Next Generation Product Brochure

FTX Series
High Force Electric Actuators

CURTISS-WRIGHT

EXLAR®
FTX Series

Product Description
The FTX Series high force electric actuators were designed specifically to allow easy migration from hydraulic to electric actuation. The FTX offers up to 15X longer life and twice the force density as common ball screw electric actuators making the roller screw based FTX the right choice when migrating.

Rugged and Reliable
Hydraulic cylinders are commonly installed in harsh industrial settings. All FTX Series models are environmentally sealed to IP65S allowing you to use them in your most challenging applications. In addition, its planetary roller screw mechanism withstands significantly higher shock loads than weaker ball screw alternatives. Migrate to electric with confidence knowing the FTX Series is every bit as rugged and reliable as the hydraulics they are designed to replace.

Minimal Maintenance
More and more machine builders are looking to eliminate the mess and downtime associated with hydraulic fluid leaks. Electric actuation not only eliminates the problems associated with fluid leaks, it offers significantly higher levels of performance and flexibility than is possible even with servo-hydraulic solutions. FTX Series roller screw actuators allow machine builders to meet ever-increasing performance demands while minimizing or eliminating the maintenance issues associated with traditional hydraulic solutions.

Performance Range

<table>
<thead>
<tr>
<th>Model</th>
<th>Frame Size mm (in)</th>
<th>Stroke mm (in)</th>
<th>Max Force kN (lbf)</th>
<th>Max Speed mm/sec (in/sec)</th>
</tr>
</thead>
<tbody>
<tr>
<td>FTX095</td>
<td>95 (3.7)</td>
<td>150 (6), 300 (12),</td>
<td>22 (5,000)</td>
<td>1500 (59)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>600 (24), 900 (36)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FTX125</td>
<td>125 (5.0)</td>
<td>44 (10,000)</td>
<td>44 (10,000)</td>
<td>583 (23)</td>
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<tr>
<td></td>
<td></td>
<td>89 (20,000)</td>
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<td></td>
</tr>
<tr>
<td>FTX160</td>
<td>160 (6.3)</td>
<td>1000 (39)</td>
<td>178 (40,000)</td>
<td>875 (34)</td>
</tr>
<tr>
<td>FTX215</td>
<td>215 (8.5)</td>
<td></td>
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</tr>
</tbody>
</table>
Product Features

1 - Front flange
2 - Rear clevis
3 - Rear eye
4 - Rear trunnion
5 - In line direct drive
6 - Parallel, 1:1 belt reduction
    Parallel, 2:1 belt reduction
7 - Male, metric thread
8 - Female, metric thread
9 - External limit switch - N.O., PNP or NPN
10 - External limit switch - N.C., PNP or NPN
Industries & Applications

Successful applications for our FTX Series high force actuators include pressing, forming, and cutting. We have extensive experience in applying the right product and / or system to solve your most difficult manufacturing challenges. Our representatives can provide guidance to optimize system performance, eliminate premature wear, increase production, improve quality, and ultimately reduce costs. Below are some of the most common applications for the FTX Series. Give one of our representatives a call today to go over your application.

Automotive
Lift station
Automated assembly
Riveting / fastening / joining
Pressing

Entertainment / Simulation
Action simulators
Ride automation

Machining
Automated flexible fixturing
Machine tooling
Parts clamping
Precision grinders
Forming

Material Handling
Stamping
Indexing stages
Product sorting
Material cutting
Web guidance
Wire winding
Tube bending

Plastics
Mold locks
Part ejecting
Core pulling
Gate valve

Process Control
Conveyor diverters / gates
Precision valve control
Tension control

Sawmill / Forestry
Saw positioning
Fence positioning

Test
Test stands
Application Example

Thermoforming OEM Gains Smoother Motion and Longer Life

CUSTOMER
A flexible thermoforming machine builder producing a wide variety of customized solutions in the plastics industry was able to meet their production goals.

APPLICATION
Utilizing plug assisted forming along with pneumatic actuation, the thermoforming machine was not able to maintain accurate control. Varying wall thicknesses in the molds created ribs and contours where there shouldn’t be.

CUSTOMER CHALLENGE
In designing their new high capacity thermoforming machine, the customer required higher forces to press the molds together and a smoother motion profile to minimize vibration. A longer service life was important as well.

SOLUTION
Our roller screw actuator technology was chosen over less capable linear motion solutions. Pneumatic cylinders could not produce a sufficient force and stiffness for pressing and rotating. They replaced the pneumatic plug drive and the cam system for opening and closing the mold with two Exlar FTX160 actuators and one GTX080 integrated actuator. Exlar also provided an electric cam profile resulting in all of their objectives being met including a smoother motion profile.

RESULTS

• Significantly longer life with less maintenance
• Less noise and energy consumption
• Better accuracy and repeatability
• Higher force
• Smoother and more efficient motion
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