



JJ X-Ray is a Danish company established in 1996 which designs, manufactures, tests and installs high precision instrumentation for synchrotrons, FELs and neutron sources.

Its highly educated and experienced employees provide customers with expert instrumentation assistance, whether they need standard solutions, custom designs of smaller components or complete turn-key beamline solutions.

www.jjxray.dk



CIVIDEC was founded in 2009 in Vienna. It specialises in the development and production of radiation diagnostic systems, which are based on synthetic chemical vapour deposition diamond detectors, analogue electronics and digital real-time data processing units.

The company benefits from its high level of experience and knowledge, as well as from an international network of research facilities and renowned scientists.

www.cividec.at

Durable **high-end solutions** for **high precision instrumentation** purposes.

Our target group is the **analytical x-ray, synchrotron radiation** and **neutron research communities**.

X-RAY BEAM POSITIONING

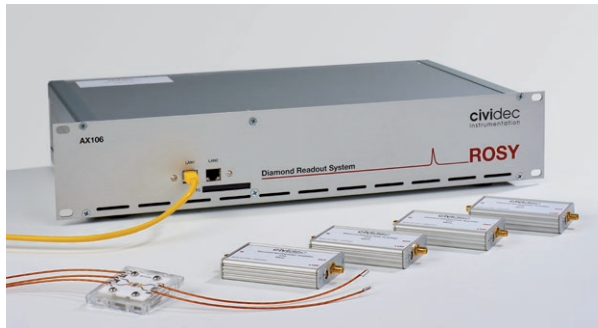
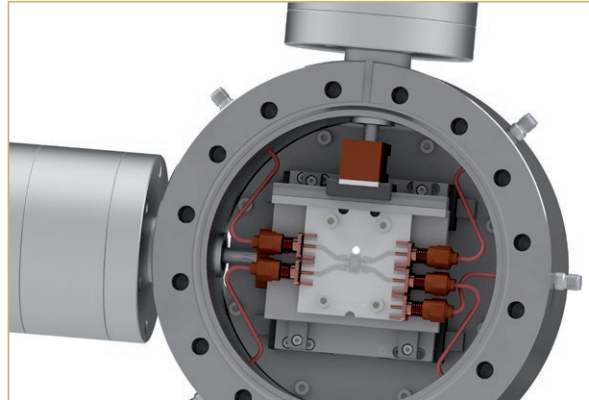
- HIGH-SPEED
- HIGH-PRECISION
- HIGH-BANDWIDTH

Instrumented X-Ray Beam Position Monitoring System

X-ray beam position monitoring system for experimental beam lines of Synchrotron Light Sources. Based on Diamond XBPM from CIVIDEC and mechanical positioner from JJ X-Ray. For instrumented beam lines and controlled beam position.

Mechanics:

- Range: 15 mm vertical and horizontal
- Resolution: 200 nm at 1/5 full step, 1 μm per full step
- Repeatability: 0.4 μm uni-directional
- Accuracy: 2 μm over 3 mm
- Bake temperature: 120°C, limited by magnetic coupling
- Motors: PK245M-01B from Oriental, 2-phase stepping motor



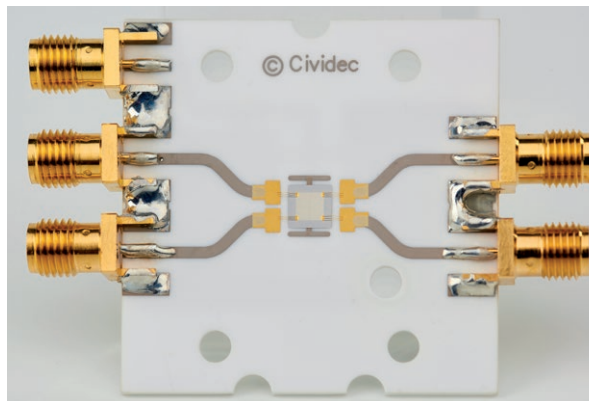
CIVIDEC diamond detectors offer low noise measurements. They are radiation hard, temperature resistant and UHV compatible.

XBPM:

- Position resolution: 0.1 % of the beam diameter
- Sensor material: single crystal CVD diamond
- Precision: nanometer
- Aperture: 3 mm
- Pad separation: 2 μm and 10 mm
- High transparency

For instrumented experimental beamlines:

The mirror system of the beam line is connected to a feedback loop for a controlled beam position at highest precision. The measurement of the beam position is done with our XBPM System to nanometer precision. This will be of interest for the upgrade of existing beamlines and for experimental beamlines of new Synchrotron Light Facilities.



JJ X-Ray strives hard to serve its customers with expert instrumentation assistance, whether standard solutions or custom designs – from smaller components to complete beamline solutions – are needed.