

4-INS-207



INSTALLATION, OPERATION AND CARE MANUAL

REMEMBER TO COMPLETE THE ONLINE WARRANTY REGISTRATION TO RECEIVE YOUR FULL TWO YEAR WARRANTY.

WARRANTY

All Scientific equipment comes with a standard ONE year warranty, The 1 Year Extended Warranty is only valid for customers who have registered their warranty online at www.scientific.co.za within the first year after making their purchase.

MANUFACTURED
IN SOUTH AFRICA



www.scientific.co.za

REGISTER ONLINE TODAY

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

NO WEB ACCESS?

- o 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 _____

Scientific 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 SCIENTIFIC EQUIPMENT COMES WITH A TWO YEAR WARRANTY ON COMPONENTS AND DEFECTIVE WORKMANSHIP - Ts & Cs APPLY.



METABOLIC SHAKER

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. 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.



**INSTALLATION OPERATION AND CARE OF
METABOLIC SHAKER
MODEL: 207 R01**

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

The 40 litre reciprocal shaking bath is equipped with the following features:

- Bath interior is made from high grade 304 Stainless steel.
- Temperature control via PID electronic control with digital indication of process and set point temperature values.
- 120 minute timer with infinity setting.
- The unit is suitable for water medium or low viscosity work.
- The unit is fitted with a powerful circulating water pump to ensure uniform temperature distribution.
- The control range is adjustable between ambient +10°C to 100°C.
- The control accuracy is $\pm 0.3^\circ\text{C}$
- The unit is fitted with a drain tap.
- The shaking tray has facility for mounting flask clamps.
- Gabled lid

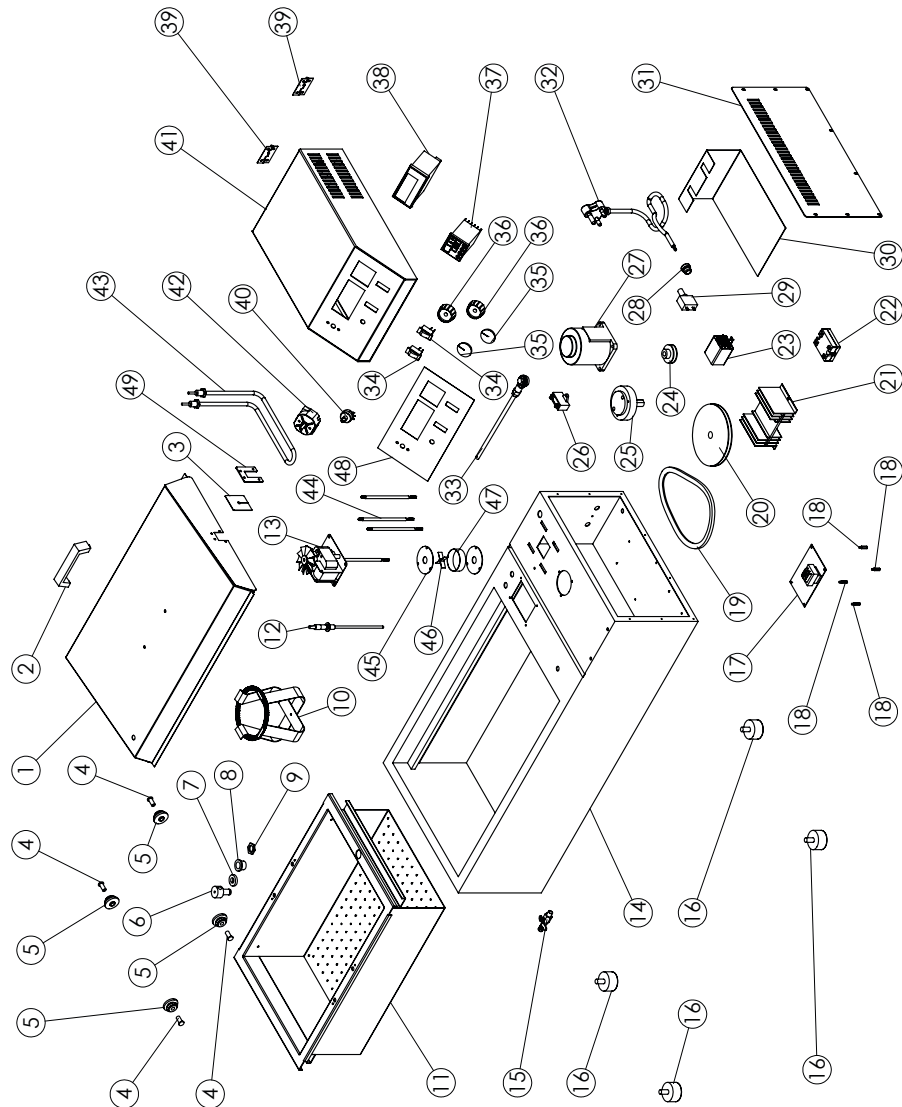
METABOLIC SHAKING WATER BATH MODEL CODE :207 R01

Part No.	Description
1	GABLED LID
2	LID HANDLE
3	RUBBER SEAL FOR LID
4	RUNNER AXLE
5	SLIDING BUSH
6	SWIVEL CONNECTOR PIN
7	SWIVEL PIN CONNECTOR WASHER
8	SWIVEL COLLAR (WEARING BUSH)
9	SWIVEL NUT
10	FLASK HOLDER WITH SPRING
11	SHAKING BATH (PLATFORM)
12	PT 100 PROBE
13	CIRCULATION MOTOR ASSEMBLY
14	INNER AND OUTER TANK ASSEMBLY
15	DRAIN VALVE
16	FOOT
17	PC BOARD
18	STAND OFF
19	BELT
20	LARGE PULLEY
21	HEAT SINK
22	SOLID STATE RELAY
23	POWER RELAY
24	DRIVE SHAFT PULLEY
25	DRIVE ECCENTRIC
26	RECTIFIER
27	SHAKER MOTOR
28	CABLE GLAND
29	MINI CIRCUIT BREAKER (RESET FUSE)
30	SUPPORT PLATE
31	SIDE COVER PLATE
32	POWER CORD
33	CONNECTION ROD
34	ILLUMINATED ROCKER SWITCH
35	CAP
36	OVEN KNOB
37	TEMPERATURE CONTROLLER
38	DIGITAL SPEED INDICATION
39	HINGE
40	SPEED ADJUSTING POTENTIOMETER
41	COVER HOUSING
42	2 HOUR TIMER

METABOLIC SHAKING WATER BATH MODEL CODE :207 R01

43	HEATING ELEMENT 220V 1600W
44	PUMP HOUSING SPACER STUDS
45	PUMP HOUSING COVER
46	IMPELLER
47	PUMP HOUSING
48	FACIA
49	RUBBER SEAL CLAMPING PLATE

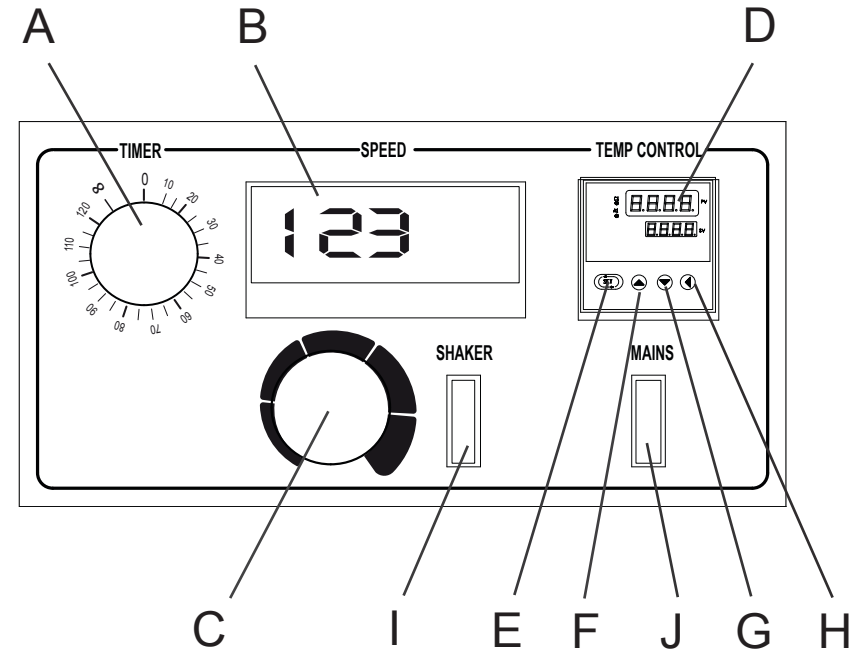
**EXPLODED DIAGRAM
MODEL: METABOLIC SHAKER
MODEL CODE: 207 R01**



GENERAL INSTALLATION AND OPERATION INFORMATION

- Position the unit on a stable bench
- Ensure that there is at least 20 cm of open space at the rear side and front venting grids.

SPECIFIC INSTALLATION AND OPERATING INFORMATION

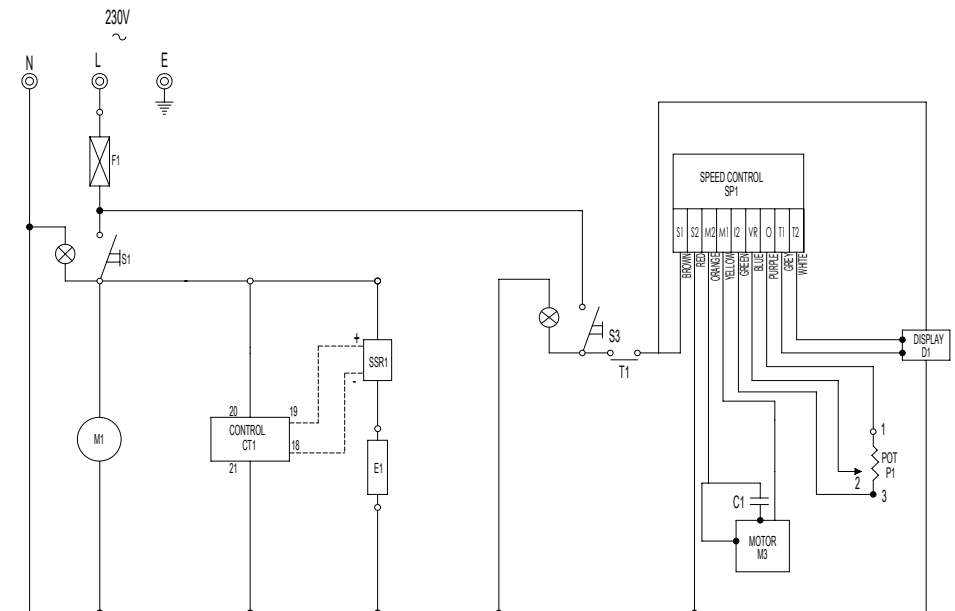


1. Ensure that the power plug of the unit is plugged into the mains power socket
2. Place the sample on the platform and secure.
3. Select the cycle time required by turning knob "A" clockwise or alternatively turn knob counter clockwise to the ∞ (infinity) position. The infinity position will ensure that the shaker remains on continuously.

4. Press the mains switch "J" to the on position. The switch will now illuminate indicating there is power to the unit
5. Select the rotation speed required by turning knob "C". The rotation speed will be indicated on the digital display "B"
6. To set the operating temperature, use button "H" on the controller to toggle between characters on the bottom display. The buttons "F" and "G" set the values higher or lower. Press 'SET' button "E" when the temperature value is correct. The upper display indicates the actual internal temperature. The unit will operate in the range 0°C to 100°C
7. The unit must never be operated without water in the tank. Permanent damage to the element will result. The water level must always be maintained above 50mm.

WIRING DIAGRAM
MODEL: METABOLIC SHAKER
MODEL CODE: 207 R01

LEGEND	DESCRIPTION	PART NUMBER
F1	INLINE RESETABLE FUSE	1-RF-354
S1	CONTROLLER SWITCH	1-17TAF
CT1	CONTROLLER	1-DC-CN40-PR
SSR1	MAIN SWITCH	1-SSR-40A
E1	ELEMENT 1600W/230V	5-1600W-207
S3	SWITCH SPEED CONTROL	1-17TAF
M3	MOTOR	1-MOT-254
C1	CAPACITOR	1-CAP-15MF
P1	SPEED CONTROL POTENTIOMETER	1-1-POT-261
T1	2 HOUR TIMER	1-2HR-TIMER
M1	SHAKER MOTOR	1-MOT-207



ELECTRICAL CONNECTION INFORMATION

MODEL	PLATFORM SIZE	VOLTS (V/Hz)	POWER (WATTS)	TEMPERATURE RANGE	TANK SIZE (mm)
207	450x160x300	230/50	1600	0°C to 100°C	650x160x300



THE CONTROL COMPARTMENT OF THIS UNIT CONTAINS DANGEROUS VOLTAGES. MAINTENANCE AND SERVICING REQUIRING THE REMOVAL OF ANY PANELS OR COVERS SHOULD BE DONE BY QUALIFIED SERVICE PERSONNEL ONLY.



IT IS ESSENTIAL TO MAKE SURE THAT THE INCOMING VOLTAGE IS THE SAME AS THE RATED VOLTAGE OF THE OF THE UNIT AS FOUND ON THE SERIAL PLATE. THE SERIAL PLATE IS LOCATED AT THE REAR OF THE UNIT ADJACENT TO THE INCOMING CABLE ENTRY.



WARNING

Burn Hazard.

Do not touch hot, liquid or heating surfaces while equipment is heating or operating

Hot surfaces and liquid can burn skin. Allow the hot surfaces to cool before handling

CLEANING

BEFORE CLEANING THE UNIT, DISCONNECT THE POWER PLUG FROM THE MAINS SOCKET!

- Clean the outside of the unit using a damp cloth with soapy water.
- Under no circumstances should steel wool be used.
- Do not clean with organic solvents.
- Do not submerge in water or subject the unit to water spray.
- Depending on the hardness of the water used it may be necessary to de-scale the tank periodically.



CLEAN THE STAINLESS STEEL PARTS WITH WATER AND SOAP. AVOID THE USE OF DETERGENTS CONTAINING ABRASIVE SUBSTANCES. ALWAYS RINSE WELL AND DRY CAREFULLY AFTER CLEANING. DO NOT USE PRODUCTS CONTAINING AGGRESSIVE CHEMICALS, ACIDS OR PRODUCTS WITH CHLORINE TO CLEAN THE STAINLESS STEEL EVEN IF DILUTED



WARNING

Electric Shock Hazard.

Keep water and other liquids from entering the inside of the equipment. Liquid inside the equipment could cause an electrical shock

Do not spray water or cleaning products. Liquid could contact the electrical components and cause a short circuit or an electrical shock. Do not use equipment if power cord is damaged or has been modified

SAFETY

READ ALL INSTRUCTIONS BEFORE USE. FAILURE TO FOLLOW THESE PRECAUTIONS COULD RESULT IN INJURY TO YOURSELF AND OTHERS

1. Use the Metabolic shaker on an individual 15A mains outlet only. **DO NOT OVERLOAD THE CIRCUIT.**
2. Ensure that the equipment and the power supply cord does not come into contact with hot surfaces.
3. This unit is only to be used by properly trained laboratory staff.
4. If the supply cord is damaged, it must be replaced with a new cord assembly available from the suppliers agent.
5. Use only earthed outlets matching the serial plate voltage.
6. Have equipment installed by a qualified personnel in accordance with local codes and ordinances.
7. Use equipment in a flat level position.
8. Do not operate if equipment has been damaged or is malfunctioning in any way.
9. These units are designed to run only on alternating current (A.C.) **DO NOT CONNECT TO DIRECT CURRENT (D.C)**

SAFETY RECOMMENDATIONS

1. When loading and unloading the shaker platforms, turn the speed control to a slow setting and switch off the mains switch.
2. Be aware of the range of movement of the platform and keep objects clear of the shaker before switching on.
3. Never let the tank run dry as this will result in over heating of the elements.

POSITIONING DIAGRAM METABOLIC SHAKING MODEL: 207 R01

