

PreeKem



Microwave Chemistry • Sample Preparation



TOPEX

Microwave Digestion System

Simpler process » Easier work

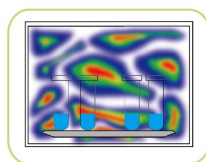
TOPEX microwave digestion system is the impressive product made by PreeKem, it has ideally combined advanced microwave technology and use-friendly operation system, and it also owns remarkable exterior design and strong image system. This product can fully satisfy needs for digestion, extraction and synthesis, offer users more convenient and alternative solution in sample preparation area.

Microwave digestion • Microwave extraction • Microwave synthesis

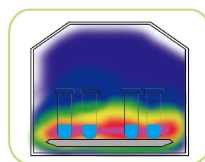
Innovation

Microwave focus technique

- Top reflection design
- Increase the microwave energy around sample area
- Increase the microwave efficiency



Microwave in plain cavity



Microwave in TOPEX cavity

Innovation

Free-touch and real-time image technique

- Complete operations with touch
- Remote observation of vessels and sensors



Preekem

Thanks to the customers' trust and support, **Preekem** have been dedicated to microwave chemistry and sample preparation for 15 years and honored to be the leader in these two fields in China. Since WX-2000 microwave digestion system, the first unit with dual control of temperature and pressure in China market, was launched, **Preekem** had developed over 20 new models including microwave digestion, microwave synthesis, microwave muffle furnace, microwave moisture analyzer and automated solid phase extraction.

Preekem owns a top R&D team, a skilled manufacturing team, a professional sales team and an engaged service team. Our products have been exported to countries and regions like the U.S., Japan, Italy, Russia, India, Korea, Malaysia, Turkey, Pakistan, Australia and etc.

With consciousness of crisis and eagerness to innovate, **Preekem** aims to build one of China's top instrument brands with international advanced technology.



New exterior design

outstanding industrial design and man-machine design

New microwave focus technology

focus the microwave in the sample area and highly increase the density of microwave

New double HD screen

more comfortable feelings of view and operation

New microwave control system

promise of long use time and steady working

New operation software

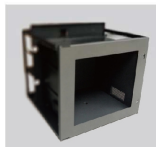
more intelligent handling and easy-to-use



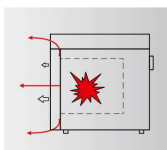
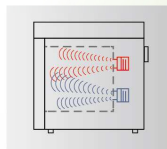
TOPEX Microwave Digestion System

1 Cavity

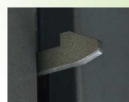
- Cavity is made of 316L stainless steel and built by seamless laser welding
- The surface of cavity is coated by five-layer Dupont PFA which offers five-year anti-corrosion for the cavity
- The volume of cavity is 56L which can match with maximum containing capacity of fifteen vessels
- Maximum withstanding temperature is as high as 350 °C

**2 Microwave source**

- This system owns original technology of dual magnetron staggered arrangement design and microwave waveguide design by PreeKem
- Ensure the uniformity and high efficiency of microwave in the cavity, especially around the sample area

**3 Door**

- The cavity door is open and closed by one-touch operation and it keeps locking status when microwave is working and temperature is over 80 °C
- Its structure offers great ability to withstand powerful impact and floating design of door can release the excessive pressure in the cavity and seal the cavity again automatically

**4 Digestion vessel**

- Inner vessel is made by TFM which has better anti-penetration performance compared with traditional PTFE
- Double pressure-release protection design including safety diaphragm releasing pressure and sealing cover breaking, provides better safety protection
- High strength frame-type structure design, withstand high temperature and high pressure



Safety comes from scientific design and strict quality control

TOPEX Perfect integration of technology, wisdom and manufacture

**5****Temperature and pressure measurement and control system**

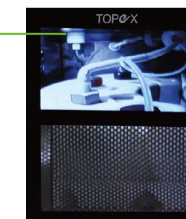
- Platinum resistor sensor is directly inserted inside the vessels
- Temperature sensor monitors and controls temperature changes inside vessel in real time
- High precision high temperature melt pressure sensor measures the pressure in real time and cooperates with temperature sensor to control the pressure and temperature not over limit

**6****Software system**

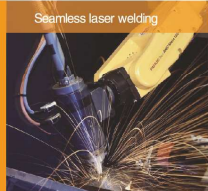
- One-touch operation is easy to learn and to use
- Real-time graph and digital display on the HD screen for better observation and feedback
- Overall help function can teach you all the operations without manual
- History data can be saved, reviewed and exported

**7****Monitor system**

- Monitor screen is integrated with cavity door
- You can track the status of vessels, temperature sensor and pressure sensor in time and handle with abnormal problem immediately

**8****Cooling and exhaust system**

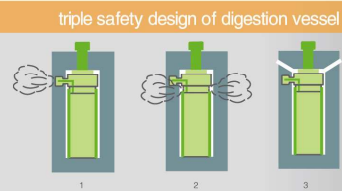
- Strong anti-corrosion blower is capable to cool down the vessels quickly after digestion
- Exhaust pipe is totally closed and designed in incline type for exhausting the acid gas completely and make sure no residue remains in the cavity



Seamless laser welding



Thickness of 316L stainless steel >2mm



triple safety design of digestion vessel

Worthy of customer's trust » **Sample preparation expert**

Initiative protection design

- Temperature measurement and control system
- Pressure measurement and control system
- LCD monitor system
- Assist sensors

Passivity protection design

- Airtight-heating-environment safety diaphragm design (graph1)
- Airtight-heating-environment long skirt design (graph2)
- Vertical pressure-release design (graph3)
- Seamless laser welding cavity which made by 316L stainless steel
- Integrated complex multi-layer high strength stainless steel design ensures the safety of anti-explosion door
- Independent floating cushions locking system

Super high pressure airtight digestion vessels

■ KJ-100 Rotor

Maximum throughput is 10 vessels everytime

■ KJ-160 Rotor

Maximum throughput is 15 vessels everytime



	KJ-100 Rotor	KJ-160 Rotor
Vessel number	10	15
Inner vessel material	TFM	TFM
Sleeve material	PEEK	PEEK
Inner vessel volume	100mL	100mL
Max. operating pressure	6MPa	5MPa
Max. acceptable pressure	15MPa	12MPa
Max. operating temperature	260 ℃	250 ℃
Max. acceptable temperature	300 ℃	300 ℃

Service and Technical support

- **1 to 1** customer managers provide optimized solutions for customers
- **6** service stations with full inventories of parts and accessories located nationwide
- Quick response for customer's request within **15** minutes
- On-site support within **48** hours
- **365** days dedicated service
- **400** service hotline

Specifications

Touch Screen	7" HD LCD screen
Microwave Resonant Cavity	Industrial special designed microwave resonant cavity
Cavity material	316L Stainless steel
Input AC Power	220-240v/50HZ,15A
Overall installed Power	3200W
Maximum Microwave Output Power	1800W
Microwave Frequency	2450MHz
Microwave Emission Mode	Non-pulse continuous microwave output
Microwave Control Mode	High frequency closed-loop feedback (PID) control
Volume of Resonant Cavity	56L
Turntable	Simultaneously carry 10 KJ-100 digestion vessel or 15 KJ-160 digestion vessels
Pressure measurement and control system	Pressure measurement range: 0-10MPa (1450psi); Pressure measurement precision: ± 0.01 MPa Pressure control stability: ± 0.05 MPa
Temperature measurement and control system	Temperature measurement range: 0-300 ℃ Temperature measurement precision: ± 0.1 ℃ Temperature control stability: ± 1 ℃
Exhaust system	Anti-corrosion converting-frequency centrifugal blower; Maximum air-flow capacity is 5m ³ /min
Environment Temperature	0-40 ℃
Environment Humidify	15-80%RH
External Dimension	660mm(H)×540mm(W)×640mm(D)
Weight	66Kg

PreeKem



Statement: Specification may change without notice. PreeKem reserves rights of final explanation. Version: 1st edition, 2012.10

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