

Technical data

High-Resolution ARRAY ICP OES
PlasmaQuant[®] PQ 9000



PlasmaQuant® PQ 9000

Compact High-Resolution ARRAY optical emission spectrometer with an inductively coupled plasma for multi-element analyses equipped with a high-resolution echelle optical bench, fully PC controlled and an optional autosampler.

High-Resolution Optics

HR spectrometer	<ul style="list-style-type: none"> ▪ Optical bench is mounted on a rigid and compact base plate for high robustness and durability ▪ Encapsulated and argon purged optical bench that eliminates air, dust particles and moisture from the entire optical path ▪ High-Resolution Echelle Double Monochromator with order preselection and minimal intensity losses to scattered light ▪ Pre-monochromator with quartz prism ▪ The optical bench does not require any thermostating
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Wavelength range	160 - 900 nm
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Spectral resolution	0.002 nm at 200 nm
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Dual View PLUS	<ul style="list-style-type: none"> ▪ Dual View PLUS Plasma observation for 2+2 plasma views ▪ Automated attenuation of axial and radial plasma views ▪ Fast switching between axial and radial plasma views in one method
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Detector	<ul style="list-style-type: none"> ▪ Peltier cooled CCD array detector with high quantum efficiency, increased UV-sensitivity and reduced warm-up times
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V Shuttle Torch

Easily accessible and clearly laid out sampling system with V Shuttle Torch realizing short distances between sample and plasma for significantly reduced delay times

Plasma geometry	<ul style="list-style-type: none"> ▪ Vertical plasma geometry for improved tolerance of complex matrices and high sample loads (e.g. petrochemical, saline or metallic materials). ▪ Deposit-free vertical torch avoids clogging and soot formation ▪ Best accuracy (RSD), blank values and range of samples to be analyzed without sample-pretreatment
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Torch	<ul style="list-style-type: none"> ▪ Firm and sliding torch base made from thermally and chemically resistant materials ▪ Built-in gas connections for high safety, precision and durability
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Nebulizer	<ul style="list-style-type: none"> ▪ Range of concentric nebulizer with EasyFit® for quick interchange ▪ Optional for high salt contents, low gas flows and for the use of hydrofluoric acid
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Spray chamber	<ul style="list-style-type: none"> ▪ Optional for the use with hydrofluoric acid, with cooling of spray chamber or desolvation
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V Shuttle Torch

Peristaltic pump	<ul style="list-style-type: none"> ▪ 12-roller peristaltic pump with adjustable contact pressure for uniform sample introduction ▪ 4 tubing channels for maximum flexibility
Gas control	<ul style="list-style-type: none"> ▪ Fully automated gasbox with individual Mass Flow Controllers (MFC) for plasma, auxiliary and nebulizer gases ▪ MFC for the precise and safe addition of oxygen

High-Frequency Generator

- Free-running 40 MHz generator with solid state power supply for long-term plasma stability and for excellent reproducibility
- Incremental power variation between 700 and 1700 W for increased applicability
- Cooled four-winding induction coil for efficient energy transfer to the plasma independent of sample load or matrix

Accessories

Autosampler	<ul style="list-style-type: none"> ▪ High through-put xyz- autosampler ▪ Up to 3 sample trays for sample container of different volume
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Additional technical data

Dimensions	987 mm x 937 mm x 765 mm (W x H x D)
Weight	170 kg
Environmental requirements	<ul style="list-style-type: none"> ▪ Temperature +15 °C up to 35 °C ▪ Relative Humidity 20 - 90 % at +30 °C
Power requirements	230 V ($\pm 10\%$); 50/60 Hz, slow fuse 35 A 4600 VA