

VT-100 Tracking Gimbal

Precision high-performance optical tracking system

Exceptional performance, adaptability, and serviceability in a cost-effective package make the VT-100 tracking gimbal ideal for satisfying imaging & sensing needs across a broad range of applications. The VT-100, one of Vision Engineering Solutions' (VES) flagship products, represents over 20 years of experience providing tracking solutions, both in the field and in the lab. Documentation for building your own VT-100 is available for licensing from VES.

Features

- Very high power-to-payload ratio for wind stabilization and performance
- Linear amplifiers to eliminate switching noise
- 6 modular payload mounting faces
- Brushless AC direct drive motors increase reliability and performance with limited maintenance
- Angular resolution of 26 bits
- Custom electronics to increase reliability and speed
- Unlimited azimuth rotation through a slip ring with power and Gigabit Ethernet capability

Gimbal Control Software Available

- VES' Precision Mount Control System (PMCS) integrates with the VT-100
- Allows for external inputs for mission- adaptability: designation by radar, telemetry, or external computer
- Joystick or gamepad control optional
- Programmable knobs and foot-switch controls to maximize functionality



VT-100 Tracking Gimbal with optional telescopes

Additional Intellectual Property Licenses Available

- Digital Video Recorder Software
- Digital Video Player Software

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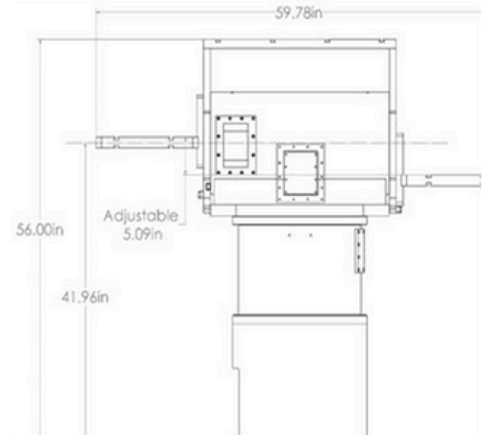
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Performance

- Resolution 26 bits
- Tracking Error* $<20\mu\text{rad RMS @ } 10^\circ/\text{sec}$
- Velocity $90^\circ/\text{s}$
- Acceleration $60^\circ/\text{s}^2$ Travel
- Azimuth Unlimited
- Elevation -20° to $+95^\circ$
- Torque, Peak (nominal) 319 Nm / 235 lb-ft

* Extremely low error achievable at low tracking speeds

Size (not to scale)



Construction

The VT-100 was designed for use in humid and harsh environments:

- Aircraft-grade epoxy paint or powder-coat (customer choice)
- 6061 AL components
- Stainless steel strength-members and fasteners
- Operable in environments $0^\circ\text{C} - 50^\circ\text{C}$ (customizable)

Power

VT-100 includes a transformer and amplifier lineup

- 220 VAC, single-phase, 60 Hz power input
- 10VAC, 60 Hz available on-platform

Design Specifications

Pedestal Type	Direct-drive, Elevation over Azimuth
Drive Motors	Brushless AC
Protection	Fail-safe brakes and over-travel bumpers
Weight	~500 lb (nominal)
Payload	Up to 400 lb, distributed
Mounting	10x 1/2in screw clearance holes R10.83in
Elevation axis	41.96in above base

Controls

VT-100 includes a transformer and amplifier lineup

- Human-machine interface with mode select buttons and drive knobs/pedals (joystick or gamepad optional)
- PMCS™ software allows for mount control in manual and automatic mode