

## PRECISE CLIMATE MEASUREMENT FOR PHARMACEUTICAL APPLICATIONS



**In addition to ensuring a comfortably warm room environment for the production and storage of goods, the primary purpose of systems where ambient conditions are critical is to maintain specified climatic conditions in the room in order to ensure product quality and to optimise energy consumption.**

This was the challenge for the system planners of a large pharmaceutical group in Austria. With the extension of the production facilities at the Linz Chemical Park in the context of the "NEXT" project, NYCOMED Austria GmbH prevailed over other production sites of the Nycomed group and secured new jobs at the facility.

The new "state-of-the-art" production supplies Nycomed's global pharmaceutical market with special Tachocomb®/TachoSil™ "wound pads", which are only produced in Linz. Coagulation factors are applied to fleece fabrics, which not only stop diffuse bleeding but also decompose "spontaneously". Products for human health must comply with the very highest levels of hygiene and quality requirements. This is something which is taken for granted and is ensured by regulations and standards. However, it poses a special challenge for the technology involved.

The quality and hygiene of the products do not depend solely on their ingredients. It is equally important to maintain a defined room climate during production. As well as temperature measurement, humidity is vitally important for many stages of the production process. One of the key processes in the production of wound pads is the coating of the collagen substrate material with coagulating substances. This process only functions optimally in a special room climate which is within very tight tolerances.

High demands on measurement accuracy as well as excellent long-term stability and reliability for humidity and temperature measurement are the

prerequisites for the successful use of E+E measuring devices.

Exact recording of these climate parameters is not only important for economic HVAC control, but also for the reliable display and documentation of the process parameters in the process control system.

Another key process in the Tachocomb® production is the drying of the collagen substrate material in specially equipped drying cabinets. Here, dehumidifiers ensure a constant low humidity, although the environment may be slightly corrosive. This is no problem for the specially coated E+E temperature and humidity measuring devices.

As a specialist in high quality thin-layer sensors, measurement transducers, calibrators and measurement memories for the precise determination of humidity, air speed, temperature, dewpoint and CO<sub>2</sub>, E+E was able to help with its extensive



know-how. E+E thin film technology is also used in a Class 100 clean room environment.

Thanks to great commitment and close cooperation with Nycomed, a product solution was developed which was perfectly tailored to the application. Because of the short throughput times for the production of industrial measurement transducers, we were able to implement the

customer's requirements quickly and expertly.

In addition to this, E+E is commissioned with providing of national standards for relative humidity in Austria and operates a reference system which has one of the highest levels of accuracy in the world. Here, the humidity of a gas can be produced with an accuracy of up to 0.1% relative humidity, and dew-

points with a accuracy of up to 0.05°C. The extensive calibration facilities in the accredited calibration laboratory enable certification compliant with ÖKD directives for special measuring points, which have been adapted to the environmental conditions of the application.



To ensure compliance of the measurement data after installation of the measuring devices, local calibration of the measurement chain was carried out

with a portable E+E Humor 20 humidity calibrator.

This easy-to-use device enables standardised calibrations of the highest accuracy regardless of the ambient temperature - at ÖKD level if required.

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## • Application conditions

Measurement range: 0-100% rel. hum.; -40.0-180□  
Output: 0-5V, 0-10V, 4-20mA, 0-20mA, serial interface: RS232C + optionally RS485  
Operating temperature: ± 1.3% rel. hum. ± 0.2□

## • E+E solution



EE31  
Humidity measuring transducers for accurate measurement up to 180°C

Industrial measuring transducer for highly accurate and reliable measurement of humidity, temperature, dewpoint and derived computational functions up to 180°C.



HUMOR20  
Humidity calibration with humidity calibrator

Highly accurate humidity calibration  
Dual pressure, single temperature humidity calibrator conforming to international standards.