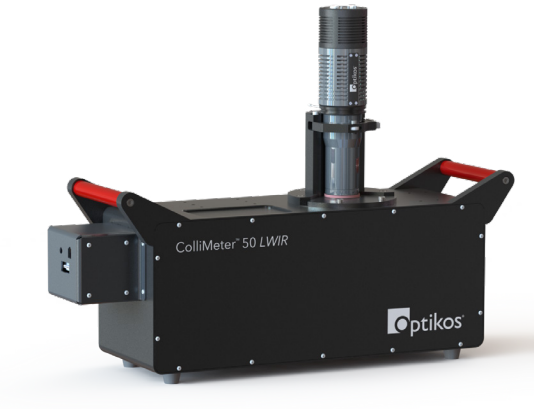
Optikos®

The Optical Engineering Experts®

Optikos ColliMeter™

Precise Measurement for the Set Up and Qualification of Collimators

ColliMeter™ 350



ColliMeter™ 50

For over 30 years, Optikos has manufactured, aligned, and installed refractive and reflective collimators with our definitive lens and camera measurements systems. Our quest to generate the best possible wavefronts on equipment ranging from our standard OpTest® systems to missile seeker test stations, and from our compact Meridian® target projectors to the tracking telescopes at Cape Canaveral has led to the development of sophisticated alignment apparatus and techniques. Until recently, this equipment was reserved for internal use but in response to numerous customer requests we are now pleased to offer this instrumentation for sale under our ColliMeter™ family brand. From the visible to the LWIR, and from small to large aperture systems, customers are now able to set the collimation of a source object, or to determine the apparent distance of a projected object.

The ColliMeter™ family employs a scanning pentaprism technique referenced in ISO 11421 to measure the wavefront slope across an aperture. Sub-aperture centroids are recorded as a function of pupil location, essentially producing a classical ray fan plot. A perfect collimator produces a straight line with slope related to the departure of the apparent object distance from infinity. For a real-world refractive collimator with a polychromatic light source, the plot conforms to higher order aberrations and statistical analysis is used to determine defocus.

Besides measuring collimation and defocus, the ColliMeter™ 350 can be fitted with an optional autocollimator module for coalignment of the source object to reference features on the collimating optic.

Two ColliMeter™ instruments are offered: The ColliMeter™ 350 for larger collimators with pupil diameters up to 350mm in which the beam is horizontal and the instrument is brought to the collimating system, and the benchtop ColliMeter™ 50 for collimators with pupil diameters up to 50mm, in which smaller projectors are mounted vertically on the instrument.

A ColliMeter™ 350 system includes:

1. ColliMeter™ 350 Scan Head
2. Two-axis alignment stage with kinematic interface
3. ColliMeter™ Interface Box
4. ColliMetric software
5. Flight case for shipping and storage

An optional riser may also be provided at an optical axis height specified by the customer.

A ColliMeter™ 50 system includes:

1. ColliMeter™ 50 Instrument
2. ColliMeter™ Interface Box
3. ColliMetric software
4. Flight case for shipping and storage

An interchangeable DUT nest may also be provided according to the devices specified by the customer. Standard nests are available for standard Optikos products, custom nests on request.

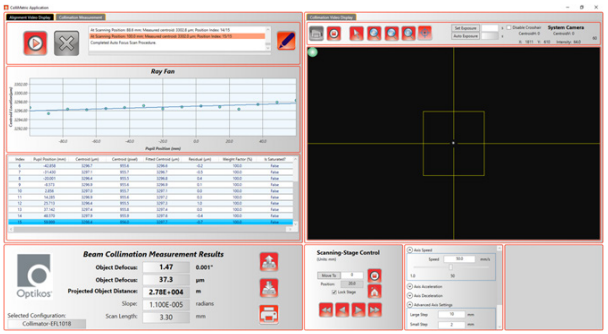
PRELIMINARY SPECIFICATIONS

Description	ColliMeter™ 350	ColliMeter™ 50 VIS	ColliMeter™ 50 LWIR
Beam Orientation	Horizontal	Vertical	
Maximum Scan Length	350mm	50mm	
Compatible Collimator Object	Pinhole, Edge, Crossedge		
Wavelength Range	400-950nm	400-950nm or (optional)	8µm - 12µm
Typical object placement uncertainty	On 1m focal length f/5 collimator, ±0.050mm	On 75mm focal length f/5 collimator, ±0.010mm	Pending
Optical Axis Height: Scan Head Scan Head + Riser	 186mm 500mm (standard riser)	N/A	N/A
Dimensions (L x W x H): Scan Head Scan Head + 500mm Riser	 763 x 240 x 260mm 843 x 268 x 574mm	598 x 174 x 247mm	
Weight: Scan Head Scan Head + Riser	 41 lbs (18.5 kg) 57 lbs (25.9 kg)	39 lbs (17.6 kg)	
Voltage	100-240VAC		

Specifications assume normal lab conditions.

SOFTWARE

The ColliMetric software application has been written specifically to support the ColliMeter instrument family. The software runs under the Windows operating system and interfaces through the interface box to the motion and camera hardware in the instruments to automate the acquisition and processing of data. The operator may define and save named configurations in which the scanning and processing parameters are specified. Currently, the ColliMetric application can process projected objects that have a well-defined centroid, including pinholes and cross-edges. Contact Optikos to discuss incorporating other object geometries. When the ColliMeter™ 350 is fitted with the optional autocollimator module, the ColliMetric application records the return from successive measure measurements and provides the measure of their angular separation and that of a collimated object.



OPTIONAL ACCESSORIES

- Custom Wavelength Range
- Custom Height Risers for the ColliMeter™ 350
- Custom Nests for the ColliMeter™ 50

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Anywhere Light Goes®

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