

SCP SCIENCE

PROVIDING INNOVATIVE SOLUTIONS TO ANALYTICAL CHEMISTS

MiniWAVE

Microwave Digestion Made Easy

Order one controller and up-to four digestion modules
Powered by a 1000 Watt magnetron
Compressed air control module
Factory calibrated vent and seal safety pressure caps

Build the right system for your sample load
Fast digestion times
Cool your sample loads under 5 minutes
Eliminate the risk of runaway samples



CONCEPT

MiniWAVE is a top-loading, compact, microwave digestion system consisting of a touch screen controller and up-to 4 digestion inter-connecting modules. Each module is able to digest up to 6 samples simultaneously in 75 ml PFA Teflon® or Quartz Vessels. Using two or more modules, it is possible to run completely different sample types on each module using sample specific operating conditions.

An IR sensor monitor sample temperature of each vessel. A single 1000 Watt magnetron is centrally located to provide even microwave energy. With this unique design, microwave energy is evenly distributed throughout the digestion chamber to provide reproducible results, sample to sample. Ideal for environmental, agricultural, petroleum, geological, food and biological samples.



EASY TO LOAD

Top loading cavity



FAST COOLING

Cool samples to 70 °C from 180 °C in as little as 5 minutes (10 ml sample) using standard compressed air, cooling time is 7 minutes using a built-in blower without compressed air.



SPEED

Meets digestion time specifications for US EPA methods 3015, 3051 and 3052.



INNOVATIVE

An IR sensor measure each sample temperature independently in real time. Provides immediate feedback for software control of microwave energy delivered to the samples in the cavity.



INCREASE THROUGHPUT

Connect up-to 4 *MiniWAVE* Modules to one controller for maximum sample throughput



SAFETY

Digestion Vessels are rated at 90 bar. Vent and Seal Safety Pressure Caps are rated at 34 bar (500 psi).

ADVANTAGES

SAFETY

Triple Teflon® coated, stainless steel (.109" / 2.5 mm), microwave axisymmetric cavity tuned for optimal digestion of samples.

One piece interlocking cover plate with dual safety interlocks.

Triple coated PFA cavity, cover plate and racks for protection against corrosion.

Safety Pressure Caps are serialized and calibrated to release at 34 bar (500 psi). Caps utilize patented vent and seal technology.



Constant air flow through the cavity exchanges the air greater than 50 times per minute.

Explosion path vents fumes away from operator in the unlikely event of a failing vessel.

Cool a 50 ml sample from 180 °C to 70 °C, in 4.3 minutes, using standard compressed air.





Simple to install



No tools required to tighten

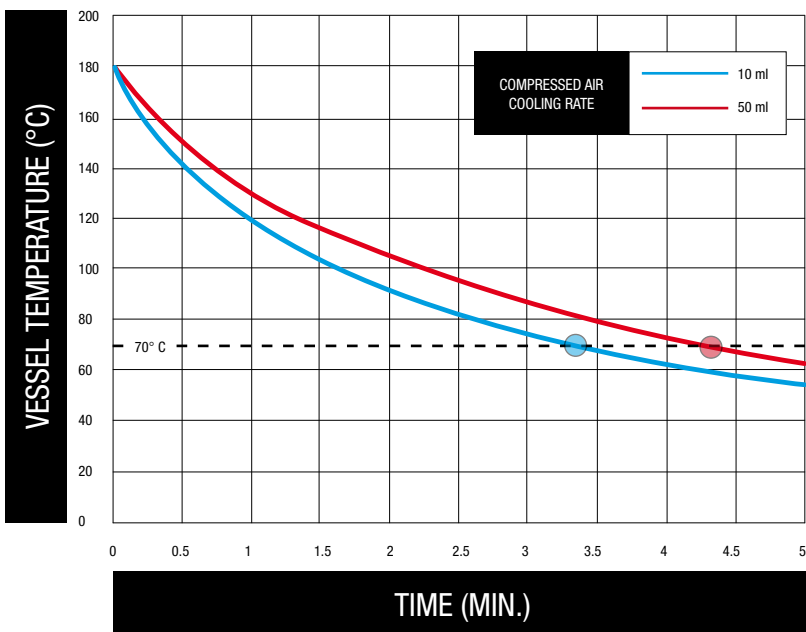


Fast cooling and safe venting

Once sample digestion is completed, the compressed air module is activated to cool samples quickly (see table below). For example, cool a 10 ml sample from 180 °C to 70 °C, in just 3.4 minutes. Similarly, cool a 50 ml sample from 180 °C to 70 °C, in 4.3 minutes. These laboratory tests confirm optimal sample cooling time resulting in the overall fastest turnaround time in the market (supply pressure at 5 atm.).

COOLING FROM 180 °C TO 70 °C

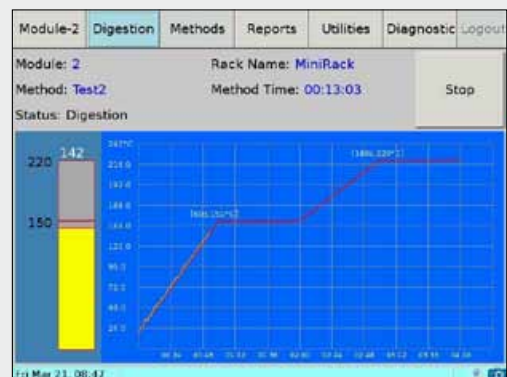
	10 ml Volume	50 ml Volume
Exhaust Blower	6.5 minutes	10.1 minutes
Compressed Air	3.4 minutes	4.3 minutes



SAMPLE COOLING TIME

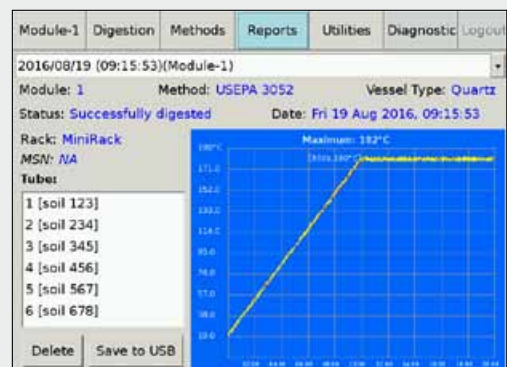
METHODS

Factors programmed US EPA (3015, 3051, 3052) and DIN methods	Initiate these methods at the touch of a button.
Add multiple temperature profiles of "Time to Temperature" and "Time at Temperature"	Offers single or multi-step digestion methods.
Save methods to an USB stick	Store and access a library of methods at your fingertips.
USP 232 / 233 compliant	
Copy or create methods to customize your application	Unlimited number of methods may be saved.



OPERATION

Select between "Operator" or "Administrator"	Set priority level for different people.
Simple, single key, touch pad and drop down windows	Create, edit and copy factory programmed methods.
View and generate detailed reports	Provide a history of each run using the actual temperature profile of each batch. Includes graphical representation of the run with a time stamp.
Prepare your standard methods for the lab easily. Input and log the reagent(s) used in each method (for information use only)	



SPECIFICATIONS

Ports/Printer: USB / Ethernet.

Weight

**Electrical Requirements
110V and 220V systems**

Microwave Energy

**Overall Instrument
Dimensions**

(Width x Depth x Height)

MiniWAVE module:

43 cm x 36 cm x 48 cm
(16.8 in. x 14.0 in. x 18.9 in.)

Controller module:

28 cm x 22 cm x 20 cm
(11.0 in. x 8.6 in. x 7.9 in.)

MiniWAVE module:
30 kg (65 lbs)

Controller module:
3 kg (6 lbs)

MiniWAVE rack:
3 kg (6 lbs)

The number of modules that can be connected depends on the current available.

1) 100-125VAC, 50/60Hz, 13A.

2) 200-240VAC, 50/60Hz, 7A.

Connect up to 4 modules via USB to the Controller. Detachable power cord supplied for each Module.

2.45 GHz, 1000 Watts,

Maximum controllable temperature to 200 °C.

Contact **SCP SCIENCE** for further information.

SPECIFICATIONS



EU Users:
Contact your local
distributor for disposal
instructions.



APPLICATION NOTES LIBRARY

Are you digesting environmental, metallurgical, food, plant or oil samples in your laboratory and not obtaining desired results? Contact our Applications' Specialist to answer your questions and provide insight to increase sample throughput, optimize recovery levels or improve methodologies. We are dedicated to finding a solution to your sample digestion needs.

A growing library of **MiniWAVE** Application Notes is available. Each of the Notes demonstrate the ease of use and effectiveness of **MiniWAVE**. Recent Application Notes include:

- The Digestion of Agricultural Leaves
- The Digestion of Polypropylene Plastic
- The Digestion of Used Oil
- The Digestion of Basalt Rock
- The Digestion of Waste Water

Contact your local sales representative
or distributor for more information.

ORDERING INFORMATION

To place an order, choose the appropriate **MinWAVE** system, one or more Racks, and one Controller. The Touch Screen Controller will operate with up-to four **MinWAVE** microwave digestion modules.

SYSTEM COMPONENTS	1	MinWAVE	Microwave Digestion Module, 6 Position, 110v	Each	010-600-016
	2	MinWAVE	Microwave Digestion Module, 6 Position, 220v	Each	010-600-018
	3	Controller	MinWAVE Controller	Each	010-600-019
	4	Rack	MinWAVE Rack 6 Place, with 75 ml Quartz Vessels	Each	010-600-035
	5	Rack	MinWAVE Rack, 6 Place, with 75 ml Teflon® Vessels	Each	010-600-037

ACCESSORIES AND REPLACEMENT PARTS	Vessels	Quartz Vessel, 75 ml, Calibrated	Pk/6	010-600-071
	Vessels	Teflon® Vessel, 75 ml	Pk/6	010-600-073
	Support Sleeves	Support Sleeves for 75 ml Teflon® Vessels	Pk/6	010-600-074
	Caps	PFA caps for Quartz Vessels	Pk/6	010-600-060
	Caps	PFA caps for Fluoropolymer Vessels	Pk/6	010-600-061
	Venting Tool	To manually release the safety cap pressure after digesting samples	Each	010-600-070
	Weighing Support	Weighing Support for Microwave Vessel	Each	010-600-110
	Mixing Cap	Mixing Cap for Microwave Vessel	Each	010-600-100
	Transfer Rack Stand	Transfer Rack Stand	Each	010-600-040
	Start-up Kit	Contains exhaust hose (010-600-081) plus 010-600-110 / 100 / 020 / 070 / 040	Each	010-600-120

MK-MINWAVE-BROC-3-0-E

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Providing Innovative Solutions to Analytical Chemists

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