

ASSEMBLY

Installing Components

Lift the cover up and install the Draft Shield in the base of the heating chamber.

Install the Pan Support. Turn it until it engages. In locked position, its rear arm points directly towards the rear of the analyzer.

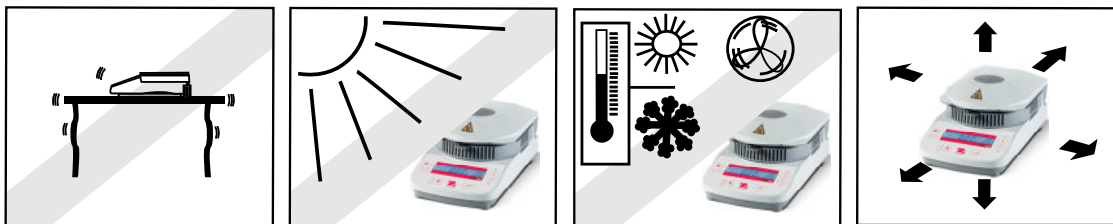
Place Pan Handler on Draft Shield so its handle is over Draft Shield's groove.

Ensure voltage identification label matches local line voltage. If not, do not connect the unit. Contact Ohaus or your dealer.

Allow Moisture Analyzer to warm up at least 30 minutes to adapt to ambient conditions.



SELECTING THE LOCATION: Place on a firm, steady surface with sufficient space.



Avoid excessive air current, vibrations, heat sources, or rapid temperature changes.

SAFETY PRECAUTIONS



If substances release flammable or explosive vapors when heated, work at drying temperature low enough to prevent flames or explosion. Wear protective goggles.

Work with a small sample. Never leave instrument unattended when operating!



Avoid heat accumulation and overheating: leave approx. 1m free space above unit.

Do not place flammable materials near unit.

Do not open dryer during operation – only after it has cooled down completely.



For substances that release corrosive vapors when heated (e.g., acids), use small samples. (Vapors can condense a cooler housing parts and cause corrosion.)

Be sure the power cord does not pose an obstacle or tripping hazard.

Disconnect the product when cleaning.

Do not operate this product in hazardous or unstable environments.

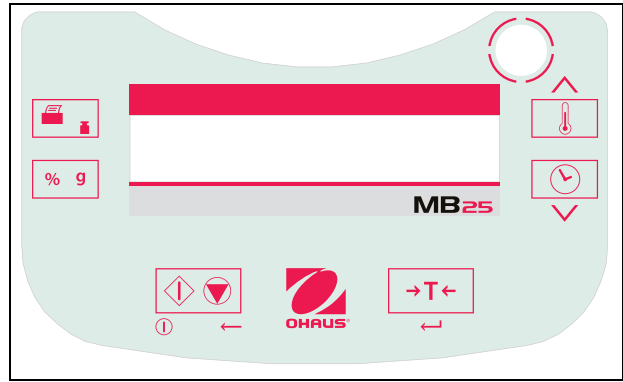
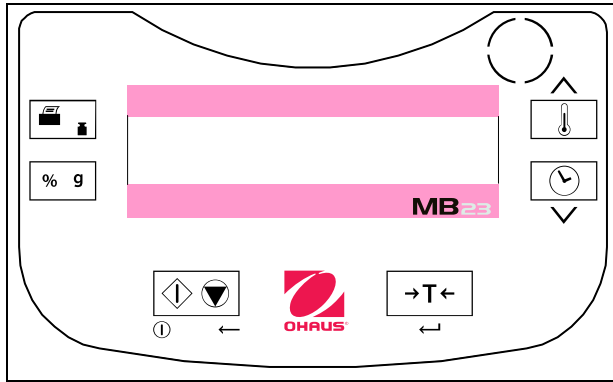
Use only approved accessories and peripherals.

Operate the product only under ambient conditions specified in Instruction Manual.

Be sure personnel are appropriately trained to operate the Moisture Analyzer.

Service should be performed by authorized personnel only.

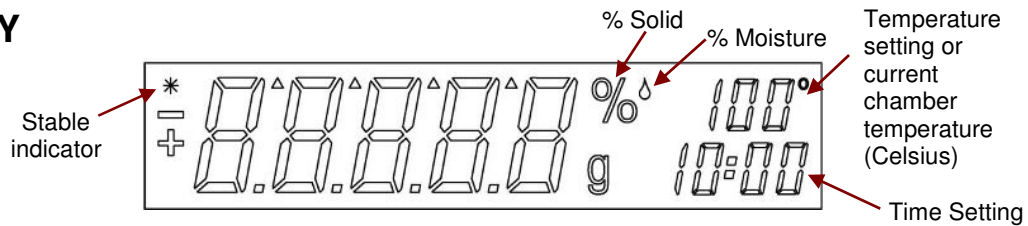
CONTROLS



| Button: | Name: | Quick Functions: | Button: | Name: | Quick Functions: |
|---------|------------|---|-------------------|-----------|--|
| | Start/Stop | On (short press)/Off (long press) Start/Stop (short press) Back (short press) | | Set ▲ | Increase value (short or long press) |
| | Tare | Tare (short press) Enter/Accept value (short press) | | Set ▼ | Decrease value (short or long press) |
| | Temp | Temperature Setting (short press) | | Print/Cal | Print (short press) Calibrate (long press) |
| | Time | Time Setting (short press) | %g button icon"/> | %g | Result Unit (short press) |

Modes of operation affect how buttons operate. (See below and next page.)

DISPLAY



OPERATION




Weigh Mode: Display shows the weight of items placed on the pan support.

- Short press turns on the display and enters Weigh mode.
- Short press sets the displayed weight value to zero.
- Long press enters Standby mode (Off).
- Short press starts *Temperature setting*. The displayed value blinks.
- Short press starts *Time setting*. The displayed value blinks.
- Short press starts test with sample greater than 0.5g
- Long press initiates Weight or Temperature Calibration. (See Calibration Guide.)

OPERATION *continued*

PREPARING A TEST: Temperature/Time Edit Mode





Temperature editing: (50° to 160°C in 5° steps)

-  Short press begins temperature setting. Value blinks.
^/∨ Increases or decreases the value of the temperature setting.
-  Short press accepts blinking value and return to Weigh mode.
-  Short press exits without saving changes.

Note: *Blinking stops after 5 seconds of no activity. Setting is saved. Weigh mode returns.*



Time editing: (1 to 60 minutes in 30 second steps, 61 to 99 minutes in 1 minute steps)


Select AUTO or timed duration (*test ends when weight loss has ended*):


-  Short press begins Time setting. Value blinks.
Short press (while value blinks) toggles between **AUTO** and time value.
-  Short press accepts blinking value.
*If **AUTO** is selected:* analyzer returns to Weigh mode.
*If **Time Duration** is selected:*
^/∨ increases or decreases value of Time setting.
-  Short press accepts blinking value and returns to Weigh mode.
-  Short press exits without saving changes.

Note: *Blinking stops after 5 seconds of no activity. Setting is saved. Weigh mode returns.*

PERFORMING A TEST: Run Mode

1. Place a container on the Pan and press: 
2. Place mass to be tested (>0.5g) on Pan. Then short-press: 
This initiates test with sample greater than 0.5g.




 Changes the unit of measure for the displayed result:
toggles between **weight (grams)** -> **% Moisture** -> **% Solids**.

 Short press stops test in progress.

 Sends current displayed value to the RS232 communications port.

RESULTS Mode

At the end of the test, the display blinks the test result.

-  Changes unit of displayed result:
weight > % Moisture > % Solids.
-  Exits to Weigh mode.
-  Sends the current displayed value to the RS232.

PERFORM A TRIAL TEST

Run a test with these settings:

Temperature = 120 Time = AUTO

Sample = 3g of water.

Place a glass fiber pad on pan.

Place on Pan Support. Press **Tare**.

Add 3g of water to the fiber pad. Press **Start**.

Perfect result: 0g, 100% moisture or 0% solids.
(Results may vary slightly.)

TEST OPTIMIZATION

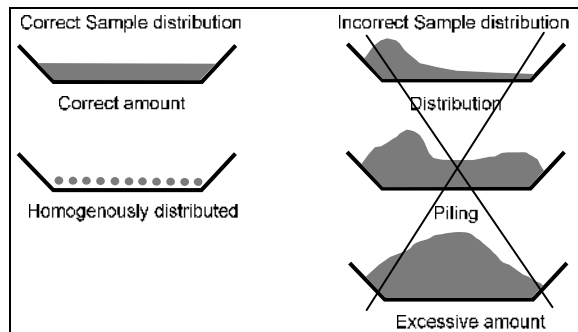
Careful sample preparation is important for best results. At a minimum, follow these steps.

Uniform Distribution on the Pan

For reproducible results, distribute sample uniformly in the pan.

Even distribution will result in uniform moisture removal.

Apply a thin and uniform layer thickness.
Avoid piling.



Use a Glass Fiber Filter for Some Substances

For liquid, or pasty, fat-containing and melting substances, place a glass fiber filter in the pan *before* the sample. Tare the filter together with the sample pan. The filter will capture the liquid or melting fat in the sample evenly, for faster and more complete vaporization of the moisture.

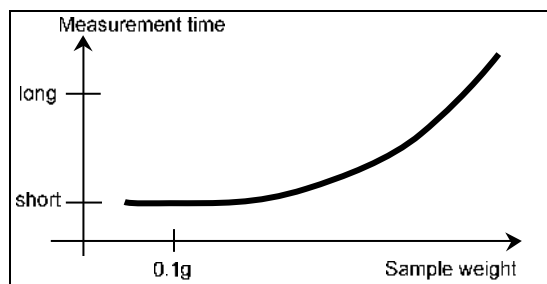
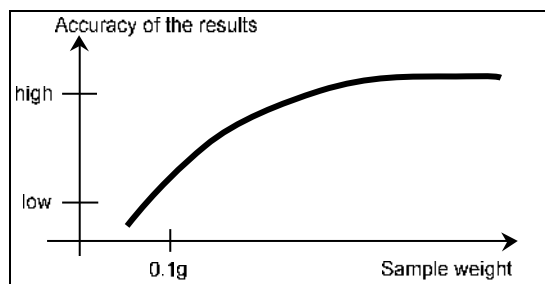
For skin-forming and temperature sensitive substances – e.g., products containing sugar – place the glass fiber filter *over* the sample to be dried, to shield the sample against direct radiation. Tare the filter together with the sample pan.

Mix Crust-Forming Substances with Quartz Sand

Substances that form crusts (e.g., glucose syrup) can be measured more effectively by mixing them with Quartz Sand. Tare the sand together with the sample pan.

Optimum Sample Weight and Time

To minimize measurement time, choose lowest sample weight consistent with accurate results.



Sample Weight and Repeatability

The relation between sample weight and repeatability is shown at right. This assumes an ideal, homogenous sample, with moisture that can be separated completely, free from decomposition. (Actual measurement differences may be larger than the values shown here.) For repeatability of $\pm 0.3\%$, this chart indicates a sample weight of 2g.

| Sample Weight | Repeatability |
|---------------|---------------|
| 0.5g | $\pm 1.0\%$ |
| 1g | $\pm 0.6\%$ |
| 2g | $\pm 0.3\%$ |
| 5g | $\pm 0.12\%$ |
| 10g | $\pm 0.06\%$ |

Selecting Drying Temperature & Time

After sample preparation, the key factors are drying temperature and time. Test for the right combination. If results are too low, drying temperature may be too low, or drying time too short.



P/N 80252982