

# Hygrograph

Instruction for use 1.0610.1x.000MU with Spring clockwork 202501



## Table of Contents

1. Range of application
2. Set up and mode of operation
3. Models available
4. Technical data
  - 4.1 Dimensions
5. Preparation for use
6. Maintenance
  - 6.1 Changing the recording strip
  - 6.2 Changing the recording pen
  - 6.3 Regenerating the humidity measuring element

## 1. Range of application

The hygrograph measures and records both the relative humidity of the surrounding atmosphere. The recording drum is driven with utmost precision by a manual spring clockwork mechanism. Either H or K humidity measuring elements can be used depending on the general on-site operating conditions.

**"H" measuring elements** are suitable for taking measurements in normal to very moist air at temperatures below and above 0°C.

**"K" measuring elements** are designed for use in normal to dry air in the temperature range above 0°C and require no maintenance.

## 2. Set-up and mode of operation

The clockwork and the column with the humidity measuring element are mounted to a base plate. The instrument is protected by a tiltable transparent hood. The measuring element reacts promptly thanks to large ventilation openings in the direction of measurement.

Humidity is measured by a hair (H) or by a synthetic (K) measuring element. These measuring elements consist of several hairs or fibres whose lengths change when the humidity changes. This change in length is recorded by a felt pen onto a paper recording strip via a system of levers. The measurement accuracy indicated for the H measuring element applies to regenerated measuring elements in decreasing humidity.

## 3. Models available

Order no.:

**1.0610.xx.000MU**

...10...

Measurement element "H"

...12...

Measurement "K"

## 4. Technical data

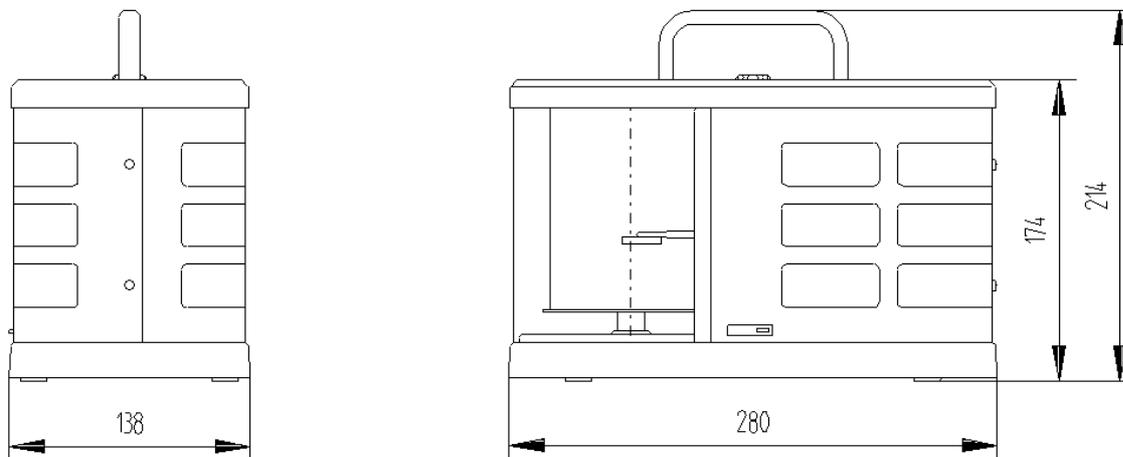
Measuring range	: 10 ... 100 % rel. humidity "H" 0 ... 100 % rel. humidity "K"
Graduation	: 5 % rel. humidity
Temp.-working range	: -35 ... +70°C "H" 0 ... +80°C "K"
Measurement accuracy	: $\pm 2$ % rel. humidity "H" $\pm 3$ % rel. humidity "K"
Recording width	: 82 mm
Weight	: 2,8 kg

### Spring clockwork mechanism

Recording time	: 7 days
Thrust	: 40,01 mm/day
Temperature range	: -35 ... +80°C
Gear accuracy	: $\pm 60$ s/day at 20°C in accordance with German Industrial Standards Code 8300

Clockwork drum : S 93 x 93 similar to German Industrial Standards Code 58658

## 4.1 Dimensions



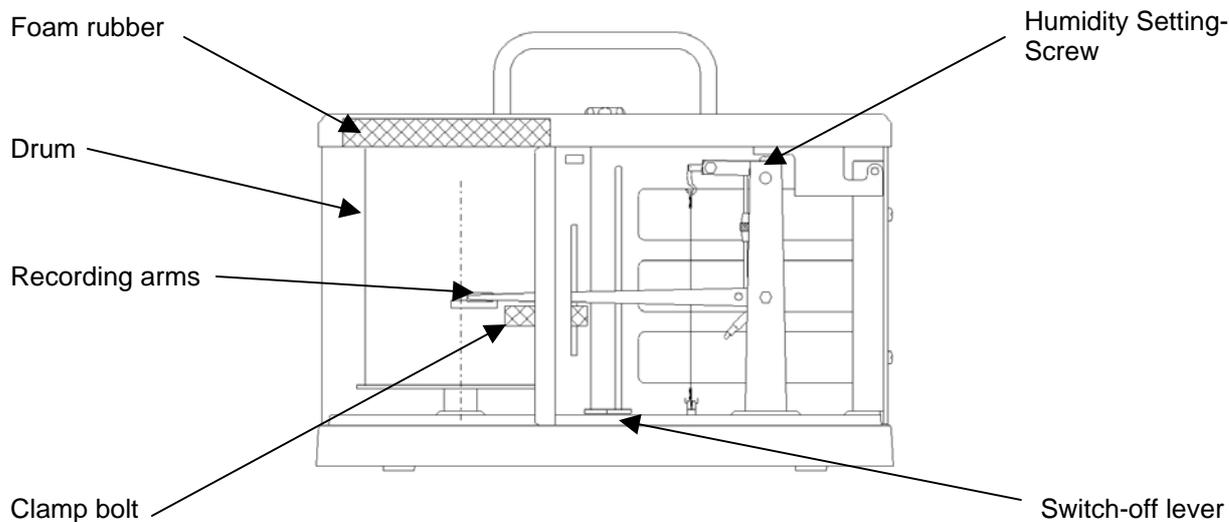
## 5. Preparation for use

Unscrew the knurled-head screw and open the hood. Remove the foam rubber from the hood (transport protection). Push the switch-off lever to the left to raise the recording pen from the recording strip.

Place the recording strip onto the inverted drum (see 6.1 Changing the recording strip) and insert this onto the drive mechanism until it locks into place!

Remove the recording arm from the clamp bolt (transport safety device). Remove the tip protector from the felt pen. For instruments with a spring clockwork mechanism, wind the clockwork with the key in the drum, turning it to the left. Rotate the drum counter clockwise to the correct time. Close the hood and screw the

knurled-head screws back into place. Press the switch-off lever to the right stop in order to move the recording pen onto the recording strip.



## **6. Maintenance**

### **6.1 Changing the recording strip**

This should be done regularly at the time when the recording strip starts; for example if you are using a 7 day recording period, then change the strip every Monday morning. After swinging the recording arm forwards, raise the chart holder and remove the recording strip. Place the new recording strip onto the drum and fix it into position by inserting the chart holder. Make sure that the new recording strip fits snugly and smoothly against the lower edge of the drum. Rewind the clockwork mechanism every time you change the recording strip. Swing the recording arm back to its original position and rotate the drum counter clockwise to the correct time. The instrument is now ready for use.

**Spare Recording Strips for Measuring Element "H":** Order-no. 205077 (1 set - 100 sheets)

**Spare Recording Strips for Measuring Element "K":** Order-no. 205078 (1 set - 100 sheets)

### **6.2 Changing the recording pen**

Remove the recording pen carefully from the recording arm. Remove the tip protection from the new pen. Make sure that you do not touch the recording tip when you place the new pen into position.

**Recording pens,** (minimum order of 6) Order-no. 500 847

### **6.3 Regenerating the humidity measuring element**

"H" measuring elements dry out when the relative humidity is less than 60%. This results in an increase in the zero point of approximately 5% or more rel. humidity. At approx. 60% rel. humidity, maximum inaccuracy is reached in 3 weeks. This time is shorter when the humidity value is even lower. Accuracy can be restored by regeneration. Simply place the instrument in saturated air for some hours. At the conclusion of the regeneration process, check whether the measuring element has returned to 95% rel. humidity. This value can be set on the humidity setting screw.

Measuring elements which are located out-of-doors or in huts regenerate automatically because the central European climate is such that, particularly at night - humidifies of 95% occur.

„K“ measuring elements do not degenerate and consequently do not have to be regenerated.



**ADOLF THIES GmbH & Co. KG**

Hauptstraße 76      37083 Göttingen Germany  
P.O. Box 3536 + 3541      37025 Göttingen  
Phone ++551 79001-0      Fax ++551 79001-65  
www.thiesclima.com      info@thiesclima.com



- Alterations reserved -