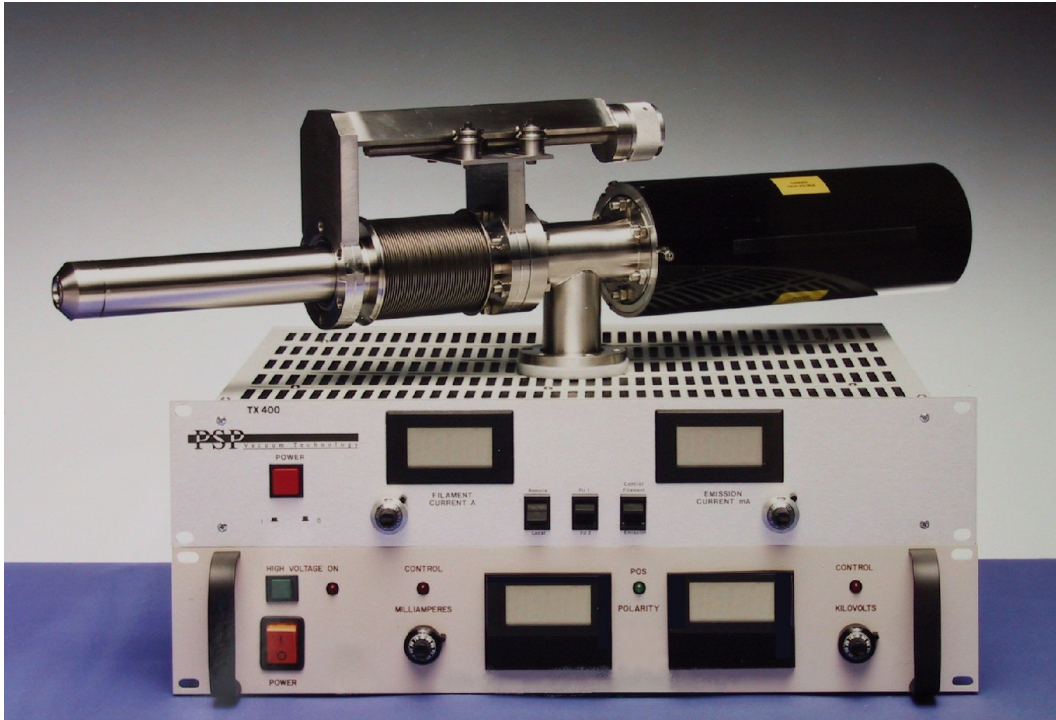


TX400 X-Ray Source for XPS



- Twin Anode X-Ray Source
- Choice of Anode Materials
- May be differentially pumped or pumped directly through the mounting port
- 70mm O.D. CF mounting flange
- Z100 Retractor option gives 100mm retraction from sample region
- Insertion length made to suit your chamber at no extra cost
- Long life Tungsten / Thorium twin filaments
- Quick and reliable connections to filament, anode and water cooling
- Water, safety cover and pressure interlocks
- Aluminium foil window between source and sample
- Source end shaped to allow close approach to sample for optimum flux
- Control units supply up to 600W power
- High stability: 100ppm after half hour warm up
- Voltage regulation better than 0.005% for +/-10% line variation
- Ripple 0.1% p-p of max. output

Mechanical Details

The TX400 X-ray source has twin anodes with independent filaments to provide two separate excitation energies for X-ray Photoelectron Spectroscopy. Any anode combination from Mg, Al, Ti, Si, Ag, Zr may be chosen and it is easy to fit replacement anodes with different coatings. Accurate focusing means that anode crosstalk is extremely low (<0.35%). A thick copper barrel conducts heat away from the filament region so minimising any heating of the sample.

The X-ray exit aperture has an Al foil window, which reduces Bremsstrahlung radiation, isolates the internal volume of the source for differential pumping and prevents contamination of the sample. The source insertion length is custom made to suit your chamber and allow a short working distance for optimum X-ray flux. The anode is water cooled, water pipes and flow switch are provided for connection to the water supply. (Requirement: 3 l/min. @20C). Connections to the filaments, anode and water-cooling are quick and reliable and are easily removed for bakeout of the source at up to 200C.

Differential Pumping

The source mounts on a standard 70mm OD CF port and may be pumped directly from the chamber without the need for re-entrant pumping bellows. Differential pumping may also be fitted, in which case the standard pumping holes are sealed using the barrel sleeve supplied and the 70mm OD CF pumping port on the side of the source is connected to a separate pump.

Retractor Options

A 100mm travel retractor may be fitted to allow close approach to the sample for maximum X-Ray flux and withdrawal when not in use.

Accessories: (Optional Extras)

Cooling Water recirculator.

Differential pumping line bellows, valve, ion pump and controller.

Replacement Anodes, Al window and filament assemblies.

Electronic Control Units

The TX400 Control Units supply the Anode HT and Filament current to operate the source at up to 600W. The High Voltage is continuously variable from 0-15kV by front panel mounted potentiometers. The filaments may be run in current or emission stabilised mode using front panel potentiometers. Remote control facilities are also provided.

The small size (total 4U, 177mm height by 483mm wide) and weight (approx. 12kg) takes up little surface or standard 19in. rack space.

Safety interlocks are fitted to turn the HT off in the event of loss of water-cooling, safety cover removal or vacuum set point when connected to a suitable vacuum gauge relay.

HV Specifications:

Voltage regulation better than 0.005% for +/-10% input line variation. Ripple 0.1% of p-p maximum output. Stability 100ppm/hour after half hour warm up.

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