050-6302042 :M
07-654-30204 :T
07-654-30206 :F

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Cat #	Specifications	Quantity
QbD1200	Laboratory Total Organic Carbon Analyzer Manufactor: **HACH, Germany**	1

Specifications

Accuracy:	± 2 %
Calibration Interval:	1 Year; Time to Calibrate 90 Minutes
Calibration Method:	Automated Routine: 18 Point Calibration Using KHP (6 Concentrations, 3 Replicates Each)
Carrier Gas Options:	CO_2 free Air, O_2, or N_2
Compliance Certifications:	USP <643> (including Sterile Water SST), JP-16 <2.59>, EP <2.2.44>, IP, CP, KP, US EPA 5310c and 415.3
Data Export:	PDF, CSV
Dimensions (H x W x D):	410 mm x 320 mm x 507 mm
Display Type:	10.4 inch Hi-Res Color Touch Screen
Inorganic Carbon Handling:	No extra Inorgainc Carbon Removal Module needed
Overload Recovery:	1 Measurement
Oxidation Method:	UV Lamp + Persulfate
Power Requirements (Hz):	47 - 63 Hz
Power Requirements (Voltage):	100/240 VAC
Precision:	3% or 3ppb, whichever is greater
Range:	0.4 ppb - 100 ppm
Sample to Sample Carryover:	<0.2%

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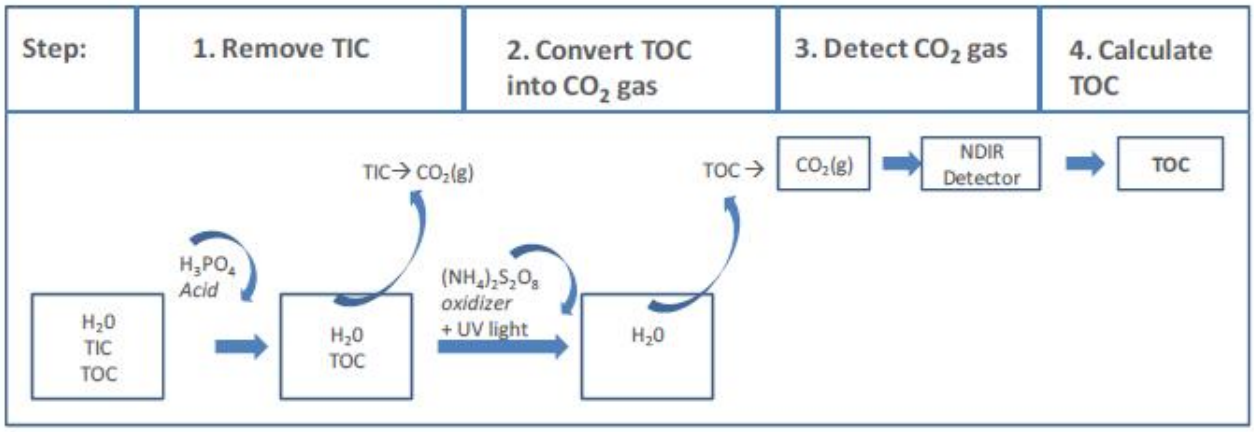
QbD1200 Method Overview

A water sample initially contains two types of carbon:

- Total Inorganic Carbon (TIC) *(from CO_2 gas dissolved in H_2O and dissolved carbonates in the water)*
- Total Organic Carbon (TOC) *(from organic species)*

To measure TOC, first remove TIC. Then convert organic species into CO_2 gas, measure the gas on detector, and convert the result into a TOC value.

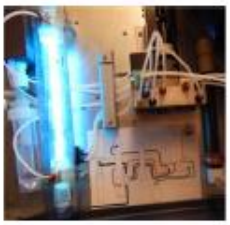
The Measurement Strategy:



Steps:

1. **Remove TIC.** In presence of acid H_3PO_4, all dissolved carbonates are converted into CO_2 gas. Blow carrier gas through reaction chamber to remove all CO_2 gas derived from inorganic carbon.
2. **Convert TOC into CO_2 gas.** In presence of UV light and powerful oxidizer $(NH_4)_2S_2O_8$, organic carbon species are converted into CO_2 gas by oxidation. Blow carrier gas through reaction chamber to push all CO_2 gas through NDIR detector (step 3).

UV lamp on →



3. **Detect CO_2 gas as it goes through NDIR detector.** TOC is quantified by integrating the area under the curve.

NDIR detector →

4. **Calculate TOC.** Based on instrument calibration, convert CO_2 gas signal (area under the curve) into TOC.

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אופציונלי: QbD1200 Autosampler

The QbD1200 AutoSampler is an automatic sample changer used in analytical laboratories for TOC analysis of aqueous samples.

This instrument has a sample tray that holds a maximum of 64 sample vials,

one calibration bottle and three system suitability bottles.

The instrument operates with minimal user-intervention and is used with the QbD1200 TOC Analyzer.

Refer to Figure 1 (next page) for the overview of the instrument.

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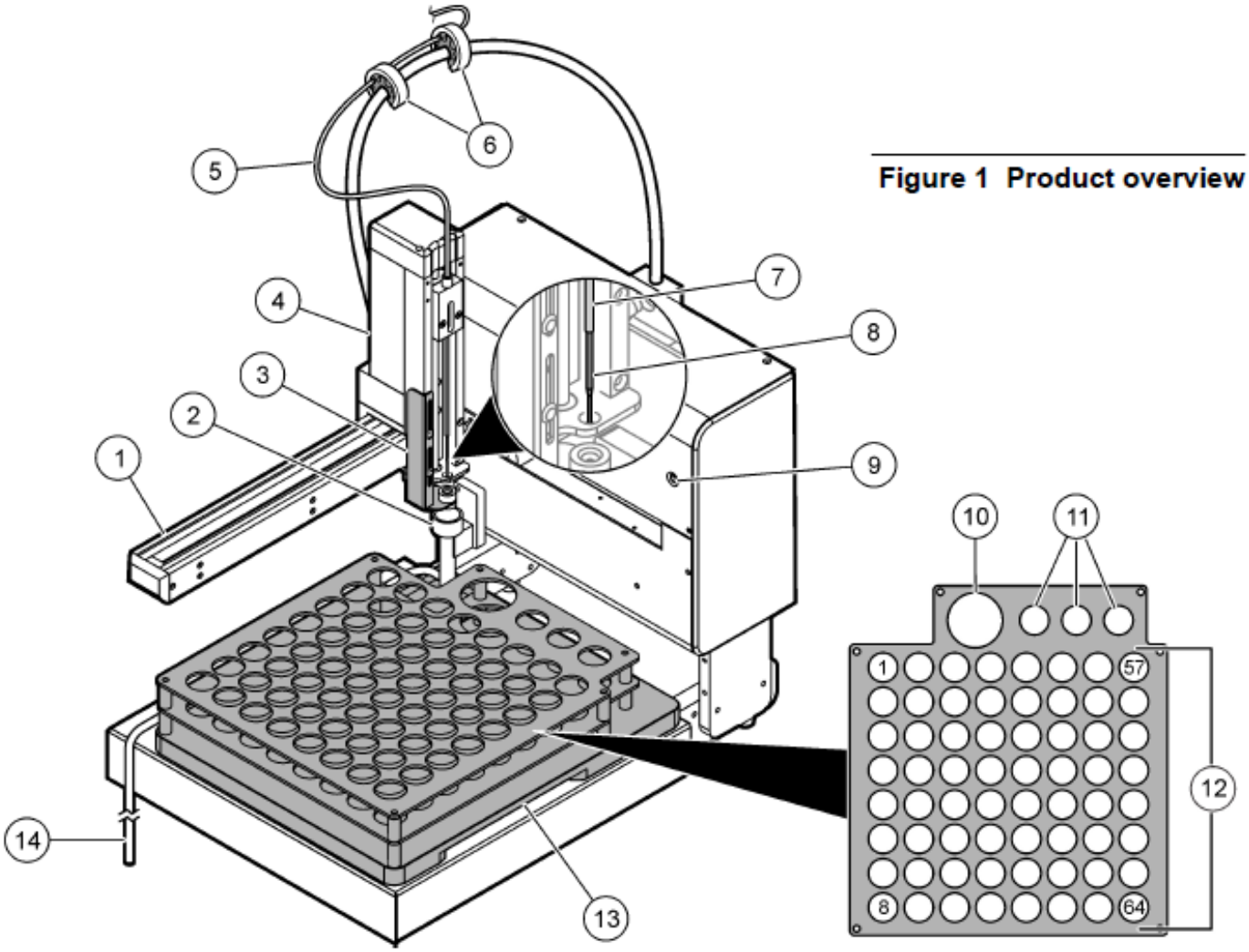

Figure 1 Product overview

1 Arm	**8** Sample probe
2 Rinse station	**9** Power indicator light
3 Stripper plate	**10** Calibration standard holder
4 Mechanical Z-drive	**11** System suitability holders
5 Sample tube (from the analyzer)	**12** Sample positions (1 to 64)
6 Tube holders	**13** Sample tray
7 Needle sleeve	**14** Rinse station drain tube