# HG1
## Humidity Calibrator



A low-cost, easy to use, fully integrated system for the calibration of dew-point and relative humidity sensors from 2 to 90% relative humidity, -30 to +20°Cdp (-22 to +68°Fdp).

Operation of the HG1 Humidity Calibrator is based on a simple, yet reliable, principle: a source of dry air is split into two streams, one of which is humidified by bubbling it through a water saturator. The two air streams are then volumetrically mixed to produce an air flow of fixed humidity, dependent upon the mixing ratio selected on the HG1's front panel-mounted flow meters.

The HG1 includes an integrated air pump to draw in ambient air, which is passed through a single column of desiccant. Alternatively, a dry air source, such as instrument air or bottled nitrogen, can be connected to the gas inlet to boost the low-end capability down to -40°C (-40°F) dew point and increase the amount of time before the desiccant requires regeneration.

The HG1 can be supplied with a built-in chilled mirror reference instrument to provide a fundamental measurement of the generated dew point when absolute accuracy is required. The chilled mirror reference sensor is mounted directly into the sample chamber.

The reference instrument comes supplied with a software suite that provides real-time monitoring, charting and logging capabilities via a built-in RS232 communications port.

The HG1's integrated test chamber can accommodate a variety of humidity sensors (dimensions opposite) also, as an alternative to the integrated calibration chamber, the unit is supplied with a gas-outlet feed to supply calibration air to an external manifold or system.

The maintenance of the HG1 is simple. When saturated, the desiccant changes color, indicating that it needs to be regenerated which is done by heating in an oven. The saturator water level is monitored from the rear of the unit and an easy top-up arrangement is provided.

## Highlights

- Integrated chilled mirror reference hygrometer
- Straightforward operation
- Allows quick verification tests of humidity sensors
- Transportable

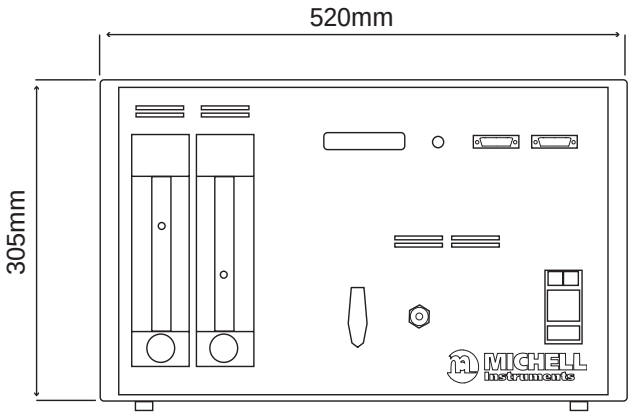
# HG1

## Technical Specifications

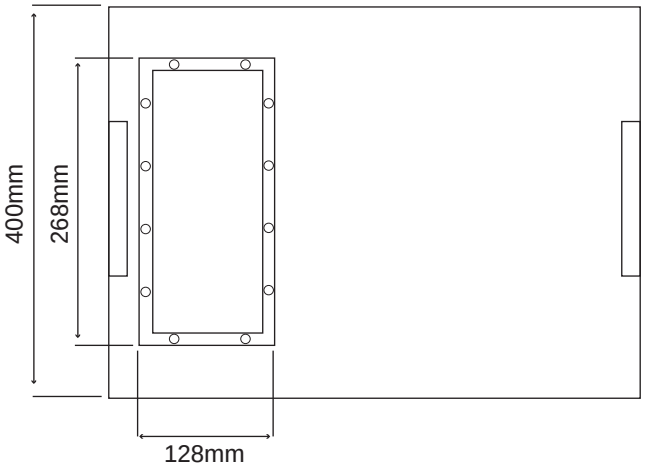
| | |
|---|---|
| **Calibration range** | 2 to 90% RH (–30 to +20°Cdp (–22 to +68°Fdp) @ +21°C (+69.8°F) ambient |
| **Reference accuracy** | Typically ±2% of reading (% relative humidity), 0.2°Cdp, 0.1°C ambient temperature (with Optidew reference hygrometer) |
| **Calibration** | Through traceable calibration of integrated Optidew reference hygrometer, to NPL and NIST |
| **Operating temperature** | +10 to +35°C (+50 to +95°F) ambient |
| **Power** | 90 to 120V AC @ 60Hz or 220 to 260V AC @ 50Hz |
| **Calibration chamber** | Steel with gasket seal 120 x 120 x 250mm (4.7 x 4.7 x 9.8") (h x w x d) |
| **Overall dimensions** | Painted aluminum case 305 x 520 x 400mm (12 x 20.5 x 15.7") (h x w x d) |
| **Sample flow rate** | 4 Nl/min for the sensor cell |
| **Weight** | 20kg (44lbs) |

## Dimensions

**Front View**




**Top View**




**Michell Instruments Ltd,** Rotronic Instruments Corp. 135 Engineers Road, Suite 150, Hauppauge NY 11788 Tel: 631 427 3898, Email: us.info@michell.com, Web: www.michell.com/us


**Issue No: HG1_97158_V2.1_US_0718**



MICHELL Instruments