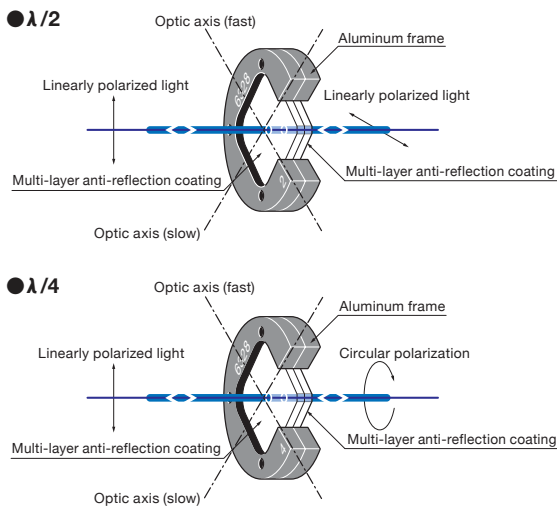


Quartz waveplates are zero-order retardation plates (phase plates) which are assembled from pairs of optically contacted crystalline quartz plates and are mounted on aluminum frames. Unlike multiple-order (higher-order) waveplates that are made from a single quartz plate, the net retardations of zero-order waveplates are only slightly affected by temperature change.

- These products utilize birefringence of quartz and give phase difference of $\lambda/4$ ($\pi/2$, 90°) or $\lambda/2$ (π , 180°) to the input beams. $\lambda/4$ retarders convert linearly polarization to circularly and circularly polarization to linearly. $\lambda/2$ retarders convert the direction of polarization in 90 degrees.
- Usually linearly polarized beams are input to the waveplates in a leaning of 45 degrees against its optic axis.



Schematic



Specifications

Material	Optical grade crystalline quartz
Material of frame	Aluminum Finishing: Black anodized
Clear aperture	17x17mm
Surface flatness of substrate	$\lambda/10$
Angular deviation of beam	$<5''$
Coating	Both surfaces: Narrowband multi-layer anti-reflection coating
Transmittance	$>98.5\%$
Laser Damage Threshold	1J/cm ² (Laser pulse width 10ns, repetition frequency 20Hz)
Surface Quality (Scratch-Dig)	20-10

Guide

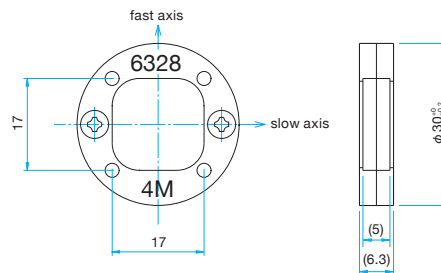
► Please contact our Sales Division for customized products. (Customized on size etc.)

Attention

- These products can be used for the beams which wavelengths are in $\pm 1\%$ of rated wavelength.
- The surface flatness is the reflected wavefront distortion of the surface before coating.
- Be sure to wear laser safety goggles when checking optical path and adjusting optical axis.

Outline Drawing

(in mm)



Compatible Optic Mounts

PH-30-ARS / SPH-30-ARS

Quartz Waveplates | WPQ

Catalog Code W3032

$\lambda/2$			
Part Number	Wavelength Range [nm]	Theoretical retardation [nm]	Retardation tolerance
WPQ-2660-2M	266	133.0	< $\lambda/50$
WPQ-3250-2M	325	162.5	< $\lambda/50$
WPQ-3550-2M	355	177.5	< $\lambda/50$
WPQ-4050-2M	405	202.5	$\lambda/100 - \lambda/200$
WPQ-4100-2M	410	205.0	$\lambda/100 - \lambda/200$
WPQ-4416-2M	441.6	220.8	$\lambda/100 - \lambda/200$
WPQ-4579-2M	457.9	229.0	$\lambda/100 - \lambda/200$
WPQ-4880-2M	488	244.0	$\lambda/100 - \lambda/200$
WPQ-5145-2M	514.5	257.3	$\lambda/100 - \lambda/200$
WPQ-5320-2M	532	266.0	$\lambda/100 - \lambda/200$
WPQ-6328-2M	632.8	316.4	$\lambda/100 - \lambda/200$
WPQ-6700-2M	670	335.0	$\lambda/100 - \lambda/200$
WPQ-7800-2M	780	390.0	$\lambda/200 - \lambda/500$
WPQ-8300-2M	830	415.0	$\lambda/200 - \lambda/500$
WPQ-10640-2M	1064	532.0	$\lambda/200 - \lambda/500$
WPQ-13000-2M	1300	650.0	$\lambda/200 - \lambda/500$
WPQ-15500-2M	1550	775.0	$\lambda/200 - \lambda/500$

$\lambda/4$			
Part Number	Wavelength Range [nm]	Theoretical retardation [nm]	Retardation tolerance
WPQ-2660-4M	266	66.5	< $\lambda/50$
WPQ-3250-4M	325	81.3	< $\lambda/50$
WPQ-3550-4M	355	88.8	< $\lambda/50$
WPQ-4050-4M	405	101.3	$\lambda/100 - \lambda/200$
WPQ-4100-4M	410	102.5	$\lambda/100 - \lambda/200$
WPQ-4416-4M	441.6	110.4	$\lambda/100 - \lambda/200$
WPQ-4579-4M	457.9	114.5	$\lambda/100 - \lambda/200$
WPQ-4880-4M	488	122.0	$\lambda/100 - \lambda/200$
WPQ-5145-4M	514.5	128.6	$\lambda/100 - \lambda/200$
WPQ-5320-4M	532	133.0	$\lambda/100 - \lambda/200$
WPQ-6328-4M	632.8	158.2	$\lambda/100 - \lambda/200$
WPQ-6700-4M	670	167.5	$\lambda/100 - \lambda/200$
WPQ-7800-4M	780	195.0	$\lambda/200 - \lambda/500$
WPQ-8300-4M	830	207.5	$\lambda/200 - \lambda/500$
WPQ-10640-4M	1064	266.0	$\lambda/200 - \lambda/500$
WPQ-13000-4M	1300	325.0	$\lambda/200 - \lambda/500$
WPQ-15500-4M	1550	387.5	$\lambda/200 - \lambda/500$

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