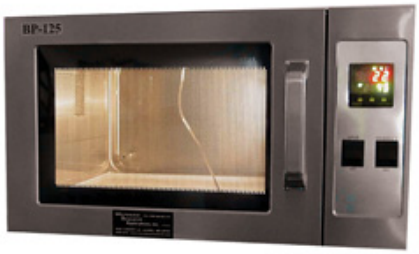
American MasterTech
scientific laboratory supplies
POST OFFICE BOX 2539 LODI, CALIFORNIA 95241 TELEPHONE: 1 (800) 860 4073 FACSIMILE: 1 (209) 368 4136

# BP-125IR

## LABORATORY MICROWAVE OVEN



- 30 volt 50 Hertz operation
- Temperature probe configurations and Infrared temperature sensor available
- Infrared temperature sensor available
- Microwave safe gas feed through ports
- Corrosion resistance package
- Ashing package with muffle to 1,000 °C
- Vacuum chamber
- Air driven magnetic stirrer system
- Upgraded process controller with RS-232 or USB PC interface with 126 process steps into 31 programs. Time and temperature data collection with graphing.
- Fully safety tested for microwave leakage, electrical safety and operation.

**BP-125 LABORATORY MICROWAVE:**

The BP-125 from Microwave Research and Applications, Inc. is an economical and compact laboratory microwave ideal for tissue staining, antigen retrieval, chemical processing, sample ashing and other general laboratory heating tasks. The user can program the process controller for a temperature profile for the sample. The process controller then monitors the sample temperature and will increase the temperature of the sample at the programmed rate and then hold the sample at a desired temperature for any length of time. Because the processing is controlled by feedback of the sample temperature, it provides consistent and repeatable processing regardless of small line voltage fluctuations, sample size differences, starting sample temperature, microwave component temperature and age of the microwave. These factors often are the largest cause of inconsistent processing when using microwave ovens designed home use.

The BP-125 laboratory microwave has a corrosion resistant stainless steel cavity and housing. It has a powered cavity exhaust to remove obnoxious or corrosive fumes and prevent their build-up inside of the cavity. Heating uniformity is achieved by a mode stirrer system and gives extremely good heating uniformity. There is no turntable to break and they take up valuable cavity space and move samples during processing making it difficult to instrument. The standard microwave safe temperature probe is easily replaced by the user without tools. The actual thermocouple is imbedded within a heretically sealed 1/8” diameter x 3 inches long stainless steel tube. For further corrosion resistance PFA coating of the probe is available. Other thermocouples configurations and a non-contact infrared (IR) temperature sensor are available.

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## PROCESS CONTROL:

The programmable process controller measures the sample temperature and compares it to the thermal profile the user has programmed into the process controller. The process controller can be programmed for a sample temperature ramp rate, process temperature and process time. If the sample temperature is too low, the process controller turns the microwaves on, thus increasing the sample temperature to match the programmed protocol. If the sample temperature is too high, the controller turns the microwaves off, reducing the sample temperature. The controller continues these evaluation steps to keep the sample temperature following the programmed protocol. The BP-125 laboratory microwave produces up to1000 watts of power for quick heating of larger samples.

## OPERATION:

The standard process controller can be programmed with a temperature ramp and the desired “soak” temperature and time. Place your sample into the microwave cavity and insert the thermocouple in the sample. Start the process and when complete, the microwave power will turn off and there is a visual indication that the cycle is complete.

## SPECIFICATIONS:

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|---|---|
| **Output power** | **1000 microwave watts** |
| **Required power** | **120 volt, 60 Hz., Dedicated 20-amp line** |
| **Output power** | **1,000 watts maximum variable by turning on and off to maintain sample temperature** |
| **Temperature probe** | **Standard type K shielded 1/8” x 3” long stainless steel probe. Replacement by screw-on connector requires no tools** |
| **Dimensions** | **Outer 20.125” w x 15” d x 12” h nominal (W/O handle)**<br>**Cavity 13” w x 13” d x 8.06” h nominal** |
| **Weight/Shipping weight** | **50/60 pounds** |
| **Operating frequency** | **2.45 GHz (an internationally regulated ISM frequency)** |
| **Cavity exhaust** | **powered, 15 cfm**<br>**Includes 8 feet of chemical resistant flexible duct to connect to exhaust system.**<br>**Includes 2 stainless steel clamps for ease of mounting** |
| **Cavity and housing material** | **Corrosion resistant stainless steel** |
| **Electronics cooling** | **High volume for long life** |