



**sample preparation**  
at the highest level.



lab-loving  
people

**speedwave XPERT**  
Sample preparation

**analytikjena**

An Endress+Hauser Company

## speedwave XPERT

Microwave-assisted pressure digestion is used as a sample preparation technique for reliable elemental analysis in routine and research laboratories alike. speedwave XPERT is a universally applicable microwave digestion system for the preparation of organic and inorganic sample materials that impresses with its reliability, safety, and economy.

## speedwave XPERT

Sample preparation at the highest level

### Reliable digestions

- Patented sensor technologies
- No cross-contamination
- High reproducibility

### Economic and durable

- Low running costs
- Low material wear and long service life of the vessels
- Corrosion protection of the oven chamber

### Maximum operational safety

- Top-loading concept and electronic lid lock
- Permanent ventilation of the oven chamber and removal of generated acid fumes by the fume collection system
- Automatic regulation in case of exothermic reactions



## Reliable, durable, and economic

With its innovative sensor concept speedwave XPERT guarantees reliable results. The long product life of the vessels saves costs.

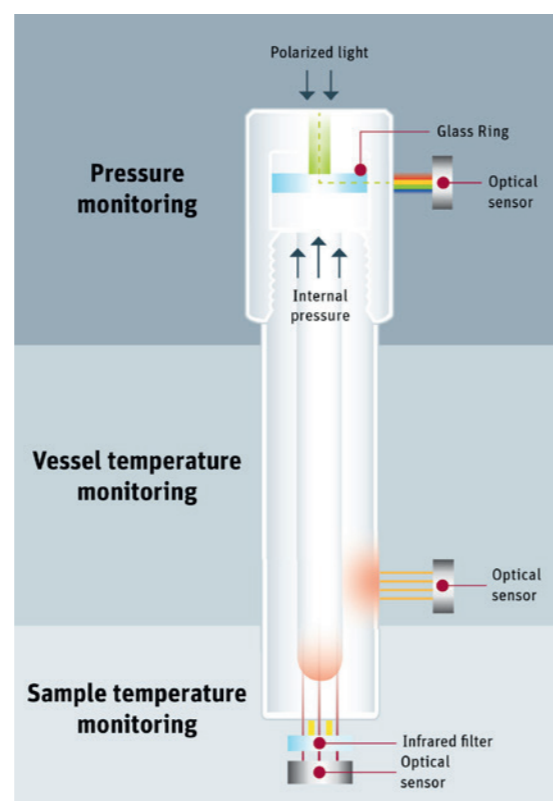


### Reliable and reproducible digestions

speedwave XPERT sets new standards with its innovative sensor technology and high-quality components. **Real-time temperature and pressure monitoring takes place contactless for all vessels**, which can be removed individually after digestion. The round design of the oven chamber homogeneously distributes the microwave radiation to achieve reproducible sample digestions. Due to the minimal surface porosity of the vessels, **the risk of cross-contamination is significantly minimized.**

### Long life and low operating costs

The vessels of speedwave XPERT have an outstanding life-time of **up to 10,000 digestion cycles**. **Low material wear** and protection of the vessels against damage by optical pressure and temperature control also ensure that you can significantly **reduce your running costs** in sample preparation. The oven chamber is protected against corrosion by a high-quality PFA coating.



sensor technologies of speedwave XPERT

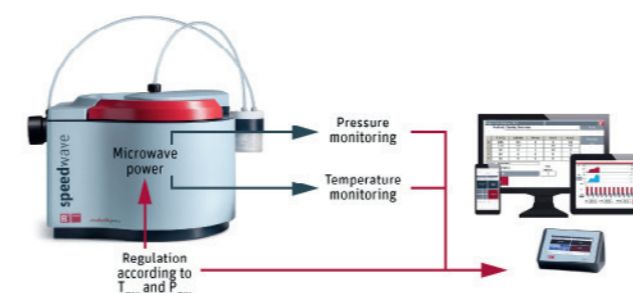
## Simple operation with maximum safety

The self-monitoring system of speedwave XPERT ensures a safe laboratory environment. The intuitive operation makes your daily lab routine easier.



### Maximum safety through real-time monitoring

Working under demanding conditions requires an absolutely reliable system. The pressure-resistant furnace with an electrically locked swiveling lid is equipped with an integrated exhaust system to **prevent reaction gases from escaping**. The furnace chamber is permanently ventilated. To reduce safety risks from irregular heating, a **monitoring of the reaction parameters pressure and temperature** is of particular importance. Thanks to real-time monitoring of the internal vessel pressure **automatic regulation** and, if necessary, shutdown of processes, takes place in case of exothermic reactions.



### User comfort and ease of operation

The innovative design of speedwave XPERT connects convenience and functionality. A special feature of the microwave digestion system is its **top-loading concept**. The swiveling lid allows the vessels to be easily loaded from above, providing optimal operator comfort. speedwave XPERT can be operated via a **7" touch controller** with a graphical user interface, as well as via mobile devices or PC/laptop.



## The matching setup for every digestion

Various vessel types expand the range of applications and reduce operating costs by using high-quality material.

The speedwave XPERT vessels are manufactured with the highest quality standards. They are **made from high-quality TFM-PTFE** and impress through reliability and an **outstanding lifetime**.

- Vessel volumes from 60 to 100 mL
- Manual opening and closing, without additional tools
- Safe and controlled release of remaining pressure after opening

All vessels are equipped with a rupture disc, which breaks when the overpressure exceeds the tolerance level. This allows an immediate termination of the digestion run in case of exothermic reactions. Thus, expensive consequential damage is avoided.

**Additional liner systems expand the field of applications** of existing vessel types. The vessels can be equipped with inserts to support digestion of small sample quantities or complex samples.



Overview vessel options				
	DAP-60X	DAP-100X	DAK-100X	TS-85X
Volume	60 mL	100 mL	100 mL	85 mL
Working pressure	40 bar	40 bar	100 bar	20 bar**
Test pressure	50 bar	50 bar	130 bar	20 bar**
Operating temperature	230 °C	200 °C	260 °C	210 °C
Maximum temperature	260 °C	230 °C	300 °C	210 °C
Sample weight*	2 g (inorganic) 0.4 g (organic)	2 g (inorganic) 0.5 g (organic)	3 g (inorganic) 1 g (organic)	2 g (inorganic) 1 g (organic)
Positions	12	12	8	16 or 32
Options	DAQ-20H	DAQ-22H	-	-

\* Weights are reference values. Actual original sample weights may vary, depending on application and acid

\*\* SafeVent technology (automatic valve opening at 20 bar and re-sealing after pressure relief)

## At home in many industries

Due to its versatility, the speedwave XPERT is ideally suited for use in many industries.

### Food and agriculture

A reproducible and efficient sample digestion is crucial for reliable analyses to fulfill food safety requirements. The speedwave XPERT is suitable for the digestion of the following samples:

- Beverages
- Animal products
- Milk products
- Fruit
- Cereals
- Nutrients
- Animal feed
- Lactose

### Environment

Environmental monitoring is mostly determined by standardized processes. A reliable microwave digestion is required in sample preparation for the analysis of emissions, water, or sludges. You can rely on speedwave XPERT for the digestion of

- Filter/emissions
- Sediments
- Soil and sludge
- Water and wastewater
- Ash
- Minerals, rocks, and concrete

### Pharma, chemistry, and metallurgy

The speedwave XPERT is also used in the field of pharmaceuticals and life science, as well as for chemical samples. Areas of application are, for example, the digestion of

- Blood, hair, bones
- Products with high fat content
- Cosmetics
- Lactose and dextrose
- Polymers (e.g., PET, polyester)
- Metals and alloys

## Our portfolio for optical spectrometry and mass spectrometry



### novAA 800 series

The powerful entry-level AAS for routine laboratories.



### contrAA 800 series

Powerful high-end AAS for efficient and sensitive multielement analysis for research and everyday lab use.



### ZEEnit series

AAS with Zeeman background correction – proven and robust trace analysis for demanding sample matrices.



### PlasmaQuant MS series

High-performance ICP-MS with unmatched sensitivity and low operating costs for trace and ultra-trace analyses.



### PlasmaQuant 9200 series

ICP-OES spectrometer with high-resolution array technology for the elemental analysis of liquid samples.

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