

Spa *eXact*® **E**

ADVANCED PHOTOMETER SYSTEM

DIGITAL ACCURACY FOR BETTER SPA CARE



DIGITAL
WATER TESTING
QUICK START GUIDE

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WELCOME

WELCOME TO YOUR NEW SPA EXACT® EZ PHOTOMETER

This guide shows you the technical details on your Spa eXact® EZ photometer and gets you started with tips for the tests you will use daily.

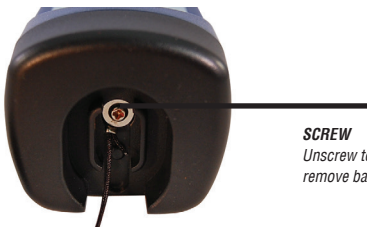
Your Spa eXact® EZ Photometer comes with:

- Cleaning Brush
- Quick Start Guide
- 6 Strips each of: Bromine (DPD-1), Free Chlorine (DPD-1), Combined/Total Chlorine (DPD-3), pH, Calcium Hardness, and Total Alkalinity

You will need Four (4) AAA batteries and a Phillips head screwdriver to start testing your water.

BATTERY INSTALLATION (BATTERIES NOT INCLUDED)

1. Use a Phillips head screwdriver to remove the screw from the base of your Spa eXact® EZ Photometer.
2. Remove the base.
3. Install 4 new AAA batteries as illustrated inside your Spa eXact® EZ Photometer. We recommend using high quality batteries.
4. Replace the base firmly with pressure while tightening the screw. The meter will power on automatically.



SCREW
Unscrew to
remove base



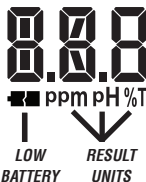
waterproof IP67

We developed the revolutionary Spa eXact® EZ photometer to easily maintain spa water quality. It uses state of the art technology to produce lab-quality results on-site. The Spa eXact® EZ photometer is waterproof (IP-67) and has a built-in sample cell to enhance usability.

SAMPLE CELL

Built-in plastic 4ml cell for collecting your water sample

LCD DISPLAY



LCD DISPLAY

Displays results and test name

READ BUTTON

Starts test timer

MENU BUTTON

Cycles through test menus

ZERO/ON BUTTON

Turns the meter on and creates a baseline for your water testing

BASE

Install/replace batteries here (IP67 rated waterproof)

CELL COVER

Covers the cell for mixing and bright light situations

All tests have been calibrated at 100°F / 38°C

Spa eXact® EZ Photometer Specifications

No.	PARAMETER/TEST	PART #	RANGE (ppm)	RESOLUTION	BEST ¹ ACCURACY %
	eXact Spa Water Refill Kit	486212	N/A	N/A	N/A
1	Bromine, Total	486636	0.08 - 17	0.01(0 - 2.0); 0.1 (2.1-17 ppm)	7.5
2	Alkalinity, Total	486641	11 - 200	1	5.5
3	Calcium (as CaCO3)	486629	19 - 550	1	5
4	Chlorine, Free (DPD-1)	486637	0.05 - 12	0.01(0 - 2.99); 0.1 (3 - 5.9); 1 (6-12)	5
5	Chlorine, Combined (DPD-3)*	486638	0.05 - 12	0.01(0 - 2.99); 0.1 (3 - 5.9); 1 (6-12)	5
6	Chlorine, Total (DPD-4)	486670	0.05 - 12	0.01(0 - 2.99); 0.1 (3 - 5.9); 1 (6-12)	8
7	pH	486639-II	6.0 - 8.5 pH	0.1	5

*Combined Chlorine DPD-3 Test requires Free Chlorine DPD-1 (486637) to be run first.

For resellers and distributors - products sold in case quantities (12 units per case).

For use in accordance with U.S. Patent No. 7,333,194, U.S. Patent No. 7,491,546, South African Patent No. 2007/0628, EU Patent #1,725,864, and International Patent Appln. No. PCT/US2005/033985

¹ Value provided represents best possible accuracy under laboratory conditions, but may vary throughout the detection range

STANDARD STRIP METHOD

This method can be used with the following tests:

Total Alkalinity

Free Chlorine (DPD-1)

pH

Total Bromine

Calcium Hardness (20 sec count-up)

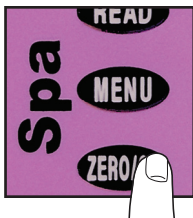
1

Remove one eXact® Strip Micro (e.g. Free Chlorine / DPD-1) from the bottle or foil packet and set in a dry, convenient place.



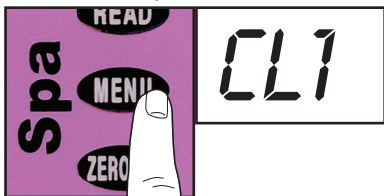
2

Turn meter on by pressing **ZERO/ON**. The display will indicate current MENU, followed by the last test result.



3

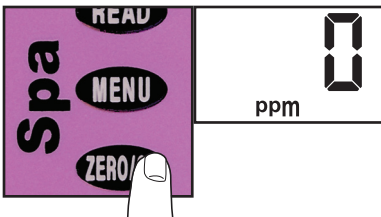
Press and re-press **MENU** until the display shows the parameter to be tested (e.g. CL1 matches CL on bottle).



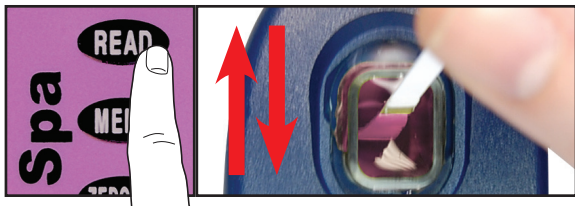
Rinse the sample cell 3 times with the water sample you are testing and **FILL** the built-in sample cell.



Press **ZERO/OFF**. The cursor will move across the display followed by 0 PPM or PH.



DIP the eXact® Strip Micro into the sample cell and simultaneously press **READ**. This starts the **10 SECOND** countdown timer. During this time move the strip in a gentle back and forth motion (approx. 2 strokes/sec). Remove and discard the strip after "1" on the display disappears.



The cursor will move across the display while the meter prepares to measure the sample. **READ** result displayed. After testing is complete, rinse the sample cell immediately.



NOTE If running the Combined Chlorine test, keep the sample in the sample cell.

COMBINED/TOTAL CHLORINE TEST

8

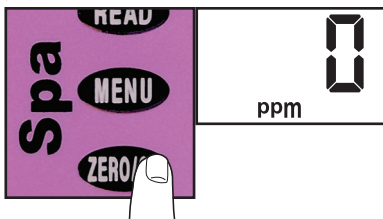
This procedure is a continuation from Standard Strip Method on previous page after running Free Chlorine (DPD-1). **DO NOT DISCARD SAMPLE AFTER FREE CHLORINE TEST.**

Remove one (1) eXact® Strip Micro CL (DPD-3), Part No. 486638 from the bottle or foil packet. Set it in a dry, convenient place.



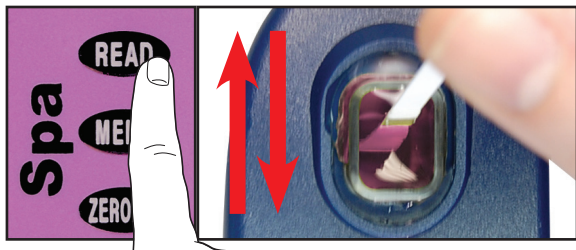
9

With the DPD-1 sample still in the cell, press **ZERO/ON**. The display reads 0 PPM.

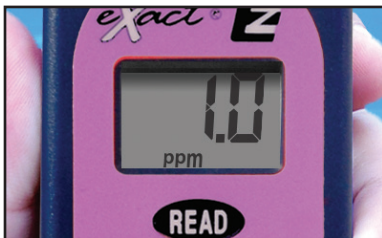


10

DIP the eXact® Strip Micro CL (DPD-3) into the CELL and simultaneously press **READ**. This starts another 20 SECOND countdown timer. During this time move the strip in a gentle back and forth motion (approx. 2 strokes/sec). Remove and discard the strip after "1" on the display disappears.

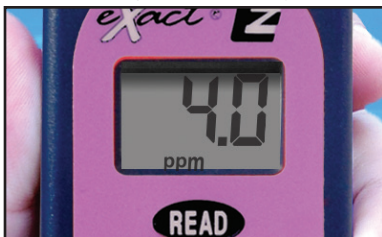


The cursor will move across the display while the meter measures the sample. **READ** the Combined Chlorine value displayed.



11

If you require a value for Total Chlorine, press **READ** again and record result displayed. After testing is complete, rinse the sample cell immediately.



12

**SCAN FOR TEST
DEMO VIDEO**



ACCURACY & CALIBRATION

All tests have been calibrated at 100°F/38°C using certified reference standards and standard analytical spectrophotometric methods. The algorithms in the software reflect the best correlation of the Spa eXact® EZ system against the AWWA, US EPA, DIN, and ISO reference test methods for chlorine. Studies show that the Spa eXact® EZ System repeatedly agrees with an EPA Compliant reference method greater than 99%. The Spa eXact® EZ meter Advanced Photometric System has been factory calibrated and you can expect the fixed calibrations in the meter to be valid for the life of the meter because of the quality, Long-Life LED, the photo cell, and the software.

HEALTH DEPARTMENT COMPLIANCE

This DPD test system for Chlorine and Bromine are USEPA (DIN Standard 38 408 G4, ISO 7393/2) accepted for testing requirements for Free and Total Chlorine. The compliance requirement is a photometer wavelength to measure between 490 and 530nm. The Spa eXact® EZ photometer uses a 525nm wavelength. The eXact® Strip Micro CL (DPD-1) uses the same reagents and proportions, and the resulting solution pH is maintained between 6.2 and 6.5 as specified by AWWA method 4500-Cl G. The USEPA does not "approve" commercial DPD delivery systems. The eXact® Strip Micro CL (DPD-1) for Free Chlorine, and the eXact® Strip Micro CL (DPD-3) for Combined Chlorine or the eXact® Strip Micro CL (DPD-4) for Total Chlorine meet your reportable testing requirements because the eXact® Strip Micro CL delivers the same chemicals in identical proportions.



ABOUT THE BUILT-IN SAMPLE CELL

COMPONENT (FREE CHLORINE)	AWWA 4500-CL G	EXACT® DPD-1
Anhydrous DPD sulfate	1.5%	1.5%
Anhydrous Na ₂ HPO ₄	33.4%	33.4%
Anhydrous KH ₂ PO ₄ Na ₂	64.0%	64.0%
EDTA	1.1%	1.1%

The built-in sample cell is made of transparent plastic; the sturdy cell design will last for over 20,000 readings. Scratches on the cell will not compromise the accuracy of your results because of the cell's fixed position.

CLEANING THE SAMPLE CELL

Fill the sample cell with water and use the enclosed cleaning brush to scrub the sample cell thoroughly. Rinse the cell. You can use dish soap or distilled white vinegar for cleaning the cell if needed. NEVER use solvents such as acetone.

Assigned Value for READY SNAP® 3 (lot 505) Solution

Parameter	Desired Value (ppm)	Acceptable Value (ppm)
Free Chlorine	1.52	1.46 - 1.59

NOTE: Values reflect current concentrations as found at time of manufacture and may change with consecutive lots. R020713

- The Spa eXact® EZ photometer has a 5 minute automatic shutdown timer.
- Each test menu can store 20 results. To retrieve the stored results, go to the desired test using the MENU key. When the desired test is displayed, press and hold down the MENU key. Continue holding down the MENU key to scroll the stored results for that test, starting with the most recent result. The meter will display, from memory, the last 20 readings in sequence beginning with -20, which is the latest result, followed by -19, which is the 2nd latest result, etc; and finally -01, which is the oldest result retained. Only the last 20 readings are stored in each menu. This meter is able to store 100 results in memory (20 in each menu).
- Before testing, rinse the meter sample cell with the sample water 3 times.
- Spa water samples should be taken 18 inches below the surface. Submerge the meter with open cell facing down 18 inches then turn meter upright at that depth to fill the cell. Remove meter from water with the sample for testing.
- Always fill the cell to capacity (4ml); be careful not to splash liquid over the side.
- Test immediately after filling the cell with the water sample.
- To obtain optimal accuracy when testing outdoors (sunlight), use the cell cover when zeroing and reading the sample.
- Due to the strip slitting process, you may find one or two strips that are noticeably smaller or larger in width than the normal strips in the bottle. These should be discarded. Using these strips may give unreliable results.
- Meter is not compatible for use with powder pillows, tablets, or liquids from other manufacturers.
- Dip strip for entire countdown.
- Each eXact® Strip Micro is valid for ONLY one test. Discard strip after use.
- Dry the outside of the meter before storage.
- Remove batteries before storing for prolonged periods.
- Store the meter and test materials out of direct sunlight and away from chemical storage areas.
- Minimize exposure of meter and test reagents to heat above 90°F (32°C).
- When installing batteries, verify the O-ring is still attached to the screw before tightening.
- Cleaning the cell with water and brush after each test is recommended for best accuracy and prior to storage of unit.

TROUBLESHOOTING

Issue	Cause	Solution
Dim screen or no response from meter	Low battery	Replace batteries
LO on LCD Display while zeroing	Low battery	Replace batteries
	Dirty cell	Clean cell (see pg.15)
	Cloudy sample	Dilute sample or use sieve
	Bad LED	Contact ITS.
HI on LCD Display while reading	Result above detection level	Re-run test to verify result
LO on LCD Display while reading	Result below detection level	Re-run test to verify result
LO flashes on LCD Display, then Err	Improper test procedure for Combined Chlorine	Re-read test procedure and follow directions carefully
HI flashes on LCD Display, then Err	Combined Chlorine result above detection level	Re-run test to verify result
		Dilute and re-run test
Total Chlorine result less than Free Chlorine	Improper test procedure	Re-read test procedure and follow carefully

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¹ Value provided represents best possible accuracy under laboratory conditions, but may vary throughout the detection range

WARRANTY

Registration of your eXact® photometer must be received within 30 days from date of purchase to activate the warranty. Registration is available over the phone (+1-803-329-9712 Ext. 0) or online at <http://www.sensafe.com/product-registration-form/> (Personal data is kept confidential). The eXact® photometer is warranted to be free from defects in materials and workmanship for a period of two (2) years from the date of purchase by the customer. ITS will repair or replace, at its discretion, product which is deemed to be faulty due to manufacturing defect. Warranty does not cover product damage caused by abuse (such as crushing a tablet in the cell), battery corrosion damage, or improper use. If the meter is faulty or otherwise defective contact ITS by phone (+1-803-329-9712 Ext. 0) or email (its@sensafe.com) to describe the problem and obtain a return authorization form before returning the photometer to ITS. Damage caused by improper packing of the photometer for return shipment to ITS will not be covered by the warranty. Customer is responsible for shipping charges to ITS. ITS pays postage when photometer is returned to customer. A maximum processing fee of \$75 will be charged for repair or replacement of non-registered photometers and damages not covered by this warranty. The repair or replacement of the photometer will not extend or renew the period of guarantee. This warranty does not affect your statutory rights. The warranty is not transferable.

TECHNICAL SUPPORT

Please visit www.sensafe.com/spa-ez for the latest technical information and how-to videos.

For additional technical support, call (803) 329-9712 or send us an email at its@sensafe.com.



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