

Tower Cranes

Tower Crane Rentals and Sales Pomona - Cranes are a popular kind of industrial equipment commonly used in the materials handling industry. These machines may be outfitted with sheaves, a hoist rope, wire ropes or chains. These components enable cranes to lift and lower items vertically as well as transporting items 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. Different models have various lifting capacities. Cranes offer a great job site support and the mechanical advantage of an extended lifting capacity. 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 a crane perfectly suited for a variety of applications. Tight spaces may be more accessible with the use of cranes. Floating crane models may be employed to salvage sunken marine items including ships or used in 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 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. Concrete blocks may be used with the counter-jib to create the counterweight. The jib handles the load to and from the center of the crane. Normally the crane operator stays inside of a cab found on top of the tower attached to the turntable; although, it may be mounted on the jib instead. There is a radio remote control feature that operators can access from the ground. The operator relies on electric motors to control wire rope cables in a system of sheaves and control the lifting hook. The cargo hook, along with its motor is found in the long horizontal arm. Often, the operator works alongside a rigger to accurately coordinate unhooking and hooking loads. Daily safety requires many important hand signals. The rigger dictates the lifting schedule for the crane and is responsible to ensure all loads and subsequent rigging is safe and reliable. 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 engine supplies power to both the undercarriage and the crane. 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. Back in the day, older models of hydraulic crane trucks often had two 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. 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 laws may be in place regarding transportation. Typically, larger cranes are outfitted with trailers to help distribute the load over numerous 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 horizontally extend from the cranes' chassis to provide stability. Vertical stability is achieved by the outriggers to keep the machine level while completing hoisting and stationary applications. Certain truck crane models have the capacity to travel slowly while maintaining a suspended load. Care is given to ensure the load doesn't swing during travel. Most of the anti-tipping capability is related to how stiff the chassis suspension is. 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. Locations requiring heavy lifting from ten tons and higher may use a double girder bridge. The box girder style produces a system with a lower deadweight but offers higher system integrity. 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. 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. Overhead cranes lift steel components onto trucks. Metal fabricators and stampers use this equipment every day including the auto industry to transport raw materials. Pulp & Paper Mills Pulp mill maintenance commonly relies on bridge cranes. They are responsible for removing items including 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 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. These telescoping abilities are useful. Some models can even load or stow themselves on their own without any operator intervention. The operator can move around the machine in order to view 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 There is a hoist on the gantry crane found in a fixed machinery house or a horizontal trolley that runs along rails often fitted between two beams or a single beam. 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.