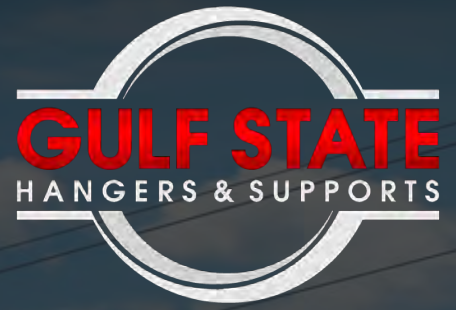


PIPE HANGERS AND SUPPORTS CATALOG



ELEVATING

**PIPING
PERFORMANCE**

Waterworks
Industrial
Bridges
Transportation
Commercial
Marine
Utility
Custom Fab
Hardware
& Fasteners
Strut
Drafting
Design
Engineering



ELEVATING *PIPING PERFORMANCE*™

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ELEVATING *PIPING PERFORMANCE*™

For any piping project, the slightest edge in pipe support design and quality of materials can greatly improve the installation and life-cycle of the piping system. That's why for over 40 years leading engineers and installers have relied on Gulf States' expertise for the design and fabrication of their pipe support products.

Since 1977, Gulf State has specialized in the design, fabrication and sale of custom, standard and engineered pipe and conduit supports, hangers, strut, hardware and accessories. Our manufactured products are Made In The USA and in compliance with today's rigid enforcement by State and Federal governments of domestically sourced products. Upon request, Certificates of Origin, Mill Certifications and other compliance documents are available.

Throughout the years Gulf State has supplied fabricated carbon and stainless steel pipe supports and other metal products for well known projects including; NASA Space Center, the World Trade Center Memorial, The Georgia Aquarium, The Alaskan Pipeline, US Navy, Army Corps of Engineers, TVA, Duke Energy, and for engineers, piping contractors and suppliers for the nation's waterworks, rail, ports, bridges and large industrial/petrochemical plants. Our products are available in standard and commodity sizes, as well as custom supports for large diameter and specialty FRP pipe installations. We can customize "standard items" to fit your needs, and we also supply a wide selection of strut, fasteners, hardware and concrete inserts and embeds to complement your project.

The following information is to assist in qualifying Gulf State as a supplier of pipe supports and custom steel fabrication:

- * Established in 1977
- * We specialize in stainless steel fabrication
- * Owners are active in the business
- * Corporate Sales office in Charlotte NC and Independent Representatives across the USA
- * All of our manufactured products meet the requirements of MSS-SP-58 and ASME BS31.1
- * Welding processes used meet the test requirements of Section IX of the ASME Boiler and Pressure Vessel Code
- * Daily incoming shipments of carbon and stainless steel inventory to improve delivery times

- * Three hot dip galvanizing plants within 30 miles of manufacturing plant
- * High performance coating and painting systems available
- * Engineered submittals and structural analysis available through professional engineers
- * Large inventory of standard and commodity hanger items, strut, hardware, fasteners and concrete embeds
- * Daily UPS and motor freight shipments
- * Quality Assurance Program - All items are produced, finished, cleaned, assembled and tagged or marked before shipment according to customer specifications
- * Products can be manufactured to meet the strict requirements of Buy America and American Iron and Steel (AIS) provisions
- * MTR's available when requested prior to ordering
- * Plant visits available upon request

Gulf State takes an interest in each of our customers projects, applying our extensive experience in pipe support design and fabrication to ensure your pipe system meets and exceeds its intended life-cycle performance.

OUR REPUTATION RESTS WITH SATISFIED CUSTOMERS. LET US KNOW HOW WE CAN **SUPPORT** YOUR NEXT PROJECT.

Karen Lewis
President and CEO



MAILING ADDRESS: PO BOX 407,

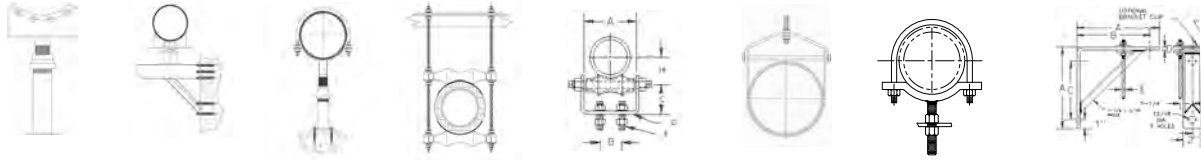
THEODORE, AL 36590

PHYSICAL LOCATION: 7100 BELLINGRATH ROAD, THEODORE, AL 36582

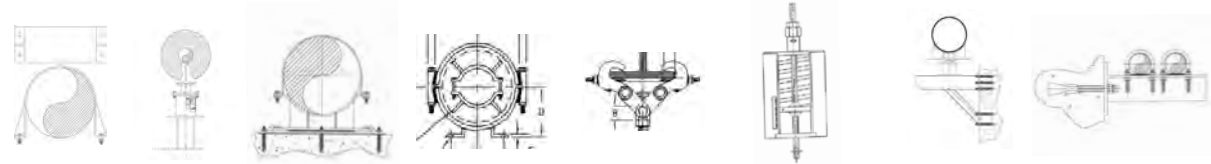
PHONE: (251) 653-6228 | FAX: (251) 653 - 5356 WEBSITE: WWW.GSHANGERS.COM

SAMPLE STANDARD, CUSTOM FABRICATED AND
COMMODITY HANGERS AND SUPPORTS
Specializing in Stainless Steel

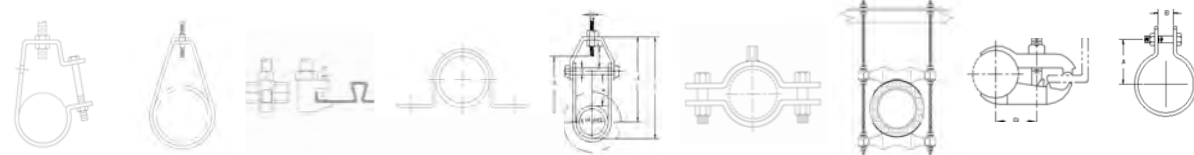
WATERWORKS



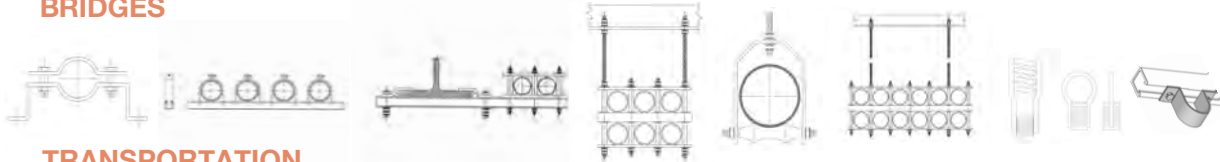
INDUSTRIAL



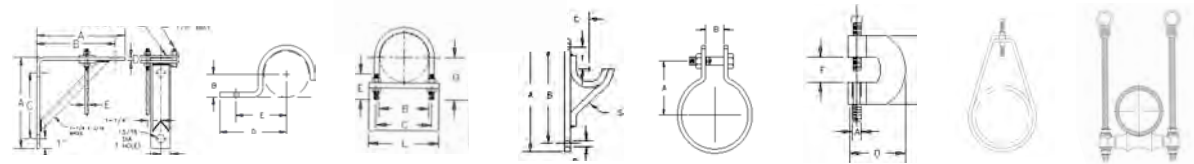
COMMERCIAL BUILDING



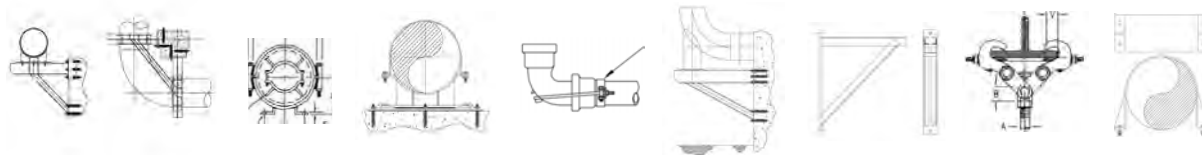
BRIDGES



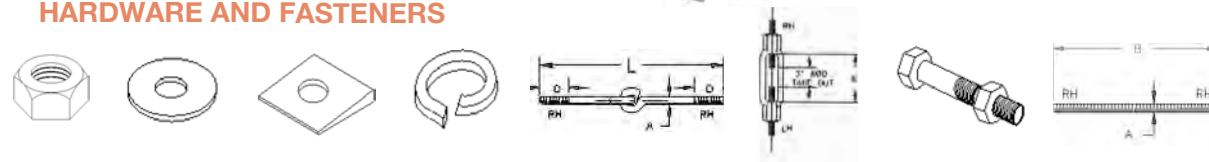
TRANSPORTATION



MARINE ENVIRONMENTS



HARDWARE AND FASTENERS



SHIPPING DAILY TO ALL 50 STATES AND
INTERNATIONALLY



GENERAL NOTES

CATALOG PAGE NUMBERING: We have a unique system of numbering the pages in this catalog. The *item Figure Number is the page number*. An index is not required to find an item in this catalog if you know the *GS Figure Number*. We believe this page numbering system will be faster than looking up the page number in an index

SPECIFICATIONS: All catalog products meet the requirements of MSS SP-58. Custom fabricated products will meet the specifications provided by the customer. Standard specifications are subject to change without notice.

UNITS OF MEASURE: In this catalog, dimensions are in inches, and loads and weights are in pounds unless otherwise noted. All weights are approximate.

MATERIALS: Carbon steel catalog items for general use are made from the following materials:

ITEM	MATERIAL SPECIFICATION
Structural Shapes and Flat Bar	ASTM A-36
Plate, Rods and Pins	ASTM A-36
Pipe	ASTM A-53
Bolts	ASTM A-307 Grade A ASTM
Nuts	A-562 Grade A ASTM A-668
Forgings	Grade C, D or F

Alloy or stainless steel catalog items are made from the following materials unless otherwise specified in the order:

ITEM	CHROME-MOLY	STAINLESS STEEL
Plate	ASTM A-387 Grade 11 or 22	A-240 Type 304
Pipe	ASTM A-335 Grade P11 / P22	A-312 Type 304
Rod 8oz Pins	ASTM A-332 Grade 4140 ASTM	A-276 Type 304
Bolts	A-193 Grade B7 or B16 ASTM	18-8 Stainless
Nuts	A-194 Grade 2H	18-8Stainless

ORDERING CUSTOM ITEMS: Gulf State quoted prices for custom made items are based on the stated quantities and the existing material and labor cost. Changes in order quantities may change the quoted pricing. This makes it very important for the order quantities to be correct before asking for prices or entering an order.

NON-RETURNABLE WORK: All custom work including Standard Hangers made from non-standard materials specified by the customer and any item made to a customers drawing or dimensions is the property of the customer as soon as Gulf State orders any special material or starts work on any material in inventory. Such material and labor is non-returnable for credit and payment is due Gulf State when invoiced. See CONDITIONS AND TERMS OF SALE printed at the back of this catalog for more details.

SPECIAL SHAPES: Gulf State reserves the right to fabricate non-standard steel or alloy shapes from plate of the specified material. This may include angles, channels, tee's, H-sections, rectangular or square tube, etc. Generally this is due to the required material not being readily available in the required quantity.

ORDERING INFORMATION

Gulf State will be pleased to process your inquiry or order regardless of which other manufacturers item or catalog numbers you provide.

The hanger item name, figure number and size is all of the information needed to order other manufacturers part numbers. And with Gulf State, you have finish choices other than plain black for hangers, including electro galvanizing, hot dip galvanizing and stainless steel - our specialty. In addition to the hanger name, figure number and pipe and rod size, you must specify the finish. If your choice is stainless steel and more corrosion resistance than type 304 or 18-8 is required for your installation, then you must specify the grade or type of material desired. Please note that lead times may be affected when ordering higher grades of stainless steel. If your finish choice is carbon steel, you can have many of our catalog items in plain black, zinc plated, hot-dip galvanized or painted to your specification. Typically, most of the Gulf State catalog items are in stock with hot dip galvanized finish.

PLASTIC COATED AND COPPER COATED HANGERS

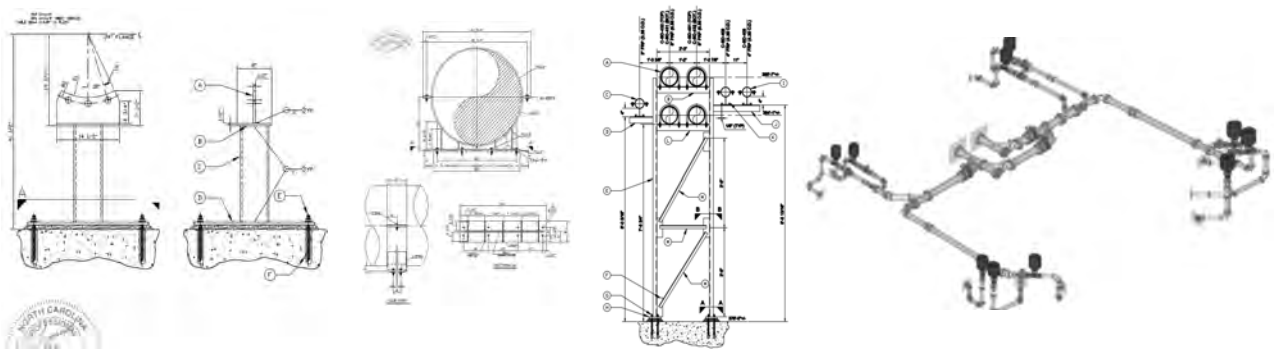
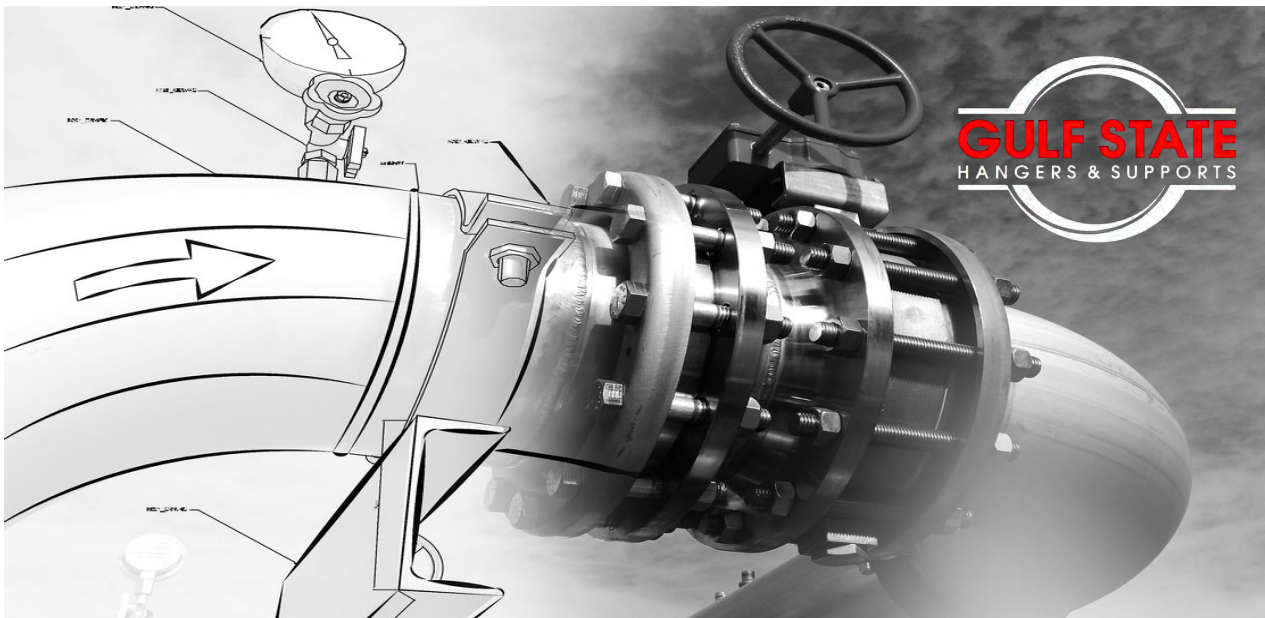
Several popular plastic coated items are included in this catalog. All plastic and copper coated items found in other manufacturers catalogs can be provided by Gulf State. Please provide catalog #/item number when requesting information.

PIPE SUPPORT ENGINEERING SERVICES

PIPE SUPPORT AND PIPE RESTRAINT DESIGN AND ENGINEERING
PIPE AND SUPPORT LAYOUT * PIPE AND SUPPORT STRESS ANALYSIS
BRIDGE UTILITIES AND BRIDGE DRAINAGE LAYOUT

Most project specifications now require the piping layout and support configurations be analyzed for flexibility and ANSI Code compliance. Gulf State, through its network of Professional Engineer Partners, provides engineering and consulting services specializing in pipe support engineering/design and pipe flexibility analysis for major piping and conduit installations including:

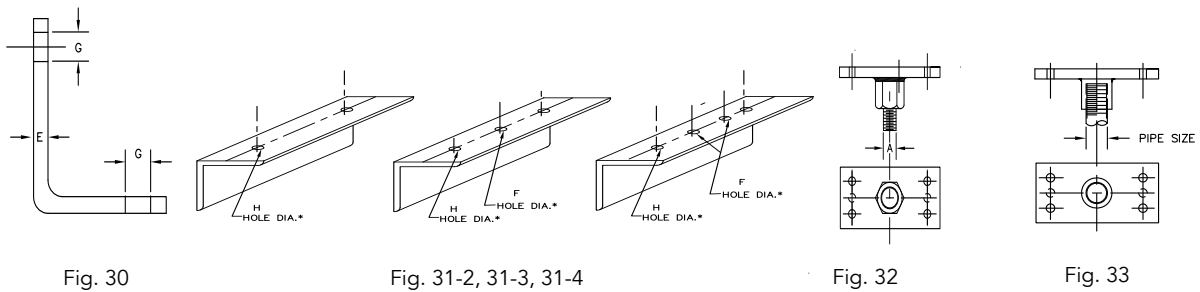
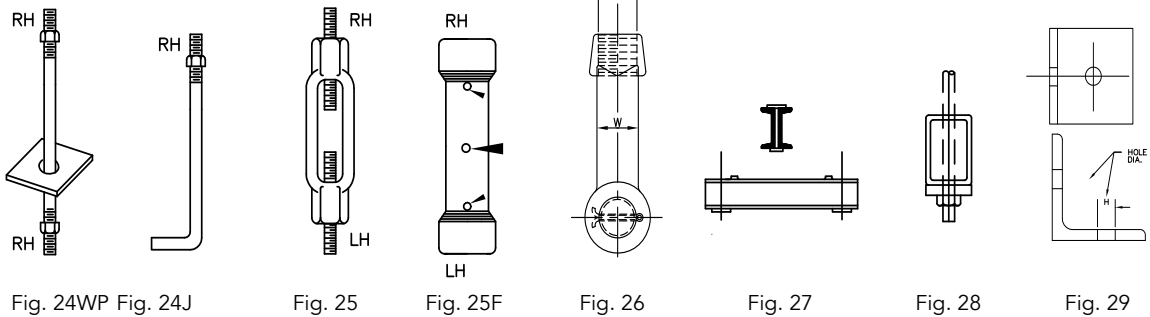
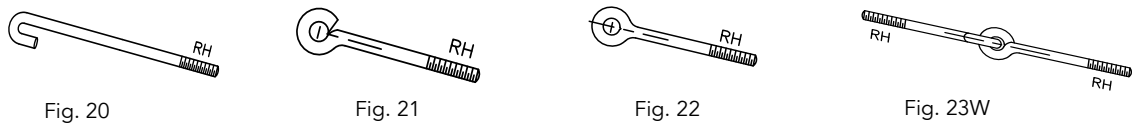
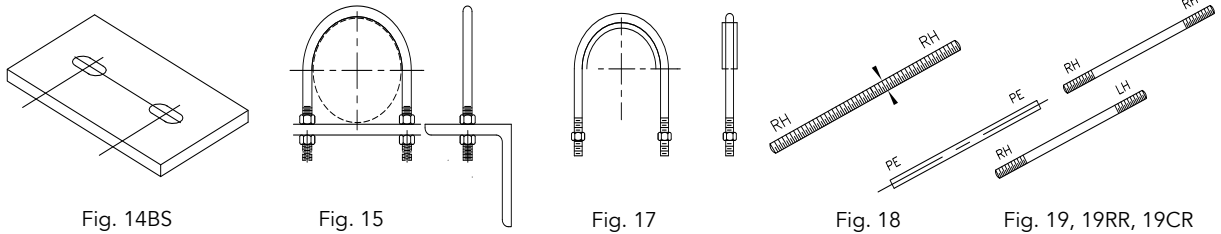
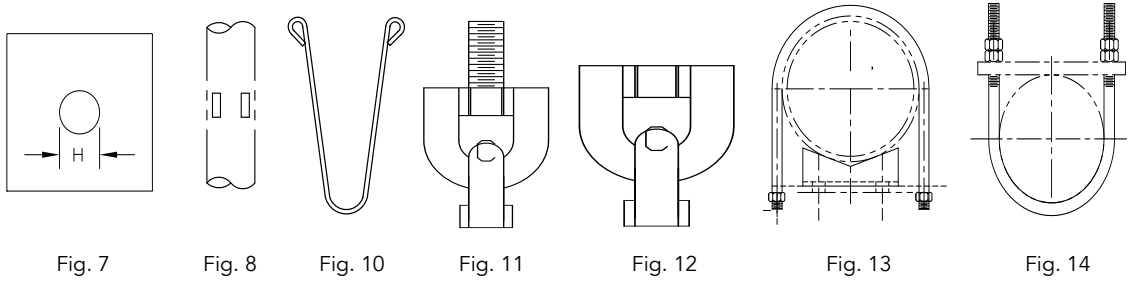
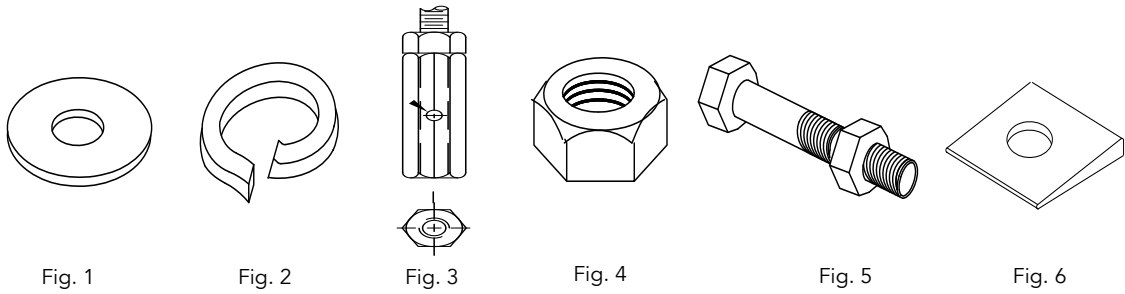
Water Treatment/Waste Water Treatment Plants * Commercial HVAC and Plumbing Industrial/
Petro-Chem Plants * Bridge Attached Utilities and Drainage Systems



Please contact our technical sales team for additional information - sales@gshangers.com

Gulf State Figure Number Pictorial Index

* Click the mouse on each figure number image to be taken to its corresponding catalog page



Pictorial Index Continued

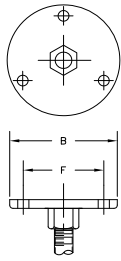


Fig. 34

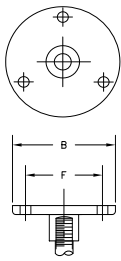


Fig. 35

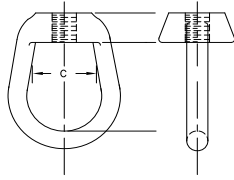


Fig. 36 & 36L

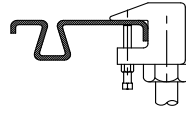


Fig. 37

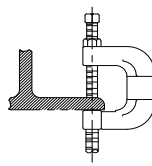


Fig. 37A

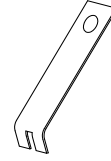


Fig. 37X

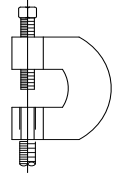


Fig. 37B

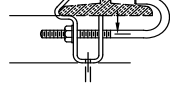


Fig. 38

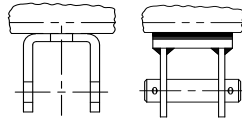


Fig. 39

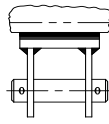


Fig. 40

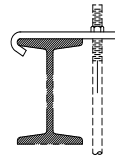


Fig. 41

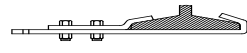


Fig. 42

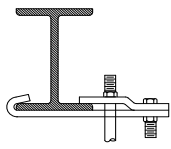


Fig. 43

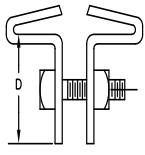


Fig. 44

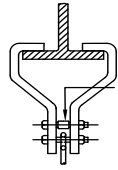


Fig. 45

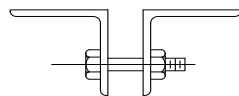


Fig. 46

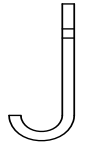


Fig. 48



Fig. 49



Fig. 54

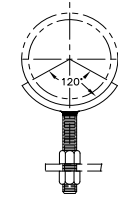


Fig. 50

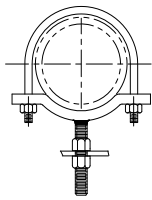


Fig. 50U

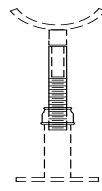


Fig. 51A

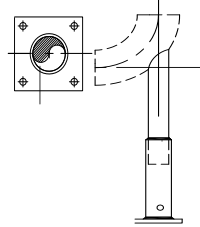


Fig. 51AWB

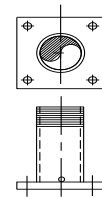


Fig. 51TBS

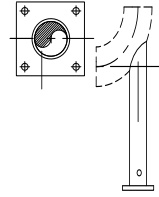


Fig. 51WBS

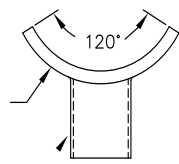


Fig. 52

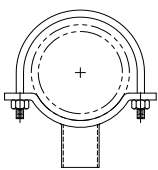


Fig. 52U

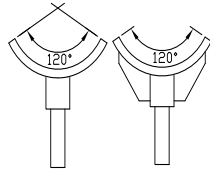


Fig. 53

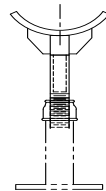


Fig. 53A

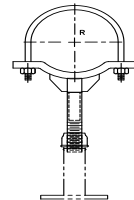


Fig. 53AU

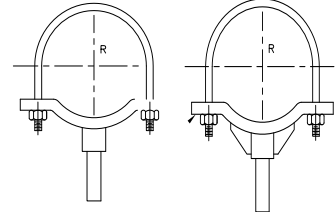


Fig. 53U

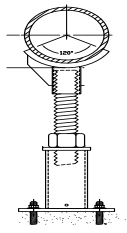


Fig. 54A

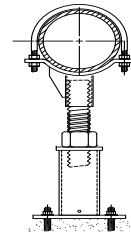


Fig. 54AU

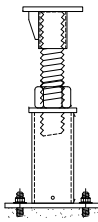


Fig. 54B

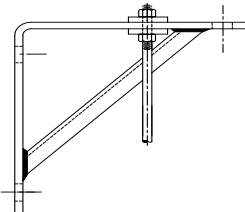


Fig. 56

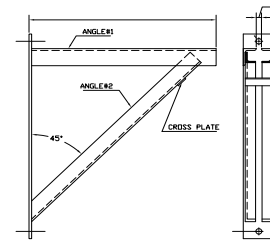


Fig. 57H

Pictorial Index Continued

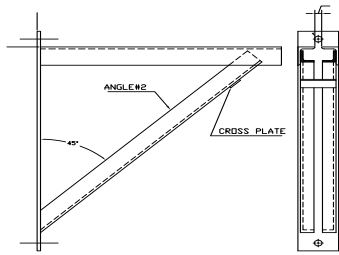


Fig. 57M

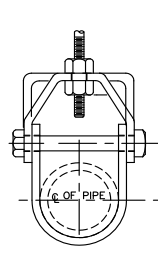


Fig. 60

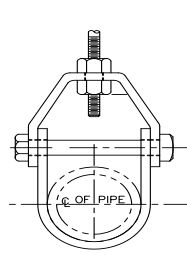


Fig. 60CI

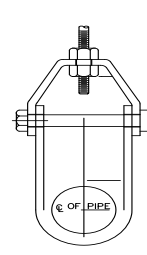


Fig. 62 & 62A

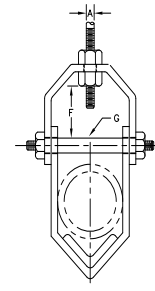


Fig. 64

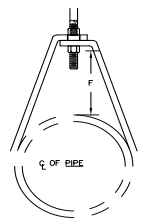


Fig. 66 & 66FP

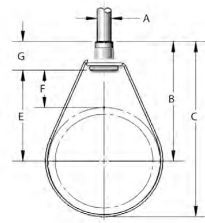


Fig. 66C



Fig. 70P & 70T



Fig. 71L

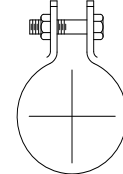


Fig. 71M

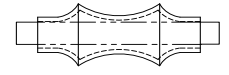


Fig. 73A

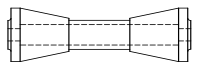


Fig. 73B

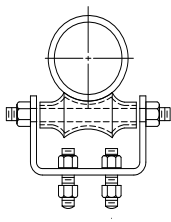


Fig. 75

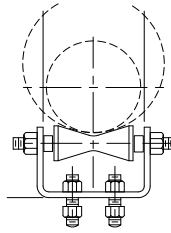


Fig. 75SS

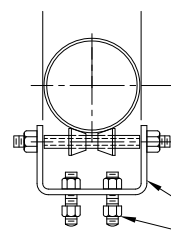


Fig. 75XH

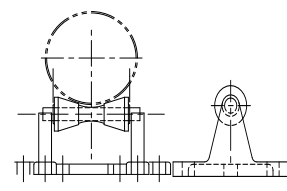


Fig. 76

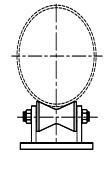


Fig. 76SS

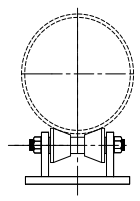


Fig. 76XH

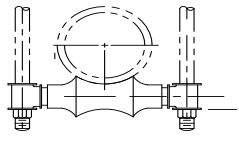


Fig. 77

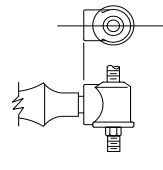


Fig. 77A

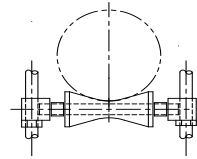


Fig. 77SS

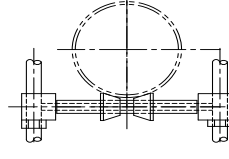


Fig. 77XH

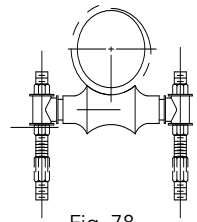


Fig. 78

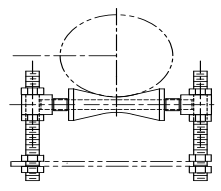


Fig. 78SS

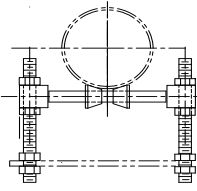


Fig. 78XH

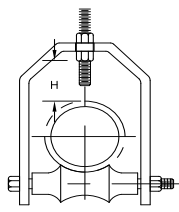


Fig. 79

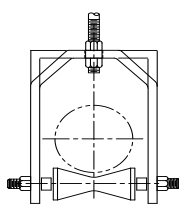


Fig. 79SS

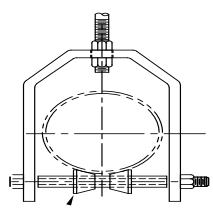


Fig. 79XH

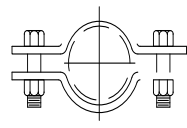


Fig. 80-1

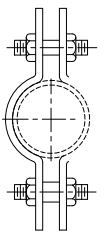


Fig. 80-A

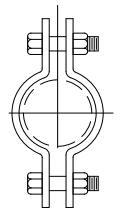


Fig. 82

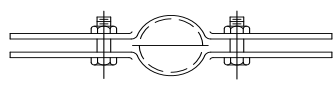


Fig. 83

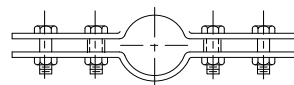


Fig. 84

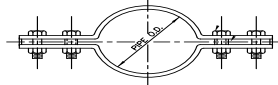


Fig. 85

Pictorial Index Continued

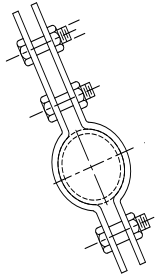


Fig. 86, 86A, 86H

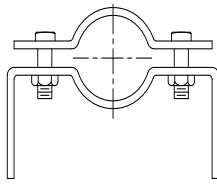


Fig. 88

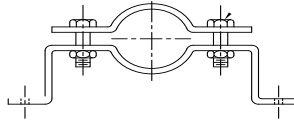


Fig. 88A

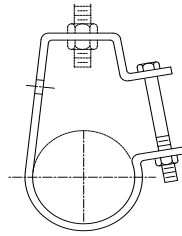


Fig. 90

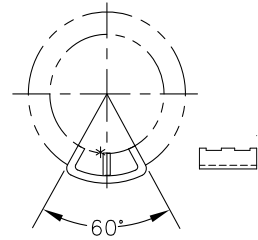


Fig. 99

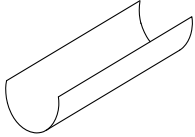


Fig. 100-105

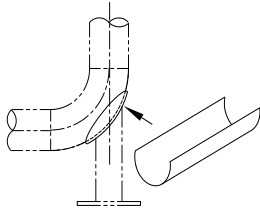


Fig. 106

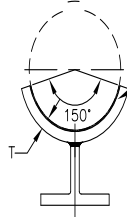


Fig. 111A

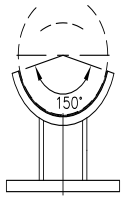


Fig. 111B

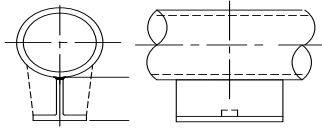


Fig. 112

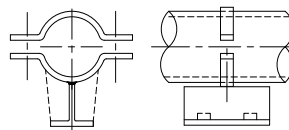


Fig. 113

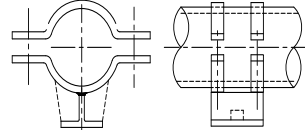


Fig. 114A

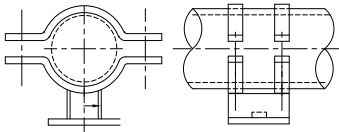


Fig. 114B

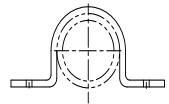


Fig. 115

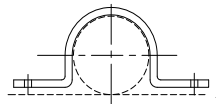


Fig. 116

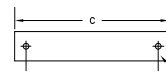


Fig. 116BP

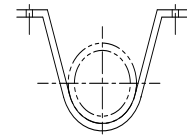


Fig. 118

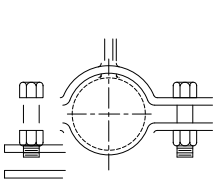


Fig. 124

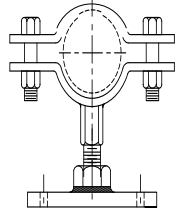


Fig. 125

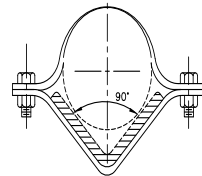


Fig. 126

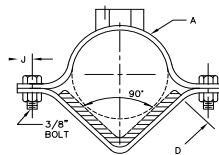


Fig. 127

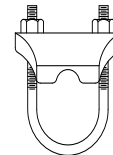


Fig. 130

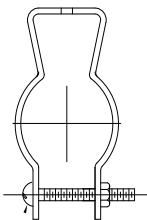


Fig. 132

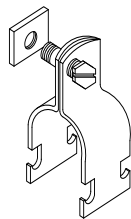


Fig. 133

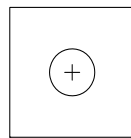


Fig. 140

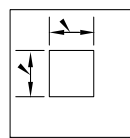


Fig. 141

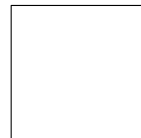


Fig. 142

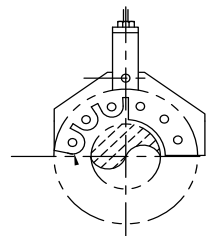


Fig. 150

Pictorial Index Continued

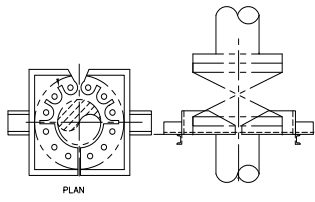


Fig. 151

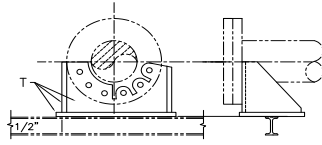


Fig. 152 and 152C

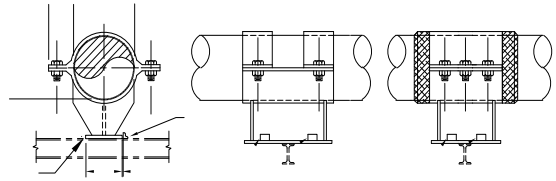


Fig. 153

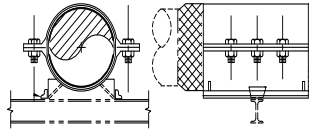


Fig. 154A & 154B

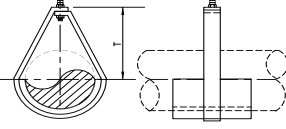


Fig. 155

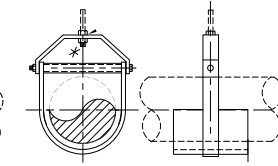


Fig. 156

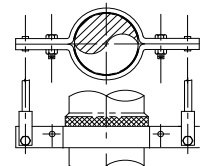


Fig. 157

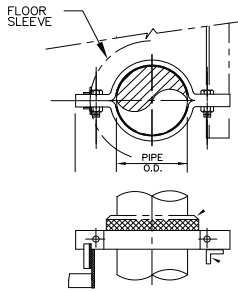


Fig. 158S & G

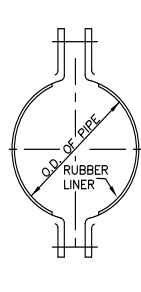


Fig. 160

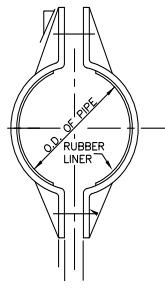


Fig. 161-164

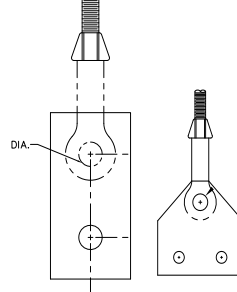


Fig. 165-168

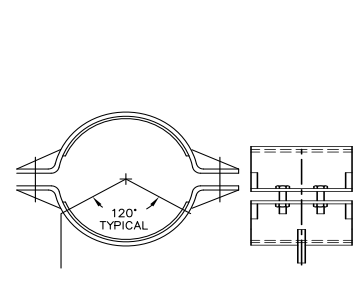


Fig. 169

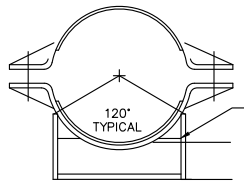


Fig. 170

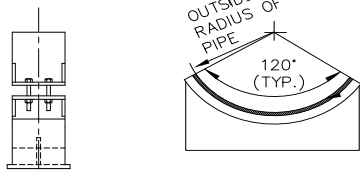


Fig. 171-173

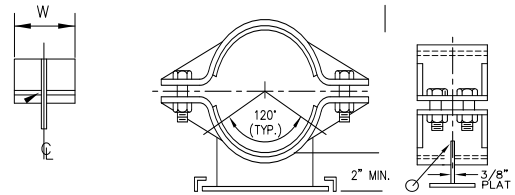


Fig. 174

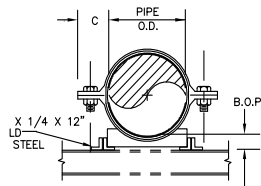


Fig. 175

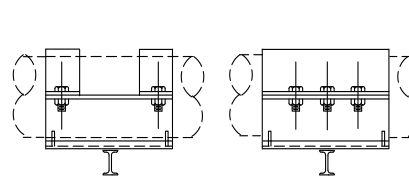


Fig. 176

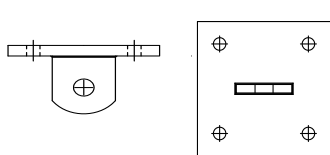
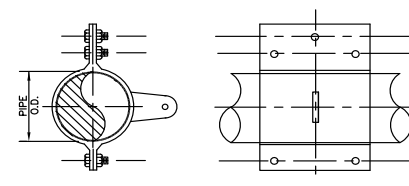


Fig. 200

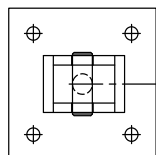


Fig. 201

Pictorial Index Continued

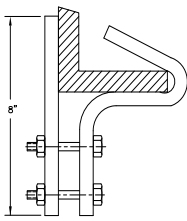


Fig. 220

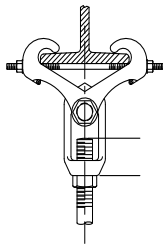


Fig. 230

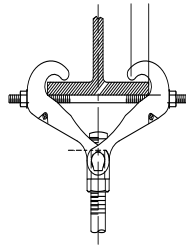


Fig. 232

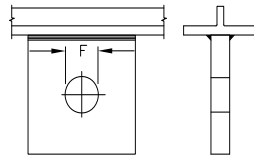


Fig. 233

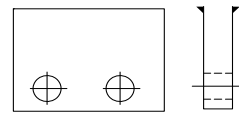


Fig. 235

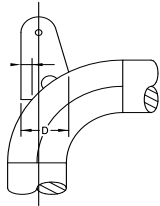


Fig. 250-251

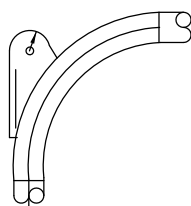


Fig. 252

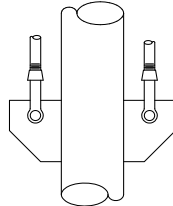


Fig. 253

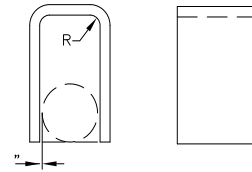


Fig. 257

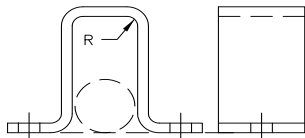


Fig. 258

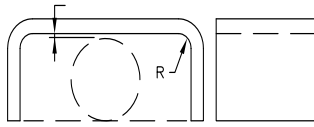


Fig. 259

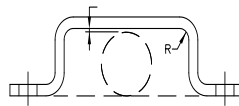


Fig. 260

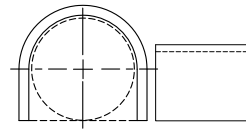


Fig. 261

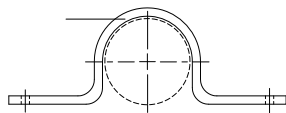


Fig. 262

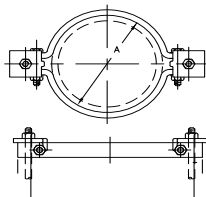


Fig. 272

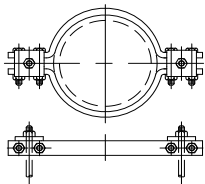


Fig. 274A & B

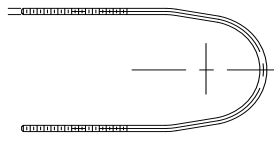


Fig. 275

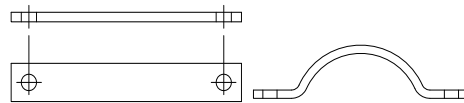


Fig. 276

Fig. 277

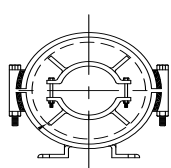


Fig. 285

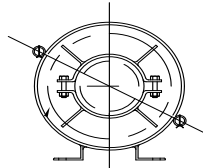


Fig. 286

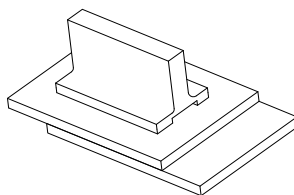


Fig. 287

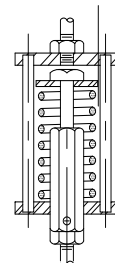


Fig. 288

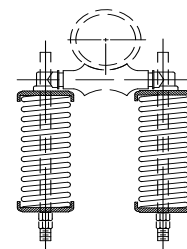
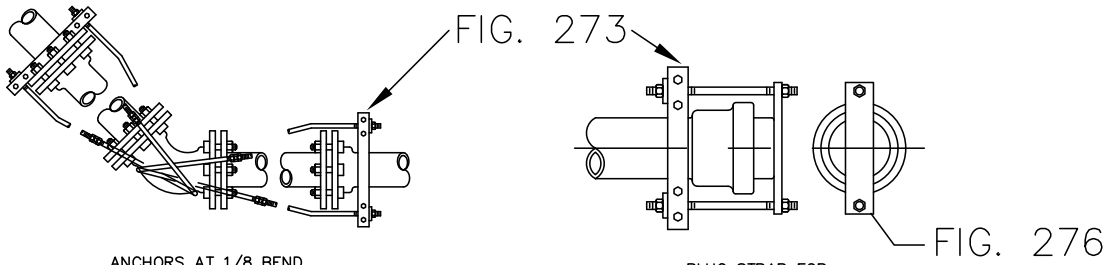


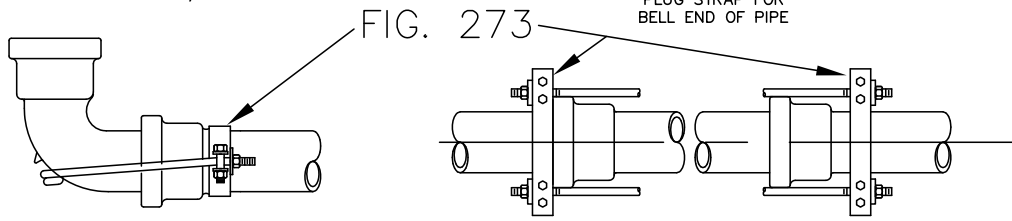
Fig. 289

Pictorial Index Continued



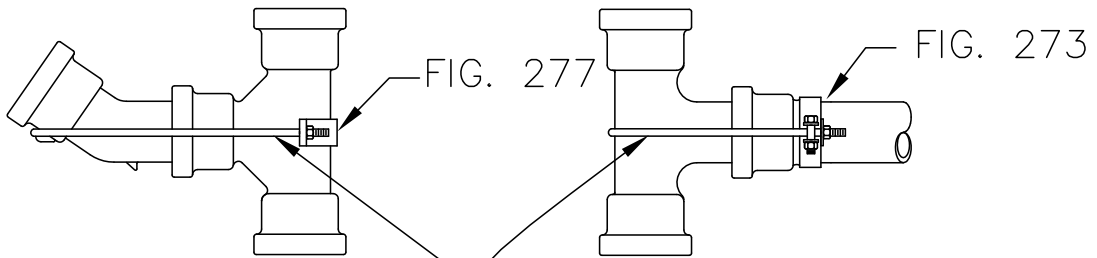
ANCHORS AT 1/8 BEND

PLUG STRAP FOR BELL END OF PIPE



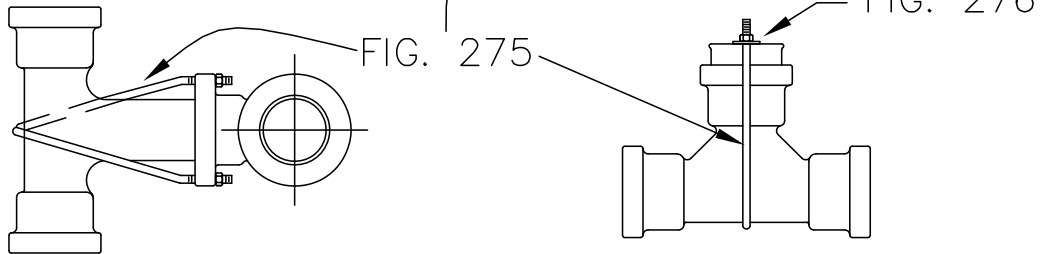
ANCHORS FOR 1/4 BEND SPIGOT END

PIPE ANCHOR



ANCHOR FOR BELL AND TEE AND 1/8 BEND SPIGOT END

TEE ANCHOR



HYDRANT ANCHOR TO SPIGOT TEE

PLUG STRAP FOR TEE BELL

ABBREVIATIONS USED IN THIS CATALOG

A, B, C, ...	Indicates 1st, 2nd, 3rd in a series
A	ADJUSTER, ADJUSTABLE, ALLOY, OR ANCHOR
ATR	ALL THREAD ROD
BLK	BLACK, PLAIN, OR NO FINISH
BP	BASE PLATE
BS	BASE STRAP
BOS/ TOS	BOTTOM OF STEEL/TOP OF STEEL
C	CENTER, COATED OR CORROSION RESISTANT
CI	CAST IRON
CP	CLEVIS PIN
CR	CHANGE ROD - LH/RH
CS	CARBON STEEL
CT	COPPER COATED
DI	DUCTILE IRON
E	END, EXCEPTION OR ELBOW EG ELECTRO-GALVANIZED
FAB	FABRICATE
FB	FLAT BAR
FOT/FOB	FLAT ON TOP/FLAT ON BOTTOM
FP	FIRE PROTECTION
FS	FORGED STEEL
FRP	FIBERGLASS REINFORCED PIPE
G	GUSSET OR GUIDE
H	HEAVY, HORIZONTAL OR HANGER
HDG	HOT-DIP GALVANIZED
L	LEFT, LIGHT, OR LONG1
LH	LEFT HAND
M	MEDIUM OR MALE M/F MALE/FEMALE
MI	MALLEABLE IRON
MSS	MANUFACTURERS STANDARDIZATION SOCIETY NATIONAL FIRE
NFPA	PREVENTION ASSOCIATION
P	PIN OR PIPE
PLT	PLATED (generally zinc)
R	ROD, ROUND, OR REDUCING
RH	RIGID HANGER
RR	ROUND ROD (no threads)
S	SHORT, SPECIAL, OR STAMPED
S.D.	SPECIAL DESIGN
SH	SPRING HANGER
SS	STAINLESS STEEL
T	TUBE OR TUBING
TBS	THREADED BASE STANCHION
TB	TURTLE BACK
TBE/TOE	THREADED BOTH END / THREADED ONE END
TOS	TOP OF STEEL
U	U-BOLT
V	VERTICAL
W	WELDED OR WITH
WBS	WELDED BASE STANCHION
W/O	WITHOUT
X	CROSSED, LINKED OR EXTRA
XH	EXTRA HEAVY

GULF STATE HANGERS
AND
SUPPORTS MANUFACTURERS

2019 CATALOG INDEX

FIGURE	ITEM NAME	FINISHES AVAILABLE FROM GSH
1	FLAT WASHER, STEEL	BLK/HDG/SS/PLT
2	LOCK WASHER, STEEL	BLK/HDG/SS/PLT
3	ROD COUPLING, STEEL W/SIGHT HOLE	BLK/HDG/SS/PLT
3E	ROD COUPLING, STEEL WO/SIGHT HOLE	BLK/HDG/SS/PLT
3R	ROD COUPLING, STEEL REDUCING	BLK/HDG/SS/PLT
4	HEX NUT, RH HEAVY	BLK/HDG/SS/PLT
5	MACHINE BOLT, W/HEAVY NUT	BLK/HDG/SS/
6	BEVEL WASHER, MI	PLT BLK
7	SQUARE WASHER STEEL PLATE - HEAVY	BLK/HDG/SS CS/
8	SHEAR LUG, RISER	SS/ALLOY BLK/
10	SPRINKLER U-HOOK	HDG/SS BLK/SS
11	SWING ROD FITTING - M/F	BLK/SS
12	SWING ROD FITTING - F/F	BLK/HDG/SS
13	U-BOLT, WITH ANCHOR CHAIR	PLT/HDG/SS
14	U-BOLT, STD W/4 HEX NUTS	BLK/HDG/SS
14BS	U-BOLT STRAP	BLK/HDG/SS
14C	U-BOLT, STD W/4 HEX NUTS PLAS.COAT. U-	BLK/HDG/SS
14CI	BOLT, FOR CAST IRON PIPE	CUSTOM
14S	U-BOLT, NON-STANDARD	CUSTOM
15	U-BOLT W/ANGLE BASE	CUSTOM
17	U-BOLT W/ FORMED FLAT BAR LINER ROD,	BLK/HDG/SS/PLT
18	ALL THREAD - RH ONLY	BLK/HDG/SS
19	ROD, MACHINE THREADED BE RH CHANGE	BLK/HDG/SS
19CR	ROD THREADED RH/LH	BLK/HDG/SS
19RR	ROD, PLAIN ROUND	BLK/HDG/SS
20	J-ROD, BEAM HOOK	BLK/HDG/SS
21	EYE ROD, NOT WELDED RH	BLK/HDG/SS
21L	EYE ROD, NOT WELDED LH	BLK/HDG/SS
22	EYE ROD, RH WELDED	BLK/HDG/SS
22L	EYE ROD, LH WELDED	BLK/HDG/SS
23	LINKED EYE RODS, NOT WELDED RH	BLK/HDG/SS
23L	LINKED EYE RODS, NOT WELDED RH/LH	BLK/HDG/SS
23W	LINKED EYE RODS, WELDED RH	BLK/HDG/SS
23WL	LINKED EYE RODS, WELDED RH/LH	BLK/HDG/SS
24WP	ANCHOR BOLT W/WASHER PLATE ANCHOR	BLK/HDG/SS
24J	BOLT W/J-HOOK	CUSTOM
24S	ANCHOR BOLT PER CUSTOMER DRAWING	BLK/HDG/SS/PLT
25	TURNBUCKLE, FS OR SS	BLK/HDG/SS
25F	TURNBUCKLE, FABRICATED	BLK/HDG/SS/PLT
26	CLEVIS, FS	BLK/HDG/SS
26CP	CLEVIS PIN ONLY	

INDEX, CONTIUES

FIGURE	ITEM NAME	FINISHES AVAILABLE FROM GSII
26P	CLEVIS, FS W/PIN	BLK/HDG/SS/PLT
27	CHANNEL TRAPEZE - BACK TO BACK STRUCTURAL	BLK/HDG/SS
28	TUBE TRAPEZE	BLK/HDG/PAINT
29	SIDE BEAM CLIP ANGLE	BLK/HDG/SS/MI
30	ANGLE BRACKET	BLK/HDG/SS
31-2	TRAPEZE ANGLE, 2-HOLES	BLK/HDG/SS
31-3	TRAPEZE ANGLE, 3-HOLES	BLK/HDG/SS
31-4	TRAPEZE ANGLE, 4-HOLES	BLK/HDG/SS
32	CEILING PLATE - ROD THREADS	BLK/HDG/SS
33	CEILING PLATE - PIPE THREADS	BLK/HDG/SS/MI
34	CEILING FLANGE- ROD THREADS	BLK/HDG/SS/MI
35	CEILING FLANGE - PIPE THREADS	BLK/HDG/SS
36	WELDLESS EYE NUT, FS OR SS	BLK/HDG/SS/PLT
36L 37	WELDLESS EYE NUT, FS - LH	BLK/HDG/PLT
37A 37X	C-CLAMP, MI BEAM TOP 1 1/2 THROAT	BLK/PLT
37B-CS	C-CLAMP, MI BEAM BOTTOM % THROAT	PLT
37B-EG	C-CLAMP, RETAINING CLIP ONLY	BLK/SS
37B-SS	C-CLAMP, CS BEAM BOTTOM % THROAT	BLK
38	C-CLAMP, EG CS BEAM BOTTOM % THROAT	PLT
	C-CLAMP, SS BEAM BOTTOM%. THROAT ADJUSTABLE	304SS
	BEAM CLAMP	BLK/HDG/SS
39	WELDED BEAM ATTACHMENT W/ PIN	BLK/HDG/SS
40	WEDED BEAM ATTACHMENT W/O PIN	BLK/HDG/SS
41	TOP BEAM CLAMP (J-BAR)	BLK/HDG/SS
42	OFFSET BEAM CLAMP	BLK/HDG/SS
43	CLOSE BEAM CLAMP	BLK/HDG/SS
44	I-BEAM CLAMP	BLK/HDG/SS
45	EXTENDED BEAM CLAMP	BLK/HDG/SS
46	DOUBLE ANGLE BEAM ATTACHMENT STRAIGHT J-	BLK/HDG/SS
48	HOOK HANGER	BLK/HDG/SS
49	OFFSET J-HOOK HANGER	BLK/HDG/SS
50	PIPE SADDLE W/ADJUSTABLE ROD SUPPORT PIPE	BLK/HDG/SS
50U	SADDLE W/U-BOLT AND ADJ. ROD SUPPORT PIPE	BLK/HDG/SS
51A	SUPPORT ADJUSTER	BLK/HDG/SS
51AWB	PIPE STANCHION - ADJUSTABLE WELDED	BLK/HDG/SS
51 WBS	PIPE STANCHION - WELDED BASE	BLK/HDG/SS
51TBS	PIPE STANCHION- THREADED BASE	BLK/HDG/SS
52	PIPE SADDLE WITH COUPLING	BLK/HDG/SS
52U	PIPE SADDLE WITH COUPLING AND U-BOLT PIPE	BLK/HDG/SS
53	SADDLE WITH SUPPORT STEM	BLK/HDG/SS
53A	PIPE SADDLE WITH ADJUSTER	BLK/HDG/SS
53AU	PIPE SADDLE WITH ADJUSTER AND U-BOLT PIPE	BLK/HDG/SS
53U	SADDLE WITH SUPPORT STEM AND U-BOLT	BLK/HDG/SS
54A	ADJUSTABLE SUPPORT	BLK/HDG/SS
54AU	ADJSUTABLE SUPPORT WITH U-BOLT	BLK/HDG/SS
54B	ADJUSTABLE SUPPORT	BLK/HDG/SS
56	LIGHT DUTY WALL BRACKET	BLK/HDG/SS
57H	HEAVY DUTY WALL BRACKET	BLK/HDG/SS
57M	MEDIUM DUTY WALL BRACKET	BLK/HDG/SS

INDEX. CONTINUES

FIGURE	ITEM NAME	FINISHES AVAILABLE FROM GSH
60	ADJUSTABLE CLEVIS HANGER-MEDIUM	BLK/HDG/SS
60C	ADJUSTABLE CLEVIS HANGER-PLASTIC COATED	BLK/HDG/SS
60CI	ADJUSTABLE CLEVIS HANGER FOR IRON PIPE	BLK/HDG/SS
60-FP	ADJUSTABLE CLEVIS HANGER W/NFPA HOLE SIZE	BLK/HDG/SS
62	ELONG. CLEVIS HGR FOR INSUL. PIPE TO 650F	BLK/HDG/SS
62A	ELONG. CLEVIS HGR FOR INSUL. PIPE TO 1050F	ALLOY
64	ANGLE BOTTOM CLEVIS FOR PLASTIC PIPE	BLK/HDG/SS
66	PEAR SHAPE HANGER	BLK/HDG/SS
66C	PEAR SHAPE HANGER - PLASTIC COATED	BLK/HDG/SS
66-FP	PEAR SHAPE W/NFPA HOLE SIZE	BLK/HDG/SS
70P	CLAMP, LT. WT. 1-HOLE PIPE SIZE	PLT/SS PLT/
70T	CLAMP, LT. WT. 1-HOLE TUBE SIZE	SS BLK/
71L	RING & BOLT LT. WT. CLAMP	HDG/SS
71M	RING & BOLT MED. WT. CLAMP	BLK/HDG/SS
73A	CAST IRON PIPE ROLL - LONG	CI
73B	CAST IRON PIPE ROLL - SHORT	CI
75	ROLL CHAIR W/2-BOLT STEEL BASE & CI ROLL	BLK/HDG
75SS	STAINLESS ROLL CHAIR W/2-BOLT SS BASE	304/316L
75XH	HEAVY SS ROLL CHAIR W/2-BOLT SS BASE	304/316 BLK/
76	CAST IRON PIPE ROLL STAND	HDG
76SS	STAINLESS PIPE ROLL STAND	304/316L
76XH	HEAVY STAINLESS PIPE ROLL STAND	304/316L
77	C.I. ROLL HANGER FOR 2-ROD SUPPORT=	BLK/HDG
77SS	STAINLESS ROLL HANGER- 2 ROD SUPPORT	304/316
77XH	HEAVY STAINLESS ROLL FOR 2-ROD SUPPORT	304/316
77A	CAST IRON ADJUSTABLE ROLL SOCKET	BLK/HDG
78	C.I. ADJUSTABLE ROLL SUPPORT WITH 2-RODS	BLK/HDG
78SS	STAINLESS ADJ ROLL SUPPORT W/2-RODS	304/316
78XH	HEAVY STAINLESS ADJ ROLL SUPPORT W/2-RODS	304/316
79	ROLL, CI ADJ W/STL YOKE FOR SINGLE ROD	BLK/HDG
79SS	ROLL, ADJ W/YOKE ALL SS FOR SINGLE ROD	304/316
79XH	HEAVY ROLL, W/YOKE ALL SS FOR SINGLE ROD	304/316
80	CLAMP, 2-BOLT MEDIUM	BLK/HDG/SS
80-1	2-BOLT CLAMP W/ONE LONG EAR	BLK/HDG/SS
82	CLAMP, 2-BOLT HEAVY	BLK/HDG/SS
83	CLAMP, MEDIUM RISER/EXTENSION	BLK/HDG/SS
83-1	OFFSET RISER CLAMP - MEDIUM	BLK/HDG/SS
83C	CLAMP, MED RISER/EXT. -PLASTIC COATED	BLK/HDG/SS
83CI	CLAMP, MED RISER/EXTENSION FOR CI PIPE	BLK/HDG/SS
84	CLAMP, 4-BOLT RISER STD	BLK/HDG/SS
85	CLAMP, 4-BOLT, RISER NON-STD	BLK/HDG/SS
86	CLAMP, 3-BOLT	BLK/HDG/SS
86A	CLAMP, 3-BOLT CHROME MOLY	ALLOY
86H	CLAMP, 3-BOLT HEAVY DUTY	BLK/HDG/SS

INDEX, CONTINUES

FIGURE	ITEM NAME	FINISHES AVAILABLE FROM GSH
88	CLAMP, MARINE EXTENDED	BLK/HDG/SS
88A	CLAMP, OFFSET	BLK/HDG/SS
90	SIDE LOADING HANGER	BLK/HDG/SS
99	PIPE COVERING PROTECTION SADDLES	BLK/HDG/SS/ALLOY
100	INSULATION PROTECTION SHIELD, 180 DEGREE	BLK/HDG/SS
100s	SHIELDS MADE TO CUSTOMER ORDER	CUSTOM
101	180 DEG. SHIELD W/RUBBER LINING	BLK/HDG/SS
102	360 DEG. SHIELD W/ CLAMPS	BLK/HDG/SS
103	360 DEG. RUBBER LINED SHIELD W/ CLAMPS	BLK/HDG/SS
104	180 DEG. SHIELD W/ CLAMPS	BLK/HDG/SS
105	180 DEG. RUBBER LINED SHIELD W/ CLAMPS	BLK/HDG/SS
106	90 DEG. PIPE WEAR SHIELD	BLK/HDG/SS
106A	120 DEG. PIPE WEAR SHIELD	BLK/HDG/SS
106B	150 DEG. PIPE WEAR SHIELD	BLK/HDG/SS
106C	180 DEG. PIPE WEAR SHIELD	BLK/HDG/SS
106TB	TURTLEBACK REINF. SHIELD FOR ELBOWS ELBOW ANCHOR SUPPORT - WELDED	SS CUSTOM
111A	SHOE SUPPORT, SINGLE STEM W/CRADLE	SS BLK/
111B	SHOE SUPPORT, DBL. STEM W/CRADLE	HDG/SS
111 C	SHOE SUPPORT, CUSTOM	CUSTOM
112	SHOE SUPPORT, SINGLE TEE	BLK/HDG/SS
113	SHOE <i>SUPPORT</i> W/SGL. STEM TEE & 1 CLAMP	BLK/HDG/SS
114A	SHOE SUPPORT W/SGL. STEM TEE & 2 CLAMPS	BLK/HDG/SS
114B	SHOE SUPPORT W/DBL. STEM TEE & 2 CLAMPS	BLK/HDG/SS
115	HOLD DOWN CLAMP WBOLT HOLES -MEDIUM	BLK/HDG/SS
116	HOLD DOWN ANCHOR CLAMP – HEAVY	BLK/HDG/SS
116BP	BASE PLATE FOR HOLD DOWN ANCHOR CLAMP	BLK/HDG/SS
118	SPRINKLER SHORT CLIP	BLK/HDG/SS
124	2-BOLT CLAMP WITH ROD COUPLING WELDED ON	BLK/HDG/SS
125	2-BOLT CLAMP WITH ROD COUPLING AND BASE	BLK/HDG/SS
126	HALF V & HALF ROUND PIPE CLAMP	BLK/HDG/SS
127	HALF V & HALF ROUND CLAMP W/ROD COUPLING	BLKAHDG/SS
130	RIGHT ANGLE PIPE OR CONDUIT CLAMP	PLATED PLATED
132	CONDUIT CLAMP	
133	STRUT CLAMP PIPE HANGER	HDG/SS/PLT
140	SQUARE WASHER W/ROUND HOLE – LIGHT	BLK/HDG/SS
141	SQUARE WASHER WITH SQUARE HOLE	BLK/HDG/SS
142	SQUARE WASHER WITHOUT HOLE - (HARD SLIM)	BLKAHDG/SS ALLOY
ISO	FLANGED COMPONENT HANGER - HORIZ. PIPE	BLK/HDG/SS
151	FLANGED COMPONENT HANGER - VERTICAL PIPE	BLK/HDG/SS
152	PIPE FLANGE OFF-CENTER SUPORT	BLK/HDG/SS
152C	PIPE FLANGE CENTER SUPPORT	BLK/HDG/SS

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FIGURE	ITEM NAME	FINISHES AVAILABLE FROM GSH
153S	LINED SHOE SUPPORT W/OUT TOP FOR INSULATED FRP PIPE	CUSTOM
153G	LINED SHOE GUIDE W/2 TOP STRAPS FOR INSULATED FRP PIPE	CUSTOM
153C	LINED SHOE ANCHOR FOR INSULATED FRP	CUSTOM
154AB	360 DEG LINED ANCHOR SHOE FOR FRP PIPE	CUSTOM
155	PEAR SHAPED HANGER W/RUBBER LINED	CUSTOM
156	CLEVIS HANGER WITH RUBBER LINED SHIELD	CUSTOM
157	RUBBER LINED 4-BOLT RISER SUPPORT CLAMP	CUSTOM
158G	RUBBER LINED 2-BOLT RISER GUIDE CLAMP	CUSTOM
158S	RUBBER LINED 2-BOLT RISER SUPPORT CLAMP	CUSTOM
160	RUBBER LINED CLAMPS FOR FRP PIPE 3" - 4"	CUSTOM
161	RUBBER LINED CLAMPS FOR FRP PIPE 6" -10"	CUSTOM
162	RUBBER LINED CLAMPS FOR FRP PIPE 12" -18"	CUSTOM
163	RUBBER LINED CLAMPS FOR FRP PIPE 20" - 24"	CUSTOM
164	RUBBER LINED CLAMPS FOR FRP PIPE 30" - 36"	CUSTOM
165	HANGING LUG FOR FIG 161 CLAMPS	CUSTOM
166	HANGING LUG FOR FIG 162 CLAMPS	CUSTOM
167	HANGING LUG FOR FIG 163 CLAMPS	CUSTOM
168	HANGING LUG FOR FIG 164 CLAMPS	CUSTOM
169	FIG 160/164 CLAMPS W/SUPPORT WELDING FIN	CUSTOM
170	FIG 160/164 CLAMPS W/ANCHOR SHOE BASE	CUSTOM
171	LINED SADDLE W/FIN FOR FRP PIPE 6" -	CUSTOM
172	LINED SADDLE W/FIN FOR FRP PIPE 12" -18"	CUSTOM
173	LINED SADDLE W/FIN FOR FRP PIPE 20" - 24"	CUSTOM
174	FIG 160/164 CLAMPS WITH SLIDING SHOE BASE	CUSTOM
175S	LINED SHOE SUPPORT W/OPEN TOP FOR FRP	CUSTOM
175GB	LINED SHOE GUIDE W/FULL TOP FOR FRP	CUSTOM
175GA	LINED SHOE GUIDE W/2 STRAP TOP FOR FRP	CUSTOM
176	WIDE LINED CLAMP FOR FRP PIPE	CUSTOM
176I	WIDE LINED CLAMP WANSULATION BAND FOR FRP PIPE	CUSTOM
176L	WIDE LINED CLAMP W/SIDE LUG FOR FRP PIPE	CUSTOM
176LI	WIDE LINED CLAMP W/LUG & INSULATION HOLES FOR FRP PIPE	CUSTOM
200	CONC. ANCHOR PLATE WALUG FOR FGD.	BLK/HDG/SS
201	CONC. ANCHOR PLATE W/WELD BEAM	BLK/HDG/SS
202	CONC. ANCHOR PLATE W/ROD ATTACHMENT	BLK/HDG/SS
220	ANGLE OR CHANNEL BEAM CLAMP	BLK/HDG/SS
230	BEAM CLAMP W/WELDLESS EYE NUT -	BLK/HDG
230L	BEAM CLAMP W/WELDLESS EYE NUT -	BLK/HDG
232	BEAM CLAMP W/ SWING NUT	BLK/HDG
233	STRUCTURAL WELDING LUG - SHORT	BLK/HDG/SS
233L	STRUCTURAL WELDING LUG - LONG	BLK/HDG/SS
235	TWO HOLE WELDING LUG	BLK

INDEX. CONTINUES

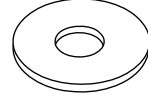
FIGURE	ITEM NAME	FINISHES AVAILABLE FROM GSH
250	PIPE WELDING LUG FOR LONG RADIUS ELBOW	BLK/HDG/SS
251	PIPE WELDING LUG FOR SHORT RADIUS ELBOW	BLK/HDG/SS
252	PIPE WELDING LUG FOR FIVE DIAMETER BEND	BLK/HDG/SS
253	PIPE WELDING LUG FOR VERTICAL PIPE RISER	BLK/HDG/SS
257	HORIZONTAL PIPE RESTRAINT - WELDED	BLK/HDG/SS
258	HORIZONTAL PIPE RESTRAINT - BOLTED	BLK/HDG/SS
259	VERT. RESTRAINT FOR HORIZ. PIPE - WELDED	BLK/HDG/SS
260	VERT. RESTRAINT FOR HORIZ. PIPE - BOLTED	BLK/HDG/SS
261	HORIZ & VERT RESTRAINT - WELDED	BLK/HDG/SS
262	HORIZ & VERT RESTRAINT - BOLTED	BLK/HDG/SS
272	FIG 272-277 SOCKET CLAMP USE EXAMPLES	BLK/HDG/SS
273	SOCKET CLAMP, UNDERGROUNG - 2-BOLT	BLK/HDG/SS
274AB	SOCKET CLAMP, UNDERGROUNG - 4-BOLT	BLK/HDG/SS
275	SOCKET CLAMP WASHERS	BLK/HDG/SS
276	SOCKET CLAMP YOKE	BLK/HDG/SS
277	SOCKET CLAMP PLUG ANCHOR STRAP	BLK/HDG/SS
285	SOCKET CLAMP TEE ANCHOR STRAP	BLK/HDG/SS
286	PIPE ALIGNMENT GUIDE -1-CLAMP	BLK/HDG/SS
287	PIPE ALIGNMENT GUIDE - 2-CLAMPS	CUSTOM
288	TEE SHOE WITH TEFLON SLIDE PLATE	PRIMED
289	LT. DUTY SPRING CUSHIONS SGL. ROD SUPPORT SPRING CUSHIONS FOR 2-ROD HANGERS	PRIMED

DIMENSIONS—WEIGHTS

ROD/BOLT DIA.	FIG.1		FIG.4 WEIGHT PER 100
	O.D.	WEIGHT PER 100	
3/8	7/8	3	2
1/2	1-3/8	4	4
5/8	1-3/4	8	7
3/4	2	11	12
7/8	2-1/4	15	19
1	2-1/2	19	28
1-1/8	2-1/4	23	40
1-1/4	3	26	54
1-3/8	2-3/4	32	73
1-1/2	3-1/2	39	94
1-3/4	4	56	204
1-7/8	4-1/4	59	241
2	4-1/2	63	299
2-1/4	4-3/4	83	419
2-1/2	5	96	564
2-3/4	5-1/4	110	738
3	5-1/2	130	950
3-1/4	5-3/4	140	1194
3-1/2	6	150	1526

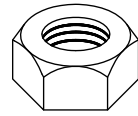
FLAT STEEL WASHER__FIG. 1

MATERIAL:
CARBON STEEL
ORDERING:
SPECIFY NAME,
FIGURE NUMBER,
ROD OR BOLT DIAMETER
& FINISH.



AMERICAN STANDARD
HEAVY HEX NUT W/
RIGHT HAND THREADS__FIG. 4

MATERIAL:
ASTM A-194
ORDERING:
SPECIFY NAME,
FIGURE NUMBER,
ROD OR BOLT DIAMETER
& FINISH.



DIMENSIONS (INCHES)

ROD SIZE	INSIDE DIAMETER	WIDTH OF STEEL	THICKNESS OF STEEL	APPROX. WEIGHT PER 100
3/8	7/16	.141	.094	7
1/2	9/16	.171	.125	15
5/8	11/16	.203	.156	26
3/4	13/16	.234	.188	43

STEEL LOCK WASHER__FIG. 2

ORDERING:
SPECIFY NAME,
FIGURE NUMBER,
ROD OR BOLT DIAMETER
& FINISH.

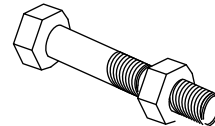


WEIGHT PER 100

BOLT LENGTH	3/8	1/2	5/8	3/4	7/8	1	1-1/4	1-1/2	1-3/4	2
1-1/2	7	-	-	-	-	-	-	-	-	-
2	9	18	31	-	-	-	-	-	-	-
2-1/2	10	20	36	55	-	-	-	-	-	-
3	12	23	40	61	90	124	-	-	-	-
3-1/2	14	26	44	67	98	135	-	-	-	-
4	-	29	48	73	107	145	254	435	-	-
4-1/2	-	-	79	115	156	271	460	-	-	-
5	-	-	-	123	167	288	481	702	-	-
5-1/2	-	-	-	-	-	304	503	736	-	-
6	-	-	-	-	-	321	524	770	1052	-
7	-	-	-	-	-	-	-	827	1141	-
8	-	-	-	-	-	-	-	895	1230	-
9	-	-	-	-	-	-	-	-	1305	-
10	-	-	-	-	-	-	-	-	1394	-

HEX HEAD MACHINE BOLT
W/HEAVY HEX NUT__FIG. 5

MATERIAL:
CARBON STEEL
ORDERING:
SPECIFY NAME,
FIGURE NUMBER,
BOLT DIAMETER, LENGTH
& FINISH.



PHONE: (251) 653-6228

FAX: (251) 653-5356

FIG. 3, 3E, 3R & 6

DIMENSIONS—LOADS—WEIGHTS

ROD SIZE	MAXIMUM RECOMMENDED LOAD, LB. ■	WGT. (APPROX.) LBS. EACH	D	L
1/2	1130	.12	3/4	1-1/2
5/8	1810	.24	15/16	1-7/8
3/4	2710	.42	1-1/8	2-1/4
7/8	3770	.66	1-5/16	2-5/8
1	4960	1.0	1-1/2	3
1-1/4	8000	1.9	1-7/8	3-3/4
1-1/2	11630	3.3	2-1/4	4-1/2
1-3/4	15700	6.2	2-3/4	5-1/4
2	20700	9.0	3-1/8	6
2-1/4	27200	12.7	3-1/2	6-3/4
2-1/2	33500	17.2	3-7/8	7-1/2
2-3/4	41580	22.7	4-1/4	8-1/4
3	50580	29.2	4-5/8	9
3-1/4 ●	60480	36.9	5	9-3/4
3-1/2 ●	71280	45.8	5-3/8	10-1/2
3-3/4 ●	82890	56.0	5-3/4	11-1/4
4 ●	95400	67.7	6-1/8	12
4-1/4 ●	109000	80.8	6-1/2	12-3/4
4-1/2 ●	123000	95.6	6-7/8	13-1/2
4-3/4 ●	138000	112.1	7-1/4	14-1/4
5 ●	154000	130.4	7-5/8	15

● FURNISHED WITH 8 UN SERIES THREADS.
 ■ BASED ON THE ALLOWABLE STRESSES SHOWN IN THE ANSI CODE FOR PRESSURE PIPING

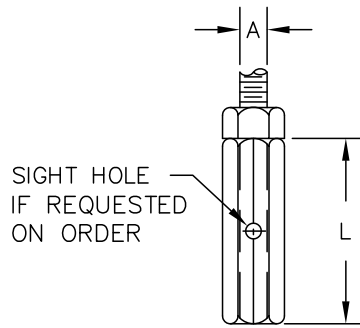
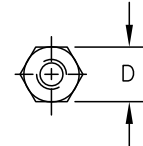


FIG. 3



- STEEL ROD COUPLING W/RH THREADS
 -W/SIGHT HOLE___ FIG. 3
 -W.O./SIGHT HOLE__FIG. 3E
 -REDUCING_____FIG. 3R

MATERIAL:
 CARBON STEEL OR STAINLESS STEEL
 ORDERING:
 SPECIFY NAME,
 FIGURE NUMBER, MATERIAL,
 ROD SIZE, FINISH AND
 W/SIGHT HOLE IF REQUIRED.

DIMENSIONS IN INCHES

ROD. DIA.	SIZE	THICKNESS		APPROX. WEIGHT PER 100
		SMALL END	LARGE END	
3/8	1-1/4	5/32	11/32	9
1/2	1-1/4	5/32	11/32	9
5/8	1-1/2	5/32	13/32	15
3/4	1-1/2	7/32	15/32	16
7/8	2	7/32	9/16	33
1	2	7/32	9/16	31
1-1/8	2-1/4	9/32	5/8	49
1-1/4	2-1/2	5/16	23/32	68

BEVEL WASHER___ FIG. 6

MATERIAL:
 MALLEABLE IRON
 ORDERING:
 SPECIFY NAME,
 FIGURE NUMBER
 AND ROD SIZE

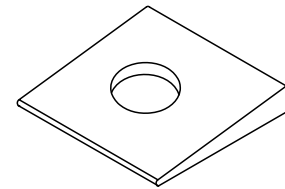


FIG. 6



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DIMENSION-WEIGHTS

ROD SIZE	SIZE OF STOCK	HOLE DIA. H	WEIGHT PER 100
3/8 1/2 5/8	3 X 3 X 1/4 3 X 3 X 1/4 3 X 3 X 3/8	7/16 9/16 11/16	64 64 96
3/4 1	4 X 4 X 3/8 4 X 4 X 1/2	13/16 1-1/16	170 225
1-1/4 1-1/2 1-3/4	5 X 5 X 1/2 5 X 5 X 3/4 5 X 5 X 3/4	1-3/8 1-5/8 1-7/8	329 481 465
2 2-1/4 2-1/2	5 X 5 X 3/4 6 X 6 X 3/4 6 X 6 X 3/4	2-1/8 2-1/2 2-3/4	447 662 640
2-3/4 3 3-1/4	6 X 6 X 3/4	3 3-1/4 3-1/2	616 589 556
3-1/2 3-3/4	7 X 7 X 3/4	3-3/4 4	807 775
4 4-1/4 4-1/2	8 X 8 X 1	4-1/4 4-1/2 4-3/4	1411 1362 1311
4-3/4 5	9 X 9 X 1	5 5-1/4	1728 1681

FIG. 7 & 8

WASHER PLATE__FIG. 7

MATERIAL:
CARBON STEEL
OR STAINLESS STEEL
ORDERING:
SPECIFY NAME,
FIGURE NUMBER,
ROD SIZE.
MATERIAL AND
FINISH

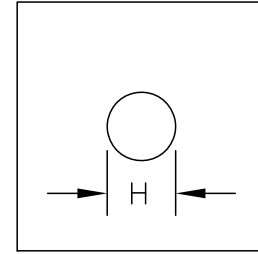


FIG. 7

NOTE:
WASHER PLATE IS FOR USE ON
DOUBLE CHANNEL & TUBING TRAPEZE
SEE FIGURE 140 FOR SQUARE WASHERS
AND SHIMS

DIMENSIONS-LOADS-WEIGHTS

LUG SIZE	MAXIMUM RATED LOAD	PIPE SIZE	A	B	L	WEIGHT PER 100
1 2	1500 3000	1 THRU 1-1/2 2 THRU 3	1/4	1/2 3/4	2	7 11
3 4	5000 10000	4 THRU 5 6 THRU 10	3/8 1/2	1 1-1/2	3	32 64
5 6	15000 30000	12 THRU 14 16 THRU 24	3/4 1	2	3 4	128 227

RISER SHEAR LUG_____FIG. 8

MATERIAL:
CARBON STEEL
ORDERING:
SPECIFY NAME, FIGURE NUMBER
AND SIZE NUMBER

NOTE:
SHEAR LUGS ARE FOR USE WITH
RISER CLAMPS

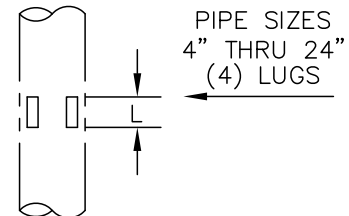
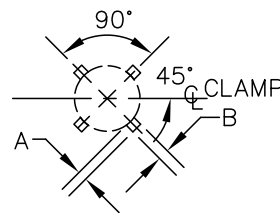
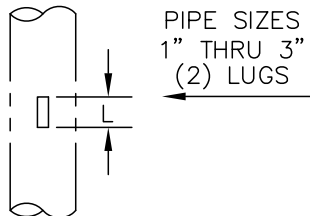
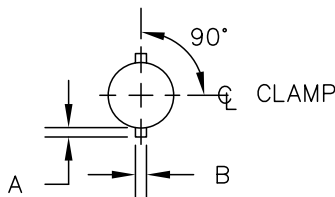


FIG. 8



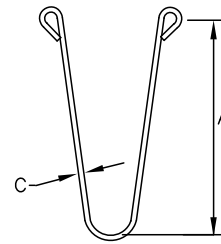
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SPRINKLER U-HOOK _____ FIG. 10

FIG. 10, 11 & 12

MATERIAL: CARBON STEEL OR STAINLESS STEEL
 ORDERING: SPECIFY NAME, FIGURE NUMBER, PIPE SIZE,
 HOOK LENGTH AND MATERIAL
 NOTE: LENGTH IS FROM CENTER OF EYE TO
 BOTTOM OF PIPE. SMALL SCREWS MAY
 REQUIRE USE OF WASHERS TO INSTALL.



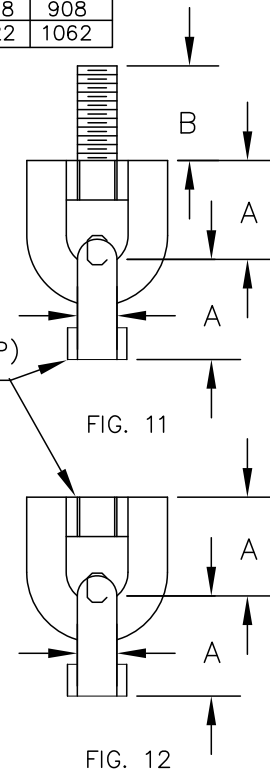
DIMENSIONS (INCHES); WEIGHT PER 100

FIG. 10

PIPE SIZES	3/4 THRU 2	2-1/2 THRU 3	3-1/2 THRU 4	5	6	8
DIM. C	5/16	3/8	1/2	5/8	5/8	3/4
SIZE SCREW	NO.16	3/8	1/2	1/2	1/2	5/8
MAX. LOAD, LB.	250	300	300	550	750	1100
LENGTH A INCHES	PIPE SIZES IN INCHES					
	3/4 THRU 2	2-1/2 THRU 3	3-1/2 THRU 4	5	6	8
6	36					
8	45					
10	54	82	159	273	278	
12	62	97	181	307	312	
14	71	107	204	343	347	531
16	80	120	226	378	381	582
18	88	132	248	411	416	632
20	100	147	271	447	450	663
24	108	166	315	481	520	762
30	134	213	382	532	618	908
36	160	251	448	584	722	1062

SWING ROD FITTING – WELDED
 –MALE/FEMALE _____ FIG. 11
 –FEMALE/FEMALE _____ FIG. 12

MATERIAL: CARBON STEEL OR STAINLESS STEEL
 ORDERING: SPECIFY NAME, FIGURE NUMBER, ROD SIZE,
 MATERIAL AND FINISH



DIMENSIONS – WEIGHTS

ROD SIZE	A	B	C	APPROX. WEIGHTS PER 100	
				FIG.11	FIG.12
3/8	1-3/8	1	3/8	30	28
1/2			57	53	
5/8	1-5/8	1-1/4	1/2	112	104
3/4			196	179	
7/8	3	2	5/8	355	318



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DIMENSION(INCHES)

FIG. 13

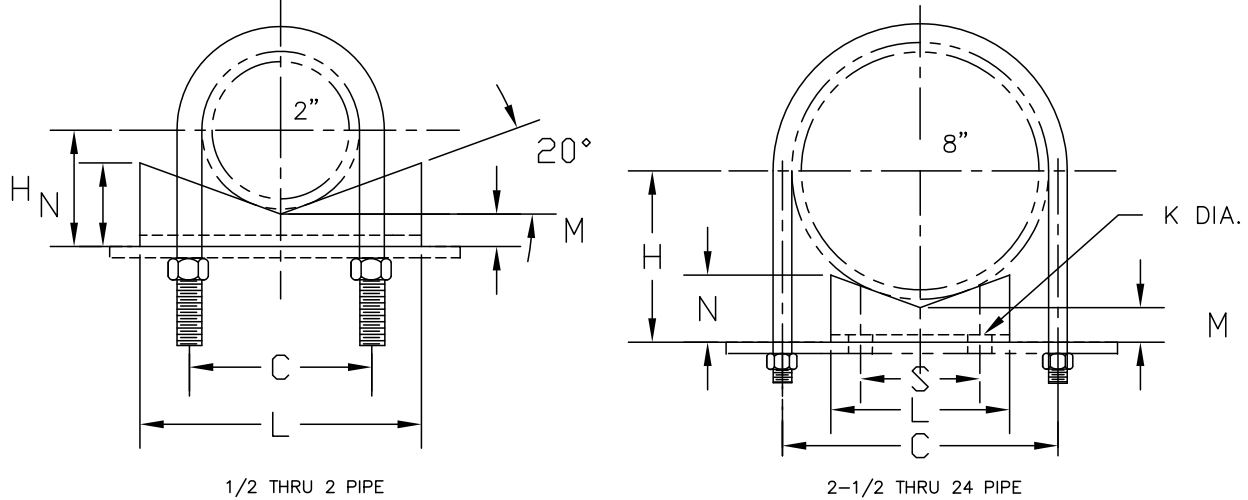
PIPE SIZE	L	H	C	M	N	S	K HOLE	CHAIR STOCK SIZE	
1/2	2-3/8	1-1/4	1-3/16	13/16	1-1/4	C	5/16	3 X 4.1 LB. CHANNEL OR WELDMENT	
3/4	2-5/8	1-5/16	1-3/8	3/4	1-1/4	C			
1	2-7/8	1-7/16	1-5/8	3/4	1-1/4	C			
1-1/4	3-1/8	1-1/2	2-1/16	5/8	1-3/16	C	7/16		
1-1/2	3-7/8	1-9/16	2-3/8	9/16	1-1/4	C			
2	4-1/4	1-3/4	2-13/16	1/2	1-1/4	C			
2-1/2	3	2-1/4	3-7/16	23/32	1-9/32	1-1/2	9/16		8 X 11.5 CHANNEL OR WELDMENT
3	3-1/2	2-1/2	4-1/16	5/8	1-9/32	2			
3-1/2	3-1/2	2-5/8	4-9/16	1/2	1-1/8	2-1/2			
4	4	2-13/16	5-1/16	13/32	1-1/8				
5	4	3-9/16	6-1/8	19/32	1-11/32	3	13/16		
6	5	3-15/16	7-3/8	13/32	1-5/16	4			
8	6	5-3/4	9-3/8	1-5/32	2-1/4				
10	6	6-3/4	11-5/8	1-1/32	2-1/8				
12	6	7-3/4	13-3/4	31/32	2-1/16	5-1/2			
14	7-1/2	8-5/16	15	27/32	2-7/32				
16	7-1/2	9-3/8	17	27/32	2-7/32				
18	7-1/2	10-5/16	19-1/8	23/32	2-3/32	7			
20	9	11-3/8	21-1/8	5/8	2-1/4				
24	9	13-3/8	25-1/8	1/2	2-1/8				

SEE FIGURE 14 FOR U-BOLT DIMENSIONS.

ANCHOR CHAIR WITH U-BOLT _____ FIG. 13

MATERIAL: CARBON STEEL OR STAINLESS STEEL

ORDERING: SPECIFY NAME, FIGURE NUMBER, PIPE SIZE, MATERIAL AND FINISH



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STANDARD U-BOLT WITH 4-HEX NUTS___FIG. 14
 PLASTIC COATED_____FIG. 14C
 FOR CAST IRON PIPE_____FIG. 14CI
 U-BOLT, NON-STANDARD SPECIAL_____FIG. 14S

FIG.
 14
 14C
 14CI
 14S

MATERIAL:
 CARBON STEEL OR STAINLESS STEEL
 ORDERING:
 SPECIFY NAME, FIGURE NUMBER, PIPE SIZE,
 MATERIAL AND FINISH

NOTE #1
 IF NUTS ARE NOT REQUIRED SPECIFY
 "WITHOUT HEX NUTS"

NOTE #2
 WHEN ORDERING FIG. 14S
 SPECIFY NAME FIGURE NUMBER, PIPE SIZE,
 DIMENSIONS A, B, C, D, AND E
 MATERIAL AND FINISH, "WITH OR WITHOUT
 HEX NUTS"

NOTE #3
 FIG. 14BS BASE STRAP MUST BE
 ORDERED SEPARATELY.

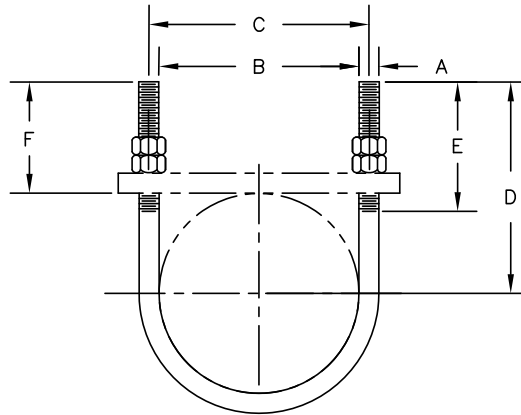


FIG. 14 & 14S

LOAD-WEIGHTS-DIMENSION(INCHES)

PIPE SIZE	ROD SIZE A	MAXIMUM RECOMMENDED LOAD, LB.		STEEL PIPE INSIDE RODS B	CI & DI PIPE INSIDE RODS B	STEEL PIPE CENTER TO CENTER OF RODS C	TANGENT LENGTH D	THREAD LENGTH E	EXTENSION PAST PIPE F
		650°F	750°F						
1/2	1/4	485	435	15/16	-	1-3/16	2-3/4	2-1/8	2-5/16
3/4	1/4	485	435	1-1/8	-	1-3/8	2-3/4	2-1/8	2-7/32
1	1/4	485	435	1-3/8	-	1-5/8	2-3/4	2-1/8	2-3/32
1-1/4	3/8	1220	1090	1-11/16	-	2-1/16	2-7/8	2-1/8	2-1/32
1-1/2	3/8	1220	1090	2	-	2-3/8	3	2-1/2	2-1/16
2	3/8	1220	1090	2-7/16	-	2-13/16	3-1/4	2-1/2	2-1/16
2-1/2	1/2	2260	2020	2-15/16	-	3-7/16	3-3/4	3	2-5/16
3	1/2	2260	2020	3-9/16	4	4-1/16	4	3	2-1/4
3-1/2	1/2	2260	2020	4-1/16	-	4-9/16	4-1/4	3	2-1/4
4	1/2	2260	2020	4-9/16	5	5-1/16	4-1/2	3	2-1/4
5	1/2	2260	2020	5-5/8	-	6-1/8	5	3	2-7/32
6	5/8	3620	3230	6-3/4	7-1/8	7-3/8	6-1/8	3-3/4	2-13/16
8	5/8	3620	3230	8-3/4	9-3/16	9-3/8	7-1/8	3-3/4	2-13/16
10	3/4	5420	4830	10-7/8	11-3/8	11-5/8	8-3/8	4	3
12	7/8	7540	6730	12-7/8	13-1/2	13-3/4	9-5/8	4-1/4	3-1/4
14	7/8	7540	6730	14-1/8	15-3/4	15	10-1/4	4-1/4	3-1/4
16	7/8	7540	6730	16-1/8	17-7/8	17	11-1/4	4-1/4	3-1/4
18	1	9920	8850	18-1/8	20	19-1/8	12-5/8	4-3/4	3-5/8
20	1	9920	8850	20-1/8	22-1/8	21-1/8	13-5/8	4-3/4	3-5/8
24	1	9920	8850	24-1/8	26-3/8	25-1/8	15-5/8	4-3/4	3-5/8
28	1	9920	8850	28-1/8	-	29-1/8	17-5/8	4-3/4	3-5/8
30	1	9920	8850	30-1/8	32	31-1/8	18-5/8	4-3/4	3-5/8
36	1	9920	8850	36-1/8	38-5/16	37-1/8	21-5/8	4-3/4	3-5/8



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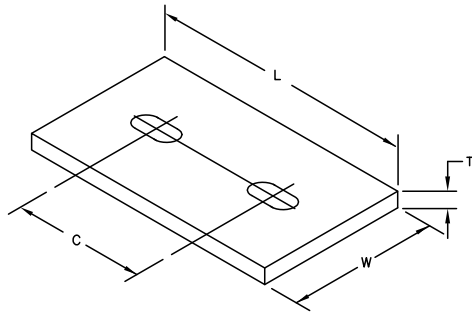


FIG. 14BS

U-BOLT STRAP_____ FIG. 14BS

MATERIAL:
CARBON STEEL OR STAINLESS STEEL
ORDERING:
SPECIFY NAME, FIGURE NUMBER, PIPE SIZE,
MATERIAL AND FINISH

DIMENSIONS(INCHES)

PIPE SIZE	ROD SIZE A	CENTER TO CENTER OF RODS C	L	W	T	HOLE SIZE
1/2 3/4 1	1/4 1/4 1/4	1-3/16 1-3/8 1-5/8	3-1/2	1-1/2	3/16	5/16 X 1/2
1-1/4 1-1/2 2	3/8 3/8 3/8	2-1/16 2-3/8 2-13/16	4-1/2 5 5	2	1/4	7/16 X 3/4
2-1/2 3 3-1/2	1/2 1/2 1/2	3-7/16 4-1/16 4-9/16	6 7 8	2 4 4	1/4 3/8 3/8	9/16 X 3/4
4 5 6	1/2 1/2 5/8	5-1/16 6-1/8 7-3/8	8 9 10-1/4	4	3/8	9/16 X 3/4 9/16 X 3/4 11/16 X 1
8 10 12	5/8 3/4 7/8	9-3/8 11-5/8 13-3/4	12-1/4 14-1/2 16-1/2	5	1/2	11/16 X 1 13/16 X 1 15/16 X 1-1/4
14 16 18	7/8 7/8 1	15 17 19-1/8	18 20 22	5 5 6	1/2 1/2 5/8	15/16 X 1-1/4 15/16 X 1-1/4 1-1/16 X 1-1/2
20 24 28 30 36	1 1 1 1 1	21-1/8 25-1/8 29-1/8 31-1/8 37-1/8	24-1/2 28-1/2 32-1/2 34-1/2 40-1/2	6	5/8	1-1/16 X 1-1/2

SEE FIG. 14 PAGE FOR U-BOLT DRAWING



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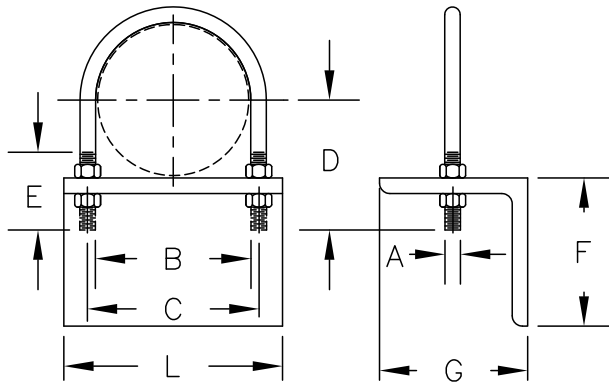


FIG. 15

U-BOLT WITH BASE ANGLE___ FIG. 15

MATERIAL:

CARBON STEEL OR
STAINLESS STEEL

ORDERING:

SPECIFY NAME, FIGURE NUMBER,
PIPE SIZE, DIMENSIONS A, B,
C, D, E, F, G, AND L,
MATERIAL AND FINISH
"WITH HEX NUTS" OR
"WITHOUT HEX NUTS"

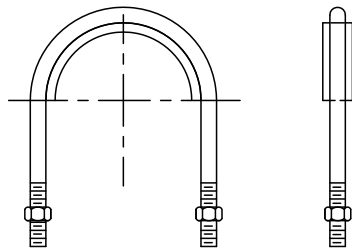


FIG. 17

U-BOLT WITH FORMED FLAT BAR
LINER WELDED IN_____ FIG. 17

MATERIAL:

CARBON STEEL OR
STAINLESS STEEL

ORDERING:

SPECIFY NAME, FIGURE NUMBER
PIPE O.D., MATERIAL AND FINISH

DIMENSIONS (INCHES)

PIPE SIZE	ROD SIZE	BAR SIZE
1/2 THRU 1	1/4	10 GA. X 1
1-1/4 THRU 2	3/8	10 GA. X 1
2-1/2 THRU 5	1/2	10 GA. X 1
6 THRU 8	5/8	3/16 X 1
10	3/4	1/4 X 1-1/4
12 THRU 16	7/8	1/4 X 1-1/4
18 THRU 36	1	1/4 X 1-1/2



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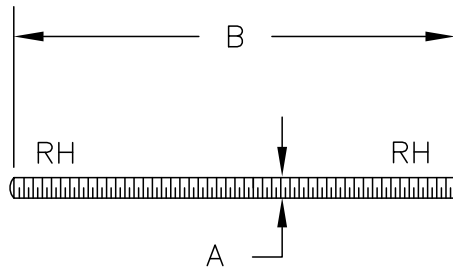


FIG.18

ALL THREAD ROD—RIGHT HAND THREAD ONLY__FIG.18

MATERIAL:

CARBON STEEL OR STAINLESS STEEL

ORDERING:

SPECIFY NAME, FIGURE NUMBER, ROD SIZE,
MATERIAL AND FINISH

NOTE:

MAXIMUM TEMPERATURE=750 DEGREES F.
ROD IS STOCKED IN 12 FOOT LENGTHS.

LOADS—WEIGHTS

ROD SIZE A	MAXIMUM RECOMMENDED LOAD LB ■ FOR CARBON STEEL RODS		WEIGHT (APPROX) LBS/FT
	650°F	750°F	
3/8	610	540	.30
1/2	1130	1010	.53
5/8	1810	1610	.84
3/4	2710	2420	1.2
7/8	3770	3360	1.7
1	4960	4420	2.3
1-1/4	8000	7140	3.6
1-1/2	11630	10370	5.1

■USE 85% OF ABOVE LOADS FOR STAINLESS STEEL.



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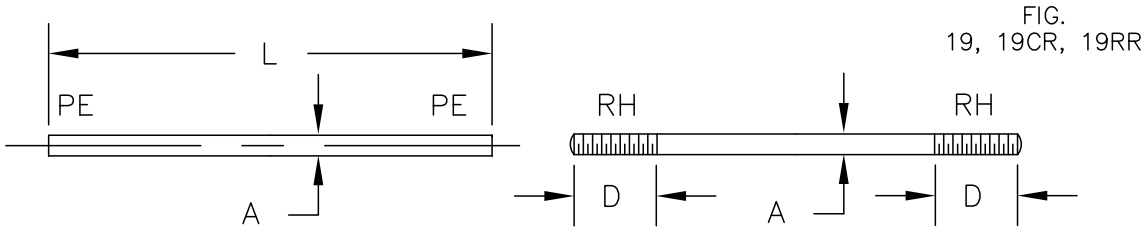


FIG.19RR

FIG.19

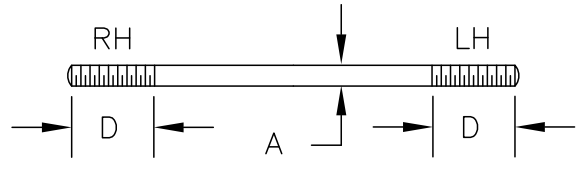


FIG.19CR

LOADS-STANDARD THREAD LENGTHS

ROD SIZE A	MAXIMUM RECOMMENDED LOAD LB FOR CARBON STEEL RODS		STANDARD ROD THREAD LENGTH D, ♦ IN
	650°F	750°F	
3/8	610	540	2-1/2
1/2	1130	1010	2-1/2
5/8	1810	1610	2-1/2
3/4	2710	2420	3
7/8	3770	3360	3-1/2
1	4960	4420	4
1-1/4	8000	7140	5
1-1/2	11630	10370	6
1-3/4	15700	14000	7
2	20700	18460	8
2-1/4	27200	24260	9
2-1/2	33500	29880	10
2-3/4	41580	37066	11
3	50580	45085	12
3-1/4 ♦	60480	53906	13
3-1/2 ♦	71280	63493	14
3-3/4 ♦	82890	73855	15

ROD, MACHINE THREADED BOTH ENDS
 BOTH ENDS, RIGHT HAND _____ FIG.19
 CHANGE ROD, ONE END RH
 ONE END LH _____ FIG.19CR
 PLAIN ROUND ROD,
 NO THREADS _____ FIG.19RR

MATERIAL:
 CARBON STEEL OR STAINLESS STEEL
 ORDERING:
 SPECIFY NAME, FIGURE NUMBER,
 ROD SIZE, MATERIAL AND FINISH
 GIVE THREAD LENGTH IF NOT
 STANDARD

NOTE:
 MAXIMUM TEMPERATURE=750
 DEGREES F. ONE FIG. 19C IS
 REQUIRED FOR EACH TURNBUCKLE

- ♦ 3/8, 1/2 AND 5/8 INCH FIG.19 ROD IN LENGTHS OF 24 INCH OR SHORTER WILL BE FURNISHED AS CONTINUOUS THREAD ROD UNLESS ORDER STATES THAT ALL THREAD ROD IS NOT ACCEPTABLE
- FURNISHED WITH 8 UN THREADS



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J-ROD BEAM HOOK _____ FIG. 20

MATERIAL:
CARBON STEEL OR STAINLESS STEEL

ORDERING:
SPECIFY NAME, FIGURE NUMBER,
ROD DIAMETER, HOOK LENGTH
AND FLANGE THICKNESS.

J-ROD MATERIAL AND FINISH
NOTE: HOOK LENGTH IS MEASURED
FROM THE END OF THE THREADED
END TO THE INSIDE OF THE HOOK

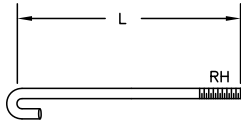


FIG. 20

APPROX. WEIGHT PER HUNDRED

LENGTH, INCHES	4	5	6	7	8	10	12
ROD. DIA.-3/8	19	22	25	28	32	38	44
ROD. DIA.-1/2	33	39	45	50	56	67	78
ROD. DIA.-5/8	52	61	70	78	87	102	122
ROD. DIA.-3/4	75	89	101	113	126	150	175
ROD. DIA.-7/8	102	120	136	153	171	204	239

ANCHOR BOLT
-WITH PLATE _____ FIG. 24WP
-WITH J-HOOK _____ FIG. 24J
-SPECIAL _____ FIG. 24S

MATERIAL:
CARBON STEEL OR STAINLESS STEEL
ORDERING:
SPECIFY NAME, FIGURE NUMBER,
ROD DIAMETER, THREAD LENGTH,
DIMENSIONS B AND H, OR WASHER PLATE
DIMENSION, MATERIAL AND FINISH.
SPECIALS: MADE PER CUSTOMER DRAWING

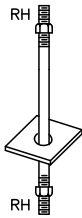


FIG. 24WP

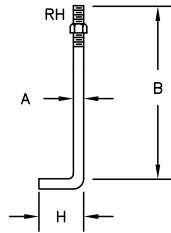


FIG. 24J

DIMENSIONS IN INCHES

DIAMETER	APPROX. WEIGHT PER HUNDRED			
	3/8	1/2	5/8	3/4
B-6	28	52	81	119
B-8	34	63	99	144
B-10	40	74	116	169
B-12	46	85	134	194



STANDARD THREAD LENGTHS—LOADS

FIG. 21, 22 & 23

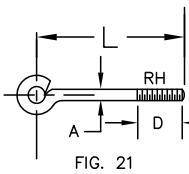
ROD SIZE A	STANDARD ROD THREAD LENGTH D, IN	EYE I.D. SEE NOTE	MAXIMUM RECOMMENDED LOAD, LB FOR CARBON STEEL RODS		
			FIG. 21 & 21L 23 & 23L	FIG. 23W & 23WL	FIG. 22 & 22L
			650°F (NOT WELDED)	650°F (WELDED)	750°F (WELDED)
3/8	2-1/2	3/4	240	610	540
1/2	2-1/2	3/4	440	1130	1010
5/8	2-1/2	1	705	1810	1610
3/4	3	1-1/8	1050	2710	2420
7/8	3-1/2	1-1/2	1470	3770	3360
1	4	1-7/8	1940	4960	4420
1-1/4	5	2-1/8	3120	8000	7140
1-1/2	6	3 +/-	4650	11630	10370
1-3/4	7	*	6380	15700	14000
2	8	*	8280	20700	18460
2-1/4	9	*	10900	27200	24260
2-1/2	10	*	13400	33500	29880

MATERIAL:
CARBON STEEL OR
STAINLESS STEEL
ORDERING:
SPECIFY NAME,
FIGURE NUMBER,
ROD SIZE,
ROD LENGTH,
MATERIAL AND
FINISH.
GIVE THREAD
LENGTH IF NOT
STANDARD.

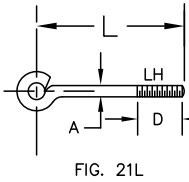
NOTE:
SEE PAGE V FOR
SPECIAL NOTE ON
EYE RODS.

EYE RODS

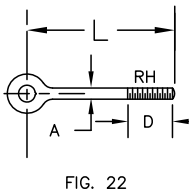
LINKED EYE RODS



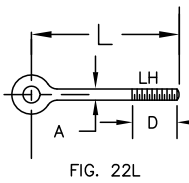
NOT WELDED__FIG. 21
(MAX TEMP. 650°F)
RIGHT HAND



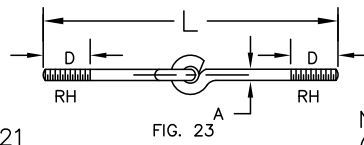
NOT WELDED__FIG. 21L
(MAX TEMP. 650°F)
LEFT HAND



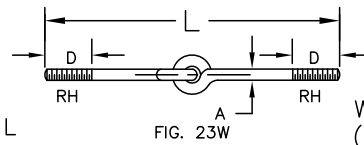
WELDED__FIG. 22
(MAX TEMP. 750°F)
RIGHT HAND



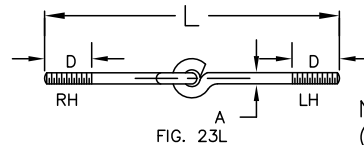
WELDED__ FIG. 22L
(MAX TEMP. 750°F)
LEFT HAND



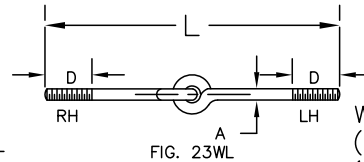
NOT WELDED__FIG. 23
(MAX TEMP. 650°F)
RIGHT HAND



WELDED_____ FIG. 23W
(MAX TEMP. 750°F)
RIGHT HAND



NOT WELDED__FIG. 23L
(MAX TEMP. 650°F)
1-LH,1-RH



WELDED_____ FIG. 23WL
(MAX TEMP. 750°F)
1-LH,1-RH



PHONE: (251) 653-6228

FAX: (251) 653-5356

LOADS—WEIGHTS

ROD SIZE	MAXIMUM RATED LOAD AT 650°F	APPROX. WEIGHT PER 100
3/8	610	42
1/2	1130	65
5/8	1810	98
3/4	2710	145
7/8	3770	190
1	4960	260
1-1/4	8000	445
1-1/2	11630	640
1-3/4	15700	1100
2	20700	1490
2-1/4	27200	1960
2-1/2	33500	2693

TURNBUCKLE FIG. 25

MATERIAL:

FORGED STEEL OR STAINLESS STEEL

ORDERING:

SPECIFY NAME, FIGURE NUMBER, ROD SIZE, MATERIAL AND FINISH

NOTE: STUB ENDS SHOWN MUST BE ORDERED SEPARATELY. ONE FIG. 19CR CHANGE ROD IS REQUIRED W/EA. TURNBUCKLE.

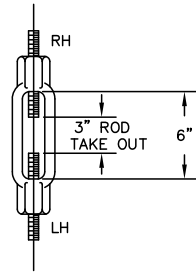


FIG. 25

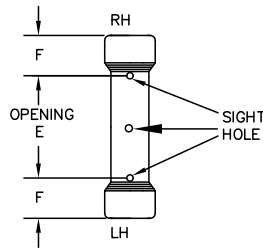


FIG. 25F

FABRICATED TURNBUCKLE _____ FIG. 25F

MATERIAL:

CARBON STEEL OR STAINLESS STEEL

ORDERING:

SPECIFY NAME, FIGURE NUMBER, ROD SIZE, OPENING LENGTH, MATERIAL AND FINISH.

NOTE:

SIZES 3/8 THRU 1 INCH AVAILABLE ON SPECIAL ORDER.

LOADS—DIMENSIONS

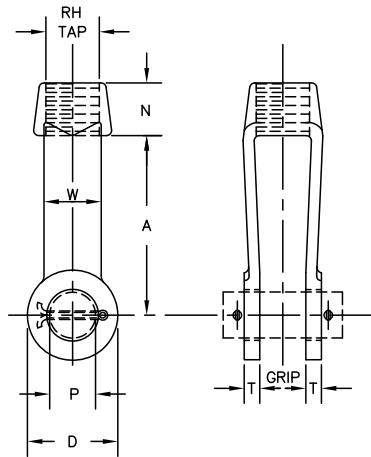
ROD SIZE*	MAX. RATED LOAD AT 650°F	OPENING—E** (SPECIFY)	F
1-1/4	8000	6,12,18 OR 24	2-3/8
1-1/2	11630		
1-3/4	15700		
2	20700	6,12,18 OR 24	3-1/4
2-1/4	27200		
2-1/2	33500		
2-3/4	41600	6,12,18 OR 24	4
3	50600		
3-1/4	60500		
3-1/2	71260	6,12,18 OR 24	5
3-3/4	82900		
4	95500		
4-1/4	108900	6,12,18 OR 24	7
4-1/2	123200		
4-3/4	138400		
5	154500		

*UNC-2B THREAD SERIES FURNISHED FOR ROD SIZES THRU 3" 8UN-2B THREAD SERIES FURNISHED FOR 3-1/4" THRU 5" ROD SIZES.

**ROD TAKE-OUT 1/2 E.



FIG.
26, 26P & 26CP



FORGED STEEL CLEVIS
 - WITHOUT PIN _____ FIG. 26
 - WITH PIN _____ FIG. 26P
 - CLEVIS PIN ONLY _____ FIG. 26CP

ORDERING:
 SPECIFY NAME, FIGURE NUMBER,
 ROD SIZE AND FINISH

FIG.26 & 26P

LOADS-DIMENSIONS-WEIGHTS

ROD SIZE	SIZE NO.	MAX. RATED LOAD AT 650°F	ROD TAKE OUT	A	D	N	PIN SIZE P	T	W	GRIP	APPROX. WEIGHT PER 100	
											FIG.26	FIG.26P
3/8 1/2 5/8	2	610 1130 1810	3	3-7/8	1-7/16	5/8	1/2 5/8 3/4	1/4	1-1/16	1/2 1/2 5/8	170 169 168	184 191 202
3/4 7/8	2-1/2	2710 3770	4	5	2	7/8	7/8 1	3/8	1-1/4	3/4 7/8	250 240	301 340
1 1-1/4	3	4960 8000	4	5	3	1-5/16	1-1/8 1-3/8	1/2	1-1/2	1 1-1/4	400 382	513 550
1-1/2 1-3/4	3-1/2 4	11630 15700	5	6	3-1/2 4	1-5/8 1-3/4	1-5/8 1-7/8	1/2	1-3/4 2	1-1/2	600 800	850 1288
2	5	20700	6	7	5	2-1/4	2-1/4	5/8	2-1/2	2-1/2	1600	2333
2-1/4 2-1/2	6	27200 33500	7	8	6	2-3/4	2-1/2 2-3/4	3/4	3	2-1/2	2600 2550	3505 3645
2-3/4 3	7	41600 50600	8	9	7	3	3 3-1/4	7/8	3-1/2	2-1/2	3600 3500	5001 5145
3-1/4* 3-1/2* 3-3/4* 4*	8	60500 71260 82900 95500	9	10	8	4	3-1/2 3-3/4 4 4-1/4	1-1/2	4	4	9000 8800 8600 8400	11591 11774 11984 12220

* FURNISHED WITH 8 UN SERIES THREADS



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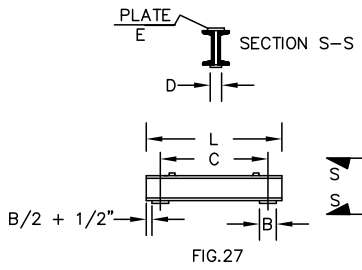
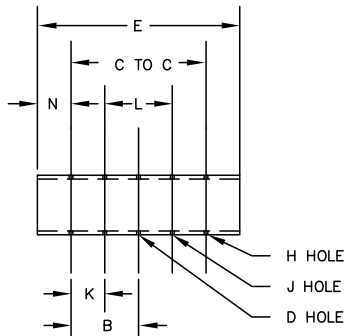


FIG. 27 & 28
CHANNEL TRAPEZE,
BACK TO BACK-----**FIG. 27**
MATERIAL:
CARBON STEEL
ORDERING:
SPECIFY NAME, FIGURE NUMBER, SIZE NUMBER,
ROD SIZE, C DIMENSION AND FINISH

LOADS-DIMENSIONS-WEIGHTS

SIZE NUMBER	CHANNEL SIZE	WEIGHT PER FOOT	MAXIMUM RATED LOADS ⁽¹⁾ FOR C OF											MAX ⁽²⁾ ROD DIA.	MAX. D ⁽³⁾	PLATES-E	
			12	18	24	30	36	42	48	54	60	66	72			SIZE	WEIGHT
3 4	C3X4.1 C4X5.4	8.2 10.8	9.2 16.1	6.1 10.7	4.5 8.0	3.8 6.3	2.9 5.2	2.5 4.4	2.1 3.8	1.8 3.3	1.6 2.9	1.4 2.6	1.2 2.3	1-1/4	2	1/4 X 1-1/2 X 4	1
5 6	C5X6.7 C6X8.2	13.4 16.4	25.1 36.6	16.7 24.4	12.4 18.2	9.8 14.5	8.2 12.0	6.9 10.2	6.0 8.8	5.2 7.7	4.6 6.9	4.1 6.1	3.7 5.5	2	3	3/8 X 1-1/2 X 5	2
8 10	C8X11.5 C10X15.3	23.0 30.6	68.2 -	45.4 75.3	33.9 56.3	27.0 44.9	22.4 37.2	19.0 31.7	16.5 27.6	14.6 24.4	13.0 21.8	11.7 19.6	10.6 17.8	2-3/4	4	1/2 X 2 X 6	4
12 15	C12X20.7 C15X33.9	41.4 67.8	- -	- -	89.8 -	71.6 -	59.5 -	50.7 99.4	44.2 86.6	39.0 76.6	34.9 68.5	31.5 61.9	28.6 56.4	3	4	3/4 X 3 X 8	11

- NOTES:
 (1) REFER TO FIG. 7 FOR DIMENSIONS AND WEIGHTS OF WASHER PLATE B.
 (2) VALUES LISTED ARE THOUSANDS OF POUNDS APPLIED AS CONCENTRATED LOAD AT CENTER OF CHANNELS
 (3) ACTUAL D WILL VARY WITH ROD SIZE AND WILL ALLOW A MINIMUM ROD SWING OF 4 DEGREES



STRUCTURAL TUBE,
TRAPEZE-----**FIG. 28**

MATERIAL:
CARBON STEEL
ORDERING:
SPECIFY NAME, FIGURE NUMBER,
SIZE NUMBER, C TO C DIMENSION
AND HOLE SIZE H. IF HOLES, H, J,
OR D ARE REQUIRED, SPECIFY
DIMENSIONS K AND L OR B

LOADS-DIMENSIONS(INCHES)

SIZE NUMBER	SIZE OF STRUCTURAL TUBING	MAX DIA. HOLE H, J AND D	C TO C = SPAN IN INCHES													
			G	N	18	20	22	24	26	28	30	36	42	48	54	60
1	1/4 X 2 X 2	1-1/8	1	1-1/2	21	23	25	27	29	31	33	39	-	-	-	-
2	1/4 X 3 X 2	1	1	1-1/2	21	23	25	27	29	31	33	39	-	-	-	-
3	3/16 X 4 X 3	1-5/8	1-1/2	2-1/2	23	25	27	29	31	33	35	41	47	53	59	65
4	1/4 X 4 X 4	1-7/8	2	2-5/8	23-1/4	25-1/4	27-1/4	29-1/4	31-1/4	33-1/4	35-1/4	41-1/4	47-1/4	53-1/4	59-1/4	65-1/4
5	1/4 X 6 X 4	2-3/8	2	3-3/8	24-3/4	26-3/4	28-3/4	30-3/4	32-3/4	34-3/4	36-3/4	42-3/4	48-3/4	54-3/4	60-3/4	66-3/4
6	1/4 X 8 X 4	2-7/8	2	4	26	28	30	32	34	36	38	44	50	56	62	68

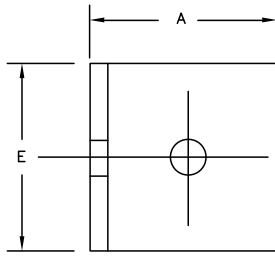
SIZE NUMBER	MAXIMUM RECOMMENDED LOAD (LBS.)BASED ON C TO C DIMENSION**											
	18	20	22	24	26	28	30	36	42	48	54	60
1	1700	1500	1400	1300	1200	1100	1000	880	-	-	-	-
2	4500	4000	3600	3300	3100	2800	2700	2200	-	-	-	-
3	5800	5200	4800	4400	3900	3600	3500	2900	2500	2200	1900	1700
4	10200	9100	8300	7500	7000	6500	6100	5100	4300	3800	3300	3000
5	16000	14440	13100	12000	11100	10300	9600	8000	6800	6000	5300	4800
6	26600	24000	21800	20000	18400	17100	16000	13300	11400	10000	8800	8000

**BASES ON THE ALLOWABLE STRESSES SHOWN IN THE ANSI CODE FOR PRESSURE PIPING



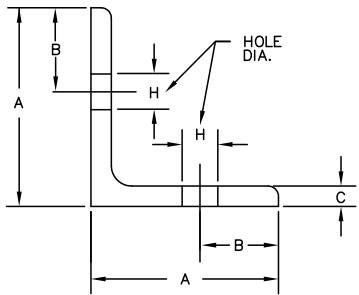
PHONE: (251) 653-6228

FAX: (251) 653-5356



LOADS—DIMENSIONS—WEIGHTS

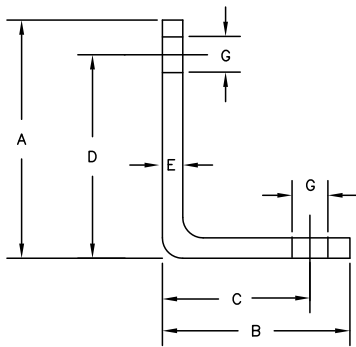
ROD SIZE	MAX. RECOM. LOAD	A	C	B	E	HOLE DIA H	APPROX. WEIGHT PER 100
3/8	320	2	1/4	3/4	1-1/2	7/16	40
1/2	535	2	1/4	3/4	2-1/2	9/16	67
5/8	1125	3	3/8	1	3	11/16	185



SIDE BEAM CLIP ANGLE _____ FIG. 29

MATERIAL:
CARBON STEEL OR STAINLESS STEEL
ORDERING:
SPECIFY NAME, FIGURE NUMBER, ROD SIZE,
MATERIAL AND FINISH.

FIG. 29



ANGLE BRACKET _____ FIG. 30

MATERIAL:
FORMED CARBON STEEL OR STAINLESS STEEL
ORDERING:
SPECIFY NAME, FIGURE NUMBER, ROD SIZE,
MATERIAL AND FINISH.

FIG. 30

DIMENSIONS IN INCHES

ROD SIZE	MAX. RECOM. LOAD, LB.	A	B	C	D	STEEL E	HOLE G	APPROX. WEIGHT PER 100
3/8	180	3-5/8 4-5/8	2-5/8 3-5/8	2 3	3 4	1/4 X 1-1/4	7/16	53 71
1/2	390	3-3/4 4-3/4	2-3/4 3-3/4	2 3	3 4	3/8 X 1-1/2	9/16	92 123



FIG.
31-2, 31-3, 31-4

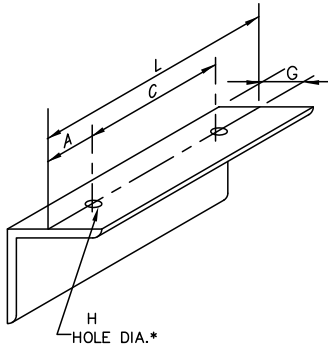


FIG. 31-2

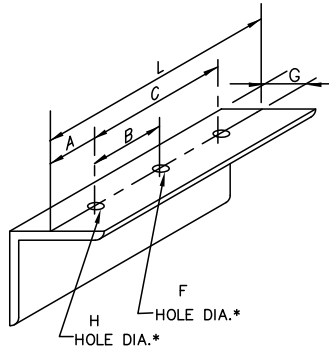


FIG. 31-3

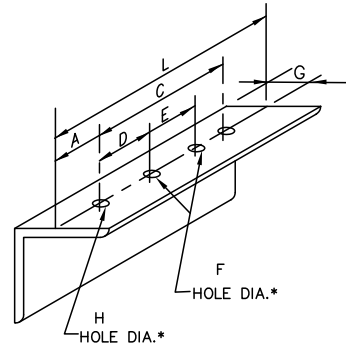


FIG. 31-4

TRAPEZE ANGLE-CARBON STEEL

- TWO HOLES----- FIG. 31-2
- THREE HOLES----- FIG. 31-3
- FOUR HOLES----- FIG. 31-4

ORDERING:

FOR FIG. 31-2, SPECIFY NAME, FIGURE NUMBER, SIZE NUMBER, A, C, H*, AND L AND FINISH. FOR FIG- 31-3, SPECIFY NAME, FIGURE NUMBER, SIZE NUMBER, A, C, H*, L, B, AND F*, AND FINISH FOR FIG. 31-4, SPECIFY NAME, FIGURE NUMBER, SIZE NUMBER, A, C, H*, L, D, E, AND F*, AND FINISH.

LOADS-DIMENSIONS-WEIGHTS

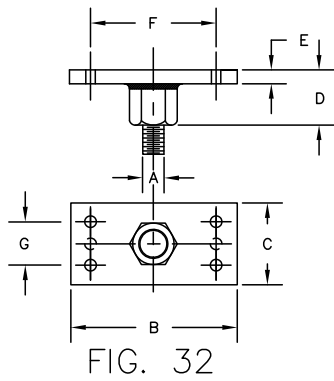
SIZE NUMBER	ANGLE SIZE	WEIGHT PER FOOT	8	12	18	24	30	36	42	48	MIN. A	MAX. HOLE DIA. H,F	G
1	2 X 2 X 1/4	3.2	900	630	440	330	260	220	190	160	1-1/2	11/16	1-1/8
2	3 X 3 X 1/4	4.9	1450	1180	900	710	590	500	430	380	1-1/2	13/16	1-3/4
3	3-1/2 X 3-1/2 X 3/8	8.5	3210	2520	1870	1460	1200	1010	870	760	2	1-3/8	2
4	4 X 4 X 1/2	12.8	5180	4150	3120	2470	2020	1710	1470	1290	2	1-5/8	2-1/2
5	5 X 5 X 1/2	16.2	6410	5470	4390	3620	3050	2620	2290	2023	2-1/2	1-7/8	3
6	6 X 6 X 1/2	19.6	7280	6490	5490	4710	4080	3580	3180	2840	2-1/2	2-1/8	3-1/2

*HOLE DIAMETER H AND F SHOULD BY SPECIFIED 1/16" GREATER THAN ROD DIAMETER FOR ROD SIZES THRU 1", AND 1/8" GREATER THAN ROD DIAMETER FOR ROD SIZES 1-1/4" AND LARGER.



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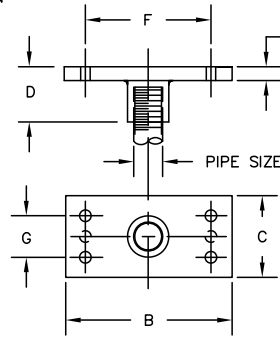


CEILING PLATE
 -ROD THREADS_____FIG. 32
 -PIPE THREADS_____FIG. 33
 MATERIAL:
 FABRICATED,
 CARBON STEEL OR STAINLESS STEEL
 ORDERING:
 SPECIFY NAME, FIGURE NUMBER,
 PIPE OR ROD SIZE,
 MATERIAL AND FINISH

DIMENSIONS (INCHES)-LOADS

ROD SIZE A	MAXIMUM RECOMMENDED LOAD, LB.	B	C	D	E	F	G	HOLES	
								QUANTITY	SIZE
3/8 1/2	180	3-1/4 3-3/4	1-1/2	5/8 3/4	1/4 1/4	2-1/4	-	2	5/16
5/8 3/4	480	4-1/2 5	2-1/2	1 1-1/4	3/8 3/8	3-1/8 3-1/2	1-3/8	4	7/16

LOADS SHOWN ARE FOR INSTALLATION WITH WOOD SCREWS.



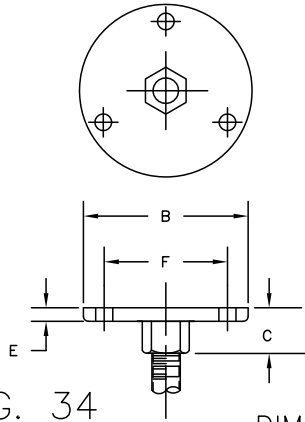
DIMENSIONS (INCHES)-LOADS

HALF COUPLING PIPE TAP A	MAXIMUM RECOMMENDED LOAD, LB.	B	C	D	E	F	G	HOLES	
								QUANTITY	SIZE
1/8 1/4 3/8	180 180 180	3-1/4 3-5/16 3-7/16	1-1/4	13/16 7/8 1	3/16 3/16 1/4	2-3/16 2-1/4 2-5/16	- - -	2 2 2	1/4 1/4 5/16
1/2 3/4	480 480	4-5/16 4-5/16	2-1/2	1-1/4 1-5/16	3/8 3/8	3-7/16 3-7/16	1-3/8 1-3/8	4 4	7/16 7/16

LOADS SHOWN ARE FOR INSTALLATION WITH WOOD SCREWS.



FIG.
34 & 35



CEILING FLANGE
 -ROD THREAD _____ FIG. 34
 -PIPE THREADS _____ FIG. 35

MATERIAL:
 FABRICATED, CARBON STEEL
 OR STAINLESS STEEL
 ORDERING:
 SPECIFY NAME, FIGURE NUMBER, PIPE OR
 ROD SIZE AND FINISH.

FIG. 34

DIMENSION (INCHES)-LOADS

ROD SIZE A	MAXIMUM PIPE SIZE	MAX. RECOM. LOAD, LB.	B	C	E	HOLE CIRCLE DIA. F	HOLE SIZE
3/8	3/4 TO 2	425	3-1/4	5/8	1/4	2-0	5/16
1/2	2-1/2 TO 3-1/2	1050	4	3/4	1/4	2-7/8	5/16
5/8	4 TO 5	1220	4-3/4	1	3/8	3-3/8	7/16
3/4	6	1270	5-1/4	1-1/4	1/2	3-5/8	9/16

LOADS SHOWN ARE FOR
 INSTALLATION WITH WOOD SCREWS.

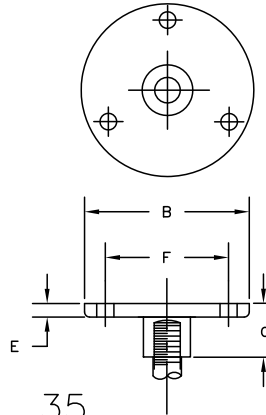


FIG. 35

DIMENSIONS (INCHES)

HALF COUPLING PIPE TAP A	MAXIMUM RECOMMENDED LOAD, LB.	B	C	E	HOLE CIRCLE DIA. F	SIZE
1/8	425	3-1/2	7/8	1/4	2-1/2	5/16
1/4	425	3-1/2	15/16	1/4	2-1/2	5/16
3/8	1050	4-1/4	1-1/8	3/8	3-1/8	7/16
1/2	1220	5	1-7/16	1/2	3-5/8	9/16
3/4	1220	5-1/2	1-1/2	1/2	3-7/8	9/16

LOADS SHOWN ARE FOR
 INSTALLATION WITH WOOD SCREWS.



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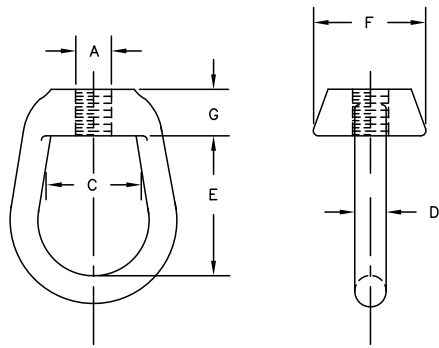


FIG.36 & FIG36L

WELDLESS EYE NUT
 -RIGHT HAND THREAD__FIG. 36
 -LEFT HAND THREAD___FIG. 36L

MATERIAL:
 FORGED STEEL OR STAINLESS STEEL

ORDERING:
 SPECIFY NAME,
 FIGURE NUMBER,
 ROD SIZE, MATERIAL AND FINISH.

NOTE:
 WHEN ORDERING 3/8" OR 1/2" ROD
 SIZE SPECIFY SIZE 1/2 OR SIZE 1.

LOADS-DIMENSIONS-WEIGHTS

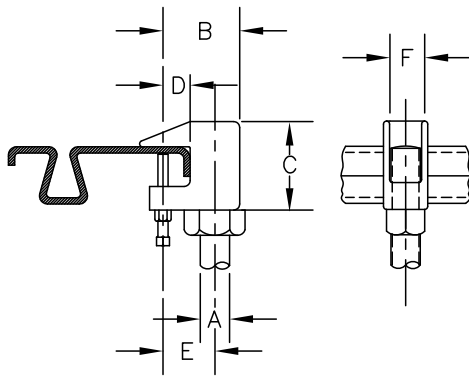
ROD SIZE A	SIZE NO.	MAX. RATED LOAD	ROD TAKE-OUT	MAX.PIN DIA. C	D	E	F	G	WEIGHT PER 100
3/8 1/2	1/2	610 1130	1-3/8	13/16	3/8	1-9/16	31/32	5/8	30
3/8 1/2 5/8 3/4	1	610 1130 1810 2710	1-1/2	1-3/16	1/2	2	1-3/8	11/16	63 63 62 60
7/8 1	2	3770 4960	2	1-11/16	3/4	2-5/8	1-15/16	1	170
1-1/4 1-1/2	3	8000 11630	2-1/2	1-13/16	1	3-3/8	3	1-1/4	364 345
1-3/4 2 2-1/4 2-1/2	4	15700 20700 27200 33500	4	4	1-1/2	6-1/4	4	2-1/4	1638 1588 1538 1488



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FIG.
37 & 37A



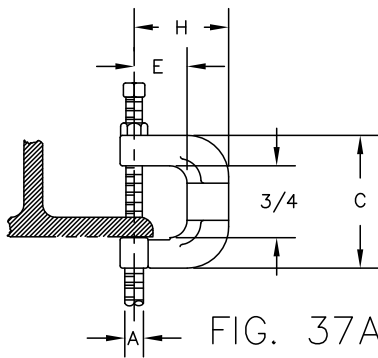
TOP BEAM C-CLAMP—
1-1/4" THROAT_____FIG. 37

MATERIAL:
MALLEABLE IRON
ORDERING:
SPECIFY NAME, FIGURE NUMBER,
ROD SIZE AND FINISH

FIG. 37

LOADS—DIMENSIONS (INCHES)

ROD SIZE A	PIPE SIZE	MAXIMUM RECOMMENDED LOAD, LB*	B	C	D	E	F
3/8	1/2 TO 2	440	1-7/16	2	3/4	1-3/16	3/4
1/2	2-1/2 TO 3-1/2	710	1-5/8	2-1/6	3/4	1-1/4	7/8
5/8	4 & 5	850	1-3/4	2-1/4	3/4	1-1/4	1
3/4	6	900	1-7/8	2-3/8	3/4	1-3/8	1-3/16



C-CLAMP W/LOCK NUT—
3/4" THROAT____FIG. 37A

MATERIAL:
MALLEABLE IRON
ORDERING:
SPECIFY NAME,
FIGURE NUMBER,
ROD SIZE AND FINISH

FIG. 37A

LOADS—DIMENSIONS (INCHES)

ROD SIZE A	C	E	H	MAX RECOM LOAD, LB
3/8	1-3/4	5/8	1-3/8	400
1/2	1-3/4	5/8	1-3/8	400
5/8	2	3/4	1-1/2	440
3/4	2	3/4	1-1/2	500



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FIG.
37X & 37B

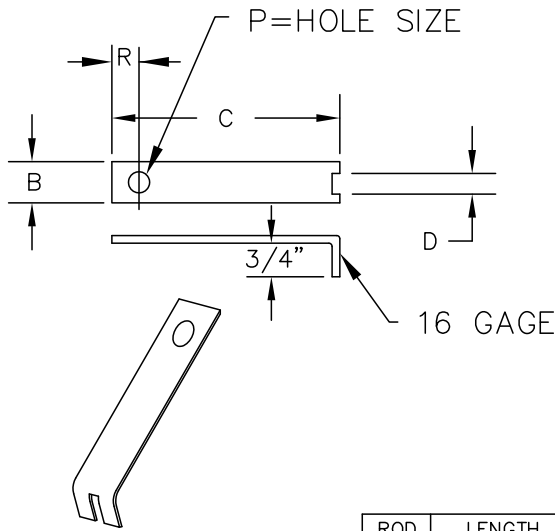


FIG. 37X

C-CLAMP UNIVERSAL
RETAINING CLIP ONLY_____FIG. 37X

MATERIAL:
CARBON OR STAINLESS STEEL
ORDERING:
SPECIFY NAME, FIGURE NUMBER,
ROD SIZE, AND FINISH
NOTE: FOR CLIP LENGTH ADD 1/2
INCH TO BEAM WIDTH. IF REQUIRED
LENGTH IS NOT STANDARD, ORDER
NEXT LONGER SIZE. CLIPS MUST BE
FIELD FORMED TO FIT BEAMS.

ROD SIZE A	LENGTH C	B	D	P	R
3/8	4-1/2,8,10,14	1	7/16	7/16	9/16
1/2	4-1/2,8,10,14	1-1/4	15/32	9/16	1/2
5/8	4-1/2,8,10,14	1-3/8	9/16	11/16	3/4
3/4	4-1/2,8,10,14	1-3/8	11/16	13/16	3/4

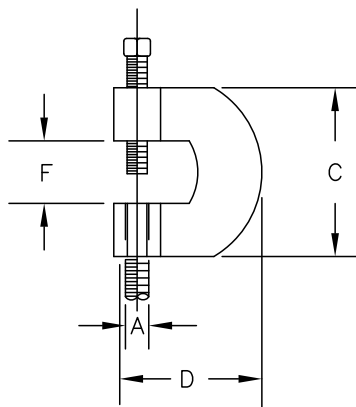


FIG. 37B

C-CLAMP

- CARBON STEEL_____ FIG. 37B-CS
- ELECTRO-GALVANIZED___FIG. 37B-EG
- STAINLESS STEEL_____FIG. 37B-SS

MATERIAL: CARBON STEEL OR STAINLESS STEEL
ORDERING: SPECIFY NAME, FIGURE NUMBER,
MATERIAL, FINISH AND ROD SIZE

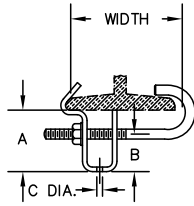
DIMENSIONS IN INCHES

A SIZE	REC. MAX. LOAD, LBS.	C	D	F	APPROX WEIGHT PER 100
3/8	230	2-3/8	2-3/8	3/4	40
1/2	380				42
5/8	450				64
3/4	630				70



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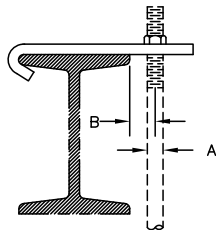
ADJUSTABLE BEAM CLAMP _____ FIG. 38

MATERIAL:
CARBON STEEL OR STAINLESS STEEL
ORDERING:
SPECIFY NAME, FIGURE NUMBER, ROD SIZE,
MATERIAL AND FINISH

FIG. 38

LOADS, LBS. – DIMENSIONS (INCHES)

ROD SIZE	MAX. RECOM. LOAD	MAXIMUM PIPE SIZE	A	B	HOLE C	STEEL SIZE	WIDTH ADJUSTMENT	
							MIN.	MAX
3/8	300	3/4-2	2-1/2	2	7/16	1/4 X 1-1/4	3-1/2	8
1/2	700	2-1/2-4	2-1/2	2	9/16	1/4 X 1-1/2	3-1/2	8
5/8	1000	5-8	2-1/2	2	11/16	1/4 X 1-3/4	3-1/2	8



TOP BEAM CLAMP (J-BAR) _____ FIG. 41

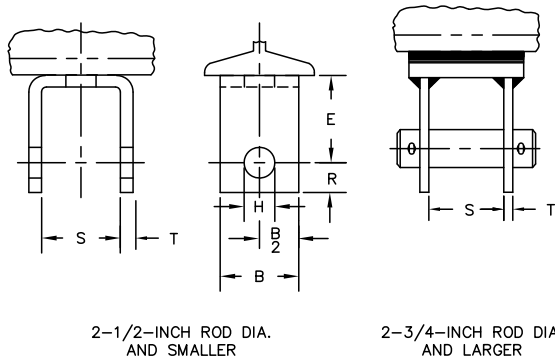
MATERIAL:
CARBON STEEL OR STAINLESS STEEL
ORDERING:
SPECIFY NAME, FIGURE NUMBER, CLAMP SIZE NO.,
MATERIAL AND FINISH, GIVE BEAM FLANGE WIDTH
AND THICKNESS

FIG. 41

DIMENSIONS IN INCHES

SIZE No.	MAXIMUM RECOM. LOAD, LB.	MAXIMUM PIPE SIZES	ROD SIZE A	B	STEEL SIZE
1	300	3/4 TO 2	3/8	5/16	3/16 X 1-1/4
2	500	2-1/2 TO 3 1/2	1/2	3/8	1/4 X 1-1/4
3	700	4 TO 5	5/8	7/16	3/8 X 1-1/2
4	1000	6	3/4	1/2	3/8 X 2
5	2000	8 TO 12	7/8	9/16	1/2 X 2-1/2





WELDED BEAM ATTACHMENT

- WITH BOLT OR PIN_____ FIG. 39
- WITHOUT BOLT OR PIN___FIG. 40

MATERIAL:
CARBON STEEL OR STAINLESS STEEL
ORDERING:
SPECIFY NAME, FIGURE NUMBER,
ROD SIZE, MATERIAL AND
FINISH.

FIG. 39/40

LOADS-DIMENSIONS (INCHES)

ROD SIZE A	BOLT◆ SIZE	MAXIMUM RECOMMENDED LOAD, LB.■		ROD TAKE-OUT E	B	HOLE H	R	S	T
		650°F	750°F						
3/8 1/2 5/8	1/2 X 2-1/2 5/8 X 2-1/2 3/4 X 2-3/4	610 1130 1810	510 940 1510	2 2 2	2 2 2	9/16 11/16 13/16	7/8 7/8 7/8	1-9/16 1-5/8 1-5/8	1/4 1/4 1/4
3/4 7/8 1	7/8 X 4 1 X 4 1-1/8 X 5	2710 3770 4960	2260 3150 4150	2 3 3	2-1/2 2-1/2 3	15/16 1 1/8 1 1/4	1-1/8 1-1/4 1-1/2	1-7/8 2 2-3/4	3/8 3/8 1/2
1-1/4 1-1/2	1-3/8 X 6-1/2 1-5/8 X 6-1/2	8000 11630	6660 9700	3 4	4 5	1 1/2 1 3/4	2 2-1/2	3 3-1/2	5/8 3/4
1-3/4 2 2-1/4	1-7/8 X 6-7/8 2-1/4 X 6-7/8 2-1/2 X 7-3/8	15700 20700 27200	14000 18460 24260	5 5 6	5 6 6	2 2-3/8 2-5/8	2-3/4 3-1/4 3-1/2	3-3/4 3-3/4 4-1/4	3/4 3/4 3/4
2-1/2 2-3/4 3	2-3/4 X 7-5/8 3 X 7 3-1/4 X 7	33500 41580 50580	29880 37066 45085	6 5-3/4 6-1/4	6 6 7	2-7/8 3-1/8 3-3/8	3-3/4 4 4	4-1/2 3-3/4 3-3/4	3/4 3/4 3/4
3-1/4 3-1/2	3-1/2 X 7-3/4 3-3/4 X 7-3/4	60480 71280	53906 63493	7 7-1/2	7 8	3-5/8 3-7/8	4-1/2 4-1/2	4-1/4 4-1/4	3/4 3/4

■BASED ON THE ALLOWABLE STRESSES SHOWN IN THE ANSI CODE FOR PRESSURE PIPING
◆1-1/4" AND LARGER ARE PINS WITH COTTER PINS



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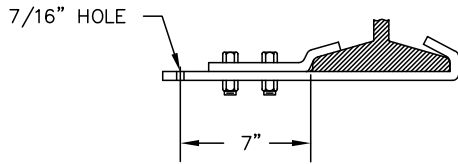


FIG. 42

OFFSET BEAM CLAMP_____ FIG. 42
FOR 2 INCH AND SMALLER PIPE

MATERIAL:
CARBON STEEL OR STAINLESS STEEL
ORDERING:
SPECIFY NAME, FIGURE NUMBER, SIZE NO.,
BEAM FLANGE WIDTH & THICKNESS,
CLAMP MATERIAL AND FINISH

DIMENSIONS IN INCHES

SIZE NUMBER	ROD SIZE	WIDTH OF I BEAM FLANGE	STEEL SIZE	BOLT SIZE	RECOM. MAX. LOAD
1	3/8	2 TO 4	3/8 X 1-3/4	3/8 X 1-1/4	260
2		4-1/2 TO 6			
3		6-1/2 TO 8			
4		8-1/2 TO 12			

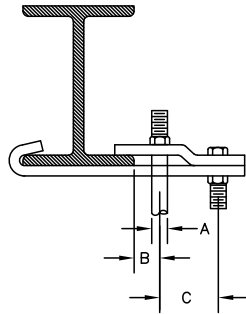


FIG.43

CLOSE BEAM CLAMP_____ FIG.43

MATERIAL:
CARBON STEEL OR STAINLESS STEEL
ORDERING:
SPECIFY NAME, FIGURE NUMBER,
CLAMP SIZE NO., MATERIAL,
FINISH, BEAM FLANGE WIDTH
AND THICKNESS

DIMENSIONS IN INCHES

SIZE NO.	MAX. RECOM. LOAD, LB.	MAX. PIPE SIZE	STEEL SIZE	A	B	C
1	300	3/4-2	1-1/4 X 3/16	3/8	5/16	1-3/4
2	500	2-1/2-3-1/2	1-1/4 X 1/4	1/2	3/8	2-1/4
3	700	4-5	1-1/2 X 3/8	5/8	7/16	2-1/2
4	1000	6	2 X 3/8	3/4	1/2	2-3/4
5	2000	8-12	2-1/2 X 1/2	7/8	9/16	3-1/2



FIG. 44 & 45

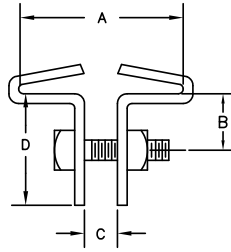


FIG. 44

I-BEAM CLAMP _____ FIG. 44

MATERIAL:
CARBON STEEL OR STAINLESS STEEL
ORDERING:
SPECIFY NAME, FIGURE NUMBER, SIZE NUMBER,
CLAMP MATERIAL AND FINISH, BEAM FLANGE
WIDTH AND THICKNESS.

DIMENSIONS IN INCHES

SIZE NO.	MAX. REC. LOAD POUNDS	B	C	D	STEEL SIZE	BOLT SIZE	APPROX. WEIGHT PER 100 BEAM WIDTH DIMENSION-A							
							2	3	4	5	6	7	8	10
							1	610	1-1/8	5/8	1-3/4	1/4 X 1-1/4	1/2	74
2	800	1-1/4	5/8	2	3/8 X 1-1/2	1/2	126	149	189	212	229	245	269	
3	1000	1-3/8	3/4	2-3/8	3/8 X 2	5/8		232	285	318	339	360	392	
4	3000	1-5/8	7/8	2-5/8	1/2 X 2	3/4		340	408	452	480	510	551	623
5	3000	1-3/4	1	3-1/4	1/2 X 3	7/8			600	645	700	740	790	880
6	5000	2-1/8	1-1/8	4-1/8	5/8 X 4	1				1195	1275	1355	1435	1595

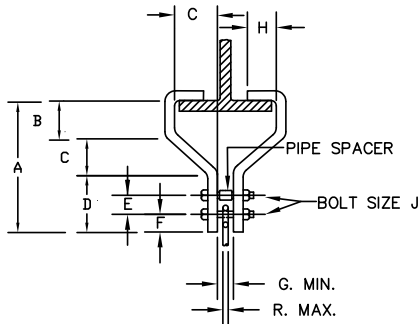


FIG. 45

EXTENDED BEAM CLAMP _____ FIG. 45

MATERIAL:
CARBON STEEL OR STAINLESS STEEL
ORDERING:
SPECIFY NAME, FIGURE NUMBER, CLAMP SIZE
NUMBER, MATERIAL AND FINISH
NOTE: EYE NUT AND ROD IS NOT INCLUDED

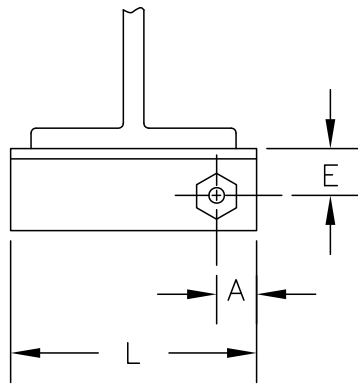
DIMENSIONS IN INCHES

SIZE NO.	FLANGE WIDTH	STEEL SIZE	J	A	B	C	D	E	F	MIN. G	H	MAX. REC. R	MAX. REC. LOAD LBS.
1	4			7-5/16		1-13/16							
2	5-6			7-13/16		2-5/16							
3	6-1/2-7-1/2	3/8 X 3	5/8	8-9/16	1-1/4	3-1/16	4-1/4	1-3/4	1-1/8	5/8	1-1/2	1/2	1130
4	8-9			9-5/16		3-13/16							
5	10-10-1/2			10-5/16		4-13/16							
6	4			7-5/8		1-7/8							
7	5-6			8-1/8		2-3/8							
8	6-1/2-7-1/2	1/2 X 3	3/4	8-7/8	1-1/4	3-1/8	4-1/2	1-7/8	1-3/8	7/8	2	5/8	1810
9	8-9			9-5/8		3-7/8							
10	10-10-1/2			10-3/8		4-5/8							
11	4			9-3/8		1-7/8							
12	5-6			9-7/8		2-3/8							
13	6-1/2-7-1/2	5/8 X 4	1	10-5/8	1-1/4	3-1/8	6-1/4	2-9/16	1-3/4	1	2	7/8	3770
14	8-9			11-3/8		3-7/8							
15	10-10-1/2			12-1/8		4 5/8							



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DOUBLE ANGLE BEAM
ATTACHMENT_____ FIG. 46

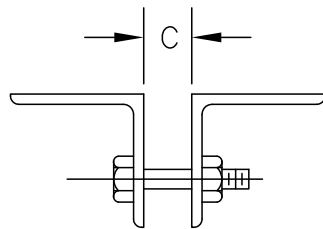


FIG. 46

MATERIAL:
CARBON STEEL
ORDERING:
SPECIFY NAME,
FIGURE NUMBER,
ROD SIZE, FINISH AND
"A" AND "L" WHEN
OTHER THAN MINIMUM

LOADS—DIMENSIONS(INCHES)

ROD SIZE	MAX. RATED LOAD, LB.	ANGLE SIZE	BOLT DIA. LENGTH	A (MIN.)	C	E	L (MIN.)
1/2 5/8 3/4	1130 1810 2710	3 X 3 X 1/4	5/8 X 3 3/4 X 3 7/8 X 4	1 1 1-1/4	1-1/4 1-1/4 1-1/2	1-3/4	2 2 2 1/2
1 1-1/4	4960 8000	3-1/2 X 3-1/2 X 3/8 4 X 4 X 1/2	1-1/8 X 4-1/4 1-1/2 X 6	1-1/2 2	2 2-1/2	2 2-1/2	3 4
1-1/2 1-3/4 2	11630 15700 20700	5 X 5 X 1/2 6 X 6 X 1/2 8 X 8 X 3/4	1-3/4 X 7 2 X 7 2-1/4 X 7-1/8	2-1/2 2-1/2 3	3 3-3/4 3-3/4	3 3-1/2 5	5 5 6
2-1/4 2-1/2 2-3/4	27200 33500 41600	8 X 8 X 3/4	2-1/2 X 7-5/8 2-3/4 X 7-7/8 3 X 8-1/4	3	4-1/4 4-1/2 3-3/4	5 4-5/8 4-3/8	6
3	50600	8 X 8 X 3/4	3-1/4 X 8-1/2	3-1/2	3-3/4	4	7



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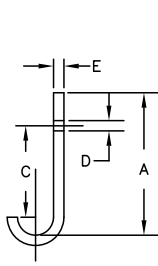


FIG. 48

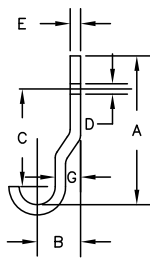


FIG. 49

STRAIGHT J-HOOK HANGER___ FIG. 48
OFFSET J-HOOK HANGER_____ FIG. 49

MATERIAL:
CARBON STEEL OR STAINLESS STEEL
ORDERING:
SPECIFY NAME,
FIGURE NUMBER,
PIPE SIZE,
MATERIAL AND FINISH

DIMENSIONS IN INCHES

PIPE SIZE	MAX. RECOM. LOAD, LB.	A	B	C	HOLE SIZE D	STEEL SIZE E	G
1/2	180	6-3/16	1-1/2	5	9/16	3/16 X 1-1/4	1
3/4	180	6-5/16	1-5/8	5	9/16	3/16 X 1-1/4	1
1	390	6-7/16	1-3/4	5	9/16	1/4 X 1-1/2	1
1-1/4	390	6-9/16	1-7/8	5	9/16	1/4 X 1-1/2	1
1-1/2	610	6-11/16	2	5	9/16	1/4 X 1-1/2	1
2	610	6-15/16	2-1/4	5	9/16	1/4 X 1-1/2	1
2-1/2	610	7-3/16	2-1/2	5	9/16	1/4 X 1-1/2	1
3	610	7-1/2	2-13/16	5	9/16	1/4 X 1-1/2	1
4	610	8	3-5/16	5	9/16	1/4 X 1-1/2	1

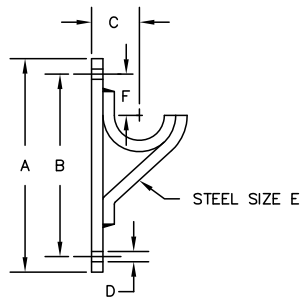


FIG. 54

WALL BRACKET PIPE SUPPORT___ FIG. 54

MATERIAL:
CARBON STEEL OR
STAINLESS STEEL
ORDERING:
SPECIFY NAME,
FIGURE NUMBER,
PIPE SIZE,
MATERIAL AND FINISH

DIMENSIONS IN INCHES

PIPE SIZE	A	B	C	HOLE SIZE D	STEEL SIZE E	F	APPROX. WEIGHT PER 100
3	9-1/8	7-7/8	2-1/4	9/16	1-1/2 X 1/4	2-3/4	239
4	10-1/2	9-1/4	2-3/4	9/16	1-1/2 X 1/4	3-1/4	256
5	12-3/4	11-1/4	3-5/16	9/16	1-1/2 X 1/4	3-3/4	405
6	14	12-1/2	3-13/16	9/16	1-1/2 X 1/4	4-1/2	448
8	18	16	5-3/8	11/16	2 X 1/2	5-3/4	1530
10	22	19-1/2	6-3/8	11/16	2-1/2-X 1/2	6-1/2	2335
12	24-1/2	22	7-3/8	11/16	2-1/2-X 1/2	7-1/2	2690



SADDLE WITH ADJUSTABLE ROD SUPPORT_____ FIG. 50
 SADDLE W/ADJ ROD SUPPORT AND U-BOLT___ FIG. 50U

MATERIAL:
 CARBON STEEL OR STAINLESS STEEL
 ORDERING:
 SPECIFY NAME, FIGURE NUMBER, PIPE SIZE,
 MATERIAL AND FINISH

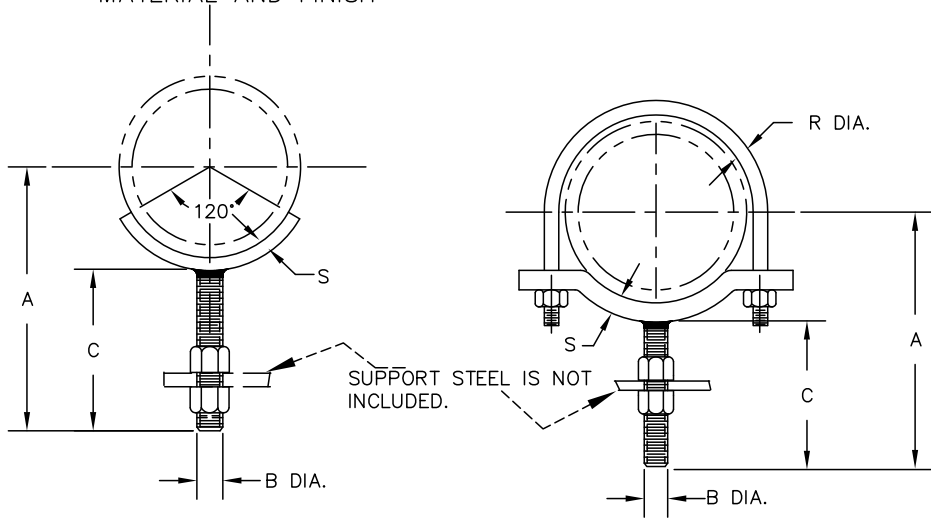


FIG. 50

FIG. 50U

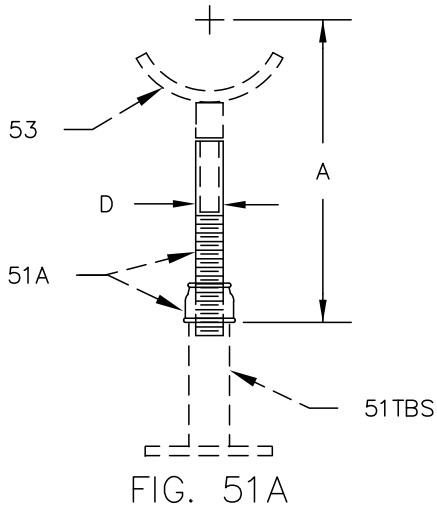
DIMENSIONS IN INCHES

PIPE SIZE	B	C	S	A	R
2	5/8	8	1/4 X 1	9-1/2	1/4
2-1/2	5/8	8	1/4 X 1	9-3/4	3/8
3	5/8	8	1/4 X 1	10-1/16	3/8
3-1/2	5/8	8	1/4 X 1	10-5/16	3/8
4	7/8	8	1/4 X 1-1/4	10-9/16	1/2
5	7/8	8	1/4 X 1-1/4	11-1/16	1/2
6	1	8	3/8 X 1-1/2	11-3/4	5/8
8	1	8	3/8 X 1-1/2	12-3/4	5/8
10	1-1/4	8	1/2 X 2	13-15/16	5/8
12	1-1/4	8	1/2 X 2	14-15/16	5/8



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PIPE SUPPORT ADJUSTER
-ONE PLAIN END_____ FIG. 51A

MATERIAL:
CARBON STEEL OR STAINLESS STEEL
ORDERING:
SPECIFY NAME, FIGURE NUMBER,
ADJUSTER SIZE, MATERIAL AND FINISH.

NOTE: ADJUSTER SIZE IS ADJUSTER
PIPE SIZE.
THIS ADJUSTER IS A PART
OF FIG. 53A AND FIG. 53AU.
SADDLE IS NOT INCLUDED.
SUPPORT PIPE P IS NOT INCLUDED.
THIS ADJUSTER MAY BE USED
ON A FIG. 51TBS THREADED BASE STAND.

DIMENSIONS IN INCHES

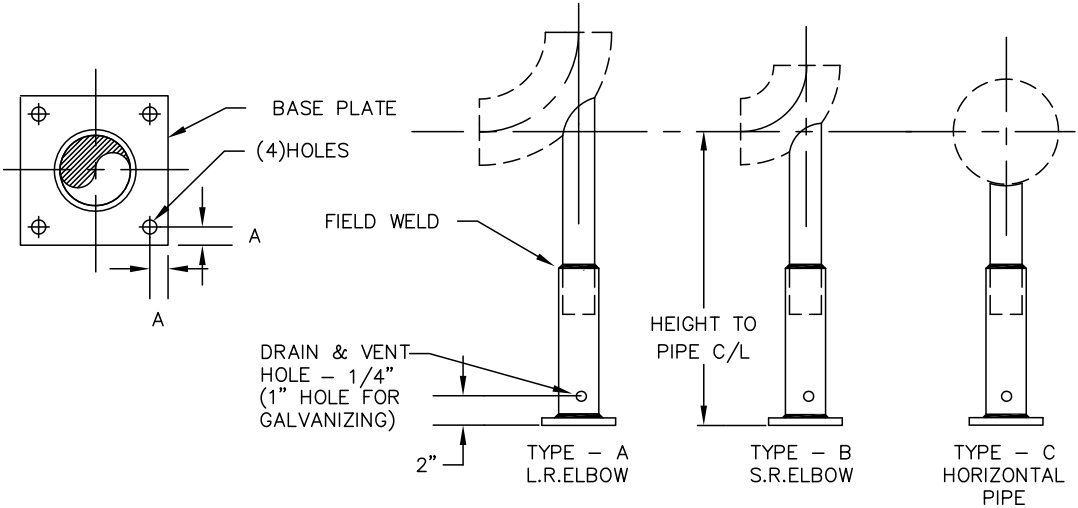
PIPE SIZE	SUPPORT PIPE SIZE P	ADJUSTER PIPE SIZE D	A	
			MAX.	MIN.
2-1/2	2-1/2	1-1/2	13	8
3	2-1/2	1-1/2	13-7/14	8-1/4
4	3	2-1/2	14-1/8	9-1/8
5	3	2-1/2	14-5/8	9-5/8
6	3	2-1/2	15-1/4	10-1/4
8	3	2-1/2	16-1/4	11-1/4
10	3	2-1/2	17-3/8	12-3/8
12	3	2-1/2	18-3/8	13-3/8
14	4	3	20-1/2	15-1/2
16	4	3	21-5/8	16-5/8
18	6	4	24-1/8	19-1/8
20	6	4	25-1/8	20-1/8
24	6	4	27-1/4	22-1/4
30	6	4	30-1/4	25-1/4
36	6	4	33-1/4	28-1/4



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FIG. 51AWB



PIPE STANCHION BASES
 ADJUSTABLE WELDED BASE STAND _____ FIG. 51AWB

MATERIAL:
 CARBON STEEL OR STAINLESS STEEL

ORDERING:
 SPECIFY NAME, FIGURE NUMBER, STANCHION UPPER PIPE SIZE,
 PROCESS PIPE SIZE, TYPE, HEIGHT, MATERIAL AND FINISH.

DIMENSIONS IN INCHES

UPPER STANCHION PIPE SIZE	BASE PLATE SIZE	HOLE SIZE	A	MAXIMUM PROCESS PIPE SIZE
1-1/2	1/4 X 6 X 6	9/16	1	4
2-1/2	3/8 X 10 X 10	13/16	1-1/4	6
4	3/8 X 10 X 10	13/16	1-1/4	10
5	3/8 X 10 X 10	13/16	1-1/4	18



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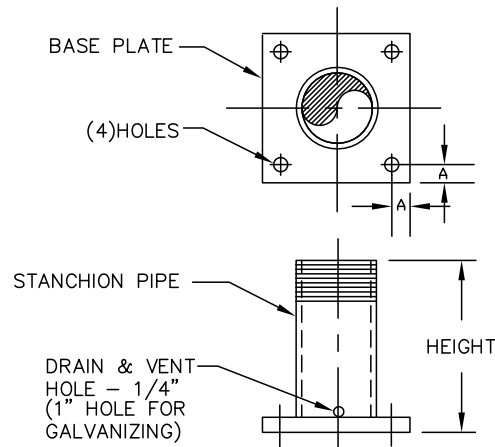


FIG-51TBS

PIPE STANCHION BASES

THREADED BASE STAND _____ FIG. 51TBS

MATERIAL:

CARBON STEEL OR STAINLESS STEEL (304SS/316SS)

ORDERING:

SPECIFY NAME, FIGURE NUMBER, STANCHION PIPE SIZE, HEIGHT 'H', MATERIAL AND FINISH.

NOTES:

PIPE SUPPORT ADJUSTER FIG. 51A, PIPE SADDLES, FIG. 52, 52U, 53A AND 53AU WILL FIT ON FIG. 51TBS.

DIMENSIONS IN INCHES

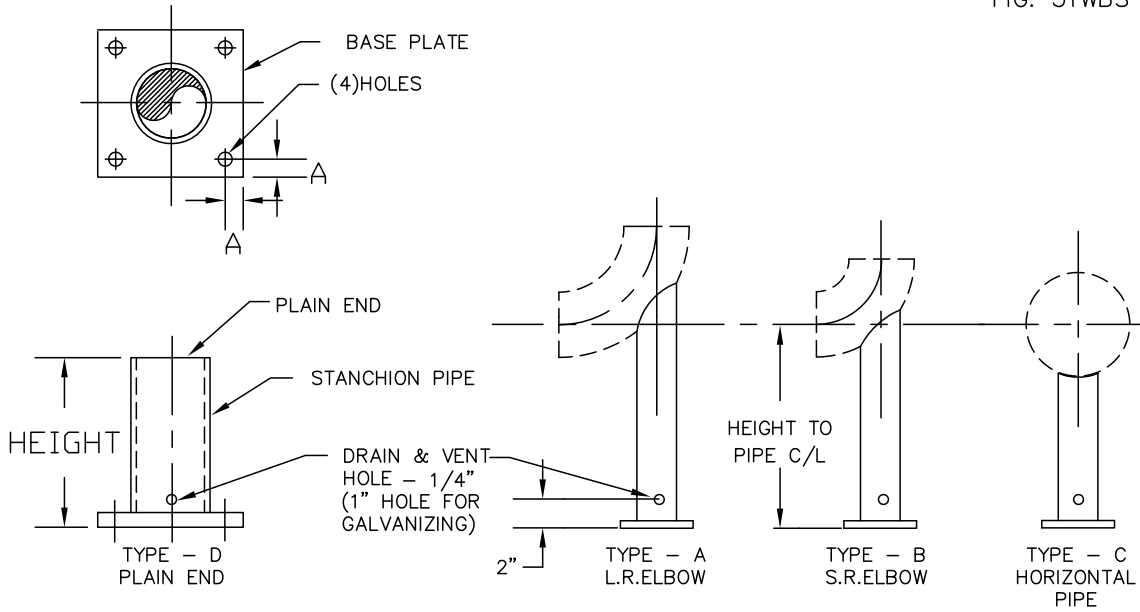
STANCHION PIPE SIZE P	BASE PLATE SIZE	HOLE SIZE	PIPE THREAD LENGTH	A
1-1/4	1/4 X 6 X 6	9/16	1-1/2	1
1-1/2	1/4 X 6 X 6	9/16	1-1/2	1
2	3/8 X 6 X 6	9/16	1-1/2	1
2-1/2	3/8 X 8 X 8	11/16	1-1/2	1-1/4
3	3/8 X 8 X 8	11/16	1-1/2	1-1/4
4	3/8 X 8 X 8	11/16	2	1-1/4
5 - 6	3/8 X 10 X 10	13/16	2	1-1/2



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FIG. 51WBS



PIPE STANCHION BASES
 WELDED BASE STAND -----FIG. 51WBS

MATERIAL:

CARBON STEEL OR STAINLESS STEEL (304SS/316SS)

ORDERING:

SPECIFY NAME, FIGURE NUMBER, STANCHION PIPE SIZE,
 PROCESS PIPE SIZE, TYPE, HEIGHT, MATERIAL AND FINISH.

NOTES:

SADDLES FIG. 53 AND 53U WILL FIT ON FIG. 51WBS.TYPE – D.

DIMENSIONS IN INCHES

STANCHION PIPE SIZE P	BASE PLATE SIZE	HOLE SIZE	A	MAXIMUM PROCESS PIPE SIZE
1-1/4	1/4 X 6 X 6	9/16	1	3
1-1/2	1/4 X 6 X 6	9/16	1	4
2	3/8 X 6 X 6	9/16	1	5
2-1/2	3/8 X 8 X 8	11/16	1-1/4	6
3				8
4				10
5 - 6	3/8 X 10 X 10	13/16	1-1/2	16
8	3/8 X 14 X 14	13/16	1-1/2	24
10	1/2 X 18 X 18	1-1/8	1-3/4	28
12				36
14				42
16	1/2 X 22 X 22	1-1/8	1-3/4	42
18-20	1/2 X 24 X 24			
24	1/2 X 30 X 30			



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PIPE SADDLE WITH COUPLING_____ FIG. 52
 PIPE SADDLE WITH PIPE COUPLING
 AND U-BOLT_____FIG. 52U

MATERIAL:
 CARBON STEEL OR STAINLESS STEEL

ORDERING:
 SPECIFY NAME, FIGURE NUMBER,
 PIPE SIZE, MATERIAL AND FINISH

NOTE: THIS SADDLE DOES NOT FIT
 FIG. 51A PIPE SUPPORT ADJUSTER

THIS SADDLE MAY BE USED
 WITH FIG. 51TBS
 BASE STAND.

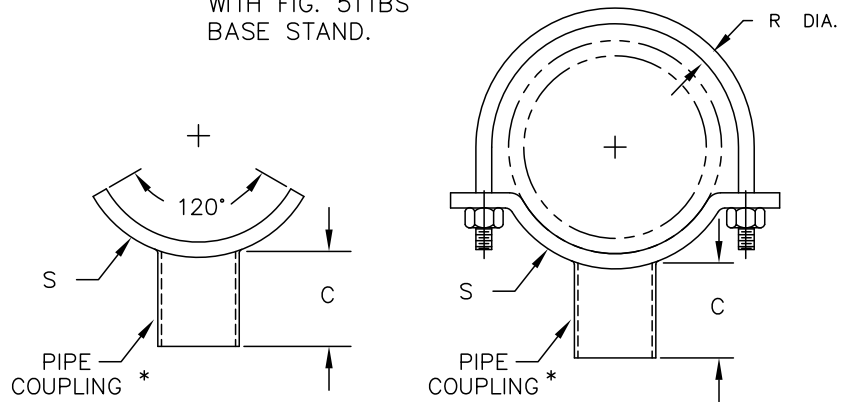


FIG. 52

FIG. 52U

DIMENSIONS IN INCHES

PIPE SIZE	STEEL SIZE	STEEL COUPLING *		R
		PIPE SIZE	LENGTH	
2	3/8 X 2-1/2	1-1/4	2-5/8	3/8
3	3/8 X 2-1/2	1-1/2	3-1/8	3/8
4	3/8 X 3	2	3-3/8	1/2
5	3/8 X 3	2	3-3/8	1/2
6	1/2 X 3-1/2	2-1/2	3-5/8	5/8
8	1/2 X 3-1/2	2-1/2	3-5/8	5/8
10	1/2 X 4-1/2	3	4-1/4	3/4
12	1/2 X 4-1/2	3	4-1/4	7/8

* COUPLING LENGTHS MAY VARY.



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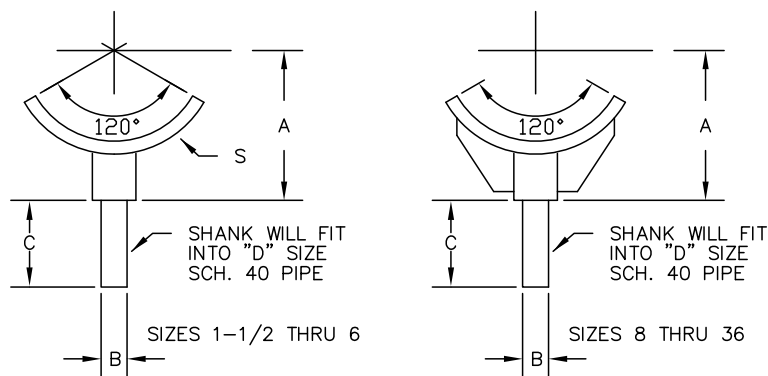


FIG. 53

PIPE SADDLE WITH SUPPORT STEM _____ FIG. 53

MATERIAL:

CARBON STEEL OR STAINLESS STEEL

ORDERING:

SPECIFY NAME, FIGURE NUMBER, PIPE SIZE,
MATERIAL AND FINISH

NOTE: THIS SADDLE MAY BE USED WITH FIG. 51A
PIPE SUPPORT ADJUSTER AND A FIG. 51TBS
THREADED BASE STAND OR A FIG. 51WBS
WELDED BASE STAND.

DIMENSIONS (INCHES)

PIPE SIZE	S STOCK	A	B SCH 40 PIPE SIZE	C	D SIZE SCH 40 PIPE
2-1/2	1/4 X 2-1/2	2-11/16	1	2	1-1/2
3	1/4 X 2-1/2	3	1	2	1-1/2
4	3/8 X 4	3-13/16	2	3	2-1/2
5	3/8 X 4	4-3/16	2	3	2-1/2
6	3/8 X 4	4-7/8	2	3	2-1/2
8	3/8 X 4	6-15/16	2	4	2-1/2
10	3/8 X 4	7-15/16	2	4	2-1/2
12	3/8 X 4	9-1/8	2	4	2-1/2
14	1/2 X 4	10-1/2	2-1/2	4	3
16	1/2 X 4	11-1/2	2-1/2	4	3
18	1/2 X 5	13-1/2	3-1/2	4	4
20	1/2 X 5	14-1/2	3-1/2	4	4
24	1/2 X 5	17-1/2	3-1/2	4	4
30	5/8 X 5	20-5/8	3-1/2	4	4
36	5/8 X 5	23-5/8	3-1/2	4	4



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FIG.
53A, 53AU

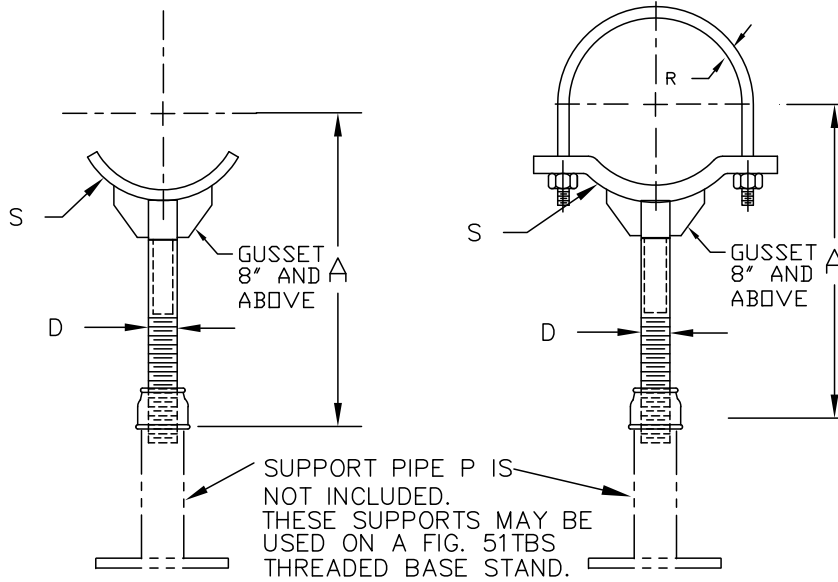


FIG. 53A

FIG. 53AU

SADDLE WITH PIPE SUPPORT ADJUSTER_____ FIG. 53A

SADDLE WITH U-BOLT AND PIPE SUPPORT ADJUSTER___ FIG. 53AU

MATERIAL:

CARBON STEEL OR STAINLESS STEEL (304SS/316SS)

ORDERING:

SPECIFY NAME, FIGURE NUMBER, PIPE SIZE,
MATERIAL AND FINISH

NOTE: THESE SUPPORTS ARE MADE BY COMBINING FIG 51A
WITH FIG. 53 OR FIG. 53U

DIMENSIONS IN INCHES

PIPE SIZE	SUPPORT PIPE SIZE P	ADJUSTER PIPE SIZE D	A		R	S
			MAX.	MIN.		
2-1/2	2-1/2	1-1/2	13	8	1/2	1/4 X 2-1/2
3	2-1/2	1-1/2	13-1/4	8-1/4	1/2	1/4 X 2-1/2
4	3	2-1/2	14-1/8	9-1/8	1/2	3/8 X 4
5	3	2-1/2	14-5/8	9-5/8	1/2	3/8 X 4
6	3	2-1/2	15-1/4	10-1/4	5/8	3/8 X 4
8	3	2-1/2	16-1/4	11-1/4	5/8	3/8 X 4
10	3	2-1/2	17-3/8	12-3/8	3/4	3/8 X 4
12	3	2-1/2	18-3/8	13-3/8	7/8	3/8 X 4
14	4	3	20-1/2	15-1/2	7/8	1/2 X 4
16	4	3	21-5/8	16-5/8	7/8	1/2 X 4
18	6	4	24-1/8	19-1/8	1	1/2 X 5
20	6	4	25-1/8	20-1/8	1	1/2 X 5
24	6	4	27-1/4	22-1/4	1	1/2 X 5
30	6	4	30-1/4	25-1/4	1	5/8 X 5
36	6	4	33-1/4	28-1/4	1	5/8 X 5



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FIG.
53U

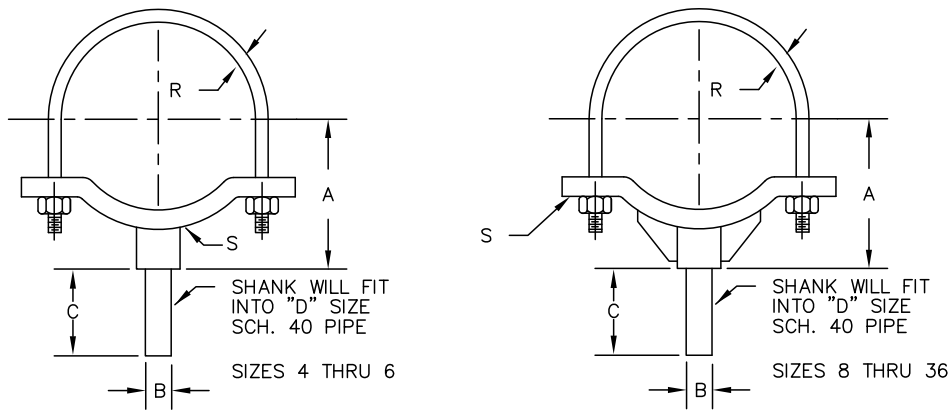


FIG. 53U

SADDLE WITH U-BOLT AND STEM SUPPORT__FIG. 53U

MATERIAL:

CARBON STEEL OR STAINLESS STEEL (304SS/316SS)

ORDERING:

SPECIFY NAME, FIGURE NUMBER, PIPE SIZE,
MATERIAL AND FINISH

NOTE: THIS SADDLE MAY BE USED WITH FIG. 51A
PIPE SUPPORT ADJUSTER AND A 51TBS
THREADED BASE STAND OR A FIG. 51WBS
WELDED BASE STAND.

DIMENSIONS (INCHES)

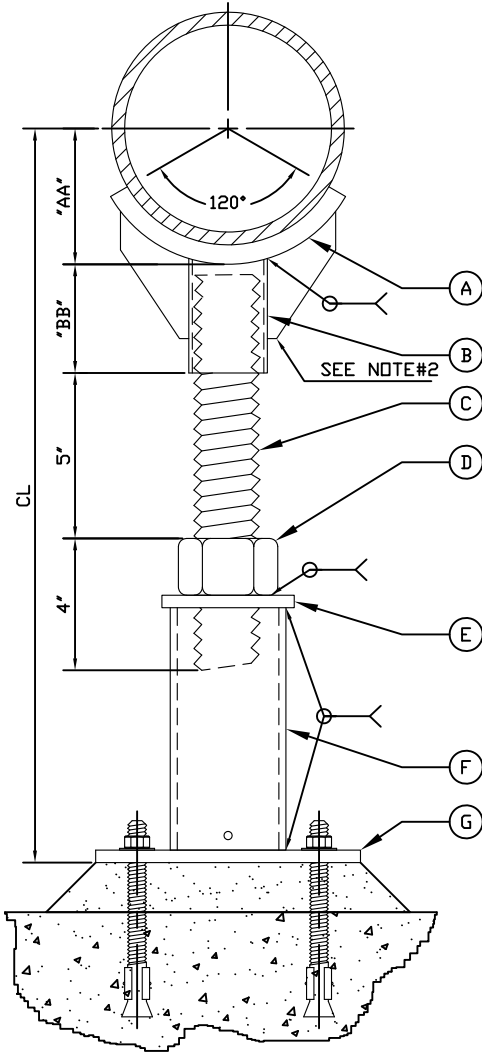
PIPE SIZE	S STOCK	A	B SCH 40 PIPE SIZE	C	D SIZE SCH 40 PIPE	R
2-1/2	1/4 X 2-1/2	2-11/16	1	2	1-1/2	1/2
3	1/4 X 2-1/2	3	1	2	1-1/2	1/2
4	3/8 X 4	3-13/16	2	3	2-1/2	1/2
5	3/8 X 4	4-3/16	2	3	2-1/2	1/2
6	3/8 X 4	4-7/8	2	3	2-1/2	5/8
8	3/8 X 4	6-15/16	2	4	2-1/2	5/8
10	3/8 X 4	7-15/16	2	4	2-1/2	3/4
12	3/8 X 4	9-1/8	2	4	2-1/2	7/8
14	1/2 X 4	10-1/2	2-1/2	4	3	7/8
16	1/2 X 4	11-1/2	2-1/2	4	3	7/8
18	1/2 X 5	13-1/2	3-1/2	4	4	1
20	1/2 X 5	14-1/2	3-1/2	4	4	1
24	1/2 X 5	17-1/2	3-1/2	4	4	1
30	5/8 X 5	20-5/8	3-1/2	4	4	1
36	5/8 X 5	23-5/8	3-1/2	4	4	1



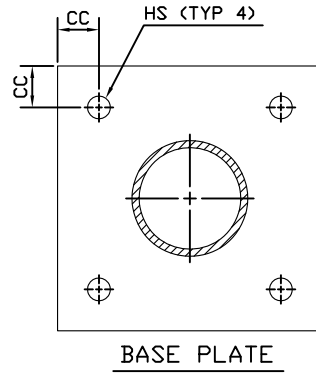
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FIG.
54A



MATERIAL:
CARBON STEEL, GALV OR STAINLESS STEEL (304SS/316SS)
ORDERING:
SPECIFY NAME, FIGURE NUMBER, PIPE SIZE,
MATERIAL AND FINISH
NOTE: THIS ITEM AVAILABLE IN 100% DOMESTIC MATERIAL



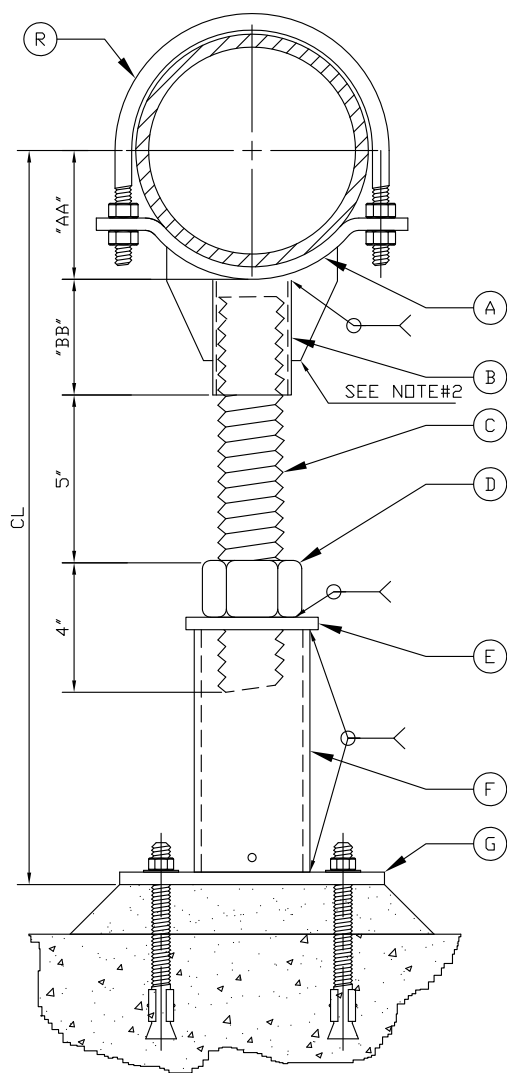
PIPE SIZE	AA	BB	CC	A	B	C	D	E			F	G	HS
				PLATE SIZE	SCH#40	ALL THREAD	HEX NUT	THK	OD	ID	SCH#40	BASE PLATE	
4"	2-5/8"	3"	1-1/4"	3/8" X 4"	2"	2"	2"	3/8"	4-1/2"	2-1/2"	3"	3/8" X 8" X 8"	11/16"
5"	3-5/32"	3"	1-1/4"	3/8" X 4"	2"	2"	2"	3/8"	4-1/2"	2-1/2"	3"	3/8" X 8" X 8"	11/16"
6"	3-11/16"	3"	1-1/4"	3/8" X 4"	2"	2"	2"	3/8"	4-1/2"	2-1/2"	3"	3/8" X 8" X 8"	11/16"
8"	4-11/16"	3"	1-1/4"	3/8" X 4"	2"	2"	2"	3/8"	4-1/2"	2-1/2"	3"	3/8" X 8" X 8"	11/16"
10"	5-7/8"	3"	1-1/2"	1/2" X 4"	2"	2"	2"	3/8"	4-1/2"	2-1/2"	3"	1/2" X 9" X 9"	13/16"
12"	6-7/8"	3"	1-1/2"	1/2" X 4"	2"	2"	2"	3/8"	4-1/2"	2-1/2"	3"	1/2" X 9" X 9"	13/16"
14"	7-1/2"	3"	1-1/2"	1/2" X 4"	2"	2"	2"	3/8"	4-1/2"	2-1/2"	3"	1/2" X 9" X 9"	13/16"
16"	8-1/2"	3"	1-1/2"	1/2" X 4"	2"	2"	2"	3/8"	4-1/2"	2-1/2"	3"	1/2" X 9" X 9"	13/16"
18"	9-5/8"	3"	1-1/2"	5/8" X 4"	2"	2"	2"	3/8"	4-1/2"	2-1/2"	3"	1/2" X 10" X 10"	13/16"
20"	10-5/8"	3"	1-1/2"	5/8" X 4"	2"	2"	2"	3/8"	4-1/2"	2-1/2"	3"	1/2" X 10" X 10"	13/16"
24"	12-5/8"	3"	1-1/2"	5/8" X 4"	2"	2"	2"	3/8"	4-1/2"	2-1/2"	3"	1/2" X 10" X 10"	13/16"
30"	15-5/8"	3"	1-1/2"	5/8" X 4"	2"	2"	2"	3/8"	4-1/2"	2-1/2"	3"	1/2" X 10" X 10"	13/16"



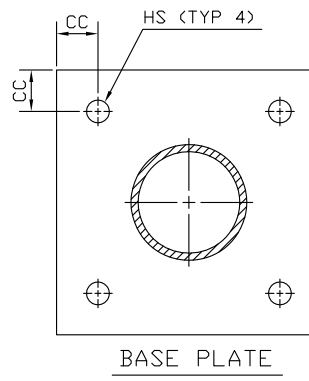
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FIG.
54AU



MATERIAL:
CARBON STEEL, GALV OR STAINLESS STEEL (304SS/316SS)
ORDERING:
SPECIFY NAME, FIGURE NUMBER, PIPE SIZE,
MATERIAL AND FINISH
NOTE: THIS ITEM AVAILABLE IN 100% DOMESTIC MATERIAL



PIPE SIZE	AA	BB	CC	A	B	C	D	E			F	G	R	HS
				PLATE SIZE	SCH#40	ALL THREAD	HEX NUT	THK	OD	ID	SCH#40	BASE PLATE		
4"	2-5/8"	3"	1-1/4"	3/8" X 4"	2"	2"	2"	3/8"	4-1/2"	2-1/2"	3"	3/8" X 8" X 8"	1/2"	11/16"
5"	3-5/32"	3"	1-1/4"	3/8" X 4"	2"	2"	2"	3/8"	4-1/2"	2-1/2"	3"	3/8" X 8" X 8"	1/2"	11/16"
6"	3-11/16"	3"	1-1/4"	3/8" X 4"	2"	2"	2"	3/8"	4-1/2"	2-1/2"	3"	3/8" X 8" X 8"	5/8"	11/16"
8"	4-11/16"	3"	1-1/4"	3/8" X 4"	2"	2"	2"	3/8"	4-1/2"	2-1/2"	3"	3/8" X 8" X 8"	5/8"	11/16"
10"	5-7/8"	3"	1-1/2"	1/2" X 4"	2"	2"	2"	3/8"	4-1/2"	2-1/2"	3"	1/2" X 9" X 9"	3/4"	13/16"
12"	6-7/8"	3"	1-1/2"	1/2" X 4"	2"	2"	2"	3/8"	4-1/2"	2-1/2"	3"	1/2" X 9" X 9"	7/8"	13/16"
14"	7-1/2"	3"	1-1/2"	1/2" X 4"	2"	2"	2"	3/8"	4-1/2"	2-1/2"	3"	1/2" X 9" X 9"	7/8"	13/16"
16"	8-1/2"	3"	1-1/2"	1/2" X 4"	2"	2"	2"	3/8"	4-1/2"	2-1/2"	3"	1/2" X 9" X 9"	7/8"	13/16"
18"	9-5/8"	3"	1-1/2"	5/8" X 4"	2"	2"	2"	3/8"	4-1/2"	2-1/2"	3"	1/2" X 10" X 10"	1"	13/16"
20"	10-5/8"	3"	1-1/2"	5/8" X 4"	2"	2"	2"	3/8"	4-1/2"	2-1/2"	3"	1/2" X 10" X 10"	1"	13/16"
24"	12-5/8"	3"	1-1/2"	5/8" X 4"	2"	2"	2"	3/8"	4-1/2"	2-1/2"	3"	1/2" X 10" X 10"	1"	13/16"
30"	15-5/8"	3"	1-1/2"	5/8" X 4"	2"	2"	2"	3/8"	4-1/2"	2-1/2"	3"	1/2" X 10" X 10"	1"	13/16"

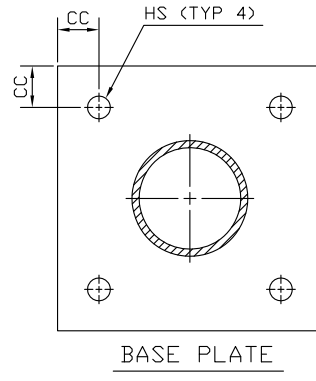
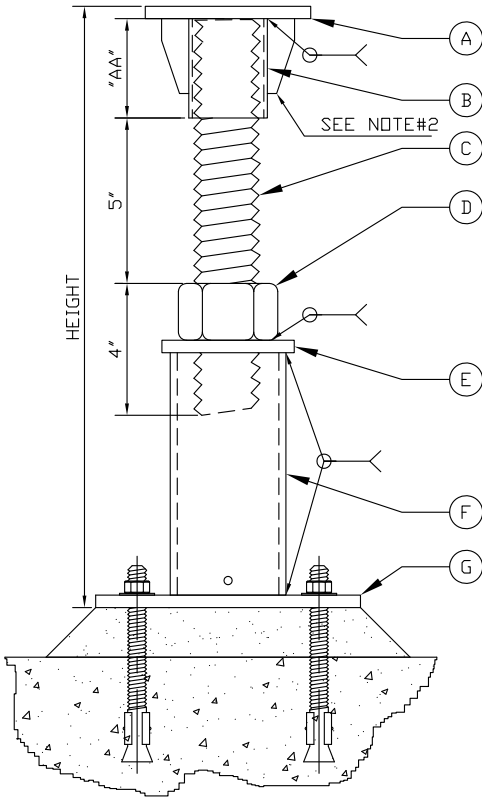


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FIG.
54B

MATERIAL:
CARBON STEEL, GALV OR STAINLESS STEEL (304SS/316SS)
ORDERING:
SPECIFY NAME, FIGURE NUMBER, PIPE SIZE,
MATERIAL AND FINISH
NOTE: THIS ITEM AVAILABLE IN 100% DOMESTIC MATERIAL



PIPE SIZE	AA	BB	A	B	C	D	E			F	A	HS
			PLATE SIZE	SCH#40	ALL THREAD	HEX NUT	THK	OD	ID	SCH#40	BASE PLATE	
4"	3"	1-1/4"	3/8" X 4" x 6"	2"	2"	2"	3/8"	4-1/2"	2-1/2"	3"	3/8" X 8" X 8"	11/16"
5"	3"	1-1/4"	3/8" X 4" x 6"	2"	2"	2"	3/8"	4-1/2"	2-1/2"	3"	3/8" X 8" X 8"	11/16"
6"	3"	1-1/4"	3/8" X 4" x 6"	2"	2"	2"	3/8"	4-1/2"	2-1/2"	3"	3/8" X 8" X 8"	11/16"
8"	3"	1-1/4"	3/8" X 4" x 6"	2"	2"	2"	3/8"	4-1/2"	2-1/2"	3"	3/8" X 8" X 8"	11/16"
10"	3"	1-1/2"	1/2" X 4" x 8-1/2"	2"	2"	2"	3/8"	4-1/2"	2-1/2"	3"	1/2" X 9" X 9"	13/16"
12"	3"	1-1/2"	1/2" X 4" x 8-1/2"	2"	2"	2"	3/8"	4-1/2"	2-1/2"	3"	1/2" X 9" X 9"	13/16"
14"	3"	1-1/2"	1/2" X 4" x 8-1/2"	2"	2"	2"	3/8"	4-1/2"	2-1/2"	3"	1/2" X 9" X 9"	13/16"
16"	3"	1-1/2"	1/2" X 4" x 8-1/2"	2"	2"	2"	3/8"	4-1/2"	2-1/2"	3"	1/2" X 9" X 9"	13/16"



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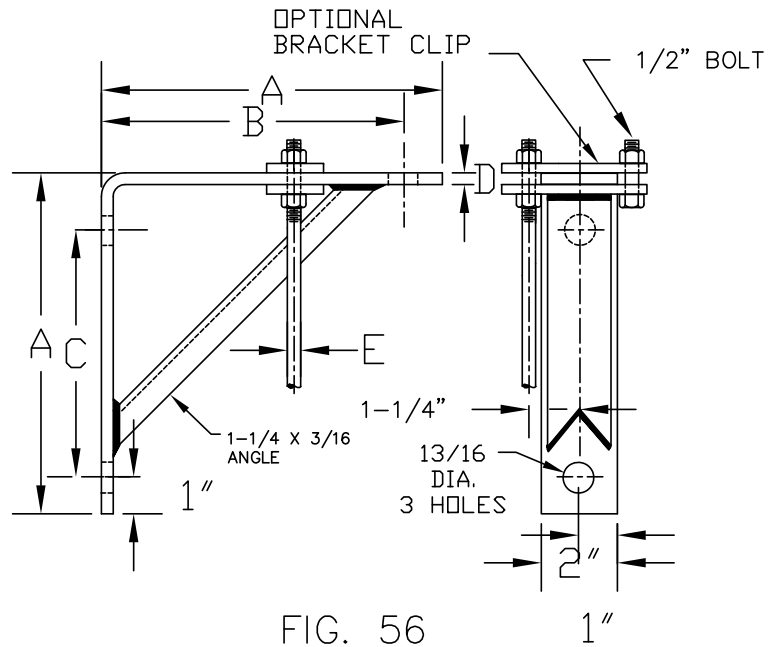


FIG. 56
 LIGHT WELDED STEEL BRACKET _____ FIG. 56
 MAXIMUM RECOMMENDED TOTAL LOAD: 750 LBS.
 MAXIMUM RECOMMENDED 'E' ROD LOAD: 400 LBS.

MATERIAL:
 CARBON STEEL OR STAINLESS STEEL
 ORDERING:
 SPECIFY NAME, FIGURE NUMBER, SIZE NUMBER,
 MATERIAL AND FINISH
 ALSO STATE CLIP OPTION REQUIRED

DIMENSIONS IN INCHES

BRACKET NO.	A	B	C	D
1	9	8	6-1/2	3/8
2	13	12	10-1/2	3/8
3	19	18	16-1/2	3/8

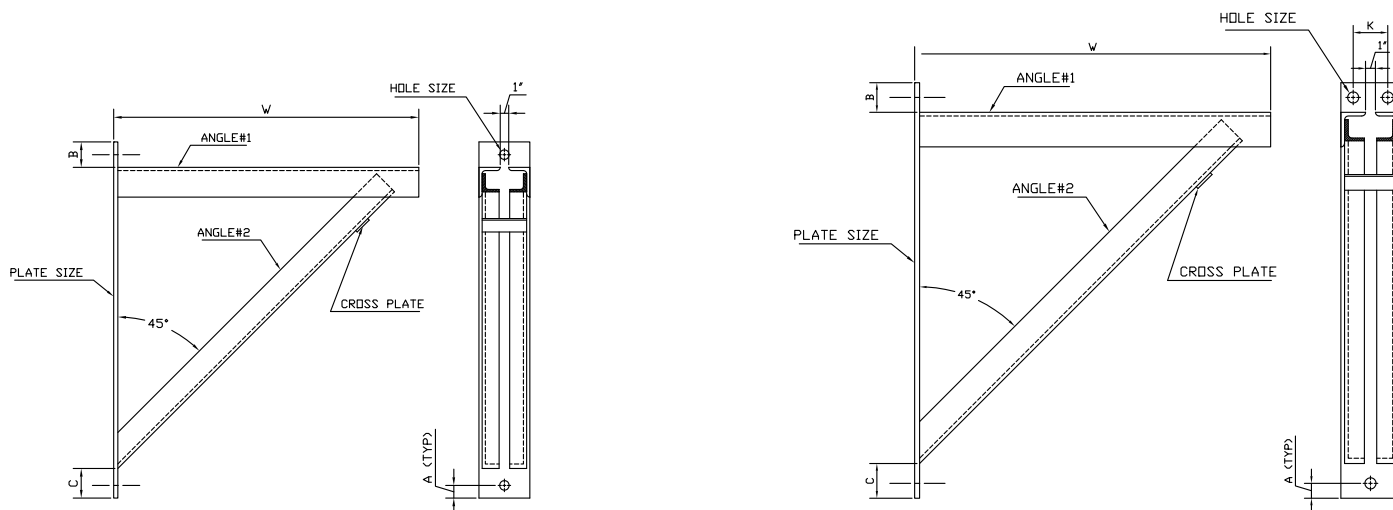
CLIPS FOR BRACKETS

FOR PIPE SIZES	RECOMMENDED ROD SIZE E	FLAT BAR SIZE
1/2" TO 2"	3/8	1/4 X 1-1/2
2-1/2" TO 3-1/2"	1/2	3/8 X 2



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MEDIUM WELDED BRACKET _____ FIG. 57M
 HEAVY WELDED BRACKET _____ FIG. 57H

MATERIAL:

CARBON STEEL OR STAINLESS STEEL

ORDERING:

SPECIFY NAME, FIGURE NUMBER, SIZE NUMBER, MATERIAL AND FINISH

FIG#57M

DIMENSIONS (INCHES)

SIZE	W	A	B	C	PLATE SIZE	ANGLE#1 SIZE	ANGLE#2 SIZE	HOLE SIZE	LOAD LBS
M0	12	1-1/4	2-1/2	4	3/8 X 4 X 18	1-1/2 X 1-1/2 X 3/16	1-1/4 X 1-1/4 X 3/16	13/16	1500
M1	18	1-1/4	2-1/2	4	3/8 X 5 X 24	2 X 2 X 3/16	1-1/2 X 1-1/2 X 3/16	13/16	1500
M2	24	1-1/4	2-1/2	4	3/8 X 5 X 30	2 X 2 X 1/4	1-1/2 X 1-1/2 X 3/16	13/16	1500

FIG#57H

DIMENSIONS (INCHES)

SIZE	W	A	B	C	K	PLATE SIZE	ANGLE#1 SIZE	ANGLE#2 SIZE	HOLE SIZE	LOAD LBS
H0	12	1-3/8	2-3/4	3-3/4	N/A	1/2 X 5 X 18	2 X 2 X 3/8	1-1/2 X 1-1/2 X 1/4	1-1/8	3000
H1	18	1-5/16	2-3/4	3-3/4	2-3/4	1/2 X 5 X 24	2 X 2 X 3/8	1-1/2 X 1-1/2 X 1/4	1-1/8	3000
H2	24	1-1/4	2-3/4	3-3/4	2-3/4	1/2 X 5 X 30	2 X 2 X 3/8	1-1/2 X 1-1/2 X 1/4	1-1/8	3000
H3	30	1-3/8	3	3-1/2	3-1/2	1/2 X 6 X 36	2-1/2 X 2-1/2 X 3/8	2 X 2 X 3/8	1-1/8	3000
H4	36	1-1/2	3	3-1/2	3-1/2	1/2 X 6 X 42	2-1/2 X 2-1/2 X 3/8	2 X 2 X 3/8	1-1/8	3000
H5	42	2	3-1/2	5	3-1/2	1/2 X 6 X 50	2-1/2 X 2-1/2 X 3/8	2 X 2 X 3/8	1-1/8	3000



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FIG.
60,60C & 60FP

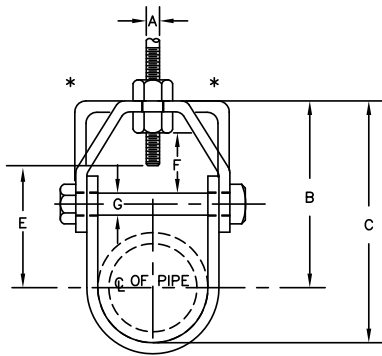


FIG. 60

ADJUSTABLE CLEVIS HANGER

- MEDIUM_____FIG. 60
- MED. PLASTIC COATED_____FIG. 60C
- MED. W/ HOLE SIZE PER NFPA__FIG. 60FP

MATERIAL:

CARBON STEEL OR STAINLESS STEEL

ORDERING:

SPECIFY NAME, FIGURE NUMBER,
PIPE SIZE, MATERIAL AND FINISH

* 3-1/2 INCH SIZE & SMALLER MAY
HAVE A FLAT TOP.

** 20 INCH SIZE AND LARGER ARE
FURNISHED WITH A PIPE SPACER OVER
THE BOLT "G".

LOADS-DIMENSIONS (INCHES)

PIPE SIZE	MAXIMUM RECOMMENDED LOAD LB.	SIZE OF STEEL		ROD SIZE A	B	C	ROD TAKE-OUT E	ADJUST-MENT F	BOLT G
		UPPER	LOWER						
1/2	730	13GA X 7/8	13GA X 7/8	3/8	1-11/16	2-1/16	7/16	7/16	1/4
3/4	730	13GA X 7/8	13GA X 7/8	3/8	1-11/16	2-9/16	1-5/16	7/16	1/4
1	730	13GA X 7/8	13GA X 7/8	3/8	2-1/16	2-11/16	1-1/4	5/8	1/4
1-1/4	730	13GA X 7/8	13GA X 7/8	3/8	2-1/2	3-3/16	1-11/16	7/8	1/4
1-1/2	730	12GA X 7/8	12GA X 7/8	3/8	2-7/8	3-11/16	2-1/16	1-1/16	1/4
2	730	12GA X 7/8	12GA X 7/8	3/8	3-5/16	4-7/16	2-1/2	1-1/4	1/4
2-1/2	1130	9GA X 1-3/16	10GA X 1-3/16	1/2	4-1/2	5-7/8	3-3/8	1-15/16	5/16
3	1130	9GA X 1-3/16	10GA X 1-3/16	1/2	4-3/4	6-1/2	3-11/16	1-3/4	5/16
3-1/2	1350	8GA X 1-3/16	10GA X 1-3/16	1/2	5-7/8	7-15/16	4-13/16	2-9/16	5/16
4	1430	8GA X 1-3/16	10GA X 1-3/16	5/8	5-15/16	8-3/16	4-9/16	2-1/8	3/8
5	1430	4GA X 1-1/4	8GA X 1-1/4	5/8	5-11/16	8-7/16	4-5/16	1-7/16	1/2
6	1940	3GA X 1-1/2	8GA X 1-1/2	3/4	6-13/16	10-1/8	5-5/16	1-3/4	1/2
8	2000	3GA X 1-3/4	8GA X 1-3/4	3/4"	8-1/16	12-7/16	6-1/4	1-7/8	5/8
10	3600	3/8 X 1-3/4	3GA X 1-3/4	7/8	10	15-7/16	8	2-1/4	3/4
12	3800	3/8 X 2	3GA X 2	7/8	11-9/16	18	9-9/16	2-13/16	3/4
14	4200	1/2 X 2	1/4 X 2	1	12-9/16	19-9/16	10-9/16	2-9/16	7/8
16	4600	1/2 X 2-1/2	1/4 X 2-1/2	1	13-15/16	21-15/16	11-15/16	2-13/16	1
18	4800	1/2 X 2-1/2	1/4 X 2-1/2	1	16	25	13-7/8	3-3/4	1-1/8
** 20	4800	5/8 X 3	3/8 X 3	1-1/4	17-1/2	27-1/2	15-1/8	3-3/4	1-1/4
** 24	4800	5/8 X 3	3/8 X 3	1-1/4	19-3/4	31-3/4	17-3/8	4	1-1/4
** 30	6000	3/4 X 3	3/8 X 3	1-1/4	24-1/8	39-1/8	21-1/2	4-3/4	1-1/4



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FIG.
60CI

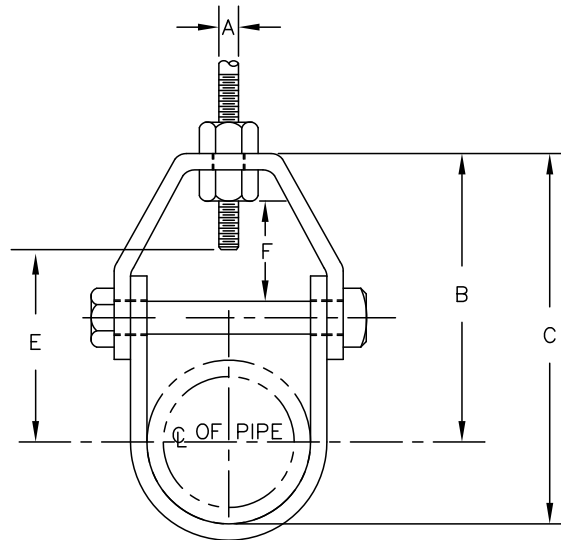


FIG. 60CI

ADJUSTABLE CLEVIS HANGER FOR CAST IRON PIPE__FIG. 60CI

MATERIAL:

CARBON STEEL OR STAINLESS STEEL

ORDERING:

SPECIFY NAME, FIGURE NUMBER, PIPE SIZE,
MATERIAL AND FINISH

* 20 INCH SIZE AND LARGER ARE
FURNISHED WITH A PIPE SPACER
OVER THE BOLT,

LOADS-DIMENSIONS (INCHES)

PIPE SIZE	MAXIMUM RECOMMENDED LOAD, LB	SIZE OF STEEL		ROD SIZE A	B	C	E	ADJUSTMENT F
		UPPER	LOWER					
4	1430	1/4 X 1-1/4	3/16 X 1-1/4	5/8	5-11/16	8-3/16	4-13/16	1-5/8
6	1940	1/4 X 1-1/2	3/16 X 1-1/2	3/4	7	10-1/2	5-3/4	1-3/4
8	2000	1/4 X 1-3/4	3/16 X 1-3/4	3/4"	8-3/8	13	7	1-3/4
10	3600	3/8 X 1-3/4	1/4 X 1-3/4	7/8	10-1/8	15-3/4	8-5/8	2-1/4
12	3800	3/8 X 2	1/4 X 2	7/8	10-1/2	17-1/4	9	1-1/4
14	4200	1/2 X 2	1/4 X 2	1	13-1/2	21-1/2	11-3/4	2-1/2
16	4600	1/2 X 2-1/2	1/4 X 2-1/2	1	15-1/4	24-1/4	13-1/2	3-3/8
18	4800	1/2 X 2-1/2	1/4 X 2-1/2	1	16-3/4	26-3/4	14-7/8	3-3/8
*20	4800	5/8 X 3	3/8 X 3	1-1/4	18-1/2	29-3/4	16-3/8	3-3/4
*24	4800	5/8 X 3	3/8 X 3	1 1/4	20-3/4	34	18-5/8	4



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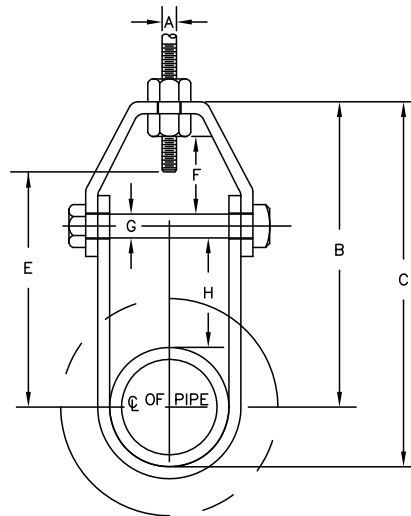


FIG. 62 & 62A

ELONGATED ADJ CLEVIS FOR INSULATED PIPE
 -STEEL OR STAINLESS UP TO 650°F _____ FIG. 62
 -ALLOY STEEL UP TO 1050°F _____ FIG. 62A

ORDERING:
 SPECIFY NAME, FIGURE NUMBER, PIPE SIZE,
 MATERIAL AND FINISH

LOADS-DIMENSIONS (INCHES)

PIPE SIZE	MAXIMUM RECOMMENDED LOAD, LB.	SIZE OF STEEL		A	B	C	E	ADJUSTMENT F	G	H
		UPPER	LOWER							
3/4	610	1/8 X 1	1/8 X 1	3/8	3-5/8	4-1/4	2-7/8	1/2	1/4	2
1	610	1/8 X 1	1/8 X 1	3/8	4	4-11/16	3-1/4	5/8	1/4	2
1-1/4	610	1/8 X 1	1/8 X 1	3/8	4-7/16	5-1/4	3-5/8	7/8	1/4	2
1-1/2	610	1/8 X 1	1/8 X 1	3/8	4-3/4	5-3/4	4-1/16	1-1/16	1/4	2
2	610	1/8 X 1	1/8 X 1	3/8	7-7/16	8-11/16	6-1/2	1-5/8	1/4	4
2-1/2	1130	3/16 X 1-1/4	3/16 X 1-1/4	1/2	8-7/16	9-15/16	7-1/2	2	3/8	4
3	1130	3/16 X 1-1/4	3/16 X 1-1/4	1/2	8-5/8	10-5/16	7-9/16	1-3/4	3/8	4
4	1430	1/4 X 1-1/4	3/16 X 1-1/4	5/8	9-3/8	11-5/8	8-3/16	1-15/16	3/8	4
5	1430	1/4 X 1-1/4	3/16 X 1-1/4	5/8	9-7/8	12-5/8	8-3/4	1-3/4	1/2	4
6	1940	1/4 X 1-1/2	3/16 X 1-1/2	3/4	10-5/8	14	9-3/8	1-7/8	1/2	4
8	2000	1/4 X 1-3/4	3/16 X 1-3/4	7/8	12-3/8	16-3/4	11	2	5/8	4
10	3600	3/8 X 1-3/4	1/4 X 1-3/4	7/8	13-3/4	19-3/16	12-1/4	2-1/8	3/4	4
12	3800	3/8 X 2	1/4 X 2	7/8	15-1/8	21-9/16	13-5/8	2-7/16	3/4	4



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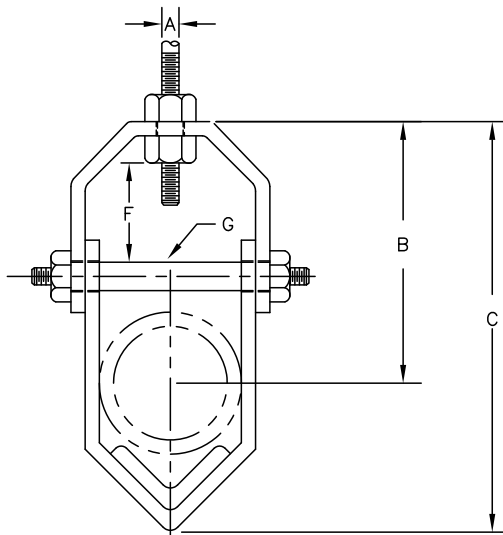


FIG. 64

V-ANGLE CLEVIS FOR HOSE OR PLASTIC PIPE__FIG. 64

MATERIAL:

CARBON STEEL OR STAINLESS STEEL

ORDERING:

SPECIFY NAME, FIGURE NUMBER, PIPE SIZE,
MATERIAL AND FINISH.

NOTE:

ANGLE MUST BE ORDERED SEPARATELY.

LOADS-DIMENSIONS (INCHES)

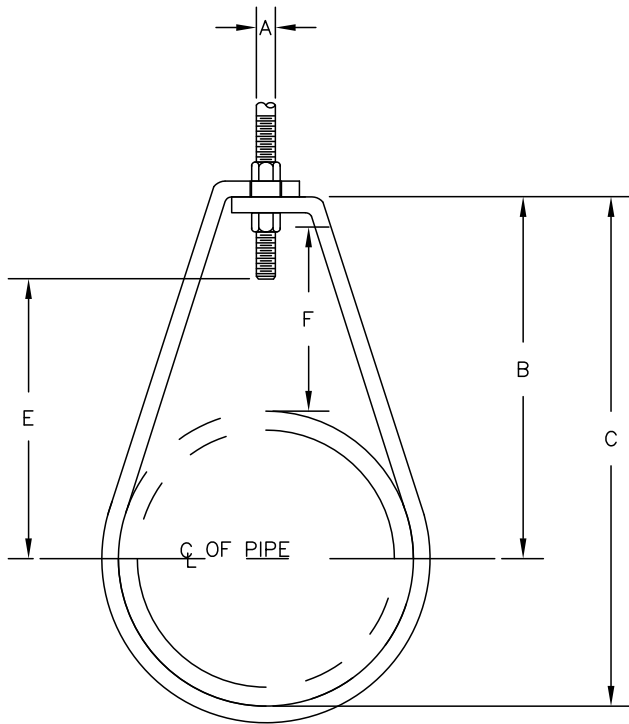
PIPE SIZE	MAX. LOAD, LB	STEEL SIZE	ROD SIZE A	B	C	ADJUSTMENT F	BOLT G
1/2 THRU 1 1/2	250	1/8 X 1	3/8	3-3/16	4-9/16	1-1/4	1/4
2	250	1/8 X 1	3/8	3-11/16	5-7/16	1-3/8	1/4
2 1/2 THRU 3	350	1/8 X 1-1/4	1/2	4-3/4	7-3/8	1-1/2	1/4
3 1/2 THRU 4	400	1/8 X 1-1/4	1/2	5-3/8	8-3/4	1-3/4	5/16
6	500	3/16 X 1-3/4	3/4	7-3/16	11-7/8	1-5/8	5/8



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FIG. 66, 66FP



PEAR SHAPE ADJ. RING OR

PEAR SHAPE WITH HOLE SIZE PER NFPA FIG. 66FP

MATERIAL:
CARBON STEEL OR
STAINLESS STEEL
ORDERING:
SPECIFY NAME,
FIGURE NUMBER,
PIPE SIZE,
MATERIAL AND FINISH.

CAUTION:
PEAR SHAPE HANGERS
DO NOT SPREAD EASY TO
GO ACROSS PIPE. THEY
MUST SLIP OVER THE
END OF PIPE.

NOTE:
NUTS AND WASHERS
SOLD SEPARATELY

FIG. 66

LOADS-DIMENSIONS (INCHES)

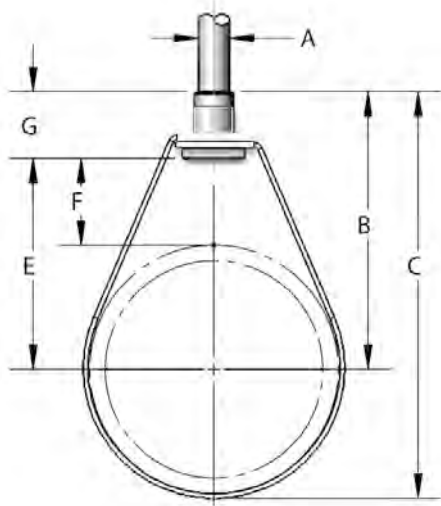
PIPE SIZE	MAX. RECOM. LOAD LB.	STEEL SIZE	ROD SIZE A	NFPA ROD SIZE A	B	C	ROD TAKE-OUT E	ADJUST-MENT F
1/2	610	16GA X 1	3/8	3/8	1-13/16	2-5/16	1-1/8	1
3/4	610	16GA X 1	3/8	3/8	2-1/16	2-5/8	1-5/16	1
1	610	16GA X 1	3/8	3/8	2-3/16	2-7/8	1-7/16	1
1-1/4	610	16GA X 1	3/8	3/8	2-9/16	3-7/16	1-13/16	1-1/4
1-1/2	610	16GA X 1	3/8	3/8	2-3/4	3-11/16	1-15/16	1-1/4
2	610	1/8 X 1	3/8	3/8	3	4-3/16	2-3/16	1-1/4
2-1/2	970	1/8 X 1	1/2	3/8	3-7/8	5-5/16	3	1-3/4
3	970	1/8 X 1	1/2	3/8	4-1/4	6	3-5/16	1-3/4
3-1/2	970	1/8 X 1	1/2	3/8	4-1/2	6-1/2	3-9/16	1-3/4
4	1250	1/8 X 1-1/4	5/8	3/8	4-7/8	7-1/8	3-13/16	1-3/4
5	1250	1/8 X 1-1/4	5/8	1/2"	5-11/16	8-7/16	4-5/8	2
6	1600	1/8 X 1-1/2	3/4	1/2	6-3/8	9-11/16	5-3/16	2
8	1800	3/16 X 1-1/2	7/8	1/2	7-9/16	11-7/8	6-3/16	2



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FIG.
66C



Material: Pre-galvanized carbon steel.
Finish: Pre-galvanized and plastic coated.
Service: Designed for the suspension of non-insulated stationary pipe lines. Plastic coating prevents pipe from coming in contact with hanger and is designed to reduce noise, vibration and prevent electrolysis between pipe and hanger.
Approvals: U.L. - U.L.C. listed and FM approved. Complies with Federal Specification WW-H-171-E (Type# 10), A-A-1192 A (Type# 10) and Manufacturers' Standardization Society MSS SP-58 and SP-69 (Type# 10).
Ordering: Specify pipe size, figure number and finish.

PIPE SIZE	PIPE OD	MATERIAL SIZE	A	B	C	E	F	G	WGT EACH (lbs)	MAX REC LOAD (lbs)
1/2	0.840	18ga x 3/8	3/8	2 1/2	2 7/8	1 3/8	1 7/16	7/8	0.08	400
3/4	1.050	18ga x 3/8	3/8	2 7/16	2 9/16	1 7/16	1 1/4	7/8	0.08	400
1	1.315	18ga x 3/8	3/8	2 3/8	3 1/4	1 3/4	1 7/16	7/8	0.08	600
1 1/4	1.660	18ga x 3/8	3/8	2 7/16	3 3/8	1 11/16	7/8	7/8	0.10	600
1 1/2	1.900	18ga x 3/8	7/8	2 11/16	3 3/8	1 13/16	7/8	7/8	0.10	600
2	2.375	18ga x 3/8	3/8	3 3/8	4 1/2	2 1/2	1 7/16	7/8	0.12	600
2 1/2	2.875	13ga x 3/4	1/2	3 11/16	5 1/8	2 1/2	1 1/4	1 1/16	0.32	600
3	3.500	13ga x 3/4	1/2	4	5 7/8	3 3/8	1 3/8	1 1/16	0.35	600
3 1/2	4.000	13ga x 3/4	1/2	4 7/16	6 3/8	3 3/8	1 1/2	1 1/16	0.39	600
4	4.500	12ga x 3/4	3/8	4 13/16	7 1/8	3 3/8	1 1/2	1 1/8	0.43	1000
5	5.563	12ga x 3/4	3/8	5 3/8	8 1/8	4 3/8	1 3/8	1 1/8	0.65	1000
6	6.625	11ga x 1	3/4	6 11/16	10 1/8	5 7/16	2	1 3/8	1.09	1250
8	8.625	11ga x 1	3/4	8 7/16	12 7/8	6 13/16	2 3/8	1 7/8	1.24	1250



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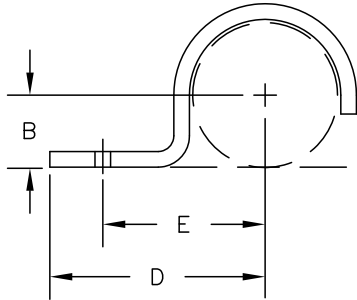


FIG.
70P & 70T

ONE HOLE PIPE CLAMP _____ FIG. 70P
ONE HOLE TUBE CLAMP _____ FIG. 70T

MATERIAL:
CARBON STEEL OR STAINLESS STEEL
ORDERING:
SPECIFY NAME, FIGURE NUMBER,
PIPE OR TUBE SIZE, MATERIAL & FINISH.

DIMENSIONS (INCHES)

SIZE	PIPE B	TUBE B	D	E	HOLE SIZE	STEEL SIZE
3/8	5/16	3/16	2	1-5/16	1/4	1/8 X 1
1/2	7/16	1/4	2-1/16	1-7/16	5/16	1/8 X 1
3/4	9/16	3/8	2-1/8	1-1/2	5/16	1/8 X 1
1	11/16	1/2	2-5/16	1-5/8	5/16	1/8 X 1
1-1/4	13/16	5/8	2-1/2	1-3/4	5/16	1/8 X 1
1-1/2	15/16	3/4	2-5/8	2	5/16	1/8 X 1
2	1-3/16	1	2-7/8	2-1/4	5/16	1/8 X 1
2-1/2	1-7/16	1-1/4	3-1/8	2-1/2	7/16	1/4 X 1-1/4
3	1-3/4	1-1/2	3-1/2	2-3/4	7/16	1/4 X 1-1/4
3-1/2	2	1-3/4	3-11/16	3-1/16	7/16	1/4 X 1-1/4
4	2-1/4	2	4-3/16	3-9/16	9/16	1/4 X 1-1/2



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RING AND BOLT CLAMP, LIGHT-----FIG. 71L

MATERIAL;
CARBON STEEL OR STAINLESS STEEL
ORDERING;
SPECIFY NAME, FIGURE NUMBER,
PIPE SIZE , MATERIAL AND FINISH.

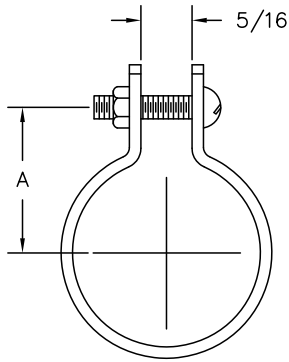


FIG. 71L

DIMENSIONS (INCHES)

PIPE SIZE	A	BOLT SIZE	STOCK SIZE	MAX. LOAD RATING LBS.
3/8	1	1/4	16GA. X 1	275
1/2	1-1/16	1/4	16GA. X 1	275
3/4	1-3/16	1/4	16GA. X 1	275
1	1-5/16	1/4	16GA. X 1	275
1-1/4	1-1/2	1/4	16GA. X 1	275
1-1/2	1-5/8	1/4	16GA. X 1	275
2	1-13/16	1/4	16GA. X 1	275
2-1/2	2-5/16	5/16	12GA. X 1-1/4	500
3	2-5/8	5/16	12GA. X 1-1/4	500
3-1/2	2-7/8	5/16	12GA. X 1-1/4	500
4	3-1/8	5/16	12GA. X 1-1/4	500
5	3-5/8	5/16	12GA. X 1-1/4	500
6	4-3/16	5/16	12GA. X 1-1/4	500

RING AND BOLT CLAMP, MEDIUM-----FIG. 71M

MATERIAL:
CARBON STEEL OR STAINLESS STEEL
ORDERING:
SPECIFY NAME, FIGURE NUMBER,
PIPE SIZE, MATERIAL AND FINISH.

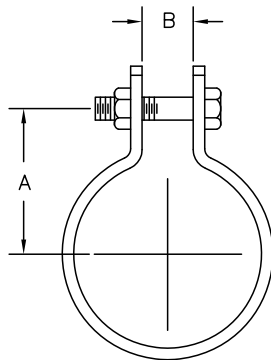
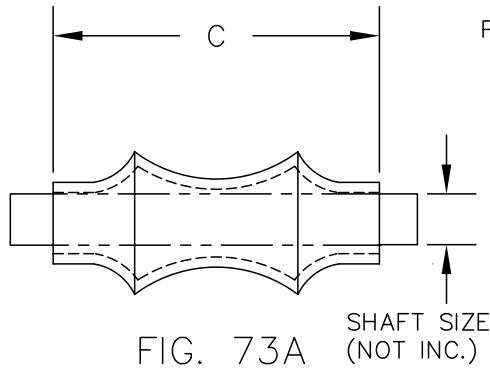


FIG. 71M

DIMENSIONS (INCHES)

PIPE SIZE	A	B	BOLT SIZE	STEEL SIZE	MAX. RECOM. LBS.
1/2	1-1/8	7/16	3/8	1/8 X 1	500
3/4	1-1/4	7/16	3/8	1/8 X 1	500
1	1-3/8	7/16	3/8	1/8 X 1	500
1-1/4	1-5/8	7/16	3/8	1/8 X 1	500
1-1/2	1-11/16	7/16	3/8	1/8 X 1	500
2	2	7/16	3/8	1/8 X 1	500
2-1/2	2-1/4	9/16	3/8	1/8 X 1	500
3	2-9/16	9/16	3/8	1/8 X 1-1/4	900
3-1/2	2-13/16	9/16	3/8	1/8 X 1-1/4	900
4	3-7/16	11/16	1/2	1/8 X 1-1/4	900
5	4	11/16	1/2	1/8 X 1-1/4	900
6	4-11/16	13/16	1/2	3/16 X 1-1/4	1150
8	5-11/16	15/16	1/2	3/16 X 1-1/4	1150
10	6-7/8	15/16	1/2	1/4 X 1-1/2	1300
12	7-15/16	15/16	1/2	1/4 X 1-3/4	1500





PIPE ROLLS
 -CAST IRON LONG ROLL _____ FIG. 73A
 -CAST IRON SHORT ROLL
 (BOW TIE) _____ FIG.73B

ORDERING:
 SPECIFY NAME, FIGURE NUMBER, PIPE SIZE, OR ROLL NUMBER.

NOTE:
 ROLLS MUST BE SIZED TO FIT PIPE COVERING PROTECTION SADDLES ON INSULATED PIPE. FIG. 99 PROTECTION SADDLES MUST BE ORDERED SEPARATELY.

FIG. 73A

DIMENSIONS (INCHES)

PIPE SIZE	1	1-1/4	1-1/2	2	2-1/2	3	3-1/2
C	1-1/2	1-7/8	2 1/8	2-5/8	3-1/8	3-3/4	4-1/4
F	3/8	3/8	3/8	3/8	1/2	1/2	1/2
PIPE SIZE	4	5	6	7	8	10	12
C	4-3/4	5-13/16	6-7/8	7-29/32	8-7/8	11-0	12-1/2
F	1/2	5/8	3/4	3/4	7/8	7/8	1
PIPE SIZE	14	16	18	20	24	30	
C	14-1/4	16-1/4	18-1/4	20-1/4	24-1/4	30-1/4	
F	1-1/8	1-1/4	1-1/4	1-1/4	1-1/2	1-3/4	

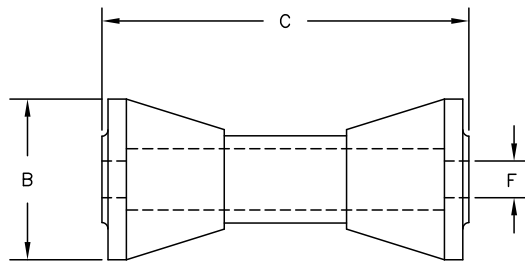


FIG.73B

DIMENSIONS (INCHES)

PIPE SIZE	C	B	ROD SIZE F
2-3-1/2	2-3/4	1-7/8	1/2
4-6	3-3/4	2-1/16	1/2
7-10	6	3-1/4	3/4
12-14	8	4	7/8
16-20	9	4-1/2	1-1/8
24	10	4-7/16	1-1/4
30	12-1/2	5-1/2	1-3/4
36	15	6-3/8	2
42	15	6-3/8	2



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ROLLER CHAIR WITH 2-BOLT BASE _____ FIG. 75
BOLT OR WELD TO SUPPORT

MATERIAL:

CAST IRON ROLL; STEEL CHAIR, ROD AND BOLTS

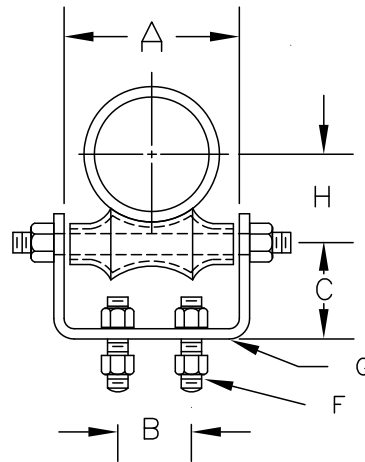
ORDERING:

SPECIFY NAME, FIGURE NUMBER, AND PIPE SIZE.

NOTE: ROLLS MUST BE SIZED TO FIT PIPE COVERING

PROTECTION SADDLES ON INSULATED PIPE. FIG. 99

PROTECTION SADDLES MUST BE ORDERED SEPARATELY



SEE FIG. 75SS
ALL STAINLESS STEEL

FIG. 75

DIMENSIONS (INCHES)

PIPE SIZE	A	B	C	BOLTS F	STEEL-SIZE G	H	SHAFT SIZE	MAX.REC. LOAD
2	2-3/4	1-1/4	1-1/2	3/8 X 1-1/2	1/4 X 1-1/4	1-5/8	3/8	600
2-1/2	3-1/4	1-1/4	1-5/8			1-15/16	1/2	600
3	3-7/8	2	1-3/4			2-1/4	1/2	600
3-1/2	4-3/8	2	2-1/16	3/8 X 1-1/2	3/8 X 1-1/2	2-9/16	1/2	750
4	4-15/16	2	2-5/16	1/2 X 1-1/2		2-13/16	1/2	750
5	6	3	2-1/2	1/2 X 1-1/2		3-7/16	5/8	750
6	7-1/8	3-1/8	2-3/4	1/2 X 1-1/2	3/8 X 2	4	3/4	1070
8	9-1/8	3-3/8	3	5/8 X 1-1/2		5-1/8	7/8	1350
10	11-1/4	5-1/4	3-5/8	5/8 X 2	1/2 X 2	6-3/8	7/8	1730
12	12-3/4	5-1/2	4-1/8			7-7/16	1	2400
14	14-1/2	6-1/2	4-11/16	3/4 X 2	1/2 X 2-1/2	8-3/8	1-1/8	3130
16	16-1/2	8-1/4	5-3/8	3/4 X 2-1/2	1/2 X 3	9-3/8	1-1/4	3970
18	18-1/2	9-1/4	6			10-7/16	1-1/4	4200
20	20-1/2	10-1/4	6-1/2			11-5/8	1-1/4	4200
24	24-1/2	12-1/4	7-7/8			7/8 X 3-1/2	5/8 X 4	14



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ROLLER CHAIR WITH 2-BOLT BASE _____ FIG. 75SS
BOLT OR WELD TO SUPPORT

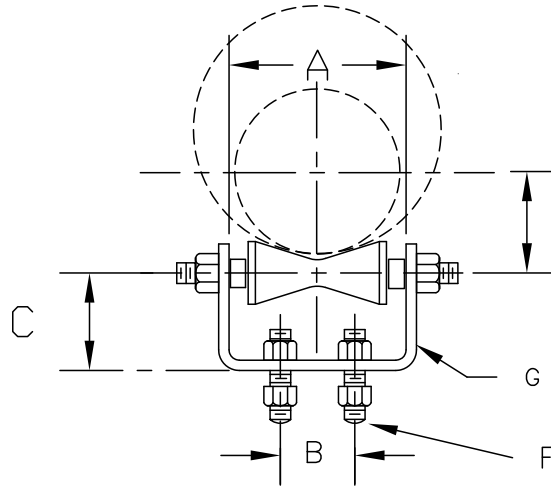
MATERIAL:

ALL PARTS STAINLESS STEEL

ORDERING:

SPECIFY NAME, FIGURE NUMBER, STAINLESS TYPE AND PIPE SIZE.

NOTE: ROLLS MUST BE SIZED TO FIT PIPE COVERING PROTECTION SADDLES ON INSULATED PIPE. FIG. 99 PROTECTION SADDLES MUST BE ORDERED SEPARATELY



H
ALL STAINLESS STEEL
SEE FIG. 75XH
FOR HEAVIER LOADS.

FIG. 75SS

DIMENSIONS (INCHES)

PIPE SIZE	A	B	C	BOLTS F	STEEL-SIZE G	H	SHAFT SIZE	GSH ROLL	MAXIMUM LOAD
2	3-1/4	1-1/4				1-3/4			225
2-1/2	3-1/4	1-1/4	2-3/8	3/8 X 1-1/2	1/4 X 1-1/4	2	1/2	A	225
3	3-7/8	2				2-5/16			390
3-1/2	4-3/8	2	2-3/8	3/8 X 1-1/2		2-5/8	1/2	A	390
4	4-15/16	2	2-3/8	1/2 X 1-1/2	3/8 X 1-1/2	2-7/8	1/2	A	300
5	6	3	2-5/8	1/2 X 1-1/2		3-11/16	3/4	B	600
6	7-1/8	3-1/8	2-5/8	1/2 X 1-1/2		4-1/4	3/4	B	600
8	9-1/8	3-3/8	3-3/4	5/8 X 1-1/2	3/8 X 2	5-11/16	1	C	925
10	11-1/4	5-1/4	3-3/4			6-7/16	1		925
12	12-3/4	5-1/2	4-1/16	5/8 X 2	1/2 X 2	7-1/2	1	C	680
14	14-1/2	6-1/2	4-3/8	3/4 X 2	1/2 X 2-1/2	8-11/16	1-1/4	D	1200
16	16-1/2	8-1/4	5-5/16			9-7/16	1-1/4	D	1100
18	18-1/2	9-1/4	5-15/16	3/4 X 2-1/2	1/2 X 3	10-1/2	1-3/8	D20	1200
20	20-1/2	10-1/4	6-9/16			11-9/16	1-3/8	D20	1000

FOR 24" SIZE SEE FIG. 75XH



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EXTRA HEAVY
ROLLER CHAIR WITH 2-BOLT BASE _____ FIG. 75XH
BOLT OR WELD TO SUPPORT

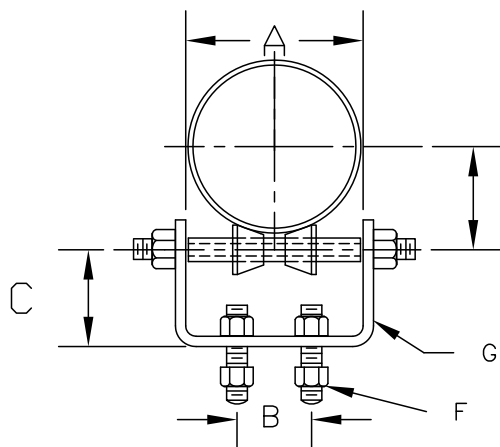
MATERIAL:

ALL PARTS STAINLESS STEEL

ORDERING:

SPECIFY NAME, FIGURE NUMBER, STAINLESS TYPE AND PIPE SIZE.

NOTE: ROLLS MUST BE SIZED TO FIT PIPE COVERING PROTECTION SADDLES ON INSULATED PIPE. FIG. 99 PROTECTION SADDLES MUST BE ORDERED SEPARATELY



H
ALL STAINLESS STEEL
FOR LIGHTER LOADS
SEE FIG. 75SS

FIG. 75XH

DIMENSIONS (INCHES)

PIPE SIZE	A	B	C	BOLTS F	STEEL-SIZE G	H	SHAFT SIZE	MAX.REC. LOADS	ROLL NUMBER
2 2-1/2 3 3-1/2 4 5 6									
SEE FIG. 75SS FOR SIZES 6" AND SMALLER									
8	9-1/8	3-3/8	3	5/8 X 1-1/2		5-7/16		1350	
10	11-1/4	5-1/4	3-5/8	5/8 X 2	5/8 X 3	6-9/16	7/8	1730	E-1
12	12-3/4	5-1/2	4-1/8	5/8 X 2		7-5/8		2400	
14	14-1/2	6-1/2	4-11/16	3/4 X 2	5/8 X 3	8-5/16	1	3130	E-1
16	16-1/2	8-1/4	5-3/8	3/4 X 2-1/2		9-1/4		3970	
18	18-1/2	9-1/4	6	3/4 X 2-1/2	5/8 X 4	10-5/16	1-1/4	4200	E-2
20	20-1/2	10-1/4	6-1/2	3/4 X 2-1/2		11-3/8			
24	24-1/2	12-1/4	7-7/8	7/8 X 3-1/2	5/8 X 4	13-5/8	1-1/4	4200	E-2 E-3



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FIG. 76

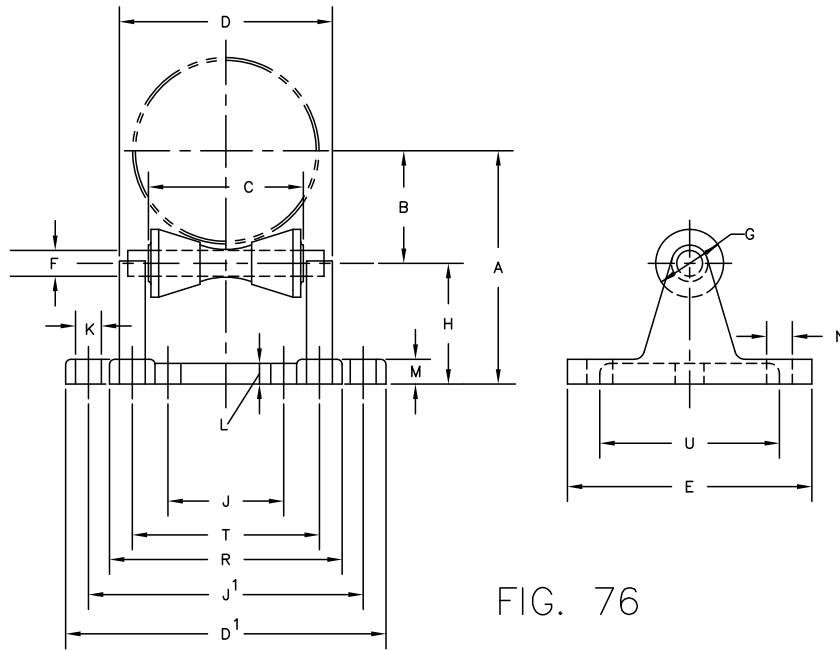


FIG. 76

PIPE ROLL STAND _____ FIG. 76

MATERIAL:

CAST IRON ROLL AND STAND

ORDERING:

SPECIFY NAME, FIGURE NUMBER, AND PIPE SIZE

NOTE: ROLLS MUST BE SIZED TO FIT PIPE COVERING

PROTECTION SADDLES ON INSULATED PIPE. FIG. 99

PROTECTION SADDLES MUST BE ORDERED SEPARATELY

LOADS-WEIGHTS

PIPE SIZE	2 THRU 3 1/2	4 THRU 6	8 THRU 10	12 THRU 14	16 THRU 20	24	30	36 THRU 42
MAX. RECOM. LOAD LB.	390	950	2100	3075	4980	6100	7500	12000
COMPLETE FIG.76 WGT. (APPROX.) LBS. EACH	6.4	8.9	15.3	28.1	39.7	49.6	99.3	152.0

DIMENSIONS (INCHES)

PIPE SIZE	A	B	H	D	D ¹	E	C	G	F	J	J ¹	K	L	M	N	R	T	U
2	3-1/2	1-3/4																
2-1/2	3-7/8	2-1/8																
3	4-1/8	2-3/8	1-3/4	4	8-3/8	5-3/8	2-3/4	1-7/8	1/2	-	6-3/8	1	9/16	11/16	1/2	-	3-7/16	4
3-1/2	4-3/8	2-5/8																
4	4-13/16	2-3/4																
5	5-7/16	3-3/8	2-1/16	5-3/8	9-7/8	5-5/8	3-3/4	2-1/16	1/2	-	7-7/8	1	3/4	7/8	1/2	-	4-11/16	4-1/4
6	6-1/16	4																
8	8-11/16	5-1/4	3-7/16	7-3/4	-	6-5/8	6	3-1/4	3/4	4	-	1	3/4	7/8	5/8	8-5/8	7	5
10	9-13/16	6-3/8																
12	11-3/8	7-1/2	3-7/8	9-7/8	-	7-7/8	8	4	7/8	5 3/4	-	1	3/4	7/8	3/4	10-15/16	9-1/16	6
14	12	8-1/8																
16	13-5/8	9-3/8	4-1/4	11-1/4	-	8-5/8	9	4-1/2	1-1/8	6-3/4	-	1	7/8	1	13/16	12-3/8	10-1/4	6-1/2
18	14-5/8	10-3/8																
20	15-5/8	11-3/8																
24	17-3/4	13-3/8	4-3/8	12-1/2	-	8-5/8	- 10	4-7/16	1-1/4	7-1/2	-	1	1	1-1/8	13/16	13-1/2	11-3/8	6-1/2
30	21-7/8	16-3/4	5-1/8	15-3/4	-	10-3/4	12-1/2	5-1/2	1-3/4	10	-	1	1-1/4	1-1/2	1-1/16	17	14-1/4	8
36	25-3/4	20	5-3/4	18-3/4	-	12	15	6-3/8	2	12	-	1	1-1/2	1-3/4	1-5/16	20	17	9
42	28-7/8	23-1/8																



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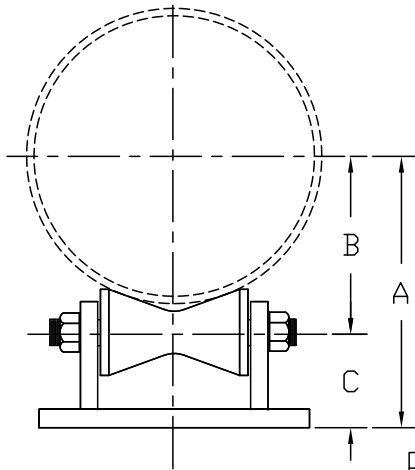


FIG. 76SS

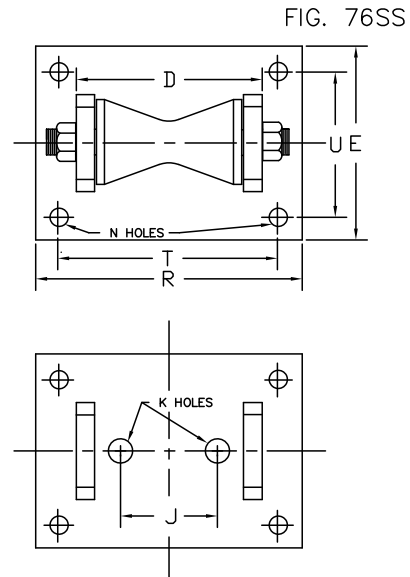


FIG. 76SS

STAINLESS STEEL PIPE ROLL STAND _____ FIG. 76SS

MATERIAL:

STAINLESS STEEL

ORDERING:

SPECIFY NAME, FIGURE NUMBER, TYPE STAINLESS & PIPE SIZE

NOTE: ROLL MUST BE SIZED TO FIT PIPE COVERING PROTECTION SADDLE ON INSULATED PIPE. FIG. 99 SADDLE MUST BE ORDERED SEPARATELY.

DIMENSIONS – LOADS

* PIPE SIZE	A	B	C	D	GSH ROLL	E	J	K HOLE	N HOLE	R	T	U	MAX. REC. LOAD
2	3-1/2	1-3/4	1-3/4							5.5	3.44	4.0	950
2-1/2	3-7/8	2-0	1-7/8							5.5	3.44	4.0	
3	4-1/8	2-5/16	1-13/16	4.0	A	6.00	-	-	.5	5.5	3.44	4.0	
3-1/2	4-3/8	2-5/8	1-3/4							5.5	3.44	4.0	
4	4-13/16	2-7/8	1-15/16							7.0	4.69	4.25	
5	5-11/16	3-11/16	2-0	5.0	B	6.00	-	-	.5	7.0	4.69	4.25	1500
6	6-1/4	4-1/4				6.00	-	-	.5	7.0	4.69	4.25	
7	8-3/16	5-3/16	3-0										3500
8	8-11/16	5-11/16	3-0	7.5	C	7.00	4.00	1.00	.63	9.0	7.0	5.0	
8DI	9-1/16	5-11/16	3-3/8										
10	9-13/16	6-7/16	3-3/8										
10DI	10-3/4	6-7/8											3500
12	11-3/8	7-1/2	3-7/8	7.5	C	8.00	4.00	1.00	.75	11.0	9.06	6.0	
12DI	11-13/16	7-15/16											
14	12	8-11/16	3-5/16	9.5		8.00			.75	11.0	9.06	6.0	5000
14DI	13-1/2	9-5/16	4-3/16	9.5		9.00			.81	12.38	10.25	6.5	
16	13-5/8	9-7/16	4-3/16	9.5		9.00	6.00	1.00	.81	12.38	10.25	6.5	
16DI	14-9/16	10-7/16	4-1/8	9.75	D	9.00			.81	12.38	10.25	6.5	
18	14-5/8	10-1/2	4-1/8	9.75		9.00			.81	12.38	10.25	6.5	
18DI/20	15-5/8	11-9/16	4-1/16	9.75		9.00			.81	12.38	10.25	6.5	

* SEE FIG. 76XH FOR LARGER SIZES



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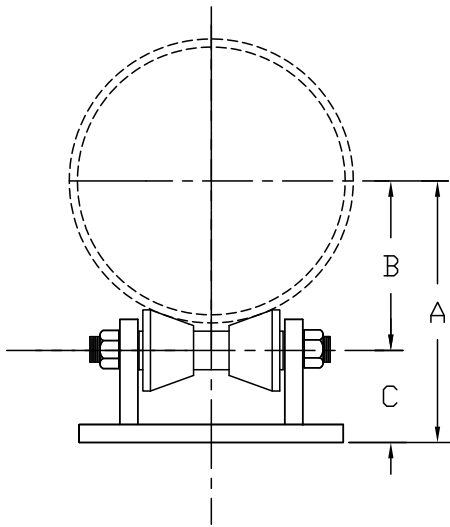


FIG. 76XH

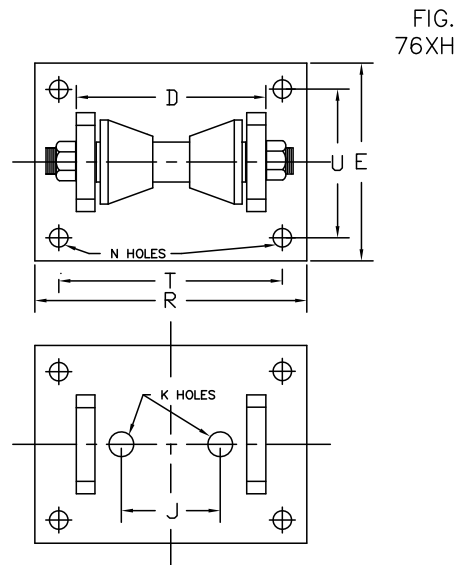


FIG. 76XH

EXTRA HEAVY
STAINLESS STEEL PIPE ROLL STAND _____ FIG. 76XH

MATERIAL:
STAINLESS STEEL

ORDERING:
SPECIFY NAME, FIGURE NUMBER, TYPE STAINLESS & PIPE SIZE

NOTE: ROLL MUST BE SIZED TO FIT PIPE COVERING PROTECTION
SADDLE ON INSULATED PIPE. FIG. 99 SADDLE MUST BE
ORDERED SEPARATELY.

DIMENSIONS — LOADS

* PIPE SIZE	A	B	C	D	GSH ROLL	E	J	K HOLE	N HOLE	R	T	U	MAX. REC. LOAD
8	8-11/16	5-7/16	3-1/4	8.25	E1	7.00	4.00	1.00	.63	9.0	7.0	5.0	3500
8DI	9-1/16	5-13/16											
10	9-13/16	6-9/16											
10DI	10-11/16	6-15/16	3-3/4	8.25	E1	8.00	4.00	1.00	.75	11.0	9.06	6.0	3500
12	11-3/8	7-5/8											
12DI	11-3/4	8											
14	12-1/16	8-5/16											
14DI	13-1/2	9-1/8	4-3/8	9.75	E2	9.00	6.00	1.00	.81	12.38	10.25	6.5	5000
16	13-5/8	9-1/4	4-3/8	9.75									
16DI	14-9/16	10-1/4	4-5/16	10									
18	14-5/8	10-5/16	4-5/16	10									
18DI/20	15-5/8	11-3/8	4-1/4	10									
20DI	16-3/4	12-5/8	4-1/8	13.25	E3	9.00	7.5	1.00	.81	14.00	11.38	6.5	7290
24	17-3/4	13-5/8											
24DI	19-15/16	14-11/16	5-1/4	15.25	E4	11.00	10.0	1.00	1.06	17.00	14.25	8.0	7290
30	21-7/8	16-5/8											
30DI	22-15/16	17-11/16											

* SEE FIG. 76SS FOR SMALLER SIZES.



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FIG. 77

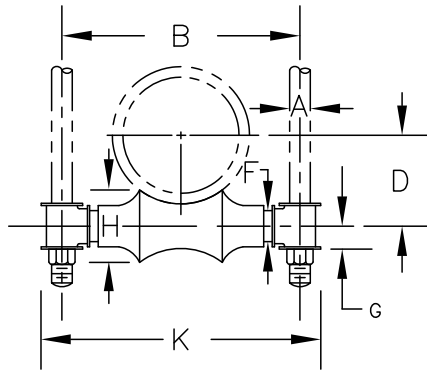


FIG. 77

ROLL TYPE HANGER FOR 2-ROD SUPPORT_____FIG. 77

MATERIAL:

CAST IRON ROLL AND SOCKETS; STEEL ROLL ROD

ORDERING:

SPECIFY NAME, FIGURE NUMBER, AND PIPE SIZE

NOTE: ROLLS MUST BE SIZED TO FIT PIPE COVERING

PROTECTION SADDLES ON INSULATED PIPE. FIG. 99

PROTECTION SADDLES MUST BE ORDERED SEPARATELY.

HANGER RODS AND NUTS MUST BE ORDERED SEPARATELY.

DIMENSIONS (INCHES)

PIPE SIZE	MAX. RECOM. LOAD LBS.	HANGER ROD SIZE A	B	D	ROLL ROD F	H	K	G
1 1-1/4 1-1/2 2	600 600 600 600	3/8	3 3-3/8 3-5/8 4-1/8	1 1-1/4 1-3/8 1-5/8	3/8	1 1 1-1/8 1-1/4	4-1/8 4-1/2 4-3/4 5-1/4	5/8
2 1/2 3	600 700	1/2	4-7/8 5-1/2	2 2-1/4	1/2	1-3/8 1-1/2	7 7-5/8	11/16
4 5	700 700	5/8	6-3/4 8-1/16	2-7/8 3-1/2	1/2 5/8	1-3/4 2	8-5/8 9-7/8	3/4 7/8
6 7	1000 1200	3/4	9-5/8 10-3/4	4 4-3/4	3/4	2-3/8 2-7/8	11-3/8 12-1/2	1
8 10 12	1300 1700 2400	7/8	12 14-1/8 15-13/16	5-1/8 6-1/4 7-1/2	7/8 7/8 1	2-3/4 3-3/8 4	14 16 18	1-1/8 1-1/8 1-1/4
14 16 18	3100 3900 4200	1	17-3/4 20-9/16 22-1/8	8-3/8 9-1/2 10-1/2	1-1/8 1-1/4 1-1/4	4-3/4 5 5-1/2	20 22-1/8 24-3/8	1-3/8 1-1/2 1-1/2
20 24 30	4500 6100 7200	1-1/4 1-1/2 1-1/2	24-1/8 28-5/8 35-1/2	11-5/8 14 17-1/2	1-1/4 1-1/2 1-3/4	6 7-1/4 9	26-5/8 32-1/8 39-7/8	1-5/8 1-3/4 2-7/16



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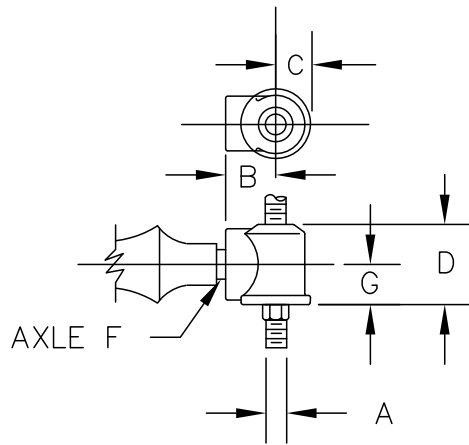


FIG.77A

ADJUSTABLE ROLL SOCKET, CAST IRON__FIG. 77A

ORDERING:
SPECIFY NAME, FIGURE NUMBER, AND
SOCKET NUMBER.

DIMENSIONS (INCHES)

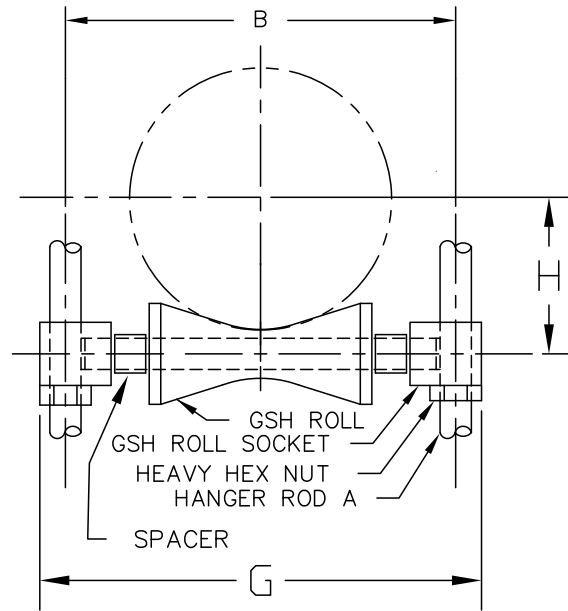
SOCKET NUMBER	PIPE SIZE	A HANGER ROD SIZE	F ROLL ROD SIZE	G	B	C	D
1- 3/8	1-2	3/8	3/8	5/8	11/16	11/16	1
2- 1/2	2-1/2 THRU 3-1/2	1/2	1/2	3/4	13/16	11/16	1-1/4
3- 1/2	4	5/8	1/2	7/8	15/16	13/16	1-9/16
3- 5/8	5	5/8	5/8	7/8	15/16	13/16	1-9/16
4- 3/4	6	3/4	3/4	1	1-5/16	1	1-13/16
5- 7/8	8-10	7/8	7/8	1-1/4	1-7/16	1-1/8	2-3/16
5- 1	12	7/8	1	1-1/4	1-7/16	1-1/8	2-3/16
6- 1-1/8	14	1	1-1/8	1-3/8	1-5/8	1-3/8	2-3/8
6- 1-1/4	16-18	1	1-1/4	1-3/4	1-7/8	1-3/8	3-3/16
8- 1-1/4	20	1-1/4	1-1/4	1-13/16	2-1/8	1-5/8	3-5/16
9- 1-1/2	24	1-1/2	1-1/2	1-13/16	2-1/8	1-5/8	3-5/16
9- 1-3/4	30	1-1/2	1-3/4	2-3/16	2-1/2	2-1/16	4



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FIG. 77SS



ALL STAINLESS STEEL
FOR HEAVIER LOADS
SEE FIG. 77XH

FIG. 77SS

STAINLESS ROLL TYPE HANGER FOR 2-ROD SUPPORT__FIG. 77SS

MATERIAL:

ALL PARTS STAINLESS STEEL

ORDERING:

SPECIFY NAME, FIGURE NUMBER, STAINLESS TYPE AND PIPE SIZE

NOTE: ROLLS MUST BE SIZED TO FIT PIPE COVERING

PROTECTION SADDLES ON INSULATED PIPE. FIG. 99

PROTECTION SADDLES MUST BE ORDERED SEPARATELY

HANGER RODS AND NUTS MUST BE ORDERED SEPARATELY

DIMENSIONS (INCHES)

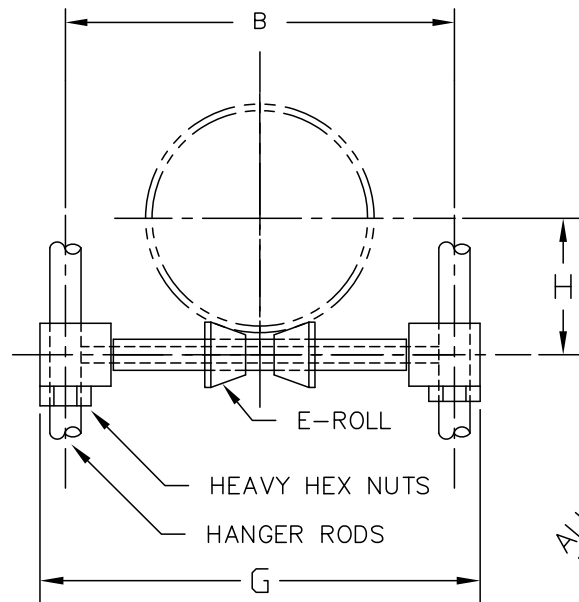
PIPE HANGER SIZE	MAX. O.D. COVERING	HANGER ROD-A SIZE	77A-SS SOCKET SIZE NO.	GSH ROLL	B	H	G	MAXIMUM RECOM. LOAD LBS.
2	4-1/2	1/2	2 X 1/2	A	5-1/2	1-3/4	7	600
2-1/2	4-1/2	1/2	2 X 1/2	A	5-1/2	2	7	660
3	4-1/2	1/2	2 X 1/2	A	5-1/2	2-5/16	7	700
3-1/2	5	1/2	2 X 1/2	A	6-1/8	2-5/8	7-5/8	700
4	6	5/8	3 X 1/2	A	6-3/4	2-7/8	8-1/4	400
5	7	3/4	4 X 3/4	B	8-1/16	3-11/16	9-9/16	750
6	8-1/4	3/4	4 X 3/4	B	9-9/16	4-1/4	11-1/16	580
7	10-1/2	7/8	5 X 1	C	11-15/16	5-3/16	13-15/16	1300
8	10-1/2	7/8	5 X 1	C	11-15/16	5-11/16	13-15/16	1300
10	12-3/4	7/8	5 X 1	C	14-1/16	6-7/16	16-1/16	1075
12	14-3/4	7/8	5 X 1	C	15-13/16	7-1/2	17-13/16	775
14	16-1/4	1	6 X 1-1/4	D	17-3/4	8-11/16	19-3/4	1500
16	18	1	6 X 1-1/4	D	19-3/4	9-7/16	20-9/16	1150
18	20-1/4	1	6 X 1-3/8	D ₂₀	21-7/8	10-1/2	24-3/8	1250
20	22-1/2	1-1/4	8 X 1-3/8	D ₂₀	24-1/4	11-9/16	26-3/4	1000



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FIG. 77XH



ALL STAINLESS STEEL
FOR SMALLER LOADS
SEE FIG. 77SS

STAINLESS ROLL TYPE HANGER FOR 2-ROD SUPPORT__FIG. 77XH

MATERIAL:

ALL PARTS STAINLESS STEEL

ORDERING:

SPECIFY NAME, FIGURE NUMBER, STAINLESS TYPE AND PIPE SIZE

NOTE: ROLLS MUST BE SIZED TO FIT PIPE COVERING

PROTECTION SADDLES ON INSULATED PIPE. FIG. 99

PROTECTION SADDLES MUST BE ORDERED SEPARATELY

HANGER RODS AND NUTS MUST BE ORDERED SEPARATELY

DIMENSIONS (INCHES)

PIPE HANGER SIZE	MAX. O.D. COVERING	HANGER ROD-A SIZE	SOCKET NO.	GSH ROLL NO.	B	H	G	MAXIMUM RECOM. LOAD LBS.
8	10-1/2	7/8	E1	E1	11-15/16	5-7/16	13-15/16	1350
8DI *	12-3/4	7/8	E1	E1	14-1/16	5-13/16 6-9/16	16-1/16	1730
10DI	14-3/4	7/8	E1	E1	15-13/16	6-15/16 7-5/8	17-13/16	2400
12DI	16-1/4	1	E2	E1	17-3/4	8-5/16 8	19-3/4	3130
14DI	18	1	E3	E2	19-3/4	9-1/8 9-1/4	21-3/4	3970
16DI	20-1/4	1	E3	E2	21-7/8	10-1/4 10-5/16	24-3/8	4200
18DI & 20	22-1/2	1-1/4	E4	E2	24-1/4	11-3/8	26-1/4	4550
20DI	26-1/2	1-1/2	E5	E3	28-5/8	12-5/8 13-5/8	31-1/8	6160
24DI	33-1/2	1-1/2	E5	E4	35-1/2	14-11/16 16-5/8 17-11/16	38	7290

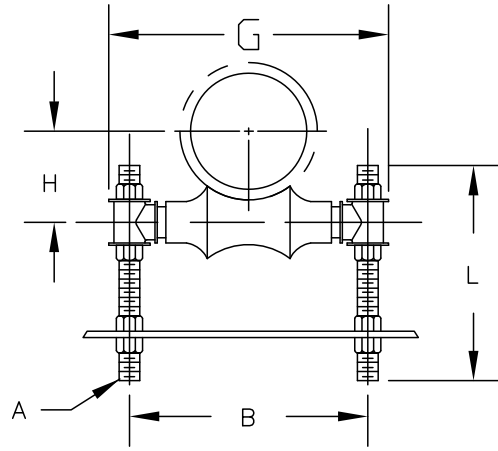
* DUCTILE IRON PIPE SIZE.



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FIG. 78



SEE FIG. 78SS
ALL STAINLESS STEEL

FIG.78

ADJUSTABLE ROLL SUPPORT WITH 2-RODS__FIG. 78

MATERIAL:

CAST IRON ROLL AND SOCKETS; STEEL ROLL ROD
ALL THREAD ROD AND NUTS

ORDERING:

SPECIFY NAME, FIGURE NUMBER, AND PIPE SIZE

NOTE: ROLLS MUST BE SIZED TO FIT PIPE COVERING
PROTECTION SADDLES ON INSULATED PIPE. FIG. 99
PROTECTION MUST BE ORDERED SEPARATELY.

STEEL SUPPORT PLATE IS NOT INCLUDED.

DIMENSIONS IN INCHES

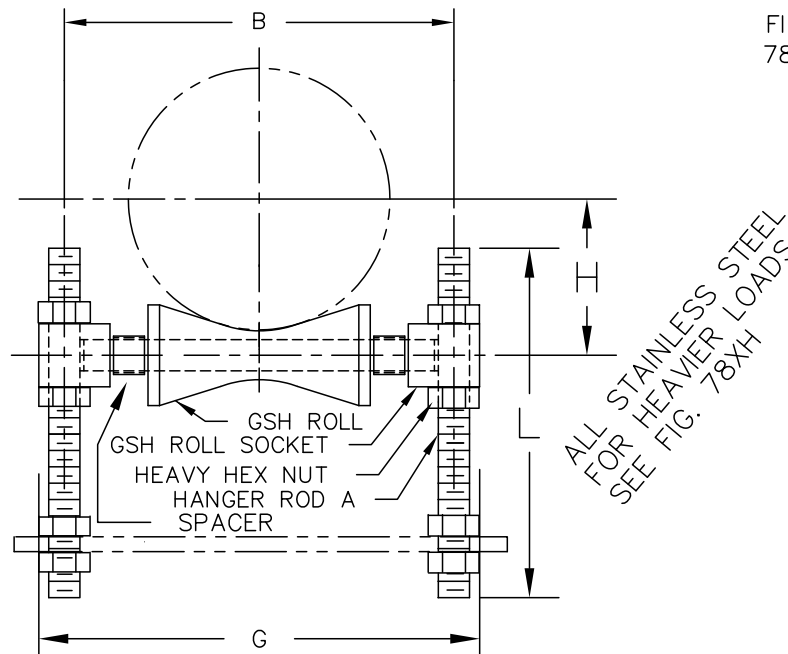
PIPE SIZE	MAX. RECOM. LOAD,LBS.	B	H	ROD A	G	L
1-1/4	600	3-3/8	1-1/4	3/8	4-1/2	12
1-1/2	600	3-5/8	1-3/8	3/8	4-3/4	12
2	600	4-1/8	1-5/8	3/8	5-1/4	12
2-1/2	660	4-7/8	1-15/16	1/2	6-1/4	12
3	700	5-1/2	2-1/4	1/2	6-7/8	12
4	750	6-3/4	2-13/16	5/8	8-1/4	12
5	750	8-1/16	3-7/16	5/8	9-11/16	12
6	1070	9-9/16	4	3/4	11-7/16	12
7	1070	10-3/4	4-5/8	3/4	14-1/16	12
8	1350	11-15/16	5-1/8	7/8	14-1/16	12
10	1730	14-1/16	6-3/8	7/8	16-3/16	12
12	2400	15-13/16	7-7/16	7/8	18	12
14	3100	17-3/4	8-3/8	1	20-1/8	12
16	3970	19-3/4	9-7/16	1	22-1/8	18
18	4200	21-7/8	10-1/2	1	24-1/2	18
20	4550	24-1/4	11-5/8	1-1/4	27-1/4	18
24	6160	28-5/8	14	1-1/2	32-1/8	24
30	7290	35-1/2	17-7/16	1-1/2	39	24



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FIG. 78SS



ADJUSTABLE STAINLESS ROLL TYPE HANGER FOR 2-ROD SUPPORT__FIG. 78SS MATERIAL:

ALL PARTS STAINLESS STEEL

ORDERING:

SPECIFY NAME, FIGURE NUMBER, STAINLESS TYPE AND PIPE SIZE

NOTE: ROLLS MUST BE SIZED TO FIT PIPE COVERING

PROTECTION SADDLES ON INSULATED PIPE. FIG. 99

PROTECTION SADDLES MUST BE ORDERED SEPARATELY

ALL THREAD ROD & HEX NUTS ARE INCLUDED.

STEEL SUPPORT PLATE IS NOT INCLUDED.

DIMENSIONS (INCHES)

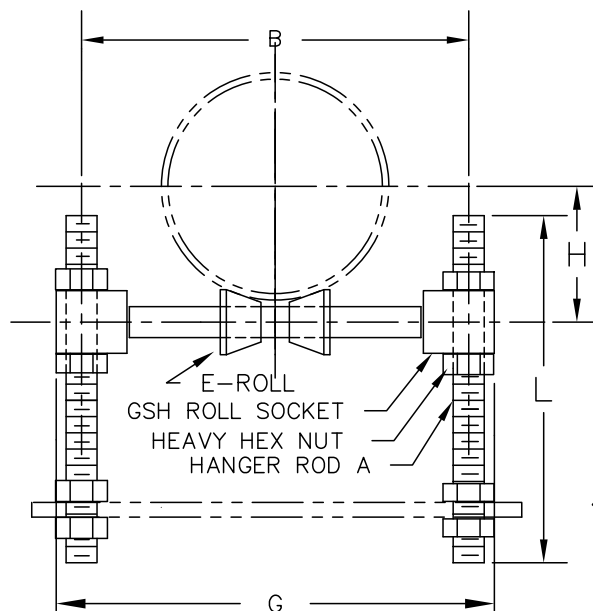
PIPE HANGER SIZE	MAX. O.D. COVERING	HANGER ROD-A SIZE	SOCKET NO.	GSH ROLL	B	H	G	L	MAXIMUM RECOM. LOAD LBS.
2	4-1/2	1/2	A1	A	5-1/2	1-3/4	7	12	600
2-1/2	4-1/2	1/2		A	5-1/2	2	7		660
3	4-1/2	1/2		A	5-1/2	2-5/16	7		700
3-1/2	5	1/2		A	6-1/8	2-5/8	7-5/8		700
4	6	5/8	A2	A	6-3/4	2-7/8	8-1/4		400
5	7	3/4	B	B	8-1/16	3-11/16	9-9/16	12	750
6	8-1/4	3/4		B	9-9/16	4-1/4	11-1/16		580
7	10-1/2	7/8	C	C	11-15/16	5-3/16	13-15/16	12	1300
8	10-1/2	7/8		C	11-15/16	5-11/16	13-15/16		1300
10	12-3/4	7/8		C	14-1/16	6-7/16	16-1/16		1075
12	14-3/4	7/8		C	15-13/16	7-1/2	17-13/16		775
14	16-1/4	1	D1	D	17-3/4	8-11/16	19-3/4	12	1500
16	18	1	D1	D	19-3/4	9-7/16	21-3/4	18	1150
18	20-1/4	1	D2	D20	21-7/8	10-1/2	24-3/8	18	1250
20	22-1/2	1-1/4	D3	D20	24-1/4	11-9/16	26-3/4	18	1000



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FIG. 78XH



ALL STAINLESS STEEL
FOR SMALLER LOADS
SEE FIG. 78SS

ADJUSTABLE
STAINLESS ROLL TYPE HANGER FOR 2-ROD SUPPORT__FIG. 78XH
MATERIAL:

ALL PARTS STAINLESS STEEL

ORDERING:

SPECIFY NAME, FIGURE NUMBER, STAINLESS TYPE AND PIPE SIZE

NOTE: ROLLS MUST BE SIZED TO FIT PIPE COVERING

PROTECTION SADDLES ON INSULATED PIPE. FIG. 99

PROTECTION SADDLES MUST BE ORDERED SEPARATELY

ALL THREAD ROD & HEX NUTS ARE INCLUDED.

STEEL SUPPORT PLATE IS NOT INCLUDED.

DIMENSIONS (INCHES)

PIPE HANGER SIZE	MAX. O.D. COVERING	HANGER ROD-A SIZE	SOCKET NO.	GSH ROLL NO.	B	H	G	L	MAXIMUM RECOM. LOAD LBS.
8	10-1/2	7/8	E1	E1	11-15/16	5-7/16	13-15/16	12	1350
8DI * 10	12-3/4	7/8	E1	E1	14-1/16	5-13/16 6-9/16	16-1/16	12	1730
10DI 12	14-3/4	7/8	E1	E1	15-13/16	6-15/16 7-5/8	17-13/16	12	2400
12DI 14	16-1/4	1	E2	E1	17-3/4	8-5/16 8	19-3/4	12	3130
14DI 16	18	1	E3	E2	19-3/4	9-1/8 9-1/4	21-3/4	18	3970
16DI 18	20-1/4	1	E3	E2	21-7/8	10-1/4 10-5/16	24-3/8	18	4200
18DI & 20	22-1/2	1-1/4	E4	E2	24-1/4	11-3/8	26-1/4	18	4550
20DI 24	26-1/2	1-1/2	E5	E3	28-5/8	12-5/8 13-5/8	31-1/8	24	6160
24DI 30 30DI	33-1/2	1-1/2	E5	E4	35-1/2	14-11/16 16-5/8 17-11/16	38	24	7290

* DUCTILE IRON PIPE SIZE.



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FIG. 79

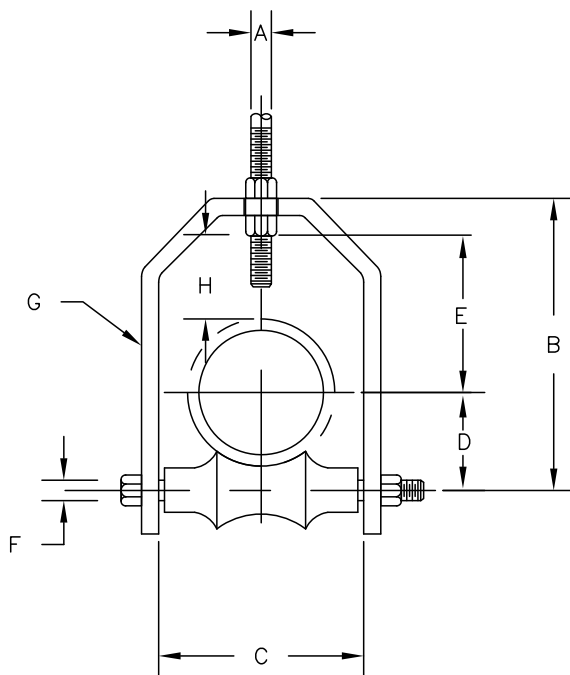


FIG. 79

ROLL HANGER WITH YOKE FOR SINGLE SUPPORT-----FIG. 79

MATERIAL:

CAST IRON ROLL; STEEL YOKE, ROLL ROD AND NUTS

ORDERING:

SPECIFY NAME, FIGURE NUMBER AND PIPE SIZE

NOTE: ROLLS MUST BE SIZED TO FIT PIPE COVERING

PROTECTION SADDLES ON INSULATED PIPE. FIG. 99

PROTECTION SADDLES MUST BE ORDERED SEPARATELY

LOADS-DIMENSIONS-INCHES

PIPE SIZE	MAXIMUM O.D. OF COVERING	MAX.RECOM LOAD, LB.	ROD A	B	C	D	E	F	G	H
2"	2-1/2	150	1/2	4-1/4	2-3/4	1-5/8	2-5/8	3/8	3/16 X 1-1/4	
2-1/2	3	225	1/2	5-3/4	3-1/4	1-15/16	2-7/8	1/2	3/16 X 1-1/4	1-11/16
3	3-5/8	310	1/2	6-3/8	3-7/8	2-1/4	3-1/8	1/2	3/16 X 1-1/4	1-5/8
3-1/2	4-1/8	390	1/2	7	4-3/8	2-9/16	3-1/2	1/2	1/4 X 1-1/4	1-11/16
4	4-11/16	475	5/8	7-9/16	4-15/16	2-13/16	3-5/8	1/2	1/4 X 1-1/2	1-5/8
5	5-3/4	685	5/8	9-1/8	6	3-7/16	4-1/2	5/8	3/8 X 1-3/4	1-15/16
6	6-7/8	780	3/4	10-5/16	7-1/8	4	5	3/4	3/8 X 2	1-7/8
8	9	780	7/8	12-11/16	9-1/4	5-1/8	6-1/8	7/8	3/8 X 2-1/2	2
10	11	965	7/8	15-1/16	11-1/4	6-3/8	7-1/4	7/8	3/8 X 2-1/2	2-1/16
12	13	1200	7/8	17-7/16	13-1/4	7-7/16	8-3/8	1	1/2 X 2-1/2	2-1/4
14	14-1/4	1200	1	18-7/8	14-1/2	8-3/8	8-3/4	1-1/8	1/2 X 2-1/2	2
16	16-1/4	1200	1	20-13/16	16-1/2	9-3/8	9-11/16	1-1/4	1/2 X 2-1/2	1-15/16
18	18-1/4	1400	1	23-3/4	18-1/2	10-7/16	11-7/16	1-1/4	1/2 X 3	2-13/16
20	20-1/4	1600	1 1/4	26	20-1/2	11-5/8	12-1/4	1-1/4	5/8 X 3	2-1/2



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FIG. 79SS

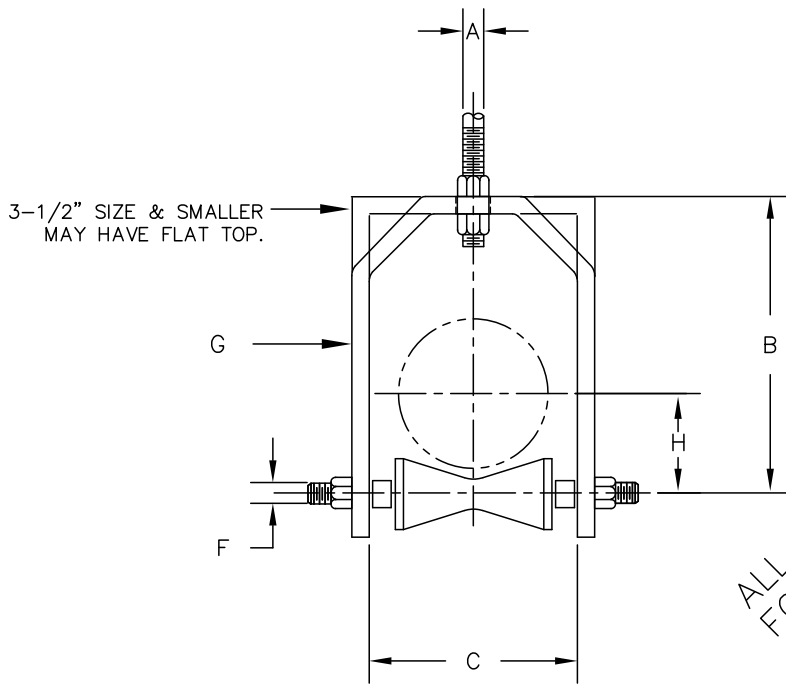


FIG. 79SS

STAINLESS YOKE AND ROLL HANGER _____ FIG. 79SS

MATERIAL:

ALL PARTS STAINLESS STEEL

ORDERING:

SPECIFY NAME, FIGURE NUMBER, STAINLESS TYPE, AND PIPE SIZE

NOTE: ROLLS MUST BE SIZED TO FIT PIPE COVERING

PROTECTION SADDLES ON INSULATED PIPE. FIG. 99

PROTECTION SADDLES MUST BE ORDERED SEPARATELY.

ALSO AVAILABLE WITH CI ROLL AND STAINLESS YOKE AND AXLE ROD.

LOADS-DIMENSIONS-INCHES

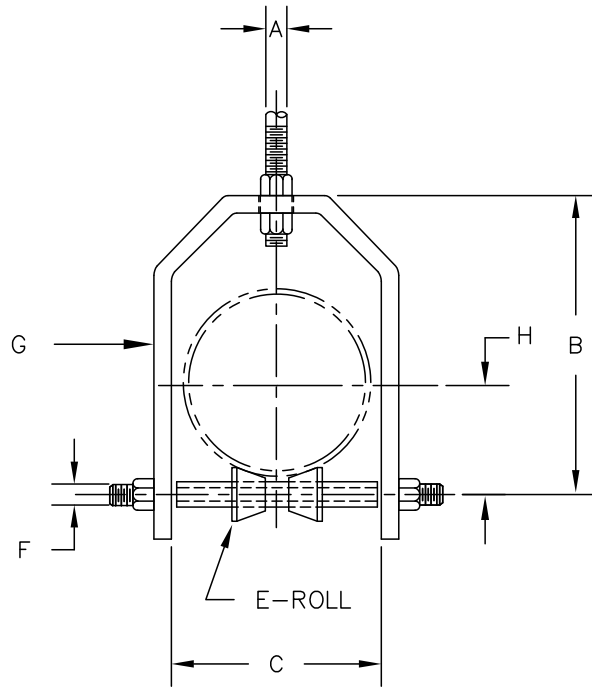
PIPE SIZE	MAXIMUM O.D. COVERING	MAX. RECOM. LOADS, LBS.	HANGER ROD-A	B	C	H	FIG. 73BSS ROLL SIZE	AXLE ROD F	STEEL SIZE G
2 THRU 2-1/2	3	225	1/2	5	3-1/4	1-3/4 - 2	A	1/2	1/4 X 2
3 THRU 3-1/2	4-1/8	390	1/2	6-3/4	4-3/8	2-5/16 - 2-5/8		1/2	3/8 X 2
4	4-3/4	300	5/8	7-1/2	5	2-7/8		1/2	3/8 X 2
5 THRU 6	7	600	3/4	10	7-1/4	3-11/16 - 4-1/4	B	3/4	3/8 X 2-1/2
7 THRU 8	9	925	7/8	12-1/2	9-1/4	5-3/16 - 5-11/16	C	1	3/8 X 2-1/2
10	11	925	7/8	15	11-1/4	6-7/16		1	1/2 X 2-1/2
12	13	680	7/8	17	13-1/4	7-1/2		1	1/2 X 2-1/2
14	14-1/4	1200	1	18-3/8	14-1/2	8-11/16	D	1-1/4	1/2 X 2-1/2
16	16-1/4	1100	1	20-1/2	16-1/2	9-7/16	D	1-1/4	1/2 X 2-1/2
18	18-1/4	1200	1	23-1/4	18-1/2	10-1/2	D20	1-3/8	1/2 X 3
20	20-1/4	1000	1-1/4	25-1/2	20-1/2	11-9/16	D20	1-3/8	1/2 X 3



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FIG. 79XH



ALL STAINLESS STEEL
SEE FIG. 79SS FOR 6"
AND SMALLER SIZES

FIG. 79XH

EXTRA HEAVY
STAINLESS YOKE AND ROLL HANGER _____ FIG. 79XH

MATERIAL:

ALL PARTS STAINLESS STEEL

ORDERING:

SPECIFY NAME, FIGURE NUMBER, STAINLESS TYPE, AND PIPE SIZE

NOTE: ROLLS MUST BE SIZED TO FIT PIPE COVERING

PROTECTION SADDLES ON INSULATED PIPE. FIG. 99

PROTECTION SADDLES MUST BE ORDERED SEPARATELY.

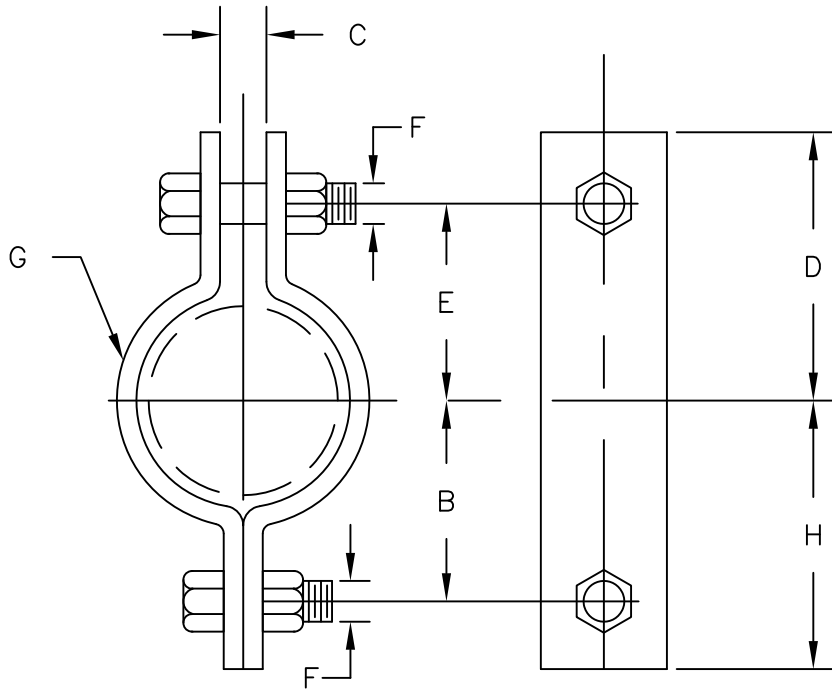
LOADS-DIMENSIONS-INCHES

PIPE SIZE	MAXIMUM O.D. COVERING	MAX. RECOM. LOADS, LBS.	HANGER ROD-A	B	C	H	ROLL NO.	AXLE ROD F	STEEL SIZE G
SEE FIG. 79SS FOR 6" AND SMALLER SIZES.									
7 THRU 8	9	925	7/8	12-1/2	9-1/4	5-7/16	E-1	7/8	3/8 X 2-1/2
10	11	1200	7/8	15	11-1/4	6-9/16			1/2 X 2-1/2
12	13	1200	7/8	17	13-1/4	7-5/8			1/2 X 2-1/2
14	14-1/4	1200	1	18-3/8	14-1/2	8-5/16	E-1	1	1/2 X 2-1/2
16	16-1/4	1200	1	20-1/2	16-1/2	9-1/4	E-2	1-1/4	1/2 X 2-1/2
18	18-1/4	1400	1	23-1/4	18-1/2	10-5/16			1/2 X 3
20	20-1/4	1400	1-1/4	25-1/2	20-1/2	11-3/8	E-2	1-1/4	1/2 X 3



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2-BOLT PIPE CLAMP, MEDIUM _____ FIG. 80
2-BOLT PIPE CLAMP, MEDIUM IRON PIPE _____ FIG. 80CI

MATERIAL:

CARBON STEEL OR STAINLESS STEEL

ORDERING:

SPECIFY NAME, FIGURE NUMBER, PIPE SIZE,
MATERIAL AND FINISH

LOADS-WEIGHTS-DIMENSIONS-INCHES FOR I.P.S.

PIPE SIZE	MAX RECOM.LOAD,LB. FOR SERVICE TEMPERATURE		APPROX.WGT. LBS. EACH	B	C	D	E	F	G	H
	650°F	750°F								
1/2	500	445	.29	1	1/2	1-17/32	1	5/16	1/8 X 1	1-17/32
3/4	500	445	.33	1-1/8	1/2	1-21/32	1-1/8	5/16	1/8 X 1	1-21/32
1	500	445	.35	1-1/8	1/2	1-29/32	1-3/8	5/16	1/8 X 1	1-21/32
1-1/4	500	445	.38	1-7/16	1/2	1-31/32	1-7/16	5/16	1/8 X 1	1-31/32
1-1/2	800	715	.43	1-9/16	1/2	2-5/32	1-5/8	5/16	1/8 X 1	2-3/16
2	1040	930	1.1	2-1/8	1/2	2-3/4	2-1/8	1/2	3/16 X 1-1/4	2-3/4
2-1/2	1040	930	1.2	2-1/2	5/8	3-1/4	2-5/8	1/2	3/16 X 1-1/4	3-1/8
3	1040	930	1.4	2-13/16	5/8	3-9/16	2-15/16	1/2	3/16 X 1-1/4	3-7/16
3-1/2	1040	930	1.5	3-1/8	5/8	3-13/16	3-3/16	1/2	3/16 X 1-1/4	3-3/4
4	1040	930	2.3	3-7/16	3/4	4-3/8	3-5/8	5/8	1/4 X 1-1/4	4-3/16
5	1040	930	2.6	4	3/4	4-15/16	4-3/16	5/8	1/4 X 1-1/4	4-3/4
6	1615	1440	5.4	4-7/8	7/8	5-7/8	5	3/4	3/8 X 1-1/2	5-3/4
8	1615	1440	6.5	6	1	7	6-1/8	3/4	3/8 X 1-1/2	6-7/8
10	2490	2220	13.6	7-5/16	1	8-9/16	7-7/16	7/8	1/2 X 2	8-7/16
12	2490	2220	15.2	8-1/4	1	9-9/16	8-7/16	7/8	1/2 X 2	9-3/8
14	2490	2220	20.5	9	1-1/8	10-5/8	9-1/4	7/8	1/2 X 2-1/2	10-3/8
16	2490	2220	22.3	10	1-1/8	11-5/8	10-1/4	7/8	1/2 X 2-1/2	11-3/8
18	3060	2730	31.6	11-1/2	1-1/4	13	11-5/8	1	5/8 X 2-1/2	12-7/8
20	3060	2730	35.8	12-1/2	1-3/8	14-1/8	12-3/4	1-1/8	5/8 X 2-1/2	13-7/8
24	3060	2730	53.1	15	1-5/8	16-7/8	15-1/4	1-1/4	5/8 X 3	16-5/8
30	3060	3360	113.9	18-1/2	2	21-1/4	19	1-3/4	3/4 X 4	20-5/8



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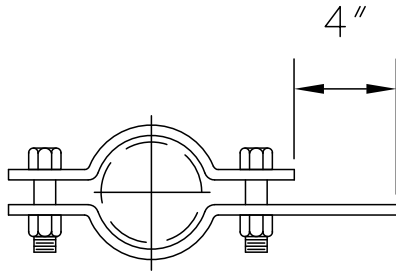


FIG. 80-1

2-BOLT CLAMP WITH ONE LONG EAR,
MEDIUM_____FIG. 80-1

MATERIAL:
CARBON STEEL OR STAINLESS STEEL

ORDERING:
SPECIFY NAME, FIGURE NUMBER,
PIPE SIZE, MATERIAL AND FINISH

DIMENSIONS:
FIG. 80-1 HAS SAME DIMENSIONS AS
FIG. 80 EXCEPT WITH 4"
EXTENSION ON ONE SIDE FOR
WELDING TO SUPPORT STEEL.

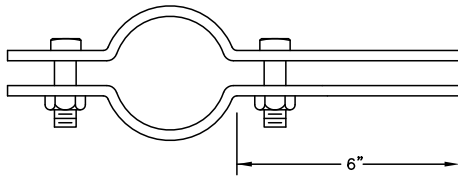


FIG. 83-1

OFFSET RISER CLAMP, MEDIUM_FIG. 83-1

MATERIAL:
CARBON STEEL OR STAINLESS STEEL

ORDERING:
SPECIFY NAME, FIGURE NUMBER,
PIPE SIZE, MATERIAL AND FINISH

DIMENSIONS:
FIG. 83-1 HAS SAME DIMENSIONS AS
FIG. 83 EXCEPT PIPE LOCATION IS
MOVED OFF-CENTER.

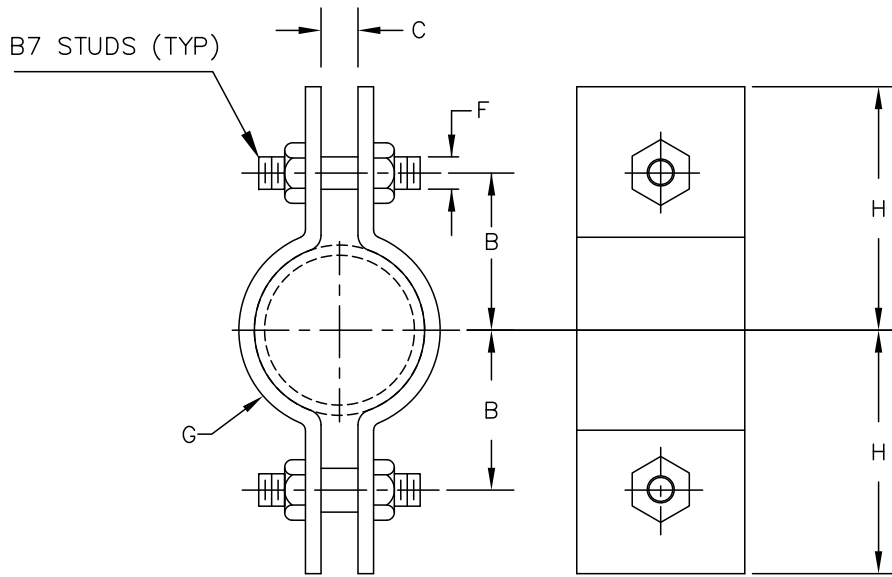


FIG.80A

ALLOY 2-BOLT CLAMP-----FIG. 80A

MATERIAL: ASTM A387-22

ORDERING:
SPECIFY NAME, FIGURE NUMBER,
PIPE SIZE

LOADS-WEIGHTS-DIMENSIONS-INCHES

PIPE SIZE	MAX. RECOM. LOAD LB. FOR SERVICE TEMP.				B	C	F	G	H
	650F	750F	1000F	1050F					
1-1/2	1545	1410	1000	745	1-13/16	1-1/16	5/8	1/4 X 1-1/4	2-3/8
2	1545	1410	1000	745	2-1/8	1-1/16	5/8	1/4 X 1-1/4	2-11/16
2-1/2	1545	1410	1000	745	2-5/16	1-1/16	5/8	1/4 X 1-1/4	2-15/16
3	1545	1410	1000	745	2-3/4	1-1/16	5/8	1/4 X 1-1/4	3-1/2
4	2500	2290	1625	1200	3-3/8	1-1/16	3/4	3/8 X 2	4-1/2
5	2500	2290	1625	1200	3-15/16	1-1/16	3/4	3/8 X 2	5
6	2865	2620	1860	1380	4-3/4	1-7/16	7/8	3/8 X 2-1/2	6-1/8
8	2865	2620	1860	1380	5-3/4	1-7/16	7/8	3/8 X 2-1/2	7-1/8
10	3240	2970	2100	1565	7-1/16	1-7/16	1	1/2 X 2-1/2	8-1/4
12	3240	2970	2095	1555	8-1/16	1-7/16	1	1/2 X 2-1/2	9-5/16
14	4300	3915	2795	2060	9-1/16	2	1-1/4	5/8 X 3	10-11/16
16	4300	3915	2795	2060	10-1/16	2	1-1/4	5/8 X 3	11-11/16
18	4300	3915	2780	2060	11-1/16	2	1-1/4	5/8 X 3	12-11/16
20	5490	4995	3550	2635	12-3/8	2	1-3/8	3/4 X 3	14
24	4500	4095	2910	2160	14-3/8	2	1-3/8	3/4 X 3	16



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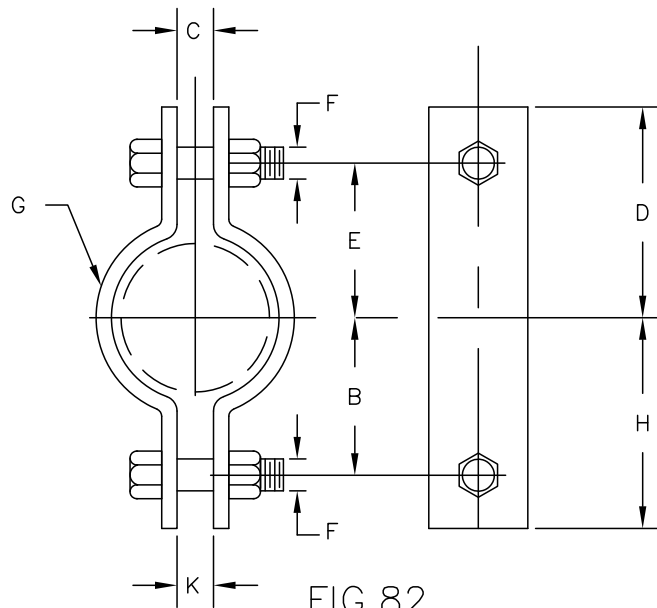


FIG.82

2-BOLT PIPE CLAMP, HEAVY_____FIG. 82

MATERIAL:
CARBON STEEL OR STAINLESS STEEL

ORDERING:
SPECIFY NAME, FIGURE NUMBER,
PIPE SIZE, MATERIAL AND FINISH

LOADS-WEIGHTS-DIMENSIONS (INCHES)

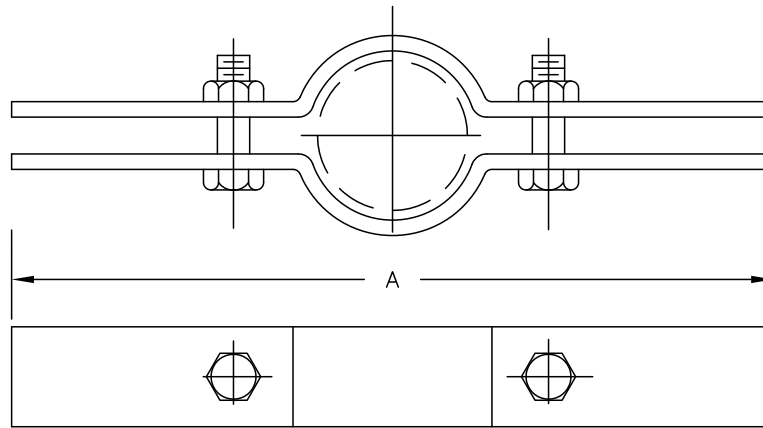
PIPE SIZE	MAX. RECOM. LOAD, LB. FOR SERVICE TEMPERATURE		WGT(APPROX) LBS. EACH	B	C	D	E	F	G	H	K
	650°F	750°F									
2	3300	3000	2.1	2	3/4	3	2	5/8	1/4 X 1-1/2	3	5/8
3	3370	3005	3.6	2-15/16	1	4	3-1/8	3/4	1/4 X 2	3-13/16	5/8
4	3515	3135	5.5	3-9/16	1	4-7/8	3-3/4	7/8	3/8 X 2	4-11/16	5/8
5	3515	3135	6.3	4-1/8	1	5-1/2	4-3/8	7/8	3/8 X 2	5-1/4	5/8
6	4865	4340	11.7	5	1-1/8	6-5/8	5-1/4	1	1/2 X 2-1/2	6-3/8	7/8
8	4865	4340	13.9	6-1/8	1-1/8	7-5/8	6-1/4	1	1/2 X 2-1/2	7-1/2	7/8
10	6010	5360	22.3	7-9/16	1-1/4	9-1/16	7-11/16	1-1/4	5/8 X 2-1/2	8-15/16	7/8
12	8675	7740	38.1	9	1-5/8	10-7/8	9-1/4	1-1/2	3/4 X 3	10-5/8	7/8
14	9120	8135	46.8	9-3/4	1-5/8	11-7/8	10	1-1/2	3/4 X 3-1/2	11-5/8	7/8
16	9120	8135	51.4	10-3/4	1-5/8	12-7/8	11	1-1/2	3/4 X 3-1/2	12-5/8	7/8
18	13800	-	130.1	14-1/2	3	17-1/4	14-1/2	2	3/4 X 6	17-1/4	3
20	15300	-	163.6	16	3	18-3/4	16	2	1 X 5	18-3/4	3
24	16300	-	215.2	18-1/2	3-1/4	21-1/2	18-1/2	2-1/4	1 X 6	21-1/2	3-1/4
28	18000	-	302.8	20-1/2	3-1/4	23-1/2	20-1/2	2-1/4	1 X 8	23-1/2	3-1/4
30	20500	-	365.4	22-1/2	3-1/2	26	22-1/2	2-1/2	1-1/4 X 7	26	3-1/2
32	23750	-	431.7	23-1/2	3-1/2	27	23-1/2	2-1/2	1-1/4 X 8	27	3-1/2
34	25000	-	533.8	25	3-1/2	28-1/2	25	2-1/2	1-1/2 X 8	28-1/2	3-1/2
36	28000	-	575.1	26-1/2	3-1/2	30-1/4	26-1/2	2-3/4	1-1/2 X 8	30-1/4	3-1/2
42	35000	-	915.7	30	3-1/2	33-3/4	30	2-3/4	1-3/4 X 10	33-3/4	3-1/2



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FIG.
83, 83C & 83CI



2-BOLT RISER CLAMP, MEDIUM _____ FIG. 83
 PLASTIC COATED _____ FIG. 83C
 FOR IRON PIPE _____ FIG. 83CI

MATERIAL:

CARBON STEEL OR STAINLESS STEEL

ORDERING:

SPECIFY NAME, FIGURE NUMBER,
 PIPE SIZE MATERIAL AND FINISH

LOADS—WEIGHTS—DIMENSIONS—INCHES

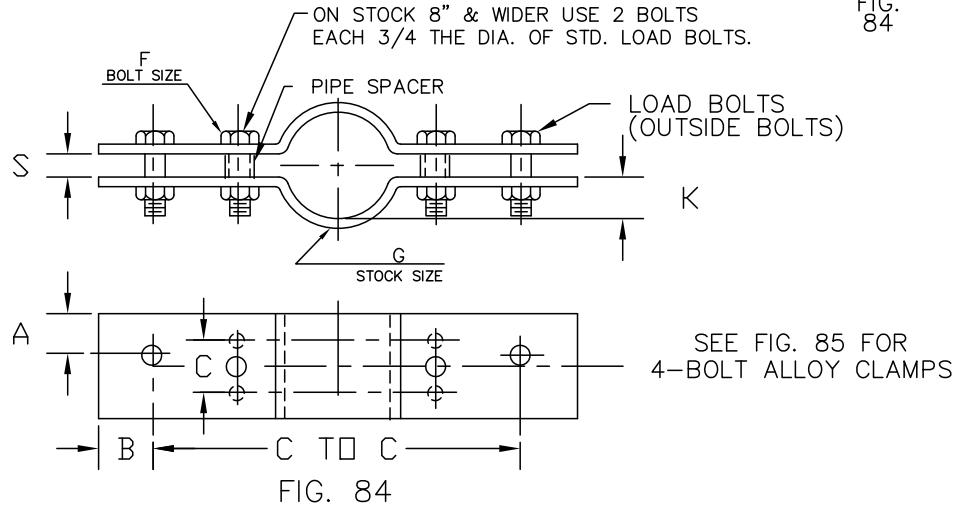
PIPE SIZE	MAXIMUM RECOMMENDED LOAD, LB.	WGT.(APPROX) LBS. EACH	LENGTH A	SIZE STOCK	SIZE BOLTS
1/2	220	1.1	8-7/8	3/16 X 1-1/4	3/8 X 1-1/2
3/4	220	1.1	8-7/8	3/16 X 1-1/4	3/8 X 1-1/2
1	220	1.1	8-7/8	3/16 X 1-1/4	3/8 X 1-1/2
1-1/4	250	1.6	10	1/4 X 1-1/4	3/8 X 1-1/2
1-1/2	250	1.6	10-1/4	1/4 X 1-1/4	3/8 X 1-1/2
2	300	1.7	10-1/4	1/4 X 1-1/4	1/2 X 1-1/2
2-1/2	400	1.9	11-1/4	1/4 X 1-1/4	1/2 X 1-1/2
3	500	1.9	11-3/8	1/4 X 1-1/4	1/2 X 1-1/2
3-1/2	600	2.3	12-7/8	1/4 X 1-1/2	1/2 X 2
4	750	2.4	12-7/8	1/4 X 1-1/2	1/2 X 2
5	1160	3.6	13-3/4	1/4 X 2	1/2 X 2
6	1570	4.0	14-3/4	1/4 X 2	1/2 X 2
8	2500	7.6	18-1/2	3/8 X 2	5/8 X 2-1/2
10	2500	11.1	20-1/4	3/8 X 2	5/8 X 2-1/2
12	2700	16.6	22-3/4	1/2 X 2	5/8 X 2-1/2
14	2700	19.3	24	1/2 X 2	5/8 X 2-1/2
16	2900	32.5	26	5/8 X 2-1/2	3/4 X 3
18	2900	33.8	28	5/8 X 2-1/2	3/4 X 3
20	2900	35.0	30	5/8 X 2-1/2	3/4 X 3



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FIG. 84



4-BOLT RISER CLAMP, STANDARD _____ FIG. 84

MATERIAL:

CARBON STEEL OR STAINLESS STEEL

ORDERING:

SPECIFY NAME, FIG. NO., PIPE SIZE, MATERIAL & FINISH.

NOTE:

IF MAX. LOADS OR TEMPERATURES ARE EXCEEDED REFER TO FIG. 85

LOAD-DIMENSIONS-WEIGHTS

PIPE SIZE	MAX. LOAD AT 650°F	MAX. LOAD AT 750°F	C-C	S	B	A	CARBON STEEL BOLT F	STAINLESS STEEL BOLT F	G	C	K	REC. HGR. ROD SIZE	REQ'D. QUANTITY SHEAR LUGS FIG. 8 SIZE
1 1-1/4 1-1/2	650	565	15	3/4	2	1	3/8	3/8	1/4 x 2	-	1-2 5-8 3-4	1/2 1/2 5/8	1
2 2-1/2 3	900 900 1500	785 785 1310	18 20 20	3/4	2	1-1/4 1-1/4 1-1/2	3/8 3/8 1/2	1/2 1/2 5/8	1/2x2-1/2 1/2x2-1/2 5/8 x 3	-	13/16 1-1/16 1-3/8	1/2 1/2 5/8	2
4 5	2200	1925	22	3/4	2	1-1/2	1/2	5/8	5/8 x 4	-	1-7/8 2-3/8	3/4	3
6 8	3000	2625	24 27	1	2	1-1/2	5/8	3/4 3/4	3/4 x 4 3/4 x 5	-	2-13/16 3-13/16	7/8	4
10 12 14	5500 7800 7800	4810 6825 6825	30 32 34	1-1/2 1-3/4 1-3/4	2-1/4 2-1/2 2-1/2	1-3/4 2 2	7/8 1 1	1 1 1	1 x 6 1 x 7 1 x 7	-	4-5/8 5-1/2 6-1/8	1-1/4	4 5 5
16 18	9000	7875	36 39	2	2-3/4	2-3/4	1-1/8	1-1/4 1-1/4	1-1/4 x 6 1-1/4 x 7	-	7 8	1-1/2	6
20 24	13500	11800	42 45	2-1/2	2-3/4	2-3/4	1-3/8/ 1-1/8	1-1/2	1-1/2 x 8	4	8-3/4 10-3/4	1-3/4	6



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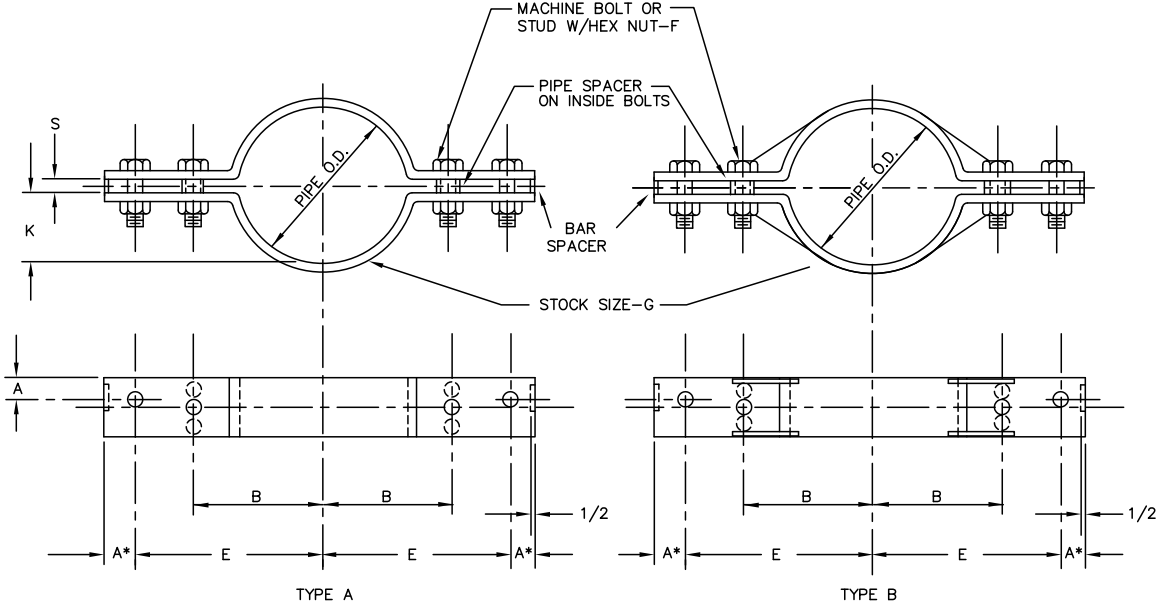


FIG. 85

4-BOLT RISER NON-STANDARD _____ FIG. 85

MATERIAL:
 CARBON STEEL, STAINLESS STEEL, OR ALLOY STEEL
 ORDERING:
 SPECIFY NAME, FIGURE NUMBER, PIPE SIZE,
 PIPE TEMPERATURE, TOTAL LOAD, HANGER MATERIAL
 AND FINISH. ALSO SPECIFY 'E' OR C TO C DIMENSION.

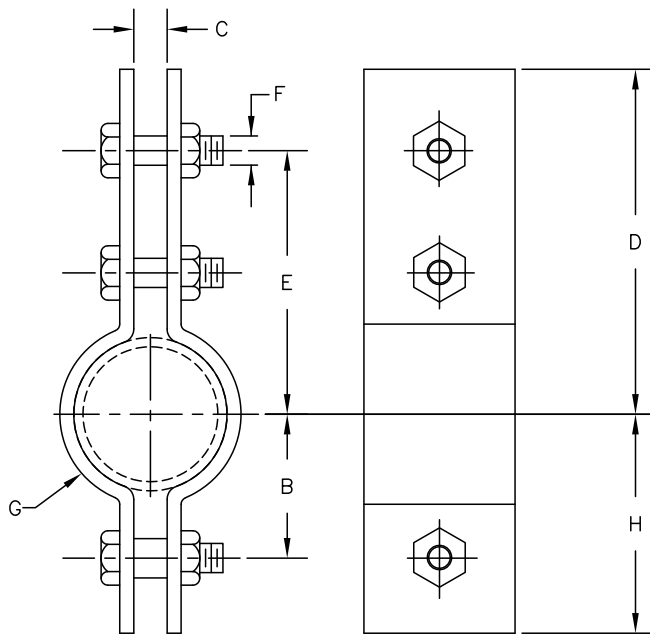
NOTE:
 IF DEFINITE "B" DIMENSION IS REQUIRED
 IT MUST BE SPECIFIED
 TYPE B IS GENERALLY REQUIRED FOR PIPE SIZES
 ABOVE 12" WITH LOADS ABOVE ABOUT 8000 POUNDS
 ALLOY STEEL IS REQUIRED ABOVE 750 DEGREES F.

SEE FIG. 84 FOR STANDARD
 4-BOLT RISER CLAMP



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3-BOLT PIPE CLAMP _____ FIG. 86

MATERIAL:
CARBON STEEL OR
STAINLESS STEEL
ORDERING:
SPECIFY NAME,
FIGURE NUMBER,
PIPE SIZE,
MATERIAL AND
FINISH

FIG.86

LOADS-WEIGHTS-DIMENSIONS (INCHES)

PIPE SIZE	MAX. RECOM. LOAD LB. FOR SERVICE TEMP.		WGT (APPROX.) LBS. EACH	B	C	D	E	F	G	H
	650°F	750°F								
3/4	950	850	.70	15/16	5/8	2-7/8	2-7/16	3/8	3/16 X 1-1/4	1-3/8
1	950	850	.76	1-3/8	5/8	3-1/2	3-1/8	3/8	3/16 X 1-1/4	1-3/4
1-1/4	950	850	.81	1-1/4	5/8	3-1/8	2-11/16	3/8	3/16 X 1-1/4	1-11/16
1-1/2	1545	1380	2.3	1-13/16	1-1/16	4-7/8	4-1/8	5/8	1/4 X 1-1/4	2-3/8
2	1545	1380	2.6	2-1/8	1-1/16	5-7/8	5-1/8	5/8	1/4 X 1-1/4	2-11/16
2-1/2	1545	1380	2.7	2-5/16	1-1/16	6-1/8	5-3/8	5/8	1/4 X 1-1/4	2-15/16
3	1545	1380	3.0	2-3/4	1-1/16	6-11/16	5-15/16	5/8	1/4 X 1-1/4	3-1/2
4	2500	2230	6.7	3-3/8	1-1/16	7-5/8	6-1/2	3/4	3/8 X 2	4-1/2
5	2500	2230	7.0	3-15/16	1-1/16	8-1/8	7	3/4	3/8 X 2	5
6	2865	2555	11.5	4-3/4	1-7/16	9-15/16	8-9/16	7/8	3/8 X 2-1/2	6-1/8
8	2865	2555	13.2	5-3/4	1-7/16	10-15/16	9-9/16	7/8	3/8 X 2-1/2	7-1/8
10	3240	2890	19.8	6-7/8	1-7/16	12	10-7/16	1	1/2 X 2-1/2	8-1/4
12	3240	2890	22.3	7-7/8	1-7/16	13	11-7/16	1	1/2 X 2-1/2	9-1/4
14	4300	3835	37.7	9-1/16	2	14-5/16	12-11/16	1-1/4	5/8 X 3	10-11/16
16	4300	3835	41.4	10-1/16	2	15-5/16	13-11/16	1-1/4	5/8 X 3	11-11/16
18	4300	3835	44.9	11-1/16	2	16-5/16	14-11/16	1-1/4	5/8 X 3	12-11/16
20	5490	4900	57.3	12-3/8	2	17-1/2	15-7/8	1-3/8	3/4 X 3	14
24	4500	4015	65.9	14-3/8	2	19-1/2	17-7/8	1-3/8	3/4 X 3	16
28	6000	-	112.3	17-1/2	2-1/4	24-1/4	21-3/4	1-1/4	3/4 X 4	20
30	7500	-	150.0	18-1/2	2-1/2	26-1/8	23-3/8	1-3/8	3/4 X 5	21-1/4
32	8250	-	193.3	19-5/8	2-1/2	28	25	1-1/2	3/4 X 6	22-5/8
34	9800	-	248.8	21-1/2	3	31-1/4	27-3/4	1-3/4	1 X 5	25
36	10500	-	257.5	22-1/2	3	32-1/4	28-3/4	1-3/4	1 X 5	26



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FIG. 86A

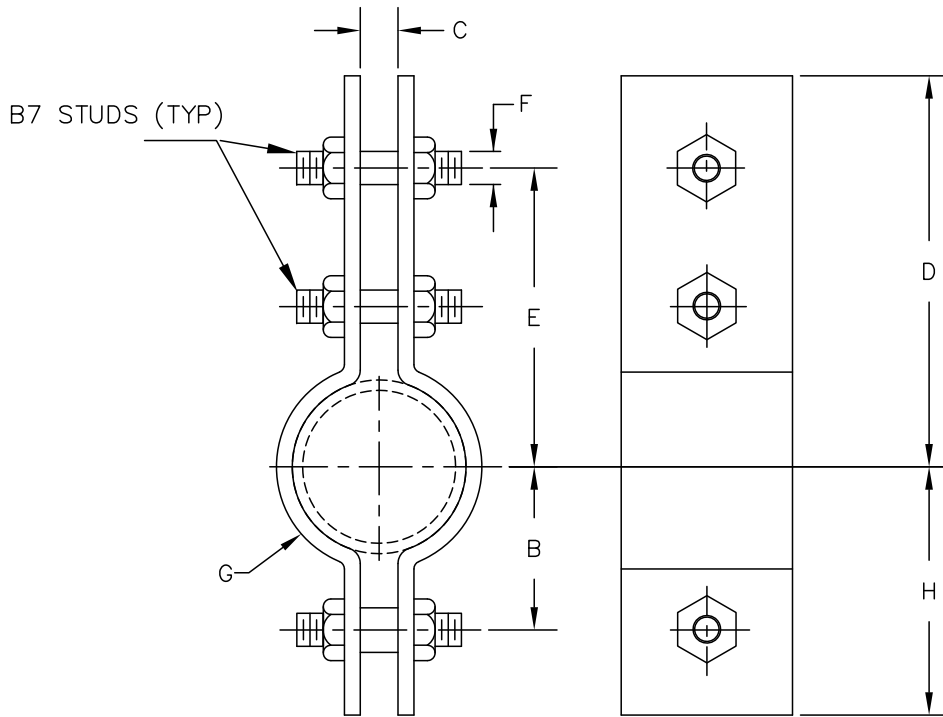


FIG.86A

ALLOY 3-BOLT CLAMP_____ FIG. 86A

ORDERING:
 SPECIFY NAME, FIGURE NUMBER,
 PIPE SIZE, MATERIAL AND FINISH

LOADS-WEIGHTS-DIMENSIONS-INCHES

PIPE SIZE	MAX. RECOM. LOAD LB. FOR SERVICE TEMP.				WGT (APPROX.) LBS. EACH	B	C	D	E	F	G	H
	650F	750F	1000F	1050F								
1-1/2	1545	1410	1000	745	2.3	1-13/16	1-1/16	4-7/8	4-1/8	5/8	1/4 X 1-1/4	2-3/8
2	1545	1410	1000	745	2.6	2-1/8	1-1/16	5-7/8	5-1/8	5/8	1/4 X 1-1/4	2-11/16
2-1/2	1545	1410	1000	745	2.7	2-5/16	1-1/16	6-1/8	5-3/8	5/8	1/4 X 1-1/4	2-15/16
3	1545	1410	1000	745	3.0	2-3/4	1-1/16	6-11/16	5-15/16	5/8	1/4 X 1-1/4	3-1/2
4	2500	2290	1625	1200	6.7	3-3/8	1-1/16	7-5/8	6-1/2	3/4	3/8 X 2	4-1/2
5	2500	2290	1625	1200	7.0	3-15/16	1-1/16	8-1/8	7	3/4	3/8 X 2	5
6	2865	2620	1860	1380	11.5	4-3/4	1-7/16	9-15/16	8-9/16	7/8	3/8 X 2-1/2	6-1/8
8	2865	2620	1860	1380	13.2	5-3/4	1-7/16	10-15/16	9-9/16	7/8	3/8 X 2-1/2	7-1/8
10	3240	2970	2100	1565	19.8	7-1/16	1-7/16	12	10-5/8	1	1/2 X 2-1/2	8-1/4
12	3240	2970	2095	1555	22.3	8-1/16	1-7/16	12-15/16	11-5/8	1	1/2 X 2-1/2	9-5/16
14	4300	3915	2795	2060	37.7	9-1/16	2	14-5/16	12-11/16	1-1/4	5/8 X 3	10-11/16
16	4300	3915	2795	2060	41.4	10-1/16	2	15-5/16	13-11/16	1-1/4	5/8 X 3	11-11/16
18	4300	3915	2780	2060	44.9	11-1/16	2	16-5/16	14-11/16	1-1/4	5/8 X 3	12-11/16
20	5490	4995	3550	2635	57.3	12-3/8	2	17-1/2	15-7/8	1-3/8	3/4 X 3	14
24	4500	4095	2910	2160	65.9	14-3/8	2	19-1/2	17-7/8	1-3/8	3/4 X 3	16



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FIG. 86H

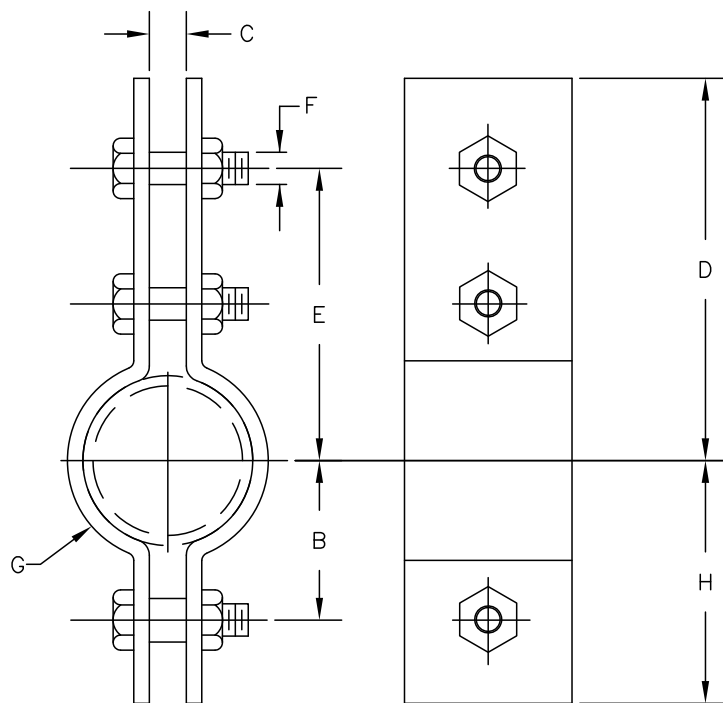


FIG. 86H

3-BOLT CLAMP, HEAVY-----FIG. 86H

MATERIAL:

CARBON STEEL OR STAINLESS STEEL

ORDERING:

SPECIFY NAME, FIGURE NUMBER, PIPE SIZE, MATERIAL AND FINISH.

LOADS-DIMENSIONS-INCHES

PIPE SIZE	MAX. RECOM. LOAD LB. FOR SERVICE TEMP.		B	C	D	E	F	G	H
	650°F	750°F							
6	3500	3125	4-3/4	1-3/4	10-3/16	8-15/16	1	3/8 X 2-1/2	6
8	4800	4285	6	2	11-3/8	10-1/8	1-1/8	1/2 X 2-1/2	7-1/4
10	5500	4910	7-1/4	2-1/4	13-1/8	11-3/8	1-1/4	1/2 X 3-1/2	9
12	7000	6250	8-5/8	2-1/2	14-5/16	12-9/16	1-3/8	5/8 X 3-1/2	10-3/8
14	9500	8485	9-5/8	2-1/2	15-1/2	13-1/2	1-1/2	3/4 X 4	11-5/8
16	10000	8930	10-7/8	3	17-1/8	14-7/8	1-3/4	3/4 X 4-1/2	13-1/8
18	13800	12325	12-1/2	3-1/2	18-1/4	16-1/4	2	1 X 4	14-1/2
20	15300	13665	13-1/2	3-1/2	19-3/4	17-1/4	2	1 X 5	16
24	16300	14555	15-1/2	3-1/2	22-5/16	19-5/16	2	1 X 6	18-1/2
28	18000	-	18-7/8	4	31-3/4	27-1/4	2-1/4	1 X 7	23-3/8
30	20500	-	19-7/8	4-1/4	32-3/4	28-1/4	2-1/4	1 X 8	24-3/8
32	23750	-	21-3/4	4-1/4	36	31	2-1/2	1-1/4 X 8	26-3/4
34	25000	-	23-3/8	4-1/4	37-1/2	32-1/2	2-1/2	1-1/2 X 7	28-3/8
36	28000	-	24-5/8	4-1/2	40-1/4	34-3/4	2-3/4	1-1/2 X 8	30-1/8



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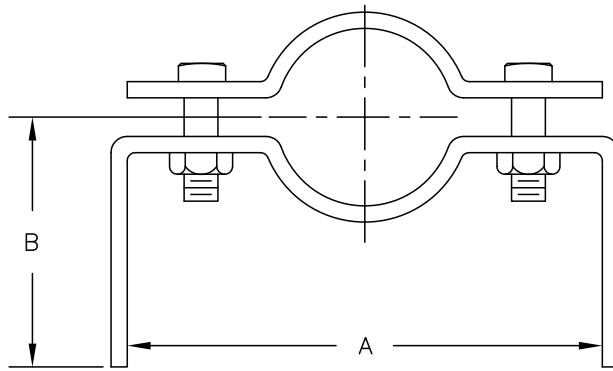


FIG.88

MARINE EXTENDED PIPE CLAMP_____FIG. 88

MATERIAL:
CARBON STEEL OR STAINLESS STEEL
ORDERING:
SPECIFY NAME, FIGURE NUMBER,
PIPE SIZE, MATERIAL AND FINISH.

DIMENSIONS IN INCHES

PIPE SIZE	B*	A	STEEL SIZE	BOLT SIZE	APPROX. WEIGHT PER 100
3/8	12	3-3/4	1/8 X 1	3/8	185
1/2	12	3-3/4	3/16 X 1	3/8	185
3/4	12	5-7/8	3/16 X 1-1/4	3/8	185
1	12	6-3/8	3/16 X 1-1/4	3/8	234
1-1/4	12	6-7/8	3/16 X 1-1/4	3/8	240
1-1/2	12	7-1/8	3/16 X 1-1/4	3/8	245
2	12	8-3/8	1/4 X 1-1/4	1/2	313
2-1/2	12	8-7/8	1/4 X 1-1/4	1/2	421
3	12	10	1/4 X 1-1/4	1/2	447
4	12	10-5/8	1/4 X 1-1/2	1/2	490
5	12	12-3/8	1/4 X 2	5/8	532
6	12	13-1/2	1/4 X 2	5/8	1116
8	12	15-1/2	1/4 X 2	5/8	1266
10	12	18-1/4	1/4 X 2-1/2	3/4	1350
12	12	20-3/4	3/8 X 2-1/2	3/4	2200
14	12	21	3/8 X 3	3/4	3500

* OTHER LENGTHS MADE TO CUSTOMER ORDER



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FIG. 88A

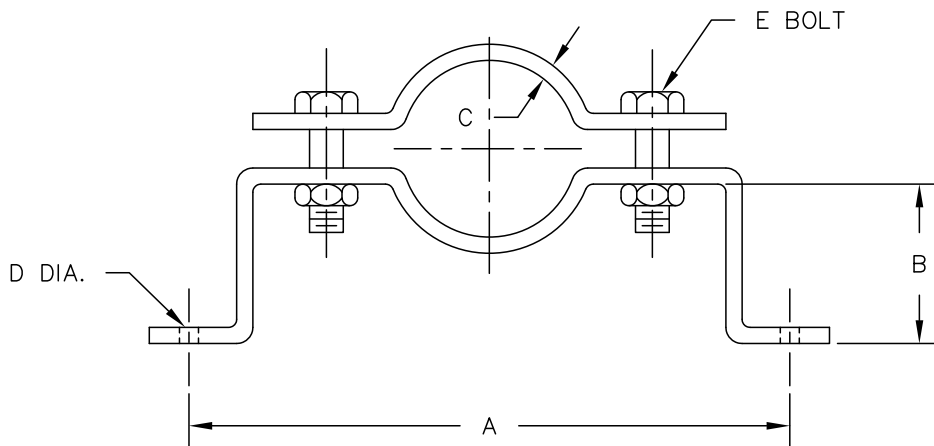


FIG.88A

OFFSET PIPE CLAMP-----FIG. 88A

MATERIAL:

CARBON STEEL OR STAINLESS STEEL

ORDERING:

SPECIFY NAME, FIGURE NUMBER,
PIPE SIZE, MATERIAL AND FINISH

NOTE: OFFSET CLAMPS ARE CUSTOM MADE TO
OTHER DIMENSIONS AND CONFIGURATIONS.
ONE VARIATION IS FOR MULTIPLE PIPES.

LOADS-WEIGHTS-DIMENSIONS-INCHES

PIPE SIZE	MAX. RECOM. LOAD, LB.	WEIGHT (APPROX) EA.,LB.	A	B	E BOLT	C STEEL	D HOLE
1/2	190	1.10	8-1/2	2-7/16	3/8 X 1	3/16 X 1	7/16
3/4	190	1.35	8-3/4	2-3/4		3/16 X 1-1/4	
1	190	1.45	9-1/4	2-7/8			
1-1/4	190	1.55	9-3/4	3-1/16			
1-1/2	190	1.62	10	3-3/16			
2	420	2.79	11-1/4	3-1/2	1/2 X 1-1/2	1/4 X 1-1/4	9/16
2-1/2	420	2.90	11-3/4	3-3/4		1/4 X 1-1/2	
3	420	3.22	12-7/8	4-1/16			
4	610	4.22	13-7/8	4-9/16			
5	610	6.50	15-5/8	5-1/16	5/8 X 2	1/4 X 2	11/16
6	870	7.15	16-3/4	5-5/8			
8	870	8.32	18-3/4	6-5/8			
10	1050	12.38	21-1/2	7-3/8	3/4 X 2	1/4 X 2-1/2	13/16
12	1200	21.00	24-7/8	8-3/8		3/8 X 2-1/2	



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SIDE LOADING HANGER _____ FIG. 90

MATERIAL:
CARBON STEEL OR STAINLESS STEEL
ORDERING:
SPECIFY NAME, FIGURE NUMBER, PIPE SIZE,
MATERIAL AND FINISH

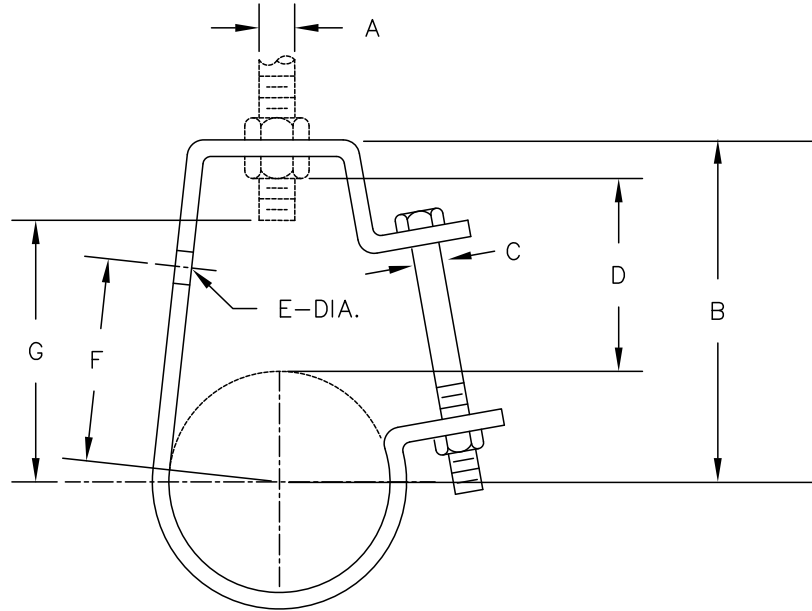


FIG.90
DIMENSIONS-LOADS-WEIGHTS

PIPE SIZE	A	B	C	D	E	F	G	STOCK SIZE	MAX. LOAD RATING	APPROX. WT/100
1/2	3/8	2-5/8	1/4	1-3/4	7/16	1-1/2	1-15/16	1/8 X 1	400	21
3/4	3/8	2-7/8	1/4	1-7/8	7/16	1-11/16	2-1/8	1/8 X 1	400	22
1	3/8	2-15/16	1/4	1-15/16	7/16	1-13/16	2-5/16	1/8 X 1	400	25
1-1/4	3/8	3-1/4	1/4	2	7/16	2-1/16	2-5/8	1/8 X 1	400	27
1-1/2	3/8	3-9/16	1/4	2-3/16	7/16	2-7/16	2-7/8	1/8 X 1	400	29
2	3/8	3-11/16	1/4	2-1/8	7/16	2-9/16	3-1/16	1/8 X 1	400	31
2-1/2	1/2	4-7/16	3/8	2-7/16	9/16	3-3/16	3-5/8	1/8 X 1-1/4	500	71
3	1/2	4-13/16	3/8	2-9/16	9/16	3-1/2	4-1/16	1/8 X 1-1/4	500	78
3-1/2	1/2	5-1/8	3/8	2-5/8	9/16	3-3/4	4-3/8	1/8 X 1-1/4	500	84
4	5/8	6-1/8	3/8	3-3/16	9/16	4-5/8	5-3/16	3/16 X 1-1/4	550	139
5	5/8	6-3/4	3/8	3-1/4	9/16	5-1/16	5-3/4	3/16 X 1-1/4	550	166
6	3/4	7-3/4	3/8	3-9/16	9/16	5-13/16	6-5/8	1/4 X 1-1/4	600	226
8	7/8	9-3/16	3/8	3-15/16	9/16	6-15/16	8	1/4 X 1-1/2	760	332



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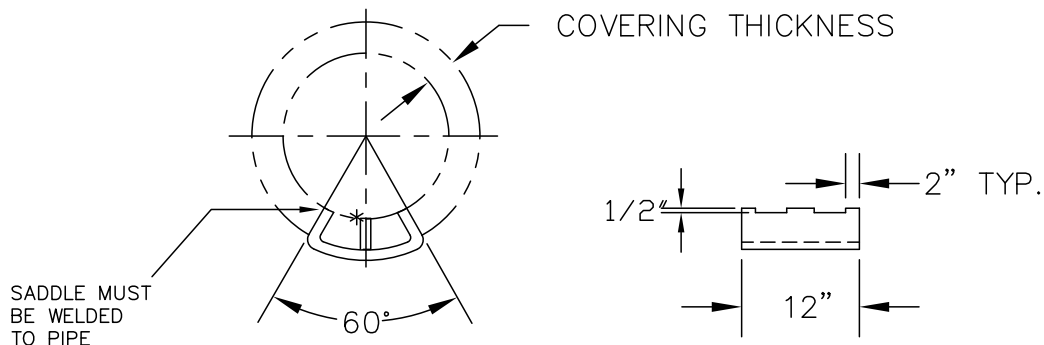


FIG.99

PIPE COVERING PROTECTION SADDLES_____FIG. 99

MATERIAL:

CARBON STEEL, STAINLESS STEEL OR ALLOY

ORDERING:

SPECIFY NAME, FIGURE NUMBER, PIPE SIZE, INSULATION THICKNESS, SADDLE MATERIAL AND FINISH

- * CENTER SUPPORT FIN IS REQUIRED IN CARBON AND STAINLESS SADDLES FOR 12 INCH AND LARGER PIPE.
- CENTER SUPPORT FIN IS REQUIRED IN ALLOY SADDLES FOR 4 INCH AND LARGER PIPE.

CARBON OR STAINLESS STEEL – MAX TEMP 650 F			
PIPE SIZE	COVERING MAXIMUM THICKNESS	REC. MAX. LOAD LBS.	SADDLE THICKNESS
3/4 THRU 5	4	1200	1/8
6 – 14	4	5000	3/16
16–36 42 48	4	7200	1/4 3/8 1/2

ALLOY STEEL – MAX. TEMP. 1050 DEG. F.			
PIPE SIZE	COVERING MAXIMUM THICKNESS	REC. MAX. LOAD LBS.	SADDLE THICKNESS
2 – 3	5-1/2	1200	1/4
4 – 10		7200	3/8
12 – 16		11400	3/8
18 – 24		13370	3/8
30 – 36		13370	1/2



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180 DEGREE
SHIELD SIZE SELECTION CHART—LENGTHS & GAGES ARE PER MSS—SP—58

FIG. 100

PIPE SIZE	INSULATION THICKNESS—INCHES										
	1/2	3/4	1	1-1/2	2	2-1/2	3	3-1/2	4		
1/2	1A	1A									18 GAGE 12" LONG
3/4	1A	1A	2A	4A	6A						
1	1A	2A	3A	5A	7A						
1-1/4	2A	3A	3A	6A	7A						
1-1/2	2A	3A	4A	6A	7A						16 GAGE 12" LONG
2	3A	4A	5A	7A	8A						
2-1/2	4A	5A	6A	7A	8A						16 GAGE 18" LONG
3	5A	6A	7A	8A	9A						
3-1/2			8A	9A	10A	10A	11B	12B	13C		14 GAGE 24" LONG
4			8A	9A	10A	11B	12B	13C	14C		
5			9B	10B	11B	12B	13C	14C	14C		
6			10B	11B	12B	13C	14C	14C	15C		
8				13C	14C	14C	15C	16C	17C		12 GAGE 24" LONG
10			14C	15C	16C	17C	19C	19C	20C		
12			16C	17C	18C	19C	19C	21C	22C		
14			17C	18C	19C	20C	21C	22C	23C		
16			19C	20C	21C	22C	23C	24C	25C		12 GAGE 24" LONG
18			21C	22C	23C	24C	25C	25C	26C		
20			23C	24C	25C	25C	26C	27C	28C		
24			26C	27C	28C	29D	30D	31D	32D		

180 DEGREE
INSULATION SHIELD—WEIGHTS DIMENSIONS

SHIELD	APPROX. WEIGHT (LBS.)	STOCK GAGE	SHIELD LENGTH (INCH)	RADIUS R (IN.)
X1A	.52	18	12	.95
1A	.64	18	12	1.19
2A	.79	18	12	1.44
3A	.98	18	12	1.75
4A	1.1	18	12	2.00
5A	1.2	18	12	2.25
6A	1.4	18	12	2.50
7A	1.6	18	12	2.78
8A	2.3	16	12	3.32
9A	2.6	16	12	3.82
10A	3.2	16	12	4.32
9B	3.8	16	18	3.82
10B	4.8	16	18	4.32
11B	4.8	16	18	4.82
12B	5.5	16	18	5.38
13C	10.5	14	24	5.88
14C	10.5	14	24	6.38
15C	12.6	14	24	7.00
16C	12.6	14	24	7.50
17C	15.8	14	24	8.00
18C	15.8	14	24	8.50
19C	22.2	12	24	9.00
20C	22.2	12	24	9.50
21C	29.6	12	24	10.00
22C	29.6	12	24	10.50
23C	29.6	12	24	11.00
24C	29.6	12	24	11.50
25C	29.6	12	24	12.00
26C	44.3	12	24	13.00
27C	44.3	12	24	13.50
28C	44.3	12	24	14.00
29D	44.3	12	24	14.50
30D	44.3	12	24	15.00
31D	44.3	12	24	15.50
32D	44.3	12	24	16.00

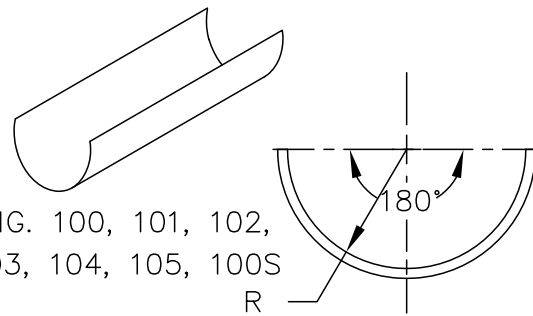


FIG. 100, 101, 102,
103, 104, 105, 100S

- SERIES 100 INSULATION PROTECTION SHIELDS
- 180 DEGREE SHIELD _____ FIG. 100
 - 180 DEGREE RUBBER LINED SHIELD _____ FIG. 101
 - 360 DEGREE SHIELD WITH CLAMPS _____ FIG. 102
 - 360 DEGREE RUBBER LINED W/CLAMPS _____ FIG. 103
 - 180 DEGREE SHIELD WITH CLAMPS _____ FIG. 104
 - 180 DEGREE RUBBER LINED W/CLAMPS _____ FIG. 105
 - SHIELDS MADE TO CUSTOMER ORDER _____ FIG. 100S

MATERIAL:

CARBON STEEL OR STAINLESS STEEL

ORDERING:

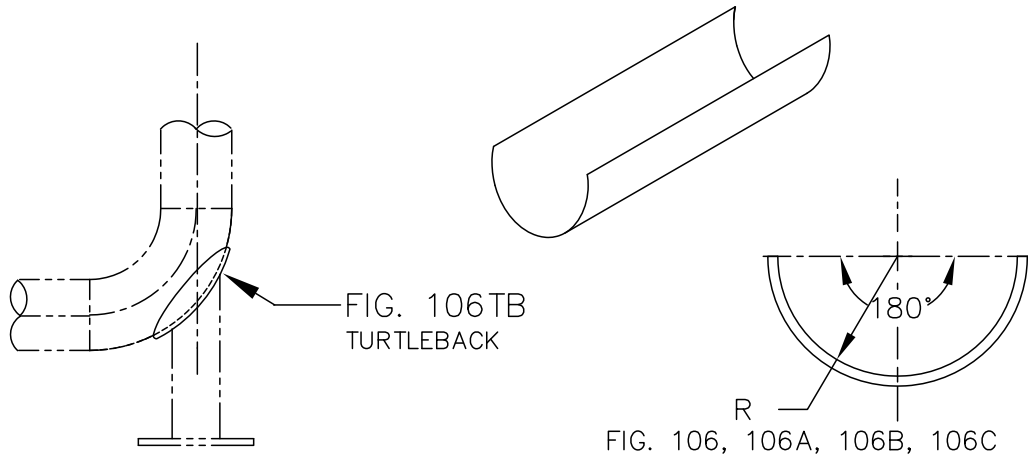
SPECIFY NAME, FIGURE NUMBER, INSULATION OUTSIDE DIAMETER OR SHIELD RADIUS, LENGTH, DEGREES WRAP, MATERIAL TYPE, GAGE AND FINISH.



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FIG.
106, 106A
106B, 106C,
106TB



PIPE WEAR PLATE (POISON PAD)

90 DEGREE_____	FIG. 106
120 DEGREE_____	FIG. 106A
150 DEGREE_____	FIG. 106B
180 DEGREE_____	FIG. 106C
TURTLEBACK ELBOW PADS_____	FIG. 106TB

MATERIAL:

CARBON STEEL OR STAINLESS STEEL

ORDERING:

SPECIFY NAME, FIGURE NUMBER,
PIPE O.D., PLATE LENGTH,
THICKNESS, WRAP DEGREE,
MATERIAL AND FINISH

NOTE:

SEE FIG. 51WBS WELDED
BASE STAND



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FIG.
110P & 110E

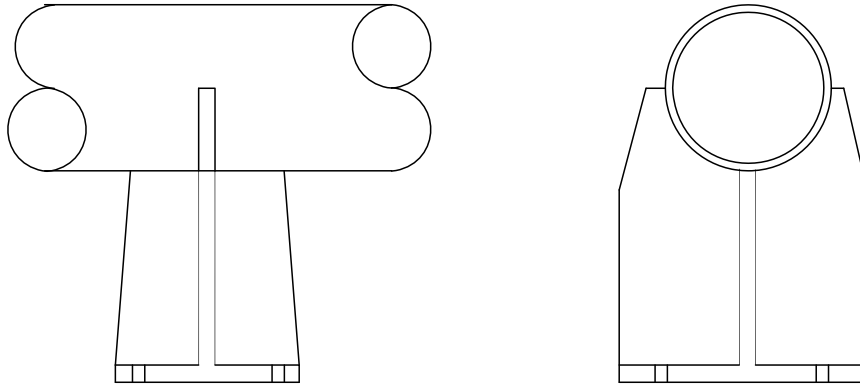


FIG. 110P

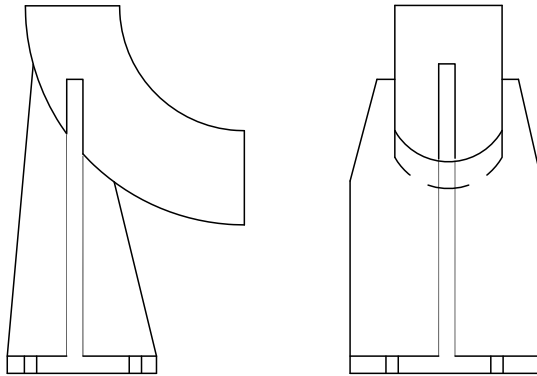


FIG. 110E

ANCHOR SUPPORT, WELDED:
PIPE _____ FIG. 110P
ELBOW _____ FIG. 110E
MATERIAL:
CARBON STEEL OR ALLOY
ORDERING:
SPECIFY NAME, FIGURE NUMBER, PIPE SIZE,
PIPE TEMPERATURE, PLATE THICKNESS,
DISTANCE FROM PIPE CENTER LINE TO
BASE, BASE LENGTH AND WIDTH,
MATERIAL AND FINISH



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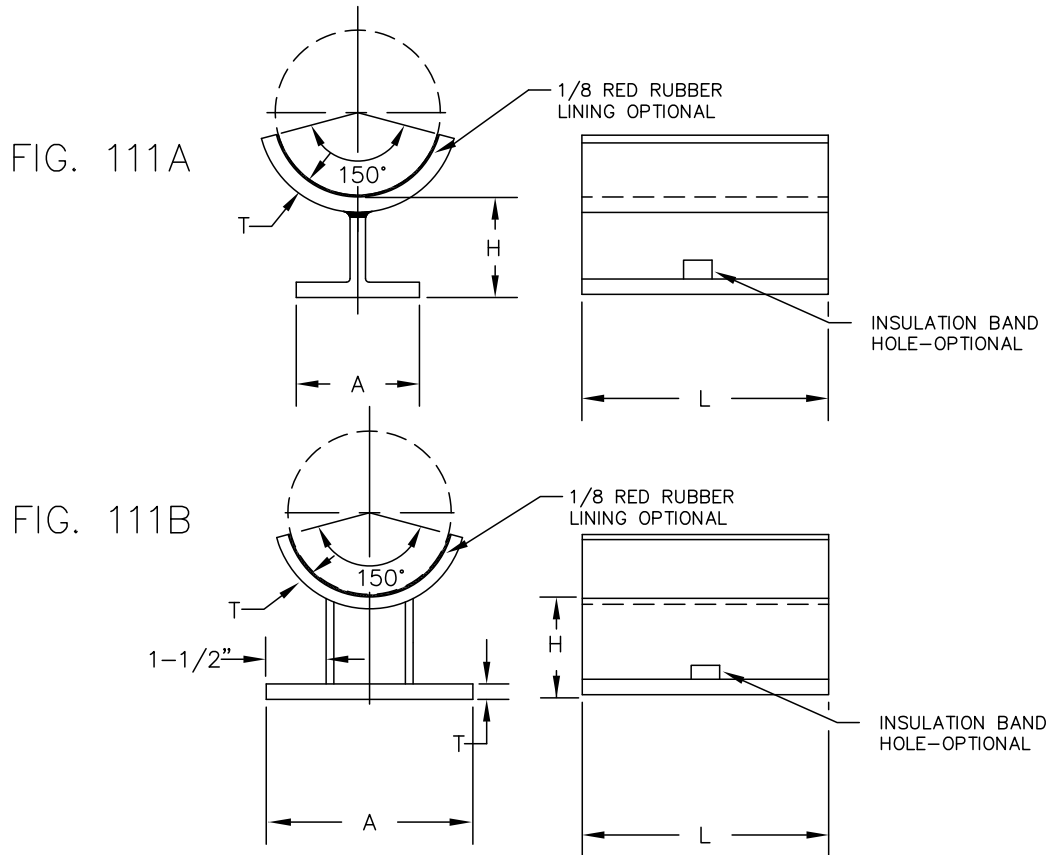
- SHOE SUPPORT—SINGLE TEE W/CRADLE _____ FIG. 111A
- DOUBLE TEE W/CRADLE _____ FIG. 111B
- CUSTOM _____ FIG. 111C

MATERIAL:

CARBON STEEL OR STAINLESS STEEL, OR COMBINATION CARBON TEE W/STAINLESS CRADLE FOR WELDING TO STAINLESS PIPE.

ORDERING:

SPECIFY NAME, FIGURE NUMBER, PIPE SIZE, CUSTOM DIMENSIONS, MATERIAL AND FINISH. ALSO LIST OPTIONS REQUIRED.



STANDARD DIMENSIONS (INCHES)

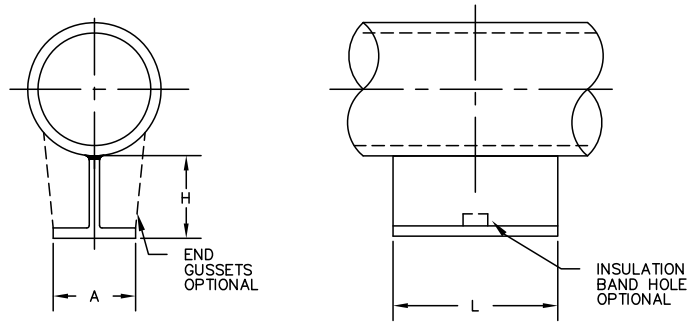
PIPE SIZE	A	H	L	T	BASE	FIGURE NO.
2-6	4	4	8	1/4	SPLIT W 8X13	111A
8-12	6-1/2	4	8	1/4	SPLIT W 8X24	111A
14-18	9	4	12	3/8	3/8 PLATE	111B
20-24	12	4	12	3/8	3/8 PLATE	111B



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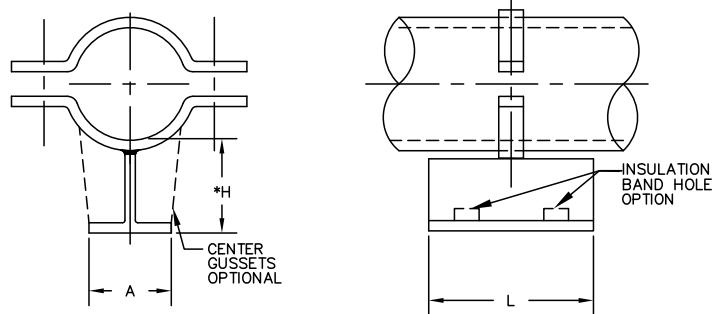
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FIG.
112 & 113



SHOE SUPPORT-SINGLE STEM TEE
(WELDS TO PIPE)-----FIG. 112

MATERIAL:
CARBON STEEL OR STAINLESS STEEL
ORDERING:
SPECIFY NAME, FIGURE NUMBER,
PIPE SIZE, LENGTH, HEIGHT, WIDTH,
WITH OR WITHOUT END GUSSETS AND
INSULATION BAND HOLE, MATERIAL
AND FINISH.



*H=TO BOTTOM OF PIPE

FIG. 113

SHOE SUPPORT-SINGLE STEM TEE
WITH 1 CLAMP-----FIG. 113

MATERIAL:
CARBON STEEL OR STAINLESS STEEL
ORDERING:
SPECIFY NAME, FIGURE NUMBER,
PIPE SIZE, SHOE LENGTH "L",
HEIGHT "H", WITH OR WITHOUT
GUSSETS AND INSULATION
BAND HOLE, MATERIAL AND FINISH.

DIMENSIONS(INCHES)

PIPE SIZE	A	H	L	BASE
2	4	4	8	SPLIT W 8X13
3	4	4	8	SPLIT W 8X13
4	4	4	8	SPLIT W 8X13
6	4	4	8	SPLIT W 8X13



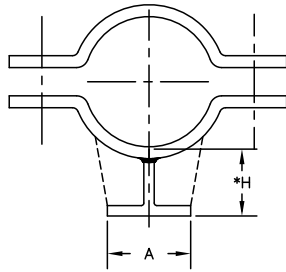
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FIG.
114A & 114B

DIMENSIONS (INCHES)

PIPE SIZE	A	H	L	BASE
3	4	4	12	SPLIT W 8X13
4	4	4	12	SPLIT W 8X13
6	4	4	12	SPLIT W 8X13
8	4	4	12	SPLIT W 8X13



*H=TO BOTTOM OF PIPE

FIG. 114A

SHOE SUPPORT—SINGLE STEM TEE WITH
2 CLAMPS_____FIG. 114A

MATERIAL:

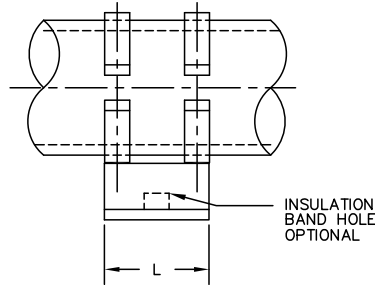
CARBON STEEL OR STAINLESS STEEL

ORDERING:

SPECIFY NAME, FIGURE NUMBER,

PIPE SIZE, SHOE LENGTH "L"

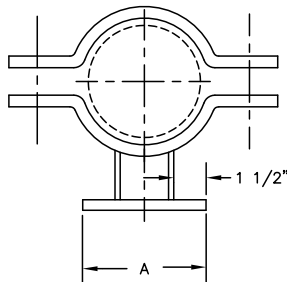
HEIGHT "H", WITH OR WITHOUT
GUSSETS AND INSULATION BAND
HOLE, MATERIAL AND FINISH.



INSULATION
BAND HOLE
OPTIONAL

DIMENSIONS (INCHES)

PIPE SIZE	A	H	L	T
10	9	4	12	3/8 PLATE
12	9	4	12	3/8 PLATE
14	9	4	12	3/8 PLATE
16	9	4	12	3/8 PLATE
18	9	4	12	3/8 PLATE
20	12	4	12	3/8 PLATE
24	12	4	12	3/8 PLATE



*H=TO BOTTOM OF PIPE

FIG. 114B

SHOE SUPPORT—DBL STEM TEE WITH
2 CLAMPS_____FIG. 114B

MATERIAL:

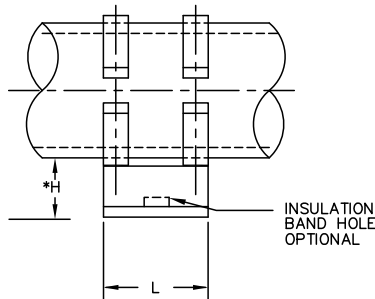
CARBON STEEL

ORDERING:

SPECIFY NAME, FIGURE NUMBER,

PIPE SIZE, SHOE LENGTH "L"

HEIGHT "H", WITH OR WITHOUT
GUSSETS AND INSULATION BAND
HOLE, MATERIAL AND FINISH.



INSULATION
BAND HOLE
OPTIONAL



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DIMENSIONS (INCHES)

FIG. 115 & 118

PIPE SIZE	A	B	C	HOLE SIZE	STOCK SIZE	LOAD RATING LBS.	APPROX. WEIGHT PER 100
1/2	4-1/8	7/16	2-7/8	7/16	1/8 X 1-1/4	410	21
3/4	4-5/16	9/16	3-1/16	7/16	1/8 X 1-1/4	410	24
1	4-9/16	11/16	3-5/16	7/16	1/8 X 1-1/4	410	26
1-1/4	4-15/16	13/16	3-11/16	7/16	1/8 X 1-1/4	410	30
1-1/2	5-3/16	15/16	3-15/16	7/16	1/8 X 1-1/4	410	33
2	5-3/4	1-3/16	4-1/2	7/16	1/8 X 1-1/4	410	38
2-1/2	6-1/4	1-7/16	5	7/16	1/4 X 1-1/4	610	85
3	6-7/8	1-3/4	5-5/8	7/16	1/4 X 1-1/4	610	100
3-1/2	7-3/8	2	6-1/8	7/16	1/4 X 1-1/4	610	111
4	8-3/8	2-1/4	7-1/8	9/16	1/4 X 1-1/2	725	151
5	9-7/16	2-3/4	8-3/16	9/16	1/4 X 1-1/2	725	179
6	10-1/2	3-5/16	9-1/4	9/16	1/4 X 1-1/2	725	207
8	14	4-5/16	12	11/16	3/8 X 1-1/2	900	415

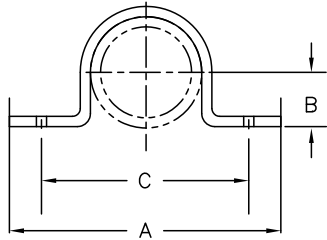


FIG. 115

HOLD DOWN CLAMP W/2 BOLT HOLES—
MEDIUM_____FIG. 115

MATERIAL:
CARBON STEEL OR STAINLESS STEEL
ORDERING:
SPECIFY NAME, FIGURE NUMBER,
PIPE SIZE, MATERIAL AND FINISH

DIMENSIONS (INCHES)

PIPE SIZE	RECOM. MAX. SAFE LOAD LB.	A	B	C	D	E	F	BOLT HOLES
1/2	300	3-15/16	1-1/4	2-11/16	1/2	1-1/8	1/8	
3/4	300	4-1/4	1-1/4	3	11/16	1-7/16	1/8	2
1	300	4-1/2	1-1/4	3-1/4	3/4	1-5/8	1/8	
1-1/4	300	4-15/16	1-1/4	3-11/16	1-1/16	2-1/8	1/8	
1-1/2	300	5-7/16	1-1/4	4-3/16	1-1/4	2-7/16	1/8	2
2	300	6	1-1/4	4-3/4	1-3/8	2-13/16	1/8	
2-1/2	500	6-1/2	1-1/2	5-1/4	1-3/4	3-9/16	1/4	4
3	500	7-1/8	1-1/2	5-7/8	1-7/8	4	1/4	
4	500	8-1/4	1-1/2	7	2-7/16	5-1/16	1/4	

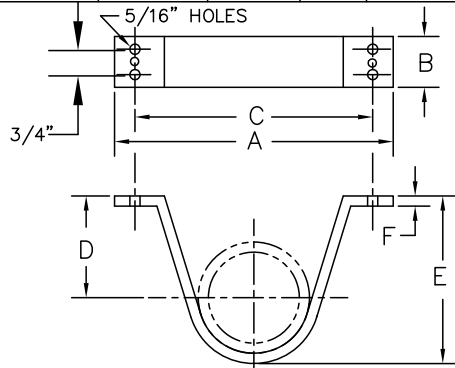


FIG. 118

SPRINKLER SHORT CLIP__FIG. 118

MATERIAL:
CARBON STEEL OR STAINLESS STEEL
ORDERING:
SPECIFY NAME, FIGURE NUMBER,
PIPE SIZE, MATERIAL AND FINISH
INSTALLATION:
USE 2" NO. 18 WOOD SCREWS
(STEEL), OR 1/4" STEEL BOLTS
IN EACH HOLE.



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FIG. 116

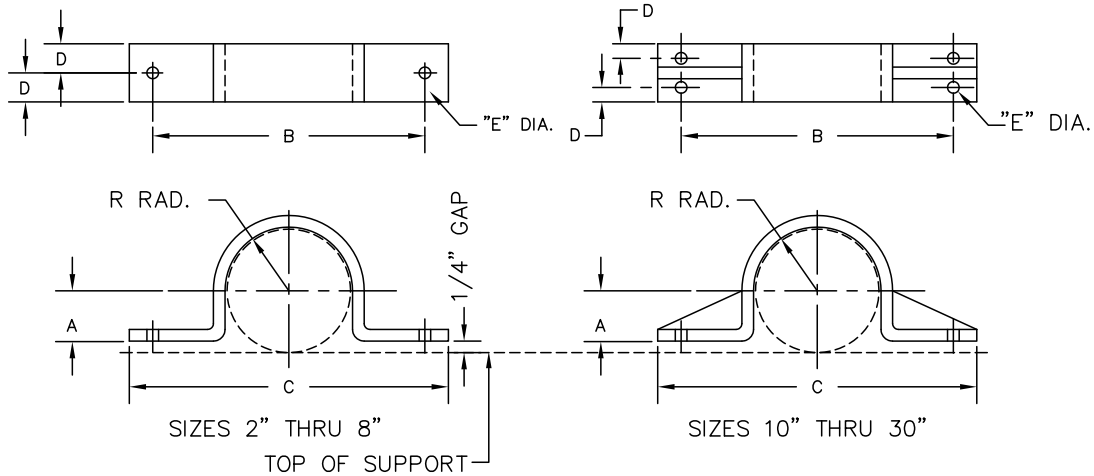


FIG. 116

HOLD DOWN ANCHOR CLAMP, HEAVY_____FIG. 116

MATERIAL:

CARBON STEEL OR STAINLESS STEEL

ORDERING:

SPECIFY NAME, FIGURE NUMBER, PIPE SIZE,
MATERIAL AND FINISH

NOTE: FIG. 116BP, BASE PLATE MUST BE
ORDERED SEPARATELY IF REQUIRED

DIMENSIONS (INCHES)

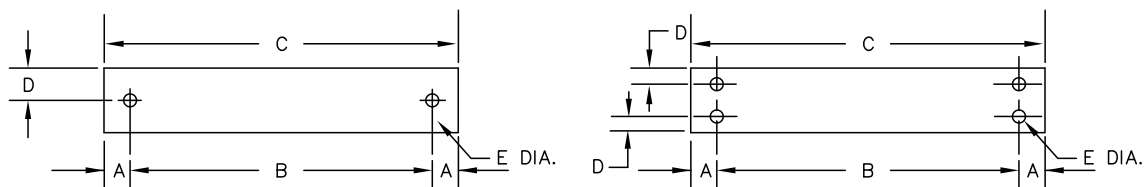
PIPE SIZE	A	B	C	D	HOLE E	RADIUS R	STOCK SIZE
2	15/16	5-3/8	7-5/8	1-1/2	7/8	1-3/16	3/8 X 3
2-1/2	1-3/16	5-7/8	8-1/8	1-1/2	7/8	1-7/16	3/8 X 3
3	1-1/2	6-1/2	8-3/4	1-1/2	7/8	1-3/4	3/8 X 3
3-1/2	1-3/4	7	9-1/4	1-1/2	7/8	2	3/8 X 3
4	2	7-1/2	9-3/4	1-1/2	7/8	2-1/4	3/8 X 3
5	2-9/16	8-9/16	10-13/16	1-1/2	7/8	2-13/16	3/8 X 3
6	3-1/16	10-5/8	13-5/8	3	1	3-5/16	1/2 X 6
8	4-1/16	12-5/8	15-5/8	3	1	4-5/16	1/2 X 6
10	5-1/8	15-1/4	18-3/4	1-1/2	1-1/8	5-3/8	1/2 X 8
12	6-1/8	17-1/4	20-3/4	1-1/2	1-1/8	6-3/8	1/2 X 8
14	6-3/4	18-1/2	22	2	1-1/8	7	1/2 X 10
16	7-3/4	20-1/2	24	2	1-1/8	8	1/2 X 10
18	8-3/4	22-1/2	26	2-1/2	1-1/8	9	1/2 X 12
20	9-3/4	24-1/2	28	2-1/2	1-1/8	10	1/2 X 12
24	11-3/4	28-1/2	32	2-1/2	1-1/8	12	1/2 X 12
30	14-3/4	34-1/2	38	2-1/2	1-1/8	15	1/2 X 12



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FIG.
116BP



SIZES 2" THRU 8"

SIZES 10" THRU 30"

HOLD DOWN ANCHOR BASE PLATE_____FIG. 116BP

MATERIAL:

CARBON STEEL OR STAINLESS STEEL

ORDERING:

SPECIFY NAME, FIGURE NUMBER, PIPE SIZE,
MATERIAL AND FINISH

NOTE:

DIMENSIONS MATCH FIG. 116

DIMENSIONS (INCHES)

PIPE SIZE	A	B	C	D	HOLE E	STOCK SIZE
2	1-1/8	5-3/8	7-5/8	1-1/2	7/8	3/8 X 3
2-1/2	1-1/8	5-7/8	8-1/8	1-1/2	7/8	3/8 X 3
3	1-1/8	6-1/2	8-3/4	1-1/2	7/8	3/8 X 3
3-1/2	1-1/8	7	9-1/4	1-1/2	7/8	3/8 X 3
4	1-1/8	7-1/2	9-3/4	1-1/2	7/8	3/8 X 3
5	1-1/8	8-9/16	10-13/16	1-1/2	7/8	3/8 X 3
6	1-1/2	10-5/8	13-5/8	3	1	1/2 X 6
8	1-1/2	12-5/8	15-5/8	3	1	1/2 X 6
10	1-3/4	15-1/4	18-3/4	1-1/2	1-1/8	1/2 X 8
12	1-3/4	17-1/4	20-3/4	1-1/2	1-1/8	1/2 X 8
14	1-3/4	18-1/2	22	2	1-1/8	1/2 X 10
16	1-3/4	20-1/2	24	2	1-1/8	1/2 X 10
18	1-3/4	22-1/2	26	2-1/2	1-1/8	1/2 X 12
20	1-3/4	24-1/2	28	2-1/2	1-1/8	1/2 X 12
24	1-3/4	28-1/2	32	2-1/2	1-1/8	1/2 X 12
30	1-3/4	34-1/2	38	2-1/2	1-1/8	1/2 X 12



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FIG.
124 & 125

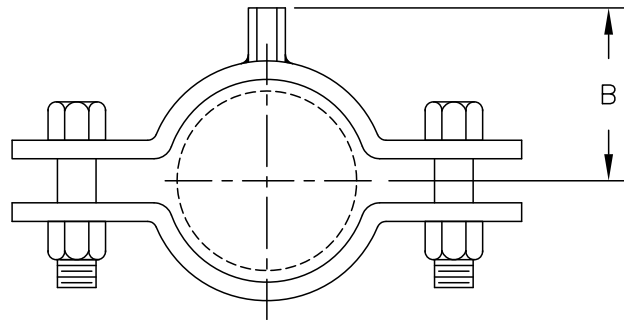


FIG. 124

2-BOLT CLAMP WITH ROD COUPLING WELDED ON____FIG. 124

MATERIAL:

CARBON STEEL OR STAINLESS STEEL

ORDERING:

SPECIFY NAME, FIGURE NUMBER, PIPE SIZE, ROD SIZE
MATERIAL AND FINISH

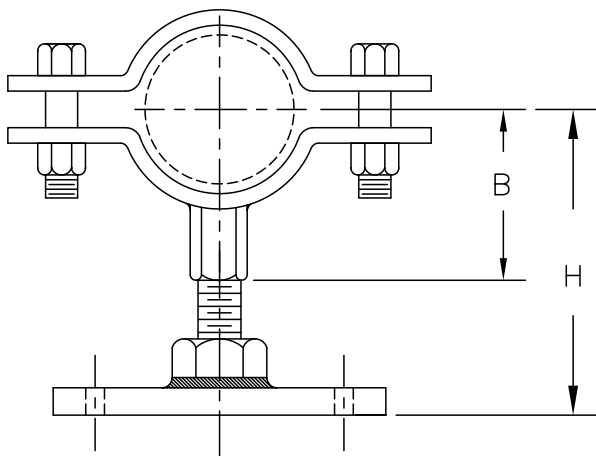


FIG. 125

2-BOLT CLAMP WITH ROD COUPLING
AND BASE_____FIG. 125

MATERIAL:
CARBON STEEL OR
STAINLESS STEEL

ORDERING:

SPECIFY NAME, FIGURE NUMBER,
PIPE SIZE, HEIGHT,
MATERIAL AND FINISH

NOTE:

BASE IS FIG. 32

DIMENSIONS (INCHES)

PIPE SIZE	ROD SIZE	B APPROX.	MINIMUM H
3/8	3/8	2-3/16	3-1/8
1/2	3/8	2-5/16	3-1/4
3/4	3/8	2-7/16	3-3/8
1	3/8	2-9/16	3-1/2
1-1/4	3/8	2-11/16	3-5/8
1-1/2	3/8	2-13/16	3-3/4
2	3/8	3-3/16	4-1/8
2-1/2	1/2	3-7/16	4-3/8
3	1/2	3-3/4	4-5/8
4	5/8	4-1/2	6



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FIG.
126 & 127

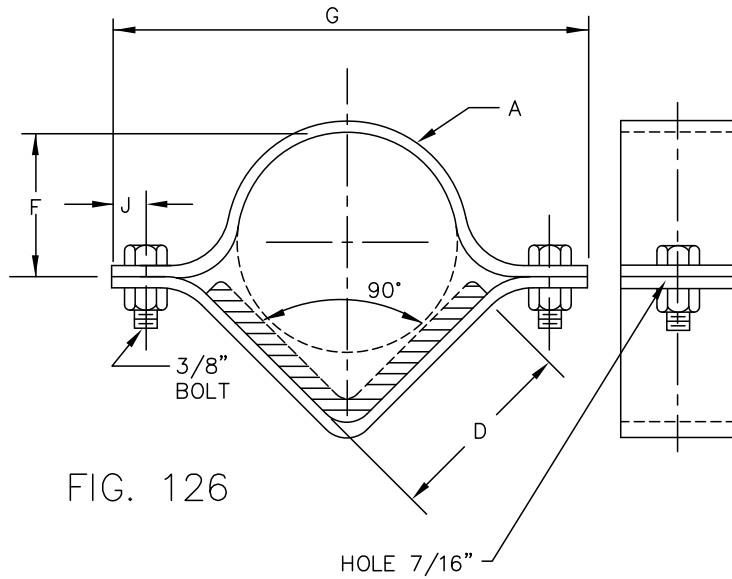


FIG. 126

HALF V AND HALF ROUND
PIPE CLAMP FIG. 126

MATERIAL:
CARBON STEEL OR
STAINLESS STEEL
ORDERING:
SPECIFY NAME,
FIGURE NUMBER,
PIPE SIZE,
MATERIAL AND FINISH

DIMENSIONS (INCHES)

PIPE SIZE	BAR A	D	F	G	J
1	1/8 X 1	1	1	3-3/4	3/8
1-1/2	1/8 X 1-1/4	1-1/4	1-1/8	4-3/4	9/16
2	1/8 X 1-1/4	2-1/4	1-7/16	6	7/16
3	1/8 X 1-1/4	3-1/2	1-7/8	8	5/8
4	1/8 X 1-1/4	4	2-7/8	8-1/2	1/2

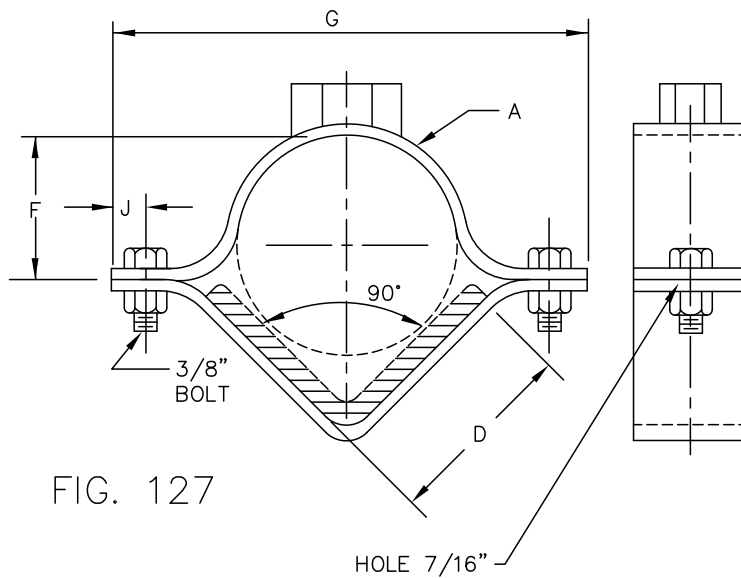


FIG. 127

HALF V AND HALF ROUND
CLAMP WITH ROD
COUPLING FIG. 127

MATERIAL:
CARBON STEEL OR
STAINLESS STEEL
ORDERING:
SPECIFY NAME,
FIGURE NUMBER,
PIPE SIZE, ROD SIZE,
MATERIAL AND FINISH



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RIGHT ANGLE PIPE OR
CONDUIT CLAMP _____ FIG. 130

MATERIAL:
PLATED STEEL AND MALLEABLE
ORDERING:
SPECIFY NAME, FIGURE NUMBER,
AND PIPE SIZE

DIMENSIONS (INCHES)

PIPE SIZE	A	B	APPROX. WEIGHT PER 100
1/2	2	5/16	41
3/4	2-5/16	5/16	42
1	2-1/2	5/16	47
1-1/4	2-7/8	5/16	54
1-1/2	3-1/4	5/16	57
2	3-7/8	3/8	85
2-1/2	4-3/8	3/8	106
3	5-1/8	3/8	110
3-1/2	5-1/2	3/8	128
4	6-1/8	3/8	140

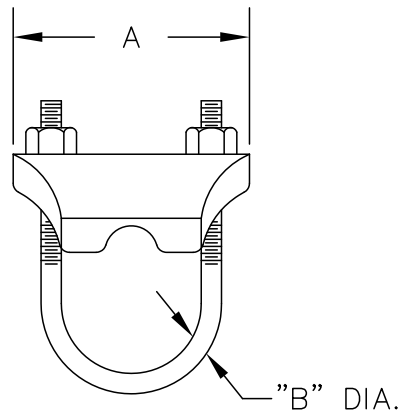


FIG. 130

PARALLEL PIPE OR CONDUIT
CLAMP _____ FIG. 131

MATERIAL:
PLATED STEEL AND MALLEABLE
ORDERING:
SPECIFY NAME, FIGURE NUMBER,
AND PIPE SIZE

DIMENSIONS (INCHES)

PIPE SIZE	A	B	APPROX. WT./100
1/2	1/2	7/8	59
3/4	1/2	1-1/8	64
1	1/2	1-3/8	70
1-1/4	1/2	1-1/2	72
1-1/2	1/2	1-5/8	93
2	5/8	2	128
2-1/2	5/8	2-1/4	135
3	5/8	2-1/2	155
3-1/2	5/8	2-3/4	190

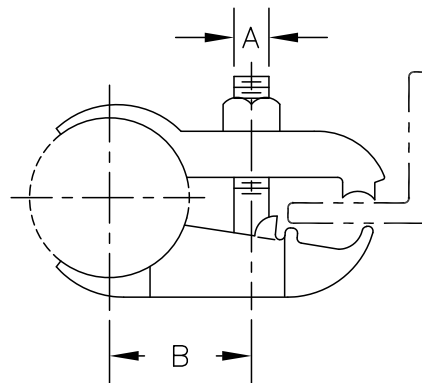


FIG. 131



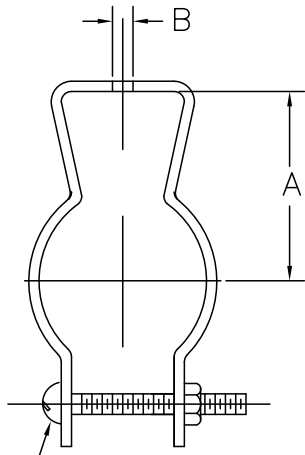


FIG. 132

CONDUIT CLAMP_____FIG. 132

MATERIAL:
PLATED STEEL OR STAINLESS STEEL
ORDERING:
SPECIFY NAME, FIGURE NUMBER,
SIZE AND MATERIAL

DIMENSIONS (INCHES)

PIPE SIZE	A	B	STOCK SIZE	APPROX. WEIGHT PER 100
3/8	7/8	1/4	.060 X 1	5.4
1/2	7/8	1/4	.060 X 1	5.4
3/4	15/16	1/4	.060 X 1	5.9
1	1-1/8	1/4	.060 X 1	7.7
1-1/4	1-3/8	1/4	.060 X 1	10
1-1/2	1-7/16	1/4	.060 X 1-1/4	16
2	1-15/16	1/4	.060 X 1-1/4	21
2-1/2	2-1/16	1/4	.060 X 1-1/4	23
3	2-7/16	5/16	.060 X 1-1/4	27

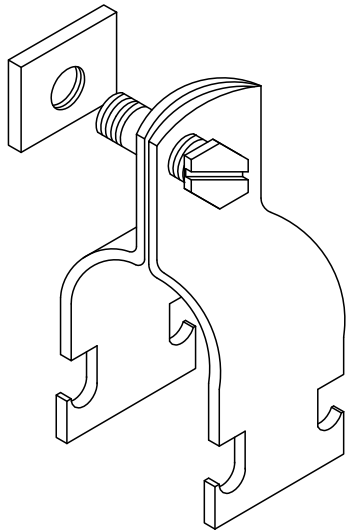


FIG. 133

STRUT CLAMP PIPE HANGER FIG. 133

MATERIAL:
STAINLESS STEEL
ORDERING:
SPECIFY NAME, FIGURE NUMBER,
PIPE SIZE AND CLAMP THICKNESS



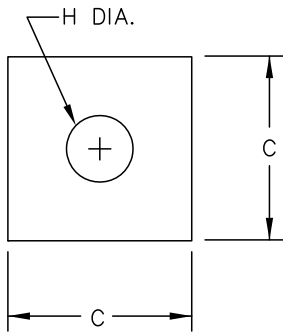


FIG. 140

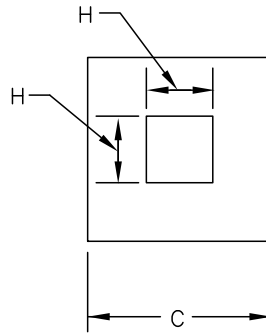


FIG. 141

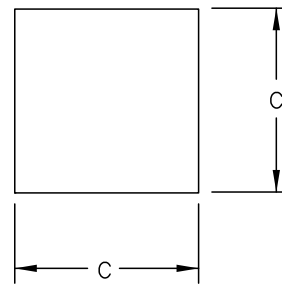


FIG. 142

FIG.
140
141
142
143

DIMENSIONS IN INCHES

APPROX. WEIGHT PER 100	THICKNESS OF PLATES							
	WIDTH	1/8	3/16	1/4	3/8	1/2	5/8	3/4
2 X 2	28	42	56	85	112	140	170	
3 X 3	32	48	64	96	128	160	192	
4 X 4	57	83	113	170	225	285	340	
5 X 5	89	133	177	266	329	400	530	
6 X 6	128	191	255	383	510	560	766	

SQUARE WASHERS

ROUND HOLE_____FIG. 140
SQUARE HOLE_____FIG. 141
SOLID (HARD SHIM)___FIG. 142

MATERIAL:

CARBON STEEL OR STAINLESS STEEL

ORDERING:

SPECIFY NAME, FIGURE NUMBER, WIDTH, THICKNESS, HOLE SIZE, MATERIAL AND FINISH

NOTE: HOLE IS 1/16TH LARGER FOR 1 INCH AND SMALLER ROD OR BOLT. HOLE IS 1/8TH INCH LARGER FOR 1 1/4 INCH AND LARGER ROD OR BOLT FIG. 7 WASHER PLATES ARE FOR FIG. 27 & 28 TRAPEZES

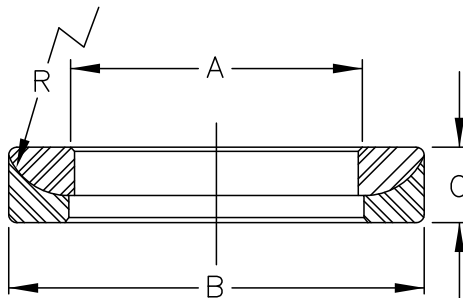


FIG. 143

ROCKER WASHER ASSEMBLY___FIG. 143

MATERIAL:

ALLOY STEEL

ORDERING:

SPECIFY NAME, FIGURE NUMBER, AND ROD SIZE

DIMENSIONS IN INCHES

ROD SIZE	RADIUS R	A	B	C	APPROX. WEIGHT PER 100
3/8	1-1/2	13/32	15/16	1/4	3
1/2 5/8	1-3/4	17/32 21/32	1-3/16 1-3/8	5/16	9 13
3/4 7/8	2-3/4	25/32 15/16	1-5/8 1-7/8	3/8	21 23
1 1-1/8 1-1/4	2-3/4 3 3-3/8	1-1/16 1-3/16 1-5/16	2 2-1/4 2-5/8	1/2	44 56 76
1-1/2	3-1/2	1-9/16	2-7/8	9/16	92



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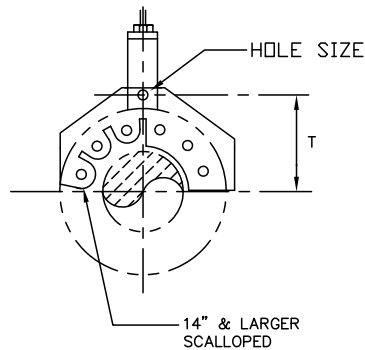
FLANGED COMPONENT HANGER _____ FIG. 150
(SOMETIMES CALLED A MICKEY MOUSE HANGER)

MATERIAL:

CARBON STEEL OR STAINLESS STEEL

ORDERING:

SPECIFY NAME, FIGURE NUMBER, PIPE SIZE,
FLANGE CLASS; 150, 300, LOAD,
MATERIAL AND FINISH



SIZE	HOLE SIZE	T
2	9/16	4
3	9/16	5-1/2
4	9/16	6-1/4
6	9/16	7-1/2
8	11/16	8-7/8
10	13/16	10-1/8
12	15/16	11-3/4
14	15/16	12-7/8
16	1-1/8	14-5/8
18	1-1/8	15-3/8
20	1-1/8	16-3/4
24	1-7/16	19

FIG. 150

VERTICAL PIPE FLANGED COMPONENT

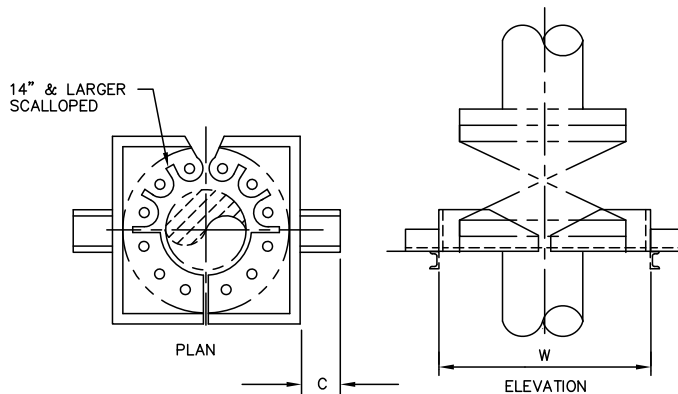
SUPPORT _____ FIG. 151

MATERIAL:

CARBON STEEL OR STAINLESS STEEL

ORDERING:

SPECIFY NAME, FIGURE NUMBER,
PIPE SIZE, FLANGE CLASS; 150, 300,
LOAD, MATERIAL AND FINISH



DIMENSIONS

SIZE	C	W
2	4	13
3	4	13
4	4	14-1/2
6	4	16-1/2
8	6	21
10	6	23
12	6	26
14	6	28
16	6	31
18	6	33
20	6	35
24	6	40

FIG. 151



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HORIZ. PIPE FLANGE SUPPORT – OFF-CENTER___FIG. 152

HORIZ. PIPE FLANGE SUPPORT – CENTER_____FIG. 152C

MATERIAL:

CARBON STEEL OR STAINLESS STEEL

ORDERING:

SPECIFY NAME, FIGURE NUMBER,
PIPE SIZE, FLANGE CLASS; 150, 300,
LOAD, MATERIAL AND FINISH

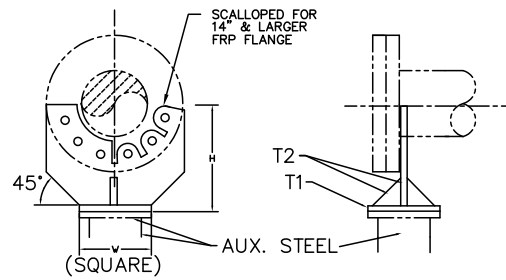
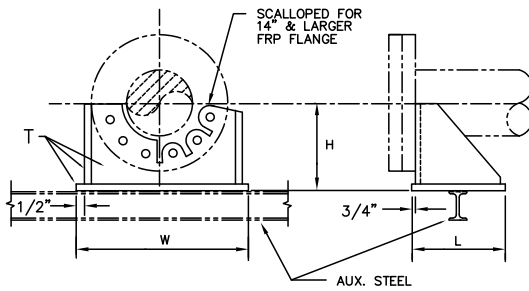


FIG. 152

DIMENSIONS IN INCHES

PIPE SIZE	H	L	W	T
2	7	7	9	
3	7	7	10-1/2	1/4
4	7	7	12	
6	14	12	14	
8	14	12	16-1/2	
10	14	12	19	3/8
12	14	12	22	
14	20	15	25	
16	20	15	27-1/2	
18	20	15	29	3/8
20	20	15	31	
24	20	15	36	
30	23	19	42-3/4	3/8
36	27-3/8	19	50	

FIG. 152C

DIMENSIONS IN INCHES

PIPE SIZE	H	W	T1	T2
2	7	6		
3	7	7-1/2	1/2	1/4
4	7	9		
6	14			
8	14	10	1/2	
10	14			
12	14	12		
14	20	12		
16	20			
18	20			
20	20	15	3/4	
24	20			
30	23			
36	27-3/8	15		



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RUBBER LINED SHOES FOR INSULATED FRP PIPE:

- TYPE S (SUPPORT) OPEN TOP _____ FIG. 153S
 TYPE G (GUIDE) 2 STRAPS ON TOP _____ FIG. 153G
 TYPE A (ANCHOR) FULL WIDTH CLAMP TOP _____ FIG. 153A

MATERIAL:

CARBON STEEL OR STAINLESS STEEL

ORDERING:

SPECIFY NAME, FIGURE NUMBER, EXACT PIPE O.D.,
 HANGER MATERIAL AND FINISH

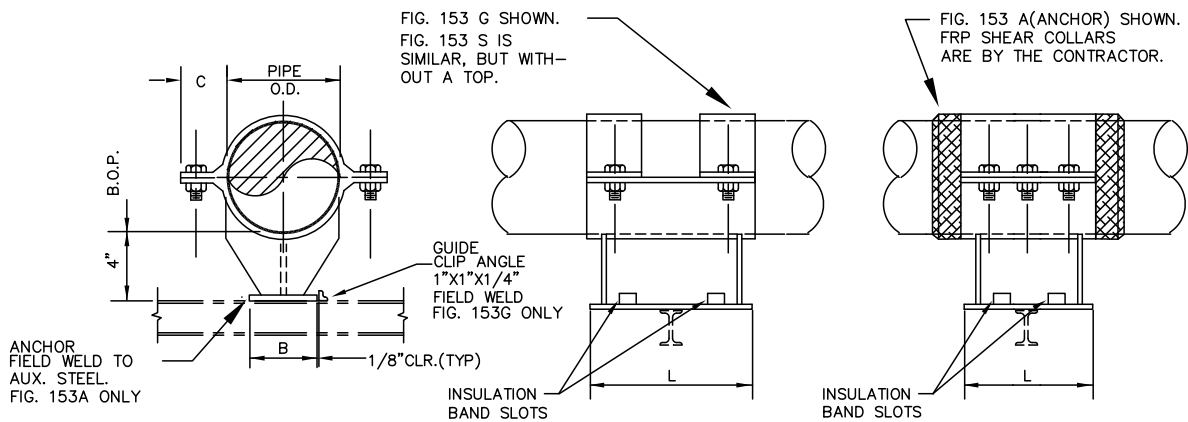


FIG. 153

DIMENSIONS (INCHES)

PIPE SIZE	B	L	C
2-4	4	8	2-5/16
6-12	6	12	2-3/8
14-18	8	14	2-5/8

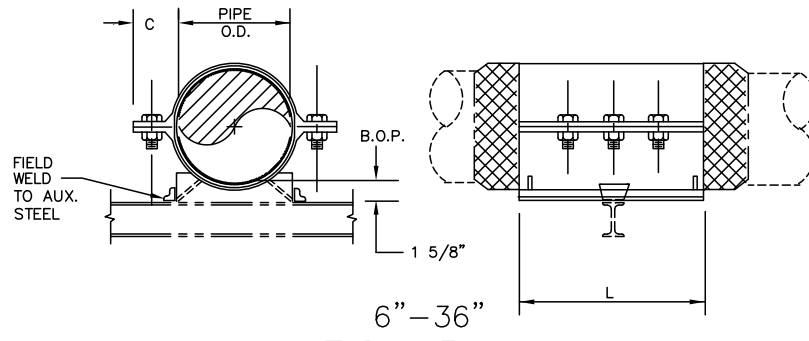


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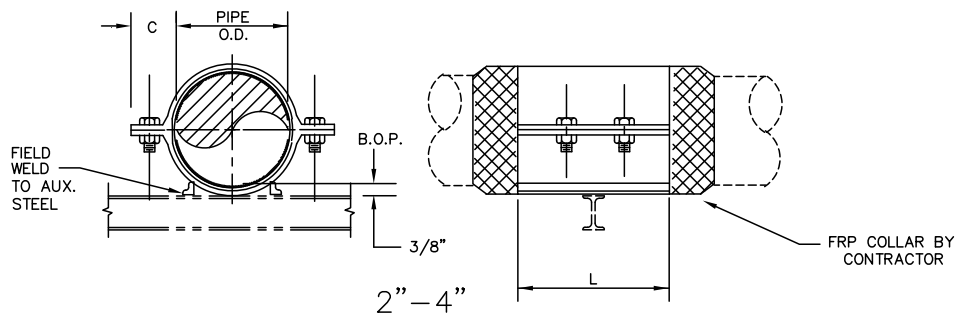
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360 DEGREE SHOE SUPPORT WITH CLAMPS
& RUBBER LINER FOR FRP PIPE_____ FIG. 154

MATERIAL:
CARBON STEEL OR STAINLESS STEEL
ORDERING:
SPECIFY NAME, FIGURE NUMBER,
EXACT PIPE O.D., HANGER MATERIAL
AND FINISH



6"–36"
FIG. 154B



2"–4"
FIG. 154A

DIMENSIONS (INCHES)

PIPE SIZE	C	L
2	1-5/8	6
3	1-5/8	6
4	1-5/8	6
6-12	2-3/8	12
14-20	2-5/8	14
24	2-5/8	16
30-36	2-5/8	20



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FIG.
155 & 156

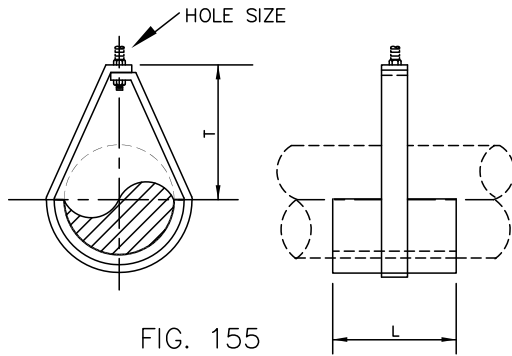


FIG. 155

PEAR SHAPE HANGER WITH RUBBER LINED SHIELD _____ FIG. 155

MATERIAL:

CARBON STEEL OR STAINLESS STEEL

ORDERING:

SPECIFY NAME, FIGURE NUMBER, EXACT PIPE OUTSIDE DIAMETER HANGER MATERIAL AND FINISH STANDARD MATERIALS:

1/8TH INCH THICK RED RUBBER, A-36 CARBON STEEL

DIMENSIONS (INCHES)			
SIZE	L	T	HOLE SIZE
2	6	3-1/4	7/16
3	6	5	9/16
4	6	6	11/16
6	6	8	13/16
8	8	10	15/16
10	8	12	15/16
12	12	14-1/2	15/16
14	12	16-3/4	1-1/8
16	12	18-7/8	1-1/8
18	12	21-1/8	1-1/8
20	14	23-1/4	1-5/16
24	16	27-3/4	1-5/16
30	16	35-1/4	1-5/16
36	16	40-3/4	1-5/16

CAUTION:

FIG. 155 PEAR SHAPED HANGER MUST SLIP OVER PIPE END. IT IS TOO STIFF TO OPEN UP TO GO ACROSS THE PIPE OR OVER FLANGES.

DIMENSIONS (INCHES)

PIPE SIZE	T	L	HOLE SIZE
2	5-5/8	6	7/16
3	6-1/8	6	9/16
4	7-3/8	6	11/16
6	8-7/8	6	13/16
8	9-7/8	8	15/16
10	11-3/4	8	15/16
12	13	12	15/16
14	14-1/2	12	1-1/8
16	17-1/8	12	1-1/8
18	18-1/4	12	1-1/8
20	19-7/8	14	1-5/16
24	22-3/8	16	1-5/16

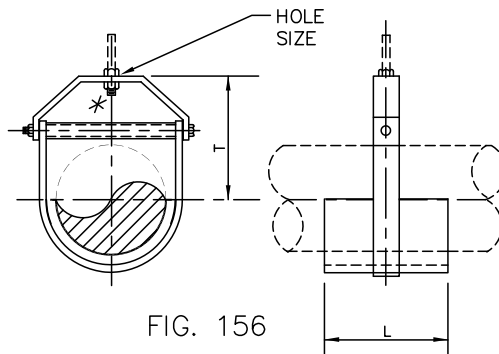


FIG. 156

CLEVIS HANGER WITH RUBBER LINED SHIELD__FIG. 156

MATERIAL:

CARBON STEEL OR STAINLESS STEEL

ORDERING:

SPECIFY NAME, FIGURE NUMBER, EXACT PIPE OUTSIDE DIAMETER, HANGER MATERIAL AND FINISH, BOLT MATERIAL AND FINISH

STANDARD MATERIALS:

1/8TH INCH THICK RED RUBBER, PLATED A-307 BOLTS, A-36 CARBON STEEL

* 20 INCH SIZE AND LARGER ARE FURNISHED WITH A PIPE SPACER OVER THE BOLT.

FIG. 156SD(SPECIAL DESIGN)
AVAILABLE FOR LARGE O.D.
DUCT LIGHT LOADS.

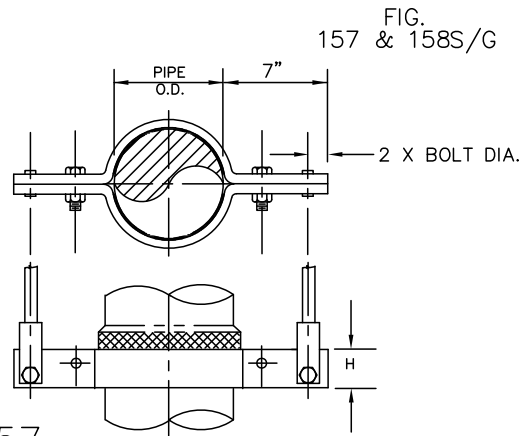


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DIMENSIONS (INCHES)

PIPE SIZE	H	T	BOLT SIZE
2	3	3/8	1/2
3	3	3/8	1/2
4	3	3/8	1/2
6	3	3/8	1/2
8	4	5/8	5/8
10	4	5/8	5/8
12	4	5/8	3/4
14	4	5/8	3/4
16	4	3/4	7/8
18	5	3/4	7/8
20	5	3/4	7/8
24	6	1	1-1/8
30	7	1	1-1/8
36	7	1-1/4	1-1/4



RUBBER LINED 4-BOLT RISER CLAMP__FIG. 157

MATERIAL:

CARBON STEEL OR STAINLESS STEEL

ORDERING:

SPECIFY NAME, FIGURE NUMBER, EXACT PIPE OUTSIDE DIAMETER, HANGER MATERIAL AND FINISH, BOLT MATERIAL AND FINISH

STANDARD MATERIAL:

1/8TH INCH THICK RED RUBBER, PLATED A-307 BOLTS, A-36 CARBON STEEL

FIG. 157

RUBBER LINED 2-BOLT RISER CLAMP__FIG. 158S/G
(S=SUPPORT, G=GUIDE)

MATERIAL:

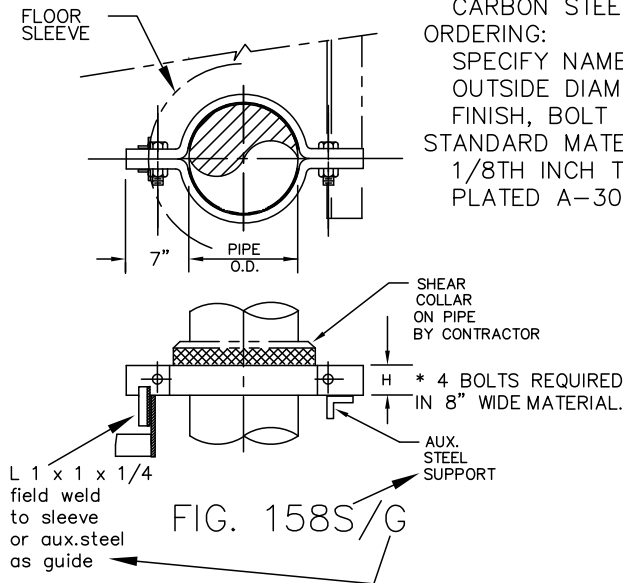
CARBON STEEL OR STAINLESS STEEL

ORDERING:

SPECIFY NAME, FIGURE NUMBER, EXACT PIPE OUTSIDE DIAMETER, HANGER MATERIAL AND FINISH, BOLT MATERIAL AND FINISH

STANDARD MATERIALS:

1/8TH INCH THICK RED RUBBER, PLATED A-307 BOLTS, A-36 CARBON STEEL



DIMENSIONS (INCHES)

PIPE SIZE	H	T	BOLT SIZE
2			
3			
4	3	1/4	1/2
6			
8			
10	3	3/8	5/8
12			
14	4	1/2	3/4
16			
18	6	1/2	1
24			
30	8 *	3/4	1-1/8
36			

* 4 BOLTS REQUIRED IN 8" WIDE MATERIAL.

FIG. 158S/G



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FIG.
160, 161,
162, 163, 164

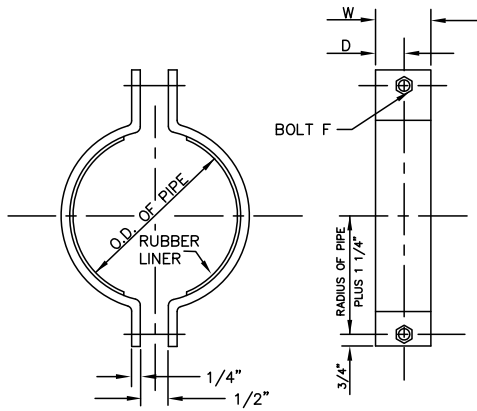


FIG. 160

- SPECIAL RUBBER LINED CLAMP FOR FRP PIPE:
- 3 & 4 INCH _____ FIG. 160
 - 6, 8, & 10 INCH _____ FIG. 161
 - 12 THRU 18 INCH _____ FIG. 162
 - 20 AND 24 INCH _____ FIG. 163
 - 30 AND 36 INCH _____ FIG. 164

MATERIAL:

CARBON STEEL OR STAINLESS STEEL

ORDERING:

SPECIFY NAME, FIGURE NUMBER, EXACT PIPE OUTSIDE DIAMETER, HANGER MATERIAL AND FINISH, AND BOLT MATERIAL AND FINISH

STANDARD MATERIAL:

1/8TH INCH THICK RED RUBBER, A-307

PLATED BOLTS, A-36 CARBON STEEL

NOTE: SEE FIG. 169, 170 AND 174 FOR BASES AND FIN SUPPORT

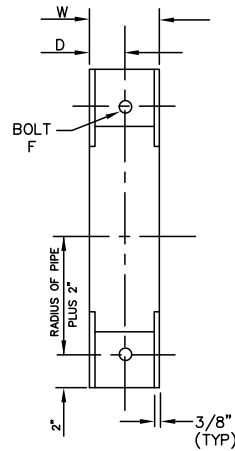
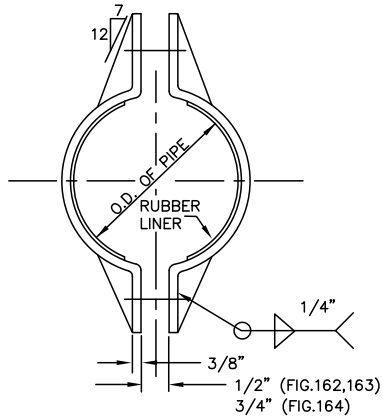


FIG. 161

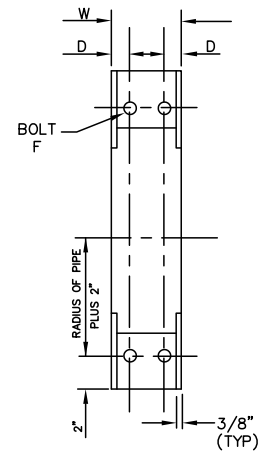


FIG. 162, 163 & 164

DIMENSIONS (INCHES)

PIPE SIZE	CLAMP FIG. NO.	LUG FIG. NO.	BOLT F	W	D	MAXIMUM RECOMMENDED LOAD (LBS.)
3 THRU 4	160	—	5/8 X 3-1/2	2	1	1040
6 THRU 10	161	165	3/4 X 3-1/2	4	2	1615
12 THRU 18	162	166	3/4 X 4	6	1-1/2	3230
20 THRU 24	163	167	7/8 X 5	8	2	4960
30 THRU 36	164	168	1-1/8 X 5	10	2	6000



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FIG.
165, 166, 167, 168

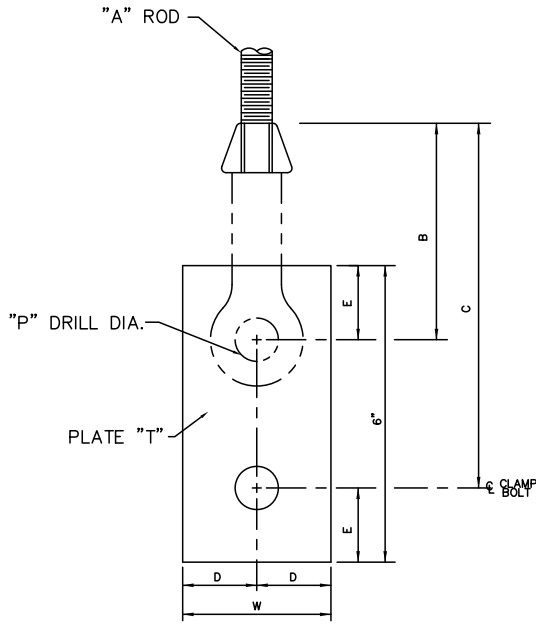


FIG. 165

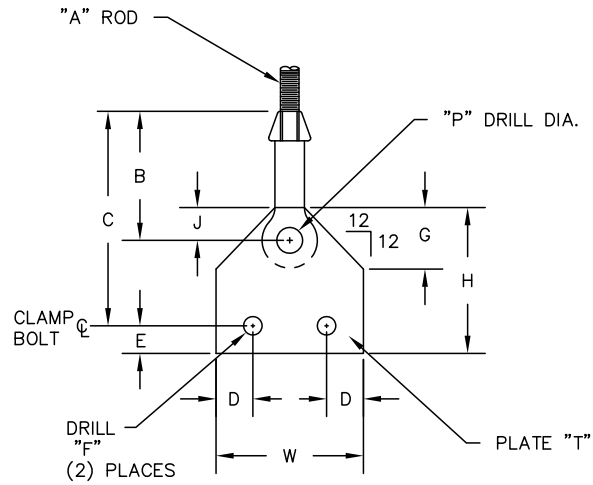


FIG. 166, 167 & 168

SPECIAL HANGING LUG FOR FRP PIPE CLAMPS:

6,8 & 10 INCH_____FIG. 165
 12 THRU 18 INCH_____FIG. 166
 20 AND 24 INCH_____FIG. 167
 30 AND 36 INCH_____FIG. 168

MATERIAL:
 CARBON STEEL OR STAINLESS STEEL

ORDERING:
 SPECIFY NAME, FIGURE NUMBER,
 PIPE SIZE, MATERIAL AND FINISH

DIMENSIONS (INCHES)

PIPE SIZE	LUG FIG. NO.	ROD SIZE A	B	C	D	E	BOLT HOLE F	G	H	J	PIN HOLE P	W	T
6 THRU 10	165	5/8	4-5/16	7-5/16	1-1/2	1-1/2	13/16	-	6	-	13/16	3	3/8
12 THRU 18	166	7/8	5-7/8	9-5/16	1-1/2	1-1/2	13/16	2-1/2	7	1-1/2	1-1/8	6	1/2
20 THRU 24	167	1	6-5/16	10-5/16	2	1-1/2	15/16	3-1/4	7-1/4	1-3/4	1-1/4	8	3/4
30 THRU 36	168	1-1/4	6-5/16	10-5/16	2	1-1/2	1-1/4	4	7-3/4	2-1/4	1-1/2	10	3/4



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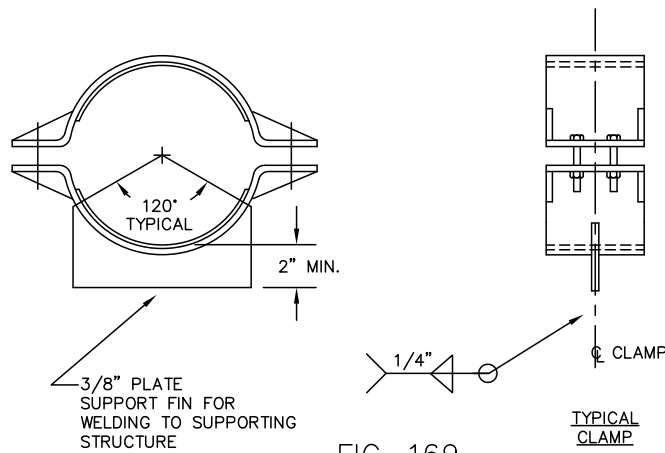


FIG. 169

SPECIAL RUBBER LINED CLAMP FOR FRP PIPE WITH SUPPORT FIN___FIG. 169

MATERIAL:

CARBON STEEL OR STAINLESS STEEL

ORDERING:

SPECIFY NAME, FIGURE NUMBER, EXACT PIPE OUTSIDE DIAMETER, HANGER MATERIAL AND FINISH, AND BOLT MATERIAL AND FINISH
STANDARD MATERIALS: 1/8TH INCH THICK RED RUBBER, A-307 PLATED BOLTS, A-36 CARBON STEEL

NOTE: CLAMPS ARE SAME AS FIG. 160 THRU 164

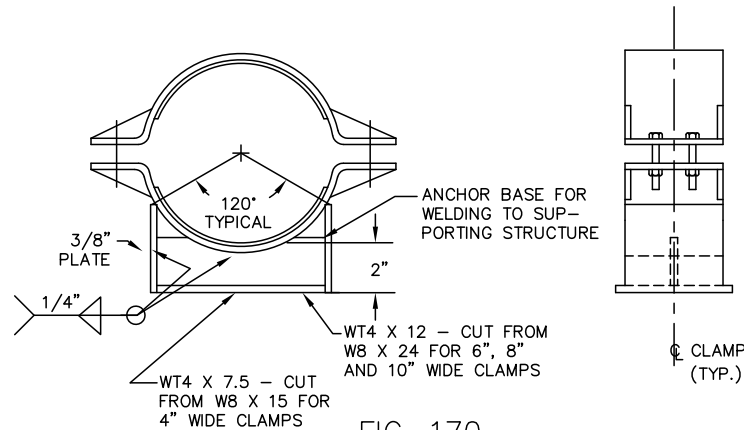


FIG. 170

SPECIAL RUBBER LINED CLAMP FOR FRP PIPE WITH ANCHOR BASE___FIG. 170

MATERIAL:

CARBON STEEL OR STAINLESS STEEL

ORDERING:

SPECIFY NAME, FIGURE NUMBER, EXACT PIPE OUTSIDE DIAMETER, HANGER MATERIAL AND FINISH AND BOLT MATERIAL AND FINISH
STANDARD MATERIALS: 1/8TH INCH THICK RED RUBBER, PLATED A-307 BOLTS, A-36 CARBON STEEL

NOTE: CLAMPS ARE SAME AS FIG. 160 THRU 164



FIG.
171, 172, 173

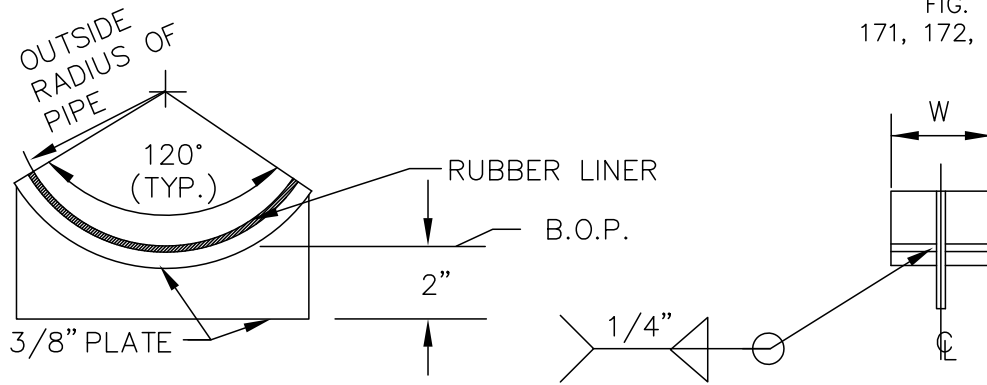


FIG. 171, 172 & 173

SPECIAL RUBBER LINED SADDLE FOR FRP PIPE WITH FIN SUPPORT:

6, 8, & 10 INCH _____ FIG. 171
 12 THRU 18 INCH _____ FIG. 172
 20 AND 24 INCH _____ FIG. 173

MATERIAL:

CARBON STEEL OR STAINLESS STEEL

ORDERING:

SPECIFY NAME, FIGURE NUMBER, EXACT PIPE OUTSIDE
 DIAMETER, HANGER MATERIAL AND FINISH,

NOTE: FIN HEIGHT IS 2-INCHES UNLESS SPECIFIED

DIMENSIONS (INCHES)

FIG. No.	NOMINAL PIPE SIZE	CRADLE WIDTH W	FIN HEIGHT UNLESS SPECIFIED
171	6, 8, & 10	4	2
172	12,14,16, & 18	6	2
173	20, & 24	8	2

ALL WELDS ARE CONTINUOUS FULL PENETRATION.

ALL SHARP EDGES AND CORNERS ARE GROUND TO 1/8" RADIUS AND ALL WELD SPLATTER IS REMOVED BEFORE COATING OR LINING.

LINED WITH 1/8" THICK RED RUBBER BONDED TO CLEAN FINISHED SURFACE.



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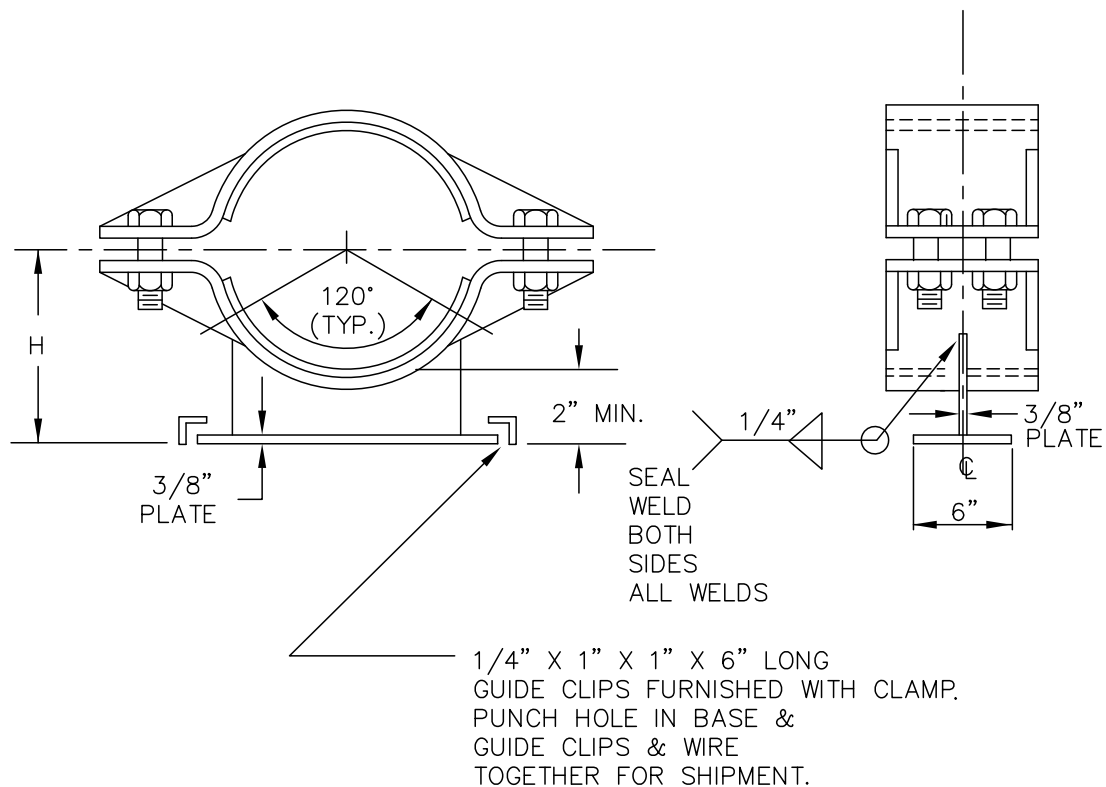


FIG. 174

SPECIAL RUBBER LINED CLAMP FOR FRP PIPE, WITH SLIDE BASE__FIG. 174

MATERIAL:

CARBON STEEL OR STAINLESS STEEL

ORDERING:

SPECIFY NAME, FIGURE NUMBER, EXACT PIPE OUTSIDE DIAMETER,
HANGER MATERIAL AND FINISH, HEIGHT "H", BOLT MATERIAL AND FINISH
STANDARD MATERIALS:

1/8TH INCH THICK RED RUBBER, PLATED A-307 BOLTS, A-36 CARBON
STEEL

NOTE: CLAMPS ARE SAME AS FIG. 160 THRU 164



RUBBER LINED SHOE SUPPORTS FOR
UNINSULATED FRP PIPE:

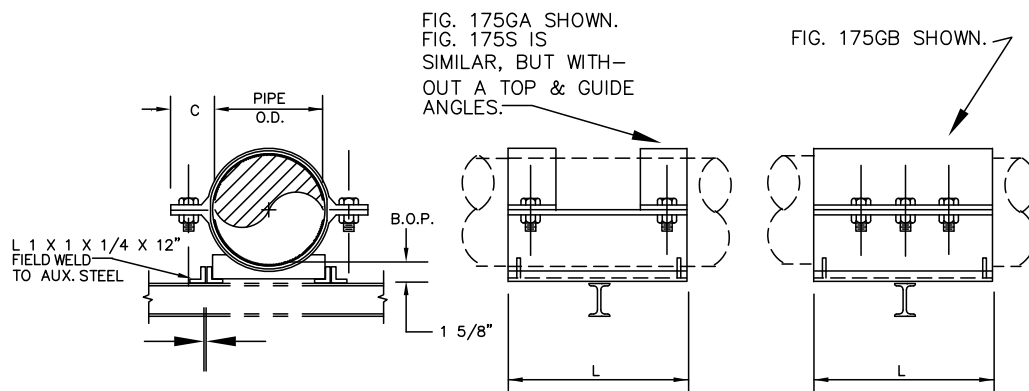
- TYPE GA (GUIDE) 2 STRAPS ON TOP _____ FIG. 175GA
 TYPE GB (GUIDE) FULL WIDTH CLAMP TOP _____ FIG. 175GB
 TYPE S (SUPPORT) OPEN TOP _____ FIG. 175 S

MATERIAL:

CARBON STEEL OR STAINLESS STEEL

ORDERING:

SPECIFY NAME, FIGURE NUMBER,
EXACT PIPE O.D., HANGER MATERIAL
AND FINISH



1/8" CLR. TYP.

DIMENSIONS (INCHES)

PIPE SIZE	C	L
2	1-5/8	6
3	1-5/8	6
4	1-5/8	6
6-12	2-3/8	12
14-20	2-5/8	14
24	2-5/8	16
30-36	2-5/8	20



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RUBBER LINED WIDE CLAMPS FOR FRP PIPE:

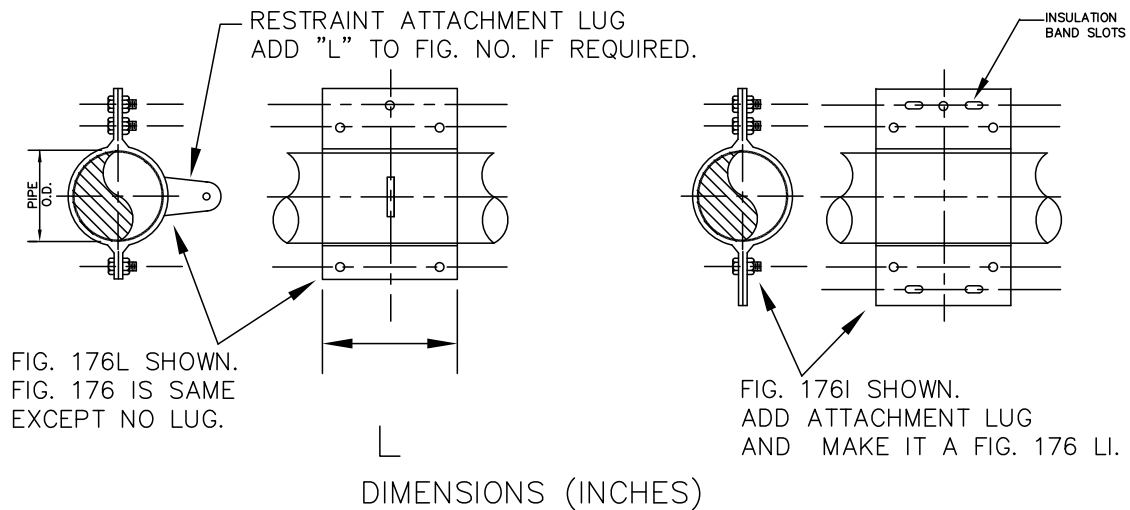
- FOR NON-INSULATED PIPE _____ FIG. 176
- FOR INSULATED PIPE _____ FIG. 176I
- FOR NON-INSULATED PIPE W/LUG _____ FIG. 176L
- FOR INSULATED PIPE W/LUG _____ FIG. 176LI

MATERIAL:

CARBON STEEL OR STAINLESS STEEL

ORDERING:

SPECIFY NAME, FIGURE NUMBER, EXACT PIPE O.D.,
INSULATION THICKNESS,
HANGER MATERIAL AND FINISH



PIPE SIZE	L	NUMBER OF CLAMP BOLTS
2" - 10"	8	4
12" - 18"	12	6
20" - 24"	14	6
30" - 36"	16	8



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FIG. 200

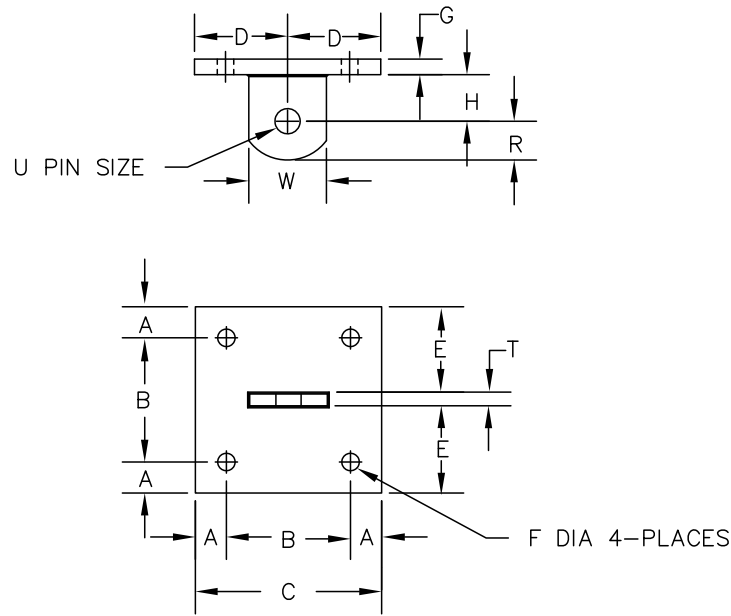


FIG. 200

CONCRETE ANCHOR PLATE WITH LUG FOR FORGED CLEVIS_____FIG. 200

MATERIAL:

CARBON STEEL OR STAINLESS STEEL

ORDERING:

SPECIFY NAME, FIGURE NUMBER, ROD SIZE, MATERIAL AND FINISH

LOADS-DIMENSIONS-INCHES

ROD SIZE (INCHES)	MAXIMUM RECOMMENDED LOAD, LB	A	B	C	D	HOLE F	G	H	R	E	T	U	W
3/8	610	1	8	10	5	9/16	3/8	1-1/2	1-1/4	4-7/8	1/4	1/2	2-1/2
1/2	1130	1	8	10	5	9/16	3/8	1-1/2	1-1/4	4-7/8	1/4	5/8	2-1/2
5/8	1810	1	8	10	5	9/16	1/2	1-1/2	1-1/4	4-7/8	1/4	3/4	2-1/2
3/4	2710	1	8	10	5	11/16	1/2	1-1/2	1-1/4	4-13/16	3/8	7/8	2-1/2
7/8	3770	1	8	10	5	11/16	3/4	2	1-1/4	4-13/16	3/8	1	2-1/2
1	4960	2	8	12	6	13/16	3/4	2	1-1/2	5-3/4	1/2	1-1/8	3
1-1/4	8000	2	8	12	6	15/16	1	3	2	5-11/16	5/8	1-3/8	4
1-1/2	11630	2	8	12	6	1-1/8	1	3	2-1/2	5-5/8	3/4	1-5/8	5
1-3/4	15700	2	8	12	6	1-3/8	1-1/4	3	2-1/2	5-5/8	3/4	1-7/8	5
2	20700	2	8	12	6	1-3/8	1-1/4	4	3	5-5/8	3/4	2-1/4	6

BASED ON THE ALLOWABLE STRESSES SHOWN IN THE ANSI CODE FOR PRESSURE PIPING



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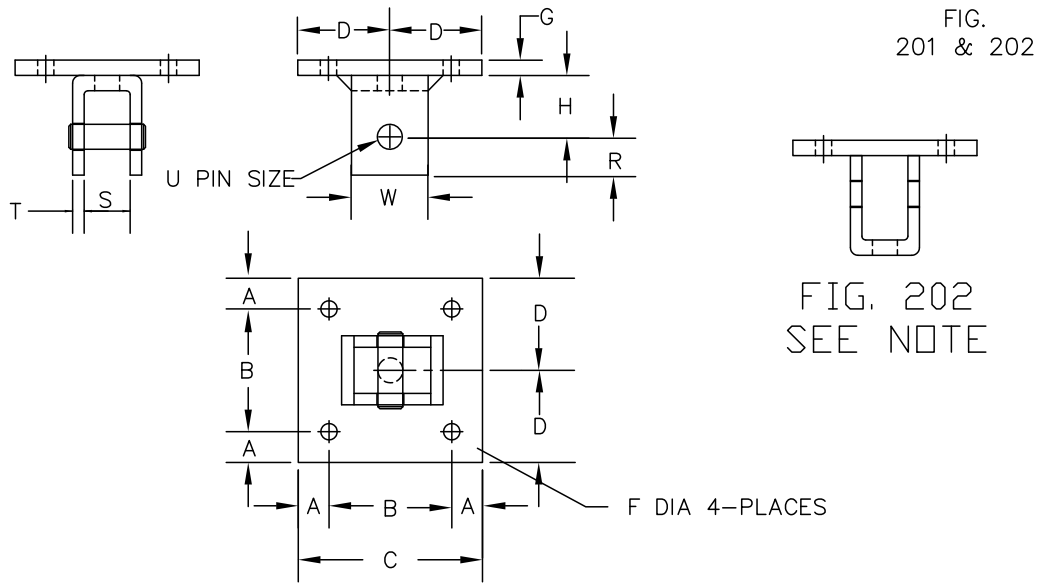


FIG. 201

CONCRETE ANCHOR PLATE WITH WELDED BEAM ATTACHMENT____FIG. 201

MATERIAL:
 CARBON STEEL OR STAINLESS STEEL
 ORDERING:
 SPECIFY NAME, FIGURE NUMBER, ROD SIZE, MATERIAL AND FINISH
 NOTE:
 FIG. 202 WITHOUT PIN AND WITH INVERTED BEAM ATTACHMENT IS AVAILABLE,

LOADS-DIMENSIONS-INCHES

ROD SIZE (INCHES)	MAXIMUM RECOMMENDED LOAD, LB	A	B	C	D	HOLE F	G	H	R	S	T	U	W
3/8	610	1	8	10	5	9/16	3/8	2	7/8	1-1/4	1/4	1/2	2
1/2	1130	1	8	10	5	9/16	3/8	2	7/8	1-1/4	1/4	5/8	2
5/8	1810	1	8	10	5	9/16	1/2	2	1	1-1/4	1/4	3/4	2
3/4	2710	1	8	10	5	11/16	1/2	2	1-1/8	1-1/2	3/8	7/8	2-1/2
7/8	3770	1	8	10	5	11/16	1/2	3	1-1/4	2	3/8	1	2-1/2
1	4960	2	8	12	6	13/16	3/4	3	1-1/2	2	1/2	1-1/8	3
1-1/4	8000	2	8	12	6	15/16	3/4	3	2	2-1/2	5/8	1-3/8	4
1-1/2	11630	2	8	12	6	1-1/8	1	4	2-1/2	3	3/4	1-5/8	5
1-3/4	15700	2	10	14	7	1-3/8	1-1/4	5	2-3/4	3-3/4	3/4	1-7/8	5
2	20700	2	10	14	7	1-3/8	1-1/4	5	3-1/4	3-3/4	3/4	2-1/4	6

BASED ON THE ALLOWABLE STRESSES SHOWN IN THE ANSI CODE FOR PRESSURE PIPING



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FIG. 220

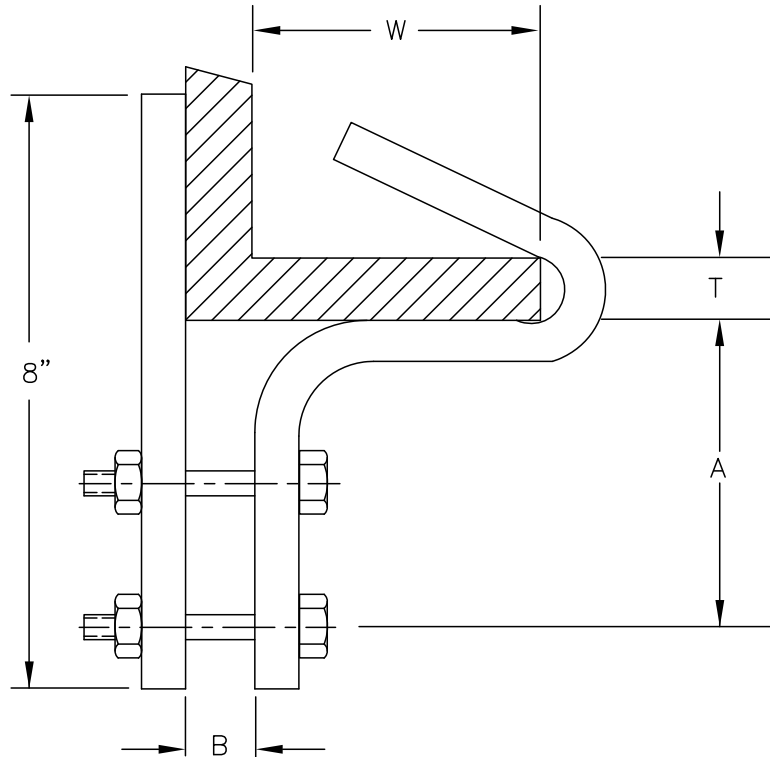


FIG. 220

ANGLE OR CHANNEL BEAM CLAMP-----FIG. 220

MATERIAL:

CARBON STEEL OR STAINLESS STEEL

ORDERING:

SPECIFY NAME, FIGURE NUMBER, CLAMP NUMBER, FLANGE WIDTH (W) AND THICKNESS (T), CLAMP MATERIAL AND FINISH

CAUTION:

THE USERS ENGINEER MUST CHECK BEAM STRESSES PRODUCED BY THIS CLAMP

DIMENSIONS (INCHES)

CLAMP NO.	A	B	BOLT SIZE	STEEL SIZE	MAX. RECOM. LOAD LBS.
1	3-3/4	7/16	3/8 X 1-3/4	1/4 X 1-1/4	225
2	4	9/16	1/2 X 2-1/4	3/8 X 1-1/2	540
3	4-1/2	11/16	5/8 X 2-1/2	1/2 X 2	700



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FIG.
230 & 230L

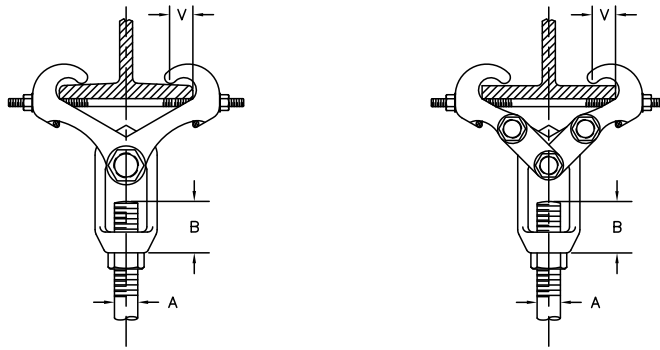


FIG. 230 & 230L

BEAM CLAMP WITH WELDLESS EYE NUT:

RIGHT HAND _____ FIG. 230

LEFT HAND _____ FIG. 230L

MATERIAL:
FORGED STEEL

ORDERING:
SPECIFY NAME, FIGURE NUMBER, ROD SIZE,
CLAMP SIZE AND FINISH

CAUTION:
THE USERS ENGINEER MUST CHECK BEAM
STRESSES PRODUCED BY THIS CLAMP

LOADS-WEIGHTS-DIMENSIONS-INCHES

CLAMP SIZE NO.	MAXIMUM ROD SIZE A	MAXIMUM RECOMMENDED LOAD, LB.	WEIGHT (APPROXIMATE) LBS. EACH	MAXIMUM BEAM FLANGE THICKNESS	B	V
1	3/4	2710	3.9	.60	1-1/4	1-1/8
2	1	4960	9.2	.60	1-11/16	
3	1	4960	13.0	.60	1-11/16	
4	1	4960	21.7	1.031	1-1/2	1-1/8
5	1	4960	33.9	1.031	1-1/2	
6	1-1/2	11500	23.9	1.031	2-1/8	
7	1-1/2	11500	35.8	1.031	2-1/8	1-1/8
8	2	11500	36.8	1.031	4-9/16	

BASED ON THE ALLOWABLE STRESSES SHOWN IN THE ANSI CODE FOR PRESSURE PIPING

ROD TAKE-OUT, E-INCHES

CLAMP SIZE NO.	FOR WIDTH OF BEAM FLANGE												
	3	4	5	6	7	8	9	10	11	12	13	14	15
1	4-1/2	4-5/16	4-1/16	3-5/8	2-7/8	-	-	-	-	-	-	-	-
2	-	4-3/4	4-7/16	4-1/16	3-3/8	-	-	-	-	-	-	-	-
3*	-	-	-	-	5-15/16	6	5-5/16	5	-	-	-	-	-
4	-	6-13/16	6-5/8	6-3/8	5-7/8	5-7/8	5-3/8	4-13/16	-	-	-	-	-
5*	-	-	-	-	-	-	-	-	8-1/8	7-3/4	7-1/8	6-5/8	6-1/16
6	-	7-3/16	7	6-3/4	6-1/4	6-5/16	6-13/16	5-3/16	-	-	-	-	-
7*	-	-	-	-	-	-	-	-	8-1/2	8-1/8	7-1/2	7	6-7/16
8	-	8-5/8	8-7/16	8-3/16	7-3/4	7-3/4	7-1/4	6-5/8	-	-	-	-	-

* FURNISHED WITH LINKS



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FAX: (251) 653-5356

BEAM CLAMP WITH SWING NUT _____ FIG. 232

MATERIAL:

FORGED STEEL

ORDERING:

SPECIFY NAME, FIGURE NUMBER, ROD
SIZE, CLAMP SIZE AND FINISH

CAUTION:

THE USERS ENGINEERS MUST CHECK BEAM
STRESSES PRODUCED BY THIS CLAMP

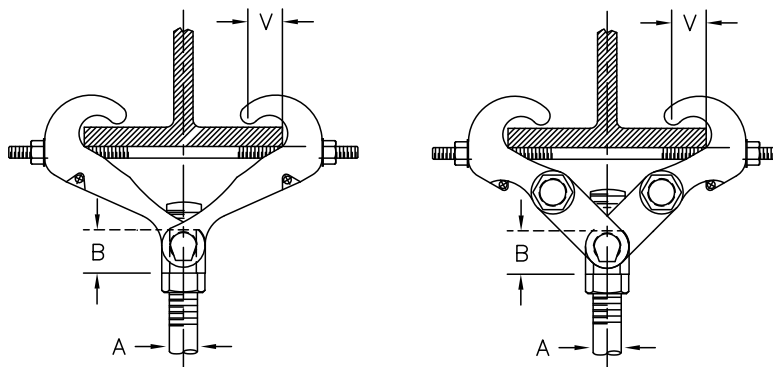


FIG. 232

LOADS-DIMENSIONS-INCHES

CLAMP SIZE NO.	MAXIMUM ROD SIZE A	MAXIMUM RECOMMENDED LOAD, LB.	MAXIMUM BEAM FLANGE THICKNESS	B	V
1	5/8	1810	.60	1-1/16	
2	7/8	3770	.60	1-3/8	1-1/8
3 •	7/8	3770	.60	1-3/8	
4	1-1/2	11500	1.031	2-3/8	1-1/8
5 •	1-1/2	11500	1.031	2-3/8	

BASED ON THE ALLOWABLE STRESSES SHOWN IN THE ANSI CODE FOR PRESSURE PIPING
• FURNISHED WITH LINKS

ROD TAKE-OUT (INCHES)

CLAMP SIZE NO.	ROD TAKE-OUT, E FOR WIDTH OF BEAM FLANGE												
	3	4	5	6	7	8	9	10	11	12	13	14	15
1	1-9/16	1-1/2	1-5/16	1-1/8	3/4	-	-	-	-	-	-	-	-
2	-	1-7/16	1-5/16	1-1/8	11/16	-	-	-	-	-	-	-	-
3 •	-	-	-	-	1-15/16	1-13/16	1-1/2	1-5/16	-	-	-	-	-
4	-	2-5/16	2-3/16	2-1/16	1-13/16	1-7/8	1-9/16	1-5/16	-	-	-	-	-
5 •	-	-	-	-	-	-	-	3	2-11/16	2-9/16	2-1/4	1-15/16	1-5/8



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STRUCTURAL WELDING LUG
 SHORT _____ FIG. 233
 LONG _____ FIG. 233L
 MATERIAL:
 CARBON STEEL
 ORDERING:
 SPECIFY NAME, FIGURE NUMBER,
 SIZE NUMBER, "H" DIMENSION
 AND FINISH

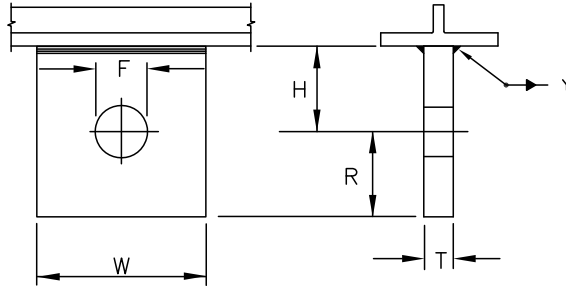


FIG. 233 & 233L

LOADS-DIMENSIONS-INCHES

ROD SIZE (INCHES)	MAXIMUM RECOMMENDED LOAD, LBS **		PIN OR BOLT	HOLE F	H		R	T	W	MINIMUM Y
	FIG. 233 SHORT	FIG. 233L LONG			FIG. 233 SHORT	FIG. 233L LONG				
1/2	1130	1130	5/8	11/16	1-1/2	3	1-1/4	1/4	2-1/2	1/4
5/8	1810	1810	3/4	13/16	1-1/2	3	1-1/4	1/4	2-1/2	1/4
3/4	2710	2710	7/8	15/16	1-1/2	3	1-1/4	3/8	2-1/2	1/4
7/8	3770	3770	1	1-1/8	2	3	1-1/4	3/8	2-1/2	1/4
1	4960	4960	1-1/8	1-1/4	2	3	1-1/2	1/2	3	1/4
1-1/4	8000	8000	1-3/8	1-1/2	3	4	2	5/8	4	1/4
1-1/2	11630	11630	1-5/8	1-3/4	3	4-1/2	2-1/2	3/4	5	3/8
1-3/4	15700	15700	1-7/8	2	3	4-1/2	2-1/2	3/4	5	3/8
2	20630	20630	2-1/4	2-3/8	4	4-1/2	3	3/4	6	3/8
2-1/4	23000	-	2-1/2	2-5/8	4-1/2	-	3	3/4	6	1/2
2-1/2	30550	-	2-3/4	2-7/8	4-1/2	-	4	1	8	1/2
2-3/4	41600	-	3	3-1/8	4-1/2	-	4	1	8	1/2
3	50500	-	3-1/4	3-3/8	5	-	4	1	8	5/8
3-1/4	60500	-	3-1/2	3-5/8	5	-	4-1/2	1	9	5/8
3-1/2	71300	-	3-3/4	3-7/8	6	-	4-1/2	1-1/2*	9	5/8
3-3/4	82900	-	4	4-1/8	6	-	5	1-3/4*	9	5/8

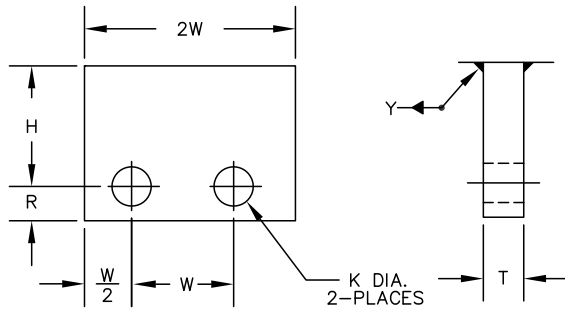
** BASED ON THE ALLOWABLE STRESSES SHOWN IN THE ANSI CODE FOR PRESSURE PIPING.
 * 1-1/4 THICKNESS WHEN DOUBLE LUG IS USED; THEN, IS 26.2 FOR 3-1/2 INCH SIZE AND 25.6 FOR 3-3/4 INCH SIZE.



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FIG. 235, 240

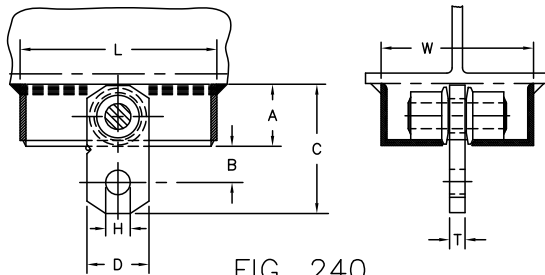


TWO HOLE WELDING LUG_ FIG. 235
 FOR SINGLE ROD SUSPENSION
 OF TYPE B & C HORIZONTAL
 CONSTANTS
 MATERIAL:
 CARBON STEEL
 ORDERING:
 SPECIFY NAME,
 FIGURE NUMBER,
 ROD SIZE,
 AND "H" DIMENSION

FIG. 235

ROD SIZE	MAX. LOAD RATING (LBS.)**	H* CONSTANT SUPPORT FRAME SIZES					PIN OR BOLT	K HOLE	R	T	W	2W	W/2	Y
		1-9	10-18	19-34	35-49	50-63								
1/2	1130	1-1/2	1-1/2	2	3	-	5/8	11/16	1-1/4	3/8	2-1/2	5	1-1/4	1/4
5/8	1810	1-1/2	1-1/2	2	3	-	3/4	13/16	1-1/4	3/8	2-1/2	5	1-1/4	1/4
3/4	2710	-	1-1/2	2	3	4	7/8	15/16	1-1/4	3/8	2-1/2	5	1-1/4	1/4
1	4960	-	-	2	3	4	1-1/8	1-1/4	1-1/2	1/2	3	6	1-1/2	1/4
1-1/4	8000	-	-	2	3	4	1-3/8	1-1/2	2	5/8	4	8	2	1/4
1-1/2	11630	-	-	-	3	4	1-5/8	1-3/4	2-1/2	3/4	5	10	2-1/2	1/4
1-3/4	15700	-	-	-	3	4	1-7/8	2	2-1/2	3/4	5	10	2-1/2	1/4
2	20630	-	-	-	-	4	2-1/4	2-3/8	3	3/4	6	12	3	3/8
2-1/4	23000	-	-	-	-	4	2-1/2	2-5/8	3	3/4	6	12	3	3/8

*SELECT "H" DIMENSION APPLICABLE TO CONSTANT SUPPORT FRAME SIZE
 ** BASED ON THE ALLOWABLE STRESSES SHOWN IN THE ANSI CODE FOR PRESSURE PIPING.



HORIZONTAL TRAVELER__ FIG. 240

MATERIAL:
 CARBON STEEL
 ORDERING:
 SPECIFY NAME, FIGURE NUMBER,
 SIZE NUMBER, "H" DIMENSION
 AND FINISH

FIG. 240

LOADS-WEIGHTS-DIMENSIONS-INCHES

SIZE NO.	MAXIMUM RECOM. LOAD, LB.	WEIGHT (APPROX.) LB. EACH	A	B	C	D	MAX.	L	T	W
1	3770	15	2-1/2	1-5/8	5-3/8	2-1/2	1-1/8	15-1/8	3/4	4-5/8
2	6230	37	3-1/2	2-5/8	7-7/8	3-1/2	1-3/8	16-3/8	3/4	6-7/8
3	11630	69	5	3	10-1/2	5	1-3/4	17-7/8	1	8-7/16
4	20700	102	6	3-1/2	12-1/2	6	2-3/8	19-1/8	1-1/2	9-7/8



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FAX: (251) 653-5356

PIPE WELDING LUG
 FOR LONG RADIUS ELBOW _____ FIG. 250
 FOR SHORT RADIUS ELBOW _____ FIG. 251
 FOR FIVE DIAMETER BEND _____ FIG. 252

FIG.
 250
 251
 252
 253

MATERIAL:
 CARBON STEEL OR ALLOY
 ORDERING:
 SPECIFY NAME, FIGURE NUMBER, PIPE SIZE,
 MATERIAL, FINISH AND "E" DIMENSION

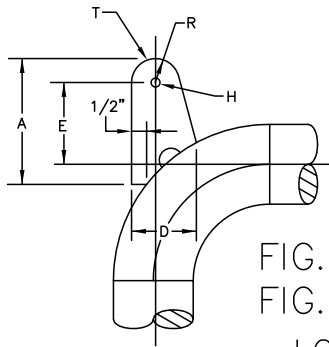


FIG. 250
 FIG. 251

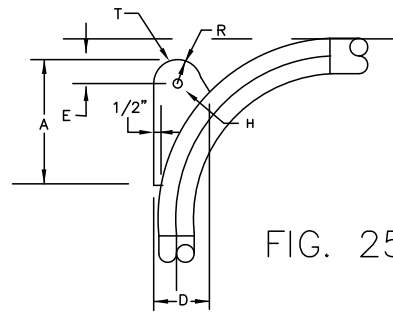


FIG. 252

LOADS-DIMENSIONS

PIPE SIZE	MAX. RATED LOAD	MAX. ROD SIZE	D	MAX. HOLE DIA. H*	R	THICKNESS T	FIG. 250		FIG. 251		FIG. 252	
							A	E**	A	E**	A	E**
2-1/2 3	2710	3/4	3-1/2	15/16	1-1/2	1/4	9	6	8-5/8 8-1/2	6-1/2	10-1/2 11-1/2	0
4 6	3770	7/8	3-1/2	1-1/16	1-1/2	3/8	9-1/8 9-1/4	6	8-3/4 8-7/8	7 7-1/2	12-1/8 12-3/4	2 6-1/2
8 10	4960 8000	1 1-1/4	5 7	1-3/8 1-1/2	2 3	3/8 1/2	11-3/8 14	6-1/2	10-5/8 12-1/2	8-1/2	15-1/2 19-3/8	11 16
12 14	11630	1-1/2	7	1-3/4	3	1/2	14-1/4 14-3/4	6-1/2 6	12-3/4 13	9	20-5/8 21	20 26
16 18	15690	1-3/4	8-1/2	1-7/8	3-1/2	3/4	16-3/8 16-5/8	6	14-3/8 14-1/2	9-1/2 10	23-1/4 23-1/2	31 36
20 24	20690 27200	2 2-1/4	8-1/2	2-3/8 2-5/8	3-1/2	1	16-7/8 17-1/2	6	15-1/4 15-5/8	11 12	23-7/8 24-1/2	41 51

* HOLE DIAMETER SHOULD BE SPECIFIED 1/16" GREATER THAN PIN DIAMETER FOR PIN SIZES THRU 1" AND 1/8" GREATER THAN PIN DIAMETER FOR PIN SIZES 1-1/8" AND LARGER
 ** ACCOMMODATES 4 INCHES OF INSULATION.

WELDING LUG-FOR VERTICAL RISER__ FIG. 253

MATERIAL:
 CARBON STEEL OR ALLOY
 ORDERING;
 SPECIFY NAME, FIGURE NUMBER, PIPE SIZE,
 MATERIAL, LINE TEMPERATURE, TOTAL LOAD,
 CENTER TO CENTER OF DROP RODS, AND
 PLATE THICKNESS

NOTE:
 A DRAWING MUST BE
 FURNISHED.

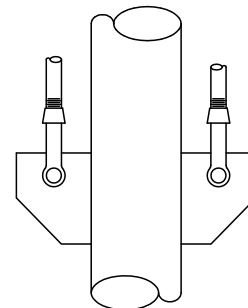


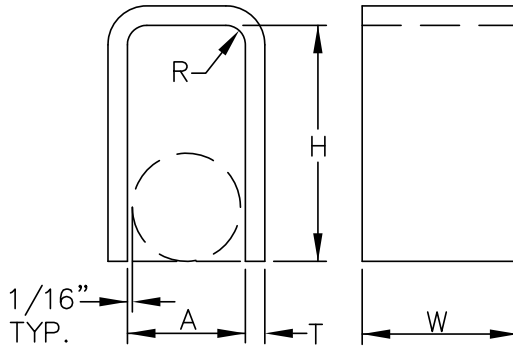
FIG. 253



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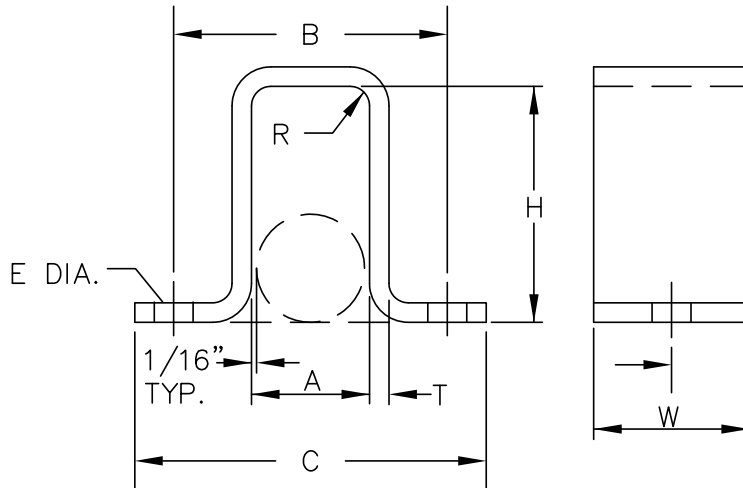
FAX: (251) 653-5356

FIG. 257 & 258



HORIZONTAL PIPE RESTRAINT,
 WELDED-----FIG. 257
 MATERIAL:
 CARBON STEEL
 OR STAINLESS STEEL
 ORDERING:
 SPECIFY NAME, FIGURE NUMBER
 PIPE SIZE,
 MATERIAL AND FINISH

FIG. 257



HORIZONTAL PIPE RESTRAINT,
 BOLTED--FIG. 258

MATERIAL:
 CARBON STEEL
 OR STAINLESS STEEL
 ORDERING:
 SPECIFY NAME,
 FIGURE NUMBER,
 PIPE SIZE,
 MATERIAL AND
 FINISH

FIG. 258

DIMENSIONS (INCHES)

PIPE SIZE	FIG. 258					H	R	T	W
	A	B	C	D	E				
1/2	15/16	2-7/8	4-1/8	1	13/16	3	3/8	1/4	2
3/4	1-5/32	3-1/16	4-5/16	1	13/16	3	3/8	1/4	2
1	1-14/32	3-5/16	4-9/16	1	13/16	3-1/4	3/8	1/4	2
1-1/4	1-25/32	3-11/16	4-5/16	1-1/2	13/16	3-1/2	9/16	3/8	3
1-1/2	2	3-15/16	5-3/16	1-1/2	13/16	4	9/16	3/8	3
2	2-1/2	5-3/8	7-5/8	1-1/2	13/16	4-1/2	9/16	3/8	3
2-1/2	3	5-7/8	8-1/8	1-1/2	1	5	3/4	1/2	3
3	3-5/8	6-1/2	8-3/4	1-1/2	1	5-1/2	3/4	1/2	4
4	4-5/8	7-1/2	9-3/4	1-1/2	1	6-1/2	3/4	1/2	4
6	6-3/4	10-5/8	13-5/8	3	1	8-1/2	3/4	1/2	6
8	8-3/4	12-5/8	15-5/8	3	1	10-1/2	3/4	1/2	6
10	10-7/8	15-1/4	18-3/4	2-1/2	1-1/8	13-1/4	3/4	1/2	8
12	12-7/8	17-1/4	20-3/4	2-1/2	1-1/8	15-1/4	3/4	1/2	8



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FIG.
259 & 260

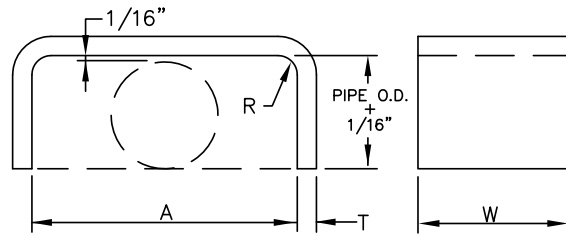


FIG. 259

VERTICAL PIPE RESTRAINT, WELDED FOR HORIZONTAL PIPE_____FIG. 259
 MATERIAL:
 CARBON STEEL OR STAINLESS STEEL
 ORDERING:
 SPECIFY NAME, FIGURE NUMBER, PIPE SIZE, MATERIAL AND FINISH

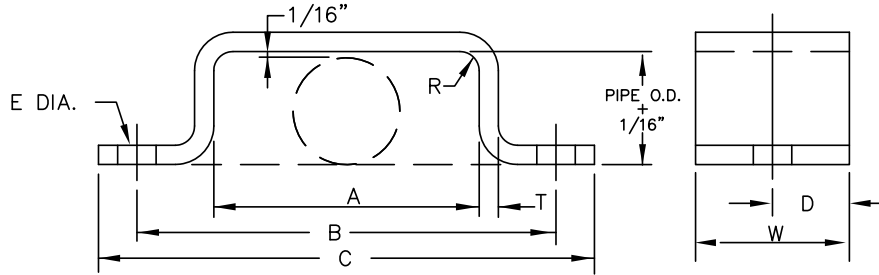


FIG. 260

VERTICAL PIPE RESTRAINT, BOLTED FOR HORIZONTAL PIPE_____FIG. 260
 MATERIAL:
 CARBON STEEL OR STAINLESS STEEL
 ORDERING:
 SPECIFY NAME, FIGURE NUMBER, PIPE SIZE, MATERIAL AND FINISH

DIMENSIONS (INCHES)

PIPE SIZE	FIG. 260					R	T	W
	A	B	C	D	HOLE E			
1/2	3	2-1/2	6-3/16	1	13/16	3/8	1/4	2
3/4	3-1/2	2-15/16	6-11/16	1	13/16			
1	4	3-5/16	7-3/16	1	13/16			
1-1/4	4-1/2	3-5/8	7-3/4	1-1/2	13/16	9/16	3/8	3
1-1/2	5	3-15/16	8-3/16	1-1/2	13/16			
2	5-1/2	8-9/16	10-13/16	1-1/2	13/16			
2-1/2	6	9-1/16	11-5/16	1-1/2	1	3/4	1/2	3
3	6-1/2	9-9/16	11-13/16	1-1/2	1			
4	7-1/2	9-9/16	12-13/16	1-1/2	1	3/4	1/2	4
6	9-3/4	13-5/8	16-5/8	3	1			
8	11-3/4	15-5/8	18-5/8	3	1	3/4	1/2	6
10	14	18-9/16	22-1/16	3-1/2	1-1/8	3/4	1/2	8
12	16	20-9/16	24-1/16	3-1/2	1-1/8	3/4	1/2	8



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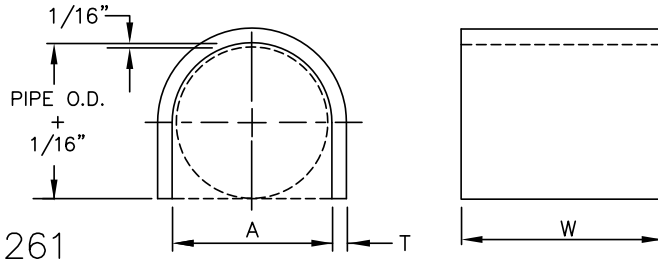


FIG. 261

HORIZONTAL AND VERTICAL PIPE RESTRAINT,
WELDED FOR HORIZONTAL PIPE _____ FIG. 261

MATERIAL:
CARBON STEEL OR STAINLESS STEEL
ORDERING:
SPECIFY NAME, FIGURE NUMBER, PIPE SIZE, MATERIAL AND FINISH

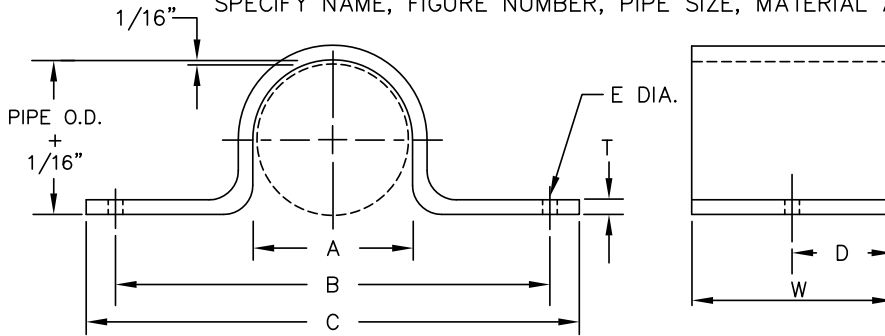


FIG. 262

HORIZONTAL AND VERTICAL PIPE RESTRAINT,
BOLTED FOR HORIZONTAL PIPE _____ FIG. 262

MATERIAL:
CARBON STEEL OR STAINLESS STEEL
ORDERING:
SPECIFY NAME, FIGURE NUMBER, PIPE SIZE, MATERIAL AND FINISH

DIMENSIONS (INCHES)

PIPE SIZE	A	FIG. 262				T	W
		B	C	D	E		
1/2	15-16	2-7/8	4-1/8	1	13/16	1/4	2
3/4	1-5/32	3-1/16	4-5/16	1	13/16	1/4	2
1	1-14/32	3-5/16	4-9/16	1	13/16	1/4	2
1-1/4	1-25/32	3-11/16	4-15/16	1-1/2	13/16	3/8	3
1-1/2	2	3-15/16	5-3/16	1-1/2	13/16	3/8	3
2	2-1/2	5-3/8	7-5/8	1-1/2	13/16	3/8	3
2-1/2	3	5-7/8	8-1/8	1-1/2	1	1/2	3
3	3-5/8	6-1/2	8-3/4	1-1/2	1	1/2	4
4	4-5/8	7-1/2	9-3/4	1-1/2	1	1/2	4
6	6-3/4	10-5/8	13-5/8	3	1	1/2	6
8	8-3/4	12-5/8	15-5/8	3	1	1/2	6
10	10-7/8	15-1/4	18-3/4	2-1/2	1-1/8	1/2	8
12	12-7/8	17-1/4	20-3/4	2-1/2	1-1/8	1/2	8

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FAX: (251) 653-5356

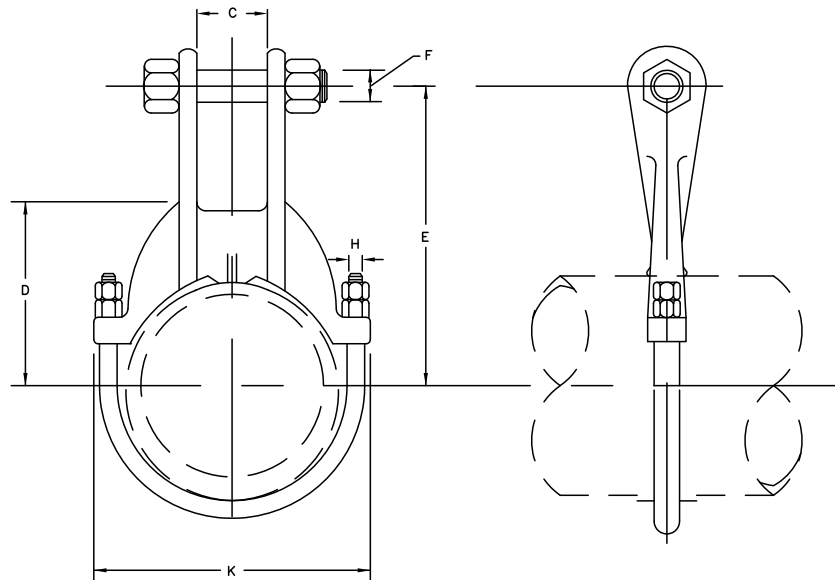


FIG. 270

ALLOY STEEL YOKE PIPE CLAMP, STANDARD _____ FIG. 270

ORDERING:
SPECIFY NAME, FIGURE NUMBER AND PIPE SIZE

DIMENSIONS (INCHES)

PIPE SIZE	MAXIMUM RECOMMENDED LOAD, LB.*				C	D	E	F	H	K
	@750°F	@950°F	@1000°F	@1050°F						
4	3780	3300	2770	1890	1-1/16	3-7/8	6-3/4	7/8	1/2	6-1/2
6	6060	5290	4440	3030	1-7/16	5-7/16	8-5/16	1	5/8	9-1/8
8	6060	5290	4440	3030	1-7/16	6-11/16	9-9/16	1	5/8	11-1/8
10	9060	7910	6640	4420	1-7/16	8-3/8	10-7/8	1-1/8	3/4	13-5/8
12	12570	10980	9015	6010	1-15/16	10-1/8	12-7/8	1-1/2	7/8	16-1/8
14	12570	10980	9015	6010	1-15/16	11-1/8	13-7/8	1-1/2	7/8	17-3/8
16	12570	10980	9015	6010	1-15/16	12-1/4	15	1-1/2	7/8	19-5/8

* BASED ON THE ALLOWABLE STRESSES SHOWN IN THE ANSI CODE FOR PRESSURE PIPING
OVERTIGHTENING OF NUTS MAY OVERSTRESS U-BOLTS REDUCING THE LOAD RATING.
INSTALLATION TAG ATTACHED TO CLAMP GIVES PROPER NUT TIGHTENING



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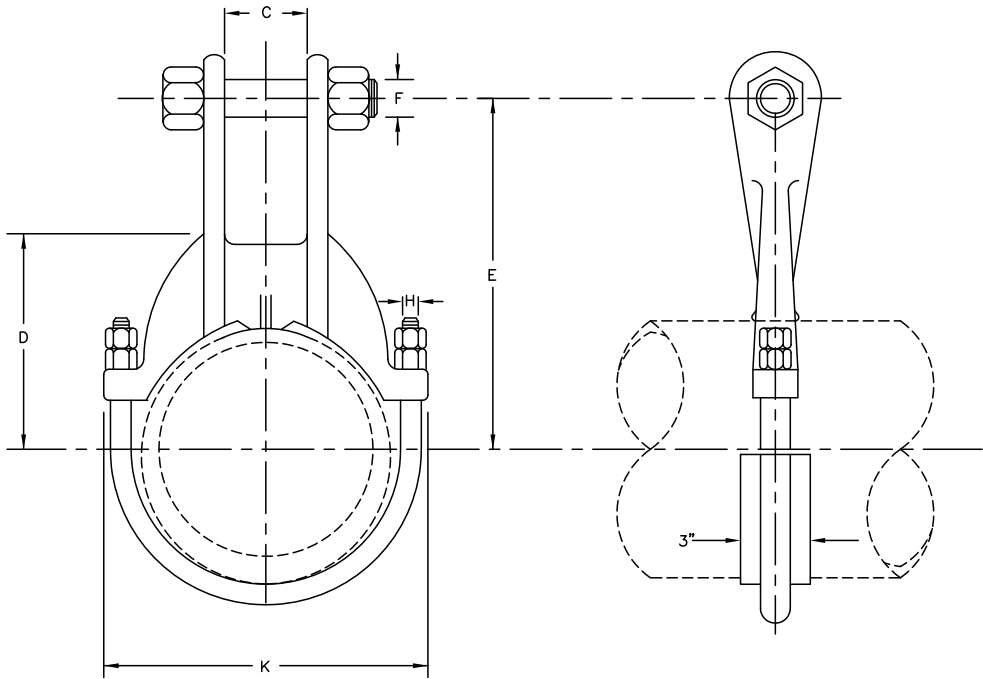


FIG. 271

ALLOY STEEL YOKE PIPE CLAMP, HEAVY_____FIG. 271

ORDERING:
 SPECIFY NAME, FIGURE NUMBER, PIPE SIZE,
 AND EXACT PIPE OUTSIDE DIAMETER
 NOTE: SPECIAL ALLOY FILLER PLATE SHOWN IS
 ONLY FURNISHED WHEN PIPE O.D. IS NOT STANDARD

LOADS-DIMENSIONS(INCHES)

NOM. PIPE SIZE	USED ON O.D. PIPE SIZE	MAXIMUM RECOMMENDED LOAD, LB.*				C	D	E	H	K	F
		@950F	@1000F	@1050F	@1075F						
10	8-3/4 THRU 10-13/16	13500	11780	7850	6120	2	9-1/8	12	1	15-3/8	1-1/2
12	10-7/8 THRU 12-13/16	16500	14910	9940	7750	2-1/4	10-3/4	13-3/4	1-1/4	17-7/8	1-5/8
14	12-7/8 THRU 14-1/16	16500	14910	9940	7750	2-1/4	11-1/2	14-1/2	1-1/4	19-1/8	1-5/8
16	14-1/8 THRU 16-1/16	16500	14910	9940	7750	2-1/4	13-1/8	16-3/8	1-1/4	21-1/8	1-5/8
18	16-1/8 THRU 18-1/16	19000	18410	12270	9570	2-1/2	14-1/2	18-1/4	1-1/4	24-1/8	2
20	18-1/8 THRU 20-1/16	19000	18410	12270	9570	2-1/2	15-3/4	19-1/2	1-1/4	26-1/8	2
24	20-1/8 THRU 24-1/16	25000	22280	14850	11580	3	18-1/4	22	1-3/8	30-3/4	2-1/4

* BASED ON THE ALLOWABLE STRESSES SHOWN IN THE ANSI CODE FOR PRESSURE PIPING. OVERTIGHTENING OF NUT MAY OVERSTRESS U-BOLTS REDUCING THE LOAD RATING. INSTALLATION TAG ATTACHED TO CLAMP GIVES PROPER NUT TIGHTENING.



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FAX: (251) 653-5356

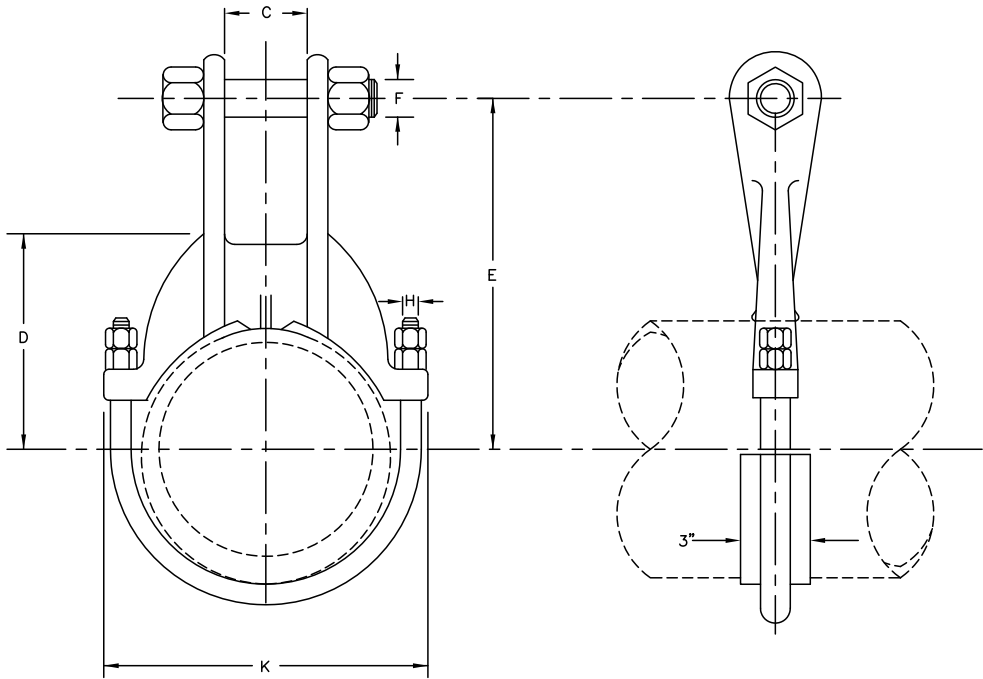


FIG. 271

ALLOY STEEL YOKE PIPE CLAMP, HEAVY_____FIG. 271

ORDERING:
 SPECIFY NAME, FIGURE NUMBER, PIPE SIZE,
 AND EXACT PIPE OUTSIDE DIAMETER
 NOTE: SPECIAL ALLOY FILLER PLATE SHOWN IS
 ONLY FURNISHED WHEN PIPE O.D. IS NOT STANDARD

LOADS-DIMENSIONS(INCHES)

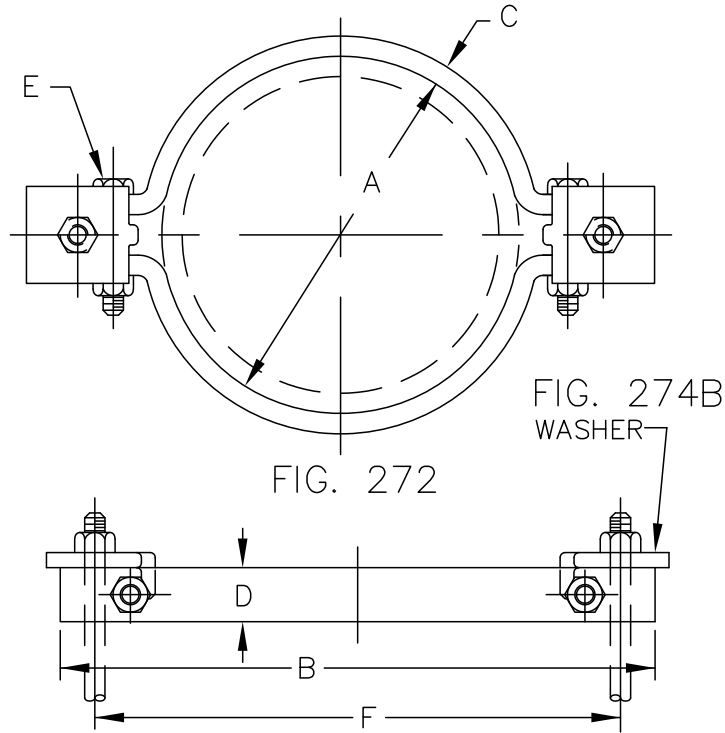
NOM. PIPE SIZE	USED ON O.D. PIPE SIZE	MAXIMUM RECOMMENDED LOAD, LB.*				C	D	E	H	K	F
		@950F	@1000F	@1050F	@1075F						
10	8-3/4 THRU 10-13/16	13500	11780	7850	6120	2	9-1/8	12	1	15-3/8	1-1/2
12	10-7/8 THRU 12-13/16	16500	14910	9940	7750	2-1/4	10-3/4	13-3/4	1-1/4	17-7/8	1-5/8
14	12-7/8 THRU 14-1/16	16500	14910	9940	7750	2-1/4	11-1/2	14-1/2	1-1/4	19-1/8	1-5/8
16	14-1/8 THRU 16-1/16	16500	14910	9940	7750	2-1/4	13-1/8	16-3/8	1-1/4	21-1/8	1-5/8
18	16-1/8 THRU 18-1/16	19000	18410	12270	9570	2-1/2	14-1/2	18-1/4	1-1/4	24-1/8	2
20	18-1/8 THRU 20-1/16	19000	18410	12270	9570	2-1/2	15-3/4	19-1/2	1-1/4	26-1/8	2
24	20-1/8 THRU 24-1/16	25000	22280	14850	11580	3	18-1/4	22	1-3/8	30-3/4	2-1/4

* BASED ON THE ALLOWABLE STRESSES SHOWN IN THE ANSI CODE FOR PRESSURE PIPING. OVERTIGHTENING OF NUT MAY OVERSTRESS U-BOLTS REDUCING THE LOAD RATING. INSTALLATION TAG ATTACHED TO CLAMP GIVES PROPER NUT TIGHTENING.



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SOCKET CLAMP, 2-BOLT _____ FIG. 272

MATERIAL:

CARBON STEEL OR STAINLESS STEEL

ORDERING:

SPECIFY NAME, FIGURE NUMBER, PIPE SIZE,
PIPE O.D., CLAMP MATERIAL AND FINISH

NOTE: FIG. 274 WASHER MUST BE ORDERED SEPARATELY

WEIGHTS-DIMENSIONS-INCHES

PIPE SIZE	WGT (APPROX) LBS EACH		A	B	C	D	BOLT E	F	ROD SIZE
	CLAMP	WASHER							
4	11.0	1.2	5	12-1/8	1/2	2	5/8 X 3-1/2	9-3/4	3/4
6	12.7	1.2	7-1/8	14-3/8	1/2	2	5/8 X 3-1/2	12	3/4
8	14.5	1.2	9-5/16	16-5/8	1/2	2	5/8 X 3-1/2	14-1/4	3/4
10	16.3	1.2	11-3/8	18-7/8	1/2	2	5/8 X 3-1/2	16-1/2	3/4
12	18.3	1.2	13-1/2	21-1/4	1/2	2	5/8 X 3-1/2	18-7/8	3/4
14	48.7	2.7	15-3/4	25-1/2	3/4	3	7/8 X 4-1/2	22-3/8	1-1/4
16	69.2	2.7	17-7/8	28	3/4	4	1 X 4-1/2	24-3/4	1-1/4
18	82.0	4.5	20	31-1/2	3/4	4	1-1/4 X 5	27-5/8	1-1/4
20	97.5	4.5	22-1/8	33-3/4	3/4	4-1/2	1-1/4 X 5	29-3/4	1-3/8
24	132.0	6.8	26-3/8	39-3/4	3/4	5	1-1/2 X 5-1/2	35-1/4	1-1/2
30"	184.00	6.8	32"	48	3/4	6	1-3/4 X 6	--	1-1/2



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SOCKET CLAMP, 4-BOLT _____ FIG. 273

MATERIAL:

CARBON STEEL OR STAINLESS STEEL

ORDERING:

SPECIFY NAME, FIGURE NUMBER, PIPE SIZE,
PIPE O.D., CLAMP MATERIAL AND FINISH

NOTE:

FIG. 274 WASHER MUST BE ORDERED SEPARATELY

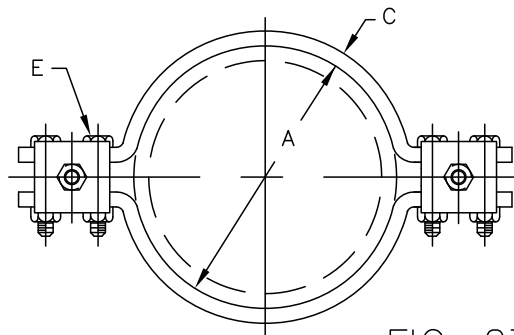


FIG. 274A

WASHER

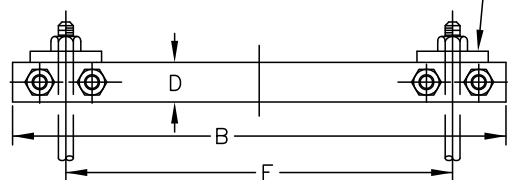


FIG. 273

LOADS-DIMENSIONS(INCHES)

PIPE SIZE	MAX. TEST PRESSURE P.S.I.	FORCE* ON CLAMP, LB.	A	B	C	D	BOLT E	F	ROD SIZE
4	250	4550	5	14-5/8	1/2	2	5/8 X 3-1/2	9-5/8	3/4
6	250	9340	7-1/8	16-7/8	1/2	2	5/8 X 3-1/2	11-7/8	3/4
8	250	16080	9-5/16	19-1/8	5/8	2-1/2	5/8 X 3-3/4	14-1/2	3/4
10	250	24180	11-1/2	21-3/8	5/8	2-1/2	3/4 X 3-3/4	16-5/8	1
12	250	34230	13-1/2	25-1/8	5/8	3	7/8 X 4-1/2	19-5/8	1
14	120	22200	15-3/4	28-1/4	3/4	3	7/8 X 4-1/2	22-3/8	1-1/4
16	115	27760	17-7/8	31-3/8	3/4	4	1 X 4-1/2	25-3/8	1-1/4
18	180	23900	20	35-1/8	3/4	4	1-1/4 X 5	28-1/8	1-1/4
20	75	27500	22-1/8	37-3/4	3/4	4-1/2	1-1/4 X 5	30-1/2	1-3/8
24	50	26200	26-3/8	44-1/4	3/4	5	1-1/2 X 5-1/2	36	1-1/2



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SOCKET CLAMP WASHER _____ FIG. 274 A/B
YOKE _____ FIG. 275

MATERIAL:

CARBON STEEL OR STAINLESS STEEL

ORDERING:

SPECIFY NAME, FIGURE NUMBER,
PIPE SIZE, ROD SIZE,
MATERIAL AND FINISH

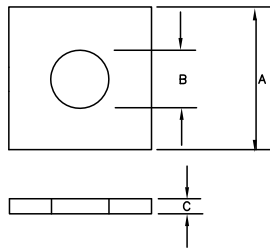


FIG. 274 A
FOR USE WITH 4-BOLT
SOCKET CLAMP

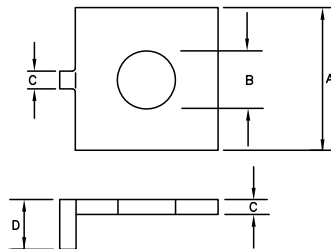


FIG. 274 B
FOR USE WITH 2-BOLT
SOCKET CLAMP

DIMENSIONS (INCHES)

ROD SIZE	A	B	C	D
3/4	3	7/8	1/2	1-3/4
1	3-1/2	1-1/8	5/8	-
1-1/8	4-1/2	1-1/4	1	3-1/2
1-1/4	4-1/2	1-3/8	1	3-1/2
1-3/8	4-1/2	1-1/2	1	3-3/4
1-1/2	5	1-5/8	1	4

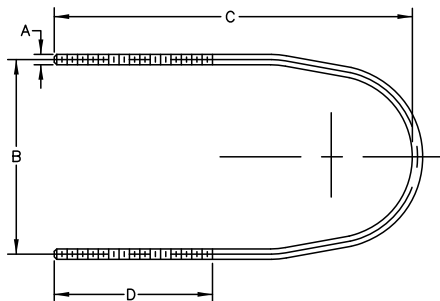


FIG. 275

WEIGHTS-DIMENSIONS(INCHES)

FITTING SIZE	WGT. (APPROX.) LBS. EACH	A	B	C	D
4	6.8	3/4	10-1/8	26	16-1/8
6	7.6	3/4	12-1/8	29-1/2	18
8	8.0	3/4	14-3/8	32	19
10	16.8	1	16-11/16	36	21-1/4
12	21.5	1	19-3/16	40-1/2	24



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SOCKET CLAMP ACCESSORIES:

PLUG ANCHOR STRAP _____ FIG. 276

TEE ANCHOR STRAP _____ FIG. 277

MATERIAL:

CARBON STEEL OR STAINLESS STEEL

ORDERING:

SPECIFY NAME, FIGURE NUMBER, PIPE SIZE,
PIPE O.D., ROD SIZE, MATERIAL AND FINISH

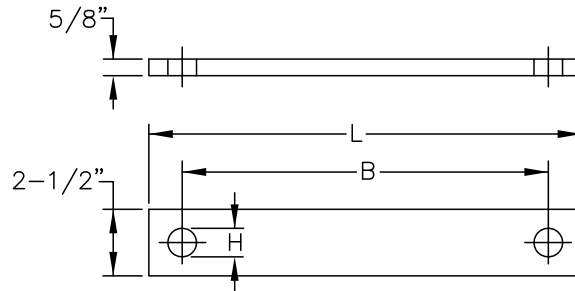


FIG. 276

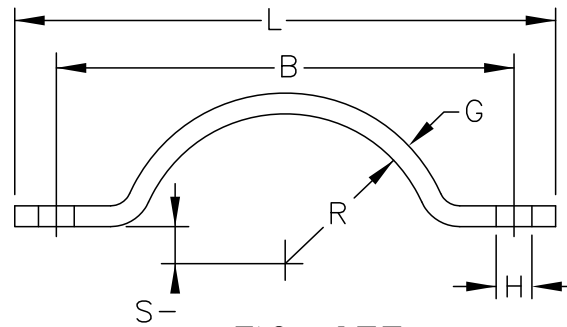


FIG. 277

DIMENSIONS(INCHES)

FITTING SIZE	B	G	HOLE H	L	R	S
4	10-1/8	5/8 X 2-1/2	13/16	12-1/2	2-1/2	3/4
6	12-1/8	5/8 X 2-1/2	13/16	14-1/2	3-9/16	3/4
8	14-3/8	5/8 X 2-1/2	13/16	16-3/4	4-21/32	3/4
10	16-11/16	5/8 X 2-1/2	1-1/16	19-1/16	5-3/4	3/4
12	19-3/16	5/8 X 3	1-1/16	22-5/16	6-3/4	7/8



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FIG. 285

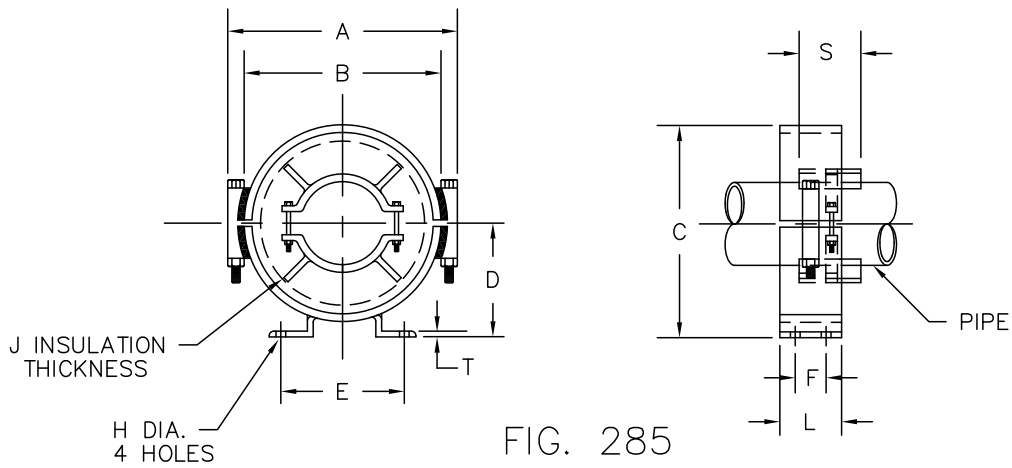


FIG. 285

PIPE ALIGNMENT GUIDE, 1-CLAMP-----FIG. 285

MATERIAL:

CARBON STEEL OR STAINLESS STEEL

ORDERING:

SPECIFY NAME, FIGURE NUMBER, PIPE SIZE, GUIDE SIZE, INSULATION THICKNESS, HINGE, POSITION, MATERIAL AND FINISH

CAUTION:

PIPE MOVEMENT DUE TO EXPANSION MUST NOT EXCEED THE GUIDE TRAVEL RANGE "S"

DIMENSIONS (INCHES)

NO. SIZE	A	B	C	D	E	FIG. 285		FIG. 286		HOLE	
						F	L	F	L	H	T
1	6-3/16	4-1/2	5-3/8	3-1/8	5	1-1/2	3	2-1/2	4	5/8	1/4
2	7-1/4	5-9/16	6-5/16	3-1/2	6-1/4	1-1/2	3	2-1/2	4	5/8	1/4
3	8-5/16	6-5/8	7-5/16	4	6-3/4	1-1/2	3	2-1/2	4	5/8	1/4
4	10-5/16	8-5/8	9-5/16	5	7-3/8	1-1/2	3	2-1/2	4	5/8	1/4
5	12-7/16	10-3/4	11-5/8	6-1/4	7-3/8	2	4	4	6	5/8	1/4
6	14-7/8	12-3/4	13-5/8	7-1/4	8	2	4	4	6	5/8	1/4
7	16-7/8	14-3/4	15-5/8	8-1/2	9-3/4	2	4	5-1/2	8	3/4	5/16
8	18-7/8	16-3/4	15-7/8	9-1/2	10-1/4	4	6	5-1/2	8	3/4	5/16
9	21-5/8	19	20	10-1/2	11-1/4	4	6	5-1/2	8	3/4	5/16
10	23-5/8	21	22	11-1/2	14-1/8	4	6	5-1/2	8	7/8	3/8
11	25-5/8	23	24	12-1/2	14-3/4	4	6	5-1/2	8	7/8	3/8
12	28-3/8	25-3/4	26-5/8	13-3/4	15-7/8	4	6	5-1/2	8	1	3/8
13	32-1/8	29-1/2	30-1/2	15-3/4	16-3/8	5-1/2	8	5-1/2	8	1	3/8
14	36-1/8	33-1/2	34-1/2	17-3/4	17-1/8	5-1/2	8	5-1/2	8	1	3/8

SEE FIG. 286 PAGE FOR SELECTION CHART



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FIG. 286

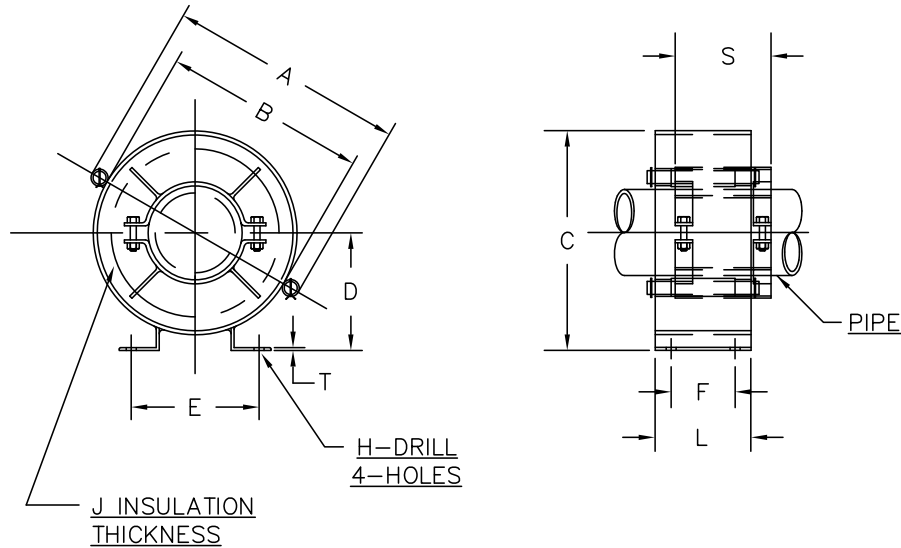


FIG. 286

PIPE ALIGNMENT GUIDE, 2-CLAMPS____FIG. 286

MATERIAL:

CARBON STEEL OR STAINLESS STEEL

ORDERING:

SPECIFY NAME FIGURE NUMBER, PIPE SIZE, GUIDE SIZE, INSULATION THICKNESS, HINGE POSITION, MATERIAL AND FINISH

SEE FIG. 285 PAGE FOR DIMENSIONS

SPIDER LENGTH S = MAXIMUM MOVEMENT		
PIPE SIZE	FIG. 285	FIG. 286
1" TO 6"	4	6
8" TO 16"	6	8
18" TO 24"	8	10

GUIDE SELECTION CHART

GUIDE SIZE NO.	J INSULATION THICKNESS (INCHES)					
	1	1 1/2	2	2 1/2	3	4
PIPE SIZES						
1	1					
2	1-1/4 THRU 2					
3	2-1/2	1-1/4 THRU 2				
4	3-4	2-1/2 THRU 3-1/2	1-1/4 THRU 2-1/2	1-2	1	
5	5-6	4-5	3-4	2-1/2 THRU 3-1/2	3-4	1-1/4 THRU 2-1/2
6		6	5-6	4-5	6	
7		8	8	6	5-6	3-4
8		10	10	8	8	5-6
9		12	12	10	10	8
10			14	12-14	12	10
11			16	16	14	12
12					16-18	14-16
13					20	18-20
14					24	24



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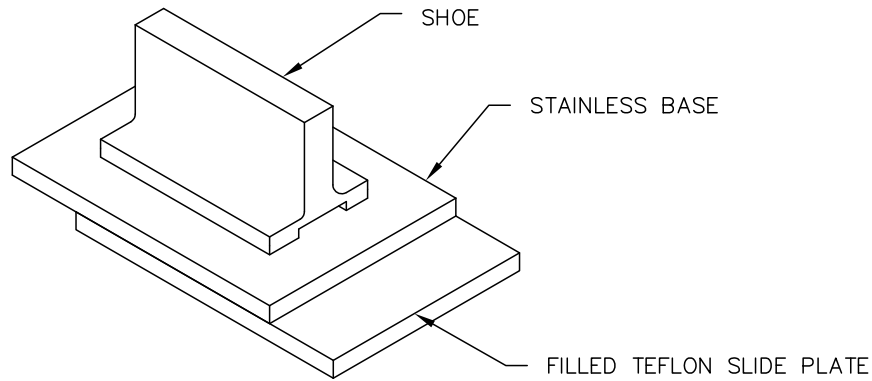


FIG. 287

TEE SHOE WITH TEFLON SLIDE PLATE_____FIG. 287

ORDERING:

DETAIL DRAWING IS REQUIRED FROM CUSTOMER
FOR CUSTOM FABRICATION

SPRING CUSHION SUPPORT _____ FIG. 288

MATERIAL:
STEEL

ORDERING:
SPECIFY NAME, FIGURE NUMBER,
SPRING SIZE

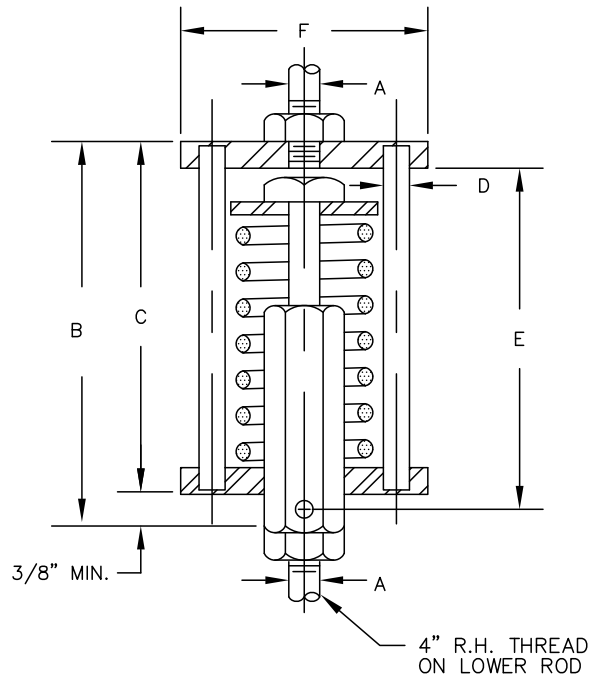


FIG. 288

DIMENSIONS (INCHES)

SPRING SIZE NO.	ROD A	B		C	D	E	F	MAXIMUM DEFLECTION	MAXIMUM LOAD (LBS.)	SPRING RATE LBS. PER IN.	WEIGHT LBS. PER 100
		MIN.	MAX.								
1	3/8	4-1/2	6-1/2	4-1/8	1/4	3-3/4	2-3/8	2	52	26	160
2	3/8	4-1/2	6-1/4	4-1/8	5/16	3-3/4	3-1/8	1-3/4	115	66	238
3	1/2	5-7/8	7-3/4	5-1/2	3/8	5	2-3/4	1-7/8	163	87	287
4	1/2	5-7/8	7-5/8	5-1/2	3/8	5	3-1/4	1-3/4	266	152	350
5	5/8	6-3/4	8-3/4	6-3/8	1/2	5-3/4	4-1/8	2	400	200	680
6	3/4	8-3/8	10-7/8	8	1/2	7-3/8	4-5/8	2-1/2	600	240	982



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SPRING CUSHION, 2-ROD SUPPORT_____FIG. 289

FIG.
289

MATERIAL:

STEEL

ORDERING:

SPECIFY NAME, FIGURE NUMBER,
ROD SIZE, IF USED WITH FIG. 77
SINGLE PIPE ROLL, PIPE ROLL MUST
BE ORDERED SEPARATELY

NOTE:

THE RETAINERS ARE CORED TO THE
DIMENSIONS AS SHOWN, BUT CAN BE
DRILLED OR REAMED LARGER TO
SATISFY THE HANGER ROD REQUIRED.

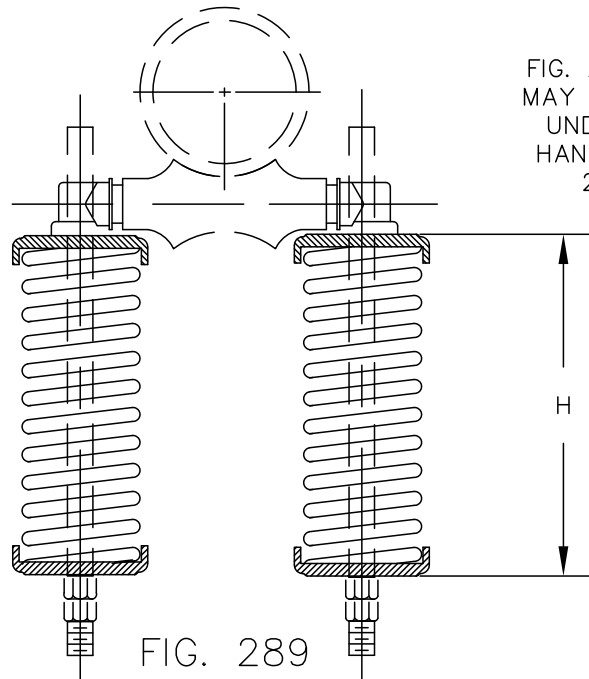


FIG. 289 SPRINGS
MAY ALSO BE USED
UNDER TRAPEZE
HANGERS FIG. 27,
28, OR 31.

DIMENSIONS (INCHES)

SPRING NO.	SPRING RATE POUNDS PER INCH PER SPRING	MAXIMUM LOAD AT 1-1/4 INCH DEFLECTION TWO SPRINGS	CUP DIAMETER	SPRING HEIGHT H	WEIGHT PER 100	MIN ROD SIZE
A	26	65	2-3/8	3-1/4	110	3/8
B	66	165	2-3/8	3-1/4	142	3/8
C	87	218	2-3/8	4-1/4	156	3/8
D	152	380	2-3/8	4-1/4	218	3/8
1	214	535	2-3/8	6-1/4	408	3/8
2	600	1500	4	5-3/4	1074	1/2
3	1200	3000	4-1/2	8-7/8	2600	7/8



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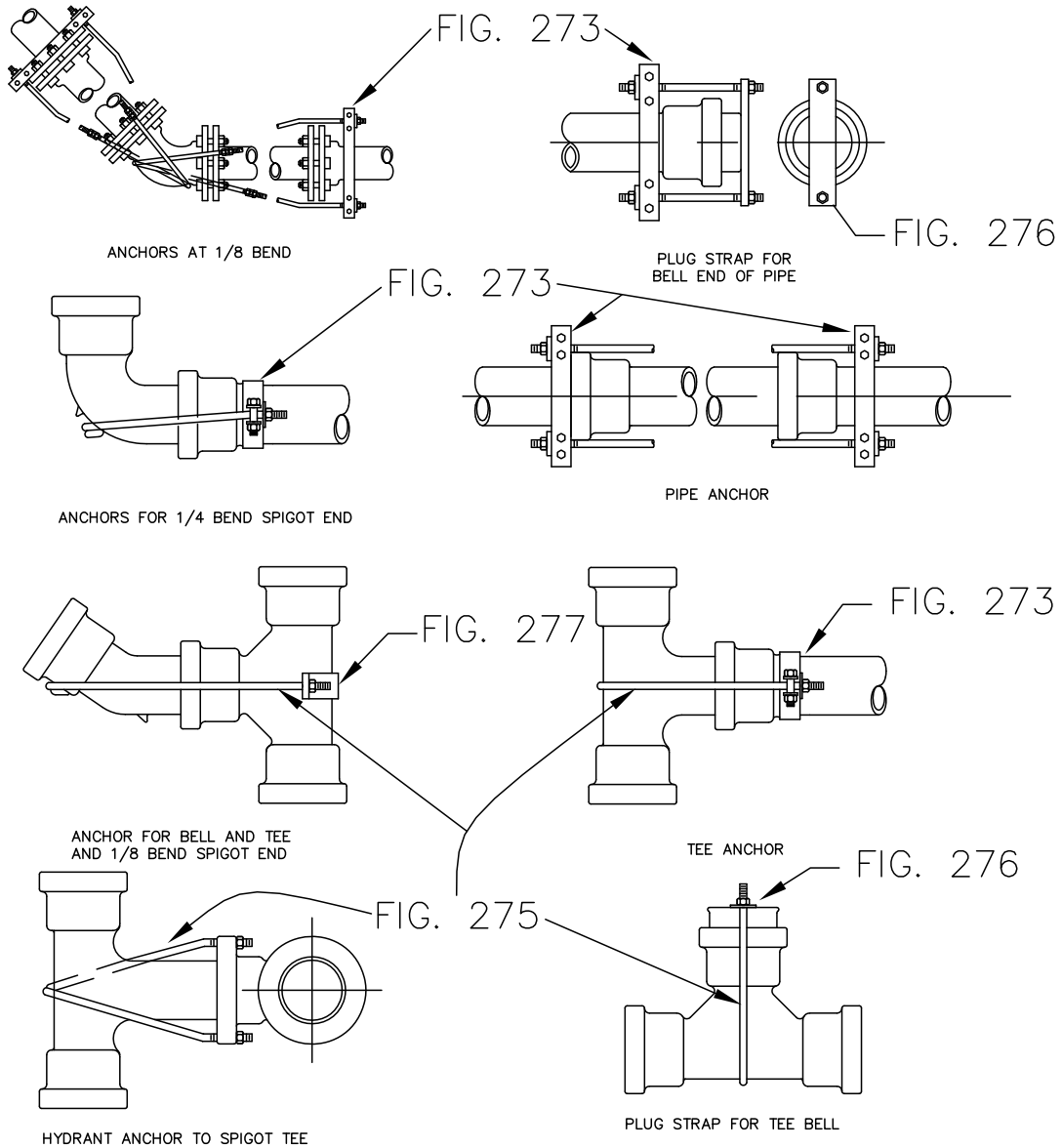
FAX: (251) 653-5356

TYPICAL SOCKET ASSEMBLIES SHOWING THE USE OF HARDWARE ITEMS
 FIG. 272 THRU FIG. 277

NOTES: FIG. 272 AND FIG. 273 CLAMPS ARE INTERCHANGEABLE IN
 THESE ASSEMBLIES.

ADDITIONAL ASSEMBLIES ARE SHOWN IN NFPA NO. 24,
 STANDARD OF THE NATIONAL FIRE PROTECTION ASSOCIATION.
 YOKES WITH TANGENTS LONGER THAN SHOWN ON FIG. 275
 MUST BE MADE SPECIAL TO THE CUSTOMERS ORDER.

IF TIME DOES NOT PERMIT THE SPECIAL ORDER, USE ROD COUPLING
 FIG. 3 AND ADDITIONAL LENGTHS OF ROD. ORDER EACH PART SEPARATELY.



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BRIDGE UTILITY HANGERS AND SUPPORTS



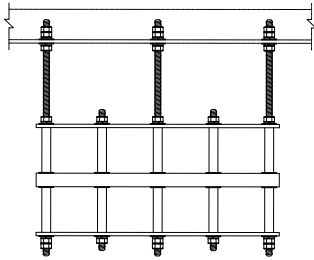
Gulf State is nationally renowned as a leader in design and manufacturing of standard and custom hangers and supports for bridge attached utilities, bridge drain systems, water, sewer and gas piping and custom steel mounting brackets for lighting and other bridge components.

For over 40 years, contractors and engineers have relied on Gulf State's expertise in developing bridge utility attachment solutions. Today our products can be found on the country's most iconic bridges, state highway overpasses, marine piers, rail and transit structures, utility bridges and more. Our support staff consists of design experts and installing contractors that have the experience to solve any attachment challenge, and we stand ready to provide our customers with the technical expertise required for a successful installation.

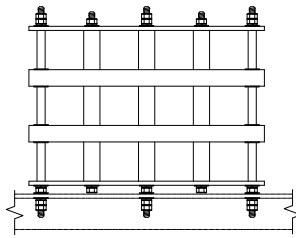
In addition to our design and manufacturing capabilities, we supply a full complement of concrete inserts, embeds, hardware and accessories to complete your hanger and support order.

Our manufactured products can be supplied plain, Hot Dipped Galvanized, 304/316 stainless or coated, and "Made in the USA" in compliance with strict Buy-America and FTA requirements.

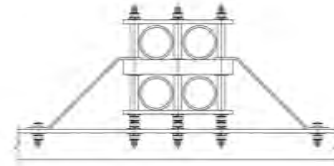
On the following pages you will find a wide sampling of hangers and supports available from Gulf State. Due to the many configurations available and the varying environments in which they can be installed, we recommend you contact our bridge department early in your process to ensure the appropriate design and materials are incorporated into your project.



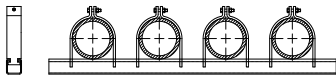
2 High x 4 Wide Intermediate Steel Mount



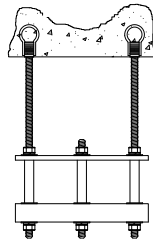
3 High x 4 Wide Base Steel Mount



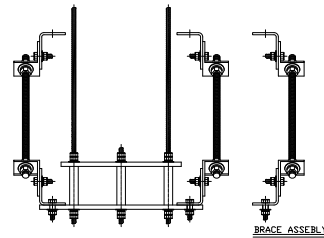
2 High x 2 Wide Base Steel Mount Anchor Point



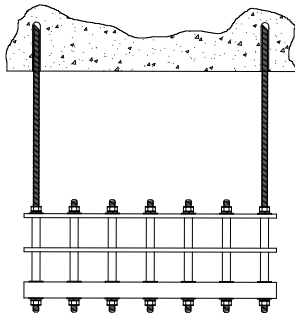
4 Wide Base Mount Pipe Strap



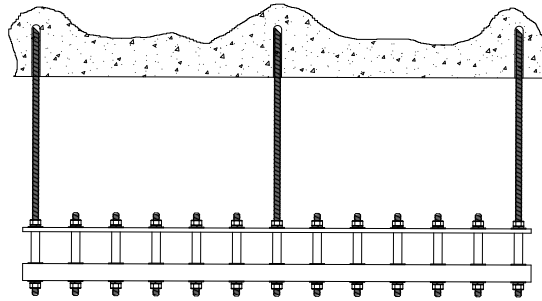
1 High x 4 Wide Intermediate Deck Mount



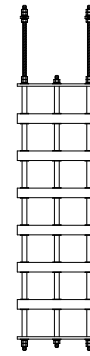
1 High x 2 Wide Intermediate Deck Mount Anchor Point



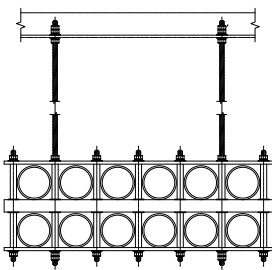
2 High x 6 Wide Intermediate Deck Mount



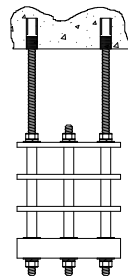
1 High x 12 Wide Intermediate Deck Mount



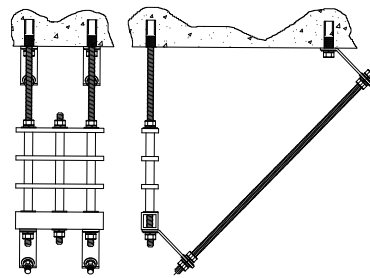
7 High x 2 Wide Intermediate



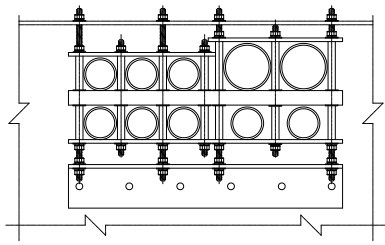
2 High x 6 Wide Intermediate Steel Channel Mount



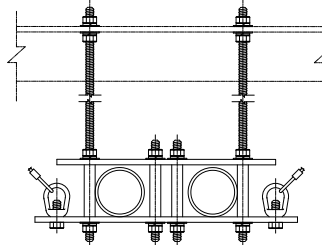
3 High x 2 Wide Intermediate Deck Mount



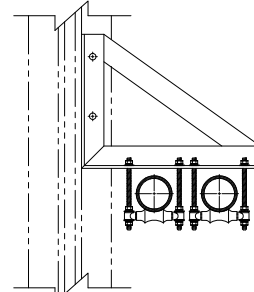
3 High x 2 Wide Intermediate Anchor Point Deck Mount



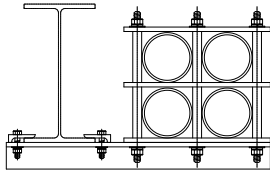
2 High x 5 Wide Multi-Conduit Steel Base Mount



1 High x 2 Wide Intermediate Steel Mount w/ Wind Braces



Wall Bracket w/ Roller Hangers for Steel Conduit



2 High x 2 Wide Grid Support w/ Beam Clamps

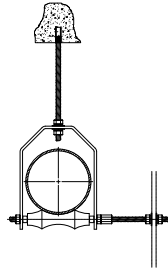
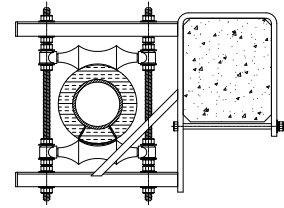
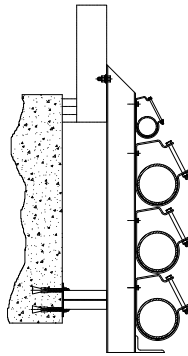


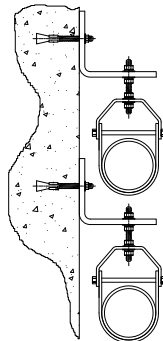
Figure 79 Roller Hanger w/ Axle Brace



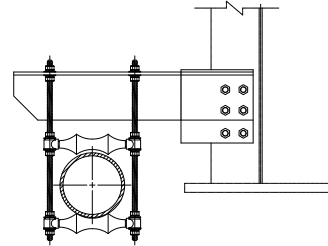
Double Roller Support for Insulated Pipe



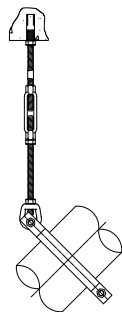
Custom Steel Mounting Bracket for Multiple Conduits



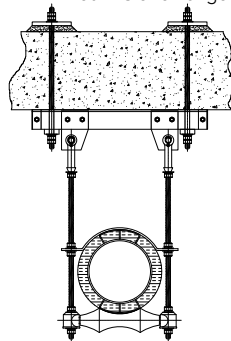
Custom L-Brackets for Side Mount Clevis Hangers



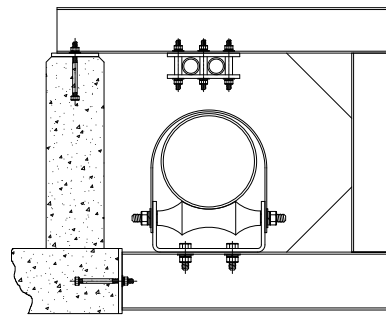
Custom Girder Bracket for Double Roller Hanger



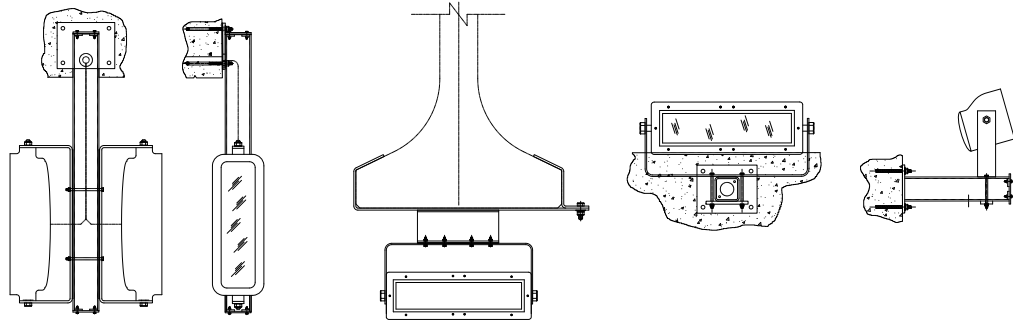
Pipe Clamp w/ Turnbuckle and Eye Rod



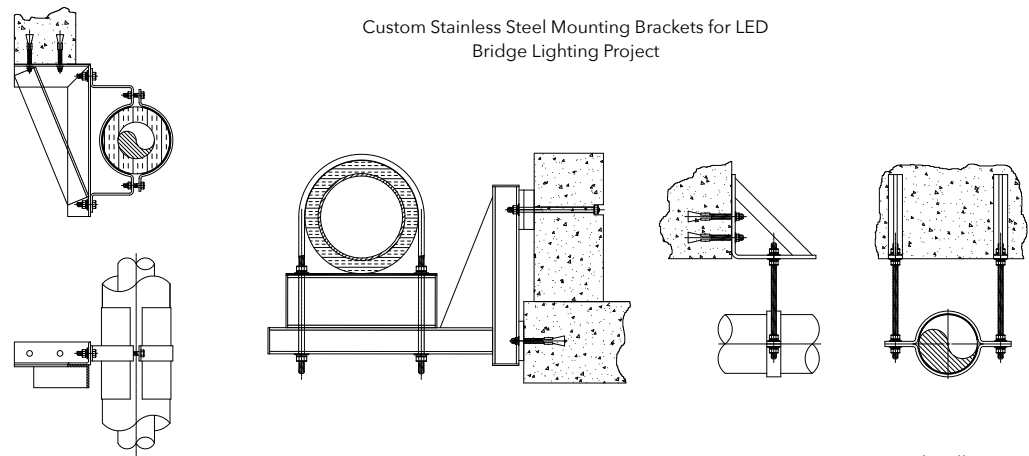
Custom Roller Hanger w/ Concrete Mounting Plates



Custom Steel Frame for Roller Hanger and 1 High x 2 Wide Conduits



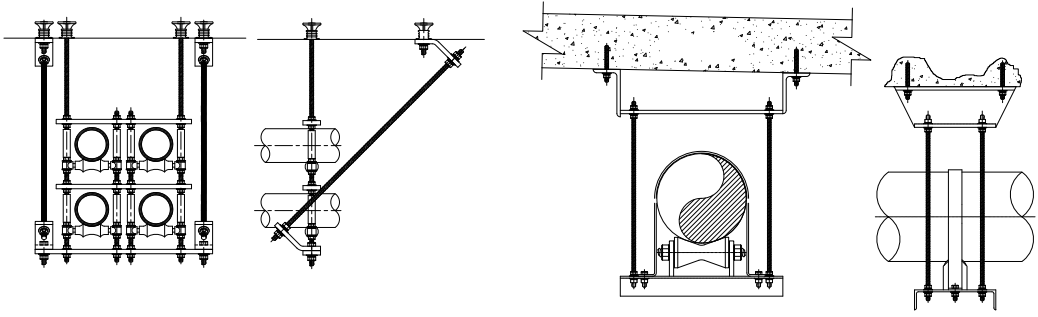
Custom Stainless Steel Mounting Brackets for LED Bridge Lighting Project



Custom Steel Wall Bracket and Two-Piece Pipe Clamp for Insulated Piping

Custom Steel Wall Bracket and U-Bolt for Insulated Pipe

Concrete Mounted Wall Bracket and Two-Piece Pipe Clamp



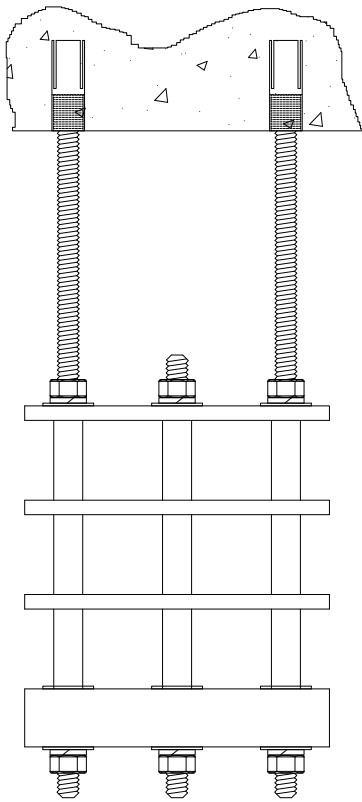
2 High x 2 Wide Intermediate Anchor Point Roller Hanger for Steel Conduits

Custom Steel Deck Mounted Angle Bracket and Roll Hanger for Water Pipe

UTILITY GRID HANGER ORDERING GUIDE

Gulf State Grid Hangers and Supports are widely specified for use with fiberglass, PVC and steel conduit installations and come in a variety of intermediate, base mount and anchor point configurations. Grid hangers are comprised of fiberglass flat stock, square tubes, round tubes and steel hardware.

Ordering hangers or supports of this type is simplified by following the guide below:



When ordering hangers or supports of this type, specify the following:

1. Number of conduits to be used and their configuration. Ex. Four conduits, 3 High x 2 Wide.
2. Conduit material to be used and outside diameter (OD) Ex. 4" XHW Fiberglass, 4.5" OD.
3. Size and material type of hardware to be used. Typical sizes range from 1/2" to 7/8", in plain, HDG or 304/316SS.
4. Where will conduit be mounted: Ex. Concrete bridge deck, steel channel, base mount to steel, side mount to girder, etc.
5. If attached from concrete bridge deck, specify type of insert required. Ex. Embedded loop insert, mechanical drop-in, chemical anchor.
6. If hanging from bridge deck or steel frame, specify rod length from connection point to top of hanger.
7. Length of conduit run on bridge and number of expansion joints required (this will determine if Anchor Point Hangers will be required).

Hanger and support configurations can be modified by adding additional square tubes in the center of the hanger for added stiffness and strength, adding guy wires for high wind areas, and designing configurations for multiple sizes of conduit.

Please consult the Gulf State Bridge Department for assistance.

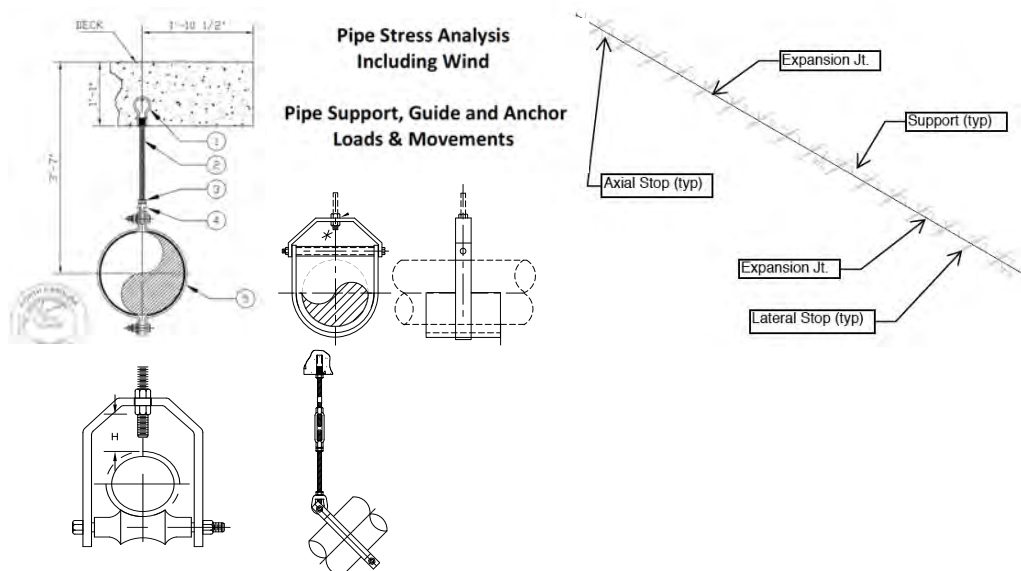
BRIDGE DRAINAGE SYSTEM HANGERS AND SUPPORTS

Gulf State is a leading supplier of pipe supports and hangers for Bridge Drainage Systems. We design and manufacture supports for FRP, PVC, Ductile Iron and Steel drain pipe and can also provide engineering and submittal services to accompany our products.



BRIDGE UTILITY DESIGN AND ENGINEERING SUPPORT

Gulf State provides full service design, pipe and support stress analysis, construction layouts and submittal packages for bridge utility conduit and piping applications. Contact our bridge department for information on our turnkey design and material supply services.



ANCHORING SYSTEMS STRUT AND HARDWARE

DROP-IN EXPANSION ANCHOR

Considered for light to heavy-duty overhead fastening in solid concrete material. Drop-in anchors are female type with national coarse threads. The designated diameter of the drop-in anchor refers to the inside threaded diameter or the diameter of threaded rod or bolt that can be used. The hole size to be drilled in the concrete is equal to the outside diameter of the drop-in anchor being installed. Drop-in anchors are available in zinc plated or stainless steel. Once placed in the hole, the setting tool is driven into the drop in anchor causing it to flare and fully set.

Bolt Size	Drill Bit Size	Minimum Embed Depth
1/2"	5/8"	2"
5/8"	7/8"	2 1/2"
3/4"	1"	3 3/16"



WEDGE ANCHOR BOLTS

The wedge anchor bolt goes into a hole drilled to the width of the wedge, and 1/2 inch longer than the bolt. When the bolt is tightened, the wedges open at the base to embed the bolt securely. Wedge anchor bolts are available in zinc plated, hot dipped galvanized and stainless steel.

Anchor Size	Anchor Length
1/2"	3 3/4", 4 1/2", 5 1/2"
5/8"	4 3/4", 6"
3/4"	4 3/4", 5 1/2", 7"
1"	6", 9", 12"



UNDERCUT ANCHORS

Undercut anchors are the strongest you can buy, and are used where you want to avoid problems with no concern for cost. They are commonly used on heavy duty load applications where human safety is paramount. Undercut anchors anchor are installed into a pre-drilled hole which has been enlarged at the bottom in the shape of a reversed cone using an undercut drill bit. They are well suited for suspended equipment, anchoring or suspending supports for large diameter pipes and safety related apparatus. Undercut anchors are available in zinc plated and stainless steel.

Anchor Size	Nom. Embed Depth	Min. Concrete Thickness
1/2"	6 5/8"	8 5/8"
5/8"	8 7/8"	12"
3/4"	11 3/8"	15 3/8"



LOOP TYPE INSERTS

The Ferrule Loop Insert is a cast-in-place embed commonly used to make structural connections for suspend pipe/conduit hangers and/or other mechanical equipment from concrete ceilings and bridge decks. The insert is available in plain, electro plated, hot dipped galvanized or stainless steel finish, and can be provided with a plastic cap to protect the threads during the concrete pour.

Bolt Diameter	Length	Safe Working Load
1/2"	2 3/4"	2000lbs
5/8"	3 1/2"	2300lbs
3/4"	3 1/2"	2400lbs
7/8"	6"	5300lbs
1"	6"	5300lbs



UNIVERSAL ADJUSTABLE CONCRETE INSERT AND NUT

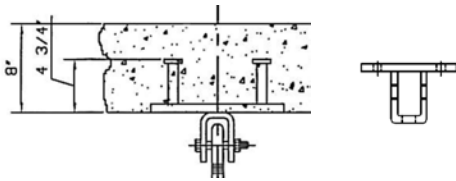
Used to suspend pipe and conduit hangers from a concrete ceiling or bridge deck. Interchangeable nut provides lateral adjustment of hanging all threaded rod.

Rod Diameter	Adjustment	Max. Load
1/2"	1 11/16"	1130lbs
5/8"	1 11/16"	1140lbs
3/4"	1 11/16"	1140lbs
7/8"	1 1/8"	1140lbs



CONCRETE ANCHOR PLATE WITH WELDED ATTACHMENT

Used to support heavy-duty pipe hangers and supports from concrete bridge decks and girders. Consult factory for additional information.



HARDWARE AND FASTENERS

Gulf State manufactures and distributes a full line of hardware and fastening products for infrastructure construction.



CHEMICAL ANCHORING SYSTEMS

INJECTABLE ADHESIVE ANCHORS

Adhesive anchors derive their resistance to tension loads through adhesion or bond. A two-part adhesive is pumped into a hole drilled into concrete, then a threaded rod or other anchor element is inserted in the hole. As it cures, the adhesive forms a chemical bond between the concrete and the anchor. Depending on the particular system and the site conditions, the curing process can range from a few to as many as 24 hours. NOTE: The drilled holes must be cleaned out very carefully or bond strength can suffer.



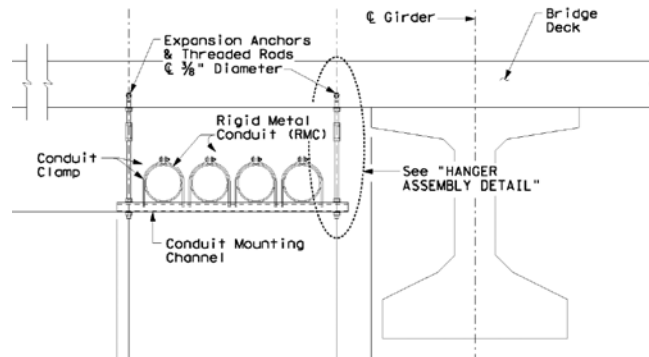
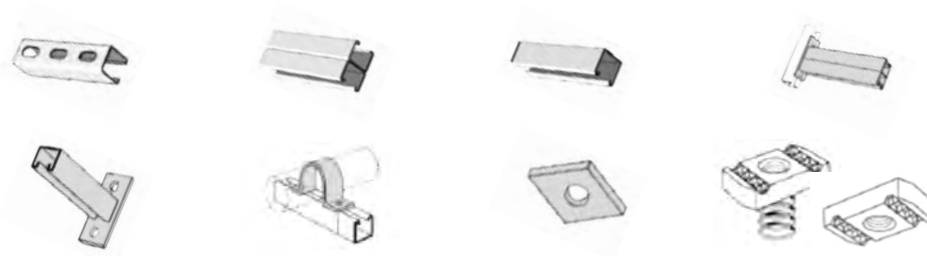
ADHESIVE CAPSULES/PACKS

Adhesive capsules or packs consist of a self contained single-use tube or foil pack inserted into a specified hole depth, into which threaded anchor rod can be directly driven. Depending on the type of capsule, a chisel cut rod may be required to mix the adhesive in the hole. Most adhesive capsules and packs for conduit and pipe installations are designed for use with 1/2" through 1" diameter all threaded rod in solid concrete. Consult factory for sizes and types.



STRUT CHANNEL

The technical sales team at Gulf State has extensive experience supplying metal and FRP strut channel and hardware for all types of mechanical, plumbing, HVAC, fire suppression and electrical conduit installations. Contact the factory for pricing on your complete strut channel and hardware bill of materials.



GULF STATE HANGERS
CONDITIONS AND TERMS OF SALE

DELIVERY: Seller will make every effort to complete delivery of products as indicated on Seller's acceptance of an order, but Seller assumes no responsibility or liability, and will accept no back-charge, for loss or damage due to delay or inability to deliver caused by acts of God, war, labor difficulties, accident, delays of carriers, by contractors or suppliers, inability to obtain materials, shortages of fuel and energy, or any other cause of any kind whatever beyond the control of Seller. Seller may terminate any contract of sale of its products without liability of any nature by written notice to Buyer, in the event that the delay in delivery or performance resulting from any of the aforesaid causes shall continue for a period of sixty (60) days. Under no circumstances shall Seller be liable for any special or consequential damages or for loss, damage, or expense (whether or not based on negligence) directly or indirectly arising from delays or failure to give notice of delay.

WARRANTY: Seller warrants for one year from date of shipment seller's manufactured products to the extent that Seller will replace those having defects in materials or workmanship when used for the purpose and in the manner which Seller recommends. If Seller's examination shall disclose to its satisfaction that the products are defective, and an adjustment is required, the amount of such adjustment shall not exceed the net sales price of the defective products only and no allowance will be made for labor or expense of repairing or replacing defective products or workmanship or damage resulting from the same.

Seller warrants the products which it sells of other manufacturers to the extent of their warranties of their respective makers. Where engineering design or fabrication work is supplied, Buyer's acceptance of Seller's design or of delivery of work shall relieve Seller of all further obligation, other than as expressed in Seller's product warranty. **THIS IS SELLER'S SOLE WARRANTY. SELLER MAKES NO OTHER WARRANTY OF ANY KIND, EXPRESSED OR IMPLIED: AND ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE WHICH EXCEED SELLER'S FORE STATED OBLIGATION ARE HEREBY DISCLAIMED BY SELLER AND EXCLUDED FROM THIS WARRANTY.** Seller neither assumes, nor authorizes any person to assume for it, any other obligations in connection with the sale of its engineering design or products. This warranty shall not apply to any products or parts of products which (a) have been repaired or altered outside of Seller's factory in any manner; or (b) have been subjected to misuse, negligence or accidents; or (c) have been used in a manner contrary to Seller's instructions or recommendations. Seller shall not be responsible for design errors due to inaccurate or incomplete information supplied by Buyer or its representative.

RESERVES RIGHTS: Seller reserves the right to use products other than Seller's own for short or complete orders. Seller will not accept any responsibility for any products without our mark number or tag number. Some products cannot be hot-dip galvanized due to design, material type, or being threaded components.

SELLER'S LIABILITY: Seller will not be liable for any loss, damage, cost of repairs, incidental or consequential damages of any kind, whether based upon warranty (except for the obligation accepted by Seller under "Warranty " above), contract or negligence, arising in connection with the design, manufacture, sale, use or repair of the products or of the engineering designs supplied to Buyer.

RETURNS: Seller cannot accept return of any products unless written permission has been first obtained, in which case same will be credited subject to the following: (a) All material returned must on its arrival at Seller's plant, be found to be in first-class condition; if not, cost of putting it in saleable condition will be deducted from credit memoranda. (b) A handling charge deduction of twenty-five percent(25%) made from all credit memoranda issued for material returned. (c) Transportation charges, if not prepaid, will be deducted from credit memoranda.

SPECIAL PRODUCTS: Orders covering special or non-standard products are not subject to cancellation except on such terms as Seller may specify on application.

SHIPMENTS: All products sent out will be carefully examined, counted and packed. The cost of any special packing or special handling caused by Buyer's requirements or request shall be added to the amount of the order. No claim for shortages will be allowed unless made in writing within ten (10) days of receipt of a shipment. Claims for products damaged or lost in transit should be made on the carrier, as Seller's responsibility ceases, and title passes, on delivery to the carrier.

PRICES AND DESIGNS: Prices and designs are subject to change without notice. All prices are F.O.B. Point of Shipment, unless otherwise stated.

TAXES: The amount of any sales tax, excise tax, or other taxes, if any, applicable to the products covered by any order, shall be added to the purchase price and shall be paid by the Buyer unless the Buyer provides Seller with an exemption certificate acceptable to the taxing authorities.

TERMS: Cash (U.S.dollars),net 30 days unless otherwise specified.

WARNING

Pipe hanger products are only intended for service as designed.

We are aware these products have been used for purposes and in ways other than those for which designed and manufactured. In such cases of misapplication or improper use, we cannot be held responsible for injuries or property damage which may result.

Pipe hanger products are produced in accordance with industry standards. Care should be exercised by installers and end users to properly install and maintain these products to avoid any possible on-the-job accidents.



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NOTES



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