

Tower Cranes

Tower Crane Rentals and Sales Anaheim - 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. Shipping containers, giant crates, heavy machinery and other items can be transported efficiently. Freight Transportation Cranes are utilized to move items in terms of making loading and unloading easier and safer. The lifting capacity depends on the model. They provide a huge mechanical advantage and enable people to lift thousands of pounds of freight. Cranes are popular in a variety of industries and found in many locations. 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. Some cranes can allow 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. It is often seen attached to sides of structures as it provides excellent lifting and height capacity. Popular for building tall commercial buildings and residential structures, the base is mounted to the mast to create even further reach once extended. The slewing unit of the crane and it's connected mast allow rotation of the crane. The long horizontal jib, the shorter counter-jib and the operator's cab are all found above the slewing portion. 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. Operators can use a radio remote control unit from the ground. Electric motors are used to operate the lifting hook and control wire rope cables located within a sheaves system. The cargo hook, along with its motor is found in the long horizontal arm. The operator often works with a rigger to coordinate hooking and unhooking loads. Daily safety requires many important hand signals. 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 The boom and the carrier are two parts found on truck-mounted cranes. 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 responsible for providing power to the upper via the turntable from the pump mounted on the lower portion. Back in the day, older models of hydraulic crane trucks often had two engines. The first engine enabled the crane to travel down the road while the second engine controlled the hydraulic pump for the outriggers and jacks. Certain operators prefer the two-engine models due to the turntable leaks that commonly occur in newer design models. Cranes commonly have to travel via roads to get to different jobs. This can eliminate industrial transportation requirements unless the crane is sizeable with certain weight restrictions. Local transportation laws are in place. Larger machines may have trailers to distribute the load over a variety of axles. There are some crane models that can be taken apart to accommodate particular 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. Vertical stability is achieved by the outriggers to keep the machine level while completing hoisting and stationary applications. Some truck crane units can travel at slow speeds even while carrying a suspended load. Extra care is taken to make sure the load does not swing side to side from the travel direction. The majority of the anti-tipping aspect is related to the stiffness of the chassis suspension. Counterweights can be moved and adjusted on certain models to enhance stabilization even more than what the outriggers deliver. Suspended loads are among the most stable due to the majority of the crane's weight acting as a counterweight. Electronic

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

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. Locations requiring heavy lifting from ten tons and higher may use a double girder bridge. Higher system integrity and a lower deadweight may be delivered via the box girder style. The hoist is another item that is utilized to lift the cargo, the bridge spanning the portion covered by the crane and a trolley to move along the bridge. The steel industry relies on overhead cranes for much of the manufacturing. An overhead crane typically handles steel until it exits the factory as a completed item. All steel is handled by an overhead crane from raw materials being poured to storing hot steel for cooling and transporting finished coils. Steel items are moved onto trucks via overhead cranes. Metal fabricators and stampers and the automobile industry rely on these machines. **Pulp & Paper Mills** Bridge cranes are often relied on for regular pulp mill maintenance including removing equipment such as heavy press rolls. Paper machines rely on bridge cranes during construction to install massive equipment including cast iron paper drying drums and other heavy apparatus. **Loader Crane** Powered electrically with an articulated arm attached to a truck or trailer, specific for loading and unloading, the loader crane has numerous joints to allow the machine to be folded into a small space between uses. Telescopic sections are common. Certain models are equipped to stow themselves or load themselves without any instruction from the operator. The operator needs to move around the vehicle for viewing access to the load. 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 gantry system supports the crane frame with equalized beams. Wheels are running along the gantry rail, typically perpendicular to the direction the trolley travels. The gantry cranes are available in numerous sizes. Some models can move extremely heavy loads for industrial and shipyard applications.