

## **ELECTROHYDRAULIC TEST STANDS**

*Meet or exceed test requirements for mission critical actuators and hydraulic units*



### **Accurate testing of virtually all UUTs including oversized and highly complex units**

Around the globe, airline industry leaders and military forces put their trust in Textron Systems to develop and deliver a fully integrated Electrohydraulic Test Stand (EHTS) designed to work with nearly any Unit Under Test (UUT). In addition to a 25,000 lb capacity test bed/load beam assembly, and a mechanical hoist to assist in loading UUTs, our system features an optional built-in interface for external, automated fixtures and modular control manifold systems. Its unique modular design provides for the addition of test modules and adapters to meet your needs today, and in the future.

# ELECTROHYDRAULIC TEST STANDS

## Test Fixture and Hydraulic Supply (TFHS)

- Universal 25,000 lbs. load capability Test Bed for actuators and simple hydraulic units.
- Supports linear/rotary actuators (with redundant solenoids, servovalves and LVDTs).
- Modular manifold system (minimize hydraulic tubing, lower maintenance).
- Integral sink (50 gal capacity, 3/4 inch drain with cleanable filter). Integral drip pans in TFHS base provide additional 13 gal containment.
- Customized Limited Rotation Actuator Assembly (LRAA) for test of rotary devices is available.
- Contains systems for control of UUT supply/return pressure, separate UUT drive/load system for independent loading of UUTs, motor/servo controls, switching valve manifold system and high pressure pump/motor/accumulator system to support UUT proof pressure test.

## Electronics Control Console (ECC)

Instrumentation/Control Interface provides necessary excitation source, signal conditioners and conversion equipment to control and monitor the TFHS control systems and transducers.

Specially designed flight control electronics interface simulates actual aircraft flight control computer, providing the most reliable testing possible. System contains servo amplifiers to control UUT servovalves, LVDT/RVDT excitation and monitoring, UUT Solenoid Control Electronics and Digital I/O controls to measure pressure switch status.

## Fully Integrated Computer Control

Textron Systems' EHTS integrates all of the hardware and software required for operation including computer, keyboard, printer, and a 15" liquid crystal display (LCD).

### Proprietary System Software Features:

**Note Book Format** provides graphical display with tabs to simplify the operator-machine interface and eliminate operator "wandering".

**Virtual Instrument Displays (VID)** provided on monitor and updated at a 0.5 second interval showing selected EHTS and UUT operating performance data.

**Fault Monitor Task** runs independently of the test and VID update process and provides an alarm status (visually on monitor or audio) for monitored critical test parameters.

**Test In Progress Displays** for the UUT or EHTS are provided as a notebook page during testing with its own set of dedicated VID's defined by Textron Systems and the customer for the UUT.

**Self Test And Maintenance** provided, as part of the EHTS standard software configuration. Operator can select one or several self tests, or utilize the Complete Mode series of tests that will test and fault isolate the entire EHTS system.

**Calibration program** provided for transducer to CPU calibration. Transducers are not removed from EHTS for calibration and operator adjustments are not required.

## EHTS Operating Parameters

Parameter	Range	Accuracy
Pressure	0 - 6000 psig	± 1% full scale
Temperature (Air & Fluid)	50 - 200 deg F	± 5 deg F
Flow	2 - 3785 ccpm	± 2% of reading
Positive Displacement	0.5 - 40 gpm	0.05 gpm from 0.5 -5.0 gpm
Gear-Type Flow Meter	—	± 1% reading above 5.0 gpm
Displacement (Linear)	0 - 12.000	± 0.001 inches
(Rotary)	+ 30 degrees	± 0.05 inches
Velocity	0 - 20.00 in/sec	± 0.01 in/sec
Input Arm Force	0 - 500 lbs.	± 1% full scale
Ram Force	0 - 2000 lbs.	± 1% full scale



### Customizing each stand to meet customer needs

Our engineers work with customers from the very beginning to customize their EHTS to best meet the needs of their specific UUT. This includes:

- Design of specific standard/special fixtures and tooling required for UUTs to be tested at the customer's facility
- Electrical interfaces and mounting configurations to allow the use of rollup carts for testing of UUT's that exceed the size of the TFHS test bed
- Other customer considerations

### Customer support and training

Installation support includes EHTS installation and test stand/UUT tests to be performed at customer's facility. Operator and maintainer training takes place both at the Textron Systems facility and at the customer's facility after installation of the stand.

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ETSDA 6-05/1