

# WHAT RELATIVE HUMIDITY SETTING DO I USE WITH THE HEATED INLET

APPLICATION NOTE ENVDT-001 (A4)

## Introduction

The Heated Inlet Sample Conditioning module is designed to maintain a constant relative humidity level in the sample air stream before entering the Environmental DustTrak optics. The module uses a Relative Humidity/Temperature sensor to measure the atmospheric conditions. The module is programmed to maintain the necessary temperature to control the Rh to the selected set point during the aerosol capture time through the module.

***The TSI Heated Inlet Sample Conditioning Module can be set to condition the sample to 30%, 40% and 50% relative humidity.***

## Setting Selection

What setting do I choose? This question goes back to the approved federal reference method and analytical methods for measuring ambient aerosol in the region.

- In the US, the EPA requires humidity control to 30-40% for PM10 particle sampling, and 35% for PM2.5 particle sampling.
- In the UK, EN12341 requires humidity control to 50%  $\pm$  5% for PM10 particulates, and 30-40% for PM2.5 particulates.
- *The NIOSH Analytical Method 0600 for Particulates, not otherwise classified, Respirable, specifies the sample filter media be equilibrated in an environmental chamber at 20°  $\pm$  1° C and 50 $\pm$ 5% Relative Humidity.*

## Summary

US	Outdoor environmental sampling for PM2.5	35% Rh
	Outdoor environmental sampling for PM10	30–40% Rh
	Occupational Exposure sampling for respirable dust	50% Rh
UK	Outdoor environmental sampling for PM2.5	30–40% Rh
	Outdoor environmental sampling PM10	50% Rh





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