

# HUMIDITY

ROTRONIC NEWS

## NEW: INTRODUCING THE **HYGROCLIP2** AND THE AIRCHIP3000.

Our new generation of instruments raise the standard for humidity and temperature measurement. Inside this Humidity News find out how ROTRONIC has further increases its lead in humidity and temperature measurement with the HygroClip2. In addition, interviews with Development and Production provide insight into the development of the AirChip3000 and the HygroClip2.

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## GRUYÈRE, SBRINZ & CO. – ONLY PURE THANKS TO ROTRONIC

Take a look behind the scenes at one of the biggest cheese affineurs in Switzerland and its new climate control system. Bon appétit!

Page 6

## COMPETITION: WIN AN IPOD TOUCH

It has never been so easy to own one of the most desirable items of the year, the highly versatile iPod Touch from Apple®. Answer the question, send an email and hope for good luck.

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**ro-tronic**

LEADING IN HUMIDITY MEASUREMENT



Dear business friends,  
partners and  
interested readers,

It has taken a while, but we are here at last: our new HygroClip2 is now ready for market launch. It is highly advanced probe – which although it looks familiar on the outside – is completely new on the inside and equipped with AirChip3000 technology. Read on page 4 about the innovative features of this new probe.



At this point I would like to thank everyone who helped make this technical innovation possible: the developers, the production department and, above all you, our customers. Your feedback and wishes laid the basis for as define a clear catalogue of requirements for the HygroClip2. And you were also the incentive that drove us to meet these requirements.

To coincide with the launch of the HygroClip2, we have also completely revamped our Corporate Image: from logo through datasheets, advertisements to our Humidity News. We show a glimpse behind the development of our new corporate identity on page 14.

Naturally we also report in this issue of Humidity News the main success stories and innovations that have kept us busy in recent months. For example, the change to digital humidity and temperature measurement at one of the biggest cheese affineurs in Switzerland (page 6), the opening of our new calibration laboratory in England (page 9) and how we were able to raise the level of safety in a German road tunnel (under “Odds and Ends“ on page 10).

Now all that remains for me is to wish you happy reading of this issue of Humidity News and to wish you good luck in our competition. You could win one of the “must haves“ of the year: a brand-new iPod Touch. Good luck!

Best regards

A handwritten signature in blue ink, reading 'S. Schroff', written in a cursive style.

Susanne Schroff, Managing Director, ROTRONIC AG

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# UNIQUE SENSING INTELLIGENCE: NEW HYGROCLIP2

**NEW**

When it comes to measuring humidity with the highest accuracy, the HygroClip2 is in a class of its own. Based on AirChip3000 technology, in combination with advances in sensor technology and integration, the HygroClip 2 will provide superb precision and state-of-the-art functionality, taking humidity measurement to a whole new level of performance and reliability  $\pm 0,8\%rh$  and  $\pm 0.1 K$ .

## Fast response

By decoupling the Pt100 temperature sensor from the probe, thermal response is significantly improved.

## Innovative filter technology

The latest in filter technology provides a high level of protection and maintains the optimum measurement environment for the Hygromer humidity and Pt100 temperature sensors.

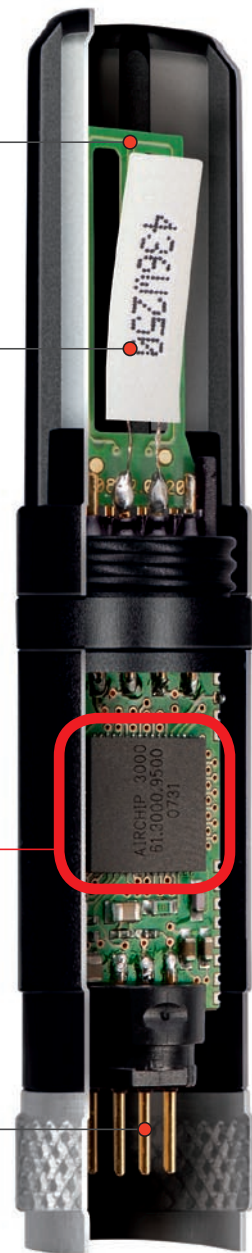
## AirChip3000

- Compensates temperature and humidity over 30,000 reference points
- 2,000 data point memory
- Dew/Frost point calculation
- Sensor auto-diagnostics and alarm generation
- ASIC<sup>1</sup>, micro-controller and EEPROM<sup>2</sup> on one chip



## Maximum flexibility

The UART<sup>3</sup> interface and user scalable analogue outputs allow the probe to be used as a stand-alone device that can also be effortlessly integrated into an OEM<sup>4</sup> application. The probes can be interchanged without adjustment.



All further advantages of this innovation in humidity and temperature measurement, technical details and possible applications are to be found at [www.rotronic-humidity.com](http://www.rotronic-humidity.com). Or contact your ROTRONIC representative personally for information on the advantages of the HygroClip2.

1) Application Specific Integrated Circuit 2) Electrically Erasable Programmable Read-Only Memory 3) Universal Asynchronous Receiver Transmitter

4) Original Equipment Manufacturer

## HYGROCLIP2: AN INTERVIEW WITH THE HEADS OF THE DEVELOPMENT AND PRODUCTION TEAMS.

**Fredi Hagenbucher, head of development for measurement and control technology, was the driving force behind the development of the HygroClip2 for two years. Find out more about the groundbreaking HygroClip2 and his vision of the AirChip3000 in the following interview.**

**«Humidity News»:** You played an instrumental role in the development of the HygroClip2. What did the catalogue of requirements for the new product look like?

*Fredi Hagenbucher:* Quite simple: the new product was to be better, cheaper, smaller, more powerful and unique. We wanted to use the newest, most modern and most powerful technologies the chip manufacturers had to offer to realise our vision, which we have achieved with the HygroClip2.

**What is the AirChip technology integrated in the HygroClip2?**

The new AirChip3000 is in itself a measuring computer because it consists of an ASIC, micro-controller and memory chip. All of this was integrated in a small chip housing measuring only 9 x 9 millimetres in size. With this the AirChip3000 achieves a degree of measuring accuracy not possible before and will be the heart of all new ROTRONIC instruments. By that I mean the chip will control all devices from a simple measuring instrument to sophisticated laboratory instruments and data loggers. The AirChip3000 is also able to analyse, diagnose, alert and much more.

**Compared to the first generation of the HygroClip, what are the main benefits of this development?**

Quite clearly it is the measuring accuracy, speed and new functions. The new HygroClip is more than just a probe. It is able to supply the customer with useful information for analysis and easily meets the requirements of FDA regulations. In spite of its many different possibilities, it is very easy to use and can be integrated in almost all analogue and digital systems.

**How does the new HygroClip2 compare to competitors' products? What are the pros and cons compared to what other suppliers have on offer?**

The HygroClip2 is without competition. Although others measure humidity and temperature, no competitor can meet the performance of the new HygroClip2. The HygroClip2 supplies more critical information than the competition; it knows the past with datalogging, calibration history, and can look into the future with self-diagnostics, and can even provide dew point values.

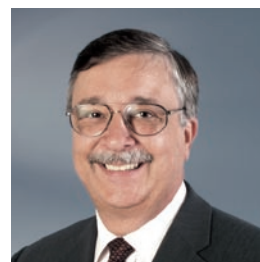
**You have obviously paid a lot of attention to the design of the HygroClip2. Did you compromise on functionality in favour of good looks?**

*Leonhard Löw:* That is an important point because our prime aim was to be accurate. Absolute accuracy can only be achieved if all the components work together to achieve the aim of absolute accuracy. In other words also the housing. It is the result of extensive research work aimed at developing an enclosure that has a neutral influence on the measurement results, that can be used in all applications, that guarantees measuring speed and that protects the sensors and electronics properly. We also wanted to ensure easy interchangeability with a maximum of mechanical stability. And only then did we aim – which, as your question suggests, we have achieved – to create a design that gives the instrument a modern look.

**Thank you both for your time.**



Fredi Hagenbucher, Head of Development, Humidity and Temperature Measurement



Leonhard Löw, Head of Production, Humidity and Temperature Measurement



## GRUYÈRE, SBRINZ & CO. – ONLY PURE THANKS TO ROTRONIC!

Every Swiss person eats 20 kilos of cheese on average per year. The small Alpine country also exports almost 60,000 tonnes of cheese annually. Not just any cheese, but some of the best in the world. With an annual output of 7,000 tonnes of hard and semi-soft cheese, the company Lustenberger + Dürst in Cham is one of the giants on the cheese market. And Lustenberger + Dürst trusts in ROTRONIC for its humidity and temperature measurements.

Swiss cheese owes its high quality to excellent ingredients, centuries-old recipes and the love of its manufacturers for the product. But that no longer suffices as a recipe for success for a modern affineur, who looks after the maturing, finishing and marketing of the cheese. Over the years it also has been necessary to improve the efficiency of production and reduce the number of rejects due to fluctuating quality to a minimum.

This can only be achieved with the latest technology. Technology that includes temperature measurement. By adhering the highest standards in all phases of production enables a company like Lustenberger + Dürst to earn IFS or ISO certification by the BRC Global Standard. And it is these certifications that guarantee the economic health of the 80 employees, the 1000 farmers who supply the company and its 45 contract cheese factories and ensure steady growth.

To fulfil these internal and external quality-assurance requirements, Lustenberger + Dürst has been using ROTRONIC products since 2006. For example, the company has changed from weekly recording of data on paper to electronic measurement of temperature and air humidity. The catalogue of requirements for this concept comprised the



Since the measured values are transferred directly to the server, this data logger does not need a display.

following points: continuous recording of humidity and temperature values, transparent and fast availability of the data, secure storage of the measurements on a server and implementation of an efficient alarm system.



The company opted for ROTRONIC's data logger HygroLog NT2-D-CLand application software HW4 Professional Edition for several reasons. The system guarantees reliability and accuracy, comprises a complete solution with an efficient backup system and provides special monitoring possibilities. In addition, simple probe replacement is possible, all safety requirements are met and when limit values are exceeded the appropriate associates are notified.

The installation of the system posed a special challenge. The premises of Lustenberger + Dürst are quite large and cables had to be laid over a length of one kilometre. In spite of these difficult conditions, the conversion to electronic data acquisition and processing was completed within a week.



To ensure top quality cheese, Urs Demarmels, quality manager at Lustenberger + Dürst, must be able to count on compliance with specific temperature and humidity targets.

## GUARANTEED RUST-FREE: STEEL TUBES FROM WESTERN TUBE & CONDUIT

Sometimes it is the easiest and cheapest solution that is also the best solution. Like with our customer Western Tube & Conduit, a US manufacturer of galvanised steel tubes based in Long Beach, California. After all, how do you protect a product like steel permanently against humidity when humidity is normally not a problem at all?



When it comes to temperature and humidity, Long Beach – usually dry and warm – is one of the most privileged regions in the world. Only rarely does the relative humidity rise above 96%. Ideal conditions, therefore, for an ambitious manufacturer of steel tubes. The steel is simply stored in a large warehouse, which is neither heated nor cooled and whose doors are kept open all day long. Because life at Western Tube & Conduits is very busy; a continuous stream of trucks drive in and out of the hall to deliver steel coils or fetch finished tubes. And this procedure had never been a problem.

Until that fateful day about three years ago. When a cold front formed and caused temperatures in the warehouse to drop to dew point. Water vapour condensed all the tubes and rust formed on them within just two days. The result: goods worth several hundred thousand dollars had to be scrapped. To avoid a repetition of this near catastrophe, the management investigated various solutions. It looked, for example, at the possibility of installing a system for total monitoring of the climate in the hall, or fitting air curtains on the doors. Unfortunately these and all other proposals were either too expensive or simply not practical.

The solution came with ROTRONIC and has proven its worth ever since: instruments for temperature and humidity monitoring were bought at low cost. They were programmed via an alarm relay to emit an alarm when the relative humidity reaches 96% or more. When an alarm is indicated the staff drive the trucks into the warehouse and close the doors. At the same time another employee switches on a group of heaters.

This procedure prevents temperatures dropping further and dew forming. It is also possible for work to continue inside the hall for the short time until the weather has improved again. Which, fortunately, does not take long in Southern California.

And in this way the steel tubes of Western Tube & Conduit will remain guaranteed rust-free in the future as well.



For Jeff Bloom, quality assurance manager at Western Tube & Conduit, the simple ROTRONIC solution was the perfect answer to his questions.



## OFFICIAL INAUGURATION ON 5 JUNE 2008: ROTRONIC CALIBRATION LAB IN CRAWLEY, UK

**ROTRONIC UK has replied to the increasing demand for high-quality calibrations by opening a new laboratory at the existing Crawley office, located near to London's Gatwick Airport. The purpose built laboratory has been built to accommodate the growing UK team and to achieve the best possible performance using a variety of calibration methods.**

The new installation will allow ROTRONIC UK to generate recognised and verifiable UKAS<sup>1</sup> accredited calibrations for almost all humidity measuring instruments from portable RH instruments to dew point mirrors.

The services available to our UK customers are:

- Humidity and temperature calibrations using ROTRONIC unsaturated salt solutions
- Humidity and temperature calibrations with the transportable ROTRONIC HygroGen calibrator
- Humidity and temperature calibrations with a two-pressure generator
- Temperature calibrations in liquid
- Dew/frost point calibration in a range from -25 to +69 °C  
(To be extended to -90 to +69 °C by early 2009)



Richard Gee,  
ROTRONIC Instruments UK Ltd.

These services cover the huge demand from high-tech companies in the pharmaceutical, electronic and food industries for calibrations conforming to standard regulations such as, for example, GAMP4<sup>2</sup> and FDA21<sup>3</sup> CFR<sup>4</sup> Part 11.

Whether a new instrument needs a final control calibration or an old instrument needs a repeat calibration, ROTRONIC UK can turn-around these customer orders within three to four days. The Rotronic UK team aim to solve measurement problems within the shortest of times.

Routine calibrations can be carried out even quicker. Richard Gee, Technical Services Manager, speaks of a 48-hour delivery period if the calibration is scheduled in time.

The new laboratory is air-conditioned and monitored continuously. The measured humidity and temperature values typically range within  $\pm 0.5^{\circ}\text{C}$  and  $\pm 5\% \text{ RH}$ .

The new calibration laboratory will be opened officially on 5 June 2008 during an open day at the premises.

1) United Kingdom Accreditation Service 2) Good Automated Manufacturing Practice 3) Food and Drug Administration 4) Code of Federal Regulations

## NOW IT'S OFFICIAL: ROTRONIC HAS REDUCED CALIBRATION UNCERTAINTY.

ROTRONIC AG- an officially accredited calibration laboratory- has further improved their measurement uncertainty, which is now comparable to that of CETIAT<sup>1</sup>. Here are the results

Measuring uncertainty range    23 °C ± 5 °C                      20 °C ± 5 °C

RH	ROTRONIC %rh	CETIAT %rh
0,5 – 20%	± 0,20%	± 0,20%
20 – 40%	± 0,30%	± 0,30%
40 – 65%	± 0,40%	± 0,40%
65 – 85%	± 0,50%	± 0,50%
85 – 99%	± 0,60%	± 0,60%

### NEW OFFICE FRANCE SUD-LYON.

Mr. Roger Aucel  
Tel: +33 (0)4 37 26 94 30  
[www.rotronic.fr](http://www.rotronic.fr)

The benefit for ROTRONIC customers: we now offer certified probes and humidity standards with which our national subsidiaries and dealers can also perform extremely accurate calibrations.



Thomas Henry, ROTRONIC (France), and Bernard Cretinon, CETIAT, test the calibrations systems at ROTRONIC (France).

## CONGRATULATIONS – 40 YEARS OF ROTRONIC IN AUSTRIA.

When Mr. Kühnel started selling ROTRONIC humidity instruments in 1968 (then still under the name of Kühnel), no-one could imagine the success he would achieve. What started with the sale of hand-held instruments for the paper industry has since grown into an important sales channel for our brand in Austria.

We will be celebrating this long partnership together with our Austrian customers throughout the year as it is thanks to them that we are stronger and better than ever. We will inform our customers of our anniversary actions and attractive events personally. One thing though, we can assure our dear customers in Austria there is definitely something worth looking forward to!



Ernst Aringer,  
MEPA GmbH

## SUCCESSFUL USE OF THE HYGROFLEX.

The firm Monitoring Systems GmbH in Lower Austria builds systems to measure dioxin values. Its internally developed Dioxin Monitoring System monitors dioxin emissions and correlations between long-term and short-term measurements (according to EN<sup>1</sup> 1948 and the EPA<sup>2</sup> Method 23). The system can be used for measurements in all types of exhaust gases and special applications are possible by a variety of sampling systems. The measuring system consists of three main components (filter unit, sampling unit and control unit), each of which is adapted to the special application on hand. For measurement, moist flue gas is mixed with dry pure air and then the relative humidity of the gas mixture determined with a HygroClip-IE1, which is connected to a HygroFlex2. The volume of the dry flue gas is then calculated from the resultant data.



## MORE SAFETY IN TUNNELS. THANKS TO ROTRONIC.

When entering two-way road tunnels longer than 1.4 kilometres there is a risk of sudden fogging on the outside of car windows. This danger can be effectively controlled nowadays. But only if temperature differences are known exactly. Clearly a case for ROTRONIC.

A pilot project was conducted in the Saukopftunnel in the district of Karlsruhe in southern Germany, where the climatic conditions were recorded with a data logger of the type ROTRONIC HygroLog NT3 for a period of 12 months. The result: based on an analysis of the measured data, the risk of fogging could be determined quantitatively. The calculated frequency and associated hazard potential were then used as a decision-making basis for implementation of anti-fogging measures. Namely an effective and custom-built ventilation system. For further details on the method, measured values and contacts, simply ask your ROTRONIC representative.



1) European Norm 2) Swiss testing institute

## WE CONGRATULATE DANIEL KERVILLE ON HIS CANON IXUS 17.

The Humidity News competition 2006/2007 was won by Daniel Kerville from Beaufour Ipsen Industrie SAS. He answered all the questions correctly. His prize worth € 300 has already been handed over to him by Christophe Thubert from ROTRONIC France.

Do you want to win? Then take part in our Humidity News competition 2008 before 31 August 2008 and win an iPod Touch worth € 370. You can find all the information you need to enter on page 15 of this issue.



Christophe Thubert, ROTRONIC France (left), and Daniel Kerville, Ipsen SA (right)

## SURVIVAL OF THE FITTEST: AT THE END OF EVERY EVALUATION THERE IS HYGROMER.

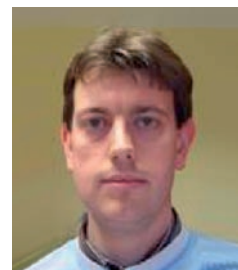
From an electronic and technical point of view, the capacitive humidity sensors in the HygroMer series are relatively simple products: a polymer that changes electrical properties as the humidity content changes is located between two electrodes that form a variable capacitor. In spite of the simplicity of the humidity sensor, the long-term quality depends on the materials used. To further improve the HygroMer sensor family, ROTRONIC is continually researching and testing new materials for use in the sensors. The HygroMer IN-1 is the only humidity sensor in the world capable of withstanding temperatures up to 200°C, thereby making ROTRONIC a leading supplier in the field of industrial humidity measurement technology. If things can get a bit harsh in your applications and other sensors fail, call ROTRONIC and opt for the HygroMer.



## OUR CUSTOMER ASTRAZENECA THANKS US PERSONALLY.

We are so pleased about the positive feedback received from Vincent Fasquelle, responsible for metrology at AstraZeneca in Dunkirk that we would like to publish his comments here:

“Our production site in Dunkirk is very important for our group. The products we make there are among the most important in our product range and demand top quality. In our efforts to optimise our resources and our know-how and to maintain our high standards, our metrology group has found the ideal instrument in the HygroGen. This humidity and temperature generator has far surpassed our expectations. It is easy to use and, thanks to its stability, homogeneity and exceptional adaptability, we are able to calibrate our humidity sensors in half



Vincent Fasquelle,  
coordinator of metrology  
at AstraZeneca



the time. And when calibrating 250 probes per year this speed represents a significant time saving. All we need to operate it is an electric socket. Thanks to its low weight, we are also able to take the HygroGen with us to installations without difficulty. Maintenance comprises regular filling with water and regeneration of the drying agent. The operating costs are correspondingly low. Combined with a quality sensor, it has become an absolutely indispensable instrument for us.”

## AN E-MAIL FROM THE 18TH CENTURY? ONLY IN THE EVENT OF AN ALARM.

The Monastery Library at Admont Benedictine Monastery houses a collection of late baroque art of European significance. Completed in 1776, the library is the largest in a monastery in the world and, following restoration, was reopened to the public again on 16 March 2008. Its heart is a 70-metre-long library hall with magnificent ceiling frescos by Bartolomeo Altomonte. In the course of the restoration work a network of three HygroLogNTs dataloggers was installed to monitor room conditions in the hall. Should a change in these conditions threaten the valuable books, the library technician is immediately sent an email. In short: a simple, yet efficient solution that will ensure generations to come can also enjoy this unique room and its contents.



## SEE ROTRONIC LIVE AT THESE EVENTS:

Exhibition	Venue	Date
SENSOR + TEST 2008	Nuremberg, Germany	6 – 8 May 2008
BIAS	Milan, Italy	27 – 30 May 2008
drupa 2008	Düsseldorf, Germany	29 May – 11 June 2008
NCL	Orlando FL, USA	3 – 6 August 2008
MESUREXPO	Paris, France	30 September – 2 October 2008
METEOREX 2008	St. Petersburg, Russia	27 – 29 November 2008

# READY FOR THE BIG SHOW IN NEW STYLE.

**You have no doubt already noticed: we have completely revamped Humidity News.  
A fresh look with a new logo and new layouts.**

You probably know the adage: if you don't go with the times, you'll go with time. To ensure this does not happen to us, we have spent the last few months focusing on our position in the market and modernising our identity in collaboration with a branding agency. For example, we have redefined the core of the ROTRONIC brand with a simple statement: we are a modern and innovative high-tech company with a leading position in the field of humidity and temperature measurement.

We have implemented this in form, colour and language and will distinguish ourselves from our competitors in future with a certain boldness, lots of white space, the main colours red and grey and a consistent style of language. All our advertisements will further also portray exactly the same measure of individuality and authority as contained in our top products.

For you this means that our printed publications and online communication will be more easily recognisable in future and you may be sure that we will not only simplify technical information in our datasheets, but also in our communication with you.

We had a lot of fun in this process and now step into the future stronger and with a new sense of our position in the market. We hope you like the new ROTRONIC look just as much as we do.



Christian Zengaffinen,  
Head of Communication  
and Advertising



Our new identity as illustrated by the datasheet for the HygroClip2: a clear focus on the product, individual styling and plain language.

# BIG HUMIDITY NEWS COMPETITION: WIN AN IPOD TOUCH WORTH €370.-!

More than just Music player. The iPod Touch from Apple is your access to the Internet while on the go. Best of all: if you answer our competition question correctly, you can win an iPod Touch from us. At no cost to you and with free delivery. All you need to do is send us the correct answer.

Use the entry coupon below and fax it to us at +41 44 838 13 07.



**One question, one right answer: we're crossing our fingers for you!**

**What is the name of the new chip responsible for the unique adjustment and calibration process in the HygroClip2?**

☐ HumiChip

☐ AirChip

☐ AirPort

First Name

Surname

Company

Position

Street

Town/Postal Code

Phone

Fax

Email

Date/Signature

#### Entry conditions

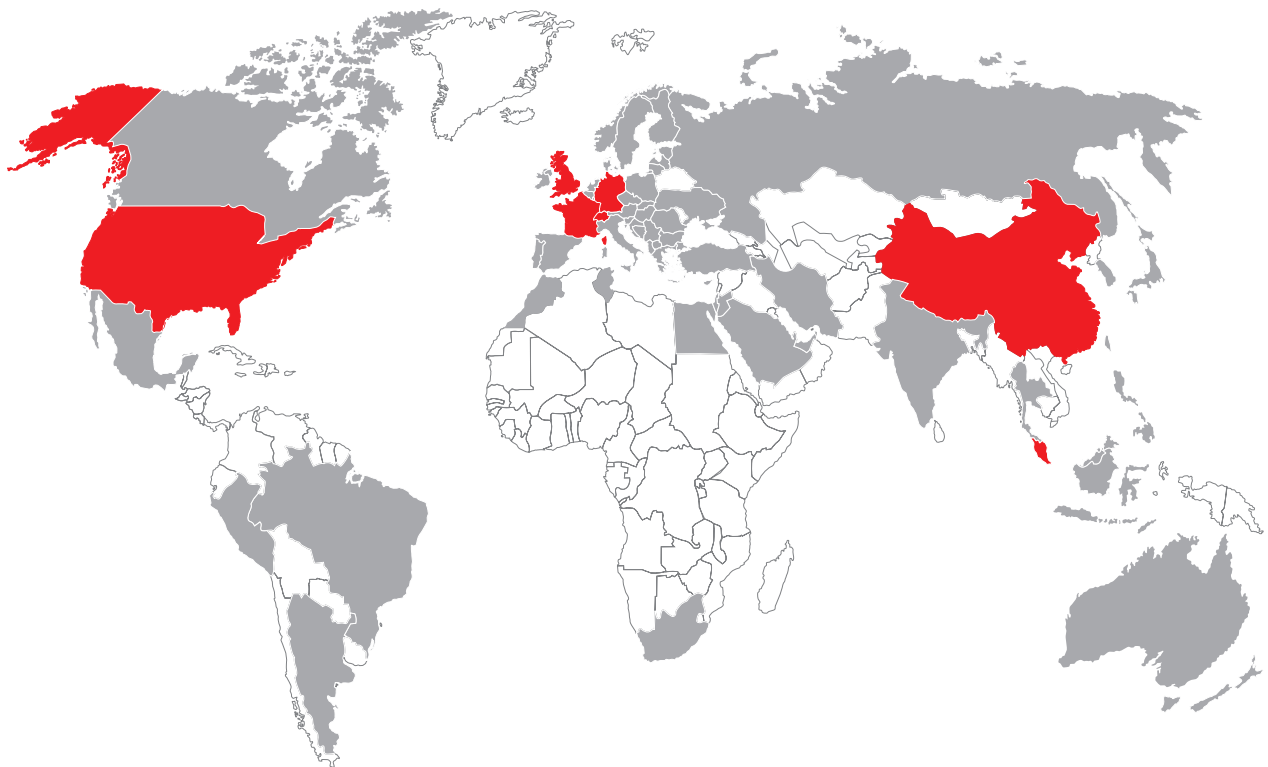
The closing date for entries is 31 August 2008; the winner will be informed by 31 October 2008. Entry is free and involves no commitment. The winner will be notified personally and may be published. A cash equivalent of the value of the prize will not be paid. No correspondence on the competition will be conducted and there is no right of appeal. Employees of ROTRONIC and their families may not enter. Personal data will be treated confidentially and not passed on to third parties.

☐ Please send me your latest catalogue

☐ I would like to be contacted by your local representative

## ROTRONIC WORLDWIDE.

ROTRONIC is represented in more than 40 countries around the world. An up-to-date list of all our partners is available at [www.rotronic-humidity.com/international](http://www.rotronic-humidity.com/international)



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