



SMART X2S

- 10 Reasons the SMART X2S is Essential for Undergraduate Education
 - 1 Crystallography and structural analysis is becoming a common technique in all areas of industry and exposure to this technique is becoming crucial for development as chemists
 - 2 It is an excellent complement to many undergraduate instruments and can easily be used to enhance existing curriculum
 - 3 Safety – the SMART X2S is a completely sealed system, making it safe for students
 - 4 Versatile – can be used in all synthetic (organic and inorganic) labs
 - 5 Stand alone, no facilities – because it runs on only 110 V power with no extra facilities, it can be moved between different labs
 - 6 No previous crystallographic experience is required to operate the instrument, but software and data are 100% compatible with our research grade instruments giving students experience with a higher end of this experiment as well
 - 7 Useful for novel research (for higher level students exploring synthetic chemistry) as well as graduate researchers
 - 8 Data on novel compounds is 100% publishable, giving even undergraduates the opportunity to publish papers
 - 9 Teaches crystal handling, selection and handling
 - 10 The instrument can be utilized by faculty, postdoctoral fellows, graduate students and undergraduates, without any previous experience in structure solution by single crystal X-ray diffraction

Technical Data

SMART X2S

Detector	Taperless 6.2 cm x 6.2 cm CCD detector (16 MP), air-cooled
X-ray source	Air-cooled Mo microfocus source, 50 W
Power requirements	115/230 V, 50/60 Hz, less than 500 W
Dimensions (HxWxD)	64 cm x 94 cm x 48 cm
Weight	150 kg
Software	User-friendly touch screen interface. Automated data collection, structure determination and data archiving to CD. Data fully compatible with APEX software.
Report	HTML report with embedded interactive molecule display (rotate, measure bond lengths, packing diagrams, etc.)
User interface	15-inch touch screen
Service interface	Remote WebEx

Optional Desktop Cooler

Temperature range	170 -290 K (fixed at 200 K for operation with the SMART X2S)
Gas flow rate	5 liters/minute
Temperature stability	1 K
Cool down time to 200K	30 minutes
Length of transfer line (to end of nozzle)	1650 mm
DTC dimensions & weight	235 mm W x 370 mm H x 395 mm D, 22 kg

Power Supply

Dimensions & weight	142 mm W x 130 mm H x 336 mm D, 2.6 kg
Mains power supply	90-264 VAC, 47-63 Hz

Rotary Pump

Dimensions & weight	127 mm W x 202 mm H x 322 mm D, 10.8 kg
Mains power supply	115/230 V, 50/60 Hz

AD51 dry air unit (optional)

Gas pressure	1.5 to 4 bar
Gas flow	Approx 20 liters/minute
Atmospheric dew point of gas	-60°C or better