

# Lead Screws for Coffee Makers



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## Helix Linear Technologies Product Capabilities

**Coffee makers or coffee machines have been around for hundreds of years and can be a very simple process of introducing ground coffee beans and hot water. Cultures around the world have developed their own approach to this process and several types of automation.**

Today there are literally thousands of designs of coffee makers that will automatically brew coffee or espresso. These machines take the simple process of brewing a cup of coffee and make it very complicated. Many of the automatic machines will grind the beans to a number of consistencies, measure an adjustable amount of coffee grinds and then compress them prior to forcing hot water through them. Adjusting the coarseness of the ground coffee beans and compressing them can be accomplished by using small lead screws with a very short stroke.

These applications and many other food processing applications require food grade lead screws assemblies. Typical combinations of materials for lead screws used in food grade applications include stainless steel lead screws (300 Series) and food grade plastic nuts. Engineers commonly include a PTFE coating on the lead screws of food grade grease.

Custom designed nuts are also used commonly in coffee machines and food grade applications to easily combine several different components into the body of the nut. Threaded metal inserts for mounting lead screw nuts can also be added to the nut design by using an ultrasonic welding process or they can be pressed into a molded bore.

Coffee machine applications typically include high heat, moderate duty cycle and a dirty/acidic environment and lead screws are perfect solution for creating linear motion in a machine of this type. Coffee machine manufacturers also demand competitive prices for lead screws in higher volumes which are easily achieved with a lead screw solution.





## Custom Nut Designs

Nuts can be:

- manufactured to incorporate other components such as metal flanges and threaded inserts
- made with materials that are resistant to high heat and acids
- molded for higher volumes

## PTFE Coatings for Screws

Our PTFE coating is a dry lubricant that:

- offers a clean, food friendly solution
- creates a corrosion resistant layer on the screw
- increases efficiency of the system

## Customized Screw Machining

Screws can be:

- modified to add couplings, pulleys, motors and bearings
- modified with flats, bearing journals, keyways, hex drive ends and many other shapes

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### Nut Materials

- High Temperature Material
- Acid Resistant Material
- Mold Friendly Material



### PTFE

- PTFE Dry Lubricant
- Increased Efficiency
- Corrosion Resistance
- Acid Resistance



### Machining

- Bearing Journals
- Keyways
- Flats
- Threaded IDs



### Inserts

- Threaded Inserts
- Rings
- Mounting Plates



### Molded Nut Shapes

- Numerous Materials: Delrin AF, Peek, Acetal
- Low Volume Molds
- High Volume Molds



### Sub Assembly Work

- Sub Assembly Services