

THM-100™

Online THM Monitor



Frequent and significant fluctuations in THM levels are difficult for water utilities to capture based on the infrequency of quarterly regulatory grab samples and the turnaround time of external laboratory analysis. Utilities often conservatively operate their facilities in order to ensure they remain in compliance with regulatory requirements. This approach often leads to avoidable financial and environmental costs from the:

- Excessive use of energy intensive RO or EDR to remove THM precursors
- Unnecessary blending of high quality water resources to dilute THM precursors
- Overtreatment to remove THM precursors, which in turn increases operational expenses through additional spending on filtration, coagulants and sludge removal and disposal
- Excessive energy costs involved in THM removal by air-stripping and mixing
- Excessive flushing of finished water

The high frequency THM data from the THM-100™ product range helps to optimize water treatment processes, assist in monitoring water quality at handover points in consecutive systems, design the most cost-effective water treatment process and reduces related expenses while ensuring compliance with regulatory standards for TTHMs. Monitoring real-time THM levels across a single or multiple sampling points is made possible with the THM-100.

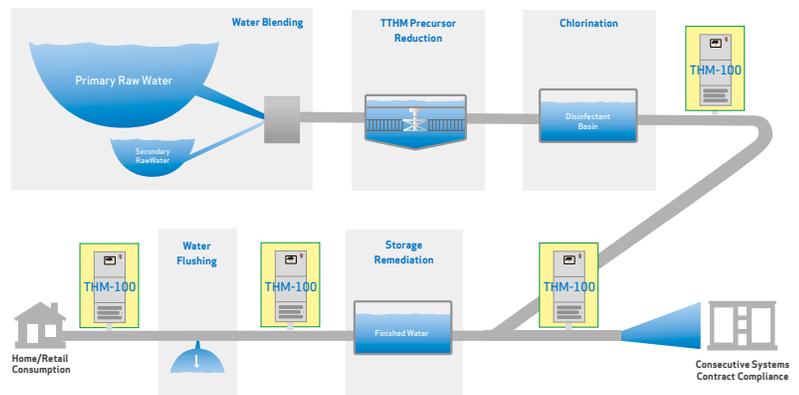
- Accurate ($\pm 10\%$), reliable and continuous measurement of TTHM levels and THM speciation
- Self-calibrating and fully automated, unattended operation
- Rapid results, delivered every four hours or less



Flexible Sampling Options

The standard THM-100 monitor operates in an online mode for frequent sampling at a single location. With the THM-100GS™ manually collected 'grab-samples' from multiple locations are analyzed alongside the samples taken automatically by the monitor in its online mode.

This innovative operational approach provides drinking water utilities with the ability to undertake multi-point THM analysis with a single instrument. Results are delivered through communication options including 4-20 mA current loop, USB download from the monitor, and cloud-based data service. Every analyzer is offered with an annual service contract inclusive of a 5 year warranty.



Simple Operation, Reliable Results of the THM-100™ and THM-100GS™

The analyzers use the well-known "purge-and-trap" sampling method, followed by desorption into a chemical mixture that generates a colored product and time-resolved spectrophotometric analysis for detection and determination of speciated THM levels. The analyzers report the largest of either chloroform or bromoform as well as TTHM and have an accuracy specification of $\pm 10\%$. They have also demonstrated a relative standard deviation of 3% or less on CHCl_3 and approximately 1% or less of the TTHM value during independent testing. The analyzers have been demonstrated to be more reliable than external laboratory analyses.

THM-100™ THM Specifications

PERFORMANCE

Quantitation Range	5-200 µg/L Total THM
Accuracy	Total THM: ± 10% Chloroform: ± 10% Bromoform: ± 20%
Repeatability	Total THM: ± 5% Chloroform: ± 5% at 50 µg/L Bromoform: ± 10% at 50 µg/L
Sample Size	250 mL
Average Sample Time	90-110 minutes; standard with sampling every 4 hr and adjustable for more or less intervals
Operation	Online: THM-100 Online and Manual-Samples: THM-100GS

OPERATING ENVIRONMENT

Instrument	< 95% relative humidity, non-condensing 5-35 °C for CHCl ₃ dominant locations, or 15-25 °C for installs with significant CHBr ₃
------------	---

FACILITY REQUIREMENTS

Clean Dry Air	Maximum 10 Lpm Average <1.3 Lpm
Electrical	110-220 VAC, 1 phase, 50/60 Hz, 150 VA

HARDWARE

Physical Size	2.0' W x 5.0' H x 1.3' D (610 mm W x 1,524 mm H x 406 mm D)
Weight	110 lbs (50 kg)

WARRANTY

Service	Annual service contract inclusive of 5 year warranty.
---------	---

Aqua Metrology Systems reserves the right to change the specifications as necessary.