

# Humidity news

**ro-tronic**

issue 2/2000



**Big  
HUMIDITY  
Competition!**

HygroPalm 3  
with a  
Dock-Station  
to win!



**ROTRONIC**  
Subsidiary in France

**Abbey library  
St. Gall**

**MAIN THEME  
HUMIDITY  
goes digital**

# PREFACE



In the second issue of our Humidity News we would like to acquaint you with the varied applications in which ROTRONIC humidity and temperature measuring instruments are used.

ROTRONIC AG is an International, ISO 9001 certified company. One of the pillars of our business activities since 1965 has been the manufacture of humidity measuring instruments and the sensors used in them. The comprehensive range of products consists of hand-held instruments, hand-held probes, transmitters, instruments for laboratory use, data

loggers and products designed specifically for our customers.

Efficient production facilities and systematic quality control assure a consistently high product quality. Using many years of experience in the varied areas of humidity applications, we assist our customers in finding the correct solution for their measuring needs. Thanks to our close-knit sales network, you will find competent advice from our experienced sales and service staff always close at hand. You may turn to us in confidence with your application problems.

As an innovative group we promote the use of the latest technologies and undertake research and development

intensively. In this issue of Humidity News we introduce to you our new generation of digital humidity measuring instruments. The HygroClip family measure both humidity and temperature as well as derived humidity parameters such as dew point or wet bulb temperature. On the basis of digital technology the instruments offer a versatile range of functions with significant benefits for the user.

Throughout Humidity News we describe a wide-range of applications where ROTRONIC humidity measurement technology is used and trusted!

*Susanne Schroff*  
Susanne Schroff,  
Vice President

# INTERNATIONAL SALES MEETING 2000

Every second year, all ROTRONIC representatives and subsidiaries from all over the world meet for a big sales event. Between the 28th and 30th June, 60 people from over 30 Nations met in Zurich, Switzerland.

A new generation of humidity measurement instruments was presented for the first time. The motto of the meeting was:

**Humidity goes digital!** The new instruments as well as the social part of the meeting was enjoyed by everybody, and meeting friends from all over the world provided a great opportunity to exchange experiences and humidity knowledge.



**WINNERS!**  
Our best performing distributors receiving their awards or trip to TUNISIA.

## NEW ROTRONIC SUBSIDIARY IN FRANCE

### ROTRONIC in France



On the 1st July 2000, it was announced that ROTRONIC France would be created in Croissy Beaubourg, near Paris.

This new subsidiary of ROTRONIC AG will be exclusively focused on the distribution and support of our world famous humidity and temperature measurement products.

The photo shows employees of ROTRONIC France

### roTRONIC sarl

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## HUMIDITY WORLD OF HARIBO



At the Haribo production facilities in Linz on the Danube, ROTRONIC humidity transmitters are used for the production of the world-famous „Gummi bears“ and other gum based sweets.

The figures are formed in plaster moulds coated with maize starch (see picture) which are located on a wooden frame. After the gum is poured, the wooden frames are

stacked for cooling and drying to take place. The finished gum figures are then removed, and the maize starch is recovered, sieved and conveyed into a dryer in order to condition it for the next use. This drying process is controlled in Linz (also in production facilities in Germany) by means of ROTRONIC I-1000 humidity transmitters. The drying process

is regulated by Honeywell Austria GmbH Linz.

# HYGROCLIP® HUMIDITY GOES DIGITAL



**A new generation of digital humidity instruments has been introduced by ROTRONIC.**

The HygroClip series is a family of instruments for the measurement of humidity and temperature, which also feature calculation of other humidity parameters such as dew-point, wet-bulb temperature, and mixing ratio.

Based exclusively on a digital platform, the instruments features an advanced range of features, with significant benefits to the user and specifier.

Digital technology provides clear improvement in measurement accuracy and user convenience. It also enables functionality such as interchangeable probes, parameter calculation,

connectivity, and user configuration, which in turn lead to real benefits in terms of maintenance and flexibility.

Portable, benchtop, and fixed industrial transmitter products make up the series, and they have been introduced with a complete range of probes & accessories to meet almost any application scenario.

## HYGROPALM

**HygroPalm Digital Handheld Hygrometer. The Digital Advantage**

HygroPalm represents a new generation of portable Humidity / temperature instruments, utilising the very latest in digital technology. Three versions satisfy the needs of all users. Each offers the convenience of interchangeable probes eliminating the need for probe calibration or repair downtime, and maximising application flexibility. Digital technology enables a wide range of new features, including digital sensor module calibration, transmitter diagnostics and moisture



calculation. A unique docking station offers battery re-charging and has an RS232 PC interface for data-logging and processing.

**Which HygroPalm is for you?**

### Key Features

#### HygroPalm 1

- Portable instrument for %rh, °C
- Display of dew-point or wet-bulb
- Transmitter interface (display only)
- Single point probe adjustment

#### HygroPalm 2

- All the features of HygroPalm 1
- Second %rh/°C probe input
- Multipoint probe calibration
- RS232 PC interface
- Full psychrometric calculation

#### HygroPalm 3

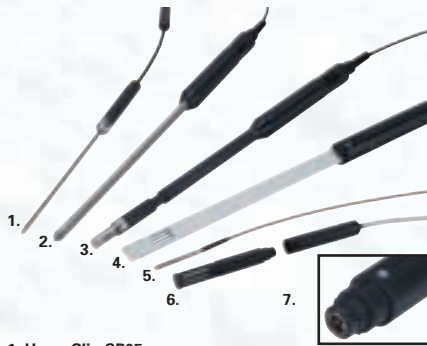
- All the features of HygroPalm 2
- + Universal probe input for pressure, air-flow etc
- + Dynamic pressure compensation feature
- + Transmitter Interface (adjustment)

The ROTRONIC HygroClip digital probes are available in a wide range of configurations to meet the requirements of almost any humidity measurement application.

The HygroPalm digital handheld measures both percentage relative humidity (%rh) and temperature. It also computes other humidity parameters such as dew-point, wet-bulb temperature, mixing ratio etc. HygroPalm is the first instrument of its type to make full use of the benefits of

the latest digital technology. By storing calibration data in non-volatile memory, digital probes can be interchanged by the user when required, significantly reducing down time, and allowing the connection of a different probe type when the application dictates.

Digital technology ensures absolute precision is maintained but also enables complex functions such as computation, user-configuration and interconnection. For example, HygroPalm can be used to fault diagnose the HygroFlex industrial transmitter. It is also possible to reconfigure the HygroPalm using a PC.



1. HygroClip SP05 for measurement in air ducts, max. 85°C (185°F)
2. HygroClip HP28 tubular probe for measurement of materials in bulk, max. 85°C (185°F)
3. HygroClip HK25/HK40 for air probe measurement at high temperature HK25: max 100°C (212°F) HK40: max. 200°C (392°F)
4. HygroClip HS28 sword probe for measurement of paper stacks/rolls, max. 85°C (185°F)
5. HygroClip SC05 for measurement in tight spaces, max. 100°C (212°C)
6. HygroClip S for measurement in air, max. 85°C
7. Connector markings

## HYGROFLEX



### Industrial Humidity Temperature Transmitter. The Digital Advantage

HygroFlex is a new generation of industrial humidity and temperature transmitters based on the very latest digital technology. Digital signal processing significantly benefits humidity and temperature measurement in five key areas:

- Measurement Accuracy
- Maintenance and Calibration
- Precision and Stability
- Application Flexibility
- Measurement of Dew Point and other Parameters

Three Versions are available to suit every application and budget! The HygroFlex is available in three standard versions, each with different features and options. Certain features are common to all three:

- Interchangeable probes
- Software based probe calibration and instrument configuration
- Optional display and keypad
- Test connector for HygroPalm calibrator

### Key Features

#### HygroFlex 1

- %rh and temperature
- Two linear analogue outputs
- Jumper configuration of analogue outputs
- One probe input, digital or analogue (002.5V, 10 Bit A/D)

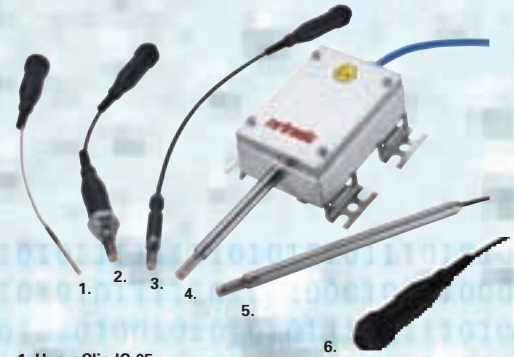
#### HygroFlex 2

- %rh and temperature
- Calculated values; dew-point, mixing ratio, etc
- RS232 output (%rh and temperature)
- Networkable (RS485)
- 2nd probe input (digital or analogue e.g. pressure)
- Fully user programmable

#### HygroFlex 3

- %rh, temperature and calculated value (dew-point, mixing ratio, etc)
- Three linear analogue outputs
- Jumper configuration of analogue outputs
- Simultaneous digital output
- RS232 output (%rh and temperature)
- Networkable (RS485)
- 2nd probe input (digital or analogue e.g. pressure)
- Fully user programmable

The ROTRONIC HygroClip digital probes are available in a wide range of configurations to meet the requirements of almost any humidity measurement application.



1. HygroClip IC-05 for measurement in tight spaces, max 100°C (212°F)
2. HygroClip IE-1 for pressurised applications, max. 50 bar (725PSI) -50...+100°C (-58...+212°F)
3. HygroClip IC-1 cable mount probe, -50...+200°C (-58...+392°F)
4. HygroClip IW-EX (intrinsically safe) for wall mount ( area monitoring)
5. HygroClip IM-3 stainless steel cable mount probe, -50...+200°C (-58...+392°F)
6. Robust connector of HygroFlex probe



### HW3 Software

HW3 is a universal software package compatible with all ROTRONIC products possessing RS232 outputs. Features include data-logging, data storage, data export, calculation of various humidity parameters, instrument configuration and calibration. Alarm functions with audible, visual, email and SMS notification are included. HW3 allows the user complete control over the calibration process via a PC.

# HYGROLAB

## HygroLab the Multi-channel Humidity & Water Activity Analyser



HygroLab is the new series of benchtop display units for the measurement of humidity and water activity (aw). Based on the very latest digital technology, HygroLab offers the user outstanding performance and flexibility, with up to four simultaneous probe inputs and an impressive number of functions. Measurement probes can be interchanged without loss of accuracy, psychrometric calculation functions, software based measurement analysis and multi-point calibration. An extensive range of compatible probes and measurement stations make the HygroLab suitable for almost any laboratory or production application.

Developed for busy laboratory environments where multiple measurement stations or probes co-exist, the HygroLab 2 is supplied with a net-

working feature, allowing up to 32 instruments to be simultaneously controlled and monitored from one PC.

### Which HygroLab is for you?

#### Key Features

#### HygroLab 1

- Two digital or analogue probes
- One point digital probe calibration

#### HygroLab 2

- Four digital or analogue probes
- Single or Multi-point digital probe calibration
- Full psychrometric calculation functions
- RS232/RS485 output

The ROTRONIC HygroClip digital probes are available in a wide range of configurations to meet the requirements of almost any humidity measurement application.



1. AWVC-DIO water activity station
2. HygroClip HS28 sword probe for measurement of paper stacks/rolls, max. 85°C (185°F)
3. HygroClip HK25/HK40 for air probe measurement at high temperature HK25: max 100°C (212°F) HK40: max. 200°C
4. HygroClip HP28 tubular probe for measurement of materials in bulk, max. 85°C (185°F) max. 200°C (392°F)
5. HygroClip SP05 for measurement in air ducts, max. 85°C (185°F)
6. HygroClip SC05 for measurement in tight spaces, max. 100°C (212°C)
7. HygroClip S for measurement in air, max. 85°C



## COOL APPLICATION FOR ROTRONIC HUMIDITY TECHNOLOGIE

The CTS company is concerned with the design, manufacture and the distribution of high-quality devices and systems for environmental simulation, as well as refrigeration and air conditioning. Under the management of three partners with many years of experience in environmental simulation and climate technology, CTS employs around 50 staff and continues to expand, and now operates world-wide with a reputation for high-quality products.

The CTS climatic cabinet C-20-200/S provides very high accuracy over the a wide temperature range, and uses a ROTRONIC I-2000 Industrial Humidity and Temperature transmitter, which has an operational range of 0 to 100%rh and -50 to +200°C.

The system-optimised CTS control unit, combined with precise measurements provided by the I-2000, facilitates a very large performance range, which also does not stop at the simulation of polar climate. „Previously



**CTS**

that was a problem” says Dipl. Ing. Helmut Maute, sales director, „in the range below the freezing point many measuring methods are completely useless, or very inaccurate. Our cu-

stomers include, amongst others, well-known manufacturers in the automobile industry, where reliable and exact measured values over the entire range are especially indispensable. With the ROTRONIC industrial transmitter I-2000 we have found a product matching our high demands for measurement accuracy and long-term stability. The I-2000 covers perfectly the working range of our climatic cabinets and has even additional reserves. The climatic cabinet C-20/200/S has a temperature range of -20°C to +120°C and a humidity range of 10% to 98% rh. Thus all of the world’s climate zones are fully covered taking account of the seasons and can also be simulated over long periods.”



## ABBEY LIBRARY ST. GALL



The abbey library of St. Gall is the oldest library in Switzerland and one of the oldest and most important monastic libraries in the world. Constant Humidity- and temperature conditions are essential for the storage of books. Thanks to its reliability and its easy application the abbey library St. Gall uses the HygroLog dataloggers of ROTRONIC. HygroLog memorises humidity and temperature values in the wanted interval, the dates are downloaded easily on the PC with a RS32 interface.

Its unique collection of books reveals the development of European

culture and documents the cultural achievements of the monastery of St. Gall from the eighth century to the dissolution of the abbey in 1805.

Numerous works, fundamental to the history of European thought, have been transcribed in these manuscripts and are well preserved in the manuscript room. The abbey library along with the entire abbey precinct of St. Gall, was included in the UNESCO list of global cultural heritage sites in 1983. At the core of collection is the largely indigenous corpus of Carolingian and Ottonian manuscripts from the eighth to the eleventh centuries.

Today the abbey library is part of the Catholic Administration of the State of St. Gallen. A modern scholars library, specialising in the medieval period, it is also one of the leading museums in Switzerland. Every year some 100,000 visitors from all over the world view the exhibition in the renowned baroque hall, considered one of the most beautiful library rooms in the world.



## SCS HUMIDITY CALIBRATION



All humidity instruments should be calibrated regularly to ensure measurement results are precise and reliable. Calibration frequency depends largely on the instruments usage, and depends on factors such as high temperature and chemical pollution. In normal circumstances, ROTRONIC recommend a calibration check once per year.

ROTRONIC humidity standards enable the user to perform regular calibration checks with high precision, at low cost, and with no specialist knowledge or equipment. They consist of specially prepared non-saturated salt solutions supplied in boxes of 5 sealed glass ampoules. An SCS certificate, which precisely defines the %rh value and its uncertainty, is enclosed.

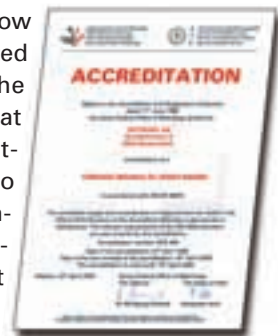
They can also be applied to instruments not manufactured by ROTRONIC, thanks to the availability of a comprehensive range of calibration devices which seal the humidity standard and the measurement sensors together. Values available are: 0.5%rh,

5%rh, 10%rh, 20%rh, 35%rh, 50%rh, 65%rh, 80%rh and 95%rh. **And new also 11.3%rF and 75.3 %rh!**

### SCS Calibration Range Extended

ROTRONIC is an SCS Calibration Laboratory for relative humidity and temperature instruments, EAM reference Nr. 065. Our standards & procedures are Internationally recognised, and we are able to calibrate any manufacturers instruments in our laboratory.

Thanks to continued investment in test and calibration equipment, we are now able to offer accredited calibration over the range 10...95%rh, at temperatures between -10...+70°C to augment our standard certification range of 0.5...98%rh at 23°C ( $\pm 2^\circ\text{C}$ ).





## ROTRONIC CONQUER THE JUNGFRAUJOCH

The Jungfrauoch in Switzerland is one of the most popular and attractive excursion destinations and Alpine vantage points. At the beginning of the 20th century, the Jungfraubahn project - a railway between the famous Wengernalp and the Jungfrauoch at 3454 m (11'333 ft) above sea level, was finished and officially opened to the public. Thus, it became possible to install a scientific laboratory, where since 1931 astronomers, astrophysicists, geologists, meteorologists, hydrologists and physicians work under the high-alpine conditions in very clean air. Avalanche research, general weather information and a lot of other data have been collected here. There's even a solar laboratory.

Instruments for measuring relative humidity and temperature must therefore be able to withstand the harshest imaginable environmental conditions: direct sun and high UV radiation in the daytime, fierce and

bitter cold at night and during winter-time, thunderstorms, blizzards and lots of snow, and, last but not least, very high wind speeds.

The reliability of the ROTRONIC sensors installed on Jungfrauoch is assured: with the exception of occasional calibration, (recommended once a year) there is almost no maintenance required.



At the following exhibitions you find a ROTRONIC stand:

**Romcontrola**

09. – 14.10.2000

Bukarest, Romania

**Pollutec**

17. – 20.10.2000

Lyon, France

**Meteorex**

24. – 26.10.2000

Beijing, China

**Foodex of Korean Society of Food Science + Technologie**

03. – 04.11.2000

Seoul, Korea

**Messcomp**

05. – 07.11.2000

Wiesbaden, Germany

**Bias**

07. – 11.11.2000

Mailand, Italy

**Kemia 2000**

15. – 17.11.2000

Helsinki, Finland

**28th. Scientific Instruments Shows Japan 2000**

28.11. – 01.12.2000

Tokio, Japan



## THE HOLY SHROUD THE WOUNDS OF THE PASSION

Exhibition from 12. to 22. October in Turin

A century ago the Shroud began to „surprise“ when it was photographed in 1898 for the first time by Secondo Pia. The negative of that photograph revealed in detail, and with even greater clarity than the positive image, all the „wounds“ that the shroud preserved. How was the image on the Shroud formed? Science has not yet come up with any plausible explanations.

Since 1998 the Shroud has laid horizontally on a sliding support inside a ballistic steel shrine with safety glass. Inside the shrine the inert atmosphere (Argon with 0.5% Oxygen) prevents the generation of anaerobic organisms. What is important, is that the flax fibres are kept under the same conditions, which they have been for centuries. The humidity and temperature is measured with the I-1000 device by ROTRONIC. Humidity values are controlled between 50 ...60% rh at 20°C.

The man whose image appears on the Shroud was crucified in the same way as Jesus, and details of the wounds which appear on the Shroud correspond to those described in the Gospels. The Shroud is an image to be looked at and contemplated.

For believers it is an „Icon of the Passion“, as defined by Pope Paul VI. The wounds of the Passion of Jesus are the reason for so much interest in the shroud, and explain its veneration since ancient times.

### A Difficult Piece

The Shroud is a linen sheet, 4.36 meters long by 1.10 meters wide. Two dark parallel lines with the white triangles, burn marks (from the Chambéry fire in 1532) and the imprint of an image of the front and back of a man who died from crucifixion, are clearly visible.

### The Public Shroud

The shroud is shown only on special occasions. From 12th. to 22nd. October 2000, the Shroud can be seen in Turin. It is the longest exhibition time for the shroud in history, and only the sixth time it has been displayed in the last 100 years.



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## HUMIDITY QUIZ!

1. When was the research station on the Jungfrauoch established?

- 1931  
 1935  
 1941

2. What is the temperature range of the clamte chamber C-20/200/S?

- 10°C bis -98°C  
 -20°C bis +120°C  
 -40°C bis +98°C

3. In which city is the Passion of Christi exhibition, open from 12 - 22 October, being held?

- Turin  
 Croissy Beaubourg  
 St. Gallen

4. What does „SCS“ mean?

- Swiss Controlling Support  
 Sword Calibration Support  
 Swiss Calibration Service

Yes, I want to win!

Name: \_\_\_\_\_

Company: \_\_\_\_\_

Address: \_\_\_\_\_

Phone: \_\_\_\_\_

Fax your answers to:

Fax: +41-1-837 00 73



**HygroPalm 3**  
with a Dock-Station  
to WIN!