This data sheet interacts with
SBD catalogue

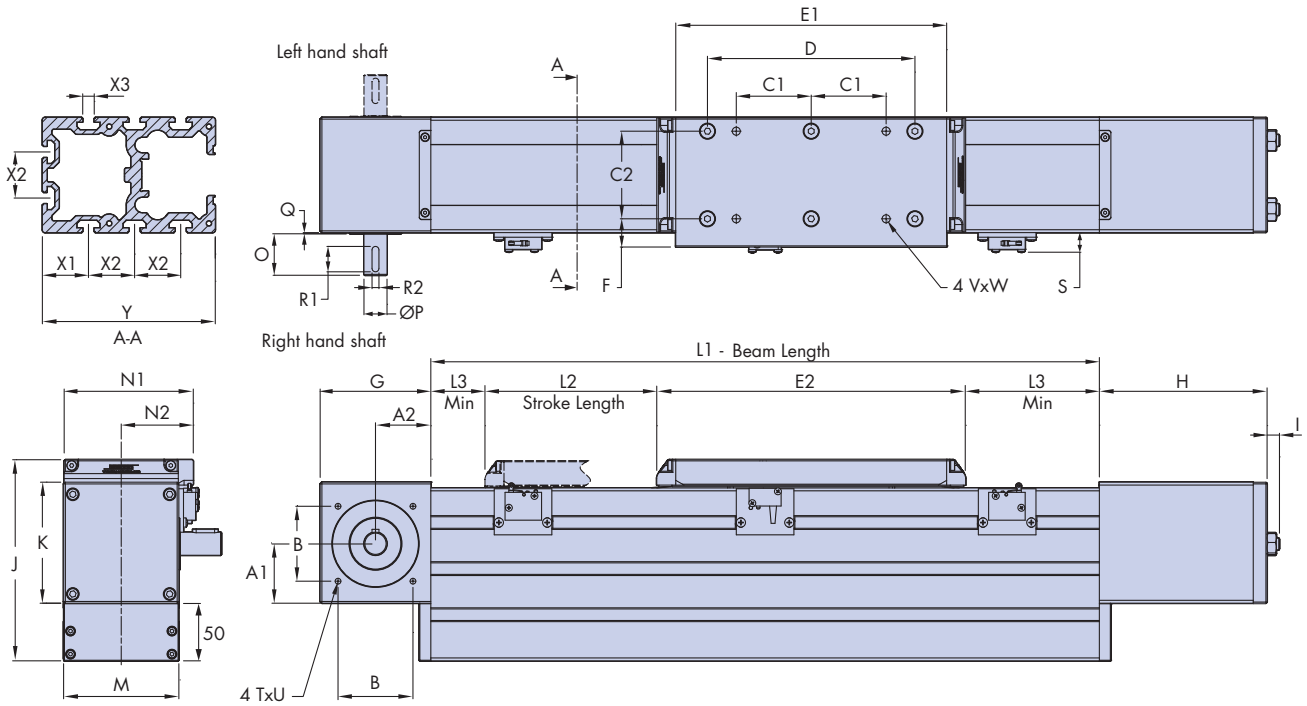
HepcoMotion®

SBD30-100XL - High Stiffness Version

The SBD30-100XL unit has been designed for applications which require a stiffer beam than the standard SBD30-100 unit. This is helpful in system with high loads and long spans. Apart from the beam, these units are identical to SBD30-100 units.

The stiffness of the SBD30-100XL beam is 104% higher than the SBD30-100 beam when resisting an L1 bending load, and 68% higher when resisting an L2 bending load. This is achieved with just a 16% increase in beam weight.

The main dimensions of the standard SBD30-100 XL unit are shown below.

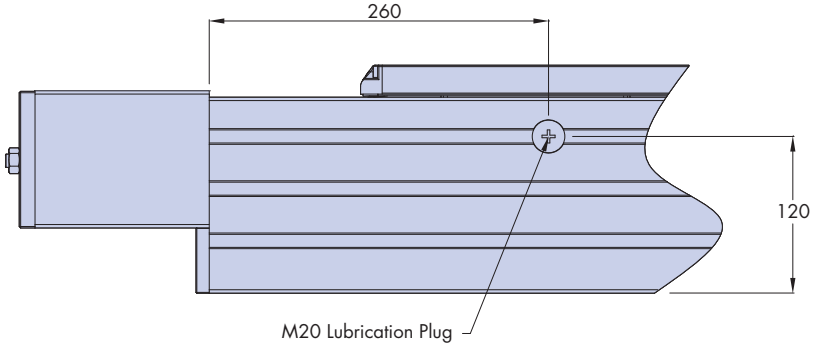


SBD Unit	A1	A2	B	C1	C2	D	E1	E2	F	G	H	I	J	K	L1 (min)	L2 Nominal Stroke	L3 (min)
SBD30-100XL	51.6	48	65	65	76	180	235	268	24.5	96	145.5	13	173.5	105	580	L1-365	48.5

SBD Unit	M	N1	N2	O	P	Q	R1	R2	S	TxU	VxW	X1	X2	X3	Y
SBD30-100XL	100	112	62.5	36	20	1	22	6	17	M6x15	M8x9.5	40	40	10	150

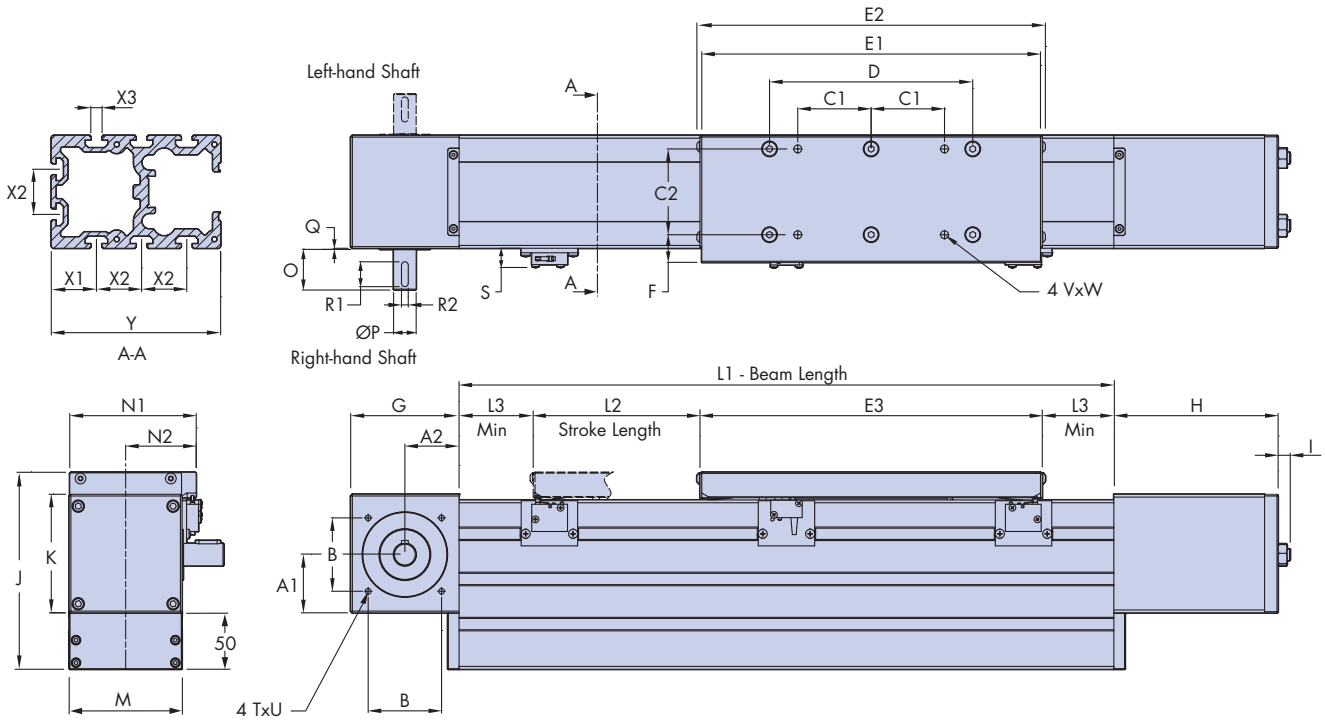
(All dimensions in mm)

Re-lubrication of the ball guide carriage block is via an access point in the side of the beam (see below), which is closed off with a threaded plug. The lubrication interval depends on length of stroke, speed and duty. For further details of Lubrication procedure please visit **www.HepcoMotion.com/sdbdatauk** and select data sheet No.8 SBD Lubrication Procedure.



SBD30-100XL - High Stiffness Version

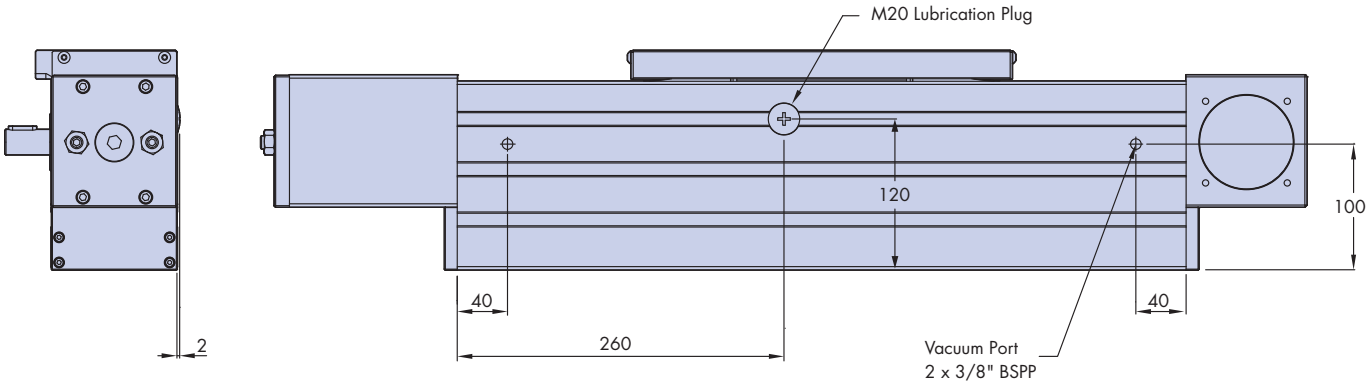
The main dimensions of the SBD30-100XL cleanroom version are shown below. Further details can be obtained from Hepco's technical department. Units are supplied in increments of 80mm up to 6000mm in one piece. The nominal stroke length is calculated with the carriage against the internal buffers. In practice a clearance should be provided to allow for overrun.



SBD Unit	A1	A2	B	C1	C2	D	E1	E2	E3	F	G	H	I	J	K	L1 (min)	L2 Nominal stroke	L3 (min)
SBD30-100XL	51.6	48	65	65	76	180	300	309	303	24.5	96	145.5	13	173.5	105	580	L1-365	31

SBD Unit	M	N1	N2	O	P	Q	R1	R2	S	TxU	VxW	X1	X2	X3	Y
SBD30-100XL	100	112	62.5	36	20	1	22	6	17	M6x15	M8x9.5	40	40	10	150

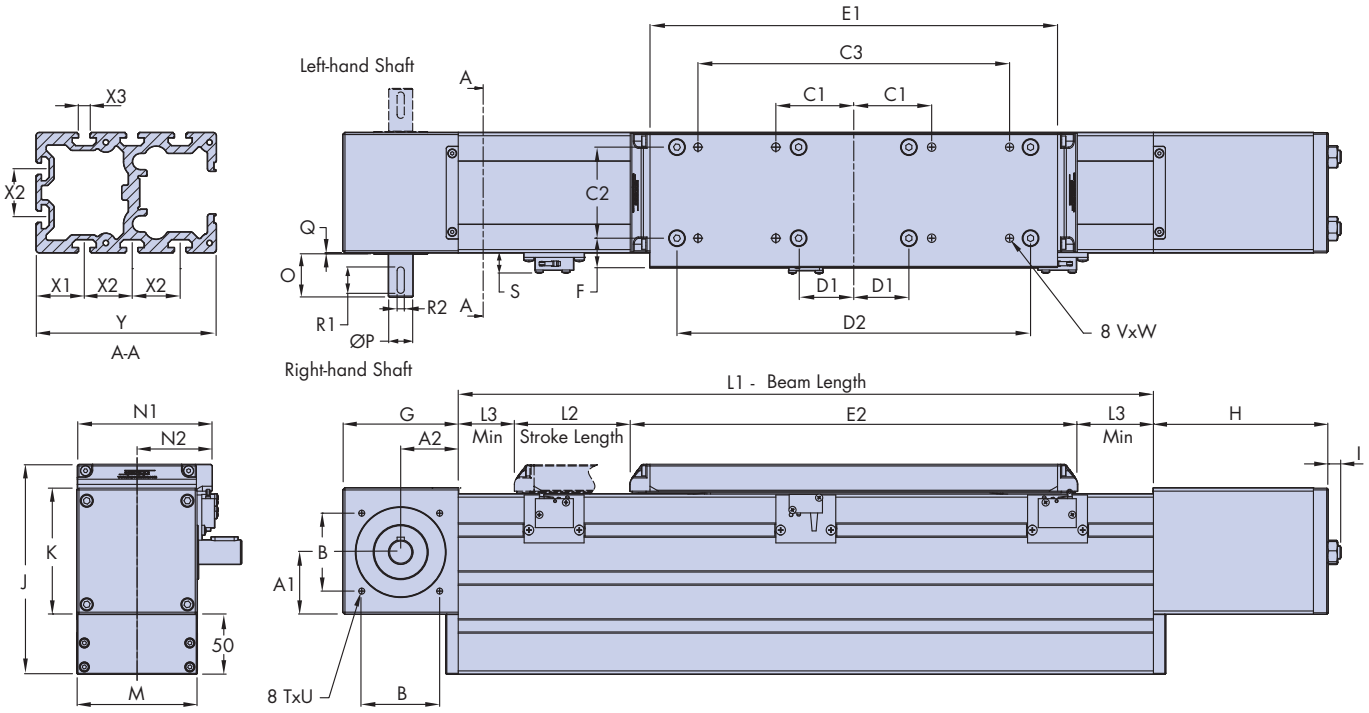
(All dimensions in mm)



The vacuum extraction connection hole positions together with the lubrication access plug are shown above. Hepco can supply vacuum connections pre-fitted on request. Vacuum holes can be repositioned to suit customer requirements or deleted.

SBD30-100XL - High Stiffness Version

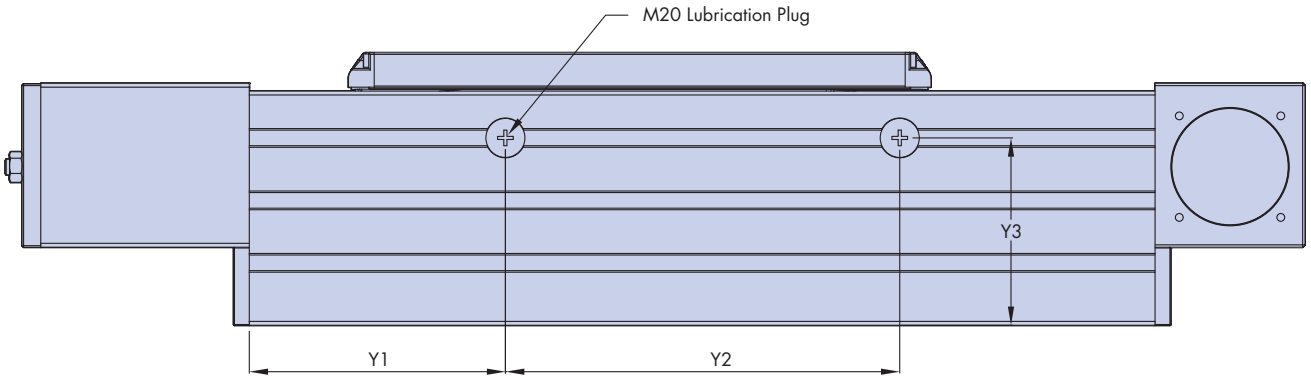
SBD30-100XL units in both standard and cleanroom are available with as a long carriage version. This option has two LBG bearing blocks in the carriage and has much improved load capacity. The main dimensions of the standard long carriage units are shown below. Further details can be obtained from Hepco's technical department.



SBD Unit	A1	A2	B	C1	C2	C3	D1	D2	E1	E2	F	G	H	I	J	K	L1 (Min)	L2 Nominal Stroke	L3 (Min)
SBD30-100XL	51.6	48	65	65	76	260	46	295	340	373	24.5	96	145.5	13	173.5	105	580	L1-470	48.5

SBD Unit	M	N1	N2	O	P	Q	R1	R2	S	TxU	VxW	X1	X2	X3	Y	Y1	Y2	Y3
SBD30-100XL	100	112	62.5	36	20	1	22	6	17	M6x15	M8x9.5	40	40	10	150	164	252.5	120

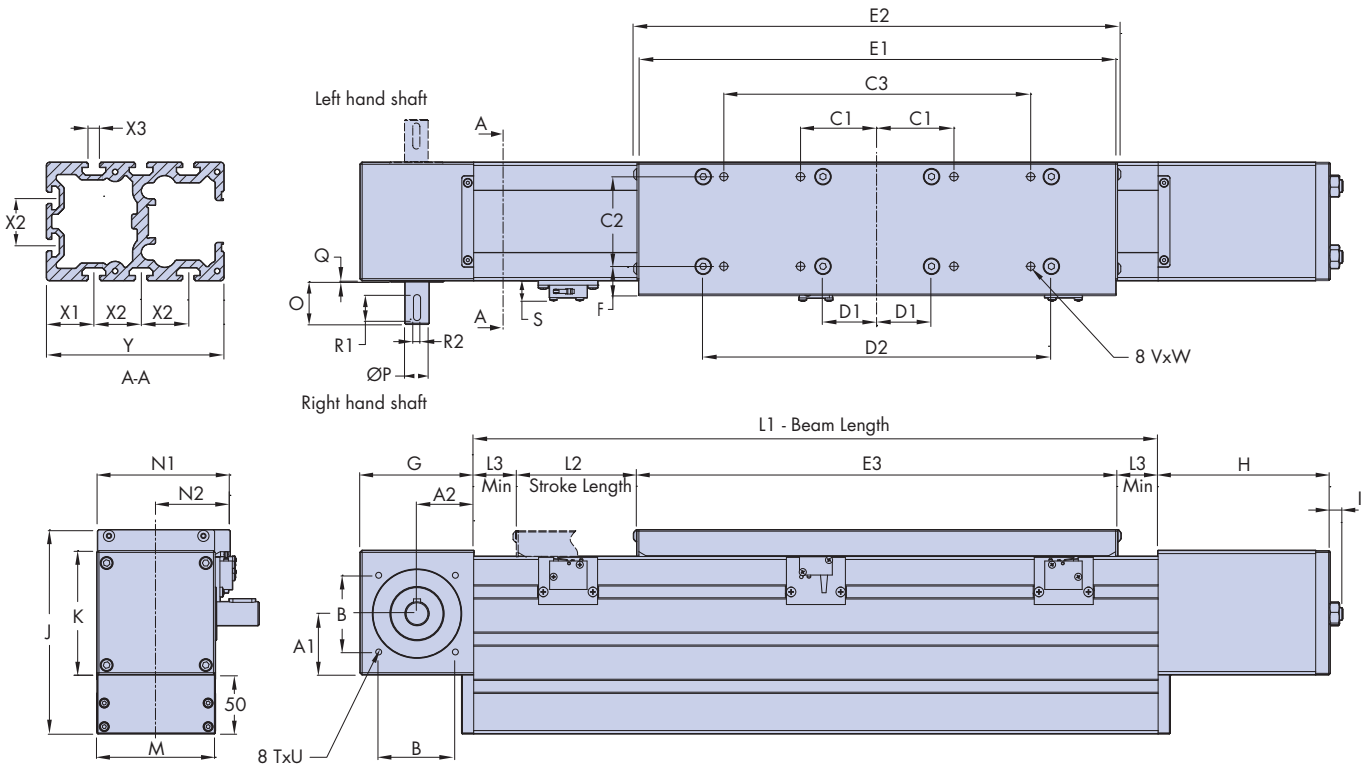
(All dimensions in mm)



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 of Lubrication procedure please visit **www.HepcoMotion.com/sdbdatauk** and select data sheet No.8 SBD Lubrication Procedure.

SBD30-100XL - High Stiffness Version

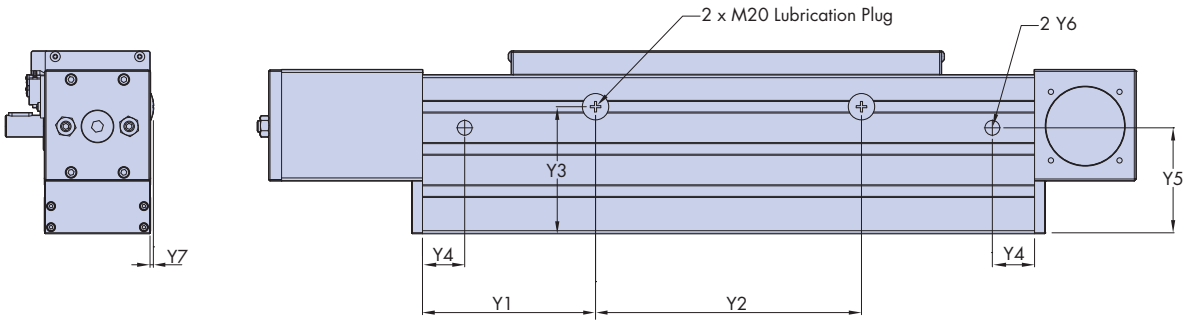
The main dimensions of the cleanroom long carriage units are shown below. Further details can be obtained from Hepco's technical department.



SBD Unit	A1	A2	B	C1	C2	C3	D1	D2	E1	E2	E3	F	G	H	I	J	K	L1 (Min)	L2 Nominal Stroke	L3 (Min)
SBD30-100XL	51.6	48	65	65	76	260	46	295	404	413	407	24.5	96	145.5	13	173.5	105	580	L1-470	31.5

SBD Unit	M	N1	N2	O	P	Q	R1	R2	S	TxU	VxW	X1	X2	X3	Y	Y1	Y2	Y3	Y4	Y5	Y6	Y7
SBD30-100XL	100	112	62.5	36	20	1	22	6	17	M6x15	M8x9.5	40	40	10	150	164	252.5	120	40	100	3/8" BSPP	2

(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. The vacuum extraction connection holes (see dimensions Y5 & Y6 above) are available on the cleanroom version only and can be repositioned to suit customer requirements or deleted. Hepco can supply vacuum connections pre-fitted on request. Contact Hepco's technical department for further details.

Technical Data

The nominal load capacities for the SBD (based on LBG ball guide dynamic load capacity) and a typical load corresponding to 10 000km*1 travel are included in the table below for each of the 5 direct and moment loading directions*2.

SBD Unit	L1	L2	Ms	Mv	M
SBD30-100XL	52100N nominal (68800N) 4455N @ 10 000km	52100N nominal (68800N) 4455N @ 10 000km	639Nm nominal (848Nm) 54Nm @ 10 000km	755Nm nominal (2990Nm) 64Nm @ 10 000km	755Nm nominal (2990Nm) 64Nm @ 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			SBD30-100XL		SBD30-100XL Long Carriage	
			Standard	Cleanroom	Standard	Cleanroom
Mass of carriage	Mc	kg	3.6	3.9	5.2	5.5
Mass of belt per m	Mb	kg/m	0.34		0.34	
Mass of SBD unit	Mu	kg	17.5 x L +12.2	17.5 x L +12.5	17.5 x L+13.7	17.5 x L + 14.0
Pulley radius	r	cm	3.5		3.5	
Drive efficiency			0.9		0.9	
Break away friction	Fba	N	35	25	46	36
Coefficient of friction	μ		0.01		0.01	
Beam moment of inertia*3	I_{x-x}	mm^4	9300000		9300000	
	I_{y-y}		6200000		6200000	
Max linear force (belt)	Fmax	N	3300		3300	
Linear movement per shaft rev		mm	220		220	
Belt tooth pitch		mm	10		10	
LBG carriage basic load rating (dynamic)	C	N	52100		68800	

Ordering Details

SBD **30-100XL** **L1750** **C2** **RS** **B2**

SBD = product range

Size of unit : **30-100XL**

Beam Length. Beam lengths are available in increments of 80mm from 580mm

Unit Type: **C1** = corrosion resistant; **C2** = cleanroom; 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 data sheet No. 3 SBD beam deflection calculations.

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