

De-rating Forklift Truck Capacity

The capacity rating plate on the forklift truck must be corrected when attachments are installed. This is called **de-rating the lifting capacity**. This is a rules and regulations mandate. A calculation formula is provided below. It is the forklift owner's responsibility to contact their forklift truck manufacturer / distributor with this information to obtain a new capacity rating on the forklift's nameplate.

The QTLTSC forklift truck scale comes in ITA Class II (16" high, 5,000 lb/2,500 kg) and ITA Class III (20" high, 5,000 lb/2,500 kg and 10,000 lb/5,000 kg) and Class IV (25" high, 10,000 lb and 16,000 lb) models. Each class comes in several widths for cleat type carriages. Measure the height and width of the forklift truck carriage. Select from the tables in this document, the appropriate width that best meets the dimensions of the forklift truck carriage. Use the weights, dimensions and the following formula to calculate the net lifting capacity of your forklift truck with a scale attached. Refer to the illustrations.

$$\text{Net Capacity} = \frac{A(B + C) - D(E + F)}{E + G + H}$$

A = Truck basic capacity, pounds

B = Inches from front wheel center line to fork face

C = Inches from fork face to truck rating point (usually 24")

D = Weight of the scale in pounds

E = Inches from front wheel center line to carriage face

F = Inches from carriage face to scale center of gravity (CG)

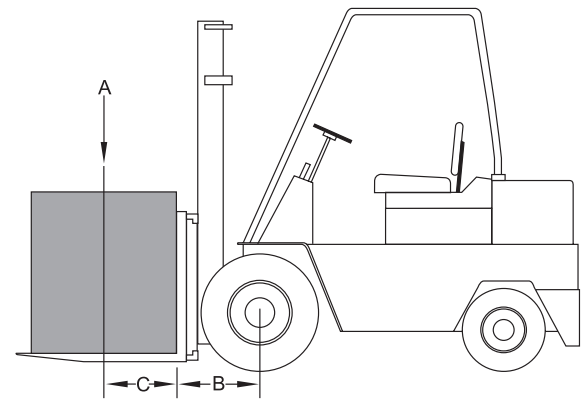
G = J + K (Inches from carriage face to rear face of load)

H = Inches from fork face to new truck rating point

J = Thickness of fork

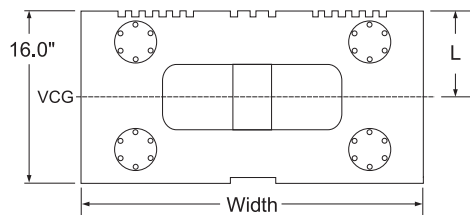
K = Thickness of scale

L = ½ the height of the scale or the Vertical Center of Gravity (VCG)

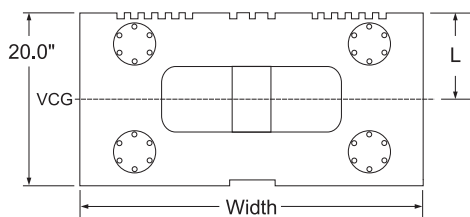


Forklift truck with no scale

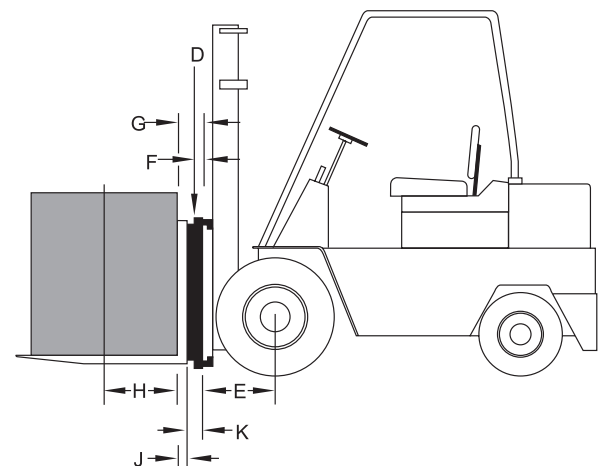
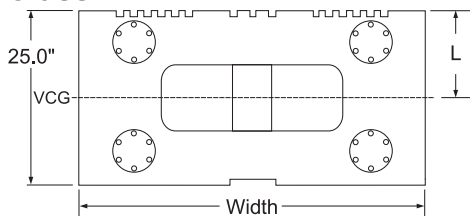
Class II



Class III



Class IV



Forklift truck with scale

QTLTS & QTLTSC Class II
5,000 lb/2,500 kg Models
 16" High

Width	Weight "D"	DIM "F"	DIM "K"	DIM "L"
30.0"	337 lb	2.0	4.0	8.00
31.0"	340 lb	2.0	4.0	8.00
32.0"	368 lb	2.0	4.0	8.00
33.0"	373 lb	2.0	4.0	8.00
34.0"	378 lb	2.0	4.0	8.00
35.0"	383 lb	2.0	4.0	8.00
36.0"	399 lb	2.0	4.0	8.00
37.0"	403 lb	2.0	4.0	8.00
38.0"	408 lb	2.0	4.0	8.00
39.0"	434 lb	2.0	4.0	8.00
40.0"	439 lb	2.0	4.0	8.00
41.0"	443 lb	2.0	4.0	8.00
42.0"	448 lb	2.0	4.0	8.00
43.0"	451 lb	2.0	4.0	8.00
44.0"	482 lb	2.0	4.0	8.00
45.0"	487 lb	2.0	4.0	8.00
46.0"	492 lb	2.0	4.0	8.00
47.0"	494 lb	2.0	4.0	8.00
48.0"	498 lb	2.0	4.0	8.00

All dimensions in inches

QTLTS & QTLTSC Class III
5,000 lb/2,500 kg Models
 20" High

Width	Weight "D"	DIM "F"	DIM "K"	DIM "L"
36.0"	573 lb	2.0	4.0	8.00
37.0"	580 lb	2.0	4.0	8.00
38.0"	587 lb	2.0	4.0	8.00
39.0"	593 lb	2.0	4.0	8.00
40.0"	630 lb	2.0	4.0	8.00
41.0"	638 lb	2.0	4.0	8.00
42.0"	644 lb	2.0	4.0	8.00
43.0"	651 lb	2.0	4.0	8.00
44.0"	688 lb	2.0	4.0	8.00
45.0"	695 lb	2.0	4.0	8.00
46.0"	702 lb	2.0	4.0	8.00
47.0"	708 lb	2.0	4.0	8.00
48.0"	715 lb	2.0	4.0	8.00

All dimensions in inches

QTLTS & QTLTSC Class III
10,000 lb/5,000 kg Models
 20" High

Width	Weight "D"	DIM "F"	DIM "K"	DIM "L"
38.0"	714 lb	2.75	5.50	10.00
39.0"	722 lb	2.75	5.50	10.00
40.0"	730 lb	2.75	5.50	10.00
41.0"	738 lb	2.75	5.50	10.00
42.0"	781 lb	2.75	5.50	10.00
43.0"	789 lb	2.75	5.50	10.00
44.0"	797 lb	2.75	5.50	10.00
45.0"	805 lb	2.75	5.50	10.00
46.0"	848 lb	2.75	5.50	10.00
47.0"	856 lb	2.75	5.50	10.00
48.0"	864 lb	2.75	5.50	10.00
49.0"	872 lb	2.75	5.50	10.00
50.0"	915 lb	2.75	5.50	10.00
51.0"	923 lb	2.75	5.50	10.00
52.0"	931 lb	2.75	5.50	10.00
53.0"	938 lb	2.75	5.50	10.00
54.0"	982 lb	2.75	5.50	10.00
55.0"	990 lb	2.75	5.50	10.00
56.0"	998 lb	2.75	5.50	10.00
57.0"	1,005 lb	2.75	5.50	10.00
58.0"	1,013 lb	2.75	5.50	10.00
59.0"	1,017 lb	2.75	5.50	10.00
60.0"	1,024 lb	2.75	5.50	10.00

All dimensions in inches

QTLTSC Class IV 10,000 lb Models
25" High

Width	Weight "D"	DIM "F"	DIM "K"	DIM "L"
38.0"	920 lb	2.75	5.50	12.50
39.0"	931 lb	2.75	5.50	12.50
40.0"	941 lb	2.75	5.50	12.50
41.0"	951 lb	2.75	5.50	12.50
42.0"	1,007 lb	2.75	5.50	12.50
43.0"	1,017 lb	2.75	5.50	12.50
44.0"	1,028 lb	2.75	5.50	12.50
45.0"	1,038 lb	2.75	5.50	12.50
46.0"	1,093 lb	2.75	5.50	12.50
47.0"	1,104 lb	2.75	5.50	12.50
48.0"	1,114 lb	2.75	5.50	12.50
49.0"	1,124 lb	2.75	5.50	12.50
50.0"	1,179 lb	2.75	5.50	12.50
51.0"	1,190 lb	2.75	5.50	12.50
52.0"	1,200 lb	2.75	5.50	12.50
53.0"	1,210 lb	2.75	5.50	12.50
54.0"	1,266 lb	2.75	5.50	12.50
55.0"	1,276 lb	2.75	5.50	12.50
56.0"	1,287 lb	2.75	5.50	12.50
57.0"	1,296 lb	2.75	5.50	12.50
58.0"	1,306 lb	2.75	5.50	12.50
59.0"	1,313 lb	2.75	5.50	12.50
60.0"	1,322 lb	2.75	5.50	12.50

All dimensions in inches

QTLTSC Class IV 16,000 lb Models
25" High

Width	Weight "D"	DIM "F"	DIM "K"	DIM "L"
38.0"	1,068 lb	3.06	6.13	12.50
39.0"	1,081 lb	3.06	6.13	12.50
40.0"	1,092 lb	3.06	6.13	12.50
41.0"	1,104 lb	3.06	6.13	12.50
42.0"	1,154 lb	3.06	6.13	12.50
43.0"	1,166 lb	3.06	6.13	12.50
44.0"	1,178 lb	3.06	6.13	12.50
45.0"	1,189 lb	3.06	6.13	12.50
46.0"	1,239 lb	3.06	6.13	12.50
47.0"	1,252 lb	3.06	6.13	12.50
48.0"	1,263 lb	3.06	6.13	12.50
49.0"	1,275 lb	3.06	6.13	12.50
50.0"	1,338 lb	3.06	6.13	12.50
51.0"	1,350 lb	3.06	6.13	12.50
52.0"	1,362 lb	3.06	6.13	12.50
53.0"	1,374 lb	3.06	6.13	12.50
54.0"	1,437 lb	3.06	6.13	12.50
55.0"	1,449 lb	3.06	6.13	12.50
56.0"	1,461 lb	3.06	6.13	12.50
57.0"	1,473 lb	3.06	6.13	12.50
58.0"	1,484 lb	3.06	6.13	12.50
59.0"	1,492 lb	3.06	6.13	12.50
60.0"	1,592 lb	3.06	6.13	12.50
61.0"	1,604 lb	3.06	6.13	12.50
62.0"	1,616 lb	3.06	6.13	12.50
63.0"	1,628 lb	3.06	6.13	12.50
64.0"	1,639 lb	3.06	6.13	12.50
65.0"	1,647 lb	3.06	6.13	12.50
66.0"	1,747 lb	3.06	6.13	12.50
67.0"	1,760 lb	3.06	6.13	12.50
68.0"	1,771 lb	3.06	6.13	12.50
69.0"	1,783 lb	3.06	6.13	12.50
70.0"	1,794 lb	3.06	6.13	12.50
71.0"	1,802 lb	3.06	6.13	12.50
72.0"	1,812 lb	3.06	6.13	12.50

All dimensions in inches

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