

Cranes

Written by Admin

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1- Overhead Cranes (Bridge Cranes).

Bridge Crane Description:

A bridge crane runs on an elevated runway system along the length of a factory and provides three axis of hook motion (X, Y, and Z). The hoist moves the load up and down, the trolley moves the load right and left, and the bridge of the crane moves the load forward and backward. Both single and double girder overhead traveling bridge crane designs allow very precise hook positioning and gentle load placement. Double girder cranes typically provide better hook height, but single girder cranes offer other advantages depending on your application.

See below the double girder vs. single girder cranes , for more information comparing these types of cranes (such as height, cost, and spans). **A-□ □ Single Girder Overhead**

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Single girder overhead cranes up to 15 ton and 30 m span. Single girder overhead cranes are the most cost efficient option for an overhead crane. By use of box girder technology we can offer single girder overhead cranes up to 30 m spans. single girder overhead cranes come standard with the lightest wheel loads in the industry along with low headroom hoists equipped with variable frequency drives on both hoist and trolley. overhead cranes also come standard with bridge travel limit switches which reduces harmful loading on end stops and unnecessary load swing.

Advantages of Single Girder Overhead Cranes

- • Light weight = lower wheel loads (less building steel)

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- • Low head room monorail hoist
- • Lower production costs
- • Ease of maintenance
- • Ease of installation

B-□ □ Double Girder Overhead Cranes

Double Girder Overhead Cranes are generally utilized in capacities over 10 ton and spans approaching or exceeding 18 m, although double girder overhead cranes can be used at any capacity to span where extremely high lifts are necessary. This is because the hook can be lifted up between the girders.

Double girder overhead cranes are an excellent choice where high speeds and heavy service are required.

Girder Strength.

A common misconception is that double girder bridge cranes are more durable. Both single and double girder cranes are equally rigid, strong, and durable. This is because single girder cranes use much stronger cross girders than double girder cranes, and single girder cranes have lateral bracing.

The Difference is in Hook Height

The principle difference between single and double girder cranes is hook height (how far above the floor your hoist will lift). Double girder cranes provide better hook height. Double girders typically allow 45-90 centimeters higher lift.

Double girder cranes can provide more lift, because the hoist is placed between the cross girders rather than under them. Therefore, the depth of the cross girder is gained in switching to double girders.

Cost Considerations

Single girder cranes may cost less for several reasons:

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- • Only one cross girder is required
- • The trolley is simpler
- • Fright expenses are reduced
- • Installation is faster
- • Runway beams are lighter

2- Jib crane

Jib crane might well be probably the most versatile and helpful to companies. These cranes come in a wide array of shapes and dimensions and may be used inside a wide context of jobs.

- • Capacities to 10 tons
- • 360° or 180° rotation
- • Motorized or manual rotation
- • Complete units or money-saving kits
- • Base plate, pipe, wall or column mounted systems
- • simpler and less expensive than bridge or gantry
- • precise spotting for light loads (e.g. a few hundred Kgs or less)

Common Applications:

The most common applications for jibs are individual workstations; e.g., machine tools, welding/fabrication stations, and some small assembly stations. They are also often used in simple loading / unloading operations where it is not necessary to spot a load precisely. Jib cranes most often handle lighter loads at lower duty cycles .

If there is a need for precise locating of heavy loads, a large area of hook coverage, or frequent use for heavy loads, the jib crane may not be the best solution.

3- Monorails

With a monorail system, the hoist and trolley run on a single stationary beam. Because of their inherent speed and efficiency, monorail systems are an effective method of moving and

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positioning loads to specific locations.

We can offer complex monorail systems including curved tracks, multiple switches and interlocks which permit monorails to interface with other material handling systems.

We offer supporting structures, too—both ceiling-suspended and floor-mounted self-supporting. This allows us to provide you with the most cost-competitive monorail system for your facility.

Common Applications:

Monorails are often used for repetitive production jobs, such as paint booths and water treatment plants. Monorails are best used in applications where materials are to be transported from one fixed point to another fixed location, or through a process; e.g., painting, blasting, delivering hot metal from the furnace to a fixed pouring location. The monorail allows two axes of hook movement: up/down and forward/back along the monorail beam. There is no lateral motion under the monorail beam.

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