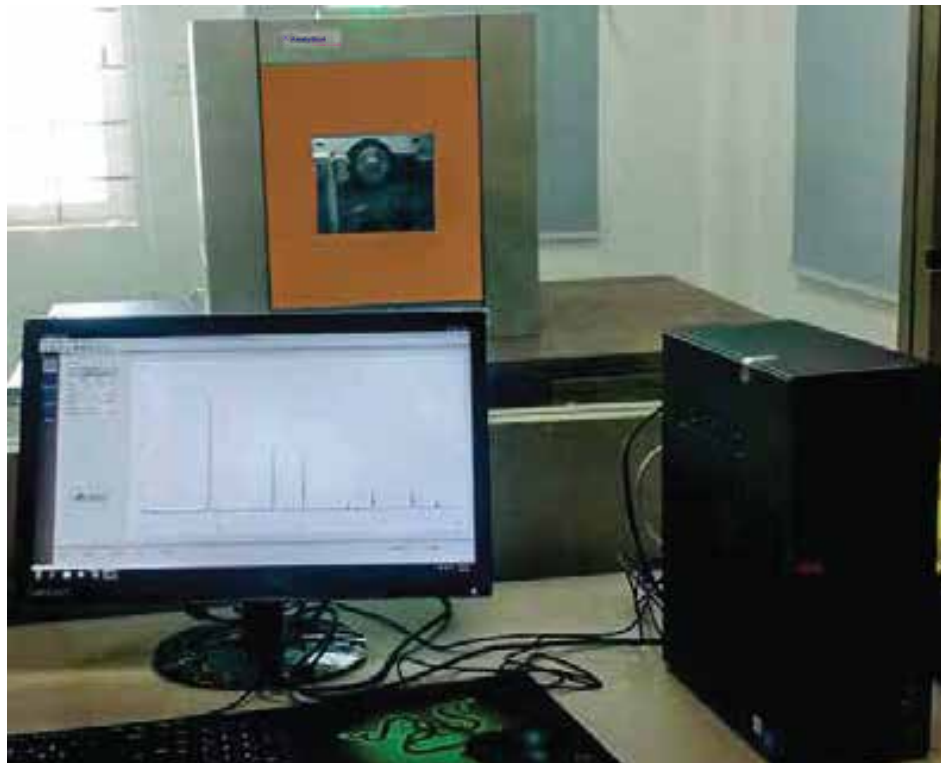


# XRD-3500D

## X-RAY DIFFRACTION ANALYZER



EPC / PRODUCTS / APPLICATION / SOFTWARE / ACCESSORIES / CONSUMABLES / SERVICES

**Analytical Technologies Limited**

An ISO 9001 Certified Company

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## ▶▶ Application

XRD 3500 D is a new generation of high performance X-ray diffraction analyzer, it is mainly used for the phase characterization, quantitative analysis, crystal structure, material structure, crystal orientation, macroscopic and microscopic stress determination, crystal size, crystallinity determination, etc. By the principle of Scherrer, High precision is assured. Widely used in geology, oceanology, biology, chemistry, nuclear station research as well as industrial and institute research.

## ▶▶ Operation Requirements

### Installation Requirements

- Operation Temperature : 10~30°C
- Moisture: 30%~70%
- Magnetic field: None should exist
- Good air flow, no direct contact with high temperature
- Dust, explosives, Corrosive should be avoided

### Equipment Voltage

- Power: single phase AC220V ±10%
- Frequency: 50Hz ±1
- High frequency device: arc and such should not be around main cable
- Grounding Device: Resistance < 4Ω;
- Supply power capacity above 3KW

### Cooling Water

- PH: 6.5-7.5 ;
- Conductivity: <200u/Ω/cm ;
- Hardness: <50ppm ;
- Residuals should not exist.

## ▶▶ Structure Layout

XRD 3500D includes Proportional counters (PC) or scintillation counter (SC), Silicon drift detector (SDD), High speed one-dimensional semiconductor array detector. Detector work in both 0D and 1D for data collection and analysis. Detector shall be capable to suppress fluorescence

## ▶▶ Optical System layout

- F - Focus
- SS - Scatter slit
- R - Diffraction diameter
- DS - Divergent slit
- RS - Receiving slit
- S1/S2 - Soller slit

## ►► Specification

X-Ray Tubet	
Tube Type	Ceramic or glass tube are optional
Target	Cu, Fe, Co, Cr, Mo, Ti, W
Default	Cu
Focus size	1×10mm
Power	2KW
X-ray Generator	
Tube voltage	10-30KV or 10-40KV
Tube current	5-20mA or 5-30mA
Filament current	DC 0-3A
Stability	±0.001%, Voltage deviation 10%
Max power	600W or 1200W or 1500W
Vertical Goniometer	
Radius	150mm
Scan Type	$\theta/2\theta$ linkage with continues and step scanning
2 $\theta$ Scan range	-3° - 150°
2 $\theta$ Detecting range	+1° - 150°
Position Speed	1000°/min (2 $\theta$ )
Scan Speed	0.01 - 100°/min
2 $\theta$ Min stepping	0.0002°
Accuracy	0.001°
2 $\theta$ Repeatability accuracy	0.0005°
Slit	
Divergent slit (DS)	$\theta$ shaft changeable slit (Max 4.2°)
Scatter slit (SS)	0.5°/1°/2°
Receiving slit (RS)	0.1mm/0.2mm/0.3mm/0.4mm
Soller slit	±2.5°
X-ray extraction angle	6°

<b>Proportional Detector</b>	
<b>Max counting</b>	1×10 <sup>6</sup> cps/s;
<b>Spectrum resolution</b>	≤20%;
<b>Counter voltage</b>	0-2100V; High-voltage stability above 0.005%
<b>Cooling Water System</b>	
<b>Supply Power</b>	220V/50HZ
<b>Flow</b>	3L/min
<b>Pressure</b>	0.1Mpa-0.30.1Mpa
<b>System temperature</b>	18-30°, control accuracy : ±1°
<b>Control panel light</b>	Power, Cooling, Flow indicator
<b>Measurement and Weight</b>	
<b>Measurement</b>	740×600×630mm
<b>Weight</b>	75Kg

▶▶ **Safety Feature/warning indicator**

- X-ray On/Off Status indicator
- X-ray Shut off on failure
- Emergency Stop Switch

▶▶ **Sample Holder**

- Standard Sample Holder for accommodating both solid(Metallic) and powered sample

▶▶ **Data Analysis Software Instruction**

The system includes data collecting and application package, one is for data collecting while the other is for analysis.

▶▶ **Software**

- Data Collecting Software
- Data Analysis Software
- Data Calibration

▶▶ **Servicing, Validation, Trainings and Preventive Maintenance :**

- Servicing : We have team of service engineers who can attend to any make of instrument promptly @the most affordable cost.
- Trainings :We also take up preventive maintenance to reduce downtime of instrument's Trainings.
- AMC's/CMC : We offer user training both in-House and at customer sites on instrument principles, operations, troubleshooting.
- Validations : We have protocols for carrying out periodic Validations as per GLP/ GMP/USFDA norms.
- Instruments : We offer instruments/Renting Services Modules like pumps, detector etc. on Rent.



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▶▶ **Our Products & Technologies**

						
UV/VIS Spectro 2080+ Double Beam	Infra FTIR	Optima Gas Chromatograph 3007	Optima Gas Chromatograph 2979 Plus	Flash Chromatograph	Atomic Absorption Spectrophotometer	Liquid Partical Counter
						
Optical Emission Spectrophotometer	DSC/TGA	Semi Auto Bio Chemistry Analyzer	HEMA 2062 Hematology Analyzer	Micro Plate Reader/Washer	URINOVA 2800 Urine Analyzer	Total Organic Carbon 3800
						
Fully Automated CLIA	NOVA-2100 Chemistry Analyzer	PCR/Gradient PCR/ RTPCR	TOC Analyzer	Laser Particle Size Analyzer	Ion Chromatograph	Water purification system

## Regulatory compliances



## Corporate Social Responsibility

Analytical Foundation is a nonprofit organization (NGO) found for the purpose of:



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**Foundation**

1. Research & Innovation Scientist's awards/QC Professional Award : Quality life is possible by innovation only and the innovation is possible by research only, hence ANALYTICAL FOUNDATION is committed to identify such personalities for their contributions across various field of Science and Technology and awarding them yearly. To participate for award, send us your details of research / testing / publication at [Info@analyticalfoundation.org](mailto:Info@analyticalfoundation.org)

2. Improving quality of life by offering YOGA Training courses, Work shops/Seminars etc.

3. ANALYTICAL FOUNDATION aims to DETOXYFY human minds,souls and body by means of yoga, Meditation, Ayurveda, Health Care, Awards, Media, Events, Camps etc.

## Reach us @



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