

## Oil on Water Detection by using Model FLUCOmat

### Why oil on water and not oil in water?

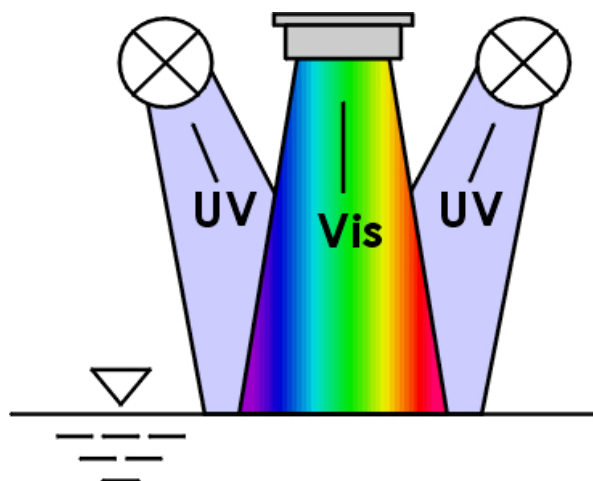
This question is easy to answer, oil floats and is typically not homogeneous distributed in the water. The highest oil concentration is typically in the upper part of large pipes or at the water surface. Therefore surface scanning allows detecting even low amounts of oil without problems.

### Model FLUCOmat (UV- Stimulated Fluorescence)

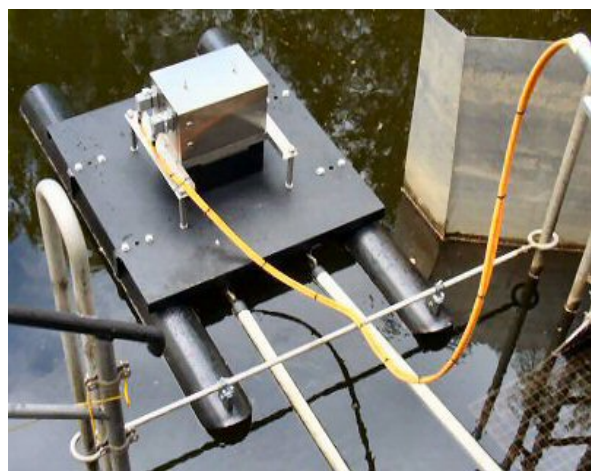
The oil monitor model FLUCOmat detects the fluorescence of unsaturated hydrocarbons in oil. This method allows the detection of very low oil amounts starting at about 0.1 ml/m<sup>2</sup>. The instrument provides non contact surface scan in real time. The installation is either at a fixed distance to the surface, at pontoons, with ultrasound-controlled winch or monitoring in a bypass container. The long life UV- lamps (optional UV- Led's) make the device extremely low maintenance.

### Principle

- UV- Lamp Emission at a wave length of  $\lambda = 360 \text{ nm}$
- Unsaturated hydro carbons absorbs the UV-light
- The absorbed UV- energy will be converted to visible light with a wave length of  $\lambda = 450 \text{ nm}$
- The converted light is detected by a Photomultiplier and evaluated by the FLUCOmat transmitter
- The conversion of UV- Light to visible light is called UV- stimulated fluorescence



### Installation Example: Pontoons



- High sensitivity (100  $\mu\text{l}/\text{m}^2$ )
- Low maintenance
- Non contact detection
- Very high selectivity
- Large detection area (approx. 40000 mm<sup>2</sup>)
- Possible connection to a pipe system by using a bypass container
- Installation in manhole using an automatic winch
- Possible sampling of surface water by using a skimmer
- LED UV- sources as an option

### Typical Applications:

- Oil in water reservoirs
- Turbine Oil
- Hydraulic Oil
- Oil in cooling water (heat exchanger oil)
- Oil in produced water
- Oil in retention basins
- Direct discharge of water to rivers / lakes
- Direct discharge of water municipal waste water plants