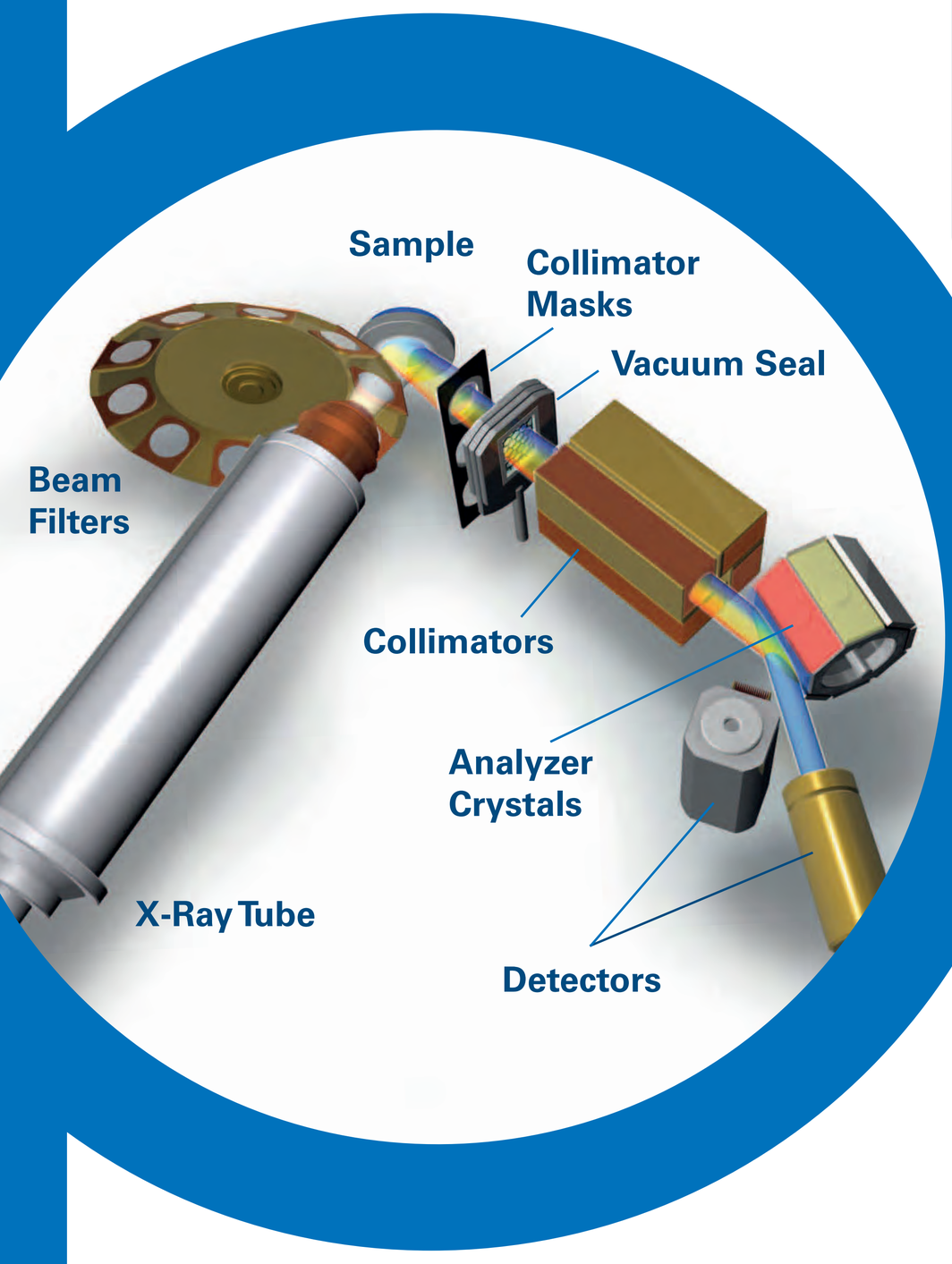
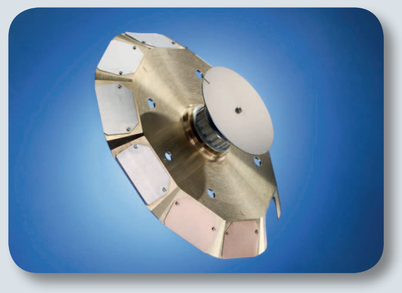
Elemental Analysis by WDXRF

Multielement analysis from Beryllium to Uranium in solids and liquids by sequential wavelength dispersive X-ray fluorescence analysis (WDXRF)

X-Ray Tube: Excitation of fluorescence radiation from elements present in the sample

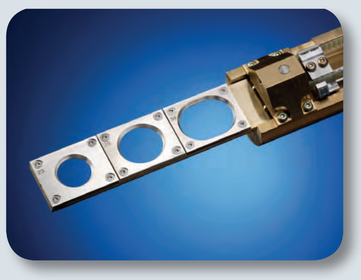
- Low kV for light elements
- High kV for heavy elements





Primary Beam Filters: Better detection limits

- Filters out interfering parts of the tube radiation by absorption improving the peak-to-background ratio

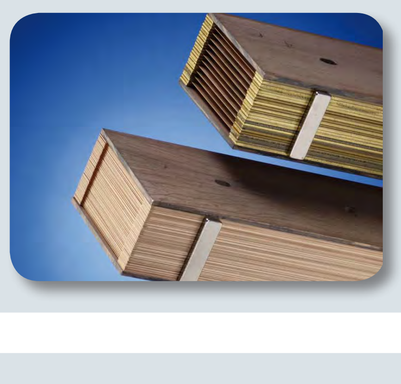


Collimator Masks: Analysis of different sample sizes

- To cut out radiation from the edge of the sample cup

Automatic Vacuum Seal:
Quick switch of sample types
Separating sample and goniometer chamber:

- Solid samples: analysis under vacuum
- Liquid samples: analysis in Helium



Collimators: Resolution and sensitivity Collimators form a parallel beam

- Coarse collimators for high sensitivity
- Fine collimators for high resolution

Analyzer Crystals: Separation of element specific fluorescence radiation

- Each analyzer crystal covers an element range
- Multilayer optics for enhanced light element analysis

Detectors: Detection of the element specific fluorescence radiation

- Light elements are determined with a proportional counter
- Heavy elements are determined with a scintillation counter