

## Standard Glan Taylor Polarizer

### FEATURES

Calcite-air-calcite interface  
Interface cut close to Brewster's angle  
Spectral Range 220-2800nm  
Peak transmission 88%  
Extinction Ratio  $10^{-5}$   
Low to medium power applications  
Range of apertures from 7mm - 20mm



### PRODUCT DESCRIPTION

This air spaced polarizer is a modification of the original Foucault design, in which the two prisms were cemented. By arranging for the optic axis to lie in the plane of the entrance faces, and for the internal calcite-air-calcite interface to be cut close to Brewster's angle, a considerable increase in transmission is obtained without sacrificing acceptance field angle.



Figure 1. Mounted Glan Taylor

The Standard Glan Taylor form with no escape windows is suitable for low to medium power applications where the rejected beam is not required. The polarizers are assembled with fine ground black glass cemented to the calcite prisms for efficient absorption of the rejected beam.

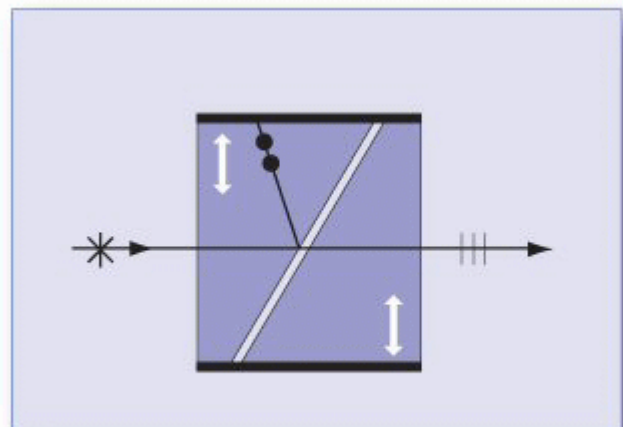
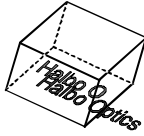


Figure 2. Standard Glan Taylor – Beam Diagram



Standard Glan Taylor polarizers have the internal calcite-air-calcite interface cut close to Brewster's angle to minimise reflection losses at the air gap, maximising through transmission (>88%). The useful field angle varies from 12° @ 220nm to 7.5° @ 2.8um.

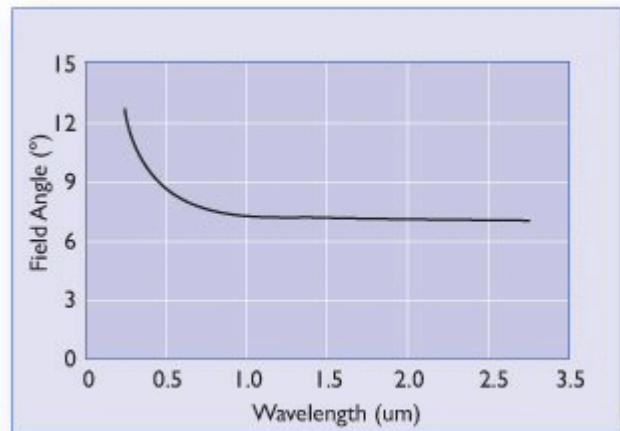


Figure 3. Standard Glan Taylor – Field Angle

The spectral transmission range for standard Glan Taylor polarizers is from 220nm to beyond 2.8um.

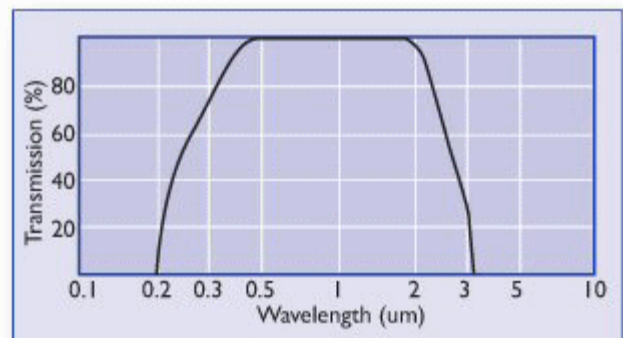


Figure 4. Glan Taylor – Spectral Transmission

### Specifications

Model #	Aperture (mm)	Spectral Range (nm)	Peak Trans. (%)	Extinc. Ratio	Beam Dev. (min)	Flatness @Na <sub>0</sub>	Max Peak Power (MW/cm <sup>2</sup> )	Max CW Power (W/cm <sup>2</sup> )
<i>Standard Glan Taylor Polarizers</i>								
PS7	7	220-2800	88	10 <sup>-5</sup>	<3	lambda/8	20	10
PS10	10	220-2800	88	10 <sup>-5</sup>	<3	lambda/8	20	10
PS12	12	220-2800	88	10 <sup>-5</sup>	<3	lambda/8	20	10
PS15	15	220-2800	88	10 <sup>-5</sup>	<3	lambda/8	20	10
PS20	20	220-2800	88	10 <sup>-5</sup>	<3	lambda/8	20	10

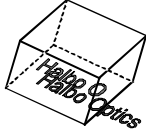
Table 1. Specifications - Standard Glan Taylor Polarizers

### Mounts

These polarizers are supplied unmounted as free components unless mounting is specified at the time of ordering. The mount design gives open access to all three beams and facilitates occasional cleaning. To specify mounted polarizers, simply add suffix:

**M1** for type 1 mount

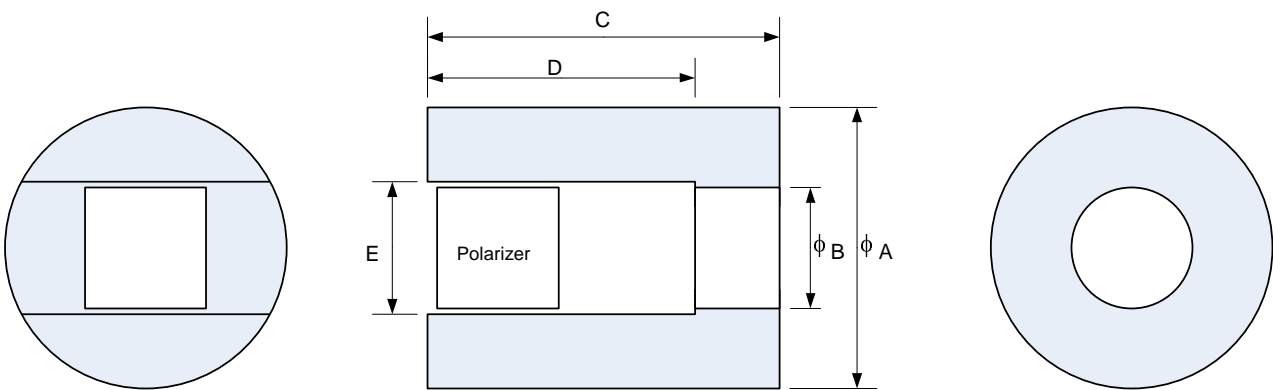
**RM4** for type 4 rotation mount



**Type 1 Mount Dimensions**



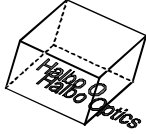
**Figure 1. Mounted Glan Taylor – Type 1**



**Figure 2. Mount Type 1 Sectional Diagram**

		<b>PS7M1</b>	<b>PS10M1</b>	<b>PS12M1</b>	<b>PS15M1</b>	<b>PS20M1</b>
$\phi A$	max	25.40 (1.000)	25.40 (1.000)	25.40 (1.000)	31.75 (1.250)	38.10 (1.500)
	min	25.35 (0.998)	25.35 (0.998)	25.35 (0.998)	31.70 (1.248)	38.05 (1.498)
$\phi B$		8.73 (11/32)	11.91 (15/32)	14.29 (9/16)	17.46 (11/16)	22.23 (7/8)
C		29.00 (1.142)	32.00 (1.260)	34.00 (1.339)	38.00 (1.496)	44.00 (1.732)
D		16.00 (0.630)	19.00 (0.748)	21.00 (0.827)	25.00 (0.984)	31.00 (1.220)
E		9.70 (0.382)	12.70 (0.500)	15.20 (0.598)	18.20 (0.717)	23.20 (0.913)

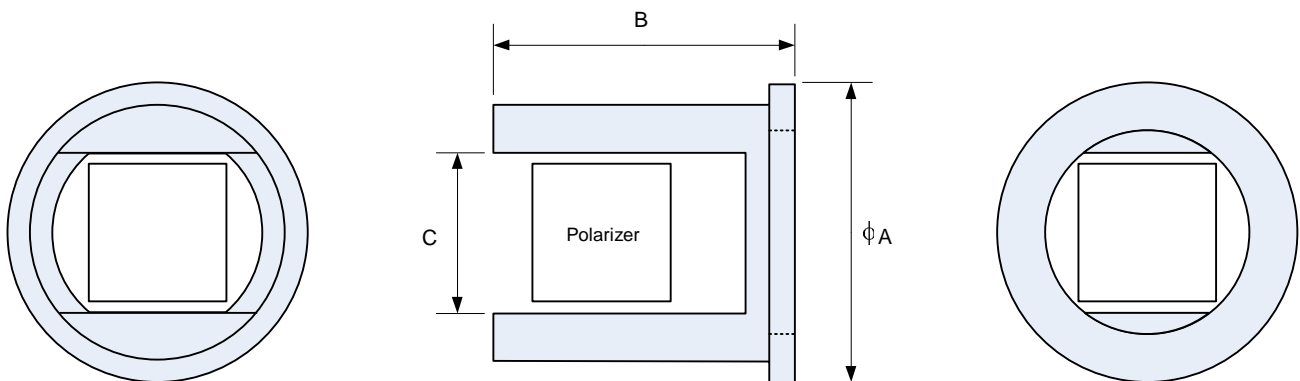
**Table 2. Mount Type 1 Dimensions – mm (inches)**



**Type 4 Rotation Mount Dimensions**



**Figure 1. Mounted Glan Taylor – Type 4**



**Figure 2. Mount Type 4 Sectional Diagram**

	<b>PS7RM4</b>	<b>PS10RM4</b>	<b>PS12RM4</b>	<b>PS15RM4</b>	<b>PS20RM4</b>
$\phi A$	25.00 (0.984)	25.00 (0.984)	25.00 (0.984)	50.00 (1.969)	50.00 (1.969)
<b>B</b>	18.00 (0.709)	23.00 (0.906)	27.00 (1.063)	32.00 (1.260)	32.00 (1.260)
<b>C</b>	10.00 (0.394)	12.80 (0.504)	16.20 (0.638)	25.40 (1.000)	25.40 (1.000)

**Table 1. Mount Type 4 Dimensions – mm (inches)**

Mount types 1 and 4 shown, please enquire for custom mounts.