

To replace the batteries unscrew the battery compartment cap and replace all four 1.5V batteries while paying attention to their polarity. Make sure the gasket is in place before screwing back the cap. Batteries should only be replaced in a nonhazardous area using the battery type specified in this instruction manual.

## ACCESSORIES

<b>MI56P</b>	Replaceable electrode for <b>pH55 &amp; pH56</b>
<b>MI0004B</b>	pH 4.01 buffer, 20 ml sachet, 25 pcs.
<b>MI0007B</b>	pH 7.01 buffer, 20 ml sachet, 25 pcs.
<b>MI0010B</b>	pH 10.01 buffer, 20 ml sachet, 25 pcs.
<b>MA9004</b>	pH 4.01 buffer, 230 ml bottle
<b>MA9006</b>	pH 6.86 buffer, 230 ml bottle
<b>MA9007</b>	pH 7.01 buffer, 230 ml bottle
<b>MA9009</b>	pH 9.18 buffer, 230 ml bottle
<b>MA9010</b>	pH 10.01 buffer, 230 ml bottle
<b>MA9015</b>	Electrode storage solution, 230 ml
<b>MA9016</b>	Electrode cleaning solution, 230 ml
<b>MI0000B</b>	Electrode rinse solution, 20 ml sachet, 25 pcs.

## SPECIFICATIONS

<b>RANGE</b>	-2.0 to 16.0 pH ( <b>pH55</b> ); -2.00 to 16.00 pH ( <b>pH56</b> ); -5.0 to 60.0°C / 23.0 to 140.0°F
<b>RESOLUTION</b>	0.1 pH ( <b>pH55</b> ); 0.01 pH ( <b>pH56</b> ); 0.1°C / 0.1°F
<b>ACCURACY (@25°C)</b>	±0.1 pH ( <b>pH55</b> ); ±0.05 pH ( <b>pH56</b> ); ±0.5°C / ±1°F
<b>TYPICAL EMC DEVIATION</b>	±0.1 pH ( <b>pH55</b> ); ±0.02 pH ( <b>pH56</b> ); ±0.3°C / ±0.6°F
<b>TEMPERATURE COMPENSATION</b>	Automatic, from -5 to 60°C
<b>CALIBRATION</b>	Automatic, 1 or 2 points with 2 sets of memorized buffers (pH 4.01, 7.01, 10.01 or 4.01, 6.86, 9.18)
<b>PROBE</b>	Replaceable <b>MI56P</b>
<b>ENVIRONMENT</b>	-5 to 50°C; 100% RH max.
<b>BATTERY TYPE</b>	4 x 1.5V; IEC LR44, A76
<b>BATTERY LIFE</b>	approx. 300 hours of use
<b>AUTO-OFF</b>	after 8 minutes of non-use
<b>DIMENSIONS</b>	200 x dia 38 mm
<b>WEIGHT</b>	100 g

## CERTIFICATION

Milwaukee Instruments conform to the CE European Directives.



**Disposal of Electrical & Electronic Equipment.** Do not treat this product as household waste. Hand it over to the appropriate collection point for the recycling of electrical and electronic equipment.

**Disposal of waste batteries.** This product contains batteries. Do not dispose of them with other household waste. Hand them over to the appropriate collection point for recycling.



Please note: proper product and battery disposal prevents potential negative consequences for human health and the environment. For detailed information, contact your local household waste disposal service or go to [www.milwaukeeinstruments.com](http://www.milwaukeeinstruments.com) (USA & CAN) or [www.milwaukeeinst.com](http://www.milwaukeeinst.com).

## RECOMMENDATION

Before using this product, make sure it is entirely suitable for your specific application and for the environment in which it is used. Any modification introduced by the user to the supplied equipment may compromise the tester's performance. For your and the tester's safety do not use or store the tester in hazardous environment. To avoid damage or burn, do not perform any measurement in microwave ovens.

## WARRANTY

These instruments are warranted against defects in materials and manufacturing for a period of 2 years from the date of purchase. Probe is warranted for 6 months. This warranty is limited to repair or free of charge replacement if the instrument cannot be repaired. Damage due to accidents, misuse, tampering or lack of prescribed maintenance is not covered by warranty. If service is required, contact your local Milwaukee Instruments Technical Service. If the repair is not covered by the warranty, you will be notified of the charges incurred. When shipping any tester, make sure it is properly packaged for complete protection.

Milwaukee Instruments reserves the right to make improvements in design, construction and appearance of its products without advance notice.

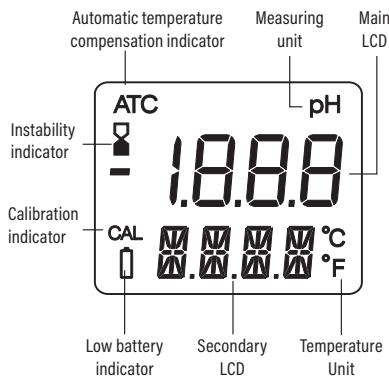
# USER MANUAL

## pH55 & pH56 PRO Waterproof pH/Temperature Testers



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## OPERATIONAL GUIDE

- Remove the electrode cap and immerse the tester in **MA9015** storage solution for 2 hours to activate the electrode.
- Turn the tester on by pressing the ON/OFF button. All the used segments on the LCD will be visible for 1 second or as long as the button is pressed.
- Immerse the electrode in the solution to be tested. Stir gently and wait for the reading to stabilize, i.e. the instability indicator (hourglass) on the LCD turns off.
- The pH value is automatically compensated for temperature and will be displayed on the main LCD, while the temperature is shown on the secondary LCD.
- To freeze the display**, while in measurement mode, press and hold the SET/HOLD button. The "HOLD" message appears on the secondary display and the reading will be frozen on the LCD. Press any button to return to normal mode.
- To turn the tester off**, press the ON/OFF button. The "OFF" message will appear on the secondary display. Release the button.

### Note:

- Before taking any measurement, make sure the tester is calibrated (the CAL tag is on).
- After use always turn the tester OFF, rinse the electrode with water to minimize contamination and store it with a few drops of storage (**MA9015**) or pH7 (**M10007**) solution in the protective cap.

NEVER USE DISTILLED OR DEIONIZED WATER FOR STORAGE PURPOSE.

## CALIBRATION PROCEDURE

For better accuracy, frequent calibration of the tester is recommended. Calibration is also necessary after electrode replacement, after testing aggressive chemicals and where extreme accuracy is required.

- From normal operation mode, press and hold the ON/OFF/CAL button until the "OFF" message on the secondary LCD is substituted by "CAL". Release the button.
- The instrument enters the calibration mode by displaying "pH 7.01 USE" (or "pH 6.86 USE" if the NIST buffer set was selected).
- For a **single-point calibration**, immerse the electrode in any buffer, i.e. pH 4.01, 7.01 (or 6.86), 10.01 (or 9.18).
- The tester activates the automatic buffer recognition. If no valid buffer is detected, the tester keeps the USE indication active for 12 seconds, and then replaces it with WRNG, indicating that the sample being measured is not a valid buffer. Otherwise, if a valid buffer is detected, then its value is shown on the primary display, and REC appears on the secondary LCD.
- If the pH 7.01 (or pH 6.86) was used, press the SET button to exit the Calibration mode and the "OK 1" message will appear on the display. The first calibration point is stored and the tester returns to normal measurement mode.

### For better accuracy, it is always recommended to perform a 2-point calibration.

- For a **two-point calibration**, immerse the electrode in pH 7.01 (or pH 6.86) buffer solution.
- After the first point has been accepted, the tester will then ask for the second buffer and the message "pH 4.01 USE" will appear.
- Rinse the electrode and immerse it in the second solution (pH 4.01, 10.01 or 9.18).
- If a valid buffer value is detected, the REC message is displayed and the tester completes the calibration procedure. The LCD shows the accepted value with the "OK 2" message and the instrument returns to the normal measurement mode. Otherwise, if no valid buffer is detected, the tester displays the WRNG message.

**Note:** When the calibration procedure is completed, the CAL tag is turned on.

- To quit the procedure** and return to the last calibration data, after entering the calibration

mode press the ON/OFF button. The secondary LCD displays "ESC" for 1 second and then the tester returns to the normal measurement mode.

- To reset to the default values** and clear a previous calibration, press the SET/HOLD button after entering the calibration mode and before the first point is accepted. The secondary LCD displays "CLR" for 1 second, the tester resets to the default calibration and the CAL tag on the LCD turns off.

## SETUP

Setup mode allows the selection of temperature (°C or °F) and pH buffer set for calibration.

To enter the Setup mode, press the ON/OFF button until "CAL" on the secondary LCD is replaced by "TEMP" and the current temperature unit (e.g. TEMP °C). Then:

- for °C/°F selection:** use the SET/HOLD button; then press the ON/OFF button once to enter the buffer set selection or twice to return to the normal measurement mode.
- to change the calibration buffer set:** after setting the temperature unit, press ON/OFF once and select the buffer set ("pH 7.01 BUFF" or "pH 6.86 BUFF" for NIST) by using the SET/HOLD button. Press ON/OFF to return to the normal measurement mode.

## ELECTRODE REPLACEMENT

- Remove the protective cap and unscrew the plastic ring on the top of the electrode.
- Pull out the **M156P** electrode and replace it with a new one.
- Make sure the gaskets are in place before screwing back the ring.

## BATTERY REPLACEMENT

When the batteries become weak, the battery symbol on the LCD will light up to advise that only a few hours of working time is remaining.

The tester is also provided with BEPS (Battery Error Prevention System), which avoids any erroneous readings due to low battery level by automatically switching the tester off.

It is recommended to replace the batteries immediately.