CESA 40 TOC

Wirbel Laborgeräte

Computer Controlled Rapid Determinator CESA 40 TOC with 20-time automatic sample transfer was designed for quick and easy determination of **TOC / DOC, TIC and TC** in water, sea-water, industry-water, sediments, sewage mud, dirt, compost, dust, garbage and other material.

- High solid state infrared system
- IBM-compatible PC incl. Multiscan Colormonitor and printer
- High temperature furnace (0° C - 1550° C) incl. physics, patented auto sample transfer unit and electronic balance
- Individual measure range
- Made in Germany
- 1 year warranty
- Definitely worth the call

SPECIFICATIONS OF THE CESA 40 TOC

Measuring range:	0 - 6 % C, 0 - 10 mg C/m2 by weight 0,5 g		
Solution:	0,0001 %		
Accuracy:	+- 1 % for most samples		
Analysis time:	60 - 90 sec., depending on sample		
Gas required:	Oxygene 99,5 %		
Pressure:	approx. 2 bar		
Gas flow:	approx. 2 l/min		
Electric power:	220 V / 50 - 60 Hz / 16 A / 6 A		
Furnace			
Temperature range:	0° C to1550° C		
Solution:	1° C		
Display:	Digital		
Chemical			
H2O Absorber:	Magnesium perchlorat		
Dust trap:	Quarzwool		
Dimensions			
Computer:	width: 57 cm	height: 17 cm	depth: 44 cm
Furnace and physics:	width: 80 cm	height: 36 cm	depth: 45 cm
Weight			
Computer:	approx. 24 kg		
Furnace and physics:	approx. 18 kg		

Short Description Rapid Computer Controlled Determinator CESA 40 TOC

With this Computer Controlled Elementary Determinator CESA 40 TOC with up to 20-times automatic Sample transfer you can get quick and reliable determinations of **TOC / DOC, TIC and TC** in organic and inorganic materials like pure water, drinking water, surface water, ocean water, sewage, swimming pool water, chemical industries water, purification plants water, breweries water, in sewage sludge, sediments, waste, compost, and seil.

Easy Operation allows you to operate this computer by semi-skilled workpersons.

With the help of your Computer Controlled Determinator you can get quick and reliable determination. Industrial production processes are becoming more and more automated. The features of this modern Determinator are an IBM-compatible Computer with color-monitor and printer, electronic balance, and maintenance physics (Infrared-measuringesystem) with up to 20-time automatic Sample transfer.

Operation and Analysis of TOC / DOC, TIC and TC

TOC is the sum of organic bound carbon in solved and unsolved organic compounds. DOC is the sum of carbon contained in solved organic compounds. (0.45 ~m filtered).

Insert your TOC-samples #1 up to #20 in a ceramic boat and place them on the balance. The computer keeps the weight and other parameters in memory. Insert the ceramic boat into the sample carousel. You also can use glazed ceramic boats. All samples are combusted individual at temperatures of 600 - 1000 °C in a quartztube. After the water is steamed suddenly and the contained carbon is burned, the combustion-gases are fed to a peltiercooler, a catalyst, to absorption traps and to the infrared measuring system- The infrared measuring system sends an electric signal to the Computer. The peak area integral of the C02-signal is direct proportional to the TOC-value. The contained carbon from carbonide, bicarbonide or solved carbondioxide in the water samples are seized by the Oxidation with TOC and the sum is TC. With gas venting'of TIC in an acid milieu you can determine the TOC value by substracting TC minus TIC. This is only valid, if the TOC- and the TIC-concentration is nearly of the saure value.

The determination of TTC is the saure with the adding of phosphoric acid at a temperature of ca. 200 °C in the quartztube. The set free carbonides are also measured by the infrared system. Is the TIC-value higher than the TOC-value, you have to dissolve TIC by aciding and gas venting. Then you can determine TOC directly.

To determine DOC , you have to remove anorganic bound carbon from the sample by aciding and stripping. Operation and analysis is as before.

At the end of every cycle the pneumatic-cylinder will throw out the ceramic boat. All importantes parameters like combustion-gasflow, combustions-curve, results, time, the name of the Operator etc., will show up on the color monitor and will also be saved to the hard-disc. There is a graphic printer connected to the system for printing the results.

The system is measuring continuosly during every cycle.
One cycle from start of analysis to the end is approx. 90 seconds.

The maintenance of the traps, combustion-tube and the filters need little Service.

Technical data may change. There is patent pending for the auto-sample-loader-unit.
by Wirbel Laborgeräte.