

## Products

- > RHEED
- > AUGER / XPS / EELS  
/ REELS
- > Electron Sources
- > Ion Sources
- > X-ray Source
  - > **RQ-300**
- > Energy Analyzers &  
Imaging Energy  
Filters
- > Charged Particle  
Detectors
- > PEEM & IEEM
- > UHV-Systems for  
Surface Analysis
- > Packages for  
Surface Analysis
- > Data Acquisition &  
Instrument Control  
Software

## RQ-300

The STAIB Instruments RQ-300 X-ray source is a precision instrument designed specifically for X-ray Photoelectron Spectroscopy (XPS).

### Key features

- Power: 300 W
- Anode: Al / Mg
- Window: Al
- Length: 285 mm, others on request
- Working distance: 5-20 mm
- Flange: 2.75 O.D.
- Water cooling: approx. 3.5 l/minute
- Security interlock: High voltage and water cooling

### Options

- Differential pumping: pumps not included
- Cooling circuit, includes water cooler and flow switch
- Z Translator: 100 mm

### Description

The STAIB Instruments RQ-300 X-ray source is a precision instrument designed specifically for X-ray Photoelectron Spectroscopy (XPS).

The source is equipped with a twin anode: Aluminum (Al), producing X-rays in the 1486.6 eV line; and Magnesium (Mg), producing X-rays in the 1253.5 eV line. The system is water-cooled, and can be operated at powers up to 300 W (Mg/Al). The source is fully UHV compatible, and can be operated at pressures as high as  $10^{-6}$  mbar, but a maximum pressure of  $10^{-8}$  mbar is recommended. A differential pumping option is available if higher pressures are required.



Not all parameters can be reached simultaneously. Above specifications may change without notice. Pictures / diagrams for reference only.

When all of the cables and the safety hood have been removed, the source can be baked to 250 °C.

Additionally, the source will generate bremsstrahlung, which will not pass through 1.5 mm thick stainless steel. A local dose of 0.1: Sv/h will not be exceeded more than 10 cm from the source. All viewports on the vacuum chamber must be fitted with leaded glass or protective metal caps, which must be in place while the system is operating. The system must only be operated by qualified personnel, following standard safety procedures as well as any specific safety procedures that may apply to the user's location and situation. The RQ-300 electrical system is fitted with three safety interlocks. They verify correct levels of water flow and vacuum pressure, and that the high voltage safety cover is in place. All three interlocks must be satisfied for the system to operate. There is an interlock controller between the two power supplies that shuts off the functionality of both, should any of the three interlocks trip.

## Typical Applications

Materials aging

## Related Products

AES and XPS energy spectrometers (ESA and DESA)

Charge compensation electron source F01CC

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### APPLICATIONS

- > *In situ* Characterization
- > Surface Analysis Techniques
- > Material Growth Monitoring
- > Electron Diffraction
- > Scanning Electron Microscopy
- > Photoelectron Microscopy (PEEM)
- > Depth Profiling
- > Space Environment Simulation
- > Surface & Materials Modification

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- > Company
- > Where to meet us
- > Contact
- > Jobs

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- > Home
- > Contact
- > Legal Disclosure
- > Privacy Policy

