

Ideal for Water Quality, Pool & Spa,
Environmental, & Educational Testing

Kit Number 481668

eXact™ EZ

Instruction Manual

U.S. Patent Pending; International Patent Appln. No. PCT/US2005/033985; and European Patent Appln. No. 05799710.8

**USEPA, DIN, & ISO Compliant for Free & Total Chlorine Testing
(4500-Cl-G, DIN Standard 38 408 G4, ISO 7393/2)**



TESTS FOR:

PARAMETER	PAGE
Free Chlorine	2
pH	2
Total Chlorine	3
Total Alkalinity*	4
LR Total Hardness*	5
Bromine*	6
Copper*	7
Ozone*	8
Iodine*	9
Chlorine Dioxide*	10
Permanganate*	11
Chloride*	12
Calcium Hardness*	14
Iron*	16
Turbidity*	18
Cyanuric Acid	20

*Conversion table required / included



eXact™ EZ STANDARD TEST PROCEDURE

FOR BEST RESULTS, BE SURE TO READ THE ENTIRE MANUAL BEFORE BEGINNING ANY TESTS

**For Free Chlorine (DPD-1), Total Chlorine (DPD-4), and pH.
BE SURE TO USE A FRESH WATER SAMPLE FOR EACH TEST.**

1. Remove one eXact™ EZ Strip from the bottle before testing. Recap the bottle immediately. Set strip in a dry and convenient place.

2. Rinse **CELL** 2 or 3 times and fill to capacity with water sample (10ml).
(Rinsing minimizes potential cross contamination from previous test)

3. Press the **"ON/OFF"** button and the meter will first display **"C401"**, then **"R1.2"**.
(this confirms software functionality)

4. Press and release the **"SELECT TEST"** button until the display shows you the test you want to run.

CL--F - for Free Chlorine, Total Chlorine(DPD-3), Bromine, Ozone, Total Alkalinity, Chlorine Dioxide, Calcium Hardness, Total Hardness, Iron, Copper, Chloride, Iodine, Permanganate, & Turbidity

CL--T - for Total Chlorine (DPD-4)

CYNA - for Cyanuric Acid

pH - for pH

5. Press and release the **"READ RESULT"** button to activate the desired test selection.

6. When the display reads **"STBY"** (standby), cover the **CELL** with black cap, press the **"ZERO METER"** button and wait until meter has blanked itself to 0.00 ppm, 0.0 pH, or 0 ppm (depending on the test being performed).

NOTE: Cyanuric Acid test procedure is slightly different. Iron requires reducing agent step and chloride requires dilution step. See procedures as outlined in this manual.

7. Remove black cap and dip the eXact Strip™ EZ into the **CELL** for **20 seconds** with gentle back and forth motion. Be sure the end of the strip touches the bottom of the **CELL** during this step.

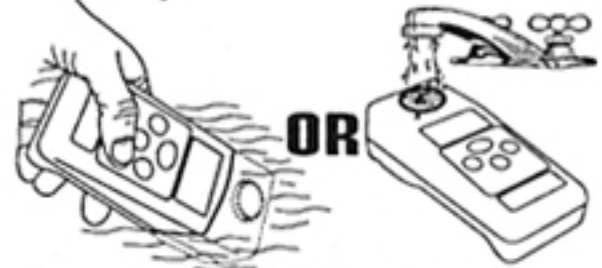
8. Remove and discard the strip.

9. Immediately cover the **CELL** with cap and press the **"READ RESULT"** button. Read and record the result on the display.

After Free Chlorine test, do not discard the sample, if you want the Total Chlorine result. Continue immediately to Step 11.

10. Rinse **CELL** with clean water immediately after testing is completed.

Read as PPM - parts per million (or mg/L) for all parameters except pH which will read as pH units and Turbidity which will read as NTU.



eXact™ EZ Total Chlorine Test Procedure

This is a continuation from step 9, using the Free Chlorine test sample. Total Chlorine can also be determined with CI Total DPD-4.

11. Remove one eXact™ EZ Strip CI Total (DPD-3 Total Chlorine) from the bottle. Recap the bottle immediately.
12. Remove black cap and dip the eXact™ Strip EZ CI Total into the **CELL** for **20 seconds** with gentle back and forth motion.
13. Remove and discard the strip, and cover with black cap.
14. Press the **"READ RESULT"** button and read the display for Total Chlorine in ppm (parts per million). Press the **"READ RESULT"** button every 30 seconds until reading does not change, and use this as your Total Chlorine value.*



*NOTE: Standard Method (4500-Cl G, simplified procedure for total chlorine) requires the reading to be made after a 2 minute wait. From experience, water samples above 68°F, generally, do not require the full 2 minute wait.

15. Record your result as ppm (mg/L) and rinse **CELL** immediately.

FOR BEST ACCURACY	
1.	Become familiar with the meter and the different tests by reading the instructions carefully. Use STANDARD TEST PROCEDURE except where instructed otherwise.
2.	Observe the timing (<i>20 seconds</i>) accurately for best results.
3.	Test immediately after filling the CELL with water sample.
4.	Be sure the CELL is filled to capacity (10ml). Run test with black cap cover on. Sample that may splash out of CELL during movement of eXact™ EZ strip will not affect accuracy.
5.	Rinse the CELL with clean water immediately after running test. (<i>Some test reagents can stain vial</i>)
6.	Just before testing, rinse the CELL with sample water several times to avoid contamination from previous tests. (<i>Use deionized or distilled water for rinsing if you have limited amount of sample</i>).
7.	Store meter and all test materials out of direct sunlight and away from chemical storage areas. Minimize exposure to heat above 100°F (38°C).
8.	Dry the outside of the meter and the CELL area when testing is complete.
9.	Record results for future reference. The eXact™ EZ meter is programmed to run all of the test parameters in the 10ml CELL . Use the appropriate eXact™ EZ Strip for each test.
10.	Each bottle of EZ Strips contains the quantity of strips notated on the bottle label in addition to 1 or 2 EZ Strips that are noticeably smaller or larger in width - this is normal. Using these strips will compromise results. Please remove and discard.
11.	Each conversion table supplied has a unique revision number located in the bottom right corner of the chart. If revisions to a given chart become necessary, a new chart will be supplied upon reordering the EZ Strip.

exact™ EZ Cl-Free (DPD-1) Interferences (part no. 481637)

Interfering Substance	Interfering Levels & Treatments
Acidity	If sample has acidity above 150mg/L CaCO ₃ test may not develop full color. Neutralize to pH 6.0 to 7.0 with 0.5N Sodium hydroxide.
Alkalinity	If sample has alkalinity above 250mg/L CaCO ₃ . test may not develop full color. Neutralize to pH 6.0 to 7.0 with 0.5N Sulfuric acid.
Bromine & Bromamines, Br ₂	Color similar to free chlorine reaction at all levels.
Chlorine Dioxide, ClO ₂	Color similar to free chlorine reaction at all levels.
Copper as Cu ⁺²	Color development is reduced above 10 ppm (mg/L).
Iodine, I ₂	Color similar to free chlorine reaction at all levels.
Manganese, oxidized (Mn ⁺⁴ , Mn ⁺⁷) or Chromium, oxidized (Cr ⁺⁴)	See AWWA procedure 4500-CL F, 1(d) for removal of interferences.
Monochloramines (NH ₂ Cl)	If monochloramine is present in the sample it interferes in the free chlorine test similar as found with other DPD reagent systems. This interference is dependent on temperature and monochloramine concentration. Prompt readings of the free chlorine using the EZ Procedure will minimize the amount of interference.
Ozone	Color similar to free chlorine reaction at all levels.
Peroxides	Interference is possible.
pH	Typical pH samples of potable water with a pH of 6.0 to 10.0 are OK. If outside this range adjust to pH 6.0 to 7.0 using acid (0.5N Sulfuric acid) or base (0.5N Sodium hydroxide).

All tests were calibrated at 75°F (24°C).

eXact™ EZ Total Alkalinity Table

Total Alkalinity results require the table below. Use **STANDARD TEST PROCEDURE** (Page 2) with eXact™ EZ Strip AL.

Find the "Cl-F" result in the table below to determine the Total Alkalinity concentration in ppm (parts per million) and record your results. (Example: "Cl-F" result of 0.15 equals <10 ppm Total Alkalinity)

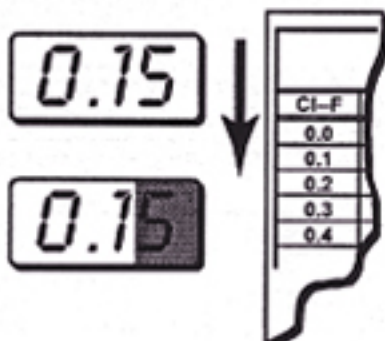
Total Alkalinity Table										
Cl--F	0.00	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
0.0	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
0.1	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
0.2	<15	<15	<15	<15	<15	<15	<15	<15	<15	<15
0.3	<20	<20	<20	<20	<20	<20	<20	<20	<20	20
0.4	21	22	23	24	25	27	28	29	30	32
0.5	33	34	35	37	38	39	40	42	43	44
0.6	46	47	48	49	51	52	53	55	56	57
0.7	59	60	61	62	64	65	66	68	69	70
0.8	72	73	74	76	77	79	80	81	83	84
0.9	85	87	88	89	91	92	94	95	96	98
1.0	99	101	102	103	105	106	108	109	110	112
1.1	113	115	116	117	119	120	122	123	125	126
1.2	128	129	130	132	133	135	136	138	139	141
1.3	142	144	145	147	148	150	151	153	154	156
1.4	157	159	160	162	163	165	166	168	169	171
1.5	172	174	176	177	179	180	182	183	185	186
1.6	188	190	191	193	194	196	197	199	201	202
1.7	204	205	207	209	210	212	213	215	217	218
1.8	220	222	223	225	226	228	230	231	233	235
1.9	236	238	240	241	243	245	246	248	250	251
	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
2	253	270	287	305	323	341	359	359	397	416
3	430	>430	>430	>430	>430	>430	>430	>430	>430	>430
4	>430	>430	>430	>430	>430	>430	>430	>430	>430	>430
5	>430	>430	>430	>430	>430	>430	>430	>430	>430	>430
6	>430	>430	>430	----	----	----	----	----	----	----

Rev. 020906ij

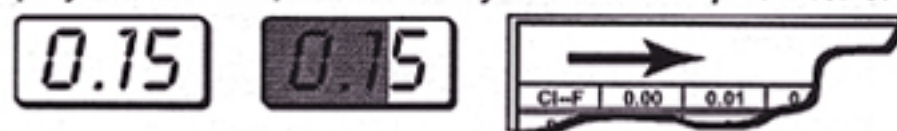
How to Use the Table

After completing the test procedure, look at the 3 digit value displayed on the LCD.

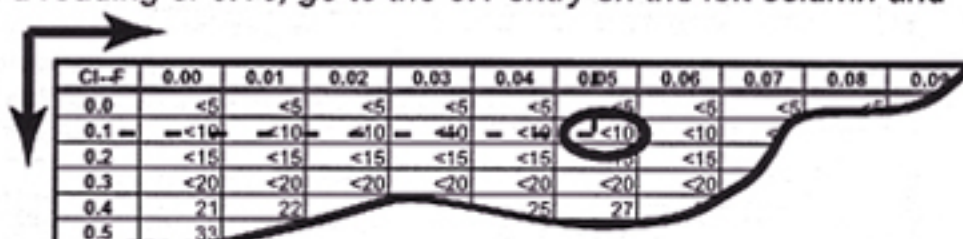
1. Take the first two (2) digits and match them to the column on the left of the chart under Cl-F (example: if the display shows 0.15, find the entry in the left column for 0.1).



2. Take the last digit displayed and match it to the top row of the chart to the right of the Cl-F notation (example: if the display shows 0.15, find the entry across the top row for 0.05).



3. Take the number in the left column and the number in the top row and find where the two intersect. This is your final concentration value (example: if the display shows a reading of 0.15, go to the 0.1 entry on the left column and the 0.05 entry on the top row, draw a line from the left column to the right and from the top row down, the intersecting point is your final concentration value; in this case the final value would be <10 ppm).



eXact™ EZ Low Range Total Hardness (as CaCO₃) Table

Low Range Total Hardness results require the table below. Use **STANDARD TEST PROCEDURE** (Page 2) with eXact™ EZ Strip LRTH.

Find the "Cl--F" result in the table below to determine the Total Hardness concentration in ppm (parts per million) and record your results. (Example: "Cl--F" result of 0.15 equals 5 ppm CaCO₃)

Low Range Total Hardness (as CaCO ₃) Table										
Cl--F	0.00	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
0.0	0	0	0	0	0	0	0	1	1	2
0.1	2	3	3	4	5	5	6	7	7	8
0.2	8	9	10	10	11	12	12	13	14	15
0.3	15	16	17	17	18	19	20	20	21	22
0.4	23	23	24	25	26	27	28	28	29	30
0.5	31	32	33	33	34	35	36	37	38	39
0.6	40	41	42	42	43	44	45	46	47	48
0.7	49	50	51	52	53	54	55	56	57	58
0.8	59	60	61	63	64	65	66	67	68	69
0.9	70	71	72	74	75	76	77	78	79	81
1.0	82	83	84	85	87	88	89	90	91	93
1.1	94	95	96	98	99	100	102	103	104	105
1.2	107	108	109	111	112	114	115	116	118	119
1.3	120	>120	>120	>120	>120	>120	>120	>120	>120	>120
1.4	>120	>120	>120	>120	>120	>120	>120	>120	>120	>120
1.5	>120	>120	>120	>120	>120	>120	>120	>120	>120	>120
1.6	>120	>120	>120	>120	>120	>120	>120	>120	>120	>120
1.7	>120	>120	>120	>120	>120	>120	>120	>120	>120	>120
1.8	>120	>120	>120	>120	>120	>120	>120	>120	>120	>120
1.9	>120	>120	>120	>120	>120	>120	>120	>120	>120	>120
	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
2	>120	>120	>120	>120	>120	>120	>120	>120	>120	>120
3	>120	>120	>120	>120	>120	>120	>120	>120	>120	>120
4	>120	>120	>120	>120	>120	>120	>120	>120	>120	>120
5	>120	>120	>120	>120	>120	>120	>120	>120	>120	>120
6	>120	>120	>120	----	----	----	----	----	----	----

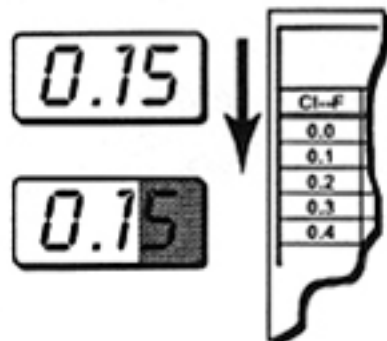
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(to report results as Calcium (Ca²⁺) multiply CaCO₃ result by 0.4) **NOTE:** This test will detect Ca²⁺ & Mg²⁺ ions.

How to Use the Table

After completing the test procedure, look at the 3 digit value displayed on the LCD.

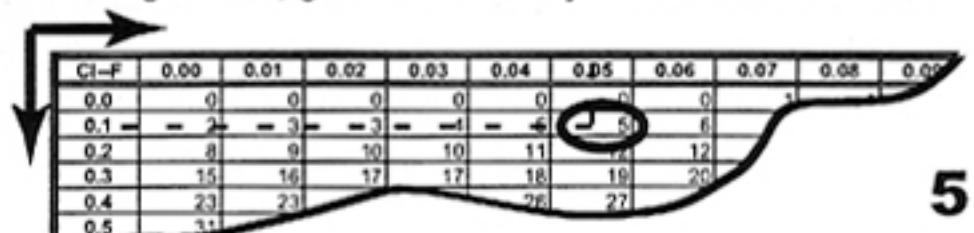
- 1.** Take the first two (2) digits and match them to the column on the left of the chart under Cl--F (example: if the display shows 0.15, find the entry in the left column for 0.1).



- 2.** Take the last digit displayed and match it to the top row of the chart to the right of the Cl--F notation (example: if the display shows 0.15, find the entry across the top row for 0.05).



- 3.** Take the number in the left column and the number in the top row and find where the two intersect. This is your final concentration value (example: if the display shows a reading of 0.15, go to the 0.1 entry on the left column and the 0.05 entry on the top row, draw a line from the left column to the right and from the top row down, the intersecting point is your final concentration value; in this case the final value would be 5 ppm).



eXact™ EZ Bromine Table

Bromine results require the table below. Use **STANDARD TEST PROCEDURE** (Page 2) with eXact™ EZ Strip CL-FREE.

Find the "Cl-F" result in the table below to determine the Bromine concentration in ppm (parts per million) and record your results. (Example: "Cl-F" result of 0.15 equals 0.5 ppm Total Bromine)

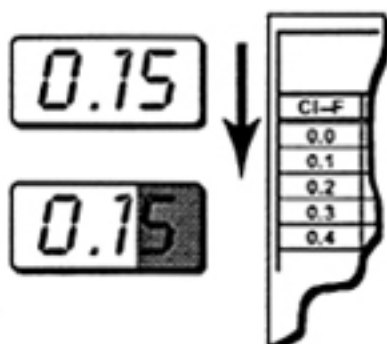
Bromine Table										
Cl-F	0.00	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.2	0.2
0.1	0.3	0.3	0.4	0.4	0.4	0.5	0.5	0.6	0.6	0.6
0.2	0.7	0.7	0.8	0.8	0.8	0.9	0.9	1.0	1.0	1.0
0.3	1.1	1.1	1.1	1.2	1.2	1.3	1.3	1.3	1.4	1.4
0.4	1.4	1.5	1.5	1.6	1.5	1.5	1.6	1.6	1.6	1.7
0.5	1.7	1.7	1.8	1.8	1.8	1.9	1.9	1.9	2.0	2.0
0.6	2.0	2.1	2.1	2.1	2.1	2.2	2.2	2.2	2.3	2.3
0.7	2.3	2.4	2.4	2.4	2.5	2.5	2.5	2.6	2.6	2.6
0.8	2.7	2.7	2.7	2.8	2.8	2.8	2.8	2.9	2.9	2.9
0.9	3.0	3.0	3.0	3.1	3.1	3.1	3.2	3.2	3.2	3.3
1.0	3.3	3.3	3.4	3.4	3.4	3.5	3.5	3.5	3.5	3.6
1.1	3.6	3.6	3.7	3.7	3.7	3.8	3.8	3.8	3.9	3.9
1.2	3.9	4.0	4.0	4.0	4.1	4.1	4.1	4.2	4.2	4.2
1.3	4.2	4.3	4.3	4.3	4.4	4.4	4.4	4.5	4.5	4.5
1.4	4.6	4.6	4.6	4.7	4.7	4.7	4.8	4.8	4.8	4.9
1.5	4.9	4.9	4.9	5.0	5.0	5.0	5.1	5.1	5.1	5.2
1.6	5.2	5.2	5.3	5.3	5.3	5.4	5.4	5.4	5.5	5.5
1.7	5.5	5.6	5.6	5.6	5.6	5.7	5.7	5.7	5.8	5.9
1.8	5.9	6.0	6.0	6.0	6.0	6.1	6.1	6.1	6.1	6.1
1.9	6.2	6.2	6.2	6.2	6.3	6.3	6.3	6.3	6.3	6.4
	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
2	6.4	6.6	6.8	7.0	7.1	7.3	7.4	7.4	7.7	7.8
3	7.9	8.0	8.0	8.1	8.1	8.2	8.2	8.2	8.2	8.2
4	8.2	>8.2	>8.2	>8.2	>8.2	>8.2	>8.2	>8.2	>8.2	>8.2
5	>8.2	>8.2	>8.2	>8.2	>8.2	>8.2	>8.2	>8.2	>8.2	>8.2
6	>8.2	>8.2	>8.2	----	----	----	----	----	----	----

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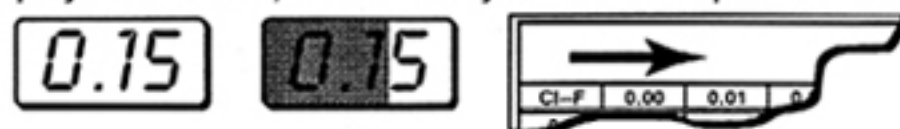
How to Use the Table

After completing the test procedure, look at the 3 digit value displayed on the LCD.

- 1.** Take the first two (2) digits and match them to the column on the left of the chart under Cl-F (example: if the display shows 0.15, find the entry in the left column for 0.1).



- 2.** Take the last digit displayed and match it to the top row of the chart to the right of the Cl-F notation (example: if the display shows 0.15, find the entry across the top row for 0.05).



- 3.** Take the number in the left column and the number in the top row and find where the two intersect. This is your final concentration value (example: if the display shows a reading of 0.15, go to the 0.1 entry on the left column and the 0.05 entry on the top row, draw a line from the left column to the right and from the top row down, the intersecting point is your final concentration value; in this case the final value would be 0.5 ppm).

Cl-F	0.00	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.2	0.2
0.1	0.3	0.3	0.4	0.4	0.4	0.5	0.5	0.6	0.6	0.6
0.2	0.7	0.7	0.8	0.8	0.8	0.9	0.9	1.0	1.0	1.0
0.3	1.1	1.1	1.1	1.2	1.2	1.3	1.3	1.3	1.4	1.4
0.4	1.4	1.5	1.5	1.6	1.5	1.5	1.6	1.6	1.6	1.7
0.5	1.7	1.7	1.8	1.8	1.8	1.9	1.9	1.9	2.0	2.0

eXact™ EZ Copper (as Cu⁺¹/Cu⁺²) Table

Copper results require the table below. Use **STANDARD TEST PROCEDURE** (Page 2) with eXact™ EZ Strip Cu.

Find the "Cl-F" result in the table below to determine the Copper concentration in ppm (parts per million) and record your results. (Example: "Cl-F" result of 0.15 equals 0.49 ppm Copper (Cu⁺¹ / Cu⁺²))

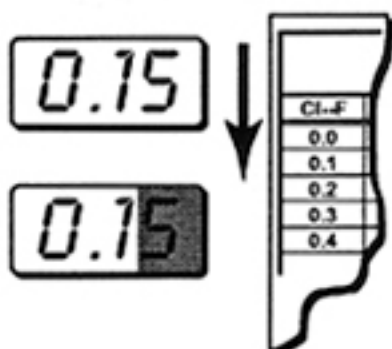
Copper (as Cu ⁺¹ / Cu ⁺²) Table										
Cl-F	0.00	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
0.0	0.00	0.00	0.01	0.05	0.09	0.13	0.16	0.20	0.24	0.27
0.1	0.31	0.35	0.38	0.42	0.46	0.49	0.53	0.57	0.60	0.64
0.2	0.67	0.71	0.75	0.78	0.82	0.86	0.89	0.93	0.96	1.0
0.3	1.0	1.1	1.1	1.1	1.2	1.2	1.3	1.3	1.3	1.4
0.4	1.4	1.4	1.5	1.5	1.5	1.6	1.6	1.6	1.7	1.7
0.5	1.8	1.8	1.8	1.9	1.9	1.9	2.0	2.0	2.0	2.1
0.6	2.1	2.1	2.2	2.2	2.2	2.3	2.3	2.3	2.4	2.4
0.7	2.5	2.5	2.5	2.6	2.6	2.6	2.7	2.7	2.7	2.8
0.8	2.8	2.8	2.9	2.9	2.9	3.0	3.0	3.0	3.1	3.1
0.9	3.1	3.2	3.2	3.2	3.3	3.3	3.3	3.4	3.4	3.4
1.0	3.5	3.5	3.5	3.6	3.6	3.6	3.7	3.7	3.7	3.8
1.1	3.8	3.8	3.9	3.9	3.9	4.0	4.0	4.0	4.1	4.1
1.2	4.1	4.2	4.2	4.2	4.3	4.3	4.3	4.4	4.4	4.4
1.3	4.5	4.5	4.5	4.6	4.6	4.6	4.7	4.7	4.7	4.8
1.4	4.8	4.8	4.9	4.9	4.9	5.0	5.0	5.1	5.1	5.1
1.5	5.2	5.2	5.2	5.3	5.3	5.3	5.4	5.4	5.5	5.5
1.6	5.5	5.6	5.6	5.6	5.7	5.7	5.8	5.8	5.8	5.9
1.7	5.9	5.9	6.0	6.0	6.1	6.1	6.1	6.2	6.2	6.2
1.8	6.3	6.3	6.4	6.4	6.4	6.5	6.5	6.5	6.6	6.6
1.9	6.7	6.7	6.7	6.8	6.8	6.8	6.9	6.9	7.0	7.0
	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
2	7.0	7.4	7.8	8.2	8.6	9.0	9.4	9.4	10.2	>10
3	>10	>10	>10	>10	>10	>10	>10	>10	>10	>10
4	>10	>10	>10	>10	>10	>10	>10	>10	>10	>10
5	>10	>10	>10	>10	>10	>10	>10	>10	>10	>10
6	>10	>10	>10	----	----	----	----	----	----	----

Rev.012406 sec/ckl

How to Use the Table

After completing the test procedure, look at the 3 digit value displayed on the LCD.

- 1.** Take the first two (2) digits and match them to the column on the left of the chart under Cl-F (example: if the display shows 0.15, find the entry in the left column for 0.1).



- 2.** Take the last digit displayed and match it to the top row of the chart to the right of the Cl-F notation (example: if the display shows 0.15, find the entry across the top row for 0.05).



- 3.** Take the number in the left column and the number in the top row and find where the two intersect. This is your final concentration value (example: if the display shows a reading of 0.15, go to the 0.1 entry on the left column and the 0.05 entry on the top row, draw a line from the left column to the right and from the top row down, the intersecting point is your final concentration value; in this case the final value would be 0.49 ppm).

Cl-F	0.00	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
0.0	0.00	0.00	0.01	0.05	0.09	0.13	0.16	0.20	0.24	0.27
0.1	0.31	0.35	0.38	0.42	0.46	0.49	0.53	0.57	0.60	0.64
0.2	0.67	0.71	0.75	0.78	0.82	0.86	0.89	0.93	0.96	1.0
0.3	1.0	1.1	1.1	1.1	1.2	1.2	1.3	1.3	1.3	1.4
0.4	1.4	1.4	1.5	1.5	1.5	1.6	1.6	1.6	1.7	1.7
0.5	1.8	1.8	1.8	1.9	1.9	1.9	2.0	2.0	2.0	2.1

eXact™ EZ Ozone Table

Ozone results require the table below. Use **STANDARD TEST PROCEDURE** (Page 2) with eXact™ EZ Strip CL-TOTAL 4

Find the "Cl-F" result in the table below to determine the Ozone concentration in ppm (parts per million) and record your results. (Example: "Cl-F" result of 0.15 equals 0.1 ppm Ozone)

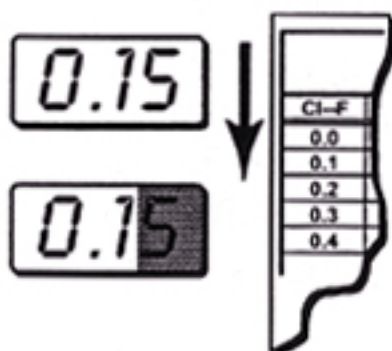
Ozone Table										
Cl-F	0.00	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2
0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3
0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4
0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
0.6	0.5	0.5	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
0.7	0.6	0.6	0.6	0.7	0.7	0.7	0.7	0.7	0.7	0.7
0.8	0.7	0.7	0.7	0.7	0.8	0.8	0.8	0.8	0.8	0.8
0.9	0.8	0.8	0.8	0.8	0.8	0.9	0.9	0.9	0.9	0.9
1.0	0.9	0.9	0.9	0.9	0.9	0.9	1.0	1.0	1.0	1.0
1.1	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.1	1.1	1.1
1.2	1.1	1.1	1.1	1.1	1.2	1.2	1.2	1.2	1.2	1.2
1.3	1.2	1.2	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3
1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
1.7	1.6	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
1.8	1.7	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8
1.9	1.8	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
2	1.9	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0
3	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0
4	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0
5	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0	>2.0
6	>2.0	>2.0	>2.0	----	----	----	----	----	----	----

Rev.020906 sec

How to Use the Table

After completing the test procedure, look at the 3 digit value displayed on the LCD.

- 1.** Take the first two (2) digits and match them to the column on the left of the chart under Cl-F (example: if the display shows 0.15, find the entry in the left column for 0.1).



- 2.** Take the last digit displayed and match it to the top row of the chart to the right of the Cl-F notation (example: if the display shows 0.15, find the entry across the top row for 0.05)



- 3.** Take the number in the left column and the number in the top row and find where the two intersect. This is your final concentration value (example: if the display shows a reading of 0.15, go to the 0.1 entry on the left column and the 0.05 entry on the top row, draw a line from the left column to the right and from the top row down, the intersecting point is your final concentration value; in this case the final value would be 0.1 ppm).

Cl-F	0.00	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2
0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3
0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4
0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5

eXact™ EZ Iodine Table

Iodine results require the table below. Use **STANDARD TEST PROCEDURE** (Page 2) with eXact™ EZ Strip CL-FREE.

Find the "Cl-F" result in the table below to determine the Ozone concentration in ppm (parts per million) and record your results. (Example: "Cl-F" result of 0.15 equals 0.54 ppm Iodine)

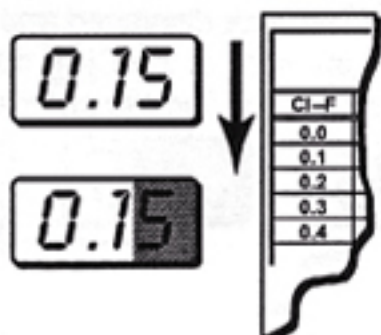
Iodine Table										
Cl--F	0.00	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
0.0	0.00	0.02	0.06	0.10	0.13	0.17	0.21	0.24	0.28	0.32
0.1	0.35	0.39	0.43	0.46	0.50	0.54	0.58	0.62	0.65	0.69
0.2	0.73	0.77	0.80	0.84	0.88	0.92	0.95	0.99	1.03	1.07
0.3	1.11	1.14	1.18	1.22	1.26	1.29	1.33	1.37	1.41	1.44
0.4	1.48	1.52	1.56	1.59	1.63	1.67	1.71	1.74	1.78	1.82
0.5	1.86	1.89	1.93	1.97	2.01	2.04	2.08	2.12	2.16	2.19
0.6	2.23	2.27	2.31	2.34	2.38	2.42	2.46	2.47	2.51	2.55
0.7	2.59	2.63	2.67	2.71	2.74	2.78	2.82	2.86	2.90	2.94
0.8	2.98	3.02	3.05	3.09	3.13	3.17	3.21	3.25	3.29	3.33
0.9	3.37	3.41	3.44	3.48	3.52	3.56	3.60	3.64	3.68	3.72
1.0	3.76	3.80	3.84	3.87	3.91	3.95	3.99	4.03	4.07	4.11
1.1	4.15	4.19	4.23	4.27	4.31	4.35	4.38	4.42	4.46	4.50
1.2	4.54	4.58	4.62	4.66	4.70	4.74	4.78	4.82	4.86	4.90
1.3	4.93	4.97	5.01	5.05	5.09	5.13	5.17	5.21	5.25	5.29
1.4	5.33	5.37	5.40	5.44	5.48	5.52	5.56	5.60	5.64	5.68
1.5	5.72	5.76	5.80	5.83	5.87	5.91	5.95	5.99	6.03	6.07
1.6	6.11	6.14	6.18	6.22	6.26	6.30	6.34	6.38	6.42	6.45
1.7	6.49	6.53	6.57	6.61	6.65	6.68	6.72	6.76	6.80	6.84
1.8	6.88	6.91	6.95	6.99	7.03	7.07	7.10	7.14	7.18	7.22
1.9	7.26	7.29	7.33	7.37	7.41	7.44	7.48	7.52	7.56	7.59
	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
2	7.6	8.0	8.4	8.7	9.1	9.4	9.8	9.8	10.4	10.7
3	11.0	11.3	11.6	11.9	12.0	>12	>12	>12	>12	>12
4	>12	>12	>12	>12	>12	>12	>12	>12	>12	>12
5	>12	>12	>12	>12	>12	>12	>12	>12	>12	>12
6	>12	>12	>12	----	----	----	----	----	----	----

Rev. 021006 sec

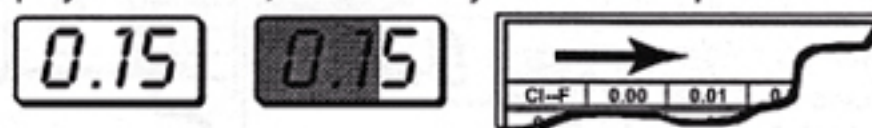
How to Use the Table

After completing the test procedure, look at the 3 digit value displayed on the LCD.

1. Take the first two (2) digits and match them to the column on the left of the chart under Cl-F (example: if the display shows 0.15, find the entry in the left column for 0.1).



2. Take the last digit displayed and match it to the top row of the chart to the right of the Cl-F notation (example: if the display shows 0.15, find the entry across the top row for 0.05).



3. Take the number in the left column and the number in the top row and find where the two intersect. This is your final concentration value (example: if the display shows a reading of 0.15, go to the 0.1 entry on the left column and the 0.05 entry on the top row, draw a line from the left column to the right and from the top row down, the intersecting point is your final concentration value; in this case the final value would be 0.54 ppm).

Cl-F	0.00	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
0.0	0.00	0.02	0.06	0.10	0.13	0.17	0.21	0.24	0.28	0.32
0.1	0.35	0.39	0.43	0.46	0.50	0.54	0.58	0.62	0.65	0.69
0.2	0.73	0.77	0.80	0.84	0.88	0.92	0.95	0.99	1.03	1.07
0.3	1.11	1.14	1.18	1.22	1.26	1.29	1.33	1.37	1.41	1.44
0.4	1.48	1.52	1.56	1.59	1.63	1.67	1.71	1.74	1.78	1.82
0.5	1.86	1.89	1.93	1.97	2.01	2.04	2.08	2.12	2.16	2.19

eXact™ EZ Chlorine Dioxide Table

Chlorine Dioxide results require the table below. Use **STANDARD TEST PROCEDURE** (Page 2) with eXact™ EZ Strip CL-FREE. (NOTE: To remove Chlorine interference, Glycine must be added).

Find the "Cl--F" result in the table below to determine the Chlorine Dioxide concentration in ppm (parts per million) and record your results. (Example: "Cl--F" result of 0.15 equals 0.32 ppm Chlorine Dioxide)

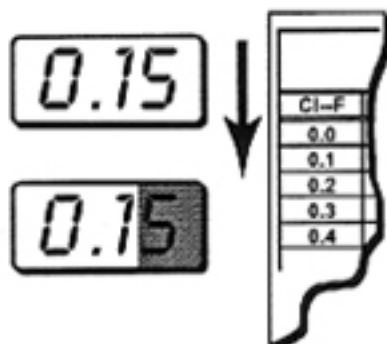
Chlorine Dioxide Table										
Cl--F	0.00	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
0.0	0.00	0.00	0.00	0.00	0.01	0.04	0.07	0.10	0.13	0.15
0.1	0.18	0.21	0.24	0.27	0.29	0.32	0.35	0.38	0.40	0.43
0.2	0.46	0.49	0.51	0.54	0.57	0.60	0.62	0.65	0.68	0.70
0.3	0.72	0.74	0.77	0.79	0.81	0.84	0.86	0.88	0.90	0.93
0.4	0.95	0.97	1.00	1.02	1.04	1.06	1.09	1.11	1.13	1.15
0.5	1.18	1.20	1.22	1.24	1.26	1.29	1.31	1.33	1.35	1.37
0.6	1.39	1.42	1.44	1.46	1.48	1.50	1.52	1.54	1.56	1.59
0.7	1.61	1.63	1.65	1.67	1.69	1.71	1.73	1.75	1.77	1.79
0.8	1.81	1.83	1.85	1.87	1.89	1.91	2.06	2.09	2.12	2.14
0.9	2.17	2.20	2.22	2.25	2.28	2.30	2.33	2.36	2.38	2.41
1.0	2.44	2.46	2.49	2.52	2.54	2.57	2.60	2.62	2.65	2.67
1.1	2.70	2.73	2.75	2.78	2.81	2.83	2.86	2.88	2.91	2.93
1.2	2.96	2.98	3.01	3.04	3.06	3.09	3.11	3.14	3.16	3.19
1.3	3.21	3.24	3.26	3.28	3.31	3.33	3.36	3.38	3.41	3.43
1.4	3.45	3.48	3.50	3.53	3.55	3.57	3.60	3.62	3.64	3.67
1.5	3.69	3.71	3.73	3.76	3.78	3.80	3.82	3.85	3.87	3.89
1.6	3.91	3.94	3.96	3.98	4.00	4.02	4.04	4.06	4.09	4.11
1.7	4.13	4.15	4.17	4.19	4.21	4.23	4.25	4.27	4.29	4.31
1.8	4.33	4.35	4.37	4.39	4.41	4.43	4.45	4.47	4.49	4.51
1.9	4.53	4.54	4.56	4.58	4.60	4.62	4.64	4.65	4.67	4.69
	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
2	4.7	4.9	5.0	>5.0	>5.0	>5.0	>5.0	>5.0	>5.0	>5.0
3	>5.0	>5.0	>5.0	>5.0	>5.0	>5.0	>5.0	>5.0	>5.0	>5.0
4	>5.0	>5.0	>5.0	>5.0	>5.0	>5.0	>5.0	>5.0	>5.0	>5.0
5	>5.0	>5.0	>5.0	>5.0	>5.0	>5.0	>5.0	>5.0	>5.0	>5.0
6	>5.0	>5.0	>5.0	----	----	----	----	----	----	----

Rev. 020906 cbl/sec

How to Use the Table

After completing the test procedure, look at the 3 digit value displayed on the LCD.

1. Take the first two (2) digits and match them to the column on the left of the chart under Cl--F (example: if the display shows 0.15, find the entry in the left column for 0.1).



2. Take the last digit displayed and match it to the top row of the chart to the right of the Cl--F notation (example: if the display shows 0.15, find the entry across the top row for 0.05).



3. Take the number in the left column and the number in the top row and find where the two intersect. This is your final concentration value (example: if the display shows a reading of 0.15, go to the 0.1 entry on the left column and the 0.05 entry on the top row, draw a line from the left column to the right and from the top row down, the intersecting point is your final concentration value; in this case the final value would be 0.32 ppm).

Cl--F	0.00	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
0.0	0.00	0.00	0.00	0.00	0.01	0.04	0.07	0.10	0.13	0.15
0.1	0.18	0.21	0.24	0.27	0.29	0.32	0.35	0.38	0.40	0.43
0.2	0.46	0.49	0.51	0.54	0.57	0.60	0.62	0.65	0.68	0.70
0.3	0.72	0.74	0.77	0.79	0.81	0.84	0.86	0.88	0.90	0.93
0.4	0.95	0.97	1.00	1.02	1.04	1.06	1.09	1.11	1.13	1.15
0.5	1.18	1.20	1.22	1.24	1.26	1.29	1.31	1.33	1.35	1.37

eXact™ EZ Permanganate (as MnO₄) Table

Permanganate results require the table below. Use **STANDARD TEST PROCEDURE** (Page 2) with eXact™ EZ Strip CL-FREE.

Find the "Cl-F" result in the table below to determine the Permanganate concentration in ppm (parts per million) and record your results. (Example: "Cl-F" result of 0.15 equals 0.10 ppm Permanganate)

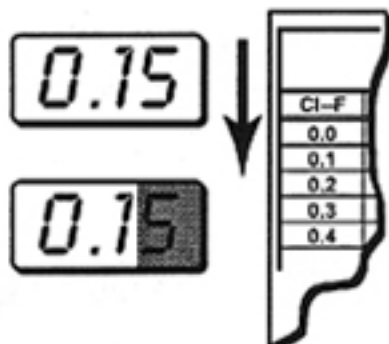
Permanganate (as MnO ₄) Table										
Cl-F	0.00	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
0.0	0.00	0.00	0.01	0.02	0.03	0.03	0.04	0.05	0.05	0.06
0.1	0.07	0.08	0.08	0.09	0.10	0.10	0.11	0.12	0.12	0.13
0.2	0.14	0.15	0.15	0.16	0.17	0.17	0.18	0.19	0.19	0.20
0.3	0.21	0.21	0.22	0.23	0.23	0.24	0.25	0.25	0.26	0.27
0.4	0.27	0.28	0.28	0.29	0.29	0.30	0.30	0.31	0.32	0.32
0.5	0.33	0.33	0.34	0.35	0.35	0.36	0.37	0.37	0.38	0.39
0.6	0.39	0.40	0.41	0.41	0.42	0.42	0.43	0.44	0.44	0.45
0.7	0.46	0.46	0.47	0.47	0.48	0.49	0.49	0.50	0.51	0.51
0.8	0.52	0.52	0.53	0.54	0.54	0.55	0.56	0.56	0.57	0.57
0.9	0.58	0.59	0.59	0.60	0.61	0.61	0.62	0.62	0.63	0.64
1.0	0.64	0.65	0.65	0.66	0.67	0.67	0.68	0.69	0.69	0.70
1.1	0.70	0.71	0.72	0.72	0.73	0.73	0.74	0.75	0.75	0.76
1.2	0.76	0.77	0.78	0.78	0.79	0.79	0.80	0.81	0.81	0.82
1.3	0.82	0.83	0.84	0.84	0.85	0.85	0.86	0.87	0.87	0.88
1.4	0.88	0.89	0.90	0.90	0.91	0.91	0.92	0.93	0.93	0.94
1.5	0.94	0.95	0.96	0.96	0.97	0.97	0.98	0.98	0.99	1.00
1.6	1.03	1.04	1.04	1.05	1.06	1.07	1.07	1.08	1.09	1.09
1.7	1.10	1.11	1.12	1.12	1.13	1.14	1.14	1.15	1.16	1.17
1.8	1.17	1.18	1.19	1.20	1.20	1.21	1.22	1.22	1.23	1.24
1.9	1.25	1.25	1.26	1.27	1.28	1.28	1.29	1.30	1.31	1.31
	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
2	1.3	1.4	1.5	1.5	1.6	1.7	1.8	1.8	1.9	2.0
3	2.1	2.2	2.3	2.4	2.5	2.5	2.6	2.7	2.8	2.9
4	3.0	>3.0	>3.0	>3.0	>3.0	>3.0	>3.0	>3.0	>3.0	>3.0
5	>3.0	>3.0	>3.0	>3.0	>3.0	>3.0	>3.0	>3.0	>3.0	>3.0
6	>3.0	>3.0	>3.0	----	----	----	----	----	----	----

Rev.021006 sec/cbl

How to Use the Table

After completing the test procedure, look at the 3 digit value displayed on the LCD.

- 1.** Take the first two (2) digits and match them to the column on the left of the chart under Cl-F (example: if the display shows 0.15, find the entry in the left column for 0.1).



- 2.** Take the last digit displayed and match it to the top row of the chart to the right of the Cl-F notation (example: if the display shows 0.15, find the entry across the top row for 0.05).



- 3.** Take the number in the left column and the number in the top row and find where the two intersect. This is your final concentration value (example: if the display shows a reading of 0.15, go to the 0.1 entry on the left column and the 0.05 entry on the top row, draw a line from the left column to the right and from the top row down, the intersecting point is your final concentration value; in this case the final value would be 0.10 ppm).

Cl-F	0.00	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
0.0	0.00	0.00	0.01	0.02	0.03	0.03	0.04	0.05	0.05	0.06
0.1	0.07	0.08	0.08	0.09	0.10	0.10	0.11	0.12	0.12	0.13
0.2	0.14	0.15	0.15	0.16	0.17	0.17	0.18	0.19	0.19	0.20
0.3	0.21	0.21	0.22	0.23	0.23	0.24	0.25	0.25	0.26	0.27
0.4	0.27	0.28	0.28	0.29	0.29	0.30	0.30	0.31	0.32	0.32
0.5	0.33	0.33	0.34	0.35	0.35	0.36	0.37	0.37	0.38	0.39

eXact™ EZ Chloride (as NaCl) Pool & Spa Test Procedure

Chloride results require the table on Page 13. Be sure to read this test procedure before beginning the test.

1. Remove one eXact™ EZ Strip NaCl from the bottle. Recap the bottle immediately. Set strip in a dry place.
2. Rinse **CELL** 2 or 3 times with Chloride-free water (distilled or deionized) and leave **CELL** empty.
(Rinsing minimizes potential cross contamination from previous test)
3. Fill and empty the supplied pipette with water sample to be tested several times in order to rinse. Next, fill the pipette to the **black line** (0.5 ml) with water sample for testing and add to the **CELL**.
4. Fill the rest of the **CELL** with Chloride free water. **NOTE:** Use distilled or deionized water. **DO NOT** overfill.
5. Press the "**ON/OFF**" button and the meter display will first display "**C401**", then "**R1.2**". (this confirms software functionality)
6. Press and release the "**SELECT TEST**" button until the display shows you "**CL--F**".
7. Press and release the "**READ RESULT**" button to activate the desired test selection.
8. When the display reads "**STBY**" (standby), cover the **CELL** with black cap, press the "**ZERO METER**" button and wait until meter has blanked itself to 0.00 ppm.
9. Remove black cap and dip the eXact™ EZ Strip NaCl into the **CELL** for **20 seconds** with gentle back and forth motion. Be sure the end of the strip touches the bottom of the **CELL** during this step.
10. Remove and discard the strip.
11. Immediately cover the **CELL** with the black cap and press the "**READ RESULT**" button after 1 Minute.
12. Find the "**CL--F**" result in the table (pg 13) to determine the Sodium Chloride (NaCl) concentration in ppm (parts per million) and record results. *(Example: "CL--F" result of 0.15 equals 370 ppm Sodium Chloride)*
13. Rinse **CELL** with clean water immediately after testing is completed.

NOTE: To report results as Chloride (Cl) multiply NaCl result by 0.61 Example: a reading of 2500ppm NaCl multiplied by 0.61 = 1525ppm Cl

Chloride (as NaCl) Table

**SEE PAGE 13 for
CHLORIDE
Conversion Table**

eXact™ EZ Chloride (as NaCl) TABLE

Chloride results require the table below. Use **eXact™ EZ Chloride (as NaCl) Pool & Spa TEST PROCEDURE** (Page 12) with *eXact™ EZ Strip NaCl*.

Find the "Cl--F" result in the table below to determine the Chloride concentration in ppm (parts per million) and record your results. (Example: "Cl--F" result of 0.15 equals 370 ppm Chloride as NaCl).

Chloride (as NaCl) Table										
Cl--F	0.00	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
0.0	0	0	0	10	30	40	50	70	100	130
0.1	160	190	230	270	320	370	430	500	600	600
0.2	700	800	800	900	900	1000	1000	1100	1100	1100
0.3	1200	1200	1200	1300	1300	1400	1400	1400	1500	1500
0.4	1500	1600	1600	1600	1700	1700	1800	1800	1800	1900
0.5	1900	1900	1900	2000	2000	2000	2100	2100	2100	2200
0.6	2200	2200	2300	2300	2300	2300	2400	2400	2400	2400
0.7	2500	2500	2500	2600	2600	2600	2600	2700	2700	2700
0.8	2700	2700	2800	2800	2800	2800	2900	2900	2900	2900
0.9	2900	3000	3000	3000	3000	3000	3100	3100	3100	3100
1.0	3100	3100	3200	3200	3200	3200	3200	3200	3300	3300
1.1	3300	3300	3300	3300	3400	3400	3400	3400	3400	3400
1.2	3500	3500	3500	3500	3500	3500	3600	3600	3600	3600
1.3	3600	3600	3700	3700	3700	3700	3700	3700	3700	3800
1.4	3800	3800	3800	3800	3800	3800	3900	3900	3900	3900
1.5	3900	3900	3900	4000	4000	4000	4000	4000	4000	4000
1.6	4100	4100	4100	4100	4100	4100	4100	4200	4200	4200
1.7	4200	4200	4200	4200	4200	4300	4300	4300	4300	4300
1.8	4300	4300	4300	4400	4400	4400	4400	4400	4400	4400
1.9	4400	4400	4500	4500	4500	4500	4500	4500	4500	4500
	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
2	4500	4700	4800	4900	4900	5000	5100	5100	5300	5300
3	5400	5400	5500	5600	5600	5600	5700	5700	5800	5800
4	5800	5800	5900	5900	5900	5900	5900	6000	6000	6000
5	6000	6000	6000	6000	6000	6000	6100	6100	6100	6100
6	6100	6100	6100	----	----	----	----	----	----	----

Rev.012606 sec/ckl

eXact™ EZ Chloride (as Cl⁻) Drinking Water Test Procedure

Chloride results require the table ABOVE. Use **STANDARD TEST PROCEDURE** (Page 2) with *eXact™ EZ Strip Cl⁻*. Be sure to fully read the test procedure below and use the multiplication factor below.

NOTE: Determining Chloride concentrations in drinking water requires a 10mL sample using the **STANDARD TEST PROCEDURE** (page 2). Unlike the pool & spa test procedure, **NO** pipette is required to perform this test.

- 1.....Find the "Cl--F" result in the table above and record.
- 2.....Using the value from the table above, multiply this number by 0.03 to determine the Chloride concentration in ppm (parts per million) and record your results. (Example: "Cl--F" result of 0.15 equals 370 ppm in the table above. 370 ppm multiplied by 0.03 = 11.1 ppm Chloride (as Cl⁻) in drinking water.

eXact™ EZ Calcium Hardness (as Ca²⁺) Test Procedure

Calcium Hardness results require the table on Page 15. Follow **STANDARD TEST PROCEDURE** (page 2) using eXact™ EZ Strip Ca.

IF YOUR RESULT IS ABOVE 200 PPM, USE THE DILUTION PROCEDURE BELOW

Calcium Hardness (as Ca²⁺) Table

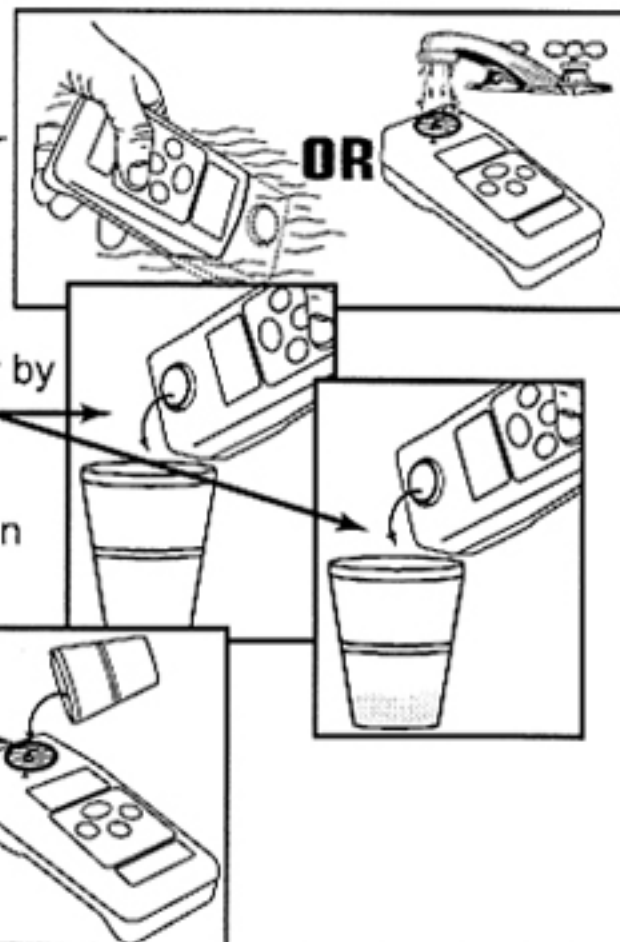
SEE PAGE 15 for CALCIUM HARDNESS Conversion Table

NOTE: This test only detects Ca²⁺ ions.

DILUTION PROCEDURE

How to Dilute Sample Using Meter CELL:

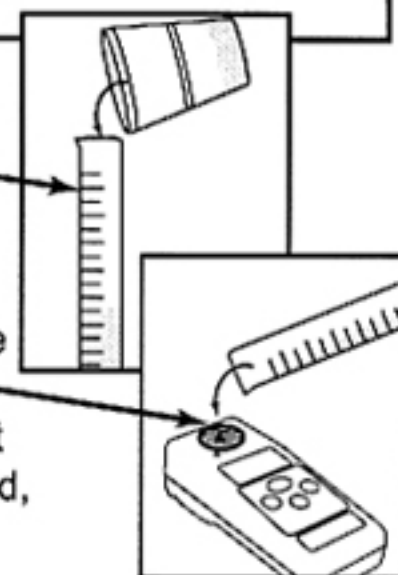
1. Fill the **CELL** (10mL) with water to be tested and add / pour into a clean container (For example: a paper or plastic cup).
2. Using Calcium Hardness free water (distilled or deionized water) to dilute the sample, fill the **CELL** (10mL) and pour into the same paper or plastic cup from step 1. Mix gently by swirling or stirring with the plastic stirring rod. This is the diluted water sample.
3. Fill the **CELL** (10mL) with the diluted water mixture and run the sample according to the **Standard Test Procedure** (page 2). Find the "Cl--F" result in the chart (page 15) and multiply ppm Calcium Hardness result by the dilution factor used (see table below). If further dilution is needed, reference the chart below and repeat the procedure starting at Step 1.



How to Dilute Sample Using Graduated Cylinder:

For greater precision, use of a 50mL graduated cylinder is recommended for preparing the dilutions below. To purchase, please contact ITS at 800-861-9712 or 803-329-9712 (see eXact™ EZ Component Reorder Information, page 23).

1. Fill the **Cylinder** to the 10mL line with water to be tested.
2. Using Calcium Hardness free water (distilled or deionized water) to dilute the sample, fill the **Cylinder** to the 20mL line. Mix gently by swirling. This is the diluted water sample.
3. Fill the **CELL** (10mL) with the diluted water mixture and run the sample according to the **Standard Test Procedure** (page 2). Find the "Cl--F" result in the chart (page 15) and multiply ppm Calcium Hardness result by the dilution factor used (see table below). If further dilution is needed, reference the chart below and repeat the procedure starting at Step 1.



Note: If your "Cl--F" result is above 4.5, repeat Steps 1-3 above using the next dilution factor on the table below. The amount of Calcium Hardness free water added will depend on the desired dilution needed.

Dilution	Water Sample	Calcium Hardness Free Water	Total Volume (diluted sample)	Dilution Factor
1:2	10ml	10ml	20ml	2
1:3	10ml	20ml	30ml	3
1:4	10ml	30ml	40ml	4
1:5	10ml	40ml	50ml	5

eXact™ EZ Calcium Hardness (as Ca²⁺) TABLE

Calcium Hardness results require the table below. Use **eXact™ EZ Calcium Hardness TEST PROCEDURE** (Page 14) with eXact™ EZ Strip Ca.

Find the "Cl-F" result in the table below to determine the Calcium Hardness concentration in ppm (parts per million) and record your results. (Example: "Cl-F" result of 0.15 equals 6 ppm Calcium Hardness.)

Calcium Hardness (as Ca²⁺) Table

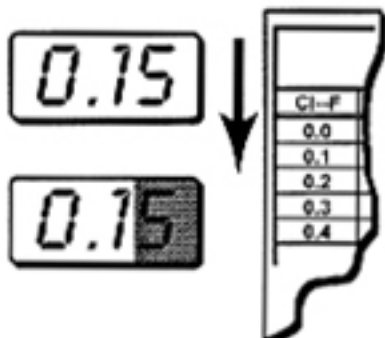
Cl-F	0.00	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
0.0	0	0	1	1	2	2	2	3	3	4
0.1	4	5	5	5	6	6	7	7	7	8
0.2	8	9	9	9	10	10	11	11	11	12
0.3	12	13	13	13	14	14	15	15	15	16
0.4	16	17	17	17	18	18	18	19	19	20
0.5	20	20	21	21	22	22	22	23	23	23
0.6	24	24	25	25	25	26	26	26	27	27
0.7	28	28	28	29	29	29	30	30	30	31
0.8	31	31	32	32	33	33	33	34	34	34
0.9	35	35	35	36	36	36	37	37	37	38
1.0	38	38	39	39	39	40	40	40	41	41
1.1	41	42	42	42	43	43	43	44	44	44
1.2	45	45	45	46	46	46	47	47	47	48
1.3	48	48	49	49	49	50	50	50	50	51
1.4	51	51	52	52	52	53	53	53	54	54
1.5	54	54	55	55	55	56	56	56	57	58
1.6	59	59	59	60	60	61	61	61	62	62
1.7	62	63	63	63	64	64	65	65	65	66
1.8	66	66	67	67	67	68	68	68	69	69
1.9	70	70	70	71	71	71	72	72	72	73
	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
2	73	77	80	84	88	91	95	95	102	106
3	109	113	116	120	124	127	131	134	138	142
4	145	149	152	156	160	163	167	170	174	178
5	181	185	189	192	196	199	203	207	210	214
6	217	221	225	----	----	----	----	----	----	----

(to report results as CaCO₃ multiply Calcium (Ca²⁺) result by 2.5) Rev. 012606 sec/ckl

How to Use the Table

After completing the test procedure, look at the 3 digit value displayed on the LCD.

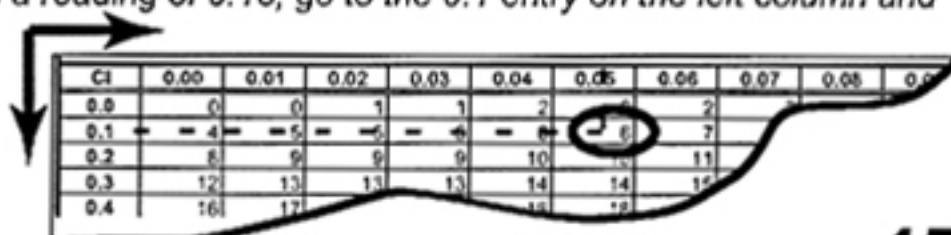
- 1.** Take the first two (2) digits and match them to the column on the left of the chart under Cl-F (example: if the display shows 0.15, find the entry in the left column for 0.1).



- 2.** Take the last digit displayed and match it to the top row of the chart to the right of the Cl-F notation (example: if the display shows 0.15, find the entry across the top row for 0.05).



- 3.** Take the number in the left column and the number in the top row and find where the two intersect. This is your final concentration value (example: if the display shows a reading of 0.15, go to the 0.1 entry on the left column and the 0.05 entry on the top row, draw a line from the left column to the right and from the top row down, the intersecting point is your final concentration value; in this case the final value would be 6 ppm).



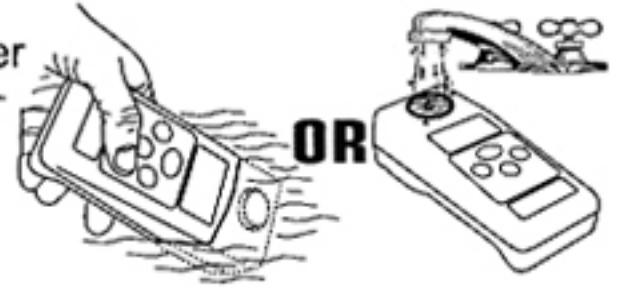
eXact™ EZ Iron (as Fe²⁺ / Fe³⁺) Test Procedure

Iron results require the table on Page 17. Be sure to read this test procedure before beginning the test.



1. Have one eXact™ EZ Ferro powder pillow ready for test.

2. Rinse **CELL** 2 or 3 times and fill to capacity with water sample (10ml). Rinsing minimizes potential cross contamination from previous tests.



3. Press the "ON/OFF" button and the meter will first display "C401", then "R1.2". This confirms software functionality.



4. Press and release the "SELECT TEST" button until the display shows you "CL--F".



5. Press and release the "READ RESULT" button to activate the desired test selection.



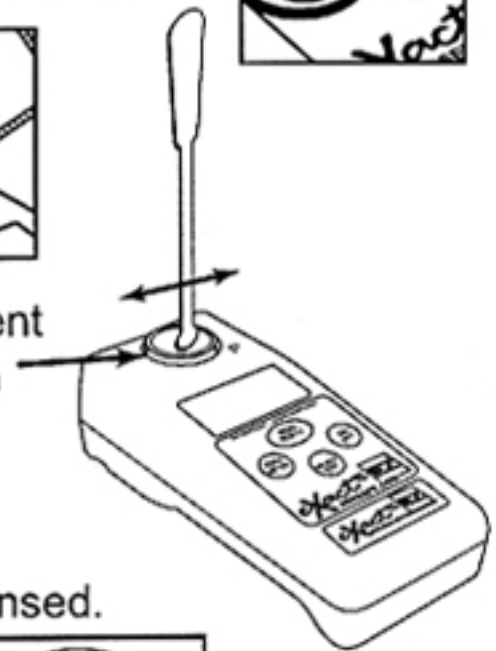
6. When the display reads "STBY" (standby), cover the **CELL** with the black cap, press the "ZERO METER" button and wait until the meter has blanked itself to 0.00 ppm.



7. Remove the black cap and add the entire contents of one eXact™ EZ Ferro powder pillow to the **CELL**.



8. Using the supplied stirring rod, stir the water and reagent in the **CELL** for **20 seconds** with gentle back and forth motion. *Be sure the end of the stirring rod touches the bottom of the **CELL** during this step.*



9. Remove the stirring rod and set aside to be cleaned/ rinsed.

10. Immediately cover the **CELL** with the black cap and press the "READ RESULT" button.



11. Find the "CL--F" result in the table (pg 17) to determine the Iron (Fe²⁺/Fe³⁺) concentration in ppm (parts per million) and record results. (Example: "CL--F" result of 0.15 equals 0.28 ppm Iron)

12. Rinse **CELL** and stirring rod with clean water immediately after testing is completed.

Iron (as Fe²⁺ / Fe³⁺) Table

SEE PAGE 17 for IRON Conversion Table

Note: eXact™ EZ Ferro contains a reducing agent that will interfere with chlorine testing and produce low results. Be sure to **THOROUGHLY** rinse the **CELL** after iron test to ensure accurate chlorine readings.

eXact™ EZ Iron (as Fe⁺² / Fe⁺³) TABLE

Iron results require the table below. Use **eXact™ EZ Iron TEST PROCEDURE** (Page 16) with **eXact™ EZ Strip Fe**.

Find the "Cl-F" result in the table below to determine the Iron concentration in ppm (parts per million) and record your results. (Example: "Cl-F" result of 0.15 equals 0.28 ppm Fe⁺² / Fe⁺³)

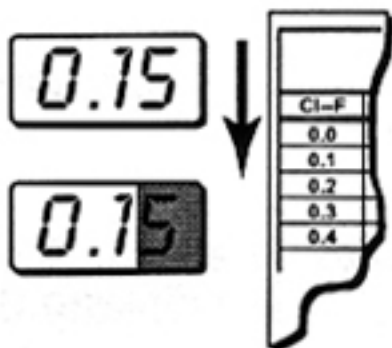
Iron (as Fe ⁺² / Fe ⁺³) Table										
Cl-F	0.00	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
0.0	0.00	0.01	0.03	0.05	0.07	0.08	0.10	0.12	0.13	0.15
0.1	0.17	0.18	0.20	0.21	0.26	0.28	0.29	0.31	0.33	0.34
0.2	0.36	0.38	0.40	0.41	0.43	0.45	0.47	0.48	0.50	0.52
0.3	0.53	0.55	0.57	0.58	0.60	0.62	0.64	0.65	0.67	0.69
0.4	0.70	0.72	0.74	0.75	0.77	0.79	0.80	0.82	0.84	0.85
0.5	0.87	0.89	0.90	0.92	0.94	0.95	0.97	0.99	1.00	1.02
0.6	1.04	1.05	1.07	1.09	1.10	1.12	1.14	1.15	1.17	1.19
0.7	1.20	1.22	1.24	1.25	1.27	1.29	1.30	1.32	1.33	1.35
0.8	1.37	1.38	1.40	1.42	1.44	1.45	1.47	1.49	1.50	1.52
0.9	1.54	1.55	1.57	1.59	1.60	1.62	1.64	1.65	1.67	1.69
1.0	1.70	1.72	1.74	1.76	1.77	1.79	1.81	1.82	1.84	1.86
1.1	1.88	1.89	1.91	1.93	1.95	1.96	1.98	2.00	2.01	2.03
1.2	2.05	2.07	2.09	2.10	2.12	2.14	2.16	2.17	2.19	2.21
1.3	2.23	2.25	2.26	2.28	2.30	2.32	2.34	2.36	2.37	2.39
1.4	2.41	2.43	2.45	2.47	2.48	2.50	2.52	2.54	2.56	2.58
1.5	2.60	2.62	2.64	2.65	2.67	2.69	2.71	2.73	2.75	2.77
1.6	2.79	2.81	2.83	2.85	2.87	2.89	2.91	2.93	2.95	2.97
1.7	2.99	3.01	3.03	3.05	3.07	3.09	3.11	3.13	3.15	3.17
1.8	3.20	3.22	3.24	3.26	3.28	3.30	3.32	3.34	3.37	3.39
1.9	3.41	3.43	3.45	3.48	3.50	3.52	3.54	3.56	3.59	3.61
	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
2	3.6	3.9	4.1	4.4	4.6	4.9	5.2	5.5	5.8	>6.0
3	>6.0	>6.0	>6.0	>6.0	>6.0	>6.0	>6.0	>6.0	>6.0	>6.0
4	>6.0	>6.0	>6.0	>6.0	>6.0	>6.0	>6.0	>6.0	>6.0	>6.0
5	>6.0	>6.0	>6.0	>6.0	>6.0	>6.0	>6.0	>6.0	>6.0	>6.0
6	>6.0	>6.0	>6.0	----	----	----	----	----	----	----

R052606-FerroPP

How to Use the Table

After completing the test procedure, look at the 3 digit value displayed on the LCD.

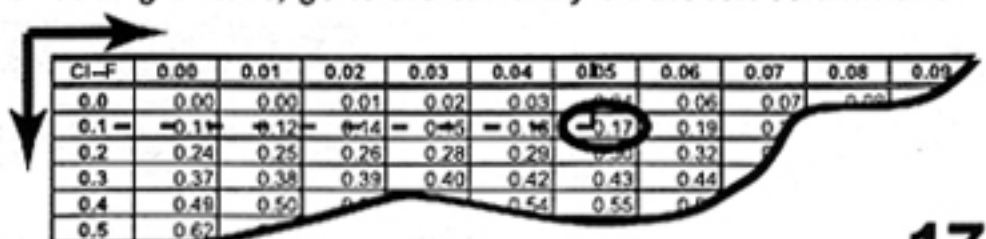
1. Take the first two (2) digits and match them to the column on the left of the chart under Cl-F (example: if the display shows 0.15, find the entry in the left column for 0.1).



2. Take the last digit displayed and match it to the top row of the chart to the right of the Cl-F notation (example: if the display shows 0.15, find the entry across the top row for 0.05).



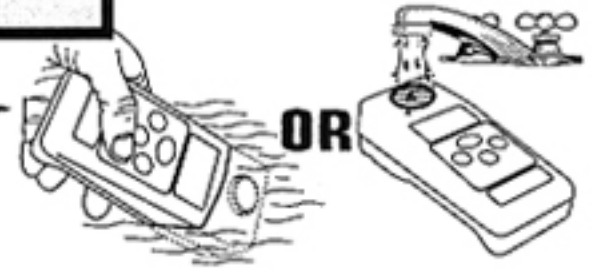
3. Take the number in the left column and the number in the top row and find where the two intersect. This is your final concentration value (example: if the display shows a reading of 0.15, go to the 0.1 entry on the left column and the 0.05 entry on the top row, draw a line from the left column to the right and from the top row down, the intersecting point is your final concentration value; in this case the final value would be 0.17 ppm).



eXact™ EZ Turbidity Test Procedure

Turbidity results require the table on Page 19. Be sure to read this test procedure before beginning the test.

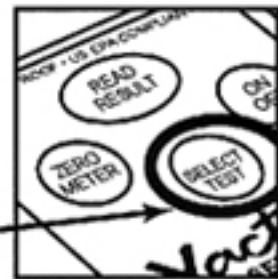
- 1..... Rinse **CELL** 2 or 3 times with **DISTILLED** or **DEIONIZED** water.
(Rinsing minimizes potential cross contamination from previous test)



- 2..... Fill to capacity with **DISTILLED** or **DEIONIZED** water (10ml) and cover the **CELL** with the black cap.



- 3..... Press the "**ON/OFF**" button and the meter will first display "**C401**", then "**R1.2**".
(this confirms software functionality)



- 4..... Press and release the "**SELECT TEST**" button until the display shows you "**CL--F**".

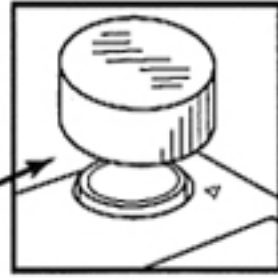


- 5..... Press and release the "**READ RESULT**" button to activate the desired test selection.

- 6..... When the display reads "**STBY**" (standby), cover the **CELL** with black cap, press the "**ZERO METER**" button and wait until meter has blanked itself to 0.00 ppm.

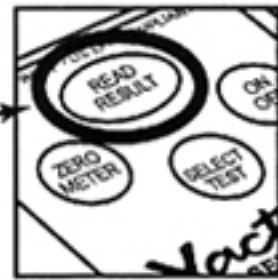


- 7..... Remove black cap and discard the water used for blanking.



- 8..... Fill the **CELL** with water sample to be tested (10 mL).

- 9..... Immediately cover the **CELL** with the black cap and press the "**READ RESULT**" button.



- 10..... Find the "**CL--F**" result in the table (pg 19) to determine the Turbidity concentration in **NTU** (Nephelometric Turbidity Units) and record results. *(Example: "CL--F" result of 0.15 equals 37 NTU Turbidity)*

- 11..... Rinse **CELL** with clean water immediately after testing is completed.

Turbidity Table

SEE PAGE 19 for TURBIDITY Conversion Table

eXact™ EZ Turbidity Table

Turbidity results require the table below. Use **eXact™ EZ Turbidity Test Procedure** (Page 18) with *Distilled or Deionized Water*.

Find the "Cl--F" result in the table below to determine the Turbidity concentration in NTU and record your results. (Example: "Cl--F" result of 0.15 equals 37 NTU Turbidity)

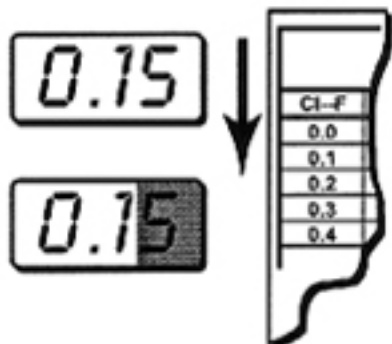
Turbidity Table										
Cl--F	0.00	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
0.0	0	5	8	10	12	14	16	18	20	23
0.1	25	27	30	33	35	37	40	43	45	47
0.2	50	53	55	57	60	63	65	67	70	73
0.3	75	77	80	83	85	87	90	93	95	97
0.4	100	103	105	107	110	113	115	117	120	123
0.5	125	127	130	133	135	138	140	143	145	148
0.6	150	153	155	158	160	163	165	168	170	173
0.7	175	178	180	183	185	188	190	193	195	198
0.8	200	203	205	208	210	213	215	218	220	223
0.9	225	228	230	233	235	238	240	243	245	248
1.0	250	254	257	260	264	267	270	274	270	277
1.1	280	284	287	290	294	297	300	304	307	310
1.2	314	317	320	324	327	330	333	337	340	344
1.3	347	350	353	355	359	363	365	368	371	374
1.4	378	381	384	387	390	393	397	399	401	404
1.5	408	411	414	416	419	422	425	428	430	432
1.6	435	438	441	444	447	450	452	455	458	461
1.7	464	467	470	473	476	479	481	484	487	490
1.8	493	496	499	502	505	507	510	513	515	517
1.9	520	523	526	529	532	534	537	540	544	547
	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
2	550	580	605	635	665	695	725	725	775	805
3	840	865	890	>900	>900	>900	>900	>900	>900	>900
4	>900	>900	>900	>900	>900	>900	>900	>900	>900	>900
5	>900	>900	>900	>900	>900	>900	>900	>900	>900	>900
6	>900	>900	>900	----	----	----	----	----	----	----

NOTE: This table was calibrated using stabilized Formazin Turbidity Standards. Rev. 013106 ij

How to Use the Table

After completing the test procedure, look at the 3 digit value displayed on the LCD.

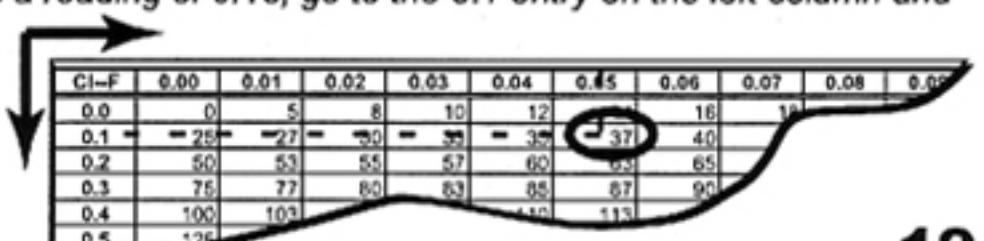
- 1.** Take the first two (2) digits and match them to the column on the left of the chart under Cl--F (example: if the display shows 0.15, find the entry in the left column for 0.1).



- 2.** Take the last digit displayed and match it to the top row of the chart to the right of the Cl--F notation (example: if the display shows 0.15, find the entry across the top row for 0.05).



- 3.** Take the number in the left column and the number in the top row and find where the two intersect. This is your final concentration value (example: if the display shows a reading of 0.15, go to the 0.1 entry on the left column and the 0.05 entry on the top row, draw a line from the left column to the right and from the top row down, the intersecting point is your final concentration value; in this case the final value would be 37 NTU).



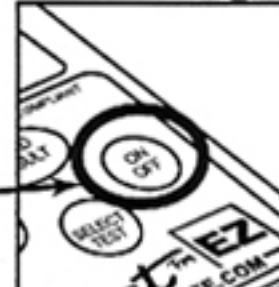
eXact™ EZ Cyanuric Acid Test Procedure

Cyanuric Acid results require the procedure below. Be sure to read this test procedure before beginning the test.

- 1.....Rinse **CELL** 2 or 3 times and fill to capacity with water sample (10ml).
(Rinsing minimizes potential cross contamination from previous test)



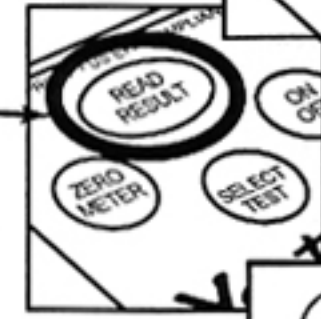
- 2.....Press the "**ON/OFF**" button and the meter display will first display "**C401**", then "**R1.1**".
(this confirms software functionality)



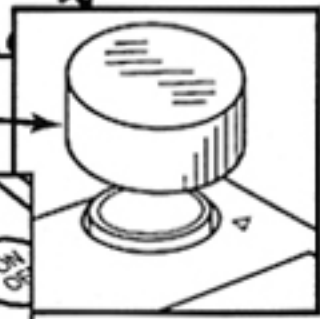
- 3.....Press and release the "**SELECT TEST**" button until the display shows you: **CYNA - for Cyanuric Acid**



- 4.....Press and release the "**READ RESULT**" button to activate the desired test selection.



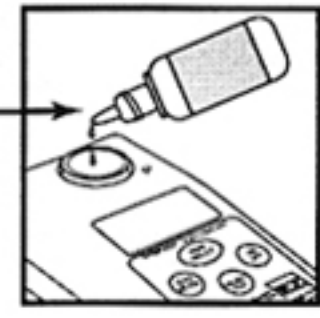
- 5.....When the display reads "**STBY**" (standby), cover the **CELL** with black cap, press the "**ZERO METER**" button and wait until meter has blanked itself to 0 ppm.



- 6.....Thoroughly shake the bottle of eXact™ EZ Reagent CY in order to ensure that the chemical inside is mixed before proceeding to Step 7.



- 7.....Remove black cap and **add 5 drops** of eXact™ EZ Reagent CY into the **CELL**. Using the plastic stirring rod, stir the water and reagent in the **CELL** for **20 seconds** with gentle back and forth motion. Be sure the end of the plastic stirring rod touches the bottom of the **CELL** during this step.



- 8.....Remove the plastic stirring rod and set aside to be cleaned.



- 9.....Immediately cover the **CELL** with black cap and press the "**READ RESULT**" button. Read and record the result on the display.



- 10.....Rinse **CELL** and plastic stirring rod with clean water immediately after testing is completed.

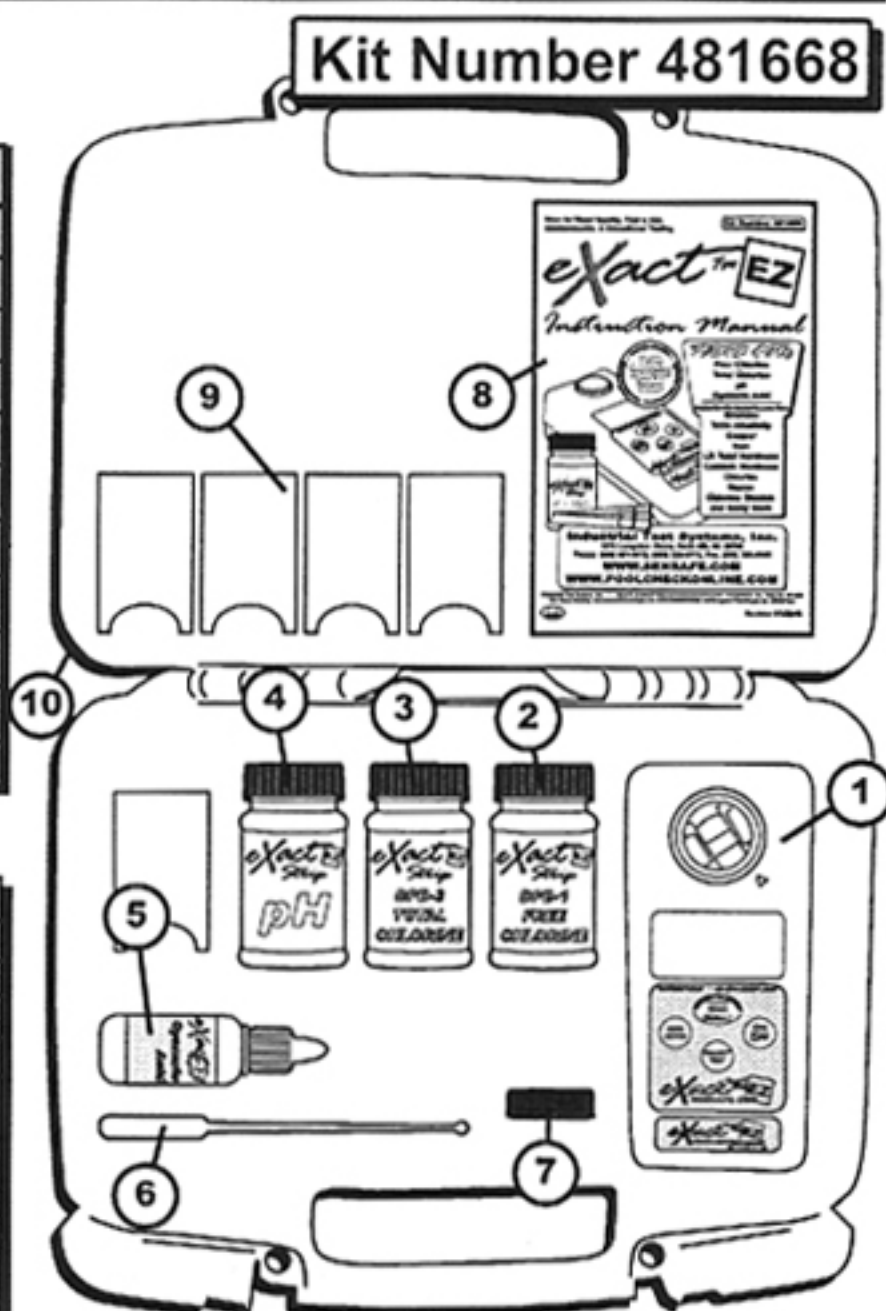
eXact™ EZ Meter & Kit Specifications

Thank you for purchasing eXact™ EZ advanced Colorimeter / Photometer System. Your new eXact™ EZ system contains the following components:

ITEM PICTURED NUMBER	COMPONENT NAME	QUANTITY INCLUDED IN KIT
1	eXact™ EZ	1
2	eXact™ EZ DPD-1 Free Chlorine	1 Bottle, 50 Tests
3	eXact™ EZ DPD-3 Total Chlorine	1 Bottle, 50 Tests
4	eXact™ EZ pH	1 Bottle, 50 Tests
5	eXact™ EZ Reagent Cyanuric Acid	1 Bottle, 50 Tests
6	eXact™ EZ Plastic Stirrer	1
7	Light-Blocking Black Cap	1
8	eXact™ EZ Instructions	1
9	Extra Bottle Storage	5 Spaces
10	Sturdy Plastic Case	1
Installed in Meter	AAA Batteries	4

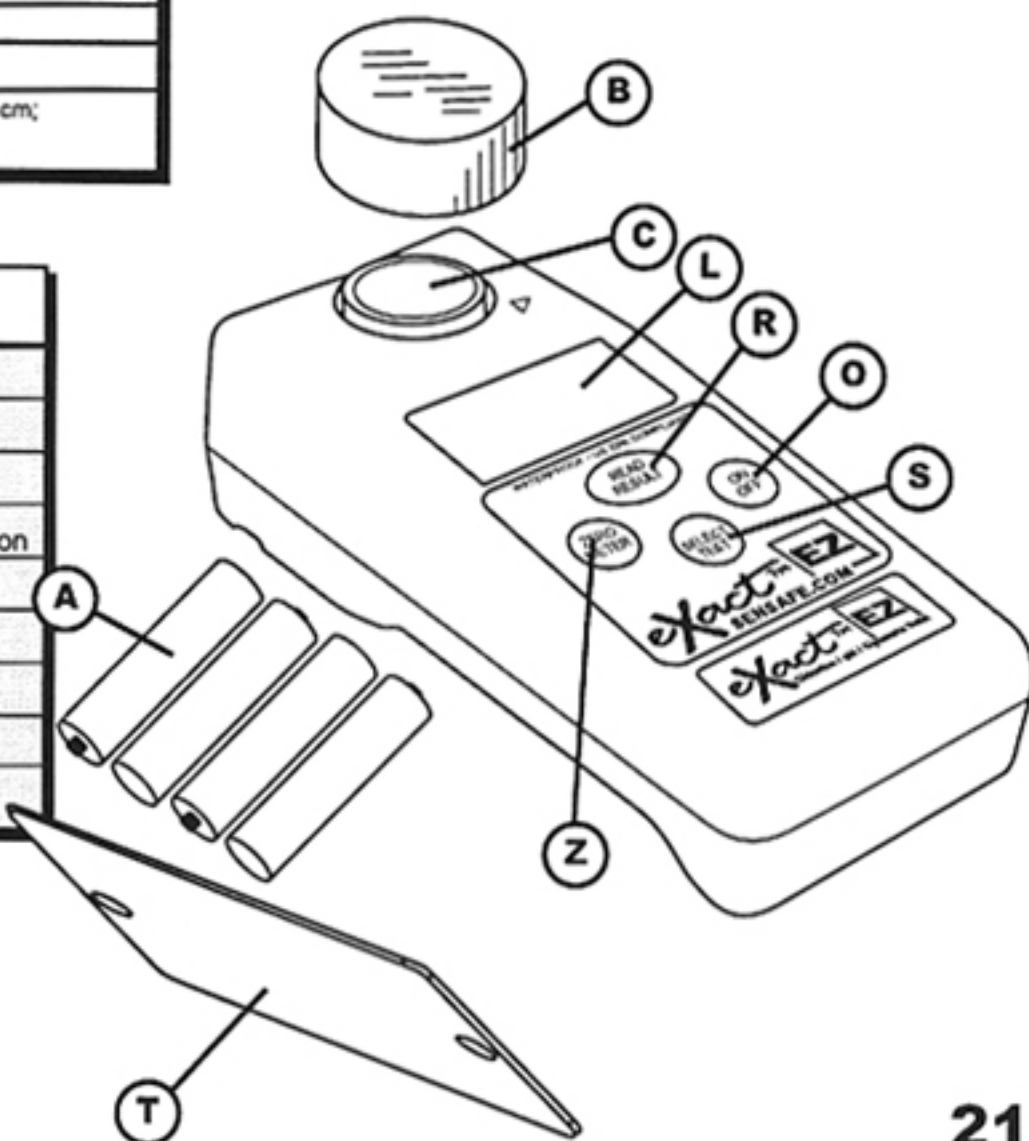
Measurement Method	Photometric
Light Source	Light Emitting Diode (LED)
Wavelength	525 nm
Absorbance Range	0 – 2.5 Abs
Photometric Precision	+/- 0.0015 Abs
Automatic Range Selection	0 – 1.99 ppm (Free & Total Chlorine) 2.0 – 6.0 ppm (Free & Total Chlorine) 5.9 – 8.2 pH 5 – 90 ppm (Cyanuric Acid)
Display	4-digit 14-segments customized liquid crystal display with annunciators
Cell Chamber	Custom-molded, proprietary, PET plastic fused into chamber - non-removable
Sample Required	10 ml (0.33 oz)
Operating Temperature Range	0 – 50°C (32°F to 122°F)
Power Supply	4 AAA alkaline batteries
Battery Life	> 3000 tests with alkaline batteries
Electromagnetic Compliance (EMC)	Emitted Interference - EN 61326 Immunity to Interference - EN 61326
Enclosure Rating	IP67
Weight	Instrument: 200 g (7 oz)
Dimensions	Instrument: 6.8(W) x 15.5(L) x 4.8(H) cm; (2.7 x 6.1 x 1.8 in)

Kit Number 481668



eXact™ EZ Exploded View

ITEM PICTURED LETTER	COMPONENT NAME
C	Cell (built-in plastic, 10mL)
B	Light-Blocking Black Cap
L	LCD Display
R	Activate Selection / Read Result Button
O	On/Off Button
S	Select Test Button
Z	Zero Meter Button
A	AAA Batteries
T	Battery Cover



eXact™ EZ Battery Replacement

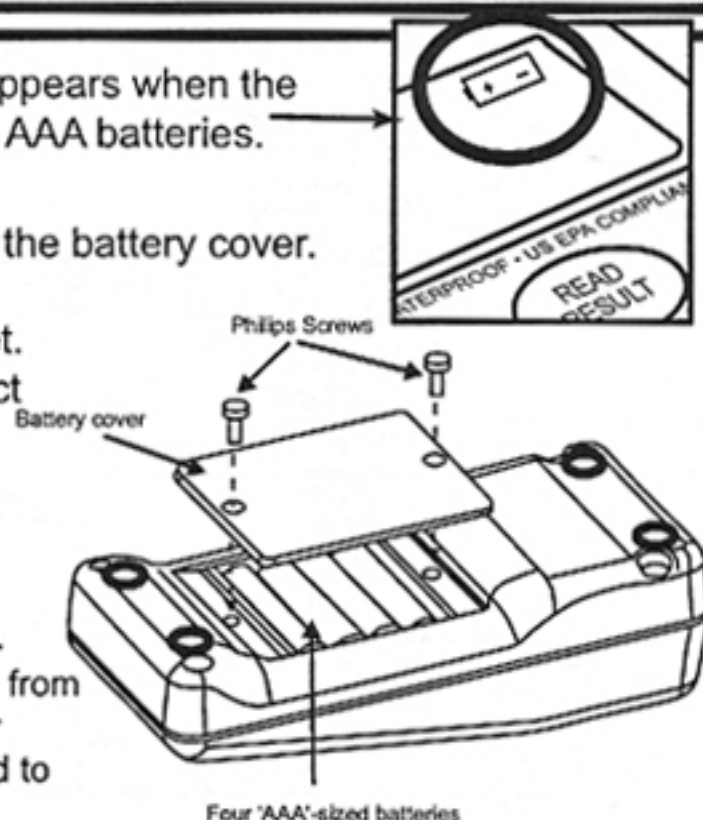
The battery life indicator is at the top of the display screen and appears when the battery is low. When the indicator shows empty, replace with (4) AAA batteries.

To replace:

1. Use a Philips screwdriver to remove the two screws holding the battery cover.
2. Remove the battery cover.
3. Remove the used batteries and replace with a fresh, new set. Follow the diagram on the inside of the back cover for correct polarity. Be sure to change the whole set of batteries.
4. Replace the battery cover onto its original position and re-attach the screws removed in Step 1.
5. The meter is now ready for operation.

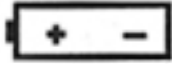
Dispose of the used batteries in accordance with your local regulations.

Note: When removing the battery cover, be sure not to disturb the O-ring from the channel. The O-ring has been treated with silicone lubricant for better sealing. Lubricant is non-toxic and may cause slight discomfort if exposed to eyes. If exposure occurs, flush with plenty of water.



eXact™ EZ Meter Error Messages

If the test procedures are not accurately followed, you may experience an error message. The following are the most common messages that may be displayed. If an error message other than those listed below is displayed, please contact technical support at (803) 329-0162 (ext. 210).

LCD Message	Description	Corrective Action
OR	When measured concentration (or pH value) is above the measurement range (test specific)	Ensure sample value is within the measurement range as listed in the Specification table
UR	When measured concentration (or pH value) is below the measurement range (test specific)	Ensure sample value is within the measurement range as listed in the Specification table
*ERR0	Inappropriate signal to recognize the blank. Sample absorbance is less than blanking or blanking is too low to achieve specific resolution. If the meter does not blank, either the sample is too polluted or the cell chamber is dirty.	Ensure that blanking is performed before the eXact™ EZ Strip is added. Repeat the blanking procedure. Follow the cleaning procedure as outlined on Page 19 of this instruction manual.
*ERR1	Calibration Failure. The absorbance of the calibration standard is outside the range allowed for the selected calibration point	Ensure calibration standard is accurately prepared. Replace calibration standard with a known accurate value and recalibrate.
*ERR2	Excessive stray light detected	Place the blank cap over the CELL and repeat the test procedure.
*ERR3	Lamp failure. LED is faulty.	Call technical support for repair.
	Low battery indication. The batteries need to be replaced.	Replace the batteries.

* If an error message appears, take the appropriate corrective action and repeat the desired procedure. If the problem persists, please contact technical support at (803) 329-0162 (ext. 210).

eXact™ EZ Meter Limited Warranty

ITS warrants this product to be free from defects in materials and workmanship, and to conform to its published product specifications, under normal use and service, for a period of 24 months commencing from the date of purchase. This limited warranty is extended only to the first purchaser and applies only to product failures due to defective materials and/or workmanship. Without limiting the generality of the foregoing, the foregoing warranty will not apply if, upon inspection, it is found that the product was: misused or abused; used for a purpose for which it is not designed; mishandled; placed in an improper environment; repaired by unauthorized personnel; or improperly adjusted. The sole and exclusive remedy in the event of any breach of the foregoing warranty shall be for the original purchaser to return the product to ITS, freight and insurance prepaid, for repair or replacement, at ITS' option. Any product repair or replacement under the foregoing warranty shall be shipped back to the customer freight and insurance prepaid. In no event shall ITS be liable for any loss, inconvenience, or damages, including without limitation, direct, indirect, special, incidental or consequential damages, resulting from or relating to the use of inability to use a product whether resulting from breach of warranty or any other legal theory, even if ITS has been advised of the possibility of such inconvenience, damage, or loss.

To ensure optimal performance, store your eXact™ kit in a cool, dry place away from excess heat (below 100°F / 38°C), moisture, and oxidizers such as Chlorine and Bromine.

About Your Instrument

eXact™ EZ was designed to offer the user simplicity in testing. Most test procedures are uniform in both sample size (10mls of water using the **CELL CHAMBER** filled to the top) and test time (20 second eXact™ EZ Strip dip time) – see additional instructions for exceptions. In order to save power, the meter is designed to turn off after 5 minutes (timed from the last button pressed). To extend the life of the batteries, turn the meter off once testing is completed. All eXact™ EZ tests have been designed to give a result using end-point chemistry (this means that the photometric reaction has ended). Reacted water samples can be read up to 3 minutes after the reaction with minimal error.

About Detection Range:

If the parameter being measured is below or above the detection range, the display will show "UR" or "OR". Specifications are valid for pool, drinking, pond, & well water samples.

Important information about your built-in CELL:

When the **CELL** becomes stained or cloudy from repeated testing, or when the meter does not blank when you press the "ZERO METER" button, use the following cleaning procedure:

1. Add **ONLY ONE** of the following soaking reagents to the **CELL**
 - A) 1 part bleach mixed with 9 parts water (equates to apx. 5000 ppm chlorine)
 - B) 1 part concentrated sulfuric acid mixed with 3 parts water (5 Normal)
 - C) 1 part concentrated Hydrochloric Acid (Muriatic Acid) mixed with 3 parts water (3 Normal)
2. Allow soaking reagent to sit in the **CELL** for 20 seconds.
3. Discard soaking reagent safely and in compliance with local laws.
4. Rinse **CELL** with clean water several times and dry.

NOTE: If the **CELL** becomes broken, please contact technical support at (803) 329-0162, to arrange for repair.

CAUTION: Use only ONE of the soaking reagents listed above. DO NOT MIX SOAKING SOLUTIONS!

eXact™ EZ Component Reorder Information

COMPONENT NAME	DESCRIPTION	REORDER QUANTITY	REORDER NUMBER	RETAIL PRICE
eXact™ EZ	Meter for Free Chlorine, Total Chlorine, pH, & Total Alkalinity	1	481667	
eXact™ EZ Cl-Free	DPD-1 Free Chlorine	1 Bottle, 50 Tests	481637	
eXact™ EZ Cl-Total	DPD-3 Total Chlorine conversion strip (used w/ eXact™ EZ Cl-Free)	1 Bottle, 50 Tests	481638	
eXact™ EZ Cl-Total4	DPD-4 Total Chlorine	1 Bottle, 50 Tests	481670	
eXact™ EZ PH	Phenol Red pH (with Chlorine Protection)	1 Bottle, 50 Tests	481639	
eXact™ EZ AL	Phenol Red for Total Alkalinity	1 Bottle, 50 Tests	481635	
eXact™ EZ Cl-Free	DPD-1 Total Bromine (Bromine and Bromamines)	1 Bottle, 50 Tests	481637	
eXact™ EZ Cu	Proprietary Indicator for Copper (Cu ¹ / Cu ²)	1 Bottle, 50 Tests	481632	
eXact™ EZ Ca	Proprietary Indicator for Calcium Hardness	1 Bottle, 50 Tests	481629	
eXact™ EZ Reagent CY	Liquid Reagent for Cyanuric Acid	1 Btl., apx. 100 Tests	481640	
eXact™ EZ NaCl	Proprietary Indicator for Chloride (as NaCl or Cl ⁻)	1 Bottle, 25 Tests	481628	
eXact™ EZ LRTH	Proprietary Indicator for Total Hardness (Ca ²⁺ & Mg ²⁺)	1 Bottle, 50 Tests	481630	
eXact™ EZ Ferro	Powder pillow reagent sachet for detection of Iron (Fe ²⁺ / Fe ³⁺)	50 Powder Pillows	481623	
eXact™ EZ Cl-Free	DPD-1 for Chlorine Dioxide	1 Bottle, 50 Tests	481637	
eXact™ EZ Cl-Total4	DPD-4 for Ozone	1 Bottle, 50 Tests	481670	
eXact™ EZ Cl-Free	DPD-1 for Permanganate	1 Bottle, 50 Tests	481637	
eXact™ EZ Cl-Free	DPD-1 for Iodine	1 Bottle, 50 Tests	481637	
eXact™ Light-Blocking Cap	Plastic Black Light-Blocking Cap	5	481667-C	
eXact™ Case	Carrying Case with Foam	1	481668-C	
eXact™ Stirring Rod	Blue plastic stirring rod for CYNA test	5	481668-R	
eXact™ Instructions	Instruction Manual (Specify Model)	1	481668-I	
AAA Batteries	4-pack AAA-Batteries	1	AAA-4	
Graduated Cylinder	50mL plastic graduated cylinder	1	F28692-0000	
Laminated Conversion Chart	Specify model of kit and parameter needed	1	Specify Parameter	
Replacement CELL	Built-in, plastic 10mL CELL - REPLACED BY FACTORY	1	481668-CELL	

How to Order Replacement Parts

eXact™ EZ Detection Specifications

PARAMETER	DETECTION RANGE	RESOLUTION	ACCURACY
Free Chlorine (DPD-1)	0.00 - 6.00 ppm	0.01 ppm	+/- 0.02
Total Chlorine (DPD-3)	0.00 - 6.00 ppm	0.01 ppm	+/- 0.02
Total Chlorine (DPD-4)	0.00 - 6.00 ppm	0.01 ppm	+/- 0.02
pH	5.9 - 8.2	0.1	+/- 0.3
Total Alkalinity*	20 - 430 ppm	5 ppm	+/- 30
Bromine (DPD-1)*	0.1 - 8.2 ppm	0.1 ppm	+/- 0.2
Copper (Cu ²⁺)*	0.01 - 10.0 ppm	0.04 ppm	+/- 0.08
Calcium Hardness*	1 - 225 ppm	1 ppm	+/- 4
Cyanuric Acid	5 - 90 ppm	1 ppm	+/- 1
Iron (Fe ²⁺ /Fe ³⁺)*	0.01 - 5.8 ppm	0.01 ppm	+/- 0.03
LR Total Hardness*	1 - 120 ppm	1 ppm	+/- 3
Chloride (as NaCl)*	10 - 6100 ppm	1 ppm	+/- 7
Ozone (DPD-4)*	0.01 - 2.00 ppm	0.02 ppm	+/- 0.04
Iodine (DPD-1)*	0.02 - 12.0 ppm	0.02 ppm	+/- 0.07
Chlorine Dioxide (DPD-1)*	0.01 - 5.00 ppm	0.03 ppm	+/- 0.06
Permanganate (DPD-1)*	0.01 - 3.0 ppm	0.02 ppm	+/- 0.05
Chromium Hexavalent*	0.05 - 5 ppm	0.05 ppm	+/- 0.1
Turbidity*	5 - 800 NTU	3 NTU	+/- 6 NTU

* In order to more accurately determine Free Chlorine levels above 3.0 ppm, two (2) eXact™ EZ Cl-Free Strips may be used.

** Results utilize the Chlorine (Cl) meter function and require the use of a table. See respective test procedures for more information and tables.

***For pH and Total Alkalinity: If the water sample is below 70°F (21°C), readings may be low.

NOTE: Accuracy is +/-5% or the value given in the table, whichever is higher.

eXact™ Strip DPD Comparison to EPA-Compliant DPD Test

The data demonstrates comparable results of the eXact EZ Advanced Photometer System versus EPA-Compliant meter (mfg. by Hach® Company)

Sample	eXact™ Strip DPD-1 with eXact™ EZ			eXact™ Strip DPD-1 with Hach® DR890		
	meter 1	meter 2	mean	meter 1	meter 2	mean
1	1.05	1.05	1.050	1.07	1.07	1.070
2	0.01	0.01	0.010	0.02	0.02	0.020
3	0.00	0.00	0.000	0.00	0.00	0.000
4	1.37	1.40	1.385	1.44	1.45	1.445
5	1.52	1.54	1.530	1.60	1.63	1.615
6	1.82	1.80	1.810	1.85	1.89	1.870
7	0.34	0.34	0.340	0.35	0.35	0.350
8	0.45	0.46	0.455	0.47	0.47	0.470
9	0.28	0.28	0.280	0.29	0.29	0.290
10	0.11	0.10	0.105	0.11	0.12	0.115

All results reported in ppm (mg/l) Hach® is a registered trademark of Danaher Corporation

24 Pricing and Specifications Subject to Change Without Notice.

