

ATP-K Variable Attenuator

This option makes beam profiling easy. The ATP-K attenuates your laser without ghost reflections or fringes and has a knob-operated variable wedge attenuator of ND 1.7–4.6, and comes with a fixed gray-glass attenuator with ND 2.8.

The ATP-K is also designed to be used with the HP-XXX high power attenuators and beam splitters. Both types of attenuators attach directly to the ATP-K via C-mount. The ATP-K has simple reproducible attenuation settings, and has a wavelength range of 360 to 2500+ nm.



Figure 1 below shows the safe average power for negligible beam distortion from thermal lensing. Absorptive filters, such as used in the ATP-K have an upper power limit of approximately 100mW per mm beam diameter. For pulsed beams, Figure 2 shows the damage threshold for energy where breakage of the glass wedge may occur. This is approximately 5J per mm beam diameter. For lasers with power or energy levels above this the first stage of attenuation will need to come from our line of high power reflective attenuators.

Figure 1 – Safe average power for negligible beam distortion

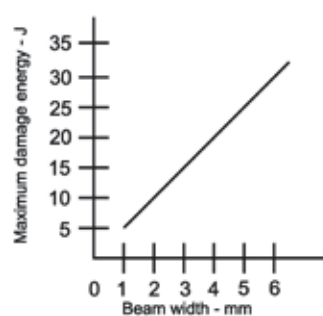
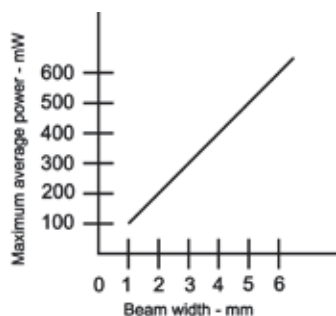


Figure 2 – Point at which damage will occur with pulsed energy

ATP-K Specifications

Maximum Power/Energy Handling 100 mW/mm beam diameter 100 mJ total avg. energy Damage threshold: 5J

Note: Powerful laser sources may require additional attenuation prior to the beam's exposure to Model ATP-K. Additional attenuation usually is achieved by use of high-power laser mirror attenuators or clean, high-quality quartz plates (recommended with slight wedge angles).

Wavelength Range 360-2500+ nm Near flat response out to 1500nm

Attenuation Range Variable filters: ND = 1.7 to 4.6 Maximum ND 7.4 (with fixed 2.8 gray-glass attenuator)

Note: ND (optical density) = $\log(1/T)$ or $T=10^{-ND}$ where T is the fraction of light transmitted. For example, an ND of 5 transmits 0.00001 or 0.001%.

Clear Aperture 15mm diameter

Dimensions 94 (W) x 28 (H) x 43 (D) mm

Thickness Tolerance ± 0.25 mm

Mounting C-mount

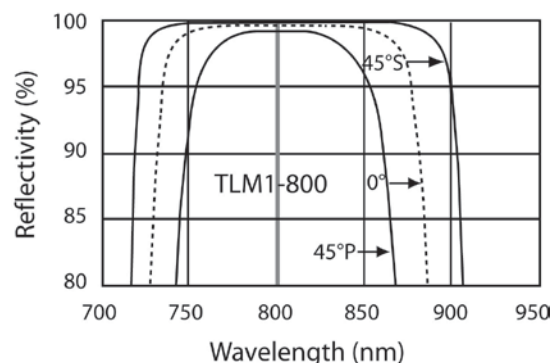
Base Mount $\frac{1}{4}$ -20

High Power Attenuators

Our high-power laser mirror attenuator transmits <1%, and comes in a C-Mount threaded adapter ring. It is also AR coated for either straight on or 45° orientation.

Available standard configurations:

- HP-266 — Use for 266 \pm 50nm
- HP-355 — Use for 350 \pm 50nm
- HP-450 — Use for 450 \pm 50nm
- HP-600 — Use for 500–700nm
- HP-800 — Use for 700–900nm
- HP-1064 — Use for 1000–1100nm



Other wavelengths available upon request.

Note that if more than one reflective attenuator is required to reduce the beam power, one of them must be oriented 45° to the beam. Unlike absorptive attenuators, reflectors cannot be stacked, because they will form a laser cavity.