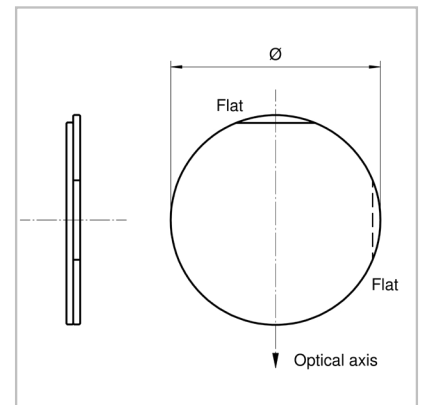


Zero Order Waveplates

Zero order waveplates achieve the desired retardation in that two multiple order plates are combined to work in opposite directions. The difference in thickness of both plates is exactly $\lambda/2$ or $\lambda/4$. Depending on the power level of the laser, different versions are available:

- Low power levels:
Cemented plates
- Medium to very high power levels:
Optically contacted plates or mounted with air gap

Our standard plates are optically contacted. By combining two multiple order plates large bandwidths can be achieved. With large bandwidths, the plates can also be used in applications with fs lasers or for systems with a large temperature range.



Nomenclature

QWPO	-1064	-05	-2	AR/AR
Product Code (Zero Order)	Wavelength in nm	Diameter in inches x 10	Retardation 2: $\lambda/2$ 4: $\lambda/4$	Coating Specification

Specifications

Spectral bandwidth	Typ. $\lambda \pm 5\%$
Typical range of thickness	0.80 to 1.60 mm
Wavefront error	$\lambda/10$ at 632.8 nm (transmission)
Retardation tolerance	$\lambda/100$ to $\lambda/600$
Surface quality	5/2 x 0.04, L2 x 0.004 for 1.0" substrates according to ISO 10110 10-5 according to MIL-O-1380A
Parallelism	Wedge < 0.5 arcsec
Damage threshold	LDT > 10 J/cm ² (10 ns; 1064 nm)
Clear aperture	85 % of diameter
Wavelength	For single wavelength in the range of 248 nm – 2200 nm
Dimensions [mm]	12.7; 15.0; 20.0; 25.4; 30.0; 38.1; 50.8

Zero Order waveplates are also available with reduced specifications.