Powder X-ray Diffractometer:

Rigaku SmartLab, Automated Multipurpose x-ray Diffractometer, is an x-ray diffraction system (including thin film analysis system) equipped with a high-accuracy theta-theta goniometer featuring a horizontal sample mount.

High-accuracy theta-theta goniometer: A theta-theta goniometer enables omega scans, 2-theta/omega scans, and 2-theta scans with the sample oriented horizontally. Additionally, the two axes are equipped with encoders to enable control of each axis with a resolution of 0.0001.

Attachments: Standard Powder XRD attachment, Rx-Ry attachment (for sample tilt alignment, for thin film and rocking curve measurement), Phi-Chi attachment (for thin film, reflectivity).

Cross beam optics (CBO): Suitable for measurement of phase ID analysis and quantitative analysis of powder samples, as well as measurement of profile analysis of powder samples, preferred orientation, measurement of thin film samples, and rocking curve.

Detectors: (i) 0D Scintillation Counter (point detector), (ii)1D Semiconductor Detector D/tex Ultra (linear detector)
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