

14WPZO • 14WPLO Crystalline Quartz Waveplates

Standa is offering wide range of Zero Order (ZO), Low Order (LO) waveplates for UV, VIS, NIR range (for any wavelength in 240-2600 nm range). All our waveplates are made from excellent quality laser grade Crystalline quartz material.

ZO waveplate is constructed by two quartz plates with their fast axis crossed. The difference in thickness between the two plates determines the retardance. ZO waveplates offer a substantially lower dependence on temperature, angle and wavelength change than conventional monolithic LO waveplates.

To suit different applications, air-spaced or optically contacted ZO compensated phase retardation waveplates are available.

The air-spaced construction enables to use the waveplate for the high power laser applications. The damage threshold is more than 500 MW/cm².



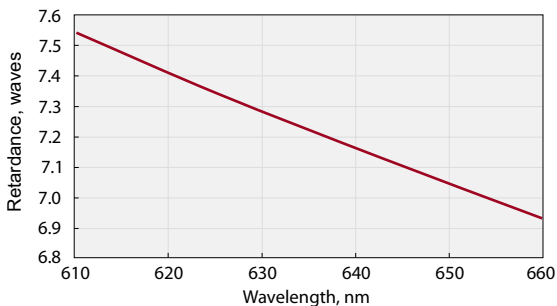
- FEATURES**
- Waveplates are made from excellent quality laser grade Crystalline quartz material.
 - We specialize in Air-spaced Zero-order Waveplates
 - Dual wavelength waveplates are also available
 - All waveplates are AR coated and mounted by default

STANDARD SPECIFICATIONS

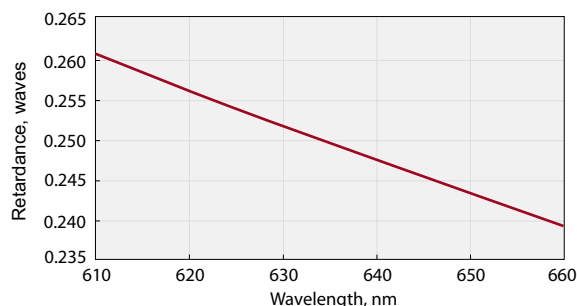
Material	Crystalline Quartz
AR Coatings	R < 0.2% at each surface
Retardation Tolerance	$\lambda/500$ @ 20 °C
Wavefront Distortion	$\lambda/8$ @ 633 nm
Surface Quality	20-10 scratch & dig
Surface Flatness	$\lambda/10$ @ 632.8 nm
Parallelism Error	< 1 arcsec
Laser Damage Threshold	5 J/cm ² 10 ns pulsed @ 1064 nm typical
Mounting	Mounted in 25.4 mm black anodized metal mount

- OPTICAL SUBSTRATES
- LENSES
- PRISMS
- DIELECTRIC COATED OPTICS
- METALLIC COATED OPTICS
- FILTERS
- OFF-AXIS MIRRORS
- VARIABLE REFLECTIVITY MIRRORS
- NON POLARIZING BEAMSPLITTER CUBES
- POLARIZING OPTICS
- ADAPTIVE OPTICAL SYSTEMS
- COATINGS SECTION

RETARDATION VS. WAVELENGTH FOR ZO AND LO CRYSTALLINE QUARTZ WAVEPLATES



7.25 waves LO waveplate @ 633 nm



0.25 waves ZO waveplate @ 633 nm

DRAWING AND SELECTION GUIDE

ZO air-spaced	ZO optically contacted	LO waveplate
Broad wavelength dependence		Good for single wavelength use
Low Temperature dependence		Sensitive to Temperature changes
More expensive than LO waveplates		Low cost
High damage threshold (>500 MW/cm ²)	Higher transmission due to optical contact	

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ZO CRYSTALLINE QUARTZ WAVEPLATES

Air-spaced, clear aperture **12.7 mm**
Mounted in 25.4 mm metal mount

Wavelength, nm	Ordering Code	
	$\lambda/2$ Retardation	$\lambda/4$ Retardation
266	14WPZO.2-266-12.7	14WPZO.4-266-12.7
343	14WPZO.2-343-12.7	14WPZO.4-343-12.7
355	14WPZO.2-355-12.7	14WPZO.4-355-12.7
400	14WPZO.2-400-12.7	14WPZO.4-400-12.7
473	14WPZO.2-473-12.7	14WPZO.4-473-12.7
515	14WPZO.2-515-12.7	14WPZO.4-515-12.7
532	14WPZO.2-532-12.7	14WPZO.4-532-12.7
589	14WPZO.2-589-12.7	14WPZO.4-589-12.7
633	14WPZO.2-633-12.7	14WPZO.4-633-12.7
780	14WPZO.2-780-12.7	14WPZO.4-780-12.7
800	14WPZO.2-800-12.7	14WPZO.4-800-12.7
852	14WPZO.2-852-12.7	14WPZO.4-852-12.7
940	14WPZO.2-940-12.7	14WPZO.4-940-12.7
980	14WPZO.2-980-12.7	14WPZO.4-980-12.7
1030	14WPZO.2-1030-12.7	14WPZO.4-1030-12.7
1064	14WPZO.2-1064-12.7	14WPZO.4-1064-12.7
1122	14WPZO.2-1122-12.7	14WPZO.4-1122-12.7
1319	14WPZO.2-1319-12.7	14WPZO.4-1319-12.7
1550	14WPZO.2-1550-12.7	14WPZO.4-1550-12.7

ZO CRYSTALLINE QUARTZ WAVEPLATES

Air-spaced, clear aperture **15 mm**
Mounted in 25.4 mm metal mount

Wavelength, nm	Ordering Code	
	$\lambda/2$ Retardation	$\lambda/4$ Retardation
266	14WPZO.2-266-15	14WPZO.4-266-15
343	14WPZO.2-343-15	14WPZO.4-343-15
355	14WPZO.2-355-15	14WPZO.4-355-15
400	14WPZO.2-400-15	14WPZO.4-400-15
473	14WPZO.2-473-15	14WPZO.4-473-15
515	14WPZO.2-515-15	14WPZO.4-515-15
532	14WPZO.2-532-15	14WPZO.4-532-15
589	14WPZO.2-589-15	14WPZO.4-589-15
633	14WPZO.2-633-15	14WPZO.4-633-15
780	14WPZO.2-780-15	14WPZO.4-780-15
800	14WPZO.2-800-15	14WPZO.4-800-15
852	14WPZO.2-852-15	14WPZO.4-852-15
940	14WPZO.2-940-15	14WPZO.4-940-15
980	14WPZO.2-980-15	14WPZO.4-980-15
1030	14WPZO.2-1030-15	14WPZO.4-1030-15
1064	14WPZO.2-1064-15	14WPZO.4-1064-15
1122	14WPZO.2-1122-15	14WPZO.4-1122-15
1319	14WPZO.2-1319-15	14WPZO.4-1319-15
1550	14WPZO.2-1550-15	14WPZO.4-1550-15

ZO CRYSTALLINE QUARTZ WAVEPLATES

Air-spaced, clear aperture **20 mm**
Mounted in 25.4 mm metal mount

Wavelength, nm	Ordering Code	
	$\lambda/2$ Retardation	$\lambda/4$ Retardation
266	14WPZO.2-266-20	14WPZO.4-266-20
343	14WPZO.2-343-20	14WPZO.4-343-20
355	14WPZO.2-355-20	14WPZO.4-355-20
400	14WPZO.2-400-20	14WPZO.4-400-20
473	14WPZO.2-473-20	14WPZO.4-473-20
515	14WPZO.2-515-20	14WPZO.4-515-20
532	14WPZO.2-532-20	14WPZO.4-532-20
589	14WPZO.2-589-20	14WPZO.4-589-20
633	14WPZO.2-633-20	14WPZO.4-633-20
780	14WPZO.2-780-20	14WPZO.4-780-20
800	14WPZO.2-800-20	14WPZO.4-800-20
852	14WPZO.2-852-20	14WPZO.4-852-20
940	14WPZO.2-940-20	14WPZO.4-940-20
980	14WPZO.2-980-20	14WPZO.4-980-20
1030	14WPZO.2-1030-20	14WPZO.4-1030-20
1064	14WPZO.2-1064-20	14WPZO.4-1064-20
1122	14WPZO.2-1122-20	14WPZO.4-1122-20
1319	14WPZO.2-1319-20	14WPZO.4-1319-20
1550	14WPZO.2-1550-20	14WPZO.4-1550-20

LO CRYSTALLINE QUARTZ WAVEPLATES

Clear aperture **>18 mm**.
Mounted in 25.4 mm metal mount

Wavelength, nm	Ordering Code	
	$\lambda/2$ Retardation	$\lambda/4$ Retardation
266	14WPLO.2-266-18	14WPLO.4-266-18
343	14WPLO.2-343-18	14WPLO.4-343-18
355	14WPLO.2-355-18	14WPLO.4-355-18
400	14WPLO.2-400-18	14WPLO.4-400-18
473	14WPLO.2-473-18	14WPLO.4-473-18
515	14WPLO.2-515-18	14WPLO.4-515-18
532	14WPLO.2-532-18	14WPLO.4-532-18
589	14WPLO.2-589-18	14WPLO.4-589-18
633	14WPLO.2-633-18	14WPLO.4-633-18
780	14WPLO.2-780-18	14WPLO.4-780-18
800	14WPLO.2-800-18	14WPLO.4-800-18
852	14WPLO.2-852-18	14WPLO.4-852-18
940	14WPLO.2-940-18	14WPLO.4-940-18
980	14WPLO.2-980-18	14WPLO.4-980-18
1030	14WPLO.2-1030-18	14WPLO.4-1030-18
1064	14WPLO.2-1064-18	14WPLO.4-1064-18
1122	14WPLO.2-1122-18	14WPLO.4-1122-18
1319	14WPLO.2-1319-18	14WPLO.4-1319-18
1550	14WPLO.2-1550-18	14WPLO.4-1550-18

RELATED PRODUCTS

- **7R150-1** – Rotation Stage



- **10APF3-1** – Variable Attenuator/ Beamsplitter



CODE EXAMPLE FOR ORDERING

14WPZO.2-800-18

Waveplate type
ZO – Zero order
LO – Low order

Clear aperture

Wavelength, nm

Retardation
2 – $\lambda/2$
4 – $\lambda/4$