MODEL 2452H TWO-AXIS HYDRAULIC TARGET MOTION SIMULATOR (TMS)

STANDARD FEATURES

- Position Accuracy: ±10 arc sec
- Axis Orthogonality: 30 arc sec
- Rate Accuracy: ±0.02%
- Target Scene Payloads up to 150 lbs (68 Kg)
- Rack-mounted AERO 4000 Digital Controller
    - Front panel display of status and data
    - Local and remote operation
    - Trapezoidal velocity profiles (in rate mode) with programmable velocity and acceleration
    - Sinusoidal motion generator, with programmable amplitude and frequency
    - Profile mode for position, velocity, and flight (PVA) commands
    - Programmable analog inputs and outputs

DESCRIPTION

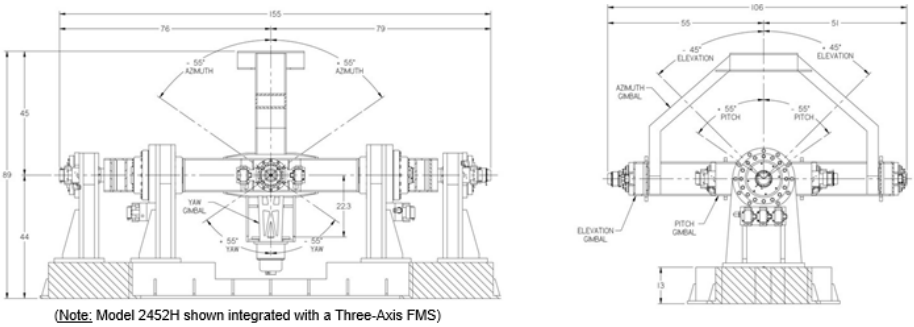
The 2452H extends the capabilities of Ideal's three-axis FMS systems for hardware-in-the-loop (HWIL) seeker/guidance testing, to include target motion simulation. The inner target axis can accommodate an infra-red scene projector. Extremely efficient hydraulic actuators allow high system utilization – such as Monte Carlo-type test scenarios – on a time-continuous basis. As with our three-axis FMS systems, Ideal's flexible AERO 4000 Controller affords real-time motion control via several industry-standard high-speed interfaces.

The 2452H features high-performance hydraulic vane actuators and optical encoders on each axis. The AERO 4000 digital signal processor-based (DSP) controller provides accurate and reliable motion control. The user can operate the TMS from the AERO 4000 Graphic User Interface for local control, or remotely via a computer interface. It affords easy operation, and can accommodate the Ideal Aerosmith Table Language (ATL) for remote operation. The AERO 4000 controller comes standard with IEEE-488, RS-232, and Ethernet communication interfaces.

OPTIONS

- Various Target Scene Simulator to Axis Intersections are available
- Systran Corporation SCRAMNet or VMIC shared-memory interfaces

For more detailed information, contact Ideal to request a Specification Document.



(Note: Model 2452H shown integrated with a Three-Axis FMS)

Rev B

Performance Specifications		
	Inner Target (Azimuth)	**Outer Target (Elevation)**
Rotational Freedom	±55	±45
Positioning		
• Accuracy, arc sec (deg)	±10 (±0.0028)	±10 (±0.0028)
• Repeatability, arc sec (deg)	±5 (±0.0014)	±5 (±0.0014)
• Resolution, deg	0.0001	0.0001
Rate		
• Maximum, deg/sec	±100	±100
• Minimum, deg/sec	±0.001	±0.001
• Display Resolution, deg/sec	±0.001	±0.001
• Accuracy, % ± Resolution	±0.02 (measured over 90° of travel)	±0.02 (measured over 90° of travel)
Acceleration, max., deg/sec^2 (sinusoidal move)	1,200	1,200
Bandwidth, -3dB, (with nominal payload)	10	10

*Values listed are maximum values and are dependent upon system configuration. Performance parameters may vary between various configurations of the Model 2452H.

System Physical Configuration	
Target Mounting Surface	22 inch (559 mm) x 22 inch (559 mm) .
Target Payload Dimensions	30 inch (762mm) L x 30 inch (762mm) W x 15 inch (381 mm) H
Target Focal Plane to Axis Intersection Dimension	Nominal: 39.4 inch (1000 mm); Maximum: up to 55 inch (1400 mm)
Target Payload Weight	
• Nominal	150 lbs (68 Kg)
• Maximum	(Optional: Higher Target Payload Weights available upon request – Higher Payload Weights will reduce axis dynamic performance)
AERO 4000 Digital Controller	Request an AERO 4000 Controller data sheet for more information.
• Type & Configuration	AERO 4000 Test Table Controller configured in a 19-inch Cabinet
• Communication Interfaces	IEEE-488, RS-232 and Ethernet ports available to user. Systran Corporation SCRAMNet or VMIC shared-memory interfaces available as options.

For additional information or special requirements, contact Ideal Aerosmith. Specifications subject to change without notice. Please call for pricing. Rev **B**