



# “BOD self-check measurement”/ Respiration/ Biogas Determination

With OxiTop® and OxiTop® Control

### Mercury-free measurement

Biochemical oxygen demand BOD determination is still one of the most important parameters in water resource management. It can be used to evaluate the impact of biodegradable substances in waters and wastewater. With its OxiTop® systems, WTW offers a unique, modular and mercury-free instrument system. It is not only suitable for BOD determination, but also for measuring biodegradability and depletion.

The advantages of OxiTop® and OxiTop® Control: simple operation, improved controllability and non-toxicity, and measuring ranges of up to 400 000 mg/l BOD (with OxiTop® Control OC 110). As the measured pressure is automatically converted the values can be directly read as mg/l BOD.

- Undiluted samples
- AutoTemp function for delayed start of cold samples
- Non-volatile memory of measured values

## Application Range

	OxiTop®	OxiTop® Control OC 100	OxiTop® 110
Application	BOD routine	BOD routine, BOD standard	BOD routine, standard and BOD special, Respiration/Dilution, Soil respiration, Biodegradability, Biogas determination
BOD range	0 – 4,000 mg/l	0 – 4,000 mg/l	0 – 400,000 mg/l
Measured value memory	5 days	0.5 h – 99 days	0.5 h – 99 days
Pressure mode	—	—	Pressure p 500 – 1.350 hPa
Sample volume	Fixed	Fixed	Definable

### OxiTop® Complete Sets for 6 or 12 Measuring Vessels

The complete packages have been assembled so that they contain everything necessary to carry out the measurements. The make up of each package depends on the application and varies by number of vessels, controllers and utensils for sample preparation.

Special stirring platforms were developed in order to maintain a constant temperature and guarantee optimum oxygen distribution in the sample. These stirrer platforms have space for either 6 or 12 standard bottles or 6 large vessels for special applications.

#### Applicable systems

- **BOD**  
OxiTop® IS 6 / IS 12  
OxiTop® Control 6/12
- **Soil respiration**  
OxiTop® Control B6M / B6
- **OECD / aerobic applications**  
OxiTop® Control A6 / A12  
OxiTop® Control S6 / S12
- **Biogas determination**  
OxiTop® Control AN 6 / AN 12
- **Microbial applications**  
OxiTop® Control AN 6 / AN 12  
OxiTop® Control A6 / A12

### Composition of complete packages



Accessories	OxiTop®		OxiTop® Control			
	IS 6 / IS 12	6 / 12	B6 / B6M / B6M 2.5	A6 / A12	S6 / S12	AN6 / AN12
Vessel with measuring head connection	Amber bottle, 510 ml with rubber sleeve	Amber bottle, 510 ml with rubber sleeve	Duran bottle 500 ml / 1,0 l vessel / 2.5 l vessel; with adapter	1000 ml vessel/ 250 ml vessel with adapter	Amber bottle, 510 ml with rubber sleeve	1000 ml vessel/ 250 ml vessel
Number	6 / 12	6 / 12	6 / 6 / 6	6 / 12	6 / 12	6 / 12
Measuring heads	OxiTop®	OxiTop®-C	OxiTop®-C	OxiTop®-C	OxiTop®-C	OxiTop®-C
Stirrer	IS 6/IS 12	IS 6/IS 12	—	IS 6-Var/IS 12	IS 6/IS 12	IS 6-Var/IS 12
Controller	—	OC 100	OC 110	OC 110	OC 110	OC 110
Software + Cable	—	—	●	●	●	●
CO <sub>2</sub> absorbent	●	●	●	●	●	●
Nitrification inhibitor	●	●	—	●	●	●
Overflow measuring flask	164 / 432 ml	164 / 432 ml	—	—	—	—
Stirrer bars	6/12	6/12	—	6/12	6/12	6/12
Stirrer bar remover	●	●	—	●	●	●
Blocks of chart paper	●	●	—	—	—	—

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## BOD self-check measurement

- High-precision
- 5-day automatic storage of measured values
- Mobile
- Extendable

### Technical Data

	OxiTop® measuring head
Measuring principle	Manometric with pressure sensor
Quantity measured	BOD <sub>n</sub>
Measuring range	0 ... 40 digits (display units) equals 0 ... 40 / 80 / 200 / 400 / 800 / 2000 / 4000 mg/L BOD
Display accuracy	±1 digit (± 3.55 hPa)
Operating range	500 - 1100 hPa
Memory	For BOD <sub>5</sub> : 1 per day
Ambient temperature	Storage: -13 ... 149 °F (-25 ... +65 °C) Operations: 41 ... 122 °F (+5 ... +50 °C)
Dimensions	H: 2.7 in (69 mm), Ø 2.8 in (70 mm)

## OxiTop® IS 6, IS 12

### Complete packages for 6 or 12 simultaneous measurements

Measurement using OxiTop® is based on pressure measurement in a closed system: microorganisms in the sample consume the oxygen and form CO<sub>2</sub>. This is absorbed by NaOH, creating a vacuum which can be read directly as a measured value in mg/l BOD.

The used sample volume regulates the amount of oxygen available for a complete BOD. Measurement ranges of up to 4,000 mg/l can be measured using different volumes.

The OxiTop® heads (green and yellow for differentiation of inflow/outflow) have an **AutoTemp function**: if the sample temperature is too cold, the start of measurement is automatically delayed (by at least 1 hour) until a constant temperature has been reached.

Apart from the **automatic** storage of 5 measured values (1 value per day), further measured values can be read at all times during or after the period of 5 days, which permits the tracking of check values or measurements over longer periods.



CE UL CUL 1 Year Warranty

OxiTop® IS 12

## Ordering Information

		Order No.
OxiTop® IS 6	Complete package, ready for use, for 6 simultaneous measurements, with IS 6 Inductive Stirring System, for mains operation 230 V / 50/60 Hz and 6 OxiTop® measuring systems, including accessories	208 210
OxiTop® IS 12-6	Complete package, ready for use, for 6 simultaneous measurements (extendable to 12 simultaneous measurements), with IS 12 Inductive Stirring System, for mains operation 230 V / 50/60 Hz and 6 OxiTop® measuring systems, including accessories	208 212
OxiTop® IS 12	Complete package, ready for use, for 12 simultaneous measurements, with IS 12 Inductive Stirring System, for mains operation 230 V / 50/60 Hz and 12 OxiTop® measuring systems, including accessories	208 211

Note: versions for 120 VAC/60 Hz see brochure "Product Details"

## Thermostat Cabinets



- Versatile
- Powerful
- Inexpensive

To incubate samples at a constant, desired temperature during the reaction period, a thermostat cabinet is necessary. WTW offers thermostat cabinets in various sizes with a variably adjustable temperature range of 50 °F - 104 °F (10 °C - 40 °C) and a power supply of 230 V/50 Hz. Temperature accuracy lies at ±1 °C deviation from the set temperature.

As the samples must be additionally stirred the thermostat cabinets are fitted with internal sockets to provide the stirrers with electricity. 2 – 4 shelves are available, according to the thermostat cabinet size, thus enabling simultaneous thermostating of up to 48 standard BOD samples, or equipping with 4 IS 12 or IS 6-Var stirrer platforms.

The largest model TS 1006-i is especially suited for special applications, as the compartment height between the 4 shelves leaves enough space for 1.5 l vessels or flasks with side nozzles.

The sizes TS 606/2-i aTS 606/4-i are available with transparent insulating glass doors and especially suited for use in combination with the OxiTop® Control system, as data can be called up through the closed glass door. This has the advantage that temperature fluctuations caused by opening the door can be avoided.

## Technical Data

	TS 606/2-i	TS 606/3-i	TS 606/4-i	TS 1006-i
Shelves	2	3	4	4 widely spaced
Number of samples	2 x 12 BOD Standard	3 x 12 BOD Standard	4 x 12 BOD Standard	4 x 12 BOD Standard 4 x 6 special vessels
Glass door	Optional	—	Optional	—
Temp. control range	50 °F ... 104 °F (+10 °C ... +40 °C) ±1 K; Adjustment interval: 1 °C			
Ambient temperature	Operation: 50 °F ... 89.6 °F (+10 °C ... +32 °C) (Climate class SN); Storage: -13 °F ... 149 °F (-25 °C ... +65 °C)			
Gross contents	180 l	260 l	360 l	500 l
Dimensions outside: (H x B x D in mm) inside:	850 x 602 x 600 734 x 513 x 433	1215 x 602 x 600 1047 x 513 x 433	1589 x 602 x 600 1418 x 513 x 433	1515 x 755 x 715 1338 x 646 x 516
Weight	37 kg	45 kg	50 kg	72 kg

## Ordering Information

BOD thermostat cabinets – only available for 230 V/50 Hz		Order No.
TS 606/2-i	Thermostat cabinet for 2 BOD OxiTop® systems	208 380
TS 606/3-i	Thermostat cabinet for 3 BOD OxiTop® systems	208 382
TS 606/4-i	Thermostat cabinet for 4 BOD OxiTop® systems	208 383
TS 1006-i	Thermostat cabinet for 4 BOD OxiTop® systems	208 385
Other thermostat cabinet see brochure "Product Details"		