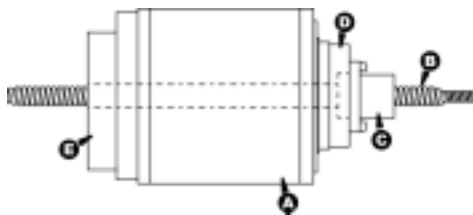


# IOS MOTOR SYSTEM

**INNOVATIVE SOLUTIONS FOR  
LINEAR POSITIONING, ROTARY  
AND GEARBOX SYSTEMS**

The IOS motor system is a new technology in stepping motors. IOS is more than a stepping motor, it is a system mechanics consolidator requiring fewer mechanical components to control precise motion. Unique, patented design features of IOS provide the system designer with new options to improve performance, simplify the design task, reduce machine footprint and lower cost.

## LINEAR ACTUATOR APPLICATION



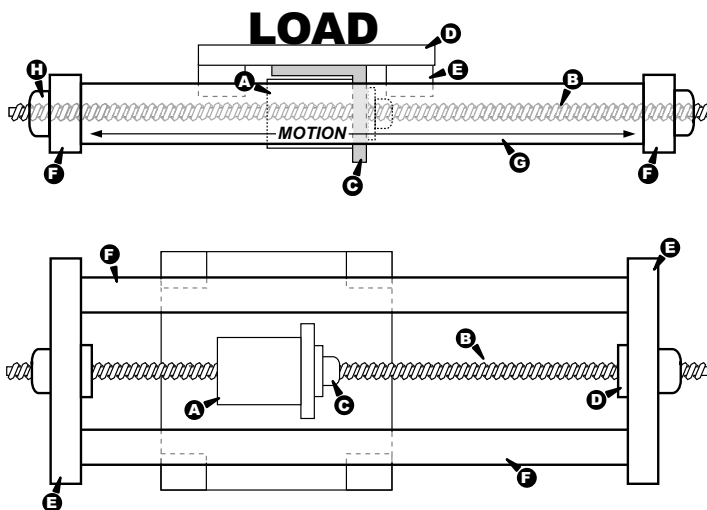
A: IOS Motor, B: Ball or Acme Screw, C: Ball Nut, D: Rotating Mounting Face, E: Optical Encoder

The IOS motor configures as a linear actuator by attaching an acme or ball screw to the rotating mounting face. IOS is very cost effective when high force, high duty cycle, high speed or long life is required. If the application also requires a small footprint, IOS may be the only choice for the system designer.



## LINEAR SLIDE APPLICATION

Linear slides are the designer's option for precise, long travel positioning at reasonable cost. A fixed-screw IOS system will move a carriage faster and over longer distances than a linear slide with a rotating ball screw. An IOS system is generally lower in cost since it eliminates gearbox, couplings, belt and pulleys used in traditional linear slides.



Top Illustration: Side View of Linear Slide  
A) IOS Motor, B) Ball or Acme Screw,  
C) Carriage-Motor L Bracket, D) Carriage,  
E) Bearing Block, F) End Plate,  
G) Bearing Rail, H) Screw Tensioner

Bottom: Linear Slide Viewed From Underneath  
A) IOS Motor, B) Ball or Acme Screw, C) Ball Nut,  
D) Screw Clamp, E) End Plate, F) Bearing Rail

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## **ROTARY TABLE APPLICATION**

Rotary tables fit many applications that require part loading, part insertion, part inspection and container filling. For less cost than a conventional table, an IOS solution will provide higher speed positioning, non-cumulative positional accuracy within +/- three arc-minutes, and smaller overall footprint.

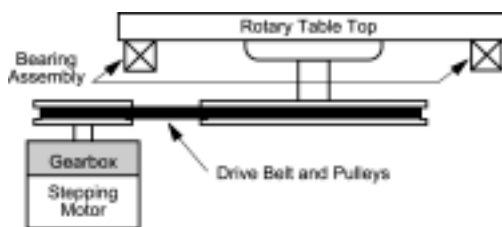
Designers of rotary tables can also take advantage of the IOS motor's

NON-ROTATING THROUGH-HOLE. Signal wires, communications cables,

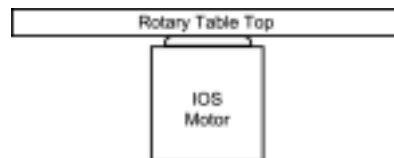
linear actuator shafts, rotating shafts, vacuum lines and catheters can run through the center of the motor.

The result is simpler mechanical design, smaller footprint and lower cost.

### **TRADITIONAL SOLUTION**



### **IOS SOLUTION**



## **GEARBOX ELIMINATION**

An IOS motor can replace gearboxes and associated mechanical couplings when inertia matching is a requirement. In cases where a standard stepping motor needs a gearbox in order to present the proper inertia ratio to a load, the same size or smaller IOS motor can drive the load without a gearbox, reducing both footprint size and cost.