

Therminus

The LAUDA info magazine

Issue 2/2004



Sensational – the new LAUDA Ecoline Staredition

■ Thermostating in the automobile industry ■ Aging controls in transformer oils ■ Accessible Art

LAUDA People



Dr. Carsten Persner has been supporting the marketing department since 1 January 2004.

The graduate chemist was appointed new marketing manager on 1 July 2004.



Nortrud Usath, has been supporting our accounts department and our telephone switchboard/reception since 1 April 2004.

NEWS

■ **Second-hand market:** under www.lauda.de "Services", you will find our latest bargain equipment ■ **Bath liquids:** You can find the right thermostating medium for your needs in the new brochure

■ **Thermostats & Circulation chillers:** You can see the new range of equipment in the revised overall brochure "The big LAUDA 2004/2005" ■ **For further information,** simply send off the fax reply coupon at the rear of the magazine.



New PRODUCTS

Thermostats

LAUDA presents its new Ecoline Staredition heating and cooling thermostats. The range of models has also been extended. New to the range are the RE 105, RE 205 and RE 305 cooling thermostats. These devices have been developed especially for the thermostating of external systems. For this purpose, they have a minimum liquid volume of only 3.5 litres in combination with powerful 500 W refrigeration capacity at 20 °C. In

addition, the range of cooling thermostats has been extended by the RE 304 model.

Tensiometer

The LAUDA tensiometer family has been extended by a further bubble pressure tensiometer – the MPT C. The mobility, the user-friendliness and the use independent of a PC predestine the device for use in quality control.

Viscometer

The new DVS 1 calculates the dynamic viscosity and the density of liquids from the attenuation of a bead oscillating in a test sample. The high level of accuracy, the very gentle measuring technique due to the small amplitudes, the small amount of samples amounting to only a few millilitres and the extremely simple operation via a separate remote control, make this device into an all-round measuring instrument.

Dear friends of LAUDA ...

... I am delighted to present you with this, the second issue of *Therminus* in 2004. Although I was a mere observer in the creation of this year's first issue, I am now "well and truly in the thick of it". On 1 July 2004, following a six-month "training-in" period, I took over the management of the marketing department from Dr. Gunther Wobser, who had been managing this exciting department since 1997 – in a temporary capacity since his appointment to managing director in January 2003.

Much more has happened as well, however. The new LAUDA Ecoline Staredition was presented at the *Analytica 2004* in Munich. It is sometimes the case that it is the minis which turn out to be the major stars in the laboratory. This was effectively staged at our trade fair booth. As you can read in this issue, we have extended the theme of stars in the laboratory to advertisements and further campaigns.

A star of a completely different nature celebrated his 65th birthday on 26 August. At the party for the entire staff, Dr. Gerhard Wobser proved that age is only a matter of attitude. We wish him a great deal of energy and élan in the years to come in order to master the demanding responsibilities he has.

In this issue of *Therminus*, you can see that "Problem solving for the client" is not just a catchphrase at LAUDA. Taking the Micronas company as an example, we show you how the flexibility of the LAUDA Proline helps to make special applications even easier to use. As the further example of the Pierburg company proves, LAUDA heating and cooling systems – thanks to the modular construction system – are made such that real customer-specific solutions are created. The third example from the field of measuring instrumentation shows the flexible use at Siemens. Innovation and customer benefits are thus two things which go hand-in-hand at LAUDA and which will also be the focus of attention in the future.

I wish you an entertaining read of this issue.



Dr. Carsten Persner
Marketing manager

PS: If you have any comments or ideas regarding *Therminus*, please send me a brief e-mail to: dr.persner@lauda.de

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LAUDA live at the customers'

The testing of the temperature dependence in the behaviour of electronic components can be carried out with the new LAUDA Proline thermostats. This is frequently done directly in a temperature-regulated liquid bath. One example of its use is the development department at Micronas GmbH in Freiburg i. B., Germany.

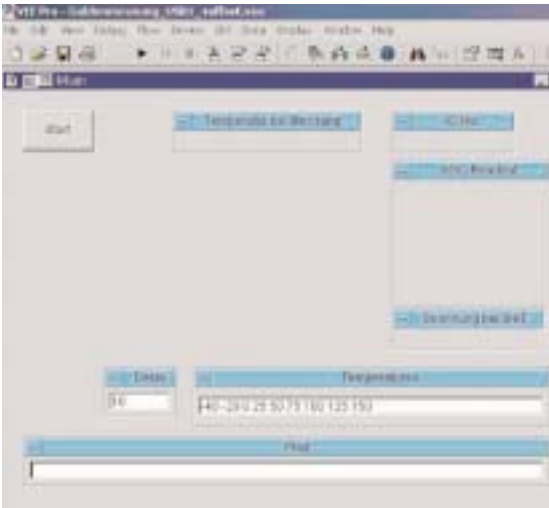
Temperature always has been – and remains – important in the industrial and automobile electronics industry. A temperature range of -40 to 150 °C is the rule. Since each electronic measured value has a temperature dependence, the determination of this temperature dependence in the behaviour of electronic components is an important factor for the determination of the specifications of use. In the case of the development of new electronic components, it is explicitly requested by the customers.

Special testing conditions in the fringe range form a challenge for the test equipment employed in the development of electronic components. At Micronas, a LAUDA Proline RP 855 C is used for the temperature test of



probes and other integrated circuits. Micronas is a globally-active semi-conductor group of companies and offers innovative IC and sensor system solutions for entertainment and automobile electronics. A part of the development is located in Freiburg, Germany, where, amongst other things, the

electrical and functional properties of the newly-developed chips are tested for their temperature dependence. The thermostat from the new LAUDA Proline range proved to be the perfect solution for these tests. The RP 855 C cooling/heating thermostat with an operating temperature range from -55 up to 200 °C fulfils the required specifications. The decisive factor was its ability to cover the entire temperature range with only one bath liquid and the very short duration required for a complete temperature cycle. The tests of the electronic components are carried out in a temperature range from -40 up to 150 °C. The setting of the temperature program is by means of the PC, via the thermostat's interface. This reveals one of the advantages of the flexible operating conception of the LAUDA Proline. Set values can be set directly by the user on the device or via a PC. With the aid of the removable remote control of the Command control head, programming is carried out really easily on the screen of a PC. An important criterion for the use of



available refrigeration capacity at a bath temperature of 20 °C. The product's highlight is its compact design. With an area of only 40 x 45 cm, the device can be set up on the laboratory bench without any special assembly measures being required.

It is only the use of the latest technologies in the field of thermostating technology that enables the fast, efficient testing of electronic components over a wide temperature range. With the LAUDA Proline thermostats, it is possible to comply with these requirements and even offer the customer additional benefits.

the Proline thermostats is the fast change-over between the different testing temperatures in order to optimise the sample throughput with one device. "Time is money" is particularly true of the development of electronic components. The PowerAdapt system with the patented heating control aids fast heating up. It provides up to 3.5 kW heating capacity without overloading the power supply system.

Just as important is the cooling-down speed during the testing process. The SmartCool system provides the refrigeration capacity as it is needed. In the case of the RP 855 C, this is up to 1.6 kW

Continuous measurements over a wide temperature range was a further client requirement. All tests are carried out without the need to change the bath medium for the entire temperature range (-40 up to 170 °C). The LAUDA Kryo 20 silicone oil is used as the bath liquid. Only the powerful Varioflex pump of the LAUDA Proline thermostats enables the use of this bath liquid at below -20 °C. In this temperature range, the viscosity of the silicone oil increases extremely. The pumps of conventional thermostats cannot guarantee sufficient bath circulation and, thus, temperature homogeneity.

Thermostats & Circulation chillers

Heating and Cooling systems

Measuring instrumentation

The complete specialised article is available from:

- www.lauda.de
- Fax reply coupon

Service is the be-all and end-all

Launching new products onto the market is one thing. The next step is guaranteeing excellent service in order to be competitive. In order to familiarise the service technicians from international agencies with the new devices, training sessions with participants from all over the world were carried out.

The main focus of the events was the LAUDA “Proline” which, with its completely new technology, even presents the service technicians with challenges. Udo Velten, head of the

service department at LAUDA, first of all presented the theory for the refrigeration and electronics concept.

The practical part was then held in the workshop, where service employees familiarised themselves with the dismantling and assembly of the thermostats. Defect detection – which has changed considerably thanks to the electronic monitoring of numerous components – played an important part in this. Accurate analyses help precision repairs.

Naturally, such an event thrives on a question-and-answer session. This is practically an exchange of experiences by the entire LAUDA team: the specialists from Germany and the service technicians from all over the world. This has already formed the basis for many new products at LAUDA.

The operation, maintenance and repairs of our Proline thermostats were the focus of attention at the service training sessions.



Reorganisation of the LSC

After many years at the company, Werner Schillinger has left to enjoy his well-earned retirement. Following the reorganisation of the LAUDA Service Centre (LSC), the former manager of the service workshop, Rainer Deinert, is now in charge of the two service technicians. With the integration of the field service, the group is now called “Repairs and Maintenance”. The new group named “Service Support and Administration” is the contact partner for clients and is responsible for all administrative processes. Head of this group is Ramona Umminger, supported by Gabriele Sack and trainee Carmen Sack. The entire LAUDA Service Centre continues to be managed by Udo Velten.



From left to right: Rainer Deinert, Ramona Umminger and Udo Velten.

Dr. Gerhard Wobser, managing partner of LAUDA, celebrated his 65th birthday on 26 August 2004. In keeping with tradition, he invited the entire workforce to his party. With music provided by the company's own "LAUDA Revival Band", the champagne reception was moved to the entrance rooms of



the company building due to the bad weather. However, the bad weather didn't dampen anybody's spirits. Following the reception, the guests were invited to the marquee constructed in the courtyard, where spokespersons for the management and works council raised three cheers for the birthday boy, presenting him with gifts from colleagues and employees.



A glittering party

As a special attraction his son, Dr. Gunther Wobser, announced the nine-time World Champion in speed character artistry, Gero Hilliger. Gero created a good atmosphere amongst all the guests. Following an excellent buffet, "The Rossinis" really got the crowd going with a mix of rock 'n' roll, Italian, Latino and German songs. However, the great party wasn't over by a long shot following Dr. Gerhard Wobser's final speech at 10 p.m...



Successful LAUDA trade fair presentations



LAUDA's presentation at the Analytica 2004 in Munich was sensational. One of the LAUDA highlights at the important trade fair for laboratory and analysis technology was the new LAUDA

Ecoline Staredition. With the new measuring instruments for determining viscosity and surface/interfacial tension and the new thermostating equipment, LAUDA offered state-of-the-art "made in Germany" technology.

Those responsible for the "Analytica China" trade fair held in Shanghai registered a great response. In the Middle Kingdom, the focus of attention was mainly on the Proline and Ecoline ranges of thermostats. The trade fair team was supported by the LAUDA representatives Inter-



mass Fischer, Whole Way and BMH. In October 2004, the new measuring instruments, the MPT C tensiometer and the DVS 1 viscosity measuring system will be the focus of the users' attention at the "K" plastics trade fair in Düsseldorf.

Trade fairs and exhibitions 2004/2005

<u>Event</u>	<u>Location</u>	<u>Dates</u>	<u>Hall/booth</u>	<u>Further information:</u>
K 2004	Düsseldorf, Germany	20. - 27. October '04	Hall 10, booth 10 B 21	www.k-online.de
Analytica Anacon	Mumbai, India	25. - 27. November '04	Nehru Center, booth 50	www.analytica-world.com
Arab Lab & Instrumentation	Dubai, UAE	31. January - 3. February '05	to be announced	www.arablab.com
Pittcon 2005	Orlando, USA	28. February - 3. March '05	to be announced	www.pittcon.org
Arabplast	Dubai, UAE	20. - 23. March '05	to be announced	www.alfajer.net/arabplast
InCom 2005	Düsseldorf, Germany	29. - 31. March '05	to be announced	www.incom-symposium.de

New company software

The new MBS Navision Attain software – a business software from Microsoft – has been in use at LAUDA for the past few months. The objective of this investment is to increase the running speeds of data and, ultimately, to be even more customer-friendly. The company's IT department and specialist departments accomplished a truly masterly performance in the preparation and implementation of the software. A large part of the hardware also had to be modernised to accept the new software. In all, 30 new desktop computers were installed. The new software runs on the workstations in real time: data is processed immediately once it is entered without there being any time delay. The complicated monthly balances are thus a thing of the past. Everything is completely integrated and is no

longer compiled “manually”. MBS Navision runs on the Primergy servers under Windows on the desktop computers. With regard to appearance and operation, the software is very similar to the

use an article number as a filter, for example, and then only receives information on this one article number. This is a very useful tool when you consider 37,000 articles!



The exertion required by the new system has been worth it. Now LAUDA has a modern, efficient system with a guaranteed future. This new technology is geared to the requirements of LAUDA and can add features at any time.

familiar MS “Office” functions. Individual processes and sequences can be followed, and the system automatically compiles the necessary information. Graphic parts lists and planning boards simplify the overall view, filter functions summarise the necessary factors of a sequence. The user can

Photo: our IT experts Rüdiger Brand and Marcel Hisamudin in front of the new server unit.

Thermostating to do with the engine



From left to right: Matthias Mohr, project engineer for Heating and Cooling systems at LAUDA, Chris Wibowo, graduate engineer for the testing department at Pierburg, and Erkan Keceli, technician for oscillating test benches at Pierburg during the commissioning.

Petrol or cooling water pump, radiator or gearbox, shock absorbers or on-board electronics: these car components are all subject to extreme fluctuations in temperature. Component testing on special test benches is playing an increasingly important role. LAUDA specialises in made-to-measure heating and cooling systems in which tested modules are put together individually for the user.

An exciting application

Such as for the automobile supplier Kolbenschmidt Pierburg AG from Neuss, Germany. In its 22 production sites in Europe, North and South America and China, the company produces system solutions “to do with the engine”. Kolbenschmidt Pierburg supplies the world’s largest automobile manufacturers with suction engines, pumps, pistons, sliding bearings, exhaust gas return systems and secondary air systems. The development of new car components includes the safe testing of such parts. The new components, modules and systems must undergo tests in a practical situation in order to ascertain their performance, before delivery to the customer. LAUDA was awarded the Pierburg contract for carrying out a temperature change test on a certain test piece.

Adapted to customer requirements

With a LAUDA thermostating system, various kinds of test piece can undergo tests in a practical situation in order to ascertain their performance. The systems can also come equipped with increased soundproofing (in accordance with the rules for accident prevention: noise, workplace regulation). Moreover, the thermostating of test pieces in high-pressure ranges is also possible. The standard is up to 300 bar, with higher powers presenting no problems. “We always have to adapt the test benches to comply with our customers’ requirements. We make precise arrangements with them”, explains Chris Wibowo, graduate engineer at Kolbenschmidt Pierburg. In this case, a powerful thermostating unit is required with which a precise temperature ramp can be achieved. Depending on the test piece, various tests always have to be carried out. Temperature profiles depending on the time have to be repeated as frequently as desired, with temperature gradients of 100 K/min not being a rare occurrence. The special temperature range covers -40 to 150 °C. Water/glycol is frequently

Thermostats & Circulation chillers

Heating and Cooling systems

Measuring instrumentation

required as a heat transfer medium. The appropriate mixture ratio is then coordinated depending on the temperature range. When using thermal oils as heat transfer media, in a special case, the temperature range can be extended from -100 up to 400 °C. LAUDA presents its customers with its know-how in this segment too, and helps to find the right concept for the thermostating equipment. "The agreement of set values and actual values at such temperature ramps demands exact planning", describes Matthias Mohr, project engineer at LAUDA for industrial heating and cooling systems. The results are presented in the form of a temperature variation curve. LAUDA provides various signals on both an analogue and a digital basis as electrical interfaces. In the standard equipment, the temperatures of the flow and return flow of the heat transfer medium are available as an analogue signal. Upon request or following consultation with the customer, further measuring values such as differential pressure, flow, system pressure, etc. can be realised. There is also the option of controlling the temperature on the test piece itself via a cascade control.

Accepting the challenges

During such a development phase, new requirements always arise which, as a part of continuous dialogue with the customers, the professionals at LAUDA accommodate and realise. One such request was that a pressure loss as minimum as possible arise within a thermostating unit. This presented a challenge for the experts, who came up with a brilliant solution. During the development of such systems, each unit is individually adapted to meet the customer's requirements. A major advantage to this end is the company-proven Plug & Play technology. LAUDA realises precisely the interfaces required by the customer. Recently, a mobile system has been created in the Neuss plant which is used as a test bench in various locations. Naturally, all safety issues are analysed with regard to the project and compared with all the applicable regulations. Heating and cooling systems by LAUDA can, upon the customer's request, come as an explosion-proof model in accordance with the European guideline 94/9/EU (ATEX).

The complete specialised article is available from:

→ www.lauda.de

LABORATORY *dictionary*



ATEX

Directive 94/9/EC, also known as ATEX 100a, has been issued by the EC in order to harmonise fundamental safety and health requirements for devices, protection systems and components that are provided for use in accordance with the regulations for hazardous areas. This definition includes devices for safety, test and control which are required for use outside hazardous areas with regard to their explosion risks. Directive 94/9/EC is applicable to electric and non-electric devices, protection systems and components.

LAUDA Ecoline Staredition



*A new outfit with new features:
the LAUDA Ecoline Staredition*

Accompanied by an advertising campaign and a competition, the new LAUDA Ecoline Staredition thermostats were presented to specialist visitors from both at home and abroad at the Analytica 2004. They received a great response.

The LAUDA Ecoline was first presented to the public in 1997.

The sale of thousands of Ecoline thermostats prove the products' appeal. Ecoline progressed to become the most successful range by the thermostating specialist. To ensure that it remains so in future, the thermostat has been given a face-lift and its efficiency has been even further increased.

New features

In addition to visual improvements to the membrane keyboard, the handle on the bath cover and the bath inscription, the user is given real extra benefit in the form of additional functions. The range of application for the devices with E 100* control head has been significantly expanded. The maximum final temperature has been increased from 120 to 150 °C. All thermostats with the E 200* control head now have a basic programmer, thus offering more flexibility. Working with the top models with the E 300* control head is simplified, since each device now comes with the LAUDA Wintherm Plus PC software. This enables the com-

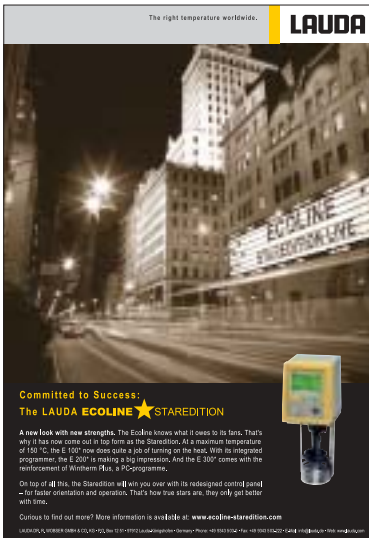
plete control of several devices via the comfortable menu structure. The thermostats which make up the LAUDA Ecoline Staredition thermostats are the all-rounders for heat and refrigeration in the laboratory. They are the economic general-purpose devices for thermostating tasks from -40 up to 200 °C.

These strengths continue to count

The heating and cooling thermostats are suitable for both simple and the most discerning demands alike. A common feature of them all is the simple, digital 3-key operation, support via the LCD display, the multitude of high-quality safety functions and its economicalness. They have a 5-stage Vario pump with high reserve capacities. With this, the user gets as much power as possible and uses only as much energy as necessary. This ensures more flexible use, economic energy consumption and powerful thermostating. Thanks to the hydrodynamically optimised Vario pump

causes a sensation

The right temperature worldwide. **LAUDA**




Committed to Success:
The LAUDA **ECOLINE** ★ **STAREDITION**

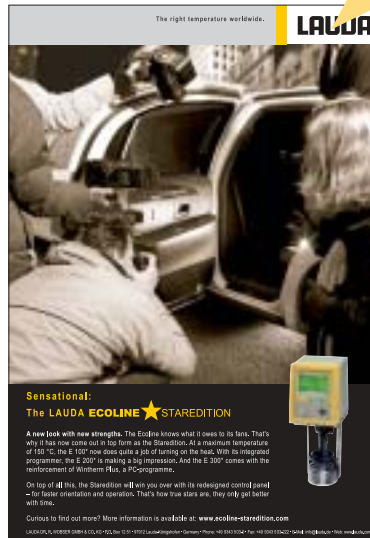
A new look with new strengths. The Ecoline knows what it owes to its fans. That's why it has now come out in top form as the Staredition. At a maximum temperature of 100 °C, the E 200 now does quite a job of turning on the nose. With its integrated programmer, the E 200 is making a big impression. And the E 300* comes with the reinforcement of Minimum Plus, a PC-programme.

On top of all this, the Staredition will help you over with its redesigned control panel – for faster orientation and operation. That's how true stars are, they only get better with time.

Curious to find out more? More information is available at: www.ecoline-staredition.com



The right temperature worldwide. **LAUDA**




Sensational:
The LAUDA **ECOLINE** ★ **STAREDITION**

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with output step 1, you can usually work from room temperature without the need for any additional cooling. Furthermore, the E 300* models can be used as standard for external control, have scalable analogue inputs and outputs with standard signals such as for the connection of peripheral devices, and have magnetic valve connection for controlled cooling. Thanks to the intelligent automatic cooling control, optimised

capacities are possible down to $-40\text{ }^{\circ}\text{C}$.

The LAUDA Ecoline Staredition grants users from the fields of research, application technology, production and quality control optimal customer benefits thanks to economic, technically-perfect, coordinated products which are technologically top of the range and have a reasonable cost effectiveness.

ECOLINE ★ STAREDITION

The new advertising motives playfully interpret the "Star" theme.

Thermostats & Circulation chillers

Heating and Cooling systems

Measuring instrumentation

Win with LAUDA Ecoline Staredition:

→ www.ecoline-staredition.com

Further information about the new product range from:

→ www.lauda.de

→ Fax reply coupon

Monitoring of transformer oils

Transformers rank amongst the most important elements of energy supply. They are made mainly from copper, magnetic sheet steel, insulating materials and transformer oils which also serve the purpose of insulation and refrigeration. Organic substances in particular are subject to aging: this aging depends greatly on the operating conditions. Normally, power and distribution transformers reach an age of 30 years and more. On the other hand, transient voltages, overheating during emergency operation, dynamic stresses or disruptions to refrigeration can result in accelerated aging.

For successful operation and the early diagnosis of accelerated aging processes, fast, easy-to-use and convincing offline tests replace complicated analyses. The interfacial tension measurements

and the viscosity measurements are important for this. To this end, commercial measuring instruments have been successfully used for years, with regular changing of the model guaranteeing a higher degree of efficiency. For this purpose, various tests combined with new materials have been carried out. This includes interfacial tension measurements on aged oils using the Du-Noüy or drop volume method plus measurements on the oil viscosity and the degree of polymerisation of winding papers using the Ubbelohde method.

The aging rate depends largely on the temperature and the water content in the insulation. Transformers with damp insulation and high operating temperatures can age up to 20 times faster. Fully-automatic tensiometers and viscosity-measuring systems combined with precise thermostating technology increasingly simplify the monitoring of important characteristics of transformer oil



LAUDA measuring instruments, such as the ring / plate tensiometer TD 2 (photo) are used by Siemens for determining the surface tension, for example.

and insulating papers. They are essential to “transformer life management” and in the development of new materials.

Thermostats & Circulation chillers

Heating and Cooling systems

Measuring instrumentation

For further information on this comprehensive specialised article:

→ Fax reply coupon

Art and LAUDA are a couple

In April and May, the LAUDA FactoryGallery displayed a representative cross-section of creative colour portraits by the artist Doris Rudolph, who lives in Bettingen am Main. The mainly strong, contrasting colours make her works irresistible – there is no denying the influence of pioneering Expressionist artists such as Franz Marc or August Macke.



In June / July, over two dozen pictures from Eva Okrslar-Benninger, born in Würzburg, were on display. Following a long period of residence in Slovenia, she now lives and works in the Bavarian town of Ohlstadt, close to Murnau on the Staffelsee. The artist uses transparent, gentle

interplays of colour and expressive, colourful tones in a virtuoso manner.



In August / September, the sculptor and graphic artist Berthold Dietz (born in Zwickau in 1935) presented samples of his skill. He is considered one of the forerunners of graphic artistry on the East German cultural and artistic scene. His creative activity spans over five decades. In apparent calm and seclusion, he has created an artistic work whose richness, diversity and quality manage to get by without any spectacular, superficial scenarios.



In October / November of this year, you can see an exhibition by Hermann Vogt. His preferred works are in pastel colours or in oil, wood-engravings, etchings or washed pen-and-ink drawings.

We will gladly arrange for contact with the artists.

Further information available at:

→ www.lauda.de

PRIZE COMPETITION *for great thinkers*

Which LAUDA product belongs to this photo?

- A) LAUDA Proline
- B) LAUDA Ecoline Staredition
- C) LAUDA MPT C
- D) LAUDA DVS 1



The answer to the competition in the last issue of *Therminus* (1/2004) was:

B (the new Proline has a micro-processor-controlled cooling management system with automatic compressor control)

The following each received a parcel of wine: Norrie Habets, Zurich, Switzerland
Eva-Maria Fischer, Ingolstadt, Germany

Bèr Waber, Geleen, Holland

We hope you enjoy your wine!

Simply write the correct letter on the coupon below and fax it to LAUDA or send it by e-mail to: info@lauda.de. Closing date for entries is 31 January 2005. One of three 2005 LAUDA art calendars will be awarded to three entries with the correct answer.

The winners will be drawn and notified by writing. Employees of LAUDA DR. R. WOBSEY GMBH & CO. KG and their relatives are excluded from taking part in the competition. The judges' decision is final. Participation in the competition does not depend on requesting information. All information will be treated confidentially in accordance with the regulations of the Data Protection Law.

FAX reply coupon +49 (0)9343 503-283

Coupon

The solution to the prize competition is:

Please use BLOCK CAPITALS:



Forname: _____

Surname: _____

Function: _____

Company: _____

Street/P. O. Box: _____

Town: _____

Country: _____

E-mail: _____

Telephone: _____

Telefax: _____

Please send me the following information:

- Bath liquids brochure
- LAUDA 2004/2005 Thermostats & circulation chillers brochure
- Ecoline Staredition heating and cooling thermostats
- MPT C bubble pressure tensiometer
- DVS 1 viscosity measuring system
- Specialised article: "LAUDA live at the clients"
- Specialised article: "Thermostating to do with the engine"
- Specialised article: "Monitoring of transformer oils"
- I would like to make contact with the following artist: _____