

HI 4421

Research Grade Dissolved Oxygen and BOD Meter

- Extended DO range up to 90 ppm (mg/L) and 600%
- Measures DO, atmospheric pressure and temperature
- DO direct, DO direct/autohold
BOD: Biological Oxygen Demand
OUR: Oxygen Uptake Rate
SOUR: Specific Oxygen Uptake Rate
- Temperature and atmospheric pressure automatic compensation
- Manual salinity compensation
- Fully customizable
- Large log memory using different logging methods
- Polarographic probe with built-in temperature sensor



HI 4421 is a research grade dissolved oxygen bench meter with extensive capabilities in measuring DO as BOD (Biological Oxygen Demand), OUR (Oxygen Uptake Rate), SOUR (Specific Oxygen Uptake Rate), atmospheric pressure and temperature.

DO measurements can be performed in ppm (mg/L) range or in % and feature automatic or manual temperature and atmospheric pressure compensation and manual salinity compensation.

Automatic and manual calibration of DO can be performed in one or two points using standard or user defined standards. Users can set the reading stability criteria; three modes are available: Fast, Medium and Accurate. Direct/autohold automatically holds the reading on display when measurement stability is reached. In direct reading mode, the user interface can be set to basic with or without GLP, graphic or logging information.

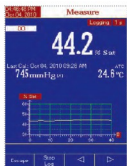
These instruments offer multi-language support and contextual help is available through a dedicated Help key. Clear tutorial messages and directions are available on-screen to quickly and easily guide users through all measurement and calibration procedures to ensure measurements and procedures are performed properly.

The BOD, OUR and SOUR methods are supported with a dedicated tutorial and step by step indication in order to assure a full and correct reading of DO using this specific measuring method.

The DO probe is using the polarographic principal of measurement and has a built-in temperature sensor.

Up to 10 profiles can be saved and recalled eliminating the need to reconfigure each time when a different electrode is used. User definable configurations can include reading mode: direct or BOD, OUR, and SOUR, measurement units, temperature units, stability criteria, and temperature, atmospheric pressure and salinity compensation.

Three selectable logging modes are available: Automatic, Manual and AutoHold logging. Up to 100 logging lots can be stored for automatic or manual modes. Automatic logging features a selectable area and sampling period while GLP information includes complete data about user calibration of each parameter and identification information for the instrument, user, and company. Data can be transferred to a PC via the opto-isolated PC interface via the RS232C or USB ports and HI 92000 software (optional).



Direct measurement



BOD (Biological Oxygen Demand)



OUR (Oxygen Uptake Rate)



SOUR (Specific Oxygen Uptake Rate)

SPECIFICATIONS		HI 4421
Range	Dissolved Oxygen	0.00 to 90.00 ppm; 0.0 to 600.0 % saturation
	Barometric Pressure	450 to 850 mmHg; 560 to 1133 mBar
	Temperature	-20.0 to 120.0°C; -4.0 to 248°F; 253.1 to 393.1 K
Resolution	Dissolved Oxygen	0.01 ppm; 0.1% saturation
	Barometric Pressure	1 mm Hg
	Temperature	0.1°C/°F/K
Accuracy	Dissolved Oxygen	±1.5% of reading ±1 digit
	Barometric Pressure	±3 mm Hg + 1 least significant digit
	Temperature	±0.2°C/K/°F (excluding probe error)
Measurement Modes		direct DO; BOD (biochemical oxygen demand); OUR (oxygen uptake rate); SOUR (specific oxygen uptake rate)
Calibration	Dissolved Oxygen	automatic/user standard, one or two points
	Barometric Pressure	single point
Temperature Compensation		0.0 to 50.0°C; 32.0 to 122.0°F; 237.1 to 323.1 K
Salinity Compensation		0 to 45 g/L (ppt)
Probe		thin body, polarographic dissolved oxygen probe with internal temperature sensor and 1 m (3.3') cable (included)
Logging	Record Samples	up to 100 lots; 10,000 samples/lot for automatic logging; 5000 samples/lot for manual logging
	Logging Interval	from one second and up
	Type	manual, automatic
GLP Features		yes (last calibration data, calibration info)
Alarm (DO, BOD, OUR, SOUR)		inside and outside limits
PC Connection		opto-isolated USB and RS232
Display		graphic color LCD with on-screen help, graphing, language selection and custom configuration
Power Supply		12 VDC adapter (included)
Dimensions		160 x 231 x 94 mm (6.3 x 9.1 x 3.7")
Weight		1.2 Kg (2.6 lbs.)

ORDERING INFORMATION

HI 4421-01 (115V) and HI 4421-02 (230V) is supplied with HI 76408 DO probe, HI 76404N electrode holder, HI 70415 electrolyte solution (30 mL), HI 76407A membrane caps (2), 12 VDC adapter and instruction manual.

PROBES

HI 76408	Thin body, polarographic DO probe with internal temperature sensor, DIN connector and 1 m (3.3') cable
HI 76407/2	Polarographic DO probe with internal temperature sensor, DIN connector and 2 m (6.6') cable
HI 76407/4	Polarographic DO probe with internal temperature sensor, DIN connector and 4 m (13') cable
HI 76407/10	Polarographic DO probe with internal temperature sensor, DIN connector and 10 m (33') cable
HI 76407/20	Polarographic DO probe with internal temperature sensor, DIN connector and 20 m (67') cable

SOLUTIONS

HI 7040M	Zero oxygen solution, 230 mL
HI 7040L	Zero oxygen solution, 500 mL
HI 70415	Electrolyte solution, 30 mL
HI 7041M	Refilling electrolyte solution (230 mL)
HI 7041L	Refilling electrolyte solution (500 mL)

ACCESSORIES

HI 76407A/P	Replacement membrane (5)
HI 76404N	Electrode holder
HI 9200M	Windows® compatible software
HI 920013	USB cable for PC connection
HI 920010	Serial cable for PC connection

For a complete list of Solutions, Probes and Accessories, see the end of this section.