

PoolMeter™

Model 512T5D

Operation Manual

05 July 09



ACCURACY • RELIABILITY • SIMPLICITY

**MYRON L
COMPANY**
Water Quality Instrumentation
Accuracy • Reliability • Simplicity

DESCRIPTION

This manual describes your Myron L 512T5D "Dual" Range PoolMeter™, tells you how to use it, and tells you how to keep it working accurately for many years.

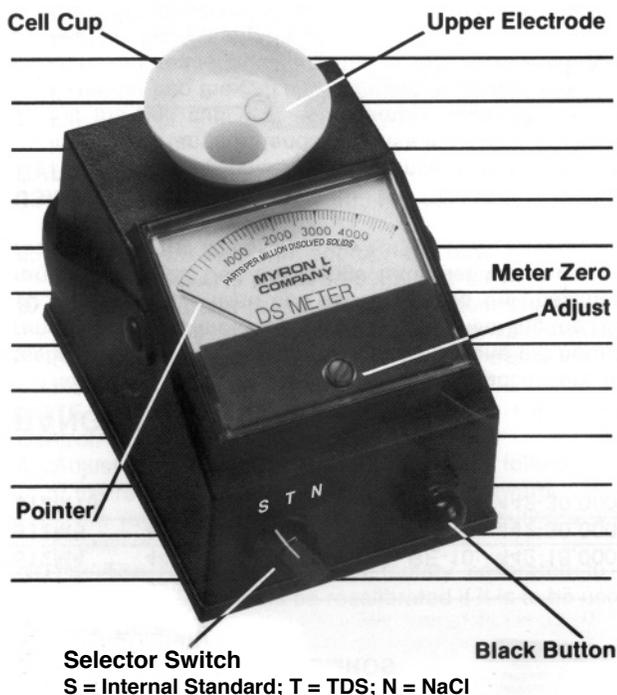
Your PoolMeter is a compact instrument that operates on the principal of electrical conductivity. It will quickly determine the ppm/Total Dissolved Solids of almost any solution. The PoolMeter converts electrical conductivity directly into parts per million (ppm) of Total Dissolved Solids (TDS) AND ppm of Minerals (Sodium Chloride/NaCl).

It is 85 x 129 x 126 mm/3.4 x 4.5 x 4.0 in. and weighs less than 0,45 kg/1 lb. The PoolMeter is completely self-contained. The built-in cell is automatically temperature compensated to 25°C/77°F when measuring within the range of 10° to 71°C/50° to 160°F. It is powered by a 9 volt battery that lasts for at least 2000 tests (or one-year shelf life).

512T5D	SCALE
	0-5000 ppm of TDS
	0-5000 ppm of NaCl

By using an RE-10 Range Extender (see ACCESSORIES), the maximum range may be increased ten times.

The pictures in this manual show the major operating parts of your Myron L PoolMeter. Handle your instrument and identify these parts to become familiar with it.



USING YOUR METER

1. Rinse the cell cup three times with the sample you wish to test. (For very hot or very cold samples see TEMPERATURE COMPENSATION.)

NEVER FILL THE CELL CUP BY DIPPING THE METER INTO WATER!

2. Fill the cell cup with another sample to at least 1/4"/6.35 mm above the upper electrode.

3. Select the desired range: **T** for TDS or **N** for NaCl. S is the Internal Standard and is for field calibration only. (See bottom label for value.)
4. Press the black button.
5. Read the dial value indicated by the pointer to determine parts per million (ppm), Total Dissolved Solids (TDS) or Minerals.
6. If the pointer goes off the scale to the right, try Range Doubling (see FIELD CALIBRATION) or an RE-10 Range Extender (see ACCESSORIES).

NOTE:

When you are finished using the meter, RINSE THE CELL CUP with clean water, preferably distilled or deionized.

TEMPERATURE COMPENSATION

For very hot or very cold solutions, let the three rinse samples each remain in the cell cup for several seconds. Then immediately fill the cell cup with the sample you want to test (step 2 above). This allows the automatic temperature compensation feature time to work properly.

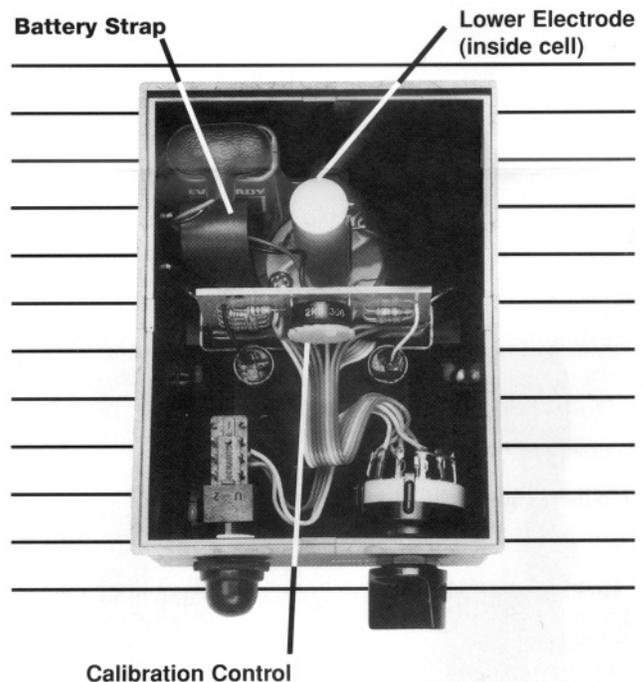
CAUTION

DO NOT use with samples hotter than 71°C/160°F. The readings WILL NOT be accurate.

DO NOT splash solvents such as lacquer thinner, acetone, benzene or chlorinated solvents on the plastic case.

DO NOT fix or modify the meter. This will void the warranty. See SERVICE for details or consult the Myron L Company.

DO NOT DIP THE INSTRUMENT INTO WATER. If water does get inside the instrument, see MAINTENANCE for instructions on how to dry it properly.



CALIBRATION

STANDARD SOLUTIONS: A Standard Solution has a known conductivity and ppm. Your meter was calibrated at the factory using a Standard Solution. You can keep your meter accurate by using the same Standard Solution. To pick the right Standard Solution for your PoolMeter, see ACCESSORIES.

CHECKING CALIBRATION

1. Test a sample of the appropriate Standard Solution.

CAUTION: Throw the Standard Solution away after using it. Do not put the used samples back into the bottle.

2. If the PoolMeter does not indicate the same value as is on the Standard Solution bottle's label, first clean the cell. For directions on how to do this see CELL, pg. 3. Rinse the cell thoroughly and test the Standard Solution again. If the PoolMeter still does not indicate the correct value, recalibrate as described below.

TO RECALIBRATE THE METER

1. Remove the bottom cover using your fingernails or a small screwdriver to loosen the front or rear edge. Identify the Calibration Control (see photo pg. 1) so you can find it by touch while calibrating.
2. Test another sample of the Standard Solution (**be careful to not get any solution inside the meter**).
3. Adjust the Calibration Control until the meter indicates the value that is on the Standard Solution label.
4. Select the "S" position.
5. Press the button. Compare the meter reading to the INTERNAL STANDARD value on the meter's bottom label. If they are noticeably different, mark the new value in place of the old one.

NOTE:

The PoolMeter may be calibrated to read either 442 or NaCl parts per million. Calibrating one will automatically calibrate the other.

INTERNAL STANDARD: An INTERNAL STANDARD value for each meter is on the label on the bottom cover of each meter. Use it as a reference between normal calibrations as a field check of your meter's accuracy. To verify your meter's calibration:

1. Select the "S" position.
2. Press the button.
3. If the reading matches the INTERNAL STANDARD value on the bottom label, your meter is in calibration. If not, see FIELD CALIBRATION below.

NOTE:

The feature described above is intended as a quick field calibration check, or for the Range Doubling technique. It is not a replacement for calibration with a Standard Solution.

FIELD CALIBRATION/MAINTENANCE

1. Remove the bottom cover using your fingernails or a small screwdriver to loosen the front or rear edge.
2. Select the "S" position.
3. Press the button.
4. Adjust the Calibration Control until the meter reading is the same as the INTERNAL STANDARD value on the bottom label.
5. Replace the bottom cover.

RANGE DOUBLING

1. Remove the bottom cover.
2. Select the "S" position.
3. While pressing the button, adjust the Calibration Control until

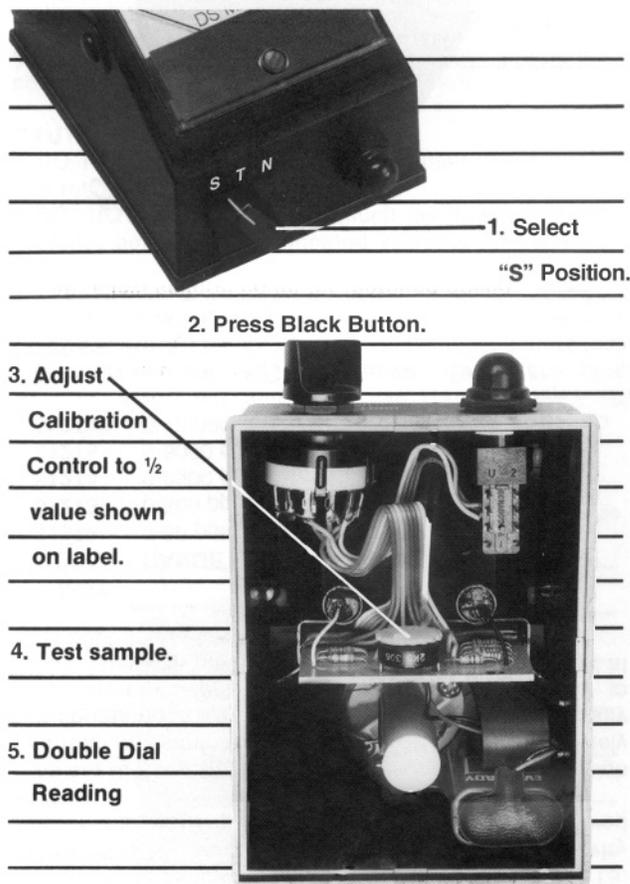
the meter reads one-half the INTERNAL STANDARD value shown on the bottom label. For example:

If the INTERNAL STANDARD value is 4200, adjust the Calibration Control until the reading is at 2100.

4. Test your sample (take care to keep the inside of the meter dry). Multiply the reading of the sample tested by two. For example: If the meter reading is 3200, the actual value of the sample tested is 6400 (3200 x 2).

NOTE:

After completing tests requiring Range Doubling, reset "S" to its proper value and replace bottom cover.



MAINTENANCE

BATTERY CHECK

1. Select "S" position.
2. Press the button. Adjust the Calibration Control to maximum.
3. If the meter reads less than full scale, the battery should be replaced. Remove the bottom cover. Detach the battery connector. Pull on the vinyl strap to remove the battery. Replace with a fresh 9 volt battery. Re-insert the vinyl strap to secure battery.

CELL

Self-conditioning of the built-in electrodes occurs each time the button is pressed with a sample in the cell cup. This ensures consistent results each time. With some samples a small downward swing of the pointer is a result of this conditioning action. This action is powerful and removes normal films of oil and dirt. However, if very dirty samples—particularly scaling types—are allowed to dry in the cell cup, a film will build up. This film reduces accuracy. When there are visible films of oil, dirt or scale in the cell cup or on the electrode, scrub them lightly with a small brush and household cleanser such as Comet™ or Windex™. Rinse out the cleanser and the meter is now ready for accurate measurements.

WATER INSIDE THE METER

Your Myron L PoolMeter is a rugged instrument and will withstand water exposure around its cell, meter movement, and switches. However, care should be taken to keep water from leaking in around the bottom cover. It is not sealed in order to prevent condensation from forming.

If water is relatively clean (i.e., tap water or better), and there are only a few drops inside the meter, dry it as described below. Large amounts of water, or corrosive or very dirty solutions will almost certainly damage the meter movement or electronics. Such meters should be returned to the Myron L Company for repair.

TO DRY YOUR METER:

1. Shake excess water out of the inside of the meter.
2. Dab the exposed surfaces dry with an absorbent cloth or tissue. Avoid getting any water into the Calibration Control or either of the switches.
3. Air dry the meter in a warm area with the bottom cover off. Allow several hours for thorough drying.

If the water entered through a leak in the case or cell, or if the instrument shows erratic readings or other unusual behavior, return it to the Myron L Company for service.

SERVICE

Any service required other than battery replacement, cleaning or calibration must be referred to the Myron L Company. Additionally, if you have any questions about this instrument, its use, or a particular application, please contact the Myron L Company directly (see back cover for contact information).

ACCESSORIES

STANDARD SOLUTIONS

442™: Unless otherwise specified, your PoolMeter has been factory calibrated with the TDS **442** Standard Solution. The **442** Standard Solutions consist of the following salt ratios: 40% sodium sulfate, 40% sodium bicarbonate, and 20% sodium chloride. This salt ratio has conductivity characteristics closely matching natural waters and was developed by the Myron L Company almost four decades ago.

Sodium Chloride: For every ppm 442 Standard Solution, there is a ppm sodium chloride (NaCl) solution that will have the same conductivity. The parts per million of the equivalent NaCl solution is on each Standard Solution label. Instruments calibrated to NaCl standards are set using equivalent NaCl values.

All Myron L Company Standard Solutions are traceable to the National Institute of Standards and Technology (NIST) and are within 1.00% of reference solutions. The concentrations of the

reference solutions are calculated from data in the International Critical Tables, Vol. 6.

All Myron L conductivity Standard Solution bottle labels show three values: ppm **442**, ppm **sodium chloride**, and **conductivity** in micromhos.

RECOMMENDED STANDARD SOLUTIONS		
SOLUTION TYPE	ppm value 442™	ppm value NaCl
512T5D Calibration		
442-3000	3000	2027
RE-10 Calibration		
442-30,000	30,000/30 ppt	18,235/18.24 ppt

RANGE EXTENDER

Model RE-10

The RE-10 Range Extender is a useful accessory for testing high conductivity/ppm solutions beyond the normal range of your PoolMeter. Inserting the RE-10 into a sample-filled cell cup increases the maximum range ten times. Use the Range Extender whenever the reading is off the scale.

USING THE RE-10

1. To rinse, fill the cell cup three times while inserting the Range Extender.
2. Fill the cell cup with your sample. Push the Range Extender into the cell cup, seating the O-ring seal.
3. Use and read the PoolMeter in the normal manner. Multiply the reading by 10.
4. For best accuracy, repeat the complete test with a fresh sample.
5. When you're finished testing, remove the Range Extender.

Thoroughly rinse the cell cup and Range Extender with clean water (preferably distilled or deionized) to eliminate dried salt build-up. This is extremely important when the instrument will be used to test high purity water.

RE-10 Range Extender



CALIBRATING THE RE-10

1. Calibrate the meter (without RE-10) using the appropriate Standard Solution.
2. Fill the cell cup with the appropriate high conductivity Standard Solution (442-30,000).
3. Insert RE-10 and press the black button. Multiply the reading by 10 and compare it to the value on the Standard Solution label. If they are not the same, the RE-10 must be recalibrated.

NOTE: DO NOT adjust the Calibration Control.

4. Adjust the white insert of the Extender as follows: If the reading is too high—push or tap inward. If the reading is too low—twist or pull outward with pliers.

NOTE: Each Range Extender is factory calibrated to a particular meter. It should be recalibrated if it is to be used with another meter.

PORTA PAK

Carry Case for use with your Myron L PoolMeter. It is foam-lined and molded of sturdy ABS plastic. *Model PTP*



STANDARD SOLUTION

Standard calibration solution 442™-3000 for use with your Myron L PoolMeter™.



ORDERING

To order accessories contact your nearest stocking distributor or the Myron L Company directly.

WARRANTY & SERVICE

The Myron L PoolMeter™ has a Two (2) Year Limited Warranty. If your instrument fails to function properly, check the batteries and calibration. If it still fails to function properly, return it prepaid to the Myron L Company. If, in the opinion of the factory, failure was due to materials or workmanship, repair or replacement will be made without charge. A reasonable service charge will be made for diagnosis or repairs due to normal wear, abuse, or tampering. Faulty instruments may be returned to us without prior permission.

This warranty is limited to repair or replacement of the Myron L PoolMeter only. The Myron L Company assumes no other responsibility or liability.

METERS WITHIN WARRANTY:

Failures due to materials or workmanship will be repaired or replaced (our option) without charge if returned freight is prepaid. If failure is deemed by the factory to have been caused by abuse or tampering, the following procedure will apply:

METERS OUT OF WARRANTY:

Diagnosis will be made and repairs completed, providing the repair charges are \$70.00 or less.

NOTE: Actual repair charges may be less than this amount. We will diagnose (but not repair) a returned meter and mail an estimate of charges if ANY of the following apply:

1. Repair charges will be more than \$70.00.
2. You specifically request an estimate of required repairs and charges.
3. The cost of required repairs exceeds one-half the list price of a new instrument.
4. The product is over 10 years old. Myron L takes pride in attempting to repair instruments of any age (even as old as 40 years). However, due to component availability and product improvements, some older instruments may no longer be repairable.

NOTE: Unrepaired meters are discarded unless you request them returned to you. If so, there is currently a \$35.00 charge per unrepaired instrument to cover diagnosis and handling.

MYRON L COMPANY
2450 Impala Drive
Carlsbad, CA 92008-7226 USA
Tel: +1-760-438-2021
Fax: +1-760-931-9189
E-Mail: info@myronl.com
techquestions@myronl.com

www.myronl.com

Made in USA

ACCURACY • RELIABILITY • SIMPLICITY

MYRON L
COMPANY
Water Quality Instrumentation
Accuracy • Reliability • Simplicity
512T5DOM 05JL09