

**HI-Q® Whispering Gallery Mode (WGM) Resonator** is being offered as a stand alone high-Q and high finesse optical cavity product for use in diverse applications requiring high performance lasers and optical filters.



Based on a variety of crystalline and amorphous materials, WGM micro-resonators feature greater than  $10^8$  optical quality factor. They can operate as Fabry Perot cavities suitable laser stabilization and optical filtering applications. With just milli-meter in diameter, the stand-alone WGM micro-resonator offers a free spectral range (FSR) of 10 – 90 GHz and resonance contrast greater than 50%. The cavity is compatible with a range of wavelengths from UV to IR.



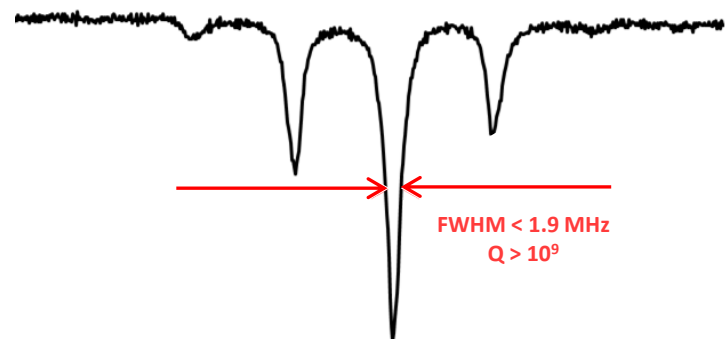
## FEATURES

- Ultra-High Unloaded Quality Factor
- Wide FSR Capability
- UV-IR Capability
- Ultra- High Finesse
- High Contrast
- Optional Cleaved Fiber Accessory
- CaF<sub>2</sub> and MgF<sub>2</sub> Materials

## APPLICATIONS

- Laser Locking
- Optical Comb Generation
- Laser Noise Discrimination
- Optical Filters
- Non-linear Optics
- Quantum Optics

HI-Q® WGM Optical Cavity Quality Factor Measured at 1550 nm



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# HI-Q® WGM RESONATOR SPECIFICATIONS

OE0200

Wavelength	1500 – 1600 nm	Other band options available
Optical Quality Factor	$> 10^9$	Unloaded; Higher Q options available
Resonator Material	MgF <sub>2</sub>	CaF <sub>2</sub> , SLT, SLN, Quartz options
Free Spectral Range	32.5 – 37.5 GHz	Other FSR options available
Finesse	$< 5000$	Higher Finesse options available
Bandwidth	2 MHz	Narrower BW options available
Resonance Contrast	50%	

## OPTIONS

Special Operating Band	Within UV – MIR	
High Quality Factor	Up to $10^{10}$	
Packaged Resonator		Temperature-stabilized; fiber or FSO in/out
In/Out Fiber	PM or SMF	

**Note:** These specifications are subject to change without notice due to OEwaves ongoing development cycles. Unless otherwise noted, all specification in this document are to be treated as “typical.” is covered by one or more of the following U.S. patents: 6,389,197; 6,488,861; 6,795,481; 6,798,947; 6,879,752; 7,248,763; 7,356,214; 7,440,651; 7,801,189; 7,929,589; 8,094,359; 8,102,597; 8,289,616; 8,311,376; 8,442,088. Other patents pending..



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