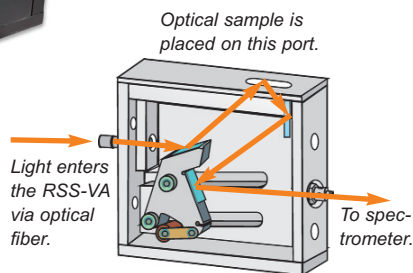


Variable-angle Reflection Sampling System



Measure Optical Substrates at Different AOI

The RSS-VA Variable-angle Reflection Sampling System is a cleverly designed opto-mechanical device for measuring specular reflection of optical substrates at varying angles of incidence (AOI). When coupled to our spectrometers and light sources, the RSS-VA becomes a compact alternative to unwieldy, high-priced systems typically used to characterize optical substrates.

Opto-Mechanical Design

The RSS-VA has two ports for SMA 905-terminated optical fibers: one to illuminate the optical substrate, the other to collect the reflectance and send it to the spectrometer (see drawing). This fiber-in/fiber-out design takes advantage of a sophisticated optical train that allows users to change the angle of incidence (AOI) from 10° to 50° simply by manipulating the carriage inside the black anodized stainless steel device housing. Also included is a three-point surface mount for holding the sample in a fixed position. To normalize measurements taken with the RSS-VA, you will need a reflectance standard such as the Specular Reflectance Standards.

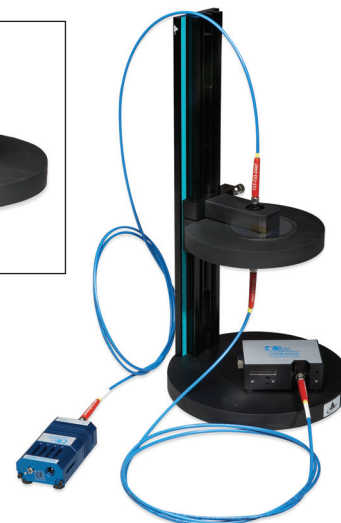
Specifications

Dimensions:	114.3 mm x 41.3 mm x 101.6 mm
Weight:	980 g
Sample port:	19.0 mm x 6.4 mm
Connectors:	(2) SMA 905 Connectors (for illumination fiber & read fiber)
Surface mount:	3-point
Angles of incidence:	~10° to ~50° (user-adjusted)
Recommended fibers:	100 μm (illumination and read)
Material:	Black anodized aluminum

Reflection & Transmission Stages

The Single-Point Reflection Stage (at right) is a probe holder for reflection measurements of optical layers and other substrates up to 150 mm in diameter. The probe holder accommodates fiber optic probes up to 6.35 mm in diameter, and slides up and down a stainless steel post for adjustment to heights as great as ~63.5 mm. The Stage has an anodized base plate scored in concentric circles of varying diameters, to act as a guide when positioning round samples.

The Stage-RTL-T is a novel sampling system for analysis of substrate materials such as silicon, metals, glass and plastics. The RTL-T couples to our spectrometers and light sources, and can be used in a variety of setups for reflection and transmission measurements. The Stage-RTL-T consists of a variable rail attached to a base plate, with three devices that attach to the rail with a thumbscrew. These devices are a fiber holder with collimating lens, a sample holder for reflection or transmission, and a light trap to mitigate the effects of back reflection and ambient light. The STAGE-RTL-T is remarkably versatile: perform reflection measurements with the probe positioned above or below the sample (measuring from below maintains a constant distance between probe and sample); make reflection measurements with the light trap in place; or measure transmission of samples using two fibers.



Specifications

	STAGE	STAGE-RTL-T
Dimensions:	152.4 mm diameter (base)	206.3 mm diameter (base)
Dimensions:	101.6 mm diameter* (sample area)	152.4 mm diameter (sample area)
Weight:	620 g	4.5 kg
Height:	Rail height adjustable to 63.5 mm	Rail height adjustable to 400 mm
Materials:	Anodized aluminum plate, stainless steel post and post holder	Anodized aluminum

* Represents the area of scored concentric circles. You could use the entire base plate area, which is larger, for your sample.

