

## 1010-1080nm Faraday Rotators and Isolators Small Aperture( $\leq 5\text{mm}$ )

Castech's Faraday Rotators and Isolators have high power handling up to 100W of average input power in 1010-1080nm wavelength range, could maintain stability of optical system such as Nd or Yb-doped lasers. Isolators are based on Rotators which non-reciprocally rotate the plane of polarized light in 45 degree.

### Features:

- The minimum of the peak Isolation is 30dB
- Free space input and output
- Orthogonal isolated beams
- High damage threshold and power handling
- All isolators are available for optional  $\lambda/2$  plate

### Applications:

- Maintain frequency stability in seed sources
- Avoid relaxation oscillations created by optical feedback in mode-locked lasers
- Reduce Nd and Yb oscillations from ASE created by amplifiers

### Specifications<sup>a</sup>:

	1010-1045nm Rotator	1045-1080nm Rotator	1010-1045nm Isolator	1045-1080nm Isolator
Center Wavelength	1030nm	1064nm	1030nm	1064nm
Peak Transmission	>98%	>98%	>95%	>95%
Peak Isolation	N/A	N/A	>33dB	>33dB
Peak Rotation	45° $\pm$ 0.5°	45° $\pm$ 0.5°	45° $\pm$ 0.5°	45° $\pm$ 0.5°
M <sup>2</sup> factor	<1.2	<1.2	<1.2	<1.2
Storage Temperature Range	-40-70°C	-40-70°C	-40-70°C	-40-70°C
Tunable Temperature Range	10-30°C	10-30°C	10-30°C	10-30°C
Damage Threshold	10J/cm <sup>2</sup> at 10ns	10J/cm <sup>2</sup> at 10ns	10J/cm <sup>2</sup> at 10ns	10J/cm <sup>2</sup> at 10ns

<sup>a</sup>Product specifications are subject to change without notice

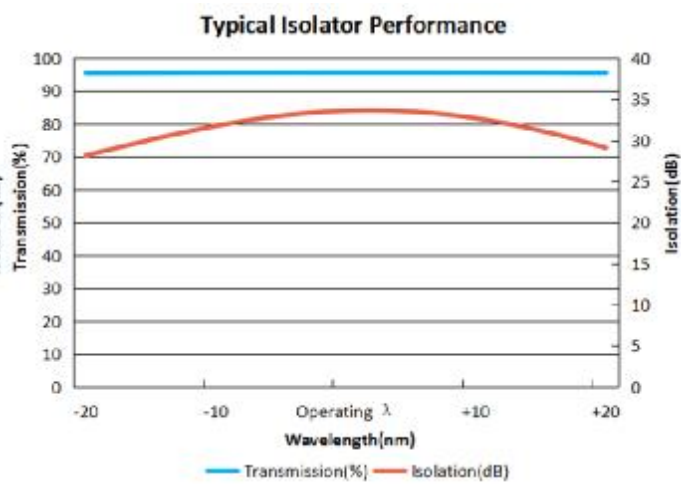
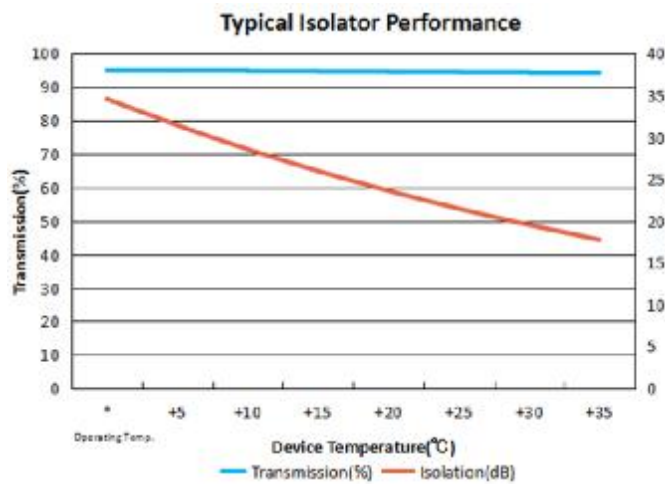
<sup>b</sup>Customized (Wavelength, Dimension, Power Handling, etc) are available

Note: All products are RoHS compliant.

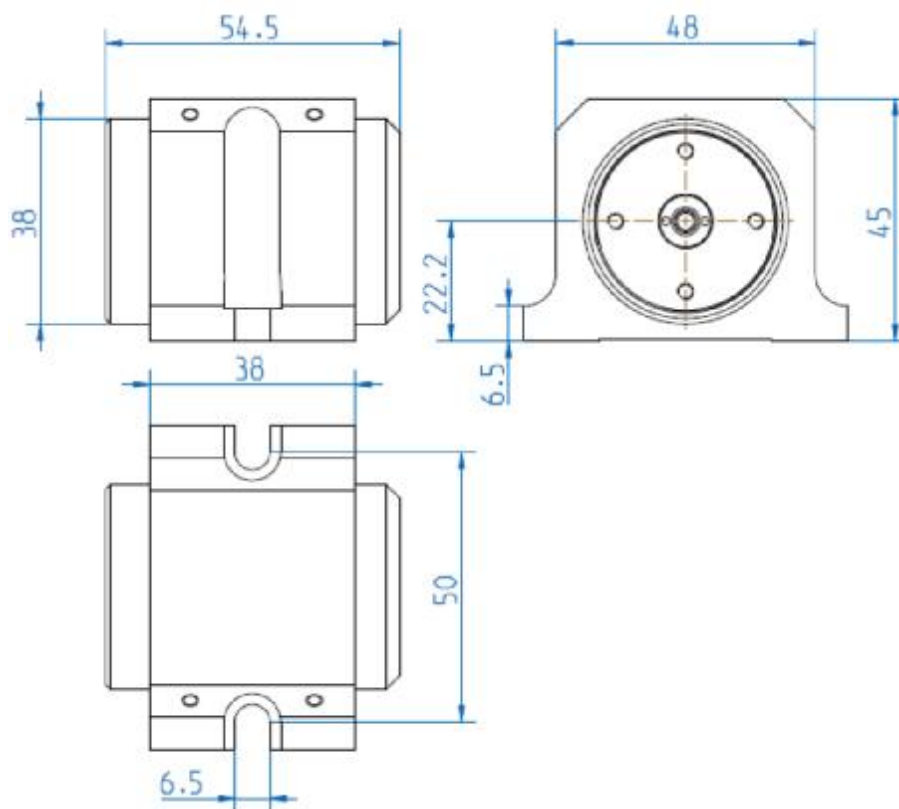
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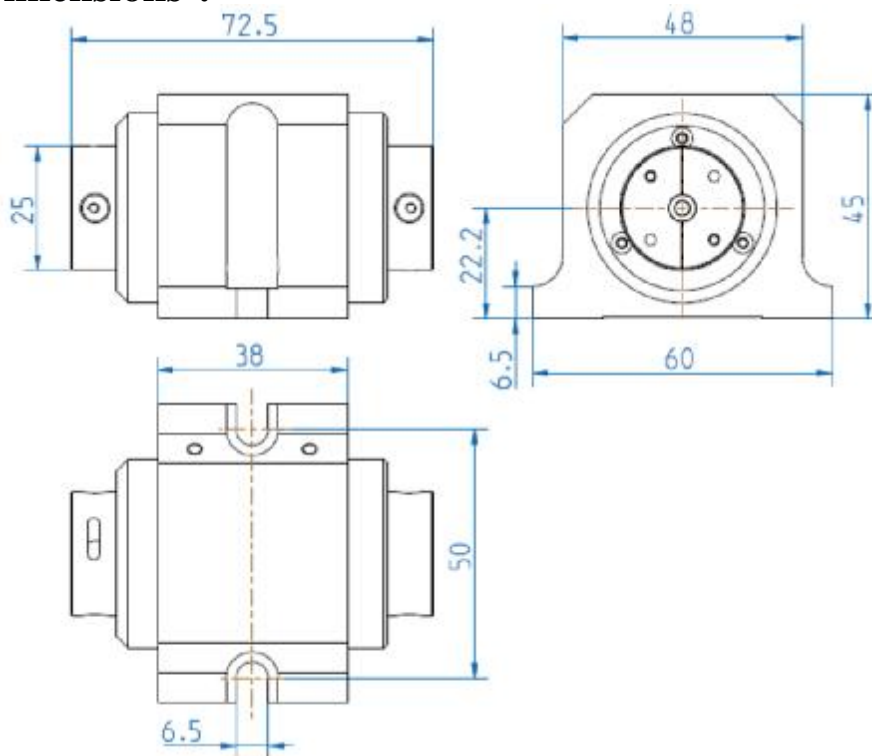
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## Rotatot Dimensions<sup>a</sup>:



## Isolator Dimensions<sup>a</sup>:



<sup>a</sup>All dimensions in mm

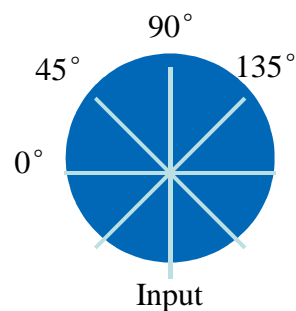
## Model Number:

<u>A</u>	<u>B</u>	<u>C</u>	<u>D</u>	<u>E</u>
Device	Type	Power Handling(W)	Aperture Size(mm)	Wavelength(nm)
Rotator Isolator	Free Space	10	2	1010-1045 1045-1080
		30	3	
		50	4	
		100	5	

**Example:** Model Number HPISO-FS-50-5-1064 described 5mm aperture Isolator centred at 1064nm, handling power is 50W. HPRO-FS-50-3-1064 described 3mm aperture Rotator centred at 1064nm, handling power is 50W.

## Input Polarization Reference:

- All catalog devices non-reciprocally rotate the plane of polarized light in 45 degree.
- $\lambda/2$  waveplate is customized for arbitrary out polarizations if required.



## 1010-1080nm Faraday Rotators and Isolators Large Aperture(>5mm)

Castech's Faraday Rotators and Isolators have high power handling up to 100W of average input power in 1010-1080nm wavelength range, could maintain stability of optical system such as Nd or Yb-doped lasers. Isolators are based on Rotators which non-reciprocally rotate the plane of polarized light in 45 degree.

### Features:

- The minimum of the peak Isolation is 30dB
- Free space input and output
- >5mm large aperture
- High damage threshold and power handling
- All isolators contain escape ports
- All isolators are available for optional  $\lambda/2$  plate

### Applications:

- Maintain frequency stability in seed sources
- Avoid relaxation oscillations created by optical feedback in mode-locked lasers
- Reduce Nd and Yb oscillations from ASE created by amplifiers

### Specifications<sup>a</sup>:

	1010-1045nm Rotator	1045-1080nm Rotator	1010-1045nm Isolator	1045-1080nm Isolator
Center Wavelength	1030nm	1064nm	1030nm	1064nm
Peak Transmission	>98%	>98%	>92%	>92%
Peak Isolation	N/A	N/A	>30dB	>30dB
Rotation at Specified Wavelength	45° ±2°	45° ±2°	45° ±2°	45° ±2°
M <sup>2</sup> factor	<1.2	<1.2	<1.2	<1.2
Damage Threshold	10J/cm <sup>2</sup> at 10ns	10J/cm <sup>2</sup> at 10ns	10J/cm <sup>2</sup> at 10ns	10J/cm <sup>2</sup> at 10ns

<sup>a</sup>Product specifications are subject to change without notice

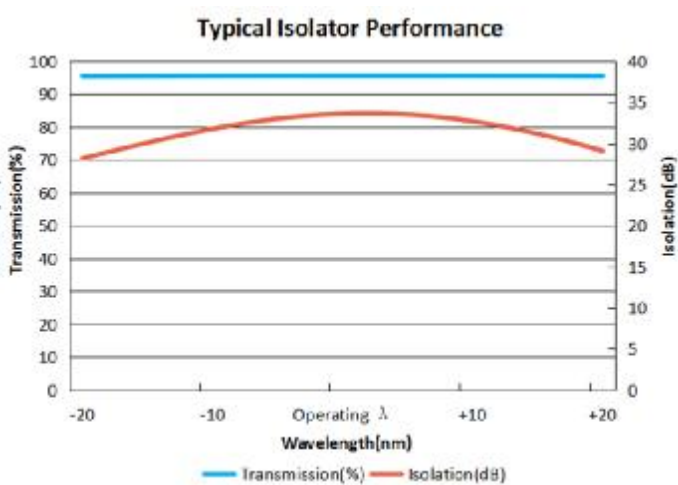
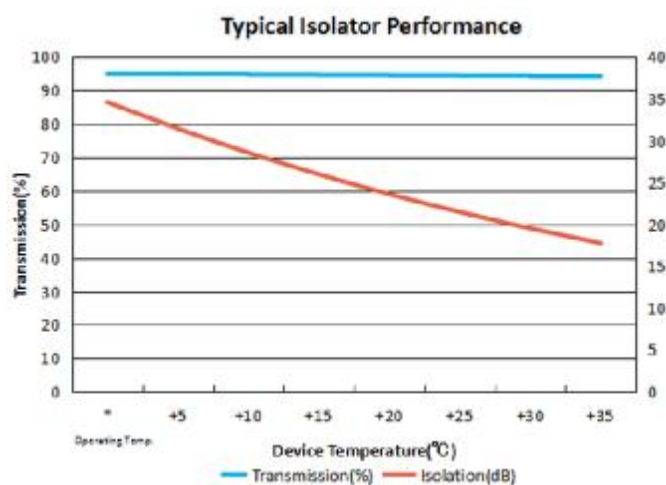
<sup>b</sup>Customized (Wavelength, Dimension, Power Handling , etc) are available

Note:All products are RoHS compliant.

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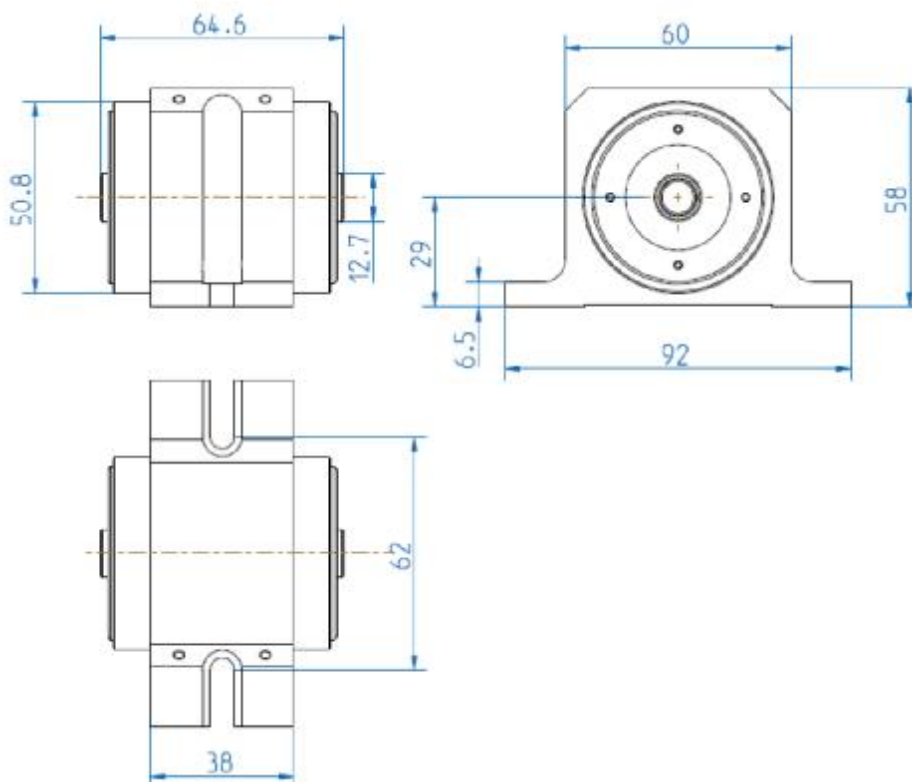
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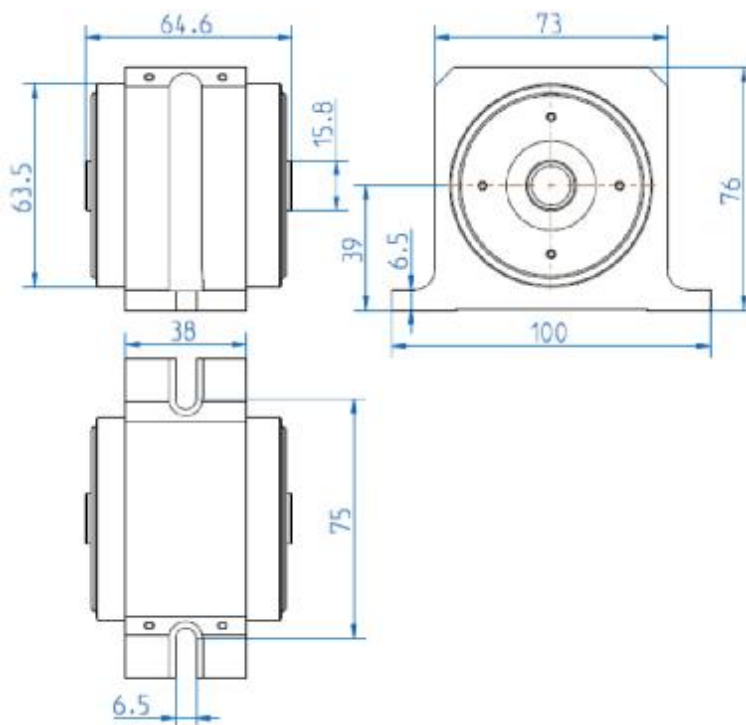


## Rotatot Dimensions<sup>a</sup>:

aperture=8/10mm

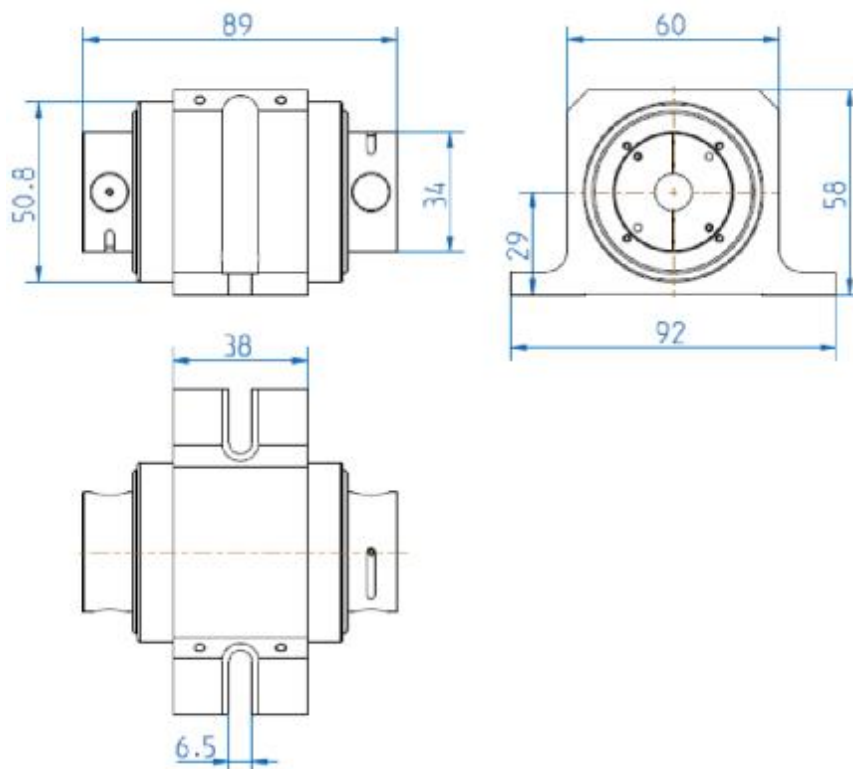


aperture=12mm



### Isolator Dimensions<sup>a</sup>:

aperture=8/10mm

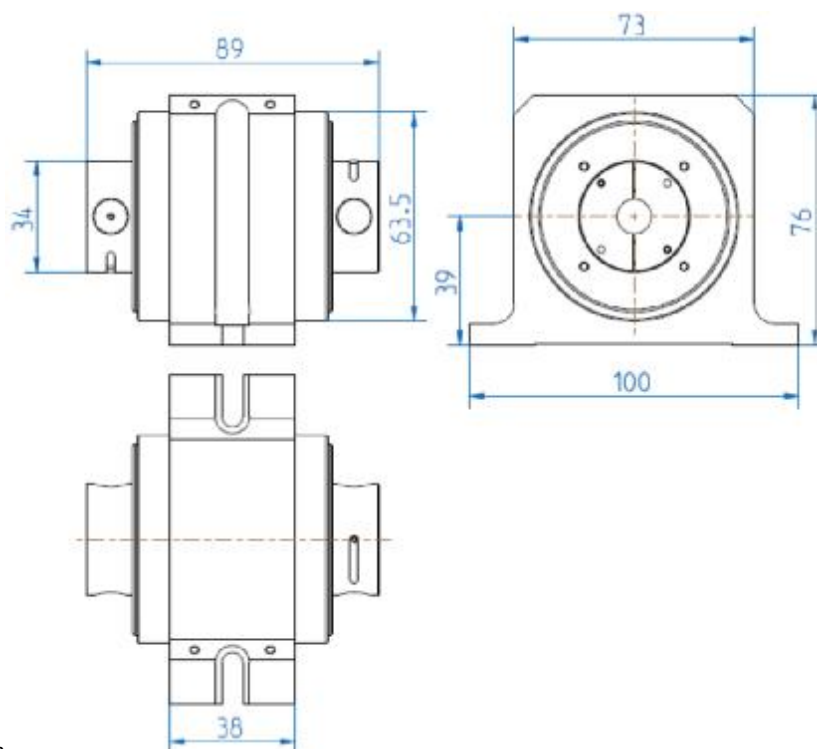


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aperture=12mm



<sup>a</sup>All dimensions in mm

## Model Number:

<u>A</u>	<u>B</u>	<u>C</u>	<u>D</u>	<u>E</u>
Device	Type	Power Handling(W)	Aperture Size(mm)	Wavelength(nm)
Rotator Isolator	Free Space	10	8 10 12	1010-1045 1045-1080
		30		
		50		
		100		

**Example:** Model Number HPISO-FS-50-8-1030 described 8mm aperture Isolator centred at 1030nm, handling power is 50W. HPRO-FS-50-10-1064 described 10mm aperture Rotator centred at 1064nm, handling power is 50W.

## Input Polarization Reference:

- All catalog devices non-reciprocally rotator the plane of polarized light in 45 degree.
- $\lambda/2$  waveplate is customized for arbitrary out polarizations if required.

