

Variable speed actuation - process control and pump protection

Main image shows a brine wellhead with associated pipework. Inset is the SIPOS 5 PROFITRON 2SG5 part-turn actuator, with wall mounted electronics unit.



Application

Brine pumping control valves

INEOS Enterprises in Mid Cheshire UK have several hundred brine wells, each using pumps to transfer brine from the well to saturator units. The flow is controlled using Pump Delivery Recycle Butterfly Valves driven by actuators.

Design Challenge

Different open/close and emergency close valve speed actuation

Under normal operation when a reduced flow is detected, the actuator which controls the valve is opened over a period of 80 seconds, however, if a reverse flow is detected then the valve needs to be closed in 10 seconds to protect the pump. Different actuation speeds are therefore required for opening, closing and emergency closure to protect the pump.

Solution

SIPOS 5 with multiple speed settings

The SIPOS 5 actuator is able to provide up to seven different opening / closing speeds. These can be programmed independently for OPEN, CLOSE, Emergency OPEN and Emergency CLOSE

Technical Data

Open / Close speed graph

The graph illustrates the ability to program the SIPOS 5 actuator with different speeds for routine opening (green) / closing (blue) and emergency closure (red) of valves.



