



RAPIDwave Xpert

Microwave Digestion System

Competent, Powerful and Reliable

Excellence Performance Through Innovation

Initiative directional and focusing microwave energy

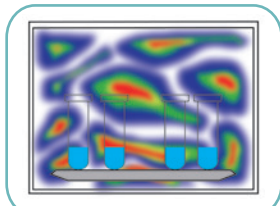
- Unique microwave top reflection technique
- Uniform field density focus on samples
- High efficiency microwave radiation

Flexible and Extendable Rotors

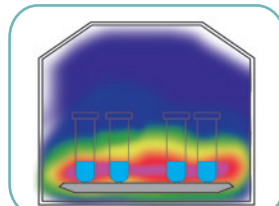
- Four different rotors delivers best digestion - whatever the sample type
- Auto venting-reseal design for high throughput rotor, ensures excellent trace analysis results

Free-touch and real-time image technique

- Large color touchscreen for convenient operation
- Remote observation of vessels and sensors



Microwave in common cavity



Microwave in reflective cavity



KJ-100



KJ-160

New Design

Outstanding industrial design

New Technology

Microwave focus on sample area and highly effective microwave heating

New Display

Convenient view and operation

New Control

Extended user time and stable working environment

New Software

Easy to use

**New
RELEASE!**



RAPIDwave Xpert

Microwave Digestion System



GT-400

Technology and Design: Versatility, Robustness, Safety, Efficiency

RAPIDwave X

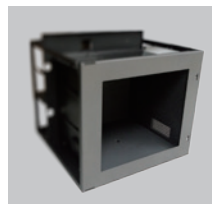
Microwave Di

Perfect integr

1

Cavity

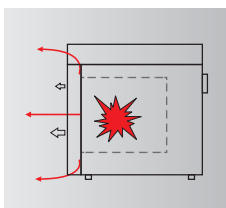
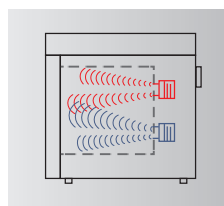
- Industrial-quality components made of 316L stainless steel and built by seamless laser welding.
- Multi-layer Dupont PFA coating efficiently protects cavity from corrosion.
- 56L large cavity allows large batch of vessels (up to 40 vessels).
- Maximum withstanding temperature: 350°C.



2

Microwave source

- Microwave output via two staggered magnetron and special waveguide design by Spectrum.
- Uniform and high efficiency microwave heating focus on sample area.



3

Door

- One-touch Key for opening and closing door
- Active door lock: Door opens only after a run has finished successfully
- Self-resealing action in case of an uncontrolled overpressure release
- Bullet proof material



4

Closed-vessel design

- Inner vessel made of TFM provides better anti-penetration performance compared to PTFE
- Double pressure-release protection design: safety membrane releasing pressure and sealing cover breaking.
- High strength frame-type structure design can withstand high temperature and high pressure.



5

Auto-Venting vessel design

- High-purity TFM liner and fiber-reinforced PEEK pressure vessel ensures safe reaction
- Tool-free handling of rotors, vessels and sensors
- Special venting design offers precise pressure control
- Quantitative pressure relief



Safety is guaranteed by so

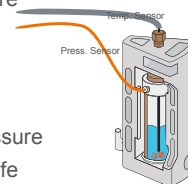




6

Dual reaction control

- Immersing PT sensor allows accurate temperature measurements inside the solution.
- High-precision high temperature melt pressure sensor measures the pressure in real time.
- This precise control of the temperature and pressure is essential for reproducible results and ensures safe processes every time.



7

Full vessel real-time IR sensor

- Dual circle bottom temperature detection and full vessel continuous scanning technology.
- Auto circle detection selection based on the real time temperature, assuring the accurate and reliable temperature measurement.



8

Straightforward software solutions

- The large and high-resolution touchscreen provides a convenient, built-in interface.
- Simple Method Programming
- Ready-to-use applications for a wide range of samples.
- Easy monitoring of an active run from the graphical output of the touchscreen.
- Detailed operating information can be watched on the touchscreen.
- Running data can be saved, reviewed and exported.



9

Safety Viewer

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



10

High efficiency cooling unit

- Strong anti-corrosion exhaust unit provides effective heat transfer and cooling of vessels within minutes after decomposition.
- No handling of hot pressurized vessels will increase lifetime of key components.

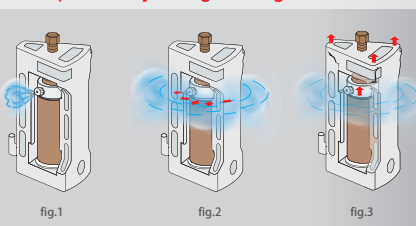
Seamless laser welding



Thickness of 316L stainless steel >2mm



Triple safety design of digestion vessel



Active safety features

- Temperature measurement and control system
- Pressure measurement and control system
- Safety-view monitor system
- Additional assist sensors

Passive safety features

- Safety membrane venting for over pressure (fig.1)
- Long skirt seal venting for over pressure (fig.2)
- Vertical pressure-release design (fig.3)
- Seamless laser welding cavity made by 316L stainless steel
- Integrated multi-layer stainless steel door ensures the highest safety
- Overpressure release and resealing action

Closed acid digestion vessel: High performance

■ Rotor KJ-100

Maximum throughput is 10 vessels



■ Rotor KJ-160

Maximum throughput is 15 vessels



■ Rotor GT-400

High throughput for 40 vessels



	KJ-100 Rotor	KJ-160 Rotor	GT-240 Rotor	GT-400 Rotor
Number of vessels	10	15	16	40
Liner material	TFM	TFM	TFM	TFM
Pressure jacket	PEEK	PEEK	PEEK	PEEK
Volume	100mL	100mL	100mL	60mL
Maximum operating pressure	60 bar (870psi)	50 bar (730psi)	35 bar (570psi)	20 bar (300psi)
Maximum tolerance pressure	150 bar (2200psi)	120 bar (1750psi)	120 bar (1750psi)	100 bar (1500psi)
Maximum operating temperature	260°C	250°C	240°C	200°C
Maximum tolerance temperature	310°C	310°C	310°C	310°C

Fields of Application / Industry

- Chemistry / Polymer Industry
- Clinical Chemistry / Medicine
- Ceramics / Plastic
- Cosmetics
- Electronics
- Environment / Water / Waste
- Food / Agriculture
- Geology / Mining / Coal
- Material / Alloy Analysis
- Metallurgy / Galvanization
- Pharmacy
- Refineries / Petrochemistry
- Semi-Conductor Technology
- Others



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 range: 0-150 bar (0-2200psi) Pressure accuracy: ± 0.1 bar Pressure control stability: ± 0.05 bar
Temperature system	Temperature range: RT-310°C Temperature accuracy: ± 0.1 °C Temperature control stability: ± 1 °C
Exhaust system	Anti-corrosion converting-frequency centrifugal blower Maximum air-flow capacity is 5 m ³ /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 Spectrum products are backed by our experienced applications support team and service department. Specialists from Spectrum are at your service. Quick and efficient service reduces downtimes to a minimum.



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Headquarter

Spectrum Instruments GmbH
Schreibersbildstrasse 14
D-88662 Überlingen
The Federal Republic of Germany
Tel: +497551 970968
Fax: +497551 970968
Website: www.spectrum-instruments.de
Email: info@spectrum-instruments.de

Middle East Support Center

SPECTRUM INSTRUMENTS MIDDLE EAST.
(MENA OFFICE)
1205 Al Thuraya Tower 1, Dubai Media City,
United Arab Emirates
Tel: +97 (1) 4 276 7560
Fax: +97 (1) 4 551 5980
Email: info@spectrum-instruments.ae

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International and Asia Pacific Support Center

SPECTRUM INSTRUMENTS (GROUP) CO., LTD.
18, 7th Fl. Sricharoenchai Bldg., Tiwanon Rd.,
Talat Khwan, Mueang, Nonthaburi 11000, Thailand.
Tel: +66 (2) 5265621-2
Fax: +66 (2) 9689272
Website: www.spectrum-instruments.de
Email: info@spectrum-instruments.co.th