

RACO electric actuators

BULK GOODS TECHNOLOGY
WAGON LOADING DEVICE

RACO



RACO electric actuators in bulk goods technology: Adjustment of a wagon loading device

Thanks to their robust design, RACO electric actuators® from the Heavy Duty series are used as reliable mechatronic drives for a wide variety of infeed movements in bulk materials technology in the construction, stone and soil sectors. The actuation of flaps and chutes as well as the exact positioning of bulk material flow dividers are performed by electric actuators that are easy to install and can be controlled independently as field devices.

When loading wagons with bulk goods, the task is to load the wagons as quickly and evenly as possible over their entire length. In the case of stationary wagons, this is realised via a movable wagon loading device (swivel chute) or via a combination of several changeover flaps and slides.



About the project:

A further wagon loading facility has been put into operation at Kali und Salz in Wintershall. The wagons are loaded using a chute that is moved by a RACO Heavy Duty series electric actuator®. During the loading process, the chute must be moved precisely to seven different, defined positions in order to achieve homogeneous loading of each wagon. The approach accuracy of the individual points must be guaranteed from both directions.

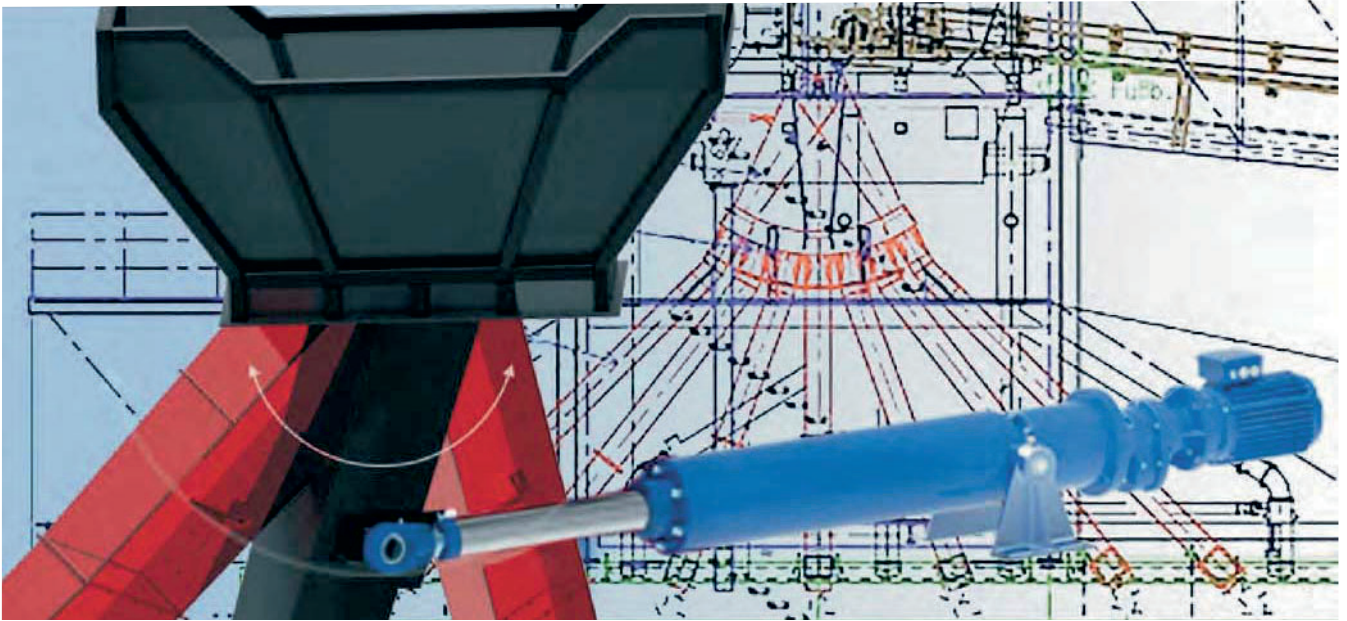
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A RACO electric actuator type T1M6 from the Heavy Duty series, which defies the adverse operating conditions in the wet area of potash loading, in combination with the RACOMATIC® in configuration "B", which stores up to 8 positions, was the perfect solution.

The corrosion protection package of the electric actuator includes painting in accordance with DIN ISO 12944 and the use of stainless steel for the push tube and fastening elements. The wipers in the guide cap are designed for extreme environmental conditions and protect the inner part of the electric actuator from dirt particles. Build-up on the push tube is also safely removed. A spring system protects the spindle nut from axial impact loads, which can be introduced into the electric actuator via the thrust tube. Only RACO electric actuators offer this patented spring cup system.



The components of the RACOMATIC® such as the frequency inverter including connection module, a choke and a braking resistor are installed in a control cabinet on site and thus protected from aggressive media. The actuating speed of the electric actuator can be set by the customer within a range of 4 - 35 mm/sec. while maintaining the actuating force. In order to optimise the movement profile for the loading process, the factory-set ramps can be easily readjusted using the RACOMATIC® tool.

The following aspects of this project should be emphasised:

- Electric actuator withstands the most adverse environmental conditions; in particular temperature and vibrations
- Precise positioning of the chute using RACO electric actuators® in conjunction with RACOMATIC®
- System solution from a single source for simple integration into the overall system

Would you like to find out more about our products? We will be happy to advise you!

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