waterra.com

HS-2

Oil/Water Interface Sensor

Owner's Manual

waterra Groundwater Monitoring Equipment & Supplies

SN#

2021

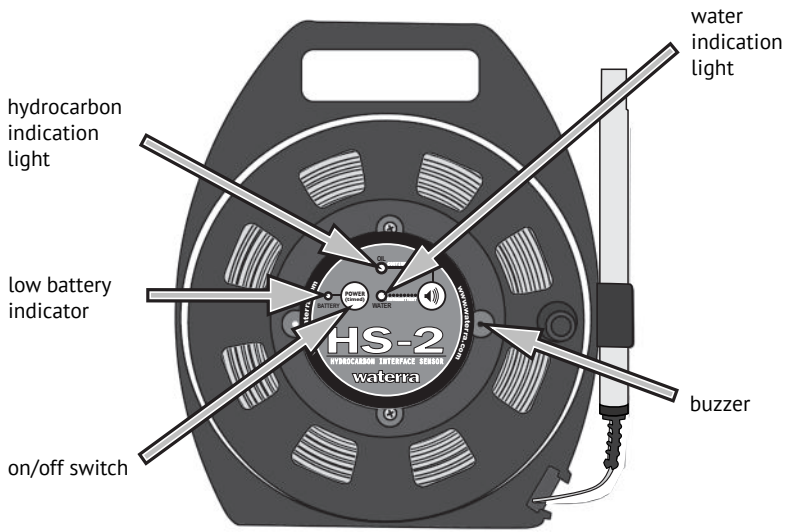
OPERATION

Waterra has designed the **HS-2 Oil/Water Interface Tapes** as lightweight, compact, oil/water interface measuring devices. They feature both enclosed reels with very narrow profiles and more traditional open reels. The HS-2 closed reel can carry up to 30 meters or 100 feet of flat tape. The HS-2 open reels can carry 50, 75 or 100 meters or 250 feet of flat tape.

The electronics module located in the hub of the unit contains the batteries, electronic circuit board, buzzer, light, and on/off membrane switch.

The on/off switch has a built-in timer so that the unit will automatically turn itself off after three minutes. This feature is designed to extend battery life. When the HS-2 is turned on, the battery light will be illuminated continuously. Low batteries are indicated by a flashing signal from the battery light indicator.

When the HS-2 Interface probe contacts a hydrocarbon liquid, the buzzer will emit a continuous tone and the oil light will illuminate. When the probe contacts water, the buzzer will emit an intermittent tone and the water light will illuminate. There is no sensitivity adjustment available for the HS-2 meter.



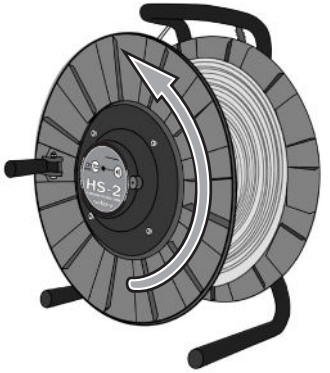
OPERATION

The flat tape on HS-2 open reels and HS-2 closed reels must always be wound back onto the reel by rotating the handle in the correct direction, however the direction of winding is not the same for both of these reel formats.

Winding the tape back onto the reel in the wrong direction will cause problems. Additionally it is important with both reel designs that the tape be spread evenly across the spool as it is wound back into the reel. This can be done by rocking the reel from side to side as the tape is being wound up.

open reel — counter clockwise

The **HS-2 open reel** winds the flat tape back onto the reel by rotating the handle in the counter clockwise direction.



closed reel — clockwise

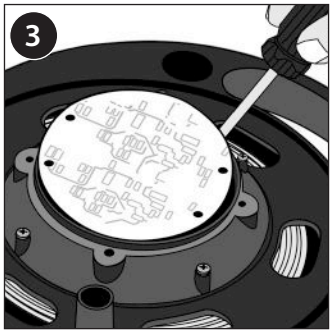
The **HS-2 closed reel** must be rotated in the clockwise direction to wind the tape back onto the reel.

BATTERY REPLACEMENT

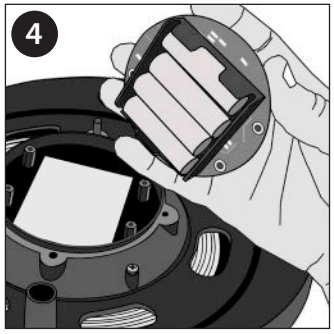
Replace the batteries when the indicator light shows that they are worn or at least once per year.

The batteries can be accessed by removing the two screws located on the Front Panel above and below the label. Remove these screws with a Phillips screwdriver and then carefully lift the Front Panel from the front hub. Turn the Front Panel upside down and place the two screws in the panel.

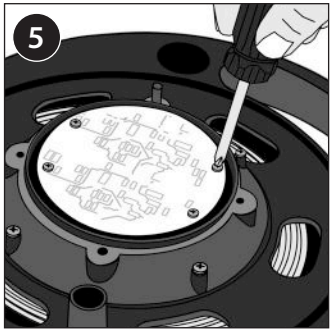
The battery pack is located on the rear side of the Main Circuit Board which is now exposed. You must remove the four screws which hold the Main Circuit Board in place to gain access to the battery pack. Remove the two screws at the top and the two screws at the bottom of of the Main Circuit Board and place them in the Front Panel.



Remove the Main Circuit Board by using a small flat screwdriver and placing the blade of the screwdriver under the edge of the Main Circuit Board, alternating from the left side then the right side of the board. This will disconnect the board from the two connectors located on the back side.



Once the Main Circuit Board is removed, turn it over and replace the worn AA cells with four fresh Duracell AA batteries. Be sure to orient the batteries in accordance with the directions supplied on the battery pack. Return the Main Circuit Board to the reel by carefully lining up the pins with the connectors (4 pin connector on the left, 6 pin connector on the right) and press the Main Circuit Board into position.



Replace the four screws in the Main Circuit Board. Replace the Front Panel to the hub and return the two screws to the correct holes, above and below the label. Care must be taken not to over tighten the screws. Over tightening may strip the threads from this part.

ROUTINE MAINTENANCE

In order to maintain your HS-2 in the best working order, some routine maintenance is required. The flat tape should be inspected for cuts and abrasions on a regular basis. Severely damaged tapes should be replaced. Contact Waterra if this is required.

The tape should be completely spooled out of the reel and cleaned with a damp cloth and the reels will also need to be wiped down to remove sand and mud. Be sure to wind the tape back onto the reel in the correct direction (see Probe Holder & Winding the Reel).

Check that the tape is wound onto the reel in an even manner. Do not allow the tape to accumulate on one side of the reel.

The probe tip should be cleaned on a regular basis with a toothbrush and water to remove any material that may accumulate there. A clean probe tip will increase meter accuracy.

Replace the batteries when the indicator light shows that they are worn or at least once per year. See the battery replacement instructions for directions.

water resistance

The HS-2 is designed to be water resistant, however these units are not waterproof. Do not immerse the HS-2 or the HS-2L as this will damage the electronics and flood the unit.

cleaning and decontamination

The HS-2 should be kept as clean as possible as this will help keep the units in good working order. The flat tape can be cleaned by spooling the tape out of the reel into to a large bucket, allowing it to soak in a cleaning solution. The recommended detergent for this is Alkanox.

Rinse the tape in clean water and pass the tape through a clean cloth as it is wound back into the reel.

Do not immerse the reel and electronics! The reel can be cleaned with a clean, damp cloth. If the inside of the reel becomes contaminated or is excessively dirty, the tape and reel should be disassembled for a more thorough cleaning.

WARRANTY

Waterra Pumps Limited and Waterra USA Inc. ("Waterra") warranty all well probe parts to be free from defects in material and workmanship affecting its use for a period of 12 months following the date of purchase.

exclusions and conditions

The Waterra Warranty **does not include** shipping or an obligation to provide another unit while the original well probe is being repaired.

The Waterra Warranty **does not apply** to well probes used as rental equipment or to well probes contaminated by materials harmful to such products.

The Waterra Warranty **does not apply** to the tape or batteries used within the well probe.

The Waterra Warranty **does not apply** to parts failure due to neglect in cleaning or servicing the well probe nor does it cover failure of a part caused by misuse or inappropriate use of the well probe.

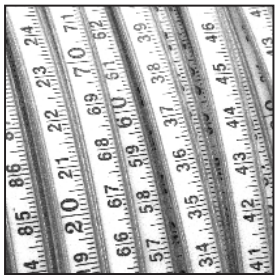
The Waterra Warranty **is not valid** if the well probe is not paid for in full within 60 days of the invoice date.

returning well probes to Waterra

Waterra requires that all customers notify Waterra prior to returning their well probe under the Waterra warranty program. The well probe will only be accepted if it has been thoroughly cleaned and decontaminated. Well probes must be properly packaged.

Please contact Waterra in order to obtain a shipping address.

PARTS LIST



TAPE & PROBE ASSEMBLY

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