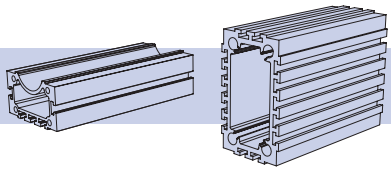
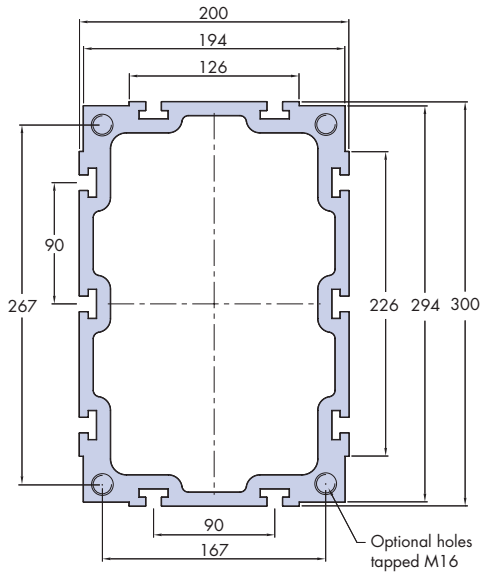
Construction Beams

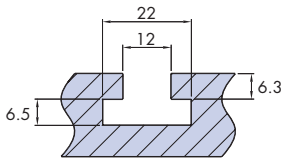


The design of Hepco construction beams enables slides and flat tracks to be factory assembled directly to the corner faces of the beam or, to be mounted at the many T-slot positions in conjunction with back plates and T-nuts 📖24&25. Very high stiffness allows the beams to be used as self supporting construction elements.

The recess in the HB25C beam has been designed to accommodate a screw drive. Beams are manufactured from high strength aluminium alloy to precision extrusion tolerances and are supplied clear anodised. Beam deflection can be calculated using simple beam theory requiring second moment of inertia figures which are given in the table below. For further details of calculations please visit **www.HepcoMotion.com/hdsdatauk** and select datasheet No. 2 Beam Deflection Calculations.

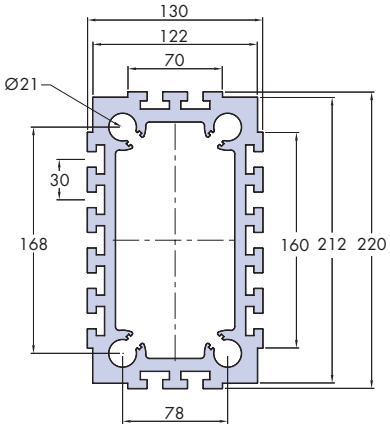
HB33



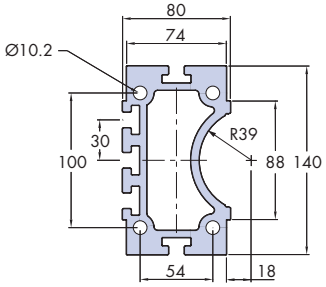


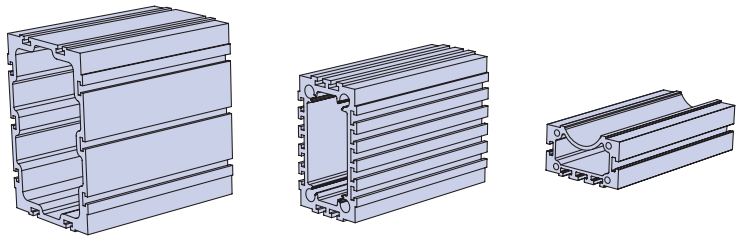
General T-slot details

HB25



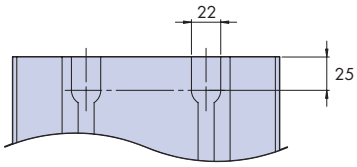
HB25C





Beam	Second Moment Of Inertia		
	Vertical X-X	Horizontal Y-Y	
HB 25C	$2.8x10^6$	$10.2x10^6$	11.3kg/m
HB 25	$4.7x10^7$	$1.8x10^7$	24kg/m
HB 33	$16.9x10^7$	$8.4x10^7$	37.5kg/m

Beam second moment of inertia figures, are stated in mm^4.



General T-slot Window Details*2

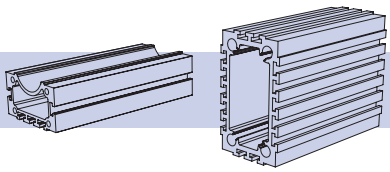
Ordering Example

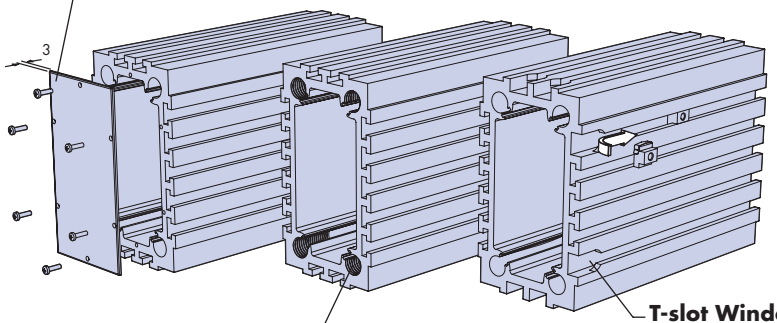
HB	25	L3516	T	X	W	
						Leave blank if not required
					↑	T-nut windows: Supply a sketch to indicate required positions*2
				↑		Fitted end cover
			↑			End tapped hole option
	↑					Beam size
↑						Part Number
		↑				Overall length*1

Notes:

1. Beams are cut to customer's length requirements with machine finished ends. They may be requested matched in length and should be ordered minimum 5mm longer than the corresponding slides or tracks. Beams are available in one piece up to 6m long. Special high strength joining systems can be readily supplied to achieve beams of unlimited length. Customers attaching carriage plates or other components directly to the ends of the beam which require a higher than normal squareness are requested to specify this requirement when ordering.
2. Where access to beam end will be blocked, customers using high strength T-nuts 📖38 can specify T-nut windows at either end of any T-slot to enable nuts to be inserted. Supply a sketch to indicate required positions.
3. Fitted aluminium end covers are supplied clear anodised and are secured via pan head screw DIN7985. Covers are not compatible with end tapped hole option.
4. Plastic T-slot cover compatible with all construction beams is available, please specify the number required and length. Example; 14 x TC12 L3000.

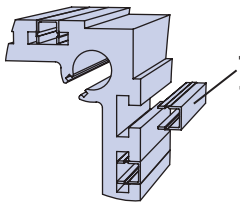
Construction Beam Options





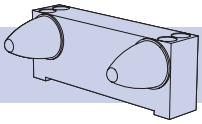
Construction beam options apply to all sizes of beam.

End tapped holes can be used to secure beams directly to carriages 📖8, or to fit cross members and other items to the end of the beam*1.

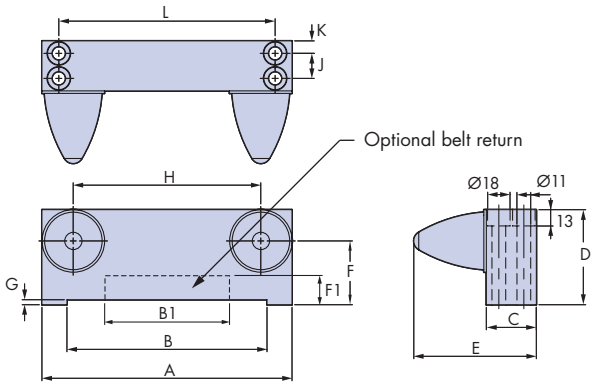


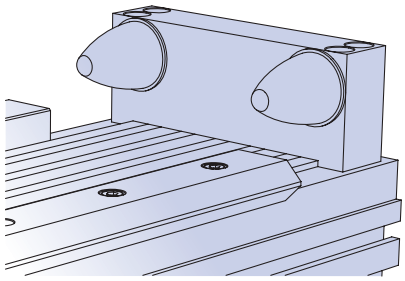
Beam	A
HB25C	M12 x 24 Deep
HB25	M24 x 50 Deep
HB33	M16 x 40 Deep

Buffer Units



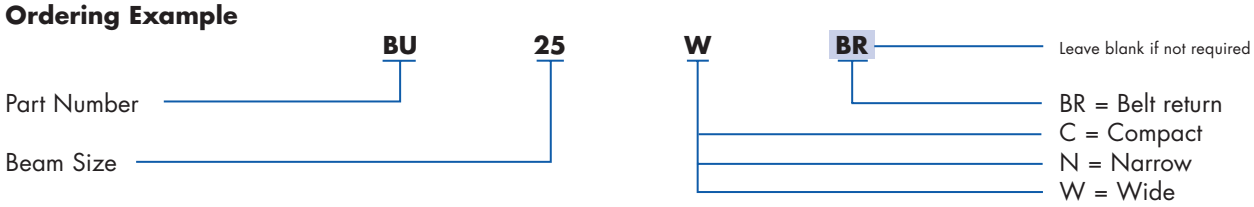
Buffer units are available for the three sizes of Hepco construction beam. Made from high strength aluminium and clear anodised, the buffer unit is fitted with rubber end stops in line with the assembled carriage 📖26-29. Alternative design buffer units can be supplied with access for a belt return as supplied on HDLS driven system 📖7.





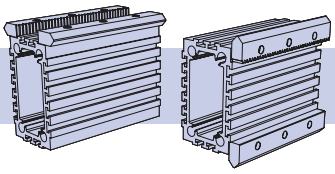
Part Number	For Use With	A	B	B1	C	D	E	F	F1	G	H	J	K	L	kg~
BU 25C	HB 25C	140	88	55	40	76	98	51	32	4	90	20	10	115	0.52
BU 25N	HB 25N	156	70	55	40	76	98	51	40	4	106	20	10	83	0.57
BU 25W	HB 25W	200	160	80	40	76	98	51	40	4	150	20	10	173	0.69
BU 33N	HB 33N	195	126	80	40	82	98	57	40	4	146	20	10	170	0.73
BU 33W	HB 33W	294	226	110	40	82	98	57	40	4	244	20	10	270	1.03

Ordering Example



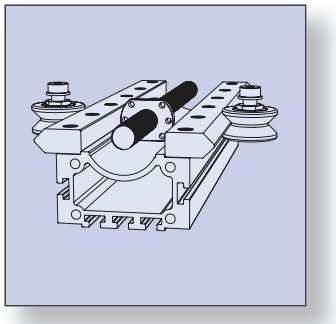
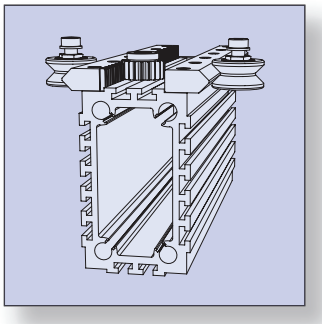
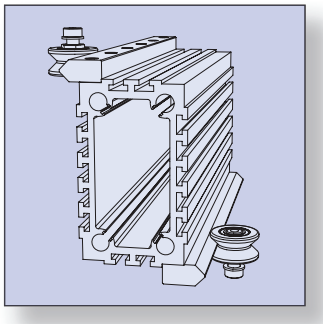
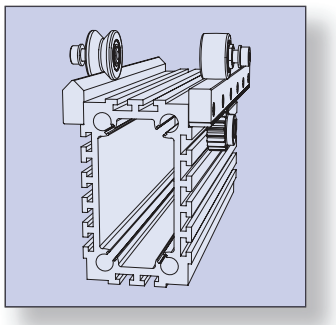
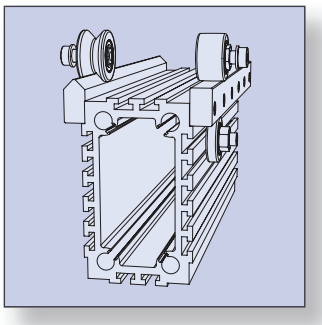
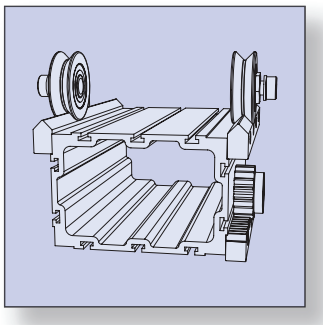
Notes:

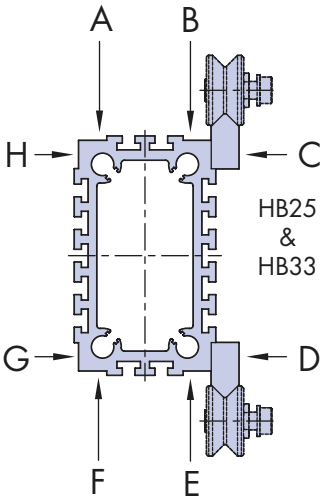
1. Buffer units are design to fit directly to Hepco construction beams, holes should be drilled and tapped into the beam. Positions are given by dimension L & J, holes should be drilled and tapped M10.
2. Dimensions B1 & F1 refer to access for a belt return, available with optional BU...BR

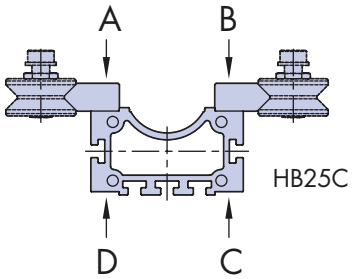


Corner Mounted Slides & Tracks

Below are shown a selection of varied ways Hepco single edge V slides and narrow flat tracks can be used when mounted to the corner faces of the construction beams. Slides and tracks should be specified without a keyway. Corner face mounting has the advantage of being lower in cost compared to T-slot mounting due to the back plate and T-nuts not being required. A range of Hepco assembled carriages 📖26-29 are available to suit all corner mounted slide options. These will be factory adjusted to the beam unit if specified in the ordering details below. Buffer units for end of stroke protection are available 📖23.





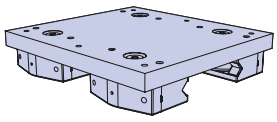
Ordering Example*1&3

Simply list the components required and bracket those to be factory assembled, specifying the mounting positions on the construction beam as relevant. See drawing for construction beam mounting positions. Where slides or tracks are ordered shorter than the length of the beam, it will be assumed that the required position is equidistant from both ends of the beam unless otherwise stated.

Example

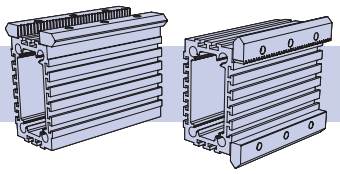
1 x HB25 L4051
1 x CHSS25NK L4046 - Assembled position C
1 x CHSS25NK L4046 - Assembled position D

Mounted Carriage (Optional)
1 x AU6425WCW 📖26-27



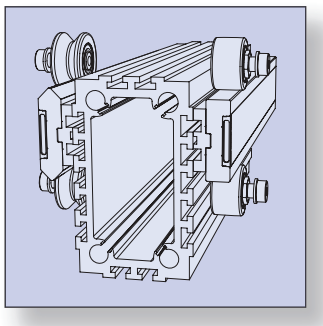
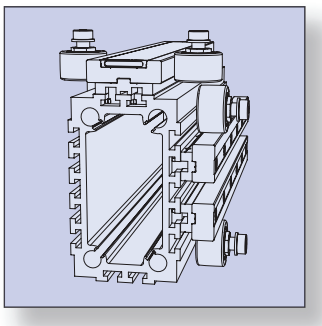
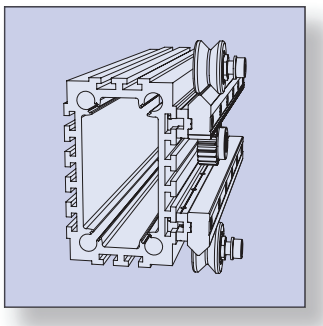
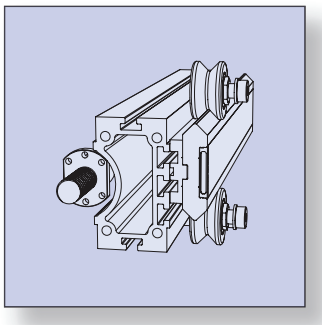
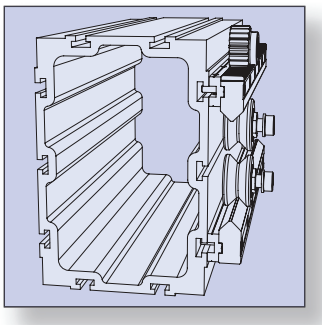
The table below identifies the available options for corner mounted slides & tracks when fitted to Hepco construction beams, also 📖46.

Beam	Single edge slide & flat track			
	HSS25	HTS25	HSS33	HTS33
HB 25C	✓	✓	×	×
HB 25	✓	✓	×	×
HB 33	✓*4	✓	✓	✓
✓ = Standard option × = Not compatible				

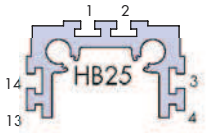


T-Slot Mounted Slides & Tracks

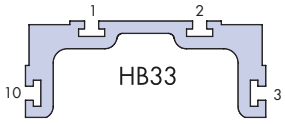
Below is shown a selection of the varied ways Hepco slides and flat tracks can be used when mounted to the T-slot positions of the construction beams. Single edge slides and narrow flat tracks should be specified with a keyway. T-slot mounting has the advantage that one element can be set parallel to another by means of the alignment facility whether they are mounted on the same beam or, on separate beams in parallel 📖17.
The T-slot mounting method can also accommodate the double edge slides and wide flat tracks (except on HB33 beam). For compatibility of slides and tracks with particular back plates 📖47.

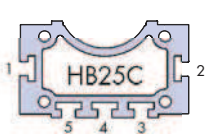
T-slot Designation



1 - 14

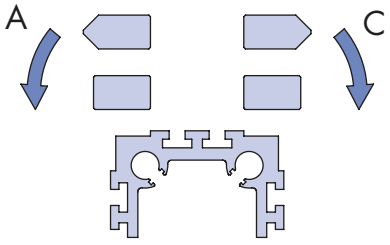


1 - 10

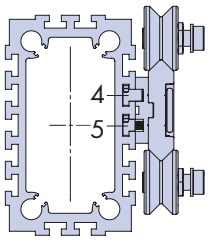


1 - 5

Orientation Designation*2

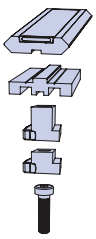


Ordering Example



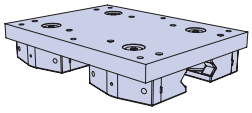
1 x HB25 L3961

1 x CHSD25 L3956
1 x HLW25 L3956
44 x HTNM8L
44 x HTNM8
88 x FS840*5



Assembled position 4/5

Optional mounted carriage (T-slot mounted double edge slide only) 📖26 & 27
1 x AU9525DCW



Notes (See also notes page 22)

1. Beams with corner mounted slides and tracks should be ordered factory assembled which ensures best parallelism between linear elements.
2. Where single edge slides and narrow flat tracks are to be T-slot mounted, please state orientation required ('C' clockwise or 'A' anticlockwise see drawing above) after T-slot position. Example: 1 x CHSS25 L4051 position 4 A.
3. Butt jointed slides and tracks will be fitted for requirements in excess of 4046mm long (hole pitches at the joint may vary 📖45). Unless specified by the customer, Hepco will determine the individual lengths to make up a matched butted set with the minimum number of joins. Joins will be offset to one another where slides or tracks are mounted in parallel on the same beam. This will ensure best running condition across the joins.
4. Cap wipers are not compatible with this option.
5. M8 low head cap screws are required when fitting standard double edge slides and flat tracks. Different lengths are available from Hepco for the various configurations 📖15 for details.

Slides 📖 14-15
Backplates 📖 16-17
Bearings 📖 18-21
Beams 📖 22-23
Assembled Systems 📖 40-41
Assembled Carriages 📖 26-27
Rack Driven Carriages 📖 28-29
Lubrication 📖 32-34
T-Nuts 📖 38
Technical 📖 42-45
Mix & Match 📖 46