

Tower Cranes

Tower Crane Rentals and Sales Garden Grove - 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 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 can lift difficult loads to make unloading and loading safer and more efficient. Their lifting capacity varies depending on the model. They provide a huge mechanical advantage and enable people to lift thousands of pounds of freight. Cranes are found in many industries and often seen on construction sites. Specified Use Small jib cranes are ideal for cramped environments such as workshops. Giant tower cranes are a different breed that is useful for high-rise construction. There is the right crane model available for numerous applications. Some cranes can allow access to tight spaces. Floating cranes can be useful for salvaging sunken ships and other marine items. They may also be used on oil rigs.

Tower Cranes This type of crane is fixed on a concrete slab to the ground. This unit is often seen mounted to sides of structures to provide superior lifting and height. Commonly used for building residential and commercial tall buildings, the base is attached to the mast which may extend for further reach. The mast is connected to the slewing unit of the crane that enables it to rotate. The long horizontal jib, the shorter counter-jib and the operator's cab are all found above the slewing portion. The long horizontal jib is the main crane component responsible for carrying the load. The counter-jib creates the counterweight and it may rely on concrete blocks. The jib handles the load to and from the center of the crane. 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. 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. The operator commonly works together with a rigger to safely hook and unhook 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 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. Updated hydraulic truck cranes are typically single-engine units. 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. Original, older hydraulic crane truck models commonly featured dual 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. 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. Typically, another truck with the disassembled counterweights will follow the crane.

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. Specific crane truck models can slowly travel with 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. Suspended loads are among the most stable due to the majority of the crane's weight acting 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 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. Double beam or single beam construction model crane designs are available for overhead cranes, which may rely on complex box girder beam or regular steel beams. Certain overhead cranes have the ability to use a control pendant for operation. A double girder bridge can be used in places that require heavy lifting such as 10 tons or more. The box girder style produces a system with a lower deadweight but offers higher system integrity. 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 manufacturing process of the steel industry utilizes cranes frequently. Steel is typically handled by an overhead crane until it is transformed into a finished piece and leaves the factory. 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 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 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. Telescoping sections are popular. There are models that have the ability to stow or load themselves without any operator instruction. 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

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 crane frame is supported via beams and wheels on a gantry system and runs on the gantry rail which is generally perpendicular to the trolley direction of travel. The gantry cranes are available in numerous sizes. Some models can move extremely heavy loads for industrial and shipyard applications.