

Microwave Digestion System with Pressurized Digestion Cavity

Multiwave 7101/7301/7501



Demanding Samples

Easy Digestions

The pressurized digestion cavity (PDC) is a stainless steel pressure vessel for sample preparation for ICP or AAS analysis. This concept, established by Anton Paar 40 years ago in the legendary High Pressure Asher, has been combined with advanced microwave heating technology to yield the Multiwave 7101/7301/7501 series.

A family of high-performance instruments for complete digestions of virtually any sample type without the need for method development or sample clustering.

Just fill your vessels with samples and acids and let the PDC system do the work.

Smooth sample processing

1. Add reagents to your sample and cover with plug-on caps
2. Load your rack (up to 28 positions)
3. Place your rack into the liner and cover it with the drip cup
4. Safely transport the lightweight liner (<1 kg)
5. Follow the software-guided procedure on your instrument



Multiwave 7301

The Allrounder

Keep acid concentrations as low as possible, simplify spectroscopic measurement, and protect analytical equipment. High sample weights of up to 4 g per position help push detection limits, and our high-purity vials and vessels guarantee low blank values.

Unparalleled flexibility

- Rely on a 2,000-Watt magnetron to automatically adjust power to handle reactive samples with care
- Digest up to 28 samples in one run and align throughput with your workflow
- Simplify method development
- Access software-based digestion methods for relevant norms and standards

Ease of use

- Digest easy and demanding samples in the same run, no sample clustering needed
- Develop methods supported by a standard method library
- Operate the instrument with software-guided steps

Enjoy a compact, robust design

- Save much-needed lab space with Multiwave 7301's built-in cooling system
- Get peace of mind: The cavity and all stressed components have been engineered to withstand harsh chemicals

Safety

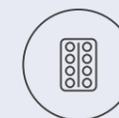
- Stay protected from chemicals as each liner is equipped with a drip cup
- Handle only pressure-less vessels
- Get peace of mind: After the digestion, a ventilation removes toxic fumes
- Use a liner lift to remove the PTFE liner from the cavity

Stay connected with smart features

- Control the instrument via PC, smartphone, or tablet from a distance with VNC
- Stay up-to-date with your acid digestion's status, with the Multiwave 7301's Smart Light, even from across the room
- Get email notifications during the digestion process



FOOD



PHARMA



ENVIRONMENTAL



MINING



PETRO



TESTING LABS

Multiwave 7101

The budget-friendly choice

Is price a key factor for you? Then this Multiwave is the one for you. Get all of the benefits of a PDC system – maximum user safety, minimum effort – at an outstanding price-performance ratio.

- ✓ Use one smart system to digest most samples
- ✓ Enjoy easy handling and convenient digestions
- ✓ Rely on multiple backup safety systems
- ✓ Combine with your external cooler for additional savings

Multiwave 7501

Engineered to master any challenge

Do you perform aqua regia digestions or use HCl as a reagent on a regular basis? Then Multiwave 7501 is your solution. With upgraded parts and extended automated cleaning procedures, it has improved corrosion resistance, so you can digest even the most demanding samples.

- ✓ Heavy-duty device
- ✓ Ultimate corrosion resistance
- ✓ Software-guided cleaning protocols
- ✓ Preventive maintenance plan



FOOD



AGRICULTURE



ACADEMIA



ENVIRONMENTAL



PLATINUM GROUP METALS



MINING



STEELS AND ALLOYS

Acid Digestion Applications

1 Work flow simplified

In the Pressurized Digestion Cavity (PDC), different samples and different acid mixtures can be processed in the same run. This eliminates the need for extensive method development or grouping similar samples. In the pressure-sealed vials, foaming and bubbling are suppressed so that no cross-contamination takes place.

2 Challenge accepted

Multiwave 7101/7301/7501 offer the highest temperature and pressure specifications on the market (up to 300 °C and 199 bar). This ensures complete digestions, even of the most demanding samples. The lowest content of residual carbon and reduced acid amount, compared to traditional microwave digestion, reduce chemical strain on spectroscopic instruments. This means reduced cost of ownership, not only for digestion itself but also the analytical equipment.

3 Standards exceeded

Multiwave 7101/7301/7501 have all common standard methods already implemented in their software. The powerful system allows for fast heating, such as required in EPA 3051 A (170 °C in 5.5 minutes), using less than 55 % of its installed power. Whatever the method demands – Multiwave 7101/7301/7501 will handle it for you.

4 Requirements fulfilled

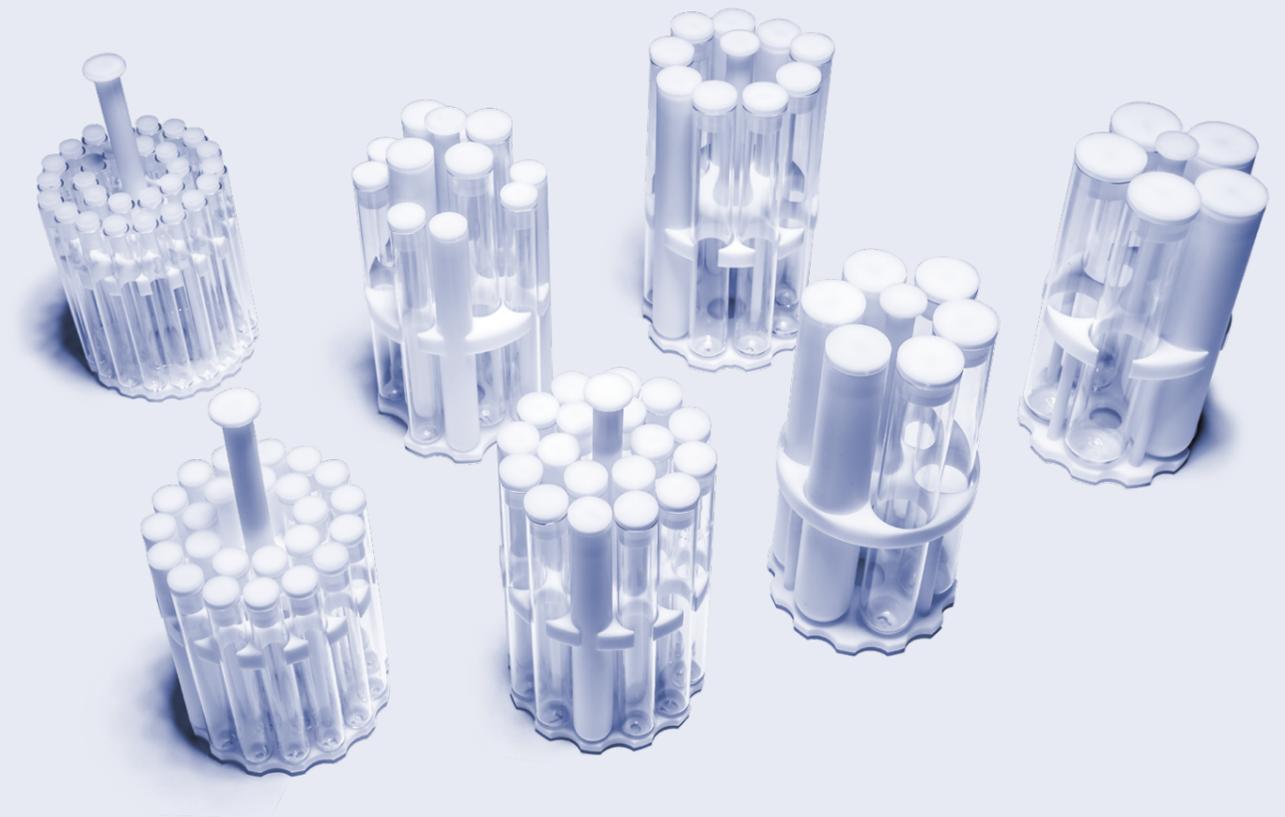
Many industries are moving towards lower detection limits and regulated environments. Multiwave 7101/7301/7501 offers efficient digestion, with lowest sample amounts to minimize blank levels and dilution factors. At the same time, high sample weights of up to 4 g and ultrapure quartz vials help to further push the achievable limit of detection. The instrument comes with 21 CFR Part 11 compliant software and (optionally available) comprehensive Pharma Qualification documentation ensures qualification of Multiwave 7101/7301/7501 within one working day.

	Rack 28	Rack 24	Rack 18	Rack 12 Mixed	Rack 9	Rack 6	Rack 5
	↓	↓	↓	↓	↓	↓	↓
Vial volume	5 mL	8 mL	18 mL	8x18 mL, 4x30 mL	30 mL	55 mL	80 mL
Recommended filling volume	4 mL	5 mL	10 mL		25 mL	40 mL	55 mL
Borosilicate glass (disposable)	x	x	x	x	x	x	x
PTFE-TFM*		x	x	x	x	x	x
Quartz**		x	x	x	x	x	x
Sealed quartz vessels***			x	x		x	
Sample amounts (organic)	0.1 g	0.2 g	1 g	1 g / 2 g	2 g	3 g	4 g

* Chemically resistant, for digestions using HF (hydrofluoric acid).

** Lowest blanks, highest purity for lowest detection limits. Also available as grad. Cl. B.

*** For HCl/aqua regia digestions (in Multiwave 7101 and 7301) and to prevent loss of volatile elements.



Support and Education

From helping you find the right microwave digestion system to giving you all the background information and education you need, we're committed to outstanding service and support – whenever you need it.

Demos and webinars

We regularly offer free online webinars and demos. Recordings of our previous webinars are available in our library. Interested in an exclusive live demonstration? Then get in touch.

Contact our experts

We have over 3,400 employees worldwide, a network of more than 30 Anton Paar subsidiaries, and over 60 responsible distribution partners – so one of our microwave digestion experts is always just a call away and happy to help.

Free microwave digestion textbook

Get your copy of “A Chemist’s Guide to Sample Preparation”, your ultimate resource for all sample preparation needs. It describes the basics, benefits and various technical approaches to successful acid digestions as well as troubleshooting of common issues in the sample preparation field.

FIND OUT MORE



www.anton-paar.com/apb-microwave-digestion

FIND OUT MORE

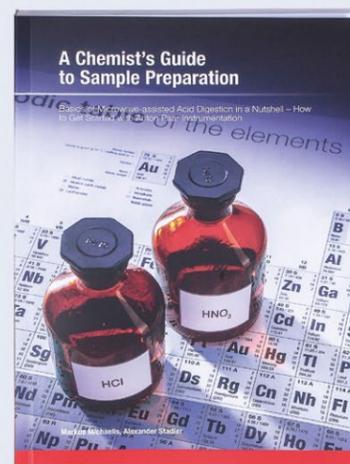


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Multiwave 7101

Multiwave 7301

Multiwave 7501

SPECIFICATIONS

	↓	↓	↓
Maximum power delivered	1,500 W	1,700 W	1,700 W
Installed power	2,000 W	2,000 W	2,000 W
Cooler	External	Internal	Internal
Smart light		x	x
Maximum temperature	300 °C	300 °C	300 °C
Maximum pressure	199 bar*	199 bar*	199 bar
HCl/Aqua regia digestions	x*	x*	x
Balance connection		x	x
Liner lift	x	x	x
Stirring option		x	x
VNC		x	x
Email notifications		x	x

*In sealed vessels.

INSTRUMENT DIMENSIONS

Weight	110.5 kg	112 kg	113.5 kg
Dimensions (width x depth x height)	497 mm x 742 mm x 470 mm (19.5 in x 29.2 in x 18.5 in)		615 mm x 760 mm x 470 mm (24.2 in x 29.9 in x 18.5 in)

Reliable. Compliant. Qualified.

Our well-trained and certified technicians are ready to keep your instrument running smoothly.

FIND OUT MORE



www.anton-paar.com/service



Maximum uptime



Warranty program



Short response times



A global service network

