



Thin Disks Gain Medium

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|------------------------------|--|-------------------|-------------------|
| | TD 12-7 HD / TD 12-7+ | TD 20-7 | TD 25-7 |
| Material: | Yb:YAG | Yb:YAG | Yb:YAG |
| Doping concentration: | 7 % | 7 % | 7 % |
| Thickness: | 0.215 mm | 0.215 mm | 0.215 mm |
| Shape unpumped: | spherical, planar | spherical, planar | spherical, planar |
| Radius of curvature: | spherical: typically around - 10 m, concave; or as given by diamond heat sink disk shape changes during pumping mainly due to the bending of the heat sink. The rule of thumb is a change of refractive power of (1/2 for diamond bonded disks) - 0,05 m ⁻¹ per 100 W for pump spot diameter of > 4 mm or - 0,1 m ⁻¹ per 100 W for pump spot diameter of about 3 mm | | |
| Wedge: | 0.1° (between reflected beams), parallel surface available on request | | |
| Free aperture: | diameter 8 mm – 10 mm | diameter 15 mm | diameter 20 mm |
| AR coating: | R@1030 nm, 0° < 0.1 % | | |
| HR coating: | R@1030 nm, 0° > 99.9 % R@940 nm, 969 nm > 99.8% ; R@940 nm, 969 nm > 99.8% | | |
| Optical axis of the disk: | orthogonal to base +/- 0.5°, depends on wedge orientation | | |
| Maximum pump power: | 4 kW/cm ² (with top-hat pump profile and in fluorescence mode only; in laser operation as a rule of thumb, the damage threshold increases by the actual extracted laser power with respect to the pump spot area.) | | |
| Standard pump spot diameter: | 3.2 mm | n.a. | n.a. |
| Damage threshold: | > 4.7 – 7.6 J/cm ² (10 ns pulses, for 10k pulses, tested by Institute of Technical Physics (DLR), only tested for TD12-7 HD/+ version) | | |
| Suitable pump module | TDM 1.0 | TDM 10, TDM 30 | TDM 10, TDM 30 |



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