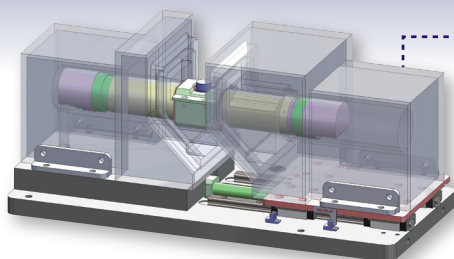
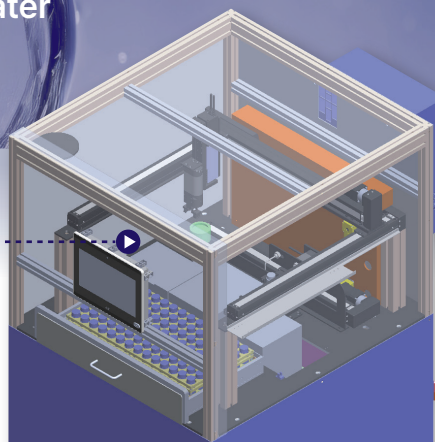


WaterTriGuard

Automated Continuous Monitoring System for
Tritium Radioactivity Measurement in Water



Cross section of the shielding



WaterTriGuard

Product Overview

WaterTriGuard is an advanced instrument designed to measure pulses generated by the interaction of tritium with a liquid scintillator, providing real-time tritium concentration analysis.

This system detects signals through a collection chamber equipped with two photomultiplier tubes (PMTs), a high-voltage device, a preamplifier, and a delay signal unit.

The detected signals are analyzed using a multi-channel analyzer (MCA) to obtain a spectrum, which is then processed through a simultaneous counting circuit.

WaterTriGuard is optimized for unmanned, continuous, and automatic tritium radioactivity measurement. By employing an innovative approach, it simplifies the traditional sample collection, pretreatment, and preparation process, enabling real-time online tritium monitoring.

Key Features



Real-time Continuous Monitoring

Provides immediate data on tritium radioactivity levels.



Automated Measurement & Analysis

Processes and analyzes data without complex sample pretreatment.



High-Sensitivity Detection

Achieves a low Minimum Detectable Activity (MDA) using liquid scintillation counting.



Dual PMT Detection System

Enhances signal reliability with two photomultiplier tubes.



Integrated Multi-Channel Analyzer (MCA)

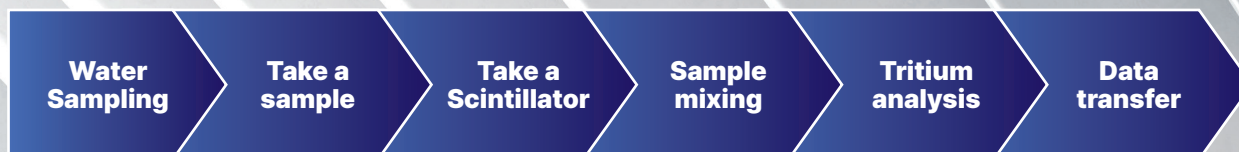
Enables high-resolution spectrum analysis and data processing.



Unmanned Operation

Supports remote monitoring for long-term continuous surveillance.

AUTOMATION



WaterTriGuard is an optimized system for unmanned, continuous, and automatic measurement of tritium radioactivity in water.

By employing an innovative approach, it simplifies the conventional sample collection, pretreatment, and preparation process, enabling real-time online tritium monitoring.

Technical Specifications

Detection Method	Liquid Scintillation Counting (LSC)
Minimum Detectable Activity (MDA)	Below 10 Bq/L (for 11-hour measurement)
Background Level (Tritium)	0.4 cps
Thickness of lead shielding	Max. 60mm
Weight	≤ 250 kg
Vials	20 mL vial (automation : Max 98 ea)
Internal temperature control for measurement	14 ~ 20 °C (Includes temperature controller)

Applications

