

Tower Cranes

Tower Crane Rentals and Sales Victorville - 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 products allow cranes to hoist materials vertically and transport them 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 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 crane models may be employed to salvage sunken marine items including ships or used in oil rigs. Tower Cranes The type of crane that is fixed on a concrete slab is a tower crane. 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 its 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 main component responsible for carrying the load is 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. Typically, the operator is found inside of a cab located on top of the tower that is attached to the turntable; however, it can be mounted on the jib alternatively. 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. Hand signals are an important part of daily safety. 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. Typically, modern hydraulic truck cranes feature single engines. 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. 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 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 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. Certain truck crane models have the capacity to travel slowly while maintaining a suspended load. Extra care is taken to make sure the load does not swing side to side from the travel direction. The stiffness of the chassis suspension delivers most of the anti-tipping aspect. Many models include moving counterweights to be adjusted to enhance stabilization farther than what the outriggers provide. Suspended loads are among the most stable due to the majority of the crane's weight acting as a counterweight. There are electronic safeguards in place to regulate the maximum safe loads for traveling speeds and stationary work. Overhead

and Bridge Cranes An overhead crane is often referred to as a bridge crane. This concept features a hook-and-line mechanism and a crane with a horizontal beam that is made to run along 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. Some overhead cranes have the capacity to be operated with a control pendant. 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. Cargo can be lifted with a hoist and the trolley that can travel along the bridge along with the bridge component covered by the crane. The steel industry relies on overhead cranes for much of the manufacturing. 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. 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 Bridge cranes are commonly used in pulp mill maintenance. They are responsible for removing equipment 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. Telescopic sections are common. Certain models are equipped to stow themselves or load themselves without any instruction from the operator 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 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 on a gantry system with equalized beams and wheels that run on the gantry rail, usually perpendicular to the trolley travel direction. The gantry cranes are available in numerous sizes. Some models can move extremely heavy loads for industrial and shipyard applications.