

# HMK41 Humidity Calibration Kit

## FEATURES

- $\pm 1\%$  RH accuracy (0...90%),  $\pm 2\%$  (90...100%)
- -40...+212 °F (up to 356 °F for short periods)
- Serves as an easy-to-use field calibrator when used with HMP46 probe and calibration cables
- Versatile and easy to use
- Measures humidity and temperature
- Calculates dewpoint, wet bulb temperature, absolute humidity and mixing ratio
- Full 0 to 100% RH measurement
- Excellent stability
- Data collection
- Optional cable for downloading values to PC over a serial line

## CALIBRATION KIT HMK41

HMK41 includes HMI41, HMP46, NIST traceable certificate of calibration, carrying case and the following calibration cables:

<u>Cable Part #</u>	<u>for Calibrating</u>
19116	HM60/70's, HM140's, HMM22D, HMW61/71
19164	HMP230's, HMM 210
Optional - may be ordered:	
19165	HM20/30's, HMP130's, HMM30C
25916	HMT360's for use in 'safe' zones
19446	Serial communications cable

## HIGH TEMPERATURE PROBE

The HMP46 humidity and temperature probe is designed for measurements in ducts or chambers in humidities of 0...100% RH and at temperatures from -40 to +212 °F (-40 to +100 °C). For short periods of time the probe can even be used in temperatures of up to +356 °F (+180 °C).

The HMP46 probe is solid and rugged; its stainless steel probe head is made to withstand rough handling in mechanically demanding applications. The probe's long shaft can also reach otherwise unreachable places and can be used as a piercing probe.

## VERSATILE AND EASY TO USE

In addition to displaying the humidity and temperature readings, the HMI41 can calculate dewpoint and wet bulb temperature, absolute humidity and mixing ratio - no more awkward conversion tables and complex calculation.

The indicator has an easy-to-read two line liquid crystal display. The display unit (metric or non-metric) are easily selected.

These features, plus fast response time, high measurement accuracy and excellent stability, as well as the wide temperature range of the probe, make the HMI41/HMP46 combination an ideal choice for the most demanding applications.



HMK41 Kit

## HIGH PERFORMANCE SENSOR

The probes incorporate Vaisala's latest HUMICAP® sensor. This sensor has high accuracy, excellent long-term stability and negligible hysteresis. Insensitive to dust, particulate dirt and most chemicals, the HUMICAP® is also used in Vaisala's industrial humidity transmitters.



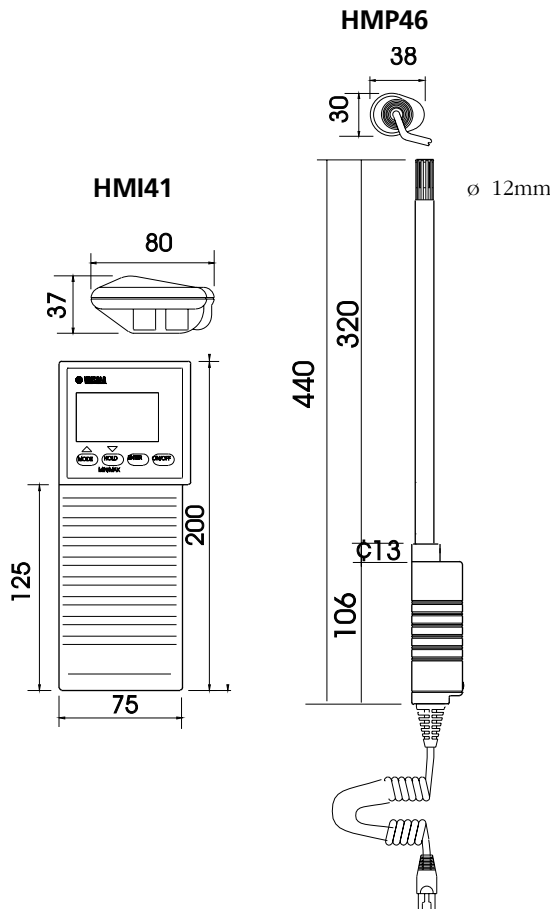
HMI41 with HMP46 are included in the HMK41 Kit

## TECHNICAL DATA - HMK41 CALIBRATION KIT

### HMI41 Indicator

Calculated variables	dewpoint temperature, absolute humidity, wet bulb temperature, mixing ratio
Resolution	0.1% RH; 0.1 °F/°C
Power supply	4 batteries, type AA (LR 6)
Battery operation time (alkaline batteries)	72 h continuous use
Auto-off function	
Operating temperature	-4...+140 °F (-20...+60 °C)
Operating storage	non-condensing
Storage temperature	-40...+158 °F (-40...+70 °C)
Display	two line LCD
Housing material	ABS plastic
Housing classification	IP 53 (with connectors blocked)
Weight (incl. batteries)	300 g
Options	
calibrator function	see front page for cable part no.
carrying case for HMI41 & HMP46	part no. 85-21797
serial communication cable	part no. 19446
Maximum measurement error of indicator at +68 °F (+20 °C)	
humidity	±0.1% RH
temperature	±0.18 °F (±0.1 °C)

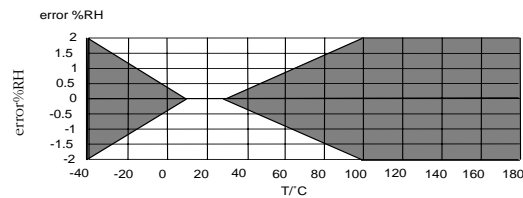
Dimensions in mm



### HMP46 Probe

<b>Humidity</b>	
Measurement range	0...100% RH
Maximum achievable accuracy when calibrated against high quality, certified humidity standards	
0...90% RH	±1% RH
90...100% RH	±2% RH
when calibrated against salt solutions (ASTM E104-85)	
0...90% RH	±2% RH
90...100% RH	±3% RH

Temperature Dependence



Typical long-term stability	better than 1 %RH per year
Response time (90%) at +20 °C in still air w/sintered filter	15 s
Humidity sensor	HUMICAP® 180

### Temperature

Continuous measurement	-40...+212 °F (-40...+100 °C)
Short-term measurement	-40...+356 °F (-40...+180 °C)
Accuracy at 68 °F (+20 °C)	±0.36 °F (±0.2 °C)
Accuracy over the measurement range	

Temperature sensor	Pt 100 IEC 751 1/3 class B
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### General

Typical ranges of calculated variables	
dewpoint temperature	-40...+212 °F (-40...+100 °C)
absolute humidity	0...600 g/m <sup>3</sup>
wet bulb temperature	32...+212 °F (0...+100 °C)
mixing ratio	0...600 g/Kg d.a.
Cable length	1500 mm; extended spiral cable
Operating temperature range for electronics	-4...+140 °F (-20...+60 °C)
Electronics housing	ABS plastic
Probe head	stainless steel
Housing classification electronics	NEMA 4 (IP 65)
Sensor protection	sintered filter, part no. 0195
option	membrane filter, part no. 10159HM plastic grid, part no. 6221
Weight	450 g
Meets EMS standards EN50081-1 and EN50082-2	