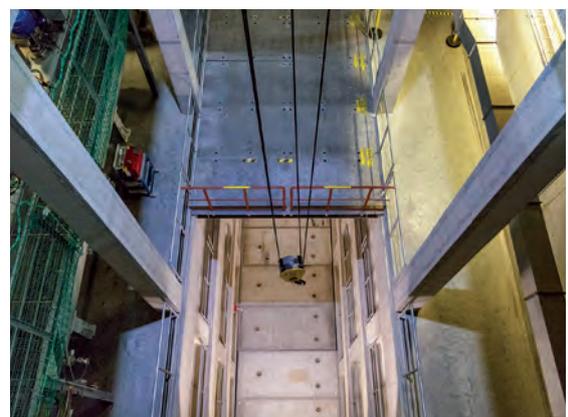


INDUSTRIAL CRANES
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KONECRANES[®]
Lifting Businesses[™]

Reference EUROPEAN XFEL GMBH



Konecranes has designed nine single- and double-girder overhead cranes, two wall-mounted jib cranes and three light crane systems for European XFEL GmbH in Hamburg.

Company profile European XFEL

The European XFEL research center in Hamburg has the world's strongest X-ray laser. A linear accelerator generates up to 27,000 flashes per second in a tunnel with a length of 3.4 kilometers and a depth of 6 to 38 meters. They make processes on an atomic level visible.

Starting point

The laser generates strong X-rays. The tunnel entrances are therefore closed with heavy concrete slabs. In addition, sensitive components are transported in the plant. This requires sensitive and precise cranes.

Requirements

The overhead cranes at European XFEL must lift precisely and vibration-free to safely transport sensitive components and scientific instruments. In addition, European XFEL requires light crane systems and wall-mounted jib cranes for smaller transport tasks.

Concept

Konecranes has designed a total of nine overhead cranes for European XFEL, including eight CXT double-girder overhead cranes. Seven of these cranes transport technical components at the beginning of the tunnel, at supply shafts and in the truck lock at the end of the tunnel and lift heavy concrete slabs. A smaller double-girder overhead crane is installed in the vacuum laboratory. A single-girder overhead crane at the tunnel entrance lifts pumps for maintenance. Two wall-mounted jib cranes and three light cranes perform smaller transport tasks.

Solution

The CXT double-girder overhead cranes for European XFEL lift up to 20 tons. With a span of 20.85 meters each and a lifting height of up to 38 meters, the two double-girder overhead cranes lift components all the way to the lowest point of the tunnel. The other double-girder overhead cranes manage with a lifting height of up to 21 meters. The overhead crane in the vacuum laboratory lifts particularly sensitive lab equipment with up to 5 tons. All CXT double-girder overhead cranes are equipped with frequency converters and sway control.

Customer benefits

Thanks to the frequency converters and sway control features, the double-girder overhead cranes lift smooth and continuously and the load does not sway – safe transport of sensitive



components and large concrete slabs. The two CXT double-girder overhead cranes at the tunnel entrance also save space thanks to their rotated cable drums and can work synchronously in tandem mode.

And what does European XFEL say?

“The Konecranes Team has supported us at other major research centers in the past and therefore knows our requirements very well. For European XFEL, it is particularly important that our highly sensitive components are transported into the tunnel safely. The new cranes lift and travel continuously and do not sway. This will take us further, because that's how our super-laser works at its best.”

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Konecranes – Lifting Businesses™

Konecranes is one of the world's leading manufacturers of crane and lifting technology. In the business departments Service and Equipment, we develop solutions which lift loads and increase the productivity of our customers. We develop and produce crane systems and offer services for crane and machine tools of all makes.

Konecranes, headquartered in Finland, has about 16,200 employees worldwide at 600 locations in 50 countries. We combine global experience with local knowledge. Our customers include the production and process industry, shipyards, as well as ports and cargo terminals. They all profit from our claim: “Lifting Businesses!”

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