

Diode Pump Solid State Laser Optics Kits

Diode-pumped solid state laser is the most popular laser systems. It's a widely used laser tools of machining, material processing, spectroscopy, wafer inspection, light show, medical diagnostics and other applications.

Unifibre provides a complete kits of Diode Pumped Laser Optics. It includes Laser crystals, NLO crystals, Laser window, Laser mirror, Focus lenses, Waveplate, etc.

Very good surface quality and surface figure.

High damage threshold coating.

Laser Crystals: Nd: YVO4 or Nd: YAG

Laser crystals are used to generate laser radiation. The commonly used laser crystals include Nd:YAG, Nd:YVO4 for near IR lasers, and Ti:Sapphire for tunable near IR output.

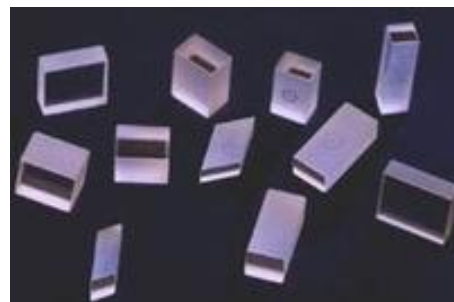
Specifically, Nd:YVO4, for diode pumped solid state lasers were developed because diode pumping attracts more and more interest of both R&D and OEM customers. Unifibre provides laser crystal such as: Nd:YVO4, Nd:YAG, Gr:YAG, etc. We also provide a complete kits of optics (Laser mirrors and couplers) for your whole laser system.

Specifications:

Nd: Dopant Level	0.1 - 3.0 atm%
Wavefront Distortion	< $\lambda/8$ at 633 nm
Orientation	a-cut or c-cut
Orientation tolerance	0.5 deg
Dimensional Tolerance	+0.1/-0.1 mm
End-faces Configuration	Plano/Plano
Surface quality	10/5 Scratch/Dig per MIL-O-13830B
Flatness	$\lambda/10$ at 633 nm
Clear Aperture	> Central 90%
Parallelism	< 10 arc sec.

AR/AR coating $R < 0.2\%$ @ 1064nm is available.

We can also provide other laser crystals such as: Nd:YAG crystal, Nd:GdVO4 crystal and Cr:YAG crystal. Please contact us for details case by case.



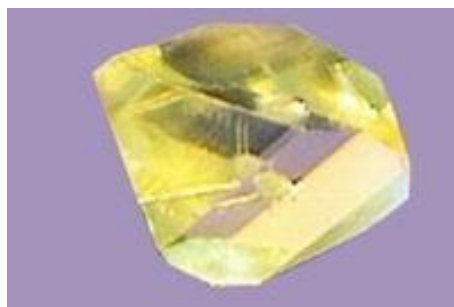
NLO Crystals: KTP

Nonlinear optical (NLO) Crystals

The nonlinear optical (NLO) crystals are mainly used in laser frequency conversion application such as: SHG (Second Harmonic Generation), THG (Third Harmonic Generation), OPO (Optical parametric Generation), etc.

KTP crystal

KTP crystal is the most popular NLO crystal, especially in the Nd laser frequency doubling (SHG 1064->532nm) applicaiton.



Specifications:

Transmitting wavefront distortion:	less than $\lambda/4$ @ 633nm
Dimension tolerance:	$(W \pm 0.1\text{mm}) \times (H \pm 0.1\text{mm}) \times (L + 0.2\text{mm} / - 0.1)$
Clear aperture:	> 90% central area
Flatness:	$\lambda/8$ @ 633nm
Surface quality:	10/5 Scratch/Dig
Parallelism:	better than 20 arc sec.
Perpendicularity:	15 arc min.
Angle tolerance:	$\pm 0.5^\circ$
AR coating:	dual wave band AR coating at 1064/532 nm for both faces
residual reflectivity:	< 0.2% at 1064 nm and < 0.5% at 532 nm per surface

We can also provide other NLO crystals such as: BBO crystal and LiNbO3 crystal. Please contact us for details case by case.