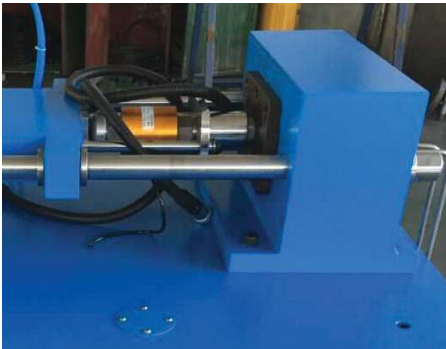


## ACTUATORS IN TEST EQUIPMENT

### APPLICATIONS



*Material Fatigue Testing*



*Brake Pad Shear Test*



*Aircraft Wing Ultimate Load Test*

- Motion Simulation Machine
- Dynamometer Torque Cell
- Product Reliability testing
- Vehicle Suspension Test
- Airplane Control Surface Simulation
- Tire Test Machine
- Bearing Fatigue
- Valve Pressure Test Machine
- And many others....

### CHALLENGES

#### Reduce Equipment Costs / Increased Flexibility

*Actuators for test equipment should be:*

- Compact and Powerful to reduce machine size footprint.
- Simple to install and integrate.
- Configurable, adjusting to the machine's needs without extra costs.
- Able to be re-programmed to address future testing requirements.



*Complex multi-actuator systems require high-speed inter-axis communication to create a realistic simulation.*

#### Reduce Energy Consumption & Lower Operating Costs

- Test equipment often operate 24/7, and consume significant amounts of energy. Actuator systems, therefore, should be efficient and only consume energy when performing their function.

#### Programmable with Precise Control and Accurate Data Acquisition

- Actuators need to be programmable; speed, force, position, etc. to simulate real-world operating environments.

- Actuators need to provide constant feedback on test parameters to make decisions and output test readings for data collection. Actuators need built-in instrumentation to support this.
- Actuators should have standard fieldbus control interfaces to facilitate test equipment integration and reduce equipment costs.

#### Reliable and Low Maintenance

- Test cell time is a premium and down time can be quite costly. Actuator systems need to be robust to prevent failure during testing and have intelligent design to reduce maintenance and upkeep.



*Central hydraulic systems are costly, expensive to operate, and have a large footprint.*

**KYNTRONICS SOLUTION**

Testing Requirement	Kyntronics Electro-Hydraulic Actuator Solution			
	Kyntronics Servo EHA	Electro-Mechanical	Hydraulic Cylinder	
Energy Efficiency/Low Operating Costs	✓		✓	Holds position and force without electronic brake.
				✓
Lower Equipment Costs	✓	✓		Power dense All-in-One design eliminates the Central Hydraulic Power Unit, hoses and infrastructure, reduces engineering time.
				✓
Reliable	✓			70 million inches between seal changes and no hoses – no leaks.
				✓
Precise Programmability and Control	✓		✓	Integrated Force feedback and control within 1%.
		✓		✓
Synchronized Axis	✓	✓		Actuators can be connected via a variety of fieldbus options.
Accelerated Testing	✓		✓	High force density allows customers to simulate accelerated fatigue.

**RESULTS**

**Customer**

Leading Valve manufacturer located in the U.S.A.

**Application**

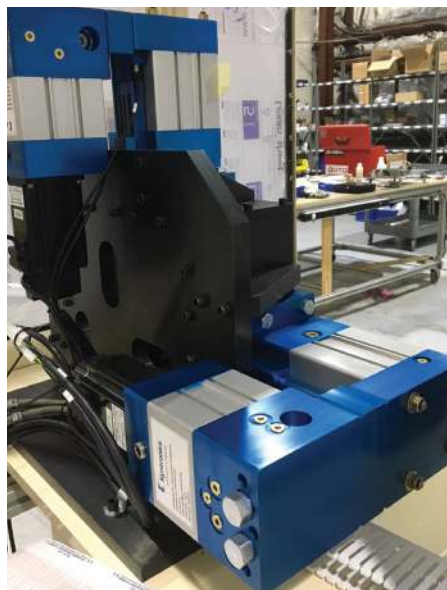
Test machine for pressure testing valves for leakage.

**Customer Challenge**

Application required high load and precise clamping force control, and ability to program different test profiles.



*Kyntronics EHA comes complete with Power Unit, Drive, Cylinder, and Integrated Force/Position Feedback.*



*Kyntronics EHA's installed on a production valve pressure test system.*

**Solution**

Instead of using a large energy inefficient hydraulic system or low power dense electro-mechanical actuator, customer outfitted the test rig with Kyntronics all-in-one EHAs.

**Results**

The customer was easily able to install the actuators with no previous design and layout and no part assembly.

Integrated control and fieldbus easily integrated with their test monitoring system which allowed them to modify control profiles as needed.

**ABOUT KYNTRONICS**

Kyntronics motion control and actuation experts have extensive experience in the industrial, aerospace and medical equipment industries. Our in-house team of mechanical, electrical, hydraulic and software engineers have hundreds of years of combined experience solving some of the most challenging application problems. Learn more at [www.Kyntronics.com](http://www.Kyntronics.com) or call (855) 596-8765 for more information.



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