

## Kerr Effect Magnetometer for the CRYOSTATION®



### KEY FEATURES:

- Includes configurations for Longitudinal/Transverse and Polar MOKE experiments
- Requires minimal effort to switch between configurations
- Sample components utilize exotic materials to minimize Eddy-Current heating
- Custom low-profile electrical connections available

This system combines the powerful capabilities of the Durham Magneto-Optics NanoMOKE3 with the flexibility of the closed cycle optical Cryostation for low temperature Magneto-Optic Kerr Effect (MOKE) applications. \*

Users would have the full capabilities of the Cryostation closed-cycle optical cryostat, as well as the Magneto-Optic module for their experiments.

### Kerr Effect Magnetometer

The NanoMOKE3 is an ultra-high sensitivity magneto-optical magnetometer and Kerr microscope. The optical head for the NanoMOKE views the sample through a side window on the Cryostation. There are two principle configurations:

- Polar: Sample is mounted perpendicular to the field.
- Longitudinal/Transverse: Sample is mounted parallel to the field.

The system includes a sample holder assembly for both setups.

### Cryostation® System

The Cryostation provides an automated and controlled environment for low temperature MOKE measurements. The specially designed chamber integrates seamlessly with the required equipment.

- Low cost, helium-free operation
- Fully-automated control
- Versatile & flexible tabletop mounting architecture
- Optimized temperature performance & thermal stability



# Specifications

Configurations	Longitudinal/Transverse (L/T) MOKE; Polar MOKE
Magnetic Field	L/T: >0.4 Tesla (14mm spacing); Polar: >0.3 Tesla (22mm spacing)
Working Distance	L/T: <14mm; Polar: 30mm
Max Sample Size	8mm x 12mm (14.4mm diagonal)
Positioning	Optical components can move 5mm any direction
Sample Mounting	Includes sample holder assembly for L/T & Polar setups
Temperature Range	L/T: ~4K - 350K; Polar: ~4.5K - 350K (w/ radiation shield)
Field Uniformity	95% or greater across sample

\*Third party add-on integration: Configuration may affect Cryostation's typical system performance.

\*Represents anticipated performance based on advanced design work.

For a larger sample, the radiation shield may be removed, but the temperature will rise to about 10-12K. Switch configurations quickly by changing 4 screws & minimal parts.

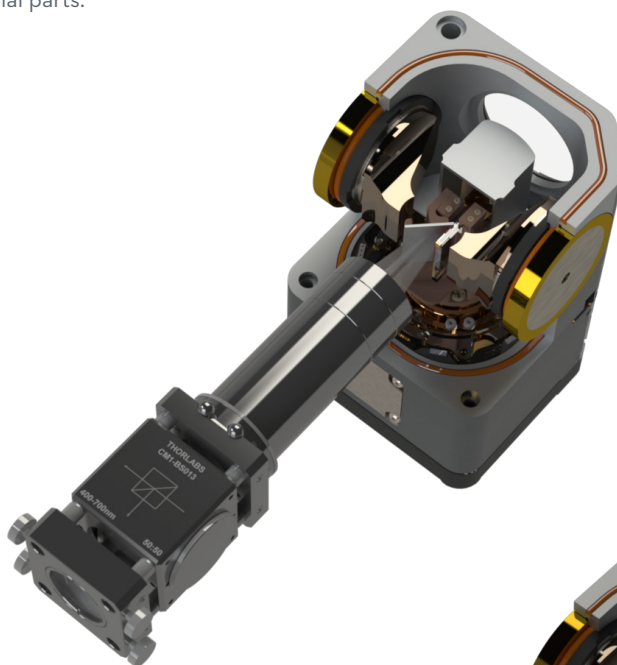
## Full System Includes:

- Montana Instruments Cryostation with Magneto-Optic module
- Sample holder assembly with longitudinal and pole MOKE setups
- Durham Magneto Optics NanoMOKE3 system with control software

## Polar MOKE

**Sample mounted perpendicular to field.**

- 18° optical cone
- 35 mm total working distance
- 22 mm pole tip spacing for >0.30 T field
- Sample at 90° to optical path
- Sample is viewed using mirror at 45°



## Longitudinal/Transverse MOKE

**Sample mounted parallel to field.**

- 80° optical cone
- <18 mm working distance available
- 14 mm pole tip spacing for >0.40 T field
- Sample mount can translate 4.5 mm

