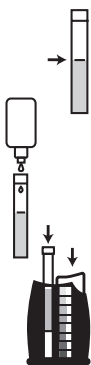


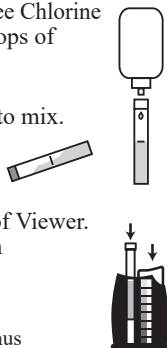
**Free Chlorine**

1. Slide Chlorine Octa-Slide 2 Bar (3401-01) into top of Viewer.
2. Fill tube (0106) to 5 mL line with sample.
3. Add 5 drops of DPD 1A (P-6740) and 5 drops of \*DPD 1B (P-6741). Cap and invert to mix.
4. Insert tube into top of Octa-Slide 2 Viewer (1101).
5. Read test result from Octa-Slide 2 Viewer in ppm Free Chlorine. Retain sample if Total Chlorine is to be tested.



**Total Chlorine**

1. Remove cap from Free Chlorine sample and add 5 drops of DPD 3(P-6743).
2. Cap tube and invert to mix.
3. Insert tube into top of Viewer. Read test result from Octa-Slide 2 Bar in ppm Total Chlorine.



NOTE: Total Chlorine minus Free Chlorine equals Combined Chlorine.

\*Potential health hazard. Read product label. Emergency information for all LaMotte reagents is available from Chem-Tel (US, 1-800-255-3924) (International, call collect, 813-248-0585).

**pH**

1. Slide pH Octa-Slide 2 Bar (3403-01) into top of Viewer.
2. Fill tube (0106) to 5 mL line with sample.
3. Add 5 drops of pH Indicator (P-7026). Cap tube and invert to mix.
4. Insert tube into top of Octa-Slide 2 Bar in pH units. If pH is not in desired range, retain sample for Acid/Base Demand.



**Acid/Base Demand**

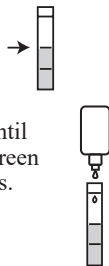
1. Remove cap from pH tube in viewer, leave pH Octa-Slide 2 Bar (3403-01) in Viewer.
2. If pH is High: add \*Acid (P-6068) one drop at a time and mix until desired color match occurs. Record number of drops.
3. See chart for recommended dosage.
4. If pH is Low: add Base (P-6460) one drop at a time and mix until desired color match occurs. Record number of drops.
5. See tables in the User's Guide for recommended dosage.



NOTE: For accurate results in pools with low pH and high alkalinity readings, the alkalinity level must be adjusted to the proper range before performing Base Demand test.

**Alkalinity**

1. Fill tube to upper line with sample.
2. Add 5 drops of \*Alk 1 (P-7028). Swirl to mix.
3. Add \*Alk Titrant (P-6111) dropwise while swirling until color changes from blue-green to RED. Record total drops.
4. Each drop equals 10 ppm Total Alkalinity.



NOTE: If tube is filled to lower line, each drop equals 20 ppm Alkalinity.

**Calcium Hardness**

1. Fill tube to lower line with sample.
2. Immediately add 5 drops of \*Hard 1 (P-4259) and 5 drops of \*Hard 2 (P-7030). Swirl to mix.
3. Add Ca Hard Titrant (P-7031) dropwise while swirling until color changes from red to BLUE. Record total drops. Each drop equals 20 ppm Ca Hardness.



NOTE: If tube is filled to upper line, each drop equals 10 ppm Calcium Hardness.

**Cyanuric Acid**

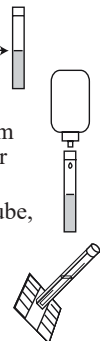
1. Fill small round tube (1161) to top line with sample.
2. Add one \*Cyanuric Acid tablet (6994A). Cap and shake to dissolve.
3. Replace solid cap with calibrated square tube and cap collar (no brush). The square tube will fill with turbid liquid.
4. Viewing from above, adjust the square tube until the black dot just barely disappears. Read result at water level within the square tube.



NOTE: For samples greater than 100 ppm, retest by adding sample to lower line, add tap water to top line. Follow steps 2-4. Multiply result by 2.

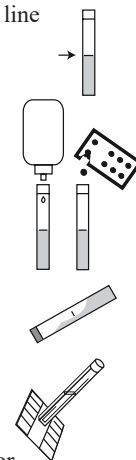
**Copper**

1. Fill tube (0106) to 5 mL line with sample.
2. Add 3 drops of \*Copper 1 (P-6446) to tube.
3. Cap tube and invert to mix.
4. Remove cap and place bottom of tube on white area of color chart.
5. Looking down through the tube, match Copper color to color chart and record result.



**Iron**

1. Fill tube (0106) to 5 mL line with sample.
2. Add 5 drops of \*Iron 1 Reagent (P-4450) and one \*Iron 2 Tablet (4451A) to tube.
3. Cap and shake tube to dissolve tablet.
4. Remove cap and place bottom of tube on white area of color chart.
5. Looking down through the tube, match Iron color to color chart and record result.



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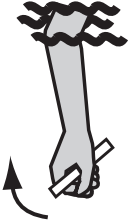


# USER'S GUIDE

## PRO 250 & PRO 250 PLUS TEST KIT OPERATION

### WATER SAMPLING TIPS

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1. Remove tubes from case for each of the desired tests to be run.
2. Remove caps, rinse tubes then submerge each tube to at least elbow depth in the pool/spa water to collect a sample.
3. Shake out excess water from each tube until bottom of the curved water line is at the desired fill line.
4. See Chapter 2 in the *Pool MGR Handbook* (1505) for more detailed tips on proper water sampling.

### OCTA-SLIDE COMPARATORS

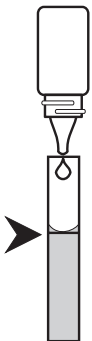
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1. Slide the Octa-Slide 2 Bar into the top of the Octa-Slide 2 Viewer.
2. Insert test tube with reacted sample into top of Viewer.
3. Hold the comparator so that non-direct light enters from the back.
4. If the sample color falls between two standard colors, the average of the two standard colors is taken as the test result.

### CHLORINE & pH

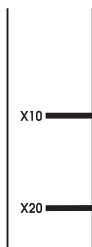
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1. When dispensing liquids, be sure to hold bottles in an upright position to ensure uniform drop size.
2. If chlorine sample remains cloudy after reagents 1A and 1B have been added, repeat test by adding reagents first, then sample water.
3. DPD 1B can deteriorate if exposed to air, sunlight or high temperatures. Discard if reagent is pink.
4. Determine test results from comparator promptly after adding reagents.
5. Keep all bottles tightly capped and store in a cool, dry place away from direct sunlight.

## DROP COUNT TITRATIONS

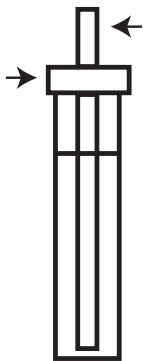
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1. The titration tube (0929) is calibrated with two lines, X10 and X20. When filled to the upper (X10) line, each drop of titrant used is equal to 10 ppm. When filled to the lower (X20) line, each drop of titrant used is equal to 20 ppm.
2. Swirl several times after adding each drop of titrant. The end-point color should remain throughout the sample for several seconds.
3. Always hold bottles upright when dispensing titrant.

## CYANURIC ACID - TURBIDITY TEST

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1. A tablet is added to sample water in a small round tube. The tablet reacts with Cyanuric Acid to produce a cloudy precipitate. The square tube, calibrated 20-100 ppm, is inserted into the cloudy solution. When the black dot on the bottom of the tube disappears, the result is read from the side of the square tube.
2. When lowering the square tube into the turbid solution, hold the round tube near top with thumb and forefinger to avoid blocking light. Be sure to read results at the bottom of the curved water line.
3. Be sure to clean Cyanuric Acid test tubes frequently with the brush provided. The sooner the test tubes are emptied and cleaned, the less chance of residual buildup.

## ACID/BASE DEMAND

---

1. Follow instructions in kit lid. Be sure to mix solution after each drop of standard acid or base reagent is added.
2. Use the tables provided on the following pages or in the lid instructions to determine the required chemical addition for pH adjustment.
3. For accurate results in pools with low pH and high alkalinity readings, the alkalinity level must be adjusted to the proper range before performing the Base Demand test.

## ACID DEMAND TABLES FOR LOWERING pH

### MURIATIC ACID REQUIRED FOR ADJUSTMENT

Drops of Acid Solution Used

Gallons	1	2	3	4	5	6	7	8	9	10
500	1.1	2.2	3.3	4.4	5.5	6.6	7.7	8.8	9.8	10.9
1000	2.2	4.4	6.6	8.8	10.9	13.1	1.0	1.1	1.2	1.4
5000	10.9	1.4	2.1	2.7	3.4	4.1	4.8	5.5	6.2	6.8
10,000	1.4	2.7	4.1	5.5	6.8	8.2	9.6	10.9	12.3	13.7
20,000	2.7	5.5	8.2	10.9	13.7	16.4	19.2	21.9	24.6	27.4
50,000	6.8	13.7	20.5	27.4	34.2	41.4	47.9	54.7	61.6	68.4
	Fluid ounces						Pints			

### DRY ACID REQUIRED FOR ADJUSTMENT

Drops of Acid Solution Used

Gallons	1	2	3	4	5	6	7	8	9	10
500	1.3	2.7	4.0	5.4	6.7	8.1	9.4	10.8	12.1	13.4
1000	2.7	5.4	8.1	10.8	13.4	1.0	1.2	1.3	1.5	1.7
5000	13.4	1.7	2.5	3.4	4.2	5.0	5.9	6.7	7.6	8.4
10,000	1.7	3.4	5.0	6.7	8.4	10.1	11.8	13.4	15.1	16.8
20,000	3.4	6.7	10.1	13.4	16.8	20.2	23.5	26.9	30.3	33.6
50,000	8.4	16.8	25.2	33.6	42.0	50.4	58.8	67.2	75.6	84.0
	Ounces						Pounds			

## BASE DEMAND TABLE FOR RAISING pH

### SODA ASH REQUIRED FOR ADJUSTMENT

Drops of Base Solution Used

Gallons	1	2	3	4	5	6	7	8	9	10
500	0.3	0.6	0.9	1.2	1.5	1.8	2.1	2.4	2.7	3.0
1000	0.6	1.2	1.8	2.4	3.0	0.2	0.3	0.3	0.3	0.4
5000	3.0	0.4	0.6	0.7	0.9	1.1	1.3	1.5	1.7	1.9
10,000	0.4	0.7	1.1	1.5	1.9	2.2	2.6	3.0	3.3	3.7
20,000	0.7	1.5	2.2	3.0	3.7	4.5	5.2	5.9	6.7	7.4
50,000	1.9	3.7	5.6	7.4	9.3	11.1	13.0	14.8	16.7	18.6
	Ounces						Pounds			

(Conversions on Back Page)

## WEIGHT & VOLUME CONVERSIONS

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Pints Muriatic Acid	x 16	=	Fluid Ounces Muriatic Acid
Pints Muriatic Acid	÷ 8	=	Gallons Muriatic Acid
Fluid Oz. Muriatic Acid	x 0.09	=	Pounds Dry Acid (Sodium Bisulfate)
Pints Muriatic Acid	x 1.4	=	Pounds Dry Acid
Gallons Muriatic Acid	x 11.2	=	Pounds Dry Acid
Ounces Muriatic Acid	x 0.06	=	Pints Muriatic Acid

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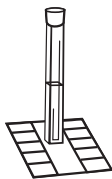
NOTE: Always consult the manufacturer's recommendation regarding maximum amount of acid to be added to pool at one time.

## METRIC CONVERSIONS

LIQUID			DRY		
1 oz.	=	29.57 mL	1 oz.	=	28.35 g
1 pint	=	0.47 L	1 lb.	=	0.454 Kg
1 quart	=	0.94 L			
1 gallon	=	3.78 L			

## COPPER/IRON (PRO 250 Plus only)

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1. Follow instructions for adding reagent to small square tubes.
2. Hold the tube against the white area of the color chart. Compare the color of the reaction to the color chart.

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