

# pNa

## HI98202

### Soft Water Tester



**HANNA**  
instruments  
Manufacturers since 1978

#### GENERAL INFORMATION:

The pNa tester utilizes a sodium ion-selective electrode to determine the activity of free sodium in solution.

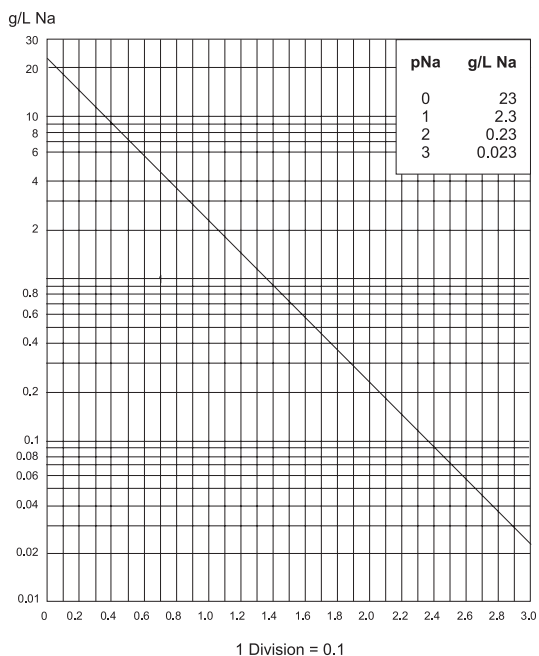
$$pNa = -\log a_{Na}$$

In dilute solutions, the activity coefficient is nearly 1 and in such solutions pNa is a good indicator of the sodium ion concentration. The relationship between the pNa scale and the g/L Na<sup>+</sup> scale is explained in the chart below.

A double junction reference is used to ensure a highly stable reading. If you suspect that the calibration has drifted, you can recalibrate the meter by using a solution of known concentration. Adjust the reading with the calibration trimmer.

#### HOW TO USE THE CHART:

- Locate the pNa reading on the horizontal axis of the chart.
  - Move vertically upwards to intersect with the 45° line.
  - Move horizontally and read the g/L Na value.
- E.g. pNa = 1.4  
g/L = 0.9



#### OPERATION:

- Remove the protective cap and turn the meter on with the ON/OFF switch located on the top.
- Immerse it in the solution to be tested without exceeding the maximum immersion level.
- Stir gently and wait for the reading to stabilize.
- The reading on display is directly expressed in pNa unit. Use the chart below to change the value from pNa to g/L.
- After use, switch the meter off and rinse the electrode with water to minimize contamination. Always replace the protective cap after use.
- Large differences in pNa readings ( $\pm 0.5$  pNa) could be due to a dry electrode or lack in calibration.
- To improve performance, immerse the meter in HI7080 solution up to the maximum immersion level at least once a week.



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#### SPECIFICATIONS:

RANGE	0.0 □ 3.0 pNa (23 □ 0.023 g/L Na <sup>+</sup> )
RESOLUTION	0.1 pNa
ACCURACY (@20°C/68°F)	±0.2 pNa
TYPICAL EMC DEVIATION	±0.1 pNa
ENVIRONMENT	0 to 50 □ C (32 to 122 □ F); 95% RH
BATTERY TYPE	4 x 1.5V alkaline (included)
BATTERY LIFE	approx. 800 hours of continuous use
DIMENSIONS	175x41x23 mm (7.9x1.8x1")
WEIGHT	78 g (2.7 oz.)

#### ACCESSORIES:

HI 7080L	2.3 g/L Na solution (460 mL bottle)
HI 7080M	2.3 g/L Na solution (230 mL bottle)
HI 7061M	Electrode cleaning solution (230 mL bottle)
HI 73202	Spare electrode
HI 731326	Calibration screwdriver (20 pcs)

#### ONE YEAR WARRANTY AND SERVICEABLE:

Covered by **one year** warranty against defects in workmanship and materials, this tester is now completely serviceable. Contact your dealer for further information.

The **pNa** is in compliance with the CE directives.

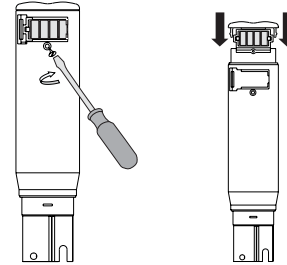
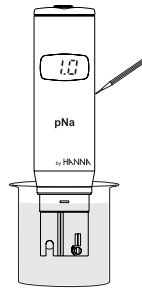


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<http://www.hannainst.com>

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#### CALIBRATION:

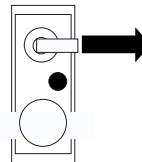
- Immerse the tester in HI7080 calibration solution, without exceeding the maximum immersion level.
- Allow the reading to stabilize and with a small screwdriver turn the calibration trimmer until the display shows "1.0" pNa.



#### MAINTENANCE:

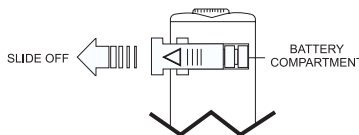
In case of erroneous reading even after an accurate calibration, the reference junction can be contaminated or clogged. Pull out 2 mm (1/8") of the cloth junction to renew the electrode reference (it is recommended to cut the cloth leaving always at least 2 mm -1/8" over the reference compartment) and repeat the calibration procedure.

The cloth junction can be pulled out approximately 20 times. After that, the electrode can be replaced (see the Electrode Replacement section).



#### BATTERY REPLACEMENT:

If display fades or the **pNa** switches off, the batteries must be replaced. Slide off the battery compartment cover and replace all four 1.5V batteries while paying attention to their polarity.



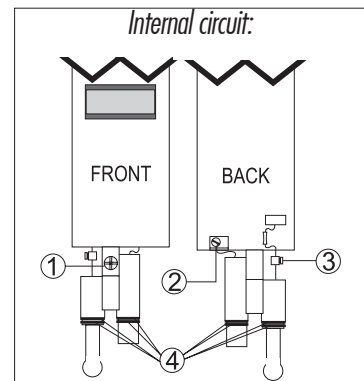
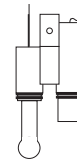
#### ELECTRODE REPLACEMENT:

The electrode can be easily replaced in the following way:

- Slide off the battery cover.
- Remove the screw on the back of the **pNa** located below the battery compartment and slide off the whole internal part of the tester.
- Remove the fastening screw on the front (1) to loose the electrode.

The internal circuit is connected to the electrode through two wires (one for the glass sensor and one for the reference). Remove the two small screws (2 & 3) which fasten the two connecting wires to their sockets.

- Remove the electrode and replace it with a new HI73202.



- Fasten first the screw on the front (1) to attach the electrode to the circuit. Insert the two small wires into their sockets and fasten the two screws (2 & 3).
- The new electrode is supplied with four O-rings (4). Make sure they are placed properly before reinserting the circuit into the plastic casing.
- Reinsert the internal circuit complete with the new electrode into the plastic casing.
- Fasten the screw on the back, below the battery compartment.
- Reinsert the battery compartment cover.
- Recalibrate the **pNa** before performing new measurements.