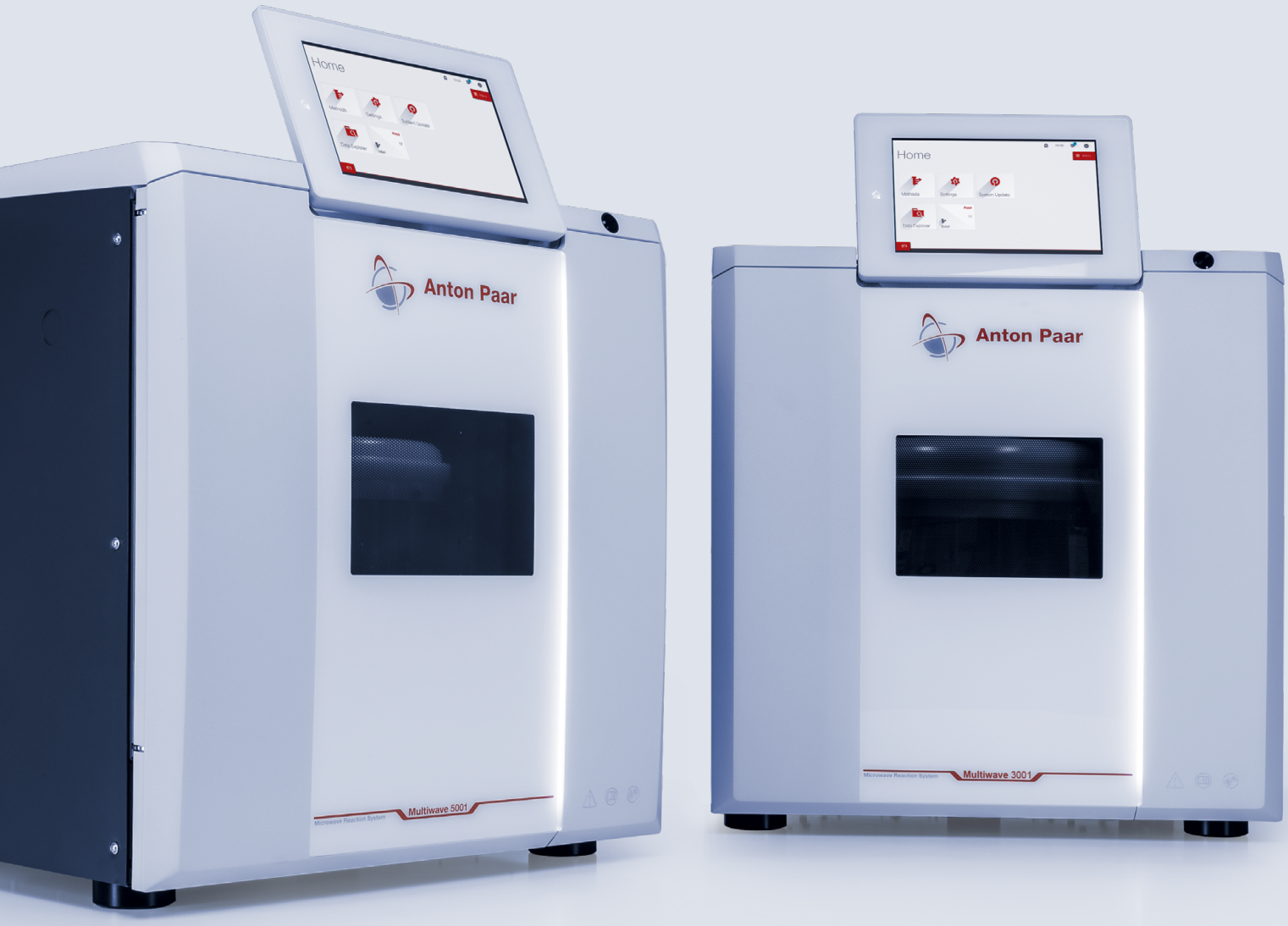
Anton Paar

Microwave **Digestion Platform**

Multiwave 5001 | Multiwave 3001



Prepare for **Perfection**

Perfect sample preparation is where superior trace elemental analysis begins

Even the most advanced analytical equipment delivers inconsistent measurement values without precise and flawless sample preparation. That’s where Anton Paar’s Multiwave 5001 and Multiwave 3001 come in. We’ve channeled over 50 years of sample preparation expertise into a microwave system that fits every need. From routine samples to highly demanding ones, and for every kind of throughput or application need, Multiwave 5001 and Multiwave 3001 are the answer. You’ll be equipped to handle every complex testing requirement you may have.

- ✓ Premium digestion parameters: Up to 300 °C and 100 bar
- ✓ Powerful: Saves time, boosts throughput, and reduces costs, with up to 64 samples in a single run
- ✓ Intelligent: 600 pre-installed programs, guiding features, tool-free vessel handling, and a “clever” door
- ✓ Connected 24/7: Automated data export for optimally traceable results
- ✓ Safety: Independent certification of safety features ensures they are at the highest level
- ✓ AP Connect: Can be integrated with our lab execution software AP Connect

FIND OUT MORE

www.anton-paar.com/apb-mw-5001

A Microwave System
for Analysts

1 Precise digestion results thanks to intelligent sensor technology
Comprehensive reaction control with Multiwave 5001 is guaranteed thanks to the SmartTemp 2.0 sensor, which measures the internal temperature of each vessel directly and in real-time, ensuring precise digestions and the highest productivity possible.

2 Stay one step ahead of your digital transformation
Multiwave 5001 and Multiwave 3001 are the devices best prepared for digitalization. Full traceability of your results is ensured, meeting industry standards and regulations. Thanks to automated data export and the optional integration of our lab execution software, AP Connect (Multiwave 5001), you can access your data at the touch of a button and share your results automatically with third parties. SmartLink allows you to access and control your experiment from any device at any time.

3 Time-savers: Hands-free door opener and optimized cooling
With the unique hands-free door opener, all you need to do is push gently against the door. No need to set the vessels or rotor aside. The integrated forced-air cooling system cools the vessels within minutes after heating cycles due to its unique air gap design. The optimized cooling ensures short process times and an increased lifetime for key components.

4 Advanced rotor concepts
Thanks to the workflow-oriented design, HVT and SVT vessels can be loaded into the rotor directly inside the cavity without hassle. The rotor can be seamlessly transferred into the oven, even without lifting when using the rotor handling device.

5 World-class support
Instruction manuals, a large method library with over 600 programs, and the application guide are just a few clicks away. Integrated video manuals facilitate training. Information and software updates are free and communicated through push notifications. Benefit from Anton Paar's decades of experience in microwave digestion, available from the application support around the globe.

6 Maximum safety in all situations
Multiwave 5001 and Multiwave 3001 are equipped with active and passive safety features: self-checks, software interlocks, and a resealing safety door. They are the only instruments with ETL and GS ("approved safety") certificates from independent testing institutes.

7 SmartLight: Visualize the status of your instrument
The color and mode of SmartLight indicate whether an experiment is in progress, finished, or on standby. No need to dash over from your desk to check if the run is finished.

8 Regulated environments
Multiwave 5001 and Multiwave 3001 comply with all important national and international standards such as pharmacopeia, GMP, GAMP 5, and 21 CFR Part 11. With the pharma-specific qualification package, Multiwave 5001 can be quickly integrated into your workflow. Together with Anton Paar's lab execution software AP Connect, ease the regulatory burden, guarantee data integrity, and prepare for seamless audits.

9 Comfortable handling
Magnetic stirring is available for all rotor and vessel types designed for optimum digestion quality. SmartVent detection indirectly controls the pressure and identifies venting events in vessels by registering NO_x gases in the exhaust air. A camera allows you to keep an eye on your digestion.

Digestions **Simplified**

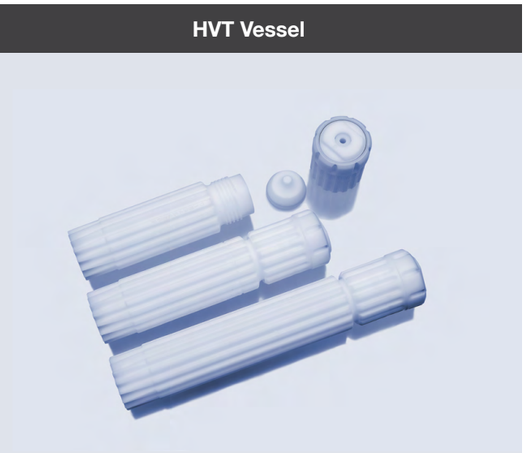
The use of SmartVent technology deals with overpressure, an unwanted side effect of digestion reactions. Thanks to the controlled release of reaction gases, it enables the attainment of maximum digestion temperatures independent of the applied sample amounts.

The SmartVent rotors are robust, lightweight, and accommodate more samples on a smaller footprint. Made for fast, safe, tool-free operation, our SmartVent vessels provide a new level of performance and convenience for the sample preparation laboratory. Their practical design impacts all steps of operation: from sample weighing and reagent addition to closing, opening, and cleaning.

SmartVent vessel technology – The key to successful digestions

- ✓ Overpressure release without loss of analytes
- ✓ Opening and closing 2x faster than other vessels – only three parts to handle, no tools required
- ✓ Up to 50 % higher sample quantities
- ✓ Samples with different reactivity in a single run
- ✓ Cooling fins and guided airflow enable fast cooling

HVT Vessel



A proven success for acid digestion of routine samples

- → Available in various volumes: 50 mL, 56 mL, and 80 mL.
- → Enabling high throughput of up to 41 samples in a single run
- → Ideal for digestion of various kinds of routine samples at moderate temperatures
- → Disposable borosilicate glass inserts, and quartz inserts for ultratrace metal analysis

SVT Vessel

Complete digestions of demanding samples

- → Premium operating parameters for complete digestions in minimal time
- → Highest throughput for any high-performance rotor on the market: up to 20 samples in a single run
- → Disposable borosilicate glass inserts, and quartz inserts for ultratrace metal analysis

Other Options

High-end rotor 8N: For highly reactive samples or extreme temperatures and pressures

- → Simultaneous and wireless pressure and pressure increase rate measurement
- → Temperature control of every vessel
- → Highest temperatures for extended periods of time

Other Options

Microsample rotor 64MG5

- → Requires less than 20 mg of sample and approx. 1 mL of acid
- → Unique for digestion of up to 64 of microsamples

Compatible with

Multiwave 3001	✓			
Multiwave 5001	✓	✓	✓	✓

Multiwave 5001

One instrument, every application

Some samples require special treatment. Multiwave 5001 provides premium digestion parameters and many additional sample preparation methods. This instrument combines more than 50 years experience in sample preparation with state-of-the-art technology.

- ✓ Full variety of applications and vessels – up to 300 °C and 100 bar
- ✓ Advanced sensor technology (SmartTemp 2.0)
- ✓ AP Connect (lab execution software) and automated data export
- ✓ Optional digital camera inside the chamber

PHARMA · **TESTING LABS** · **FOOD AND FEED**

MINING AND METALS · **ACADEMIA** · **ENVIRONMENTAL**

Multiwave 3001

High throughput at affordable costs

Routine samples require robust workflows at minimum effort and cost per sample. Multiwave 3001 is the instrument with the best performance-to-cost ratio, digesting up to 41 samples in a single run. Benefit from proven features including SmartVent technology and a comprehensive method library.

- ✓ Efficient digestion of routine samples, with HVT vessels
- ✓ Reliable temperature measurement thanks to robust IR method
- ✓ Automated data export

TESTING LABS · **FOOD AND FEED**

ACADEMIA · **ENVIRONMENTAL**

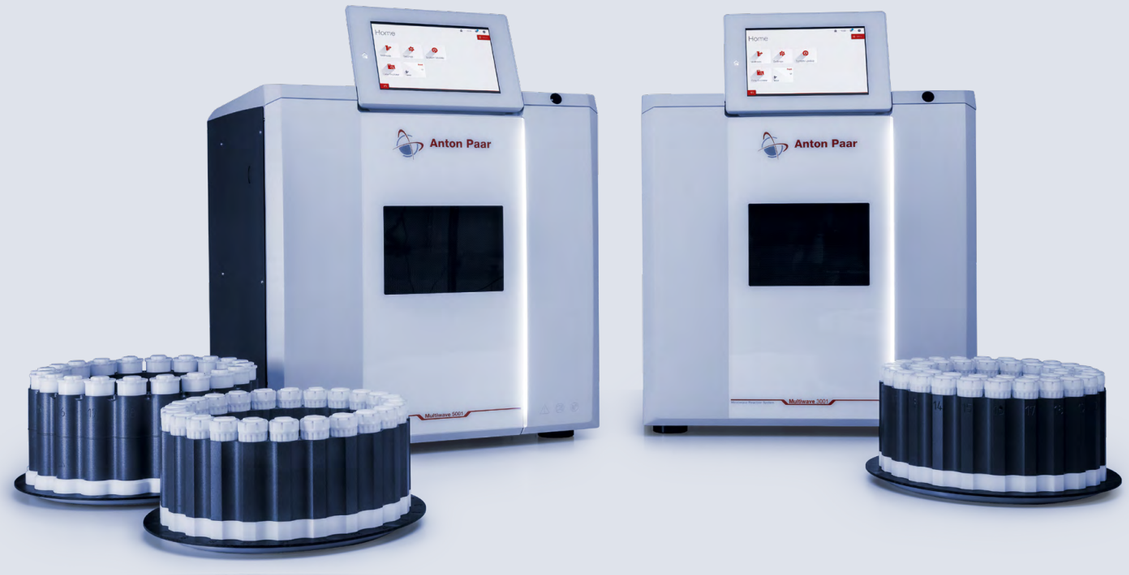
Further applications for Multiwave 5001

Extraction
The perfect alternative to conventional methods thanks to reduced reaction times and solvent consumption. A cost-effective way to improve the performance and throughput of HPLC- or GC-based analysis routines. Multiwave 5001 is suitable for extractions of PCBs, PAHs and hydrocarbons, derivatization reactions prior to analysis, and polymer extractions.

Evaporation
The 24EVAP accessory facilitates the evaporation of acids and concentration of aqueous sample solutions even without the need to transfer digestion solutions. It offers automatic endpoint determination for a variety of samples. The external scrubber neutralizes the acid vapors with a washing efficiency of more than 95 %.

Drying
Rotor 1DRY efficiently dries samples 4x faster than conventional methods, and provides samples without carbonization or contamination. Humidity and unwanted odors are removed via the exhaust system.

Microwave-induced oxygen combustion (MIC)
This unique, clean, and quick method is suitable for all combustible solids (wood, paper, coal, food, or polymers). Analytes are trapped in a low-concentration absorption solution which can be measured without dilution.



Support and **Education**

Expert advice
From helping you find the right microwave digestion system to providing background info and education, we offer outstanding service whenever needed. Benefit from free method development from our experts, who optimize your digestion method and streamline the entire process.

Free webinars
We regularly offer free online webinars on various sample preparation topics, where you can meet our experts. Want insights into sample preparation and access to our free online method database for Multiwave 5001 and Multiwave 3001? Explore our microwave digestion knowledge hub.

Free microwave digestion textbook
“A Chemist’s Guide to Sample Preparation” is a resource covering the basics, benefits, and technical approaches to successful acid digestions, with troubleshooting tips. The practical section discusses our solutions for a streamlined laboratory workflow.

FIND OUT MORE

www.anton-paar.com/apb-wiki-md

FIND OUT MORE

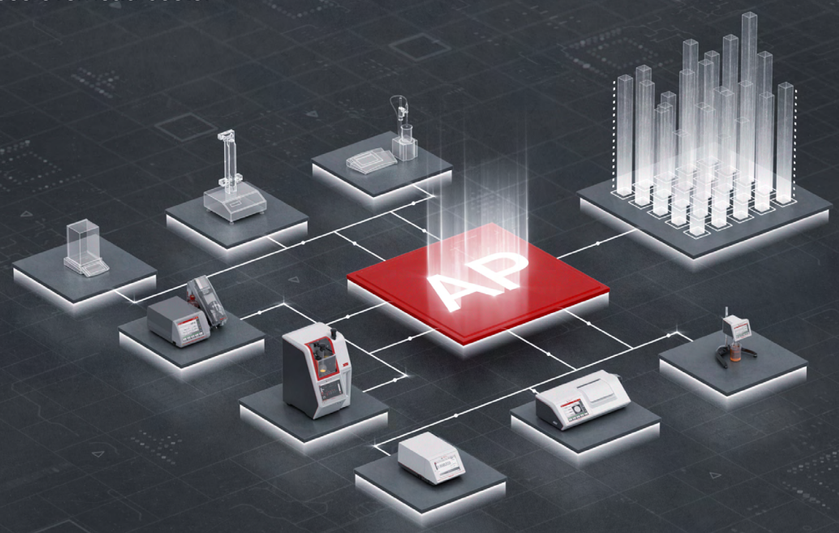
www.anton-paar.com/apb-chemists-guide

	Rotors HVT ↓	Rotor SVT ↓	Rotor 8 ↓	Rotor 64 ↓
ROTOR SPECIFICATIONS				
Number of vessels	24/41	20	8	64
Volume	50 mL / 56 mL / 80 mL	50 mL	100 mL	5 mL
Material	PTFE-TFM	PTFE-TFM	PTFE-TFM	Glass
HF resistant	Yes	Yes	Yes	No
Temperature control	Internal T in all positions / SmartTemp 2.0 (Multiwave 5001)	SmartTemp 2.0	IR in all positions	IR in 16 positions
Pressure control	SmartVent technology / SmartVent detection		p in all vessels	PTFE seal
Applications	Routine samples: biological and environmental samples, EPA procedures, food, cosmetic, and pharmaceutical samples	Harder-to-digest samples: including polymers, ceramics, petroleum products, and alloys	Most difficult samples	Microsamples, biological samples
Compatible with	Multiwave 3001, Multiwave 5001	Multiwave 5001	Multiwave 5001	Multiwave 5001

Multiwave 5001 is backwards compatible, it can accommodate Rotor 16 and accessories of older Multiwave models.

Data at Your Fingertips

AP Connect streamlines instrument data workflows in laboratories by providing seamless, efficient data management and integration for instruments. This ensures accuracy, data safety, compliance, and paperless efficiency in a centralized digital hub, which in turn helps improve data quality and reduces overhead costs.



FIND OUT MORE

www.anton-paar.com/apt-apconnect

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

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