

4-INS-415



## 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](http://www.scientific.co.za) within the first year after making their purchase.

MANUFACTURED  
IN SOUTH AFRICA





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

### REGISTER ONLINE TODAY

- Register your warranty on-line at [www.scientific.co.za](http://www.scientific.co.za) today and learn how to get the best out of your Scientific 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](mailto: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.

## 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.

## HEATING BATH



**INSTALLATION OPERATION AND CARE OF  
DIGITAL/ECONOMY HEATING BATH  
MODEL: 415 R01/416 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

- This range of heatable baths are suited for oil or water applications.
- The bath interior and optional lid are made of grade 304 stainless steel. High density mineral wool insulation is used for minimum heat loss.

## GENERAL INSTALLATION AND OPERATION INFORMATION

- Install the unit in the most convenient location for ease of cleaning, maintenance and general operation.
- Ensure that the surface is level.
- If the appliance is to be positioned in close proximity to a wall, partition, etc, it is recommended that they are of non-combustible heat insulating material, and the closest attention paid to fire prevention regulations.
- The units are provided with an auxiliary heater which is activated via a rocker switch.
- This auxiliary element assists in the rapid heat up of the bath.
- The removable diffuser plate is fitted above the element and ensures an even temperature distribution in the bath as well as providing a support platform for test tube racks etc. positioned in the bath.

## NOTES

**MODEL : 25 LITRE DIGITAL HEATABLE BATH**  
**MODEL CODE : 416 R01**

| Part No. | Description                |
|----------|----------------------------|
| 1        | ELEMENT DIFFUSER           |
| 2        | ELEMENT 1000W 230V         |
| 3        | 25 LITRE WATER BATH BODY   |
| 4        | LARGE RUBBER FOOT          |
| 5        | PT 100                     |
| 6        | PILOT LIGHT                |
| 7        | 15AMP FUSE AND FUSE HOLDER |
| 8        | SWITCH                     |
| 9        | CONTROLLER                 |
| 10       | FACIA                      |
| 11       | CONTROL PANEL COVER        |
| 12       | CABLE GRIP                 |
| 13       | POWER CORD                 |
| 14       | TERMINAL                   |
| 15       | TERMINAL SEPERATOR         |
| 16       | TERMINAL END STOP          |
| 17       | SOLID STATE RELAY 25AMP    |
| 18       | INNER TANK                 |

**SPECIFIC INSTALLATION AND OPERATION INFORMATION**

**CODE 415 – HYDRAULIC THERMOSTAT**

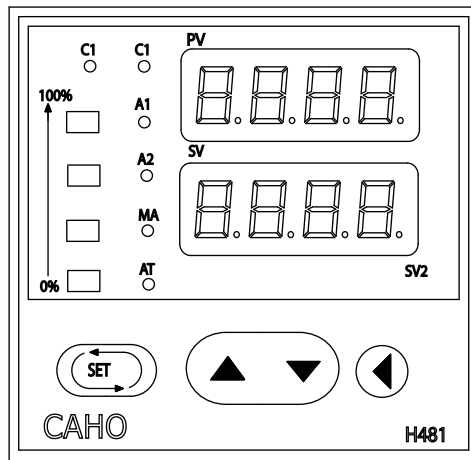
This unit is equipped with a hydraulic thermostat for application where lower temperature accuracy is acceptable.

**CODE 416 – DIGITAL ELECTRONIC CONTROL**

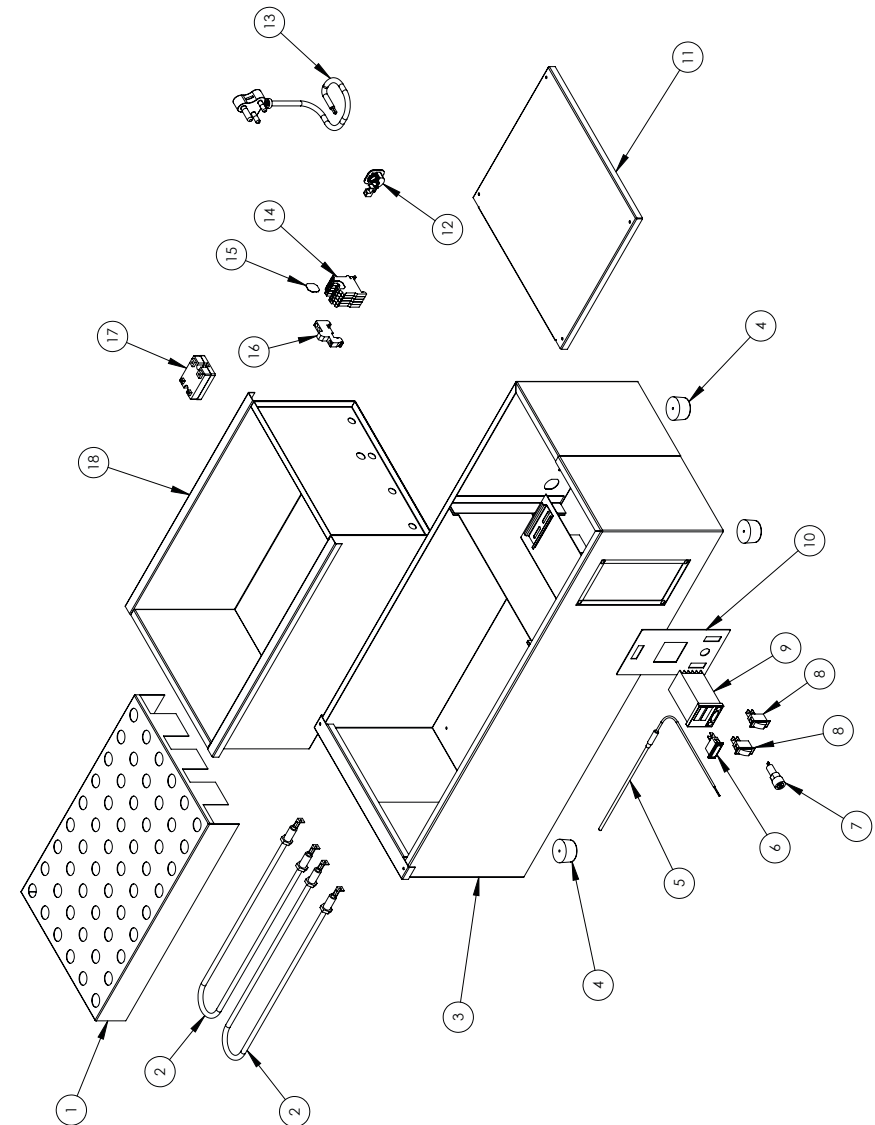
This unit is equipped with a digital control with a electronic PID for applications requiring a high degree of accuracy. The solid state relay switching ensures optimum reliability.

## OPERATING INSTRUCTIONS OF ELECTRONIC TEMPERATURE CONTROLLER

1. The temperature controller has four buttons on the front face. These are used to set the required temperature, initiate Auto-Tuning, and enter any adjustments to the program.
2. To set the required temperature, ensure that the unit is connected and switched "ON" in the appropriate manner.
3. The top display (red) shows the actual temperature (PV) in the unit, the bottom display (green) is the setting temperature (SV) and must be adjusted to the required temperature. To adjust the setting, press the button that points to the left. This action will start one of the digits in the lower display flashing. By touching this button again, the flashing will move to the left. Once the flashing red display is on the number that needs to change, use the UP/DOWN buttons to attain the required settings.
4. By moving the flashing digit left or right the desired temperature required can be set. Once the correct temperature has been entered, press SET to enter the setting.



## EXPLODED DIAGRAM ECONOMY HEATING BATH MODEL: 416 R01



**MODEL : 25 LITRE ECONOMY HEATABLE BATH**  
**MODEL CODE : 415 R01**

| Part No. | Description                |
|----------|----------------------------|
| 1        | ELEMENT DIFFUSER           |
| 2        | ELEMENT 1000W 230V         |
| 3        | 25 LITRE WATER BATH BODY   |
| 4        | LARGE RUBBER FOOT          |
| 5        | PILOT LIGHT                |
| 6        | KNOB                       |
| 7        | KNOB CAP                   |
| 8        | 15AMP FUSE AND FUSE HOLDER |
| 9        | SWITCH                     |
| 10       | THERMOSTAT                 |
| 11       | FACIA                      |
| 12       | CONTROL PANEL COVER        |
| 13       | CABLE GRIP                 |
| 14       | POWER CORD                 |
| 15       | TERMINAL EARTH             |
| 16       | TERMINAL                   |
| 17       | TERMINAL SEPERATOR         |
| 18       | TERMINAL END STOP          |
| 19       | INNER TANK                 |



## 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 unit using a damp cloth with soapy water.
- Do not submerge in water or subject the unit to water spray.
- The tank should only be filled with recommended liquids. To prevent contamination it is necessary to change liquid 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

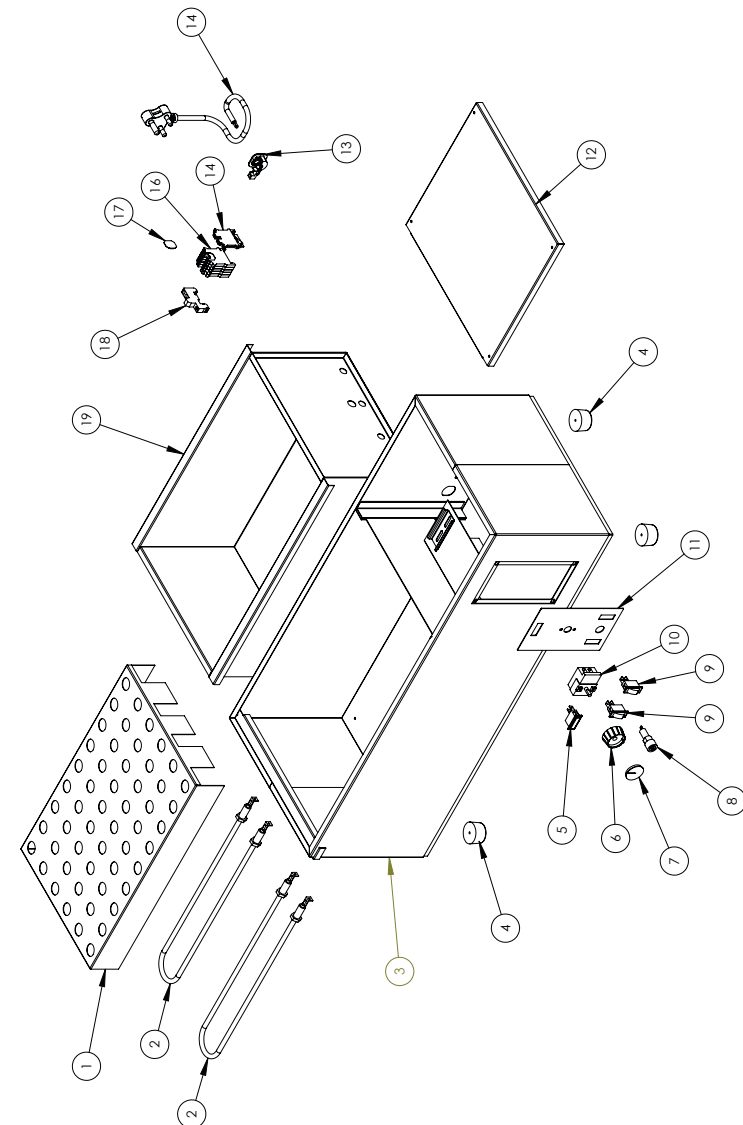
### READ ALL INSTRUCTIONS BEFORE USE. FAILURE TO FOLLOW THESE PRECAUTIONS COULD RESULT IN INJURY TO YOURSELF AND OTHERS

1. Use the heatable bath 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. Exercise CAUTION when emptying hot bath liquids.
2. Store and dispose of the used bath liquid according to the laws for environmental protection.
3. Some parts of the bath cover and the pump connection may become extremely warm during continuous operation. Exercise particular caution when touching these parts.
4. Never operate the unit without fluid in the bath.

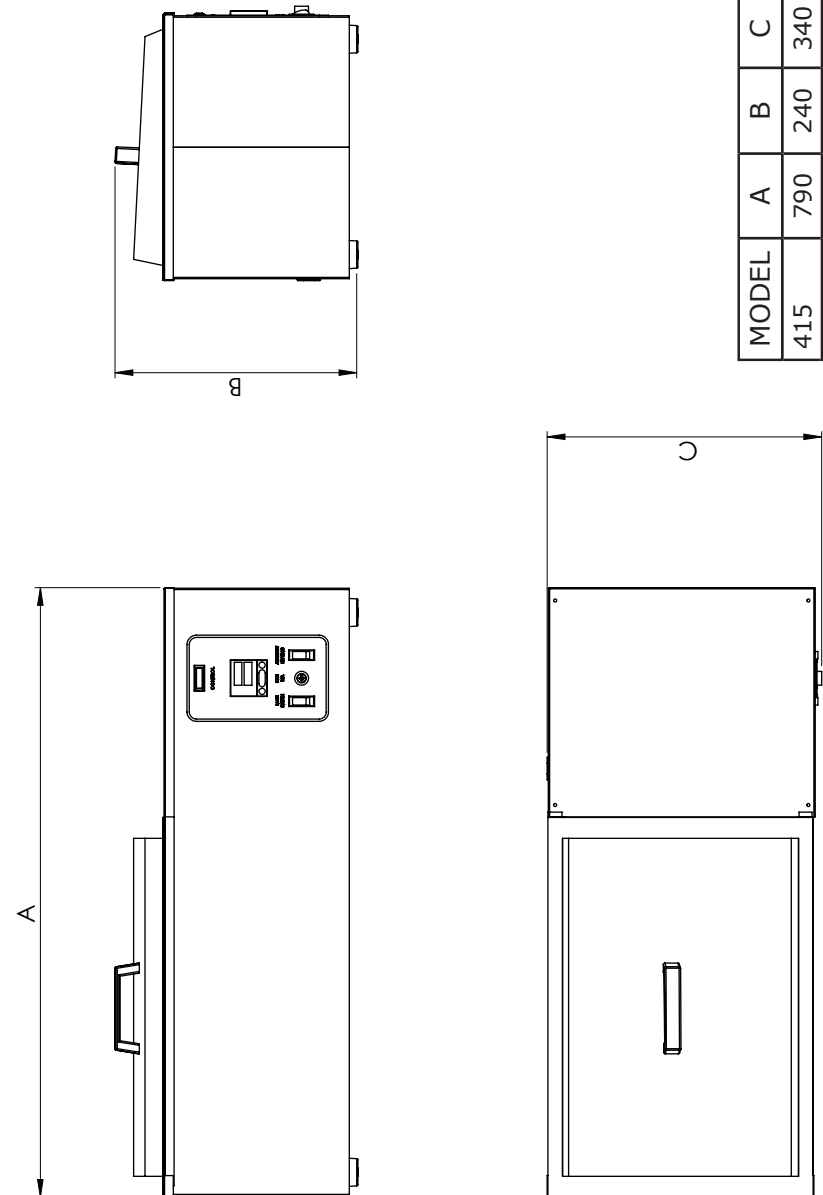
## EXPLODED DIAGRAM DIGITAL HEATABLE BATH MODEL: 415 R01





**POSITIONING DIAGRAM  
DIGITAL/ECONOMY HEATING BATH  
MODEL: 415/416**

| MODEL | A   | B   | C   |
|-------|-----|-----|-----|
| 415   | 790 | 240 | 340 |
| 416   | 790 | 240 | 340 |



## ELECTRICAL AND TECHNICAL INFORMATION

| MODEL | DESCRIPTION           | VOLTS<br>(V/Hz) | POWER<br>(WATTS) | CAPACITY<br>Lt |
|-------|-----------------------|-----------------|------------------|----------------|
| 415   | ECONOMY HEATABLE BATH | 230/50          | 2000             | 25             |
| 416   | DIGITAL HEATABLE BATH | 230/50          | 2000             | 25             |



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.

## WIRING DIAGRAM MODEL: ECONOMY HEATING BATH MODEL CODE: 415

| LEGEND | DESCRIPTION                        | PART NUMBER     |
|--------|------------------------------------|-----------------|
| FU     | FUSE AND FUSE HOLDER               | 1-15-FH/1-15-FU |
| S1     | ILLUMINATED MAINS SWITCH - MAINS   | 1-17TAF         |
| H1     | CONTROL PILOT LIGHT                | 1-18TRF         |
| S2     | ILLUMINATED SWITCH ELEMENT CIRCUIT | 1-17TAF         |
| B1     | CONTROL THERMOSTAT                 | 1-EGO-150       |
| E1/E2  | ELEMENT 1000W/230V                 | 5-1000W-RS-BB   |

