



# 8200 Series

## Micro-wave Digestion

**The 8200 Series of Micro-wave Digestion Systems are available with sample preparation of 6, 8, 10 or 12 samples each of up to 100ml at one time.**

A series of versatile Micro-Wave Digestion Systems which include pre-programmed methods and up to 255 user defined analysis methods

# 8200 Series Micro-Wave Digestion

*PG Instruments – a leader in the development of first class scientific instruments – is pleased to introduce its 8200 Series of Micro-Wave Digestion Systems. The 8200 Series offers a range of sample preparation including 6, 8, 10 or 12 samples*

## Introduction

*As analysis techniques continue to improve and become more sensitive, an even greater emphasis is being placed on the accuracy of sample preparation that involves the risk of contamination.*

*Microwave digestion is now recognised as the most robust sample prep technique for a number of analytical instruments.*

- ▶ Atomic Absorption Spectrometer
- ▶ ICP-OES
- ▶ ICP-MS
- ▶ Flame Photometry
- ▶ UV Visible Spectrophotometer
- ▶ Atomic Fluorescence Spectrometer
- ▶ XRF

*Microwave digestion involves combining the sample matrix and acids in a pressurized container and elevating the solution past the boiling point of the acid which significantly accelerates the digestion. Given the high operating temperatures and pressures, microwave digestion can be applied to a wide range of samples in a number of common industries.*

- |                  |                  |                 |
|------------------|------------------|-----------------|
| ▶ Pharmaceutical | ▶ Oil and Grease | ▶ Gas           |
| ▶ Plastics       | ▶ Petroleum      | ▶ Agricultural  |
| ▶ Polymer        | ▶ Forensic       | ▶ Environmental |
| ▶ Rubber         | ▶ Research       | ▶ Education     |
| ▶ Food           | ▶ Chemical       | ▶ Cosmetics     |

*The 8200 Series Micro-Wave Digestion systems produces a fully uniform dissolved sample simply, quickly and safely*



Pharmaceutical



Environmental



Agricultural

## Benefits of Microwave Digestion Technique

- ▶ Reduces sample preparation time
- ▶ Avoids sample contamination
- ▶ No exposure of analyst to corrosive or acid fumes
- ▶ Reduced acid consumption
- ▶ Loss of volatile elements is prevented
- ▶ Simultaneous preparation of 6, 8, 10 or 12 samples
- ▶ Reproducible digestions
- ▶ Improved QA/QC
- ▶ Simplifies sample preparation



### Main Features

#### Available Models

4 models are available in the the same instrument design

- ▶ 8206 - 6 Vessel
- ▶ 8208 - 8 Vessel
- ▶ 8210 - 10 Vessel
- ▶ 8212 - 12 Vessel

#### Micro-Wave Design

The vertical micro-wave design gives an even distribution of the micro-waves within its 42L chamber volume

The tank is made from high quality stainless steel with a teflon coating which eliminates erosion and improves the cooling process.

The superior magnetron design allows selectable powers upto 1000W and cuts leakage to <5mw/cm3.

#### Monitoring

Temperature and pressure is contactlessly monitored, for each individual vessel, during its programmable operation. Temperature monitoring is performed using an IR sensor and the programmable temperature can be programed upto 400 degrees C depending on the requirements.

Pressure monitoring is performed using optical fibres and the programmable pressure can be programed upto 60bar depending on the requirements.

#### Vessels

Each 100ml individual vessel comprises of 2 main parts, the TFM inner vessel for the sample and the PEAK outer protec. vessel. All vessels are identical and are used in all the range of instrument models.

#### Rotor

The rotor supports the assembled vessels. It rotates in one direction, 360 degrees continuous movement.

#### Display

The built-in 7inch touch screen has a user friendly interface for easy operation.

Initialisation is carried out after switch on and automatic system diagnostics show any problems before operation. Administrator rights are incorporated for editing of user programs, instrument calibration and logon features. Upto 255 programs can be set up by the user and saved for future use.

8 pre-set programs are available for instant use.

- ▶ General Digestion
- ▶ Milk
- ▶ Milk Powder
- ▶ Herbs
- ▶ Medicine
- ▶ Meat
- ▶ Soil
- ▶ Water





## Technical Specifications

Component	Specification			
Model	8206	8208	8210	8212
Vessels	6	8	10	12
Micro-wave Power	0 – 1000W (adjustable)			
Temperature Control	All Vessels Controlled			
Temperature Monitoring	Contactless IR Sensor Monitoring			
Max Working Temperature	250°C			
Temperature Accuracy	± 0.1°C			
Temperature Range	50 -400°C			
Pressure Control	All Vessels Controlled			
Pressure Monitoring	Contactless Optical Fibre Monitoring			
Pressure Range	0 – 60 Bar			
Vessel Volume	100ml			
Vessel Material	Inert TFM			
Outer Vessel Material	Composite PEEK			
Display	7 Inch Touch Screen			
Rotor	360° Continuous Rotation			
Chamber Volume	42L			
Micro-wave Frequency	2450MHz			
Leakage of Micro-wave	Less than 5mW/cm <sup>2</sup>			
Power	AC 220V ± 10%, 10A, 50/60Hz			
Dimensions	490mm x 560mm 630mm			
Net Weight	47kg			

PG Instruments Ltd.,  
Alma Park, Wibtoft,  
Leicestershire LE17 5BH England  
t: 0044 (0) 1455 220131  
e: info@pginstruments.com  
**www.pginstruments.com**

*The highly qualified and long experienced team at PG Instruments Ltd are recognised experts in electrochemistry and relevant technology. They have been developing and manufacturing analytical instruments for science for over a decade and have a worldwide recognised reputation for excellence in their field.*