

Using the Coulter Counter Model Z1 (Simplified Instructions)

Startup (to be run at the beginning of each day)

- 1) Turn on the power switch.
 - 2) Remove the vial containing detergent from the aperture, replace it with a vial containing 20 ml of fresh isotonic saline, and move it into position.
 - 3) Press the "Function" key.
 - The F1 function screen will be displayed on the data terminal LCD.
 - 4) Using the cursor keys (← & →) move to "**Prime Aperture**".
 - 5) Press the "Start / Stop" key to enter the priming routine.
 - 6) Press the "Start / Stop" key again to begin priming the aperture.
 - The aperture will be primed with saline. This takes about 5 minutes.
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Running Samples

A) Count the Background

- 1) Press the "Output" key until the Output A1 menu is displayed.
- 2) Under "Result Type" choose "**Count**".
- 4) Place a vial containing 10ml of fresh isotonic saline on the stage and move it into position.
- 5) Press the "Start / Stop" key to begin counting the background.
 - Background counts should be under 50-70 to continue.
 - If not, rinse the aperture and repeat steps 4 and 5.

B) Count your Samples

- 1) Press the "Output" key until the Output A1 menu is displayed.
 - Under "Result Type", choose "**Concentration**".
 - Make sure "Dilution Factor" is set to **500**.
 - 2) For each sample, prepare a vial containing 10ml of isotonic saline.
 - 3) To each sample vial, add 20 μ l of cell suspension and mix well.
 - 4) Place the sample vial on the stage and move it into position.
 - 5) Press the "Start / Stop" key to begin counting the sample.
 - Generally each sample should be counted twice and a mean value taken to insure accuracy.
 - If the values are widely disparate, count the sample again and throw out the outlying value.
 - 6) Repeat steps 4 & 5 for each sample.
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Shutdown

- 1) Place a vial containing detergent (*Coulter Clenz*) on the stage and move it into position.
- 2) Press the "Output" key until the Output A1 menu is displayed.
- 3) Press the "Start / Stop" key to begin "counting" the sample
 - In reality we are simply putting detergent into the aperture for storage.
- 4) Again press the "Start / Stop" key (repeating step 3).
- 5) Turn off the power switch.