

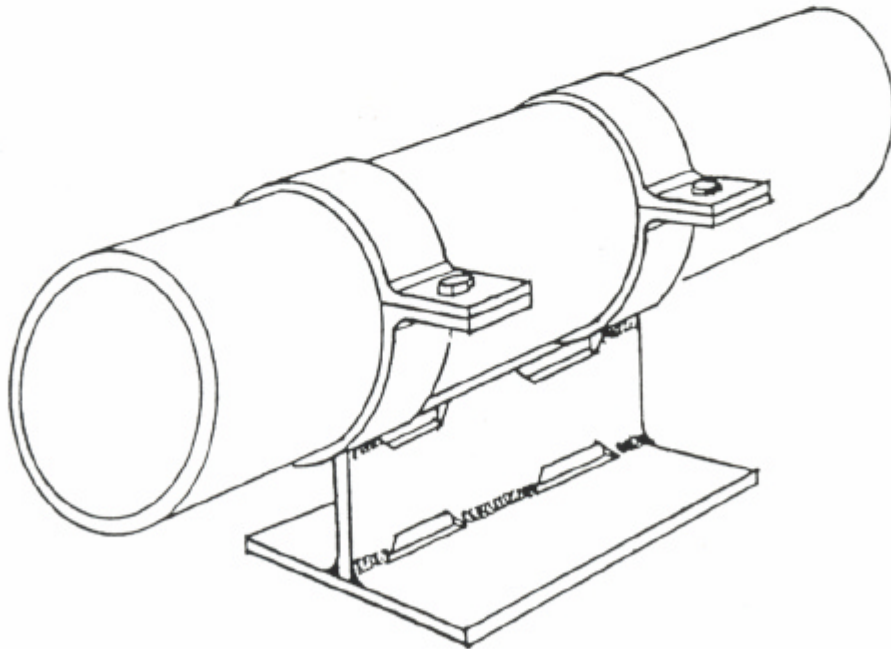
PHS

Industries, Inc.

Manufacturer of Pipe Hangers and Supports

Pipe Shoes, Slides & Anchors

[CLICK HERE TO
START](#)



Catalog 94P

TERMS AND CONDITIONS

AGREEMENTS: All agreements are subject to strikes, accidents or other causes beyond our control.

GUARANTEE: We guarantee for one year from date of delivery our manufactured products to the extent that we will replace those having manufacturing defects when used for the purpose which we recommended. If goods are defective, the amount of damage is the price of the defective goods only and no allowance will be made for labor or expense of repairing defective goods or damage resulting from the same. We guarantee the products we sell of other manufacturers to the extent of the guarantees of the respective makers.

CLAIMS: No claims for shortages allowed unless made in writing within ten days of receipt of goods.

All material sent out will be carefully examined, counted and packed. Claims for goods damaged or lost in transit should be made on the carrier, as our responsibility ceases on delivery to the carrier.

RETURNS: Pipe shoes, slides and anchors are considered special order and are not subject to return.

PRICES: Subject to change without notice.

DESIGN: Subject to change without notice.

TAXES: To the prices and terms quoted, there will be added any Manufacturers or Sales Tax payable on the transaction under any effective statute.

MINIMUM INVOICE: \$25.00

TERMS: Net 30 days

FREIGHT ALLOWANCE: All prices are F.O.B. Factory or point of shipment with no freight allowed.

TABLE OF CONTENTS

Simply click on the subject to go to the appropriate page

<u>Description</u>	<u>Page #</u>
Terms and Conditions	i
Teflon and Graphite Slide Bearings	1-5
Adhesive	6
Figure No. 1110 Standard Pipe Shoe	7-8
Figure No. 1120 Pipe Shoe With Gussets	9-10
Figure No. 1130 Pipe Shoe With Double Uprights.....	11-12
Figure No. 1140 Pipe Shoe With Clamps	13-14
Figure No. 1150 Pipe Shoe With Clamps And Gussets.....	15-16
Figure No. 1160 Pipe Shoe With Double Uprights And Clamps	17-18
General Notes and Finishes.....	19

GRAPHITE SLIDE BEARINGS

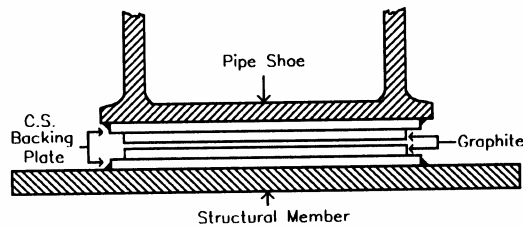
Graphite slide bearings are one of the two slide media used on pipe shoes depicted in this catalog. Graphite slide plates have a minimum thickness of 1/4" and are bonded to both the lower structure attachment and the upper pipe attachment, since two graphite surfaces are necessary for graphite slide application. Graphite slide plates can also be ordered separately for other applications please see Fig. No. 1101 for more information.

Physical and Thermal Properties

Property (Room Temperature)	Units	Avg.
Bulk Density	lbs/ft. ³	99.26
Specific Resistance with Grain	10 ⁻⁴ ohm-in	3.33
Across Grain		4.74
Flexural Strength with Grain	psi	1297
Across Grain		995
Tensile Strength* with Grain	psi	713
Across Grain		630
Compressive Strength with Grain	psi	2877
Across Grain		2802
Coefficient of Thermal Expansion with Grain	10 ⁻⁶ /°F	0.72
Across Grain		1.35
Thermal Conductivity with Grain	<u>BTU ft.</u> hr.ft. ² °F	88
Across Grain		62
Coefficient of Friction (Static)		.15
*Maximum Temperature Graphite	°F	850
Adhesive		350

**If temperature exceeds 350⁰, Graphite must be mechanically bonded*

Example of Pipe Shoe Using Graphite Slide Media



TEFLON SLIDE BEARINGS

Teflon slide bearings are one of the two slide media used on pipe shoes depicted in this catalog. The lower element (structure attachment) consists of 3/32" thick glass filled teflon factory bonded to a steel plate which is welded or bolted to the supporting structure . The upper attachment (pipe shoe) is faced with 11 ga. type 304 polished stainless steel. Teflon slide bearings may be ordered separately for other applications please see Fig. No. 1102 for more information.

Physical and Thermal Properties

<p style="text-align: center;">Tensile Strength 2500 PSI (176 Kg/Cm²) ASTM-D1457</p>	<p style="text-align: center;">Compressive Strength 2000 psi at 70° F (140 Kg/Cm² at 21° C)</p>
<p style="text-align: center;">Elongation 250% ASTM-D1457</p>	<p style="text-align: center;">Coefficient of Friction .06 at 70° F (.06 at 21° C)</p>
<p style="text-align: center;">Specific Gravity 2.22 GRM/CC ASTM D-1457</p>	<p style="text-align: center;">*Maximum Operating Temperature Teflon - 500° F (260° C) Adhesive - 300° F (149° C)</p>

**If temperature at bearing point exceeds 300° F special high temperature bonding agent is available for maximum operating temperature of 500° F.*

Example of Pipe Shoe Using Teflon Slide Media

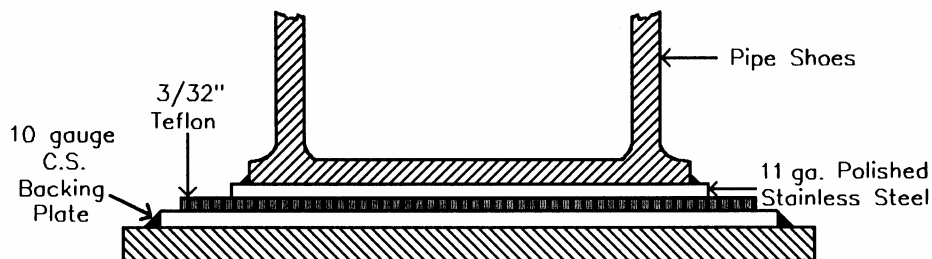


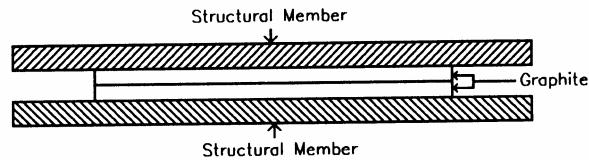
FIGURE NO. 1101 GRAPHITE SLIDE PLATES

Graphite slide plates are designed to be bonded to a steel structure or steel backing plate with No. 1106 adhesive and must be used in conjunction with a matching component. Graphite slide plates are available in 1/4" and 1/2" thick.

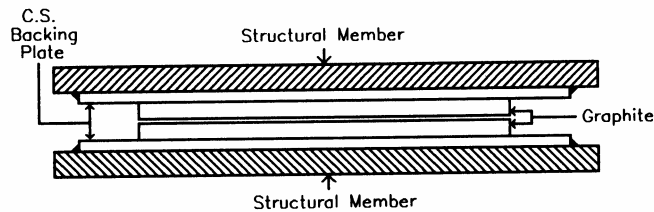
Graphite slide plates can be bonded directly to the steel structure as in Type 1. They also can be welded or bolted to steel structures, when used in conjunction with steel backing plates as shown in Type 2, the graphite in Type 2 is usually recessed 1/4" from backing plate.

Ordering Information: Specify figure number, quantity, length, width, thickness and type.

Design Data: Please See Graphite Slide Bearing Page 1.



Type 1
Bonded to Structure



Type 2
Welded to Structure

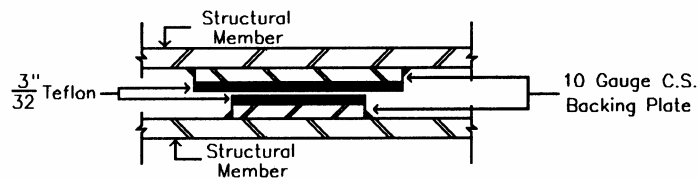
FIGURE NO. 1102 TEFLON SLIDE PLATES

Figure No. 1102 Teflon Slide Bearings are constructed of filled teflon bonded to flat rigid backup sheets. Teflon slide bearings are designed to reduce friction at loaded expansion and contraction joints in bridges, buildings, pipelines, etc. The teflon slide bearing material, at thermal expansion and contraction rates, will exhibit little or no wear for the life of the structure. The TFE slide surfaces in this system are nominally $\frac{3}{32}$ " thick and are control bonded to a 10 gauge carbon steel backup sheet. Normally the upper element is larger than the lower element by the amount of anticipated movement.

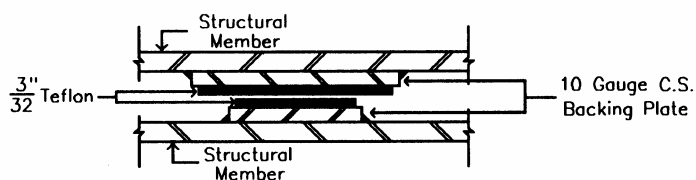
Type 1 is designed to be tack welded to the structure or pipe supports. Type 2 is used if a seal or continuous weld is required the teflon is recessed $\frac{1}{2}$ " from the edge of the back plate.

Ordering Information: Specify figure number, quantity, length, width and type.

Design Data: Please See Teflon Slide Bearing Page 2.



Type 1

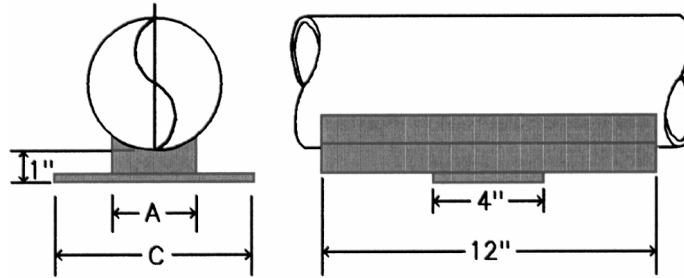


Type 2

FIGURE NO. 1104 GRAPHITE CRADLE WITH SLIDE PLATE

Figure No. 1104 graphite pipe cradle with slide plate is designed to permit the pipe to move freely in all directions. The graphite pipe cradle and slide plate must be field bonded to the pipe and steel structure with Adhesive No. 1106.

Ordering Information: Specify figure number, quantity, pipe size. Adhesive No. 1106 is ordered separately, refer to page 6 for ordering information.

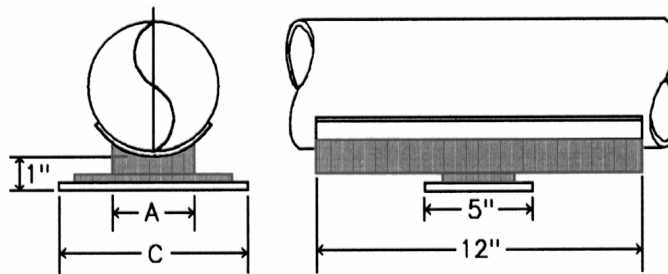


Pipe Size	A	C	Pipe Size	A	C	Pipe Size	A	C
1	1	4	6	3	8	24	6	12
1 1/4	1	4	8	3	8	26	8	12
1 1/2	1	4	10	3	8	28	8	12
2	1	4	12	4	8	30	8	12
2 1/2	2	8	14	4	8	36	12	18
3	2	8	16	4	8	42	12	18
4	2	8	18	6	12			
5	2	8	20	6	12			

FIGURE NO. 1105 GRAPHITE CRADLE & WELD SHIELD WITH WELDED SLIDE PLATE

Figure No. 1105 is designed to permit the pipe to move freely in all directions. The graphite pipe cradle and slide plate are factory bonded to steel components for welding to the pipe and steel structure.

Ordering Information: Specify figure number, quantity, pipe size. Adhesive No. 1106 is ordered separately, refer to page 6 for ordering information.



Pipe Size	A	C	Pipe Size	A	C	Pipe Size	A	C
1	1	4	6	3	8	24	6	12
1 1/4	1	4	8	3	8	26	8	12
1 1/2	1	4	10	3	8	28	8	12
2	1	4	12	4	8	30	8	12
2 1/2	2	8	14	4	8	36	12	18
3	2	8	16	4	8	42	12	18
4	2	8	18	6	12			
5	2	8	20	6	12			

FIGURE NO. 1106 ADHESIVE

Adhesive No. 1106 is designed basically for bonding graphite cradles to metallic pipe and graphite slide plates to metal structures such as beams, plates, grid work, etc.

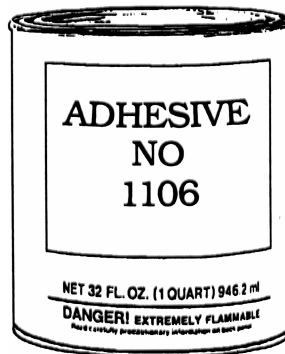
Preparation: Thoroughly wipe surface to which graphite cradles or plates are to be bonded. Use clean acetone, toluene or white gasoline and a clean rag to remove oil, grease, soil, dust, finger marks, etc. Let dry then lightly scuff with an abrasive if necessary.

Application: Spread Adhesive No. 1106 in a thin even coat on both surfaces to be bonded. Use a putty knife or broad spatula. Wait 8 minutes before putting parts together for permanent bonding. This is to allow the adhesive solvent to dissipate before bonding graphite to steel. Press parts together firmly until a bead of cement develops around the edges of the joined surfaces. Use the spatula to smooth excess adhesive on edges to make a continuous bead to prevent moisture penetration.

Curing: Let the cemented members remain undisturbed for 8 to 16 hours at room temperature during which time a strong bond will develop. Within the next 48 hours, the bond will attain full strength.

Coverage: Adhesive No. 1106 is supplied in 1 quart cans, which covers approximately 3 square feet.

Ordering Information: Specify Adhesive No. 1106 and quantity of cans.



STANDARD PIPE SHOE

FIGURE NO. 1110

The Figure No. 1110 is our standard carbon steel pipe shoe. It is designed with a 4" invert height for pipe sizes 1/2" through 6". It may also be used as an anchor by welding the shoe to the support member.

FIGURE NO. 1110 LF

The Figure No. 1110 LF incorporates our standard carbon steel pipe shoe with low friction slide plates. This design allows the pipe to move freely in all horizontal directions. Installation is made by welding the pipe shoe to the pipe. The base plate supplied with this shoe may be ordered as either a weld type or with bolted connections, enabling it to be installed in restricted areas where welding is not permitted. (Note: The dimensions shown are for welded base plates)

Slide Media: Teflon unless otherwise specified (see page 2).

FIGURE NO. 1110 LFG

The Figure No. 1110 LFG utilizes the same features as our Figure No. 1110 LF with the addition of guides welded to the base plate. This design allows the pipe to move in only one direction. Installation is the same as Figure No. 1110 LF.

STANDARD PIPE SHOE				
Pipe Size	A	B	C	E
1/2	4	11	7 1/4	5
3/4	4	11	7 1/4	5
1	4	11	7 1/4	5
1 1/4	4	11	7 1/4	5
1 1/2	4	11	7 1/4	5
2	4	11	7 1/4	5
2 1/2	4	11	7 1/4	5
3	4	11	7 1/4	5
3 1/2	4	11	7 1/4	5
4	4	11	7 1/4	5
5	4	11	7 1/4	5
6	4	11	7 1/4	5

Ordering Information: Specify figure number, quantity, finish and pipe size. Must specify welded or bolted base plate on the LF and LFG design.

Options: Modifications in the specifications are available on request for invert height, length and material.

STANDARD PIPE SHOE

FIGURE NO. 1110

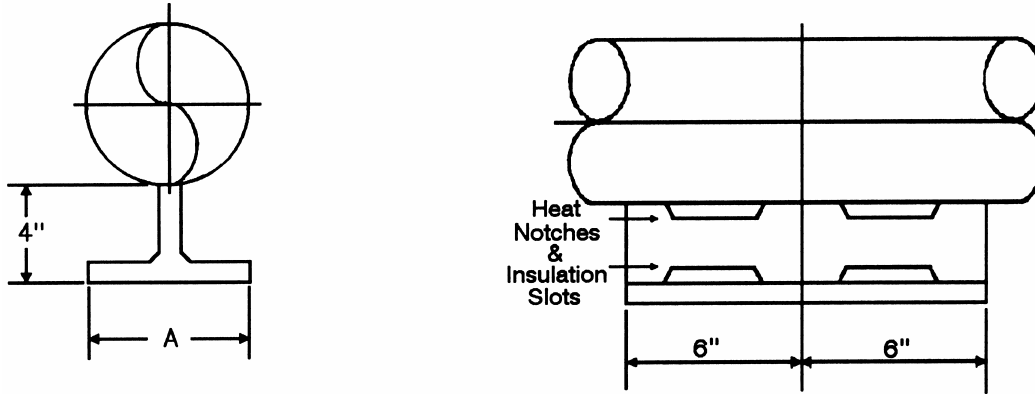


FIGURE NO. 1110 LF

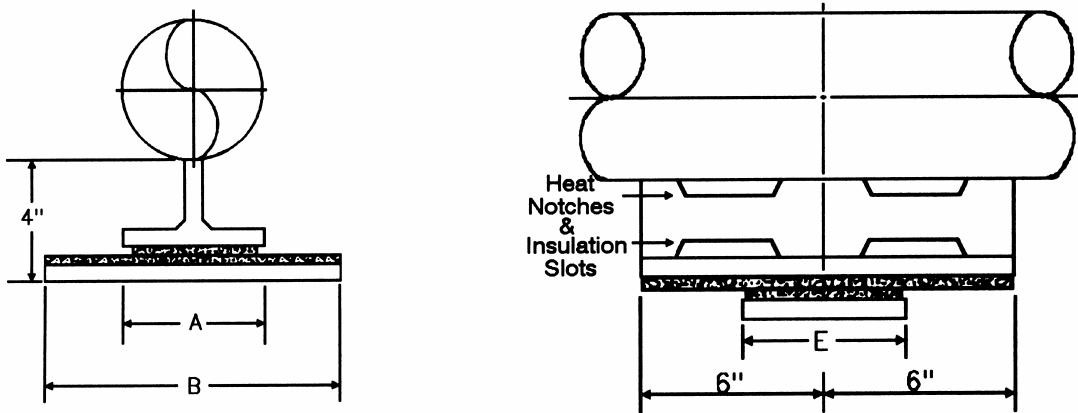
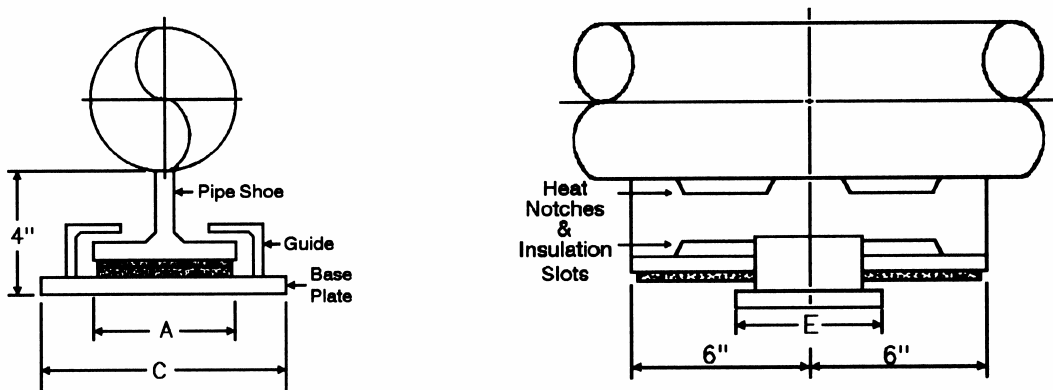


FIGURE NO. 1110 LFG



PIPE SHOE WITH GUSSETS

FIGURE NO. 1120

The Figure No. 1120 is our gusseted carbon steel pipe shoe. It is designed with a 4" invert height for pipe sizes 2" through 24". Installation is made by welding the shoe to the pipe. It may also be used as an anchor by welding the shoe to the support member.

FIGURE NO. 1120 LF

The Figure No. 1120 LF incorporates our gusseted carbon steel pipe shoe with low friction slide plates. The design allows the pipe to move freely in all horizontal directions. Installation is made by welding the pipe shoe to the pipe. The base plate supplied with this shoe may be ordered as either a weld type or with bolted connections, enabling it to be installed in restricted areas where welding is not permitted. (Note: The dimensions shown are for welded base plates)

Slide Media: Teflon unless otherwise specified, (see page 2).

FIGURE NO. 1120 LFG

The Figure No. 1120 LFG utilizes the same features as our Figure No. 1120 LF with the addition of guides welded to the base plate. This design allows the pipe to move in only one direction. Installation is the same as Figure No. 1120 LF.

LOW FRICTION GUSSETED PIPE SHOE				
Pipe Size	A	B	C	E
2	4	11	7 1/4	5
2 1/2	4	11	7 1/4	5
3	4	11	7 1/4	5
4	4	11	7 1/4	5
5	4	11	7 1/4	5
6	4	11	7 1/4	5
8	4	11	7 1/4	5
10	4	11	7 1/4	5
12	4	11	7 1/4	5
14	4	11	7 1/4	5
16	4	11	7 1/4	5
18	7	14	10 3/4	5 1/2
20	7	14	10 3/4	5 1/2
24	7	14	10 3/4	5 1/2

Ordering Information: Specify figure number, quantity, finish and pipe size. Must specify welded or bolted base plate on the LF and LFG design.

Options: Modifications in the specifications are available on request for invert height, length and material.

PIPE SHOE WITH GUSSETS

FIGURE NO. 1120

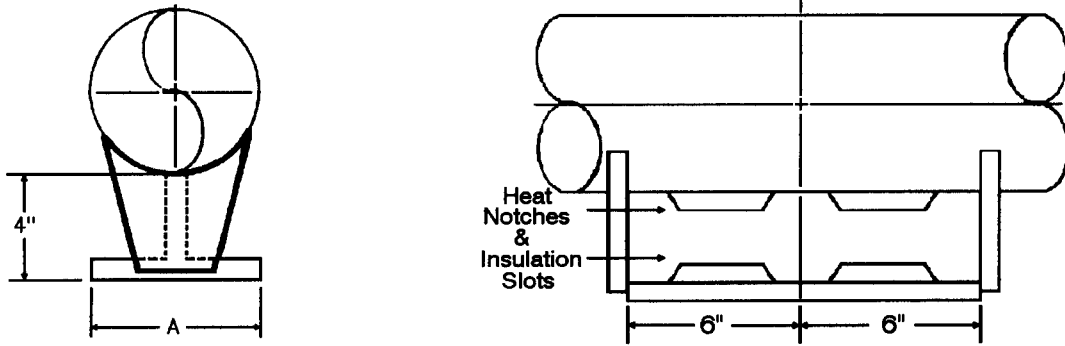


FIGURE NO. 1120 LF

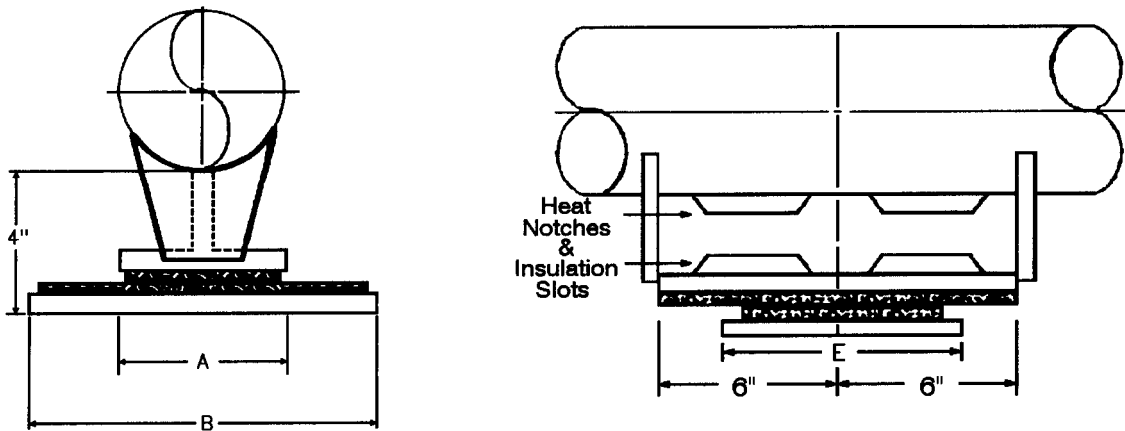
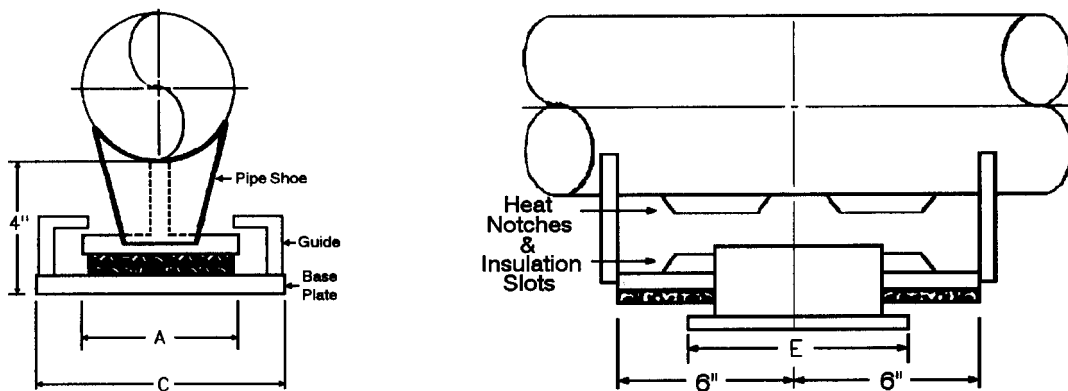


FIGURE NO. 1120 LFG



PIPE SHOE WITH DOUBLE UPRIGHTS

FIGURE NO. 1130

The Figure No. 1130 is our double upright carbon steel pipe shoe designed for larger size pipe. It has a 4" invert height for pipe sizes 14" through 42". Installation is made by welding both of the uprights to the pipe. The Figure No. 1130 may also be used as an anchor by welding the shoe to the support member.

FIGURE NO. 1130 LF

The Figure No. 1130 LF incorporates our double upright pipe shoe with low friction slide plates. This design allows the pipe to move freely in all horizontal directions. Installation is made by welding the pipe shoe to the pipe. The base plate supplied with this shoe may be ordered as either a weld type or with bolted connections, enabling it to be installed in restricted areas where welding is not permitted. (Note: The dimensions shown are for welded base plates)

Slide Media: Teflon unless otherwise specified, (see page 2).

FIGURE NO. 1130 LFG

The Figure No. 1130 LFG utilizes the same features as our Figure No. 1130 LF with the addition of guides welded to the base plate. This design allows the pipe to move in only one direction. Installation is the same as Figure No. 1130 LF.

DOUBLE T-BAR PIPE SHOE				
Pipe Size	A	B	C	E
14	8 1/2	18	13	5
16	10	18	14 1/4	5
18	11	21	15 3/4	5 1/2
20	12	21	16 3/4	5 1/2
24	14 1/4	24	19 1/2	5 1/2
30	17 1/2	28	22 3/4	5 1/2
36	20 1/2	30	25 3/4	5 1/2
42	23 1/2	36	28 3/4	5 1/2

Ordering Information: Specify figure number, quantity, finish and pipe size. Must specify welded or bolted base plate on the LF and LFG design.

Options: Modifications in the specifications are available on request for invert height, length and material.

PIPE SHOE WITH DOUBLE UPRIGHTS

FIGURE NO. 1130

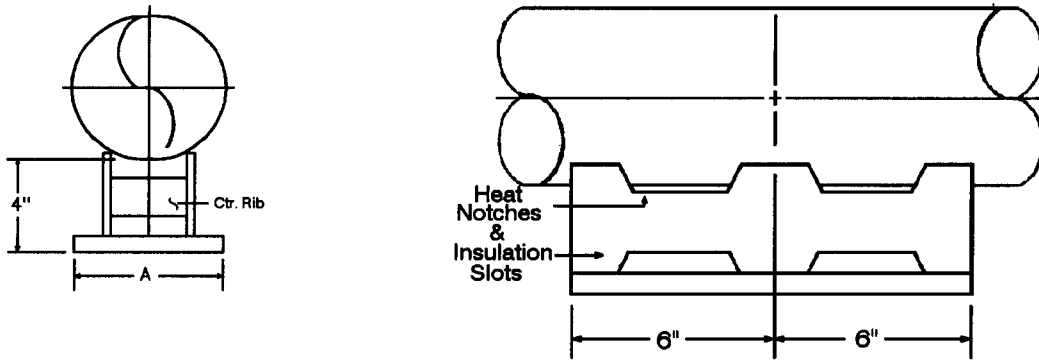


FIGURE NO. 1130 LF

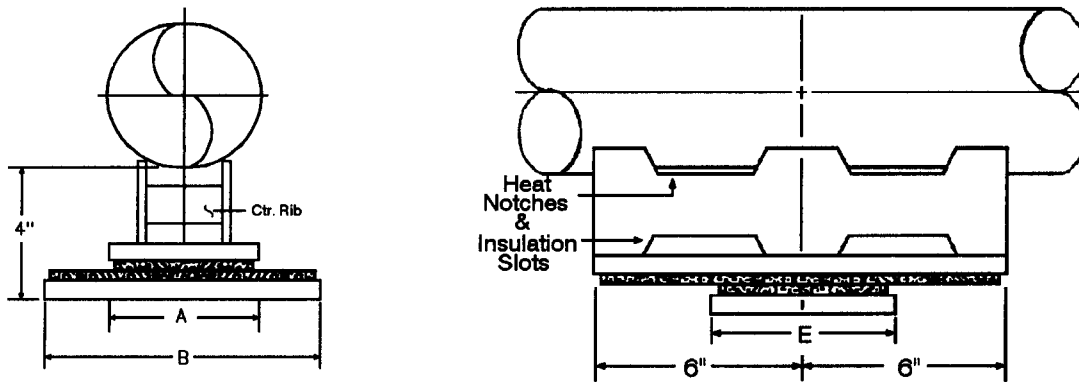
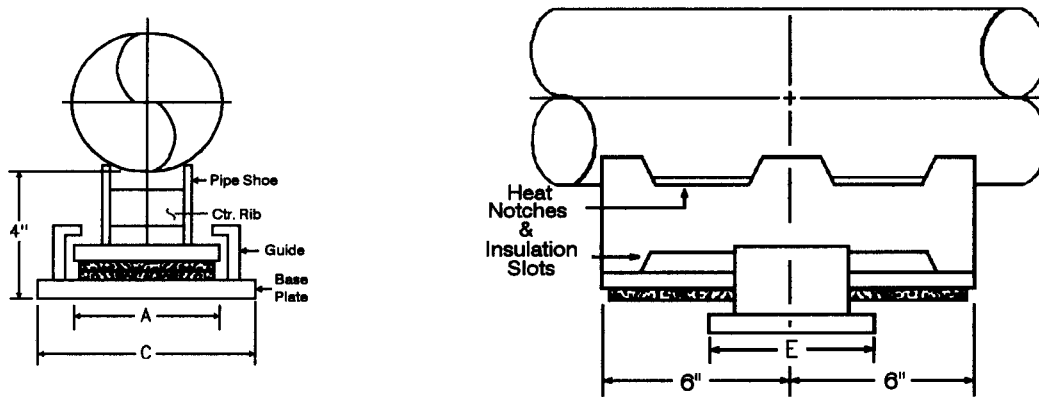


FIGURE NO. 1130 LFG



PIPE SHOE WITH CLAMPS

FIGURE NO. 1140

The Figure No. 1140 is our clamped pipe shoe used on smaller pipe. Its clamped design enables it to be easily installed without welding to the pipe. This shoe is designed with a 4" invert height for pipe sizes 1/2" through 6".

FIGURE NO. 1140 LF

The Figure No. 1140 LF incorporates our clamped type pipe shoe with low friction slide plates. This design allows the pipe to move freely in all horizontal directions. Installation is made by clamping the pipe shoe to the pipe. The base plate supplied with this shoe may be ordered as either a weld type or with bolted connections, enabling it to be installed in restricted areas where welding is not permitted. (Note: The dimensions shown are for welded base plates)

Slide Media: Teflon unless otherwise specified, (see page 2).

FIGURE NO. 1140 LFG

The Figure No. 1140 LFG utilizes the same features as our Figure No. 1140 LF with the addition of guides welded to the base plate. This design allows the pipe to move in only one direction. Installation is the same as Figure No. 1140 LF.

Pipe Size	A	B	C	D	E
1/2	4	11	7 1/4	3 1/4	5
3/4	4	11	7 1/4	3 3/4	5
1	4	11	7 1/4	4	5
1 1/4	4	11	7 1/4	4 1/2	5
1 1/2	4	11	7 1/4	4 1/2	5
2	4	11	7 1/4	5 1/4	5
2 1/2	4	11	7 1/4	6	5
3	4	11	7 1/4	7 1/4	5
3 1/2	4	11	7 1/4	7 1/2	5
4	4	11	7 1/4	8 3/4	5
5	4	11	7 1/4	10	5
6	4	11	7 1/4	12 1/4	5

Ordering Information: Specify figure number, quantity, finish and pipe size. Must specify welded or bolted base plate on the LF and LFG design.

Options: Modifications in the specifications are available on request for invert height, length and material.

PIPE SHOE WITH CLAMPS

FIGURE NO. 1140

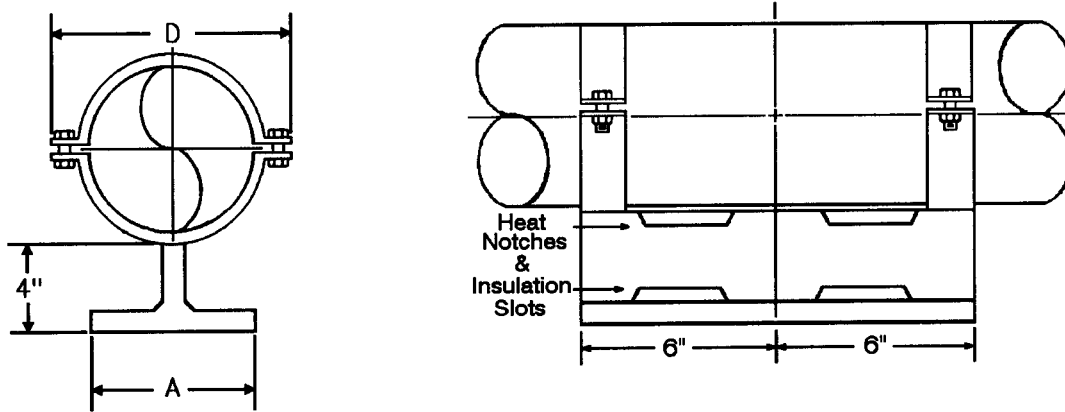


FIGURE NO. 1140 LF

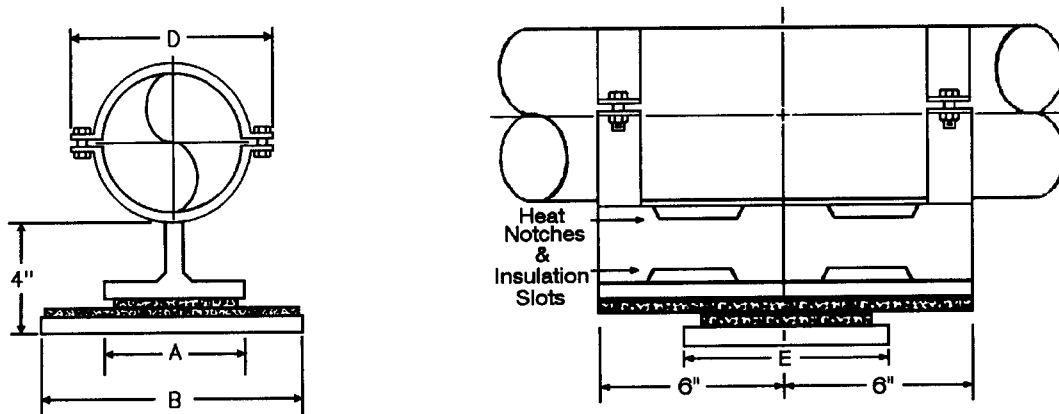
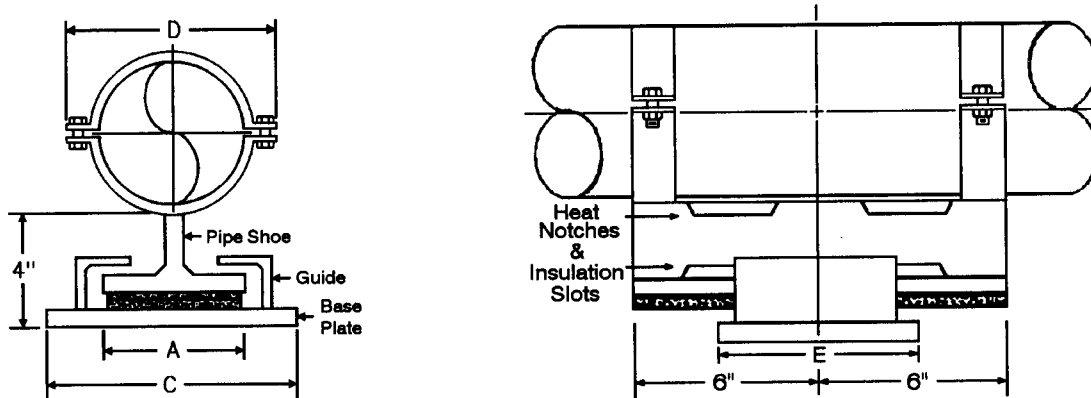


FIGURE NO. 1140 LFG



PIPE SHOE WITH CLAMPS AND GUSSETS

FIGURE NO. 1150

The Figure No. 1150 is our clamped type carbon steel pipe shoe with gussets. Its clamped design enables it to be easily installed without welding. The gusset design enables the shoe to carry heavier loads. This shoe is designed with a 4" invert height for pipe sizes 8" through 24". The Figure No. 1150 may also be used as an anchor by welding the shoe to the support member.

FIGURE NO. 1150 LF

The Figure No. 1150 LF incorporates our clamped type pipe shoe with low friction slide plates. This design allows the pipe to move freely in all horizontal directions. Installation is made by clamping the pipe shoe to the pipe. The base plate supplied with this series may be ordered as either a weld type or with a bolted connection enabling it to be installed in restricted areas where welding is not permitted. (Note: The dimensions shown are for welded base plates.)

Slide Media: Teflon unless otherwise specified (see page 2).

FIGURE NO. 1150 LFG

The Figure No. 1150 LFG utilizes the same features as our Figure No. 1150 LF with the addition of guides welded to the base plate. This design allows the pipe to move in only one directions. Installation is the same as Figure No. 1150 LF.

CLAMPED PIPE SHOE					
Pipe Shoe	A	B	C	D	E
8	4	11	7 1/4	14 5/8	5
10	4	11	7 1/4	17 1/2	5
12	4	11	7 1/4	20 1/2	5
14	4	11	7 1/4	21 1/4	5
16	4	11	7 1/4	23 1/4	5
18	4	14	10 3/4	26	5 1/2
20	4	14	10 3/4	28 1/4	5 1/2
24	4	14	11 1/4	33 3/4	5 1/2

Ordering Information: Specify figure number, quantity, finish and pipe size. Must specify welded or bolted base plate on the LF and LFG design.

Options: Modifications in the specifications are available on request for invert height, length and material.

PIPE SHOE WITH CLAMPS AND GUSSETS

FIGURE NO. 1150

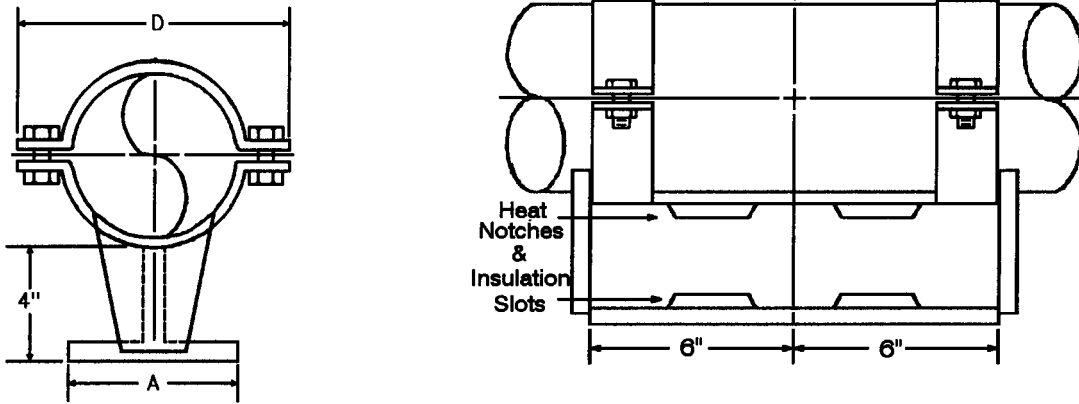


FIGURE NO. 1150 LF

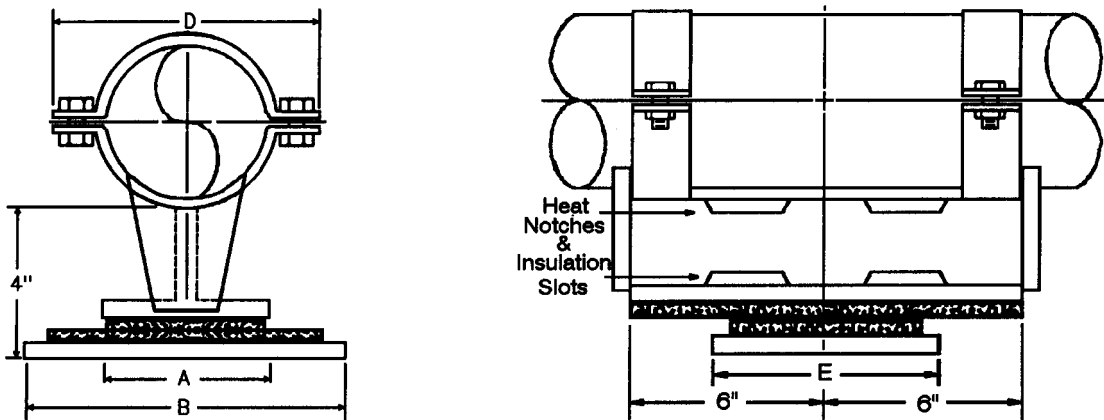
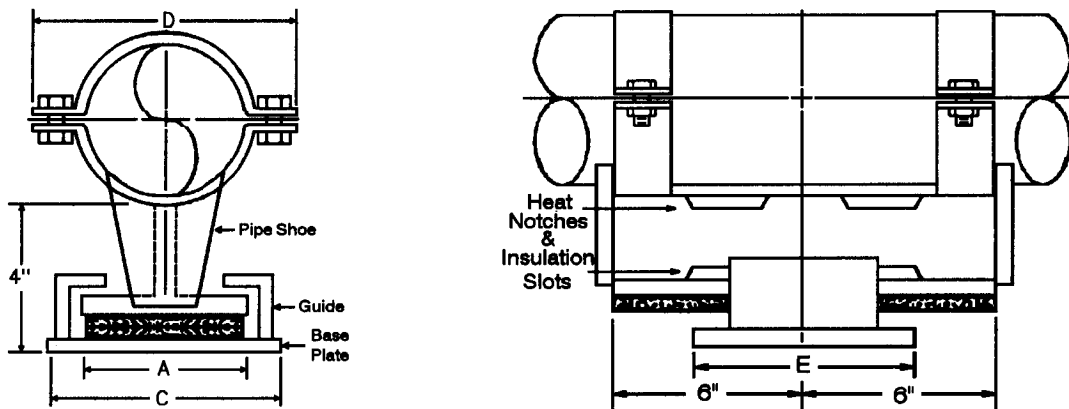


FIGURE NO. 1150 LFG



PIPE SHOE WITH DOUBLE UPRIGHTS AND CLAMPS

FIGURE NO. 1160

The Figure No. 1160 is recommended for heavy duty applications and pipe sizes larger than 12" where clamping to pipe is desirable. It has an invert height of 4" for pipe sizes 14" through 42". The Figure No. 1160 may be used as an anchor by welding the shoe to the bottom support member.

FIGURE NO. 1160 LF

The Figure No. 1160 LF incorporates our double upright pipe shoe with low friction slide plates. This design allows the pipe to move freely in all horizontal directions. Installation is made by clamping the pipe shoe to the pipe. The base plate supplied may be ordered either as a weld type or with a bolt connection enabling it to be installed in restricted areas where welding is not permitted. (Note: The dimensions shown are for welded base plates.)

Slide Media: Teflon unless otherwise specified (see page 2).

FIGURE NO. 1160 LFG

The Figure No. 1160 LFG utilizes the same features as our Figure No. 1160 LF with the addition of guides welded to the base plate. This design allows the pipe to move in only one direction. Installation is the same as Figure No. 1160 LF.

Pipe Size	A	B	C	D	E
14	8 1/2	17	13	21 1/4	5
16	10	17	14 1/4	23 1/4	5
18	11	20	15 3/4	26	5 1/2
20	12	20	16 3/4	28 1/4	5 1/2
24	14 1/4	23	19 1/2	33 3/4	5 1/2
30	17 1/2	27	22 3/4	41 1/2	5 1/2
36	20 1/2	29	25 3/4	44	5 1/2
42	23 1/2	35	28 3/4	50	5 1/2

Ordering Information: Specify figure number, quantity, finish and pipe size. Must specify welded or bolted base plate on the LF and LFG design.

Options: Modifications in the specifications are available on request for invert height, length and material.

PIPE SHOE WITH DOUBLE UPRIGHTS AND CLAMPS

FIGURE NO. 1160

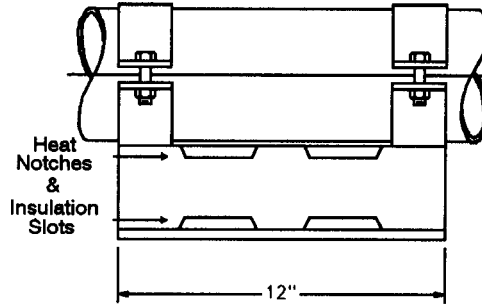
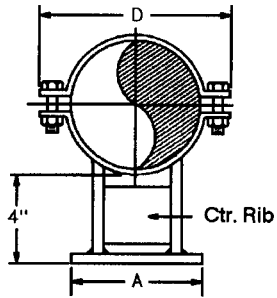


FIGURE NO. 1160 LF

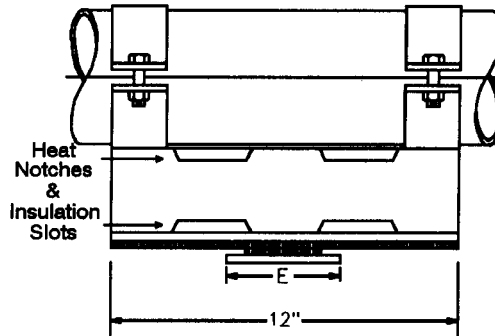
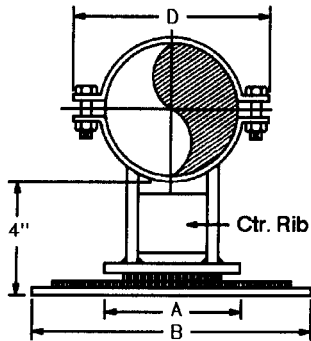
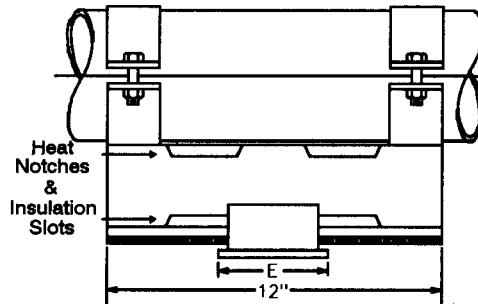
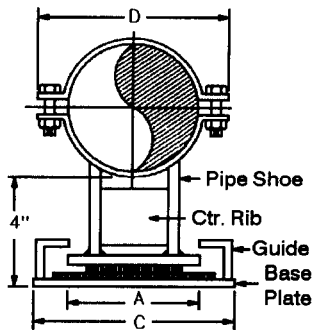


FIGURE NO. 1160 LFG



GENERAL NOTES ON PIPE SHOES, SLIDES AND ANCHORS

1. All of our pipe shoes may be supplied plain, painted or galvanized (See Finishes Below).
2. All of our low friction pipe shoes may be supplied with either graphite slide plates or glass filled virgin teflon.
3. Pipe shoes can be made in different alloys such as stainless and chrome moly.
4. All dimensions shown on the LF and LFG shoes are for welded base plates. If you need the dimensional data on bolted base plates please contact our sales office.

FINISHES

Plain - Material is plain finish, lightly oiled from the manufacturing process.

Electro-Galvanized - All material is electro-galvanized.

Galvanized - Products are Hot Dip Galvanized except the threaded portion, which is electro-plated.

Hot Dip Galvanized - Product is completely Hot Dip Galvanized.

Painted - Standard shop paint is a Red Oxide Primer, but we can furnish any type of paint that is requested. Please ask salesman for price and delivery.

MATERIAL

Most products offered in this catalog can be produced in all metals and alloys. Just ask salesman for special price and delivery.