

**FROM THE INVENTORS
OF INERTIAL ALIGNMENT**

db® PRÜFTECHNIK

PARALIGN® Service

Roll alignment – now faster & more precise



PARALIGN® knows your machines

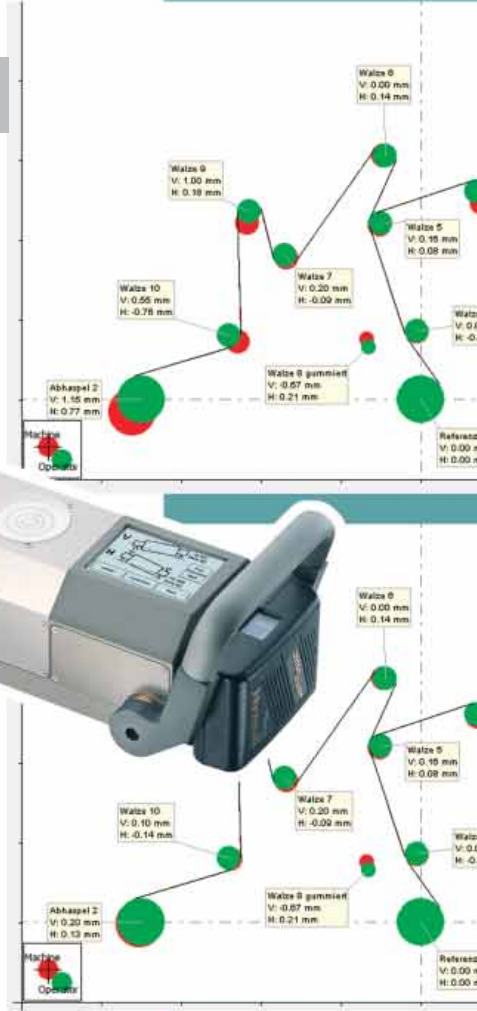
PARALIGN® is a new roll alignment system which – for the first time – uses inertial measurement technology in the form of three high precision laser gyroscopes. It provides reliable graphical and numerical information on all necessary corrective steps even in parts of machinery where measurements were not possible until now.

Your PARALIGN® advantages

- /// Measurement preparation in minutes
- /// Fast measurement (up to 15 rolls in 30 minutes)
- /// Also for enclosed parts of machines
- /// Simple graphical and numerical documentation of the actual condition
- /// Clear display of required corrective measures

Well aligned rolls...

- /// improve product quality and increase productivity through
- /// higher machine availability and
- /// higher production speed



Printing machine



Cardboard machine



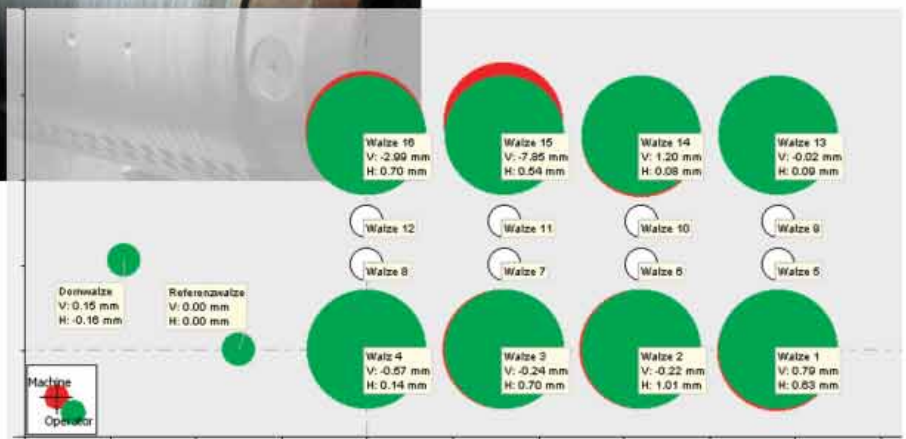
Example: Tandem mill

PARALIGN® measurements are always made relative to a reference roll or plate. The system shown in the report uses a guide roll as a reference for the nine rolls to be measured.

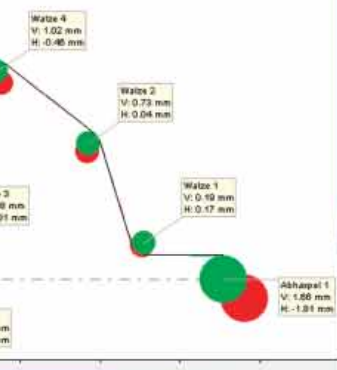
- Bad alignment
- Good alignment



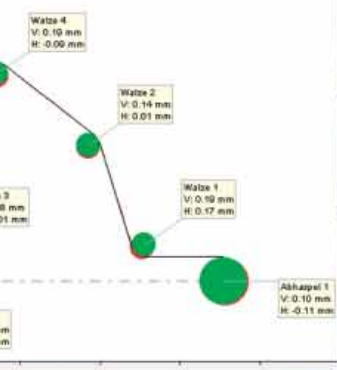
Laminating mill



Before alignment



After alignment



PARALIGN® has two hardened rails on its underside which it uses to slide tangentially along the rolls during measurement. This movement – the so-called sweep – then triggers a patented, mathematical calculation to arrive at the exact result of the misalignment. Thanks to the sweep measurement method, it is not necessary to position PARALIGN® absolutely tangential to the roll. Even if it is positioned at an angle, an exact and reproducible result is achieved.



Printing machine



Corrugated cardboard machine



Tandem rolling mill



Annealing furnace



Microfiber manufacture

Example: Printing press

Measurements are saved in PARALIGN® and wirelessly transferred to a personal computer. They can then be analyzed, and output as a graphic or Excel file.

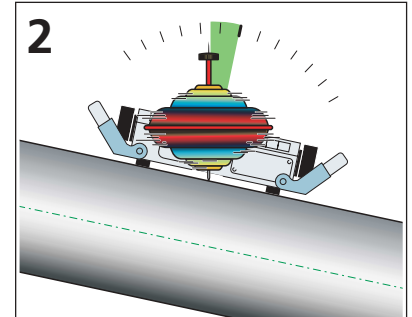
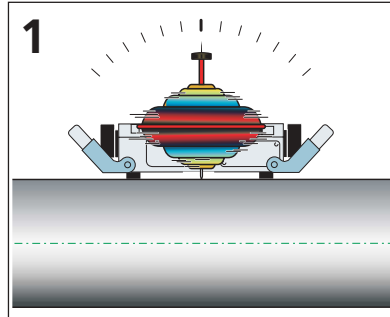


How does PARALIGN® work?

From spinning top to parallelism measurement system

A spinning top has so-called inertia and resists any attempts to change the orientation of its rotational axis in space. If the surface on which it is spinning is tilted - as shown in the figure - the axis of the top remains stable and the inclination angle can now be measured.

Precisely this spinning top principle is also used in PARALIGN®: Inside, three high-precision laser gyroscopes are arranged perpendicularly to one another. Each of them is responsible for the relative rotation of a single spatial axis.



Three ringlaser gyroscopes form the inertial measurement system



The PARALIGN® housing contains three high-precision laser-gyroscopes

PARALIGN® contains three perpendicularly arranged, highly-precise ringlaser gyroscopes as used in aircraft and spacecraft. Just like a spinning top, the ringlaser gyroscopes have inherent inertia, i.e. they resist to any attempt to change the orientation of the rotational

axis in space for a certain length of time. If PARALIGN® is then placed on the reference roll it first "learns" its position in space and then compares this with the changes in direction that result when it is moved onto the roll to be measured. The deviations are measured with a resolution of 4 µm/m and converted into correction values.



All about PARALIGN®

All further information on PARALIGN® (functionality, background, applications, laser gyroscopes, technical data, etc.) is given in our PARALIGN® brochure.

We will send this brochure free of charge on request or you can download it in PDF format from www.paralign.de.

Machinery Service

Do you want to bring the rolls in your machines 'into line' with the latest inertial technology?

PRÜFTECHNIK now provides a PARALIGN® alignment service throughout the world. Just contact us at info@pruftechnik.com



Visit us at www.paralign.info

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