



### FEATURES

The Reliance range of precision slides includes both ball and crossed roller units. Load capacities from 1.5 to 3109N are available. Ballslides are available in both stainless steel and aluminium. Crossed roller slides are available in aluminium only. These units offer the designer:

Pre-assembled units allowing quick and simple assembly.

Factory set preload to prevent side play and backlash and to control friction.

Low particle production for use in clean/medical environments.

Low inertia and light weight allowing low powered rapid traverse.

High straight line accuracy of 0.0001mm per mm travel.

#### 1. Ballslides

Manufactured from aluminium, these slide units offer ultra low friction, high load capacity and long life. The base and slide are ready machined for mounting.

Modifications may be made to suit your special requirements. Complete special slides can also be supplied. Please consult Reliance Technical Sales.

#### 2. Crossed Roller Slides

When compared to ballslides these units offer equal size but higher load capacity and accuracy. They are also able to operate with high cycling rates and higher shock or cantilevered loads.

#### 3. Rack Driven Ball Slides

The addition of small high precision rack along the side of a ball offers the option either to drive, measure position, or both, at very high speeds and loads.

### ENGINEERING DATA

For the highest accuracy, the load should be centred over the table or bed, allowing enough additional length to avoid reaching the maximum stroke length. To achieve the expected accuracy and life, the mating surfaces used to mount the slide should be flat. In extreme circumstances 'potting' of the base may be required.

Please refer to the product dimensions when selecting the fixings to avoid contact between screws and moving slide sections.

#### 1. Vertical Applications

When using ball or crossed roller type slides in vertical applications, the position and manner of the load, and the effects of gravity should be given extra consideration.

Limiting the travel with positive stop also extends life instead of relying in the ball or roller retainer to act as a stop.



## 2. Service Life

The theoretical service life of a slide based on  $L_{10}$  life is as follows

Ballslides

Crossed roller slides

$$L_{10} = (C/P)^3 \times 50 \times 10^3$$

$$L_{10} = (C/P)^{10/3} \times 50 \times 10^3$$

Where :  
 $L_{10}$  = Life at 90% reliability (m)  
C = Dynamic load rating (N)  
P = Calculated load (N)

## 3. Lubrication

All types of slides can use similar lubricants but require them under different conditions.

Recommended Lubricants

General Application

High quality turbine oil

Lithium soap based grease (NLGI No. 2)

Clean Environments

Kluber Isoflex Topas NCA 52

## 4. Temperature Limits

The maximum temperature is limited to 65°C (150°F) by the rolling element retainers. High temperature retainers can be supplied to operate up to 100°C (212°F) and although the slides can operate at higher temperatures this will reduce their life. Please consult Reliance Technical Sales for details.

**Note** - As a result of continuous product development, Reliance reserves the right without prior notice to change dimensions where this does not affect the function of the item. Please visit our website for the latest product news and developments.