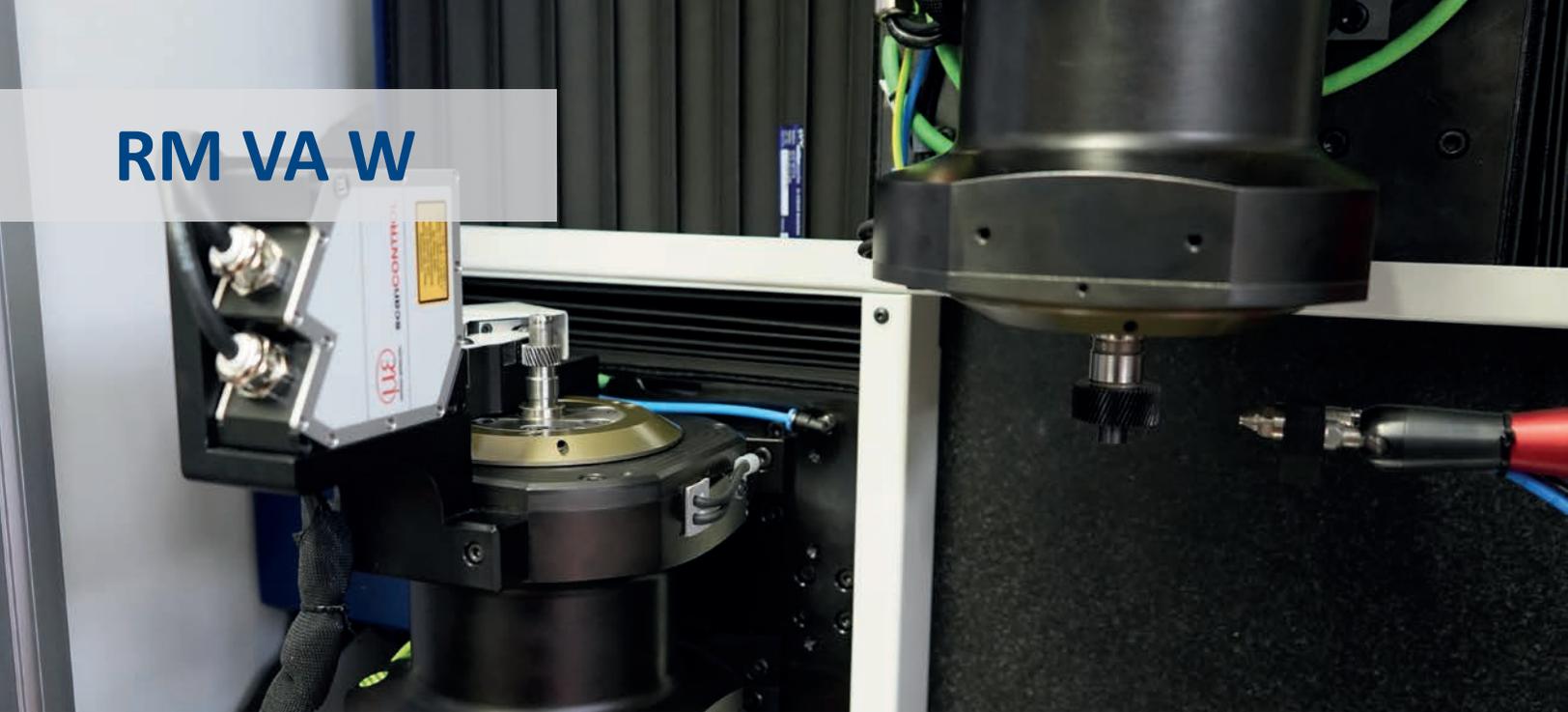


RM VA W



One flank gear rolling inspection and noise measurement

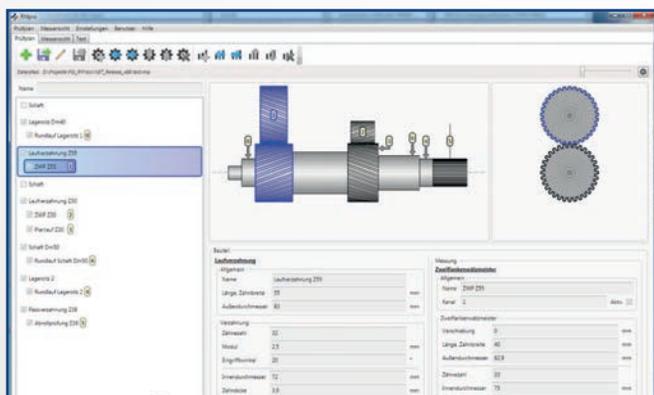
Rotation measuring instrument for inspection of gear wheels

The measuring instrument carries out a rolling test in the one flank contact. The Frenco measuring electronics MEG32 records the measuring points. The evaluation is carried out by the Frenco RMpro software for the one flank roll test and Discom ROTAS for the noise test. The measurements are made simultaneously at increased speed.

Loading can be done by a handling system or by hand. All parts are designed for maximum durability and stable results in continuous operation.

The master gear runs at a continuous speed for approx. 2 seconds. The component is loaded by a constant torque, with a brake ensuring steady contact. Optionally, after the forward measurement, the direction of rotation is reversed and the reverse flank is contacted.

The entire construction is designed for minimum cycle time.

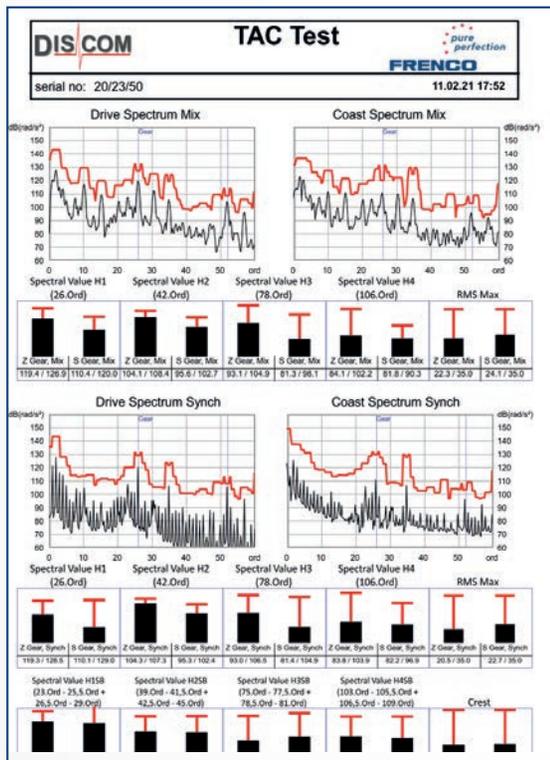
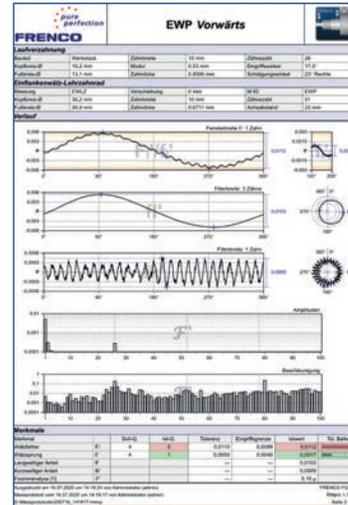


The spindles are arranged vertically to enable optimum clamping. The larger cross-sections of the spindles require an opposite arrangement. This means that very small centre distances can also be realised and the measuring device is thus also suitable for measuring internal gears. The drive takes place at the master gear, the workpiece is braked.

One flank gear rolling inspection and evaluation with RMpro:

The basic settings of the test (such as number of revolutions etc.) are entered in the Frenco software RMpro. Separate rolling curves are determined for the forward and reverse measurements. An FFT analysis of individual orders is calculated from the rolling curves. The results are available as amplitude in μm .

M-ID	Auswertung	Merkmal		Ist-Q. (Soll)	Toleranz	Eingriffsgrenze	Istwert	Tol. Balken	
EWP	EWP Vorwärts	Wälzfehler	F'	5 (4)	0,0110	0,0088	0,0112	■	
EWP	EWP Vorwärts	Wälzsprung	f'	1 (4)	0,0050	0,0040	0,0017	■	
EWP	EWP Vorwärts	Langwelliger Anteil	ff'				0,0103		
EWP	EWP Vorwärts	Kurzwelliger Anteil	fk'				0,0009		
EWP	EWP Vorwärts	Fourieranalyse [1]	J ²				5,15 μ		
EWP	EWP Rückwärts	Wälzfehler	F'	4 (4)	0,0110	0,0088	0,0099	■	
EWP	EWP Rückwärts	Wälzsprung	f'	1 (4)	0,0050	0,0040	0,0015	■	
EWP	EWP Rückwärts	Langwelliger Anteil	ff'				0,0091		
EWP	EWP Rückwärts	Kurzwelliger Anteil	fk'				0,0008		
EWP	EWP Rückwärts	Fourieranalyse [1]	J ²				4,38 μ		
M-ID	Auswertung	Merkmal		Obere Tol.	Untere Tol.	Obere EG.	Untere EG.	Istwert	Tol. Balken
EWP	EWP	Drehflankenspiel	jl'					0,1285	



Noise analysis DISCOM:

The rotational accelerations of an axis are measured by a special rotating sensor that is rigidly mounted on the axis of the workpiece. The signals from the receiver unit are transmitted to the PC by evaluation electronics.

The evaluation is carried out by DISCOM software. The results of the DISCOM analysis are exported to a database. In addition, a report can be generated for each workpiece. The access to the large data stock makes the teaching and the continuous monitoring of the production possible in a meaningful way. The database software is part of the offer.

The export of data from FRENCO to Discom is optionally possible in order to assign the rolling test data to the noise data records. Conversely, the export of individual results of the Discom analysis to RMpro is possible in order to export them together as a DFQ file. The complete FFT analysis remains in the Discom database.

Device with combined Noise Measurement

Rolling Inspection with Master Gear

- Fast Rolling Test (2 seconds for 10 revolutions)
- Cycle time for measurement in both directions and handling approximately 15 seconds
- Simultaneous recording of gear rolling curves and acceleration
- Evaluation of one flank gear rolling characteristics
- Evaluation of tooth thickness
- Detection of noise critical elements with DISCOM system
- Electric movement of linear axes for optimal speed and smooth travel

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