

## ENGINEERING SPECIFICATIONS: TOC Systems ON-LINE ULTRA-PURE TOC

<b>Model/Name</b>	<b>StarTOC ON-LINE Ultra-Pure Analyzer</b>	<b>Notes</b>
<b>Analysis Method</b>	Ultra-Pure/Non-Dispersive Infrared (NDIR) CO <sub>2</sub> Detection	
<b>Possible Analytes Measured</b>	Total Organic Carbon; Total Carbon; Total Inorganic Carbon; Non-Purgeable Organic Carbon; TOC-True (including purgeable Organics)	
<b>Detector Type (CO<sub>2</sub>)</b>	NDIR (solid state; no moving parts; computer-controlled; non-reflective sample cell-impervious to corrosion and guaranteed for 5 years)	
<b>Control/Data Handling</b>	Industrial Microsoft Windows CE Computer, Touch Screen, Paperless Chart Recorder	

<b>Sample Introduction</b>	Digital Injection	
<b>Measurement Specifications</b>		
Measurement Ranges (ppb)	1000 10,000	
Accuracy/Repeatability (%)	3% of Full Scale or +/-40ppb whichever is greater	
Carrier Gas Flow (mL/min.)	300 mL/max - Computer Controlled Mass Flow Controller CO <sub>2</sub> & HC - FREE AIR, OR O <sub>2</sub> 15 +/- 2 PSI	Bottled Gas Supply Preferred
Average Analysis/Response Time (minutes) Including TIC	8-12	
<b>Outputs</b>	RS-232 RS-485(option) 4-20 mA TOC Output Additional 4-20 mA TOC Output available as option Alarm Relays (3) 2 Level Alarms 1 Malfunction Alarm Loss of Carrier  Out of Service Signal (when unit in calibration or validation check)	

Display	Flat Panel Color Paperless Chart Recorder	
Data Storage	Internal Memory	
<b>Sample Requirements</b>		
Temperature Range	4° - 90°C 40° - 194° F	TOC Systems offers cooler for higher temperatures
Sample flow rate	20 mL/min	Fast by-pass loop suggested
Inlet pressure	0-0.5 psi	
Sample Drain	gravity/air break	
<b>UTILITIES Required</b>		
Power:	100/240 VAC 50/60 HZ. 15 Amp Service	
Carrier Gas	CO <sub>2</sub> & HC - free air or O <sub>2</sub> (300 mL/minute-max.); 15 +/- 2 PSI	
Reagents	Phosphoric Acid Calibration Standards D.I. Water Sodium Persulfate	
<b>Environment</b>	Operating Temperature:10° - 50°C 50° - 122°F	
<b>Construction</b>		
Enclosure	Dual Compartment FRP Cabinet	
Dimensions (HXWXD)	36 x 24 x 12 (in)	
Mounting	Rack or Wall Mount	

Weight	34 Kg 75 Lbs	
<b>Area Classification Option</b>	NEMA - 4, IP 65 Enclosure	
<b>Compliance/Certification</b>	EPA Methods	
<b>Conformity</b>	Complying with all International Standards, such as: DIN-EN 1484, DIN-ENV 12260, DIN 38409-H3, ISO 8245, Standard Method 5310B, Standard Method 5310C, Standard Method 5310D, USEPA 415, USEPA 9060, ASTM D5173, EN 13137	
<b>General Features</b>	Historical Data/Time and Date Stamped	
<b>Options</b>	Multi-Stream Analysis  Auto-Calibration Auto-Validation Auto-Cleaning  <b>TOC Systems also offers custom options.</b>	User to specify number of streams

(All performance specifications have been verified in a controlled laboratory environment. Actual field performance may vary with application measuring range and detection limits depend on the method, injection volume, vessel purity, chemicals and gases used, and the qualification of the operators.)