

138 Basic Bresle Salt Kit

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User Guide
Elcometer 138
Basic Bresle Kit & Patches

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For the avoidance of doubt, please refer to the original English language version.

Kit Dimensions: 307 x 260 x 74mm (12.1 x 10.2 x 2.9")

Kit Weight: 952g (2lb 1oz)

Material Safety Data Sheets for the Elcometer 138E Standard Calibration Solutions are available to download via our website:

http://www.elcometer.com/images/stories/MSDS/Calibration_Solution_T13827352-1_to_T13827352-3_EU.pdf

http://www.elcometer.com/images/stories/MSDS/Calibration_Solution_T13827352-1_to_T13827352-3_Americas.pdf

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1 OVERVIEW

The Elcometer 138 Basic Bresle Kit and Patches provides all the materials and equipment required to determine the surface chloride contamination level.

Chloride salts are extracted from the surface using the Bresle Patch method and the chloride content of the test solution is measured using a conductivity meter.

These instructions incorporate two test methods:

- ISO 8502-6 / ISO8502-9
- US NAVY PPI 63101-000 (Rev 27)

The Elcometer 138 Basic Bresle Kit and Patches can also be used in accordance with ISO 8502-11; AS 3894.6-A and SSPC Guide 15.

For IMO PSPC^a, the surface salts should be measured and recorded. The Elcometer 138 Basic Bresle Kit and Patches can be used for this.

2 BOX CONTENTS

- Elcometer 135C Bresle Test Patch, Pack of 25
- Elcometer 138E Conductivity Meter
- Standard 1413 $\mu\text{S}/\text{cm}$ (1.413 mS/cm) Calibration Solution, 1 x 20ml (0.74 fl oz) Single Use Pouch
- Bottle of Pure Water; 250ml (8.5 fl oz)
- Syringes, 5ml (0.17 fl oz); x3
- Needles (Blunt); x3
- Plastic Beaker; 30ml (1 fl oz)
- LR44 Alkaline Batteries; x4
- Transit Case
- User Guide

Note: The Elcometer 138E Conductivity Meter included in the test kit measures the conductivity of aqueous solutions. The meter is NOT designed to measure solids, organic solvents, surfactant, oil, adhesive, alcohol, strong acids (pH: 0 to 2) or strong alkalis (pH: 12 to 14). The life of the sensor will be extremely short if these substances are measured.

^a International Maritime Organisation, Performance Standard for Protective Coatings.

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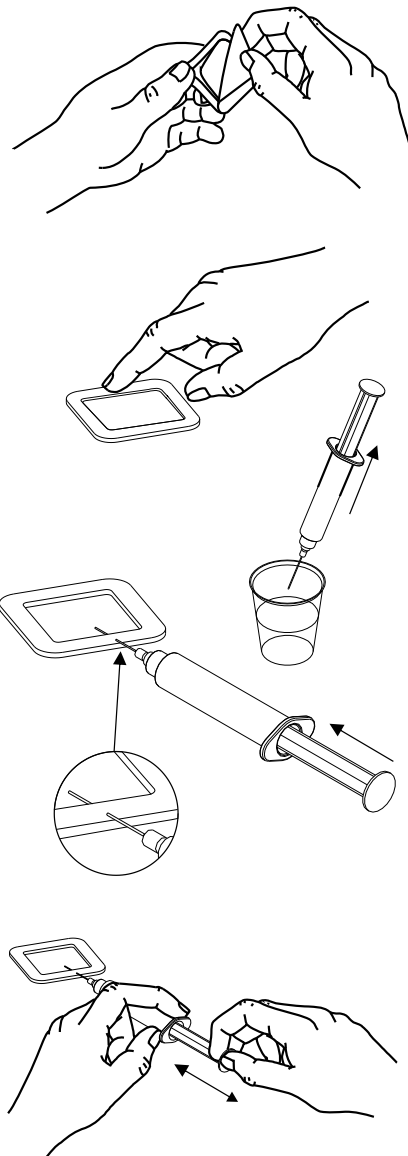
3 TEST PROCEDURE: ISO 8502-6 / ISO 8502-9

en 3.1 BEFORE YOU START

- 1 Calibrate the conductivity meter, see Sections 5.5 and 5.6 on pages 10 and 14.
- 2 As the test is extremely sensitive, clean latex or nitrile gloves should be worn during the extraction of soluble salts to prevent contamination of the surface.

3.2 TEST PROCEDURE

- 1 Remove the printed protective backing and foam centre from the Bresle patch.
- 2 Apply the patch to the surface pressing firmly around the perimeter of the patch to ensure a complete seal and remove the protective paper cover.
- 3 Fill a syringe with 3ml of pure water.
- 4 Insert the syringe into the patch through the spongy foam perimeter at an angle of approximately 30° to the test surface so that it passes through the foam into the compartment formed by the elastomer film and the test surface. If the patch is positioned in a difficult position bend the needle as required.
- 5 Inject the pure water into the patch. Do not remove the needle.
 - ▶ If necessary, any air can be evacuated into the syringe and allowed to stay above the water in the syringe. Take care not to re-insert the air during steps 6 and 7.
- 6 During a suitable period of time^b, without removing the needle, suck and re-inject the solution at least four times^c.



^b On un-pitted blast-cleaned areas, a period of 10 minutes has been found to be satisfactory, though this time should be agreed by the interested parties.

^c During steps 6 and 7, it is essential that no solution is lost. If any solution is lost, the test shall be rejected.

3 TEST PROCEDURE: ISO 8502-6 / ISO 8502-9 (continued)

- 7 At the end of the period, extract as much solution as possible and remove the syringe from the patch^c.
- 8 Measure the conductivity of the solution using the Elcometer 138E Conductivity Meter, see Section 5.8 on page 16. Inject the sample directly into the sensor cell. Rinse the sensor cell several times with the solution to be measured before taking the reading.

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3.3 AFTER TEST

- 1 Record the temperature of the solution.
- 2 Remove the patch from the surface and clean the surface. If required, any adhesive residue from the patch left on the test surface can be removed by wiping with a cloth moistened with a suitable solvent. Ensure that the solvent will not damage the surface before use.
- 3 Rinse all components of the test kit, other than the patch, in fresh, pure water. The components can then be used again.

3.4 TO CALCULATE THE SURFACE DENSITY OF SALTS

Multiply the reading by one of the following factors:

	Surface Density of Salts: Factors ^d			
	ISO Salt Mix		IMO PSPC equivalent NaCl	
Reading	mg/m ²	µg/cm ²	mg/m ²	µg/cm ²
µS/cm	x1.2	x0.12	x1.1	x0.11

Note: ISO 8502-9 allows for the measurement of the pure water before testing and then the subtraction of that value from that obtained in section 3.2 step 8 above.

^c During steps 6 and 7, it is essential that no solution is lost. If any solution is lost, the test shall be rejected.
^d Based on an area of 12.5cm² and a volume of 3ml.

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4 TEST PROCEDURE: US NAVY PPI 63101-000

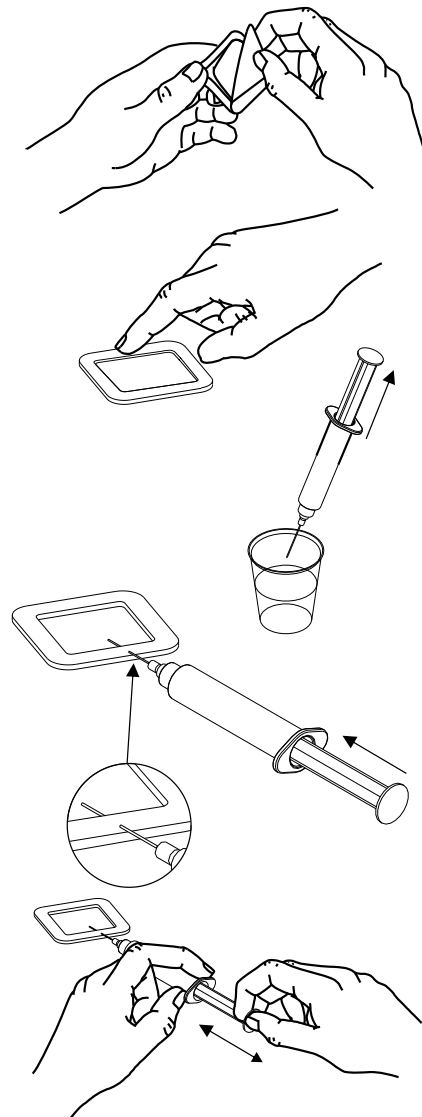
en 4.1 BEFORE YOU START

- 1 Calibrate the conductivity meter, see Sections 5.5 and 5.6 on pages 10 and 14.
- 2 As the test is extremely sensitive, clean latex or nitrile gloves should be worn during the extraction of soluble salts to prevent contamination of the surface.

4.2 TEST PROCEDURE

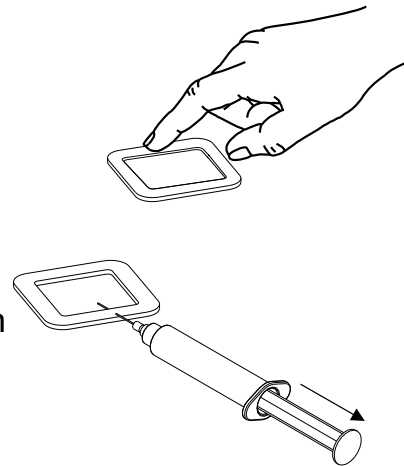
Measurements are to be made randomly over the prepared surface. Five measurements should be taken every 90m² (1000ft²). Five measurements should be taken for areas less than 90m² (1000ft²).

- 1 Remove the printed protective backing and foam centre from the Bresle patch.
- 2 Apply the patch to the surface pressing firmly around the perimeter of the patch to ensure a complete seal and remove the protective paper cover.
- 3 Fill a syringe with 3ml of pure water.
- 4 Insert the syringe into the patch through the spongy foam perimeter and inject 1.5ml of pure water into the patch. Do not remove the syringe.
- 5 With the syringe still in the patch, reposition the needle and evacuate any air in the patch.
- 6 Once the air has been removed, inject the remaining 1.5ml of pure water.
- 7 Remove the syringe from the patch.



4 TEST PROCEDURE: US NAVY PPI 63101-000 (continued)

- 8 Rub the surface of the patch gently for 10 to 15 seconds to allow the water to dissolve surface contaminants.
- 9 Insert the syringe into the patch through the spongy foam perimeter and extract the solution from the patch.
- 10 Measure the conductivity of the solution using the Elcometer 138E Conductivity Meter, see Section 5.8 on page 16. Inject the sample directly into the sensor cell. Rinse the sensor cell several times with the solution to be measured before taking the reading.



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4.3 AFTER TEST

- 1 Record the temperature of the solution.
- 2 Remove the patch from the surface and clean the surface. If required, any adhesive residue from the patch left on the test surface can be removed by wiping with a cloth moistened with a suitable solvent. Ensure that the solvent will not damage the surface before use.
- 3 Rinse all components of the test kit, other than the patch, in fresh, pure water. The components can then be used again.

4.4 PASS / FAIL CRITERIA

For immersed applications, conductivity due to soluble salts (total ionic) shall not exceed 30 μ S/cm.

For non-immersed applications, conductivity due to soluble salts shall not exceed 70 μ S/cm.

Note: The charts produced by the US Navy for the calculation of chloride levels are not required for this test method. Please contact Elcometer or your local Elcometer supplier if you require a copy of these charts.

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5 USING THE CONDUCTIVITY METER

en 5.1 FITTING THE BATTERIES

The Elcometer 138E Conductivity Meter uses dry cell batteries only. Four 1.5V LR44 alkaline batteries are supplied in the kit.

To fit the batteries:

- 1 Unscrew the battery compartment lid.
- 2 Place batteries in battery compartment ensuring correct polarity (Figure 1).

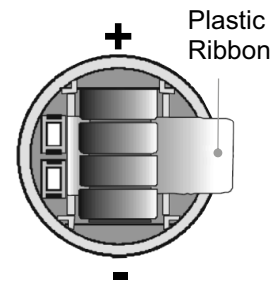



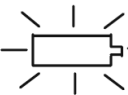


Figure 1

Remove old batteries by pulling the plastic ribbon (Figure 1).



The battery condition is indicated by a symbol on the display:

	3 bars indicates the battery is full (100%).
	2 bars indicates 50% of the battery life is left.
	1 bar indicates 25% of the battery life is left.
	Blinking battery casing indicates the need to replace batteries with new ones.



*Note: Batteries must be disposed of carefully to avoid environmental contamination. Please consult your local Environmental Authority for information on disposal in your region. **Do not dispose of any batteries in fire.***

5.2 CONTROLS & DISPLAY

The Elcometer 138E Conductivity Meter is operated using 5 buttons and displays readings and other information on the LCD screen.

	Switches the meter On / Off.
	<i>In measurement mode:</i> temperature reading switches between Celsius and Fahrenheit. <i>In calibration mode:</i> switches the meter to temperature calibration mode. <i>In temperature calibration mode:</i> exits calibration mode without confirming calibrated values.

5 USING THE CONDUCTIVITY METER (continued)

	<p><i>In measurement mode:</i> switches to hold mode, freezing the display. <i>In hold mode:</i> switches back to measurement mode. <i>In manual calibration and temperature calibration modes:</i> exits calibration without confirming calibrated values. <i>In range selection mode:</i> selects a range.</p>
	<p>Located inside the battery compartment <i>In measurement mode:</i> enters calibration mode. <i>In calibration mode:</i> adjusts the calibration values.</p>

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5.3 SWITCHING ON / OFF


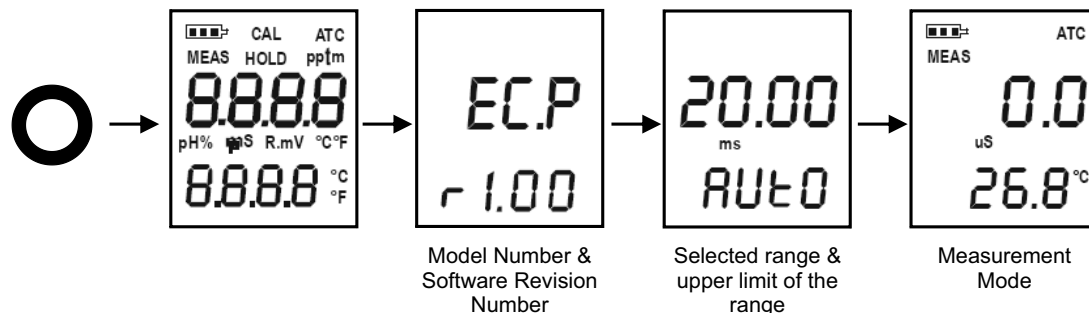

To switch on: Press the On/Off button ‘

Figure 2: Power-Up Sequence



To switch off: Press the On/Off button ‘

Note: The meter will switch off automatically after 8.5 minutes of inactivity.

5.4 SELECTING THE MEASUREMENT RANGE

The Elcometer 138E can be set to limit the reading to a particular measuring range (PU, LO or HI) or full scale (AUTO). The default setting is AUTO.

Measuring Range & Resolution	PU:	0 - 200.0µS/cm	0.1µS/cm
	LO:	0 - 2000µS/cm	1µS/cm
	HI:	0 - 20mS/cm	0.01mS/cm

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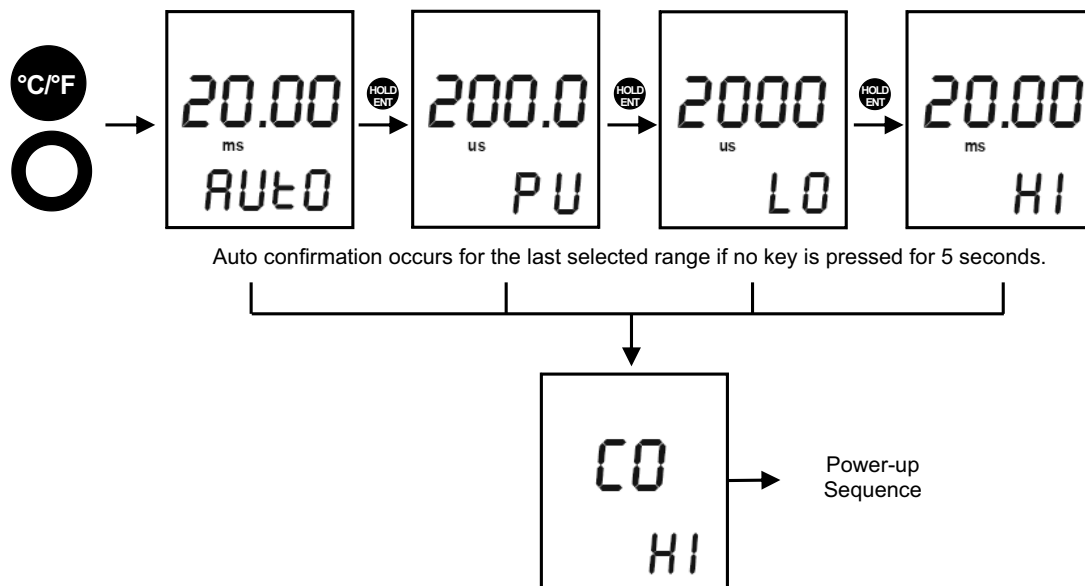
5 USING THE CONDUCTIVITY METER (continued)

en When a range other than AUTO is selected, the meter can be calibrated only for that particular range. If a sample is measured which has a higher conductivity level than the selected measuring range, the error message 'OR' is displayed.

To select the measuring range (Figure 3):

- 1 With the meter switched off, press and hold the '°C/°F' button, then switch the meter on. Release the '°C/°F' button.
- 2 The meter goes into range selection mode. The currently selected range is shown in the lower display. The upper display shows the maximum possible reading for the selected range. Press 'HOLD ENT' repeatedly until the required range is displayed (PU, LO or HI).
- 3 The meter automatically confirms the last selection if no button is pressed for 5 seconds. The upper display momentarily shows 'CO'. The LCD shows the power-up sequence and the meter goes to measurement mode.

Figure 3: Selecting the Measuring Range



5 USING THE CONDUCTIVITY METER (continued)

5.5 CONDUCTIVITY CALIBRATION

The meter must be calibrated on a regular basis to ensure accurate results. Calibration can be manual or automatic; 1 point or multi-point.

The factory default setting is automatic, 1 point calibration. In automatic calibration, the meter automatically detects and verifies known conductivity standard solutions. In manual calibration, non standard solution which may be specific to your application can be used.

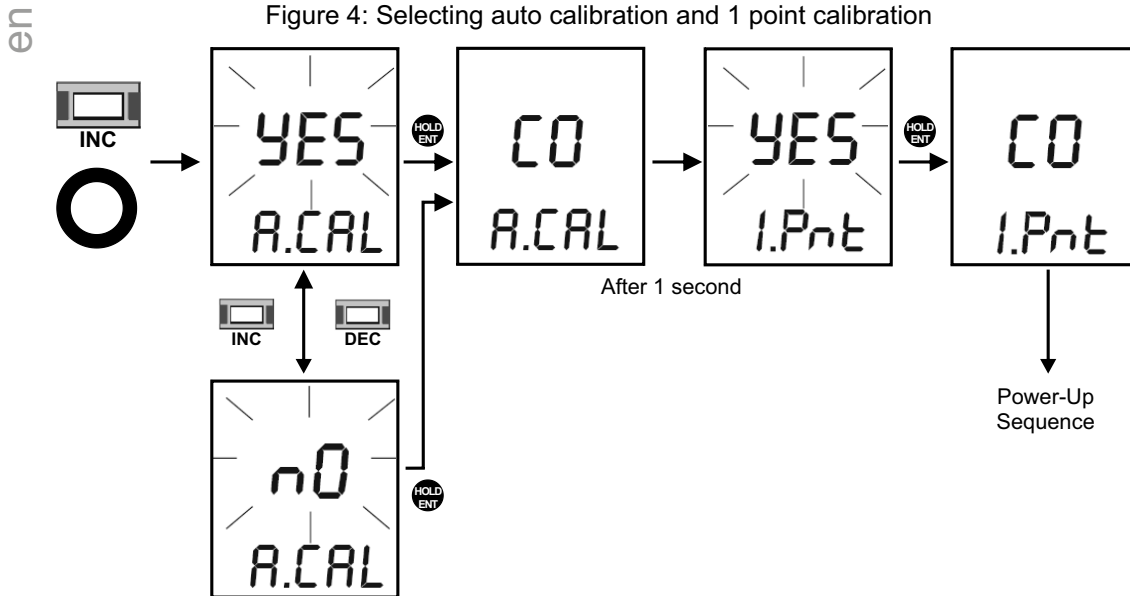
Note: This user guide explains the 1 point calibration technique only as only one calibration solution is supplied with the kit; multi-point calibration requires calibration solutions of different values. For further information on multi-point calibration, contact Elcometer for a copy of the full Elcometer 138E operating instructions.

To enable / disable auto calibration and select 1 point calibration (Figure 4):

- 1 With the meter switched off, press and hold the 'INC' button, then switch the meter on. Release the 'INC' button.
- 2 The meter goes to auto calibration selection mode. The lower display shows 'A.CAL' and the upper display blinks the current choice; 'Yes' or 'No'. Press 'INC' or 'DEC' to select 'Yes' and enable auto calibration or 'No', to disable auto calibration.
 - ▶ Press '°C/°F' to skip this setting without confirming changes.
 - ▶ Press '°C/°F' twice to return to the measurement mode without confirming changes.
- 3 Press 'HOLD ENT' to confirm the selection; 'CO' is displayed.
- 4 The meter goes into 1 point calibration selection mode. The lower display shows '1.Pnt' and the upper display blinks the current choice; 'Yes' or 'No'. Press 'INC' or 'DEC' to select 'Yes' and enable 1 point calibration.
 - ▶ Press '°C/°F' to skip this setting without confirming changes.
 - ▶ Press '°C/°F' twice to return to the measurement mode without confirming changes.
- 5 Press 'HOLD ENT' to confirm the selection; 'CO' is displayed for a few seconds followed by the power-up sequence. The meter goes into measurement mode.

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5 USING THE CONDUCTIVITY METER (continued)



Using automatic calibration (Figure 5):

Automatic calibration is suitable for use with known conductivity standard solutions.

The solution used should correspond to the selected measuring range. One single use 20ml pouch of standard 1413 $\mu\text{S}/\text{cm}$ (1.413 mS/cm) calibration solution is supplied in each kit. When using this solution, the measuring range should be set to 'LO', see Section 5.4 'Selecting the Measuring Range' on page 8.

Note: If using a different conductivity standard solution to the one supplied in the kit contact Elcometer for a copy of the full Elcometer 138E operating instructions.

During automatic calibration, the meter will automatically detect the conductivity standard if it's value is within 50% tolerance.

Always use fresh calibration standard solutions. Before you begin, prepare the solution in two beakers; one for rinsing and the other for calibration. Rinse the electrode in pure water before calibration.

- 1 Press the 'On/Off' button to switch the meter on. Make sure the meter is in measuring mode. Press the 'INC' or 'DEC' button to enter conductivity calibration mode.

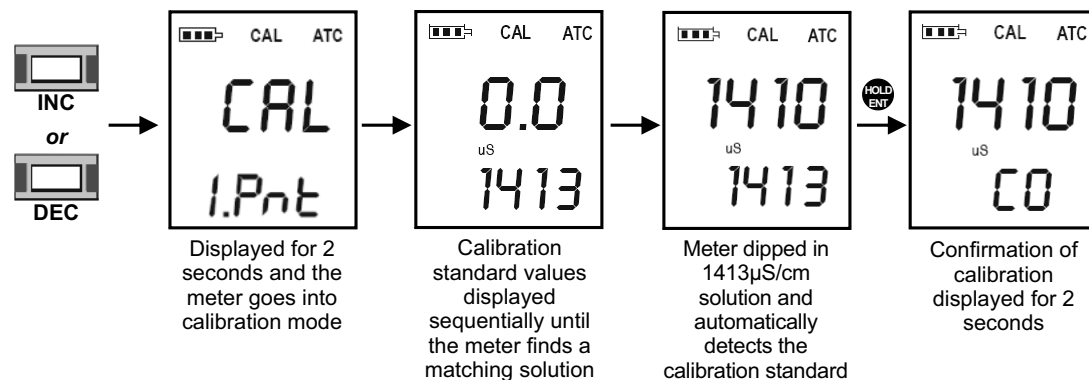
5 USING THE CONDUCTIVITY METER (continued)

- 2 The 'CAL' indicator appears on the display. 'CAL' and '1.Pnt' are briefly displayed.
- 3 The upper display shows the conductivity reading and the lower display shows the calibration standard value; '1413' if using the solution supplied with the kit.
- 4 Rinse the electrode with the calibration standard then dip the electrode into the second beaker containing the calibration standard. Swirl gently to create a homogenous sample and allow time for the reading to stabilise.
 - ▶ 'Er.1' is displayed if the conductivity of the calibration solution is outside the tolerance range.
 - ▶ 'Er.0' is displayed and the meter returns to measurement mode if the temperature of the calibration solution is not within 0°C to 50°C (32°F to 122°F).
 - ▶ Press 'INC' or 'DEC' to exit auto calibration during any of the above steps.
- 5 Press 'HOLD ENT' to confirm the calibration. 'CO' is displayed for two seconds, calibration is complete and the tester returns to measuring mode.
 - ▶ 'Er.1' is displayed if 'HOLD ENT' is pressed before the meter recognises the calibration solution.

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Note: This user guide explains the 1 point calibration technique only as only one calibration solution is supplied with the kit; multi-point calibration requires calibration solutions of different values. For further information on multi-point calibration, contact Elcometer for a copy of the full Elcometer 138E operating instructions.

Figure 5: Automatic, 1 Point Calibration Sequence



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5 USING THE CONDUCTIVITY METER (continued)

en Using manual calibration (Figure 6):

In manual calibration, customised calibration solutions with known conductivity values can be used to calibrate the meter.

The table below shows acceptable conductivity ranges of calibration solutions for each measuring range. Ensure the calibration solutions used are within the given ranges.

Measuring Range	Acceptable Calibration Standard Range
PU	2.0 - 200.0 μ S/cm
LO	200 - 2000 μ S/cm
HI	2.00 - 20.00 mS/cm
AUTO	Select a calibration standard nearer to application sample

Always use fresh calibration standard solutions. Before you begin, measure the conductivity value of the solution with a meter known to be accurate. Prepare the solution in two beakers; one for rinsing and the other for calibration. Rinse the electrode in pure water before calibration.

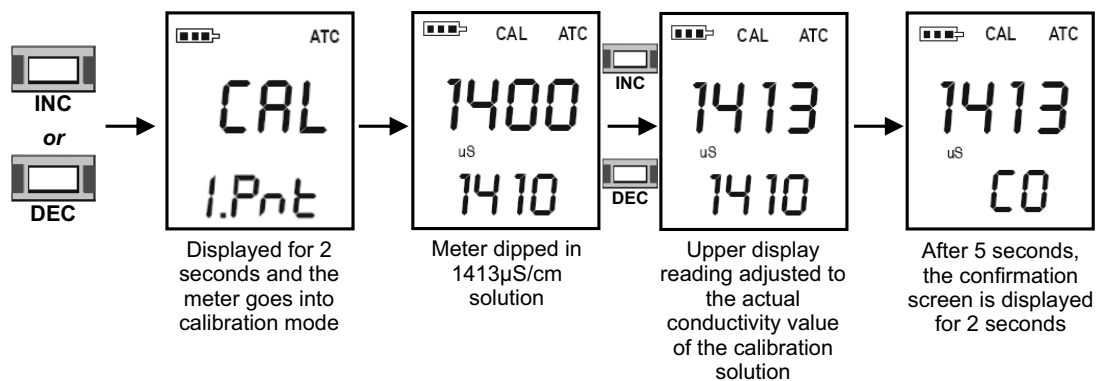
- 1 Press the 'On/Off' button to switch the meter on. Make sure the meter is in measuring mode.
- 2 Rinse the electrode with the calibration standard then dip the electrode into the second beaker containing the calibration standard. Swirl gently to create a homogenous sample and allow time for the reading to stabilise.
- 3 Press 'INC' or 'DEC' to enter conductivity calibration mode. The 'CAL' indicator appears on the display. 'CAL' and '1.Pnt' are briefly displayed.
- 4 The upper display shows the measured conductivity reading of the solution based on previous calibration (if any) and the lower display shows the default (uncalibrated) conductivity reading.
 - ▶ 'Er.1' is displayed if the reading is over range of the selected measuring range of the tester or if the default (uncalibrated) reading is not within the acceptable calibration standard range.

5 USING THE CONDUCTIVITY METER (continued)

- 5 Use the 'INC' and 'DEC' buttons to adjust the upper display to the correct conductivity value of the calibration solution.
 - ▶ The calibration adjustment window is $\pm 50\%$ from the default reading.
 - ▶ If 'INC' or 'DEC' are not pressed within 5 seconds, 'CO' is displayed and the meter returns to measuring mode. However, the meter is not calibrated to the new values, the old calibration is still active. If this happens, press 'INC' or 'DEC' once again to enter calibration mode.
- 6 Wait for 5 seconds for the meter to automatically confirm the calibration by displaying 'CO' and returning to measurement mode.
 - ▶ 'Er.0' is displayed and the meter returns to measurement mode if the temperature of the calibration solution is not within 0°C to 50°C (32°F to 122°F).
 - ▶ Press 'HOLD ENT' to exit calibration mode without confirming the calibration.

Note: This user guide explains the 1 point calibration technique only as only one calibration solution is supplied with the kit; multi-point calibration requires calibration solutions of different values. For further information on multi-point calibration, contact Elcometer for a copy of the full Elcometer 138E operating instructions.

Figure 6: Manual, 1 Point Calibration Sequence



5.6 TEMPERATURE CALIBRATION (Figure 7):

Temperature calibration only needs to be performed if the temperature differs from that of an accurate thermometer. If temperature calibration is performed, conductivity calibration is mandatory, see Section 5.5 'Conductivity Calibration' on page 10.

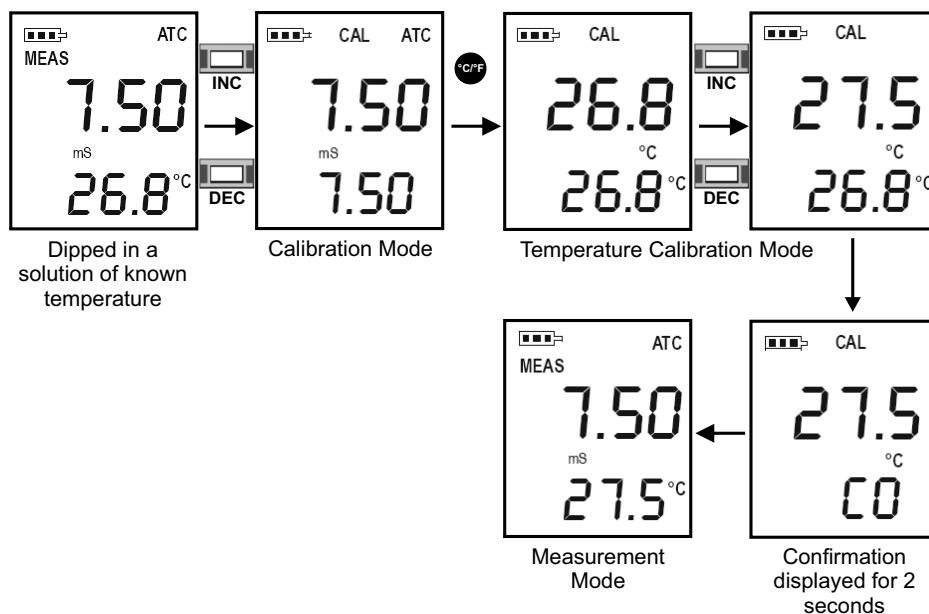
- 1 Press the 'On/Off' button to switch the meter on. Make sure the meter is in measuring mode. If required, press '°C/°F' to select the desired units of measurement for temperature; Celsius or Fahrenheit.

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5 USING THE CONDUCTIVITY METER (continued)

- 2 Dip the meter into a solution of known temperature and allow time for the temperature reading to stabilise.
- 3 Press 'INC' or 'DEC' to enter calibration mode. The 'CAL' indicator appears on the display, immediately press '°C/°F' to switch to temperature calibration mode.
- ▶ When you enter calibration mode, if the conductivity reading is outside the specified range 'Er.1' is displayed. You can still proceed to temperature calibration mode by pressing '°C/°F' immediately. If '°C/°F' is not pressed within two seconds, the meter exits calibration mode and returns to measurement mode.
- 4 The upper display shows the measured temperature reading based on the last set offset (if any) and the lower display shows the default (uncalibrated) temperature reading based on factory settings.
- 5 Use the 'INC' and 'DEC' buttons to adjust the upper temperature reading to the known temperature value of the solution.
- ▶ The temperature adjustment window is $\pm 5^{\circ}\text{C}$ ($\pm 9^{\circ}\text{F}$) from the default reading.
- 6 Wait for 5 seconds for the meter to automatically confirm the temperature calibration by displaying 'CO' and returning to measurement mode.
- ▶ 'Er.0' is displayed and the meter returns to measurement mode if the temperature of the solution is not within 0°C to 50°C (32°F to 122°F).
 - ▶ Press 'HOLD ENT' to exit temperature calibration mode without confirming the calibration.

Figure 7: Temperature Calibration Sequence



5 USING THE CONDUCTIVITY METER (continued)

5.7 RESETTING THE CONDUCTIVITY METER

The reset option restores the calibration and other parameters back to the factory default settings.

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- 1 With the meter switched off, press and hold the 'HOLD ENT' button, then switch the meter on. Release the 'HOLD ENT' button.
- 2 The lower display shows 'rSt' (reset) and the upper display blinks 'No'. Press 'INC' or 'DEC' to select 'Yes' to proceed with the reset or 'No' to exit without resetting.
 - ▶ Press '°C/°F' to return to measurement mode without making any selection.
- 3 Press 'HOLD ENT' to confirm your selection, 'CO' is displayed. If 'Yes' was selected, the meter resets to the factory default settings. The power-up sequence is displayed and the meter goes to measurement mode.

Parameter	Factory Default
User Calibration	(Reset)
Temperature Unit of Measurement	Celsius (°C)
Temperature Offset	0
Auto Calibration	Enabled
1-point Calibration	Enabled
Conductivity Calibration Factor	1.0

5.8 TAKING A READING

Before you begin, remove the electrode's protective cap. Soak the electrode for a few minutes in alcohol to remove any dirt or oil stains which will affect the accuracy of the meter. Rinse thoroughly with pure water and shake off dry.

- 1 Press the 'On/Off' button to switch the meter on. The 'MEAS' indicator appears when the meter is in measurement mode.
- 2 Put an appropriate amount of the test sample on the measurement electrode avoiding the inclusion of bubbles which may cause the conductivity measurement to be inaccurate.
- 3 The reading is shown in the upper display, automatically temperature compensated to normalised temperature of 25°C. The temperature of the solution is shown in the lower display. Press '°C/°F' to toggle between Celsius and Fahrenheit.
 - ▶ 'Or' (over range) is displayed if the reading is outside the selected range. If this occurs, select an appropriate range to suit the reading, see Section 5.4 'Selecting the Measurement Range' on page 8.

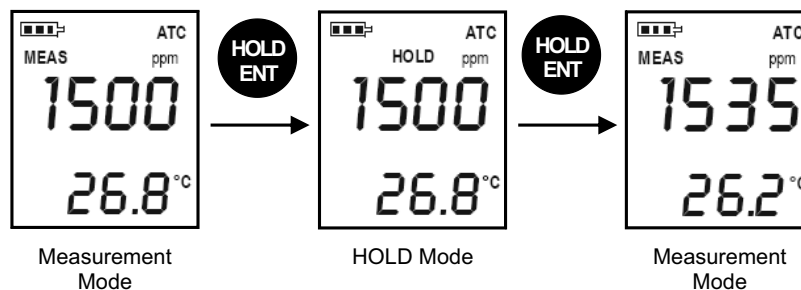
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5 USING THE CONDUCTIVITY METER (continued)

en Using the HOLD function (Figure 8):

- 1 Press 'HOLD ENT' to freeze the measurement. The meter goes into hold mode and the 'HOLD' indicator is displayed on screen. The measurements are frozen and the 'MEAS' indicator disappears.
- 2 Press 'HOLD ENT' again to release the measurement. The 'HOLD' indicator is no longer displayed. The meter reverts to measurement mode.

Figure 8: Hold Function



5.9 AFTER MEASUREMENT

- 1 Press the 'On/Off' button to switch the meter off.
- 2 Wash the sensor with tap water and wipe away any residual water using a clean tissue.
- 3 Replace the sensor protection cap.

Note: If the meter is to remain unused for a long period of time, use pure water instead of tap water to wash the sensor.

6 CARE & MAINTENANCE

The Elcometer 138E Conductivity Meter is designed to give many years reliable service under normal operating conditions.

- Always keep the sensor electrodes clean. Remove the plastic cup and insert to thoroughly clean viscous solutions. Never scratch electrodes with a hard surface.
- For better performance, soak the electrode in alcohol for 10 to 15 minutes and rinse with pure water before starting any measurement process. This is to remove any dirt and oil stains on the electrode which may affect the accuracy of the measurements.
- Always store the components of the Elcometer 138 Kit in the carrying case when the kit is not being used.

7 WARRANTY STATEMENT

The Elcometer 138E Conductivity Meter is supplied with a 12 month warranty against manufacturing defects, excluding contamination and wear.

The conductivity meter sensor is supplied with a 6 month warranty against manufacturing defects, excluding contamination and wear.

8 TECHNICAL SPECIFICATION

8.1 BRESLE PATCH	
Patch Size	5cm x 5cm
Test Area	12.5cm ²
Sample Volume	3ml

8.2 CONDUCTIVITY METER			
Measurement Principle	2 AC Bipolar Method		
Sensor Type	Cup		
Measuring Range & Resolution	PU:	0 - 200.0µS/cm	0.1µS/cm
	LO:	0 - 2000µS/cm	1µS/cm
	HI:	0 - 20mS/cm	0.01mS/cm
Accuracy	±1% of full scale		
LCD Display	Custom Dual Display; 27 x 21mm (1.06 x 0.83")		
Operating Temperature	0°C to 50°C (32°F to 122°F)		
Battery Type	4 x 1.5V LR44 alkaline		
Battery Life	>150 hours		
Dimensions	165 x 38mm (6.5 x 1.5")		
Weight	90g (3.2oz) - including batteries		

9 SPARES & ACCESSORIES

The Elcometer 138 Basic Bresle Kit is complete with all the items required to get started and take measurements however, over the life of the kit, replacements may be required. The following items are available from Elcometer or your local Elcometer supplier.

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9 SPARES & ACCESSORIES (continued)

en 9.1 ELCOMETER 138E CALIBRATION SOLUTIONS

Description	Part Number
Standard 447 µS/cm (0.447 mS/cm) Calibration Solution; 4 x 20ml (0.74fl oz) ^e	T13827352-1
Standard 1413 µS/cm (1.413 mS/cm) Calibration Solution; 4 x 20ml (0.74fl oz) ^e	T13827352-2
Standard 15000 µS/cm (15 mS/cm) Calibration Solution; 4 x 20ml (0.74fl oz) ^e	T13827352-3

9.2 BRESLE TEST PATCH

Elcometer 135C Bresle Test Patch, Pack of 25	E135----C25
Elcometer 135C Bresle Test Patch, Pack of 100	E135----C100

9.3 MISCELLANEOUS ACCESSORIES

Elcometer 138E Conductivity Meter	T13827355
Replacement Sensor for Conductivity Meter	T13827455
Bottle of Pure Water; 250ml (8.5 fl oz)	T13827259
Syringes, 5ml (0.17 fl oz); x3	T13818517
Needles (Blunt); x3	T13818518
Plastic Beaker; 30ml (1 fl oz)	T13818519

10 LEGAL NOTICES & REGULATORY INFORMATION

This product meets both the Electromagnetic Compatibility and RoHS Directives.

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All other trademarks acknowledged.

The Elcometer 138 Basic Bresle Kit and Patches is packed in a cardboard package. Please ensure that this packaging is disposed of in an environmentally sensitive manner. Consult your local Environmental Authority for further guidance.

CAUTION



The needles supplied for use with this kit are blunt, but care must be exercised when using and disposing of these needles to prevent accidental needle stick injuries. It is recommended that used needles be disposed of as special waste, and not in landfill.



If the standard solution used for calibration of the meter comes into contact with the skin, wash the skin with fresh water. If the standard solution comes into contact with eyes, immediately flush the eye with large amounts of fresh water and seek medical advice.

^e Single use pouches.

