

Rotary Stages Offer Enhanced Performance

MDT Staff



AGR series

motorized rotary stages provide significant improvements in speed, load capacity and long-term positioning performance over previous generations of worm-gear-drive stages. They address a wide range of applications for general purpose positioning in laboratory and industrial uses, in a robust and economical package.

The performance specifications for the AGR series are a step above the typical worm-drive rotary stage. Accuracy is to 20 arc seconds, with 8 arc seconds bi-directional repeatability, 30 rpm maximum speed, and 360° continuous or optional limited travels. Tilt error motion is 10 arc seconds, axial error motion is 5 μm , radial error motion is 10 μm and maximum axial load is to 425 kg.

The addition of a larger clear aperture is a key enhancement over previous generations of worm-gear-driven stages. Apertures are available from 50 to 200 mm diameter. This feature allows the AGR series to address applications requiring a through-hole or accommodations to mount an optic, including articulation of beam polarizing lenses, through-holes for cabling and/or air lines, or vision/camera/inspection applications.

The AGR stage base is fabricated from an aluminum alloy that offers significant weight savings in multi-axis arrangements and other weight critical applications, while providing high structural stiffness and long-term stability.

Each stage is designed with two high-precision angular contact bearings with optimal spacing to provide excellent error motions coupled with high load capacities in a small, compact package.

Options include brush, brushless and stepper motor selections as well as a direct encoder mounted to the stage shaft for outstanding repeatability and to virtually eliminate hysteresis and backlash. A full range of matching drives and controls are available for a complete single-source solution. Vacuum-compatible versions for use in pressures as low as 10⁻⁶ torr are available.

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