

## VALVES FOR LINE ISOLATION WITH SCALE GENERATION

Application of the TK through-conduit knife gate valve, adapted for operation in Partial Stroke, for isolating sodium carbonate tank outlet lines where scale is generated.

The sodium carbonate solution generates a hard scaling on surfaces as it flows through a pipe. This scale quickly covers all surfaces in contact with the sodium carbonate, both on the pipes and inside the valves, reducing the bore and, after a short time, stopping the valves from being operated.

### Application

- Sodium carbonate tank outlet pipes

### Challenge

- To perform a partial stroke every 8 hours, keeping the line in operation with the following movements:
  - A first displacement of 10 mm of the gate upwards
  - To continue with a downward movement until the valve open position is reached and continue 10 mm further downwards to
  - Finally return to the open position

### Working conditions

- Pressure: 2 barg
- Temperature: ambient
- Solids %: 30 – 40 %
- Solids size: max. 1 mm

**ORBINOX TK valves remain operational in the presence of crust, allowing the lines to be isolated and the generated crust to be eliminated.**



### Solution

- (2x) through conduit TK knife gate valves DN 300 PN10 with programmable electric motor to perform partial strokes. In addition:
  - Body: CF8M
  - Gate: AISI 316
  - Seat: PTFE + deflection cone

### Result

- Satisfactory valve opening and closing operation
- Total tightness for isolating lines
- Possibility to isolate lines for replacement of pipe sections

