

# Manage the heat.

## Proven solutions for heat stress management.

Keeping workers cool is more than a matter of comfort. Heat stress or exhaustion can lead to mistakes in crucial operations, putting overheated workers and their colleagues at risk.

### Simplifying heat stress measurement.

Wet-bulb globe temperature (WBGT) index is the standard for measuring the environmental contribution to worker heat stress. Unfortunately, calculating WBGT and using the data to create a heat stress management program can be complex and time-consuming.

3M detection solutions help streamline heat stress management with the intuitive QUESTemp° family of heat stress monitors. QUESTemp° monitors:

- Measure parameters including temperature and relative humidity to compute the WBGT.
- Allow for easy download of data for charting, reporting and interpreting measurements with 3M™ Detection Management Software.

3M detection solutions offer safety professionals easy-to-use, powerful options to help establish heat stress management programs.

### Trusted. Versatile. Rugged.

Use trusted WBGT sensing technology in demanding environments to create a program for your workers.

- Waterless wet bulb on QUESTemp° models 44 and 46 eliminates daily maintenance.
- Convenient stay time parameters per multiple standards help determine work-rest ratios.
- IP 54 ingress rating helps protect unit from exposure to dirt, dust, oil and water.

### QUESTemp° Models 44/46

- Waterless wet bulb sensor uses a proprietary algorithm to calculate the WBGT; eliminates daily wet bulb maintenance.
- Store data for future download and analysis.
- Compatible with 3M™ Detection Management Software DMS.
- Model 46 displays stay times per ACGIH® TLV®, U.S. Navy PHEL charts, and U.S. Navy/Marine Corp. Ashore Flag Conditions.
- Model 46 includes EPRI action limits.

### 3M™ Detection Management Software DMS

Designed for dosimetry, sound level measurements, heat stress assessments and environmental monitoring, this advanced software helps safety and occupational professionals:

- Configure instrumentation and save pre-configured setups.
- Retrieve, download, share, and save instrument data.
- Create charts, tables, reports, and panels to easily interpret measurements.
- Export and share recorded data.

The software integrates with 3M™ Detection Solutions data logging instruments to help you improve both operating efficiency and reporting in acoustics, heat stress, and environmental monitoring.

### A tool that fits your workplace.

In addition to QUESTemp° models 44 and 46, 3M offers traditional wet bulb sensors (QUESTemp° models 32/34/36), a personal heat stress monitor (QUESTemp° II), and a specialized model for the US Navy (QUESTemp° model 48N).

To find out more about any of our 3M™ Detection Solutions products, see [www.3M.com/Detection](http://www.3M.com/Detection)



Measurement Parameters:	QT° 44	QT° 46
Dry bulb, wet bulb and globe temperatures, relative humidity	•	•
Air velocity		◦
WBGT (indoor) index	•	•
WBGT (outdoor) index	•	•
Heat index / HUMIDEX	•	•
Temperature reading: Celsius or Fahrenheit	•	•
Data logging intervals: 1, 2, 5, 10, 15, 30 or 60 minutes	•	•
Display languages: Choose from Chinese, Czech, English, French, German, Italian, Japanese, Korean, Norwegian, Polish, Portuguese, Russian, Spanish, Swedish, and Turkish	•	•
Time & date stamping with clock and calendar	•	•
Displayed stay times: ACGIH TLV, U.S. Navy PHEL charts, U.S. Navy/Marine Corp. Ashore Flag Conditions, EPRI action limits (QT°48N excludes EPRI)		•
Head-Torso-Ankle Weighted Average WBGT (optional with tri-sensors)	◦	◦
<b>Sensors:</b>		
Dry bulb sensor, 1000 Ohm platinum RTD, Accuracy and ranges: +/-0.5 from 0° C–120° C (+/-0.9° F from 32° F–248° F)	•	•
Waterless Wet Bulb (Humidity) sensor, Accuracy and ranges: +/-1.1° C (k=2) between 0° C and 80° C (32° F and 176° F)	•	•
Globe sensor, 1000 Ohm platinum RTD, Accuracy and ranges: +/-0.5 from 0° C–120° C (+/-0.9° F from 32° F–248° F)	•	•
Relative humidity sensor, Accuracy and ranges: +/-5% from 20–95% (non-condensing)	•	•
Air Velocity Probe, Omni-directional heated thermistor, Accuracy and ranges: +/- (0.1 m/s + 4%) from 0–20 m/s		◦
<b>Operating Temperature Range:</b>		
Sensor assembly: -5° C–100° C (23° F–212° F)	•	•
Electronics: -5° C–60° C (23° F–140° F)	•	•
<b>Data Management:</b>		
Detection Management Software DMS	•	•
Thermal comfort indices in accordance with ISO 7730 Predicted Mean Vote (PMV) and Predicted Percent Dissatisfied (PPD)		◦
<b>Output:</b>		
RS-232 serial printer/computer interface; Parallel printer interface	•	•
<b>Power Source (All include AC power adapter wall power cube):</b>		
9V disposable batteries; hours of battery life:	80	80
NiMH rechargeable battery; hours of battery life:	160	160
<b>Mechanical:</b>		
Tripod mount/remote sensor bar. Allows for up to 61 m (~200 ft) long distance measurement	•	•
IP54 water & dust ingress protection rating	•	•
Case size (including mounted sensor assembly) 23.4 × 18.3 × 7.6 cm (9.2" × 7.2" × 3")	•	•
Weight: 1.2 kg (2.6 lb) with mounted sensor assembly	•	•
<b>Electromagnetic Conformance:</b>		
CE Mark	•	•

For QUESTemp® II specifications,  
please visit [www.3M.com/detection](http://www.3M.com/detection)

**KEY:** • Feature or Parameter of Unit ◦ Option  
All Specifications Subject to Change



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