



HS Oil/Water Interface Sensors

ultrasonic technology

HS-I

HS-I (Open Reel)

HS-IL

HS-EL200

HS-EL300

HS-EL500

The **Waterra HS Oil/Water Interface Sensors** represent some of the most advanced technology available today for hydrocarbon product layer measurement. These devices utilize sophisticated ultrasonic sensors to help define the product layer. Tests have shown that these sensors are more sensitive in a broader range of hydrocarbon products than conventional optical systems.

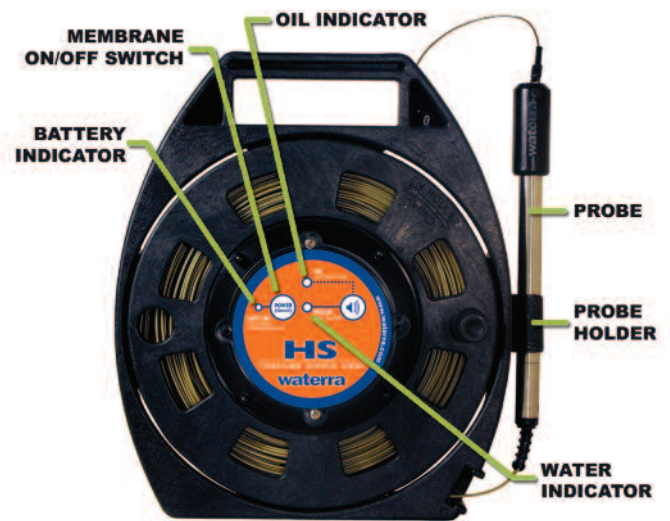
The **HS-I** is available with either a 30 meter or a 100 foot tape. The **HS-IL** is available with tapes in metric units of 50, 75 or 100 meters or 250 foot tapes.

The HS line of Oil/Water Interface Sensors are available on either a compact plastic "Caddy type" reel which completely encloses the tape or on the traditional open reel. The Caddy reel is constructed from rugged black polyethylene. Their lightweight and slim profile make them very portable. The open reels include a probe holder and brake.

The polyethylene coated 3/8"

stainless steel flat tape is available in both metric and imperial graduations. (Metric tapes are graduated to the nearest millimeter; imperial tapes are graduated to the nearest 1/100 of a foot.)

ant enclosure located on the front of the reel. The face plate of the enclosure is covered by the membrane switch label which contains the on/off switch and the various high intensity LEDs.



The tape is manufactured with a probe connector at one end and a circuit board connector at the other. This allows the tape or the probe to be quickly and easily replaced should either become damaged. All of the electronic components in the HS reel are contained within a water resist-

The electronics enclosure can be opened by removing two screws from the face plate, allowing the operator to replace the four AA batteries which power the meter. The electronics enclosure also contains the buzzer.



HS-I

HS-I (OPEN REEL)

HS-IL

HS-EL200
HS-EL300
HS-EL500

HS-I	
WEIGHT	4.5 lbs (2 kg)
DIMENSIONS	12" H x 11.5" W x 3.25" D
TAPE WIDTH	3/8"
TAPE MATERIAL	polyethylene coated
LENGTH	100' or 30m

HS-I OPEN REEL	
WEIGHT	4 lbs (1.8 kg)
DIMENSIONS	11.8" H x 8.3" W x 8.1" D
TAPE WIDTH	3/8"
TAPE MATERIAL	polyethylene coated
LENGTH	100' or 30m

HS-IL	
WEIGHT	8.25 lbs (3.75 kg)
DIMENSIONS	15" H x 14" W x 5" D
TAPE WIDTH	3/8"
TAPE MATERIAL	polyethylene coated
LENGTH	50m, 75m, 100m or 250'

HS-EL200	
WEIGHT	12.5 lbs (5.6 kg)
DIMENSIONS	10.4" H x 12" W x 9" D
TAPE WIDTH	3/8"
TAPE MATERIAL	polyethylene coated
LENGTH	200m

HS-EL300	
WEIGHT	21 lbs (9.5 kg)
DIMENSIONS	17.5" H x 15" W x 10" D
TAPE WIDTH	3/8"
TAPE MATERIAL	polyethylene coated
LENGTH	300m

HS-EL500	
WEIGHT	28.5 lbs (13 kg)
DIMENSIONS	17.5" H x 15" W x 10" D
TAPE WIDTH	3/8"
TAPE MATERIAL	polyethylene coated
LENGTH	500m

The sensor's probe is 5/8" diameter and is constructed from 316 stainless steel. The probe is snapped into the side of the reel in a probe holder when not in use.

All interface meters indicate the presence and thickness of a hydrocarbon layer with the use of two different switches. One switch is designed to detect the presence of liquids (liquid level switch), the second switch is designed to detect the presence of conductive liquids (conductivity switch). Since hydrocarbons are nonconductive, they will only trigger the first switch, whereas water, being conductive, will activate both switches.

When both switches are activated, the meters are designed only to display the conductivity switch result. In this way the units can distinguish between water and hydrocarbons.

Most meters use an optical sensor to detect hydrocarbons. The Waterra interface meter uses an ultrasonic transducer. The transducer beams an ultrasonic signal at a reflector plate which is not strong enough to be reflected back to the transducer in air. However once the transducer is immersed in a liquid, the signal is detected.

The advantage to the ultrasonic transducer is that it's very robust and not attacked by any solvents. All of the components within the ultrasonic probe are removable (by Waterra only) and can be replaced allowing for fast and inexpensive maintenance or repair.

features

- AUTO SHUT-OFF
- ULTRASONIC TECHNOLOGY
- RUGGED MODULAR CONSTRUCTION
- POWERED BY 4 AA CELLS
- MEMBRANE ON/OFF SWITCH
- EXTREMELY LOW POWER CONSUMPTION

NEW! LONGER TAPES

Waterra now has oil/water interface sensors with tapes that are available in lengths from 200 meters to 500 meters.



HS-EL-200