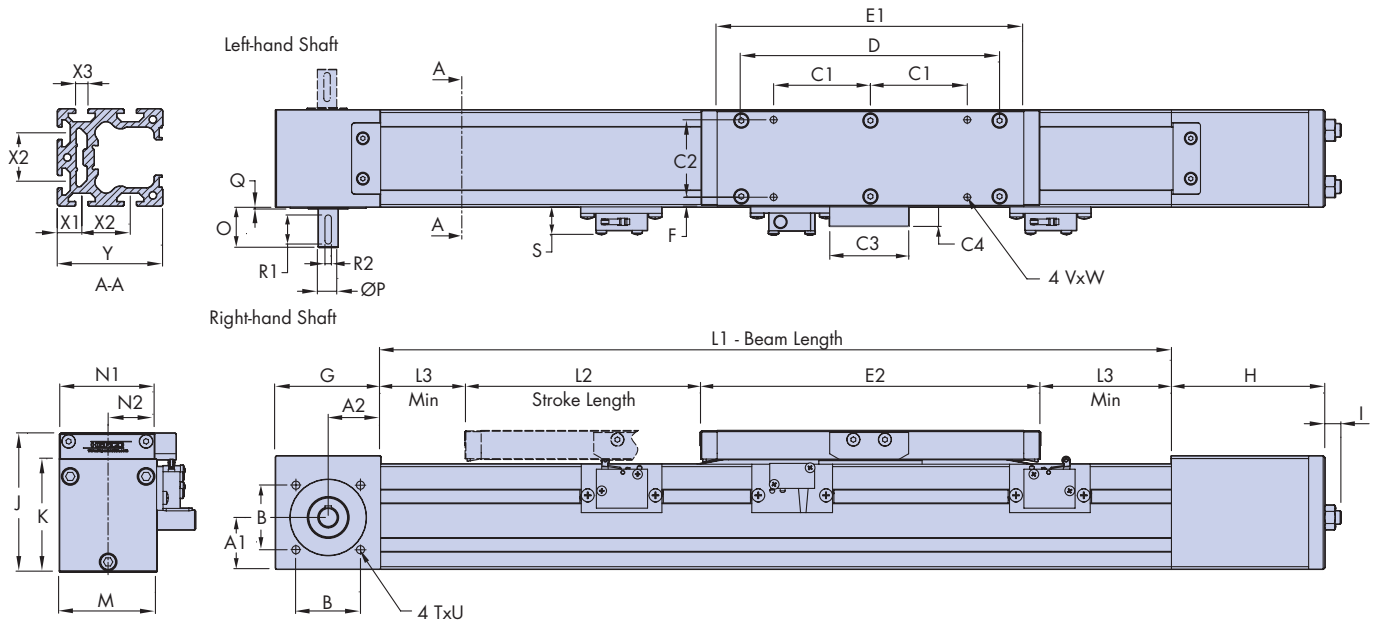




This data sheet interacts with SBD catalogue

SBD 15-60

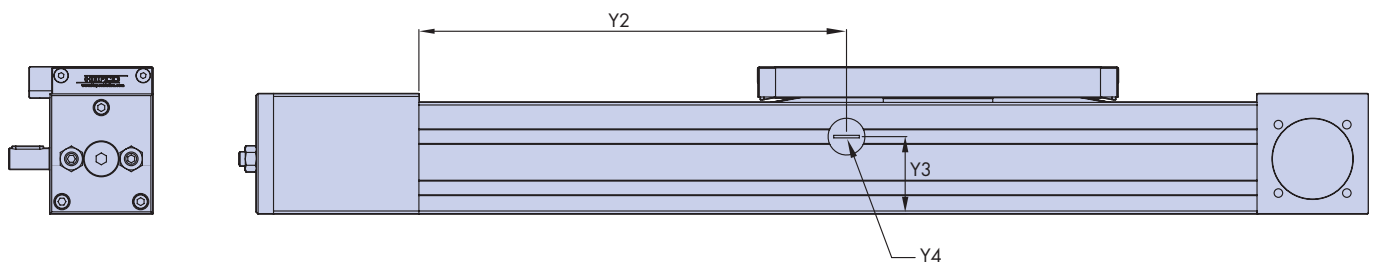
The HepcoMotion® SBD 15-60 is a new smaller addition to the SBD range of linear actuators. It shares the key features and benefits of the existing SBD range, but using a HepcoMotion LBC15 Linear Ball Guide. Units are supplied in increments of 60mm up to 6000mm in one piece, and unlimited lengths can be achieved with joined beams. The nominal stroke is calculated with the carriage against the internal buffers. In practice a clearance should be provided to allow for overrun. The main dimensions of the standard unit are shown below. Further details can be obtained from Hepco's technical department.



| SBD Unit | A1 | A2 | B | C1 | C2 | C3 | C4 | D | E1 | E2 | F | G | H | I | J | K | L1 (min) | L2 Nominal stroke | L3 (min) |
|----------|----|----|----|----|----|----|------|-----|-----|-----|-----|----|----|----|----|----|----------|-------------------|----------|
| SBD15-60 | 32 | 33 | 41 | 60 | 48 | 50 | 12.5 | 150 | 180 | 200 | 5.5 | 65 | 95 | 11 | 84 | 70 | 550 | L1-240 | 20 |

| SBD Unit | M | N1 | N2 | O | P | Q | R1 | R2 | S | TxU | VxW | X1 | X2 | X3 | Y | Y2 | Y3 | Y4 |
|----------|----|----|------|----|----|---|----|----|----|-------|------|----|----|----|----|-----|----|-----|
| SBD15-60 | 60 | 59 | 29.5 | 25 | 12 | 1 | 18 | 4 | 17 | M5x10 | M5x8 | 15 | 30 | 8 | 65 | 250 | 43 | M15 |

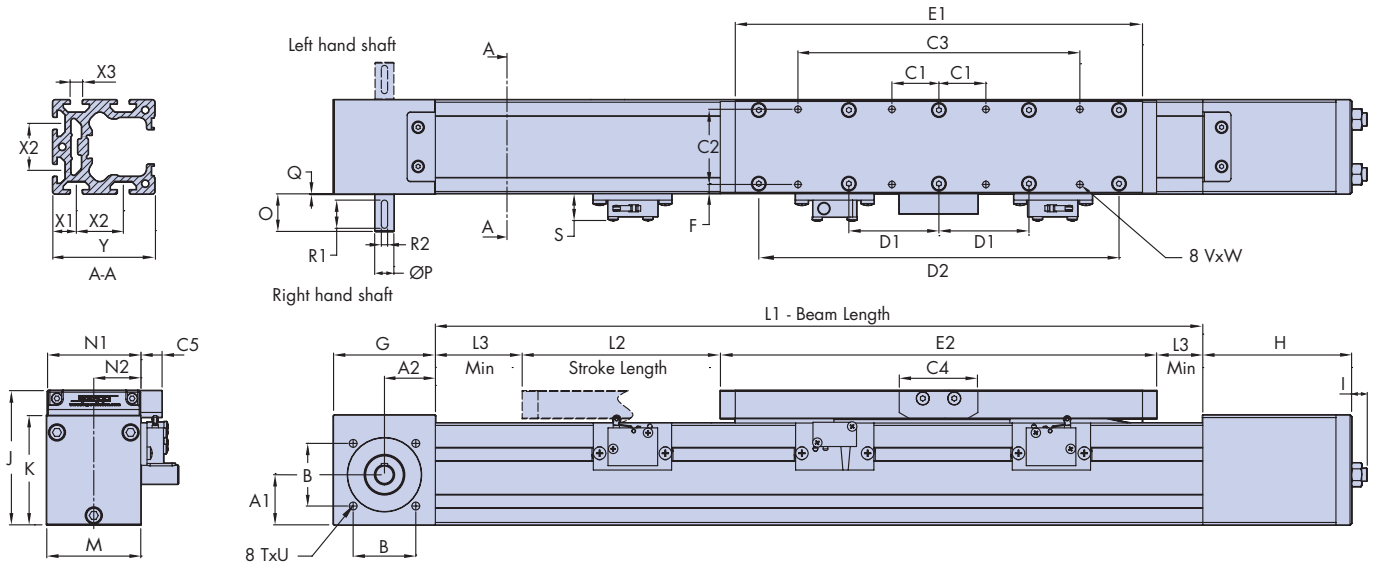
(All dimensions in mm)



Re-lubrication of the ball guide carriage block is via an access point in the side of the beam (see above), which is closed off with a threaded plug. The lubrication interval depends on the length of stroke, speed and duty. For further details regarding lubrication procedures please contact Hepco's technical department.

SBD15-60 - Long Carriage Option

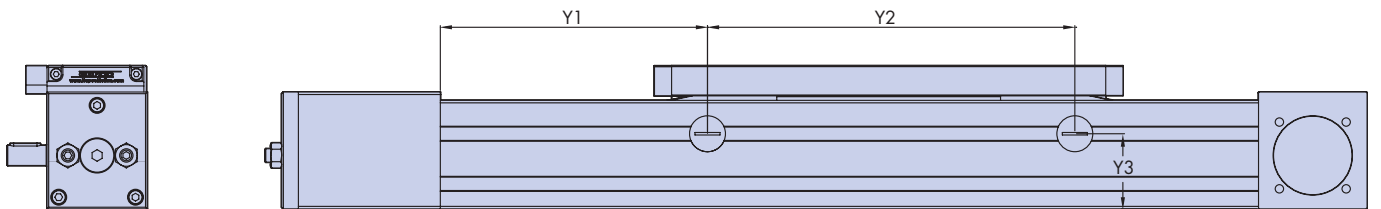
The SBD15-60 unit is available with a long carriage version, this option has two LBG bearing blocks in the carriage and has much improved load capacity particularly in the M & Mv directions. The main dimensions of the long carriage units are shown below. Further details can be obtained from Hepco's technical department.



| SBD Unit | A1 | A2 | B | C1 | C2 | C3 | C4 | C5 | D1 | D2 | E1 | E2 | F | G | H | I | J | K | L1 (min) | L2 Nominal stroke | L3 (min) |
|----------|----|----|----|----|----|-----|----|------|------|-----|-----|-----|-----|----|----|----|----|----|----------|-------------------|----------|
| SBD15-60 | 32 | 33 | 41 | 30 | 48 | 180 | 50 | 12.5 | 57.5 | 220 | 250 | 270 | 5.5 | 65 | 95 | 11 | 84 | 70 | 550 | L1-310 | 20 |

| SBD Unit | M | N1 | N2 | O | P | Q | R1 | R2 | S | TxU | VxW | X1 | X2 | X3 | Y | Y1 | Y2 | Y3 |
|----------|----|----|------|----|----|---|----|----|----|-------|------|----|----|----|----|-----|-----|----|
| SBD15-60 | 60 | 59 | 29.5 | 25 | 12 | 1 | 18 | 4 | 17 | M5x10 | M5x8 | 15 | 30 | 8 | 65 | 250 | 158 | 43 |

(All dimensions in mm)



Re-lubrication of the ball guide carriage blocks is via two access points in the side of the beam (see above), and closed off with a threaded plug. The lubrication interval depends on length of stroke, speed and duty. For further details regarding lubrication procedures please contact Hepco's technical department.

Technical Information

The nominal load capacities for the SBD (based on LBG ball guide dynamic load capacity) and a typical load corresponding to 10 000km¹ travel are included in the table below for each of the 5 direct and moment loading directions*².

| SBD Unit | | | | | |
|----------|---|--|--|---|---|
| SBD15-60 | 8500N nominal (13600N) 726 @ 10 000km | 8500N nominal (13600N) 726N @ 10 000km | 52Nm nominal (82Nm) 4.4Nm @ 10 000km | 41Nm nominal (350Nm) 3.5Nm @ 10 000km | 41Nm nominal (350Nm) 3.5Nm @ 10 000km |

(Figures shown in brackets relate to the long carriage version.)

The table below includes the parameters necessary to calculate the performance and duty of the SBD system.

| Parameter | | | SBD15-60 | SBD15-60 |
|--|------------------|-----------------|---------------|---------------|
| | | | Standard | Long Carriage |
| Mass of carriage | Mc | kg | 0.8 | 1.3 |
| Mass of belt per m | Mb | kg/m | 0.09 | 0.09 |
| Mass of SBD unit | Mu | kg | 5.5 x L + 2.9 | 5.5 x L + 3.4 |
| Pulley radius | r | cm | 1.91 | 1.91 |
| Drive efficiency | | | 0.9 | 0.9 |
| Break away friction | Fba | N | 24 | 28 |
| Coefficient of friction | μ | | 0.01 | 0.01 |
| Beam moment of inertia* ³ | I _{x-x} | mm ⁴ | 560000 | 560000 |
| | I _{y-y} | | 600000 | 600000 |
| Max linear force (belt) | Fmax | N | 700 | 700 |
| Linear movement per shaft rev | | mm | 120 | 120 |
| Belt tooth pitch | | mm | 5 | 5 |
| LBG carriage basic load rating (dynamic) | C | N | 16500 | 26400 |

Ordering Details

SBD = product range _____ **SBD** **15-60** **L1740** **C1** **RS** **B2**

Size of unit : **15-60** _____

Beam Length. Beam lengths are available in increments of 60mm from 550mm _____

Unit Type: **C1** = corrosion resistant; leave **blank** for standard units _____

Drive shaft: **LS** for left-hand; **RS** for right-hand; **DS** for double shaft _____

Long Carriage Option with twin LBG bearing blocks: **B2** _____

1. The tabulated load figures above for 10,000km assume a value for variable load factor $f_v = 2$ which is suitable for most applications.
2. For load & life calculations please refer to Page 8 of the main SBD catalogue
3. The beam moment of inertia figure is used in the calculation of beam deflection, with a high figure corresponding to a stiff beam. For further guidance on beam deflection calculations please visit www.HepcoMotion.com/sbddatauk and select datasheet No. 3 SBD beam deflection calculations.

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