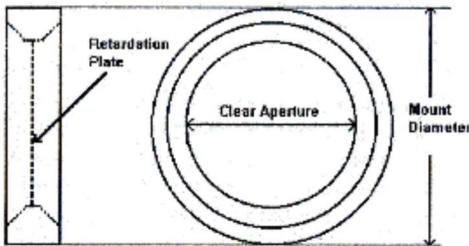


# LEYSOP LTD

Manufacturers and suppliers of electro-optic components

## Low Order Quartz Retardation Plates



These retardation plates use high optical damage threshold crystal quartz. They are orientated with the optic axis in the plane of the plate and light polarized at 45° to the quartz optic axis is resolved into two equal amplitude components that suffer a relative phase retardation due to their different propagating velocities. Most low order waveplates lie in a

thickness range of 100-200µm (At 1.06µm a first order  $\lambda/2$  plate is approximately 182µm thick). Low order plates are generally used because they are relatively temperature insensitive compared to high multiple order plates. They are also less sensitive to axial misalignment.

Retardation plates can be supplied mounted or unmounted with or without A.R. coatings.

## Product Specifications

<b>Material</b>	<b>Crystal Quartz</b>
Surface Quality	20 – 10
Diameter Tolerance	+ 0.00mm – 0.1mm
Retardation Tolerance	1/250
Damage Threshold	$\geq 1 \text{ GW/cm}^2$ nanosecond pulse length at 1064nm
Max cw Power	$\geq 200\text{W/cm}^2$
Transmission Uncoated	92%
Spectral Range	220 – 2800nm

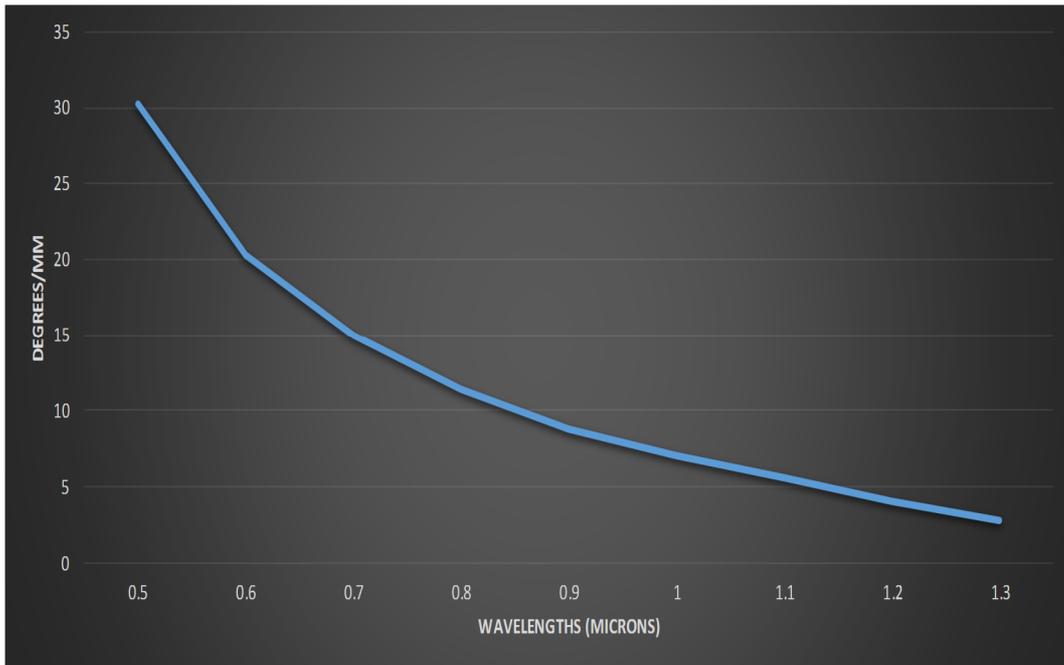
## Standard Sizes

Type	Clear Aperture	Mount Dia.
QWP 10	10mm	25mm
QWP 20	20mm	25mm
QWP 25	25mm	35mm
QWP 30	30mm	40mm

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## Quartz Optical Rotators

When plane polarized light propagates along the optic axis of quartz, it is rotated clockwise or anticlockwise depending on whether it is right or left hand quartz. The rotation is dependent on the wavelength and the distance travelled, as shown below.



Specific Rotary Power

Quartz rotators can be supplied to give 90° rotation or any angle between 0-90°. They are ordered as standard components with the same aperture and mount dimensions as those shown for retardation plates but by using the suffix, QOR.