

FLD-HCSP

Miniature Leak Detection Probe

FLD-HCSP is a miniature leak detection probe that is fully encapsulated. This high-performance sensing probe is designed for detecting leaks of refined products or crude oil in challenging small space locations where regular sensing probes may not be suitable. This probe can also be used as a cost-effective zero-false-alarms hydrocarbon fumes detector. Encased in a corrosion resistant stainless steel slotted cylinder, it is specially engineered for reliable operation in tank interstitial space, machine shafts, pumps, etc. The length of the probe is 3.74" (95 mm), with a diameter of 0.59" (15 mm). This sensing probe can be wired to the acquisition module through an optional jumper cable with a maximum length of 300 ft (90 m).



Advanced measurement techniques and PHMSA compliant leak detection algorithms are used by Naftosense acquisition modules to provide quick detection in a very wide temperature range. The sensing probe is cleanable and reusable with optional connectors for quick disconnection for cleaning.

FLD-HCSP probe is designed to be used exclusively with acquisition modules or intrinsically safe field boxes offered by Naftosense providing industry-standard analog outputs, dry contacts or serial communication protocols for flexible integration with third-party monitoring panels or PLC.

FLD-HCSP is a passive simple element and is safe for installations in hazardous locations when connected to intrinsically safe field box or wired through an approved Zener barrier to acquisition modules, alarm panels or other monitoring equipment installed in the safe area. Please contact Naftosense for additional information.

Features and Benefits

- Reliably detects heavy crude oil and refined products at very low temperatures
- Reusable after contamination
- Dynamic tracking of the sensor contamination
- Fully passive - suitable for installations in hazardous locations
- Very wide operating temperatures range
- Able to detect quickly fumes/vapors diffused in the soil or aboveground
- 10-year warranty

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Typical Applications

- All Oil & Gas facilities
- Monitoring of sumps, leak detection wells or pump seals
- Leak detection in machine shafts and dual-wall tank interstitial spaces
- Monitoring of dual-wall pipes
- Leak detection in downstream and fuel retail facilities

Agency Approvals

- Fully passive simple element approved for use in C1D1/ATEX Zone 0/IECEX Zone 0 locations

Technical Information

Typical Detection Time	
Gasoline, Jet Fuel, Diesel	20 to 28 seconds*
Light Crude Oil	45 to 60 seconds
Heavy Crude Oil, Dilbit	3 to 4 minutes
Motor Oil, Silicone Oil	8 to 10 minutes
Propane, Butane	25 to 30 seconds**

* Performance metrics obtained according to the testing procedure depicted in the FM7745 standard.

** When detecting vapors/LPG, the sensing probe must be placed in the lowest point where the fluid will accumulate.

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Technical Data	
Operating Life	30+ years at 104°F (40°C), materials tested in natural ageing conditions
Compatibility	Approved Naftosense field boxes, monitoring modules and controllers*
Dimensions	Length: 3.74" (95 mm); Diameter: 0.59" (15 mm)
Ingress Rating	IP68 - suitable for outdoor/direct burial
Operating Temperature Range	-40°F to 185°F (-40°C to 85°C)
Maximum Length of Lead Cable	300 ft (90 m) Cable Leads: • Lead 1 (connect to COM SENSOR) • Lead 2 (connect to SENSOR IN)
Hazardous Locations Classification	IS/ I/ 1/ ABCD/ T4 ; I/ 0/ AEx/ ia IIC T4 ; Class I, Zone 0, Ex ia T4; Class I, Div. 1, Groups A,B,C,D; T4 II 1 G Ex ia IIC T4 Ga
Warranty	10 years

* FLD-HCSP probe can be interfaced with various approved acquisition modules for wired or wireless installations in hazardous locations. For additional information please consult Naftosense.

Product Codes	
FLD-HCSP-10	Passive Hydrocarbon Sensing Probe of 3.74" (95 mm) with 10 ft (3 m) indoor-rated lead cable
FLD-HCSP-OR-10	Passive Hydrocarbon Sensing Probe of 3.74" (95 mm) with 10 ft (3 m) outdoor-rated lead cable
FLD-HCSP-25	Passive Hydrocarbon Sensing Probe of 3.74" (95 mm) with 25 ft (7.5 m) indoor-rated lead cable
FLD-HCSP-OR-25	Passive Hydrocarbon Sensing Probe of 3.74" (95 mm) with 25 ft (7.5 m) outdoor-rated lead cable

On request, the leader cable can be extended to up to 300 ft (90 m). Optionally, approved connector can be assembled at the end of the lead cable for all variants. For additional information please consult Naftosense.