

# HygroCal100 Humidity Calibrator

A COMPACT, PORTABLE SYSTEM FOR SIMPLE AUTOMATED VERIFICATION OF RELATIVE HUMIDITY LOGGERS



## HIGHLIGHTS

- Truly portable at 3.2kg, and completely self-contained
- Works across a wide range of 5 to 95% relative humidity
- Connected via a USB cable allows a fully automated verification process for Kaye ValProbe RT Humidity Loggers
- Intuitive UI makes automating probe verification simple
- Integral battery pack means verification can be done without access to services
- Verification of up to 8 data loggers simultaneously
- Fully automated system for complete hands-off logger verification

- Download logged verification data of HygroCal100 directly to USB memory if required
- Interchangeable ports for verification of ValProbe RH and ValProbe RT RH data loggers

## APPLICATIONS

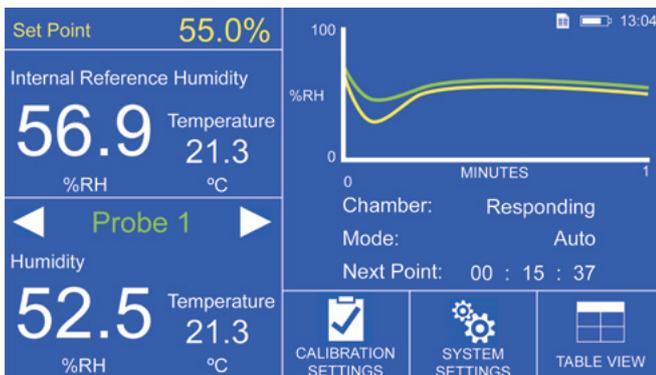
- Ideal to quickly and automatically verify ValProbe RT Humidity Loggers between 5% RH to 95% RH
- With additional ports also ValProbe Humidity Loggers can be verified
- Allows to verify different kind of humidity sensors with adequate diameters

## THE ALL-IN-ONE VALIDATION PACKAGE FOR YOUR HUMIDITY VALPROBE LOGGERS AND SENSORS

The HygroCal100 provides a stable test chamber to quickly evaluate the performance of Kaye’s ValProbe RT Humidity Loggers or any relative humidity sensors across a wide range of 5 to 95% relative humidity. The intuitive design allows up to 8 probes or loggers under test to be easily sealed and immersed in the chamber.

Typically the HygroCal100 is controlled by the ValProbe RT Software for automated Verification runs but alternatively the unit can also be controlled by the 4.3” LCD touch-screen, that runs a powerful UI, which displays all measured values from the reference along with a graphical trend indication of chamber stability.

If not used with the Kaye ValProbe RT Loggers the Hygrocal is also capable of automating complete validation procedures with ease, and providing a complete logged output in csv format straight to your USB memory device, to minimize the time you spend taking readings.



	Reference	Probe 1	Probe 2	Probe 3
%RH	<b>56.9%</b>	52.5%	52.1%	52.8%
T	<b>21.3°C</b>	21.3°C	21.2°C	21.4°C
	Probe 4	Probe 5	Probe 6	Probe 7
%RH	52.1%	52.9%	52.6%	52.5%
T	20.9°C	21.5°C	21.7°C	21.3°C

### CHAMBER INTEGRITY

The HygroCal100 has a test chamber milled from a solid piece of Acetal, with minimal sealing points, ensuring the integrity required to maintain <5% RH from laboratory ambient temperatures, and  $\pm 0.5\%$  RH uniformity across the chamber.

### PORTABILITY

The HygroCal100 is fitted with a high capacity battery pack, which can power the generator up to 8 hours. The unit can also run from mains power while charging the battery. The unit is supplied with a hard carry case so all parts can be easily stored at one place. This has space for the HygroCal100 itself, in addition to the battery charger, spare water and desiccant.

### AUTOMATED VALIDATION

If the HygroCal100 is not remote controlled by the Kaye ValProbe RT System it can as well be used with its advanced UI which allows you to define your own calibration procedure, point-by-point, assigning times to each condition to allow your probes under test to stabilize. The system always waits until the conditions in the chamber are completely stable before beginning the check.

### TECHNOLOGY: DIVIDED FLOW MIXING WITH HS3 CONTROL SENSOR

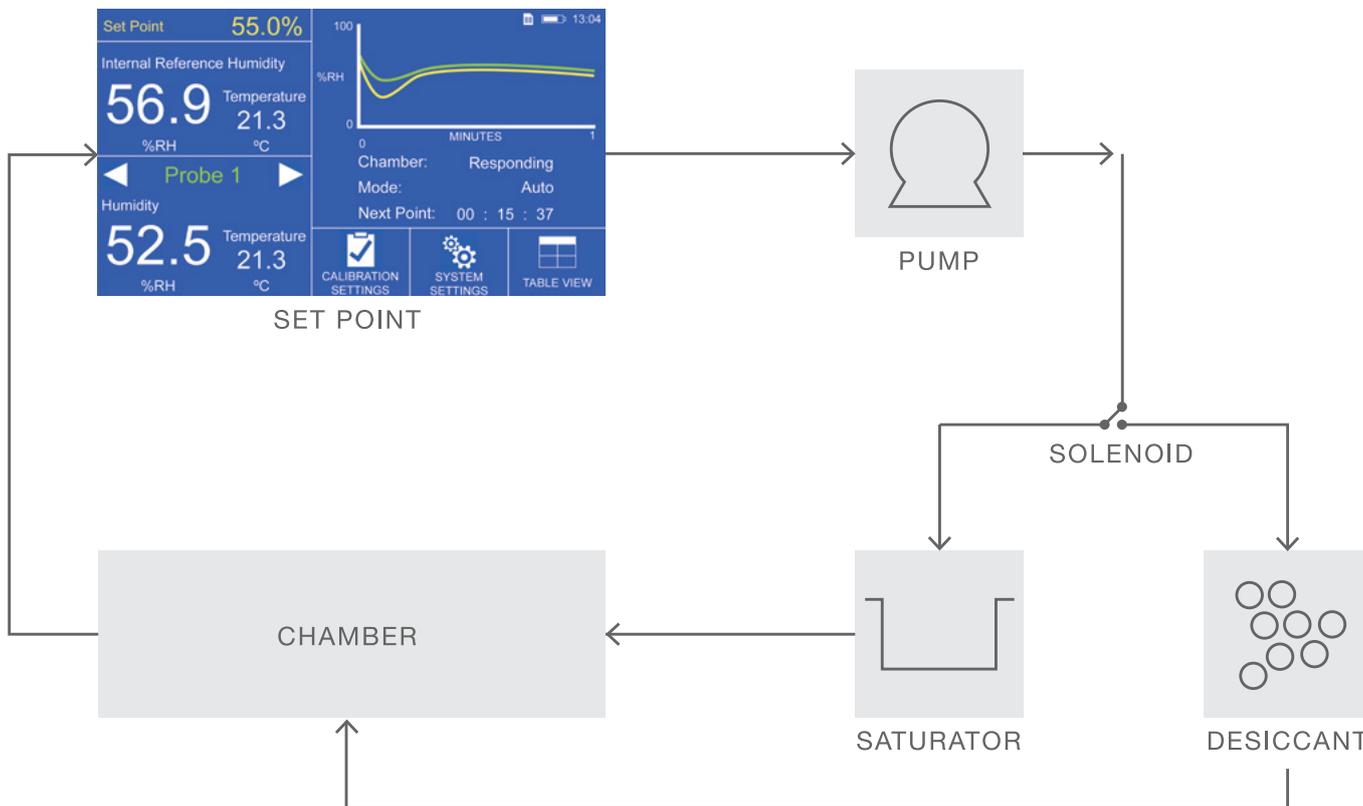
The simple, low maintenance system can transition between and stabilize on constant humidity conditions very quickly. It features a reservoir for saturation and a reservoir for desiccation. By driving ambient air through either one of these reservoirs and into the chamber, the conditions inside can be quickly altered.

### RELIABLE, STABLE CONTROL

The HygroSmart HS3 sensor uses an accurate capacitive polymer element, developed as a result of over 40 years' experience in making challenging moisture measurements, to give outstanding accuracy across the complete RH range.

The control sensor provides an accuracy of  $\pm 0.8\%$  RH and a  $\pm 1\%$  RH long-term stability per year.

The sensor stores its own unique calibration data within its integral electronics.



## TECHNICAL SPECIFICATIONS

### Chamber

Generation range	5 to 95% RH
RH stability	±0.5%
RH uniformity	±0.5%
Stabilization time	Typically <5 min for full stability from step changes of 10% RH

### Control Probe

RH accuracy	±0.8%
Temperature accuracy	±0.2°C
Long term stability	±1% per year

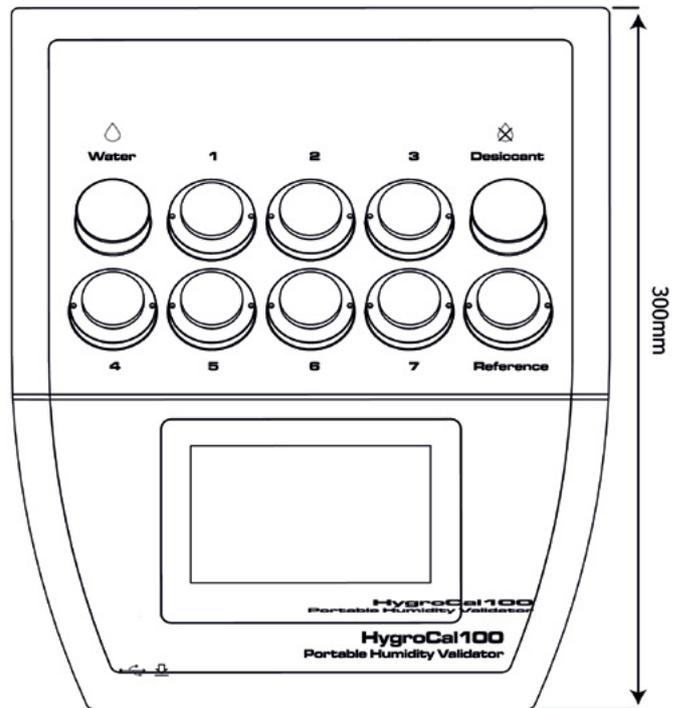
### Electrical Specifications

User interface	4.3" color LCD with touchscreen
Interface with probes	24V excitation voltage, accepts signals: 0–20 mA, 4–20 mA, 0–1 V, 0–5 V, 0–10 V
Measurement units	%RH, temperature in °C, °F
Displayed resolution	0.1
Data logging files	2GB internal memory available
Battery (Included)	1500 mAh
Power supply	24 V DC (100 to 240 V AC, 50/60 Hz adaptor included)
Probe ports	8-port adaptors to accommodate ValProbe RT Humidity Loggers with 12mm Sensor diameters, optional 18.5mm ports available for Std. ValProbe RH Loggers

## Mechanical Specifications

Chamber volume	Approx 1050cm <sup>3</sup>
Max. probe insertion depth	60mm
Desiccant reservoir capacity	25cm <sup>3</sup>
Saturator reservoir capacity	25ml
Environmental conditions	+5 to +40°C
Dimensions	100 x 250 x 300mm (h x w x d)
Weight	3.2kg
INCLUDES A CARRYING CASE	

## DIMENSIONS



## Kaye Representative contact:

**EUROPE, MIDDLE EAST, AFRICA AND ASIA**  
 Amphenol Advanced Sensors Germany GmbH  
 Sinzheimer Strasse 6  
 D-75179 Pforzheim  
**T:** +49 (0) 7231-14 335 0  
**F:** +49 (0) 7231-14335 29  
**Email:** kaye@amphenol-sensors.com

**USA/AMERICAS**  
 Amphenol Thermometrics, Inc.  
 967 Windfall Road  
 St. Marys, PA 15857  
**T:** +1(814) 834-9140  
**F:** +1(814) 781-7969  
**Email:** kaye-us@amphenol-sensors.com

**INDIA**  
 Amphenol Interconnect India Pvt Ltd.  
 Plot no. 6, Survey No.64 | Software Units layout  
 MAHAVEER TECHNO PARK  
 Hitech City, Madhapur | Hyderabad,  
 Telangana – 500081 | **T:** +91 40 33147100  
**Email:** kaye-india@amphenol-sensors.com

**CHINA**  
 Amphenol (Changzhou) Connector Systems  
 Co., Ltd, Building 10, Jintong Industrial  
 Park, No. 8 Xihu Road, Wujin High-Tech  
 Development Zone, Changzhou,  
 Jiangsu 213164 | **T:** 0086-519-83055197  
**Email:** kaye-china@amphenol-sensors.com



**Warranty and disclaimer:** The information mentioned on documents are based on our current tests, knowledge and experience. Because of the effect of possible influences in an application of the product, they do not exempt the user from their own tests, checks and trials. A guarantee of certain properties or a guarantee for the proper suitability of the product for a specific, especially permanent application can not be derived from our data. Liability is therefore excluded to that extent permitted by law. Any proprietary rights of third parties as well as existing laws and regulations must be observed by the recipient of the product on his own responsibility.

© 2025 Amphenol Corporation. All Rights Reserved. Specifications are subject to change without notice. Other company names and product names used in this document are the registered trademarks or trademarks of their respective owners.

AAS-DSK-20001-A