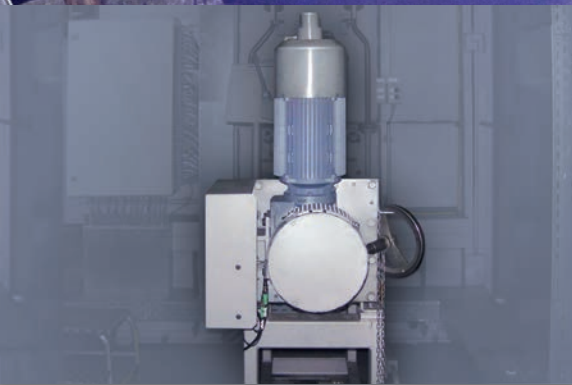


LIFTING HEIGHT AND STALL PROTECTION FOR SHAFT THRUSTERS IN AICHELIN PUSHER TYPE FURNACES



Performance optimization
+ process reliability by
improved production reliability

Improved production reliability through optimized shaft thrusters

Through **lifting height monitoring**

- Recognition of the opening and mounting of the base tray.
- Recognition of defective controls.

Through **stall protection**

- Ensures the return movement of the pusher type drive
 - when blocking the backward movement.
 - when traveling over/failure of the rear inductive limit switch.

■ Occurrence of these hazards

- when exchanging the ball screw.
- when the shaft is driven against the end position (human error).

The AICHELIN solution: Combination of two safety devices

Combination of both safety devices

- Optimal protection of the expensive and complex pusher type drive.
- Valuable addition to the furnace operation through early detection of failures and avoidance of consequential damage.

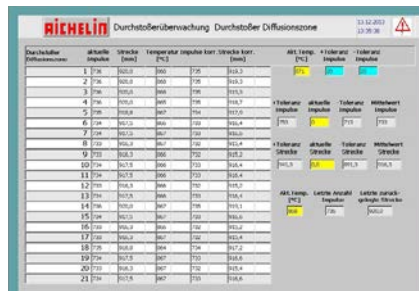
Lifting height monitoring

- Counts pulses during the lifting movement (working stroke) of the pusher type drive with direction detection.
- Averaging of the pulses of the last 25 strokes and comparison with the last working stroke.
- Drive downtime and activation of an alarm message when the permissible tolerance range is exceeded.

- Reaction of the lifting height monitoring in each temperature-range (from cold furnace to maximum operating temperature).

Stall protection

- Consists of a spring-loaded torque support arm and a roller lever limit switch.
- Reliably prevents damage to the ball screw during backward movement.



Integration into the user interface.

Customer benefits

- Ball screw is protected in the event of failure and after replacement or maintenance of the end position control.
- Adjustments are unnecessary between cold and hot operation and after typical aging of trays.
- Recognition of impermissible dimensional deviations of the charge trays.

Our unique selling point

- Perfect integration (mechanical incl. control adaptation) into your AICHELIN plant by the original manufacturer.



AICHELIN Service GmbH
Schultheiß-Köhle-Straße 7
D – 71636 Ludwigsburg
Tel.: +49 (7141) 6437-0
Fax: +49 (7141) 6437-100
E-Mail: service.de@aichelin.com



AICHELIN Ges.m.b.H.
Fabriksgasse 3
A – 2340 Mödling
Tel.: +43 (2236) 23646-0
Fax: +43 (2236) 22229
E-Mail: service.at@aichelin.com

www.aichelin-service.de

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