**APPLICATIONS**

**ACTUATORS IN TEST EQUIPMENT**

**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.

- 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.

**APPLICATIONS**

- 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…

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

**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.
KYNTRONICS SOLUTION

<table>
<thead>
<tr>
<th>Testing Requirement</th>
<th>Kyntronics Servo EHA</th>
<th>Kyntronics Electro-Hydraulic Actuator Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Energy Efficiency/Low Operating Costs</td>
<td>✓</td>
<td>Holds position and force without electronic brake.</td>
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<td></td>
<td>Brushless Servo Motor applies power on demand.</td>
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<tr>
<td>Lower Equipment Costs</td>
<td>✓</td>
<td>Power dense All-in-One design eliminates the Central Hydraulic Power Unit, hoses and infrastructure, reduces engineering time.</td>
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<tr>
<td></td>
<td>✓</td>
<td>Each actuator is configured per axis/position. No more oversized hydraulic power units.</td>
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<tr>
<td>Reliable</td>
<td>✓</td>
<td>70 million inches between seal changes and no hoses – no leaks.</td>
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<tr>
<td></td>
<td>✓</td>
<td>Durable over time, no screw wear.</td>
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<tr>
<td>Precise Programmability and Control</td>
<td>✓</td>
<td>Integrated Force feedback and control within 1%.</td>
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<tr>
<td></td>
<td>✓</td>
<td>Integrated position feedback and control within 2µ.</td>
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<tr>
<td>Synchronized Axis</td>
<td>✓</td>
<td>Actuators can be connected via a variety of fieldbus options.</td>
</tr>
<tr>
<td>Accelerated Testing</td>
<td>✓</td>
<td>High force density allows customers to simulate accelerated fatigue.</td>
</tr>
</tbody>
</table>

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.

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.

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 or call (855) 596-8765 for more information.

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