

CaliView®

Fast and reliable alignment of roll passes



CaliView® is a measuring system that checks the contour and position of roll passes in the mill and in the stand workshop. The system monitors the pass alignment without the need for time-consuming manual measurements.

How you benefit

With CaliView® you can ...

- perform high-precision measurements – inline and contactless;
- measure all passes for conventional tube sizes;
- ensure perfect mill alignment;
- precisely determine the roll wear;
- save all results for evaluation in a database;
- optimize maintenance and production;
- achieve consistently high tube quality.

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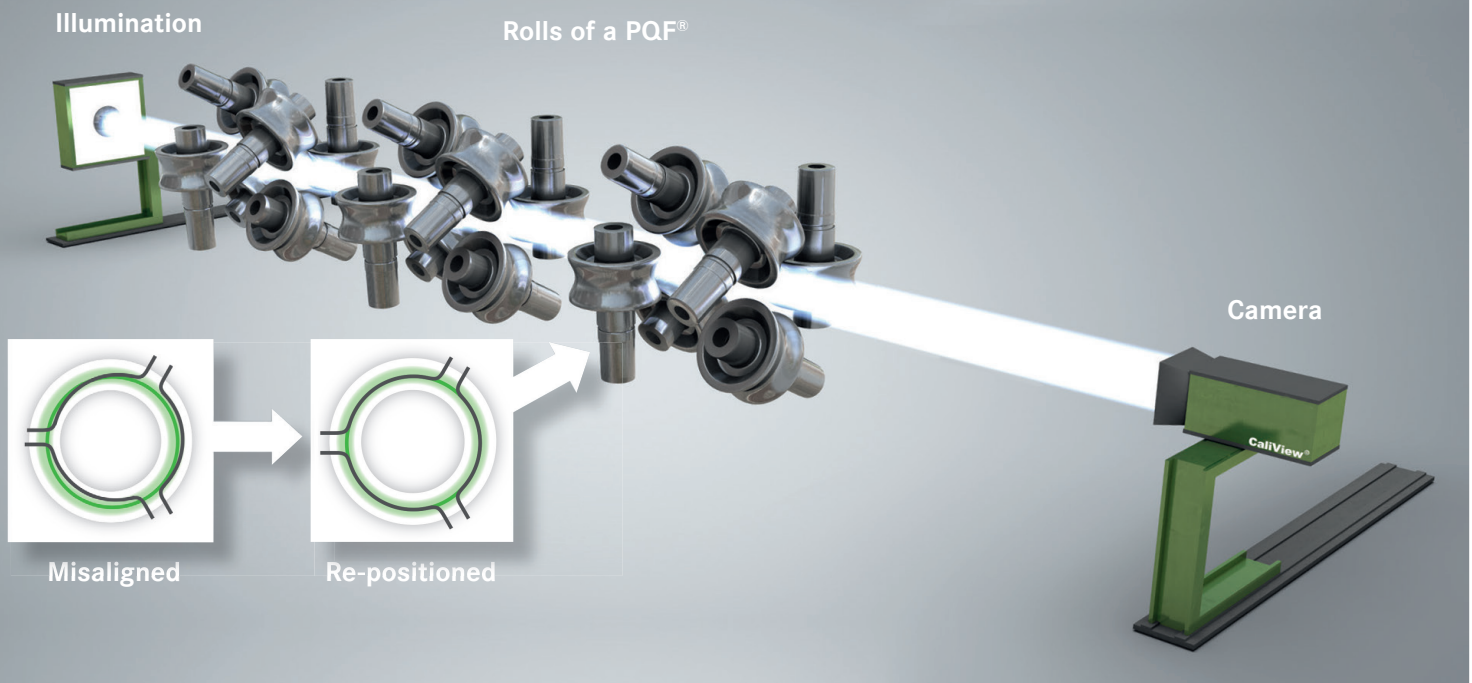
Pass measurement and positioning

Current challenges in rolling mills

Roll chocks, mill stands and contact faces in the mills are exposed to dirt and wear. This has presented mill operators with an alignment problem until now. Unequal alignments can occur because the mill stands are checked in a separate calibration stand or on the machine tool in the stand workshop, whereas the mill housings are examined using a special zeroing stand. Up to now, mill operators have not been able to ascertain whether the passes were precisely aligned following their re-installation in the mill housing. Only the end product indicated whether everything had been set correctly. This costs time, material, and money.

A new measuring principle

The CaliView® measuring system developed by SMS group takes inline measurements of the roll contours in each roll pass in the mill housing. The measuring system determines the alignment of the passes visually in PQF®, MPM or SM/SRM mills. This is also now possible in cross-roll piercing mills, bar mills, and in stand workshops. CaliView® is the only system that can measure the position of the rolls in longitudinal rolling mills directly after each roll change, thus allowing them to be perfectly aligned instantly on the basis of the data collected. In cross-roll piercing mills, only this measuring system offers a reliable indication of whether the rolls and guiding elements are correctly positioned in relation to the mandrel.



Arrangement of light source and camera in a PQF® rolling mill

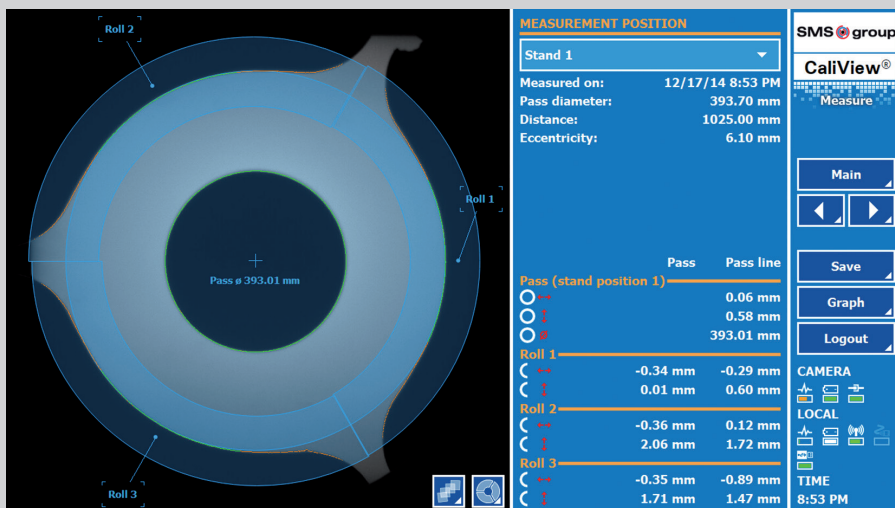
How the system works

The mobile system comprises a light source, a camera, a mobile control unit and the computer for the configuration of measurement parameters and evaluation of the measurement results. The light source backlights the passes individually in the mill, enabling a shadow image of each pass to be obtained. A digital camera takes this shadow image and transmits the data via Wi-Fi to the control device, which evaluates the results and processes them for display purposes. With a range of up to 100 meters, the results can also be viewed directly in the rolling mill's control pulpit during the measurement and then used for correcting the roll passes. On completion of the measurement the data can be saved in the database and evaluated.

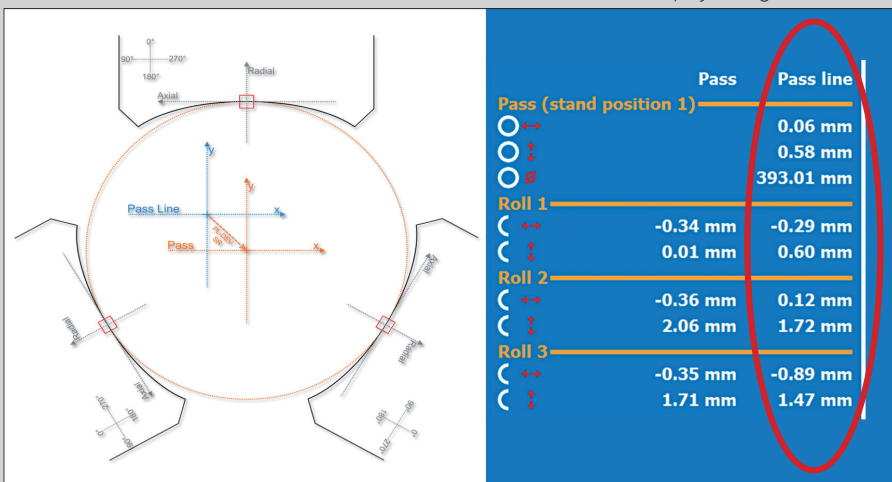
Plant operators are able to perform optical gauging of passes with diameters of between 20 and 577 millimeters. For diameters of less than 250 millimeters, this can be done with a precision of ± 0.1 millimeters; with roll pass diameters of 250 millimeters and upwards the level of precision is ± 0.2 millimeters.

The system performs several measurements directly in succession, in parallel, or at specified time intervals – and even with various configurations. Following a measurement, CaliView® analyzes the pass design and calculates any incorrect settings. The system requires a maximum of 30 seconds per pass for recording and evaluation.

CaliView® shows the radial and axial target/actual roll offset in relation to the stand and passline. So any corrections required can be specifically initiated by the operating personnel. For tube and pipe producers this means that they are not only able to set and check the roll passes but also monitor the effects of repairs on the pass positions.



Display during measurement



Deviation in the pass and from the defined pass line

Performance and analysis of the CaliView® measurement

We measure and analyze your roll pass alignment and help you make the optimal adjustments. The best time for this is during a scheduled tool/stand change in the mill. A detailed description of a CaliView® measurement can be found here:



Do you want to measure the roll pass in your mill and need expert assistance? We have just the right service for you.

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