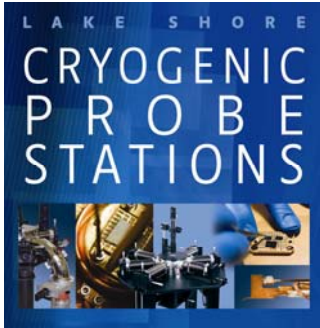


# Lake Shore Revamps Probe Station Product Line

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Westerville, OH, USA, August 15, 2008—Lake Shore Cryotronics, Inc. has redesigned their line of cryogenic micro-manipulated probe stations. The streamlined product portfolio includes table-top, field upgradeable, superconducting and electromagnet-based, full 4-inch wafer, and closed cycle refrigerator based probe stations. These new designs provide greater flexibility and expandability by providing in-field upgrade paths, ensuring the probe stations keep up with demanding, ever changing research requirements.

The table-top series is a low cost, high performance probe station available with up to six micro-manipulated probe arms operable from 4.2 K to 475 K. Optical access through the sample stage allows backside sample illumination and facilitates optical transmission experiments. A low temperature option to 3.2 K delivers the performance of more expensive probe stations in a compact, table-top design requiring minimal lab space.

The field upgradeable series is available with up to six micro-manipulated probe arms operable from 4.2 K to 475 K. Standard features include multiple radiation shields optimized to minimize cryogen consumption,  $\pm 5^\circ$  sample stage rotation, the ability to reduce potential for condensation on the device under test (DUT) while the system cools, and a heavy duty welded steel stand. Configurable to meet your current research needs, you also are able to upgrade features as your needs change. Field upgradeable options include temperatures down to 1.5 K, high vacuum to  $10^{-7}$  torr, and load-lock. The high vacuum option ensures that condensation does not accumulate in the sample environment during cool-down. The load-lock assembly allows sample exchange without warming the radiation shields or breaking vacuum, resulting in increased sample throughput; it also allows samples to be exchanged under controlled environmental conditions.

The superconducting magnet series provides either a 2.5 T vertical or 1 T horizontal field and are operable from 4.2 K to 400 K. Built on the same platform as the field upgradeable series, they provide the same standard features as well as options including high vacuum and 2 K base temperature. These options can be added in the field or at the factory to increase functionality.

The electromagnet series provides a 0.55 T horizontal field and is operable from 5 K to 400 K. This is the only cryogenic electromagnet-based probe station available with optional 360° sample stage rotation. The probe station allows you to take field dependent measurements at ambient temperature, reducing dependency on liquid cryogen (which are only required to cool the DUT).

Lake Shore's full wafer probe station series provides the ability to probe any point on a full 4-inch wafer and features a temperature range extending from 4.5 K to 475 K. The closed cycle refrigerator series provides efficient cryogen-free temperature operation from 4.5 K to 475 K, eliminating the operating expense of liquid cryogen. Excellent temperature stability of 10 mK and vibration limited to  $<1 \mu\text{m}$  is achieved throughout the temperature range. Multiple control heaters are optimized to provide the probe station with fast thermal response and rapid warm-up for sample exchange.

Lake Shore probe stations provide a platform for measurement of electrical, electro-optical, parametric, high Z, DC, RF, and microwave (to 67 GHz) properties of materials and test devices. Nanoscale electronics, quantum wires and dots, semiconductors, superconductors, and spintronic devices are typical materials measured. A wide selection of dedicated probe stations, options, and accessories make it possible to configure a Lake Shore micro-manipulated probe station to meet your specific measurement applications while working within your budget.

For more information on Lake Shore probe stations, please contact:  
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