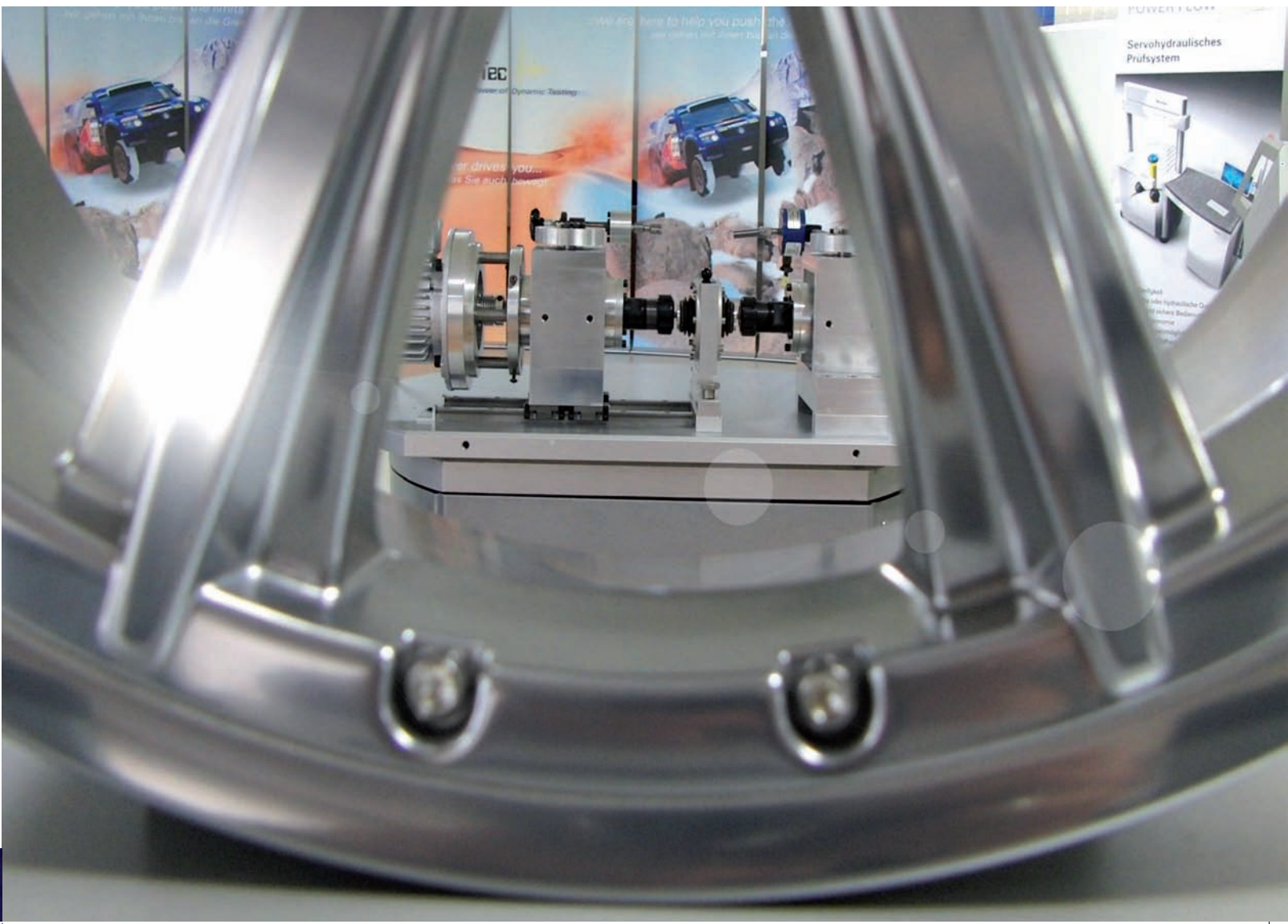


# Sincotec NEWS

The Power of Dynamic Testing



<b>New challenges are pushing us - We coped with the crisis</b>	page 2
<b>Tribo fatigue pure - High dynamic bearing test systems</b>	page 2
<b>Triaxial cell - New development for dynamic concrete tests</b>	page 3
<b>Test machines and business activities in cyberspace</b>	page 4
<b>Expansion plans are already wrapped up</b>	page 5
<b>More sales power from the beginning of 2010</b>	page 6
<b>Automotive Testing Expo in Stuttgart in June 2010</b>	page 6



## Preface

### New challenges are pushing us - We coped with the crisis

Dear customers, partners and friends,

In our branch of trade most of us tightened their belts and therefore overcame the year 2009 and coped with the decline in sales.

It is good to see, that the interest in common projects rises clearly within all markets. The new projects are even more dynamic, have higher requirements and above all the time pressure gets an

important factor.

But we also took advantage of the "untroubled" time, because we worked on new developments, patents and product innovations.

Three research projects put wind in our sails and our latest products are giving the incoming orders wings.

Even in the first quarter of 2010 the inventors of SincoTec presented three future-

oriented patents at the patent office.

We hope that all of you will have a good start with lots of drive and many new projects into the second half of 2010 and into the year 2011. We look forward to keep on cooperating with you.

Yours,  
Joachim Hug

Dr.-Ing. Joachim Hug  
General Manager

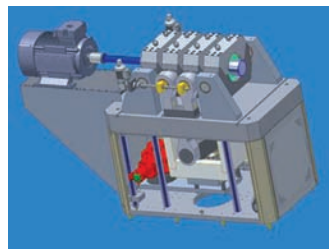


## Tribo fatigue pure

### High dynamic bearing test systems

Without bearings nothing moves – or so they say in respective booklets of the bearing manufacturers. The present design of friction and anti-friction bearings is effected using bearing catalogues, in which the bearing durability is determined with mainly static loads and constant revolution speeds.

But during operation the bearings are often loaded with high dynamic loads and therefore they often fail



Bearing test system,  
three-dimensional illustration

unexpectedly and at an early stage with tribo fatigue damages. In order to generate high loads within a short time period (low C/P values), energy-efficient motor-driven resonance test systems with frequencies between 30 Hz and 100 Hz are suitable. This way a static and dynamic load capacity can be determined in a fast and economic way.

Modular lubrication systems, cooling systems, but also tempering units as well as a comprehensive repertoire of

clamping devices ensure the individual adaptability to different test tasks, bearing types and sizes. In doing so, it is not all about bearings, but also about lubricants or installation situations, because the experts know: A bearing is only as good as its surroundings and operation loads.

The POWER SWING family is at your disposal with loads from 5 kN up to 1 MN to characterize bearing durabilities in a fast and economic way.



## Concrete under pressure

### Triaxial-cell – New development for dynamic concrete tests

New technologies pose again and again new challenges for the engineers. High-strength concrete constructions regarding bridge constructions and building services engineering with partly extravagant constructions, are not only exposed to static loads but also more and more to dynamic loads. A new field of innovative technologies is pushed open, because of the modern concepts of the wind energy systems.

Great challenges are the foundations of the partly huge systems, which newly are also constructed as off-shore systems and which are exposed to extreme dynamic loads. To test the mechanical

characterization of the high-strength concrete qualities, triaxial cells are necessary to load concrete samples with multiaxial stress conditions operation-related with static and dynamic loads.

Therefore normally cylindric samples are applied, which are exposed to an axial and a tangential force. At the same time the volume strain is measured, whose limits are also a damage criterion.

In connection with a resonance test machine POWER SWING, static loads can be induced via the average load drive and in addition to that further dynamic axial loads can be induced via the dynamic drive.



A hydraulic aggregate is operated via the amplitude pressure, which generates the amplitude pressure optionally statically or dynamically via a servo valve.

Above all this is a high-efficient and fast tool to fulfill the existing standards and to determine new dynamic characteristics of high-strength concrete materials.

## SincoTec worldwide

An increasing interest in our test systems not only exists within Germany but also in foreign countries. This success is amongst others due to the support of our numerous local representatives.

It does not matter whether the lately delivered torsion test system for a big Brazilian

manufacturer of crank shafts or the bearing test rigs, POWER SWING and the rotating bending test systems, for different Asian customers are concerned.

It shows that SincoTec's products are also outside Europe in great demand, especially due to their energy efficiency.



## As if by magic

### Automatic load adjustment for rotating bending test systems

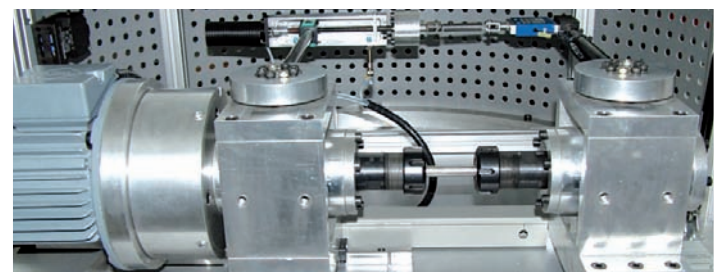
For our established rotating bending test systems, we offer a load adjustment via a linear axis. The necessary bending moment is generated by a controlled drive motor.

This device has got the advantage, that the load can be kept constant at an initial setting behaviour or after a crack at the sample appeared.

An external setpoint setting via a voltage signal is available as an option and therefore also block tests are realizable. In case that you already obtain a SincoTec rotating bending test system, it is also possible to convert your machine.



Rotating bending test system



## New internet presence of SincoTec

Test machines and business activities in cyberspace

SincoTec obtained a new virtual face. Since the beginning of 2010 the new homepage is available using the well known web address.

The user-friendly menu makes it possible to find the desired products quickly. Also for customers, who like to select via the industrial field or via the desired test application, it is all easy to find.

Please test our new "site" and send us your experiences and wishes!

We hope you will have lots of fun visiting [www.sincotec.de](http://www.sincotec.de).

**SincoTec**  
The Power of Dynamic Testing

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Test & Engineering Center Test Systems Applications Industrial areas Assemblies / Components

Applications | Industrial areas | Automotive

**Automotive**

**Typical samples** Motor components, carriage, steering systems, bearing technology, exhaust system, impresseure (fuel injection system), interconnection and seats

**Industrial areas**

Automotive	Motor
Commercial vehicle	Carriage
Railway	Drive train
Wind energy	Steering
Medical science, orthopedics	Exhaust systems / catalyzers
Building trade	Fuel system
Aerospace	Interior equipment
Machines and devices	Con-roads
Others	Crank shafts / cam shafts
	Antifriction- and friction bearings
	Springs
	Gear drive, gearing
	Screws
	Shafts
	Add-on parts
	Material samples
	Seat test systems

**Automotive**

Being the specialist for fatigue strength, we support you regarding all strength- and important automotive manufacturers and their suppliers regarding their research and development.

In our competence centers we concentrate on future-oriented technologies in the field of

- motor components
- carriage
- steering systems
- bearing technology
- springs
- exhaust systems
- impresseure (fuel injection system)
- interconnection
- interior and seats

## Increase in capacity

...for the railway test center

Due to the rising requirements for the strength test on wheel set axles, SincoTec has enlarged the test capacities within this field strongly. In addition to a third dynamic rotating bending test system for wheel set axles, a calibration test system has been set up, with which all wheel set axles delivered for testing can be applied with strain gauges

and can be calibrated statically afterwards. Moreover a modern assembly device for wheel set axles has been arranged, with which the shafts of the wheel sets can be molded or extruded into the wheels in a fast and secure way. For this reason the processing time for a complete dynamic strength test could be reduced clearly.



### Here the turnings are flying

A fresh upgrade of the mechanic production

To meet the increasing requirements regarding rapidity, flexibility and efficiency, SincoTec has enlarged the mechanic production with a 4-axial mill center.



This mill center with a multiple-tool-changer makes it possible to enlarge the in-house production depth further on.

We congratulate Jonas Fischer on his final examination as an industrial mechanic.

A new fully-automated surface grinding machine supplements the production range.

## Torsion resonance test system with a wide range of application

“All-rounder for torsion tests”

The latest development from Sincotec shows once again the wide application range.

With a modified drive, an initial load unit and a static uptight gear, we enlarged the capability of our torsion resonance test system clearly. From now on you have got the possibility to load samples with clearance, with big angle amplitudes up

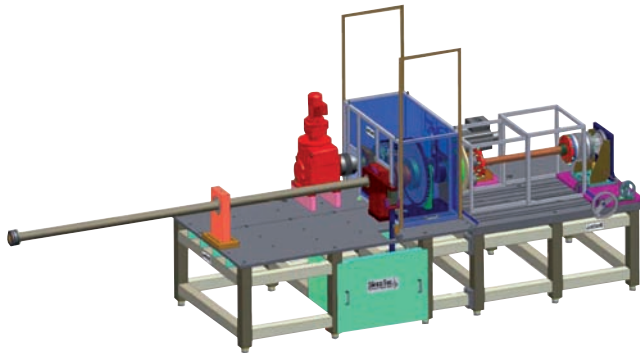
to 25° and with alternating as well as tumescent torsion moments up to 6.000 Nm with a high frequency up to 50 Hz.

Moreover the test system offers you the opportunity to accomplish tensile tests with an additional drive as well as to record characteristic curves regarding your components. Concerning the

software, besides the single step tests, also block programs and service load tests (RANTEC) are available.

At this point we would like to mention again, that a resonance test system, apart from the considerably higher test frequencies, amortizes within the first two years completely only because of the energy saving.

Typical components are all torsion-loaded components for machines and devices like e. g. drive shafts, gear shafts, test specimens, splines, etc.

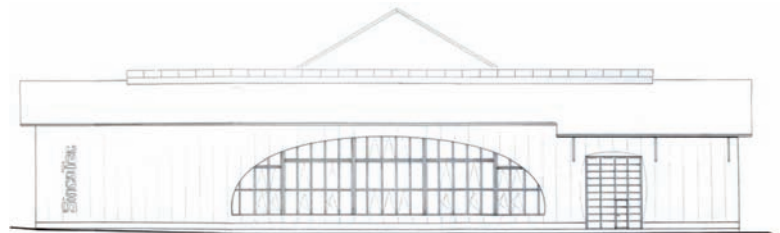


## Expansion plans

...are already wrapped up

The time has come again – Sincotec grows and expands with a production and distribution center. The new hall complex has got a size of 1.100 sqm and will be connected with an office and social building of ca. 1.500 sqm, which has been rented up to now. This way a clever

connection should be carried out on an expansion area in the middle of the other seven Sincotec buildings. On the basis of business development, the town Clausthal-Zellerfeld supported Sincotec regarding the settlement of administrative barriers and the allocation of



additional areas. Therewith all doors are open for a further development in Clausthal-Zellerfeld. Great thanks to the

business development and the policy in the Harz Mountains!

## DVM-workshop

regarding test methodology for service strength within the automotive industry / January 2010

On the occasion of the DVM-workshop “Test methodology for service strength within the automotive industry” this year the experts of service strength met in Ulm.

Beside the OEMs and some suppliers of the automotive industry, Sincotec, being a test partner as well as a manufacturer of test systems, made its creative contribution in form of a presentation and a moderation of the event in the afternoon of the second day.

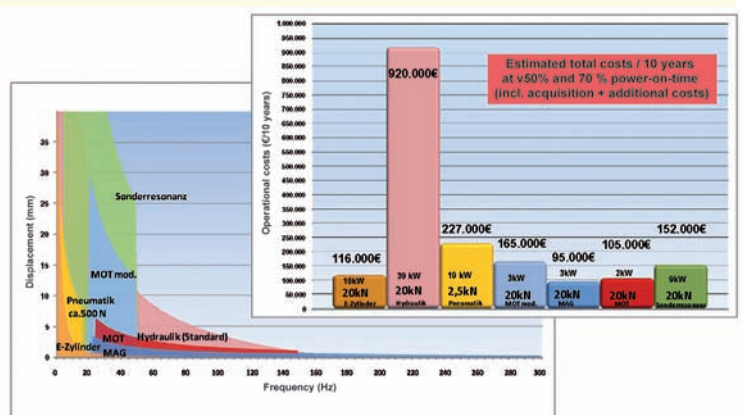
The presentation “Latest development in the test technology – Potentials and

limits of the actuating elements”, performed by our manager and technical director, graduated engineer Sven Henze, firstly gave an overview about the advantages and disadvantages of the different actuators or rather drive principles. In the second part it showed a comparison of the reachable maximum speeds and of the occurring operational costs of the different systems.

Soon it became apparent, that the “modified motor-driven resonance test systems” and the “customized resonance test systems” have a great

potential regarding the maximum speeds and the energy efficiency compared to hydraulic systems and to magnetic resonance test systems (see graphic below). On the second day our manager, Dr.-Ing. Joachim Hug,

undertook the task of moderating a part of the daytime event. As usual, many interesting discussions and suggestions resulted from this event and have been also discussed at the Sincotec information booth.



## Knowledge makes powerful

The participants of our practice-oriented spring seminar "Test technology and fatigue strength" showed lots of verve.

A highly motivated team, mainly from the automotive industry, became experts of the dynamic test technology and the fatigue strength during

two intensive training days at SincoTec. Beside lots of knowledge transfer and practice-oriented training, also the interchange and discussions did not miss out.

Further training days are planned for the 24<sup>th</sup> / 25<sup>th</sup> November 2010.



## More sales power from the beginning of 2010

### New faces in the sales department

We have strengthened our sales team within Germany with two new faces. At the beginning of 2010 David Poerschke took up employment in our sales support team. Mr. Poerschke is responsible for the national and international dispatch and in addition to this he also prepares quotations for our Test & Engineering Center. Contact details: Tel: +49 (53 23) 96 92 25, e-mail: david.poerschke@sincotec.de

In March Mr. Thomas Bahn started his sales activities at SincoTec. After his study of engineering at TU Clausthal, Mr. Bahn worked for a medium-sized company first as a constructing engineer and later on as a sales engineer



and project leader. He mainly supported major projects with leading automotive OEMs within Germany and Europe. Mr. Bahn strengthens our sales team in Bavaria and Hesse and supports different foreign representatives. Contact details: Tel: +49 (53 23) 96 92 52, e-mail: thomas.bahn@sincotec.de

## Automotive Testing Expo in Stuttgart in June 2010

### Next generation – season 2010

Cars of the next generation = Test of the next generation – This way this year's European leading trade fair for test technology within the automotive sector is themed.

The branch changed up – so we did! In our VIP-area we show you a lot of new test technology and test systems.

Visit us – where? As usual: You can find the SincoTec booth 1412 in the middle of hall 1 just like the last two years. Certainly our legendary catering service will also be

there to provide you with some gastronomic specialities!!!

automotive  
**testing** expo 2010  
europe



22., 23., 24. JUNI 2010, NEUES MESSEGELÄNDE STUTT GART (FLUGHAFEN)

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