4-INS-405

Scientific
Laboratory Equipment

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

QUALITY GUARANTEED

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

Scientific

Scientific | Laboratory Equipment

THANK YOU FOR PURCHASING A SCIENTIFIC PRODUCT!

REGISTER ONLINE TODAY

- 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?

- 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

- ☐ Agriculture
- ☐ Automotive
- ☐ Biochemistry
- ☐ Botony
- ☐ Chemistry
- ☐ Cosmetics
- ☐ Electronics
- ☐ Food
- ☐ Genetics
- ☐ Industrial
- ☐ Medical
- ☐ Microbiology
- ☐ Mining
- ☐ Nuclear
- ☐ Paper/Packaging
- ☐ Petrochemical
- ☐ Pharmaceutical Physics
- ☐ Power Generation
- ☐ Special Metals
- ☐ Sugar
- ☐ Water
- ☐ Zoology
- ☐ Other (Specify): _____

QUALITY GUARANTEED

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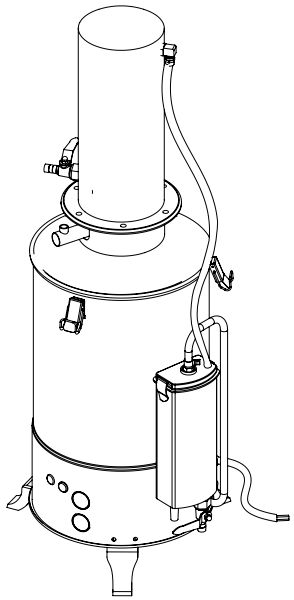
LIMITED WARRANTY

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.

WATER DISTILLER



INSTALLATION OPERATION AND CARE OF WATER DISTILLER MODELS: 405, 406, 407

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.

GENERAL INSTALLATION AND OPERATION INSTRUCTIONS

1. Position the distiller on a level surface in an area where there is allowance for the hot surfaces and heat dissipation generated by this appliance.
2. Leave at least 500mm clearance all around the unit to allow for ventilation and access.

OPERATING INSTRUCTION

1. RAW WATER - INLET

Connect the raw water supply to the water inlet valve using a suitable connector and pipe. The pipe and connector should be capable of handling the incoming water pressure if the inlet valve is to be used to control the water flow rate.

Note: A constant water pressure is required for optimum distillate output.

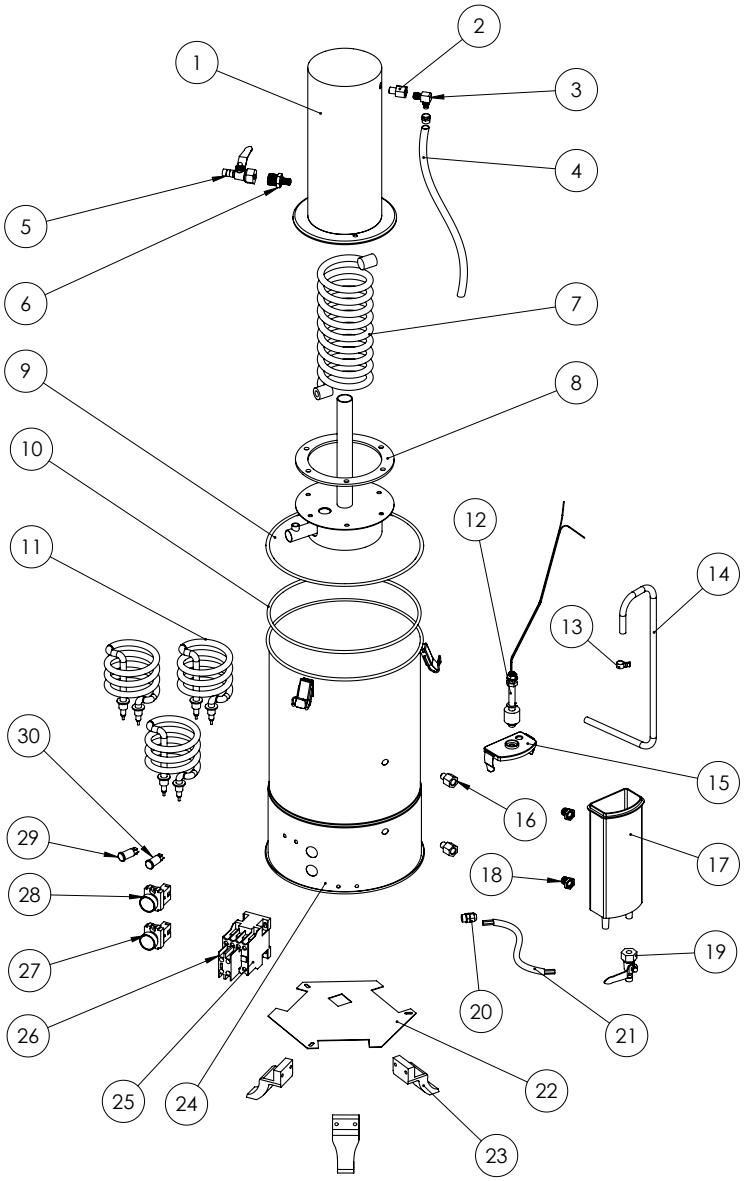
2. WASTE WATER OUTLETS

The temperature of the water leaving the overflow outlet or drain valve can be as high as 100°C. Suitable tubing and connectors should be used. As the pressure is low at these outlets, silicone tubing is suitable for this application. Care should be taken to avoid blockage, these drain outlets should have a continuous fall to an open drain.

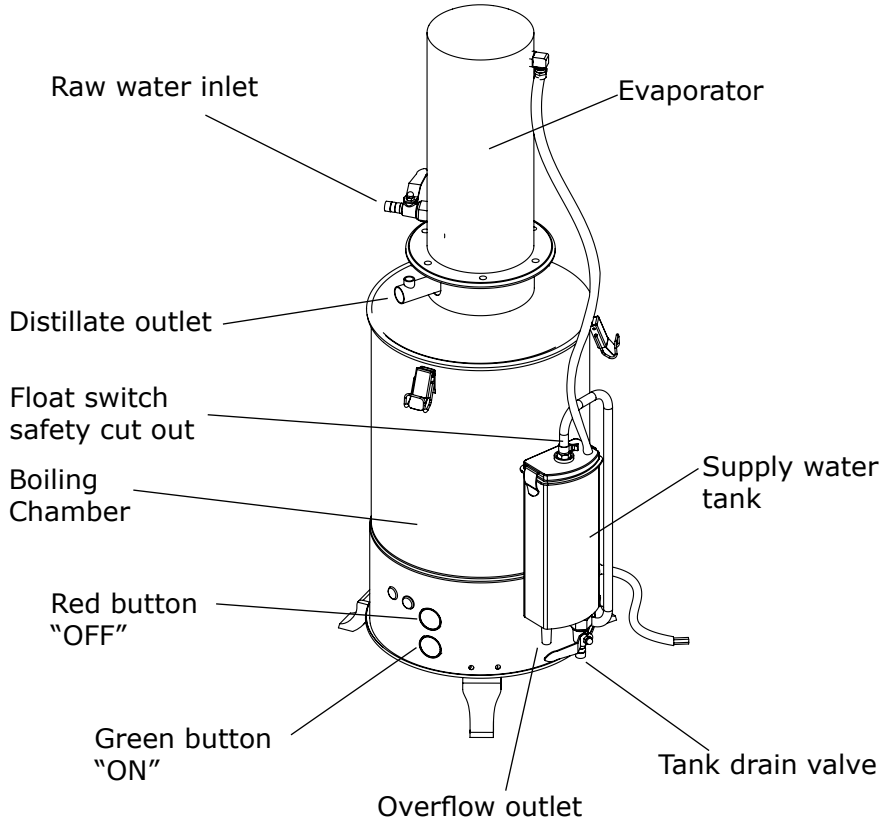
PARTS LEGEND
WATER DISTILLER
MODEL: 405, 406, 407

ITEM No.	Description
1	TOP COVER
2	TOP COIL FITTING 1/4" MALE, FEMALE
3	ELBOW FITTING 1/4"
4	PLASTIC OUTLET TUBE Ø10MM
5	BRASS VALVE 1/2 "
6	1/2" TO 1/4" FITTING MALE, MALE
7	COIL STAINLESS STEEL
8	SILICONE GASKET
9	DRUM TANK LID ASSEMBLY
10	SLICONE DRUM GASKET
11	HEATING ELEMENT 2,5KW
12	WATER LEVEL SENSOR
13	SPRING CLIP
14	SENSOR WIRE SLEEVE
15	WATER TANK LID
16	1/2" BRASS DRUM FITTINGS
17	PLASTIC WATER TANK
18	1/2" BRASS WATER TANK FITTINGS
19	BRASS VALVE 1/4"
20	CABLE GLAND PLASTIC
21	ELECTRICAL CABLE
22	BASE PLATE
23	PLASTIC FOOT
24	DRUM 10 LT
25	CONTACTOR 32A
26	OVERLOAD MODULE
27	PUSH BUTTON GREEN
28	PUSH BUTTON RED
29	PILOT LIGHT RED
30	PILOT LIGHT GREEN

EXPLODED DIAGRAM
WATER DISTILLER
MODEL: 405, 406, 407



CONTROL DIAGRAM
WATER DISTILLER



3. START UP AND COOLING WATER FLOW RATE

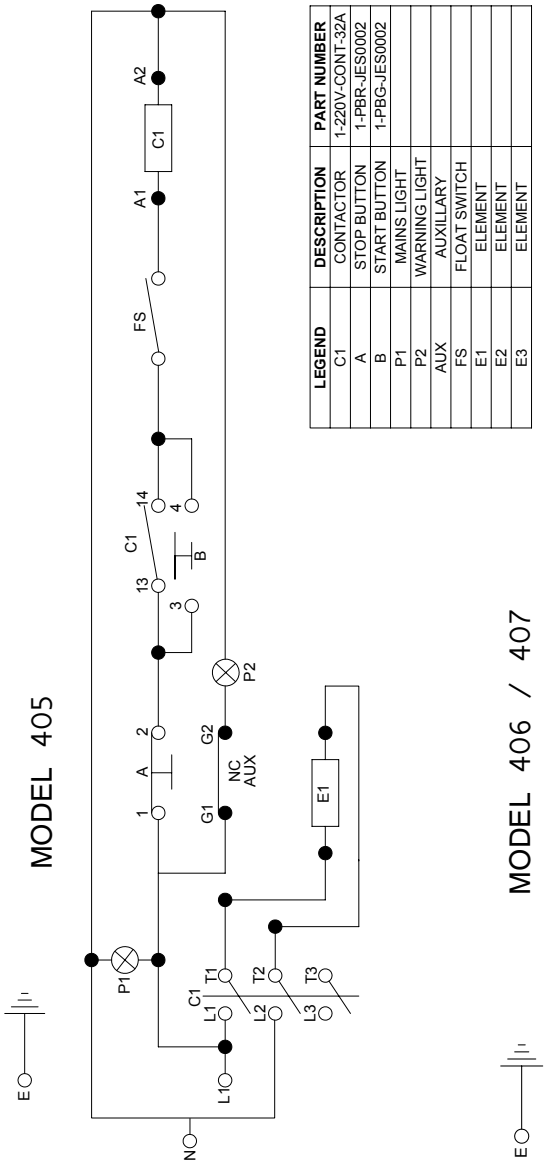
Before the unit can operate the boiling chamber must be filled with water. Open the raw water supply and allow the supply water tank on the side of the unit to fill up, this will in turn supply and maintain the water to the boiling chamber. Once the tank starts to overflow turn down the inlet valve to reduce the flow.
Switch on the unit by pushing the green button. The green button will illuminate. Allow the water in the boiling chamber to reach boiling point. The flow rate of the raw water inlet can now be adjusted so that the temperature of the water leaving the overflow outlet is in the range of 65°C to 75°C

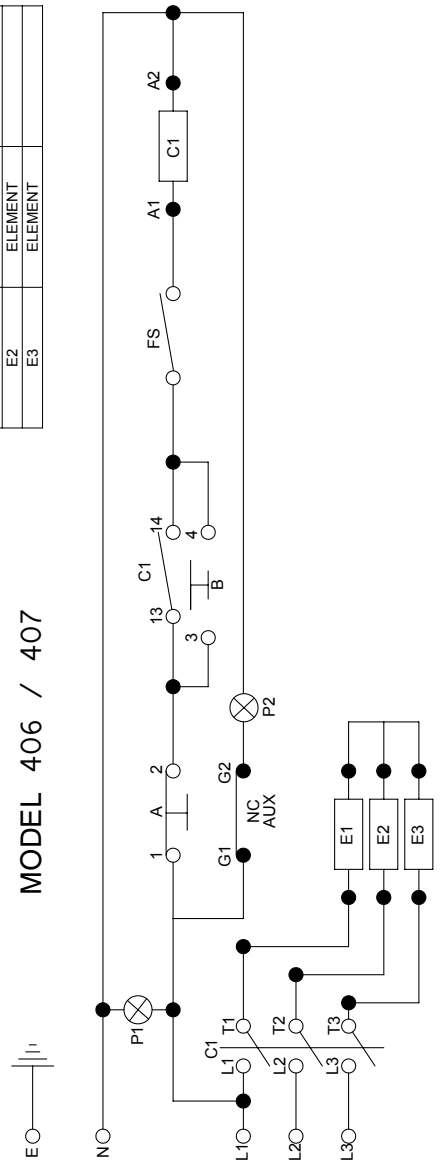
4. SAFETY CUT-OUT SWITCH

In the event that the water supply is interrupted, the water level in the supply tank will drop and the safety float switch will activate automatically switching off the unit. When this occurs the red pilot lamp adjacent to the control buttons will illuminate.
To switch the unit on again, ensure the water supply is returned, allow the unit to fill with water and push the green button to start.

WIRING DIAGRAM
MODEL: WATER DISTILLER
MODEL CODE: 405

LEGEND	DESCRIPTION	PART NUMBER
C1	CONTACTOR	1-220V-CONT-32A
A	STOP BUTTON	1-PBR-JES0002
B	START BUTTON	1-PBG-JES0002
P1	MAINS LIGHT	
P2	WARNING LIGHT	
AUX	AUXILLARY	
FS	FLOAT SWITCH	
E1	ELEMENT	
E2	ELEMENT	
E3	ELEMENT	





ELECTRICAL CONNECTION INFORMATION

MODEL	DESCRIPTION	VOLTS (V /Hz)	POWER (W)
405	5 Lt Water Distiller	230/50	4 500
406	10 Lt Water Distiller	230/400 50	7 500
407	15 Lt Water Distiller	230/400 50	15 000

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.

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.

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

1. Always ensure that the unit is disconnected from the main power supply before cleaning.

2. This unit should not be cleaned with a water jet or immersed in water. Use only a damp cloth or sponge dipped in soapy water.

3. Wipe off the unit with a dry cloth and wait at least a half an hour before re-connecting to the main power outlet.

SUGGESTED METHOD:

1. The evaporator must be cleaned of lime deposits once or twice a month depending on the hardness of the water supply. A mixture of 10% formic acid,10% acetic acid and 80%distilled water is a recommended cleaning medium.
2. Fill the evaporator with this mixture and heat to 70°C for ± 15-20 Minutes. Drain the solvent mixed with lime and rinse the evaporator thoroughly with fresh water.

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

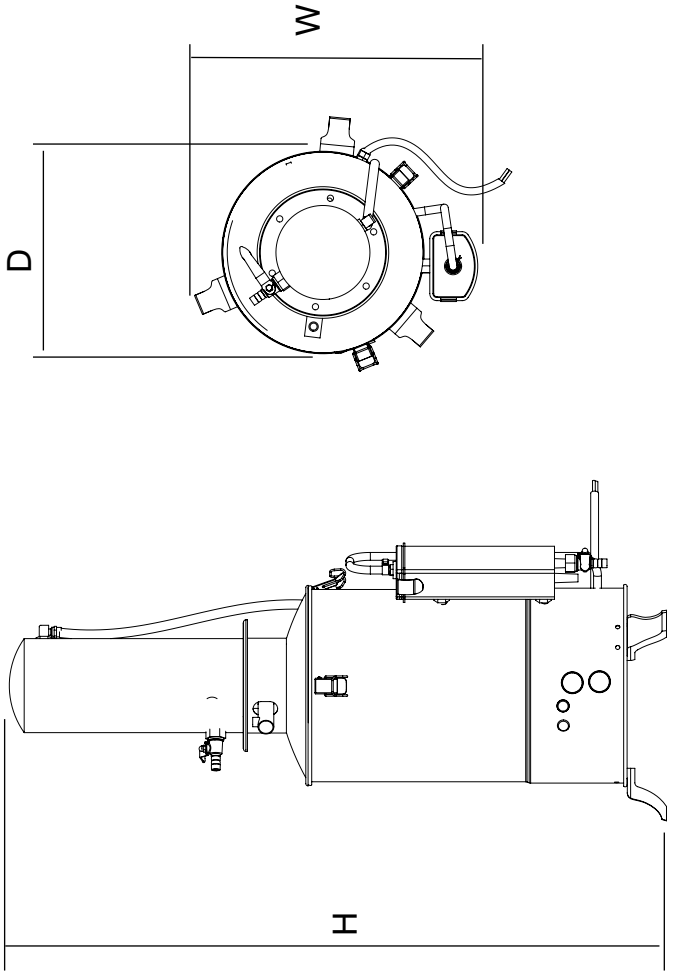
Do not spray water or cleaning products. Liquid could contact the electrical components and cause a short circuit or an electrical shock.
Do not use equipment if power cord is damaged or has been modified

SAFETY

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

1. Use the distiller on an a suitably rated circuit 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. The equipment may be hot, even though the pilot light is not on.
9. Do not operate if equipment has been damaged or is malfunctioning in any way.
10. These units are designed to run only on alternating current (A.C.) **DO NOT CONNECT TO DIRECT CURRENT (D.C)**

POSITIONING DIAGRAM
WATER DISTILLERS



Model No.	405	406	407
Capacity (Litres)	5	10	20
Dimensions (W x D x H) mm	330 x 240 x 730	350 x 270 x 830	380 x 380 x 980
Dimensions packed (W x D x H) mm	380 x 350 x 810	380 x 360 x 900	410 x 410 x 1110