

Note: Above parameters for reference only, please contact our sales Rep. for your specific requirement.

Neodymium-doped Yttrium Aluminium Garnet (Nd:YAG)

Introduction:

Neodymium-doped yttrium aluminum garnet (Nd:YAG) is the earliest and most famous and widely used laser crystal.

Because of its many excellent basic properties, Nd:YAG is still often used in near-far infrared solid-state lasers and their frequency doubling and frequency doubling.

Nd:YAG is also widely used in medical and industrial lasers, such as laser marking machines, cutting machines, laser therapy instruments and beauty instruments. In applications requiring high power, high energy, Q-switching and mode-locked ultrashort pulse lasers, Nd:YAG is the preferred laser working material.



Main Advantages

- ✧ High gain,
- ✧ Low threshold
- ✧ High efficiency
- ✧ Low loss at 1064nm
- ✧ Good thermal conductivity and shock characteristics
- ✧ High optical quality
- ✧ Applicable to many laser working modes (continuous, pulse, Q-switch, mode lock)

Typical application :

- ✧ Near infrared solid state laser and its frequency, triple frequency
- ✧ Diode pump full solid state micro laser
- ✧ Industrial laser
- ✧ Rangefinder
- ✧ Photoelectric counter equipment system
- ✧ High performance laser instrument
- ✧ Laser treatment instrument, beauty meter
- ✧ Laser marking machine; punching machine, drilling machine etc.

Material Properties:

Chemical Formula	Nd: Y ₃ Al ₅ O ₁₂
Lattice Constant	a=12.01Å
Growth Method	Czochralski
Density	4.5g/cm ³
Hardness	8.5 Mohs
Melting Point	1970°C
Refractive Index	1.82

Crystro offers:

Nd Doping Level	0.3%-1.5%
Diameter Tolerance	+0.0/-0.05 mm
Length Tolerance	±0.1mm
Chamfer	< 0.1mm@45°
Flatness	< λ/10@633nm
Parallelism	< 10"
Perpendicularity	< 15'
Wave Front Distortion	< λ/8@633nm
Surface Quality	10-5
Dimension	Diameter Φ3-40mm

Note: Above parameters for reference only, please contact our sales Rep. for your specific requirement.