GE
Water & Process Technologies
Analytical Instruments

Fact Sheet

Specifying the Correct Leakwise Sensor

The basic Leakwise* Oil-on-Water Monitoring and Detection System includes a sensor (ID-22x) and an analog controller (PS-220). The analog controller includes two dry contact relays (3 Amp) that are usually used to turn off a pump, close a valve, etc. The analog controller may also be ordered with a 4-20 mA output and a local bar graph display (bar graph shows a proportional measurement of hydrocarbon thickness).

For projects that have multiple sensors (more than three), it becomes economical to purchase a single digital controller that is capable of operating up to eight sensors.

Leakwise Sensor Highlights

For Low Maintenance
The sensor is highly resistant to coating and does not require regular cleaning. Usually an annual cleaning and calibration is adequate.

Low Detection Limit
The sensor detects sheen at 0.3 mm in thickness. Also reports oil thickness up to 25 mm with standard model — up to 200 mm linear thickness measurement available.

Programmable Detection Limit
Set points can be easily 'tuned' to meet application specifications, eliminating false positives.

Technology
Since water absorbs more electromagnetic energy than hydrocarbons, changes in the absorption rate of water indicate the presence or buildup of hydrocarbons. The sensors can be used to detect the interface between any two immiscible liquids with different absorption rates. No other oil sheen monitoring system does this.

Sensor Descriptions

The two sensors most commonly used are the ID-221 (wet only, 12 inches of water required) and the ID-223 (wet or dry). When choosing the appropriate sensor for an application, the two most critical factors are water depth variation and water velocity. The individual sensor descriptions follow to assist in specifying the correct sensor for an application:

- **ID-221:** Sheen detector 0.3–25 mm non-linear thickness measurement, water depth 1–100 ft, maximum flow velocity 20 cm/sec or 8 in/sec **(must have 12 inches water at all times)**
- **ID-223/500:** Sheen detector 0.3–25 mm non-linear thickness measurement, water depth 0–500 mm (20 in), maximum flow velocity 60 cm/sec or 2 ft/sec **(sump can be dry)**
- **ID-223/2000:** Sheen detector 0.3–25 mm non-linear thickness measurement, water depth 0–2000 mm (6.5 ft), maximum flow velocity 100 cm/sec or 3.3 ft/sec **(sump can be dry)**
- **ID-223/2500:** Sheen detector 0.3–25 mm non-linear thickness measurement, water depth 0–2500 mm (8.2 ft), maximum flow velocity 60 cm/sec or 2 ft/sec **(sump can be dry)**
- **ID-225:** Thickness Monitor 1–100 mm linear thickness measurement, water depth 1–100 ft, maximum flow velocity 20 cm/sec or 8 in/sec **(must have 12 inches water at all times)**
- **ID-227:** Sheen detector 0.3–20 mm non-linear thickness measurement, ocean going sensor designed to handle waves up to six feet, maximum flow velocity four knots (2 m/sec or 6.5 ft/sec)

Note: Stilling wells are required for most sensors to reach maximum velocity specification.

GE Analytical Instruments
6060 Spine Road
Boulder, CO 80301-3687 USA
T +1 800 255 6964
T +1 303 444 2009
F +1 303 444 9543
geai@ge.com
www.geinstruments.com

Europe
Unit 3, Mercury Way
Urmston, Manchester, M41 7LY
United Kingdom
T +44 (0) 161 864 6800
F +44 (0) 161 864 6829
generaluk.instruments@ge.com

300 00155 Rev A
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