

Tower Cranes

Tower Crane Rentals and Sales Santa Ana - Cranes are a globally recognized form of industrial equipment that is commonly used in the materials handling industry. Depending on the application, cranes may have wire ropes, sheaves, chains or a hoist rope. These products allow cranes to hoist materials vertically and transport them horizontally. Cranes make transporting cumbersome loads including machinery, shipping containers and crates much easier. Freight Transportation Cranes can lift difficult loads to make unloading and loading safer and more efficient. 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 Jib cranes can be tiny and are suited for cramped and smaller environments including workshops while giant tower cranes can be employed to construct high-rises. There are numerous cranes suited for many different jobs. 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 This type of crane 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. 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 its connected mast allow rotation of the crane. Above the slewing component, the operator cab is situated, along with the long horizontal jib and the counter jib. The long horizontal jib is the main crane component responsible for carrying the load. The counterweight is created by the counter-jib that may utilize concrete blocks. The jib contains the load to and from the crane's 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. The operator often works with a rigger to coordinate hooking and unhooking loads. Daily safety requires many important hand signals. The rigger determines the crane's lifting schedule and is responsible to make sure everything load and rigging wise is reliable and safe.

Truck-Mounted Cranes Truck-mounted cranes feature two parts known as the carrier and the boom. These two pieces rely on a turntable to attach them and allow the upper portion to swing from side to side. Updated hydraulic truck cranes are typically single-engine units. The engine supplies power to both the undercarriage and the crane. Hydraulics are responsible for providing power to the upper via the turntable from the pump mounted on the lower portion. Earlier hydraulic crane trucks commonly had two engines. One engine controlled the hydraulic pump for the outriggers and the jacks while the other engine was responsible for the crane's travel. 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. Transportation falls under local laws. Generally, bigger cranes have trailers to help the load become distributed over many axles. Some models can be disassembled to meet specific requirements. Often an additional truck will follow the crane. The truck has the counterweights that have been disassembled for travel.

Outriggers & Stability Stability is achieved by horizontal outriggers extending from the chassis of the crane. These are used vertically to stabilize the machine and keep it level during hoisting and stationary activities. Certain truck crane models have the capacity to travel slowly while maintaining a suspended load. Care is taken to ensure the load doesn't swing sideways from the direction of travel. The majority of the anti-tipping aspect is related to the stiffness of the chassis suspension. Many models include moving counterweights to be adjusted to enhance stabilization farther than what the outriggers provide. 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 A bridge crane is a type of overhead crane. This apparatus consists of a crane with a horizontal beam and a hook-and-line mechanism that is designed to run along widely spaced rails. This type of crane resembles a gantry crane. They are common within factory buildings and attach to rails that run down two walls. Overhead cranes may feature single or double beam construction and may use regular steel or complex box girder beams. A control pendant may be used to operate the crane. A double girder bridge can be used in places that require heavy lifting such as 10 tons or more. 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 is familiar with overhead cranes throughout the manufacturing process. Steel is typically handled by an overhead crane until it is transformed into a finished piece and leaves the factory. From raw materials to pouring hot steel and moving finished product, overhead cranes handle steel at every stage. 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 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 Powered with an electric articulated arm attached to a trailer or truck for loading and unloading, the loader crane is complete with many joints to facilitate folding the machine into a small space between jobs. These telescoping abilities are useful. Some models can even load or stow themselves on their own without any operator intervention. The operator needs to move around the vehicle for viewing access to the load. Current models often feature a portable cabled control system or radio-linked system that works beside 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 are available in many sizes and capable of moving heavy and cumbersome loads for industrial applications and in shipyards.