



INSTALLATION, OPERATION AND CARE MANUAL

REMEMBER TO COMPLETE THE ONLINE
WARRANTY REGISTRATION



**ALL SCIENTECH EQUIPMENT COMES WITH A ONE
YEAR WARRANTY ON COMPONENTS AND
DEFECTIVE WORKMANSHIP**



REGISTER ONLINE TODAY

- Register your warranty on-line at www.scientific.co.za today and learn how to get the best out of your Scientech product.

NO WEB ACCESS?

- If you do not have access to the Web, register by completing this form and Email it to the Scientific head office in South Africa. Email: sales@scientific.co.za

ONLY COMPLETE IF YOU DO NOT HAVE WEB ACCESS

Company _____

Name _____

Surname _____

Telephone _____

Cellphone _____

Email Address _____

Country _____

Postal address _____

Scientech products purchased _____

Product Code (see box label) _____

Serial number (see back of machine) _____

INTENDED USE

- | | | |
|---------------------------------------|--|---|
| <input type="checkbox"/> Agriculture | <input type="checkbox"/> Genetics | <input type="checkbox"/> Pharmaceutical Physics |
| <input type="checkbox"/> Automotive | <input type="checkbox"/> Industrial | <input type="checkbox"/> Power Generation |
| <input type="checkbox"/> Biochemistry | <input type="checkbox"/> Medical | <input type="checkbox"/> Special Metals |
| <input type="checkbox"/> Botony | <input type="checkbox"/> Microbiology | <input type="checkbox"/> Sugar |
| <input type="checkbox"/> Chemistry | <input type="checkbox"/> Mining | <input type="checkbox"/> Water |
| <input type="checkbox"/> Cosmetics | <input type="checkbox"/> Nuclear | <input type="checkbox"/> Zoology |
| <input type="checkbox"/> Electronics | <input type="checkbox"/> Paper/Packaging | <input type="checkbox"/> Other (Specify): _____ |
| <input type="checkbox"/> Food | <input type="checkbox"/> Petrochemical | _____ |



**ALL SCIENTECH EQUIPMENT COMES WITH A ONE
YEAR WARRANTY ON COMPONENTS AND
DEFECTIVE WORKMANSHIP**

LIMITED WARRANTY

The manufacturer guarantees that this unit is free from defect in materials and workmanship when it leaves the factory and undertakes to replace or repair the unit if it proves defective in normal use or during servicing for a period of 1(one) year from the date of original installation and is for the benefit of the original purchaser only. The liability under this warranty is limited to repairing the defective unit or any part of the unit provided it is sent carriage paid to an authorized dealer. All other Warranties ,expressed or implied , statutory or otherwise, including without limitations any implied Warranty of Merchantability or fitness for purpose are excluded .The Seller shall in no event be liable for direct,indirect or consequential damages in connection with the products.

This unit is at all times to be used according to the instruction manual and for its normal purpose.

This Warranty is not effective if damage occurs because of accident, carelessness,improper installation,lack of proper set-up,supervision when required or if the equipment is installed or operated in any manner contrary to the installation and operating instructions. In these cases,repairs will be made at a reasonable cost. Work performed by unauthorized personnel or unauthorized service agencies voids this Warranty.

CIRCULATOR



**INSTALLATION OPERATION AND CARE OF
CIRCULATOR MODEL: 104**

UNPACKING

Unpack the product and check for any damage incurred during transit. This should be reported to the responsible carrier, railway or postal authority, and a request for a damage report should be made.



THESE INSTRUCTIONS MUST BE FOLLOWED FOR US TO GUARANTEE OUR FULL SUPPORT OF YOUR CLAIM FOR PROTECTING AGAINST LOSS FROM CONCEALED DAMAGE. THE FORM FOR FILING SUCH A CLAIM WILL BE PROVIDED BY THE CARRIER.

PRODUCT DESCRIPTION

- These circulators are suitable for temperature application in a water medium.
- The main functional elements are the heater, circulation pump, and the temperature controller.
- Ensure that before switching on the main supply that the liquid in the bath is water or a medium with approximately the same viscosity.

GENERAL INSTALLATION AND OPERATION INFORMATION

- Ensure that the power plug of the unit is plugged into power socket.
- Do not immerse the control box in liquid.
- Do not allow the power cord to hang over the counter top edge.
- Ensure that the waterbath is filled to the correct level. The water level must be controlled between the lowest level "MIN" and the highest level "MAX" marking, to avoid damaging the machine.
- In order to avoid liquid flowing back to the inside of the machine, after using the machine, please make sure it is positioned vertically, do not place it horizontally or upside down.

Parts List Legend

Model 104 Circulator

PART NO.	DESCRIPTION
1,2,3,4,5,22,23,25	Fixed part assembly
6	Switch
8	Fan
9	Three phase submerged pump
11	Control PCB
12	Membrane switch
16	Temperature controller
19	Temperature probe
20	Heater
21	Water-level switch
26	Dam-board
27	Baffle power cord
29	Cover for screws
31	Baffle ring for LCD
32	Filter with plastic part
33	Back cover
13, 34	Machine body (assembly)
35	Reset switch cover
36	Mounting plate for heater
37	Stainless steel body
38	Stainless steel back cover

SPECIFIC INSTALLATION AND OPERATING INFORMATION

CONTROL PANEL BUTTONS: Model 104



Temperature display setting, °C or °F



Time duration setting.



Temperature level setting.



Start button.



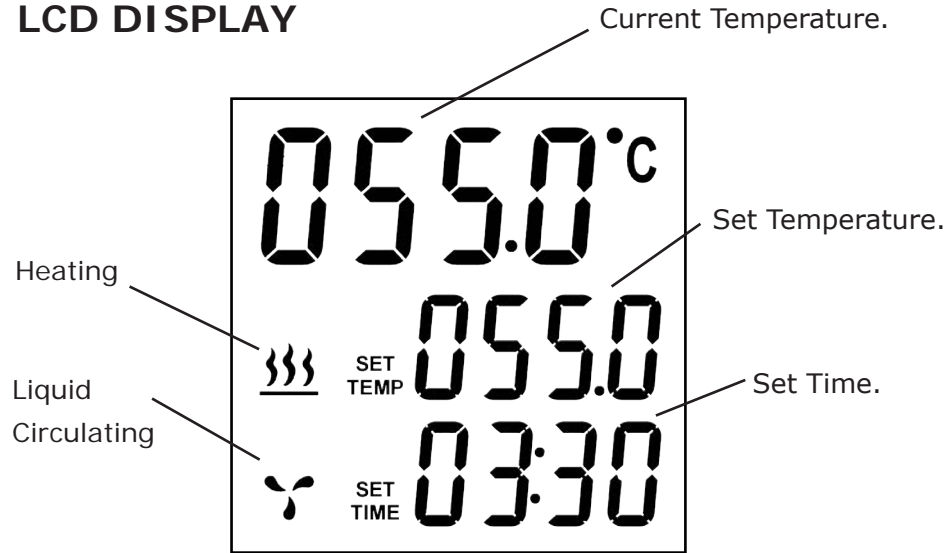
Stop button.

Preparation for use

- **Heating water tank or water bath:** Fill with enough water to cover the samples and control temperature for heating. For immersion circulator, please also ensure that the water tank can bear temperatures up to 100 °C or 212°F.

SPECIFIC INSTALLATION AND OPERATING INFORMATION

LCD DISPLAY



Heating:

When this icon is on, the machine is heating the water; when this icon is not displayed, the machine is not heating.

Liquid circulating: When this icon is on, the circulator is spinning, water flows in circle, the food is heated evenly.

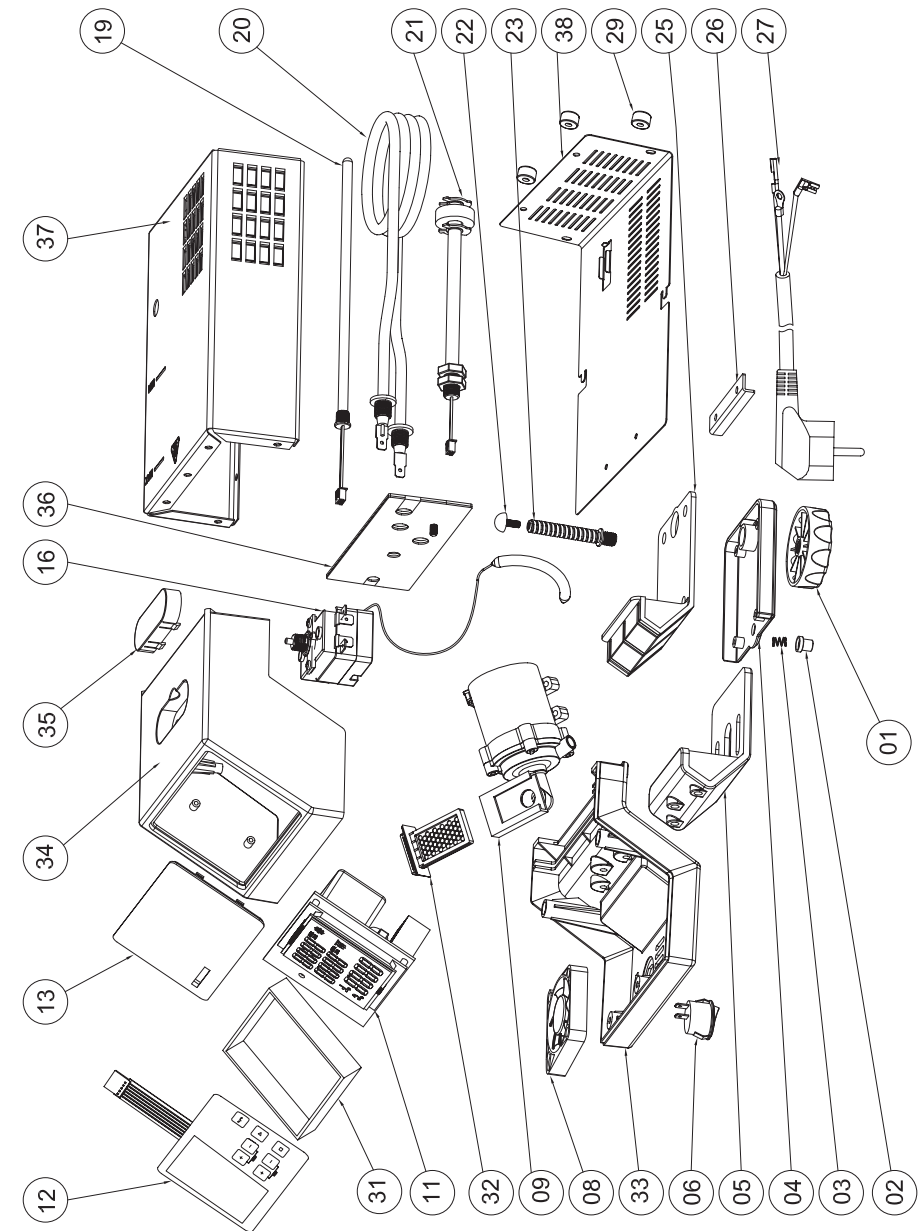
Temperature: Actual water temperature.

Setting Temperature: Temperature set point.

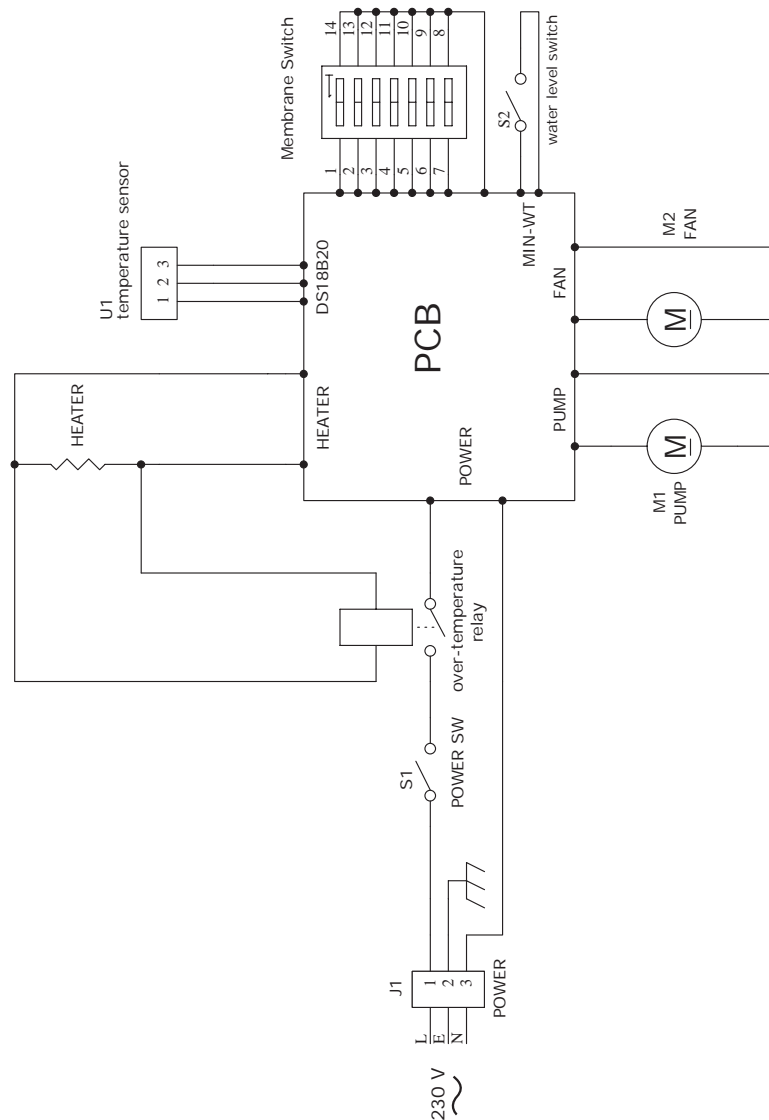
Setting Time:

Under setting mode, it shows the time set point. During working process, it shows the time left.

Exploded Diagram Model 104 Circulator

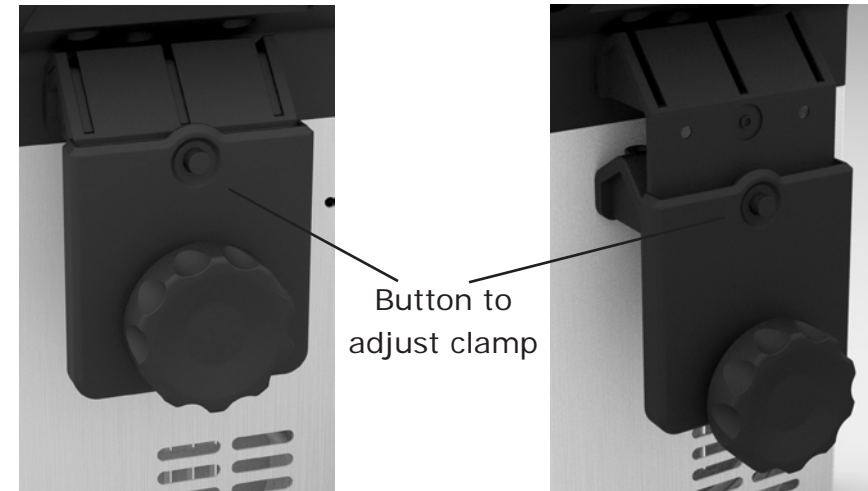


MODEL	DESCRIPTION	VOLTS (V/Hz)	POWER (WATTS)	TEMPERATURE RANGE
104	DIGITAL CIRCULATOR	230/50	1500	5 - 99°C



Adjustable fixing clamp Model 104

In order to make unit fit for different water baths with different size or depth, the fixing clamp is adjustable.



Press the button, pull down the fixed clamp to adjust the location. Default setting is in higher location.

Note:

1. Suggested depth of water bath is 19-25cm. Too deep or too low water level will affect the cooking effect.
2. When using with a water bath lower than 21cm, adjust to the Lower location.
3. When using with a water bath deeper than 21cm, adjust to the Higher location.

Removable filter

Minerals and scale may block the pump and prevent the machine from optimum performance. To prevent a build up of minerals and scale, the pump has a filter fitted on the rear of the unit. You can remove the filter for easy cleaning. A clean filter will ensure optimum performance of the unit.

Note: Check the filter each time before use. If the filter is blocked with minerals and scale, please clean it.

Do not operate the unit without the filter.

Operation Model 104

1. Choose suitable water bath, which is at least 19cm depth.
2. Mount the unit to the bath using the fitted clamp.
- 4.. Add water to the water bath.



Note: After filling the water tank, shake the machine a few times to discharge the air out of the pump impellar. Otherwise the pump impellar may run dry, causing high pitch noise. Running without water for long time will shorten the machine life.

5. Press the button at the back of the machine to be On (refer to the picture on the right).


6. Press  Set temperature display

Note: Default setting is °C. After choosing °C or °F, it will memorise your setting for future use.

7. Press  and  to set working time and temperature.

8. After setting, press  to start heating. Press  to stop working or reset the data.

Press  and  to set the machine again.

9. Put the samples into the water bath.
 10. After heating, the machine will beep. Press  to stop the machine.
- Note:** the machine will go on beep after 20 seconds and repeat if there is no action, and the water temperature will be kept in the preset temperature.
11. Remove the samples from the water bath.
 12. After using the machine, cut off the power supply and remove the circulator from the water bath. Place the machine vertically.

CLEANING:

- Clean the outside of the units using a damp cloth with soapy water. Under no circumstances should steel wool be used .
- Avoid aggressive acids since this will discolour the stainless steel.

De scaling: Model104 Aproximately every 100 hours of use

1. Put the machine into a container. Pour water into the container till the MAX line of the machine. Use a ratio in 5g vinegar with 10L water; add the vinegar into the water according to your container volume.
2. Turn on the machine, set the working temperature to 80°C (176F), and the time to 3 hours (03:00), and press Start. After 3 hours, the machine will beep, then turn off the machine and cut off power.
3. Check if the machine is clean enough. If not, you can add vinegar to the container again and run the machine as stated in the above step No. 2. If the machine is clean enough, drain the vinegar from the container, rinse the machine and container with fresh water.

SAFETY:

- Use only as specified in the operating instructions.
- Disconnect before moving.
- To reduce the risk of injury, use goggles or spectacles during high temperature operation.
- Don't touch surfaces during high temperature operations.
- Ensure that the operating temperature is less than the maximum operating temperature of the sample.
- Ensure that the main switch is easily accessible during operation.
- Do not block or restrict ventilation slots.
- If liquid is spilt inside the unit disconnect and have the unit checked by a competent person.
- Be very care when topping up or draining as liquid can be very hot.
- Always use a lid when operating above 60°C.
- Take care when removing lid as it may be very hot. Steam and hot vapours can cause burns.