Inradoptics

Chemical Formula:	$KH_2(PO_4)$ $KD_2(PO_4)$
Crystal Symmetry:	**tetragonal**
Optical Symmetry:	**uniaxial negative**
Class:	**42m**

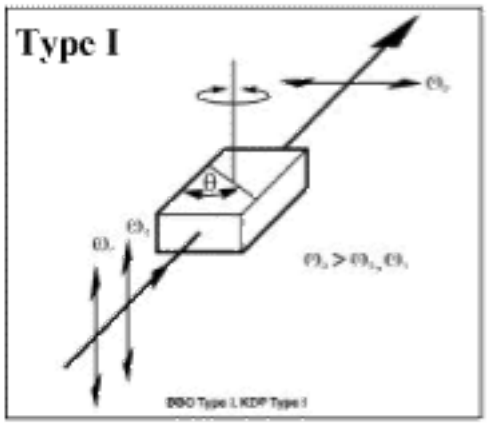
KDP/KD*P Single Crystals

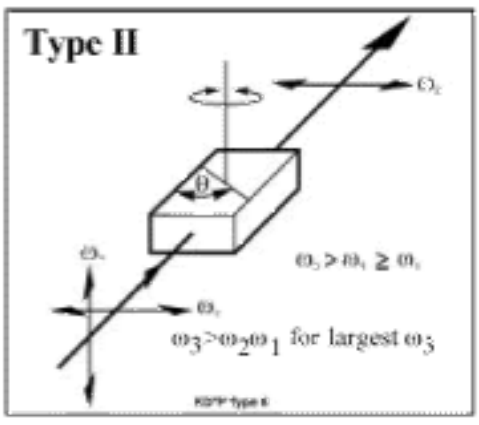
Inrad grows and fabricates and polishes almost any size crystal and any orientation of KDP (potassium dihydrogen phosphate) or KD*P (potassium dideuterium phosphate). In order to simplify manufacturing, stocking, and ordering, a number of standard sizes and orientations have been defined. If the size and orientation that you want is not listed here, please send a Request For Quotation to us! Different orientations, crystallographically speaking, refer to the angles between the beam propagation direction and the crystallographic direction of the optic axis.

Examples of tuning applications are given for each crystal cut; other applications are possible.

For Type I orientations, the polarization directions of the two longest wavelengths in the mixing process are in the same direction; the shortest wavelength in the mixing process has an orthogonal polarization direction.

For Type II orientations, the polarization directions of the two longest wavelengths in the mixing process are orthogonal to one another; the shortest wavelength in the mixing process, for the crystals listed here, has a polarization direction aligned to the polarization direction of the longest wavelength.





KDP Single Crystals		
Size (mm)	Corresponding INRAD Cells	Notes
10 x 10 x 0.1	530-081, 535-080	5-14B size
10 x 10 x 0.25	530-081, 535-080	5-14B size
10 x 10 x 0.5	530-081, 535-080	5-14B size
10 x 10 x 1	530-081, 535-080	5-14B size
6.75 x 13.5 x 30	562-126	Autotracker size
13.5 x 13.5 x 15	531, 541 series	—
13.5 x 13.5 x 30	532, 542 series	—
13.5 x 18.5 x 30	563-1117	Autotracker size
60 dia x 2	ring mount	2-3 waves, best effort
60 dia x 3	ring mount	one wave flatness
60 dia x 4	ring mount	one wave flatness
76 dia x 2	ring mount	2-3 waves, best effort
76 dia x 3	ring mount	2-3 waves, best effort
76 dia x 4	ring mount	one wave flatness

KDP Standard Orientations				
Designation	Angle θ	Operation	Input	Output
A	83.3°	SHG	518-535 nm	259-267 nm
B	69.1°	SHG	531-595 nm	266-297 nm
B1	73.4°	SHG	524-571 nm	262-285 nm
R6G	60.2°	SHG	559-673 nm	280-336 nm
C	54.9°	SHG	585-754 nm	293-377 nm
D	46.6°	SHG	648-940 nm	324-470 nm
M2	64.6°	SHG	543-648 nm	272-324 nm
		MIX	1064nm + (294-383 nm)	231-281 nm
M3	76.4°	SHG	520-557 nm	260-278 nm
		THG	1064nm + (273-307 nm)	217-238 nm
—	41.2°	SHG	1064 nm	532 nm
—	47.3°	THG	1064 nm + 532 nm	355 nm
TSS	45°	SHG	700-1000 nm	350-500 nm

KD*P Single Crystals		
Size (mm)	Corresponding INRAD Cells	Notes
6.75 x 13.5 x 30	526-126	Autotracker size
13.5 x 18.5 x 30	563-1117	Autotracker size
10 x 10 x 30	5-202/L	For 5-200A system
13.5 x 13.5 x 15	—	531, 541 series and 5-302 cell
13.5 x 13.5 x 30	—	532, 542 series and 5-302 cell

KD*P Standard Orientations				
Designation	Angle θ	Operation	Input	Output
—	53.7°	SHG (II)	1064 nm	532 nm
M1	59.5°	SFM (II)	1064 nm + 532 nm	355 nm
		THG (II)	1064 nm + (421-1000 nm)	355 nm
—	86°	FHG (II) angle tune	532 nm	302-515 nm
—	90°	FHG (II) temp. tune	532 nm	266 nm
—	36.6°	SHG (I)	1064 nm	532 nm
—	46.8°	THG (I)	1064 nm + 532 nm	355 nm