Introduction
There are various methods for continuous fabric dyeing as well as dye fixing. When dye is directly applied, steaming (heat treatment) is required. At present the pad-steam method is widely used for continuous dyeing. To ensure stable product quality, the humidity in the steamer is kept at a constant level. The ZR802G Zirconia High Temperature Humidity Analyzer provides excellent maintainability as it does not require the use of a sampling system, and ensures stable measurement in high temperature environments. It has been well received in the marketplace and is widely used in humidity control applications.

Expected Benefits
• Maintains the quality of the discharge process
• Ensures stable, continuous humidity measurement
• Reduces operating costs

Process Overview
The pad-steam dyeing process uses vat, reactive, acid, disperse, and other types of dyes, and includes padding, drying, fixing, washing, and re-drying steps. After padding, the fabrics are forwarded to a steamer where the dye is fixed under conditions of constant temperature and humidity.
Solution Details

Process conditions
Measurement point: Steamer side
Sample gas component : Steam: 90 to 100 %  
Air: remaining
Temperature: 70 to 110 °C
Pressure: 10 to 30 kPa
Dust: Non

Measurement system
Detector: ZR22G-☐☐☐-S-H-C-R-☐-E-A /SV
Converter: ZR802G-☐-☐-N-N /☐
Standard gas unit: ZO21S-☐-E*A

Utilities
Rated voltage: 100 to 240 V AC
Rated frequency: 50/60 Hz
Power consumption: 330 VA (Max. 800 VA)

Notes
• It is best to install the detector vertically with the probe head pointing downward, but it can also be installed at any angle between 0° and 90° (horizontal installation shown right) with respect to the vertical.