



Aquariums

Desalination Plants

Aquaculture

Marine Science

Seawater Refractometer

For Natural or Artificial Seawater Analysis



ISO 9001:2009 CERTIFIED



B.E.P.S. ±
Battery Error
Prevention System

2 YEAR
WARRANTY

HANNA[®]
instruments
www.hannainst.com

Easy Operation

IP 65 waterproof
ABS casing



Start-up Screens

When the HI 96822 is turned on, test screens followed by the percentage of battery life remaining is shown followed by the ready status.

Unit Selection

Just press the RANGE key to cycle through the HI 96822's units of measurement: PSU, ppt and Specific Gravity.

Temperature units (°C/°F) can also be easily switched.

Calibration

Perform a quick and easy calibration after start-up:

1. Using a plastic pipette, completely cover the prism in the sample well with distilled or deionized water.
2. Press the ZERO key

Measurement

Achieve fast, professional results:

1. Using a plastic pipette, drip sample onto the prism surface until the well is full.
2. Press the READ key and the results are display in the selected units.

Refractometer for the Analysis of Natural or Artificial Seawater

Designed for Research Grade Analysis

HANNA's HI 96822 Digital Refractometer is a rugged portable, water resistant device that utilizes the measurement of the refractive index to determine the salinity of natural and artificial seawater, ocean water or brackish intermediates. The HI 96822 benefits from HANNA's years of experience as a manufacturer of analytical instruments. This digital refractometer eliminates the uncertainty associated with mechanical refractometers and is rugged and portable enough to be used at home, in the lab and out in the field.

The HI 96822 is an optical device that is quick and easy to use. After a simple user calibration with distilled or deionized water, a seawater sample can be introduced into the sample well.

Within seconds, the refractive index and temperature are measured and converted into one of 3 popular measurement units: Practical Salinity Units (PSU), Salinity in parts per thousand (ppt), or Specific Gravity (S.G. (20/20)). All conversion algorithms are based upon respected scientific publications using the physical properties of seawater (*not sodium chloride*).

Temperature (in °C or °F) is displayed simultaneously with the measurement on the large dual level display along with icons for Low Power and other helpful message codes.



The Importance of Salinity Measurement

Salinity is a critical measurement in many applications, such as aquaculture, environmental monitoring, aquariums, desalination plants, well water, and many more. Until now, the available technology to measure salinity has relied on mechanical instruments, such as hydrometers and ocular refractometers, or on high-tech conductivity meters. While easy to use, ocular refractometers can be difficult to get a precise reading from and are highly susceptible to changes in temperature. Hydrometers, though inexpensive, are clumsy and inaccurate. Conductivity meters that convert to salinity can be cost-prohibitive.

The **HANNA HI 96822** is the solution to all these issues. It is lightweight, easy to use, cost-efficient, and is extremely precise and accurate. With the ability to read in all the three of the most widely salinity units (PSU, ppt, and specific gravity), it is the ideal instrument for any application.

Some specific examples of when salinity is important:

Aquaculture: Young salmon start their lives in fresh water. As they mature, they reach a stage ("smoltification") when they transition to salt water. When farming salmon, it is critically important to maintain proper salinity levels at each life stage to prevent unnecessary stress that could negatively affect growth and development.

Salinity is a vital parameter to monitor accurately when raising eggs and larval fish, optimizing juvenile and adult growth, and when culturing live food such as rotifers and Artemia.

Aquariums: Whether it is world renowned, eight million gallon Georgia Aquarium, or a 20 gallon reef tank at home, salinity is a crucial parameter to measure. In closed systems such as these, salinity is easily affected. As water evaporates, it leaves the salt behind, raising the salinity. When evaporated water is replaced with fresh water, the salinity is lowered. The potential for disaster is inherent in both situations. Using the **HANNA** digital refractometer to accurately measure salinity will help prevent any mishaps.

Environment: Salinity is almost always a required measurement when doing any kind of environmental monitoring or pollution studies. Salinity has the ability to affect many processes, such as respiration, reproduction, and growth development. If one is monitoring for the effect of pollution, it is important to make sure a salinity variation is not having an additional influence.

Well Water: In coastal areas, the freshwater aquifer (or water table) is adjacent to salt water. This aquifer often supplies the drinking water for the local population. If too many wells are sunk, or too much water is drawn from the aquifer, the water table may sink so low that salt water incursion occurs. The water table has become contaminated.



Professional Features

Dual Level LCD

The dual-level LCD can display primary measurement and temperature readings simultaneously.

Automatic Temperature Compensation

Easy Measurement

Place a few drops of the sample in the well and press the READ key.

B.E.P.S

B.E.P.S. (Battery Error Protection System) alerts the users in the event that low battery power could adversely affect readings.

IP 65 Waterproof Protection in ABS Thermoplastic Casing

The HI 96822 is built to perform under the harsh field conditions associated with environments containing seawater.

Quick, Precise Results

Readings are displayed in approximately 1.5 seconds.

Single Point Calibration

With distilled or deionized water.

Small Sample Size

Sample size can be as small as 2 metric drops.

Automatic Shut-off

After 3 minutes of non-use to conserve battery life.

Stainless Steel Sample Well

Resists corrosion from salt water.

ABS Thermoplastic Casing

The HI 96822 offers accurate, portable readings in a lightweight, durable casing.

Technical, Ordering and Accessory Information

SPECIFICATIONS

HI 96822

Range	PSU	0 to 50
	ppt	0 to 150
	Specific Gravity (20/20)	1.000 to 1.114
	Temperature	0 to 80°C (32 to 176°F)
Resolution	PSU	1
	ppt	1
	Specific Gravity (20/20)	0.001
	Temperature	±0.1°C (0.1°F)
Accuracy (@20°C)	PSU	±2
	ppt	±2
	Specific Gravity (20/20)	±0.002
	Temperature	±0.3°C (0.5°F)
Temperature Compensation		Automatic between 10 and 40°C (50 to 104°F)
Measurement Time		Approximately 1.5 seconds
Minimum Sample Volume		100 µL (to cover prism totally)
Light Source		Yellow LED
Sample Cell		Stainless steel ring and flint glass prism
Auto-off		After 3 minutes of non-use
Enclosure Rating		IP 65
Battery Type / Battery Life		9V / Approx 5000 readings
Dimensions / Weight		192 x 102 x 67 mm (7.6 x 4 x 2.6") / 420 g

ORDERING INFORMATION

HI 96822 is supplied with battery and instruction manual.



Seawater