

## Unbelievable! The new DSC 200 PC *Phox*<sup>®</sup>

Solutions through our Coupled Systems



[www.dsc-phox.com](http://www.dsc-phox.com)

Modern technology at a Sensational Price! This describes the new DSC 200 PC *Phox*<sup>®</sup> recently introduced by NETZSCH.

Especially designed for operating in the temperature range of -150°C to 600°C. The main features of the space saving *Phox*<sup>®</sup> are: reliability, robust design, high sensitivity and fast heating rates (100 K/min).

Data acquisition is made via an RS 232 interface. This allows for the use of laptop computers, as well as standard

table tops, for performing the measurements and analyses.

The software, that runs in MS<sup>®</sup> Windows<sup>™</sup>, includes everything you need to conduct a measurement and evaluate the subsequent data. Through the combination of easy to understand menus and automated routines, a tool has been created that is extremely user friendly and at the same time allows for sophisticated analyses.

The versatile *Phox*<sup>®</sup> compliments our successful 200 series instruments. These

instruments are especially designed to meet the needs of the plastic, rubber, pharmaceutical, cosmetic, food, paint, varnish, adhesive, petrochemical and agrochemical industries.

The 200 series also includes: the new *Iris*<sup>®</sup> Thermo microbalance model 209 C (see page 2), the Thermo mechanical Analyzer model 202, the Dynamic Mechanical Analyzer model 242 C (see page 3), and both our High pressure DSC model 204 HP and DSC *Phoenix*<sup>®</sup> model 204.

This is the motto of our, now traditional, coupling seminar featuring TG-FTIR and TG-MS. This seminar is being held on **April 13, 2000** during the Analytica in Munich. Cooperating with us will be Bruker Optik GmbH. The meeting room is located in Hall B4, 1<sup>st</sup> floor conference room B4.1. It will begin at 10:00. You are cordially invited to attend. For further information, please contact Ms. Silke Popp (ph 49-9287-88131, fax 49-9287-88144), or e-mail [s.popp@ngb.netzsch.com](mailto:s.popp@ngb.netzsch.com)).

If you plan on attending, look forward to the latest news from industry and research, users of coupled techniques sharing their experiences and practical examples.

## Contents

- Unbelievable! The New DSC 200 PC *Phox*<sup>®</sup>
- Solutions through our Coupled Systems
- ... and Further Fantastic Developments
- MATERIALICA 2000 - an Innovative Fair
- Trade Fairs and Symposia
- By the way



The *Phox* is roaming around the internet.  
Try to track it down!  
[www.dsc-phox.com](http://www.dsc-phox.com)

**NETZSCH**

## ... and Further Fantastic Developments



Find out how a dream can come true.....

### With the STA 409 PC Luxx®

Our newly developed Simultaneous Thermal Analyzer combines a top-loading thermo balance and a true heatflux differential calorimeter. That means mass changes, as well as transition enthalpies, can be exactly determined on one sample from one measurement.

The Luxx® offers comprehensive analytical possibilities without compromise. It features a temperature range of ambient to 1550°C, interchangeable carriers with different thermosensors (see figure 2), a variety of sample crucibles, and a very high sample capacity.

Equipped with a newly developed electronics and data acquisition system, the Luxx® is tailored to research & development as well as quality control and failure analysis applications.

As with other NETZSCH systems, the software utilizes MS®Windows™, and is menu driven and very user friendly.

The Luxx® can be used, in a multi module configuration, with instruments of our high-temperature 400 series or with instruments of our low-temperature 200 series.

Additionally, it can be coupled to evolved gas analyzers such as MS or FTIR.

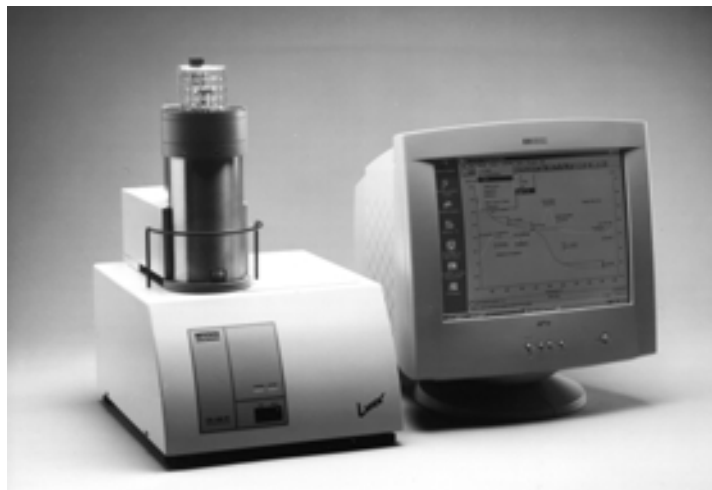


Figure 1. STA 409 PC Luxx®

The PC family additionally includes the Dilatometer 402 PC, Glaze Stress Tester

GST 420 PC and Bending Strength Tester BST 401.

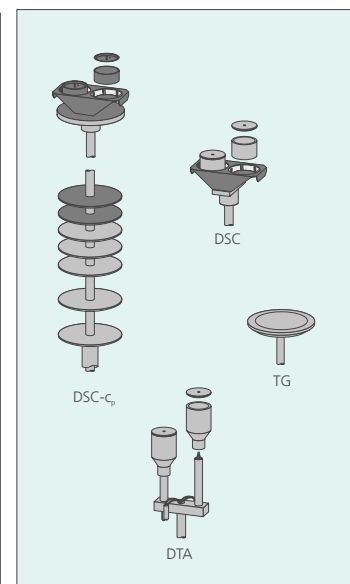


Figure 2. Sample carriers for the STA 409 PC Luxx®

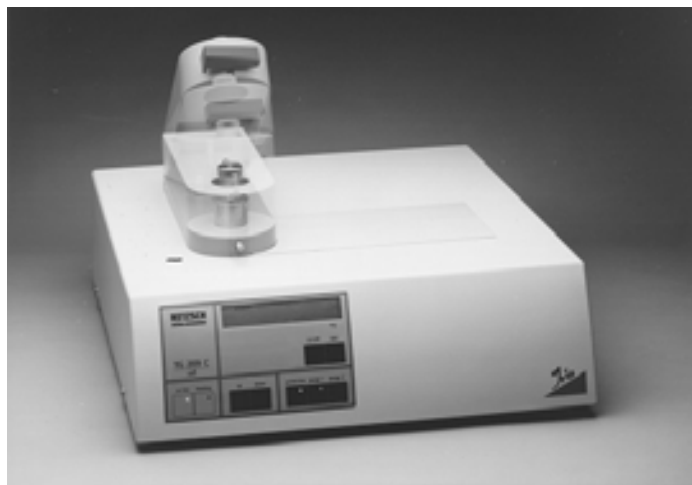


Figure 2. TG 209 C Iris®

### With the TG 209 C Iris®

Iris, from Greek mythology the messenger of the gods, gives its name to an instrument which combines advanced technical design with practicality and ease of operation.

Open the cover - load the sample - close the cover - start the measurement. These are the steps to conducting a TG measurement with the Iris®.

Data acquisition and evaluation is made using the

universal NETZSCH Proteus® Software. Proteus® utilizes Windows 95, 98 or NT as the operating system. It is a full 32 bit program with enhanced features.

Two unique features of the software, c-DTA® and Super-Res®, will increase interpretation of the TG data.

c-DTA® focuses on the determination of enthalpy changes in the sample by calculating the DTA curve. This aids in interpreting thermogravimetric events.

Super-Res® directly influences the measurement by controlling the temperature ramp based on the DTG, or derivative of the TG. This feature enables mass changes that occur very close to one another to be separated and more easily evaluated.

The *Iris*<sup>®</sup> can be fitted with an Automatic Sample Changer (ASC) so that multiple samples can be routinely measured with no operator attendance.

The sample carousel can accommodate up to 32 samples. Each sample can be evaluated automatically using our Macro software program.



Figure 4. Automatic Sample Changer TG 209 C *Iris*<sup>®</sup> - ASC

### Want to know more?

Convince yourself of the capability of the presented instruments and visit us at the Analytica in Munich (11-14 April 2000) or ACHEMA in Frankfurt (22 - 27 May 2000). We look forward to seeing you there.

For more details, please contact Ms. Silke Popp, (ph +49 9287-88131), (fax 49-9287-88144), or e-mail [s.popp@ngb.netzsch.com](mailto:s.popp@ngb.netzsch.com) or our nearest NETZSCH representative.

### With the DMA 242 C

Strikingly innovative and ready for all measuring tasks is our newly redesigned DMA 242 C.

No matter if you want to measure thick, thin, flexible, stiff, viscous, square or long samples, we have the right sample holder for your application.

Employing our new innovative sample holder for single cantilever mode with floating pushrod, quantitatively correct results can be obtained on stiff samples.

Films and even fibers can be measured exactly with the tension mode sample holder (see figure 5).

The software also includes several new innovations such as:

- Revised calibration routines. The system stiffness calibration, tailored to the different sample holders, guarantees accurate determination of the storage modulus ( $E'$ ) and loss factor ( $\tan \delta$ ) dependent on temperature, dynamic force and frequency.
- Free definition of target amplitudes and dynamic forces. Optimum conditions for delicate samples such as very thin or fragile materials, can now be selected.
- Extensive Help system with index and search functions supports you in all questions regarding performance and handling of the software.



Figure 5. Tension mode sample holder



Figure 6. DMA 242 C



## MATERIALICA 2000 - an Innovative Fair



Dr. Joachim Enßlin, Managing Director, Messe München GmbH

Dr. Joachim Enßlin, Managing Director, Messe München GmbH, informed us about the highlights of the upcoming MATERIALICA, this year's event for exchanging ideas for new products.

*This year, MATERIALICA will be held for the third time. What can you tell us in general about the fair?*

Dr. Enßlin: MATERIALICA

established its place on the exhibition market as a European technical fair for innovative materials, processes and applications for both exhibitors and visitors. In 1999, we recorded a new high of 363 exhibitors from 16 countries and 7,000 visitors from 44 countries. For MATERIALICA 2000 we expect an increase of 30% over 1999.

*What will be the highlights of MATERIALICA 2000?*

Dr. Enßlin: In particular, there will be the presentation of innovative materials, their composites and application fields in the processing industry. We do not focus solely on an individual class of materials, but try to show a variety of materials that are

thermally classified and summarized in designated Focus Areas. The more traditional materials such as metals or ceramics will, of course, also be presented.

*How do you see the role of ceramics in MATERIALICA?*

Dr. Enßlin: There is no doubt that ceramics, and especially technical ceramics, are the central materials. They were considered to belong to the largest group of exhibitors in 1999. They play a very decisive role in the development of new products. Just think of the new implants in medical technology, mobiles and computers in the electronic industry, or sensors in the automotive field. MATERIALICA will again provide an excellent

opportunity to demonstrate current trends and the latest developments in the field of materials.

*How does MATERIALICA maintain its hold on the market against CERAMITEC?*

Dr. Enßlin: Ceramitec is **the** technical fair for machines and production plants in the ceramic industry. It yields information on the latest news and developments and covers the needs of the ceramic industry. MATERIALICA, on the other hand, is tailored to exhibitors from the ceramic industry, who offer solutions to the automotive industry, mechanical engineering, and medical technology fields.

*Thank you very much Dr. Enßlin.*

## Trade Fairs, Symposia

We will have exhibits at:

<b>Analytica 2000</b> Germany	11. - 14.04.00, Munich
<b>15th Korea International Plastics and Rubber Show</b> Korea	12. - 16.04.00, Seoul
<b>AcerS 2000</b> USA	30.04. - 02.05.00, St. Louis, MO
<b>Plast</b> Italy	08. - 13.05.00, Milan
<b>ACHEMA 2000</b> Germany	22. - 27.05.00, Frankfurt
<b>SKT 2000</b> Germany	28. - 30.05.00, Bad Orb
<b>Chinaplas 2000</b> China	04. - 08.07.00, Shanghai
<b>12th ICTAC</b> Denmark	14. - 18.08.00, Copenhagen
<b>Semaine de l'Electronique et de la Physique 2000</b> France	19. - 21.09.00, Paris
<b>PhandTA</b> Switzerland	19. - 21.09.2000, Basel

MATERIALICA 2000  
25 - 28 September 2000

New Exhibition Center Munich  
[www.materialica.de](http://www.materialica.de)

*by the way*

[www.skt2000.com](http://www.skt2000.com)

... have you already registered?

Directly after ACHEMA 2000 the third coupling seminary (SKT 2000) will be held from 28 to 30 May 2000 in Bad Orb/Germany. We would be happy to welcome you there. Renowned, international experts from industry and research will hold lectures, giving you an insight into their work with TG-MS and TG-FTIR. Just wait and see what we have in store for you!

[www.skt2000.com](http://www.skt2000.com)

## Imprint

04/00

Publisher:  
NETZSCH-Gerätebau GmbH  
Wittelsbacherstr. 42  
D-95100 Selb/Bavaria

Phone: (+49) 9287/881-0  
Fax: (+49) 9287/881-44  
e-mail: [at@ngb.netzsch.com](mailto:at@ngb.netzsch.com)  
<http://www.ngb.netzsch.com>

Editors:  
Dr. Gabriele Kaiser  
Doris Steidl

Copyright by NETZSCH-Gerätebau GmbH 04/00  
Printed in Germany (4500)