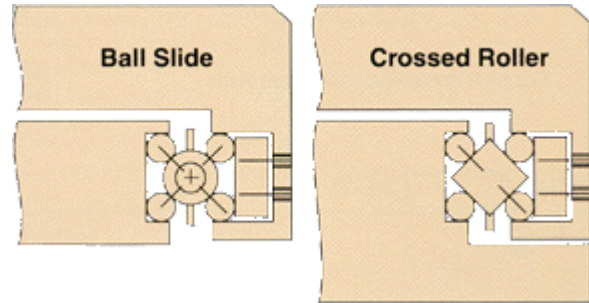


## General Information

### 1. Ball Slides Or Roller Slides

#### A. Ball slide design offers the following advantages:

- Self cleaning (point contact of balls and shafts does not allow foreign material to interfere).
- Low cost (Ball and shaft materials are common and easily manufactured)



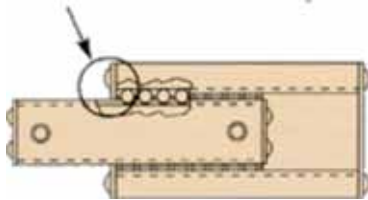
#### B. Crossed roller slide design offers the following advantages:

- Line contact of roller to shafts offer 8x10 times the load capacity of balls.
- Higher over hanging load capacity and low axial play.

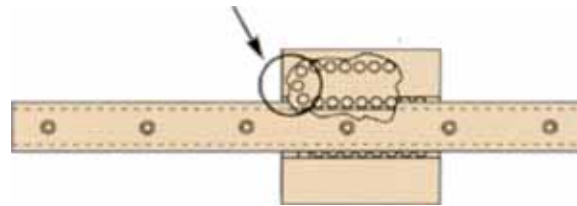
### 2. Straight Line Design or Recirculating Type

Straight-line, or non-recirculating slides, have rolling elements which move on a straight track and are separated by a retainer. The slide reaches the end of its travel when the retainer or rolling element contacts a limiting component, (either a screw head or end cap). This travel limitation is determined by the relationship of the retainer length to the carriage length. Standard slides usually have travel equal to 1/3 the carriage length. Maximum total travel can be as much as 1 X the carriage length. Therefore, for more travel you must specify a longer slide. This design offers extremely low friction and stiction characteristics.

**Travel ends when the ball or roller retainer contacts the end cap.**



**Balls recirculate around an oval track. Travel is limited by the length of the base rail.**



### 3. Standard Tolerances

Dimensions in Inches	Dimensions in Millimeters
Unless otherwise specified, tolerances are as follows:	Unless otherwise specified, tolerances are as follows:
Two (2) place decimals: $\pm 0.010$	one (1) place decimals: $\pm 0.25$
Three (3) place decimals: $\pm 0.005$	Two (2) place decimals: $\pm 0.13$

## 4. Custom Slides

Isotech's engineering staff will be pleased to assist you in developing custom versions of our linear slides. Our proprietary manufacturing processes allow us to offer completely customized slides built to your requirements even in small quantities in less than eight weeks.

Minor modifications can be provided. Some of the more common modifications we can provide:

- Changes in height, width, or length
- More or less travel
- Increased load capacity
- Light, Medium, or heavy preload
- Different holes, threads or hole locations
- Dowel holes and pins
- Reduced or increased axial play
- Multiple carriages on a single base
- Multiple bases on a single carriage
- Non-standard retainer material
- No anodize or non-standard anodize color
- Corrosion resistant stainless steel components

## 5. High Temperature Applications

Isotech slides can be modified to operate in elevated temperature areas by the substitution of teflon, aluminum, or brass retainers.

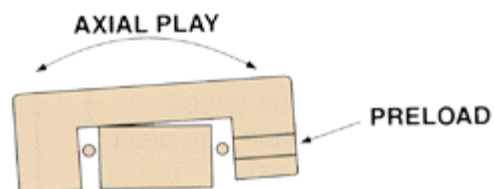
## 6. Vacuum Applications

Outgassing of slide components can be reduced or eliminated for vacuum applications by eliminating anodized and oxidized finishes, labels, lubricants, and non-metallic retainers.

## 7. Preload vs. Axial Play

Slide preload and axial play are related.

- Increased preload = less axial play
- Decreased preload = more axial play



## 8. Straight Line Accuracy

Straight Line Accuracy = possible runout in any plane

Measured by comparison of the line of travel to a master straight edge, using a gage or indicator mounted on the slides.

**H = Horizontal Displacement**

**V = Vertical Displacement**

