

Oil Storage Tank with a Floating Roof

Floating Roof Drainage Operation

Stormwater accumulated on a concave floating roof of an oil storage tank may affect its floatation, making it necessary to immediately drain the water. This is usually done through a flexible pipe, running from the floating roof down the tank, with an outlet above the ground near the bottom of the tank.

Problems in Roof Drainage Operation

The following problems may occur in the operation of a floating roof drainage system:

- Small or large volumes of the product from the tank can penetrate the flexible pipe through pinholes or cracks that may appear in it. The product will then drain through the water drainage system unnoticed.
- Product from the tank may occasionally run over the floating roof through the roof's seal and exit through the water drainage pipe unnoticed.
- Sometimes the flexible pipe is bent or clogged preventing water from the roof to pass through it. In this case, water remains on the floating roof and this may disturb its floatation capability.

Leakwise* ID-223 Oil Sheen Detector Applications

1. Detection of Oil Leaks/Spills

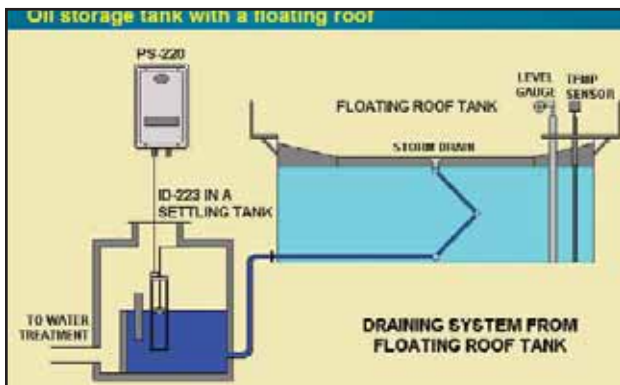
A Leakwise ID-223 Oil Sheen Detector should be installed in a settling tank (or in a sump or a separator) on the external water drainage pipeline. This settling tank will settle the liquid flowing in the pipeline from the roof drainage pipe outlet to allow detection by the Leakwise ID-223 floating sensor. Normal indication of the Leakwise PS-220 Processor should be water on rainy days, or air on dry days. An alarm will be triggered if the Leakwise ID-223 Oil Sheen Detector detects oil or oil on water, indicating that oil is seeping through the roof drainage pipe.

2. Detection of Clogs in the Roof Water Drainage System

If air instead of water is indicated after a rainy day, it means that the flexible roof drainage pipe is bent or clogged and no water is running through it.

3. Savings on Water Treatment Costs

The Leakwise ID-223 Oil Sheen Detector can be used to control valves, pumps, and sump gates. By utilizing its control capabilities, the users can discharge the stormwater from the tank's roof directly to the sea, river, or public drainage system. Only the oily water will be diverted to treatment. This reduces the load from the local treatment system and brings substantial cost savings.



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