

Drive technology TODAY

Conveying and crane systems in the port on the Rhine River in Germersheim

The gantry crane in the port on the Rhine River in Germersheim achieves maximum operating safety with two industrial gear units and SEW-EURODRIVE drive components.

Overview

► The manufacturer of gantry crane in Germersheim is a pioneer in crane construction for operating safety. The company's philosophy is not only to build something that simply meets the minimum technical requirements. Instead, their goal is to supply a solid end product with sufficient reserves.

Gantry cranes in Germersheim: the power of the Rhine

The grounds of the crane manufacturer are located in Speyer, not far from the Rhine. This makes it easier to load and transport the cranes by ship. It takes about a year to produce a crane. This includes planning, metal

construction, installation of the electrical equipment, assembly, startup, and acceptance by TÜV, the German technical control board.

Due to the high demands for reliable container handling, it has great importance on ensuring the flawless and reliable operation of all the components they use.

This means that the manufacturer is not just concerned with the reliable function of the drive units. Smooth project planning through to the required service performance for this kind of durable gantry crane play an important role. ►



Gantry crane Germersheim

Challenge

The focus for the manufacture of conveying and crane systems was to ensure the maximum operating safety of all drive units, together with reliable service.

Solution

Our know-how in drive technology and the associated industry experience meant that we were able to provide a matching and powerful drive solution with SEW-EURODRIVE components. This allowed us to meet the desired service requirements.

Maximum operating safety and performance for container handling

The gantry crane operated in the Germersheim port has a length of 126 m, weighs 680 tons, and is capable of lifting a load of 65 tons. Such a sturdy example of solid mechanical engineering technology also requires solid, powerful drives for its hoist. Two AC 690 V motors with two downstream X3FS250/B series industrial gear units provide the drive unit. They give the crane its brawn. This lets the hoist travel at up to 80 m/min. The nominal output of the two gear units is 477 kW each, and the nominal torque is 175 kNm. The gear unit is connected to the hoisting drum via a pin coupling. This is assembled and delivered by SEW-EURODRIVE.



Travel drive with gearmotor



Gearmotor with terminal box



Hoist with X series

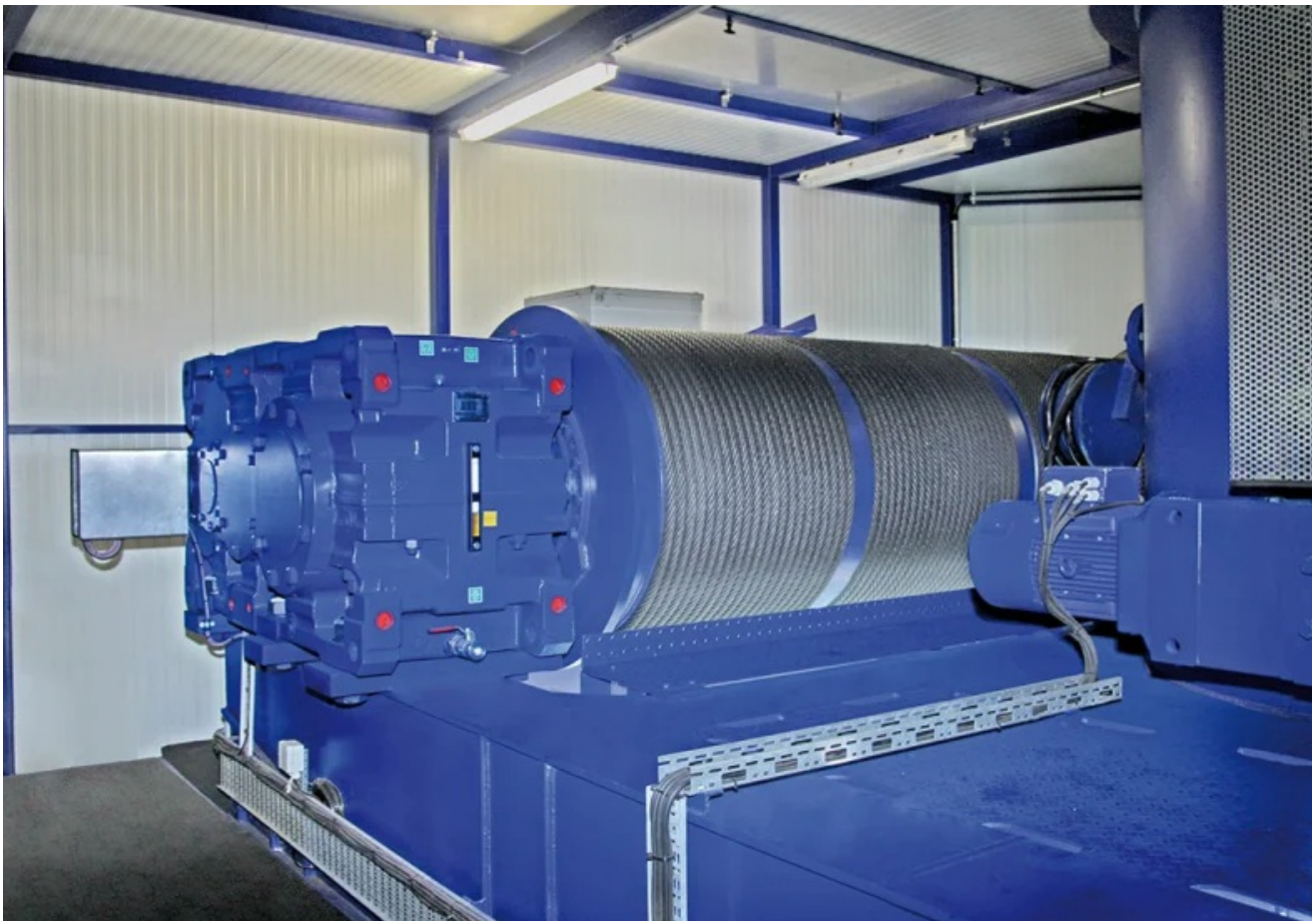


Gearmotors

Other SEW-EURODRIVE components ensure effective transportation

The entire machine cabin can be turned 280 degrees to allow trucks and trains to load properly. This is the reason why it is mounted onto a movable, rotating assembly. The crane manufacturer from Speyer decided on 2 helical-bevel gear unit motors, type K107, with a nominal output of 7.5 kW. The motors have reinforced insulation and are equipped with strip heaters, a temperature sensor and a brake. Four KT127 helical-bevel gear motors with a power rating of 37 kW are used for the trolley travel from the powerhouse and e-container on the gantry crane. The travel drives have a hollow shaft with the patented SEW-EURODRIVE TorqLOC® hollow shaft mounting system. This non-positive clamping joint has an excellent tolerance range

and can also be disassembled easily. This makes it an easy-to-service alternative to traditional connection methods, such as keys or shrink disks. For the travel drives, the manufacturer used 24 KT127 helical-bevel gearmotors, each of which has 22 kilowatts of power. Four of the drives were also equipped with an EV1C encoder. These measure the distance and angle of the gantry crane's movement. The inverter controller processes these measured values. The crane operator can move their cabin backwards and forwards in order to obtain a better view of the containers. The travel drive that is used in the cabin is a decentralized gearmotor with an integrated frequency inverter from the MOVIMOT® series. ◀



X series Industrial Gear Units