



Applies to Waterous Model

**Verifoam Conductivity Tester
Operation and Programming Instructions**

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Warnings, Cautions, and Notes

Warning A warning alerts you to a procedure, practice or condition that may result in death or long term injury to personnel or destruction of equipment.

Caution A caution alerts you to a procedure or condition that may result in serious damage to equipment or its failure to operate as expected

Note: A note points out important information. Failure to read the note may not result in physical harm to personnel or equipment. It may waste time and money.

INTRODUCTION

This device is designed to be used in conjunction with the CAFS system to test the performance of the system by measuring the conductivity of the mixed solution and calculating and displaying the mix percentage. In addition to measuring the mix percentage, the device can be used as a diagnostic tool to check the operation of conductivity sensors used on the CAFS control system.

Revision History

| Revision | Date Issued | Comments |
|----------|-------------|-----------------|
| --- | 9/11/08 | Initial Release |
| | | |

Disclaimer: These instructions are guidelines only and in no way meant to be definitive. During installation, standard safety precautions and equipment should be used where appropriate. Because the tools used and the skill/experience of the installer can vary widely, it is impossible to anticipate all conditions under which this installation is made, or to provide cautions for all possible hazards. Proper installation is the responsibility of the purchaser. All bolts, setscrews, and belts must be checked prior to start-up AND after the initial operation. Damages due to poor installation are the responsibility of the installer.

Waterous reserves the right to make modifications to the system without notice

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SECTION 1. SPECIFICATIONS

A. Power Supply:

9V Alkaline Battery

B. Display

4 digit 7 segment LCD, 0.5" high digits
Annunciator for low battery

C. Keypad

4 button membrane switches laminated into overlay.
Clear window over LCD display

D. Environmental:

Operating Temperature: -22 F (-30 C) to 122 F (50 C)
Humidity: 0 – 90% Non-condensing

SECTION 2. OPERATION

4 button Operator Interface

On/Off – turns the tester on or off.

When turned off, the display will be blank, and the circuitry goes into a low power standby mode.

Select – Used to select display mode/operation.

Each time the button is pressed, the unit will advance to the next mode.

Zero – When in the mix percentage mode, pressing the Zero button will capture the current sensor reading as the zero (fresh water) reference. When pressed during power up, allows access into calibration mode.

Enter – Used to select the selected mode and enter calibration points.

Operation

Press the On/Off key.

The Display will show the software revision number (P X.X). The unit will then display the first menu selection.

Main Menu:

PCt – Mix Percentage

tEP – Temperature Sensor

SEn – Conductivity Sensor Reading

CAL – Calibration Mode

Note: only when ZERO (pressed and held) and the ON keys are pressed on start-up.

Press the Select key to scroll through the menu selections.

Press the Enter key to select the function.

I. PCt

The unit will display the mix percentage.

1. Place the sensor in a sample of plain water.
2. Then press the Zero key to capture a zero reference reading.
3. Now place the Sensor in a mixed solution.

The display will show the mix percentage reading. After 5 minutes of no key activity, the unit will automatically turn off.

II. tEP

The unit will display the temperature of the solution that the sensor is in.

The displayed value is in degrees celcius.

After 5 minutes of no key activity, the unit will automatically turn off.

III. CND SEn

The unit will display the current sensor raw A/D reading x10

(i.e. and reading of 200 is actually a raw A/D reading of 2000).

After 5 minutes of no key activity, the unit will automatically turn off.

IV. CAL

Note: The accuracy of the unit is dependent upon the accuracy of the calibration.

Calibration Setup: This procedure only needs to be done once.

Mix, in separate 1000ml glass or Pyrex containers, a Raw, .2 %, 1.0%, 3.0% and 6 % water / concentrate solution.

To access the calibration mode:

1. Press and hold the Zero key then press the On key to power up the unit.
Program version shows.

The display will show the PCt prompt.

2. Press the Select key until CAL is displayed.
3. Press Enter

4. Place the sensor in a clean water sample.
5. Then press the Enter key.

The display will show SPL while the sensor reading is being sampled.

The display will show the Pt2 prompt.

6. Place the sensor in a 0.2% mix solution.
7. Then press the Enter key.

The display will show SPL while the sensor reading is being sampled.

The display will show the 1PCt prompt.

8. Place the sensor in a 1.0% mix solution.
9. Press the Enter key.

The display will show SPL while the sensor reading is being sampled.

The display will then show 3Pt.

10. Place the sensor in a 3.0% mix solution.
11. Press the Enter key.

The display will show SPL while the sensor reading is being sampled.

The display will then show 6Pt.

12. Place the sensor in a 6.0% mix solution.
13. Press the Enter key.

The display will show SPL while the sensor reading is being sampled.

The display will show "dOn" to indicate the the calibration is done.

14. Press the Enter key to return to the main menu.



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Compressed Air Foam Systems