

DRIVE SYSTEMS IN RESONANCE TEST TECHNOLOGY

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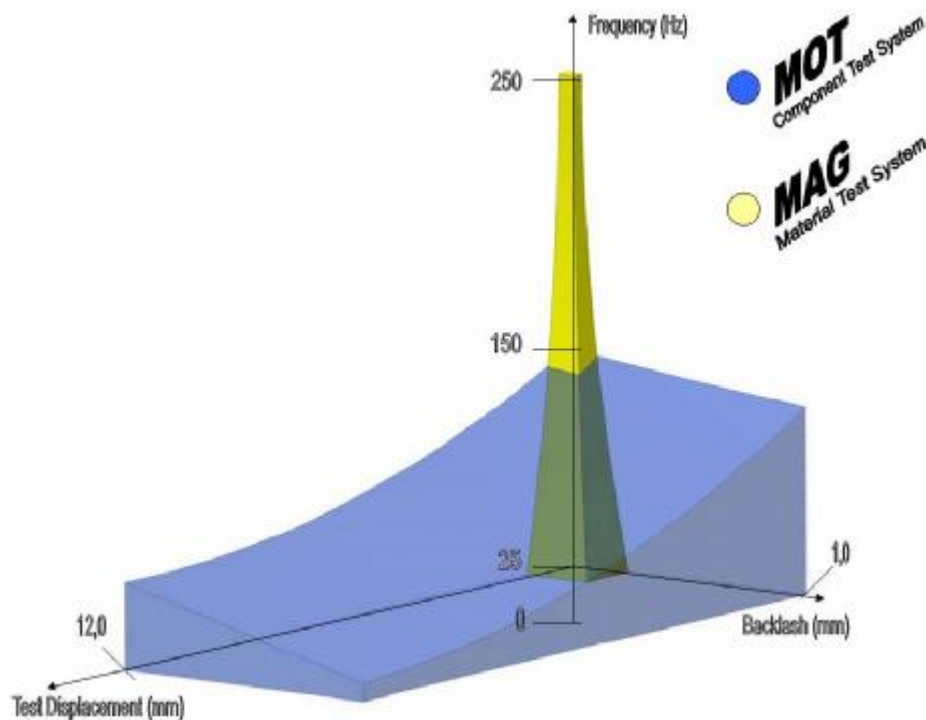
Accreditation according to DIN EN ISO/IEC 17025 through DAP Deutsches Akkreditierungssystem Prüfwesen GmbH for test laboratories. The accreditation is valid for the mentioned test methods in the certificate.

Regarding the resonance test technology, two efficient drive systems have been approved: It is about the MOTor and the MAGnetic drive.

We are pleased to offer you both drive systems.

Succeeding we would like to introduce a comparison of the two systems and of the corresponding application areas.

Application areas of the two drive systems MOT and MAG in reference to the test frequency, test displacement and the backlash within the specimen.



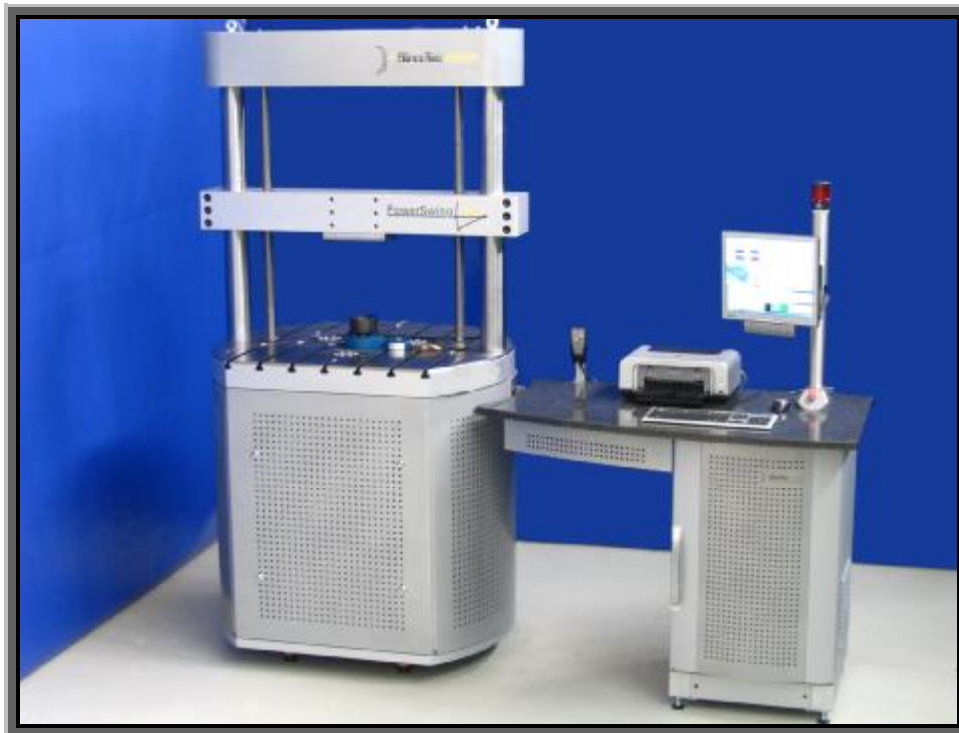
- Resonance Test Technology
- Servo Hydraulic
- Servo Pneumatic
- Internal Pressure Test Technology
- Custom-built Test Systems
- Metrology
- Uncoupling Foundations
- Accessories

Sincotec POWER SWING MOT:

- Test frequency up to 120 Hz
- Displacement up to +/- 6 mm (maximal oscillating range 12 mm)
- Test with backlash components and specimens up to 1 mm
- Automatic crack detection through a drop in frequency $\Delta f = 0,1\text{Hz}$
- Further crack tests which result in the breaking with a very good type of control
- Arriving at the nominal amplitude is guaranteed, even if you have a low stiffness of the specimens and of the components
- Maintenance-free drive system, belt-free, lifetime lubrication, 5 years guarantee
- Maintenance-free static drive system consisting of ball screws free of backlash and a servo motor
- The rotation-symmetric construction of the dynamic drive avoids lateral oscillation
- Realisation of alternating load tests as well as compression- and pulsating tensile tests
- Transverse force-free vibration behaviour through a wearless CFK-track
- Low power consumption
- Long-term stable maintenance-free digital control with real time processing
- Improved acoustics through the installation of a dynamic head in the table with an additional acoustic insulation
- Minimal test load < 1% of the nominal load
- Maximal nominal load $F_{\text{max}} = \pm 1000 \text{ kN}$

Application areas:

Structural testing tension/compression, bending and torsion of components like con rods, Crank shafts, drive shafts, etc.



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Sincotec POWER SWING MAG:

- Test frequency up to 400 Hz
- Displacement up to +/- 2 mm (maximal oscillating range 4 mm)
- Test with backlash components and specimens up to 0,1mm
- Automatic crack detection through a drop in frequency $\Delta f = 0,1\text{Hz}$
- Maintenance-free drive system
- Static drive through a wearless servo motor and a pre-stressed ball screw
- Ideal and overshoot-free type of control
- Realisation of alternating load tests as well as compression - and pulsating tensile tests
- Transverse force-free load introduction through an additional die set
- Low power consumption
- Long-term stable maintenance-free digital control with real time processing
- Minimal test load < 1% of the nominal load
- Maximal test load $F_{\text{max}} = \pm 600 \text{ kN}$

Application areas:

Fatigue strength tests tension/compression of material specimen, technique for joining parts, CT- and COD-specimens, etc.



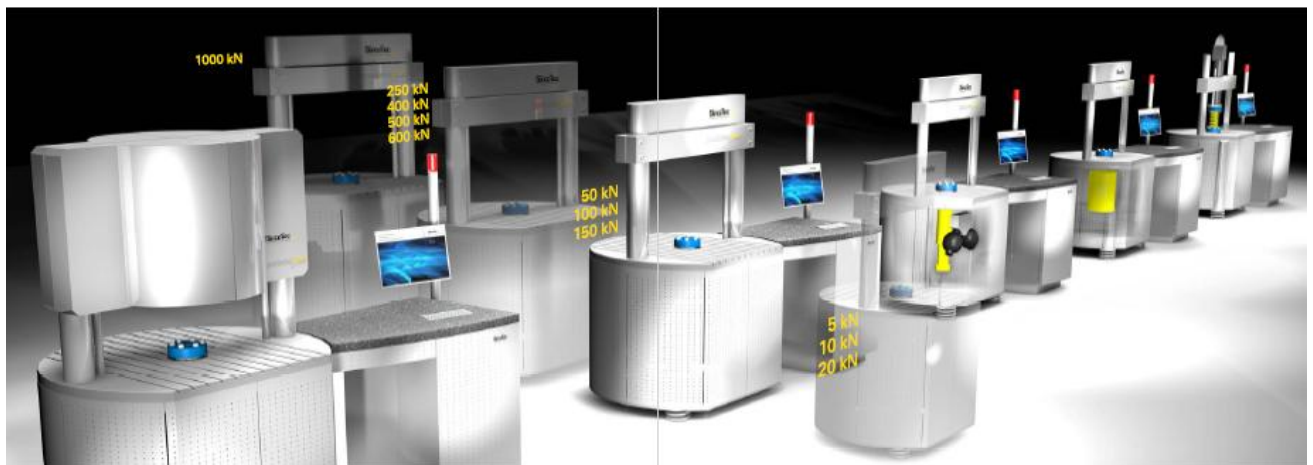
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The innovations of our POWER SWING machines are:

1. Test area and the size of the table are expanded by the factor 1.5
2. Modern, innovative design
3. Digital controller with real time processing
4. Carrier frequency measuring amplifier
5. Insensitive to lateral forces, worldwide unique resonance testing machine for components which allows an asymmetrical test setup.
6. Extremely high accuracy up to 0,2% of set and actual value
7. New comprehensive software – module for all applications, e. g.
 - HCF, LCF, fracture mechanic
 - Rainflow-classing
 - RANTEC-technology, services simulation
8. Optimised ergonomics
9. Very low energy costs (< 1% compared servohydraulic)

We hope that you are interested in this documentation. Should you have any questions, please contact us. We are at your disposal at any time and if required we would like to make a presentation of our products at your company.

Your Sincotec-Team
THE POWER OF DYNAMIC TESTING



- Resonance Test Technology
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