

Dissolved Oxygen

The measure of the amount of gaseous oxygen dissolved in a solution.



Dissolved Oxygen

Handheld:

1. CyberScan DO 600
2. CyberScan DO 300
3. CyberScan DO 110
4. DO 6+

Bench:

1. DO 2700
2. DO 700

“Eutech’s handheld dissolved oxygen meters help me keep my fish healthy and happy.”



About Dissolved Oxygen Measurement

What is Dissolved Oxygen?

Dissolved Oxygen (DO) is a measure of the amount of dissolved gaseous oxygen in a solution. Some gases, such as ammonia, carbon dioxide and hydrogen chloride, react chemically with water to form new compounds. However, gases such as nitrogen and oxygen merely dissolve in water without chemically reacting with it, and exist as microscopic bubbles between water molecules.

There are two main ways in which dissolved oxygen occurs naturally in water: From the surrounding atmosphere, where oxygen in the surrounding air dissolves readily when mixed into water, up to saturation, during water movements; via photosynthesis when oxygen is produced by aquatic plants and algae as a by-product of photosynthesis. The amount of oxygen dissolved in water is usually measured in percent saturation, or expressed as a concentration in milligrams per litre water. Accurate measurement of dissolved oxygen is essential in processes where oxygen content affects reaction rates, process efficiency or environmental conditions, such as biological wastewater treatment, wine production, bio-reactions, environmental water testing.

Basic Principle in DO Measurement

In theory, the amount of DO in a solution is dependent on three factors, namely temperature, salinity and atmospheric pressure.

1. Water Temperature

Solubility of oxygen reduces as temperature increases. Hence, the colder the water, the more dissolved oxygen it contains. Since temperature affects both the solubility and diffusion rate of oxygen, temperature compensation is necessary for any standardized DO measurements.

All Eutech DO meters come with automatic temperature compensation for accurate readings even in varying temperature conditions.

2. Salinity

The amount of dissolved oxygen increases as salinity level decreases. In other words, freshwater holds more oxygen than saltwater. Since the presence of dissolved salts limits the amount of oxygen that can dissolve in water, the relationship between the partial pressure and concentration of oxygen varies with the salinity of the sample.

Eutech meters feature manual salinity correction to compensate for variations in ionic concentration. Simply enter the salinity of the sample in parts per thousand (ppt) to ensure the correct DO measurements.

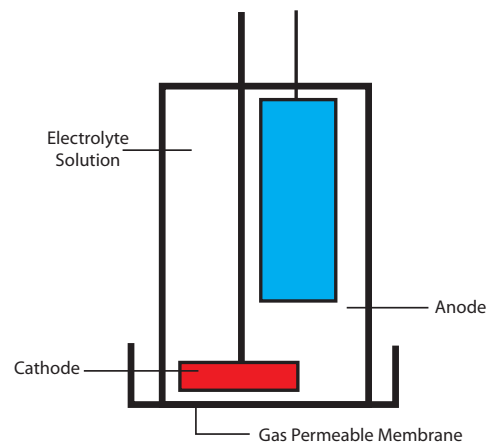
3. Atmospheric Pressure

There is a direct proportional relationship between the solubility of dissolved oxygen and the surrounding atmospheric pressure. As pressure decreases with increase in altitude, the amount of dissolved oxygen found in water reduces.

To ensure that your dissolved oxygen is not affected by atmospheric pressure, Eutech meters come with manual barometric pressure compensation, with an Atmospheric Pressure Correction Chart included in the manuals for convenient referencing.

Eutech DO instruments automatically compensate for temperature, salinity and barometric pressure. The salinity value and barometric pressure are either measured by the instrument or entered by the user.

DO Electrodes



The measurement of DO requires a special DO electrode that is made up of an anode, a cathode, electrolyte solution and a gas permeable membrane. The material of the membrane is specially selected to permit oxygen to pass through. Oxygen is consumed by the cathode which will create a partial pressure across the membrane. Oxygen then diffuses into the electrolyte solution. In short, a DO meter actually measures the pressure caused by movements of oxygen molecules in water or any other medium. Currently, galvanic and polarographic electrodes are the predominant methods for measuring dissolved oxygen.

The Galvanic Cell consists of two metals, the positive anode and the negative cathode, connected by a salt bridge between the individual half-cells. As the metal electrodes leave electrons behind as they dissolve in the electrolyte. The different properties of the two metals causes them to dissolve at different rates, hence a pressure is created when the number of electrons in either side of the cell differs. The pressure is translated into an electric current proportion to the oxygen concentration in the electrolyte if an electrical circuit is created between the two electrodes. The galvanic electrode does not need polarising time and is able to assume operation immediately.

During this process, ions of the more active anode are transferred through the electrolyte to the less active cathode, and deposited there as a plating. In this way the anode is corroded. When the anode material eventually corrodes away, the potential drops and the current halts.

Galvanic electrodes are available with most Eutech Instruments DO meters such as the DO 6+, CyberScan DO 110 and DO 300.

The Polarographic Cell consists of two electrodes placed in the electrolyte: One with fixed potential called the reference electrode, and the other with a variable potential called the polarizable electrode. As voltage is applied to the polarizable electrode, a redox reaction occurs, where electrons break away from the electrode to bond with oxygen in the electrolyte. The rate at which the electrons break

away from the polarizable electrode is linearly proportionate to the amount of oxygen available in the electrolyte, hence this movement of electrons is representative of the amount of dissolved oxygen left in the electrolyte.

The advantage of a polarographic cell is that the cathode remains intact. The current flow of the polarographic cell is also linearly proportional to the amount of oxygen present in the electrolyte, enabling the cell to provide highly accurate measurements at low oxygen levels.

Polarographic self-stirring DO/BOD probes are available for use with the Eutech DO 700 and DO 2700 bench meters.

BOD & COD

The BOD test measures the molecular oxygen utilized in the biodegradation of organic material and the oxidation of inorganic material. By measuring the amount of oxygen dissolved in samples at the beginning and end of a specified incubation period, the relative oxygen requirements of wastewaters, effluents, and polluted waters can be determined.

$$BOD_t \text{ (mg/L)} = \frac{D_1 - D_2}{P}$$

BOD_t = Oxygen uptake during incubation period t

D_1 = DO of diluted sample immediately after preparation (mg/L)

D_2 = DO of diluted sample after incubation period t (mg/L)

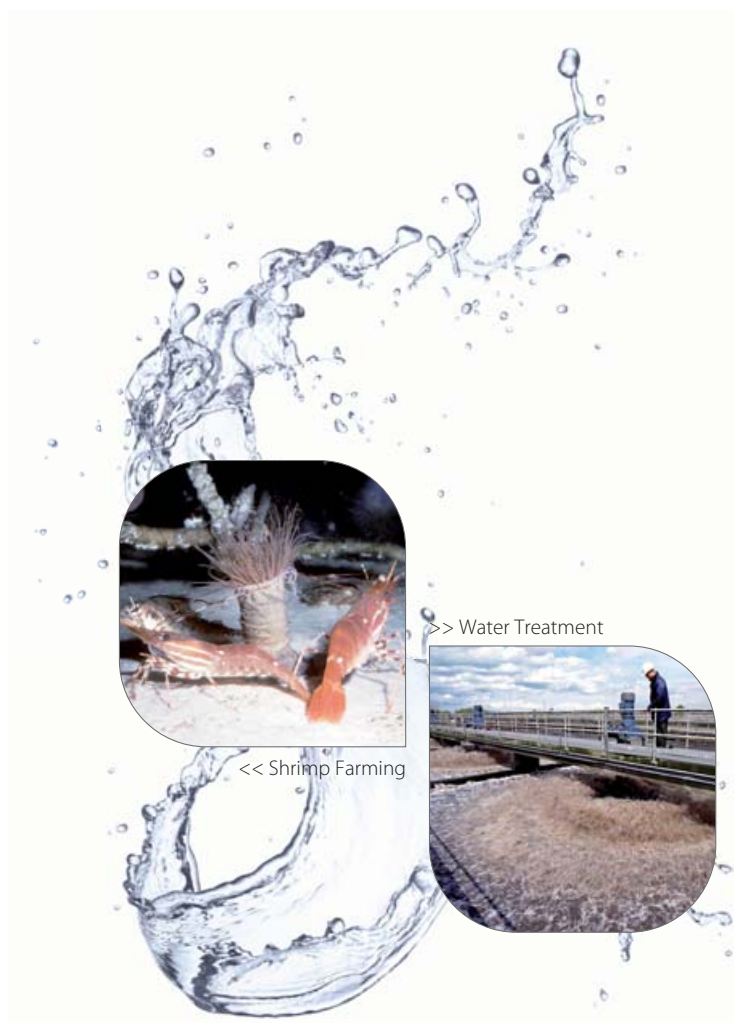
P = Decimal volumetric fraction of sample used

BOD is similar to the Chemical Oxygen Demand (COD), which also measures relative oxygen-depletion. However, the possible presence of non-biologically oxidisable may render the COD test to be less accurate.

The COD Test is often used to measure the amount of organic compounds in surface water by measuring the amount of oxygen required to oxidize and break down an organic compound into carbon dioxide, ammonia and water. The basis of the COD test is that anything can be oxidized into carbon dioxide using a strong oxidizing agent in acidic environments. A blank sample, created by adding all reagents to distilled water is usually used as a control in COD measurements.

Both the BOD and COD tests are means to measure the relative oxygen-depletion effect of a waste contaminant, and are widely used to monitor pollution levels. The BOD test measures the oxygen demand of biodegradable pollutants whereas the COD test measures the oxygen demand of biodegradable pollutants plus the oxygen demand of non-biodegradable oxidizable pollutants.

However, because COD measures everything that can be chemically oxidised and not just the level of biologically active organic matter, the possibility of non-biological oxidizable may render the COD Test as a less accurate method compared to the BOD method.



DO
CyberScan Waterproof
Handheld



Wireless data transfer



Waterproof external
power input



Complimentary
Cybercomm 600 software
– download data from
meter to PC as text or
Excel® spreadsheet



Sturdy rubber boot
doubles up as meter stand

CyberScan DO 600

Dissolved Oxygen/°C/°F

Fast, intuitive and powerful – the CyberScan DO 600 offers one of the widest measurement ranges and biggest memory spaces in the DO handheld market today. Data-transfer is easy with incorporated IrDA wireless communications technology: No wires, no cables. Send data with the press of a button!

Large backlit screen
with multi-data
display and intelligent
prompt messages



Intuitive soft-key
operation

Rugged and
IP67 waterproof

Applications

Aquacultural: Use to monitor oxygen levels in catfish and shrimp farming; game stocking ponds; ornamental fish tanks and ponds; and in other fish farming applications.

Industrial: Ideal for checks on the quality of plant water intake and discharge, wastewater and water treatment, recirculating systems and industrial process systems.

Environmental: Use to test water quality, monitor health of aquatic ecosystems, survey surface and ground water drinking supplies, and meet EPA regulations.

Educational: Ideal for quick, accurate DO readings in laboratories and schools.

Wide Measurement Range

- Measures oxygen concentration up to 90.00 mg/L and saturation up to 600.0 %
- Accurate readings even in varying conditions with Temperature, Salinity and Barometric Pressure Compensation

User-Friendly

- Cal-due alarm for periodic calibration updates
- IP67 waterproof design for applications in harsh environments
- High/low set-points function for quality control checks – meter warns when readings fall outside set limit
- Built-in barometer for auto-pressure correction

Advanced Data-Management

- Auto-logging function that automatically records up to 500 data sets in GLP-compliant format
- RS232C through LED*, IrDA wireless communications technology

* RS232C (LED) interface adapter available as separate accessory (order code: 01X344201)



CyberScan DO 300

Dissolved Oxygen/°C/°F

DO
CyberScan Waterproof
Handheld

Designed to meet the rigours of outdoor field measurement, Eutech's waterproof CyberScan DO 300 is IP67-rated waterproof and even floats on water for easy retrieval. Its galvanic probe requires no warm-up time, delivers repeatable, stable readings and calls for almost no maintenance.



Waterproof to IP67 standards

Rubber grips for firmer grip

Galvanic electrode with built-in ATC and 3 m waterproof cable



Back-lit display for easy reading in the dark



Rubber sleeve protects connector



Waterproof meter floats for easy retrieval

Dissolved Oxygen

- Custom dual-display LCD that shows DO readings (in ppm, mg/L or % saturation) and temperature readings (in °C and °F)
- Non-volatile memory stores up to 50 data sets with temperature readings
- Auto-compensation of Salinity and Barometric Pressure with manual input
- Independent 100 % and zero adjustment calibrations
- Adjustable backlit display
- GLP-compliant
- Self-diagnostic for easy trouble-shooting
- IP67 waterproof housing

Applications

- Aquaculture (shrimp & catfish farming)
- Ponds and aquariums
- Water quality testing
- Water and wastewater treatment
- Recirculating systems and industrial process systems
- Geological and ecological testing
- Monitoring surface and ground drinking water (in compliance with EPA regulations)
- Schools and laboratories



DO
CyberScan Standard
Handheld

CyberScan DO 110
Dissolved Oxygen/°C/°F

Accurate with sophisticated yet user-friendly features, the CyberScan DO 110 delivers repeatable, stable measurements with its unique galvanic electrode – no warm-up time required!



Complimentary
CyberComm Data
Acquisition software



RS232C output allows
direct data transfer
from meter to PC



Adjustable hinge
acts as a table stand

Dissolved Oxygen

Dual-display
with temperature
annunciator

Ergonomic slim
design for that
perfect palm fit

Galvanic electrode
requires no
warm-up time

IP54-rated
housing protects
meter against
water splashes



Applications

Aquacultural: Use to monitor oxygen levels in catfish and shrimp farming; game stocking ponds; ornamental fish tanks and ponds; and in other fish farming applications.

Industrial: Ideal for checks on the quality of plant water intake and discharge, wastewater and water treatment, recirculating systems and industrial process systems.

Environmental: Use to test water quality, monitor health of aquatic ecosystems, survey surface and ground water drinking supplies, and meet EPA regulations.

Educational: Ideal for quick, accurate DO readings in laboratories and schools.

- Custom dual-display LCD that shows DO readings in mg/L (ppm) or % saturation and temperature in °C and °F
- Auto-compensation of Salinity and Barometric Pressure with manual input
- Stores up to 100 data sets with temperature readings
- Direct data transfer via RS232C output – auto data-logging to PC with CyberComm DAS
- Independent 100 % and zero adjustment calibrations
- One-glance monitoring of electrode performance with electrode data display
- Self-diagnostic for easy trouble-shooting
- IP54 splashproof housing



DO 6+

Dissolved Oxygen/°C

DO
Economy Handheld

The Eutech DO 6+ offers high performance at an economical price. Rugged and user-friendly, this no-frill meter comes with a protective rubber boot and a convenient benchtop stand. Measures in mg/L (ppm), or % saturation.



Reader-friendly screen display

IP54-rated housing protects against dust and water splashes



Splashproof keypad



Protective rubber boot

Dissolved Oxygen

- Push-button calibration with auto-buffer recognition for quick and easy calibrations with no mistakes
- Calibration can be performed at 100 % and/or 0 % solution
- Auto-compensation of Salinity and Barometric Pressure with manual input
- Galvanic probe eliminates polarisation delay and delivers quick, stable response
- Non-volatile memory holds meter settings, even when batteries run out
- Hold function freezes readings for easy reference
- Auto-off conserves energy and lengthens battery life-span
- Easy troubleshooting with comprehensive self-diagnostic messages

Applications

- Ponds and aquariums • Aquaculture (catfish and shrimp farming) • Water and wastewater treatment • Recirculating systems • Industrial process systems
- Water-quality testing • Surface and ground water testing (meet EPA regulations)
- Ecological studies and monitoring • Field, laboratory and education institutions



Models	CyberScan Dual-Display			Eutech Single-Display	
	DO 600	DO 300	DO 110	DO 6+	
Dissolved Oxygen Handheld Meters Specifications					
Measuring Parameter		Dissolved Oxygen / °C / °F			
Highlights		Waterproof, GLP, RS232C, IrDA	Waterproof, back-lit display	Standard handheld, RS232C	
Dissolved Oxygen	Range	0 to 90.00 mg/L or ppm	0.00 to 19.99 mg/L or ppm		
	Resolution	0.01 mg/L or ppm			
	Accuracy	±0.20 mg/L	±1.5 % full scale		
% Saturation of Oxygen	Range	0 to 600.0 %	0.0 to 199.9 %		
	Resolution	0.1 %			
	Accuracy	±2.0 %	±1.5 % full scale		
Calibration		2-point (0 %, 100 %), 1-point (mg/L)			
Temperature	Range	0.0 to 60.0 °C / 32 to 140 °F	0.0 to 50.0 °C / 32 to 122 °F		
	Resolution	0.1 °C / 0.1 °F			
	Accuracy	±0.3 °C / ±0.5 °F		±0.1 °C	
Salinity Correction	Range	0.0 to 50.0 ppt			
	Resolution	0.1 ppt			
	Method	Automatic correction after manual input			
Barometric Pressure Correction	Range	450 to 825 mmHg / 59.9 to 109.9 kPa	500 to 1499 mmHg / 66.6 to 199.9 kPa		
	Resolution	0.1 mmHg or 0.1 kPa			
	Method	Automatic correction with in-built sensor	Automatic correction after manual input		
Probe	Type	Galvanic			
	Temperature Compensation	ATC / MTC (0.0 to 50.0 °C)			
	GLP	Yes		–	
	Cal-Due Alarm	Yes		–	
	IP67	Yes		–	
	Datalogging	Yes	–	Yes	
	Memory	500 data sets	50 data sets	100 data sets	
	Operating Temperature	0 to 50 °C			
	Average/Stability	Yes (selectable)			
	LCD Display	Dot-matrix LCD with backlight (5.4 x 7.1 cm)	Dual-display LCD with backlight (5.8 x 3.3 cm)	Dual-display LCD (5.8 x 3.3 cm)	Single-display LCD (4.5 x 2.3 cm)
Auto-Off	2 to 30 mins after last key pressed		20 mins after last key pressed		
Input	DC phono sockets, 6-pin connector		DC socket, 6-pin connector	BNC, 2.5 mm phono socket	
Output	IrDA, RS232C (via LED) *	–	RS232C	–	
Power	4 x 1.5 V 'AA' alkaline batteries or 9 V DC adapter, 500 mA	4 x 1.5 V 'AAA' alkaline batteries	4 x 1.5 V 'AAA' alkaline batteries or 9 V DC adapter, 200 mA	4 x 1.5 V 'AAA' alkaline batteries	
Battery Life	> 200 hrs	> 100 hrs	> 700 hrs		
Dimensions (LxWxH); Weight	Meter	18.3 x 9.5 x 5.7 cm ; 460 g	19 x 10 x 6 cm ; 320 g	18 x 9 x 4 cm ; 220 g	15.7 x 8.5 x 4.2 cm ; 255 g
	Boxed	40 x 33 x 10 cm ; 2680 g	40 x 33 x 10 cm ; 2100 g		36 x 28 x 8 cm ; 1555 g

* RS232C (LED) interface adapter available as separate accessory (see page 59 for order information)

Dissolved Oxygen Handheld Meters

Item	Order Code	Part No.	Parameters		Electrodes				Accessories								
			Dissolved Oxygen	Temperature	7.6 m Cable DO Electrode (ECDOHANDY8M)	3 m Cable DO Electrode (ECDOHANDYNEW)	3 m Cable DO Electrode (DO6HANDY3M)	0.9 m Cable DO Electrode (DO6HANDY)	CyberComm 600 DAS Software	CyberComm Portable DAS Software	Assembled Membrane Cap Housing	Assembled Membrane Cap Housing (x 2)	Refilling Electrolyte	RS232C Cable	Power Adapter	CyberScan Carry Kit, Set With 4 Sample bottles	Economy Carry Kit, Set With 4 Sample bottles
DO 600	ECDOWP60042K	01X419503	•	•	•					•		•			•		
DO 600	ECDOWP60041K	01X419502	•	•		•				•		•			•		
DO 300	ECDOWP30002K	01X262314	•	•	•							•			•		
DO 300	ECDOWP30001K	01X262307	•	•		•						•			•		
DO 110	ECDO11002K	01X403503	•	•	•							•			•		
DO 110	ECDO11001K	01X403502	•	•		•						•			•		
DO 6+	ECDO602PLUSK	01X370113	•	•			•					•					•
DO 6+	ECDO601PLUSK	01X370114	•	•				•				•					•

Replacement Electrodes

Used With	Description	Order Code	Part No.
DO 600 / DO 300 / DO 110	Galvanic Dissolved Oxygen electrode, ATC, 7.6 m cable with 1 assembled membrane cap housing, 1 refilling electrolyte & 1 scouring pad	ECDOHANDY8M	01X239606
DO 600 / DO 300 / DO 110	Galvanic Dissolved Oxygen electrode, ATC, 3 m cable with 1 assembled membrane cap housing, 1 refilling electrolyte & 1 scouring pad	ECDOHANDYNEW	01X239601
DO 6+	Galvanic Dissolved Oxygen electrode, ATC, 3 m cable with 2 assembled membrane cap housing, 1 refilling electrolyte & 1 scouring pad	ECDO6HANDY3M	01X233916
DO 6+	Galvanic Dissolved Oxygen electrode, ATC, 0.9 m cable 2 assembled membrane cap housing, 1 refilling electrolyte & 1 scouring pad	DO6HANDY	01X233913
DO 600	CyberScan DO 600 series carry kit set – plastic carry case, 4 empty sample bottles (60 ml)	ECWP600DRYKIT	01X430203
DO 600	100 / 240 VAC SMPS power adapter, 9 V, 6 W, centre +ve, with US / UK / EUR / Japan plug	01X030132	01X030132
DO 600	RS232C (LED) interface adapter	91100-85	01X344202
DO 600 / DO 300 / DO 110 / DO 6	DO refilling electrolyte (60 ml)	01X211226	01X211226
DO 300 / DO 110	CyberScan neutral carry kit set – plastic carry case, 4 empty sample bottles (60 ml)	ECWPDYKIT	01X266804
DO 300 / DO 110	Carry pouch for CyberScan handheld	ECPOUCH02	56X201400
DO 110	100 / 240 VAC SMPS power adapter, 9 V, 6 W, centre +ve, with US / UK / EUR / Japan plug	60X030130	60X030130
DO 110	RS232C communication cable – 9-pin male to 9-pin female connector, 1 m cable	ECCA02M09F09	30X219503
ECDOHANDYNEW / ECDOHANDY8M	Assembled membrane cap housing	15X241402	15X241402
ECDOHANDYNEW / ECDOHANDY8M	Membranes & o-rings (pack of 5 units)	01X241603	01X241603
ECDOHANDYNEW	Tool for membrane housing	15X241502	15X241502
DO6HANDY / ECDO6HANDY3M	Assembled membrane cap housing	01X241608	01X241608

<< Laboratories



<< Industrial Process Systems



<< Fish Ponds



DO 2700
Dissolved Oxygen/BOD/°C/°F

Designed for optimal performance and versatility, the DO 2700 come with intuitive, advance set-up options for extensive user-customization at an affordable price! Meter comes with self-stirring probe and bi-directional RS232 – ideal for BOD and other Dissolved Oxygen applications in the laboratory.



Built-in barometer automatically adjusts for most accurate readings



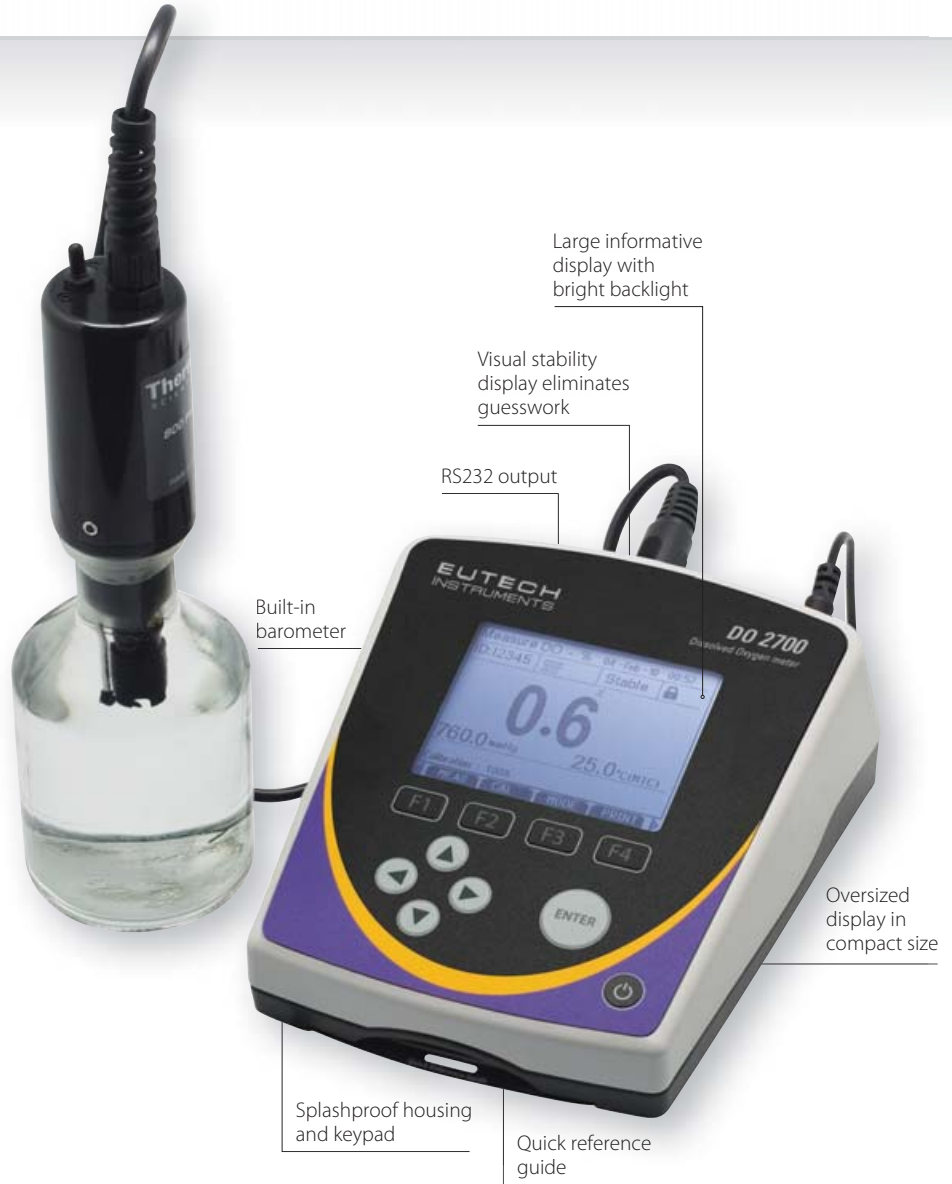
Stability display – faded out and then turns completely black when stable



Non-skid foot pads



Download the latest software from our website



Applications

- Environmental studies • Wastewater and water treatment • Ecological studies
- Education institution

- Measures Dissolved Oxygen in % saturation, ppm, mg/L at $\pm 0.5\%$ full scale accuracy
- Automatic calibration at 100 % and independent 0 % – greater measurement sensitivity during low oxygen levels
- Accurate readings in varying conditions with Temperature, Salinity and Barometric Pressure Compensation
- Non-volatile memory holds up to 500 data points – time and date-stamped for GLP compliance
- Bi-directional RS232 for easy data transfer to computer
- Cal-due alarm – no more out-dated calibrations!
- Auto-logging function for convenient continuous monitoring
- Limit alarm alerts when reading falls out of range
- Password protection for setup and calibration



DO 700

Dissolved Oxygen/°C/°F

Economical, user-friendly and accurate, the Eutech DO 700 is your ideal choice for routine applications in laboratories, production plants and schools.



DO
Economy Bench



Larger display



Electrode arm can be used on either side



Splashproof keypad



Quick reference guide



- Dissolved Oxygen measurements in ppm, mg/L or % saturation
- Accurate readings in varying conditions with Temperature, Salinity and Barometric Pressure Compensation
- Large, comprehensive screen that displays readings, calibration points and electrode indicator
- Ready indicator alerts when readings are stable
- Push button calibration
- Non-volatile memory holds up to 100 data points
- Integral electrode holder

Electrode arm and bracket available as separate accessory (order code: 01X321801) – please refer to page 106



Applications

- Environmental studies • Wastewater and water treatment • Ecological studies
- Education institution

Models		Deluxe Bench DO 2700	Economy Bench DO 700
Dissolved Oxygen Bench Meters Specifications			
Measuring Parameter		Dissolved Oxygen / BOD / °C / °F	
Highlights		Graphic LCD with backlight & extensive display	
Dissolved Oxygen	Range	0.00 to 50.00 mg/L	0 to 30 mg/L
	Resolution	0.01 mg/L	0.01 mg/L
	Accuracy	±0.5 % full scale	
% Saturation of Oxygen	Range	0 to 600.0 %	0 to 199.9 % ; 300 %
	Resolution	0.1 %	
	Accuracy	±0.5 % full scale	
Temperature	Range	15 to 35 °C with supplied probe	0.0 to 50.0 °C / 32.0 to 122.0 °F
	Resolution	0.1 °C / 0.1 °F	
	Accuracy	±0.3 °C / ±0.5 °F	
Salinity Correction	Range	0 to 50.0 ppt	0 to 50 ppt
	Resolution	0.1 ppt	
Barometric Pressure Correction	Range	450 to 825 mmHg (automatic)	450 to 825 mmHg (manual)
	Resolution	1 mmHg	
Meter Features	Method	Automatic correction with built-in sensor	Auto correction with manual input
	Temperature Compensation	ATC / MTC (0 to 50 °C)	
	GLP	Yes	-
	Datalogging	Yes	
	Memory	500 data sets	100 data sets
	Operating Temperature	5.0 to 45.0 °C / 41.0 to 113.0 °F	
	LCD Display	Graphic LCD with backlight (5.9 x 7.8 cm)	Custom dual-display LCD (5.6 x 7.5 cm)
	Input	DC socket, 8-pin connector, RS232	
	Output	RS232	-
	Power	9 V DC adapter, 1.3 A (100 / 240 VAC, SMPS)	
Dimensions (LxWxH); Weight	Meter	17.5 x 15.5 x 6.9 cm ; 650 g	
	Boxed	30.8 x 23.5 x 12.4 cm ; 1800 g	

Dissolved Oxygen Bench Meters								
Item	Order Code	Part No.	Parameters			Electrodes	Accessories	
			Dissolved Oxygen	BOD	Temperature	Self-Stirring Dissolved Oxygen / BOD Electrode (EC620SSP)	Galvanic Dissolved Oxygen Electrode (DO6HANDY)	RS232 Cable (30X427301)
DO 2700	ECDO270042	01X543907	•	•	•	•	•	•
DO 700	ECDO70042S	01X543501	•		•	•		•

Replacement Electrodes & Accessories			
Used With	Description	Order Code	Part No.
DO 2700	Dissolved Oxygen / BOD electrode with self-stirring mechanism, 1 m cable	EC620SSP	01X295704
DO 700	Galvanic Dissolved Oxygen electrode, ATC, 0.9 m cable 2 assembled membrane cap housing, 1 refilling electrolyte & 1 scouring pad	DO6HANDY	01X233913
DO 2700	RS232 to USB cable – use with 30X427301 cable to connect 2700 to USB port of PC	30X544601	30X544601
DO 2700	6 assembled membrane caps & electrolyte solution (20 ml)	EC637DOM	01X241607
DO 2700	100 / 240 VAC SMPS power adapter, 9 V, 6 W	60X426401	60X426401
DO 700	100 / 240 VAC SMPS power adapter, 9 V, 6 W	60X030130	60X030130