



Cooling Tower Hydrocarbon Monitoring System

APPLICATION

Process leaks into heat exchange cooling water produce fugitive emissions. As the water containing hydrocarbons is circulated to the cooling tower, hydrocarbons are emitted into the atmosphere.

FCI Environmental, Inc. produces a Hydrocarbon in Water Monitoring System utilizing Fiber Optic Chemical Sensors. The **PetroSense®** sensors represent a new technology for the detection of total petroleum hydrocarbons (TPH's). **PetroSense®** sensors are non-specific detectors for TPH's, semi volatile hydrocarbons (e.g., diesel fuel, heating fuels, etc.), trichloroethylene / perchloroethylene and many other related compounds. The sensors have a very strong response for aromatic and other large hydrocarbon compounds. This makes the **PetroSense®** sensors very useful for the detection of BTEX (benzene, toluene, ethyl benzene, and xylenes).

The principle of the **PetroSense®** technology is the modulation of light guided along an optical fiber. Optical fibers are utilized for the transmission of light based upon the phenomenon of total internal reflection. The **PetroSense®** sensing element consists of an optical fiber with a proprietary coating sensitive to materials in the surrounding media, resulting in an environmental chemical sensor. As materials such as TPH's associate with the fiber, the resultant change in the cladding refractive index alters the amount of transmitted light. Very small changes in the refractive index can yield relatively large changes in transmitted light.

PetroSense® sensors are incorporated in both a portable, field screening instrument (the PHA-100) and a continuous monitoring system (the CMS-5000). The use of a small stream can monitor the total petroleum hydrocarbons present in the cooling water prior to the cooling tower, thus alerting to the possibility of discharging fugitive emissions into the environment.

MTI Analytical Technology is available to assist with environmental and process monitoring applications. Design, engineering, fabrication, installation, and commissioning may be accomplished, thus assuring integrity and performance of component units.

MTI ANALYTICAL TECHNOLOGY PRODUCTS

- Analyzers
- Calibration / Validation Standards
- Electrodes
- Electrochemical Sensors
- Emission Eliminators
- Packaged Analytical Systems
- Sample Handling / Conditioning Devices
- Software Documentation Systems for Analyzers
- Software for Continuous Emission Monitoring Reporting

**Call, Fax, or E-mail for Additional
Information**

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