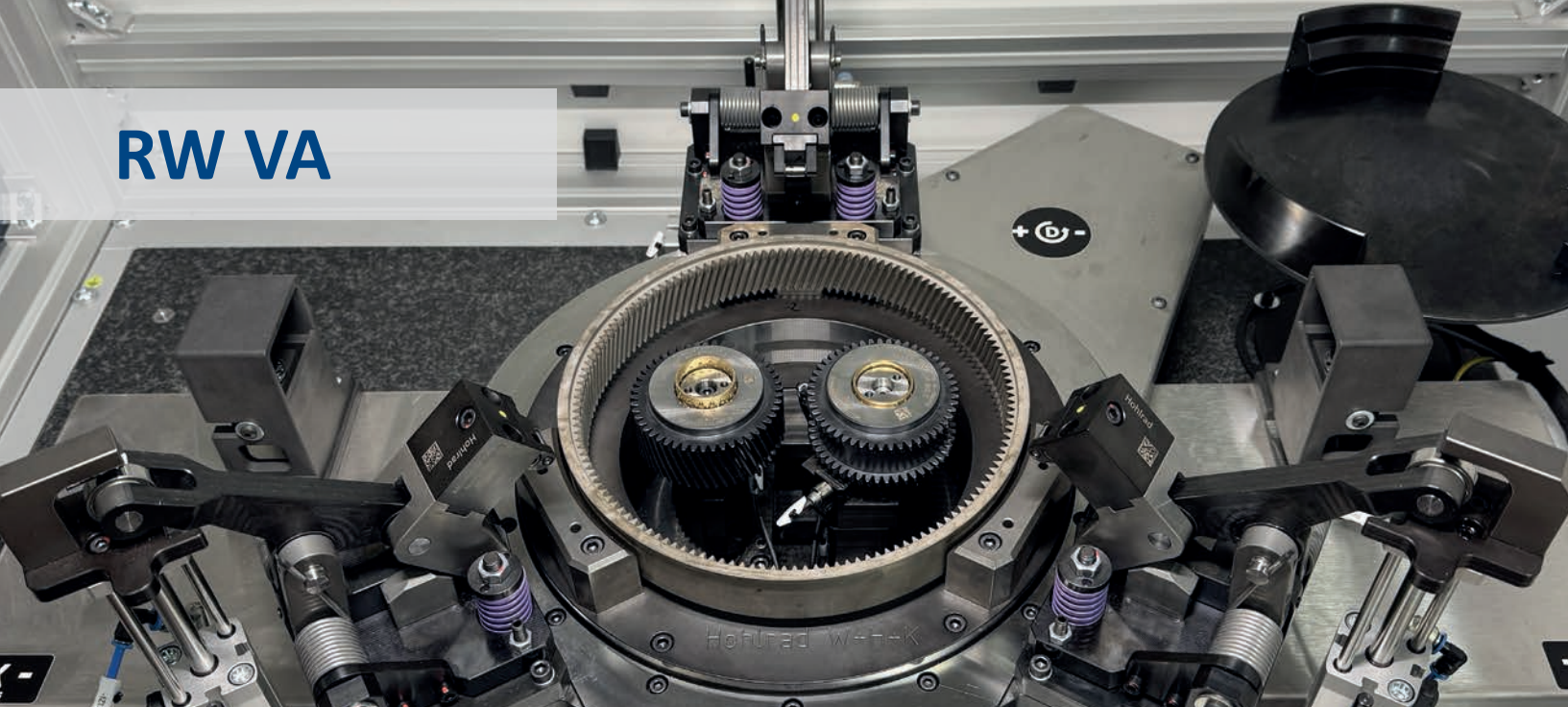


RW VA



Rolling measurement on internal toothed ring gears

The measuring device performs a rolling measurement on internal toothed ring gears in double-flank contact. This is done using master gear that run on spring-loaded slides. The workpiece is inserted into the system and clamped axially from above. Clamping is performed by springs, while release is pneumatic.

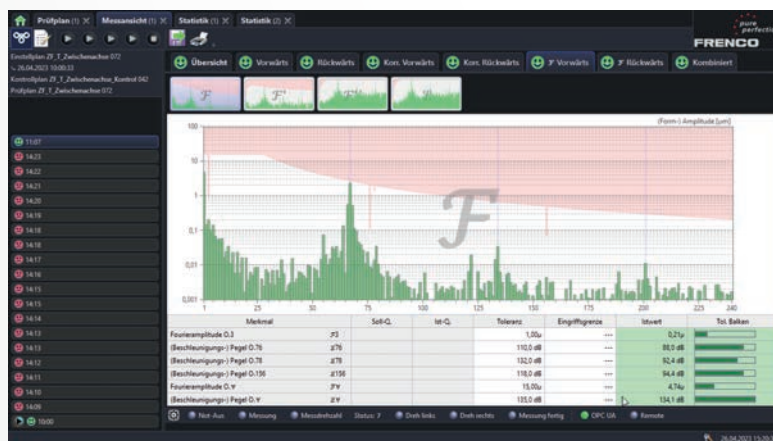
The workpiece can be inserted by a handling system, but also manually for trials and smaller quantities. The workpieces are not centered; the position of the workpiece, i.e. the concentricity, is corrected mathematically by the eccentric. The measuring slides are electrically operated and move with the master gears into the ring gear to be tested. Incorrect orientation of the workpiece is recognised and corrected by careful approach to enable correct threading. The master gear runs at a continuous speed for approx. 5 seconds. The flank line and concentricity are recorded using a pendulum head.

The entire design is optimised for a minimum cycle time. The spindles are arranged vertically to optimise clamping. Loading from the rear is also possible.

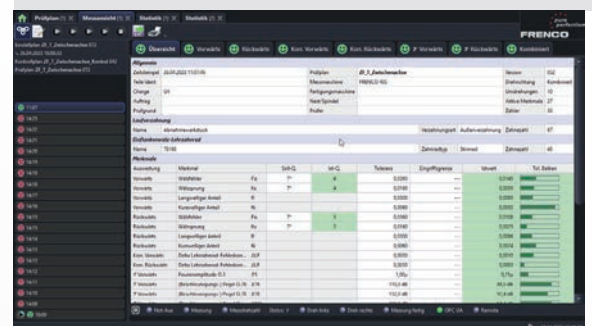
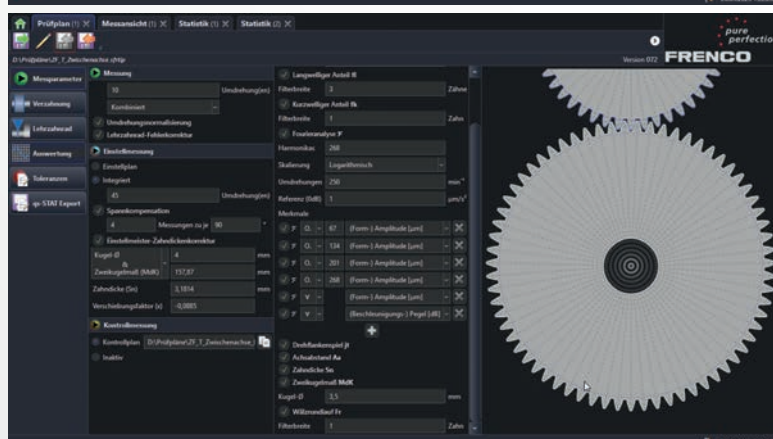


Double flank rolling test with two master gears:

- Double flank rolling test with workpiece and mating gear (master gear)
- Workpiece for insertion on face plate (exchangeable), insertion clearance approx. 0.2 mm
- Workpiece clamping by three spring-loaded flaps (xx N), axial clamping at three points
- 3 support points, interchangeable
- Electrical drive of the workpiece
- Measuring slide for master gear:
 - Motorised infeed, measuring force 10-30 N, detection of rolling error/axis distance
- Monitoring for head run-out during threading
- One master gear with fixed vertical axis
- One master gear with pendulum measuring head for 2 degrees of freedom:
 - Adaptation flank line conical $\pm 100 \mu\text{m}/40 \text{ mm}$
 - Adjustment of flank line, angular deviation $\pm 100 \mu\text{m}/40 \text{ mm}$
 - Detection of both deviations by 2 measuring probes at the base of the holder
- High-resolution detection of the resulting rolling deviations for both slides
- Option to run through several revolutions
- Measuring time approx. 15 seconds, corresponds to 1 complete revolution incl. lead/lag
- Evaluation and calculation of the dimension via balls from center distance
- Electrical adjustment of the linear axes (measuring / opening) for optimum speed and smooth retraction
- Stable structure on hard stone with vibration dampers
- Measurement data acquisition with fast counting channels FRENCO FRANY for all probes
- PLC system for drives and axes from Siemens
- FRENCO Frances software for double-flank rolling test
- Operation on PC Win10 monitor on the support arm, second monitor for simultaneous display of HMI PLC and Frenco evaluation
- Profinet communication for handling with FRENCO ITM (optional)



Software FRENCO FRANCES



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Gear technology - Metrology

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