

KLINGER Fluid Control

Reference Case

Shut off valve for the supply line in a geothermal process

Operator: Erdwärme Grünwald GmbH
Location: Grünwald/Germany
Plant Capacity: 37 MW

Operating Conditions

Operating Temperature: 127°C
Operating Pressure: 8 bar
Media: Geothermal water

KLINGER Product: Ballostar KHI
Size: DN150 & DN300
Material: Carbon & stainless Steel
Sealing: Metal



Ballostar KHI DN150
Location: in front of the heat exchanger

Crystallized solids caused by scaling

Description

Geothermal water has the negative side effect, that scaling happens in case of pressure fluctuations in the system at operating temperatures above 70°C. Therefore operators have to eliminate every source of pressure changes to reduce the operating costs and increase availability. Pressure changes are typically created by pipe bendings or valves which do not allow free flow through the passage area (e.g. butterfly valves).

In its original set up, the plant in Grünwald has been equipped with butterfly valves in the supply line. Based on the turbulences caused by the valve disc, massive scaling occurred. Based on this scaling, crystallized solids layed down on and after the butterfly valves which has the effect that tight closing has not been possible anymore. The result: the operator has to carry out time and cost intensive purging with phosphoric acid every few weeks.

In 2017 the operator decided to replace the existing butterfly valves with KHI ball valves (with metal sealing elements and additional flushing/drain connections) to heavily reduce the turbulences in the system and therefore also the effect of scaling. Since then, the operator did not have to shut down the process for valve cleaning. In fact, beside cost saving, the availability of the plant has been increased by the change over from butterfly valves to KLINGER Ballostar KHI.

Contact person for further information

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