

Tower Cranes

Tower Crane Rentals and Sales Hayward - Cranes are a popular kind of industrial equipment commonly used in the materials handling industry. Oftentimes, they are equipped with chains, wire ropes, a hoist rope or sheaves. These components enable cranes to lift and lower items vertically as well as transporting items 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 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. Tight spaces may be more accessible with the use of cranes. Floating cranes can be useful for salvaging sunken ships and other marine items. They may also be used on oil rigs.

Tower Cranes The type of crane that is fixed on a concrete slab is a tower crane. 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 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 counterweight is created by the counter-jib that may utilize 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 sizeable horizontal arm contains the cargo hook along with its motor. Often, the operator works alongside a rigger to accurately coordinate unhooking and hooking 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 feature two parts known as the carrier and the boom. The carrier and the boom have an attached turntable to enable the upper component 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. Original, older hydraulic crane truck models commonly featured dual 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. 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. Some models can be disassembled to meet specific 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. The outriggers help to vertically stabilize the machine and keep it level during stationary and hoisting jobs. Some truck crane units can travel at slow speeds even while carrying a suspended load. Extra care is taken to make sure the load does not swing side to side from the travel direction. 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. Suspended loads are among the most stable due to the majority of the crane's weight acting as a counterweight. Electronic safeguards are in place to

monitor the maximum safe loads for stationary work and traveling speeds. 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. 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. A control pendant may be used to operate the crane. Areas that need heavy lifting around ten tons or more can rely on a double girder bridge. 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. An overhead crane handles all kinds of steel including raw materials being poured to transporting finished oils and storing hot steel. 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 often relied on for regular pulp mill maintenance including removing equipment such as 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 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. 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 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. These cranes are available in many sizes and capable of moving heavy and cumbersome loads for industrial applications and in shipyards.