

Tower Cranes

Tower Crane Rentals and Sales Ontario Canada - Cranes are a globally recognized form of industrial equipment that is commonly used in the materials handling industry. Oftentimes, they are equipped with chains, wire ropes, a hoist rope or sheaves. These components enable cranes to lift and lower items vertically as well as transporting items horizontally. Heavy crates, shipping containers, machinery and similar items can be efficiently moved thanks to a variety of crane models. Freight Transportation Cranes simplify loading and unloading and moving items. Their lifting capacity varies depending on the model. Cranes offer a great job site support and the mechanical advantage of an extended lifting capacity. Cranes are found in many industries and often seen on construction sites. Specified Use There are different cranes for many applications. Jib cranes can be used for tighter environments including workshops. Extensive tower cranes can be seen in construction. There is the right crane model available for numerous applications. They can help provide access to tight spaces. Floating cranes can be utilized for maritime applications such as salvaging sunken items or on oil rigs. Tower Cranes A tower crane is a model that is fixed on a concrete slab to the ground. This model is commonly attached to the sides of structures. It offers precise height and lifting reliability. Commonly used for building residential and commercial tall buildings, the base is attached to the mast which may extend for further reach. The crane is capable of rotating thanks to the mast that connects to the slewing unit. On top of the slewing portion are three parts known as the operator's cab, the shorter counter-jib and the long horizontal jib. The majority of the load is carried via the long horizontal jib. The counter-jib creates the counterweight and it may rely on concrete blocks. The jib houses the crane's load to and from the center. Usually, the operator of the crane resides in a cab situated on top of the tower, attached to the turntable; however, it may be capable of being mounted on the jib. There is a radio remote control feature that operators can access from the ground. Electric motors are used to operate the lifting hook and control wire rope cables located within a sheaves system. The long horizontal arm houses the cargo hook and its' motor. Often, the operator works alongside a rigger to accurately coordinate unhooking and hooking loads. Hand signals are a huge safety component used daily. The rigger has an important job dictating the crane's lifting schedule. They are responsible for making sure all rigging is reliable and safe. Truck-Mounted Cranes Truck mounted cranes consist of two parts including the boom and the carrier. These two items have a turntable to attach them, allowing the higher portion the ability to swing from side-to-side. Modern hydraulic truck cranes are generally single-engine machines. The same engine is responsible for providing power to the crane and the undercarriage. Hydraulics are necessary for delivering power to the upper portion of the crane through the turntable located from the pump attached to the bottom portion. Original, older hydraulic crane truck models commonly featured dual engines. One engine allowed the crane to be pulled down the road while the other engine controlled the hydraulic pump for the jacks and outriggers. Some operators prefer the older dual-engine models since there are often turntable leaks many newer units. You may have witnessed cranes traveling on roads to travel from site to site. This can eliminate the need for industrial transportation requirements unless the crane is of sizeable weight with size restrictions. Local transportation laws are in place. Larger machines may have trailers to distribute the load over a variety of axles. Certain cranes can be taken apart to meet certain requirements. A crane will often be followed by another truck containing the counterweights that are disassembled for travel. Outriggers & Stability Outriggers are extended horizontally from the chassis of the crane. The outriggers help to vertically stabilize the machine and keep it level during stationary and hoisting jobs. Some truck crane units can travel at slow speeds even while carrying a suspended load. Care is taken to ensure the load doesn't swing sideways from the direction of travel. Most of the anti-tipping capability is related to how stiff the chassis suspension is. Moving counterweights are included in a variety of models to amplify stabilization further than what the outriggers offer. Some of the most stable loads are suspended loads since the weight of the crane serves as a

counterweight. Safeguards are in place electronically to monitor the maximum safe loads for traveling speeds and stationary work.

Overhead and Bridge Cranes An overhead crane is a kind of crane commonly called a bridge crane. This mechanism features a crane with a hook-and-line mechanism and horizontal beam that is designed to run along rails that are spaced widely. This type of crane resembles a gantry crane. They are common within factory buildings and attach to rails that run down two walls. Cranes can be made with single or double beam construction and may rely on complex box girders or regular steel beams. Certain overhead cranes have the ability to use a control pendant for operation. Areas that need heavy lifting around ten tons or more can rely on a double girder bridge. The box girder design creates a system featuring higher system integrity with a lower deadweight. The hoist can lift the cargo along with the bridge portion covered by the crane and the trolley that can travel along the bridge. The manufacturing process of the steel industry utilizes cranes frequently. Steel is typically handled by an overhead crane until it leaves the factory as a finished piece. From raw materials to pouring hot steel and moving finished product, overhead cranes handle steel at every stage. Steel components are loaded by overhead crane and lifted onto trucks. Metal stampers and fabricators rely on this equipment daily as does the automobile industry to handle raw materials.

Pulp & Paper Mills Bridge cranes are commonly used in pulp mill maintenance. They are responsible for removing equipment including heavy press rolls. Bridge cranes utilized in paper machine construction help to install large apparatus' and equipment including huge components such as cast-iron paper drying drums and similar items.

Loader Crane Electrically powered with an articulated arm attached to a trailer or a truck and specified for unloading and loading, the loader crane consists of many jointed components that enable the machine to be folded into a small space between uses. Telescoping sections are popular. There are models that have the ability to stow or load themselves without any operator instruction. To complete viewing access of the load, the operator must move around the vehicle. Modern models may rely on a radio-linked system or a portable cabled control system that works alongside hydraulic controls that are mounted on the crane.

Gantry Crane A gantry crane has a hoist in a fixed machinery house or on a trolley that runs horizontally along rails, usually fitted on a single beam or two beams. The crane frame is supported on a gantry system with equalized beams and wheels that run on the gantry rail, usually perpendicular to the trolley travel direction. These cranes come in all sizes, and some can move very heavy loads, particularly the extremely large examples used in shipyards or industrial installations.