

CHALLENGE

Accurately Control Position For High Force, High Speed Clamping Industrial Applications

- Injection and Blow Molding
- Wire and Tube bending
- Tooling
- Test Machines
- Stamping
- Metal Bending / Fabrication



Until now, solving the problem of actuation applications involving accurate position with high force and high speed required either the use of hydraulic cylinder actuators with servo control, or electro-mechanical ball screw or roller screw servo actuators.

Hydraulic Cylinder Actuator Limitations

- High-Maintenance and Costly Infrastructure:
 - Central hydraulic power unit continuously running.
 - Noisy, inefficient power conversion.
 - Large space footprint.
 - Hoses and couplings have a tendency to leak.
- Not Motion Control-Friendly:
 - Difficult and expensive to control position, speed and force.
 - Difficult and expensive to connect with control systems.



Hydraulic Power Units are LARGE and COSTLY.

Electro-Mechanical Ball-Screw / Roller-Screw Actuator Limitations

- Expensive: Particularly for high-force applications.
- Backlash; Gears mesh together, inherent with electro-mechanical actuators.
- Mechanical Brake Required: Requires a mechanical brake to prevent backdriving which is another, wear item, requires power, and additional cycle time.
- Metal to metal wear: lower life, requires frequent maintenance, increased downtime due to failures.



Concentrated Screw Wear

- During the clamping phase of the cycle, load is often applied at the same location on the screw leading to premature wear and component failure.
- Expensive Force Measurement Components: Requires an expensive external loadcell and interface to accurately measure force.
- No Configuration or Integration: Most actuator companies provide only the actuator leaving the customer with sizing, calculating the correct motor, and selecting and setting up a drive.

SOLUTION
Kyntronics All-In-One Actuation System



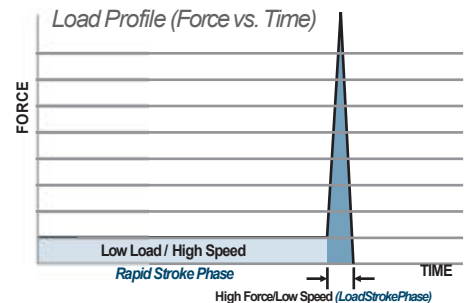
The Kyntronics all-in-one Electro Hydraulic Actuator (EHA) is a simple cost effective design in a compact package that delivers accurate control of both position and force while providing synchronization of multiple actuators together.

- All-In-One Design: Includes the motor, drive and actuator—factory designed, tested and configured to your specifications.
- Economical: Saves up to 50% compared with hydraulic cylinder or electro-mechanical servo actuators.
- Power on Demand, energy efficient: The motor only runs when the actuator is in operation.
- High Clamping and Locking Force: Locks into position when the motor stops via check valves.
 - High speed with High force.
 - Closed loop position, force and speed control.
- Advanced Communications: Field-bus connectivity and programmable speeds, position and force -- simple to change or update in the field.
- Low Maintenance: Long life, the only wear item are the seals, which can be easily replaced.

Kyntronics HSHF (High-Speed/High-Force) Actuator

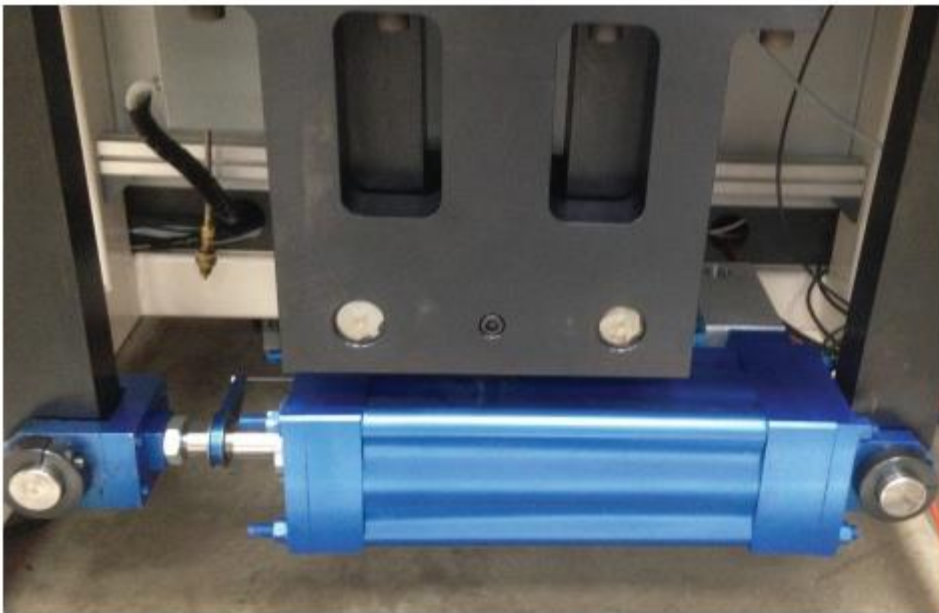


The Kyntronics HSHF (High-Speed/High-Force) Actuator solves the problem of having to oversize actuation components on applications that have a rapid stroke at low force with a load stroke at high force.



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.



Kyntronics EHA Installed in a Wire Rod Bending Machine.