

U-BOLTS & STRAPS

Fig. 120

Light Weight U-Bolt

Size Range: 1/2" through 10"

Material: Carbon steel

Finish: Plain or Zinc Plated (Hot-Dip Galvanized optional)

Service: Recommended for support, or guide of relatively light loads. Normally used with two hex nuts.

Maximum Temperature: 650° F.

Ordering: Specify pipe size x rod size, figure number and name. Hex nuts must be ordered separately.

Note: The acceptability of galvanized coatings at temperatures above 450°F is at the discretion of the end user.

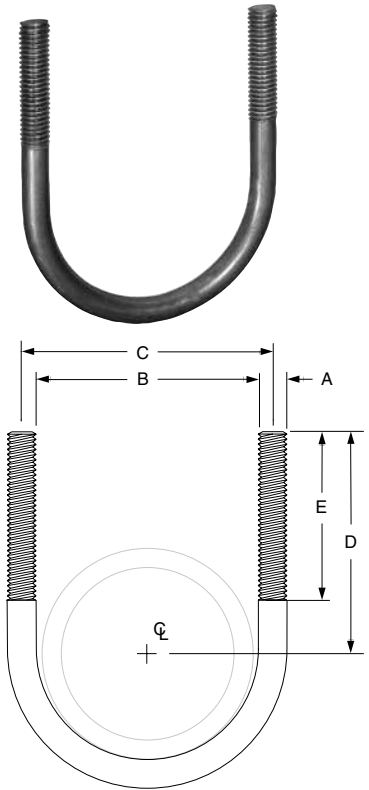


FIG. 120: LOADS (LBS) • WEIGHTS (LBS) • DIMENSIONS (IN)							
Pipe Size	Max Load	Weight	Rod Size A	B	C	D	E
1/2	580	0.06	1/4	15/16	13/16	115/16	13/4
3/4		0.07		11/8	13/8	21/16	
1		0.07		13/8	15/8	23/16	
1 1/4		0.08		111/16	115/16	23/8	
1 1/2		0.09		2	21/4	27/16	
2	0.10	27/16	211/16	211/16	211/16	2	
2 1/2	0.28	215/16	35/16	31/16			
3	0.31	39/16	315/16	33/8			
3 1/2	0.35	41/16	47/16	35/8			
4	0.38	49/16	419/16	37/8			
5	0.45	55/8	6	49/16	2 1/4		
6	0.95	63/4	71/4	51/16			
8	1.20	83/4	91/4	61/16			
10	4,320	2.30	5/8	107/8		111/2	71/4

Fig. 137C: Plastic Coated

U-Bolts

Size Range: 1/2" through 8"

Material: Carbon steel U-bolt and four finished hex nuts. Formed portion of the U-bolt is plastic coated.

Maximum Temperature: 225° F

Service: Recommended for support or guide for glass, copper, brass and aluminum pipe.

Approvals: Complies with Federal Specification A-A-1192A (Type 24), WW-H-171-E (Type 24), ANSI/MSS SP-69 and MSS SP-58 (Type 24).

Ordering: Specify pipe size x rod size (e.g., 2 x 3/8), figure number and name.

If hex nuts are not required, specify "without hex nuts".

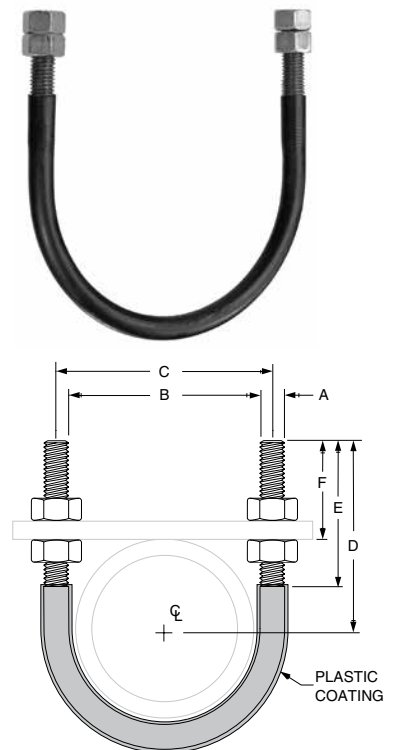


FIG. 137C: LOADS (LBS) • WEIGHTS (LBS) • DIMENSIONS (IN)								
Pipe Size	Rod Size A	Max Load	Weight	B	C	D	E	F
1/2	1/4	580	0.11	15/16	13/16	23/4	23/8	25/16
3/4			0.12	11/8	13/8			27/32
1			0.12	13/8	15/8			23/32
1 1/4	3/8	1,460	0.28	111/16	21/16	27/8	21/2	21/32
1 1/2			0.30	2	23/8	3		
2			0.33	27/16	213/16	31/4		
2 1/2	1/2	2,700	0.73	215/16	37/16	33/4	3	25/16
3			0.78	39/16	41/16	4		
3 1/2			0.84	41/16	49/16	41/4		
4			0.90	49/16	51/16	41/2		
5			1.00	55/8	61/8	5		
6	5/8	4,320	2.00	63/4	73/8	61/8	31/2	27/32
8			2.30	83/4	93/8	71/8		

Fig. 137: Standard U-bolt Fig. 137S*: Special U-bolt (non-standard)

Size Range: 1/2" through 36"

Material: Carbon steel U-bolt and four finished hex nuts

Finish: Plain, Fig. 137: Zinc Plated (Hot-Dip Galvanized optional) or Fig. 137S: Hot-Dip Galvanized (HDG not available for rod size 1/4". Stainless steel is offered as an alternative.)

Service: Recommended for support, or guide of heavy loads; often employed in power, process plant and marine service.

Approvals: Complies with Federal Specification A-A-1192A (Type 24), WW-H-171-E (Type 24), ANSI/MSS SP-69 and MSS SP-58 (Type 24).

Ordering Fig. 137: Specify pipe size x rod size (e.g., 6 x 5/8), figure number, name.

U-bolt will be furnished with longer tangents D or with longer threads E

if so required and ordered. If hex nuts are not required, specify "without hex nuts".

Ordering Fig. 137S: Specify figure number, name, material specification, dimensions A, B, C, D, and E, and "with hex nuts" or "without hex nuts".

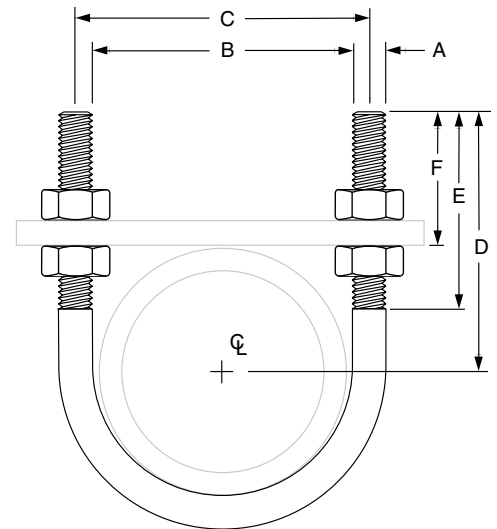
Note: The acceptability of galvanized coatings at temperatures above 450°F is at the discretion of the end user.



FIG. 137: DIMENSIONS (IN) • LOADS (LBS) • WEIGHTS (LBS) ■

Pipe Size	Rod Size A	Max Normal Load		650° F Max Side Load	Wt.	B	C	D	E	F	
		650° F	750° F								
1/2	1/4	580	454	145	0.11	15/16	1 1/16	2 3/4	2 1/8	2 5/16	
3/4					0.12	1 1/8	1 3/8			2 7/32	
1					0.12	1 3/8	1 5/8			2 3/32	
1 1/4	3/8	1,460	1,144	365	0.28	1 11/16	2 1/16	2 7/8	2 1/2	2 1/32	
1 1/2					0.30	2	2 3/8	3		2 1/16	
2					0.33	2 1/16	2 13/16	3 1/4		2 1/16	
2 1/2	1/2	2,700	2,114	675	0.73	2 5/16	3 1/16	3 3/4	3	2 5/16	
3					0.78	3 3/16	4 1/16	4		2 1/4	
3 1/2					0.84	4 1/16	4 9/16	4 1/4		2 1/4	
4					0.90	4 9/16	5 1/16	4 1/2		2 7/32	
5					1.0	5 5/8	6 1/8	5		2 1/4	
6	5/8	4,320	3,382	1,080	2.0	6 3/4	7 3/8	6 1/8	3 1/2	2 13/16	
8					2.3	8 3/4	9 3/8	7 1/8		2 13/16	
10	3/4	6,460	5,060	1,615	4.9	10 7/8	11 5/8	8 3/8	4	3	
12					7.7	12 7/8	13 3/4	9 5/8		3 1/4	
14					8.3	14 1/8	15	10 1/4		3 1/4	
16	7/8	9,960	7,016	2,240	9.2	16 1/8	17	11 1/4	4 1/4	3 1/4	
18					13.5	18 1/8	19 1/8	12 5/8		3 1/4	
20					14.6	20 1/8	21 1/8	13 3/8		3 1/4	
24					16.9	24 1/8	25 1/8	15 5/8		4 3/4	3 5/8
30					19.1	30 3/8	31 1/8	18 5/8		4 3/4	3 5/8
36	23.2	36 1/8	37 1/8	21 5/8	4 3/4	3 5/8					

■ Loads, weights and dimensions shown do not apply for Fig. 137S. Max load rating for carbon steel is based on 2 x load rating for rod. Max load rating for stainless steel is 0.85 times the maximum stated load ratings listed above.



*When the combination of a normal load and a side load occurs, a straight line interaction formula may be used to determine if the Fig. 137 is still within the allowable stress range:

$$P_n/P_{na} + P_s/P_{sa} \leq 1$$

Where:

P_n = actual applied normal load;

P_{na} = allowable normal load for the Fig. 137;

P_s = actual applied side load;

P_{sa} = allowable side load for the Fig. 137

Nuts must be snug tight in installation to achieve side loads shown.

U-BOLTS & STRAPS

Fig. 137SS

Stainless Steel U-Bolt

Size Range: 1/2" through 12"

Material: Stainless steel U-bolt and four finished hex nuts

Finish: 304 stainless steel

Service: Recommended for support, or guide of heavy loads; often employed in power, process plant and marine service.

Approvals: Complies with Federal Specification A-A-1192A (Type 24), WW-H-171-E (Type 24), ANSI/MSS SP-69 and MSS SP-58 (Type 24).

Ordering: Specify pipe size x rod size (e.g., 6 x 5/8), figure number and name. If hex nuts are not required, specify "without hex nuts".

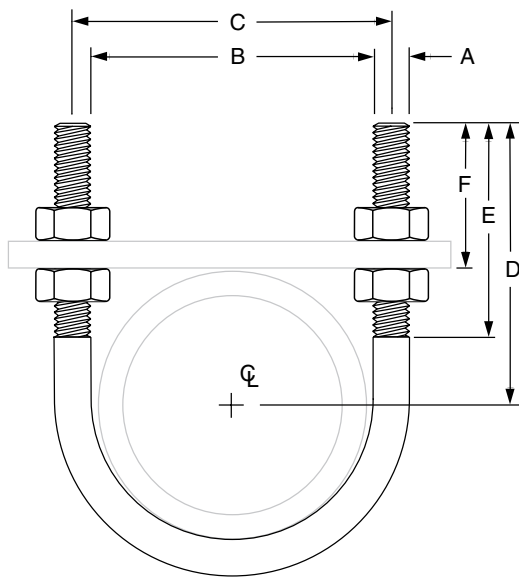


FIG. 137SS: DIMENSIONS (IN) • LOADS (LBS) • WEIGHTS (LBS)

Pipe Size	Rod Size A	Max Normal Load		Max Side Load		Wt.	B	C	D	E	F	
		450° F	650° F	450° F	650° F							
1/2	1/4	500	454	120	110	0.11	15/16	13/16	23/4	21/8	25/16	
3/4						0.12	11/8	13/8			27/32	
1						0.12	13/8	15/8			23/32	
1 1/4	3/8	1,240	1,144	310	280	0.28	111/16	21/16	27/8	21/2	21/32	
1 1/2						0.30	2	23/8			3	21/16
2						0.33	27/16	213/16			31/4	21/16
2 1/2	1/2	2,300	2,070	570	515	0.73	215/16	37/16	33/4	3	25/16	
3						0.78	39/16	41/16			4	21/4
4						0.90	49/16	51/16			41/2	27/32
5						1.0	55/8	61/8			5	27/32
6	5/8	3,675	3,310	915	825	2.0	63/4	73/8	61/8	31/2	213/16	
8						2.3	83/4	93/8			71/8	213/16
10						4.9	107/8	115/8			83/8	3
12	7/8	8,400	7,560	2,115	1,905	7.7	127/8	133/4	95/8	4	33/4	

*When the combination of a normal load and a side load occurs, a straight line interaction formula may be used to determine if the Fig. 137 is still within the allowable stress range:

$$P_n/P_{na} + P_s/P_{sa} \leq 1$$

Where:

P_n = actual applied normal load;

P_{na} = allowable normal load for the Fig. 137;

P_s = actual applied side load;

P_{sa} = allowable side load for the Fig. 137

Nuts must be snug tight in installation to achieve side loads shown.