



# Digital Humidity Sensor Dwell Time (Time vs. Temperature)

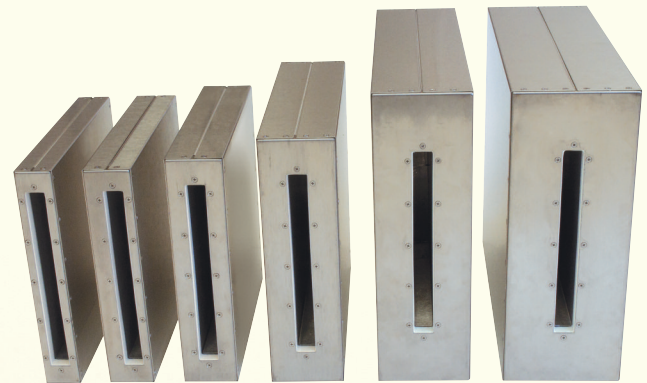
The length of time the Humidity sensor can be in a heated process is dependent on process temperature and airflow. Since the Digital Humidity Sensor contains electronics, it has a different **Time vs. Temperature** graph for the Thermal Barriers.



The dwell time for the Humidity sensor is less than the Data Logger. In other words, the Digital Humidity Sensor Dwell Time graph should always be the determining factor when using this sensor.

Several thermal barrier heights are available to cover a wide range of process temperatures and dwell times. The height is the thickness of the thermal barrier, which translates to the headroom required to pass the SCORPION® 2 through the process.

The Digital Humidity Sensor Dwell Time Graph is used to determine what size thermal barrier is required for safe operation. The thermal barrier performances for the 6 standard sizes are displayed.

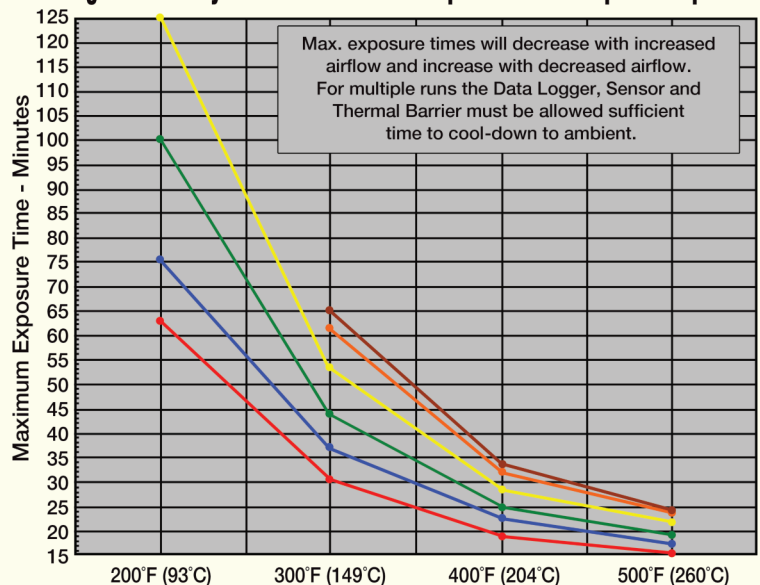


THB40 THB50 THB60 THB80 THB100 THB125

### Thermal Barriers:

- THB40: H = 40.0mm (1.6") x W = 25.0cm (9.8") x L = 29.1cm (11.5")
- THB50: H = 50.0mm (2.0") x W = 25.0cm (9.8") x L = 29.1cm (11.5")
- THB60: H = 60.0mm (2.4") x W = 26.0cm (10.2") x L = 29.1cm (11.5")
- THB80: H = 80.0mm (3.2") x W = 28.0cm (11.0") x L = 32.1cm (12.6")
- THB100: H = 100.0mm (3.9") x W = 32.5cm (12.8") x L = 39.1cm (15.4")
- THB125: H = 125.0mm (4.9") x W = 32.5cm (12.8") x L = 39.1cm (15.4")

### Digital Humidity Sensor Dwell Time Graph in Air at 500fpm/2.5mps



Max. exposure times will decrease with increased airflow and increase with decreased airflow. For multiple runs the Data Logger, Sensor and Thermal Barrier must be allowed sufficient time to cool-down to ambient.

Maximum Exposure Temperature  
Data Logger, Sensor & Thermal Barrier Starting temp = 75°F (24°C)

Thermal Barrier Height	Color
40 mm (1.6")	Red
50 mm (2.0")	Blue
60 mm (2.4")	Green
80 mm (3.2")	Yellow
100 mm (3.9")	Orange
125 mm (4.9")	Brown



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