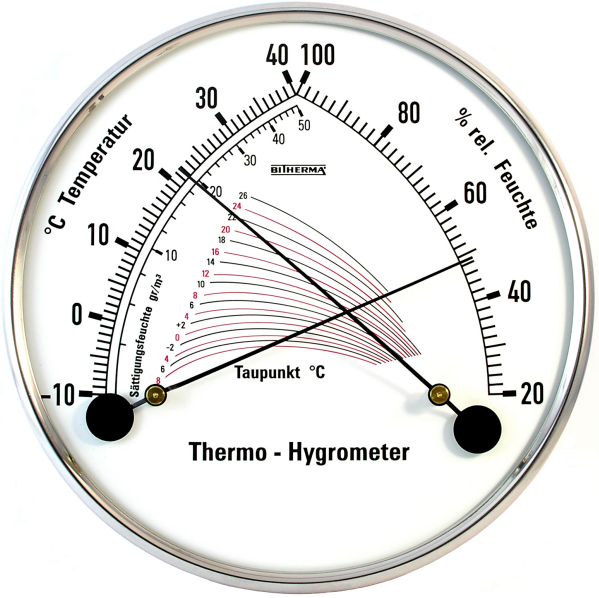
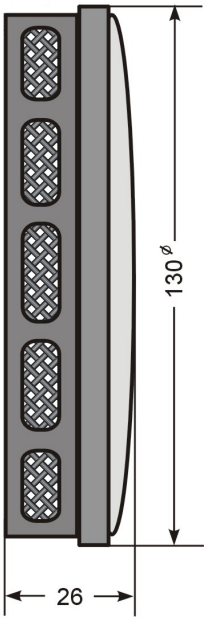
Thermo-Hygrometer-Combination for dewpoint and indoor climate measurements

Fig. 35

Case:	Diam. 130 mm stainless steel AISI 304
Bezel:	Stainless steel AISI 304
Dial:	Aluminium, white varnished lettering and graduation black with dewpoint scale
Pointer:	Aluminium, black adjustable
Window:	Plastic, raised
Measuring system:	1 x bimetal for temperature 1 x rel. humidity
Measuring range:	Air: -10… +40°C Rel. humidity: 20… 100% Saturation moisture: 4… 50 gr./m³ Dewpoint temperature: -8… +26°C
Accuracy class:	Temperature ± 1°C Humidity ± 2,5%
Mounting method:	With suspension
Special versions:	Fig. 35-Ta: With dewpoint scale Fig. 35-K: With scale for indoor climate Fig. 35-H: With scale for wood moisture - Dial imprint in English - OPTION



Article number:	
Fig. 35-Ta	1530001
Fig. 35-K	1530002
Fig. 35-H	1530003



The thermo-hygrometer contains a precision humidity meter and a bimetal measuring system. Here the temperature, the relative humidity, the saturation moisture and the dewpoint can be read off directly following the curves from the point of intersection of the surface temperature pointer and the relative surface humidity pointer.
Its field contains a series of possibilities as controlling the temperature, the rel. humidity and the dewpoint temperature in climatic chambers, storage rooms, living rooms, sheds, barns, in all industrial factories like the textile and clothing sector, powder and canning-factories, in paper, in the wood working industry and tobacco processing.
For the quality of such products it is very important to comply to special grades of humidity and temperature during production, storage and drying. Corrosive materials have to be protected against rust and oxidation. By all means it must be avoided that the temperature cools down to the dewpoint.

Saturation moisture = maximum absorbable humidity at the responsible temperature in g/m³

Absolute humidity = substantial humidity in g/m³
= % rel. Humidity : 100 x saturation moisture g/m³
look picture = (49% : 100 x 19 g/m³) = 9,31 g/m³ absolute humidity

Relative humidity = $\frac{\text{absolute humidity g/m}^3}{\text{saturation moisture g/m}^3}$ x 100 = % rel. Humidity

Dewpoint = temperature in °C, at which the water vapour included in the air just would condensate.

Saturation deficit: = saturation moisture minus absolute humidity

The dewpoint temperature can be read off directly in °C by following the curves from the point of intersection of the pointers. Now you are able to calculate the saturation moisture deficit.

E.G. air temperature 21,5°C, saturation moisture = 19 g/m³, rel. humidity 49% = 10°C dewpoint can be read off at the intersection of the pointers.

Saturation deficit = 19 g/m³ - 9,31 g/m³ = 9,69 g/m³.
So in this case the air is able to absorb further 9,69 g water / m³ to condensate.

Dimensions and technical data are conform to current company standard.
Changes to improve our instruments will be made without preannouncement.