



| **MiniWAVE**

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.



INCREASE THROUGHPUT

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



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.

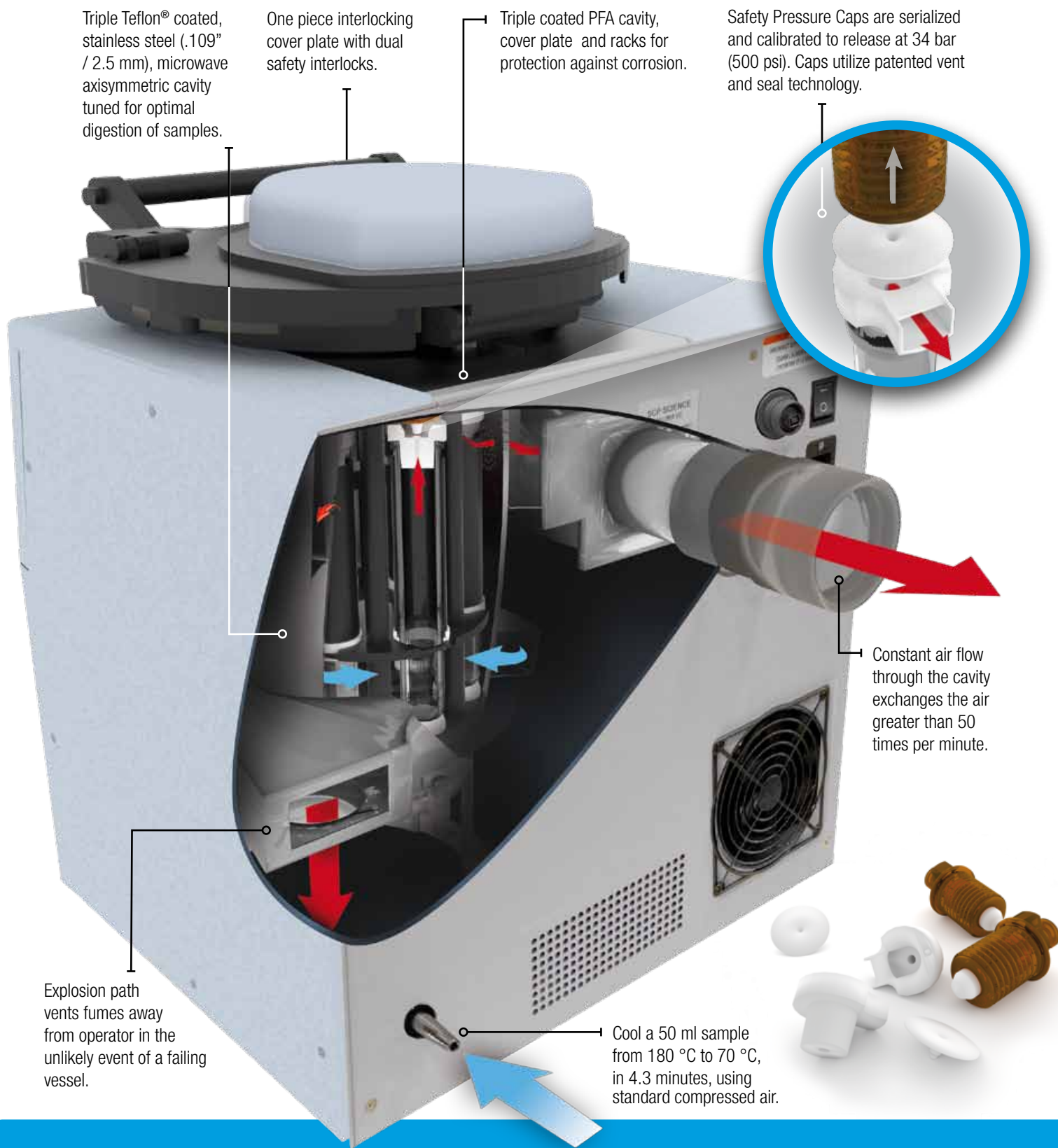


SAFETY

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

ADVANTAGES

SAFETY





Simple to install



No tools required to tighten

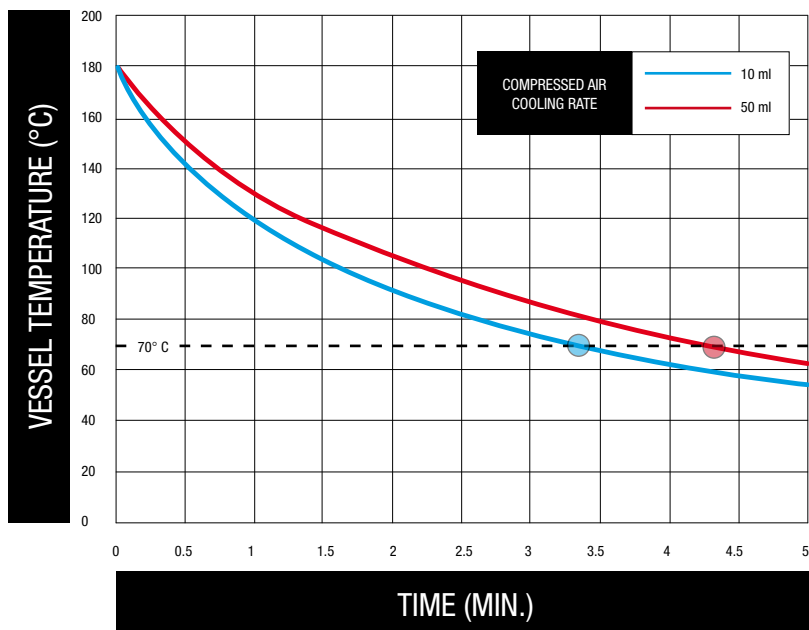


Fast cooling and safe venting

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

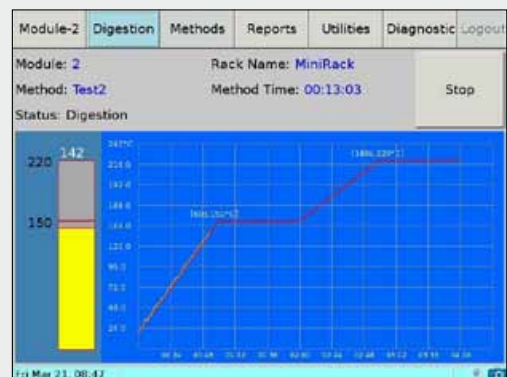
| | 10 ml Volume | 50 ml Volume |
|----------------|--------------|--------------|
| Exhaust Blower | 6.5 minutes | 10.1 minutes |
| Compressed Air | 3.4 minutes | 4.3 minutes |



SAMPLE COOLING TIME

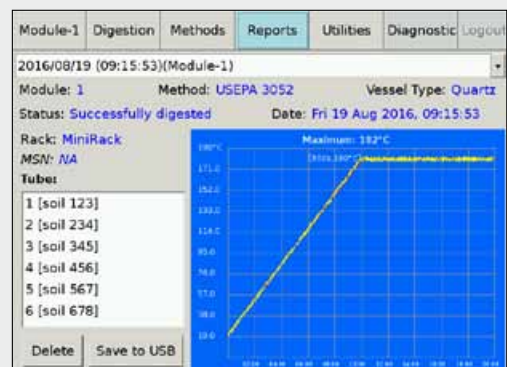
METHODS

| | |
|--|---|
| 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

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)

Electrical Requirements 110V and 220V systems

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.

Microwave Energy

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 |

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