

## ZSX Primus IV specifications

### General

Elemental coverage	${}^4\text{Be}$ through ${}_{92}\text{U}$
Optics	Wavelength dispersive, sequential, tube above

### X-ray generator

X-ray tube	End window, Rh-anode, 3kW or 4 kW, 60kV
HV power supply	High frequency inverter, ultra-high stability
Cooling	Internal water-to-water heat exchanger

### Spectrometer

Sample changer	48 positions standard, 96 optional
Sample inlet	APC automatic pressure controller
Maximum sample size	51 mm (diameter) by 30 mm (high)
Sample rotation speed	30 rpm

Primary X-ray filters	Al25, Al125, Ni40 and Ni400
Beam collimators	6 auto-selectable diameters: 35, 30, 20, 10, 1 and 0.5 mm
Divergence slit	3 auto-selectable: standard, high, and coarse (optional) resolutions
Receiving slit	For SC and for F-PC detectors
Goniometer	$\theta - 2\theta$ independent drive mechanism
Angular range	SC: 5-118°, F-PC: 13-148°
Angular reproducibility	Ultra-high precision
Continuous scan	0.1 - 240°/min
Crystal changer	10 crystals, automatic mechanism
Vacuum system	2 pump high-speed system w/ (optional) powder trap
He flush system	Optional, with partition

### **Detector systems**

Heavy element detector Scintillation counter (SC)

Light element detector    Flow proportional counter (F-PC)

Attenuator                      In-out automatic exchanger (1/10)