



Product Sheet XRD 25

Ceramic Tubes for X-ray Diffraction

Modern ceramic technology - improved performance and increased reliability.

Bruker ceramic tubes are 100% compatible with the traditional glass tubes for X-ray diffraction.

The main benefit of ceramic insulation versus glass insulation is the higher reproducibility of the focal spot position. This facilitates the change of tubes in case of tube replacement or change of wavelength.

The improved design of the cathode leads to a longer life compared to conventional glass tubes. The design of the ceramic tubes guarantees state-of-the-art spectral purity.

There are two and four window versions available. The standard version is the two window version. It provides one line and one spot focus and works with the one window tube housings (type S and type P). The four window version is required for three and four window tube housings in double goniometers, goniometers with film camera, and X-ray work benches.

A wide variety of anode materials and focus dimensions are available.

Like all Bruker products, the ceramic tubes are manufactured according to ISO 9001 standards.



Fig. 1: X-ray source

Tube Type	Anode Material	Max. Power (W)	No of Windows	Cooling Head	Order No
Long fine focus (0.4 x 12 mm) KFL-CU-2K	Cu	2200	1/1	0°	RGW-3346694
Fine focus (0.4 x 8 mm) KFF-Mo-2K-90	Mo	2000	1/1	90°	RGW-3826042
Fine focus (0.4 x 8 mm) KFF-Mo-2K-180	Mo	2000	1/1	180°	RGW-7034742
Normal focus (1 x 10 mm) KFN-Mo-2K-90	Mo	2400	1/1	90°	RGW-3826356

Selection of Anode Material with respect to the Application		
Anode Material	Characteristic α_1 -Radiation (nm)	Application
Mo	$K\alpha_1$ 0.070930	When low absorption is desired, e.g. with single crystal experiments and transmission measurements. The most important reflections occur at relatively small 2θ -angles, where the Lorentz polarization factor leads to higher intensities.
Cu	$K\alpha_1$ 0.1540562	Ideal for most powder diffraction examinations and thin film analysis such as high resolution XRD and reflectometry, as well light atom single crystal experiments.

Technical Data	
Maximum voltage	60 kV
Total series resistance	50 k Ω
Max. heating voltage	11 V
Max. heating current	3.8 A
Foreign lines on delivery	< 1%
Increase of foreign lines per 1000h	< 0.9%
Cooling wather flow-rate	\geq 3.5 l/min
Cooling water temperature	20 - 35°C
Water pressure	4 - 8 bar
Weight	ca. 1.9 kg

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