

Fully Encoded Prober Shuttle with eight Probes (PS8e)

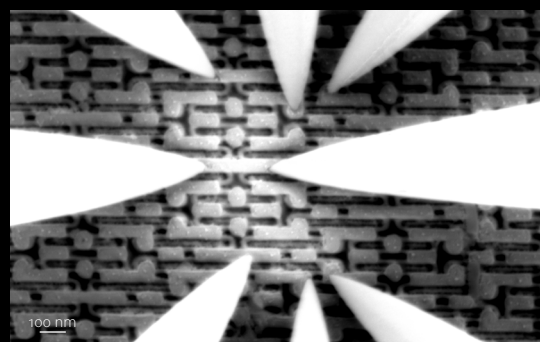
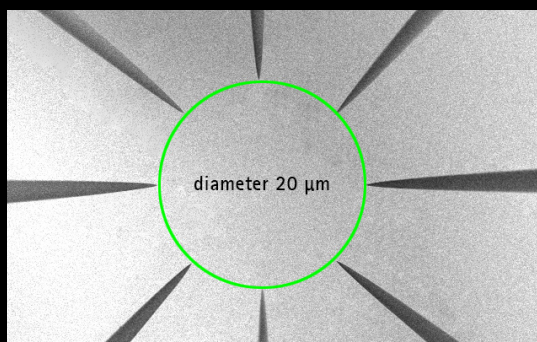


140 MM DIAMETER

The latest iteration of the Prober Shuttle platform now features positional encoders for all 27 axes of motion. The introduction of encoders yields a significant reduction in the time to result as the probe tips can be pre-aligned at the push of a button. A list of user-definable store points allows operators to (re-)address specific locations on the sample. Moving all eight probes and the substage from parked positions back to their respective working positions is completed in approx. one minute.

This new level of automation enables performing the **complete probing workflow at low beam energies** and thus significantly reduces irradiation induced changes to critical sample parameters.

Of course, the Prober Shuttle still provides **unrivalled stability, precision, and ease of use** due to its ultra-compact design based on over twenty years of experience and high-quality engineering expertise.



Technical specifications

Prober Shuttle Platform

- Diameter 140 mm
- Height 10 mm
- Load lock compatible!

Substage

- Travel X and Y 9 mm
- Travel Z 0.7 mm

Probers

- Travel X 5 mm
- Travel Y 5 mm
- Travel Z 90 deg

All axes

- Resolution
 - Linear axes < 0.02 nm
 - Rotational axes < 0.5 nm
- Speed up to 1 mm/s
- Drift < 1 nm/min
- Cartesian movement
- No backlash or reversal play
- Coarse and fine displacement in one drive

Measurement sensitivity

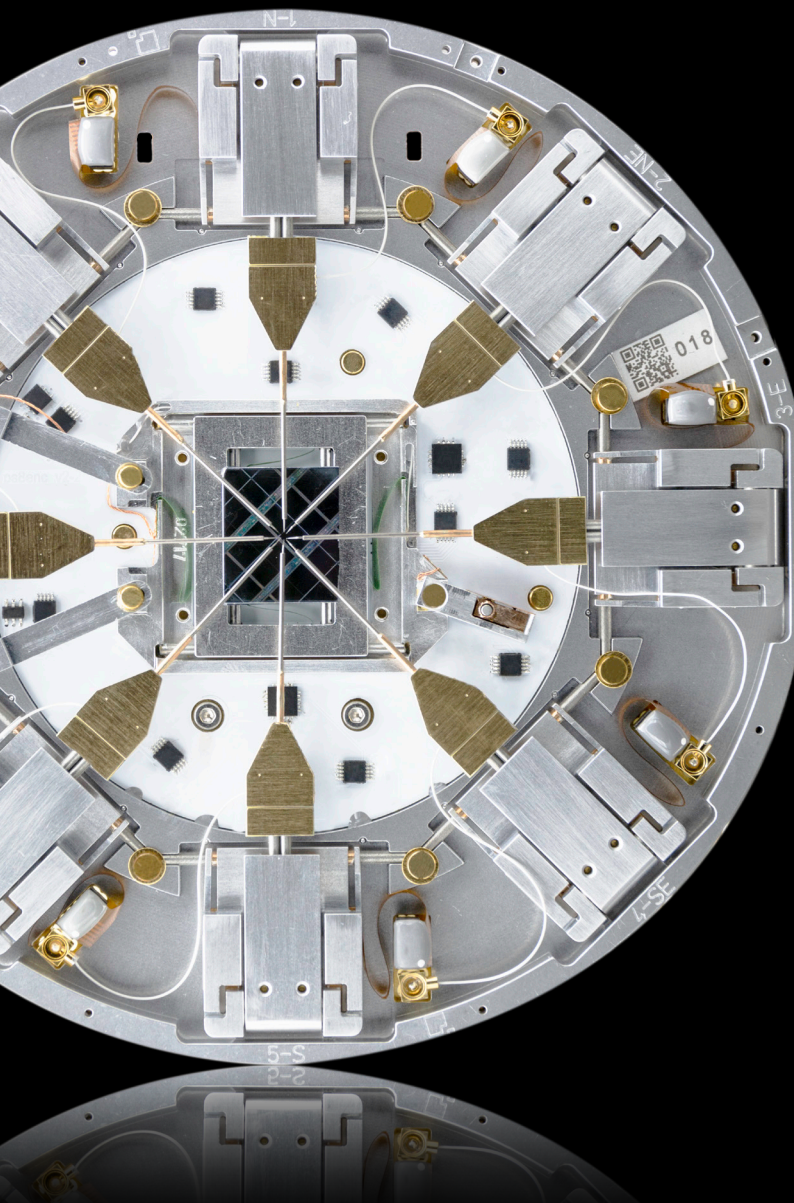
- Noise: 20 fA @ 1 Hz
- Insulation leakage current (probes): <50 fA/V
- Insulation leakage current (sample): <150 fA/V
- Signal conductor resistance: <5 Ω
- Maximum voltage: 100 V
- Maximum current: 100 mA

System features

- All air side hardware mounted in 19" rack
- Electronics rack outside of operator's view
- The entire system is controlled via the APT UI
- Clean cable management from flange to rack
- Probing at FIB tilt for circuit edit applications
- Non-magnetic design
- Ready for 5 nm and beyond

Encoder features

- Park & restore probes with a click of a button
- Drive substage to pre-defined locations
- Fast cycle time



Further information



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Highlights

- low kV probing @100V
- extreme stability
- 0.02 nm lateral resolution
- entire platform load lockable
- work at FIB tilt for circuit edit
- ready for 5 nm and beyond!