

**Ref: IIT/KGP/S&P/CRF/XRD/2018-19, Date: 11-10-2018**

**X-ray Diffraction Unit for Phase analysis with the attachment of Dedicated Residual Stress and Texture Goniometer**

Date: 08.11.2018

**Corrigendum and Addendum**

As discussed and decided with the technical committee, the following corrigendum may be incorporated in the published specification:

Page No	Original		To be read as	
2  (Goniometer r (Diameter)	High Precision Goniometer with theta-theta configurations with a minimum diameter of 500 mm or better. Variable goniometer radius up to around 600 mm without major alignment procedure will be preferred for better resolution.		High Precision Goniometer with theta-theta configurations with a minimum diameter of 480 mm or better. Variable goniometer/Fixed goniometer with diameter around 480 mm or higher without major alignment procedure will be preferred	
3  X-Ray Tube	Long Fine focus. Facility to switch between line and point focus applications without disconnecting cables and utility lines or unscrewing the X-ray tube.		Long Fine focus. Facility to switch between line and point focus applications without disconnecting cables and utility lines	
3  (Optics)	Motorized slit and Poly-capillary / half lens which provide intensity gain of a factor of several hundred if the whole beam size can be used to illuminate the surface of the sample compared to slit optics. Spot diameter: >4.0 mm. Absorber, Slits, Ni Filter, Axial Soller slit, Diagonal Slit, Two Collimators 1mm & 2 mm diameter etc.		Motorized slit and Poly-capillary which provide intensity gain of a factor of several hundred if the whole beam size can be used to illuminate the surface of the sample compared to slit optics. Spot diameter: >4.0 mm. Absorber, Slits, Ni Filter, Axial Soller slit, Diagonal Slit, Two Collimators 1mm & 2 mm diameter etc.	
4  (Detector)	Operation mode	0D, 1D and 2D mode should be possible.	Operation mode	0D, 1D and 2D mode should be possible.
	Efficiency	>98% for Cr, Co, and Cu radiation	Efficiency	>98% for Cr, Co, and Cu radiation
	Active window	14.4 mm x 16 mm	Active window	14.4 mm x 14 mm
	Spatial	75 micrometer or	Spatial	75 micrometer or

	<table border="1"> <tr> <td>resolution (pitch):</td> <td>better</td> </tr> <tr> <td>Capture angle</td> <td>&gt;2.5° 2Theta angular coverage at 500 mm measurement circle diameter</td> </tr> <tr> <td>Maximum counts</td> <td>Minimum 100,000,000 cps or better.</td> </tr> <tr> <td>Energy resolution</td> <td>&lt;680 eV for Cu radiation at 25°C</td> </tr> <tr> <td>Fluorescence suppression</td> <td>Suitable hardware/software for suppressing secondary fluorescence to be offered.</td> </tr> <tr> <td>Low Angle Data</td> <td>Capable to collect high quality data starting at angles as low as 0.15° 2Theta.</td> </tr> </table>	resolution (pitch):	better	Capture angle	>2.5° 2Theta angular coverage at 500 mm measurement circle diameter	Maximum counts	Minimum 100,000,000 cps or better.	Energy resolution	<680 eV for Cu radiation at 25°C	Fluorescence suppression	Suitable hardware/software for suppressing secondary fluorescence to be offered.	Low Angle Data	Capable to collect high quality data starting at angles as low as 0.15° 2Theta.	<table border="1"> <tr> <td>resolution (pitch):</td> <td>lower</td> </tr> <tr> <td>Capture angle</td> <td>&gt;3° 2Theta angular coverage at 500 mm measurement circle diameter</td> </tr> <tr> <td>Maximum counts</td> <td>Minimum 100,000,000 cps or better.</td> </tr> <tr> <td>Energy resolution</td> <td>&lt;680 eV for Cu radiation at 25°C</td> </tr> <tr> <td>Fluorescence suppression</td> <td>Suitable hardware/software for suppressing secondary fluorescence to be offered.</td> </tr> <tr> <td>Low Angle Data</td> <td>Capable to collect high quality data starting at angles as low as 0.15° 2Theta.</td> </tr> <tr> <td>No of pixel/Channels</td> <td>190 channels/pixel or More</td> </tr> </table>	resolution (pitch):	lower	Capture angle	>3° 2Theta angular coverage at 500 mm measurement circle diameter	Maximum counts	Minimum 100,000,000 cps or better.	Energy resolution	<680 eV for Cu radiation at 25°C	Fluorescence suppression	Suitable hardware/software for suppressing secondary fluorescence to be offered.	Low Angle Data	Capable to collect high quality data starting at angles as low as 0.15° 2Theta.	No of pixel/Channels	190 channels/pixel or More
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4 (Sample stage Stress Texture Thin-film etc.)	Eulerian Cradle with motorized Chi (-5° to 95), Phi rotations and Z translations suitable for common Thin Film, texture or residual stress samples and other samples with load capacity minimum 250 g. Facility to hold very small thin film samples through vacuum as well as clamp holder to mount irregular bulk samples should be available.	Eulerian Cradle with motorized Chi (-5° to 95), Phi rotations and Z translations suitable for common Thin Film, texture or residual stress samples and other samples with load capacity upto 200 g or higher and sample thickness or height upto 20 mm or above. Facility to hold very small thin film samples through vacuum as well as clamp holder to mount irregular bulk samples should be available.																										
4 (High Temperature Attachment)	High temperature attachment for powder sample from Room temperature to 1600 °C or higher to be offered in option with all necessary accessories like Vacuum Pump etc.	High temperature attachment for powder sample from Room temperature to 1600 °C or higher to be offered in option with all necessary accessories like Vacuum Pump etc. The temperature should be stable across the whole temperature																										

		range and should be for at least 30 min or higher.
5 (Manpower)	The supplier will have to provide a high skilled and experienced full time operator to run the system for a period of 3-years from the date of installation of the system in the institute at their own cost. The amount for the 3 years operator service might be paid on year to year basis. <b>The operator will work as an employee of the vendor and institute shall have no responsibility for his/her service liabilities.</b>	This part is excluded from the main specification. This part should be quoted separately in optional item.
Note	The quoted system should be approved by AERB	

**DEADLINE:**

Last Date and Time for submitting the tender document has been extended from 09.11.2018 to **16.11.2018 at 11:30 Hrs.**

Time and Date of Opening of Technical Bids has been extended from 13.11.2018 to **19.11.2018 at 11:00 Hrs**

Copy to: 1. Institute website, 2. CPP Portal