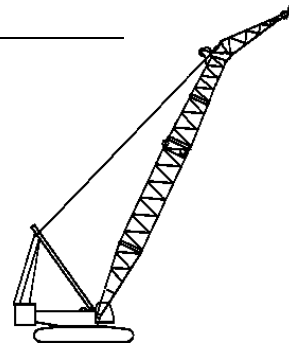


# Liftcrane Boom Extended Upper Point Capacities



**Boom No. 58WA with 24.9 ft Extended  
Upper Boom Point  
224,000 lb Crane Counterweight  
0 lb Carbody Counterweight  
360 Degree Rating**



**16000  
SERIES 1**



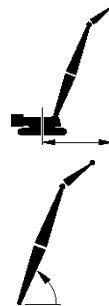
**LIFTING CAPACITIES:** Lifting capacities for various boom lengths and operating radii are for freely suspended loads and do not exceed 75% of a static tipping load. Capacities based on structural competence are denoted by an asterisk (\*).

Upper boom point (upper sheave) capacity for liftcrane service with single part whip line is 30,000 lb or 60,000 lb with two part line. In all cases, upper boom point capacities cannot exceed those listed for extended upper boom point (lower sheave) capacity.

Weight of all load blocks, hooks, weight ball, slings, hoist lines, etc., beneath upper boom point sheaves, is considered part of extended upper boom point load. Boom is not to be lowered beyond radii where combined weights are greater than rated capacity. Where no capacity is shown, operation is not intended or approved.

**OPERATING CONDITIONS:** Machine to operate in a level position on a firm uniformly supporting surface. Refer to boom rigging **No. 81009833**, Wire Rope Specification chart **No. 8889-A**, Counterweight Arrangement chart **No. 8682-A** and Wind Conditions chart **No. 8688-A**. Crane operator judgment must be used to allow for dynamic load effects of swinging, hoisting or lowering, travel, wind conditions, as well as adverse operating conditions and physical machine depreciation. Refer to Operator's Manual for operating guidelines.

**MACHINE TRAVEL:** Machine to travel on a firm, level and uniformly supporting surface and boom within boom angle range shown in capacity chart. Refer to Maximum Allowable Travel Specification chart **No. 8890-A**



**OPERATING RADIUS:** Operating radius is horizontal distance from axis of rotation to center of vertical hoist line or load block.

**BOOM ANGLE:** Boom angle in degrees ( $^{\circ}$ ) is angle between horizontal and centerline of boom butt and inserts, and is an indication of operating radius. In all cases, operating radius shall govern capacity.




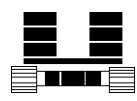
**EXTENDED UPPER BOOM POINT ELEVATION:** Extended upper boom point elevation is vertical distance from ground level to centerline of extended upper boom point (lower sheave) shaft.

**MACHINE EQUIPMENT:** Machine equipped with 34 ft crawlers, 60 in. treads, 32 ft live mast, 26 part boom hoist reeving, boom support straps, 224,000 lb crane counterweight and 0 lb carbody counterweight.


| WITH OR WITHOUT BOOM CATWALKS   |                       |
|---|-----------------------|
| Maximum Boom Length Lifted Unassisted   |                       |
| Over End of Blocked Crawlers  | Over Side of Crawlers |
| Boom Length   | Boom Length           |
| 223.1 ft  | 203.4 ft              |
| Load block, hook and weight ball on ground until combined weights are within rated capacity of chart. |                       |


**Explanation of Symbols**


58WA  Boom No. 58WA with 24.9 ft  
Extended Upper Boom Point


 Crane Counterweight  
+  
Carbody Counterweight


 360°  
360 Degree Rating


 Operating Radius  
(see page 1)

 Boom Angle  
(see page 1)

 Extended Upper Boom  
Point Elevation  
(see page 1)

 Lifting Capacities  
(see page 1)

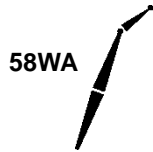
 Boom Length

 Extended Upper Boom  
Point Offset Angle

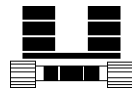
REFERENCE ONLY!

# 16000 S-1

ASME B30.5



58WA



224,000 lb  
+  
0 lb



360°

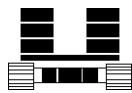


144.4 ft

|     | 28°  |       |           | 35°  |       |         |     |
|-----|------|-------|-----------|------|-------|---------|-----|
|     | ft   | ft    | lb        | ft   | ft    | lb      |     |
| 40  | 82.1 | 173.5 | 286,600 * |      |       |         | 40  |
| 45  | 80.3 | 172.3 | 249,600   |      |       |         | 45  |
| 50  | 78.6 | 171.0 | 212,100   |      |       |         | 50  |
| 55  | 76.8 | 169.5 | 183,400   | 77.6 | 168.6 | 185,100 | 55  |
| 60  | 75.0 | 167.9 | 160,700   | 75.8 | 166.9 | 162,200 | 60  |
| 65  | 73.2 | 166.1 | 142,300   | 74.0 | 165.1 | 143,600 | 65  |
| 70  | 71.4 | 164.1 | 127,100   | 72.1 | 163.1 | 128,300 | 70  |
| 75  | 69.5 | 161.9 | 114,300   | 70.2 | 160.9 | 115,300 | 75  |
| 80  | 67.6 | 159.5 | 103,300   | 68.3 | 158.5 | 104,300 | 80  |
| 85  | 65.7 | 156.9 | 93,900    | 66.4 | 155.9 | 94,800  | 85  |
| 90  | 63.7 | 154.1 | 85,700    | 64.4 | 153.1 | 86,500  | 90  |
| 95  | 61.7 | 151.1 | 78,400    | 62.4 | 150.0 | 79,200  | 95  |
| 100 | 59.7 | 147.8 | 72,000    | 60.4 | 146.7 | 72,700  | 100 |
| 105 | 57.6 | 144.2 | 66,300    | 58.3 | 143.1 | 66,900  | 105 |
| 110 | 55.5 | 140.4 | 61,100    | 56.1 | 139.2 | 61,600  | 110 |
| 115 | 53.3 | 136.2 | 56,400    | 53.9 | 135.0 | 56,900  | 115 |
| 120 | 51.0 | 131.7 | 52,100    | 51.6 | 130.5 | 52,600  | 120 |
| 125 | 48.6 | 126.9 | 48,200    | 49.2 | 125.6 | 48,600  | 125 |
| 130 | 46.1 | 121.6 | 44,700    | 46.7 | 120.2 | 45,000  | 130 |
| 135 | 43.5 | 115.7 | 41,400    | 44.0 | 114.3 | 41,700  | 135 |
| 140 | 40.8 | 109.4 | 38,300    | 41.2 | 107.9 | 38,600  | 140 |
| 145 | 37.8 | 102.3 | 35,400    | 38.2 | 100.6 | 35,700  | 145 |
| 150 | 34.6 | 94.3  | 32,800    |      |       |         | 150 |
| 155 | 31.1 | 85.2  | 30,300    |      |       |         | 155 |

# 16000 S-1

ASME B30.5



224,000 lb  
+  
0 lb

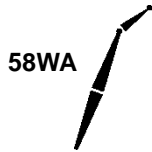


154.2 ft

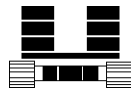
|     | 28°  |       |           | 35°  |       |         |     |
|-----|------|-------|-----------|------|-------|---------|-----|
|     | ft   | ft    | lb        | ft   | ft    | lb      |     |
| 40  | 82.5 | 183.5 | 286,600 * |      |       |         | 40  |
| 45  | 80.9 | 182.4 | 249,400   |      |       |         | 45  |
| 50  | 79.2 | 181.2 | 211,800   |      |       |         | 50  |
| 55  | 77.5 | 179.8 | 183,000   | 78.3 | 178.8 | 184,800 | 55  |
| 60  | 75.9 | 178.2 | 160,200   | 76.6 | 177.3 | 161,800 | 60  |
| 65  | 74.2 | 176.5 | 141,800   | 74.9 | 175.6 | 143,200 | 65  |
| 70  | 72.4 | 174.7 | 126,500   | 73.2 | 173.7 | 127,700 | 70  |
| 75  | 70.7 | 172.6 | 113,600   | 71.4 | 171.6 | 114,800 | 75  |
| 80  | 68.9 | 170.4 | 102,700   | 69.6 | 169.4 | 103,700 | 80  |
| 85  | 67.2 | 168.0 | 93,200    | 67.8 | 167.0 | 94,200  | 85  |
| 90  | 65.3 | 165.4 | 85,000    | 66.0 | 164.3 | 85,800  | 90  |
| 95  | 63.5 | 162.5 | 77,700    | 64.2 | 161.5 | 78,500  | 95  |
| 100 | 61.6 | 159.5 | 71,300    | 62.3 | 158.4 | 72,000  | 100 |
| 105 | 59.7 | 156.2 | 65,500    | 60.3 | 155.1 | 66,100  | 105 |
| 110 | 57.7 | 152.7 | 60,300    | 58.4 | 151.6 | 60,900  | 110 |
| 115 | 55.7 | 148.9 | 55,600    | 56.3 | 147.8 | 56,200  | 115 |
| 120 | 53.6 | 144.9 | 51,400    | 54.2 | 143.7 | 51,900  | 120 |
| 125 | 51.5 | 140.5 | 47,500    | 52.1 | 139.2 | 47,900  | 125 |
| 130 | 49.3 | 135.7 | 43,900    | 49.8 | 134.5 | 44,300  | 130 |
| 135 | 47.0 | 130.6 | 40,600    | 47.5 | 129.3 | 41,000  | 135 |
| 140 | 44.6 | 125.1 | 37,600    | 45.1 | 123.7 | 37,900  | 140 |
| 145 | 42.0 | 119.0 | 34,700    | 42.5 | 117.5 | 35,000  | 145 |
| 150 | 39.4 | 112.3 | 32,100    | 39.8 | 110.7 | 32,300  | 150 |
| 155 | 36.5 | 104.9 | 29,600    | 36.9 | 103.2 | 29,800  | 155 |
| 160 | 33.4 | 96.6  | 27,300    |      |       |         | 160 |
| 165 | 29.9 | 87.2  | 25,000    |      |       |         | 165 |

# 16000 S-1

ASME B30.5



58WA



224,000 lb  
+  
0 lb



360°

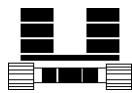


164.0 ft

|     | 28°  |       |           | 35°  |       |         |     |
|-----|------|-------|-----------|------|-------|---------|-----|
|     | ft   | ft    | lb        | ft   | ft    | lb      |     |
| 40  | 82.9 | 193.5 | 286,600 * |      |       |         | 40  |
| 45  | 81.4 | 192.5 | 249,400   |      |       |         | 45  |
| 50  | 79.8 | 191.3 | 211,700   |      |       |         | 50  |
| 55  | 78.2 | 190.0 | 182,900   | 78.9 | 189.0 | 184,700 | 55  |
| 60  | 76.6 | 188.5 | 160,100   | 77.3 | 187.6 | 161,700 | 60  |
| 65  | 75.0 | 186.9 | 141,600   | 75.7 | 186.0 | 143,000 | 65  |
| 70  | 73.4 | 185.2 | 126,300   | 74.1 | 184.2 | 127,600 | 70  |
| 75  | 71.8 | 183.3 | 113,400   | 72.5 | 182.3 | 114,600 | 75  |
| 80  | 70.1 | 181.2 | 102,500   | 70.8 | 180.2 | 103,500 | 80  |
| 85  | 68.5 | 178.9 | 93,000    | 69.1 | 177.9 | 94,000  | 85  |
| 90  | 66.8 | 176.5 | 84,800    | 67.4 | 175.4 | 85,600  | 90  |
| 95  | 65.0 | 173.8 | 77,500    | 65.7 | 172.8 | 78,300  | 95  |
| 100 | 63.3 | 171.0 | 71,000    | 63.9 | 169.9 | 71,800  | 100 |
| 105 | 61.5 | 168.0 | 65,300    | 62.1 | 166.9 | 66,000  | 105 |
| 110 | 59.7 | 164.7 | 60,100    | 60.3 | 163.6 | 60,700  | 110 |
| 115 | 57.8 | 161.2 | 55,400    | 58.4 | 160.1 | 56,000  | 115 |
| 120 | 55.9 | 157.5 | 51,200    | 56.5 | 156.3 | 51,700  | 120 |
| 125 | 54.0 | 153.5 | 47,300    | 54.5 | 152.3 | 47,800  | 125 |
| 130 | 52.0 | 149.2 | 43,700    | 52.5 | 148.0 | 44,100  | 130 |
| 135 | 49.9 | 144.6 | 40,400    | 50.4 | 143.3 | 40,800  | 135 |
| 140 | 47.7 | 139.6 | 37,400    | 48.2 | 138.3 | 37,700  | 140 |
| 145 | 45.5 | 134.2 | 34,600    | 46.0 | 132.9 | 34,900  | 145 |
| 150 | 43.2 | 128.4 | 31,900    | 43.6 | 127.0 | 32,200  | 150 |
| 155 | 40.7 | 122.1 | 29,500    | 41.1 | 120.6 | 29,700  | 155 |
| 160 | 38.1 | 115.2 | 27,200    | 38.5 | 113.5 | 27,400  | 160 |
| 165 | 35.3 | 107.5 | 25,000    | 35.6 | 105.7 | 25,200  | 165 |
| 170 | 32.3 | 98.9  | 22,900    |      |       |         | 170 |
| 175 | 28.9 | 89.0  | 21,000    |      |       |         | 175 |

# 16000 S-1

ASME B30.5



224,000 lb  
+  
0 lb

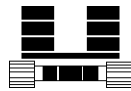
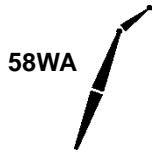


173.9 ft

| ft  | 28°  |       |         | 35°  |       |         | ft  |
|-----|------|-------|---------|------|-------|---------|-----|
|     | ft   | ft    | lb      | ft   | ft    | lb      |     |
| 45  | 81.8 | 202.5 | 249,200 |      |       |         | 45  |
| 50  | 80.3 | 201.4 | 211,400 |      |       |         | 50  |
| 55  | 78.8 | 200.2 | 182,500 | 79.5 | 199.2 | 184,400 | 55  |
| 60  | 77.3 | 198.8 | 159,600 | 78.0 | 197.8 | 161,300 | 60  |
| 65  | 75.8 | 197.3 | 141,000 | 76.5 | 196.3 | 142,500 | 65  |
| 70  | 74.3 | 195.6 | 125,700 | 74.9 | 194.6 | 127,000 | 70  |
| 75  | 72.7 | 193.8 | 112,800 | 73.4 | 192.8 | 114,000 | 75  |
| 80  | 71.2 | 191.8 | 101,800 | 71.8 | 190.8 | 102,900 | 80  |
| 85  | 69.6 | 189.7 | 92,300  | 70.2 | 188.7 | 93,300  | 85  |
| 90  | 68.0 | 187.4 | 84,000  | 68.6 | 186.4 | 84,900  | 90  |
| 95  | 66.4 | 184.9 | 76,700  | 67.0 | 183.9 | 77,600  | 95  |
| 100 | 64.8 | 182.3 | 70,300  | 65.4 | 181.2 | 71,000  | 100 |
| 105 | 63.1 | 179.5 | 64,500  | 63.7 | 178.4 | 65,200  | 105 |
| 110 | 61.4 | 176.4 | 59,300  | 62.0 | 175.3 | 60,000  | 110 |
| 115 | 59.7 | 173.2 | 54,600  | 60.2 | 172.1 | 55,200  | 115 |
| 120 | 57.9 | 169.7 | 50,400  | 58.5 | 168.6 | 50,900  | 120 |
| 125 | 56.1 | 166.0 | 46,500  | 56.7 | 164.9 | 47,000  | 125 |
| 130 | 54.3 | 162.1 | 42,900  | 54.8 | 160.9 | 43,400  | 130 |
| 135 | 52.4 | 157.9 | 39,600  | 52.9 | 156.6 | 40,000  | 135 |
| 140 | 50.4 | 153.4 | 36,600  | 50.9 | 152.1 | 37,000  | 140 |
| 145 | 48.4 | 148.5 | 33,700  | 48.9 | 147.2 | 34,100  | 145 |
| 150 | 46.3 | 143.3 | 31,100  | 46.8 | 142.0 | 31,400  | 150 |
| 155 | 44.1 | 137.7 | 28,700  | 44.6 | 136.3 | 29,000  | 155 |
| 160 | 41.9 | 131.7 | 26,400  | 42.3 | 130.2 | 26,600  | 160 |
| 165 | 39.5 | 125.1 | 24,200  | 39.9 | 123.5 | 24,400  | 165 |
| 170 | 36.9 | 117.9 | 22,200  | 37.3 | 116.2 | 22,400  | 170 |
| 175 | 34.2 | 109.9 | 20,300  |      |       |         | 175 |
| 180 | 31.2 | 101.0 | 18,400  |      |       |         | 180 |

# 16000 S-1

ASME B30.5



224,000 lb  
+  
0 lb

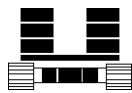


183.7 ft

|     | 28°  |       |         | 35°  |       |         |     |
|-----|------|-------|---------|------|-------|---------|-----|
|     | ft   | ft    | lb      | ft   | lb    | ft      |     |
| 45  | 82.2 | 212.5 | 249,000 |      |       |         | 45  |
| 50  | 80.8 | 211.5 | 211,100 |      |       |         | 50  |
| 55  | 79.4 | 210.3 | 182,100 | 80.0 | 209.3 | 184,100 | 55  |
| 60  | 77.9 | 209.0 | 159,200 | 78.6 | 208.0 | 160,900 | 60  |
| 65  | 76.5 | 207.6 | 140,600 | 77.1 | 206.6 | 142,200 | 65  |
| 70  | 75.1 | 206.0 | 125,200 | 75.7 | 205.0 | 126,600 | 70  |
| 75  | 73.6 | 204.3 | 112,300 | 74.2 | 203.3 | 113,600 | 75  |
| 80  | 72.1 | 202.4 | 101,300 | 72.7 | 201.4 | 102,400 | 80  |
| 85  | 70.6 | 200.4 | 91,800  | 71.2 | 199.4 | 92,800  | 85  |
| 90  | 69.1 | 198.2 | 83,500  | 69.7 | 197.2 | 84,400  | 90  |
| 95  | 67.6 | 195.9 | 76,200  | 68.2 | 194.9 | 77,100  | 95  |
| 100 | 66.1 | 193.4 | 69,700  | 66.6 | 192.4 | 70,500  | 100 |
| 105 | 64.5 | 190.8 | 63,900  | 65.1 | 189.7 | 64,700  | 105 |
| 110 | 62.9 | 187.9 | 58,700  | 63.5 | 186.8 | 59,400  | 110 |
| 115 | 61.3 | 184.9 | 54,000  | 61.9 | 183.8 | 54,700  | 115 |
| 120 | 59.7 | 181.7 | 49,800  | 60.2 | 180.5 | 50,300  | 120 |
| 125 | 58.0 | 178.2 | 45,900  | 58.5 | 177.1 | 46,400  | 125 |
| 130 | 56.3 | 174.6 | 42,300  | 56.8 | 173.4 | 42,800  | 130 |
| 135 | 54.5 | 170.7 | 39,000  | 55.0 | 169.5 | 39,500  | 135 |
| 140 | 52.7 | 166.5 | 36,000  | 53.2 | 165.3 | 36,400  | 140 |
| 145 | 50.9 | 162.1 | 33,200  | 51.4 | 160.9 | 33,500  | 145 |
| 150 | 49.0 | 157.4 | 30,500  | 49.5 | 156.1 | 30,900  | 150 |
| 155 | 47.0 | 152.4 | 28,100  | 47.5 | 151.0 | 28,400  | 155 |
| 160 | 45.0 | 146.9 | 25,800  | 45.4 | 145.5 | 26,100  | 160 |
| 165 | 42.9 | 141.1 | 23,700  | 43.3 | 139.6 | 23,900  | 165 |
| 170 | 40.7 | 134.8 | 21,600  | 41.0 | 133.3 | 21,900  | 170 |
| 175 | 38.3 | 128.0 | 19,700  | 38.7 | 126.4 | 19,900  | 175 |
| 180 | 35.9 | 120.5 | 17,900  | 36.2 | 118.8 | 18,100  | 180 |
| 185 | 33.2 | 112.3 | 16,200  |      |       |         | 185 |
| 190 | 30.3 | 103.1 | 14,600  |      |       |         | 190 |

# 16000 S-1

ASME B30.5



224,000 lb  
+  
0 lb



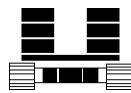
193.6 ft

| ft  | 28°  |       |         | 35°  |       |         | ft  |
|-----|------|-------|---------|------|-------|---------|-----|
|     | ft   | ft    | lb      | ft   | ft    | lb      |     |
| 45  | 82.5 | 222.5 | 248,800 |      |       |         | 45  |
| 50  | 81.2 | 221.5 | 210,800 |      |       |         | 50  |
| 55  | 79.9 | 220.4 | 181,700 | 80.5 | 219.4 | 183,700 | 55  |
| 60  | 78.5 | 219.2 | 158,700 | 79.1 | 218.2 | 160,500 | 60  |
| 65  | 77.1 | 217.8 | 140,000 | 77.7 | 216.8 | 141,600 | 65  |
| 70  | 75.8 | 216.3 | 124,600 | 76.4 | 215.3 | 126,000 | 70  |
| 75  | 74.4 | 214.7 | 111,600 | 75.0 | 213.7 | 112,900 | 75  |
| 80  | 73.0 | 212.9 | 100,600 | 73.6 | 211.9 | 101,800 | 80  |
| 85  | 71.6 | 211.0 | 91,000  | 72.1 | 210.0 | 92,100  | 85  |
| 90  | 70.1 | 208.9 | 82,700  | 70.7 | 207.9 | 83,700  | 90  |
| 95  | 68.7 | 206.8 | 75,400  | 69.3 | 205.7 | 76,300  | 95  |
| 100 | 67.2 | 204.4 | 68,900  | 67.8 | 203.3 | 69,700  | 100 |
| 105 | 65.8 | 201.9 | 63,100  | 66.3 | 200.8 | 63,900  | 105 |
| 110 | 64.3 | 199.2 | 57,900  | 64.8 | 198.1 | 58,600  | 110 |
| 115 | 62.8 | 196.4 | 53,200  | 63.3 | 195.3 | 53,800  | 115 |
| 120 | 61.2 | 193.4 | 48,900  | 61.7 | 192.2 | 49,500  | 120 |
| 125 | 59.7 | 190.1 | 45,000  | 60.2 | 189.0 | 45,600  | 125 |
| 130 | 58.1 | 186.7 | 41,400  | 58.6 | 185.6 | 42,000  | 130 |
| 135 | 56.4 | 183.1 | 38,100  | 56.9 | 181.9 | 38,600  | 135 |
| 140 | 54.8 | 179.3 | 35,100  | 55.3 | 178.1 | 35,500  | 140 |
| 145 | 53.1 | 175.2 | 32,300  | 53.5 | 174.0 | 32,700  | 145 |
| 150 | 51.3 | 170.9 | 29,600  | 51.8 | 169.6 | 30,000  | 150 |
| 155 | 49.5 | 166.2 | 27,200  | 50.0 | 164.9 | 27,600  | 155 |
| 160 | 47.7 | 161.3 | 24,900  | 48.1 | 160.0 | 25,200  | 160 |
| 165 | 45.8 | 156.1 | 22,800  | 46.2 | 154.7 | 23,100  | 165 |
| 170 | 43.8 | 150.4 | 20,800  | 44.2 | 149.0 | 21,000  | 170 |
| 175 | 41.7 | 144.4 | 18,900  | 42.1 | 142.9 | 19,100  | 175 |
| 180 | 39.6 | 137.9 | 17,100  | 39.9 | 136.3 | 17,300  | 180 |
| 185 | 37.3 | 130.8 | 15,400  | 37.6 | 129.1 | 15,500  | 185 |
| 190 | 34.9 | 123.1 | 13,700  | 35.1 | 121.3 | 13,900  | 190 |
| 195 | 32.3 | 114.6 | 12,200  |      |       |         | 195 |
| 200 | 29.4 | 105.1 | 10,700  |      |       |         | 200 |



# 16000 S-1

ASME B30.5



224,000 lb  
+  
0 lb

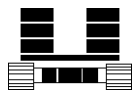


203.4 ft

|     | 28°  |       |         | 35°  |       |         |     |
|-----|------|-------|---------|------|-------|---------|-----|
|     | ft   | ft    | lb      | ft   | lb    | ft      |     |
| 45  | 82.9 | 232.5 | 248,700 | 82.2 | 230.6 | 213,000 | 45  |
| 50  | 81.6 | 231.6 | 210,600 | 80.9 | 229.5 | 183,500 | 50  |
| 55  | 80.3 | 230.5 | 181,400 | 79.6 | 228.3 | 160,200 | 55  |
| 60  | 79.0 | 229.3 | 158,400 | 78.3 | 227.0 | 141,300 | 60  |
| 65  | 77.7 | 228.0 | 139,700 | 77.0 | 225.6 | 125,700 | 65  |
| 70  | 76.4 | 226.6 | 124,300 | 75.6 | 224.0 | 112,600 | 70  |
| 75  | 75.1 | 225.0 | 111,300 | 74.3 | 222.3 | 101,400 | 75  |
| 80  | 73.7 | 223.3 | 100,200 | 73.0 | 220.5 | 91,800  | 80  |
| 85  | 72.4 | 221.5 | 90,600  | 71.6 | 218.6 | 83,300  | 85  |
| 90  | 71.0 | 219.6 | 82,300  | 70.2 | 216.5 | 75,900  | 90  |
| 95  | 69.7 | 217.5 | 75,000  | 68.8 | 214.2 | 69,400  | 95  |
| 100 | 68.3 | 215.3 | 68,500  | 67.4 | 211.8 | 63,500  | 100 |
| 105 | 66.9 | 212.9 | 62,700  | 66.0 | 209.3 | 58,200  | 105 |
| 110 | 65.5 | 210.4 | 57,500  | 64.6 | 206.6 | 53,500  | 110 |
| 115 | 64.1 | 207.7 | 52,800  | 63.1 | 203.7 | 49,100  | 115 |
| 120 | 62.6 | 204.8 | 48,500  | 61.6 | 200.7 | 45,200  | 120 |
| 125 | 61.1 | 201.8 | 44,600  | 60.1 | 197.5 | 41,600  | 125 |
| 130 | 59.6 | 198.6 | 41,000  | 58.6 | 194.1 | 38,200  | 130 |
| 135 | 58.1 | 195.2 | 37,700  | 57.0 | 190.5 | 35,100  | 135 |
| 140 | 56.6 | 191.6 | 34,700  | 55.5 | 186.6 | 32,300  | 140 |
| 145 | 55.0 | 187.8 | 31,800  | 53.8 | 182.6 | 29,600  | 145 |
| 150 | 53.4 | 183.8 | 29,200  | 52.2 | 178.3 | 27,200  | 150 |
| 155 | 51.7 | 179.6 | 26,800  | 50.4 | 173.7 | 24,900  | 155 |
| 160 | 50.0 | 175.0 | 24,500  | 48.7 | 168.9 | 22,700  | 160 |
| 165 | 48.3 | 170.2 | 22,400  | 46.9 | 163.7 | 20,700  | 165 |
| 170 | 46.5 | 165.1 | 20,400  | 45.0 | 158.2 | 18,700  | 170 |
| 175 | 44.6 | 159.7 | 18,500  | 43.0 | 152.3 | 16,900  | 175 |
| 180 | 42.7 | 153.8 | 16,700  | 41.0 | 146.0 | 15,200  | 180 |
| 185 | 40.6 | 147.6 | 15,000  | 38.8 | 139.2 | 13,600  | 185 |
| 190 | 38.5 | 140.8 | 13,400  | 36.6 | 131.8 | 12,000  | 190 |
| 195 | 36.3 | 133.5 | 11,900  |      |       |         | 195 |
| 200 | 33.9 | 125.6 | 10,400  |      |       |         | 200 |

# 16000 S-1

ASME B30.5



224,000 lb  
+  
0 lb



360°

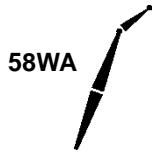


213.2 ft

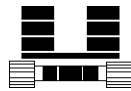
|     | 28°  |       |         | 35°  |       |         |     |
|-----|------|-------|---------|------|-------|---------|-----|
|     | ft   | ft    | lb      | ft   | ft    | lb      |     |
| 50  | 81.9 | 241.6 | 210,200 | 82.5 | 240.6 | 212,700 | 50  |
| 55  | 80.7 | 240.6 | 181,000 | 81.3 | 239.6 | 183,100 | 55  |
| 60  | 79.5 | 239.4 | 157,900 | 80.0 | 238.5 | 159,800 | 60  |
| 65  | 78.2 | 238.2 | 139,100 | 78.8 | 237.2 | 140,800 | 65  |
| 70  | 77.0 | 236.8 | 123,600 | 77.5 | 235.8 | 125,200 | 70  |
| 75  | 75.7 | 235.3 | 110,600 | 76.3 | 234.3 | 112,000 | 75  |
| 80  | 74.4 | 233.7 | 99,500  | 75.0 | 232.7 | 100,700 | 80  |
| 85  | 73.2 | 232.0 | 89,900  | 73.7 | 231.0 | 91,100  | 85  |
| 90  | 71.9 | 230.1 | 81,500  | 72.4 | 229.1 | 82,600  | 90  |
| 95  | 70.6 | 228.2 | 74,200  | 71.1 | 227.1 | 75,200  | 95  |
| 100 | 69.3 | 226.0 | 67,700  | 69.8 | 225.0 | 68,600  | 100 |
| 105 | 67.9 | 223.8 | 61,800  | 68.5 | 222.7 | 62,700  | 105 |
| 110 | 66.6 | 221.4 | 56,600  | 67.1 | 220.3 | 57,400  | 110 |
| 115 | 65.2 | 218.8 | 51,900  | 65.7 | 217.8 | 52,600  | 115 |
| 120 | 63.9 | 216.2 | 47,600  | 64.4 | 215.1 | 48,300  | 120 |
| 125 | 62.5 | 213.3 | 43,700  | 63.0 | 212.2 | 44,300  | 125 |
| 130 | 61.1 | 210.3 | 40,100  | 61.6 | 209.2 | 40,700  | 130 |
| 135 | 59.6 | 207.1 | 36,800  | 60.1 | 205.9 | 37,400  | 135 |
| 140 | 58.2 | 203.7 | 33,800  | 58.6 | 202.6 | 34,300  | 140 |
| 145 | 56.7 | 200.2 | 30,900  | 57.2 | 199.0 | 31,400  | 145 |
| 150 | 55.2 | 196.4 | 28,300  | 55.6 | 195.2 | 28,800  | 150 |
| 155 | 53.6 | 192.4 | 25,900  | 54.1 | 191.2 | 26,300  | 155 |
| 160 | 52.1 | 188.2 | 23,600  | 52.5 | 187.0 | 24,000  | 160 |
| 165 | 50.5 | 183.8 | 21,500  | 50.9 | 182.5 | 21,800  | 165 |
| 170 | 48.8 | 179.1 | 19,400  | 49.2 | 177.7 | 19,800  | 170 |
| 175 | 47.1 | 174.1 | 17,600  | 47.5 | 172.7 | 17,900  | 175 |
| 180 | 45.3 | 168.8 | 15,800  | 45.7 | 167.4 | 16,000  | 180 |
| 185 | 43.5 | 163.1 | 14,100  | 43.9 | 161.7 | 14,300  | 185 |
| 190 | 41.6 | 157.1 | 12,500  | 41.9 | 155.6 | 12,700  | 190 |
| 195 | 39.6 | 150.7 | 11,000  | 39.9 | 149.0 | 11,200  | 195 |

# 16000 S-1

ASME B30.5



58WA



224,000 lb  
+  
0 lb



360°



223.1 ft

|     | 28°  |       |         | 35°  |       |         |     |
|-----|------|-------|---------|------|-------|---------|-----|
|     | ft   | ft    | lb      | ft   | lb    | ft      |     |
| 50  | 82.3 | 251.6 | 209,900 | 82.8 | 250.6 | 212,400 | 50  |
| 55  | 81.1 | 250.6 | 180,600 | 81.6 | 249.6 | 182,800 | 55  |
| 60  | 79.9 | 249.5 | 157,400 | 80.4 | 248.5 | 159,300 | 60  |
| 65  | 78.7 | 248.3 | 138,600 | 79.3 | 247.3 | 140,400 | 65  |
| 70  | 77.5 | 247.0 | 123,100 | 78.0 | 246.0 | 124,700 | 70  |
| 75  | 76.3 | 245.6 | 110,000 | 76.8 | 244.6 | 111,500 | 75  |
| 80  | 75.1 | 244.1 | 98,900  | 75.6 | 243.1 | 100,200 | 80  |
| 85  | 73.9 | 242.4 | 89,300  | 74.4 | 241.4 | 90,500  | 85  |
| 90  | 72.6 | 240.6 | 80,900  | 73.2 | 239.6 | 82,000  | 90  |
| 95  | 71.4 | 238.8 | 73,500  | 71.9 | 237.7 | 74,600  | 95  |
| 100 | 70.1 | 236.7 | 67,000  | 70.7 | 235.7 | 68,000  | 100 |
| 105 | 68.9 | 234.6 | 61,200  | 69.4 | 233.5 | 62,100  | 105 |
| 110 | 67.6 | 232.3 | 55,900  | 68.1 | 231.2 | 56,800  | 110 |
| 115 | 66.3 | 229.9 | 51,200  | 66.8 | 228.8 | 52,000  | 115 |
| 120 | 65.0 | 227.3 | 46,900  | 65.5 | 226.2 | 47,600  | 120 |
| 125 | 63.7 | 224.6 | 43,000  | 64.2 | 223.5 | 43,700  | 125 |
| 130 | 62.4 | 221.8 | 39,400  | 62.8 | 220.6 | 40,000  | 130 |
| 135 | 61.0 | 218.8 | 36,100  | 61.5 | 217.6 | 36,700  | 135 |
| 140 | 59.6 | 215.6 | 33,000  | 60.1 | 214.4 | 33,600  | 140 |
| 145 | 58.2 | 212.2 | 30,200  | 58.7 | 211.0 | 30,700  | 145 |
| 150 | 56.8 | 208.7 | 27,600  | 57.2 | 207.5 | 28,100  | 150 |
| 155 | 55.4 | 205.0 | 25,200  | 55.8 | 203.7 | 25,600  | 155 |
| 160 | 53.9 | 201.0 | 22,900  | 54.3 | 199.8 | 23,300  | 160 |
| 165 | 52.4 | 196.9 | 20,700  | 52.8 | 195.6 | 21,100  | 165 |
| 170 | 50.8 | 192.5 | 18,700  | 51.2 | 191.2 | 19,100  | 170 |
| 175 | 49.3 | 187.9 | 16,800  | 49.7 | 186.6 | 17,200  | 175 |
| 180 | 47.6 | 183.0 | 15,100  | 48.0 | 181.7 | 15,400  | 180 |
| 185 | 46.0 | 177.9 | 13,400  | 46.3 | 176.4 | 13,700  | 185 |
| 190 | 44.3 | 172.4 | 11,800  | 44.6 | 170.9 | 12,000  | 190 |
| 195 | 42.5 | 166.5 | 10,300  | 42.8 | 165.0 | 10,500  | 195 |