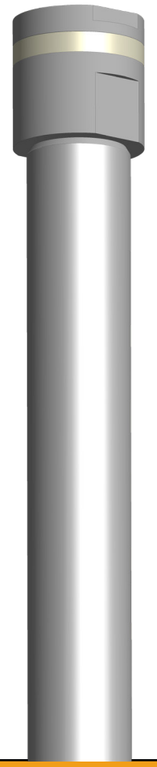
Kam® ATD™
Automatic Tank Dewatering

Kam® Simple Precision™

SPECIFICATIONS

Media:	**Crude oil and water**
Material:	**Wetted parts - 316SS, PEEK**
Fluid temperature:	**32° to 176°F (0° to 80°C)**
Power requirements:	**24 VDC/1 amp at 24 watts**
Accuracy:	**±5%**
Repeatability:	**±0.01%**
Resolution:	**±0.01%**
Outputs:	**4–20 mA** **Alarm relay** **RS232** **RS485 Modbus *or* HART**
Mounting:	**2″ MNPT seal housing** **2″, 3″, or 4″ flanged seal housing** **Flanged fixed insertion**
Pressure ratings:	**ANSI 150, 300**
Hazardous areas:	**PTB 08 ATEX 1026** **II 2 G Ex db IIB T6 Gb** **IECEx PTB 19.0048** **Ex db IIB T6 Gb**
Sensor dimensions:	**Ø1.3″ x 1.25″ (33 mm x 32 mm)**
EX enclosure:	**4.4″ x 7.1″ x 4.6″ (112 mm x 180 mm x 117 mm)**
Shaft length:	**Per user specification up to 16 ft**

Solid antenna design minimizes build-up of paraffin, tank sludge, etc.



FOR MORE INFORMATION ON KAM PRODUCTS

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KAM CONTROLS IS AN ISO 9001:2015 CERTIFIED COMPANY

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IEC IECEx Ex II 2 G CE 0102

The build up of water levels in hydro-carbon storage tanks is an unfortunate and expensive inevitability, reducing storage capacity and corroding tank interiors. Manually discharging accumulated water potentially results in the loss of some hydrocarbons through the draw-off line, adding significant cost and environmental liabilities to storage.

The KAM ATD Automated Tank Dewatering system eliminates the loss of hydrocarbons in the water draw-off line while bringing repeatability, safety, and efficiency to the operation.

The unique solid-antenna design of the KAM® ATD™ prevents the build up of paraffin, tank sludge, etc. on the antenna, requiring far less maintenance and providing far more accurate measurement.

APPLICATIONS

- Automatic tank dewatering
- In tank or draw-off line installations
- Desalter optimization
- Oil skimming

KEY FEATURES

- Microwave technology
- Installs without the need to drain the tank
- All requisite electronics housed within unit and included in unit price
- Solid-antenna design prevents tank debris from clogging probe
- Maintains accuracy in emulsions and in both water-continuous and oil-continuous phases, automatically detecting the change from phase to phase

KAM® ATD LIT 0222

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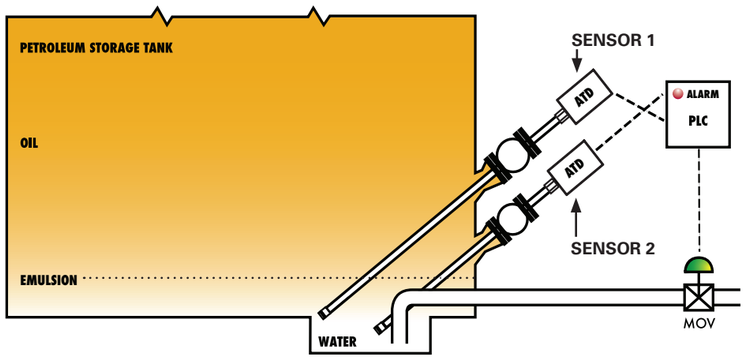
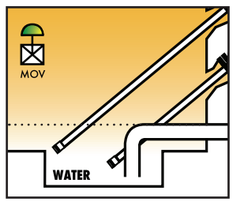
TANK CONFIGURATION OPTION 1

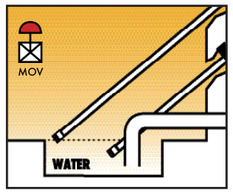


Two KAM® ATD™ sensors are inserted at an angle directly into the tank or from the top through full-opening ball valves.

The probe tips should be at or below the tank bottom and just within the sump. The tips of both probes need to be above the level of the dewatering outlet.

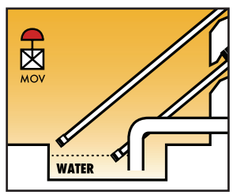


ATD™ Sensor 1 monitors water concentrations at or near the bottom of the tank. When water concentrations reach 100%, Sensor 1 triggers the opening of the MOV on the water draw-off line.



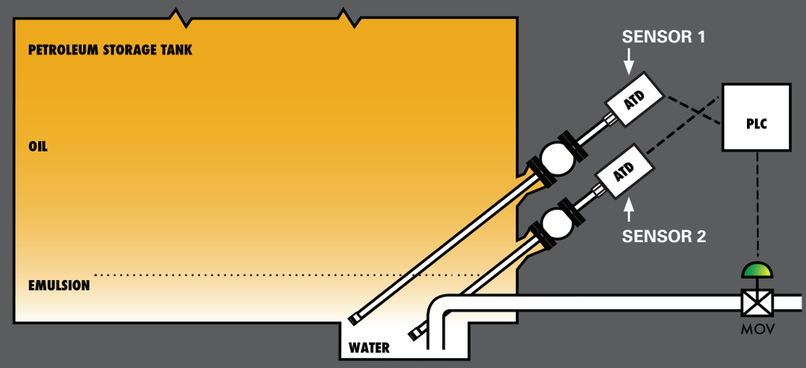
The emulsion layer will descend as water is drained from the bottom of the tank. When Sensor 1 detects a predetermined level of hydrocarbon, it will trigger the closing of the MOV on the draw-off line.

Because the sensor is well above the entrance to the draw-off line, no oil emulsion ever drains from the tank.



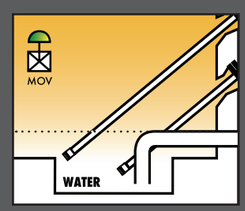
In the rare case that Sensor 1 fails to trigger the closing of the MOV, Sensor 2 will trigger both an alarm and the closing of the MOV. Again, because the sensor is still above the entrance to the draw off line, no oil emulsion ever drains from the tank.

TANK CONFIGURATION OPTION 2

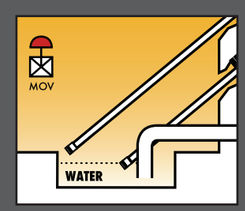


In the second configuration, probes are inserted in the same manner. However, the functionality of Sensor 2 changes. Sensor 2 now triggers the closing of the MOV.

An alarm can be added with the addition of a third probe installed on the dewatering line. See below.

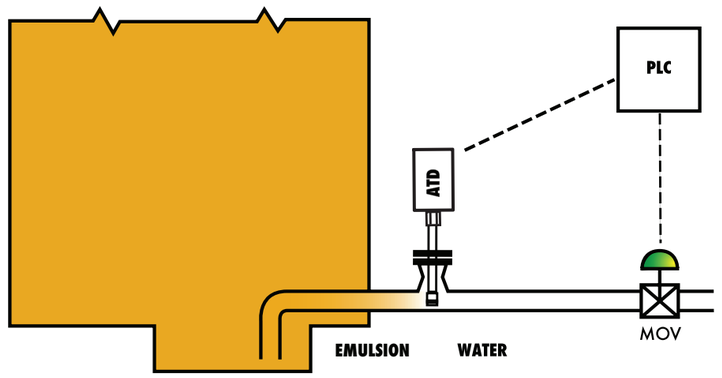


When water concentrations reach 100%, Sensor 1 still triggers the opening of the MOV on the water draw-off line.



The emulsion layer will descend as water is drained from the bottom of the tank. In this configuration, the MOV is not closed until **Sensor 2** detects a predetermined level of hydrocarbon.

IN-LINE DEWATERING



In situations where insertion into the tank isn't possible, the KAM® ATD™ can be installed directly on the dewatering line. It should be installed as far upstream of the MOV as possible in order to allow time to close the valve and to minimize hydrocarbon line fill in the dewatering line.

Line fill must be recirculated or directed to a slop tank.