

Atomic Absorption Spectrometer

# ZEEnit P series



## ZEEnit P series

Variable high-end AA Spectrometer with Deuterium and Zeeman Background Correction with “Third Generation” Magnetic Field Control.

	ZEEnit 650 P	ZEEnit 700 P
<b>Technique</b>	Graphite furnace technique HydrEA technique	Flame technique Graphite furnace technique Hydride technique HydrEA technique Direct solid sampling technique
<b>Monochromator</b>	<ul style="list-style-type: none"> <li>Optimized Czerny-Turner-Design for maximum energy throughput with two focal lengths, automated wavelength selection, peaking and slit selection</li> <li>Real double beam mode</li> <li>Free choice of single and double beam mode</li> <li>Encapsulated optics for an increased service life</li> </ul>	
<b>Wavelength range</b>	185–900 nm	
<b>Optical bench</b>	<ul style="list-style-type: none"> <li>Optical parts are mounted on a strong and compact cast aluminium basic plate for strength and stability</li> <li>Cover to prevent dust, vapour and humidity ingress</li> </ul>	
<b>Detector</b>	Wide range UV sensitive photomultiplier	
<b>Lamp</b>	<ul style="list-style-type: none"> <li>Automated 8-lamp turret with independent lamp power supply to each lamp each with two heating circuits for lamp preheating operation</li> <li>Capability for the installation of Super Lamps</li> <li>RFID-Tool for coded lamps</li> </ul>	
<b>Background Correction</b>		
<b>Deuterium BGC</b>	<ul style="list-style-type: none"> <li>Ultra fast background correction using a Deuterium Hollow Cathode lamp with high clocking frequency (300 Hz)</li> <li>The lamp is easy to replace, adjust and optimise by the user</li> </ul>	
<b>Zeeman BGC</b>	<ul style="list-style-type: none"> <li>Third Generation of magnetic field control with variable field strength</li> <li>Variable magnetic field with high clock frequency of 200 Hz</li> <li>Transverse arranged bipolar magnetic field</li> <li><i>2Field technique</i>: maximum field value can be selected in steps between 0.1 and 1.0 Tesla</li> <li><i>3Field technique</i>: maximum field value can be selected in steps between 0.05 and 1.0 Tesla</li> <li>Dynamic mode (combination of 2Field and 3Field technique)</li> <li>Fully automated optimisation of magnetic field strength</li> </ul>	

<b>Flame technique</b>	
<b>Burner-Nebulizer-System</b>	<ul style="list-style-type: none"> <li>▪ All-titanium single slot burner</li> <li>▪ Reproducible burner rotation</li> <li>▪ Optional automatic cleaning device for 5 cm burner head (Scraper)</li> </ul>
<b>Spray chamber</b>	<ul style="list-style-type: none"> <li>▪ PPS spray chamber with mixing wing for aqueous and organic solutions</li> </ul>
<b>Gas control</b>	<ul style="list-style-type: none"> <li>▪ Fully computer controlled Total Flow Gas box</li> <li>▪ Computer controlled automated flame ignition</li> <li>▪ Automatic input of additional gases for organic solvents</li> </ul>
<b>Safety functions</b>	<ul style="list-style-type: none"> <li>▪ Sensor control of the burner head</li> <li>▪ Check of the siphon system</li> <li>▪ Automatic shut down of gases if the flame is not detected or in case of a system power failure or as a defined action during a multi routine</li> </ul>

### Graphite furnace technique

- Integrated computer-controlled transverse heated Zeeman graphite furnace
- Graphite tube is transverse heated to provide a constant temperature profile
- Independent gas controls for the external and internal gas flows around and through the tube allow easy removal of volatile matrixes whilst protecting the tube against interference from outside air during the internal gas stop hence maximizing tube life
- The advanced furnace concept, utilising the adaptive sensor-less temperature control and emission independent temperature control ensures constant, precise, reproducible and accurate temperature conditions
- Easy change of tubes or electrodes
- Optional high-end furnace camera – to observe the deposition of droplets and the drying phase the graphite tube
- Analytical programs with up to 20 steps can be set up and all steps are easily programmable

#### Temperature

- Programmable up to 3000 °C in steps of 1 °C

#### Gas Flow

- Separate control of inert gas stream of Argon
- Programmable in 4 steps from 0 up to a max gas flow of 2 L/min for internal and external flow rates

#### Graphite Tube

- Pyrolytically coated graphite tubes with patented platform technique or tube atomization without platform

#### Graphite autosampler

- Intelligent autosampler for maximum flexibility and any sample type or matrix
- 89-sample position table with specific positions for matrix modifiers and diluents
- Automatic dilutions or additions of up to five different modifiers
- Hot and cold injection
- Insert volumes from 1 to 50 µL in increments of 1 µL are user selectable
- Freely programmable rinse cycles
- Automatic calibration of up to 65 points from one or multiple stock standard solutions
- PC controlled dilution by volume reduction or intelligent fully automatic dilution

### Hydride and Hg Generation

- Modular Hg-/Hydride systems for the determination of hydride-forming elements and Hg in Batch or Flow Injection modes
- Optional amalgamation unit
- Integrated electro thermal heating unit
- Connection to autosampler is possible

### HydrEA technique

- Combination of hydride and graphite furnace technique for the determination of hydride forming elements
- Improved detection sensitivity – enrichment in the graphite tube

**Direct solid sampling technique – solidAA®**

- Analysis of the original solid sample, directly and without any laborious sample preparation
- Wide measurement range
- True micro-method
- Avoiding hazardous reagents
- Easy handling
- Immediate results
- High sensitivity

**Additional technical data**

<b>Dimensions (W x H x D)</b>	790 mm x 645 mm x 735 mm	1180 mm x 650 mm x 735 mm
<b>Weight</b>	170 kg	230 kg
<b>Environmental requirements</b>	<ul style="list-style-type: none"> <li>▪ Temperature +10 °C up to 35 °C</li> <li>▪ Rel. Humidity max. 90 % at +30 °C</li> <li>▪ Non condensing</li> </ul>	
<b>Power requirements</b>	230 V (±10 %); 50/60 Hz, slow fuse with 35 A, 2100 VA, single phase alternating current	