

Well *eXact*® **E**  
ADVANCED PHOTOMETER SYSTEM

**DIGITAL ACCURACY FOR RELIABLE WATER CARE**



**DIGITAL**  
**WATER TESTING**  
QUICK START GUIDE

<b>Welcome</b> .....	2
<b>Well eXact® EZ Overview</b> .....	3
Install "AAA" Batteries .....	3
<b>Fill, Dip, Read</b>	
pH .....	4-5
Total Iron .....	6-7
Nitrate .....	8-9
Total Alkalinity .....	10-11
Total Hardness High .....	12-13
<b>For Best Accuracy</b> .....	14
Technical Support .....	14
<b>Troubleshooting</b> .....	15
Well eXact® EZ Accuracy .....	15
Method Verification Ready Snap® 3 .....	15
<b>About</b>	
Built-in Sample Cell .....	16
Warranty (2 years) .....	16
Carrying Case .....	16
<b>MSDS</b> .....	17-19
<b>eXact® Micro Tests &amp; Reagents</b> .....	20
<b>Patent Information</b> .....	20

## WELCOME TO YOUR NEW WELL EXACT® EZ PHOTOMETER.

Thank you for your Well eXact® EZ purchase! This guide will quickly walk you through the technical details of your new photometer. After initial set-up, test procedures, and tips, you will be on your way to digital water testing! Each test will require the use of one or more of the testing methods outlined in this manual.

### YOUR WELL EXACT® EZ COMES WITH:

- Cleaning Brush
- Quick Start Guide (this booklet)
- 30 foil packet strips (6 of each): pH, Total Iron, Nitrate, Total Alkalinity, and Total Hardness, and 6 powder pillows of Iron Reducer.

### WHAT YOU WILL NEED TO GET STARTED:

- Four (4) AAA batteries
- #4 Phillips head screwdriver

*Note:* This system has been calibrated for use with only our eXact® Micro reagents.

**YOUR NEW WELL EXACT® EZ PHOTOMETER IS IDEAL FOR TESTING AND MAINTAINING YOUR WELL WATER.**

### SAMPLE CELL - 4 ML

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

### LIGHT SOURCE

Uses 525nm wavelength and 11mm path-length for testing

### LCD DISPLAY



ppm

LOW BATTERY

RESULT UNITS

### LCD DISPLAY

Displays results and test name

### READ BUTTON

Starts test timer

### MENU BUTTON

Cycles through available tests

### 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



### waterproof IP67

Protected against the effects of immersion in water to depth between 15cm and 1m

Part no. **486203**

### INSTALL "AAA" BATTERIES (NOT INCLUDED)

1. Use a #4 Phillips head screwdriver to remove the screw from the base of your Well eXact® EZ.
2. Remove the base.
3. Install Four (4) new AAA batteries as illustrated inside your photometer's battery compartment. We recommend using high quality batteries.
4. Replace the base firmly with pressure while tightening the screw. The meter will turn on automatically.
5. Tighten the screw with #4 Phillips head screwdriver. Be sure not to over tighten.



### SCREW

Unscrew to remove base

1  
2

## POWER ON PHOTOMETER

Press the **ZERO/ON** button to power on the Well eXact® EZ.

## FILL CELL

Rinse the cell 3 times with the water sample to be tested and **FILL** to the top to begin test.



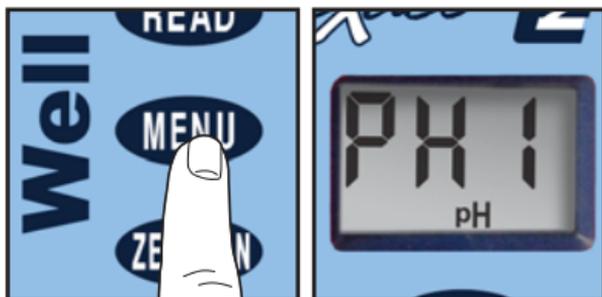
### TIP

Use the included cleaning brush to clean the cell after each test to achieve the most accurate result.

3

## SELECT TEST

Press and re-press the **MENU** button until the display shows PH1.



4

## ZERO METER

Press **ZERO/ON** and the LCD Display reads 0.0<sub>PH</sub>, indicating the meter is ready for testing.



### TIP

In bright light situations use cell cover for zeroing and reading.

5

## REMOVE STRIP

Remove one eXact® Strip Micro PH and set in a dry, convenient place. Replace cap on bottle.



6

## DIP STRIP AND PRESS READ

Press **READ** to initiate a 20 second countdown and simultaneously **DIP** the eXact® Strip by submerging all pads in the sample then use a gentle, constant, back and forth motion (2 strokes per second) until the timer displays '1'. Remove and discard the strip.



7

## READ RESULTS

**READ** result displayed as pH. This result is automatically stored in the PH1 menu. After testing is complete, rinse the sample cell immediately.



## FILL, DIP, READ TOTAL IRON

6

1

### POWER ON PHOTOMETER

Press the **ZERO/ON** button to power on the Well eXact® EZ. Press and re-press the **MENU** button until the display shows FE2.



2

### RINSE AND FILL CELL

Clean cell with Distilled Vinegar (5%), or 0.1N HCl before filling the meter with the sample to be tested. If running multiple tests in a row, using the same water sample, the cell does not have to be rinsed or cleaned with acid between each test.

Rinse the sample cell 3 times with the water sample to be tested and **FILL** to the top to begin test.



#### TIP

Use the included cleaning brush to clean the cell after each test to achieve the most accurate result.

3

### ADD REDUCER

Tear open one eXact® Reagent EZ Open Reducer powder pillow. Add contents of powder pillow to the cell. Make sure entire powder pillow is emptied.



4

### CAP & PRESS READ

Place the cell cover onto the sample cell. Press **READ** to initiate a 20 second countdown. Place thumb or finger over cap and turn meter upside-down repetitively during the 20 second countdown. When timer displays 1, place the meter on a flat surface. The display will automatically start to count up for 40 seconds. Ignore result displayed.



#### TIP

In bright light situations use cell cover for zeroing and reading.

5

## REMOVE REAGENT STRIP

Remove one eXact® Strip Micro FE TPTZ and set in a dry, convenient place. Replace cap on bottle.



6

## ZERO METER

Press **ZERO/ON** and the LCD display reads 0.00PPM, indicating the meter is ready for testing.



7

## DIP STRIP AND PRESS READ

Press **READ** to initiate a 20 second countdown and simultaneously DIP the eXact® Strip by submerging all pads in the sample then use a gentle, constant, back and forth motion (2 strokes per second) until the timer displays '1'. Remove and discard the strip. The display will automatically start to count up for 40 seconds.



8

## READ RESULTS

**READ** result displayed as Total Iron. The result is automatically stored in the FE3 menu. After testing is complete, rinse the sample cell immediately.



## FILL, DIP, READ NITRATE

8

1

### POWER ON PHOTOMETER

Press the **ZERO/ON** button to power on the Well eXact® EZ.

2

### FILL CELL

Rinse the cell 3 times with the water sample to be tested and **FILL** to the top to begin test.



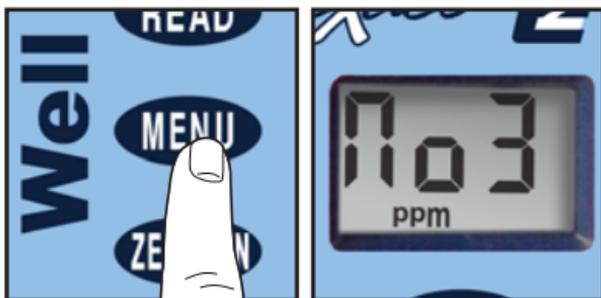
#### TIP

Use the included cleaning brush to clean the cell after each test to achieve the most accurate result.

3

### SELECT TEST

Press and re-press the **MENU** button until the display shows No3.



4

### ZERO METER

Press **ZERO/ON** and the LCD Display reads 0.00PPM, indicating the meter is ready for testing.



#### TIP

In bright light situations use cell cover for zeroing and reading.

5

## REMOVE STRIP

Remove one eExact® Strip Micro NO<sub>3</sub> Nitrate and set in a dry, convenient place. Replace cap on bottle.



6

## DIP STRIP AND PRESS READ

Press **READ** to initiate a 20 second countdown and simultaneously **DIP** the eExact® Strip by submerging all pads in the sample then use a gentle, constant, back and forth motion (2 strokes per second) until the timer displays '1'. Remove and discard the strip. The display will automatically start to count up for 600 seconds.



7

## READ RESULTS

**READ** result displayed as Total Nitrate (as NO<sub>3</sub>). This result is automatically stored in the No3 menu. After testing is complete, rinse the sample cell immediately and clean with brush.



## FILL, DIP, READ TOTAL ALKALINITY

1

### POWER ON PHOTOMETER

Press the **ZERO/ON** button to power on the Well eXact® EZ.

2

### FILL CELL

Rinse the cell 3 times with the water sample to be tested and **FILL** to the top to begin test.



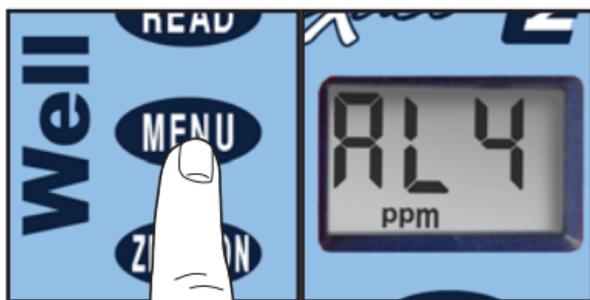
#### TIP

Use the included cleaning brush to clean the cell after each test to achieve the most accurate result.

3

### SELECT TEST

Press and re-press the **MENU** button until the display shows AL4.



4

### ZERO METER

Press **ZERO/ON** and the LCD Display reads 0<sup>PPM</sup>, indicating the meter is ready for testing.



#### TIP

In bright light situations use cell cover for zeroing and reading.

5

### REMOVE STRIP

Remove one eXact® Strip Micro AL Total Alkalinity and set in a dry, convenient place. Replace cap on bottle.



6

### DIP STRIP AND PRESS READ

Press **READ** to initiate a 20 second countdown and simultaneously **DIP** the eXact® Strip by submerging all pads in the sample then use a gentle, constant, back and forth motion (2 strokes per second) until the timer displays '1'. Remove and discard the strip.



7

### READ RESULTS

**READ** result displayed as Total Alkalinity. This result is automatically stored in the AL4 menu. After testing is complete, rinse the sample cell immediately.



#### TIP

If result reads "HI", repeat steps 5-7 with a Total Alkalinity Range Extender Strip (part no. 486665) until a numerical value is displayed; each strip adds 130 ppm to the final result.

## FILL, DIP, READ TOTAL HARDNESS HIGH

1

### POWER ON PHOTOMETER

Press the **ZERO/ON** button to power on the Well eXact® EZ.

2

### FILL CELL

Rinse the cell 3 times with the water sample to be tested and **FILL** to the top to begin test.



#### TIP

Use the included cleaning brush to clean the cell after each test to achieve the most accurate result.

3

### SELECT TEST

Press and re-press the **MENU** button until the display shows TH5.



4

### ZERO METER

Press **ZERO/ON** and the LCD Display reads 0<sub>PPM</sub>, indicating the meter is ready for testing.



#### TIP

In bright light situations use cell cover for zeroing and reading.

**5**

## REMOVE STRIP

Remove one eXact® Strip Micro THH Total Hardness High and set in a dry, convenient place. Replace cap on bottle.



**6**

## DIP STRIP AND PRESS READ

Press **READ** to initiate a 20 second countdown and simultaneously **DIP** the eXact® Strip by submerging all pads in the sample then use a gentle, constant, back and forth motion (2 strokes per second) until the timer displays '1'. Remove and discard the strip.



**7**

## READ RESULTS

**READ** result displayed as Total Hardness. This result is automatically stored in the TH5 menu. After testing is complete, rinse the sample cell immediately and clean with brush.



### TIP

PH: The pH of the sample should be between 6.9 and 7.2. If the pH is not in this range, adjust the sample to pH 7 prior to testing THH.

AL: Total Alkalinity must be in the range of 65-220ppm. If Total Alkalinity is >220ppm, it must be conditioned with eXact® Strip Micro THH Conditioner (part #486666) prior to testing THH.

The Well eXact® EZ photometer has a 5 minute auto-shutoff 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.

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.

## **TECHNICAL SUPPORT**

Please visit [sensafe.com/photometers/well-exact-ez/](http://sensafe.com/photometers/well-exact-ez/) for the latest technical information and how-to-videos. For additional technical support, call (803) 329-9712.

### **Industrial Test Systems, Inc.**

1875 Langston Street, Rock Hill, SC 29730  
800-861-9712 or 803-329-9712  
its@sensafe.com | sensafe.com

### **ITS Europe, Ltd.**

The UK Centre for Homeland Security  
Building 7, Chilmark, Salisbury,  
Wiltshire SP3 5DU UK +44 1722 717911  
itseurope@sensafe.com | itseurope.co.uk



Listed below are possible situations that may arise while testing. Please contact one of our knowledgeable customer service representatives if you require further assistance.

Subject	Cause	Solution
Dim screen or no response from meter	Low battery	Replace batteries
"LO" on LCD while zeroing	Low battery	Replace batteries
	Dirty cell	Clean cell
	Cloudy sample	Dilute sample or use filter
	Bad LED	Contact ITS
"HI" on LCD while reading	Result above detection level	Re-run test to verify result
"LO" on LCD while reading	Result below detection level	Re-run test to verify result

## WELL EXACT® EZ ACCURACY

All tests have been calibrated using certified reference standards and analytical spectrophotometric methods. The Well eXact® EZ has been factory calibrated and will stay valid because of its exceptional quality. We are so confident in the Well eXact® EZ, we offer an industry leading 2-year warranty.

We built the Well eXact® EZ to be easy, accurate and environmentally friendly. We have achieved this by utilizing our patented eXact® Strip Micro Technology, which uses 60% less water and chemistry than alternative methods. Instead of using a 10mL water sample, eXact® Strip Micro uses a 4mL water sample. The accuracy of the meter is maintained by designing the sample cell with an 11mm path-length.

## METHOD VERIFICATION **ReadySnap®**

Ready Snap® 3 is a calibration verification solution with predetermined color to verify the accuracy of your Well eXact® EZ photometer.

The easy 3 step procedure (snap, fill, and test) allows for quick verification of test parameters. Each box contains 10 ampoules of 10mL solution with no dilution necessary.



WELL EXACT® EZ ASSIGNED VALUE FOR READY SNAP® 3		
READY SNAP® 3	TOTAL HARDNESS DESIRED VALUE	TOTAL HARDNESS ACCEPTABLE RANGE
Red dye # 505	426 ppm	358 - 494

*Note: Values indicated are specific to Well eXact® EZ readings and current concentrations as found at time of manufacture.*

## BUILT IN SAMPLE CELL

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

## WARRANTY (2 YEARS)

Registration of your eXact<sup>®</sup> 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 [sensafe.com/micro/warranty/](https://www.sensafe.com/micro/warranty/) (Personal data is kept confidential). The eXact<sup>®</sup> 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](mailto: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.

## TIP

Store all your necessary reagents together with your Well eXact<sup>®</sup> EZ in our convenient carrying case!

## CARRYING CASE FOR WELL EXACT<sup>®</sup> EZ

Made of sturdy material lined with foam, the carrying case offers storage for a Well eXact<sup>®</sup> EZ photometer and eXact<sup>®</sup> Micro reagents.



ITEM	INCLUDES	PART NO.
Standard Carrying case	Blue carrying case with foam inserts (holds up to 7 bottles)	486111
XL Carrying case	Black carrying case with foam inserts (holds up to 14 bottles)	486001

**Section 1 Chemical Identification / Company / Undertaking**

*Name:* EZ Open Reducer Powder Pillow For Total Iron Test

*Product code:* 486601 used in kit 486651

*Company Name:* Industrial Test Systems, Inc.

1875 Langston Street, Rock Hill, SC 29730 USA

*Phone:* (800) 861-9712, (803) 329-9712, *Fax:* (803) 329-9743

*eMail:* its@sensafe.com

**Section 2 Composition / Information on Ingredients**

*Hazardous Ingredients:*

Sodium Hydrosulfite (CAS 7775-14-6)	8-13%
Sodium Thiosulfate (CAS 10102-17-7 or 7772-98-7)	16-22%
Sodium Metabisulfate (CAS 7681-57-4)	13-21%
Sodium Chloride (CAS 7757-82-6)	31-50%
Sodium Dihydrogen Citrate (CAS 18996-35-5)	9-15%

**Section 3 Hazards Identification**

*Main Hazards:* Harmful if swallowed. Irritating to eyes, respiratory system and skin. Contact with acids liberates toxic gases. Harmful to aquatic organisms

**Section 4 First Aid Measures (Symptoms)**

*Skin Contact:* There may be mild irritation at the site of contact.

*Eye Contact:* There may be irritation and redness.

*Ingestion:* There may be soreness and redness of the mouth and throat. There may be difficulty swallowing. Nausea and stomach pain may occur. There may be vomiting.

*Inhalation:* Absorption through the lungs can occur causing symptoms similar to those of ingestion.

**Section 4 First Aid Measures (Action)**

*Skin Contact:* Wash immediately with plenty of soap and water.

*Eye Contact:* Flush eyes with running water for 15 minutes. Call physician.

*Ingestion:* Wash out mouth with water. Do not induce vomiting. If conscious, drink 1-2 glasses of water immediately. Call physician immediately.

*Inhalation:* Remove to fresh air, give artificial respiration if necessary. Call physician.

**Section 5 Fire Fighting Measures**

*Extinguishing media:* Suitable extinguishing media for the surrounding fire should be used.

*Exposure hazards:* In combustion emits toxic fumes.

*Protection of fire-fighters:* Wear self-contained breathing apparatus. Wear protective clothing to prevent contact with skin and eyes.

**Section 6 Accidental Release Measures**

*Personal precautions:* Refer to section 8 of MSDS for personal protection details. Do not create dust. Mark the contaminated area with signs and prevent access to unauthorised personnel. If outside do not approach from downwind.

*Environmental precautions:* Do not discharge into drains or rivers.

*Environmental precautions:* Transfer to a closable, labeled salvage container for disposal by an appropriate method.



**Section 15 Regulatory Information**

*Hazard symbols:* Harmful



*Risk phrases:*

**R22:** Harmful if swallowed

**R36/37/38:** Irritating to eyes, respiratory system and skin

**R31:** Contact with acids liberates toxic gas.

**R52:** Harmful to aquatic organisms.

*Safety phrases:*

**S22:** Do not breathe dust.

**S36/37/39:** Wear suitable protective clothing, gloves and eye / face protection.

**S26:** In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

**S45:** In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible)

**S61:** Avoid release to the environment. Refer to special instructions / safety data sheets.

**NOTE:** The regulatory information given above only indicates the principal regulations specifically applicable to the product described in the material safety data sheet. The user's attention is drawn to the possible existence of additional provisions which complete these regulations. Refer to all applicable national, international and local regulations or provisions.

**Section 16 Other Information**

*Other Information:* Amended by Scaffell Organics

*Risk phrases used in s.2:*

**R22:** Harmful in swallowed.

**R36/37/38:** Irritating to eyes, respiratory system and skin.

**R31:** Contact with acids liberates toxic gas.

**R52:** Harmful to aquatic organisms.

*Legal disclaimer:* The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. This company shall not be held liable for any damage resulting from handling or from contact with the above product

# Well *e*xact®

**ADVANCED PHOTOMETER SYSTEM**

## EXACT® MICRO TESTS & REAGENTS

PARAMETER / TEST	PART #	RANGE ppm	% BEST † ACCURACY	# OF TESTS
Alkalinity, Total	486641	10 - 200	10	100
Alkalinity, Total Range Extender <sup>1</sup>	486665	Each strip adds 130 ppm		100
Hardness, Total High	486656	60 - 600	12	50
Hardness, Total Conditioner <sup>1</sup>	486666	Use when Alkalinity >200 ppm		50
Iron, Total	486650	0.03 - 8	8	50
Nitrate	486655	0.25 - 32 ppm	15	50
pH	486639-II	6.4 - 8.4 pH	0.2 pH	100
EXACT REFILL BOX	PART #	PARAMETER / TESTS		
eExact® Well Refill Box	486212	Total Alkalinity, Total Hardness High, Total Iron, Nitrate, and pH		

<sup>1</sup> Value provided represents best possible accuracy under laboratory conditions, but may vary throughout the detection range. For a complete list of accuracies throughout all ranges, please visit [sensafe.com/photometers/well-exact-ez/](http://sensafe.com/photometers/well-exact-ez/).

<sup>1</sup> For detailed instructions on using this product, contact us (see below) or visit [sensafe.com/photometers/well-exact-ez/](http://sensafe.com/photometers/well-exact-ez/) For resellers and distributors - products sold in case quantities (12 units per case).

## PATENT INFORMATION

US Patent #7,333,194; Euro Pat No. 1 725 864 DE FR UK; South Africa Pat No 2007/0628 by Industrial Test Systems, Inc., 1875 Langston Street, Rock Hill, SC USA. EXACT® is a registered trademark of Industrial Test Systems, Inc. Rock Hill, SC USA.

Visit us online:

[sensafe.com/photometers/well-exact-ez/](http://sensafe.com/photometers/well-exact-ez/)  
for up-to-date product information.



## MANUFACTURED BY

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**Industrial Test Systems, Inc.**

Innovators of Water Quality Testing