Klipspringer

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# pH Scan 30
# INSTRUCTIONS


## Before You Begin

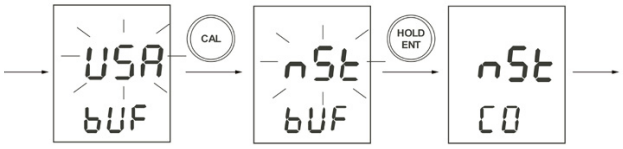
Your instrument has been factory calibrated and usually works well out of the box. However, after extended periods of non-use, it's best to soak the sensor in electrode storage solution, pH buffer for 10 minutes or so. A brief rinse with deionized (DI) water is OK, but avoid soaking or storing in deionized water as this will shorten the life of the pH electrode. Prior to taking measurements, periodic calibration with certified standards is recommended for best accuracy.

## pH Buffer Set Selection

Your pH Scan 30 features USA (pH 4.01, pH 7.00 and pH 10.01) or NIST (pH 4.01, pH 6.86, and pH 9.18) standards. Select either one to suit your requirements.

1. While pressing the **HOLD/ENT** button, switch on the pH Scan 30 by pressing the **ON/OFF** button.
2. Release the **HOLD/ENT** button. The display will flash either USA or NIST.
3. Press **CAL** button to toggle between the two buffer set standards.
4. Press the **HOLD/ENT** button to confirm the selection of the buffer set.

With meter powered off, press **HOLD/ ENT** and **ON/OFF** at the same time. First release **ON/OFF** button, then **HOLD/ ENT** button.




After buffer selection, the whole LCD segment will light up and return to measurement mode.

**Figure 1:** Buffer Selection Sequence.

## pH Calibration

Calibration should be carried out regularly, preferably once a week. You can calibrate up to three points using either the USA or the NIST buffer set standards.

1. Press **ON/OFF** button to switch unit on.
2. Dip electrode about 2 to 3 cm into the pH standard buffer solution.
3. Press the **CAL** button to enter calibration mode. The '**CAL**' indicator will be shown. The upper display will show the measured reading based on the last calibration, while the lower display will indicate the pH standard buffer solution.

*Note: All Testers have dual display during calibration mode.*

*Note: To abort calibration, press the 'CAL' button.*

4. Allow about 2 minutes for the Tester reading to stabilise before pressing the **HOLD/ENT** button to confirm the first calibration point. The upper display will be calibrated to the pH standard buffer solution and the lower display will then search for the next pH standard buffer solution.
5. Repeat with other buffers if necessary. Rinse electrode before dipping into next buffer.

***Note:** The calibration mode allows you to perform up to three calibration point before returning to the measurement mode automatically. However, if you opted to have only one or two calibration points, simply skip the remaining calibration points by exiting to the measurement mode. To do this by press the CAL button.*

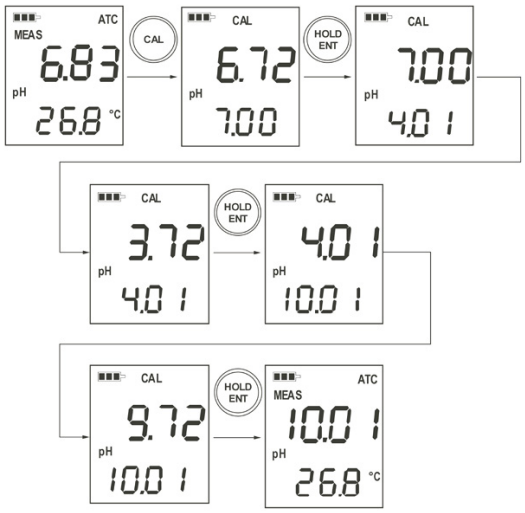



**Figure 2:** Example of pH Calibration Sequence

To do a 1 point calibration only, press **CAL** button at this point to exit to the measurement mode. Otherwise, proceed to second buffer for a second point calibration.

To do a 2 point calibration only, press **CAL** button at this point to exit to the measurement mode. Otherwise, proceed to third buffer for a third buffer for a third point calibration.

After the third point calibration, the meter will automatically return to the measurement mode. At any point, an error message '**Er. 1**' will be displayed momentarily if the confirmed pH value is not within the pH calibration window.

## pH Measurement

1. Press the **ON/OFF** button to switch the Tester on.
2. Dip the electrode about 2 to 3 cm into the test solution. Stir and let the reading stabilize.
   **CAUTION:** Testing dry samples is not accurate and can lead to sensor damage or breakage. Soils must be wet and free of particulates that may scratch the glass sensor. Excessive force into dry samples can cause glass breakage.
3. Note the pH value or press **HOLD/ENT** button to freeze the reading. To release the reading, press **HOLD/ENT** again.
4. Press **ON/OFF** to turn off Tester. If you do not press a button for 8.5 minutes, the Tester will automatically shut off to conserve batteries.

## HOLD Function

This feature lets you freeze the display for a delayed observation.

1. Press **HOLD/ENT** button to freeze the measurement. A '**HOLD**' indicator will be displayed and the measurement will be frozen.
2. Press **HOLD/ENT** again to release the measurement. The '**HOLD**' indicator will not be displayed anymore, indicating the held measurement is released.

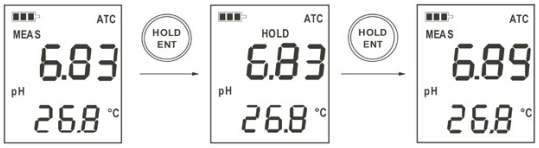



**Figure 3:** Example of HOLD Function.

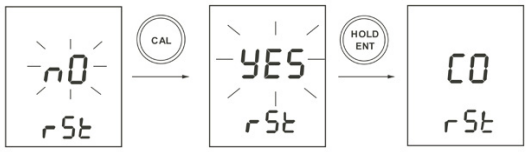
## User Reset

You can reset the pH calibration to the factory default by using the user reset function. Buffer set selection and temperature user calibration (pHTester30) are not affected by the user reset function.

1. Switch off the Tester.
2. While pressing the '**CAL**' button, press and release the **ON/OFF** button to enter the '**User Reset**' selection menu. The screen will display '**rSt**' on the bottom display with a flashing '**nO**' selection.
3. Use the '**CAL**' button to toggle between '**nO**' and '**YES**' selection.
   - nO deactivates reset selection
   - YES activates the reset selection
4. Press the **HOLD/ENT** button to confirm the selection made.
5. If you have selected '**YES**', the unit will show '**CO**' momentarily and proceed to the measurement mode with the calibration reset back to factory default value.
6. If '**nO**' is selected, the unit will proceed to the measurement mode without any calibration reset performed.

With meter powered off, press **CAL** and **ON/OFF** at the same time. First release **ON/OFF** button, then **CAL** button.

With meter powered off, press **CAL** and **ON/OFF** at the same time. First release **ON/OFF** button, then **CAL** button.




After reset, whole LCD segment lights up and goes back to measurement mode.

**Figure 4:** User Reset Sequence

## ATC - Automatic Temperature Compensation

Through its in-built temperature sensor, measurement errors (caused by changes in electrode sensitivity due to changes in temperature) will be compensated to give the actual pH reading of the sample measured.

## Temperature Calibration

From the measurement mode:

1. Press the **HOLD/ENT** button to bring the Tester to the 'HOLD' mode.
2. Press the **CAL** button for 3 seconds to switch to the °C or °F mode setting selection screen. Pressing the **CAL** button continuously for 3 seconds allows you to toggle in between the °C and °F mode setting selection screen.
3. Release the **CAL** button to confirm your mode selection and the display will go to the temperature calibration mode with the upper display flashing. The upper display shows the current measured temperature reading based on the last set offset and the lower display shows the current measured temperature reading based on factory default calibration.
4. Dip the Tester into a solution with a known temperature and allow time for the in built temperature sensor to stabilise.
5. Press the **HOLD/ENT** button to set the upper display to the temperature value of the solution.
6. Once the new temperature setting is reached, the new value is automatically confirmed and returns to the measurement mode if no button is pressed after 5 seconds.

***Note:*** *To exit this program without confirming the calibration, press the CAL button before the automatic confirmation takes place.*

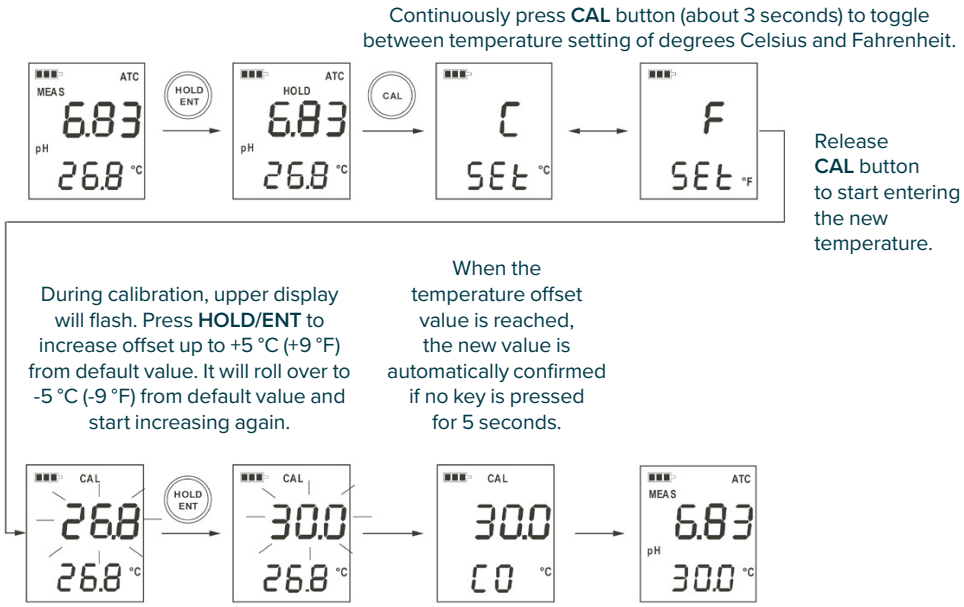
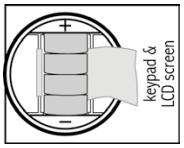



**Figure 5:** Temperature Calibration Sequence

## Changing Batteries

1. Open battery compartment lid (with attached lanyard loop).
2. Remove old batteries; replace with fresh ones. Note polarity.



## Self-Diagnostic Messages

From the measurement mode:

1. Press the **HOLD/ENT** button to bring the Tester to the 'HOLD' mode.
2. Press the **CAL** button for 3 seconds to switch to the °C or °F mode setting selection screen. Pressing the **CAL** button continuously for 3 seconds allows you to toggle in between the °C and °F mode setting selection screen.
3. Release the **CAL** button to confirm your mode selection and the display will go to the temperature calibration mode with the upper display flashing. The upper display shows the current measured temperature reading based on the last set offset and the lower display shows the current measured temperature reading based on factory default calibration.
4. Dip the Tester into a solution of known temperature and allow time for the in built temperature sensor to stabilise.
5. Press the **HOLD/ENT** button to set the upper display to the temperature value of the solution.
6. Once the new temperature setting is reached, the new value is automatically confirmed and returns to the measurement mode if no button is pressed after 5 seconds.

***Note:*** *To exit this program without confirming the calibration, press the CAL button before the automatic confirmation takes place.*

| | | |
|---|---|---|
| **Low Battery Indicator** |  | 3 Bars indicates 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 fresh ones as specified by manufacturer. |
| **Over Range / Under Range Signal** | **Or / Ur** (Still) | Electrode is not in contact with solution or electrode is failing. |
| | | Replacement sensor is not connected properly to the pH Scan 30 during sensor replacement. |
| | | Measured pH value or temperature value (pH Scan 30) exceeds. |
| | **ATC / Or / Ur** (Blinking) | Blinking 'ATC', 'Or' or 'Ur' indicates that there is a short or open circuit at the built in temperature sensor. |
| **Error Message** | **Er.0** | Temperature calibration error of attempting to calibrate pH Scan 30 to a value which is out of range or under range. |
| | **Er.1** | pH calibration error of attempting to confirm a calibration value which is not within the specified calibration window. |

## Electrode Replacement

You can replace the electrode module at the fraction of the cost of a new pH Scan 30. When the pH Scan 30 fails to calibrate or gives fluctuating readings in calibration standards, you need to change the electrode.

1. With dry hands, grip the ribbed pH Scan 30 collar with electrode facing you. Twist the collar counter clockwise (see picture A). Save the ribbed pH Scan 30 collar and O-ring for later use.
2. Pull the old electrode module away from the pH Scan 30.
3. Align the four tabs on the new module so that they match the four slots on the pH Scan 30 (see picture B).
4. Gently push the module onto the slots to sit it in position. Push the smaller O-ring fully onto the new electrode module. Push the collar over the module and thread it into place by firmly twisting clockwise.

***Note:*** *It is necessary that you recalibrate your pH Scan 30 prior to measurement after an electrode replacement.*

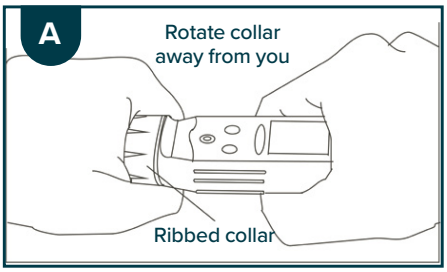



**Figure 6:** Removal of collar from tester.

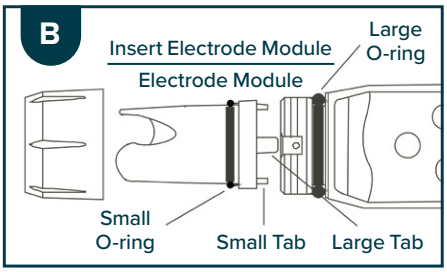



**Figure 7:** Example of electrode module fitting alignment.

## Applications

Water quality testing • Pools • Spas • Aquariums • Aquaculture • Hydroponics • Ecology • Studies • Water and wastewater treatment • Boilers • Steam generators • Car washes • Sanitation plants • Labs • Food sectors and more!

## Warranty

The waterproof pH Scan 30s are warranted to be free from manufacturing defects for 1 year and electrode module for 6 months, unless otherwise specified. If repair, adjustment or replacement is necessary and has not been the result of abuse or misuse within the time period specified, please contact your Klipspringer for assistance.

## Return Of Items

Authorisation must be obtained from Klipspringer before returning items for any reason. When applying for authorisation, please include information regarding the reason the item(s) are to be returned.

***Note:*** *We reserve the right to make improvements in design, construction and appearance of products without notice. Prices are subject to change without notice.*

## Accessories

| Item | Instruments Order Code |
|---|---|
| pH Scan 30 Replacement Sensor | PHSEN03 |

## pH Scan 30 Specifications

| pH Scan 30 | |
|---|---|
| **pH Range** | -1.00 to 15.00 pH |
| **Resolution** | 0.01 pH |
| **Relative Accuracy** | 0.01 pH |
| **Calibration Points** | Up to 3 points |
| **Buffer Set Standard Selection** | USA - 4.01/7.00/10.01<br>NIST - 4.01/6.86/9.18 |
| **Calibration Window (USA Buffer Set Standard)** | ±1.00 pH (pH 4.01 & pH 10.01), ±1.50 pH (pH 7.00) |
| **Calibration Window (NIST Buffer Set Standard)** | ±1.00 pH (pH 4.01 & pH 9.18), ±1.25 pH (pH 6.86) |
| **Temperature** | 0-50.0°C or 32.0-122.0°F |
| **Temperature Compensation** | ATC |
| **Temperature Resolution** | 0.1° |
| **Temperature Accuracy** | 0.5°C |
| **Temperature Calibration Window** | ±(5°C /9 °F) from default value |
| **Auto Off** | After 8.5 minutes from last key press |
| **User Reset** | Yes |
| **Non Volatile Memory Backup** | Yes |
| **LCD Display** | Dual |
| **Power Requirement** | 4 x 1.5V “A 76” micro alkaline batteries |
| **Battery Life** | More than 500 hrs |
| **Operating Temperature** | 0 – 50 °C |
| **pH Scan 30 Dimensions** | 6.5 “L x 1.5”dia. (165 x 38 mm) |
| **Weight** | 3.25 oz (90 gm) |