

# Double girder overhead travelling cranes



ZL-A



ZL-B



ZL-C

The train of thoughts specified on single girder O.H.T. cranes continued: Characteristic for double girder O.H.T. cranes is the higher capacity and/or the wider crane span (see page 5. figure on the bottom).

A double girder crane can of course be economic in the range of a single girder crane if special technical or geometrical circumstances make it reasonable.

Here are some examples for such reasons without any claim to completeness:

- in case of large lifting heights (20-30 m)
- trolley put between girders (ZL-SL design)
- application of rigid suspension grabs
- dragger suspension operated by rope
- grabs with non roving rope threading
- sidewalk beside the girder
- crane cabin travelling with the crab
- other

According to the connection between end carriage and girder we distinguish also „top connecting“ (ZL-A), „ bottom connecting“ (ZL-B) and „mounted“ (ZL-C) design. In practice the ZL-A arrangement occurs most often. The crab with the lifting gear normally runs on the rails welded to the upper flange of the girder. In the lifting gear of the crab running on top the rope drum is placed vertically to the girder, therefore the double girder cranes can be designed with different girder distances according to the lifting height. The rope drum dimensions grow significantly with growing lifting height, therefore for bigger lifting heights bigger girder distances are necessary as well as longer and stronger end carriages.

In some cases the girders can be placed closer to each other when the rope drum of the lifting gear is placed parallel to the girder. This construction can be solved by designing a special crab.

Compared with the single girder crane the double girder cranes are more robust, less sensible to dynamic loads. Besides same capacity the girders do not bend down as much, but the weight grows which means higher production costs and a higher stress on the runway.

# Double girder cranes ZL-SL

LIFTING EQUIPMENT **GD**

What can the operator do when the buildings clearance is small, but big lifting height is necessary?

## Order Double Girder O.H.T. Cranes Type ZL-SL from GD!

This by GD developed special crane construction combines the advantages of the single girder and the double girder crane to achieve the smallest height over all.

The ZL-SL design is extremely space saving because the lifting gear is sunk between the two girders (see figure top right). On single girder constructions the well-proved low running carriages allow the sinking.

Another advantage of the double girder design is the high capacity of the crane and its robust structure.

In case of low clearance it is a problem to lift big pieces with lifting beam because of the place requirement of the suspensions and the beam. The ZL-SL construction presents a cost-effective solution for this problem as well!

The asymmetrical designed low running crab allows placing another crab in a place-saving way (see middle figure). The hooks of the two crabs are worked simultaneously, thus replacing the lifting beam and significantly improving the lifting height available. The crane can be built as suspension crane as well (ZH-SL), which makes it possible to reach the extreme wide hook end position as well (see figure at the bottom).

