	=	RISING PIPE SUPPORT GUIDE, OR HANGER

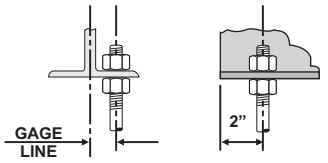
TYPICAL ROD ASSEMBLIES FOR JOVE® HANGERS



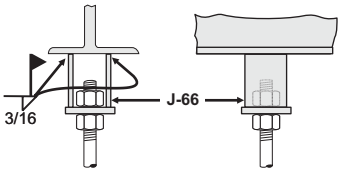
FS-5H



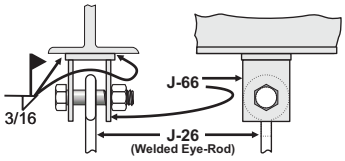
FS-5H



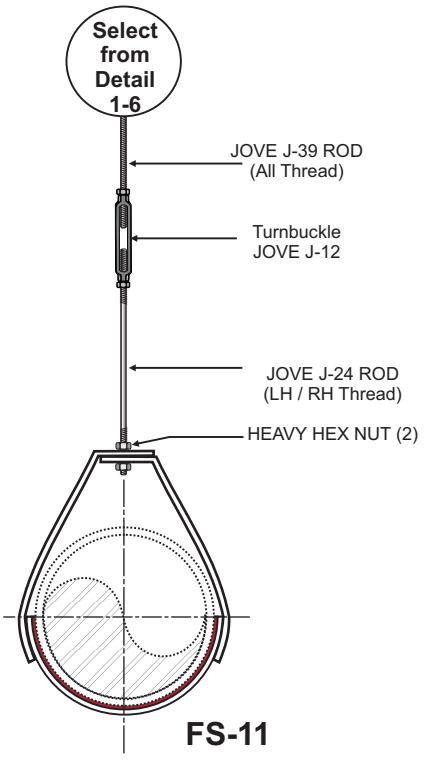
DETAIL 1



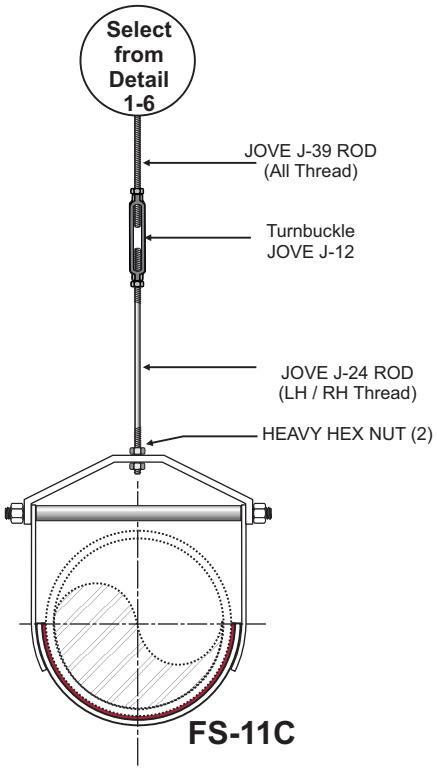
DETAIL 2



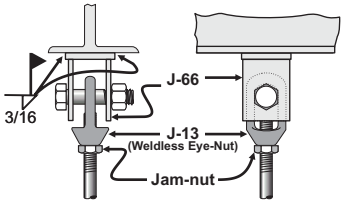
DETAIL 3



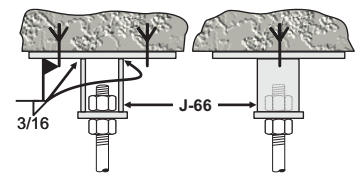
FS-11



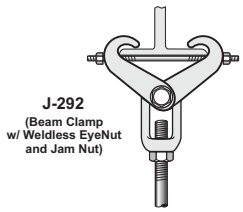
FS-11C



DETAIL 4

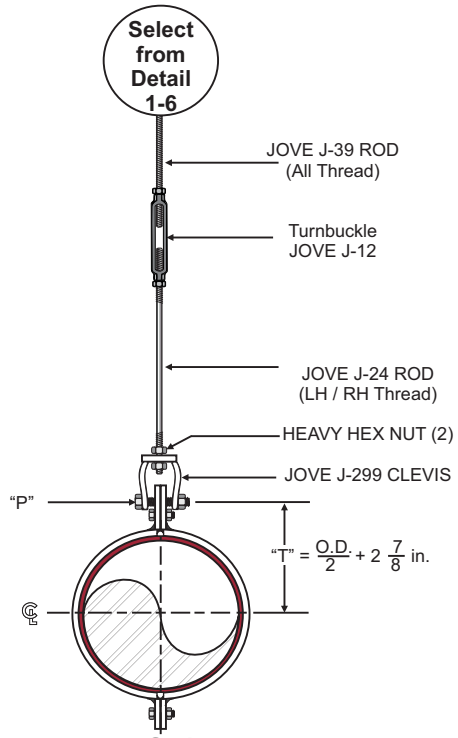


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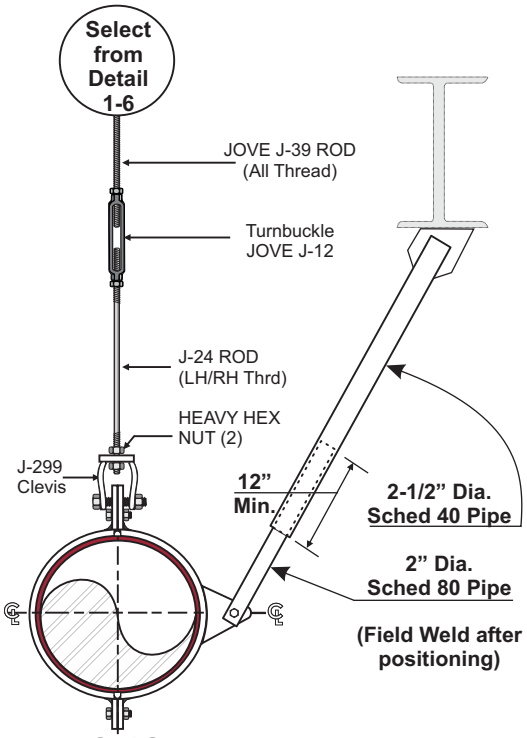


DETAIL 6

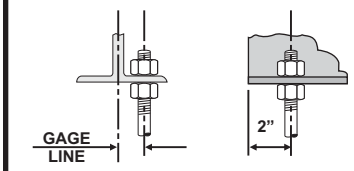
TYPICAL ROD ASSEMBLIES FOR **JOVE®** HANGERS 35A



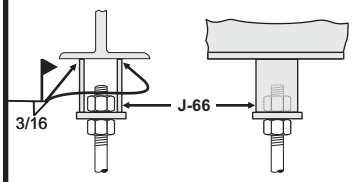
FS-4



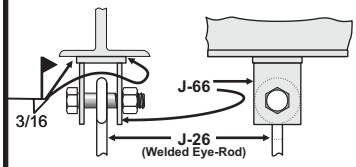
FS-4G



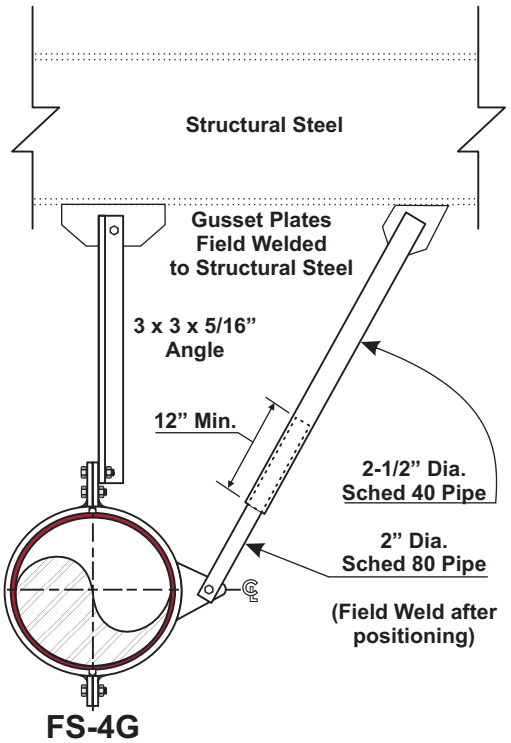
DETAIL 1



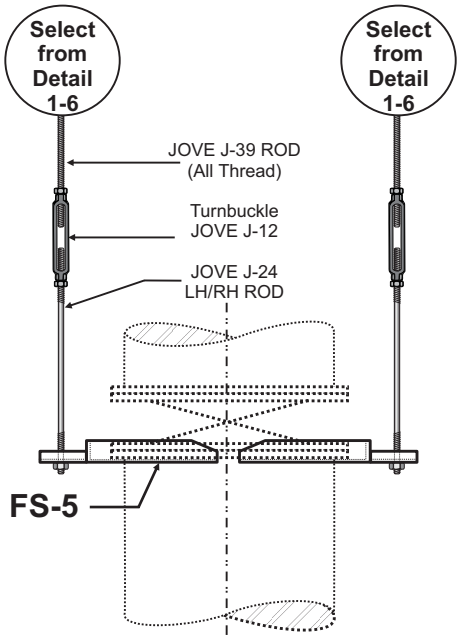
DETAIL 2



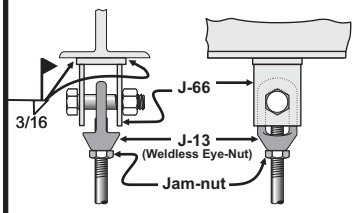
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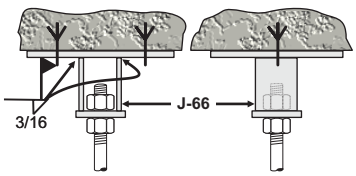
FS-4G



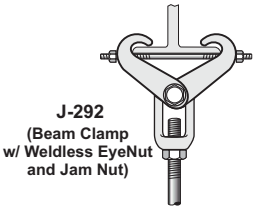
FS-5



DETAIL 4



DETAIL 5



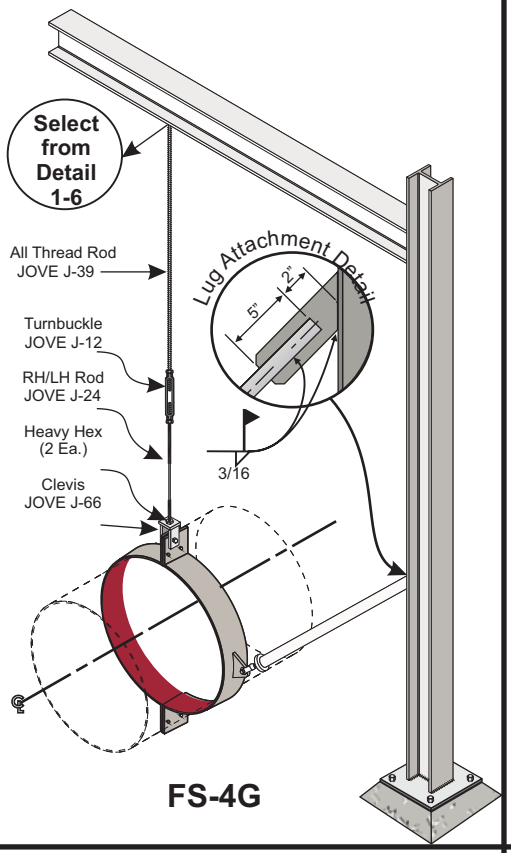
DETAIL 6

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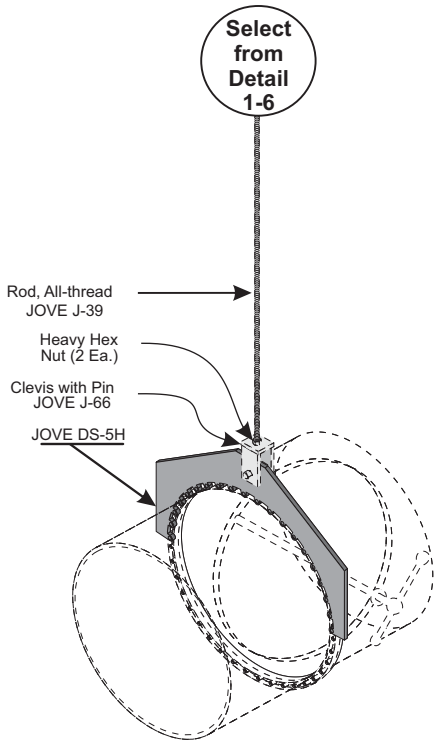
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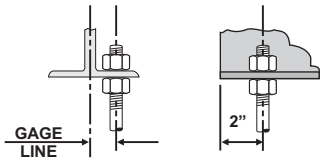
TYPICAL ROD ASSEMBLIES FOR JOVE® HANGERS



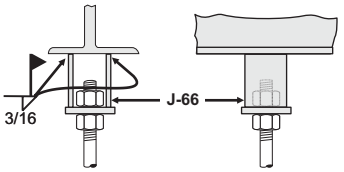
FS-4G



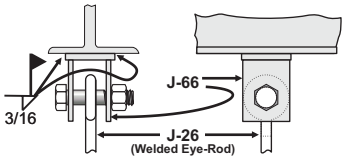
FS-5H



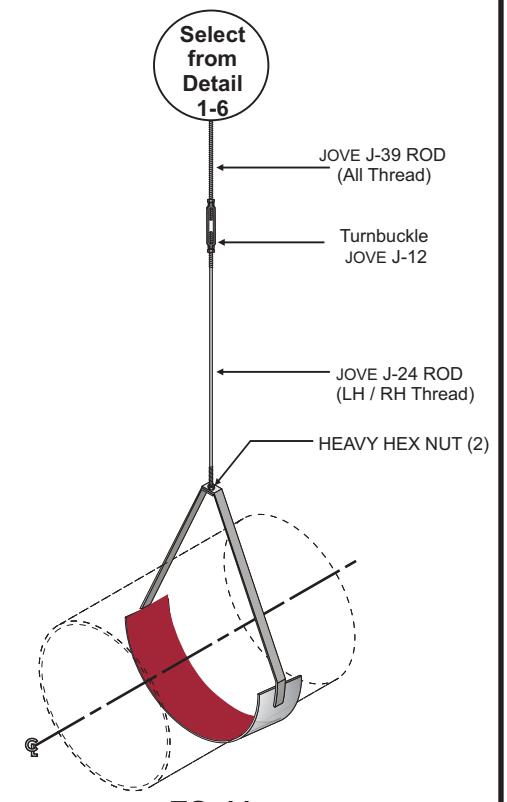
DETAIL 1



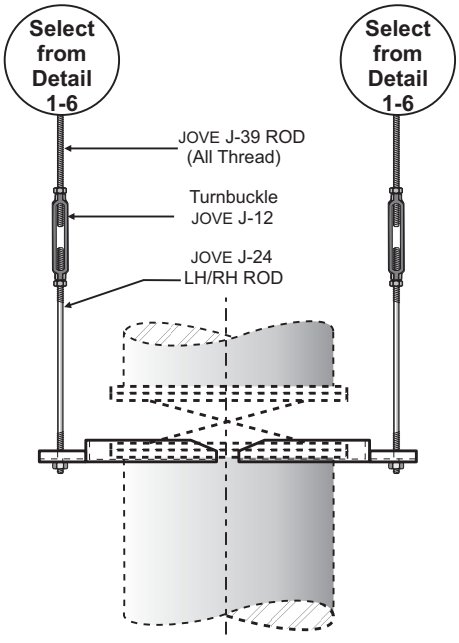
DETAIL 2



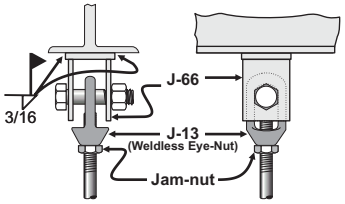
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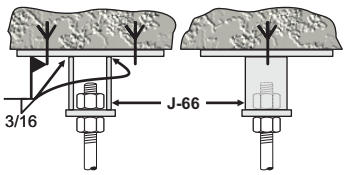
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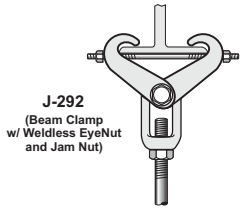
FS-5



DETAIL 4



DETAIL 5



DETAIL 6

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