

IMPORTANT: ENSURE THAT THE PANEL RETAINING THUMB SCREWS (NUTS) ARE TIGHT BEFORE USE.

Part Numbers
 1403 Detach-WLM probe
 1408 1408 DP-EP
 3250 TScrewsx2

Item
 Detachable WLM probe
 DrawDown Electronic Panel
 Thumbscrews Set (2)

Figure 3
 Unique hanger and tape protector supports the meter on the casing and protects the tape from sharp edges on the well casing.

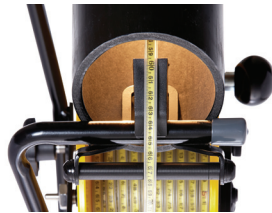
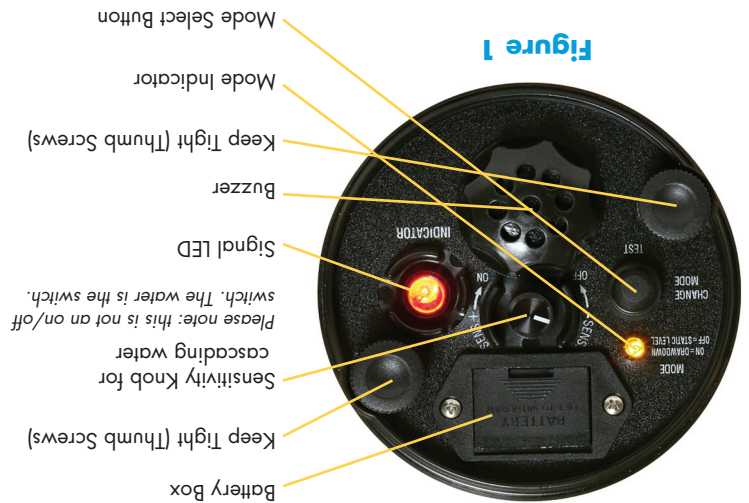


Figure 2
 To test entire system, Hold the center pin on the probe against the stud on the back of the screw on the frame. The buzzer will sound if the system is okay. **Make sure sensitivity dial is turned fully clockwise.**



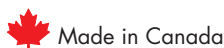
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HERON INSTRUMENTS
 Groundwater Monitoring INC.

dipper-T Water Level Meter with drawDown

Operating and Maintenance Instructions



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dipper-T Water Level Meter Instructions

General Care of the dipper-T

The dipper-T is a high quality, robust unit that will give many years of reliable service if these recommendations are followed:

- Avoid sharp edged casing, use the tape guide on the unit.
- Take care to avoid the tape becoming entangled with other equipment in boreholes or wells, use stilling pipes when possible.
- **DO NOT** use the dipper-T as a guide to backfilling, bentonite sealing or sand packing in wells. This type of material falls through the water column at a much slower rate than the dipper-T probe and can result in a trapped probe and tape.
- Neatly rewind and clean the tape after each use.
Refer to: [Cleaning the dipper-T](#)

Warranty is conditional upon adherence to these guidelines

Equipment Check

Before taking the unit into the field, carry out these simple tests with the sensitivity knob turned fully clockwise (see Figure 1 panel controls), and the two panel retaining thumb screws (nuts) are tight.

The sensitivity knob is used to adjust the unit's response to varying conductivities to maintain a sharp distinctive signal. Turn the knob clockwise for low conductivity (pure) water and anti clockwise for high conductivity (dissolved minerals) water.

NOTE: There is no on/off switch on the instrument. If using in **DRAWDOWN** mode, return the unit to **STATIC** mode to turn the meter off. The **dipper-T** consumes no power in **STATIC** mode when not in water.

To check the condition of the battery and circuit, press the **CHANGE MODE** button.

The unit should sound and the **INDICATOR** light will come on. If the unit does not respond, replace the battery and try again.

To test the entire unit from the panel to the probe, short the probe across the stand off screw and the pin on the axle as shown in (Figure 2), the unit should sound as above.

Use in the Field

The **dipper-T** will operate in two modes, **STATIC** level and **DRAWDOWN**. In the **STATIC** mode, the unit will be silent until it touches the ground water. In **DRAWDOWN** mode, the unit will be sounding and the light will be on until it touches water.

Reel the tape down the well carefully avoiding the edge of the casing. Hang the **dipper-T** on the casing when possible and run the tape over the guide on the frame leg to avoid cuts and nicks to the tape. Swivel the probe holder on the frame to allow the tape free movement down the well. (See Figure 3)

When the unit sounds (in **STATIC** mode) carefully measure the depth to water indicated on the tape from your reference point. Raise and lower the tape in and out of the water to get a consistent result.

NOTE: The inverted triangle on the probe holder serves as a datum point indicating "top of casing". In wells that have cascading water that may give false readings, reduce the sensitivity by turning the sensitivity knob anti-clockwise.

The **dipper-T** probe is depth rated to the full length of the tape.

DO NOT use the **dipper-T** to measure the progress of back filling wells. The tape and probe may become stuck in the backfill material.

DO NOT allow the tape to "freewheel" down the well. It may become caught in other equipment in the well.

When rewinding the tape remove as much water and debris as possible from the tape and the probe.

Cleaning the dipper-T

Always clean the meters after use in the field to maintain optimal performance and extend the life of the unit.

The **dipper-T** may be cleaned with any mild household dishwashing detergent and rinsed with water.

DO NOT use abrasives, partially halogenated hydrocarbons or ketones to clean the reel. If the electronic panel is removed first, the reel and tape can be washed with a power washer.

Remove the panel retaining thumb screws (nuts) to release the panel. Take care not to lose the thumb screws as the unit will not work without them.

For longer units with aluminium reel discs, the panel is connected to the tapes with male and female push connectors.

Troubleshooting the dipper-T

Q. No sound or light when the unit is tested.

A. Refer to **Equipment Check** and follow procedures. Change the battery. Switch from **STATIC** to **DRAWDOWN** and back. If the unit is in **DRAWDOWN** mode and it sounds, put the probe in water and the sound should stop.

Q. Equipment checked, panel okay but probe not working.

A. Make sure both panel retaining thumb screws (nuts) are tight.

Q. Every thing okay, but the probe is still not working.

A. Carry out full continuity test, as shown in (Figure 2).

Q. Still not working in STATIC mode.

A. Adjust the sensitivity setting. Check the probe connection to the tape. Carefully remove the probe, wipe the male connector and replace the probe, tighten fully (do not lose the O-ring). If the unit still does not work check all the connections inside the hub. (Inside the hub polarity is not an issue as the current is AC.)

Q. The instrument continues to sound when not in water.

A. Press the **MODE** button. Dry the probe with a clean cloth if the water is saline. Remove the probe and dry the male connector. If at this stage the unit stops sounding, replace the probe. If the instrument starts sounding again there is a short in the probe.

Contact Heron Instruments or your supplier if you cannot isolate the problem.

Warranty (5 years, probe 1 year)

Heron Instruments Inc. warrants to repair or replace any such defective equipment or part (determined to our satisfaction to have a defect in workmanship or original material) upon receipt and inspection of such defective equipment to Heron Instruments Inc. with all shipping pre-paid by the user.

In no event shall Heron be liable for any direct, indirect or consequential damages, abuse, acts of third parties (rental equipment), environmental conditions or other expenses which may arise in connection with such defective equipment.

This warranty shall not apply to damage of equipment caused by improper installation, usage, storage, alteration or inadequate care.

Heron Warranty coverage does not extend to the following:

- Tape, bag or batteries used with the product
- Products used as rental equipment
- Products contaminated by materials which are shown to be hazardous and; as such, have rendered the unit unserviceable
- Parts failure due to neglect in cleaning or servicing
- Failure of parts caused by misuse

When returning a product for service, please contact Heron Instruments in advance:

- by telephone at **1-800-331-2032 or 905-628-4999**
- by email at **info@heroninstruments.com**

Warranty is conditional upon adherence to these guidelines.