

KDP/KD*P Single Crystals

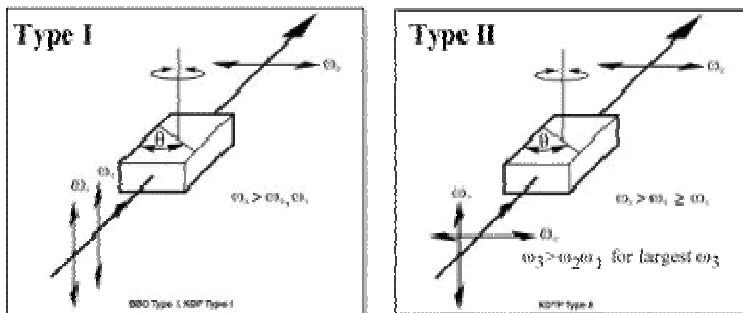
Chemical Formula	$\text{KH}_2(\text{PO}_4)$ $\text{KD}_2(\text{PO}_4)$
Crystal Symmetry	tetragonal
Optical Symmetry	uniaxial negative
Class	$\bar{4}2m$

Inrad grows and fabricate and polish 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.

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.

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

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
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

KDP Single Crystals — Standard Orientations

Designation	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	1064 + (294-383 nm)	231-281 nm
M3, 76.4°	SHG	520-557 nm	260-278 nm
	THG	1064 + (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
13.5 x 18.5 x 30	563-1117	Autotracker size
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 Single Crystals — Standard Orientations

Designation	Operation	Input	Output
53.7°	SHG (II)	1064 nm	532 nm
M1, 59.5°	THG (II)	1064 nm + 532 nm	355 nm
	SFM (II)	1064 nm + (421-1000 nm)	302-515 nm

86°	FHG (I) angle tune	532 nm	266nm
90°	FHG (I) temp. tune	532 nm	266 nm
36.6°	SHG (I)	1064 nm	532 nm
46.8°	THG(I)	1064 nm + 532 nm	355 nm