



INDIAN INSTITUTE OF TECHNOLOGY BOMBAY

MATERIALS MANAGEMENT DIVISION

Powai, Mumbai - 400076

Ref No. (PR No. 1000037302)

(Rfx No. 6100001768)

Technical Specification for Total Organic Carbon Analyser for automated analysis of Liquid and solid samples (Qty- 01)

Sr. No.	Content	Specification	Compliance (Yes/No)	Remark
1	Detection method for TOC	Detection method for TOC: Wide range non-dispersive		
2	The Analyser	The analyser should be suitable for TOC analysis in environmental samples such as solid (soil, sediment, sludge etc) as well as liquid (water, wastewater, seawater, process water, industrial effluents) samples without any additional attachments.		
3	Measurement modes	Fully PC controlled automated TOC analyser for measurement of TOC, TIC, TC and TNb in liquids and TOC, TC in solids.		
4	Infrared	Infrared (NDIR) with extreme linearity over the whole working range		
5	Sample introduction	By automatic suction through PC controlled syringe (manual injection by syringe is not acceptable)		
6.	Auto sampler	Should provide auto sampler for liquid as well as solid samples. Minimum 40 positions or more for both liquids & solids.		
	Oxidation method	High temperature combustion at		

7.		minimum 900°C and up to 1200 °C or more to ensure complete combustion of all type of sample matrix.		
8	Analytical range	<ul style="list-style-type: none"> i) TOC (liquid): 30 ppb – 30,000 ppm Carbon or above – without sample dilution ii) TNb: 5ppb – 100ppm or better – without sample dilution iii) TOC (Solid): 0-100% at 10mg sample or better 		
9.	Sample weight range	Solid sample up to 500 mg or more		
10.	Liquid samples	From 0.1 to 2 mL		
11	Handle Liquid Samples	Provision to handle liquid samples without any particle size restriction of 700 micron		
12	Leak Check	Provision for Automatic leak check		
13	Calibration	Automatic calibration from one stock solution by means of different injection volumes		
14	Analysis time per sample	Analysis time per sample less than or equal to 10 mins		
15	Provision for simultaneous TOC/TNb determination	Provision for simultaneous TOC/TNb determination in the entire measurement range for Liquid samples		
16	Analysing salt containing samples	The system should be capable of analysing salt containing samples		

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17.	Analysing salt containing samples	The system should be capable of analysing salt containing samples	
18	Consumables items	Set of consumables for approx. 1000 liquid samples TOC and Set of consumables for approx. 1000 solid samples TOC.	
19	Carrier gas	1 UHP grade Synthetic air / Oxygen cylinder with 2 stage SS regulator should be quoted.	
20	Instrument control and data collection	Instrument control and data collection through windows-based software with LIMS possibility	
21	Instrument should be supplied along with computer	Instrument should be supplied along with computer (processor: CORE i3/i5 or better with LED monitor 21" or greater) & B/W laser printer of reputed brand. 1 TB Data Hard disk drive 7200 RPM, 8 GB 1600 MHz DDR3L RAM with 16 GB Min Expandability.	
22	Micro balance	Instrument should be supplied along with Mettler Micro balance, Model WXTS3DU with readability of 0.001mg	
22	Data	Multi point linear regression, automatic exclusion of results and recalculations, statistical calculation	
23	Warranty for furnace	Minimum 10-year free replaceable warranty for Furnace from the date of installation	
24	Warranty	Minimum whole instrument warranty should be 1 years from the date of installation that covers any manufacturing defect, design problem and electrical or electronic defect.	