



Operations Manual:

BenchMasher™ Laboratory Paddle Blender

IP-D4400 (-E)



Thank you for purchasing BenchMasher™ Laboratory Paddle Blender.

The BenchMasher is designed to mix contents within a disposable sample bag disposable bag so that the sample itself is not to come in contact with any mixing shaft, blade or paddle. This instruction manual provides the user with details for installation and proper operation. Please read the manual carefully before using this equipment. CAUTION: - This equipment should not be used if damaged in any way.

Specifications:

Capacity:	3 to 400ml
Timer:	1 sec. to 100 minutes or continuous
Speed:	3 to 12 SPS (strokes per second)
Paddle Position:	0 to 50mm
Temperature Range:	RT-65°C
Bag Size:	16-18cm(W) x 25-30cm(H)
UV Bulb:	254nm
Dimensions:	9 x 16.5 x 13 in / 23 x 42 x 33 cm (W x D x H)
Weight:	42 lbs / 19kg
Operating Environment:	2 to 35°C
Electrical:	120V 50Hz or 230V 60Hz, 220W

Installation:

Unpack the instrument and place on a flat and stable surface. Plug the power cord into a power socket that matches the electrical rating on the backside of the machine and then into the power inlet on the backside of the instrument. Above the power inlet is the power switch – place in the on position.

The door handle (threaded rod with black handle) is included in the packaging. This should be attached to the blue cylinder on the right side of the instrument. The knob is attached by inserting the male threads into the threaded hole of the blue cylinder and tightening. Once fully tightened, pull the door handle upward to open the mixer and then downward to close. (NOTE: The mixer will not start the mixing action unless the door is FULLY closed.) Press the door handle firmly to the lowest position to fully close the door.

Adjust the distance of the paddles from the surface of the door by turning the black knob on the backside of the instrument. It is recommended to start with an approximate distance of 1 cm between the closest paddle and the surface of the door. This can then be adjusted further depending on the size and type of sample. Turn the knob counterclockwise to increase the distance (for larger samples) and clockwise to reduce the distance (for smaller samples).

Operation:

Open the door by pulling the door handle upward. Place the loaded sample bag into the chamber with 5-6cm of the top of the sample bag remaining above the chamber. Continue to hold the bag with one handle while closing the door (pressing the door handle downward) to clamp the bag.

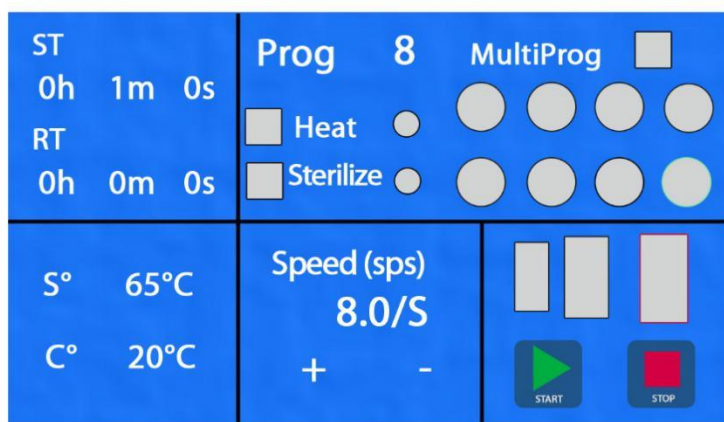
Once the door has been fully closed the red door icon on the bottom left corner of the display shows the closed door icon.

Set the run parameters.

Choose from one of the eight program settings on the upper right corner of the display. Pressing one of the 8 available circles will change the color to green, signifying that the program has been chosen.



Once the program has been chosen, set the desired run time, speed and temperature by pressing on the desired setting and entering the desired value.



- ST: Set Time
- RT: Remaining Time
- S° Set Temperature
- C° Current Temperature

Speed (SPS) Speed in strokes per second



Once all parameters are selected, press the start button to begin the mixing cycle.

Following the expiration of the set time, the mixer will stop and the door can be opened to remove samples. At any point during the cycle, the mixer can also be stopped by pressing the stop button.



Additional settings:

- To preheat the chamber, the “Heat” box can be pressed prior to starting the mixer. This will activate the heater.
- The BenchMasher features an internal UV bulb for disinfection of the chamber area. This function can be activated anytime by pressing the “Sterilize” box.
- For more advanced mixing programs, the BenchMasher features a “MultiProg” mode for linking programs together. To activate, press the “MultiProg” box and then select the desired programs to be linked (ran in succession).

Cleaning and Maintenance:

The instrument should be kept externally clean by wiping over periodically with a cloth dampened with mild liquid detergent. Do not use any solvent-based cleaning agents, as they will damage the finish.

For cleaning the internal chamber and chamber door, the door can be flipped open 180°. When the door is in the fully open position, you can lift the bottom of the door upward (off the bottom hinge-rod) and then flip it 180°. The chamber and chamber door should be cleaned regularly (or immediately after any breakage or spillage) using a damp cloth or brush to wipe down all wares of the chamber and paddles. It is recommended to clean the chamber with a 70 isopropyl alcohol solution. **Always** power off and unplug the machine prior to cleaning.

For convenience the black paddle covers can easily be removed for more thorough cleaning. To remove, slide the covers upward off of the paddles. Paddles are made from 304 stainless steel material and can be autoclaved at 121C.

Precautions for the use and maintenance

1 After open the packing, install the door open/close handle that comes with the package, and align the screw of the handle with the open/close knob (on the upper right end of the instrument) and tighten it.

2 The back of the instrument is equipped with a black plastic adjustment knob, which can adjust the extrusion distance of the strike plate according to the actual sample volume. It is not recommended to adjust it too far forward. The ideal distance is approximately 1Cm, but can vary depending on the sample.

3 After 12 months of consistent use (or if it becomes noisy), it is recommended to add new lubricant. To lubricate, remove the 10 side screws to remove the top panel and access the motor and internal parts. You can then add grease or lubricating oil to the nylon sleeve.

4 Cleaning the chamber: The stainless steel door on the front of the instrument can be lifted up and pulled outward for complete access to the internal chamber.

Contents:

BenchMasher Laboratory Blender	1	Power Cord	1
3A Fuse	2	Door handle	1

Service and Contact:

In the event that service or technical support is required, please contact **Benchmark** by phone at **1-908-769-5555** or by email at info@benchmarkscientific.com.

