

KNIFE GATE VALVES FOR SOLIDS DISCHARGE

Our XC hopper knife gate valve type was selected for loading potash and salt in railway wagons.

A potash mine has a railway complex for loading wagons with potash and salt. The loading of each wagon must be carried out by opening (4x) DN 600 knife gate valves, in a time of between 50 and 60 seconds. ORBINOX proposes installing pneumatically actuated XC hopper type valves with a safety air tank in case of failure.

Application

- Loading railway wagons with potash and salt

Challenge

- To load three trains a day with potash and salt, each train consists of 21 wagons
- Each wagon has to be loaded in an interval between 50 and 60 seconds, by simultaneously unloading four silos
- Each silo will have a XC knife gate valve installed with pneumatic actuation

Working conditions

- Pressure: silo unloading by gravity
- Temperature: ambient
- Potash and salt dry solids
- Solids size: max.4 mm.

Solution

DN 600 XC knife gate valves with a deflection cone and pneumatic actuator. As well as:

- Body: CF8M
- Gate: duplex 2205
- Seat: PTFE
- Deflection cone: ni hard
- Double acting pneumatic cylinder
- Air tank

Result

- Satisfactory valve opening and closing stroke
- Loading of each wagon in the established time interval (50-60 sec.)

The Orbinox XC knife gate valves work correctly and the railway wagons are loaded within the established time.

