

PreeKem



# PREEKEM

TOPEX+

MICROWAVE DIGESTION SYSTEM



**THE NEW INTELLIGENT  
ERA IS COMING**

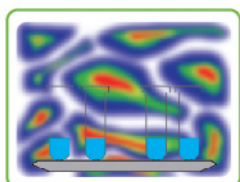


## CHINA NATIONAL AQSIQ DESIGNATED SUPPLIER

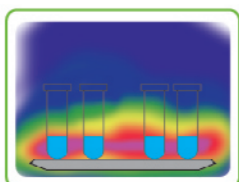


### Initiative Directional & Focusing Microwave Energy

- Unique microwave top reflection technique
- Uniform field density focus on samples
- High efficiency microwave radiation



Microwave in common cavity



TOPEX+ Microwave in TOPEX cavity



### Flexible and Extendable Rotors Compatible with Four Different Rotors

- whatever the sample type
- Auto venting-reseal design for high throughput rotor ensure excellent results and no element loss



### Dual Viewing Screens

- 7" large color touchscreen for convenient operation
- 7" large LCD to show real-time running status



### Genuine Expert in Microwave Extraction

- High efficiency: 40 parallel samples in 30 minutes
- More convenience: need only 2 steps to assemble a 100mL extraction vessel
- More safety: solvent sensor secure better experience
- Higher recovery: Magnetic stirrer ensures better results



### Multiple Application Modules

- Digestion
- Extraction
- Synthesis
- Desiccation
- Oxygen Combustion
- Protein Hydrolysis



### Total Solution for Pharmaceutical Industry

- Comply with 21CFR PART 11
- Possess user management interface, E signature and data provenance function
- Complete 3Q Audit Trail



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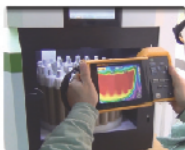
**01 Cavity**

Industrial-quality components made of 316 stainless steel;  
Thickness >3mm;  
The whole cavity is built by seamless laser welding;  
Multi-layer Dupont PFA coating effectively protects cavity away from corrosion.



**02 Microwave Source**

Microwave output via two staggered magnetron;  
Roof microwave reflection and guide technique to enhance microwave density and heating efficiency.



**03 Door Structure**

Auto-locking system secures door all the way during digestion;  
Alternative floating cushion design allows instant pressure release and resealing after;  
Integrated emergency brake system cuts down microwave when the door is open.

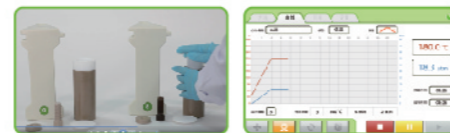
**04 Safety Viewer**

Stable stainless steel door with both window view and high definition camera;  
It enables observation of the entire run in real time.



**05 Software**

Built-in large and high-resolution touchscreen;  
Easy set up with stylus pen;  
Running data, curve can be directly read;  
History data can be saved, reviewed and exported.

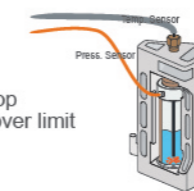


**06 Cooling System**

Powerful corrosion resistant centrifugal fan;  
Strong convection air duct makes cooling faster;  
Independent air duct avoids corrosion to circuit.

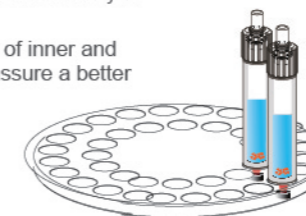
**07 Dual Reaction Control**

Immersing PT sensor allows accurate temperature measurements inside the vessel;  
High-precision pressure sensor measures real-time pressure;  
working with PID control system, it could stop microwave when the pressure tends to be over limit



**08 Contactless IR Temperature Sensor**

Dual circle IR sensors are located at the bottom of rotor;  
they scan real-time temperature continuously of each vessel;  
Based on actual status, IR sensor of inner and outer circle could auto switch to assure a better and more accurate result.



**09 Full Vessel Temperature Sensor**

There is side-wall IR sensor to measure the real-time temperature of each vessel.

**10 Pressure Rate Control Module**

The software could monitor pressure rising rate;  
This could avoid spontaneous reaction and overpressure  
Control range: 0-145 psi/s

**11 Auto Overpressure Venting Technology**

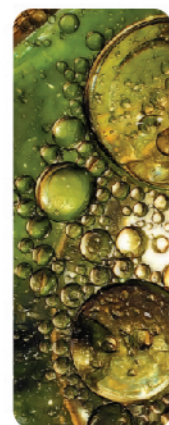
It provides accurate pressure control and auto vent at designated pressure limit.



**12 High Accury Noise Sensor**

when an accidental explosion occurs, the sensor will stop microwave to ensure safety.



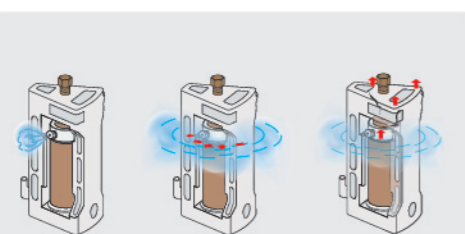


# DESERVE TO BE TRUSTED

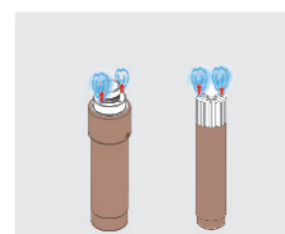
## TOPEX+

SAMPLE PREPARATION EXPERT

### Safety Design



Closed high pressure vessel



Auto-venting vessel

### Microwave Extraction



100mL extraction vessel

### Closed Acid Digestion Vessel: High Performance

Type	KJ-100 Rotor	KJ-160 Rotor	GT-400 Rotor
Number of vessels	10	15	40
Liner material	TFM	TFM	TFM
Pressure jacket	PEEK	PEEK	PEEK
Volume	100mL	100mL	60mL
Maximum operation pressure	900psi	750psi	300psi
Maximum withstanding pressure	2200psi	1750psi	1500psi
Maximum operation temperature	260°C	240°C	200°C
Maximum withstanding temperature	310°C	310°C	310°C

Rotor Pictures



### Specifications

Touch Screen	7" HD LCD screen
Microwave Cavity	Industrial special designed microwave resonant cavity
Material of Cavity	316L Stainless steel
AC Power Input	220-240v/50HZ,15A
Power Consumption	3200W
Maximum Microwave Power Output	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
Rotors	KJ-100 Digestion Vessel KJ-160 Digestion Vessel GT-400 Digestion Vessel
Pressure system	Pressure measurement range: 0-1500psi
Temperature system	Temperature measurement range: 0-300°C
Exhaust system	Anti-corrosion converting-frequency centrifugal blower Maximum air-flow capacity is 5 m <sup>3</sup> /min
Ambient Temperature	0-40°C
Air Humidity	15-80%RH
Dimensions (W x D x H)	540mm× 640mm× 660mm
Weight	66Kg



### Service and Technical support

All Preekem products are backed by our experienced applications support team and service department. Specialists from Preekem are at your service. Quick and efficient service reduces downtimes to a minimum.

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