

Instruction Sheet

Rugged Level Tape 100 and Rugged Level Tape 200

Equipment Check

Test the circuit and battery

1. Press the test button shown in Figure 3, number 5 (see opposite page).
2. If you do not hear a beep, perform the following steps:
 - a. Tighten the knobs that secure the control panel (Figure 3, numbers 6 and 7) and retest.
 - b. Turn the sensitivity knob fully clockwise (Figure 3, number 4) and retest.
 - c. Replace the 9 V battery in the battery box and retest.

Test the tape and probe

1. Position the unit as shown in Figure 1.



Figure 1. Testing the tape and probe

2. Place the tip of the probe on the axle stud while also placing the probe body on the raised screw as shown. If the tape and probe are working correctly, you will hear a beep and see the LED light up.

Test the whole unit

1. Dip the probe in a container of tap water. Do not use deionized or distilled water.
2. If the unit is working correctly, you will hear a beep when the probe touches water.

Field Use

1. Ensure the knobs that secure the control panel are tightly fastened.
2. If possible hang the unit on the well casing. Guide the tape over the tape guide avoiding the edge of the well casing to prevent damaging the tape.

3. Rotate the hand brake counterclockwise until the tape slowly unwinds from the reel.
4. The unit will beep when the probe touches water. Carefully determine the depth to water from the reference point by slowly lowering and raising the probe to the air/water interface. Raise the probe, dry it, and repeat the measurement.



Figure 2. Hand brake

Note: When measuring wells with cascading water, rotate the sensitivity knob counterclockwise to reduce probe sensitivity and eliminate false signals.

5. Rugged Level Tape probes are rated to full depth and can be used to measure the depth to the bottom of a well. Slowly unwind the tape until the probe touches the bottom and the tape becomes slack.

Important: Do not allow the probe to fall freely to the bottom of the well because it will damage the probe.

6. As you wind the tape onto the reel, remove moisture and debris.

Troubleshooting

No sound when the unit is in water

1. Check the battery by pressing the test button. Replace the battery if it is low (Figure 3, number 1).
2. Tighten the knobs to secure the panel to the reel. If the unit still does not sound, check all connections on the control panel.
3. Check the probe conductor to make sure that it is clean and free of mineral deposits.
4. Inspect the tape and probe for damage.
5. Increase sensitivity.

Continuous sound when the unit is tested out of water

1. Make sure the probe conductor tip is clean.
2. Check for moisture on the back of the control panel.
3. Check the probe/tape connection for damage that might have allowed water to enter the system.
4. Reduce sensitivity if unit has been used in saline water.



Figure 3. Control panel

1. Battery box	2. Signal LED
3. Signal buzzer	4. Sensitivity knob for cascading water. Not an On/Off switch.
5. Test button	6. & 7. Panel attachment knobs

Cleaning

1. Always clean the Rugged Level Tape after use to maintain optimal performance and extend the life of the unit. Properly clean the unit to prevent cross-contamination between wells.
2. Unwind the tape and wash the tape and probe with a mild detergent. Rinse well, wipe with a soft cloth, and rewind onto the reel.
3. Remove the electronics module before washing the reel. Remove the two knobs that secure the control panel to the reel. Carefully pull the module out of the reel. Wash the reel with a mild detergent and dry completely before reinstalling the module.

Important: Do not use abrasive materials, partially halogenated hydrocarbons or ketones to clean the reel.



ASME certification does not apply to the Rugged Level Tape 100 or the Rugged Slim Tape.



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General Guidelines

- Do not scrape the tape against sharp-edged well casing.
- Avoid entanglement with other equipment in boreholes and wells.
- Do not use this unit as a guide for backfilling with sand because the probe may become trapped.
- Rewind the tape onto the reel after each use.



Figure 4. Rugged Level Tape 200 installed in well

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