

Cryogenic Station by **MDC** A multipurpose Cold Chuck Station



The MDC **Cryogenic Probing System**, Model 441, provides a shielded, electrically quiet, atmosphere controlled environment for high sensitivity capacitance and current measurements at near liquid nitrogen temperatures, 77°K.

The MDC Cryogenic Probing System is the ideal companion to computerized C-V plotters to perform doping profile and capacitance-voltage measurements. The Cryogenic Probing System also facilitates a wide variety of other device measurements at low temperatures such as interface trap density determination or current-voltage tests.

MDC Cryogenic Probing Systems are available in a variety of standard and custom configurations with a choice of chuck sizes, and probe configurations.



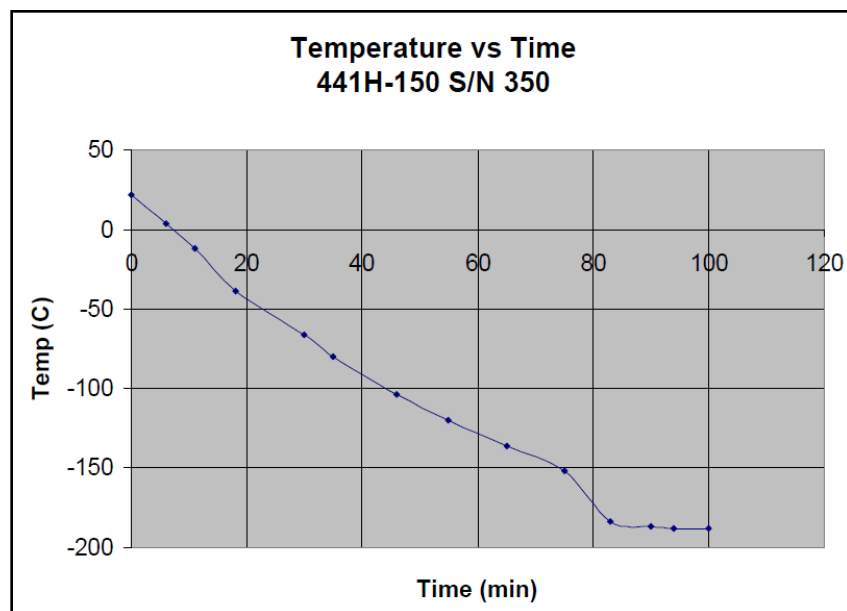
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<http://www.mdc-europe.com>

Key Features:

- For wafers up to 150 mm diameter. Minimum wafer diameter: 50 mm
- Low stray capacitance, BNC feedthroughs
- Microscope stage can move to see all of wafer
- Transparent top cover.
- Up to 5 probe capacity
- Sample to be cooled to near liquid nitrogen temperature
- Sample chamber able to be purged with dry nitrogen to prevent condensation
- Sample chamber can be in darkness to allow for MOS inversion region stabilization.
- Clean room compatible
- Convenient slot to load wafers without removing top of chuck enclosure.
- Probe micropositioners outside dewar for convenient access.
- Seals for probe holders as they pass through dewar wall.
- Heater in chuck to enable temperature variation over the range of 80K to 450K (+2K).
[441H Only], **not included with 441 model.**
- Temperature controller for chuck. [441H Only], **not included with 441 model**

Connections to Chuck / Dewar:

- BNC feedthroughs: Up to 5
- Return for dry nitrogen (or vent to atmosphere)
- Dry nitrogen inlet/outlet: 2 (Swagelok, 0.25")
- LN2 inlet/outlet: 2 (Swagelok, 0.25")





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Specifications:

Facility Requirements

Power: For microscope illumination only.

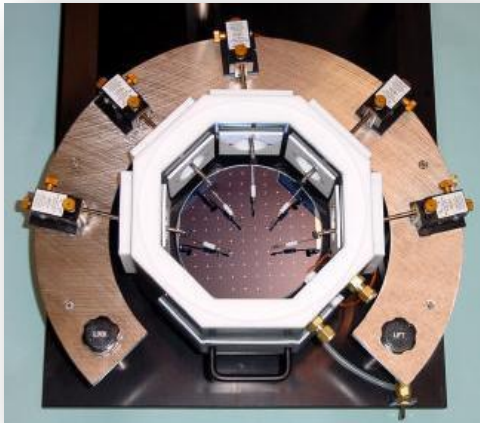
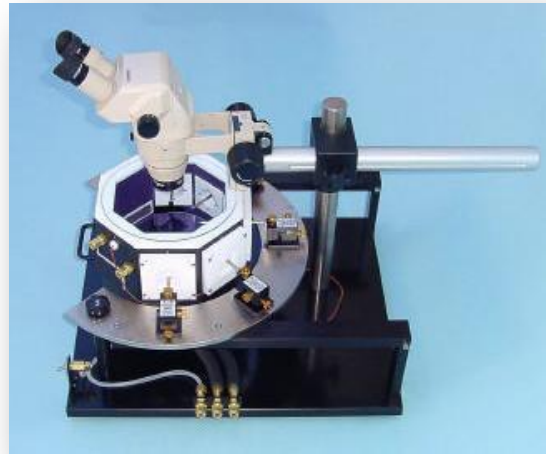
Coolant: Liquid nitrogen at low pressure.

Purging: Dry nitrogen. Maximum pressure of 2 PSI (0.15 Kg/cm²).

Vacuum: Process Vacuum, 5-15" (100-400 mm) Hg.

Dimensions: Width 19" (49 cm); Depth 22" (56 cm);

Height 12" (33 cm)



CSM/Win Systems from MDC are the ideal instruments to make the most of your cryogenic measurements.

CSM/Win Systems include extensive software to perform a variety of tests on semiconductors and MOS devices.

MDC CSM/Win Systems are available with a wide selection of voltage ranges and capacitance, conductance, and current measurement capabilities. Systems performing single frequency, multiple frequency, and quasistatic measurements are available.