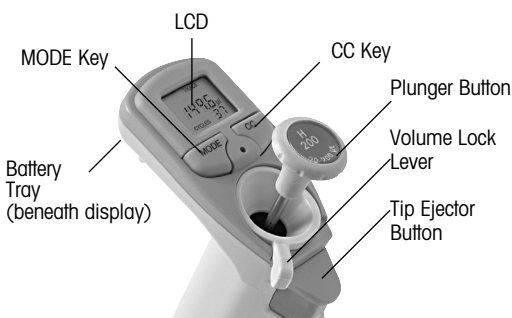


## Getting Started with E-Man Hybrid™



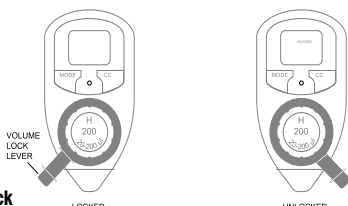
**Figure 1 E-Man Hybrid Controls and Indicators**

### Activate the Battery

E-Man Hybrid is shipped with a plastic strip isolating the battery terminal. Remove this strip by pulling straight out from the battery tray. Press the plunger button to begin operation and clear "PrES".

### Set the Volume

- Unlock the volume lock by moving the lever counterclockwise.



**Figure 2 Volume Lock**

- Set the desired volume by rotating the plunger button. The display changes as you rotate the button.
- Stop at the desired volume and lock the volume lock to operate.

### Display Modes Press the MODE and CC keys for these modes.

**MODE KEY:** Scrolls through these three display modes.

**Pipet Mode:** Same operation as standard pipettes, see over.

**Track Mode:** TRACK is displayed. The volume of sample in the tip is shown in real time as the plunger button is depressed. When pressed beyond the 1ST STOP position the display reads "bLo" to indicate the Blowout part of the stroke.

**Titrate Mode:** TITRATE is displayed. The LCD shows the volume of sample dispensed from the tip in real time, as a negative number relative to the upper set volume (at the set volume the LCD shows 0.0).

**CC KEY:** Turns on or off the cycle counter, and clears the count.

**Cycle Counter:** Cycle count is a visual reference of how many true pipetting cycles have occurred in the current pipetting session. CYCLES and the count number are shown in the display.

## Operation in PIPET Mode

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Before pipetting valuable samples, it is a good idea to practice aspirating and dispensing water.

Go to PIPET mode by pressing the MODE key

1. Unlock the volume lock and set the desired volume. Lock the volume lock lever to begin measurements. When locked, the volume display will not change, just like in a standard pipette
2. Attach a new RAININ tip by pressing the shaft into the tip with sufficient force to make a good seal. For E-Man Hybrid LTS models, press until the positive stop is reached.
3. Press the plunger button to the first stop. The word PICKUP is shown on the display as an aid to locate the HOME position. Hold the plunger button in this position.
4. Holding E-Man Hybrid vertically, place the tip into the sample and relax thumb pressure on the plunger button. The light piston spring will move the piston upward, aspirating sample. Do not let go of the plunger button, or the piston may snap up quickly, resulting in inaccurate measurement.
5. Pause briefly with the tip end still in the sample to ensure that the full volume of sample is drawn into the tip.
6. Withdraw the tip from the sample. If any liquid remains on the outside of the tip, wipe it carefully with a lint-free tissue, taking care not to touch the tip orifice.

### Dispensing:

1. Touch the tip end against the side wall of the receiving vessel and press the plunger slowly, past the first stop (PICKUP will appear on the LCD as you reach the 1ST STOP) to blowout (bottom of stroke.) Wait 1 second for volumes to 300  $\mu\text{L}$ , 1-2 seconds for 1000  $\mu\text{L}$  and larger.
2. Still holding the plunger button, withdraw the tip, sliding it along the wall of the vessel.
3. Release the plunger button and press the tip ejector button lightly to discard the tip. Use a new tip for each sample to prevent carry-over. Repeat for the next pipetting cycle.

## Sleep Mode

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After 3 minutes of no activity the display will go to sleep to conserve battery life. To operate the pipette again simply touch any key or press the plunger button through the 1ST STOP.

## Read the Manual

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See the manual for detailed information on E-Man Hybrid operation.

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RAININ and LTS are registered trademarks and E-Man is a trademark of Rainin Instrument, LLC. E-Man Hybrid Pipette: U.S. Patent Nos. 5,614,153; 5,849,248. Other patents pending. LTS Tip/Shaft System: For use under U.S. Patent Nos. 6,168,761 B1; 6,171,553 B1; 6,568,288 B2; 6,737,023 B1; 6,745,636 B2; 6,967,004 B2