MICROMAC C CompacTOC
On line batch analyzer for water and wastewater TOC monitoring

Micromac CompacTOC analyzer has been designed for the automatic measurement of total organic carbon in water, on different types of matrix.

The analyzer measures Total Organic Carbon in liquid samples using the EPA approved method based on UV persulfate oxidation and detection of generated carbon dioxide using a Non Dispersive Infrared Analyzer. This method also meets requirements of European ISO/CEN guidelines. The analyzer provides measures on liquid samples ranging from 0-20 mg/l to 0-1000 mg/l. The analyzer is conformed to EPA, DIN, CE, ASTM, NAMUR regulations.

Main applications: industrial wastewater; industrial effluents; laboratory; effluent and influent monitoring; boiler feed water; condensate and cooling water; drinking water; surface water.

Designed for industrial and environmental on-line applications ensures the highest level of robustness in the electronics, mechanics and hydraulics components: long autonomy, low maintenance, low operating cost.

- **Self cleaning**
  An autoclean function is performed at the end of each analysis cleaning the hydraulic circuit.
- **GSM option**
  It is possible to integrate in the analyzer a GSM module for the remote control of the analyzer: the operator receives SMS message including date, hour, measured values, alarms an other functional parameters.

BUILT-IN INTERNAL AIR-GENERATOR

An internal air compressor produces the carrier gas for oxidation and detection stages. The air is purified with an internal soda lime filter. Using this equipment there is no need of external air treatment system and compressor air as requested utility, like traditional analyzers.

DIGITAL FLOWMETER

The carrier gas flow is controlled by a digital flowmeter. The flow expressed in cc/min is displayed and controlled by the analyzers. In case of non correct values (leakage or blockage), the analyzer stops automatically and displays a fault alarm “gas reactor fail”.

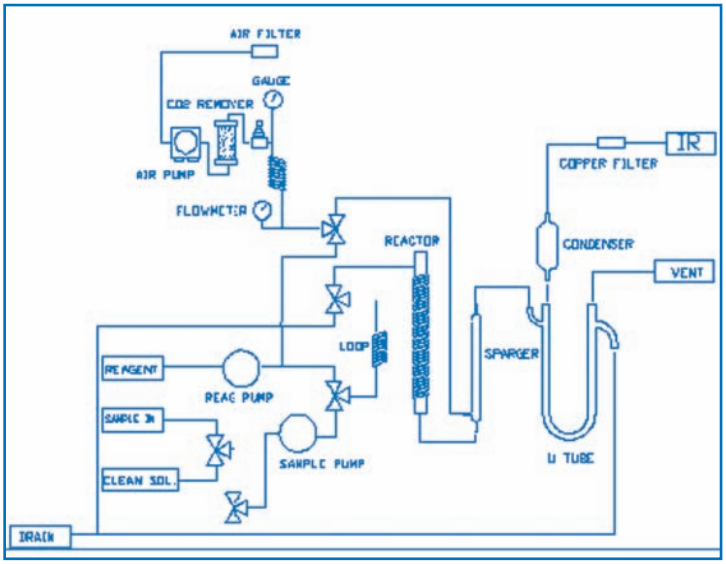
FEATURES AND BENEFITS

- Compact, transportable easy to relocate or install on a mobile lab.
- Fast response, high precision and repeatability.
- High stability NDIR detector.
- Batch analysis with programmable measuring frequency.
- LCD touchscreen display ensures easy operation.
- Long autonomy; low maintenance, low operating cost.
- Low reagent consumption.
- 12 Vcc powered option.

SYSTEA

Measuring principle and hydraulics diagram

The sample is pumped with a peristaltic pump in the analyzer; the sample volume is determined with an internal loop. The reagent, composed of sulphuric acid and sodium persulfate, is added to the sample by a micropulse pump. The first phase of the analysis is the TIC measurement: the sample mixed with the reagent is pumped in the sparger, this converts the inorganic carbon to CO2. This CO2 is measured by the IR detector and the TIC peak is displayed on the analyzer. The inorganic-free sample is pumped back in the UV reactor; the reactor temperature during the oxydation is 80°C. Sodium persulfate, UV lamp and temperature promote the oxydation of the sample. The recovery time of the sample in the reactor is settable by the user. After the oxidation, the sample is pumped into the sparger; the CO2 is again removed from the sample and measured by the IR detector. The TOC peak is displayed and measured by the analyzer. At the end, the analyzer runs an autocleaning cycle.



Technical specifications

Measuring principle: Total Organic Carbon (TOC) measurement with TIC removal by acidification and spargine, sodium persulfate UV promoted oxidation, CO2 detection by non dispersive infrared analyzer (NDIR)
Measurement type: batch analysis, programmable frequency
Measuring time: 8 minutes (depending on range)
Measuring Range: 0-20/50 mg/L; from 0-30 mg/L up to 1.000 mg/l
Detection limit: 0.2 mg/L;
Repeatability & Accuracy: +/- 2% of the full scale
Drift: < 2% of the full scale with automatic validation
Autocalibration: selectable through a dedicate peristaltic pump
Power: Compactoc :220 Vac – 115 Vac Compactoc LV: 12 Vdc
Operating Temperature: 5 °C - 40 °C
Sample and waste delivery: pressure free
Allarms: 2 SPDT contacts for measurements alarm and fault alarm
Reagents Consumption: 10L / 15 days
Carrier gas: Air purifier integrated, supplied by an internal compressor
Output signal: 4-20 mA, optically isolated, for measurement data RS232 output for printer or data logger
Weight: 25 kg (without reagent bottle);
Dimension: 210 x 600 x 380 mm (HxWxD)

Subject to change without notice

SYSTEA S.p.A.
HEADQUARTER AND MANUFACTURING FACILITY:
VIA PADUNI, 2/A - 03012 ANAGNI (FR) - ITALY
TEL: +39-0775-776058 FAX: +39-0775-772204
A member of Consorzio NDI
Web Site: http://www.systea.it Email: info@systea.it

Document ID: MicCompacTOC-03_E