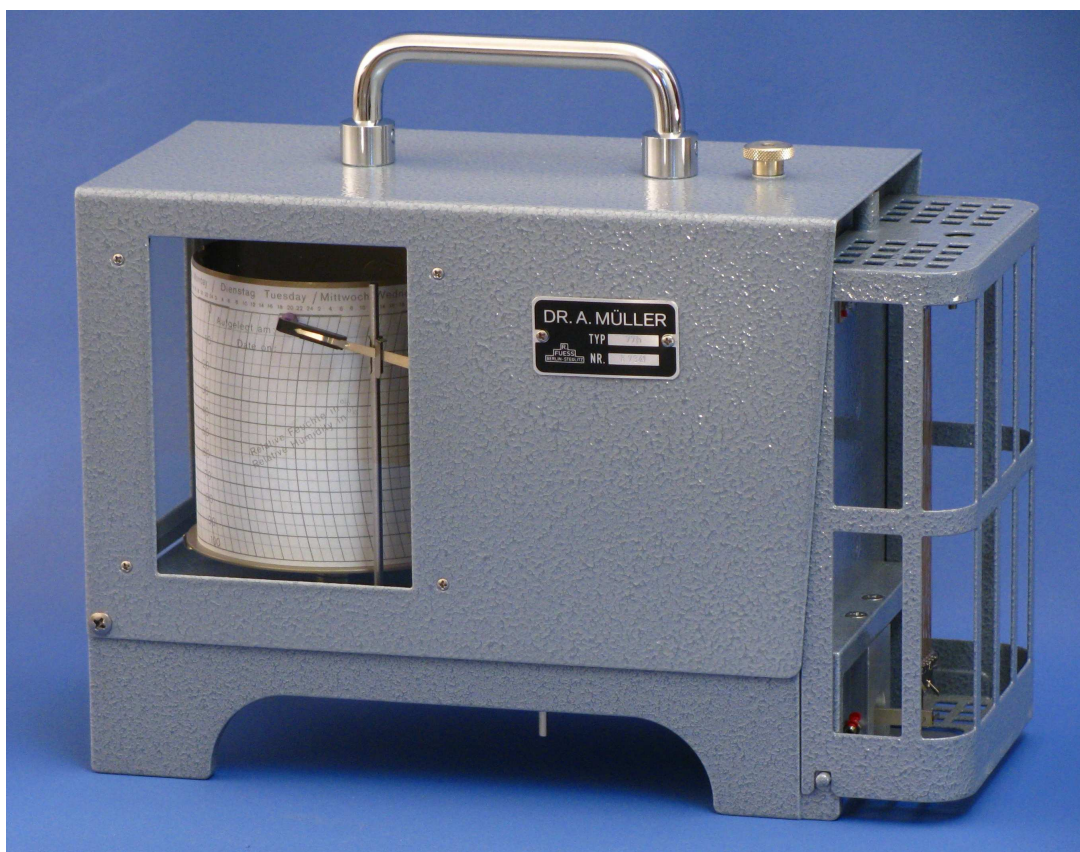


HAIR-HYGROGRAPH 77h

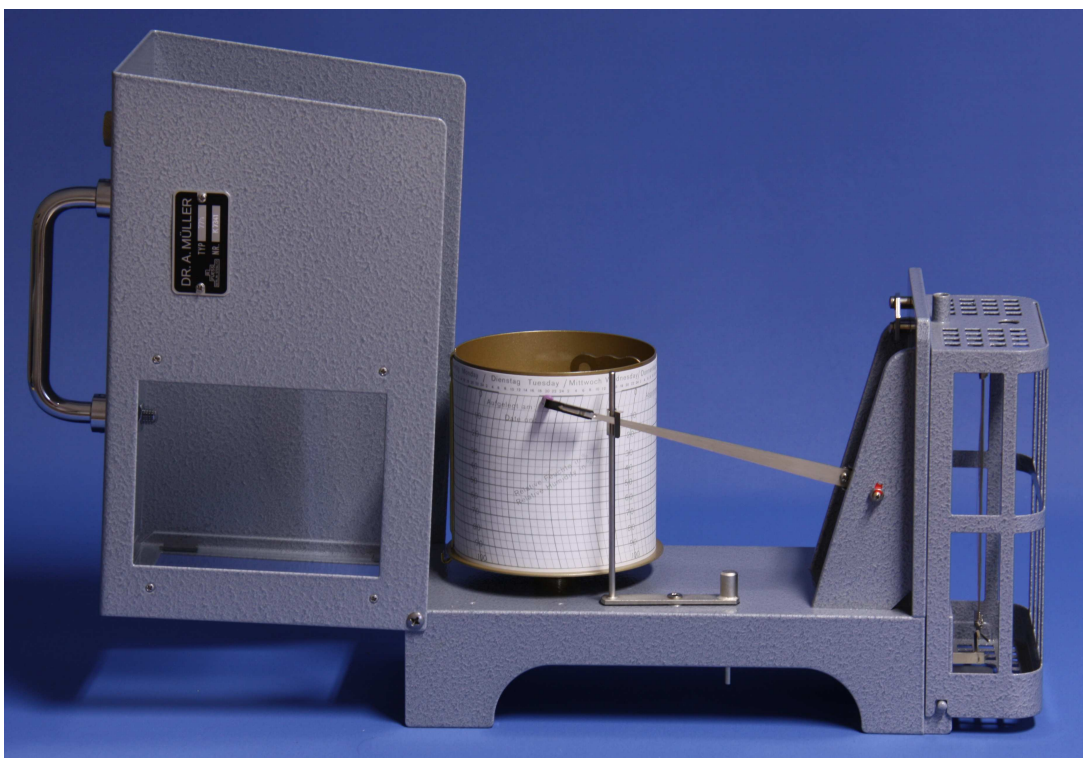


General

Hair-Hygrograph 77h serves for continuous recording of relative atmospheric humidity, the knowledge of which is of importance in meteorology, climatology and hygiene, in the storing of victuals and other goods, and in many industrial branches; e. g., the manufacture of textiles, the processing of tobacco, the seasoning of wood, etc.

Continuous registration of the quantity of measurement, safeguarding always the timely course, enables a continuous control without expense as to observing personnel and, thus, facilitates supervision of the content of humidity of the air.

Model 77h represents a new design, as to outside shaping, as well as to mechanical construction. Contrary to the types of Fuess-Hygrographs, as up to now, in the case of this model, as can be seen from fig. 1, the 0%-line of the chart is at the upper rim of same. Reversing of the diagram made possible finer effecting of the transmission mechanism, which latter, in connection with an ameliorated measuring element, has led to an increase in reliability, as well as in fine structure of recording.



Description

The measuring element consists of prepared women's hair, which, as is well known, in a legal kind of way, is subject to alteration in length, depending upon changing humidity that is used as effect of measurement. Five hair-bundles arranged in harp-like fashion and vertical position, outside of the casing in such a way that the ambient air may, freely, wash around them. Their motion is transmitted to the pen-arm, onto the end of which the pen is slipped. An over the whole range exact functioning temperature compensation is obtained by means of a bimetal, intercalated in the transmitting system. The pen rests against the recording chart by the proper weight of the pen-arm under an always equal remaining pressure and may be lifted-off, from without. Following the changes of the measuring size, the pen moves in the arc of a circle on the chart, which is wound tightly around a vertically standing, cylindrical recording drum and that rotates around a fixed axle by means of a built-in precision hand-wound driving mechanism, at the desired scale of time. Measuring value may, as well as the appertaining value of time, be read from without at any time.

The Hygrograph is built into a metal casing that has been provided with a light-grey hammertone finish, which is of an exceptionally lasting, imperishable nature. The upper part of the casing is flapped-open towards the left, in order to enable getting at the recording drum. In closed position it is held by a catch-lock. Against damage, the hair-harp is secured by means of a protective metal basket, which does not hinder the entrance of air, though. The precise manufacturing of all parts guaranties perfect functioning. Used are only corrosionless rust-resting materials.

The time of rotation of the recording drum may, at will, be chosen for 1 day or 1 week. On demand, a reversible clock for changing over from 1 day to 1 week may be supplied at an extra charge. Period of running of these clockworks is approximately 9 days.

Mounting

The hygrograph is suited for installation indoors, as well as outdoors. Whereat one is to take care that the air is, freely, admitted all around.

In the case of outdoor-mounting, the instrument is to be projected against precipitation and insolation. The most reliable recording is obtained when installing the instrument in a thermometer screen. To this end, the casing has so been shaped that, in order to utilize the available space best, a thermograph (see leaflet 125,0 E) may be placed directly on the hygrograph.

Other Hints

Hair-hygrographs have the limits of error of $\pm 2.5\%$ of the extent of the measuring range. They may be utilized in the temperature range of appr. $-30^{\circ}\text{C} \dots +65^{\circ}\text{C}$. Higher temperatures, as well as an acidiferous or heavily dust-laden atmosphere render the hairs useless after some time. For an occasional control, readjustment and regeneration, a wetting-cloth is supplied additionally. If the protective cage is wrapped-up by the wetted cloth, almost full saturation is obtained in the so created closed room so that the pen must balance out at 96 %. In the case of deviations, its position may be corrected by means of a zero setting screw.

Longer use in dry air impairs functioning of the hair. By occasionally bringing the hairs into saturated air, it is regenerated and gets back its original characteristics. In the case of instruments operating in very dry localities, the regeneration is, expediently, effected every 2 to 4 weeks, using the wetting cloth. Hygrographs operating outdoors need to be checked at much longer intervals, as the air in the open is coming close to dew point nearly every night and, thus, regenerates the hairs in natural kind of way.

Hair-harps, having become unserviceable, may be replaced with new ones by the user, without difficulty.

Specifications

No.
77h

Hair-Hygrograph

Measuring range: 0 ... 100 % relative humidity

Diagram divisioned in: 5.0 % relative humidity

Recording-drum:

Ø 93,3 mm

93 mm height

height of recording: 80 mm

time of running: app. 9 days

time of drum rotation:

a) daily or

b) weekly or

c) reversible clockwork from daily to weekly rotation (add cost)

Dimensions (mm): 290 width x 135 depth x 205 height

Weight: 3.3 kg

Accessories (no extra charge):

1 spare cartridge pen

1 wetting cloth

1 set of recording charts

(100 charts for daily rotation or 54 charts for weekly rotation)

Additional and Spare Parts

Spare recording drum with inside clockwork for rotation of:

901d

1 day

901w

1 week

901u

Reversible 1 day / 1 week

BG49 UG19 (= No.77m) Spare hair-harp

112d Recording charts

1 Set = 100 sheets for daily rotation

paper-feed: 11.2 mm/h, weight: 0.35 kg

108w

1 Set = 54 sheets for weekly rotation

paper-feed: 1.67 mm/h, weight: 0.18 kg

BG49 T231 (= No. 77c) 1 Spare wetting-cloth

78wfd 1 spare-cartridge-pen

78q 1 Spare-metal-pen

1095v 1 Bottle of recording ink

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