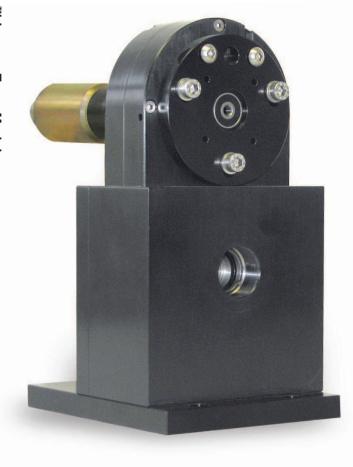
NEOSCAN**

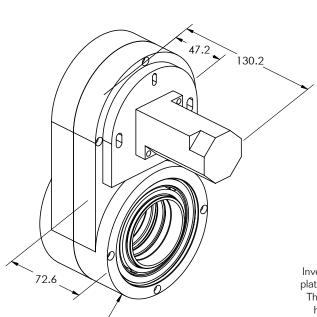
Inverse Taper Module



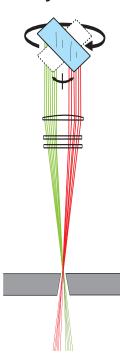
- Adjustable hole drilling taper
- > 10 degrees of inverse taper
- Works with any laser drilling system

Inverse taper in the NeoScan™ Scanner† is achieved by rotating a tilted parallel plate about the optical axis while the scanner is operating. Ordinarily, a laser beam is passed through the central region of the focusing lens. The intensities at the focus are so high that the resulting hole drilled either has a small, positive taper or no taper but a bell-mouthed entrance. If the laser beam is shifted off axis, but parallel to the axis, the laser beam enters the material at a larger angle. It is this larger angle that achieves the inverse taper. By adjusting the tilt of the beam offset plate, different degrees of inverse taper can be realized.

Neo*Scan*™ Inverse Taper RayTraces



Inverse taper module set with rotating plate a zero degree angle of incidence. This produces a slight positive taper hole as illustrated by the graphic.



Inverse taper module set with rotating plate at a 45 degree angle of incidence. This produces the highest possible inverse taper as the beam is offset the furthest from the optical axis as illustrated in this graphic.

^{*} Drawing above shown without mounting housing.

