Tower Cranes

30 June 2017

Tower cranes are tall cranes that are able to lift and lower heavy building materials like concrete and steel during construction.

Image from Jaso Tower Cranes http://jaso.com/tower/en-au/cranes/luffing/serie-pa/

The parts of a tower crane include:

- the base which is bolted to concrete footing
- the vertical tower, also known as the mast, which is connected to the base and gives the crane height
- the gear and motor (slewing unit), which moves the crane, sits on top of the tower
- the horizontal boom (or jib), which works like an arm, carries the load that is being moved
- the crane operator's cab.

K-Block Crane Facts

Two tower cranes will be used to build K-Block.

The model to be used is the Jaso J438PA.

The tower cranes used for K-Block have luffing booms which allow weights to be moved on the same horizontal plane. They are specifically designed to work in confined spaces so they can avoid the hospital building and traffic surrounding the construction site.

The cranes will be installed at different heights and work independently.

32 tonne is the maximum load the tower crane can carry.

15 tonne is the maximum load the tower crane will carry during the construction of K-Block.

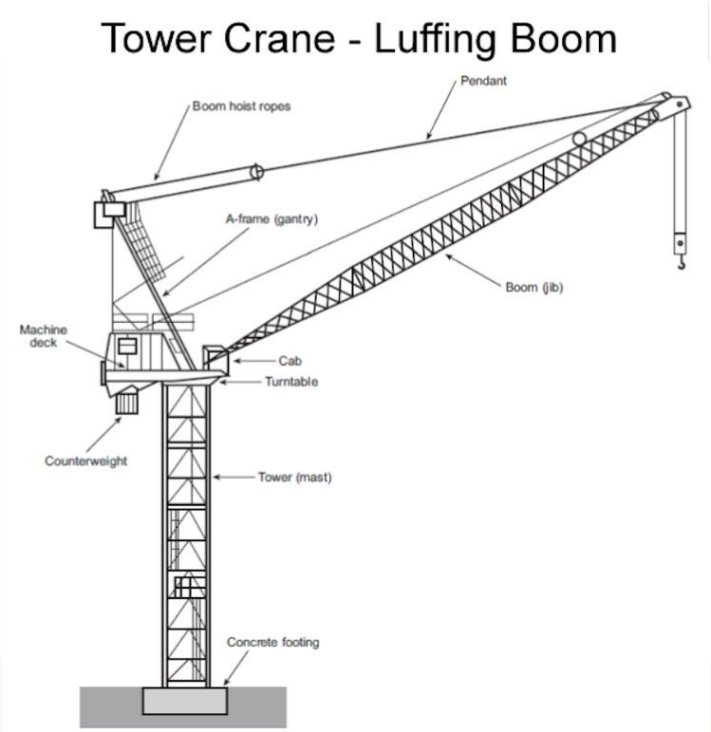
50 metres is the length of the boom (radius).

118 metres is the maximum height of tower crane one from ground level.

123 metres is the maximum height of tower crane two from ground level.

The weight a tower crane can carry depends on the angle the boom is extended. When the boom is extended as far as possible horizontally it can carry almost 8 tonne.

75 metres is the height of the plant room for the helipad. It's the highest point on K-Block that must be reached by a tower crane.



51 metres is the approximate height of the Royal Hobart Hospital's A-Block on the corner of Campbell and Liverpool Streets, and provides an example of the relative height.

National supplier, Titan Cranes and Rigging Pty Ltd, will provide, operate, and maintain the two tower cranes for the duration of the K-Block construction at a cost of $6.4 million.

The cranes will be operated by licensed crane operators.

The crane operators will work together with the people who hold a dogging or rigging licence. They sling the load to be craned and provide directions to the crane operator when the load is being moved.

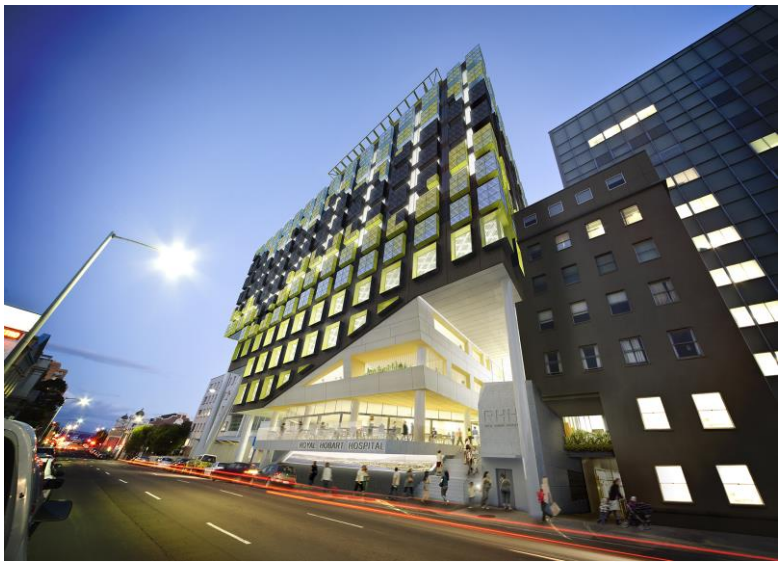
Duties from the crane design to how cranes are used are prescribed under Australian and Tasmanian health and safety laws and regulations. This includes certification that a crane has been set up safely, regular inspections and pre-use safety checks.

The first crane will be in Tasmania in July and the second is scheduled for September 2017.

It will take several days to assemble (and disassemble the cranes).

There will be some disruption to traffic in Campbell Street during this time.

Jaso tower crane image, courtesy of Titan Cranes Facebook.



The tower cranes must reach the top of the plant room for the helipad

For more RHH Redevelopment information

Visit our website
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References

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Item 2015, Slewing crane, http://glossar.item24.com/en/home/view/glossary/ll/en%7Cde/item/slewing-crane/, accessed 15 May 2017

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