# AKG Series Manual Goniometers, ±8° to ±15° Travel, Worm Gear Drive

Model AKG Series · waveqvanta.com/products/akg-series-manual-goniometers

Worm-driven aluminum goniometers with curved crossed-ball guides for sensitive, stable manual angle adjustment.




AKG series goniometers combine a curved crossed-ball guide with a worm gear and worm drive to tilt the stage about a rotation center above its surface. The worm drive gives sensitive, stable manual angle adjustment, and the black anodized aluminum body keeps weight between 0.15 and 0.42 kg. Six models cover ±8° to ±15° travel with design center heights from 40 to 75.5 mm.

## Key features

- Worm gear and worm drive with 235:1, 252:1 or 352:1 transmission ratio
- Curved crossed-ball guide for smooth, stable motion
- Travel from ±8° to ±15° depending on model
- Run-out of rotation center from ≤60 µm down to ≤15 µm (AKG50-60, AKG75-60)
- Vernier minimum reading 0.1°; approx. 1.02° to 1.53° per drive turn
- Stage surfaces of 40 × 40, 60 × 60 and 65 × 65 mm; load capacity 3–5 kg

## Specifications

| | |
|---|---|
| **Travel Range** | ±8° to ±15° (model dependent) |
| **Design Center Height** | 40–75.5 mm |
| **Stage Surface Size** | 40 × 40, 60 × 60 or 65 × 65 mm |
| **Thickness** | 17–25.5 mm |
| **Guide Mechanism** | Curved crossed-ball guide |
| **Drive Type** | Worm gear and worm |
| **Transmission Ratio** | 235:1, 252:1 or 352:1 |
| **Body Material and Finish** | Black anodized aluminum alloy |
| **Run-Out of Rotation Center** | ≤15 µm to ≤60 µm (model dependent) |
| **Vernier Minimum Reading** | 0.1° |
| **Angle per Drive Turn** | ≈1.02° to ≈1.53° (model dependent) |
| **Load Capacity** | 3 kg or 5 kg |
| **Weight** | 0.15–0.42 kg |

## Model overview

| Model | Travel (°) | Center Height (mm) | Stage Size (mm) | Thickness (mm) | Ratio | Angle per Turn (°) | Run-Out (µm) | Load (kg) | Weight (kg) |
|---|---|---|---|---|---|---|---|---|---|
| AKG57-40 | ±10.0 | 57 | 40 × 40 | 17 | 252:1 | ≈1.13 | ≤60 | 3 | 0.15 |
| AKG40-40 | ±15.0 | 40 | 40 × 40 | 17 | 235:1 | ≈1.53 | ≤60 | 3 | 0.15 |
| AKG75.5-65 | ±10.0 | 75.5 | 65 × 65 | 25.5 | 352:1 | ≈1.02 | ≤40 | 5 | 0.42 |
| AKG50-65 | ±15.0 | 50 | 65 × 65 | 25.5 | 252:1 | ≈1.43 | ≤40 | 5 | 0.42 |

| Model | Travel (°) | Center Height (mm) | Stage Size (mm) | Thickness (mm) | Ratio | Angle per Turn (°) | Run-Out (µm) | Load (kg) | Weight (kg) |
|---|---|---|---|---|---|---|---|---|---|
| AKG50-60 | ±10.0 | 50 | 60 × 60 | 25 | 252:1 | ≈1.43 | ≤15 | 5 | 0.36 |
| AKG75-60 | ±8.0 | 75 | 60 × 60 | 25 | 352:1 | ≈1.02 | ≤15 | 5 | 0.36 |

## Typical applications

- Tip/tilt adjustment of mirrors, optics and samples
- Angular alignment about a fixed pivot point
- Detector and fiber angle alignment
- Multi-axis manual positioning assemblies