ZSX Primus IV/IVi

X-RAY FLUORESCENCE SPECTROMETERS

Tube-above/tube-below high-performance models

Rigaku

Leading With Innovation

Industry know-how: ZSX

SUPPORTING ANALYSIS USING ZSX GUIDANCE

- Facilitates comprehensive analysis with automatic settings and smart selection features for quantitative applications with minimal operator intervention.

DESIGNED FOR SAFETY

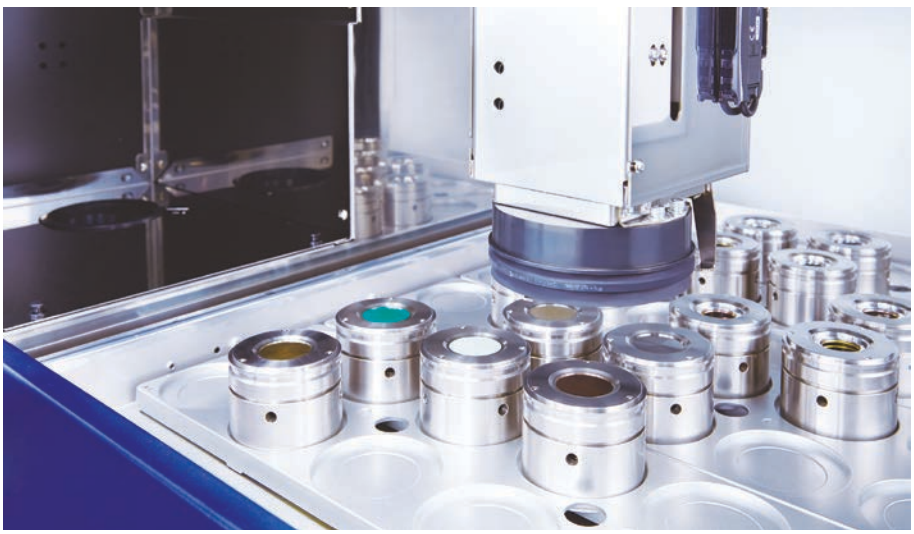
- Tube-above geometry minimizes effects of catastrophic sample failures.

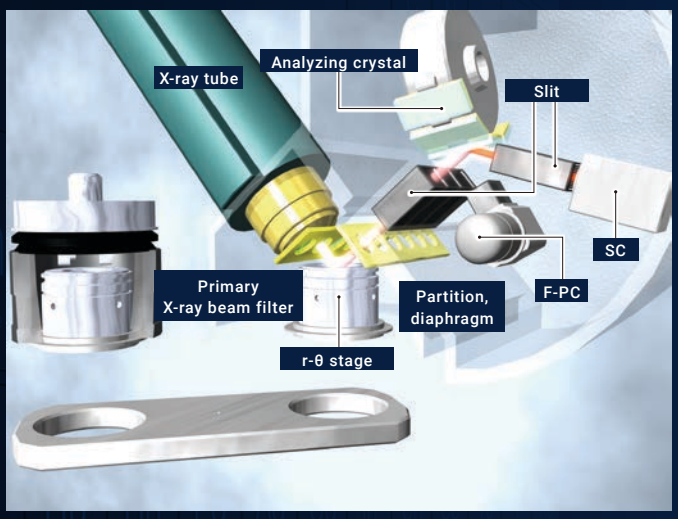
HIGH SPEED AND PRECISION

- High-speed goniometer, high-speed digital counting system.

UNIQUE CAPABILITIES

- Point/Mapping analysis, SQX scatter FP method.





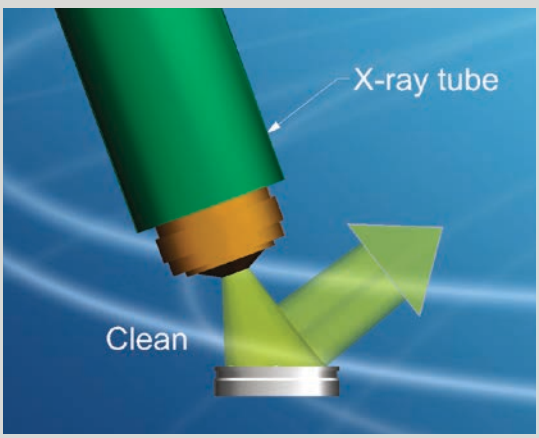
Primus IV features

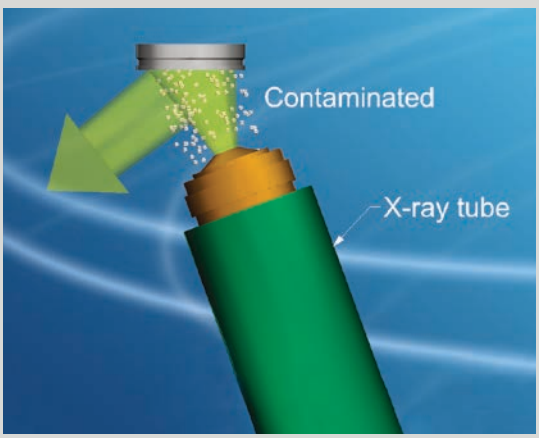
TUBE-ABOVE EXCITATION SAFELY HANDLES POWDER SAMPLES

- Tube-above optics means the instrument won't be damaged by falling sample particles. Enhanced sensitivity and improved accuracy in the analysis of powder samples made possible by measuring pressed powder samples without using sample films.
- Also enables analysis of liquid samples by using sample cells and liquid sample holders designed for tube above analyses.

Sample spills are prevented with the tube-above optics model

With a tube-above system there is no impact on the optical components due to loose particles falling from a poorly prepared sample. Sample films are often not necessary which can further improve light element sensitivity.





Dust contamination of the vacuum pump is suppressed by the use of a dual vacuum system that equilibrates the vacuum pressure between the sample inlet and the measurement chamber, and by internal filters for powder samples (standard equipment).

SPECIFICATIONS

			ZSX Primus IV	ZSX Primus IVi
Analysis range*1			$_{4}$Be - $_{96}$Cm	
Spectral method			Wavelength dispersive	
X-ray generator	X-ray tube		End window type Rh target 4 kW	
	X-ray generator		High-frequency inverter system	
	Heat exchanger		Pure water circulation supplier (built-in)	
Spectrometer	Irradiation method		Tube-above	Tube-below
	Automatic sample changer		Maximum 48-sample exchange Select 12, 24, 36, or 48 samples (Optional) 96-sample exchange	Maximum 60-sample exchange Select 12,24, 36, 48, or 60 samples
	sample loading		Air-lock system	
	Sample size (maximum)		φ52 mm×30 mm (H)	φ52 mm×40 mm (H)
	Primary X-ray beam filter		4 types (Ni400, Ni40, Al125, Al25) (Optional) Be30, for X-ray tube protection	
	Diaphragm*2		(Standard) φ35, 30, 20, 10, 1, 0.5 mm	
	Slit		3 slit exchanger (Standard) Standard and fine (Option) Ultra-light element or ultra-high resolution	
	Goniometer		θ-2θ independent drive system	
	Continuous scan		0.1°- 600°/min	
	Crystal changer		10 position changer	
	Analyzing crystal		(Standard configuration) LiF (200), GeH, PETH, RX26	
	Optional crystals		LiF (420), LiF (220), RX9, RX4, RX35, RX40, RX45, RX61, RX61F, RX75, RX85	
	Vacuum system		Sample chamber and main chamber-per unit	Sample chamber and main chamber-shared
			Filter for powder samples	
	Atmosphere		(Option) Automatic helium purge system (Option) Liquid sample holder recognition	
	Point/mapping mechanism		r-θ stage (Option) Sample observation system	
Counting system	Pulse height analyzer		Digital multi-channel analyzer (D-MCA)	
	Detector	For use with heavy elements	SC (Scintillation counter)	
		For use with light elements	F-PC (Gas flow proportional counter) (Optional) S-PC LE (Gas sealed proportional counter: does not require proportional gas)	

INSTALLATION SPECIFICATIONS

Customer: Depressurization valve

Required power supply	Single or three phase 50/60 Hz Personal computer: 1-phase, 100-240 V, 10 A
Grounding specification	30Ω or below grounding (Independent)
Cooling water	Temperature: Lower than 30°C Pressure: 0.29 - 0.49 MPa Flow: More than 5 L/min Quality: Equivalent to drinking water
Drained water	Gravity drain
Room temperature	15 - 30°C Daily variation within ±2°C
Relative Humidity	10 - 75% RH or less
Gas for detector	P-10 Gas (argon 90% - methane 10% mixed gas) Pressure 0.15 MPa, 7 mL/min * Not required if S-PC LE is selected

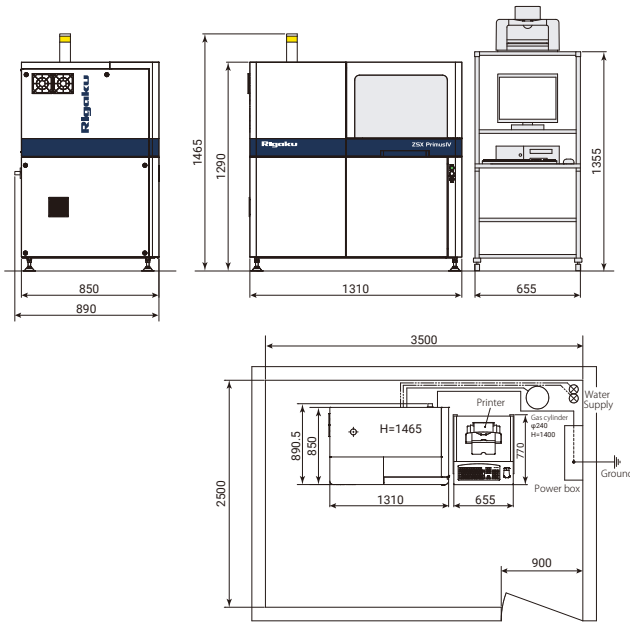
Connection port: Tapered female screw for pipes Rc1/4

*1: Depending on crystal configuration
*2: Diaphragm diameters can be selected from the following five combinations

Diaphragm options:
Φ35, 30, 20, 10, 3, 1 mm
Φ35, 30, 20, 10, 3, 0.5 mm
Φ35, 27, 20, 10, 3, 1 mm
Φ35, 27, 20, 10, 3, 0.5 mm
Φ35, 27, 20, 10, 1, 0.5 mm

EXTERNAL SIZE - LAYOUTS Unit: mm

ZSX Primus IV Weight: 620 kg



ZSX Primus IVi Weight: 500 kg