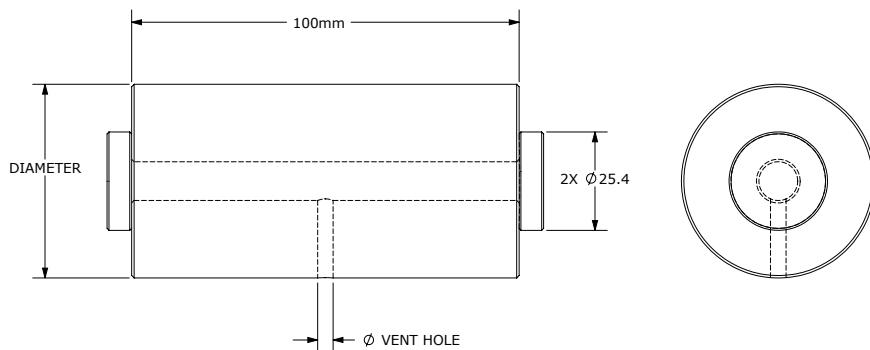


High Finesse Frequency Reference Cavity Assemblies

REO combines precision component fabrication techniques with high reflectivity, low loss IBS coatings and superpolished substrates to deliver high performance optical cavity assemblies for laser stabilization and frequency standards.



REO Standard Cavity Assemblies

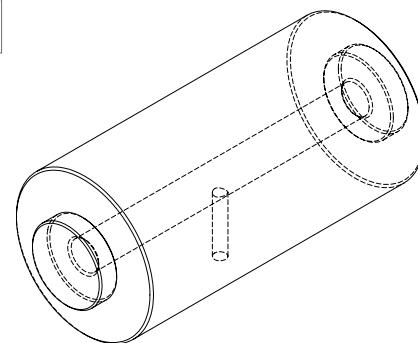
Part No.	Length	Diameter	FSR
REO-100050	100mm	50mm	1.5GHz
REO-100100	100mm	100mm	1.5GHz

Includes end mirrors 25.4mm Ø, pl / pl and cc / pl 50cm ROC

REO manufactures standard configurations designed to be highly non-degenerate resonators. These assemblies are fabricated from ultra low expansion material and utilize adhesive-free bonding to minimize instability from temperature variances. The resulting cavity assemblies provide frequency references that are useful in stabilizing lasers to the sub-hertz range.

Typical Characteristics:

- Low absorption & scattering losses < 5ppm
- Finesse range 100 to >>200,000
- Design wavelength range 350nm–2µm
- High thermal stability
- Precision path length control



High finesse, guaranteed!

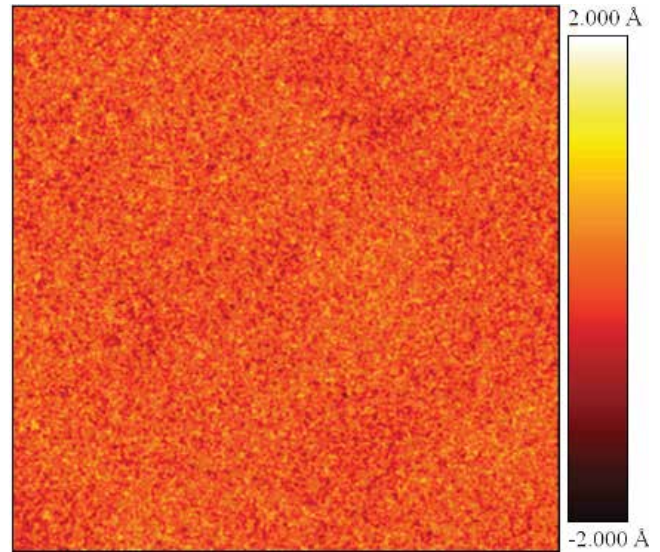
REO provides advanced metrology to verify the optical parameters of your cavity assembly.

Advanced Metrology Abilities

REO has developed state of the art metrology techniques and equipment to support your most demanding cavity assembly design requirements.

Our advanced measurement methods can resolve the optical properties of our components including absorption, reflectivity, and the surface roughness, quality and texture of our superpolished substrates.

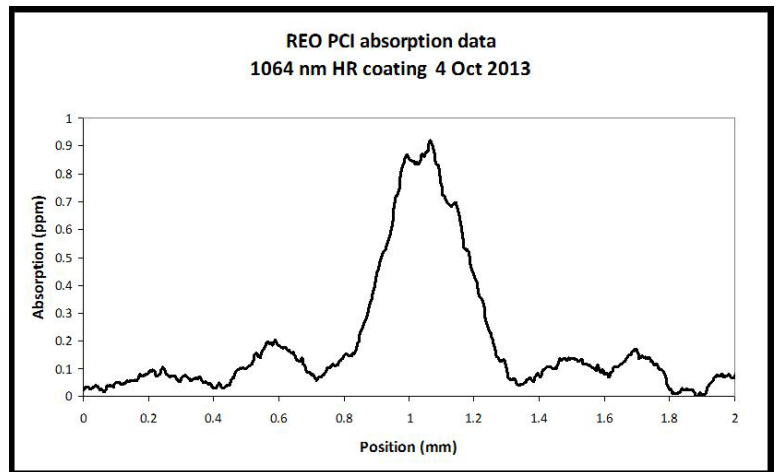
The optical profilometer determines the microroughness of the surface of our substrates produced by our highly controlled superpolishing process.



Microroughness = 0.25 Å RMS

Photothermal Common-path Interferometer

Our PCI measures less than 1ppm absorption in our mirror coating at 1064nm. Absorption measurements are available at 532nm, 1064nm, 940nm and 2000nm (development).



Reflectivity Verification

REO uses cavity ring-down spectroscopy techniques to verify the reflectivity of our cavity mirrors. These measurements are available at 543nm, 633nm, 1064nm, and 1500-1630nm.