

Contrac - Electrical actuators

Accurate continuous control of spraywater control valves on steam boilers with superheater



High temperature version up to 85 °C NS9-100 % mode for motors and electronic units

—
Contrac

Introduction

Spraywater valves on steam boilers control the cooling water quantity that is injected into the superheated steam in the superheater and reheater. The injected water quantity is decisive for the steam temperature inside and at the output of the superheater.

Injecting too much water in this process will result in excessive steam cooling with a negative effect on the efficiency. On the other hand, an insufficient quantity of water injected can lead to high steam temperature and excessive pressure. The risk of damage to the superheater, turbine and downstream components increases as a result.

Optimal superheater operation using the lowest possible steam cooling and the maximum admissible hot steam temperature first of all requires continuous and precise mass flow control of the injected cooling water.

Depending on the operating state, this requirement means the supply of very small water quantities and, thus, high-precision positioning in a valve's disproportionate zone. The operating environment is extremely rough. Additionally, very high ambient temperatures may occur in the superheater area.



The solution

—
01 Installed Contrac continuous actuator

—
02 Contrac electric linear actuator

Using Contrac continuous electrical actuators ensures ideal positioning of spraywater control valves. S9-100 % duty cycle operation is possible without any restrictions, even with the high-temperature version for an ambient temperature of up to 85 °C.

Due to its special design with oil-lubricated spur gear and electrical components suitable for S9-100 % duty cycle operation the Contract actuator allows for highly precise and really continuous positioning of spraywater valves.

A deadband of only $\pm 0.05\%$ is the result of the special design and operating principle of the Contrac actuator. This precision provides for high-accuracy positioning of all valve types over the entire range.

All components have an IP66 IP rating and can be used even under the roughest ambient conditions.



01

Contrac electrical linear actuator type RSD with power electronic unit EBN853



02

Oil-lubricated spur gear with ball bearing spindle ensures:

- wear-free operation
- Maximum operating temperature 85 °C
- Robust design
- Precise control of the injected water through high-precision positioning
- IP rating IP66

Additional Information



ABB Limited**Measurement & Analytics**

Howard Road, St. Neots
Cambridgeshire, PE19 8EU
UK
Tel: +44 (0)870 600 6122
Fax: +44 (0)1480 213 339
Email: enquiries.mp.uk@gb.abb.com

ABB Inc.**Measurement & Analytics**

125 E. County Line Road
Warminster, PA 18974
USA
Tel: +1 215 674 6000
Fax: +1 215 674 7183

ABB Automation Products GmbH**Measurement & Analytics**

Schillerstr. 72
32425 Minden
Germany
Tel: +49 571 830-0
Fax: +49 571 830-1806

abb.com/actuators

We reserve the right to make technical changes or modify the contents of this document without prior notice. With regard to purchase orders, the agreed particulars shall prevail. ABB does not accept any responsibility whatsoever for potential errors or possible lack of information in this document.

We reserve all rights in this document and in the subject matter and illustrations contained therein. Any reproduction, disclosure to third parties or utilization of its contents – in whole or in parts – is forbidden without prior written consent of ABB.

Copyright© 2018 ABB
All rights reserved

3KDE010030R3001