

The Benefits of Electrification

Precision linear actuators are often a better choice than hydraulic or pneumatic alternatives due to simpler installation, easier control, lower energy costs, higher accuracy, less maintenance and noise, and a cleaner, healthier environment.

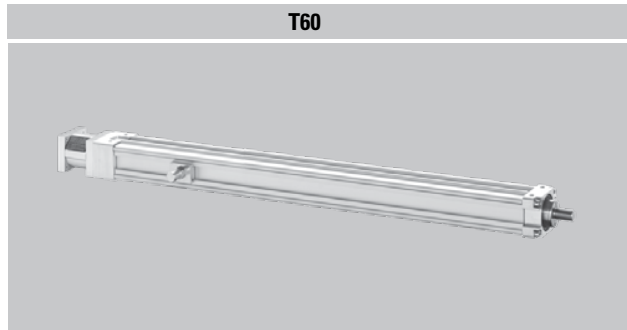
Electric Actuators vs. Hydraulic and Pneumatic Cylinders			
	Electric Linear Actuators	Hydraulic Cylinders	Pneumatic Cylinders
Installation	All electric operation requires simple wiring.	Requires expensive plumbing, filtering, pumps, etc.	Requires expensive plumbing, filtering, pumps, etc.
Accuracy	Very repeatable (to $\pm 0,013$ mm) and rigid, multi-stop capabilities.	Requires expensive position sensing and precise electro-hydraulic valving to implement. Has tendency to creep.	Difficult to achieve. Requires expensive position sensing and precise valving to implement. Has tendency to creep.
Control	Directly compatible with standard programmable controls, allowing easy, automatic operation of complex motion sequences.	Requires electronic/fluid interfaces and exotic valve designs. Hysteresis, dead zone, supply pressure and temperature changes complicate control.	Inherently non-linear, compressible power source severely complicates servo control.
Speed	Smooth, variable speed from 0 to 2 m/s with controlled acceleration.	Difficult to control accurately. Varies with temperature and wear. Stick slip can be a problem.	More susceptible to stick slip and varying load. Well-suited for light, high-speed applications.
Reliability	Repeatable, reproducible performance during the entire product life. Very little maintenance required.	Very contamination sensitive. Require regular maintenance. Seals are prone to leak. Reliable with diligent maintenance.	Very contamination sensitive. Air sources require proper filtration. Good reliability, but usually many system components are involved.
Power	Up to 40 000 N	Virtually unlimited force. Most powerful.	Up to 25 000 N. Typically used below 6 000 N.
Life expectancy	Up to millions of cycles at rated load. Easy to predict.	Dependent on design and seal wear, usually good.	Dependent on design and seal wear, usually good.
Environment	Standard models rated for -30 to +70°C. Inherently clean and energy efficient.	Temperature extremes can be a major problem. Seals are prone to leak. Waste disposal is increasingly problematic.	Temperature extremes can be a major problem. Seals prone to leak. Airborne oil can be a problem.
Load holding	Acme screw units are self-locking if power fails. Fail-safe brakes available for ball screw models.	Complex backup safety devices must be used.	Complex backup safety devices must be used.
Cost	Moderate initial cost, very low operating cost.	Components often cost less, but installation and maintenance are increased. Hydraulic power unit cost is high if not pre-existing.	Components often cost less, but installation and maintenance are increased.



Performance Overview

Precision Linear Actuators - T Series


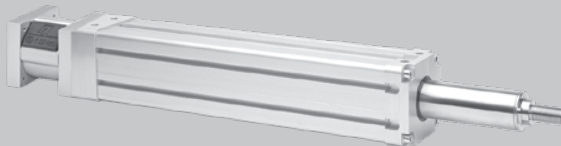
T60



Load			
Maximum load, Fx	[N]	10 000	
Maximum load, Fy	[N]	100	
Maximum load, Fz	[N]	100	
Maximum load torque, Mx	[Nm]	-	
Maximum load torque, My	[Nm]	50	
Maximum load torque, Mz	[Nm]	50	
Stroke			
Maximum standard stroke	[mm]	1500	
Speed			
Maximum speed	[m/s]	2,5	
Accuracy			
Repeatability	[± mm]	0,05	
Backlash	[mm]	0,11	
General data			
Profile size (width × height)	[mm]	75 × 60	
Operating temperature limits	[°C]	-20 – +70	
Maximum duty cycle	[%]	100	
Screw diameter	[mm]	25	
Screw type		ball screw	
Protection class - standard / optional		IP65	
Features			
RediMount motor mounting system		•	
Single point lubrication		•	
Mounting options			
Magnetic position sensors		•	
Mounting feet kit		on request	
Trunnion mounting kit		•	
Clevis mounting kit		•	
Tube end - inside thread / outside thread / spherical joint		•/•/•	

Depending on the screw diameter used in the actuator.

Precision Linear Actuators

	T90	T130
		
	20 000	60 000
	500	800
	500	800
	-	-
	150	300
	150	300
	1500	2000
	2,0	2,0
	0,05	0,05
	0,11 (0,18) ¹	0,21
	90 × 92	130 × 130
	-20 – +70	-20 – +70
	100	100
	25, 32	40, 50
	ball screw	ball screw
	IP65	IP65
	•	•
	•	•
	•	•
	•	•
	•	•
	•	•
	•/•/•	•/•/•

Performance Overview

Packaged Precision Linear Actuators - ECT Series

ECT90



Load			
Maximum load, Fx	[N]	20 000	
Maximum load, Fy	[N]	500	
Maximum load, Fz	[N]	500	
Maximum load torque, Mx	[Nm]	-	
Maximum load torque, My	[Nm]	150	
Maximum load torque, Mz	[Nm]	150	
Stroke			
Maximum standard stroke	[mm]	1500	
Speed			
Maximum speed	[m/s]	1,6	
Accuracy			
Repeatability	[± mm]	0,05	
Backlash	[mm]	0,11 (0,18) ¹	
General data			
Profile size (width × height)	[mm]	90 × 92	
Operating temperature limits	[°C]	-20 – +70	
Maximum duty cycle	[%]	100	
Screw diameter	[mm]	25, 32	
Screw type		ball screw	
Protection class - standard / optional		IP65	
Features			
Brushless AC servo motor / Three phase AC motor		•/•	
Single point lubrication		•	
Mounting options			
Magnetic position sensors		•	
Mounting feet kit		•	
Trunnion mounting kit		•	
Clevis mounting kit		•	
Tube end - inside thread / outside thread / spherical joint		•/•/•	

¹ Depending on the screw diameter used in the actuator.

ECT130



38 000

800

800

-

300

300

2000

2,0

0,05

0,21

130 × 130

-20 – +70

100

40

ball screw

IP65

•/•

•

•

•

•

•

•/•/•