PAPWORTHS CONSTRUCTION TESTING EQUIPMENT

Perth
West Perth
0408 034 668

Melbourne
Niddrie
0428 315 502

Brisbane
Toowong
0419 477 715

Sydney
Belrose
0418 381 709

www.pcte.com.au

Hygropin- RH Tester

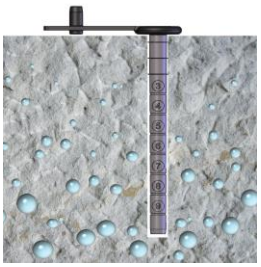
Introduction

Figure 1- The Hygropin RH Tester

Hygropin comes with a small, fast sensor making it the perfect solution to identify and monitor moisture in concrete quicker and easier than ever before. The Hygropin provides the smallest available sensor on the market, minimising damage to the surface and reducing the installation efforts immensely. Due to the small air volume of the test sleeve, the humidity equilibrium process is extremely fast.

Applications

The relative humidity test outlined by ASTM F2170 requires placing a measuring sleeve at a specific, well defined depth in the concrete. This can be done either by drilling a hole or pre-installing cast holes in fresh concrete. Proceq offer the best solution for both procedures.



Surface based testing methods only measure up to 20mm at best and don't essentially reflect reality. Hygropin uses the insitu technology which identifies the actual moisture content inside the concrete.

Figure2- Installation of Hygropin sleeve

Benefits

Comfortable: Two independent sensor channels can measure ambient and concrete characteristics simultaneously.

Wide Measuring Range: Measures relative humidity, temperature, dew/frost point, etc.
0…100 % RH / -40…+85 °C (-40…185 °F)

Accuracy: The Hygropin combines the highest measurement accuracy with a fast response time.

Minimal Invasive: Highly integrated sensor with only 5 mm diameter for minimal efforts on site.

Durability: Stainless steel housing of the sensor for long lasting performance in rough environments.

Data Logging / Storage: The Hygropin can record data over a period of time for traceable information.

User Interface

Depending on the settings the Hygropin is able to display:

- Relative humidity and temperature measured by two probes.
- Calculate parameters like dew/frost point etc. for both probes.
- Difference between the values measured by the ambient and insitu probes.
- Trend indicators for each parameter.

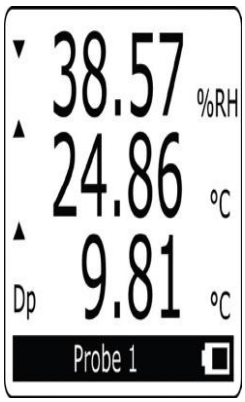


Figure 3- Hygropin Screen Read-Out

Insitu and Ambient Probe

Insitu Probe

Highly integrated temperature and humidity probe which combines accuracy, wide measuring range and long term stability. The stainless steel housing fits perfectly to the rough environment on the construction site. Probe and instrument are connected with a 2m cable.

Figure 4-The Hygropin Insitu Probe

Ambient Probe (optional)

Directly connected to the instrument, the ambient probe simplifies capturing the environmental parameters. Both temperature and relative humidity are measured as precisely as with the insitu probe.

Figure 5-The Hygropin Ambient Probe

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Specifications

Display Unit	
Power Supply	
Battery	9 V alkaline (standard)
	Ni-MH 8.4 V, 170…250 mAh (rechargeable via USB)
Mains	Via USB charger
General	
Probe input	Two separate digital probe inputs
Real time Clock	Yes
Psychrometric Calculations	Yes
Start-up time	3s
Data refresh rate	1s
Interface type	USB
Data Logging / Data Capture	
Memory	Max. 10’000 readings
Interval	5s to 1 h
Display	
Display	Pixel graphic LCD
	Backlight
Display modes	% RH and temperature, date and time
	% RH, temperature and calculated parameter
Mechanical	
Dimension	270 x 70 x 30 mm
Weight	Ca. 198 g
IP classification	IP 40
Environmental conditions	
Operating temperature	-10 °C to 60 °C
Humidity	0 to 100% RH, no condensing

In-situ Probe	
Measuring range	0 to 100% RH - 40 °C to 85 °C
Accuracy	± 1.5 % RH / ± 0.3 °C
Response time	< 15 s
Dimension	Ø 5 mm
Cable length	200 cm
Maximum air velocity	20 m/s

Humidity Standard Test Tube (Optional)

The humidity standard tube allows a fast and easy on-site functional and calibration check of the instrument and the insitu probe as recommend by ASTM. Based on a saturated salt solution the micro climate inside the test tube is stable at 75% RH.

Figure 6-Humidity Standard Test Tube

Service and Warranty Information

The standard warranty covers the electronic portion of the instrument for 24 month and the mechanical portion of the instrument for 6 month. An extended warranty for one, two or three years for the electronic portion of the instrument may be purchased up to 90 days of purchase.

About PCTE

PCTE have over 30years experience in the measurement and testing of concrete. With experience in research, consulting and construction they are able to assist you in reviewing the issues and developing solutions. PCTE can provide more than just the equipment. They can provide leading technical support for your business.

Other Equipment

The full Proceq range of equipment is available for insitu non-destructive concrete measurement Ultrasonic testing, Electrical potentials, Concrete Resistivity, Permeability, Absorption, Maturity Loggers, GPR Impact Echo.