



# 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

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### 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

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### 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 600°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 (CO<sub>2</sub> 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

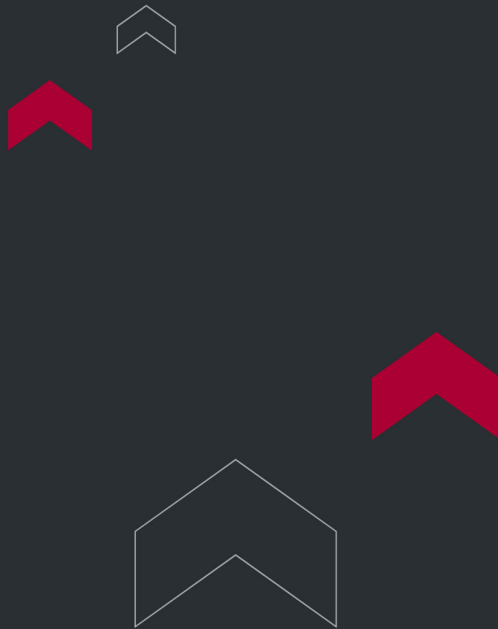
## Various supporting tools, making experiment easy and convenient

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°C                                                                                                                                                  |
| Maximum pressure                 | 15Mpa                                                                                                                                                  |
| Image                            | Microwave Digestion Workstation TANK 40                                                                                                                |



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