1. **Loading the Chip onto the Thermal Cycler**

   Remove the blue protective film from the bottom of the chip.

   Open the thermal cycler cover and place the chip on the thermal cycler tray, making sure that the notched corner of the chip is aligned with A1 on the tray.

   **WARNING! BURN HAZARD.**
   AVOID TOUCHING THE VACUUM CHUCK UNTIL IT REACHES ROOM TEMPERATURE.

   Close the thermal cycler cover.

2. **Powering On the Thermal Cycler**

   Press the switch on the vacuum station front panel to VACUUM.

   The red LED stays on until the vacuum reaches approximately -80 kPa (~5 sec.) at which point it goes out and the green LED illuminates, and the thermal cycler powers on.

   **NOTE** The thermal cycler does not receive power until the green LED is on (-80 kPa). If the green LED (Vacuum Ready) does not illuminate, see Troubleshooting on the next page.

   **WARNING! DO NOT REMOVE CHIP UNTIL THE VACUUM IS OFF—NO LEDS ILLUMINATED. YOU MAY DAMAGE THE CHIP IF YOU REMOVE IT WHEN THE VACUUM IS ON.**

   Once the thermal cycler starts, MAIN-MENU displays.

   If it does not display, press EXIT repeatedly until it does.

   Press START/STOP to start the program. The program name appears here. If this is the program you want to run, go to step 4.

3. **Changing the Program**

   a. Press once to highlight FILES.
   b. Press ENTER to select FILES.
   c. Press to navigate to LOAD.
   d. When LOAD is highlighted, press ENTER.
   e. Using the arrow buttons, navigate to the desired program.
   f. Press ENTER to load the program.
   g. Press EXIT.

4. **Removing the Chip from the Thermal Cycler**

   When the program is done:
   a. Press the switch on the vacuum station front panel to VENT.
   b. Wait until the vacuum releases and the pressure gauge is near zero (no LEDs illuminated).
   c. Open the thermal cycler tray cover.
   d. Remove the chip from the thermal cycler tray.
### Troubleshooting

#### Stopping the Program

To stop a program in progress:

a. Press **START/STOP**.

b. Press **ENTER** to cancel the program.

c. Press the vacuum station switch on the front panel to **VENT**.

d. Remove the chip from the thermal cycler tray.

#### Insufficient Vacuum

If the green LED does not illuminate within 20 seconds:

a. Press the switch on the vacuum station front panel to **VENT**.

b. Wait until the pressure gauge reads < 1.0 before removing the chip.

c. Clean the bottom of the chip and the vacuum chuck with a dry, non-abrasive lint-free cloth.

d. Place the cleaned chip on the cleaned vacuum chuck and start at step 4.

#### Power Interruption

If the vacuum station front panel switch is pressed to **VENT**, or there is a power failure, when power is restored, the thermal cycler powers on. However, the behavior of the thermal cycler varies depending upon how long the power was off. Use the table below as a guide.

<table>
<thead>
<tr>
<th>If Power to the Thermal Cycler is off</th>
<th>If Power to the Thermal Cycler is off</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>LESS than 3 Minutes...</strong></td>
<td><strong>MORE than 3 Minutes...</strong></td>
</tr>
<tr>
<td>When power is restored, the thermal cycler display flashes <strong>Restarting Program</strong>, then, restarted (upper right) followed by, Press any key (lower left). The program now restarts from the beginning of the step the program was performing when power/vacuum was lost. But, you must press any key to update the display.</td>
<td>When the power is restored, the thermal cycler does not automatically restart. It displays <strong>interrupted</strong> (upper right) and Restart program <strong>YES</strong> (lower left). The thermal cycler continuously beeps until you press <strong>ENTER</strong> to restart the program. Next, press any key to update the display. To cancel the restart:</td>
</tr>
<tr>
<td>a. Press <strong>SEL</strong>.</td>
<td>a. Press <strong>SEL</strong>.</td>
</tr>
<tr>
<td>b. Use the arrow keys to toggle to <strong>RESTART PROGRAM NO.</strong>.</td>
<td>b. Use the arrow keys to toggle to <strong>RESTART PROGRAM NO.</strong>.</td>
</tr>
<tr>
<td>c. Press <strong>ENTER</strong>.</td>
<td>c. Press <strong>ENTER</strong>.</td>
</tr>
<tr>
<td>d. Press any key to update the display.</td>
<td>d. Press any key to update the display.</td>
</tr>
</tbody>
</table>

#### Technical Support

<table>
<thead>
<tr>
<th>TELEPHONE</th>
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<tr>
<td>Within the United States: 1-866-358-4354</td>
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</tbody>
</table>

**EMAIL**

techsupport@fluidigm.com

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**WARNING! BURN HAZARD.**

AVOID TOUCHING THE VACUUM CHUCK UNTIL IT REACHES ROOM TEMPERATURE.

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