



MICROWAVE DIGESTION

Microwave Digestion System - Microwave Digester

Microwave Digestion is a specialized and proven method for preparing samples for elemental analysis. When dealing with samples requiring analysis for trace elements, the transition to a liquid form is essential for compatibility with analytical equipment crucial step known as sample preparation.

Microwave-assisted sample preparation relies on acid digestion, a fundamental technique in sample preparation. This process involves using acids to dissolve or break down a sample, leaving only the (trace) metals in solution. This transformation turns samples into analyzable liquids, a necessity for analytical equipment to accurately detect small concentrations of toxic metals in clear, particle-free solutions.

The stringent requirements for Microwave Digestion Systems also known as a Microwave Digester underscore its role as a highly reliable instrument for execute this method, ensuring the integrity of analytical data. With efficient microwave heating, precise reaction control, and robust temperature and pressure tolerance, this method facilitates the analysis of diverse substances such as food, soil, and pharmaceuticals. This capability supports the success of subsequent elemental analysis, making microwave digestion a key player in the field.

FEATURES

Product Categories

Microwave Digestion Workstation TANK 40

- **Safety:** Explosion-proof design with durable stainless steel cavity and aerospace fiber coating.
- **Precise Control:** Real-time pressure and temperature monitoring with automatic safety systems.
- **Efficient Digestion:** Dual magnetron system ensures uniform, non-pulse microwave output.
- **Smart Software:** Android system with FDA compliance and built-in operational guides.
- **User-Friendly:** Dual LCD screens and a trolley for safe, easy handling.
- **High Capacity:** Supports 40 vessels with fast cooling under 15 minutes.
- **Versatile:** Ideal for environmental, food, petrochemical, research applications, and more.

Microwave Digestion Extraction System TANK ECO

- **Accurate Digestion:** Leak-free high-pressure design improves recovery rates for challenging samples.
- **Durable Build:** Aerospace composite fiber vessel resists corrosion, pressure (70 MPa), and heat (600°C).
- **Precise Monitoring:** IR and optional optical fiber systems ensure safe, accurate temperature control.
- **Advanced Sensors:** High-precision pressure sensor with strong corrosion resistance.
- **Smart Software:** Android system with FDA compliance, cloud storage, and real-time tracking.
- **Versatile Functions:** Handles microwave digestion, extraction, and synthesis.
- **User-Friendly:** 7-inch LCD screen and fast cooling for efficient operation.

TECHNICAL SPECIFICATIONS

Compare Microwave Digestion System Options

Side-by-side overview of Torontech microwave digestion and extraction workstations to prepare samples for elemental analysis with controlled acid digestion, temperature, and pressure monitoring.

Microwave Digestion and Extraction Workstations

Feature	<u>Microwave Digestion Workstation TANK 40</u>	<u>Microwave Digestion Extraction System TANK ECO</u>
Primary purpose	High-capacity microwave digestion for routine elemental analysis sample prep	Microwave digestion, extraction, and synthesis functions for challenging samples
Best for	Environmental, food, petrochemical, and research labs needing reliable batch digestion	Labs processing difficult matrices and aiming for strong recovery and safety control
Vessel capacity	Up to 40 vessels	System design supports digestion workflows (capacity depends on configuration)
Heating and output	Dual magnetron system for uniform, non-pulse microwave output	Designed for accurate digestion with controlled high-pressure operation
Monitoring and control	Real-time pressure and temperature monitoring with automatic safety systems	IR monitoring with optional optical fiber temperature control; high-precision pressure sensor
Safety design focus	Explosion-proof design with stainless steel cavity and aerospace fiber coating	Leak-free high-pressure design to improve recovery and contain reactions
Cooling and turnaround	Fast cooling under 15 minutes (as described)	Fast cooling for efficient operation (as described)
Software and usability	Android system with FDA compliance, built-in guides, dual LCD screens, trolley handling	Android system with FDA compliance, cloud storage, real-time tracking, 7-inch LCD
Decision driver	Need a high-capacity, safe, and repeatable digestion platform for routine lab work	Need better recovery on difficult samples plus digestion/extraction versatility
How to choose	Choose when your priority is high-capacity routine digestion with strong safety and control	Choose when you handle challenging matrices and want digestion plus extraction capability
Selection tip	If you run many samples per day and want stable operation, this is a strong baseline	If recovery is your pain point on hard samples, this is the upgrade path

Quick selection guide: choose TANK 40 for high-capacity routine digestion, choose TANK ECO for challenging samples needing recovery-focused high-pressure design and added functions, and choose MASTER when ultra-high throughput and flexible vessel capacity are the top priorities.



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