Biochemical Systems International Srl
SEDE LEGALE:
Via G. Ferraris, 220
52100 AREZZO
ITALIA
Tel. +39 0575 984164
Fax +39 0575 984238

DIVISIONE STRUMENTAZIONE:
Via B. Buozzi, 253
50013 Campi Bisenzio (FI)
ITALIA
Tel. +39 055 8963140
Fax +39 055 8997086

e-mail biosys@biosys.it
http:\\www.biosys.it
Cap Soc € 100.000 i.v.
C.C.I.A.A. Arezzo n. 135344

Partita IVA01736580513

Easy Wash

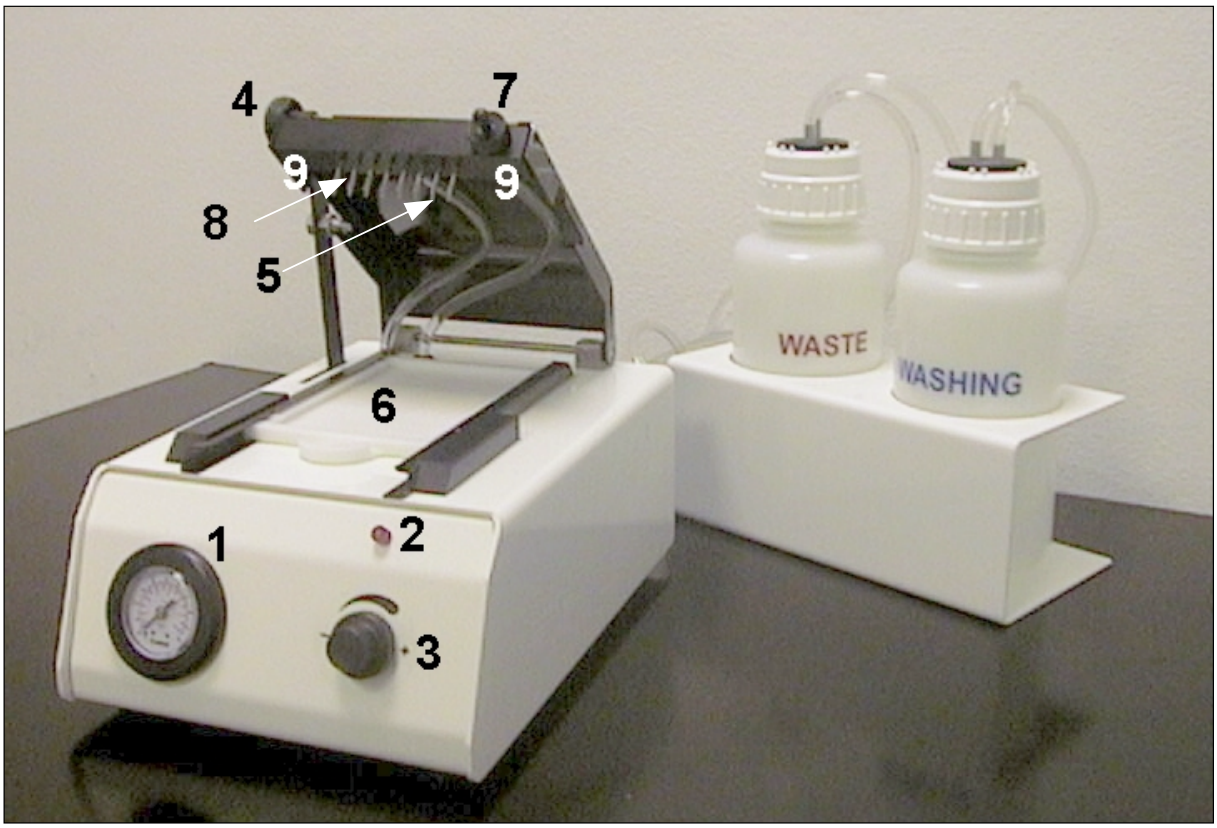
Manual Plate Washer

User's Manual

Rev: 610045_5.doc

INDEX

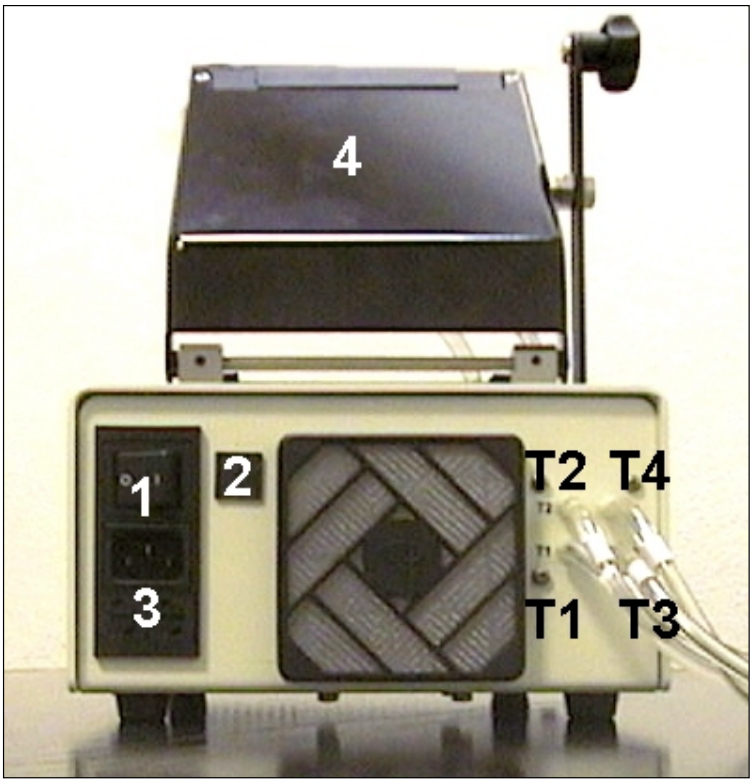
Front Side



Easy Wash: Picture showing instrument
-FRONT SIDE-

	Description:
1	Manometer (0-1 bar)
2	Power ON LED
3	Flux and pressure regulator
4	Lever for washing
5	Aspiration needles
6	96 -well plate holder
7	Dispensing button
8	Dispensing needles
9	Highness regulation screw

Back Side



Easy Wash: Picture showing instrument
-BACK SIDE-

Description:	
1	On/Off Power switch
2	110/220 switch
3	Fuse Holder (2 fuse: 220V – 1,6A)
4	Metal cover
T1	Tube: Washing bottle OUT
T2	Tube: Washing bottle OUT
T3	Tube: Waste bottle OUT
T4	Tube: Waste bottle IN

Package context

The following table shows the package context:

Description	Quantity
Easy Wash	1
Waste bottle (1l)	1
Washing bottle (1l)	1
Bottle holder	1
Cleaning needle	1
Connection tube (Waste)	2
Connection tube (Washing)	2
Fuses	2
Power Cable	1
Dust Cover	1
User's Manual	1
Control Sheet	1

Each bottle must have its special cup.

Technical features

Manifold	1x8 channels
Wetted Surface Materials	Tygon, Pvc, Derlin
Dispense Volume	Unlimited
Residual Volume	2 μL (typical)
Bottle Volume	1 L
Washing Quality	Carry Over <3%
Vacuum Regulation	yes
Manometer	0.1-1 bar
Dimension	29x21x20 cm
Weight	3.6 Kg
Power Supply	110/230 V - 50–60 Hz
Bottle Holder	included

Safety information

Use the instrument only for the purpose indicating in this manual. Install the instrument as described in this manual. Never pull the instrument by the power cable. Change the power cable every time it is damaged. In case of malfunctioning the reparation must be achieved by qualified personal. Contact your nearest distributor for reparation.

Introduction

Easy Wash is a manual plate washer for 96 (12x8 V, U, flat bottom wells) plates. It washes 8 wells (1 strip) at the same time.
In order to adjust the quantity of the wash volume the instrument is equipped with a pressure manometer and flux regulator.
The instrument is equipped with 2 bottles "Washing" and "Waste" that contains, respectively, washing solution and waste.
All the Easy Wash are subjected to complete quality control by the manufacturer.

Installation

Check if the package is in perfect condition and with the original seals intact. If the package shows any serious damage, it may have suffered from improper handling: contact your dealer for instructions.
Connect all the tubes according with their tag in the back side of the instrument, by following the label indicated in each tube.
To operate with the instrument you must first add some washing solution to the "Washing" bottle. For this operation, refer to paragraph " Washing solution change".

Never fill the washing bottle completely with washing solution, otherwise the instrument will not work properly. Recommended quantity must not exceed 0.8-0.9 Liter.

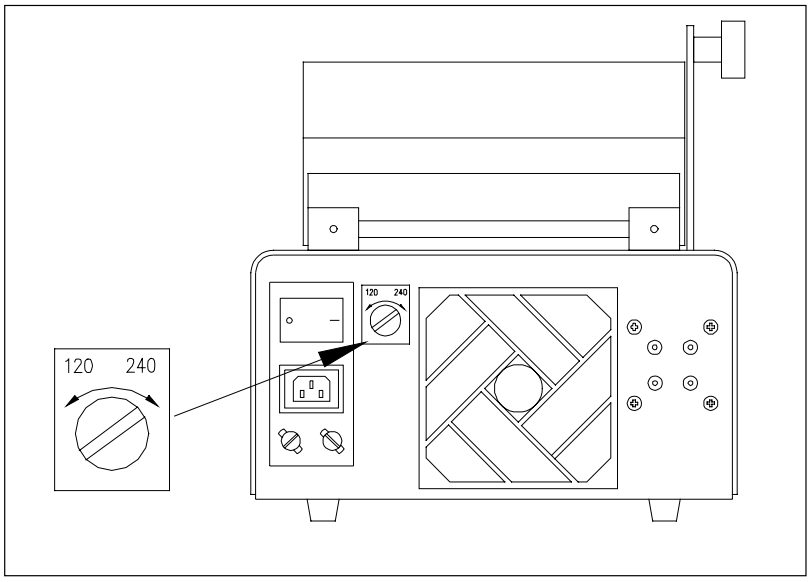
Before switching the instrument on, make sure that the voltage at the available supply socket is as provided for and a suitable earth connection is assured and **read the paragraph "*How to change the voltage 110V/220V".***
Connect the apparatus to the network and switch it on with the "I/O" switch on the back side of the instrument. Check if the power on led is on as the instrument is switched on. Regulate, using the flux regulator panel, the air pressure in order to get about 0.3 bar on the manometer.
Place in the plate holder the plate to be washed and, using the lever, and approach the needles to the strip. To perform washing operation push the dispensing button. In this way you obtain a washing solution flow inside each well of the strip, solution are either dispensed and aspirated while clicking in the dispensing button.

How to change the voltage 110V/220V

The instrument is for 220 V - 50 Hz or 117 V - 60 Hz power supply. It is equipped with an external voltage adapter switch to allow the user to change the voltage tension according to the country in which the instrument is used.
Usually the instrument is shipped with the suitable voltage for that country, anyway is recommended to check the switch position before switching the instrument on.

To check this follow this procedure:

In the back of the instrument find the voltage adapter switch.
Check if the position match your country voltage.
If not, with a flat-tip screwdriver set the switch to the suitable voltage tension



WARNING: SETTING THE INSTRUMENT TO A WRONG VOLTAGE MAY HARM THE USER AND WILL DAMAGE THE INSTRUMENT SERIOUSLY. ASK OUR NEAREST DISTRIBUTOR IF YOU HAVE ANY DOUBT ABOUT THE PROPER VOLTAGE SETTING.

Highness Adjusting

According to the shape of the microwell button used, it is important to adjust the highness of the needles in order to make them not to touch the bottom of the microwell. In such a way you can avoid scratch on the microwell reading surface and don't affect the measurement.
This highness it is variable according to the shape of the microwell ("V" bottom, "U" bottom, flat bottom). Adjust this highness to have a minimum safe distance between aspiration needle (the longer) and the bottom of the microwell, when the lever is in completely down position. In this way you can have a repeatable washing.

How regulate the highness of the needles:
Screw the two highness regulations on the right and the left side of Manifold until the needles touch the bottom of the wells.
Unscrew the highness regulation on the right side until you find the correct high of the needles.
With the highness regulation on the right side touching the guide, make an erogation-aspiration cycle. Take care that the aspiration and the erogation are good only looking at the first well on the right side.
Unscrew the highness regulation on the left side until it is at the same high of the highness regulation on the right side. Make an erogation-aspiration cycle. Take care that the aspiration and the erogation are good only looking at the first well on the left side.
Take care that everything is ok. Make an erogation-aspiration cycle. Now the aspiration and the erogation should be correct and homogeneous in all the wells.

Washing solution change

This operation must be performed to change washing solution inside the Washing bottle.

Follow these points in details:

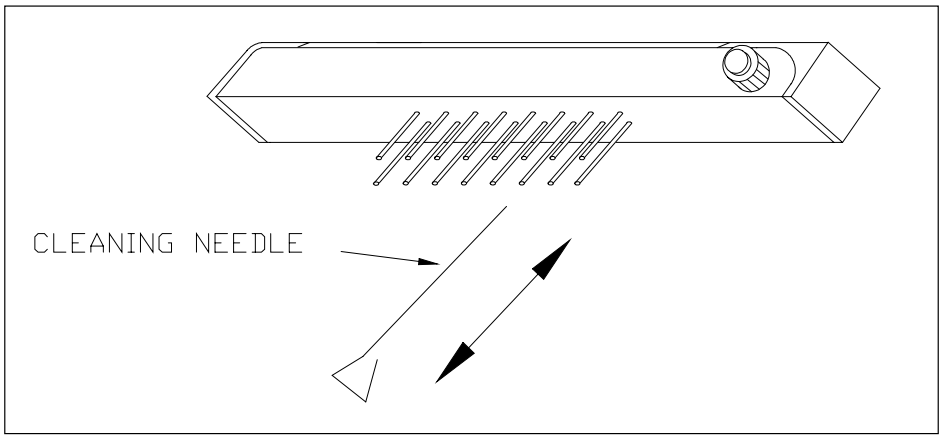
- Completely deplete wash bottle
- Place a strip in the washing plate
- Dispense until all the tube are empty
- Add 0.1 Liter of distilled water to "Washing" bottle
- Dispense again until all the tube are empty and solution inside washing bottle is finished
- Add to "Washing" bottle the usual washing solution. Recommended quantity must not exceed 0.8-0.9 Liter.

The apparatus is now ready to work.

Warning!! Deplete WASTE bottle when full.

Maintenance

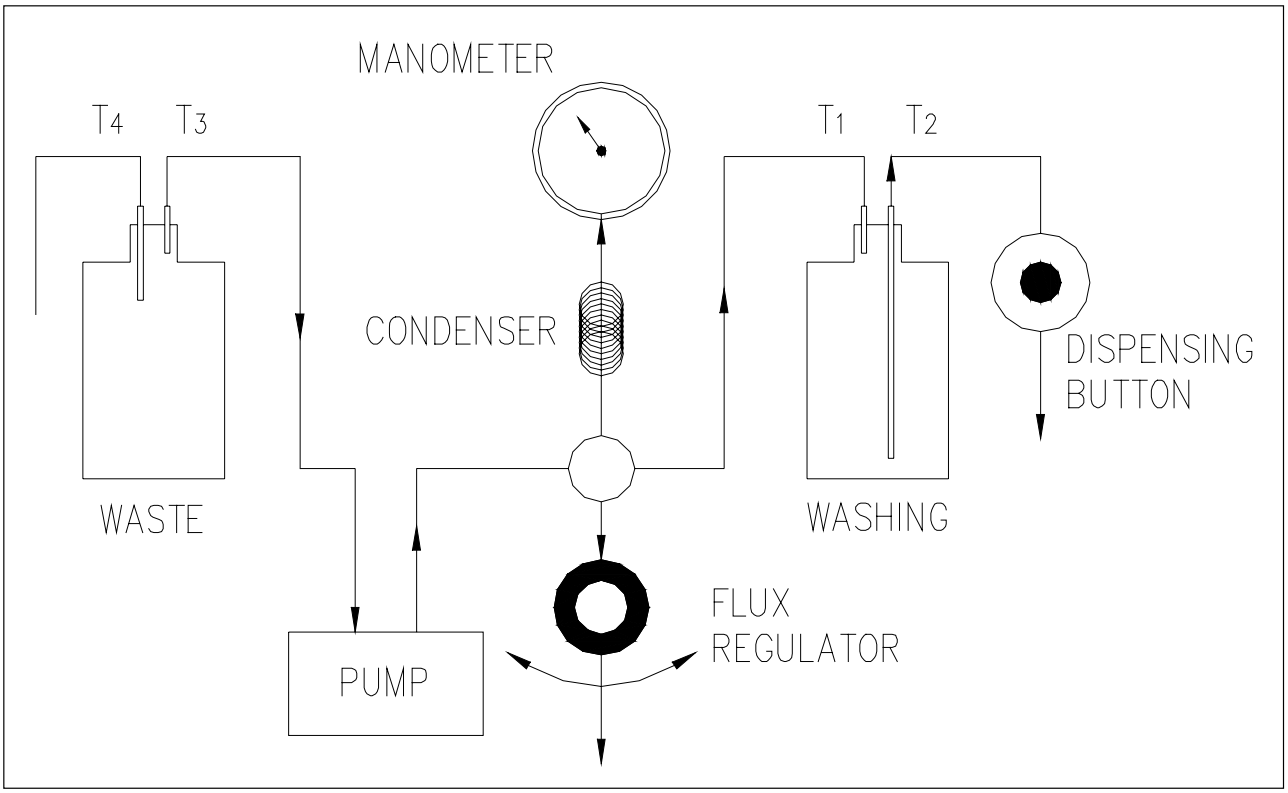
This operation should be achieved periodically for a correct instrument maintenance.
It is recommended, at the end of the working day, to deplete the remaining washing solution inside the "Washing" bottle and add some distilled water (0.1 Liter) and make some dispensing in order to wash out and clean any residual particles that can be remained in the manifold. This operation should be carried out also before long time (more than a week) instrument inactivity.
With the instrument it is also provided a cleaning needle. In the case of a partial or total obstruction of dispensing and aspiration needle you can use the cleaning needle to free the spout by inserting more time the cleaning needle in the spout.

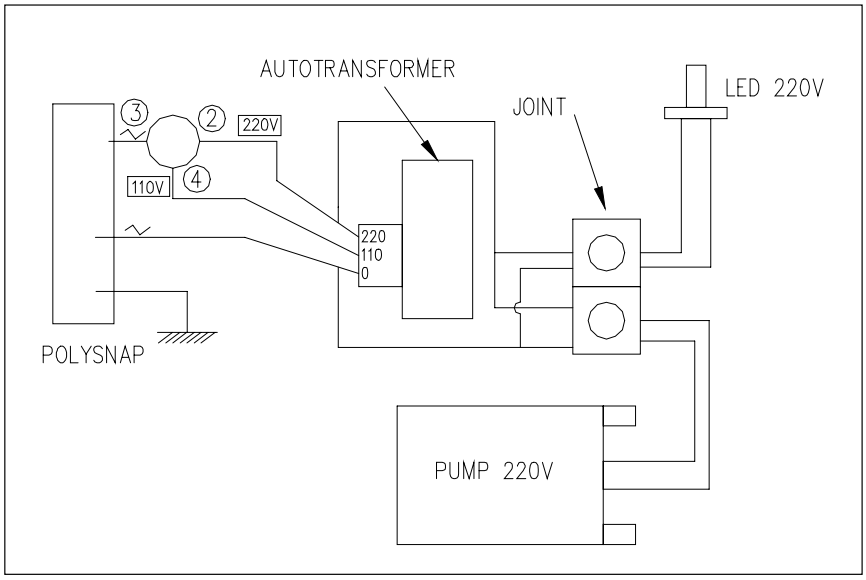


For a correct instrument maintenance open the manifold once every six months (if every day used) and clean in the opposite way the dispensing and aspirating needles, with the cleaning needle.

Hydraulic circuit diagram

The following it is a schematic of circuit diagram:





Spare Parts List

150033/C	Compressor
090010	Complete PVC Manifold
120970/S	Well plate Holder
100120/C	Manometer 0-1 bar
040014/C	Air flow regulator
150034	Grid with filter MOD.RCP080V
080036/C	Polysnap
141102	Transformer
400101	Internal tubes set
080031	Fuse 5x20 1.6A rapid
400102	External tubes set
591001/C1	Waste Bottles complete with connectors
591002/C2	Wash Bottles complete with connectors

Important notice about biohazard risk

The following notes regard this label you find on the instrument:

Working with analytical instruments for in-vitro diagnostics involves the handling of human samples and controls, which should be considered at least potentially infectious. Therefore, every part and accessory of the instrument which may have come into contact with such samples must also be considered as potentially infectious.

Before servicing the instrument it is very important to thoroughly disinfect all possibly contaminated parts. Before the instrument is removed from the laboratory for disposal or servicing, it must be decontaminated. Decontamination should be performed by a well-trained, authorized person, observing all necessary safety precautions.
Instruments to be returned must be accompanied by a decontamination certificate completed by the responsible laboratory manager. If a decontamination certificate is not supplied, the returning laboratory
will be responsible for charges resulting from non-acceptance of the instrument by the servicing center or from any authority's intervention.

Should you have any questions please do not hesitate to contact us:

HeadQuarter:

Via G. Ferraris 220, ZIP code 52100, Arezzo
Tel: 0575 984164, Fax: 0575 984238
e-mail: biosys@biosys.it
Internet: www.biosys.it

Instrument Division:

Via B. Buozzi, 253 – Campi Bisenzio , ZIP code 50013 Firenze
Tel: 055 8963140, Fax 055 8997086
e-mail: biochfi@biosys.it