Breadometer®

QUICK REFERENCE GUIDE

CONTENTS

This Quick Reference Guide is designed to help the user to familiarize themselves with the equipment, perform basic hardware setup/communications and operation. For detailed information on both Hardware & Software components, please refer to the Help system accessible in the M.O.L.E.® MAP Software.

To access the help system start the software and use any of the methods listed:

1) Select the *Help Button* on the *Toolbar*.

2) Pressing the shortcut key *[F1]*

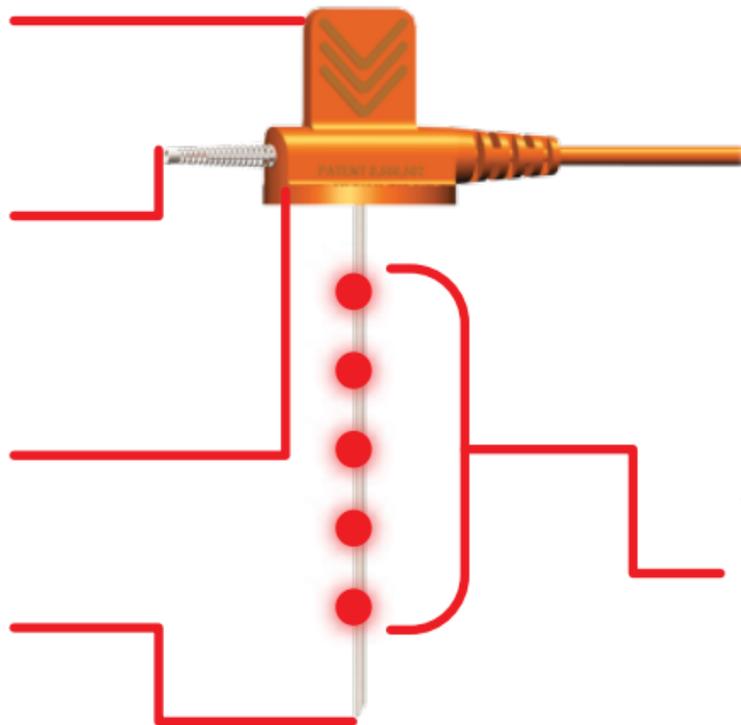3) On the *Help* menu, click *MAP Help*.

Grip Tab: This is where the user grasps when removing from the test product

Air thermocouple: Detects oven entrance, transit and ambient temperatures around test product

Depth Stop: This allows for consistent insertion depth of the probe into the test product.

**Probe Tip:** Sharp tip for easy insertion into test product

Connector Organizer: This is the interface from the Probe to the M.O.L.E. Profiler.

Insertion Probe: Five internal Thermocouples find the slowest to heat spot in the test product.

1. Insert the USB computer interface cable into a computer USB Port and the other end into the Data/Charging Port.

A completely discharged Power Pack takes about 8 hours to be fully charged. For quick charges, it can be charged for 15 minutes allowing one 10 minute data run to be performed.
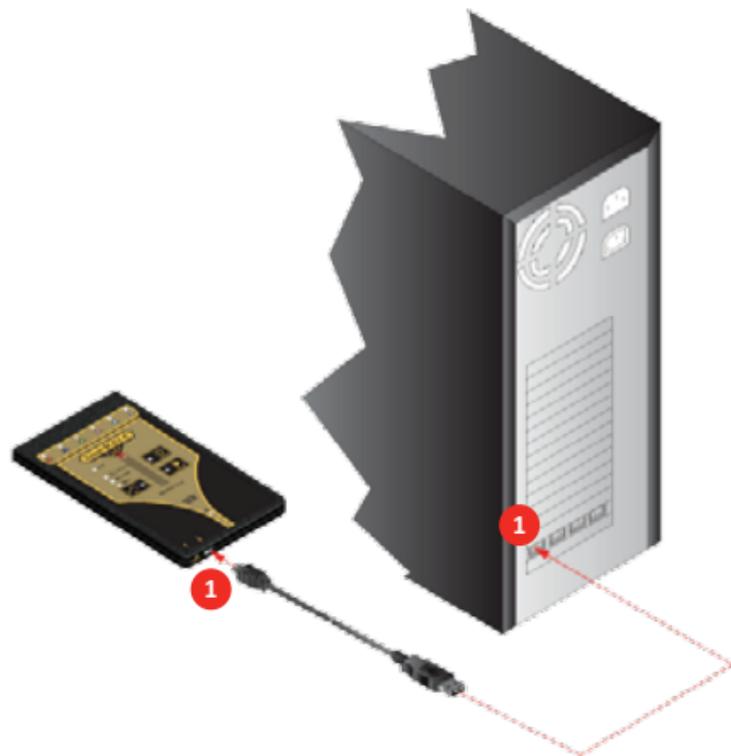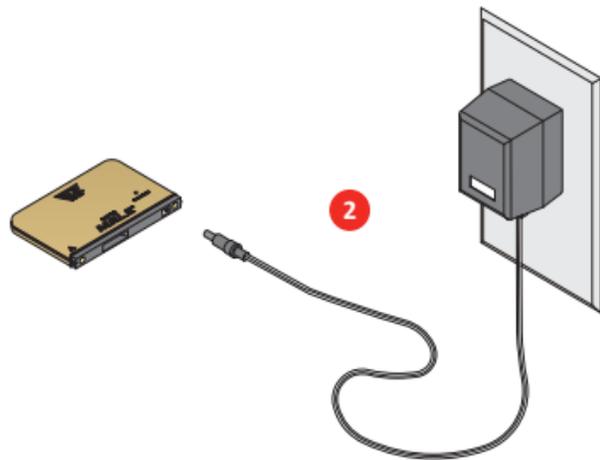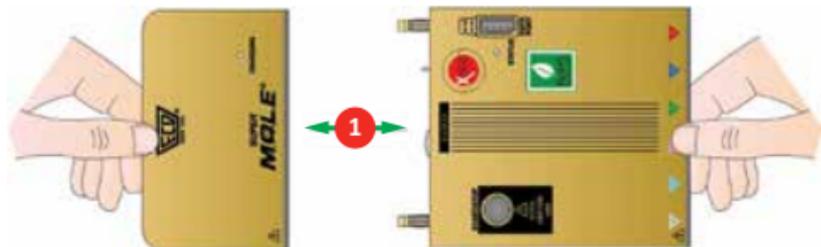
1. Remove the Power Pack.

2. Plug the transformer end of the charger into a (120 or 230VAC) wall outlet and the connector end into the Power Pack.

> A completely discharged Power Pack takes about 14 hours to be fully charged.

3. Once charged, reconnect to the M.O.L.E.® Profiler. The LED will flash once indicating that the M.O.L.E.® Profiler is ready to collect data.

1. Insert the CD in the drive and the M.O.L.E.® MAP software autorun menu appears.

2. Select the *Install Software* command button to start the installation. Closely follow the instructions for your operating system. For detailed information select the *Installation Help* command button on the autorun menu.

> The user must have administrator permissions for the computer to install the software
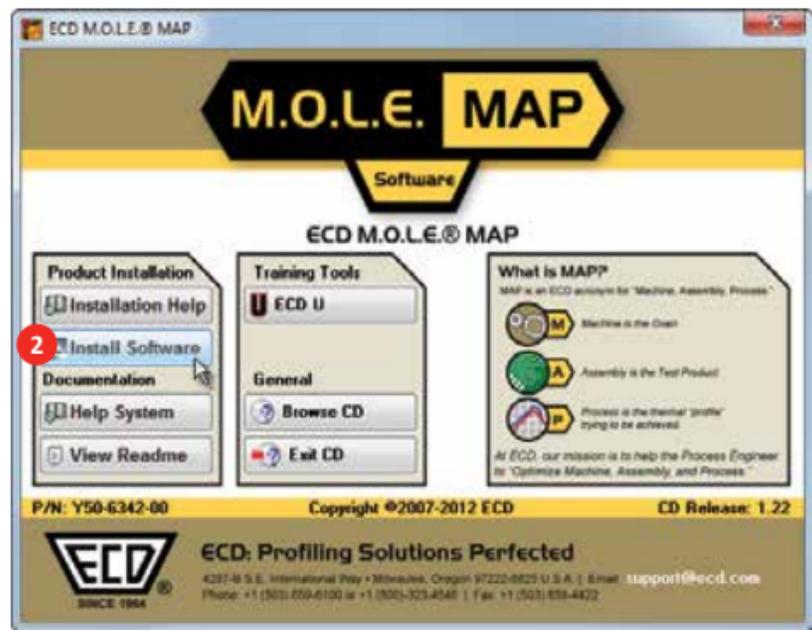
1. Plug the Computer Interface Cable into a computer COM Port and the other end into the M.O.L.E.® Profiler Data Port.

2. Start M.O.L.E.® MAP

MOLE MAP

USB/RS-232 Adaptor

3. On the M.O.L.E.® menu, click the *Select Instrument* command.

4. Select the desired instrument from the dialog box. If there are none displayed, click the *Scan for Instruments* command button to detect all available instruments.

*5.* Click the *OK* command button to accept.
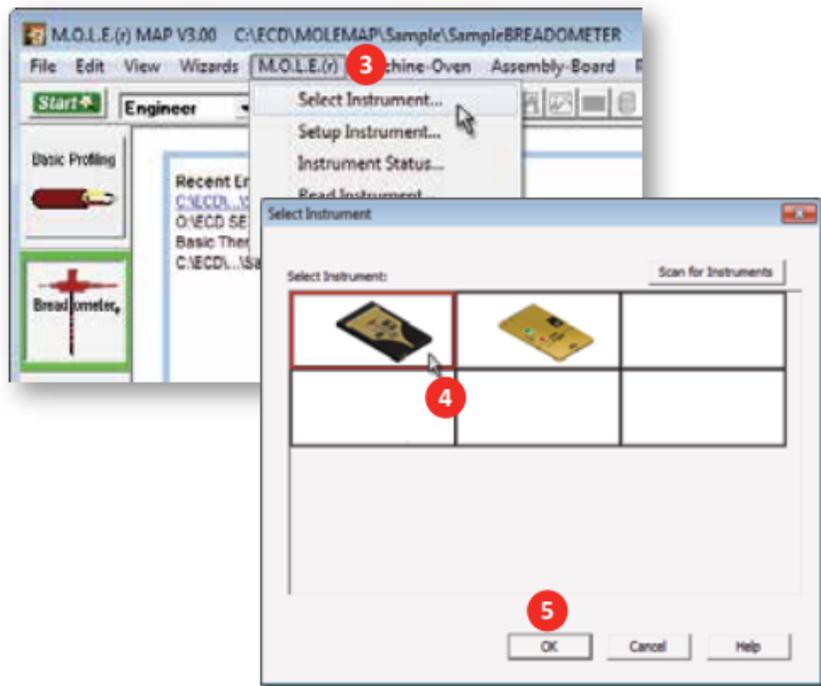
This operation procedure guides you through a typical process on how to set a M.O.L.E. Profiler up for performing a Breadometer® data run. For additional detail, consult the Users Help Guide in the software.

The M.O.L.E.® Thermal Profiler depends on the MAP (Machine-Assembly-Process) software to control how it collects and interprets data. Several kinds of data runs may need to be performed to achieve desired information, or the same data run may be performed repeatedly over time to monitor one process. Either way, each data run must be set up at least once.

The MAP software includes wizards that help you get started quickly, even if you are a beginner or infrequent user.

Step I: Setup Instrument

1. Double-click the M.O.L.E.® MAP application icon to start the software.
2. Connect the M.O.L.E.® Thermal Profiler to a computer.
3. Make sure the M.O.L.E.® Power Pack battery is fully charged. When a M.O.L.E.® Thermal Profiler is selected, the software status bar displays the current battery voltage.
4. Set an Breadometer Environment. Either open an existing Environment Folder or create a new one.
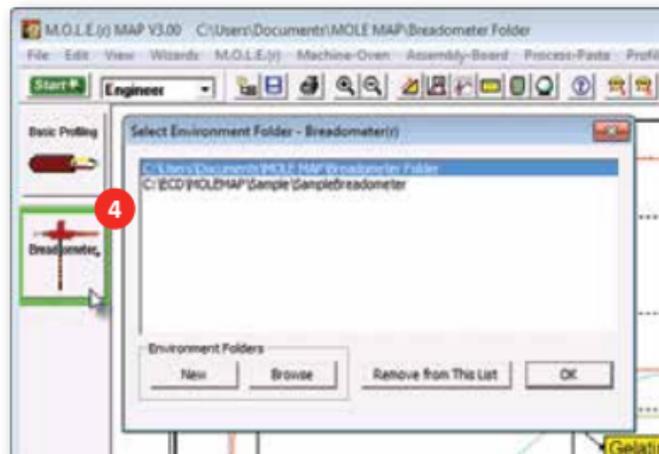
> When navigating through the wizard, the step list on the left of the dialog box uses a color key to inform the user of the progression through the wizard.
>
> ☐ Current ☐ Completed ■ Remaining

5. On the ***M.O.L.E.® menu***, select ***Setup Instrument*** and the workflow wizard appears.

6. Select the desired M.O.L.E.® Thermal Profiler from the dialog box. If a M.O.L.E.® Thermal Profiler has already been selected during a different process, the software automatically selects the M.O.L.E.® Thermal Profiler connected to the COM port previously used.

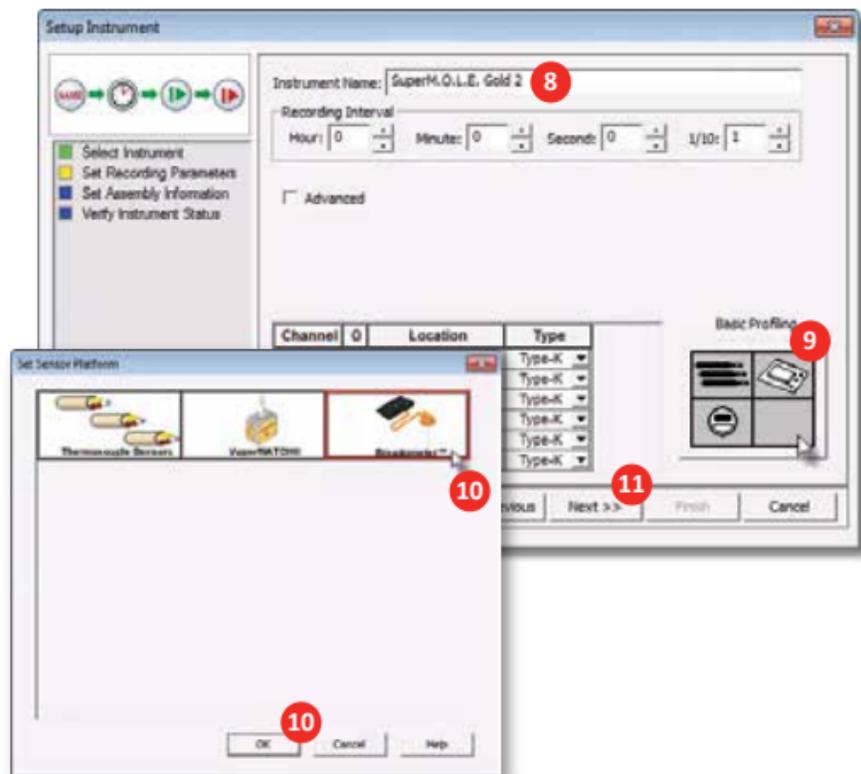*7.* Click the ***Next*** command button.

8. Set the *Instrument Name*.

> For settings such as *Start Parameters* and *Stop Parameters*, select the *Advanced* check box.

9. Select the *Sensor Platform* button to select the Breadometer®.

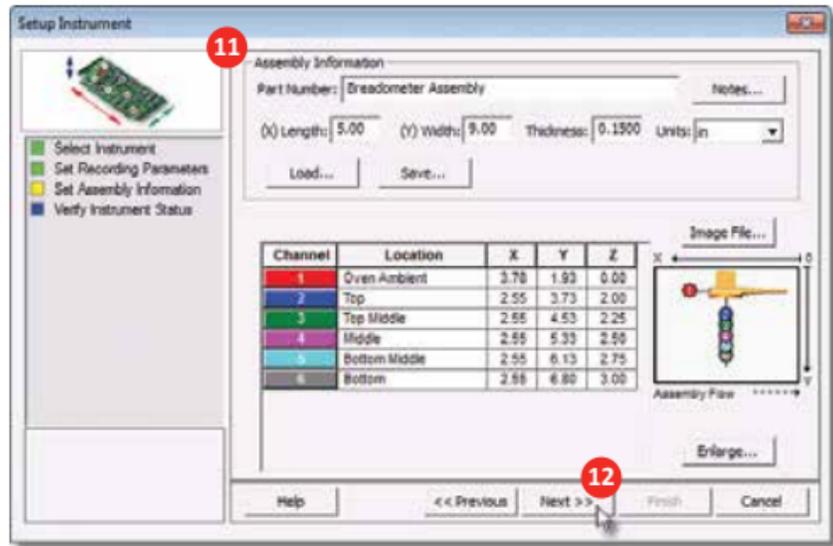**10.** Select the Breadometer® then the *OK* command button to proceed.

11. Confirm the settings and then, select the *Next* command button to send the data listed in the dialog box to the instrument.

11. Confirm the assembly information such as the test *Product Number*, *size*, *sensor locations* and a *image*.

12. Click the *Next* command button.

13. Verify the instrument status. This dialog box displays the health of the M.O.L.E.® Profiler such as battery charge, internal temperature, thermocouple temperatures. If the user selects the Show Critical command button the dialog box will only display items that will prevent the user from completing a successful data run.

> If everything is *OK*, the dialog box displays a **GREEN** sign. If there are any items that may prevent the user from collecting good data, they are highlighted and a **RED** sign is displayed.

*14.* Select the *Finish* command button to complete the Setup Instrument wizard.
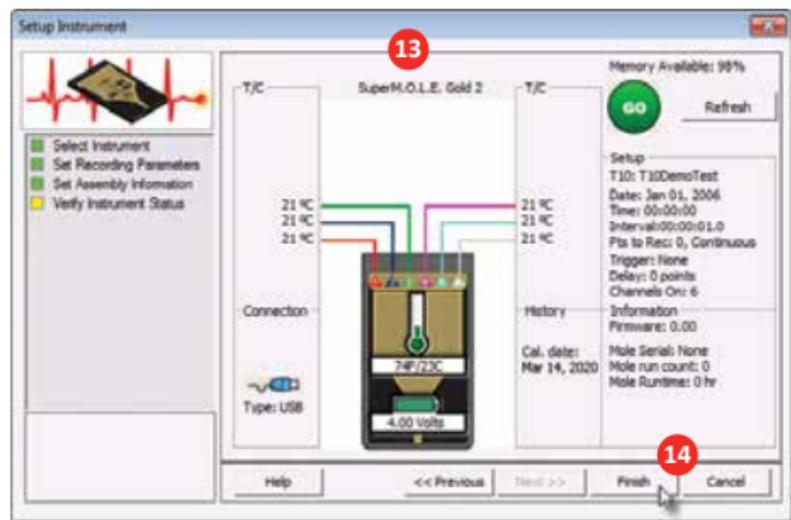
Step 2: Data Collection

> Never permit the M.O.L.E.® Thermal Profiler to exceed the absolute maximum warranteed internal temperature, as permanent damage may result. The warranty will not cover damage caused by exceeding the maximum specified internal temperature.

1. Connect the M.O.L.E Profiler to the Breadometer®.
2. Press the M.O.L.E. Profiler "ON" button.
3. Place the M.O.L.E. Profiler in the appropriate Thermal Barrier and press the "Record" button.
4. Close the Thermal Barrier making sure the sensor wire harness does not get pinched.
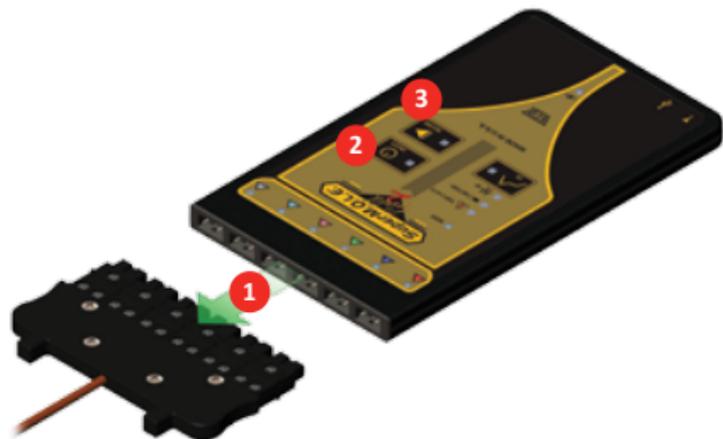
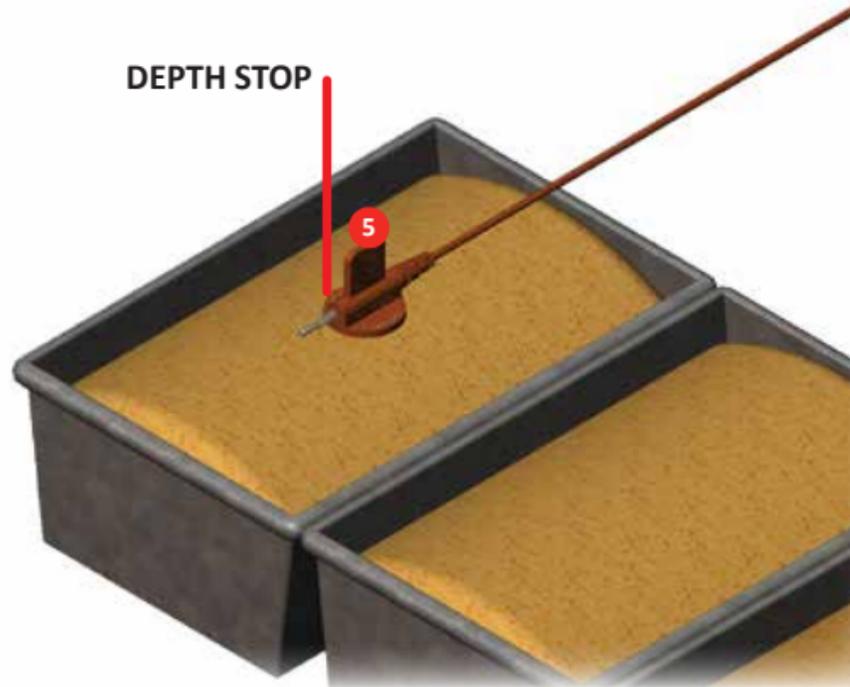*5.* Insert the Breadometer® into the test product.

> ⚠️ When inserting the Breadometer® into the test product, make sure the Depth Stop does not sink below the top surface as it may cause damage to the Breadometer® when removing it.

6. Pass the thermally protected M.O.L.E.® Profiler, Breadometer® and test product through the process.

> ⚠️ When retrieving the M.O.L.E.® Profiler and Breadometer® use caution as it may be warm.

DEPTH STOP

OPERATION - DATA COLLECTION

7. As the M.O.L.E.® and Breadometer® emerge from the process, remove the Breadometer® from the test product and lay the Thermal Barrier on a table or flat surface.

8. Open the Thermal barrier and if the Record button is still flashing this means the M.O.L.E.® Profiler is still logging and it should be stopped.

9. Remove the M.O.L.E.® Profiler from the Thermal Barrier and wait a few minutes for the M.O.L.E.® Profiler to cool. Handle it carefully, as the case may still be warm.

10. Disconnect M.O.L.E.® Profiler from the Breadometer® and place it near the PC that has the MAP installed.

> If you remove Breadometer® before the M.O.L.E.® Profiler has stopped collecting data, it may cause the data to become distorted.
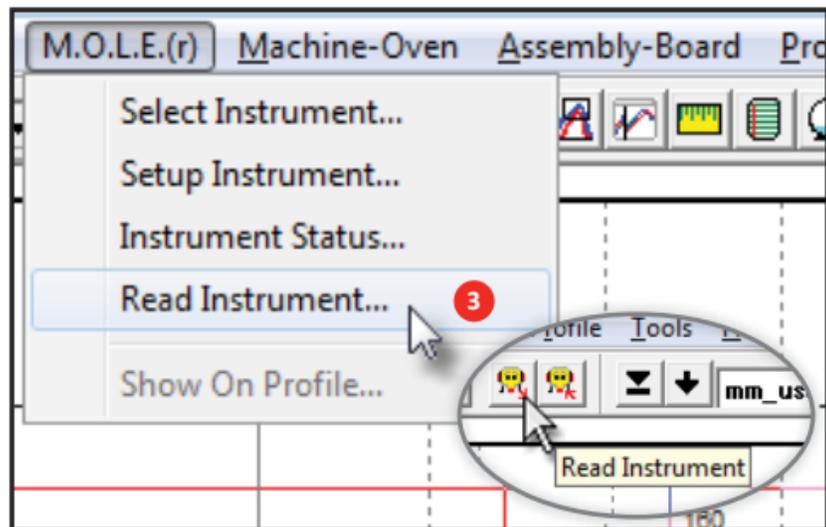
Step 3: Download Data

1. Double-click the M.O.L.E.® MAP application icon to start the software.

2. Connect the M.O.L.E.® Thermal Profiler to a computer.

3. Select the Read Instrument command from the M.O.L.E.® menu or toolbar and the workflow wizard appears.

4. Select the instrument from the dialog box that was used with the Breadometer™. If a M.O.L.E.® Profiler has already been selected during a different process, the software automatically selects the M.O.L.E.® Profiler connected to the COM Port previously used.
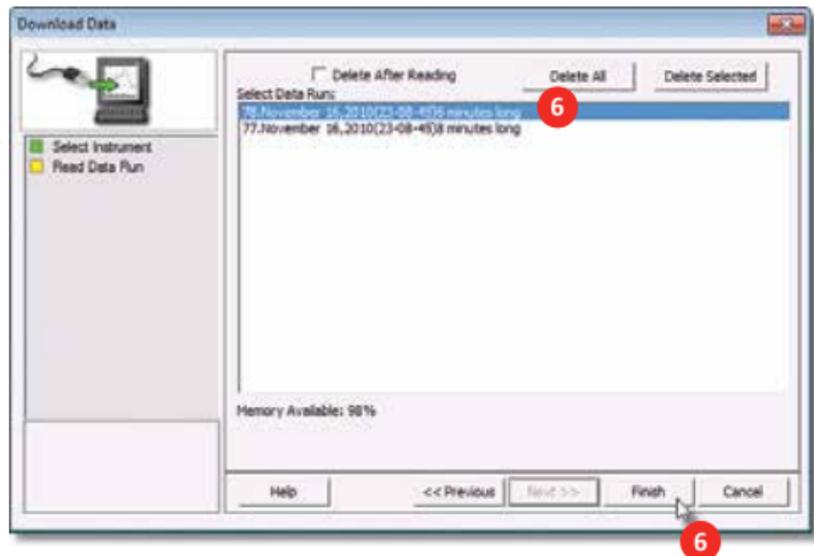
5. Click the *Next* command button.
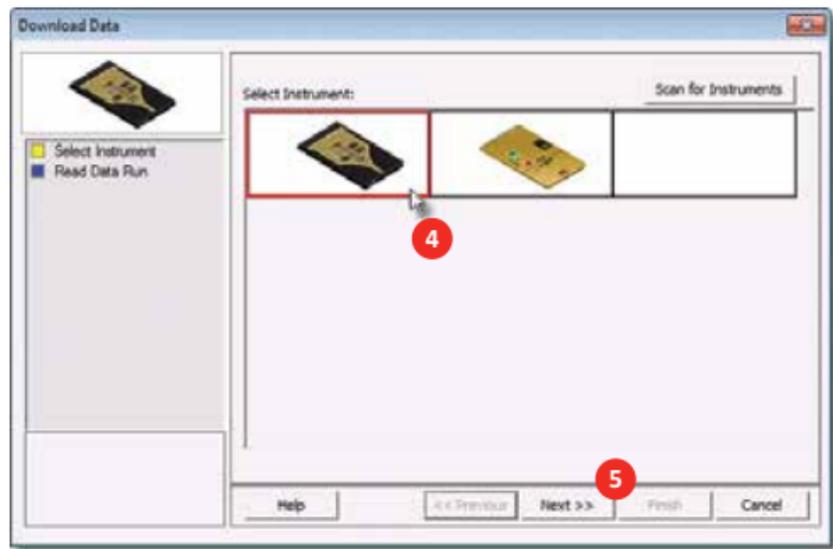
6. Select the desired data run and then click the *Finish* command button to complete the wizard and read the data run from the M.O.L.E.® Profiler. When the data run has been downloaded, the software will prompt the user to name and save the data run file (***.XMG**).

> If a data run (***.XMG**) is saved in a different Environment Folder other than the currently selected, the software automatically activates the new Environment Folder. This process does not delete any data run files in the previously set Environment Folder and can be quickly accessed using the Recent Environment Folders on the File menu.

The information is automatically saved in the data run file (***.XMG**) and the experiment data can now be analyzed with the software tools.

SINCE 1964