## **BOLTS, NUTS, PINS & U-BOLTS**



☐ Fig.	137: Standard U-bolt
☐ Fig.	1375*: Special U-bolt (non-standard)

**U-Bolts** 

Size Range: 1/2" through 36"

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

**Finish:** Plain or Galvanized

**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".

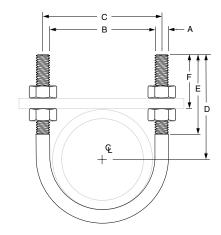
**Ordering Fig. 1375:** Specify figure number, name, material specification, dimensions A, B, C, D, and E, and "with hex nuts" or "without hex nuts".

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

FIG. 137: LOADS (LBS) • WEIGHTS (LBS) • DIMENSIONS (IN) ■										
Pipe Size	Rod Size	Max Normal Load		650° F Max Side	Wt.	В	C	D	E	F
0120	A	650° F	750° F	Load						
1/2					0.11	15/ <sub>16</sub>	<b>1</b> <sup>3</sup> ⁄ <sub>16</sub>			<b>2</b> <sup>5</sup> / <sub>16</sub>
3/4	1/4	580	454	145	0.12	11//8	13//8	2¾	21//8	27/32
1					0.12	1%	<b>1</b> 5%			23/32
11/4					0.28	<b>1</b> <sup>11</sup> / <sub>16</sub>	2 <sup>1</sup> / <sub>16</sub>	27/8		21/32
1½	3/8	1,460	1,144	365	0.30	2	2 <sup>3</sup> / <sub>8</sub>	3	21/2	21/16
2					0.33	2 <sup>7</sup> / <sub>16</sub>	2 <sup>13</sup> / <sub>16</sub>	31/4		Z 716
<b>2</b> ½					0.73	2 <sup>15</sup> / <sub>16</sub>	<b>3</b> <sup>7</sup> / <sub>16</sub>	3¾		<b>2</b> <sup>5</sup> / <sub>16</sub>
3					0.78	3%16	<b>4</b> <sup>1</sup> / <sub>16</sub>	4		
31/2	1/2	2,700	2,114	675	0.84	<b>4</b> <sup>1</sup> / <sub>16</sub>	<b>4</b> <sup>9</sup> ⁄ <sub>16</sub>	41/4	3	21/4
4					0.90	49/16	5 <sup>1</sup> / <sub>16</sub>	41/2		
5					1.0	5%	61//8	5		<b>2</b> <sup>7</sup> / <sub>32</sub>
6 8	5/8	4,320	3,382	1,080	2.0	63/4	73//8	61//8	33/4	2 <sup>13</sup> / <sub>16</sub>
8			-	1,000	2.3	83/4	93//8	71//8	3 /4	
10	3/4	6,460	5,060	1,615	4.9	107//8	11%	8¾	4	3
12					7.7	12 <sup>7</sup> /8	13¾	95/8	4	
14	7/8	9,960	7,016	2,490	8.3	14 <sup>1</sup> / <sub>8</sub>	15	101/4	41/4	31/4
16					9.2	16½	17	1111/4	4/4	
18	]				13.5	18½	191//8	12 <sup>5</sup> / <sub>8</sub>		
20	]				14.6	201//8	211//8	135/8		
24	1	11,800	9,240	_	16.9	241//8	251//8	15%	43/4	35/8
30	]				19.1	301//8	31½	185/8		
36					23.2	361//8	371//8	21 <sup>5</sup> / <sub>8</sub>		

<sup>■</sup> Loads, weights and dimensions shown do not apply for Fig. 137S. Max load rating for carbon steel is 2 x max load rating for rod size "A". 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:

Pn/Pna + Ps/Psa ≤ 1

Where

Pn = actual applied normal load;

Pna = allowable normal load for the Fig. 137;

Ps = actual applied side load;

Psa = allowable side load for the Fig. 137

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

DDO IFCT INFORMATION	ADDDOVAL CTAMD
PROJECT INFORMATION	APPROVAL STAMP
Project:	☐ Approved
Address:	Approved as noted
Contractor:	☐ Not approved
Engineer:	Remarks:
Submittal Date:	
Notes 1:	
Notes 2:	