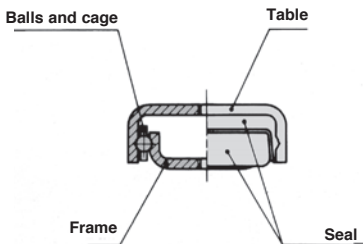


### Linear rail type BSP

#### **Non Recirculating Ball version**

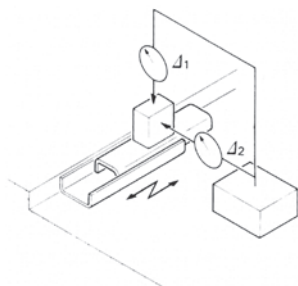
A special synthetic resin cage is used to hold the balls and eliminate ball contact noise. Extremely smooth and light movement without sticking or slipping is obtained even when stroke length is limited.



BSP linear slides are light weight and compact and comprise a U-shaped table and bed or track rail made from stainless steel sheet by precision forming. The raceway grooves are accurately ground on the table and bed or track rail. BSP linear slides offer high performance and durability, making them suitable for use in measuring equipment, IC manufacturing and inspection devices etc. They have also been successfully used as a precision linear motion guides for the read/write heads of hard disk drives.

### Accuracy

The operational accuracy of the BSP linear slide is shown in the table below



| Stroke length<br>(mm) | Working parallelism between<br>frame centre and assembly<br>surface of the table<br>D1 (μm) | Working parallelism between<br>frame centre and assembly<br>surface of the table<br>D2 (μm) |
|-----------------------|---|---|
| 0 to 18               | 0,003   | 0,006   |
| 18 to 30              | 0,004   | 0,008   |
| 30 to 50              | 0,005   | 0,010   |
| 50 to 80              | 0,006   | 0,012   |

## Load rating

### Basic dynamic load rating

The basic dynamic load rating is defined as a constant load, both in direction and magnitude to which a group of identical Precision Linear Slides are subjected individually and where 90% of the slides in that group can travel for 50km without suffering material damage due to rolling contact fatigue.

### Basic static load rating

The basic static load rating is defined as a static load that gives a prescribed constant stress at the centre of the contact area between the rolling element and track whilst supporting the maximum load.

## Life expectancy

The life expectancy of BSP linear slides is given by the following formulae:

$$L=50 \left( \frac{C}{P} \right)$$

$$Lh = \frac{10^6 L}{2S n_1 \times 60}$$

where:

**L:** Life expectancy in kilometres,  $10^3$  m

**C:** Basic dynamic load rating, (N)

**P:** Applied load, (N)

**Lh:** Life expectancy in hours, (h)

**S:** Stroke length, (mm)

**$n_1$ :** Number of strokes per minute, (spm)



### **Precautions when using**

- 1- To obtain consistently high accuracy in operation, the applied load should not exceed 20% of the basic static load rating.
- 2- To maximize the accuracy of BSP or BSPG slides, centre the applied load over the table or bed and choose a slide length that is greater than the stroke length required.
- 3- Unevenly applied loads and high fluctuating velocities may dislocate the position of the ball cage in the sliding parts. Therefore, it is recommended that the cage is periodically repositioned to its proper location by cycling the BSP type over its full stroke length.
- 4- Precision Linear Slide does not incorporate a mechanical stop. When over stroke can be expected during normal operation, add a mechanical stop at an appropriate location.
- 5- In order to ensure smooth motion of BSP and BSR linear slides, before operating them for the first time, it is recommended to remove the rust prevention oil with a suitable cleaning agent, and then apply a high grade lubricating oil or grease to the raceways.

- Non recirculating ball type linear slide
- Balls contained in resin cage
- Smooth movement
- Light and compact
- U-shaped guide rail and table
- High performance
- Durability
- Max. speed: 3m/s
- Max. working temperature: +100°C (occasional +120°C)

stainless steel

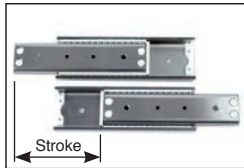


### Uses

- Measuring equipment, writing head
- Hard disks, scanners

### Info.

- To obtain high operating accuracy, do not exceed 20% of basic static load
- Centre the load on the rail or table.
- No stop at the end of the stroke
- Sensitive to dust: in case of contamination, clean with a chemical product then regrease with a high-grade lubricant.
- \* For M2.6 holes, M2.5 screws can be used



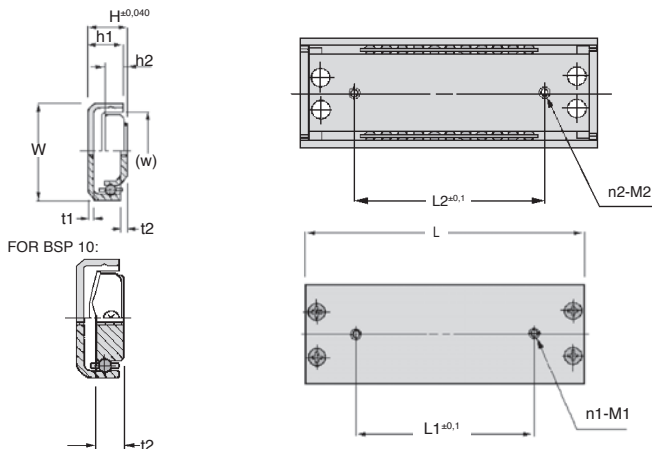
Stroke up to 63mm

### DISCOUNTS

|       |      |     |            |
|-------|------|-----|------------|
| Qty   | 1+   | 5+  | 10+        |
| Disc. | List | -6% | On request |

| Part number | Nominal dimensions (mm) |    |     | Max. stroke length | Table dimensions (mm) |         |      |      |
|-------------|-------------------------|----|-----|--------------------|-----------------------|---------|------|------|
|             | W                       | H  | L   |                    | L1                    | n1-M1   | h1   | t1   |
| BSP1025SL   | 10                      | 6  | 25  | 15                 | 15                    | 2-M2,6* | 5,80 | 1,10 |
| BSP1035SL   | 10                      | 6  | 35  | 26                 | 25                    | 2-M2,6* | 5,80 | 1,10 |
| BSP1045SL   | 10                      | 6  | 45  | 38                 | 35                    | 2-M2,6* | 5,80 | 1,10 |
| BSP1530SL   | 15                      | 8  | 30  | 22                 | 14                    | 2-M3    | 7,00 | 1,20 |
| BSP1540SL   | 15                      | 8  | 40  | 24                 | 24                    | 2-M3    | 7,00 | 1,20 |
| BSP1550SL   | 15                      | 8  | 50  | 32                 | 34                    | 2-M3    | 7,00 | 1,20 |
| BSP1560SL   | 15                      | 8  | 60  | 40                 | 40                    | 2-M3    | 7,00 | 1,20 |
| BSP2040SL   | 20                      | 10 | 40  | 22                 | 24                    | 2-M3    | 9,00 | 1,40 |
| BSP2050SL   | 20                      | 10 | 50  | 28                 | 34                    | 2-M3    | 9,00 | 1,40 |
| BSP2060SL   | 20                      | 10 | 60  | 34                 | 40                    | 2-M3    | 9,00 | 1,40 |
| BSP2070SL   | 20                      | 10 | 70  | 40                 | 45                    | 2-M3    | 9,00 | 1,40 |
| BSP2080SL   | 20                      | 10 | 80  | 53                 | 50                    | 2-M3    | 9,00 | 1,40 |
| BSP2550SL   | 25                      | 10 | 50  | 26                 | 34                    | 2-M3    | 9,00 | 1,60 |
| BSP2560SL   | 25                      | 10 | 60  | 32                 | 40                    | 2-M3    | 9,00 | 1,60 |
| BSP2570SL   | 25                      | 10 | 70  | 40                 | 45                    | 2-M3    | 9,00 | 1,60 |
| BSP2580SL   | 25                      | 10 | 80  | 51                 | 50                    | 2-M3    | 9,00 | 1,60 |
| BSP25100SL  | 25                      | 10 | 100 | 63                 | 60                    | 2-M3    | 9,00 | 1,60 |

Dimensions in mm



Frame dimensions (mm)

| w     | L2 | n2-M2   | h2   | t2   | Load dynamic<br>C (N) | Load static<br>Co (N) | Weight<br>(g) | Stock* | Price<br>each.<br>1 to 4 |
|-------|----|---------|------|------|-----------------------|-----------------------|---------------|--------|--------------------------|
| 6,20  | 15 | 2-M2,6* | 3,70 | 2,70 | 294                   | 156                   | 6,20          | ✓      | 59,56 €                  |
| 6,20  | 25 | 2-M2,6* | 3,70 | 2,70 | 343                   | 196                   | 8,80          | ✓      | 63,79 €                  |
| 6,20  | 35 | 2-M2,6* | 3,70 | 2,70 | 392                   | 235                   | 11,30         | ✓      | 66,23 €                  |
| 11,20 | 14 | 2-M3    | 4,50 | 1,20 | 343                   | 196                   | 11,00         | ✓      | 81,02 €                  |
| 11,20 | 24 | 2-M3    | 4,50 | 1,20 | 470                   | 303                   | 14,70         | ✓      | 87,38 €                  |
| 11,20 | 34 | 2-M3    | 4,50 | 1,20 | 548                   | 382                   | 18,40         | ✓      | 94,73 €                  |
| 11,20 | 40 | 2-M3    | 4,50 | 1,20 | 627                   | 460                   | 22,10         | ✓      | 101,72 €                 |
| 16,00 | 24 | 2-M3    | 6,20 | 1,40 | 627                   | 382                   | 23,70         | -      | 95,08 €                  |
| 16,00 | 34 | 2-M3    | 6,20 | 1,40 | 744                   | 490                   | 29,70         | -      | 102,08 €                 |
| 16,00 | 40 | 2-M3    | 6,20 | 1,40 | 852                   | 597                   | 35,70         | -      | 110,83 €                 |
| 16,00 | 45 | 2-M3    | 6,20 | 1,40 | 960                   | 705                   | 41,70         | -      | 122,41 €                 |
| 16,00 | 50 | 2-M3    | 6,20 | 1,40 | 980                   | 764                   | 47,60         | ✓      | 130,81 €                 |
| 20,50 | 34 | 2-M3    | 5,70 | 1,60 | 744                   | 490                   | 37,60         | ✓      | 108,11 €                 |
| 20,50 | 40 | 2-M3    | 5,70 | 1,60 | 852                   | 597                   | 45,30         | -      | 118,69 €                 |
| 20,50 | 45 | 2-M3    | 5,70 | 1,60 | 960                   | 705                   | 52,90         | -      | 127,80 €                 |
| 20,50 | 50 | 2-M3    | 5,70 | 1,60 | 980                   | 764                   | 60,50         | -      | 144,72 €                 |
| 20,50 | 60 | 2-M3    | 5,70 | 1,60 | 1170                  | 980                   | 75,80         | -      | 162,10 €                 |

\*Depending on availability - Dimensions in mm