

TECHNICAL ENGINEERING SPECIFICATION

Multi-Angle Precision Long Shaft Inspection Report

Manufacturer:	ESS KAY ENGINEERS	Report Date:	July 1, 2026
Component:	Precision Grooved & Hexagonal End Drive Shaft	Document Ref:	EKE-DS-2026-07C

1. Multi-Axis Orthographic & Sectional Analysis

The engineering layout below represents four dedicated verification perspectives including isometric rotations (ISO 1, ISO 2), absolute straightness evaluation (SIDE), and cross-sectional end-face tolerance analysis (END).



2. Mechanical Profile & Structural Features

Geometric Specifications

- **Helical / Ring Surface Grooving:** Dense, uniform fine-pitch linear concentric ribs along the core shaft maximize tactile tracking or linear indexing stability.
- **Dual-End Stepped Diameters:** Features varying terminal dimensions engineered to separate mechanical torque intake from structural anchoring points.
- **Hexagonal End-Face Cross-Section:** Machined concentric hexagonal profile (visible in End-View) ensures positive interlocking connection with high-torque rotary couplers.
- **Concentric Alignment:** Rigorous lateral straightness tolerance verified along the longitudinal axis via precise side-angle alignment auditing.