Comparison Between Leakwise and Optical Technologies

LEAKWISE®
Oil on Water Detection & Monitoring

Characteristic	Leakwise Technology	Optical Technologies
Technology	Electromagnetic Energy Absorption, Contact with the liquids.	IR or visible light reflection; Pulsed Laser reflection; UV fluorescence; No-contact with the liquids.
Minimum detectable oil layer	0.3 mm (300 µm) in real conditions	1 µm or thicker
Monitoring oil layer changes	Yes, up to 25 mm, indicating spill trend (increase or decrease)	No
Detectable oil types	Aromatic and Aliphatic	Mainly Aromatic
Water level following	Yes, accurately, possibility for big water level changes	Installed in a fixed position above the monitored area, but has limited maximum distance from water surface
Adjustable detection sensitivity	Yes	No
Ability to operate and detect increased oil layer when water is already contaminated	Yes	No
Ability to detect oil without having water in the sump	Yes	Usually no
False alarm probability due to oil, water and dirt coating or splashing	Low	High
False alarm or no alarm probability due to floating debris on water	Low	High
False alarm or no alarm probability due to rain, fog, ambient light reflection	Low	High
Maintenance	Minimal, no need to replace parts	Limited lifetime of the illuminating unit
Approved for installation in hazardous areas	Yes, Intrinsically Safe sensor	Some of them, with a special Exd enclosure
Price	Medium	High

LEAKWISE®
Oil on Water Detection & Monitoring

Highlights in Comparing Leakwise and Optical Technologies

Optical devices (IR, UV, Laser), have the contactless advantage, however, they have significant disadvantages:

- In most of the devices, the light source needs to be replaced every 2-5 years. In some of them it requires a costly factory refurbishment
- The sensitivity can't by adjusted, resulting in excessive positive false alarms when a very thin, residual oil sheen, appears
- A minimal distance from the water is required, typically 0.3m-1.0m. This may create a challenge when the water level is not constant
- UV devices detect aromatic hydrocarbon only. Others may be calibrated to one or two specific hydrocarbons, but not to all hydrocarbons
- Optical devices can’t measure the oil layer thickness and the trend of the thickness