HI 93 series

Nitrite, Dissolved Oxygen, Phosphate Photometers

Nitrites are an intermediate product in the nitrogen cycle and are produced by ammonia oxidation with water, or even originate in industrial waste directly. They must not be present in drinking water.

Nitrites can be harmful to aquatic organisms even in low concentrations and for this reason, they are closely monitored in aquaculture facilities. In cooling towers, however, an adequate amount of nitrites is necessary to prevent corrosion.

In high concentrations, they can be harmful to the environment and to humans. They are, therefore, normally monitored to verify the quality of water for domestic use, as well as lakes and ponds.

In aquaculture, **Dissolved Oxygen** is arguably the most important parameter of water quality. Most species require a minimum of 3 ppm DO, 8-10 ppm is preferable. Unlike other gases such as nitrogen, oxygen supersaturation doesn't usually result in gas bubble disease ("pop-eye"), so high levels generally aren't an issue.

Phosphates are particularly important for the growth and development of plant roots, and hence are one of the most common fertilizers used in agriculture.

In addition, phosphates are usually utilized in detergents and are needed, in small quantities, for heating systems. However, high concentrations of phosphates can cause environmental pollution: they are for example a primary cause of eutrophication.

For these reasons, it is necessary to closely monitor the phosphate levels present in both civil and industrial waste water.

SPECIFICATIONS

PARAMETER	CODE	RANGE	ACCURACY	NARROW BAND FILTER	METHOD
Nitrite LR	HI 93707	0.00 to 0.35 mg/L	±0.02 mg/L ±4% of reading	@ 470 nm	Adaptation of the EPA method 354.1.
Nitrite HR	HI 93708	0 to 150 mg/L	±4 mg/L ±4% of reading	@ 585 nm	Adaptation of the Ferrous Sulfate method.
Dissolved Oxygen	HI 93732N	0.0 to 10.0 mg/L	±0.2 mg/L ±3% of reading	@ 470 nm	Modified Winkler Method.
Phosphate LR	HI 93713	0.00 to 2.50 mg/L	±0.04 mg/L ±4% of reading	@ 890 nm	Adaptation of the ascorbic acid method.
Phosphate HR	HI 93717	0.0 to 30.0 mg/L	±1 mg/L ±4% of reading	@ 470 nm	Adaptation of the Standard Methods for the Examination of Water and Wastewater, 18th ed.

SPECIFICATIONS common to all models

Light Source	LED (Light Emitting Diode)
Environment	0 to 50°C (32 to 122°F); RH max 95% non-condensing
Battery Type/Life	(1) 9V / approx. 40 hours of continuous use
Auto Shut-off	After 10 min. of non-use
Dimensions/Weight	180 x 83 x 46 mm (7.1 x 3.3 x 1.8"); 290 g (10 oz.)

ORDERING INFORMATION

HI 93707 is supplied with 9V Battery, Sample Cuvets and Caps (2), Transport Cap (1) and instructions.

HI 93708 is supplied with 9V Battery, Sample Cuvets and Caps (2), Transport Cap (1) and instructions.

HI 93732N is supplied with Sample Cuvets and Caps (2), Transport Cap (1), 60 mL glass Bottle with Stopper (1), 9V Battery and instructions.

HI 93713 is supplied with 9V Battery, Sample Cuvets and Caps (2) and Transport Cap (1)

HI 93713C is supplied with HI 93713, rugged carrying case, reagents and instructions.

HI 93717 is supplied with 9V battery, sample cuvets and caps (2), transport cap (1) and instructions.

REAGENTS AND STANDARDS

for HI 93707

HI 93707-01 Reagent kit for 100 tests (N-NO_2^- LR)

HI 93707-03 Reagent kit for 300 tests (N-NO_2^- LR)

for HI 93708

HI 93708-01 Reagent kit for 100 tests (NO_2^- HR)

HI 93708-03 Reagent kit for 300 tests (NO_2^- HR)

for HI 93732

HI 93732-01 Reagent kit for 100 tests (D.O.)

HI 93732-03 Reagent kit for 300 tests (D.O.)

for HI 93713

HI 93713-01 Reagent kit for 100 tests (PO_4^{3-} LR)

HI 93713-03 Reagent kit for 300 tests (PO_4^{3-} LR)

for HI 93717

HI 93717-01 Reagent kit for 100 tests (PO_4^{3-} HR)

HI 93717-03 Reagent kit for 300 tests (PO_4^{3-} HR)

SOLUTIONS

HI 93703-50 Cuvet cleaning solution, 250 mL

ACCESSORIES

HI 740038 60 mL glass bottle and stopper

HI 710009 Shockproof rubber boot, blue

HI 710010 Shockproof rubber boot, orange

HI 740029P 9V Batteries (10)

HI 731318 Cuvet cleaning cloth (4)

HI 731321 Measuring cuvets (4)

HI 731325 Cuvet caps (4)

HI 740218 Rugged carrying case