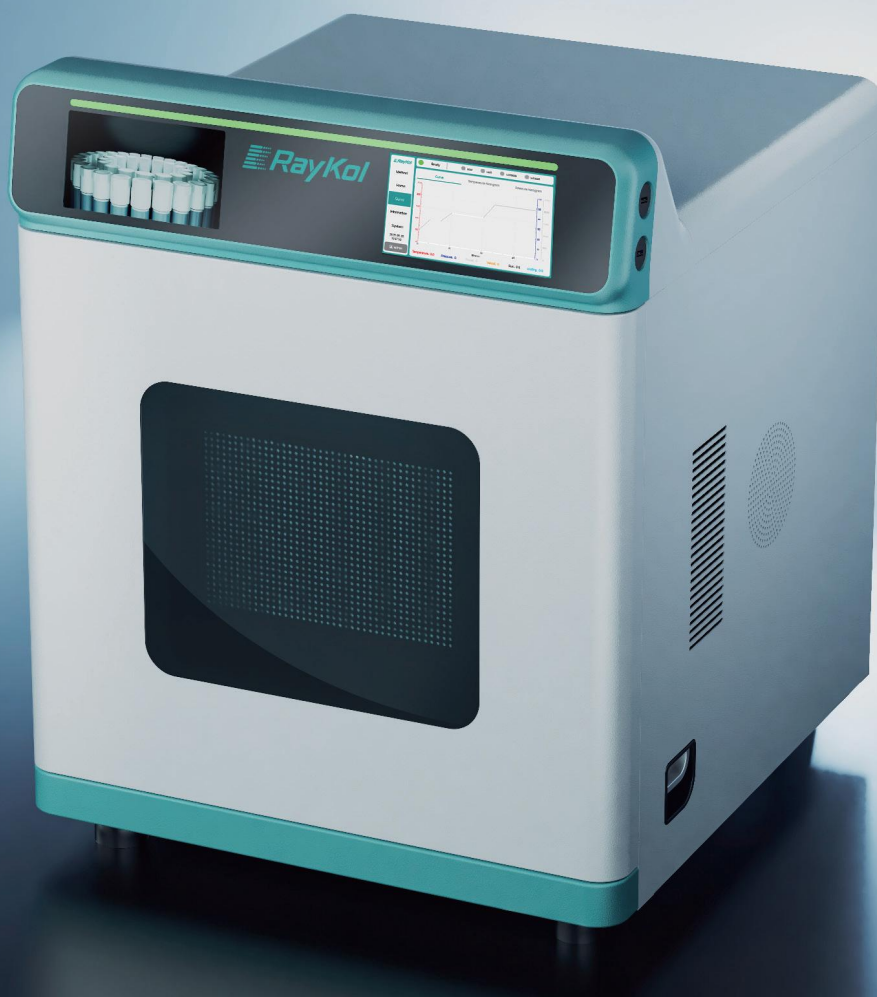


XT-iMD Microwave Digestion System

Expert-Grade Microwave Digestion and Extraction System

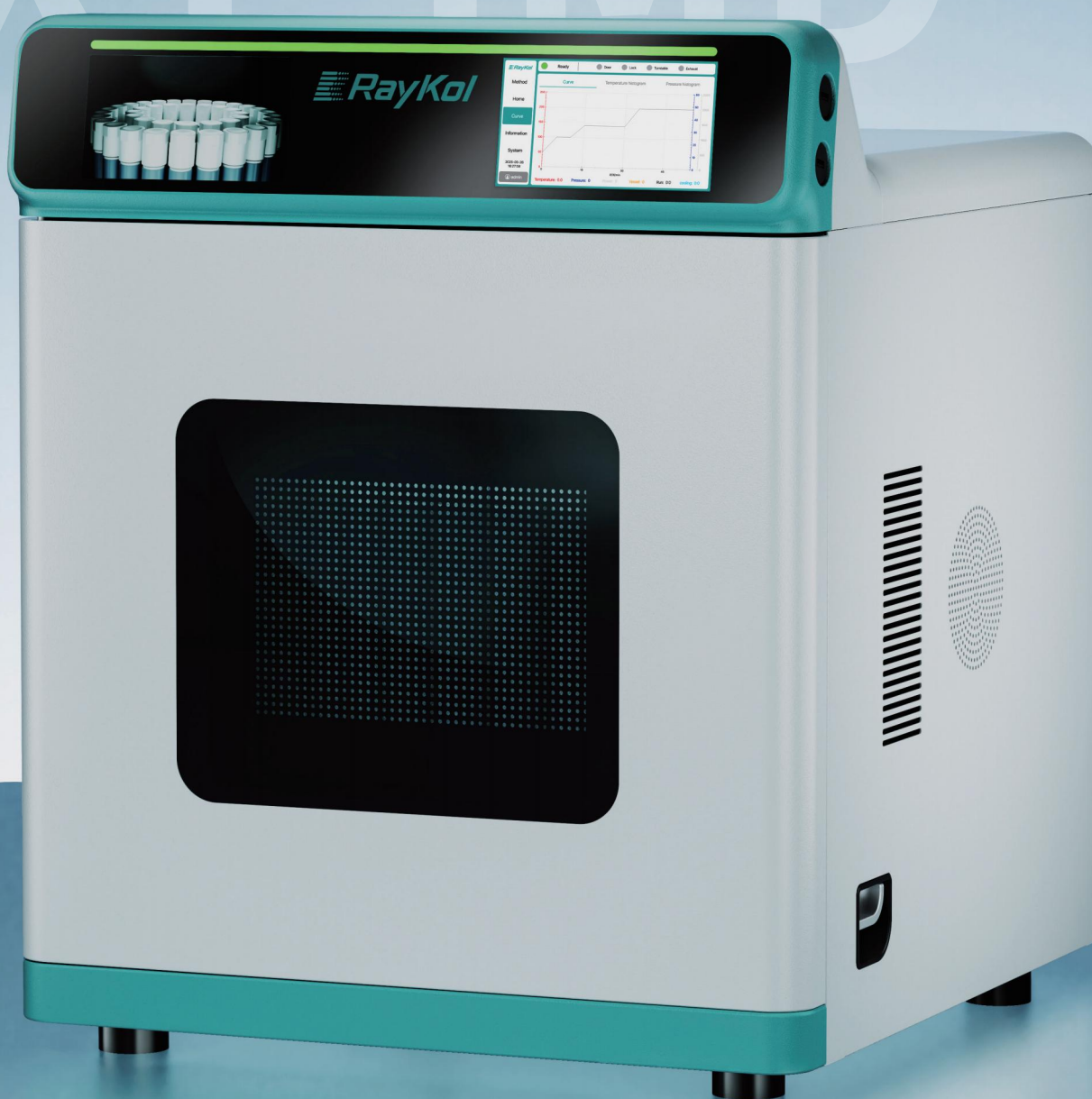


Leading Manufacturer in Automated and Smart Sample Preparation

Drafting Organization of Standard GB/T 26814-2011 Microwave Digestion Equipment

XT-iMD Microwave Digestion System

RayKol-XTrust has over 20 years of extensive experience in the field of sample preparation. XT-iMD Microwave Digestion Systems feature up to 10 active and passive safety protection functions. Equipped with a specialized mid-infrared non-contact temperature sensor that can penetrate TFM, the system enables real-time scanning and display of the actual temperature of each sample solution. The non-contact full-vessel pressure control system, utilizing high-precision optical distance measurement, allows real-time scanning and display of the actual pressure of each digestion vessel. This ensures optimal digestion efficiency for a wide range of sample types in the most convenient and efficient manner.



Expert-Professional Microwave Digestion System

High Efficiency & Rapid Processing

Intuitive & User-Friendly Design to Streamline Workflow

Microwave Control: Focused Microwave Emission, High-Power Microwave Delivery

Energy Consumption Management: Optimized Operating Parameters to Maximize Usage

Sample Loading: Easy Vessel Assembly and Sample Loading

Compatible with Various Vessels: Processes up to 42 Samples at Once



Safe & Reliable Operation

Multiple Safety Protections

Active & Passive Protection: Ensures Safe Operation, Smartly Reminders

Door and Lock Mechanism: High-Strength Explosion-Proof Door with Side-Opening Pressure Release

Corrosion-Resistant Ventilation: Multi-Layered Design for Corrosion Resistance, Efficient Airflow, and Rapid Cooling



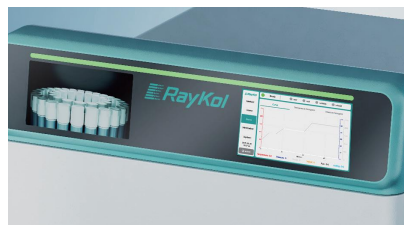
Precise Monitoring & Control

Sample Status Monitoring, Ensures Efficient Digestion for Reliable Data

Mid-Infrared Temperature Monitoring: Scans and Displays Actual Temperature of All Samples in Real-Time

Pressure Monitoring: Real-Time Monitoring of Sample Pressure

Parameter Display: Real-Time Display of Sample Temperature, Power, and Digestion Progress



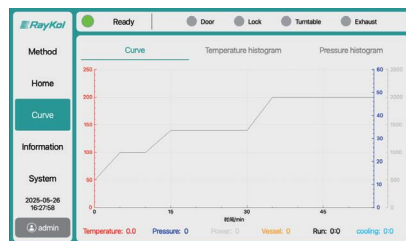
Smart & Convenient Operation

Intuitive & Easy-to-Use Interface

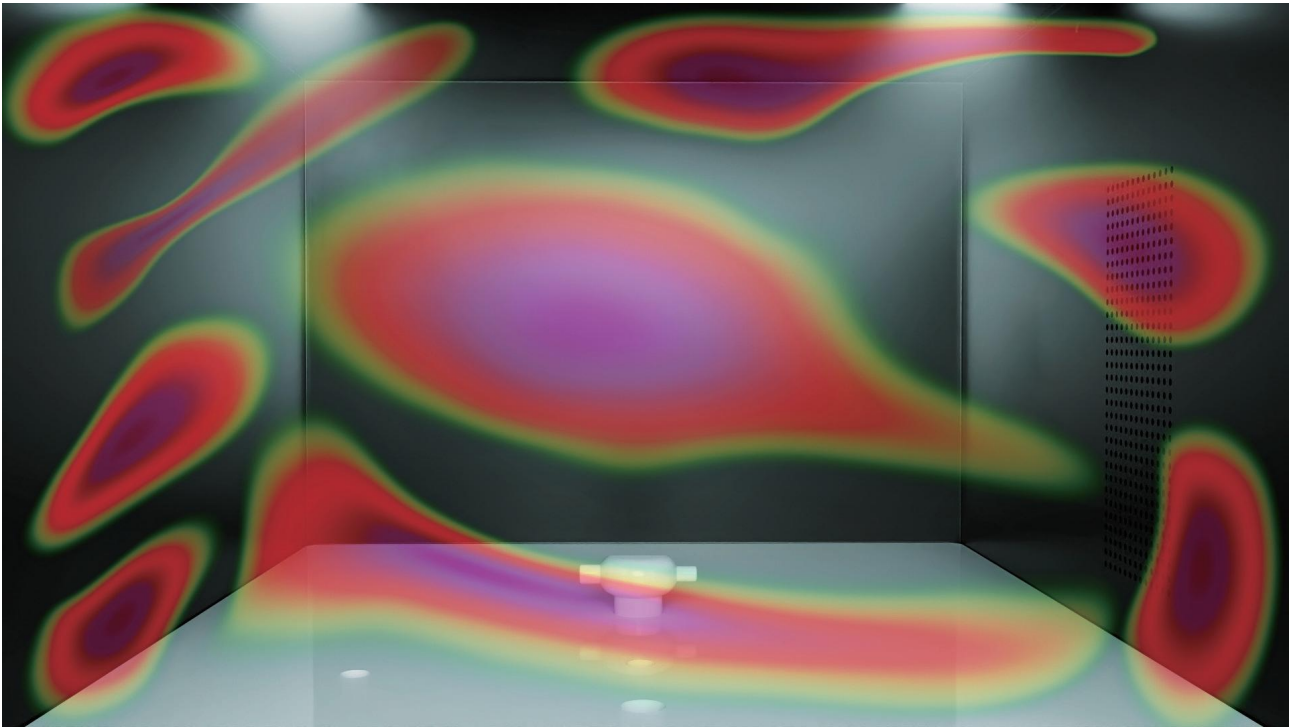
Easily Customizable Digestion Methods

Smart Detection: Sensors Automatically Detect Rotor Type and Vessel Count

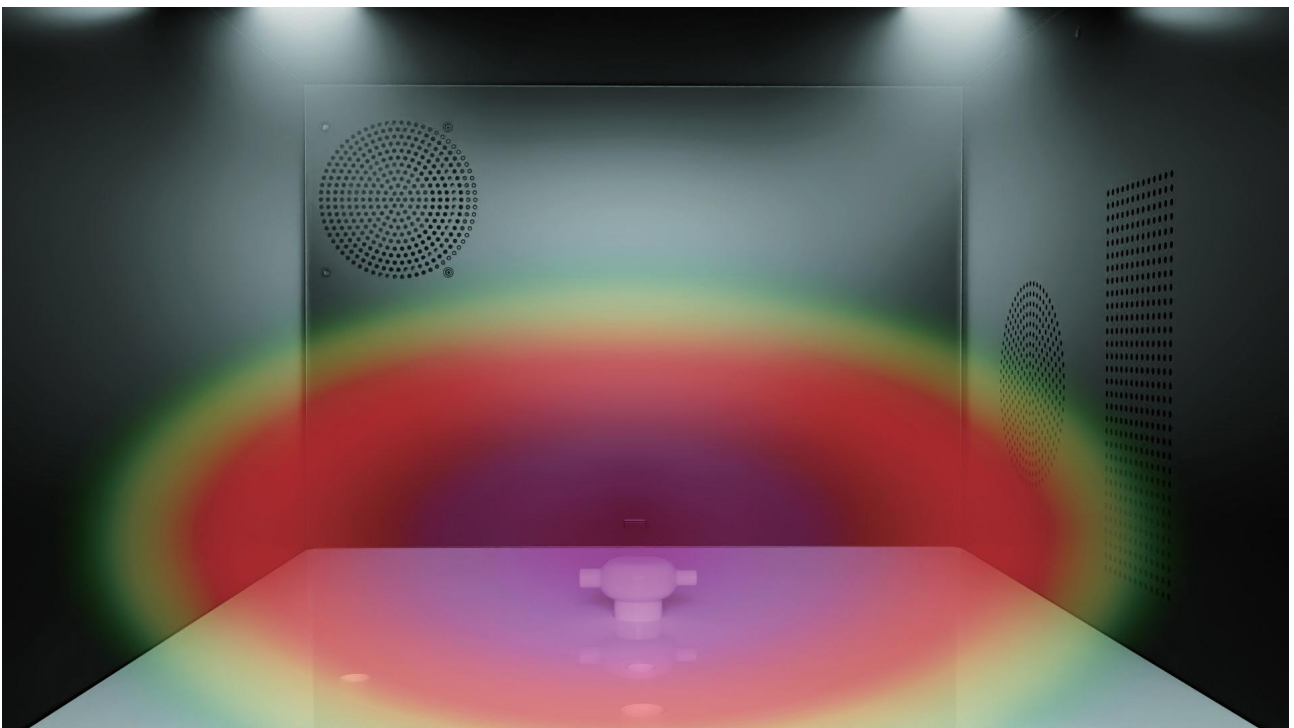
Light Indicator: Effortless Monitoring of Equipment Status



Unique Microwave Focusing Technology



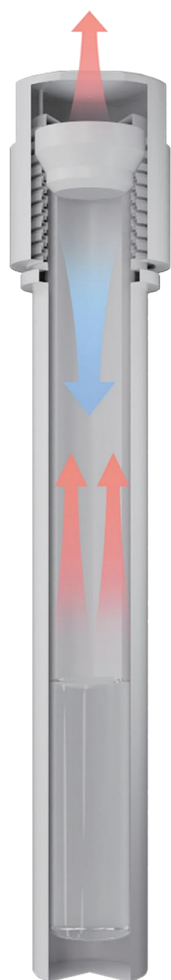
Schematic Diagram of Microwave Field Intensity Distribution of a Conventional Microwave Digestion System



Schematic Diagram of Microwave Field Intensity Distribution Using Microwave Focusing Technology

High-precision Smart Pressure Monitoring Mechanism

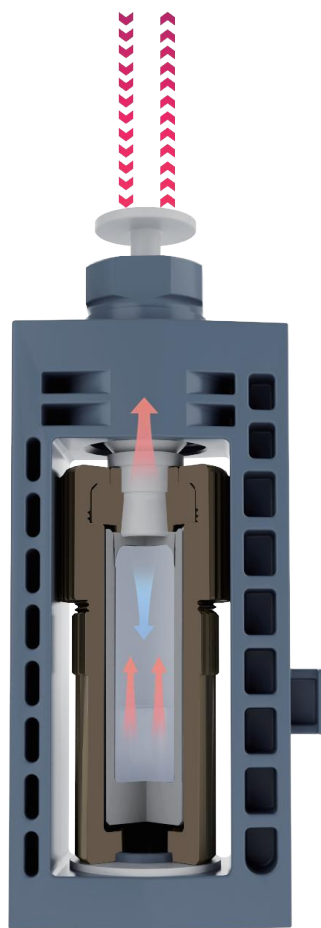
High-precision smart pressure monitoring mechanism, to ensure safety for all digestion vessels.



High-throughput Digestion Vessel

- Automatic pressure-release mechanism to ensure reliable release of overpressure reaction gases
- Pressure generated during the reaction is limited by the smart overpressure release structure
- Consists of only three parts, easily assembled without any tools
- Suitable for digesting various types of samples, including food, wastewater, soil, biological, agricultural, and pharmaceutical samples
- 42-position rotor, ideal for handling large sample batches

Top-mounted Optical Sensor



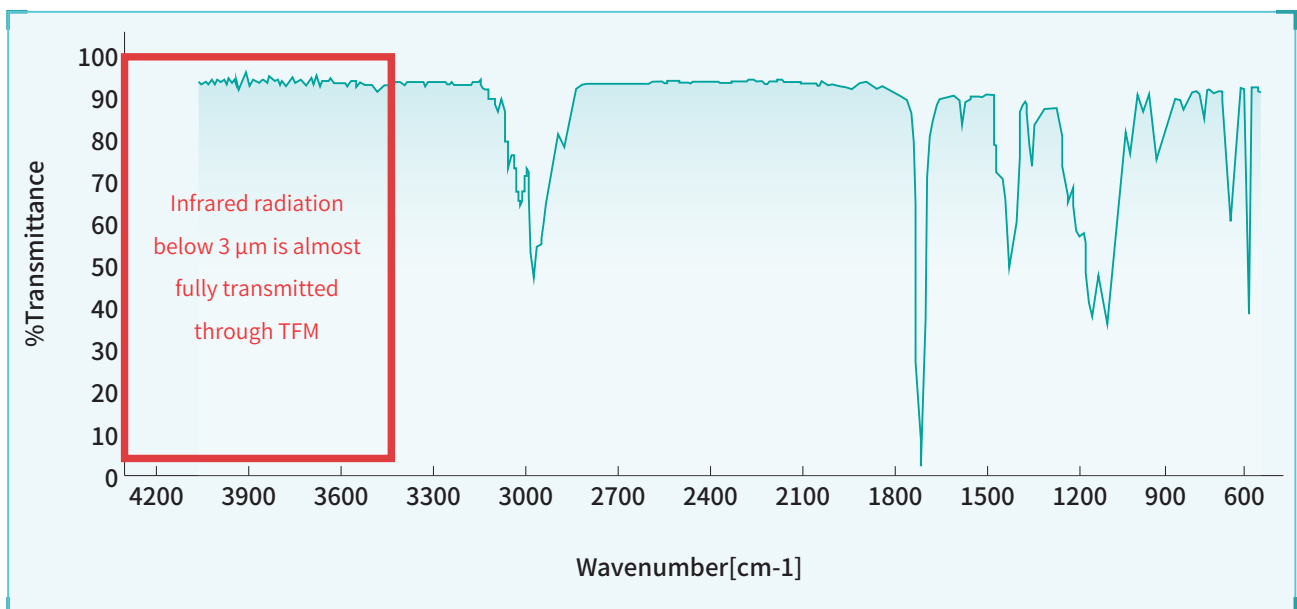
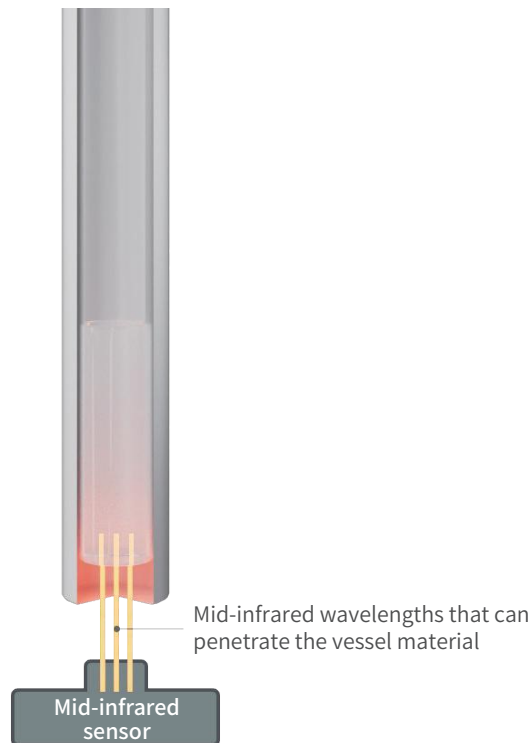
High-pressure Digestion Vessel

- Real-time pressure display for each digestion vessel through a high-precision optical distance measurement system
- Pressure generated during the reaction is limited by the smart overpressure release structure
- Higher performance, capable of handling more complex samples such as alloys, ceramics, cosmetics, ores, compounds, and chemicals
- Supporting frame design ensures safe operation at the highest temperature and pressure

High-precision Real-time Temperature Feedback Technology

The mid-infrared temperature measurement system utilizes the ability to penetrate the vessel walls, while materials like TFM do not absorb mid-infrared radiation. This allows for non-contact, real-time dynamic measurement of the temperature inside the vessel, enabling highly precise and reliable temperature monitoring of each sample.

It is the first to leverage the unique property of mid-infrared wavelengths that can penetrate the vessel material, achieving non-contact, real-time scanning and monitoring of the actual temperature inside all vessels.



Product Configuration



High-Throughput Digestion Vessel	
Positions	42
Circles	2
Material	TFM
Temp. Measurement	Mid-Infrared
Volume	55mL



High-Throughput Digestion Vessel	
Positions	42
Circles	2
Material	TFM
Temp. Measurement	Mid-Infrared
Volume	75mL

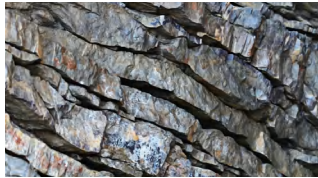
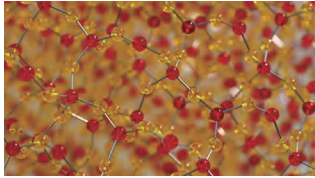


High-Pressure Digestion Vessel	
Positions	16
Circles	1
Material	TFM
Temp. Measurement	Mid-Infrared
Volume	100mL

Power Supply	220-240VAC 50/60Hz
Microwave Supply	2450MHz, Variable-Frequency Magnetron High-Energy Microwave Field Emission
Microwave Cavity	316L Stainless Steel Resonant Cavity, Multi-Layer Teflon Coated
Safety Explosion-Proof Door Design	High-Strength Safety Explosion-Proof Door, Side-Opening with Floating Buffer Design
Temperature Measurement & Control System	Mid-Infrared Non-Contact Temperature Sensing
Control System	Full Touchscreen Operation, Extra-Large Screen Real-Time Display of Parameters & Status
Total Output Power	2400W
Ambient Temperature/Humidity	0~40°C / 15~80%RH
Digestion Rotor	Independent High-Pressure Digestion Vessel
Batch Capacity	16 Positions / 42 Positions
Inner Vessel Material	TFM
Outer Vessel Material	PEEK or aerospace composite materials are optional

Applications

Environmental Samples | Food & Feed Analysis | Materials Testing
Petrochemical | Plastics & Polymers | Cosmetics | Metals & Alloys | Geological Samples





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