

Eurys Series

Broadband Faraday Rotators and Isolators for Ti:Sapphire Lasers

EOT's *Eurys Series* Broadband Rotators rotate the plane of polarized light 90° at 800nm in the forward direction and 0° from 720–950nm in the reverse direction while maintaining the light's linear polarization. When placed between crossed polarizers, a broadband Faraday rotator becomes a broadband optical isolator. *Eurys Series* broadband optical isolators provide high transmission in the forward direction and strongly attenuates back-reflected light between 720–950nm in the reverse direction protecting Ti:Sapphire oscillators from the deleterious effects of back reflections and also eliminating preferential lasing at the lower gain wavelengths of Ti:Sapphire lasers. Utilizing optics with low refractive indices and short optical pathlengths minimizes pulse broadening due to dispersion in the optics associated with ultra-short laser pulses.



Benefits:

- Eliminate ASE from high-gain amplifiers that can cause parasitic or relaxation oscillations
- Prevent preferential lasing at low-gain wavelengths by providing broadband isolation

Features:

- All devices are completely passive; no tuning is required
- Combination of low refractive index optics and short optical pathlengths minimizes pulse broadening that can be associated with ultra-short pulses
- All isolators contain escape ports; all rejected beams are deflected at 90°

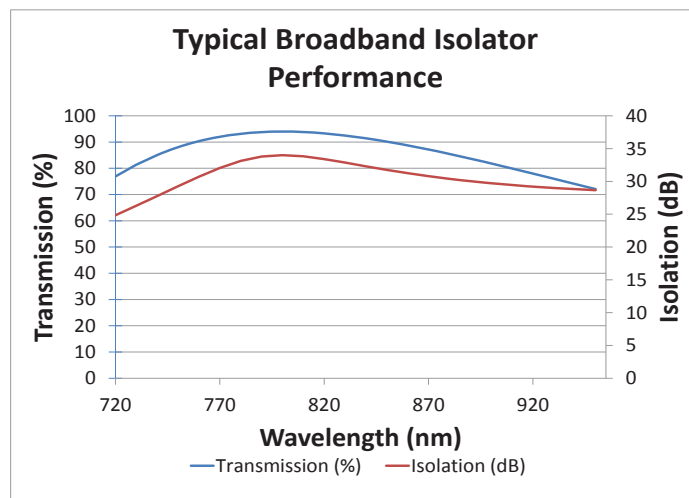
Specifications^a:

	Rotator	Isolator
Center Wavelength	800nm	800nm
Spectral Range	720–950nm	720–950nm
Polarizer Type	N/A	PBS Cube
Transmission at 22°C ^b	>98%	>92%
Isolation at 22°C	N/A	>30dB
Damage Threshold	5J/cm ² at 10ns 2kW/cm ² at 10ns	1J/cm ² at 10ns 2kW/cm ² at 10ns

^a Product specifications are subject to change.

^b At center wavelength

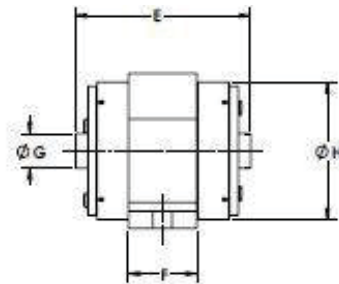
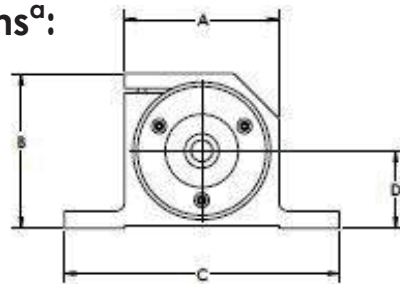
Note: All products are RoHS compliant.



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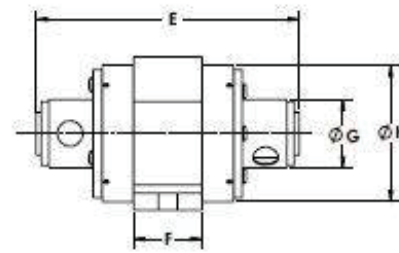
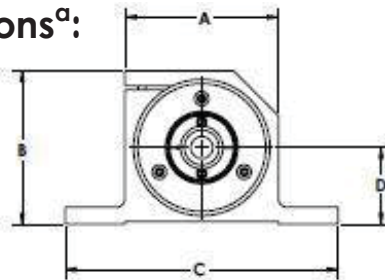
(06/18/2015)

Eurys Series Rotator Dimensions^a:



Aperture (mm)	A	B	C	D	E	F	G	H
5	1.75	1.75	3.63	0.875	2.16	1.00	0.31	1.50
8 ^b	2.00	2.00	2.00	1.00	2.67	n/a	0.44	1.00
10 ^b	2.00	2.00	2.00	1.00	2.95	n/a	0.60	1.26

Eurys Series Isolator Dimensions^a:



Aperture (mm)	A	B	C	D	E	F	G	H
5	1.75	1.75	3.63	0.88	3.02	1.00	0.812	1.50
8	2.25	2.25	4.00	1.13	3.86	1.00	1.00	2.00
10 ^b	2.00	2.00	2.00	1.00	4.69	n/a	1.00	n/a

^a All dimensions in inches

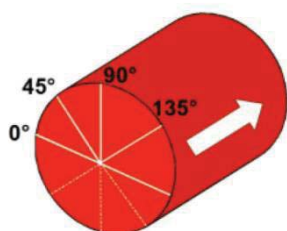
^b Square body, no clamp

Model Number:

<u>A</u> <u>A</u>	<u>B</u> <u>B</u>	<u>C</u>	<u>D</u> <u>D</u> <u>D</u>	<u>E</u> <u>E</u> <u>E</u>	<u>F</u> <u>F</u> <u>F</u>
Product Type	Aperture Size (mm)	Device type	Oper. Wavelength	Input Polarization	Output Polarization
BB	05, 08, 10	R-Rotator I-Isolator	800nm	000	000
				045	045
				090	090
				135	135

Example: Description: 5mm isolator centered at 800nm; input horizontal, output vertical

Model Number: BB-05-I-800-000-090



Input Polarization Reference

- Notes:** 1) Light is rotated clockwise 45° from input to output for all catalog devices.
2) λ/2 waveplate available on output for arbitrary output polarizations, if required.

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