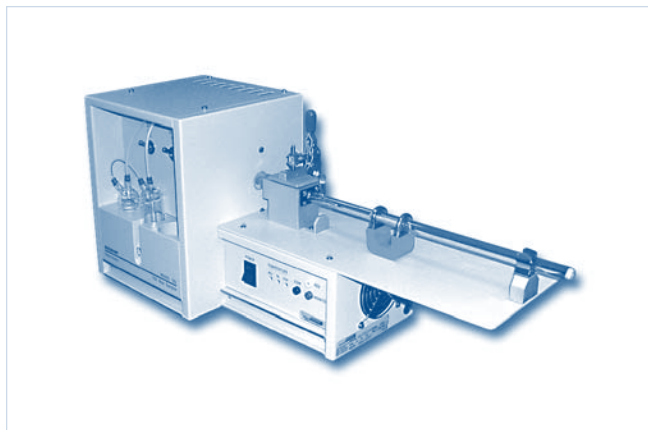


## Model 183 TOC Boat Sampler



- **Rapid TOC analysis of solids and non-syringeable liquids**
- **Simple, low cost operation**
- **Compact and transportable**
- **Optional carbon range extension kit**

### APPLICATIONS

#### Wastewater Treatment

Influent, partially processed wastewater, sludges

#### Waste Disposal Clean-up Sites

Soil analysis

#### Agriculture, Forestry

Soil nutrient loading

#### Mineral Exploration

Soil and rock analysis

#### Metals

Determination of surface carbon

#### Atmospheric Research

Determination of carbon on fiberglass filters

### FEATURES

The Teledyne Tekmar 183 Boat Sampler is an ideal add-on to Teledyne Tekmar's line of Total Organic Carbon analyzers. Integrated with the **Apollo 9000** or **Phoenix 8000** analyzers, the 183 TOC Boat Sampler uses a high-temperature oxidation method for rapid analyses of:

- Soils
- Sediments
- Sludges
- Particulate-laden liquids
- Hard-to-oxidize samples

The flip-top hatch inlet, manual boat advance and high temperature combustion tube provide for simple and reliable operation. Designed for the laboratory, the Boat Sampler is light, compact and requires a minimum of bench space.

The optional Carbon Range Extension Kit increases the upper range capacity of the boat sampler to 8% of carbon based on a 10 mg sample. This added feature allows the user to measure larger quantities of solids and sludge samples without incurring over-range problems.

### METHOD OF OPERATION

Total Carbon (TC) is measured by direct injection of sample without pretreatment. TOC is measured by sparging off the inorganic carbon (IC) from the acidified sample before injection, using the sparging station built into the instrument.

IC is measured by injecting the water sample into a special vessel containing acidified water; the CO<sub>2</sub> produced is swept to the analyzer's detector module and measured.

Syringeable samples are injected directly into the platinum sample boat. Non-syringeable samples, such as slurries and particle-laden liquids, are injected through the same removable septum port using a positive-displacement micropipette. Solid samples are weighed into the removable boat, which is readily accessible through the hatch-covered port. The boat is manually advanced into the furnace, where the sample is combusted at 800°C\* in a stream of oxygen.

\* Furnace temperature is adjustable up to 1000°C.

## SPECIFICATIONS

<b>Sample Volume:</b>	5 to 40 µL, for TOC, TC (up to 1000 µL for IC)	
<b>Analysis time:</b>	2 to 8 minutes	
<b>Standard range: *</b>	TC:	4 ppm to 1.5%
	IC:	0.1 ppm to 1.5%
	TOC:	4 ppm to 1.5%
<b>Range with Carbon Range Extension Kit: *</b>	TC:	4 ppm to 8%
	IC:	0.1 ppm to 8%
	TOC:	4 ppm to 8%
<b>Precision: *</b>	TC:	± 2 ppm or ± 2% RSD <sup>†</sup>
	IC:	± 0.04 ppm or ± 2% RSD <sup>†</sup>
	TOC:	± 2 ppm or ± 2% RSD <sup>†</sup>

Compact and simple, the Model 183 TOC Boat Sampler is designed for years of easy operation and simple maintenance. The system is available with comprehensive installation and a full warranty covering parts and labor. Teledyne Tekmar has the quality assurance of ISO 9001 certification, technical support and world-wide service and sales network to respond to your needs. We have been serving the analytical laboratory industry with elemental analysis for over 30 years. Our mission is to provide the highest quality instrumentation, service, and support for our customers anywhere in the world.

### Solid Samples

<b>Sample weight:</b>	10 to 100 mg	
<b>Analysis time:</b>	2 to 8 minutes	
<b>Standard range: *</b>	TC:	0.5 µg to 160 µg
	IC:	0.5 µg to 800 µg
<b>Range with Carbon Range Extension Kit: *</b>	TC:	0.5 µg to 800 µg
	IC:	0.5 µg to 800 µg
<b>Precision: *</b>	TC:	± 0.2 µg or ± 2% <sup>†</sup>
<b>Dimensions:</b>	24 in (w) x 9 in (d) x 11 in (h)	
	63 cm (w) x 23 cm (d) x 28 cm (h)	
<b>Weight:</b>	20 lbs (9 Kg)	

### Utility Requirements

<b>Power:</b>	115 VAC (90 to 132 V) 50 or 60 Hz, 100 VA (Must be clean, stable and surge-protected)
	3A step-down transformer required for 230 VAC operation)
<b>Gas:</b>	Oxygen or air, 99.8%, less than 20 ppm CO <sub>2</sub> ; less than 1 ppm hydrocarbon, at 30 psig (207 kPa)

\* Analytical performance is affected by reagent and gas purity, sample container cleanliness, sample matrix, and operator skill.

† Whichever is greater; one standard deviation instrument contribution.