

Tower Cranes

Tower Crane Rentals and Sales New York - 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. 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. Cranes offer a great job site support and the mechanical advantage of an extended lifting capacity. 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 a crane perfectly suited for a variety of applications. 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 A tower crane is a model that 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. These cranes are used in residential and commercial construction. The base is mounted to the mast which can create further reach by extension. The crane is capable of rotating thanks to the mast that connects to the slewing unit. Above the slewing component, the operator cab is situated, along with the long horizontal jib and the counter jib. The majority of the load is carried via the long horizontal jib. The counterweight is created by the counter-jib that may utilize concrete blocks. The jib houses the crane's load to and from the center. 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. The operator may rely on a radio remote control apparatus 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. Often, the operator works alongside a rigger to accurately coordinate unhooking and hooking loads. Hand signals are a huge safety component used daily. 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. The carrier and the boom have an attached turntable to enable the upper component to swing from side to side. Updated hydraulic truck cranes are typically single-engine units. This engine has the responsibility of providing power to 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. 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. There are operators who would rather run the older two-engine models due to the frequent turntable leaks that often occur in some of the newer designs. Cranes often need to travel on roads to different locations, eliminating the need for industrial transportation unless there are size and 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 are extended horizontally 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 given to ensure the load doesn't swing during travel. 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 some of the most stable with most of the crane's weight functioning like a counterweight. There are electronic safeguards in place to regulate the maximum safe loads for traveling speeds and stationary work. Overhead and Bridge Cranes A bridge crane is

a type of overhead 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. These cranes are similar to a gantry crane and are often found in long factory buildings and attach to rails that run down two long walls. Overhead cranes may feature single or double beam construction and may use regular steel or complex box girder 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. 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 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. All steel is handled by an overhead crane from raw materials being poured to storing hot steel for cooling and transporting finished coils. Steel components are loaded by overhead crane and lifted onto trucks. Metal stampers and fabricators rely on this equipment daily as does the automobile industry to handle raw materials. Pulp & Paper Mills Bridge cranes are often relied on for regular pulp mill maintenance including removing equipment such as 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 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. Telescoping sections are popular. There are models that have the ability to stow or load themselves without any operator instruction. 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.