

HI96821

## Digital Refractometer

for Sodium Chloride Measurement Throughout the Food Industry

- **Ideal for the analysis of:**
  - Salad dressings, cheeses, condiments, pickles, canned foods, jarred foods, milk, juices, energy drinks, soups, brines and whey
- **Dual-level LCD**
  - The dual-level LCD displays measurement and temperature readings simultaneously
- **ATC**
  - Automatic Temperature Compensation
- **Easy measurement**
  - Place a few drops of the sample in the well and press the READ key
- **BEPS**
  - Alerts the user of low battery power that could adversely affect readings.
- **IP65 water protection**
  - Built to perform under harsh laboratory and field conditions
- **Quick, accurate results**
  - Readings are displayed in approximately 1.5 seconds.
- **Single-point calibration**
  - Calibrate with distilled or deionized water
- **Small sample size**
  - Sample size can be as small as 2 metric drops
- **Automatic shut-off**
  - After three minutes of non-use
- **Stainless steel sample well**
  - Easy to clean and corrosion resistant
- **ABS thermoplastic casing**



### Ideal for the food industry

Hanna offers the HI96821 digital sodium chloride refractometer to meet the requirements of the food industry. This optical instrument employs the measurement of the refractive index to determine sodium chloride concentration in aqueous solutions used in food preparation. It is not intended for seawater salinity measurements.

### Refractive index

The measurement of refractive index is simple and quick and provides the user an accepted method for sodium chloride analysis. Samples are measured after a simple user calibration with deionized or distilled water. Within seconds the instrument measures the refractive index of the solution, apply the necessary calculations and display the results in the selected unit. The digital refractometer eliminates the uncertainty associated with mechanical refractometers and is portable for measurements where you need them.

### Features

The instrument utilizes internationally recognized references for unit conversion and temperature compensation. It can display the measurement of NaCl concentration 4 different ways: g/100 g, g/100 mL, Specific Gravity, and °Baumé.

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.

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## Easy to Operate

### Startup Screens

When the HI96821 is turned on, all of the LCD segments will be displayed followed by the percentage of battery life remaining.

### Calibration

Perform a quick and easy calibration after startup:

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

### Unit Selection

Just press the RANGE key to cycle through the HI96821's units of measurement (g/100 g, g/100 mL, Specific Gravity and °Baumé),

### Measurement

Achieve fast, accurate 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 displayed in the selected units.

### Making a Standard Sodium Chloride Solution

To make a standard NaCl solution (g/100 g), follow the procedure below:

- Place a container (such as a glass vial or dropper bottle that has a cover) on an analytical balance.
- Tare the balance.
- To make an X NaCl solution weigh out X grams of high purity dried Sodium Chloride (CAS #: 7647-14-5; MW 58.44) directly into the container.

- Add distilled or deionized water to the container so the total weight of the solution is 100 g.

#### Example with g/100 g NaCl:

|              |         |
|--------------|---------|
| g/100 g NaCl | 10      |
| g NaCl       | 10.000  |
| g Water      | 90.000  |
| g Total      | 100.000 |

| Specifications            | HI96821  |   |
|---------------------------|--|---|
| g/100 g                   | Range  | 0 to 28                                     |
|                           | Resolution   | 0.1   |
|                           | Accuracy (@25°C/77°F)                                    | ±0.2  |
| g/100 mL                  | Range  | 0 to 34                                     |
|                           | Resolution   | 0.1   |
|                           | Accuracy (@25°C/77°F)                                    | ±0.2  |
| Specific Gravity (S.G.)   | Range  | 1.000 to 1.216                              |
|                           | Resolution   | 0.001                                       |
|                           | Accuracy (@25°C/77°F)                                    | ±0.002                                      |
| °Baumé                    | Range  | 0 to 26                                     |
|                           | Resolution   | 0.1   |
|                           | Accuracy (@25°C/77°F)                                    | ±0.2  |
| Temperature               | Range  | 0 to 80°C (32 to 176°F)                     |
|                           | Resolution   | 0.1°C (0.1°F)                               |
|                           | Accuracy (@25°C/77°F)                                    | ±0.3°C (±0.5°F)                             |
| Additional Specifications | 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 three minutes of non-use              |
|                           | Enclosure Rating   | IP65  |
|                           | Battery Type / Battery Life                              | 9V / approximately 5000 readings            |
| Dimensions / Weight       | 192 x 102 x 67 mm (7.6 x 4.01 x 2.6") / 420 g (14.8 oz.) |   |
| Ordering Information      | HI96821 is supplied with battery and instruction manual. |   |