HI96746 • HI96721

Iron Portable Photometers

- CAL Check™
  - Enables users to check validity of calibration
- BEPS
  - Alerts the user of low battery power that could adversely affect reading
- GLP Features
  - Meets Good Laboratory Practices

Iron is naturally present in water in low concentrations, but it reaches high concentrations in wastewater effluents. The iron concentration in water needs to be monitored because it becomes harmful above certain levels.

In domestic water, for instance, iron can unpleasantly alter the taste, stain laundry, damage kitchenware and favor the growth of certain bacteria. Iron is also an indicator of ongoing corrosion in water cooling and heating systems. Moreover, iron is normally monitored in mining wastewater to avoid contamination.

The HI96746 meter measures the iron content in water, wastewater and seawater in the 0.00 to 1.60 mg/L (ppm) range.

The HI96721 meter measures total iron (Fe) content in water samples in the 0.00 to 5.00 mg/L (ppm) range. The reagent contains both a reducing and a complexing agent: the first converts all but the most resistant forms of iron present in the sample to the ferrous (Fe^{2+}) or soluble state; the second reacts with the ferrous iron to form the characteristic orange-colored complex.

Both meters use an exclusive positive-locking system to ensure that the cuvette is in the same position every time it is placed into the measurement cell. It is designed to fit a cuvette with a larger neck, making it easier to add both sample and reagents. The cuvette is made from special optical glass to obtain the best results.

For HI96746, the reaction between iron and the reagent causes a violet tint in the sample. For HI96721, the reaction between iron and phenolntroline reagent causes an orange tint in the sample.

Specifications	HI96746 Iron LR	HI96721 Iron HR
Range	0.00 to 1.60 mg/L (ppm)	0.00 to 5.00 mg/L (ppm)
Resolution	0.01 mg/L	0.01 mg/L
Accuracy @ 25°C (77°F)	±0.01 mg/L ±8% of reading	±0.04 mg/L ±2% of reading
Light Source	tungsten lamp	
Light Detector	silicon photocell with narrow band interference filter @ 525 nm	
Power Supply	9V battery	
Auto-off	after ten minutes of non-use in measurement mode; after one hour of non-use in calibration mode; with last reading reminder	
Environment	0 to 50°C (32 to 122°F); RH max 95% non-condensing	
Dimensions	193 x 104 x 69 mm (7.6 x 4.1 x 2.7")	
Weight	360 g (12.7 oz.)	
Method	adaptation of the TPTZ method	adaptation of the USEPA method 315B (phenanthroline) and Standard Method 3500-Fe B
Ordering Information	**HI96746** and **HI96721** are supplied with sample cuvettes (2) with caps, 9V battery, instrument quality certificate and instructions. CAL Check™ standards and testing reagents sold separately **HI96746C** and **HI96721C** includes photometer, CAL Check™ standards, sample cuvettes (2) with caps, 9V battery, scissors, cuvette wiping cloth, instrument quality certificate, instruction manual and rigid carrying case. Reagents sold separately	

Reagents and Standards			
	HI96746	**HI96746-11**	CAL Check™ standard cuvettes
		HI93746-01	liquid reagents for 50 tests
		HI93746-03	liquid reagents for 150 tests
	HI96721	**HI96721-11**	CAL Check™ standard cuvettes
		HI93721-01	powder reagents for 100 tests
		HI93721-03	powder reagents for 300 tests

Standard reagents begin on page 10.70; CAL Check™ standard reagents begin on page 10.71