

KPB-09

Laboratory Paddle Blender

(Germfree Homogenizer)

Operation Manual



한국코프로텍(주)
Korea Process Technology Co., Ltd.
Human · Passion · Creation

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1. Operation Principle

Generally, unprocessed microbial samples are mushy, farinose or block-like. To facilitate analyzing and inoculating samples, samples shall be refined to be liquid-like. Basic principle of operation: original samples (bigger ones shall be cut to be blocking-like. Dimension: 10×10mm) shall be put into homogenize bag together with certain liquid or solvent. Homogenizer will hammer sample bag to generate pressure. The pressure will arouse surge and accelerate mixing, so microbial components in the solvent can be equally distributed. This homogenizer can be used to homogenize brain, kidney, liver, spleen etc.

The sterilized homogenize bag in which the original samples and solvent are placed is made from special materials. Using the rail that is located on the upper-side of the homogenizer door to pressurize the bag can prevent the solvent from leaking during hammering. Homogenizer will hammer the homogenize bag ceaselessly to generate pressure that can break samples fully. This homogenize has three planetary speeds: low, normal and high and homogenize time is 30 sec, 180 sec, 600 sec and ∞sec. In order to reach the most satisfying effect, users shall choose parameters according to the conditions of samples and solvent. E.g. to homogenize the liver of mouse, 180 sec, medium is enough.

2. Features

Operation of the homogenizer is easy, convenient and time-save. One-time sterilized homogenize bag makes users free from cleaning.

The bag also prevents samples from cross-contaminating and provides operators with a safe working environment.

3. Major Technology Parameters:

(1) Rattling Time: 0.1~99 minutes(to 0.1minutes step)or 6~5940 seconds

(2) Rattling speed: 3~12 times/sec(to 0.1 times/second step)

Display the actual rattling number; the system automatically adjusts the slap speed. Multi-stage programming can be designed: parametric groups can be set according to one's wishes.

(3) Parameter storage: More than 10 groups of multi-stage programming parameters are stored

(4) Effective Volume: 3~400ml

(5) Slap Box: Stainless steel

(6) Supply: 220VAC/50HZ

(7) Net Weight: 18.5kg

(8) G.W: 22.6kg

(9) Maximum Power: 300W

(10) Sterile bag: 17x30cm

- (11) Display: Digital
- (12) Rattling Spacing: 0~5mm adjustable
- (13) Soft-start mode: Gentle start
- (14) Dimensions: 420x245x340mm
- (15) Packing Size: 740x330x380 mm
- (16) Pause Function: To ensure sample security with auto-stop anti-trap feature. Removable windows and adjustable slap board, toughened glass security door

4. Procedure and Setting

Open the package; take out the homogenizer and put it placidly on the work table where electrical source is nearby.

- 1) Connect the power line to the socket that is located at the back of the machine and connect it to the power supply. Display screen shows 0:00. It means the machine is in standby status automatically.
- 2) Examine the downside of the homogenizer door. Make sure the downside is buckled to the rail which is located at the bottom of the homogenizer. Hold opening switch with left hand and open the door in full. Put samples and solvent into homogenize bag and then use the right hand to put homogenize bag into the homogenizer. Bottom edge of the bag shall not be lower than hammer plate. The bag opening shall be a little higher than the door and not be warped. Use

the left hand to close the door. The sound of “da” proves the door is soundly closed. The door will extrude homogenize bag with the upper-rail to seal the bag.

- 3) Choose speed in accordance with samples. Medium speed (Norm) is generally applied to normal conditions and display screen will not show “N” when this speed is applied. If you need the homogenizer to run at higher or lower speed, please click “low” or “high” button on the left side of the display screen. Signs of “L” or “H” will be displayed accordingly to hint the speed chosen. Then you can continue to choose appropriate time according to samples or solvents (180sec is generally applied). When the time is chosen, hammer plate will start to work automatically. The display screen will show the rest time in the way of countdown. The hammer plate will start working when setting time is reached. Use the left hand opening the door. Examine samples and make sure whether they are up to the requirement. In case specific requirement is not reached, users can increase the homogenize time accordingly. If ∞planetary is chosen, hammer plate will work continuously till “Stop” button is clicked. In such condition, the data display screen shows successive working time.
- 4) Use the right hand to hold the upper-edge of the homogenize bag and use the left hand open the door. One cycle is considered to be finished when the bag is brought out from the machine. Homogenize time shall be set again after the

door is open.

- 5) For safety consideration, when the door is fully open, all operation on the faceplate is automatically locked.
- 6) If you need to stop the operation on midway, you can click the “Stop” button to stop the operation. The hammer plate will stop working instantly.
- 7) The machine will continue responding to your orders if operation speed or time is changed during the operation period.

5. Notes:

- (1) Power socket shall be soundly inserted. If the power socket is not soundly inserted, the computer control plate may be frozen. In case of plate frozen, please turn off the power switch located on the back faceplate. Re-start the machine after three minutes.
- (2) To prevent spattering, please do not open the door while the machine is working. If the door is forced open, operation will stop automatically and the display screen will show the current working time. The work will not continue till the door is closed and L, N, H button is chosen.
- (3) Switch off the power and unfix the socket when the operation is finished.
- (4) In order to prevent the outburst of homogenize bag and to facilitate cleaning, the machine base is hollow designed. Do not reach the hand into the base while the machine is working.

- (5) In order to prevent malfunction of the machine and breakage of the homogenize bag, please examine the inside of the homogenizer before the machine start to work.
- (6) It is inapplicable to nuggets, bones or ices, or homogenize bags will be broken.
- (7) Equipment and homogenize bag shall avoid direct sunshine. In order to avoid aging of the homogenize bag, it shall be stored in places where sunshine and ultraviolet radiation cannot penetrate.

6. Maintenance:

Clean the equipment, hammer plate, especially the homogenize bag with clean cloth. Cleaning shall be carried out when power is switched off.

7. Malfunction and Trouble Shooting

- (1) If the machine fails to work after the door is soundly closed and there is no display on the display screen, users shall examine the power line to make sure it is connected normally and the fuse is in good condition.
- (2) If the machine sounds abnormal, examine bolts and hammer plate to see whether it is soundly connected. If lubricant dries out, users shall clean the hammer pole and hammer cover in time and lubricant grease shall be re-filled in these parts.

8. Warranty Scope:

- (1) Under normal service and maintenance condition, end-users can enjoy one year's free maintenance and service from the day the machine is delivered.

(2) When malfunction occurs, please deliver the machine to the HQ of Korea Process Technology Co., Ltd. Delivery payment shall be prepaid.

As to functional disfigurement resulted from inappropriate use, or operating and maintaining against the instrument or caused by unauthorized staff, Korea Process Technology Co., Ltd. will not take on the responsibility to repair for free. Payment for repairing will be charged according to specific conditions.

9. Packing List

Host Computer	One
Power Line	One
Sterilized Homogenize Bag	Fifty (one bag)
Instruction	One
Certificate of Conformity	One
Warranty Card	One
Fuse 3A	Two

10. Optional Parts: Sample Fixture (including magnet bars which will attach the sample bag to the sample fixture for the filling of samples and solvents.)