Laboratory Equipment Manufacturer
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Microplate Washer

Operation Manual

ELI-WAS-200

PLEASE READ THIS MANUAL CAREFULLY BEFORE OPERATION

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A. Introduction

ELI-WAS-200 is a semi-automatic washer designed to wash immunoassays in 8-well strips ELISA plates and 96-well ELISA microplates. It is perfect for the laboratory with limited budget. The system applies a vacuum and pressure source connected with a suction bottle, buffer bottle and 2 x 8-Channel manifold. There are 2 rows of stainless steel tube with different length on the manifold, the shorter row for dispensing buffer, the longer for sucking waste medium. When the system powered on, the vacuum pump starts to run, if the longer row of tubes are immersed into well, then the waste medium in the well will be sucked into the waste bottle. On the other side, when press the button on the manifold, the shorter tubes will dispense buffer into the well. The manifold is made of PTFE, and the tubes are stainless steel 304, durable, autoclavable and effective.

In addition, ELI-WAS-200 offers an unique platform in order to place microplate, you can put the microplate in horizontal or straight and slope direction, ergonomic and reducing residues effectively.

B. Important Notice

1. Before using this product please read this manual carefully.
2. Please discard the packing materials according to your local environmental protection policy.
3. Please arrange 2 x 8-Channel manifold and MRC's pump module in pairs to avoid the damage. ***(do not exceed 10 PSI)***
4. If you have any questions about the operation of this product, please link maintenance staff and do not make improper removable.
5. After each use, please clean the pipeline and outward appearance.

C. Unpacking and checking

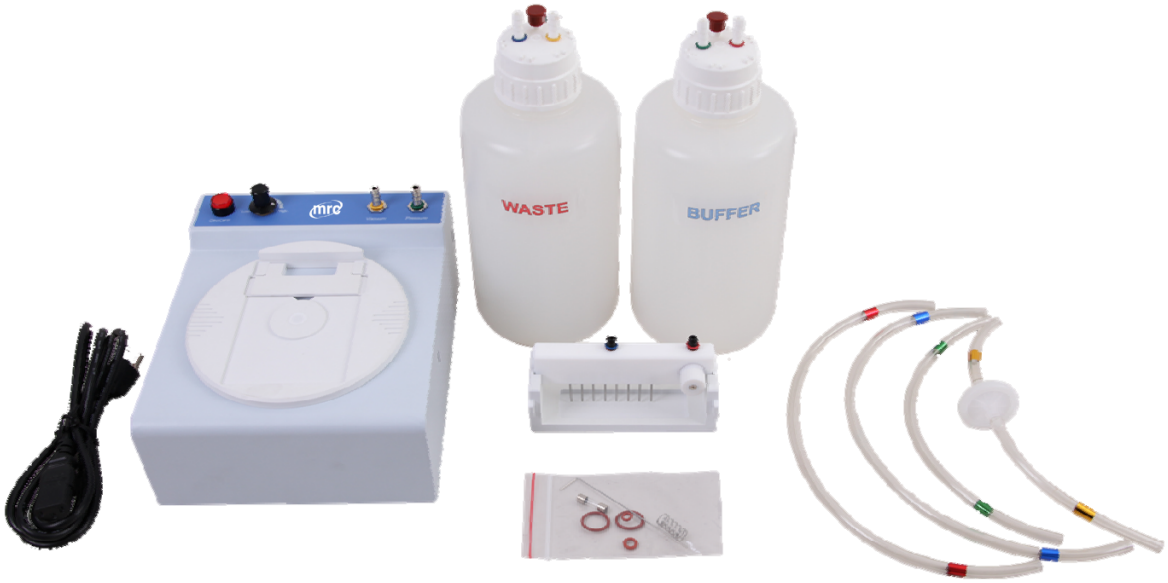
Before unpacking this product, please check the box without any joint damage. After unpacking, please check the accessories complete as list also. If any questions, please keep serial number, the packing box, and contact local distributor immediately to claim support.

- 2 x 8-Channel Manifold x1
- Pump Module x1
- Rack for Manifold x1
- 2L-Buffer Bottle x1
- 2L-Waste Bottle x1
- Power Cord x1
- Disk Filter x1
- Spare Part Kit x1
- Instruction Manual x1

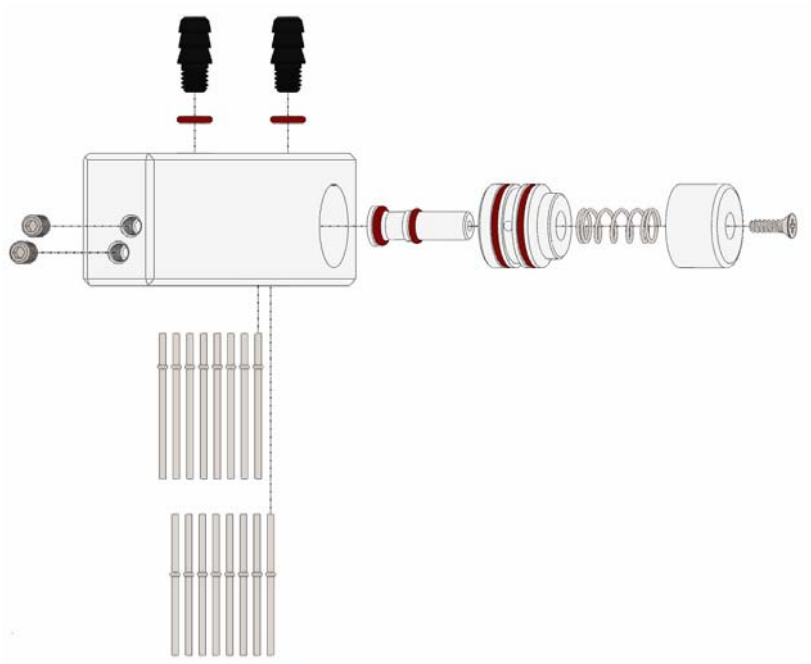
D. Over View

<Fig.1> ELI-WAS-200 Semi-Automatic Microplate Washer Over View

E. Part View



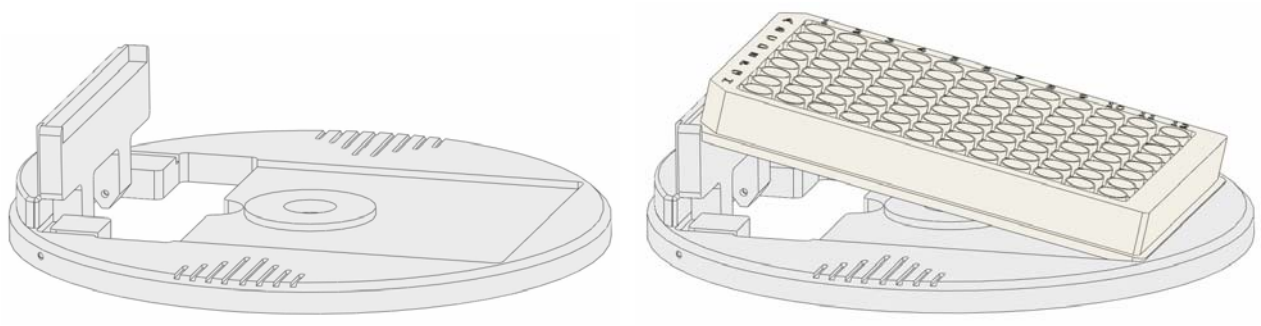
<Fig.2> ELI-WAS-200 Semi-Automatic Microplate Washer Part View



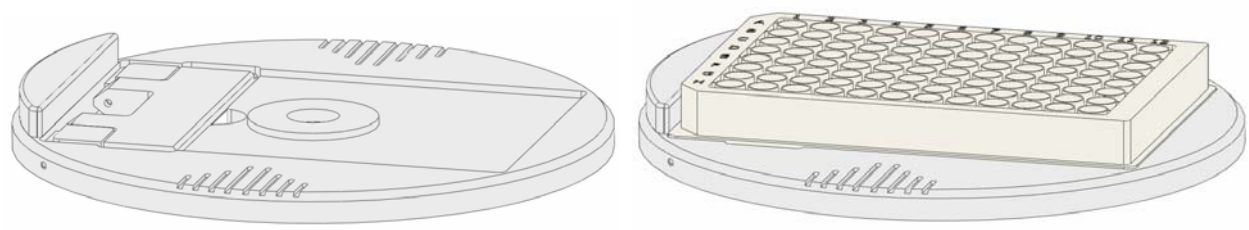
<Fig.3> 2 x 8-Channel Manifold Exploded View

F. Installation

1. Please place the pump module on the good working platform.
2. Install the wash bottle: Please connect the import of the wash bottle (green O-ring) with the pressure source of the pump module and the export of the wash bottle (red O-ring) with the inlet port on the upper-right side of the manifold by using the appropriate length of tubing such as <Fig.1> and <Fig.2>.
   Note: Please connect the green-mark tubing with both adapters combined with green o-ring; same as red one.
3. Install the waste bottle: Please connect the export of the waste bottle (yellow O-ring) with the vacuum source of the pump module and the import of the waste bottle (blue O-ring) with the outlet port on the upper-left side of the manifold by using the appropriate length of tubing such as <Fig.1> and <Fig.2>.
   Note: Please connect the yellow-mark tubing (include the disk filter) with both adapters combined with yellow o-ring; same as blue one.
4. Please adjust the flow control valve to the appropriate level.
5. Please place the microplate wells to the disc plate like <Fig.4> or <Fig.5> (<Fig.4> which can get a better framework for operation is recommend)
6. Plug the power cord into the outlet behind the pump module and connect the power plug. Before using, please open the power switch and press the button on the front side of the manifold and make sure each pipeline is full of cleaning agents.
7. The manifold is now ready for use.



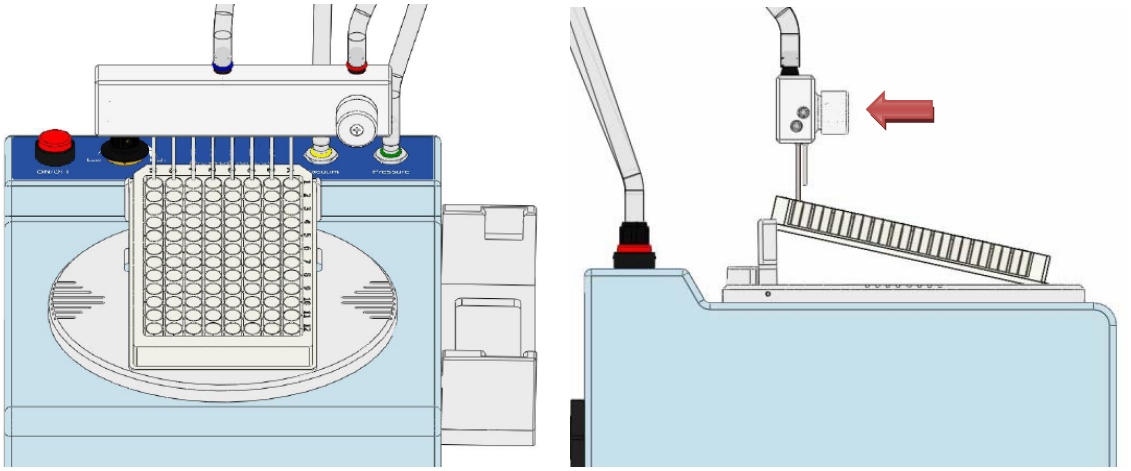
<Fig.4> Microplate with slope operation



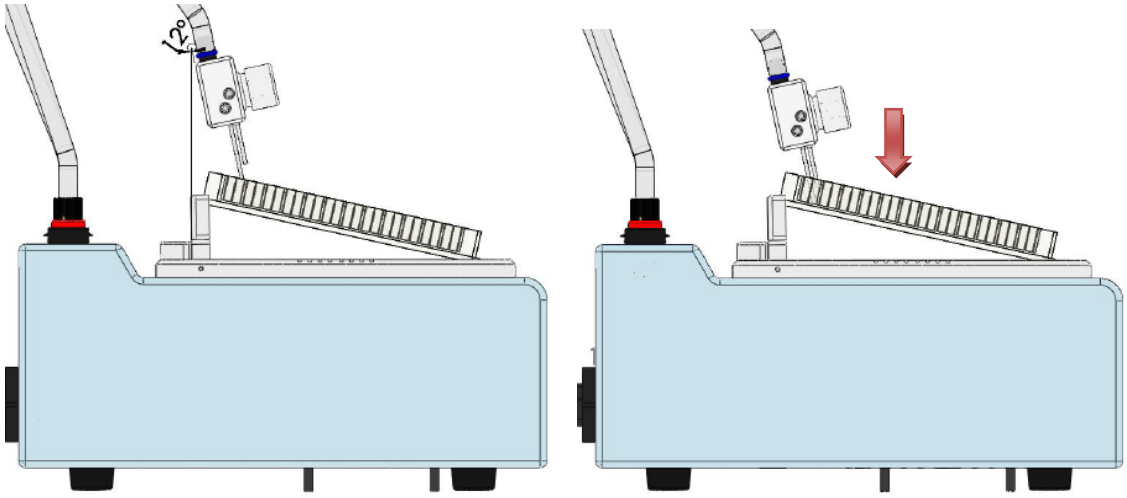
<Fig.5> Microplate with flat operation

G. Operation

1. Pick up the manifold like <Fig.6> → Against the suction tube on the wall of microplate → Maintain the manifold body perpendicular to the Disc plate → Press the button → After the wells filled with the buffer, release the button to stop injecting.
2. Please dispense buffer into each row of microplate wells → Stop after dispensing all of the wells.
3. If the ELISA procedure is required cleaning oscillation, please shake the microplate wells gently and wait few seconds → Steps to aspirate waste.
4. Inclines the manifold 12 degrees angles as <Fig.7> → Along the suction tube down the well wall and absorb waste.
5. Please aspirate waste in each row of microplate wells → Stop after aspirating all of the wells.
6. Please follow the cleaning procedures required for washing, repeat steps 1 to 5.
7. After the final wash, please turn over the plate and gently tap 4 or 5 times on a lint-free paper towel to remove any remaining wash buffer and improve the accuracy of inspection.



<Fig.6> Operation of dispense buffer



<Fig.7> Operation of aspirate waste

H. Maintaining

1. After each use, please wipe the remaining liquid on the pump module, disc plate, manifold set and manifold.
2. Please use the distilled water to clean up the stainless steel aspirate and dispense tube for tens of seconds in order to avoid crystallization of the salt. For re-use, please clean the wash bottle, waste bottle and vacuum tubing.
3. If the pipeline is blocked, please soak in water for half an hour, and then clear the blockage with the L-type cleaning rod, or replace the tube.
4. Wash bottle and manifold can be sterilized by using autoclave but pump module with disc plate and manifold set can’t and it’s recommended to sterilize before use to avoid contamination.
5. To ensure the working ability of the manifold, please change the O-ring at least once a year; For O-ring replacement method, please refer to Figure 4-Manifold Exploded View. Replace the new O-ring after removing the old one.

I. Troubleshooting

Possible cause	Suggestions
1. Power source lamp is not bright	1. Check the power cord is connected to the pump module and electricity 2. Fuse is burned → Replace the fuse 3. Power switch is damaged → Back to the manufacturer maintenance
2. Pump module does not work	1. Please check whether there is pressed the power switch 2. Pump module is failure → Back to the manufacturer
3. Button sprang open	1. Check the O-ring is installed 2. Button is damaged → Back to the manufacturer maintenance 3. Check the pressure is above 10 PSI or not
4. Button is leaking water	1. Tightness of O-ring seal → Replace the O-ring 2. Button is damaged → Back to the manufacturer maintenance
5. The rate of dispense buffer is too weak	1. Pipeline blockage → Clear the blockage with the L-type cleaning rod or replace the stainless steel 2. Check the scale of flow adjustment knob position is too low → Please adjust to the appropriate location 3. Tightness of O-ring seal → O-ring replacement 4. Airtightness → Replace or re-close the silicone tubes
6. The rate of aspirate waste is too weak	1. Adjust the intensity of vacuum to the appropriate level 2. Airtightness → Replace or re-close the silicone tubes 3. Check the scale of flow adjustment knob position is too high → Please adjust to the appropriate location

J. Ordering Information

- 196200-11 ELI-WAS-200 Microplate Washer, 110V, 50/60Hz
- 196200-22 ELI-WAS-200 Microplate Washer, 220V, 50/60Hz
- 196200-03 Buffer bottle, 2 liter
- 196200-04 Waste bottle, 2 liter
- 196100-00 2 x 8-Channel Manifold
- 196100-03 Spare Part Kit
- 196200-36 Silicon Tube (ψ5/16" x ψ3/16"), 100cm