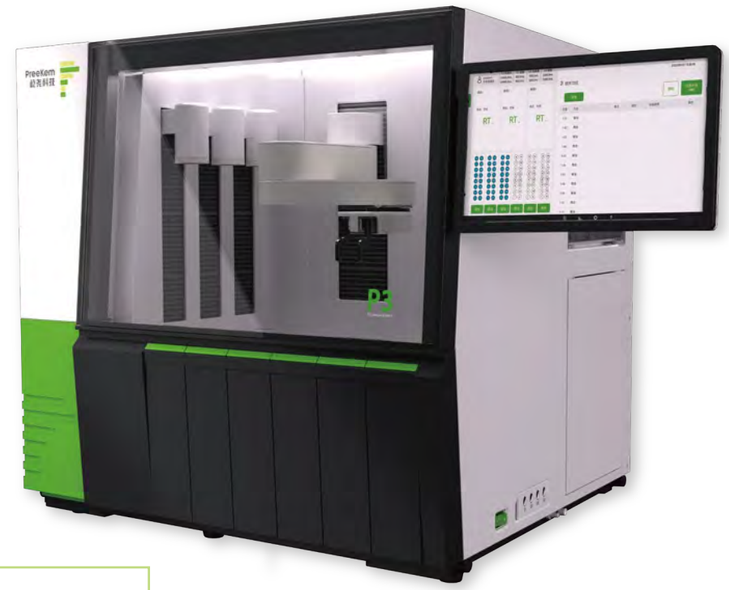
PreeKem Scientific Instruments Co., Ltd.
Building 36, No.1500 Duhui Road, Minhang District, Shanghai, China
P.C.: 201108
Tel: 021-54427296 54426316 54426318
Fax: 021-54427063
Email: info@preekem.com
Web: www.preekem.com

PreeKem

P3

Next Generation Automated Microwave Digestion Workstation



A 10-year pioneering quest for the next generation microwave digestion technology

The genesis of automated microwave digestion technology could be traced back to as early as 2013. Initially awarded as a part of the grant for a “multi-purpose sample preparation platform” research project from the government, this initiative quickly attracted considerable attention from the commercial testing community, where a highly automated and high throughput digestion system has been enthusiastically anticipated. After nearly 10 years of unrelenting research efforts, the launch of P3 microwave workstation at 2023 BCEIA marked that the next generation automated microwave digestion technology has officially entered service, a revolutionary moment in the history of laboratory sample preparation.

Microwave digestion has never been made this stress-free before the descent of P3. Just load the sample in the vessel and P3 can cleverly and safely handle every step in the rest of the microwave digestion process, such as acid dispensing, mixing, vessel assembling, transporting, heating, cooling, disassembling, diluting, and so on. While greatly boosting the productivity of an analytical lab, P3 also effectively contributes to the systemic reduction of human-induced bias and error in sample preparation.

One touch start

Tailored heating program for each sample type

Guaranteed digestion result

Expedited digestion procedure
Superb repeatability
Minimized human error

Deliver Economy value

True high sample throughput
Minimized labor and consumable costs

Great innovator in automated microwave digestion

Streamlined automation workflow

Labor free in digestion process.
All you need is to program the work flow and press start button to complete sample pretreatment.

Compliance

P3 is compliant with all current regulatory requirements for microwave digestion.

Effective Method developer

10 times efficiency than traditional microwave method development process makes it a powerful tool for scientific researchers.

Unrivalled digestion efficiency

Thanks to the mono-wave energy focusing technology, each sample digestion takes no more than 15 mins and P3 can digest up to 200 samples per day.

Excellent digestion performance

Proprietary focused microwave heating allows complete sample digestion of difficult samples in an expedited manner .

Eco friendly exhaust system

Large air flow exhaust system can take heat and acid gas out in a short time.

Versatile digestion programming

Each sample can run on a customized digestion program.The digestion order can be adjusted at any time in the sequence.

Overall monitoring

The software contains the function as four level account management, video camera monitoring, creating digestion report with individual sample statistics, recording comprehensive digestion data in the life cycle of the instrument.

Safety

Patented and robust proven mono-wave microwave heating cavity(-ZL:201510586879.7)ensures the reaction safety by embedding real-time dynamic temperature and pressure monitor system.

State-of-the-art smart connection

P3 can be remotely accessible via a smart device enabled by Android technology. Integration into the sample introduction system on an ICP-MS is also feasible to further ‘total automation’ of elemental analysis.

Product overview

Cutting-edge robotic arm

Agile robotic arm can easily realize the regular digestion actions as grabbing, transferring, opening and closing the seal lid to automate the sample preparation process.

Multiple mono-wave heating cavity

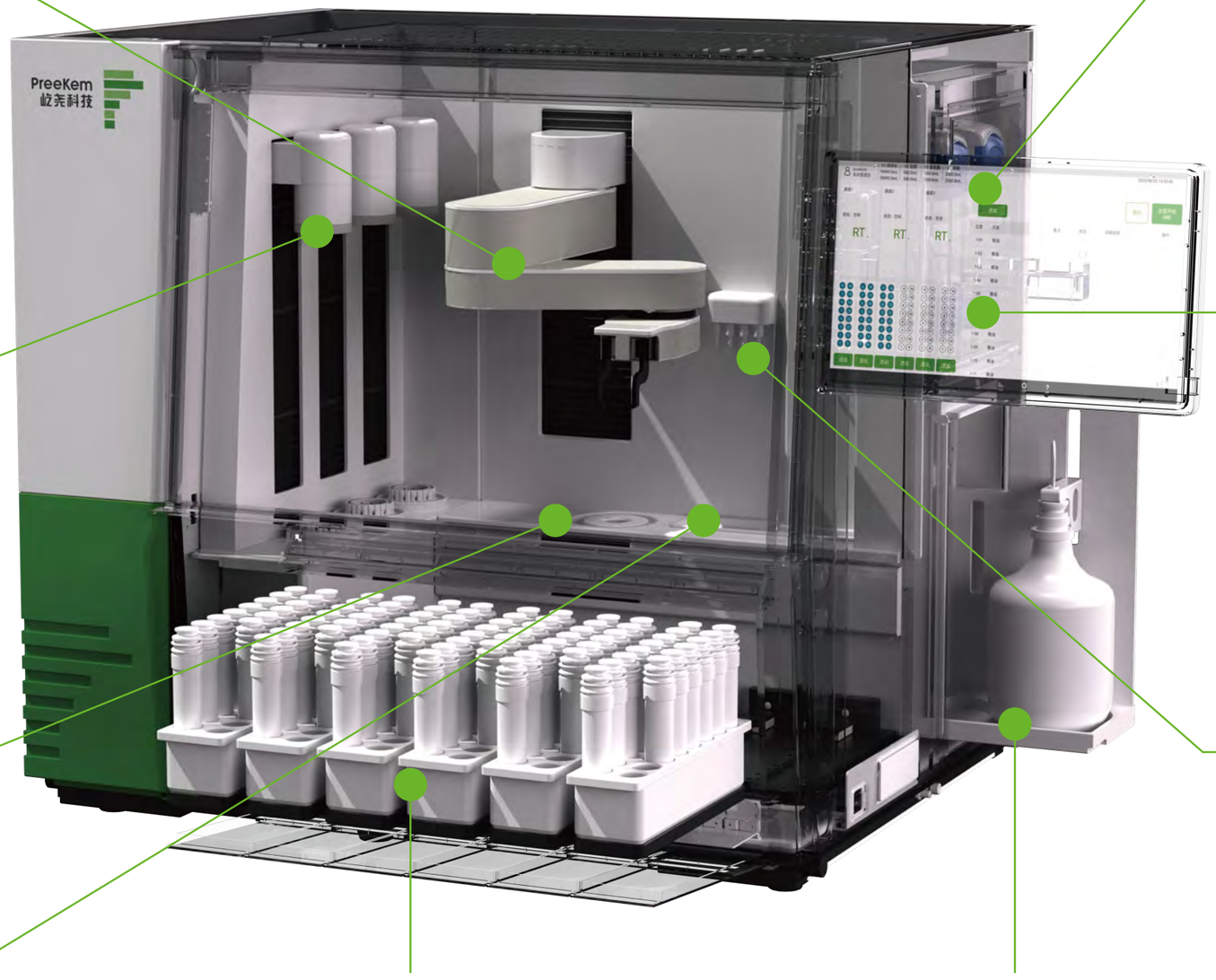
Each heating cavity is individually controlled.

High energy density leads to ultra-fast digestion.

Safety lid keeps the cavity locked during whole heating program.

Mixing and degassing module

The embedded module with adjustable speed ranges 0-600 rpm.



Eco-sample chamber

Strong exhaust ability to prevent acid gas leakage.

Advanced AIDC sample management

Advanced Automatic Identification and Data Capture technology (AIDC).

6 independent sample racks support up to 96 samples in one digestion batch.

Superb convenience in digestion sequence programming and method setup for individual samples.

Secure reagent storage

Large electric reagent cabinet accommodates 1 bottle of 2.5L reagent bottle and 2 bottles of 500mL reagent bottle.

User friendly and intuitive software

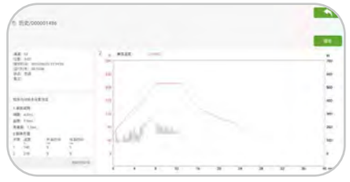
15.6 inch multi-angle flappable LCD screen

Intuitive software checking the general status of both method and hardware.

Comprehensive monitor brings the return on invest

The instrument comes with 21 CFR Part 11 compliant software（optionally available）.

HD video records the operation process of the instrument.



Integrated design for acid dispensing and diluting

The peristaltic pump supports up to four different types of reagent.

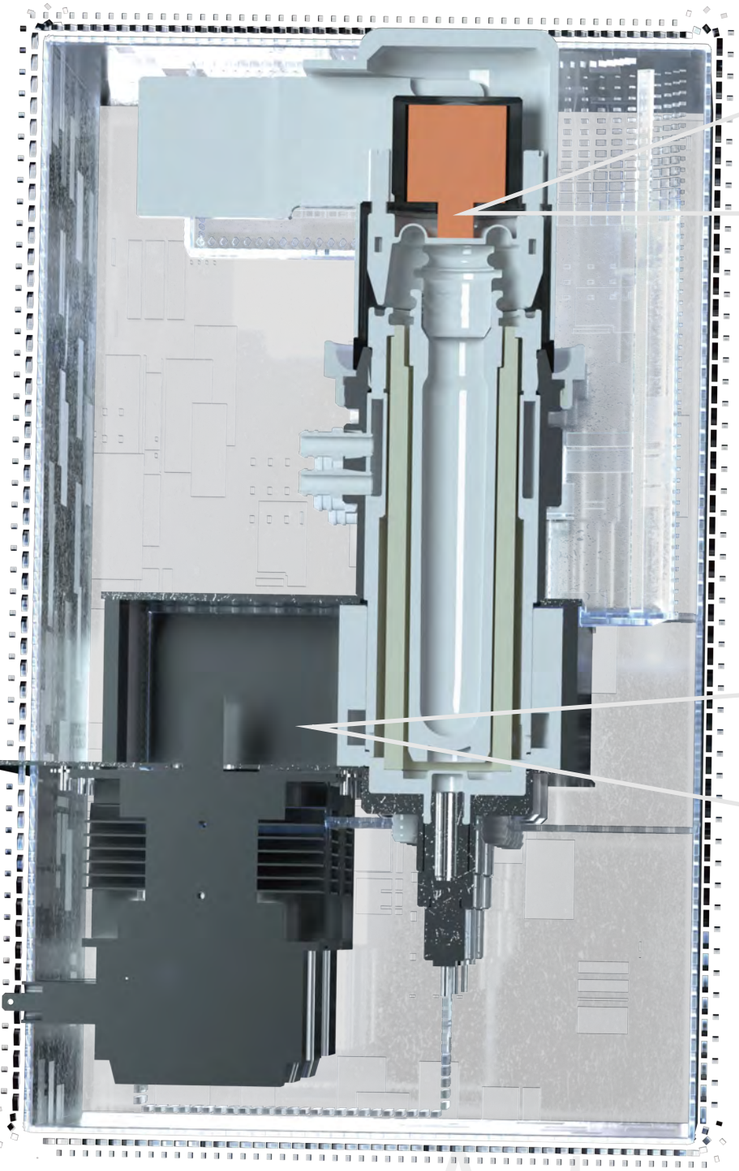
Revolutionizing microwave digestion

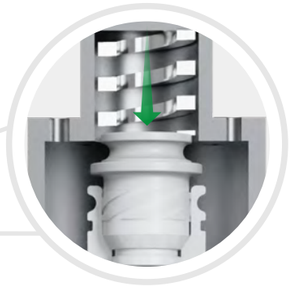
Preekem takes pride in leading the development of the next generation sample preparation technology that fundamentally changes how future analytical laboratories work in many positive ways.

Robust vessel design leads to “0 “ lab consumables

Ultra-clean and chemically inert TFM material, capable to deal with various digestion situation including HF.

Fast pressure relief groove combines with self-regulating over-pressure management ensuring a smooth reaction progress and safe operation.





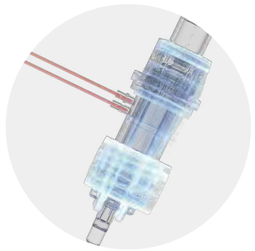
All around pressure control

Patented self-regulating pressure management (ZL: 201510586879.7)adopts sealed-released -resealed concept for auto pressure regulating to ensure the reaction safety.

Patented design of anti-corrosion exhaust tunnel for epic cooling

Adopting the latest patented (ZL:2021222095548.7)which separates pressure relief tunnel with regular cooling tunnel to avoid acid corrosion.

It takes 6 min to cool the sample from 200°C to safe temperature.



Energy focusing mono-wave heating cavity

The mono-wave structure cavity helps to focus microwave energy to the sample zone. Even those challenged samples can be digested in 20 minutes.

Advanced R-temp technology boosts precise temperature control and superb digestion repeatability

R-temp, a powerful and accurate contactless temperature detection method helps to provide real-time and full characterization of in-vessel temperature in the digestion process.

Next Generation Automated Microwave Digestion Workstation

Infinite possiblity

P3 an excellent automated solution for elemental analysis

Mobile phone

With the P3 android app, you can easily view the most important running stats in P3 and stop the running sequence through your mobile device. You will be free from the lab and free to focus on other tasks.

Computer

The instrument can be easily connected to any laboratory management system through proper data interface.

Analytical instrument (ICP-MS)

Provides joint inlet to ICP-MS and enables on-line test of trace element.

Contact our experts

Short response time

A global service net work

3000+ different microwave digestion method

Specifications

Microwave heating:	Mono-wave heating cavity
Microwave output power:	0-500W
Heating cavity:	3
Temperature range:	60-350°C
Temperature precision:	± 0.1°C
Maximum working pressure:	4.5 MPa
Reagent:	4
Sampler：	Cutting-edge robotic arm

Sample tray：	6
Vessel material：	TFM
Vessel volume：	60mL
Batch ability：	96
Ambient temperature：	5-40°C
Ambient humidity：	15%-80%RH
Net weight：	300kg
Size(mm)：	1141(W)* 845(D) *925 (H)