

November 13, 2024

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## Custom Design as Standard

**The CraneKit from STAHL CraneSystems is the flexible off-the-shelf solution for custom crane applications with special requirements.**



((Lead Image)) Image source: Summer Metalltechnik

**Custom designs are now standard in many lifting technology applications, especially when special requirements and spatial constraints must be taken into account. An outstanding example of this is the modernization of the Meiningen wastewater treatment plant, managed by the Feldkirch Wastewater Association.**

In 2023, the association faced the challenge of modernizing its aging excess sludge and sewage sludge dewatering systems. A key aspect of this project was the implementation of a customized lifting system that was not only powerful but also compact enough to fit into the existing infrastructure.

Considering the demanding spatial conditions and specific maintenance requirements, a system had to be designed that was robust enough to lift heavy components of the dewatering system while being compact and space-efficient to integrate seamlessly into the facility. At the same time, work safety and the efficiency of maintenance processes were to be significantly improved.

For this special application, a custom design of the brackets for a single-girder underslung crane was developed to maximize lifting height by using an electric trolley with an ultra-low headroom hoist. This custom solution was planned, manufactured, and installed by Summer Metalltechnik.

## CraneKit with Single-Girder Underslung Crane and All Necessary Accessories

For the modernization of the Meiningen wastewater treatment plant, Summer Metalltechnik benefited from a partnership with STAHL CraneSystems, which had been effectively acquired through the acquisition of Schuler Kranpartner in 2021.

Christoph Nägele, Head of Crane Technology at Summer Metalltechnik, commented: "To compensate for the limited building height while still ensuring maximum lifting height, we used the CraneKit from STAHL CraneSystems. This provided us with a one-stop solution package for quickly implementing a flexible solution."

The modular crane system consists of a single-girder underslung crane, a chain hoist (a lifting device that moves heavy loads via a chain), as well as the appropriate control and motor technology. A key advantage of this kit is its flexibility, making it easy to adapt to the specific requirements of each application. Another benefit is the intuitive planning software, which allows crane systems to be configured efficiently with minimal planning effort.

A single-girder underslung crane is a specialized crane system known for its compact design. Unlike conventional crane systems, the single-girder underslung crane is mounted directly to the ceiling of the hall, requiring no support pillars or wall attachments. This feature made the underslung crane from STAHL CraneSystems the ideal solution for the wastewater treatment plant, as it maximizes available space while ensuring sufficient lifting height for necessary maintenance tasks.

### Flexible Adaptation to Local Conditions

The solution was tailored to the specific requirements of the Feldkirch Wastewater Association. To achieve maximum lifting height in the limited overhead space, an electric trolley with an ultra-low headroom hoist was used. This special design reduces the crane's overall height and allows a maximum lifting height (vertical movement range of the crane) of 3.5 meters despite the confined conditions.

Additionally, a special form of brackets for the crane runway was employed to make optimal use of the hall's specific spatial conditions. The crane system, with its compact design, is ideal for the plant's tight space constraints. The low construction height allows full utilization of the maximum possible lifting height.

The single-girder underslung crane from STAHL CraneSystems offers a lifting capacity of 4,000 kg. The track gauge—the distance between the rails on which the crane runs—is 4.5 meters. The total length of the crane runway was set at 9 meters, ensuring flexibility for transporting loads within the facility.

The hoist motor type E42 for the STK5020-8/2 4/2-1 lifting device offers two lifting speeds: a slow speed of 1.00 m/min and a fast speed of 4.00 m/min. This flexibility allows both precise and rapid lifting operations, depending on the specific maintenance requirements.

The travel speed of the ultra-low headroom hoist, meaning the movement of the lifting device along the crane, ranges from 5 m/min in slow mode to 20 m/min in fast mode. For horizontal movement of the entire crane, there are also two travel speeds: a slow speed of 10 m/min and a fast speed of 40 m/min.

### Custom Designs as Standard Solutions

For crane systems, Summer Krantechnik exclusively uses high-quality chain and wire rope hoists from partners such as STAHL CraneSystems. The use of the CraneKit demonstrates how custom designs can become standard solutions when complemented by flexible planning and high-quality components.

An example of this flexibility is the option to retrofit the crane with additional components or functions if needed. This allows the crane system to be easily adapted to changing requirements without the need for a completely new installation. This forward-looking approach ensures that the crane will continue to meet operational demands in the years to come.

Overall, the solution stands out for its adaptability to spatial conditions and high performance. It not only enables more efficient maintenance of the dewatering systems but also significantly improves operational safety and efficiency.

**For more information about the CraneKit from STAHL CraneSystems, visit:**  
<https://www.cmco.com/en-de/products/Crane-systems/Crane-kits/crane-kits/cranekits/>

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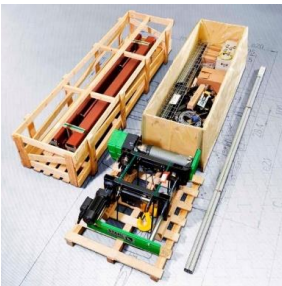
Images and captions



The crane runway mounted directly on the ceiling takes up very little space (Image source: Summer Metalltechnik)



The single-girder suspension crane, realized with the CraneKit from STAHL CraneSystems (Image source: Summer Metalltechnik)



The CraneKit from STAHL CraneSystems: the basis for customized lifting solutions even in demanding environments (Image source: STAHL CraneSystems)

Further optional images:

