TORONTECH

MICROWAVE DIGESTION WORKSTATION TANK 40

Microwave Digestion Workstation TANK 40 offers thorough safety measures, outstanding digestive capacity, intelligent software features, strong dependability, and flexible expandability.

APPLICATIONS

Microwave Digestion

Microwave digestion technology uses microwaves to heat reagents and samples enclosed in containers, allowing for rapid reaction acceleration and reduced sample preparation time. This method increases pressure and reaction temperature within the digestion vessel. Microwave digestion is a widely utilized technique across various fields for efficient sample digestion.

Accessories

Vessel type	High-Pressure	Auto-release	High-Pressure
Vessel numbers	24 vessels	40 vessels	40 vessels
Inner vessel material	TFM	TFM	TFM
Outer vessel material	Aerospace composite fiber	Aerospace composite fiber	Aerospace composite fiber
Inner vessel volume	110mL	55mL	70mL
Maximum temperature	300Â°C	300Â°C	300Â°C
Maximum pressure	15Mpa	15Mpa	15Mpa

Vessel type	High-Pressure	Auto-release	High-Pressure
Image	Microwave Digestion Workstation	Microwave Digestion Workstation	Microwave Digestion Workstation

FEATURES

Microwave Digestion

Comprehensive safety guarantee, combined with anti-corrosion capability

The furnace cavity is constructed from Grade 316L stainless steel and comes with a 5-year warranty. It features a 3D adjustable, explosion-proof security door equipped with buffers and a choke system to prevent microwave leakage. The door is self-sealing, resistant to impact, and operates with an interlocking linkage mechanism.

The outer vessel is composed of aerospace composite fiber and entirely coated with PFA, offering superior anti-corrosion and higher pressure resistance than PEEK materials. With a pressure resistance of 70MPa and heat resistance up to 600Â°F, it ensures user safety during extreme operating conditions.

Dual magnetron inverter control system ensures consistent sample digestion

The Microwave Digestion Workstation TANK 40 utilizes a dual magnetron inverter control system and a high-frequency closed-loop PID control. This setup allows for a continuous, non-pulse microwave output, creating a uniformly distributed microwave field within the cavity. It increases energy efficiency and ensures consistent sample digestion.

Microwave Digestion

Two LCD screen, displaying real-time operation and experiment status

The 7-inch color LCD touch screen showcases live data including temperature, power, time, and procedural steps. Users can swiftly switch to coordinate curve displays, offering better insights into ongoing experiments.

Additionally, a 5-inch color LCD screen enables clear, real-time monitoring of activities within the furnace cavity. Equipped with USB, network ports, or Wi-Fi interfaces, the vessel allows remote operation and monitoring via computer or tablet once authorized.

Microwave Digestion

Full-vessel pressure control technology

The high-pressure digestion vessel features elastic pressure relief and self-sealing technology. During standard operation, the vessel remains fully sealed, preventing any leaks. In cases of overpressure, the system automatically and safely releases the excess pressure along with reaction gases (CO2 and nitrogen oxides). Once released, it promptly seals again, ensuring uninterrupted progress for subsequent experiments.

Microwave Digestion Workstation TANK 40

Full-vessel precise temperature control and monitoring, ensuring safety and digestion performance

Non-contact mid-infrared sensors positioned at the base continuously monitor and display real-time temperature fluctuations within each digestion vessel. The comprehensive vessel temperature control system actively oversees any irregularities during the digestion experiment. Upon detecting abnormal temperatures, the vessel promptly halts microwave emissions and triggers an alarm, ensuring experimental safety remains uncompromised.

Smart software operation, conforming to FDA21CFRPart11

Operating on the Android system, the vessel is user-friendly and versatile. It provides various features including electronic signatures, hierarchical permissions, and an audit trail, complying with FDA21CFRPart11 regulations. The software autonomously recognizes the turntable model and accurately tallies the vessel count, streamlining experiments without the need for laborious manual counting and input.

Microwave Digestion

Various supporting tools, making experiment easy and convenient

A range of tools is provided to lessen the workload for operators and enhance the efficiency of sample preparation. One such tool is a mobile and adaptable tool trolley designed to move the rotor, loaded with samples, into and out of the furnace cavity. This setup prevents direct contact between the operator and the digestion vessel, prioritizing safety concerns.

TECHNICAL SPECIFICATIONS

Power	220~240VAC50/60Hz20A (110V is also available. Please specify when ordering)
Working environment temperature	0~40℃
Relative humidity for working environment	15~80%RH

Microwave source	2450MHz; Maximun microwave output power 2000W, emitted from Dual magnetron inverter high-energy microwave field; non-pulse continuous microwave output
Installed power	3800W
Microwave cavity	Grade 316L stainless steel microwave resonant cavity, with a wall thickness of more than 3mm, sprayed with multi-layer PFA coating
Furnace exhaust system	Automatically adjusted air volume; cooling to room temperature in less than 15 minutes
Software system	Android operating system (8G memory), built-in video SOP, application method library, electronic door lock, etc.
Overall physical size/net weight	23.6 inches X 27 inches X 26 inches.(W*D*H) 137 lbs
Batch amount	40vessels
Inner vessel material	TFM
Outer vessel material	Aerospace composite fiber with TEFLON coating
Inner vessel volume	55mL
Maximum temperature	300℃
Maximum pressure	15Mpa
Image	Microwave Digestion Workstation TANK 40

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