WEEE COMPLIANCE

This product is required to comply with the European Union's Waste Electrical & Electronic Equipment (WEEE) Directive 2002/96/EC. It is marked with the following symbol:

Mikura Ltd has contracted with one or more recycling/disposal companies and this product should be disposed of or recycled through them. Further information on Mikura Ltd compliance with these Directives, the recyclers, and information on Mikura Ltd products which may assist the detection of substances subject to the RoHS Directive are available on request.

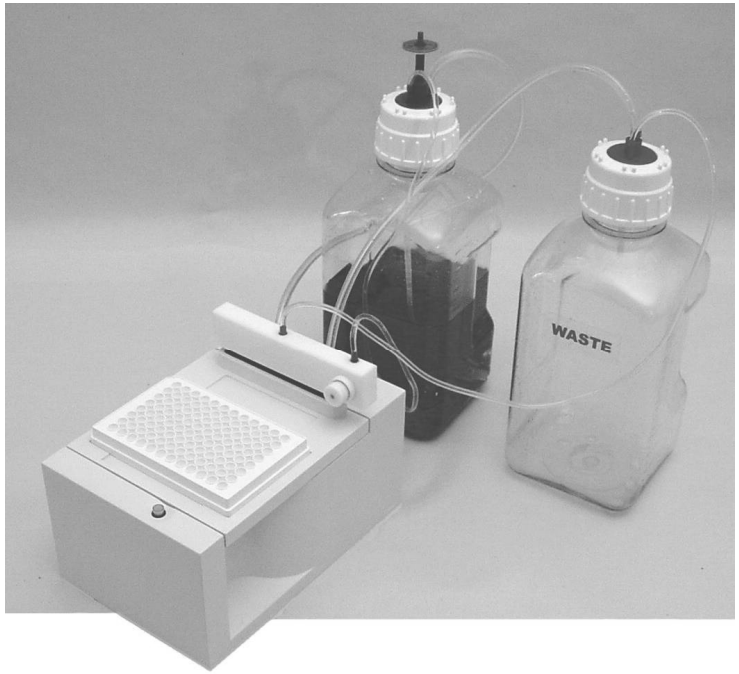
It is the stated philosophy of Mikura Ltd to preserve the environment wherever possible.

Mikura will only use materials and production techniques that cause least environmental damage, for this reason Mikura does not use PVC in its products.

Operators Manual

for

mıkura Microplate Washer



Return for repair

For safety reasons only clean/de-contaminated instruments can be checked or repaired. Always clean and de-contaminate the equipment before sending it back. Complete a declaration on Absence of Health Hazards.
State the nature of the problem and the liquids used with the unit.

CE

The CE sign certifies that the instrument meets the requirement of the EEC directive and has been tested according to the specified test methods.

Ordering Data

For a list of Mikura distributors please contact:

Mikura Ltd	Tel: +44 (0) 1403 891875
Spinningwood Farm	Fax: +44 (0) 1403 892651
Burnthouse Lane	email: info@mikura.co.uk
Lower Beeding	
West Sussex	
RH13 6NN	
England	

Spare Parts

Spare Wash-Head – 8 port manifold	Cat. No. 200-008
Spare Wash Head – 12 port manifold	Cat. No. 200-012
Spare set of tubing	Cat. No. 200-500
De-clogging tool	Cat. No. 200-2010
Pressure Release Filter	Cat. No. 3503
Fuse 20mm long T1.6A	Cat. No. 6015
European Power Supply (continent) 230V/50Hz	Cat. No. 6001
Great Britain Power Supply 230V/50Hz	Cat. No. 6000
USA Power Supply 120V/60Hz	Cat. No. 6002
Australia Power Supply 240V/50Hz	Cat. No. 6003
Complete packaging	Cat. No. 7500

Trouble Shooting

The Microplate Washer has been designed to be reliable and require very little maintenance, however should problems occur the following chart will help diagnose and remedy the problem.

Problem	Likely Cause	Remedy
Power light will not illuminate	No power to pump module	Check main power is switched on and power supply is plugged into system.
	Fuse has blown	Replace Fuse
System will not prime	Liquid level in wash bottle is low.	Fill wash bottle
	Bottle cap is loose	Tighten cap
	Tubing incorrectly assembled	Follow set up procedure
Uneven dispense	One or more tips are blocked with dried buffer solution	Use small wire provided to clean tips
Uneven aspirate	One or more tips are blocked with dried buffer solution	Use small wire provided to clean tips
Liquid delivers too vigorously and aspirates slowly	Pressure set too high	Adjust pressure screw until desired delivery and aspirate rate is achieved

Warranty

All goods supplied are guaranteed for a period of 12 months from the date of despatch. Any item found to be defective during this time through faulty materials or workmanship will be repaired or replaced.

No warranty claims can be considered if repairs other than those stated above have been made or attempted.

Table Of Contents

Unpacking Instructions

Read this manual in its entirety before proceeding

On receipt of your new instrument check that the outside of the package is intact and does not show any sign of external damage.
If any damage is seen note the particulars before proceeding.

Important if on receipt the product is found to be damaged report this to your distributor within 48 hours so further action can be taken.

Carefully slit the tape and open the outer carton, lift off the two polystyrene covers and expose the components.
Carefully remove them from the packaging and their protective wrappers and place them on a secure and level bench.
The package will include:

1 1 x wash head
2 1x pump module
3 1 x plate / wash head holder
4 1 x 2 litre wash bottle assembly
5 1 x 2 litre waste bottle assembly
6 1 x DC power supply
7 1 x accessory pack
8 1 x operators manual
9 1 x De-clogging tool

Please contact your distributor immediately if the contents vary from this list.

Important Please retain the packaging for future use.

Important Use the pump module only with the power supply provided. Before use, please check that the power rating on the supplied unit matches the available mains supply.

Materials

Before starting to work with your Microplate Washer check that the reagents you intend to use are within the recommended limits of its chemical compatibility and mechanical properties listed below.

Wash-Head	PTFE
Dispense Valve	PTFE
Dispense Valve 'O' ring	Silicone
Dispense Nozzles	PEEK
Dispense Tubing	Tygon
Suction Tubing	Tygon
Bottle Cap Manifold	Polypropylene
Bottle Screw Cap	Polypropylene
Wash Reagent Riser Tube	PTFE
Waste Riser Tube	PTFE
Wash Bottle & Waste Bottle	Polycarbonate
Plate Holder	Polyurethane

Important always follow the wash protocol as directed by the assay supplier.
When the protocol has been completed return the wash-head to the support.

Important If the system is left idle for more than 30 minutes, dispense some wash reagent into the prime trough until it is full. Turn off unit and wait 5 seconds until vacuum has stopped and then place wash-head on its support, The tips will now be immersed and will not dry out.

If the system is left idle for more than 8 hours fill the prime trough with distilled water and place the wash-head on the support so that the tips are immersed in the liquid.

If the system is left idle for more than 48 hours, empty all reservoirs and purge all lines with air.

Dispense pressure adjustment

The pressure in the wash bottle is pre-set by the manufacturer. However should you need to alter the it from the pre-set value, follow the following steps:

- remove the bottle top filter with its filter holder which covers the needle valve on top of the wash bottle cap manifold.
- Using a flat bladed screwdriver, turn the needle valve CW in order to increase the pressure in the bottle and CCW in order to reduce it.
- Replace the bottle top filter holder over the needle valve.

Cleaning and disinfecting

Fill the wash bottle with reconstituted Virkon and while following the priming sequence flush the system through. On completion flush through with diluted alcohol and then distilled water to remove all traces of de-contaminant.

Sterilisation should be carried out to 'fluid path components' only.

Chemical sterilisation is permissible by soaking 'fluid path components' overnight in a dilute (1:1000) solution of Sodium Hypochloride. Components must be rinsed well afterwards in sterile distilled water in order to clean off any residue of the sterilisation media.

Steam sterilisation of 'fluid path components' is permissible at 134°C 2bar after the unit has been cleaned using the standard cleaning procedure above.

The pump module and the plate holder are not autoclavable and must therefore be cleaned using a hard surface de-contaminant such as Virkon.

Important read and follow the instructions enclosed with de-contaminant carefully.

Operating Instructions

Before operating the Microplate Washer ensure that the waste bottle is empty and the wash bottle has enough wash buffer to complete the protocol you are about to carry out.

To empty waste bottle, unscrew bottle cap and remove cap manifold, pour waste into container that can be used for secure disposal. See cleaning and disinfecting page 7

> **Important** always empty the waste bottle before use. Do not allow contaminated liquid to enter the pump.

To fill wash bottle, unscrew bottle cap and remove cap manifold, fill bottle with buffer, replace cap assembly and tighten cap.

> **Important** never fill above the 2 litre line on bottle.

Place wash-head on the plate holder support, the tips will now be inside the prime trough.

Apply power and press the start button, at this stage the pump will start and a low purring noise will be heard.

Allow 10 seconds for the pressures to stabilise.

With the head in its rest position on the plate holder support press the valve button on the wash head for 5 seconds or until all the air bubbles in the feed line have been removed. While the head is dispensing the aspirate tips will be removing any excess liquid from the prime trough. This should be repeated until you are satisfied that the system is fully primed.

Place the microplate on the plate holder ensuring it is located evenly and is orientated to correspond with the wash-head.

Hold the wash-head at each end and lift it from the support, move it to the first strip to be washed and lower the tips into the wells, this will remove any excess liquid that may be there. Raise the tips so they are just below the top of the well and press the dispense valve until all wells are full. Any excess liquid will be aspirated off so the wells will not overflow.

Repeat until all the strips have been washed.

Connecting your Microplate Washer

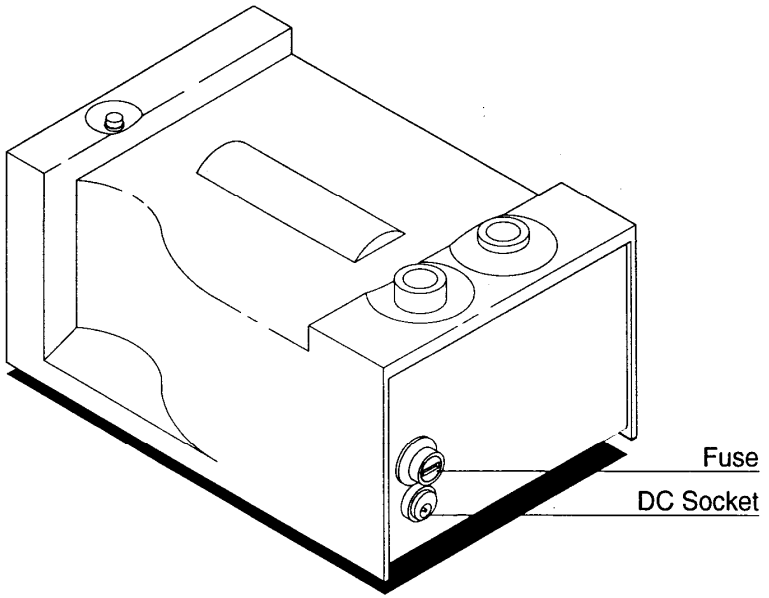
Connect all tubing following the colour coding, which has been applied for your convenience to ensure correct connection.

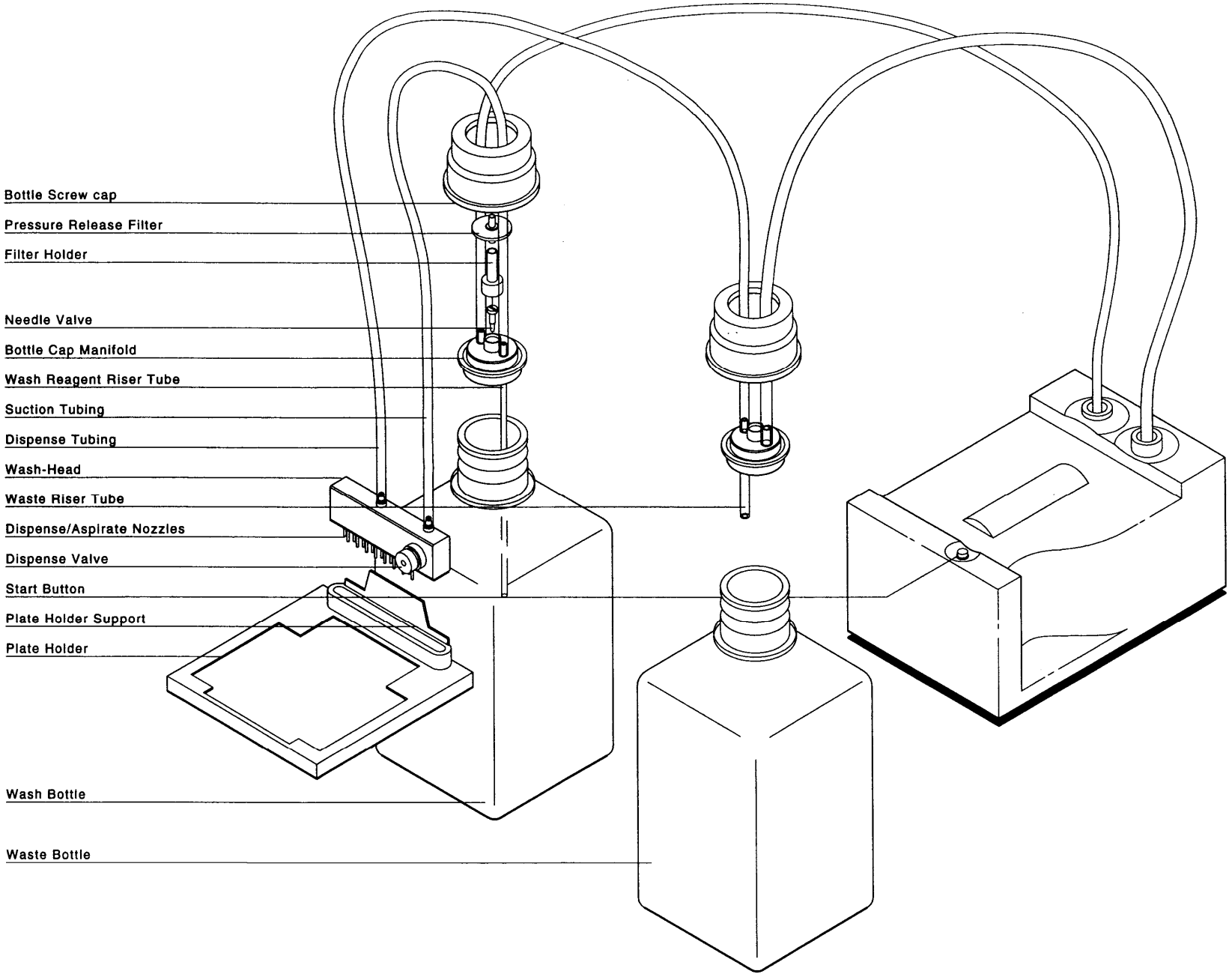
Place the wash-head on the support provided.

Plug in the power supply to the socket provided. see fig 1

Your system is now ready for you to use.

Figure 1





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