



This data sheet
interacts with

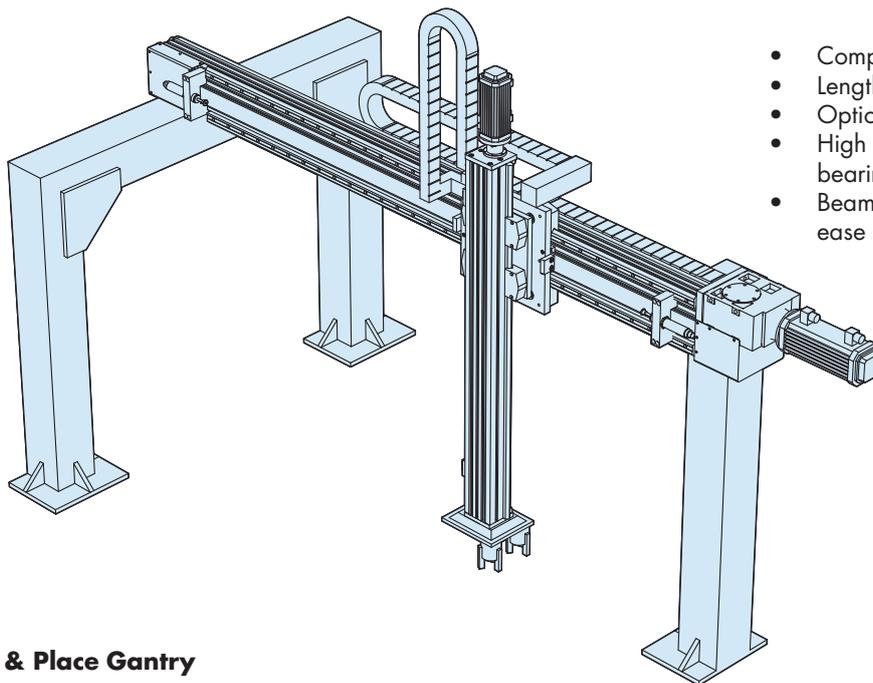
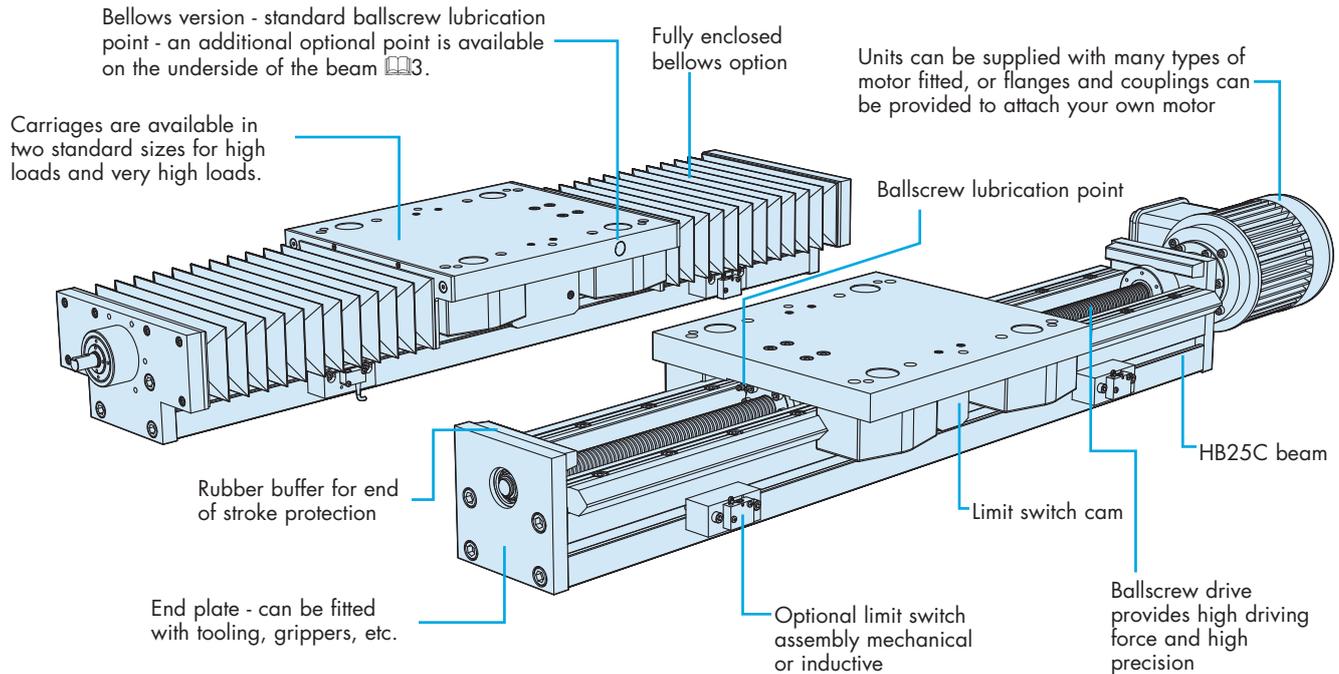
HDS2 Catalogue



No. 1 HDCS Heavy Duty Compact Ballscrew Transmission

The HDCS unit uses the strong and compact HB25C construction beam. The concave top face of the beam accommodates the ballscrew, minimising system height. This unit can be used as a stand alone horizontal axis, or a vertical axis with either the carriage or the beam as the moving element. Grippers can be attached to the end plate.

The slides fitted are the Heavy Duty single edge type with either 64mm or 95mm dia bearings depending upon capacity requirements. Slide lubrication is provided by low maintenance cap wipers with a relubrication point provided for the ballscrew. The fitted ballscrew is 25mm diameter, with either a 5mm or 10mm pitch. The whole unit can be provided with a bellows cover if necessary.



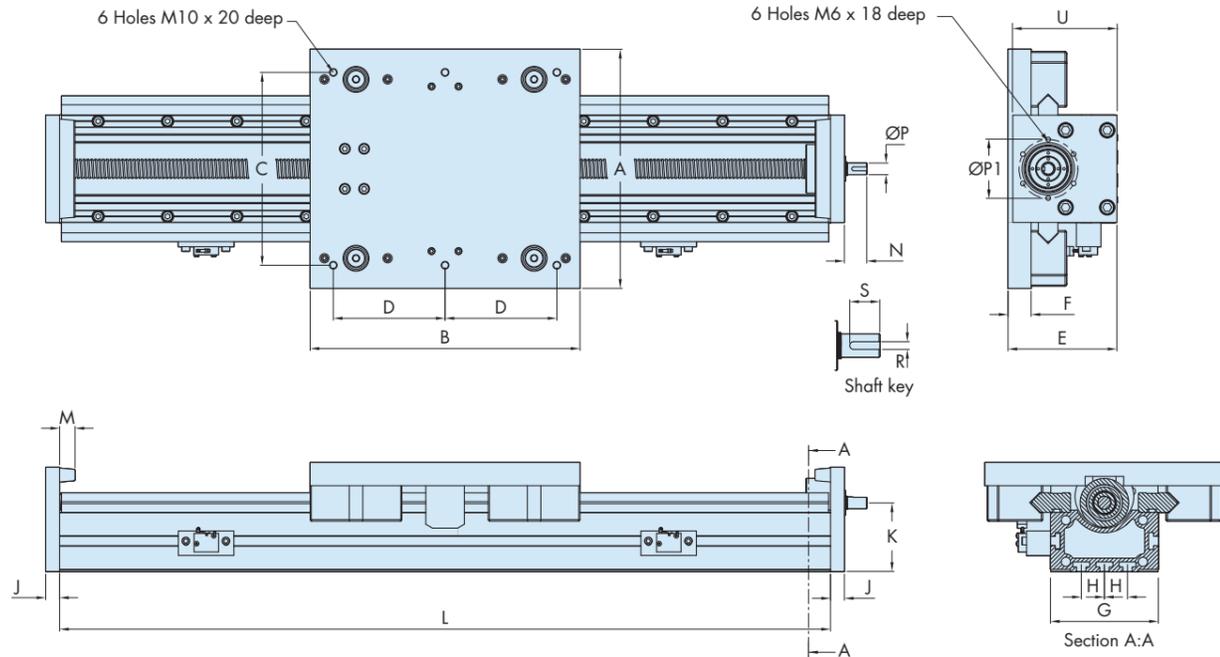
- Compact high strength aluminium beam section.
- Lengths up to 2900mm as standard.
- Optional bellows covered version.
- High capacity 64mm or 95mm diameter bearings provide good rigidity under load.
- Beam T-slots compatible with HDS section for ease of mounting.

Pick & Place Gantry

This unit uses an HDLS unit (see separate catalogue) for the X-axis and an HDCS unit with fitted servo motor for the Z-axis. A gripper is attached to the end plate of the HDCS unit.

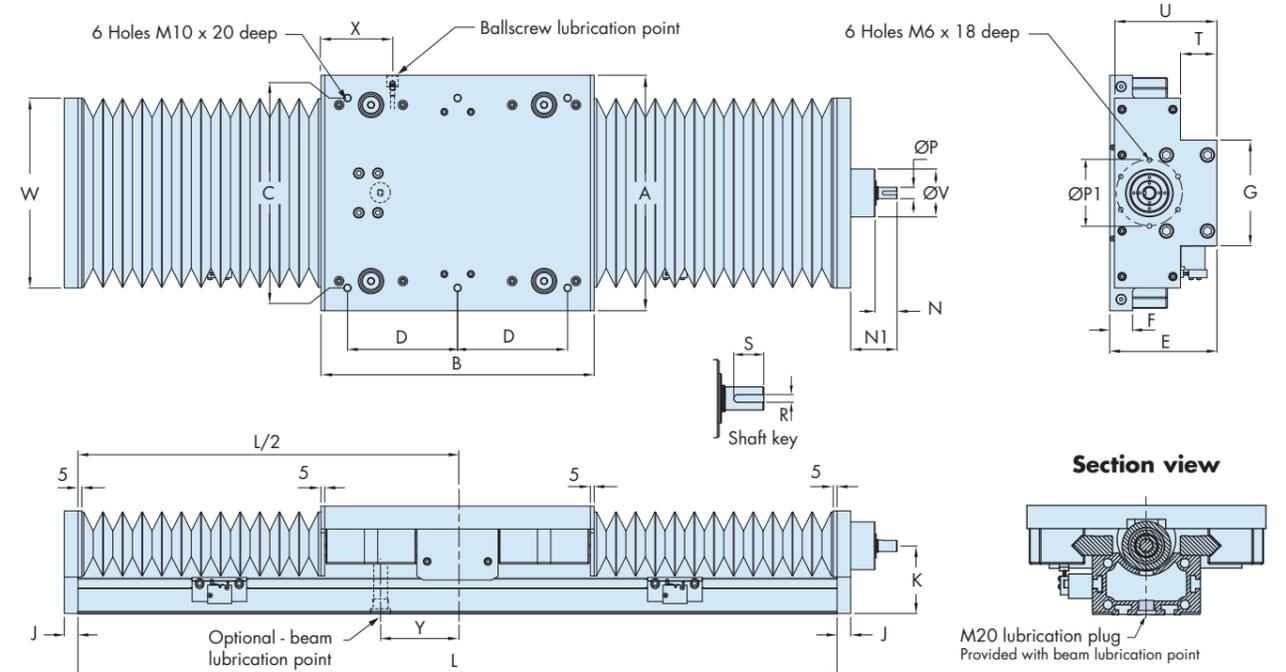
Data and Dimensions

The Hepco HDCS unit is built using the strong yet compact HB25C construction beam, and fitted with single edge V slides, HSS25. Two sizes of carriage are available using the Ø64 V bearing for heavy loads and the larger capacity Ø95 V bearing for very heavy loads. Drive is provided by a Ø25mm ballscrew, with a choice of 5mm or 10mm pitch. HDCS units are available with a bellows cover as a standard option, these will provide a high level of protection from dirt & debris. Belt driven systems are also available see the HDLS Heavy Duty linear transmission system catalogue for details.



Data & Dimensions

The HDCS unit with bellows option offers protection against the ingress of dirt and debris. The end plates of the unit have been extended and the drive end bearing has been moved out board of the unit to accommodate the bellows. This results in slightly different dimensions compared to the standard version. When specifying beam length, care should be taken to allow for the closed length of the bellows, see the note below. Bellows are manufactured from Polyester 4528, with other material options available on request. The ballscrew lubrication point is located on the side of the carriage, an additional "beam lubrication point" where the ballscrew nut is accessible through the beam is available on request.

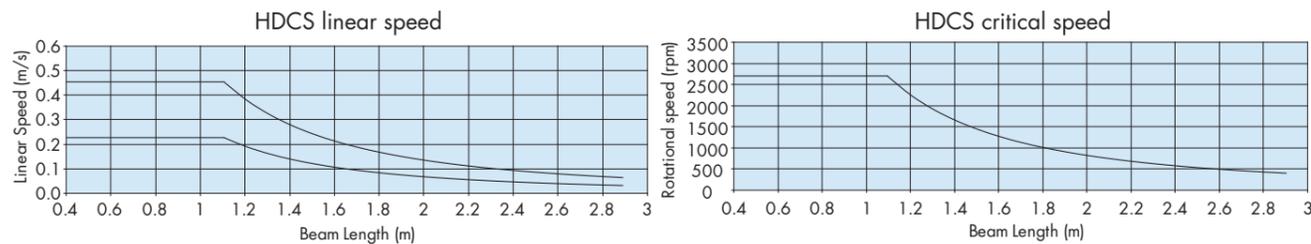


Part Number	A	B ²	C	D	E ³	F	G	H	J	K	L ¹	M	N	N1	ØP h7	ØP1	R	S	T	U	ØV h6	W	Maximum Driving Force kN							
																							5mm Pitch		10mm Pitch		5mm Pitch		10mm Pitch	
																							X	Y	X	Y	C _a	C _{o_a}	C _a	C _{o_a}
HDCS 64	310	350	250	145	141.5	30	140	30	18	89.5	up to 2930	20	29	-	15	76	5	19.5	-	135.5	-	-	-	17.0	25.8	28.8	36.9			
HDCS B 64	310	360	250	145	141.5	30	140	30	18	89.5	up to 2900	-	29	61	15	87	5	19.5	48.5	135.5	63	250	93	103	93	71	17.0	25.8	28.8	36.9
HDCS 95	375	430	315	185	141.5	30	140	30	18	89.5	up to 2930	20	29	-	15	76	5	19.5	-	135.5	-	-	-	17.0	25.8	28.8	36.9			
HDCS B 95	375	440	315	185	141.5	30	140	30	18	89.5	up to 2900	-	29	61	15	87	5	19.5	48.5	135.5	63	250	110	143	110	111	17.0	25.8	28.8	36.9

Standard unit - Nominal stroke length is calculated with the carriage positioned against the buffer. In practice a clearance between the carriage and the buffers should be provided at either end of the stroke to allow for overrun. Beam length (L) = Stroke length + carriage length (B) + 40.

Performance

The maximum linear speed of the HDCS unit is determined by the critical speed of the ballscrew and pitch size. The linear speed for different ballscrew pitches and the maximum rotational speed of the ballscrew are shown in the graphs below.



Notes:

- Beam lengths up to figure stated are available rapid delivery, beam length up to 5900mm are possible - contact Hepco for details.
- Dimension 'B' for bellows version HDCS 64/95 B are 10mm longer than the standard version due to additional plates for mounting the bellows, actual carriage plate lengths are the same for both versions.
- Dimension 'E' in the table is stated for slide grade P1, for P3 grade slide dimension 'E' = 141.7mm.

Bellows unit - Rubber buffers are not fitted to the bellows version unit, as the fitted bellows will perform the same duty. Nominal stroke length is calculated with the carriage positioned against the closed bellows. In practice a clearance between the carriage and the bellows should be provided at either end of the stroke to allow for overrun. When calculating the overall beam length the following formula should be used. Beam length (L) = Stroke length x 1.22 + carriage length (B) + 10.

For applications with critical beam length requirements please contact Hepco.

Load Capacities

The table below shows the maximum loading for each carriage in each possible loading mode. It also includes loads for 10,000km travel. This table is intended as a guide for initial selection only. Please send your application details to Hepco and we will calculate the system load/life for you.

HDCS Type	L1	L2	Ms	Mv	M
HDCS 64	max 10 000N @ 500km	max 16 000N @ 500km	max 900Nm @ 500km	max 1800Nm @ 500km	max 1125Nm @ 500km
	2820N @ 10 000km	5470N @ 10 000km	308Nm @ 10 000km	615Nm @ 10 000km	384Nm @ 10 000km
HDCS 95	max 28 000N @ 400km	max 40 000N @ 400km	max 2510Nm @ 400km	max 5400Nm @ 400km	max 3780Nm @ 400km
	8810N @ 10 000km	12 580N @ 10 000km	790Nm @ 10 000km	1700Nm @ 10 000km	1190Nm @ 10 000km

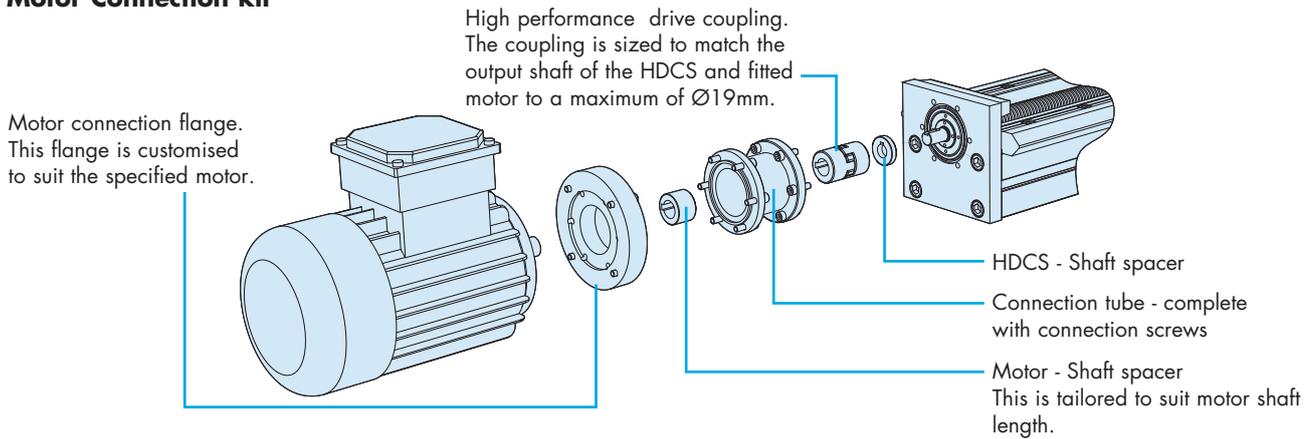
No. 1 HDCS Heavy Duty Compact Ballscrew Transmission

The HepcoMotion HDCS unit can be supplied with a fitted motor to suit many applications. Connection to other motors and gearboxes is quick and simple using one of the fixing kits. Standard kits to suit a range of motor faces including IEC C80, C90, C105, C120 and NEMA 23 and 34 are stock items. Hepco can offer a fast service on special connection kits for attachment of customer's motors and gearboxes.

The fitted motor is a cost effective option, capable of high speeds and thrusts. Hepco can supply AC motors, steppers and servo systems including optional holding brakes, encoders for positioning and inverter drives for power and control.

Please contact Hepco for full details and application advice.

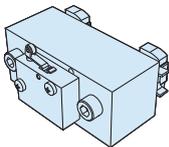
Motor Connection kit



Limit switch options

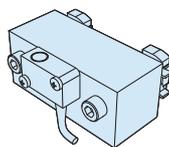
Standard HDCS limit switch assembly

Mechanical switch



HDCS V3SWA M

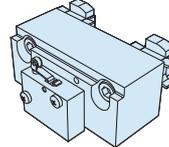
Inductive switch



HDCS V3SWA I

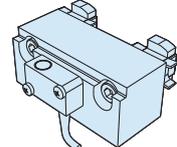
HDCS bellows version limit switch assembly

Mechanical switch



HDCS B V3SWA M

Inductive switch

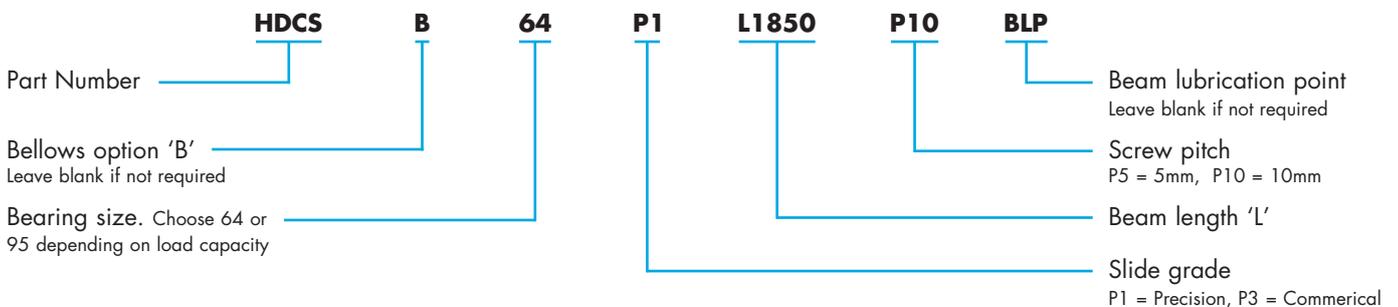


HDCS B V3SWA I

The optional HDCS limit switch assemblies are supplied complete with switch, mounting bracket, fixing bolts and quick fit T-Nuts. Please state part number and quantity required when ordering. Please note that the limit switch assemblies are not interchangeable between the standard or bellows units.

The ordering information below is given to assist communication, but customers are recommended to discuss the application with Hepco first so that the best configuration can be specified to suit the requirements.

Ordering details



HepcoMotion[®], Lower Moor Business Park,
Tiverton Way, Tiverton, Devon, England EX16 6TG

Tel: +44 (0) 1884 257000

Fax: +44 (0) 1884 243500

E-mail: sales@hepcotion.com

www.HepcoMotion.com