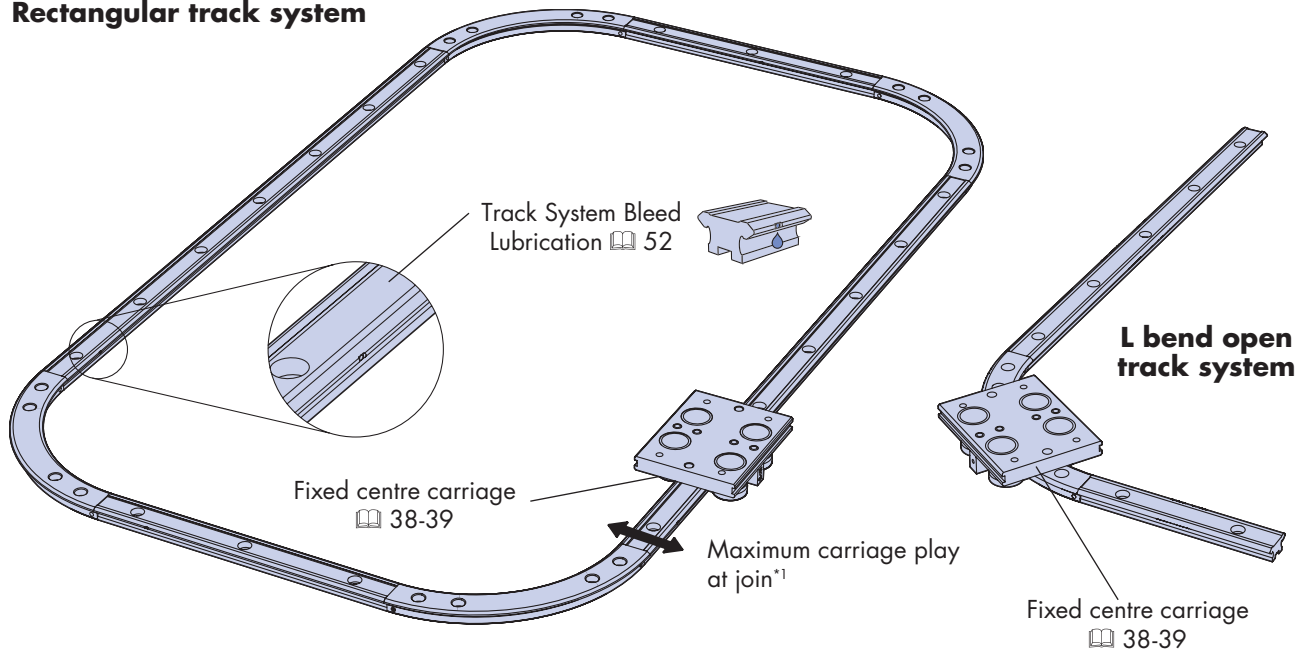
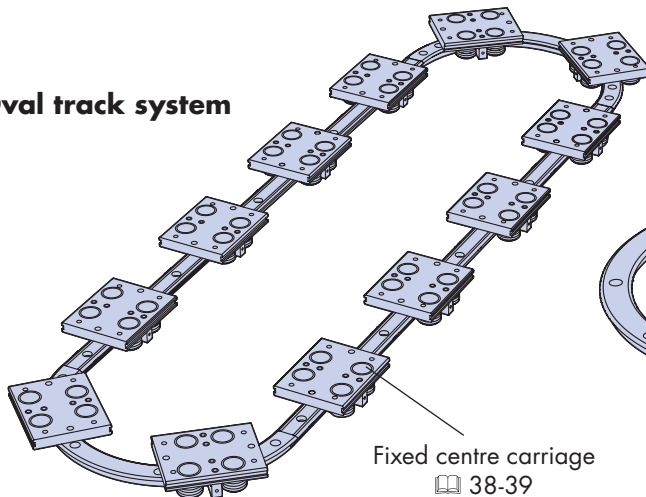


HepcoMotion track systems provide a unique method of achieving an almost limitless variety of open or closed circuits by combining straight slides with curved slides. They can be used in any orientation, from horizontal to vertical. Some of the more common track configurations are illustrated on this, and the opposite page. Any number of carriages can be accommodated, either the fixed centre economy type or the bogie type which enables 'S' bends or bends of varying radii to be negotiated and which has a larger platform for mounting purposes. A unique jacking screw facility incorporated within the track system enables perfect alignment of straight slides to curved slides. Various drive possibilities exist some of which are illustrated 14-18. Lubrication of the system is achieved either by means of lubricators incorporated within the fixed centre carriages or by means of the HepcoMotion bleed lubrication facility 52 which injects lubricant direct to the V faces of the track. The relevant dimensions of individual track system slides are held on record to enable spares and replacements to be supplied. Track systems are also available in stainless steel for applications requiring greater corrosion resistance.

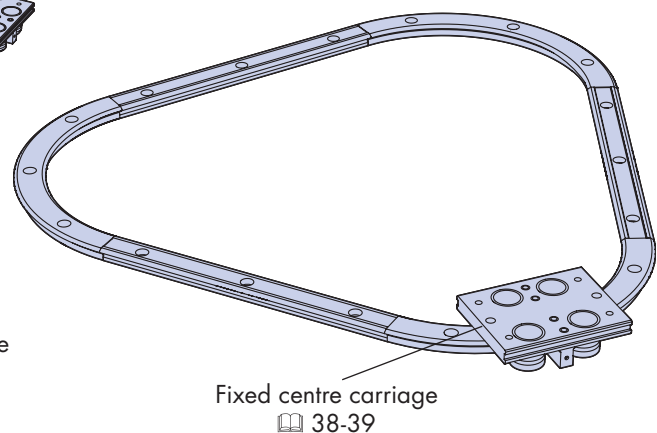
Rectangular track system



Oval track system



Triangular track system



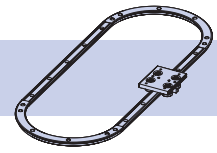
Installation

Installation requires manual drilling and setting. Track systems are also available in suitable grade to correspond with customers pre-drilled mounting holes. Please visit www.HepcoMotion.com/PRT2datauk and select datasheet No. 2 Installation details.

Notes:

1. With the fixed centre carriage, some slight play develops as each pair of opposing bearings traverse the join between straight and curve. This is rarely an issue in use. The maximum play acting in the direction of the arrows is given in the table on 57.
2. Standard curved segments will be slightly less than 90° and 180° due to the cutting allowance. This is not detrimental to the smoothness of travel across the joins. Full 90° and 180° segments and segments to any number of degrees can be supplied on request.

Track Systems



Bi-directional track system with variable bend radii

Bogie carriage
47

Keyway alignment facility

Track system straight slide 42-43

Jacking screws

Track system curved segment 44

Adjustment Key
42-43

Single edge duplex track system

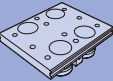
Fixed centre carriage (special)

Bogie carriage
47

S bend open track system

Track system straight slide 42-43

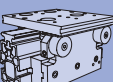
Track system curved segment 44



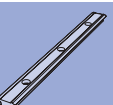
FCC carriage
38-39



BCP carriage
47



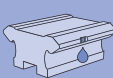
MLC carriage
48-49



Track slides
42-43 & 45



Track segments
44 & 46



Bleed Lubrication
52



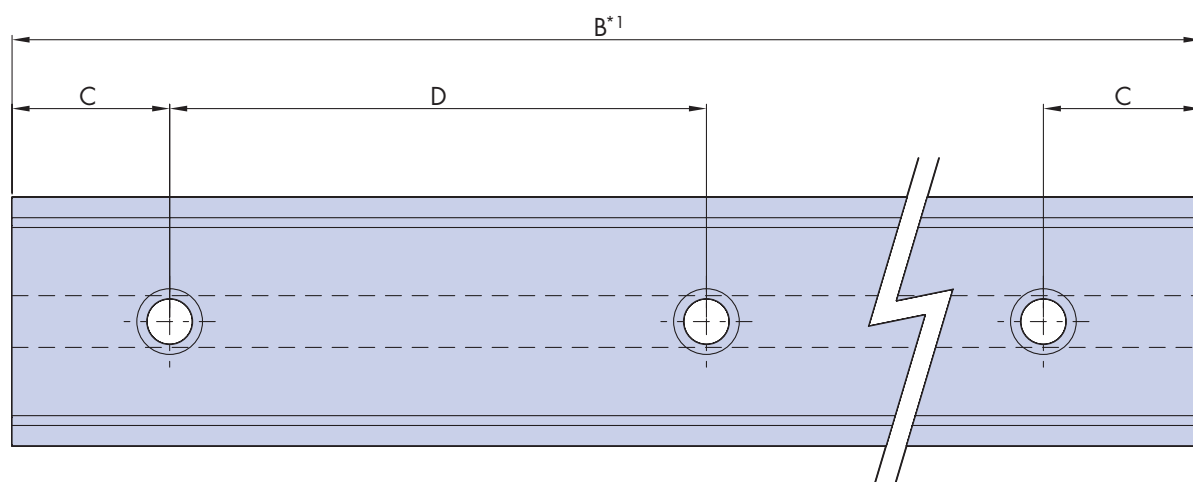
Calculations
54-57

Ordering details:

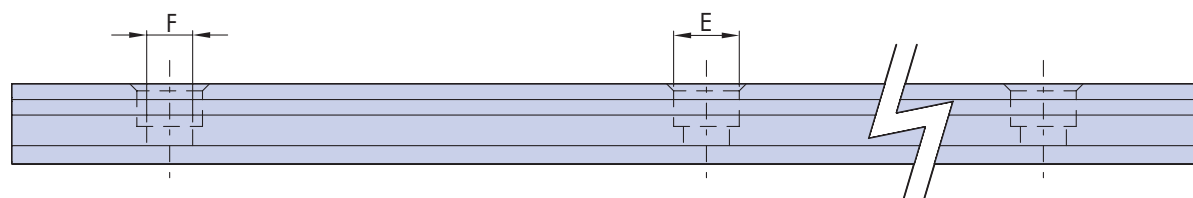
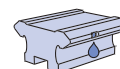
Simply list the curved segments and straight slide part numbers in a clockwise sequence beginning at any point on the track system, see above plan view of track system. Curved segments should be designated suffix 'C' for a clockwise bend and suffix 'A' for an anticlockwise bend. Final item should be quantity and part number of the carriages required. For grade of track suitable for pre-drilled holes, specify track system type 'P'. To specify bleed lubrication facility 52.


- | | | | |
|-----------------------|-----------------------------------|----------------------|--|
| (1) TNS25 B420 2 x AK | Track system straight slide 42-43 | (6) TR25 159 R90/C | Clockwise curved segment 44 |
| (2) TR25 255 R90/C | Clockwise curved segment 44 | (7) TR25 159 R90/A | Anticlockwise curved segment 44 |
| (3) TNS25 B159 2 x AK | Track system straight slide 42-43 | (8) TNS25 B99 2 x AK | Track system straight slide 42-43 |
| (4) TR25 255 R90/C | Clockwise curved segment 44 | (9) TR25 255 R180/C | Clockwise curved segment 44 |
| (5) TNS25 B165 2 x AK | Track system straight slide 42-43 | 1 x BCP25 | Bogie carriage 47
For fixed centre carriage 38-39 |

HepcoMotion track system straight slides are modified straight slides from Hepco's highly acclaimed GV3 system for which there is a separate catalogue, contact Hepco or visit www.HepcoMotion.com. The slides are manufactured from quality high carbon steel, zone hardened on the V faces for maximum wear resistance and precision ground for high accuracy and conformity. The centre portion of the slide is left soft to allow for customising. Standard lengths are available up to 4020mm (1976mm in the TNMS 12 section) and unlimited lengths can be achieved by butting slides together. Slides are available in stainless steel for applications requiring corrosion resistance. Sets of short slides in incremental lengths can be supplied for customers wishing to extend a system in order to take up chain or belt stretch, see application example 19. For details please visit www.HepcoMotion.com/PRT2datauk and select datasheet No. 10 Slip Block adjustment. A bleed lubrication facility is available to channel lubricant direct to the running surfaces 52.



Bleed Lubrication is available as a standard option 52.

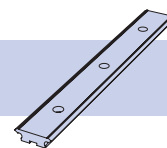


Part Number	A ~	A1 ⁵	B (max)	C 0.0 -0.2	D	E Ø x Depth	F	 DIN912 (not supplied)	G	H +0.05 0.00	H1	I ±0.025	J	
TNMS 12	12	12.37	1976	15	45	6 x 3	3.5	M3	3	4	1.8	8.5	1.7	
TNV 20	20	20.37	4020	30	90	8 x 4	4.5	M4	4.21	5	2	12	1.75	
TNS 25	25	25.74	4020	30	90	10 x 5	5.5	M5	4.71	6	2.5	15	2.6	
TNM 44	44	44.74	4020	30	90	11 x 6	7	M6	6.21	8	3	26	2.3	
TNL 76	76	76.74	4020	30	180	20 x 12	14	M12	9.21	15	5	50	4.8	

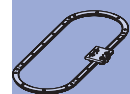
Notes:

- Standard slide lengths are available in multiples of hole pitch 'D' + (2 x 'C') up to a maximum length per 'B' dimension in table above. Special length slides can be cut to order.
- Adjustment keys are required at every join between straight slide and curved slide. Please order accordingly (see ordering details). Please note that 'Q' dimension for the TNMS 12 & TNV 20 slides is stepped one end to fit keyway 'H'.
- Please note that dowel pins for the TNMS 12 slide are not stepped.
- Slides in their free unmounted state are not necessarily straight. They should be set to the required straightness when bolting down to the mounting surface at assembly.
- For track system requirements dimensions 'A1' and 'K' will be matched with corresponding dimensions 'F' and 'I', 44.

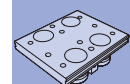
Track System Double Edge Straight Slides



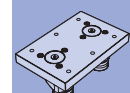
All straight slides within a track system are matched in essential respects both with each other and with their corresponding curved segments. They are ground square on the ends for precision butting and are marked with a reference number and sequence number for identification during installation and for replacement purposes. Opposing slides within a track system are ground to identical lengths. Adjustment keys are available to facilitate alignment with adjacent curved segments. Hepco dowel pins positioned at regular intervals along the slide keyway provide a convenient means of location and alignment. Alternatively, the ground datum faces of the slide may be set against a machined register in the mounting surface*⁴.



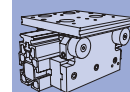
Track system
40-41



FCC carriage
38-39



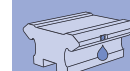
BCP carriage
47



MLC carriage
48-49



Track segments
44

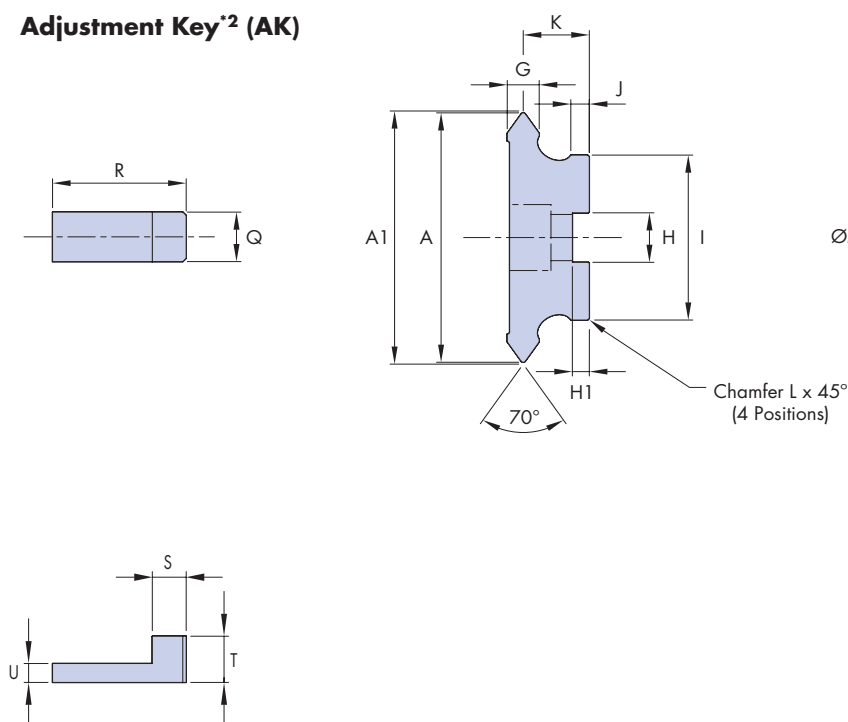


Bleed
Lubrication
52

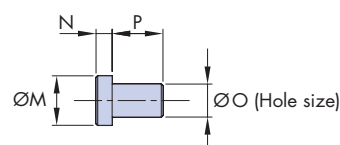


Calculations
54-57

Adjustment Key*² (AK)



Dowel Pin*³ (SDP)



	K ⁵	L	MØ (m6)	N	ØØ (K6)	P	Q	R	S	T	U	~kg/m	Part Number
	6.2	0.2	4 +0.012 +0.004	-	4 +0.002 -0.006	6.75	2	16	4	3	1.5	0.5	TNMS 12
	8	0.3	5 +0.012 +0.004	1.75	4 +0.002 -0.006	6	3.5	30	5.5	4	1.7	1.0	TNV 20
	10	0.3	6 +0.012 +0.004	2.25	4 +0.002 -0.006	6	6	32	7	6	2.2	1.5	TNS 25
	12.5	0.3	8 +0.015 +0.006	2.75	6 +0.002 -0.006	8	8	33	8	7	2.7	3.5	TNM 44
	19.5	0.3	15 +0.018 +0.007	4.75	10 +0.002 -0.007	15	15	32	10	11	4.5	10	TNL 76

Ordering details:

Example:

(SS) TNM 44 B1500 (BLP) 2 x AK (16 x SDP)

SS = Stainless Steel option
Leave blank for steel version

Part Number

B (slide length) = 1500mm

SDP = Dowel pin (16-off)
Leave blank if not required

AK = Adjustment key (2-off)

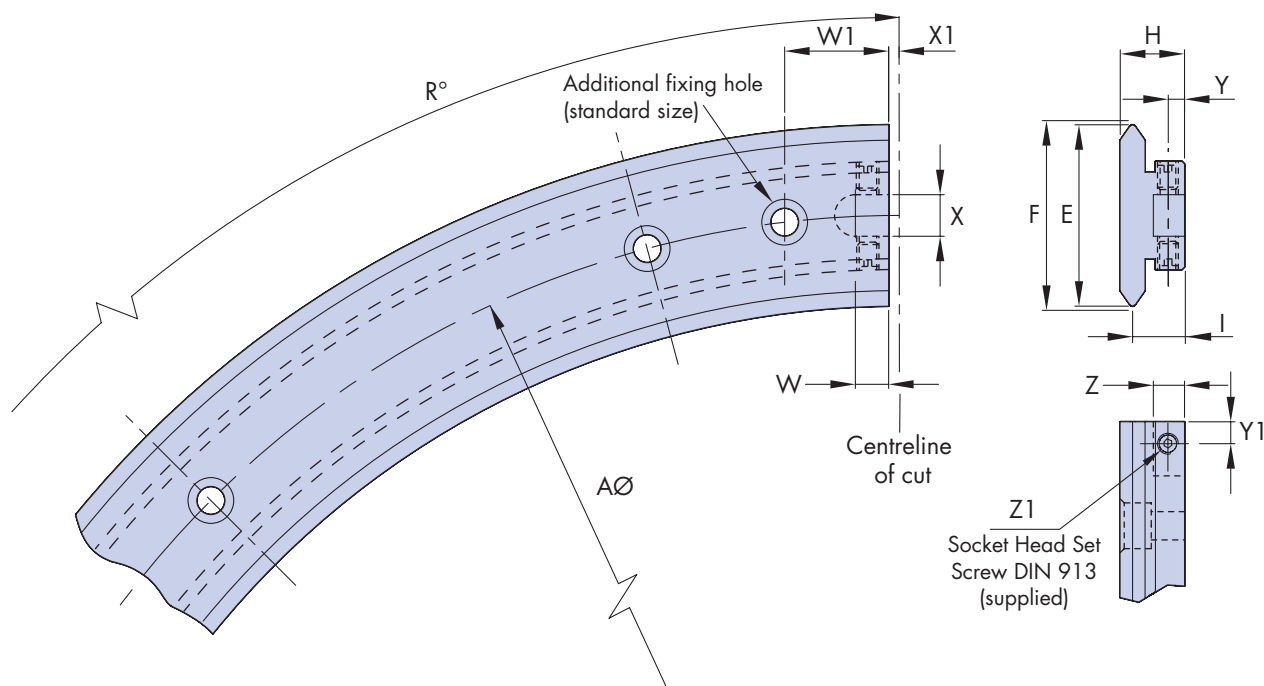
Bleed Lubrication: **BLP** = Plain bore insert 52

BLT = Threaded insert 52
Leave blank if not required

Track System Double Edge Curved Segments



HepcoMotion double edge track system curved segments are cut from stock rings or segments. They are matched in essential respects with their corresponding track system straight slides and ground square on the ends to a specified dimension relative to their true shape. A clearance keyway and tapped hole facility is incorporated each end to provide a method of alignment when assembled together with the mating key of the track system straight slide*1. An additional fixing hole is provided adjacent to the keyway each end to give extra support at the join position for all segments except the TR12 93 & TR12 127. All track system curved segments are marked with a reference number and sequence number 40-41 and are available in stainless steel for applications requiring corrosion resistance. Segments to any number of degrees can be supplied to cater for all track system configurations.



For all other details and dimensions see 26-27

Part Number	A	E ~	F	H	I ±0.025	R°		W	W1	X	X1 ±0.2	Y	Y1	Z	Z1
TR12 93	93	12	12.37	7.7	6.2	90	180	4.25	-	2.5	1.5	1.75	2	3.25	M2.5 x 3
TR12 127	127	12	12.37	7.7	6.2	90	180	4.25	-	2.5	1.5	1.75	2	3.25	M2.5 x 3
TR20 143	143	20	20.37	10	8	90	180	6	13	4	1.5	2	3.5	4.5	M3 x 4
TR20 210	210	20	20.37	10	8	90	180	6	15	4	1.5	2	3.5	4.5	M3 x 4
TR25 159	159	25	25.74	12.25	10	90	180	7	18	7	1.5	3	5	6.5	M4 x 4
TR25 255	255	25	25.74	12.25	10	90	180	7	20	7	1.5	3	5	6.5	M4 x 4
TR25 351	351	25	25.74	12.25	10	90	180	7	20	7	1.5	3	5	6.5	M4 x 4
TR44 468	468	44	44.74	15.5	12.5	90	180	8	25	10	2.5	4	6	7.5	M5 x 6
TR44 612	612	44	44.74	15.5	12.5	90	180	8	25	10	2.5	4	6	7.5	M5 x 6
TR76 799	799	76	76.74	24	19.5	90	180	10	30	18	2.5	6	7	11.5	M8 x 16
TR76 1033	1033	76	76.74	24	19.5	90	180	10	30	18	2.5	6	7	11.5	M8 x 16
TR76 1267	1267	76	76.74	24	19.5	90	180	10	30	18	2.5	6	7	11.5	M8 x 16
TR76 1501	1501	76	76.74	24	19.5	90	180	10	30	18	2.5	6	7	11.5	M8 x 16

Notes:

- Some distortion may be present in segments in their free unmounted state. This may be overcome by bolting to the mounting surface and setting to adjacent slides using the keyway alignment facility 41. True Shape segments are available on request. Please visit www.HepcoMotion.com/PRTdatauk and select datasheet No.9 True Shape Rings & Segments.

Ordering details:

Example:

(SS) TR44 612 R90 (N)

SS = Stainless Steel option
Leave blank for steel version

N = Tapped hole option, 26-27
Leave blank if not required

Part Number

R90 = 90° segment

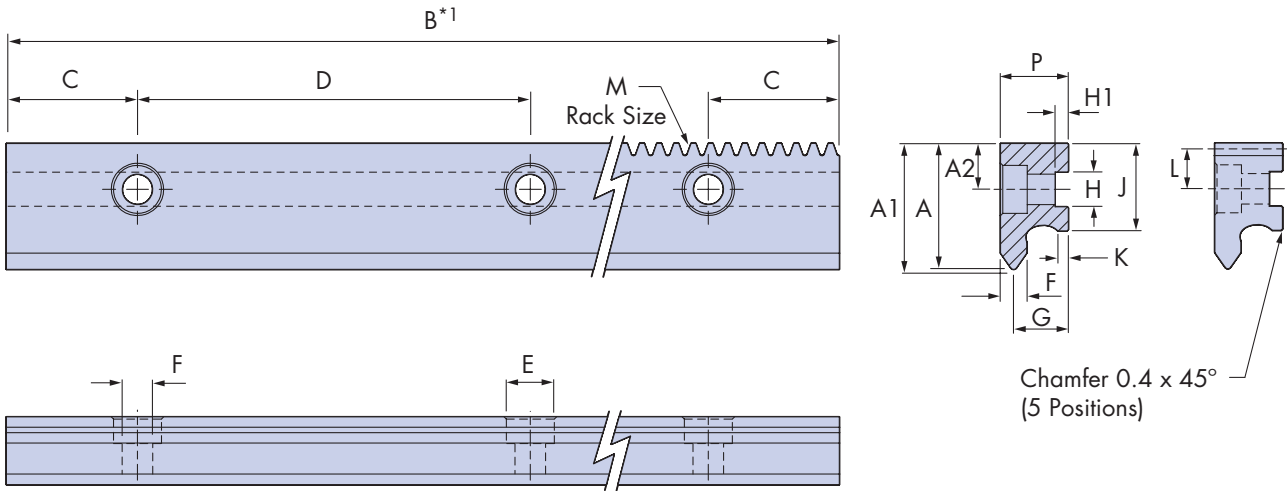
R180 = 180° segment



HepcoMotion track system single edge straight slides retain key features of the double edge slides, with precision ground finish and zone hardened V faces 42 & 43. Standard lengths are available up to 4020mm and unlimited lengths can be achieved by butting slides together. Slides are matched in essential respects both with each other and with their corresponding curved segments. They are ground square on the ends for precision butting and are marked with a reference number and sequence number for identification during installation and for replacement purposes 40 & 41. Slide pairs and opposing slides within a track system are ground to identical lengths

Track system single edge slides, can be used to construct a single edge duplex track system which provides a wide platform for supporting large components with extreme rigidity 17. The large rear face of the single edge slide enables a full width rack to be machined in the rear face providing for a strong drive. This can be used for the construction of a gear driven duplex track system 18.

Please visit www.HepcoMotion.com/PRT2datauk and select datasheet No. 4 Single Edge track systems.



Dowel Pin (SDP)
For details 42 - 43

Part Number	For use with	A ~	A1*3	A2	C	D ±0.2	E Ø x Depth	F	G*3	H +0.05 -0.00	H1	J ±0.025	K	L	M*4 Module	P	kg/m
TNSE	TRIS278, TRES376	21	21.37	8.5	30	90	10 x 5.1	5.5	10	6	2.5	16	2.6	7.4	1	12.35	1.6
TNME	TRIM482, TREM655	29	29.37	10.5	30	90	11 x 6.1	7	12.5	8	3	20	2.3	9.25	1.25	15.6	2.6

Notes:

- Standard slide lengths are available in multiples of hole pitch 'D' + (2 x 'C') up to a 4020mm maximum length. Special length slides can be cut to order.
- Slides in their free unmounted state are not necessarily straight. They should be set to the required straightness when bolting down to the mounting surface at assembly.
- For track system requirements dimensions 'A1' and 'G' will be matched with corresponding dimensions 'F' and 'I', 46.
- Single edge slides with a rack, will be supplied in lengths that correspond to multiples of rack pitch. The position of the ends of the slides is accurately controlled to coincide with the centre of the rack root to give perfect running joints for slides and ring segments.

Ordering details:

Example: **TNME B1500 (R) (BL) (16 x SDP)**

Part Number **TNME** **B1500** **(R)** **(BL)** **(16 x SDP)**

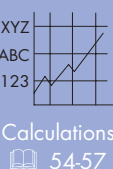
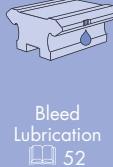
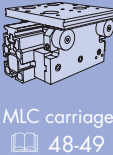
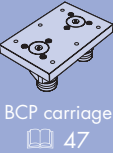
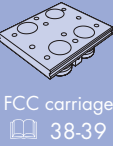
B (slide length) = 1500mm

R = Rack cut Slide
Leave blank if not required

SDP = Dowel pin (16-off)
Leave blank if not required

Bleed Lubrication: **BLP** = Plain bore insert 52

BLT = Threaded insert 52
Leave blank if not required

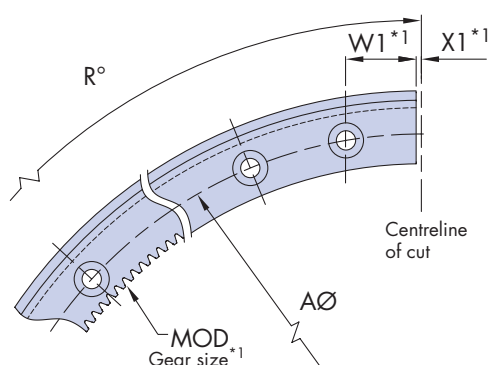


HepcoMotion track system single edge curved segments are used in single edge duplex track systems 17, 18 & 41. Segments TRIS278 & TRES376 combine with TNSE track system single edges slides, and segments TRIM482 & TREM655 combine with TNME slides.

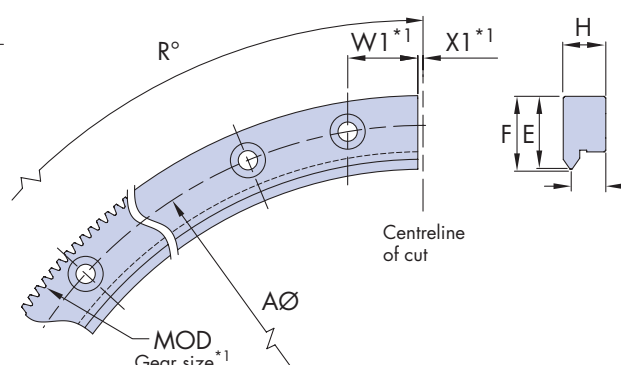
These segments are made to True Shape specification (please visit www.HepcoMotion.com/PRT2datauk and select datasheet No. 9 True Shape Rings & Segments). All segment pairs in a system are matched in essential respects with each other and with their corresponding straight slides. Ends are ground square to a specific dimension. An additional fixing hole is provided at each end of the segment to give extra support at the join position. It is recommended that all single edge track system components are aligned to a machined register. Hepco will supply suitable machined plates with precision registers, on request, Please see datasheet for design criteria.

Segments are available gear cut, for mating with rack cut straight slides, to produce a gear driven track system. For more details, and for information regarding assembly, please visit www.HepcoMotion.com/PRT2datauk and select datasheet No. 4 Single Edge Track Systems.

All track system single edge curved segments are marked with a reference and sequence number for identification and replacement purposes 40 & 41. Segments of any angle can be supplied to cater for all track system configurations.



**External Single Edge
Track Segment - TRE**



**Internal Single Edge
Track Segment - TRI**

For all other details and dimensions see 28-31

Part Number	For use with	A	E ~	F	H	I ±0.025	R°		W1	X1 ±0.1	MOD*1
TRIS 278	TNSE	261	20.8	21.37	12.25	10	90	180	20	1.5	1
TRES 376	TNSE	351	20.8	21.37	12.25	10	90	180	20	1.5	1
TRIM 482	TNME	461.5	28.8	29.37	15.5	12.5	90	180	25	2.5	1.25
TREM 655	TNME	618.5	28.8	29.37	15.5	12.5	90	180	25	2.5	1.25

Notes:

- Track system single edge segments with gear drive option Q or P will be ended to the root of a gear tooth. This will affect dimensions W1 and X1. For more details, please visit www.HepcoMotion.com/PRT2datauk and select datasheet No. 4 Single Edge track systems.

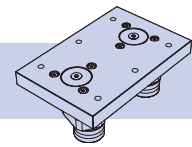
Ordering details:

Example:

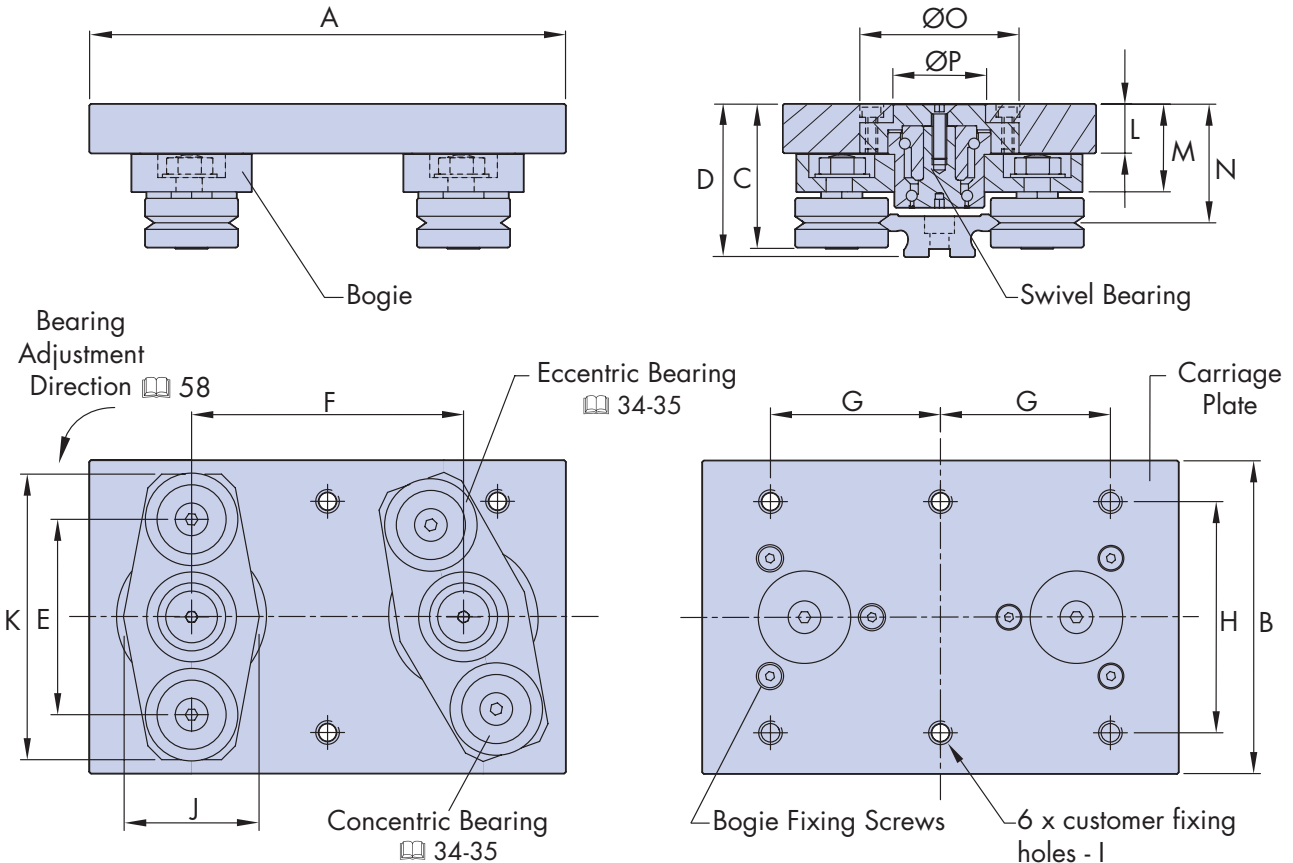
Part Number **TRES 376**
R90 = 90° segment
R180 = 180° segment

(Q) = Internal gear drive option
 Available on TRE option only
(N) = Tapped hole option, 28-31
P = External gear drive option
 Available on TRI option only

Bogie Carriage



The HepcoMotion Bogie Carriage is designed for use with tracks where "S" bends or bends of differing radii are to be negotiated. Each bogie swivels on a special play free axial/radial ball bearing which is lubricated for life. This enables the bogie carriage to follow exactly the path of the track at all times. Carriage plates and bogie swivel plates are made from high strength aluminium alloy and finished anodised. Bogie carriages are supplied assembled and adjusted to suit the accompanying track system^{*1}. Customers are advised to specify the HepcoMotion bleed lubrication facility within the track 52 as lubricators cannot be fitted to bogie carriages. Special size carriage plates are available on request.



Part Number	For use with	A	B	C	D	E	F	G ±0.1	H ±0.1	I	J	K	L	M	N	ØO	ØP	Adjustment brace	~kg
BCP 25	TR 25	130	80	42.1	44.5	46.1	75	45	60	M6	38	75	15	25.5	34.5	46	29	AB-25	**
BCP 44	TR 44	175	115	53.8	56.5	71.9	100	62.5	85	M8	53	105	18	32.5	44	59	34	AB-44	**
BCP 76	TR 76	240	185	77.2	81	118.7	130	87.5	125	M10	72	170	24	42.5	61.5	100	70	AB-76	**

Notes:

- In rare cases where adjustment of the eccentric bearings is required, the bogies must be removed from the carriage plate and bolted instead to the adjustment brace. This will mimic the carriage and provide access to the fixing nuts allowing adjustment of the eccentric bearings to take place.
- Please note that floating bearings 36 cannot be supplied with bogie bearings.

Ordering details:

Part Number BCP76 DR NS CHK


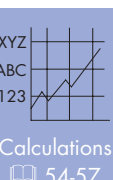
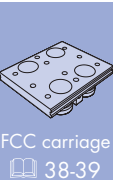
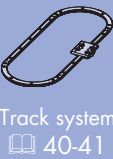
DR = Double row bearings.

Leave blank for twin bearings 34-35

CHK = Controlled height option 35
Standard with DR bearings
Leave blank if not required for twin bearing version

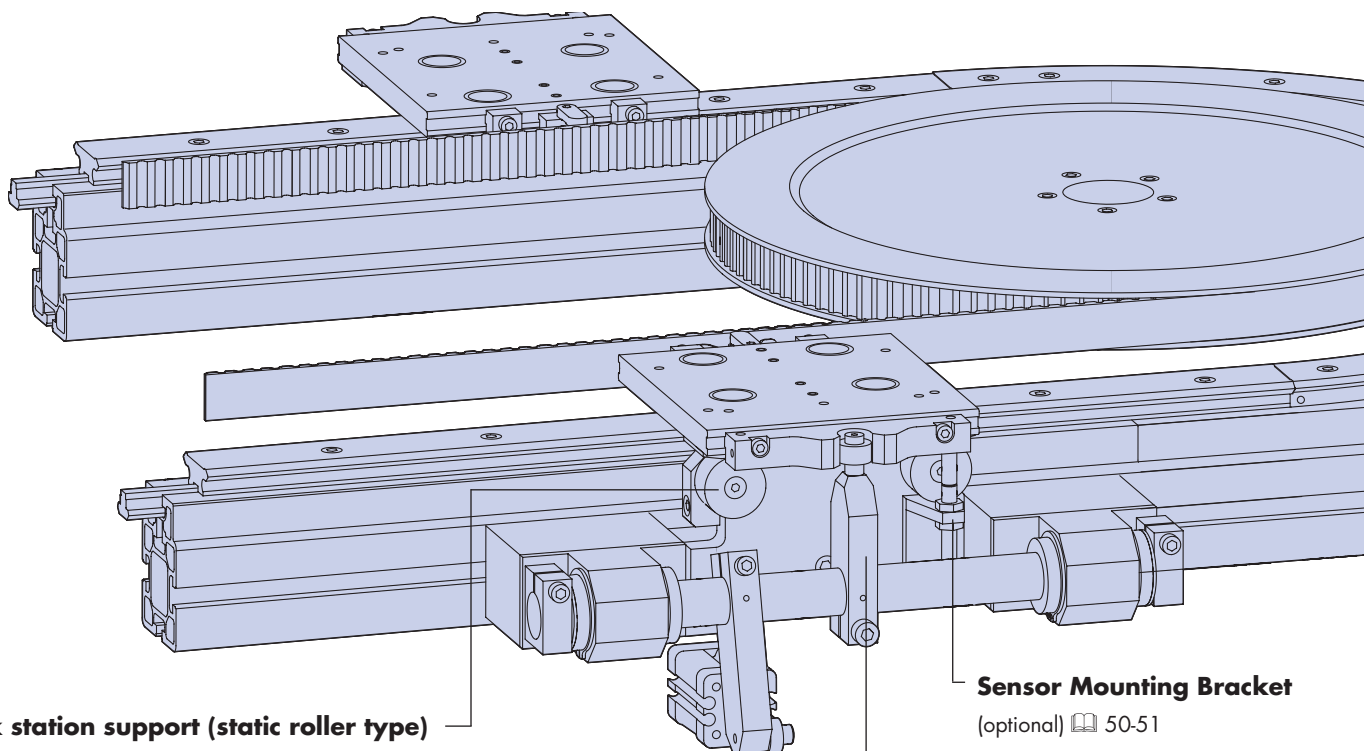
NS = Nitrile sealed option 34-35

Adjustment brace^{*1} AB76

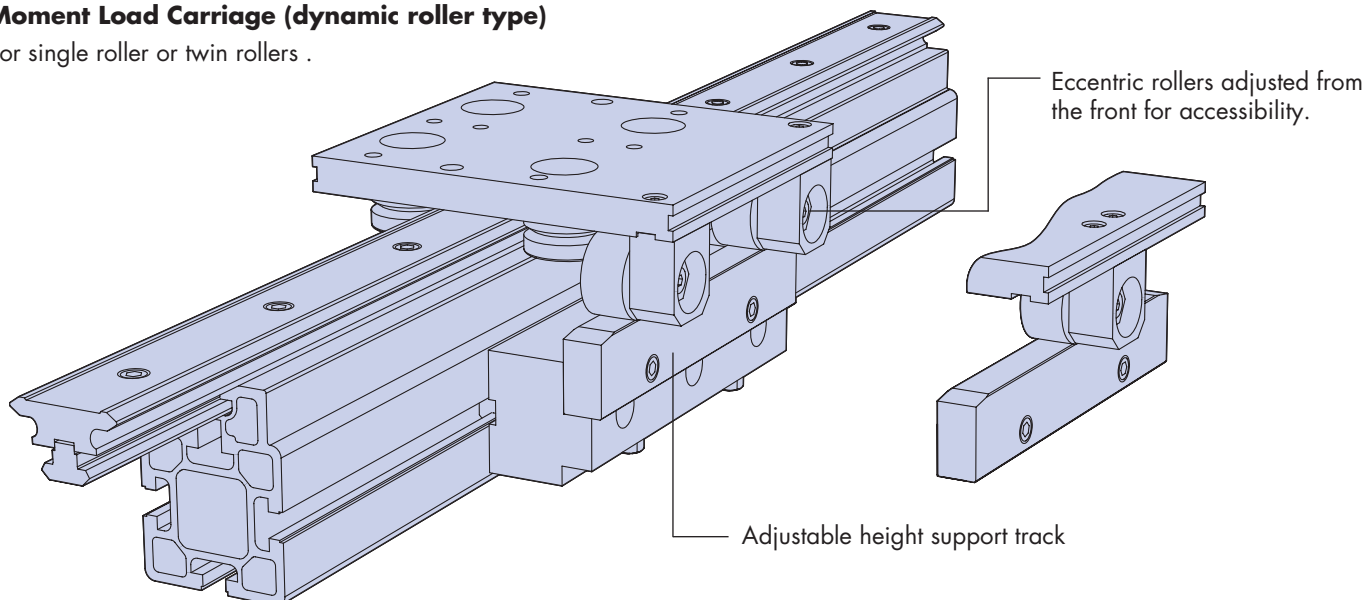
HepcoMotion moment load carriage systems provide extra support and rigidity in applications where high downwards or offset loads are anticipated, typically at work stations. It is also possible to arrange for continuous support of the carriages all around the circuit. Moment load carriages are a variation of the standard fixed centre carriages 38-39 and are available in all 25 and 44 equivalent sizes. Carriages can be ordered complete with the carriage locking system and with either the fixed latch or trip latch belt connection facility.

Please visit www.HepcoMotion.com/PRT2datauk and select datasheet No. 5 Moment Load carriage systems for more details. For other compatible driven system components in main illustrations below see 50-51.

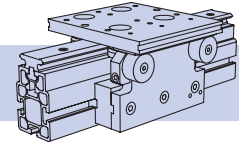


Carriage Locking System
(optional) 50-51

Moment Load Carriage (dynamic roller type)
For single roller or twin rollers .



Moment Load Carriage Systems

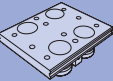


Moment load carriage systems are available with two types of work station support, both designed to connect to the track system support beam:

Static roller type: with eccentrically adjusted rollers attached to the framework bearing against a fixed skid plate on the underside of the carriage. This reduces the total number of rollers required and therefore the cost of a system with many carriages but few work stations.

Dynamic roller type: with eccentrically adjusted rollers attached to the underside of the carriage, bearing on adjustable height support track. The combination of these adjustable features facilitates set up where accuracy and alignment cannot be guaranteed or where continuous support for the carriage is required all around the circuit.

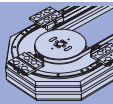
Standard components, shown in the unframed illustrations, can also be used within customers special designs a number of which are shown in the framed illustrations. Special size carriages can be easily supplied.



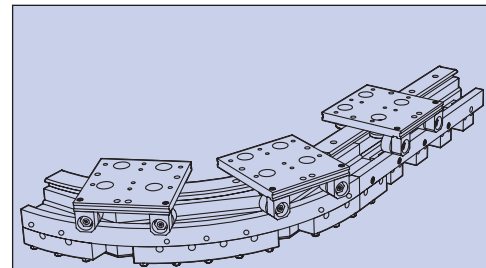
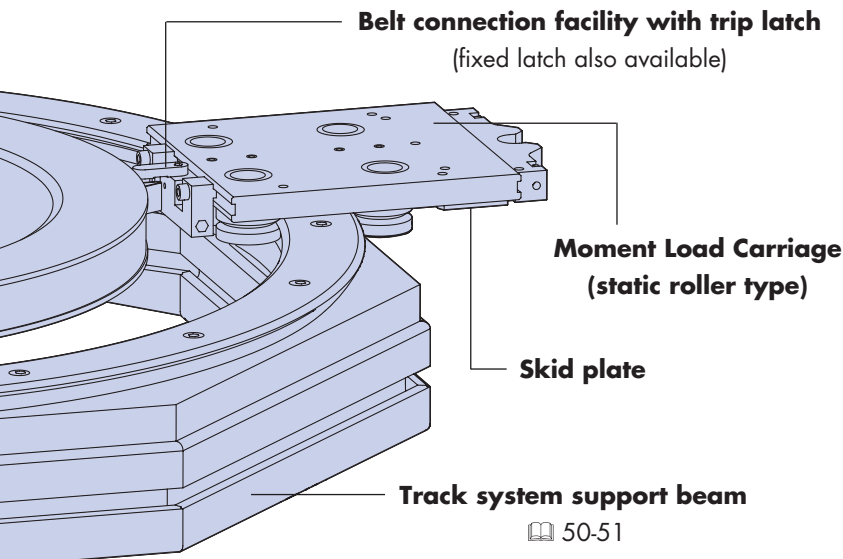
FCC carriage
38-39



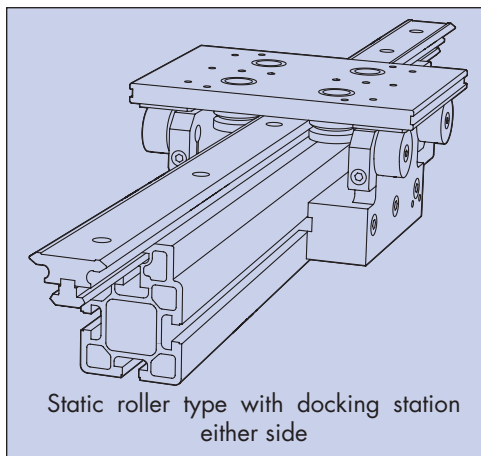
Track system
40-41



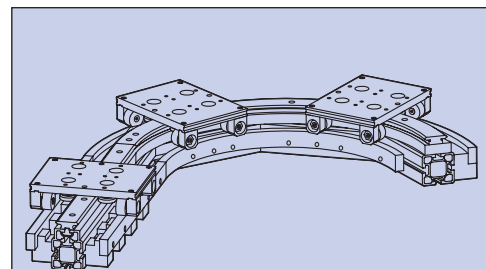
Driven Track
System
Components
50-51



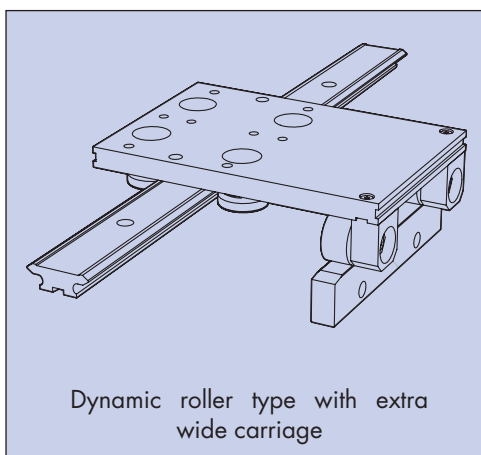
Dynamic roller type with continuous
support around the outside of the circuit



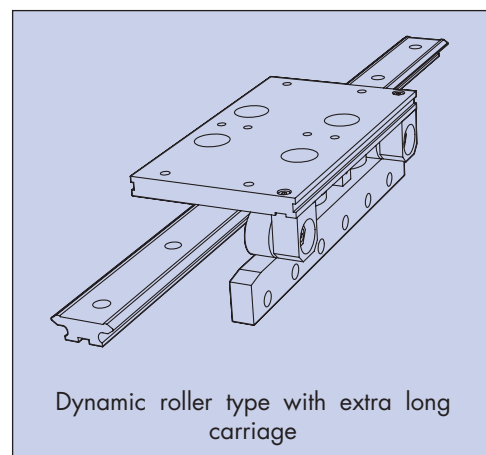
Static roller type with docking station
either side



Dynamic roller type with continuous
support around the outside and inside
of the circuit





Dynamic roller type with extra
wide carriage



Dynamic roller type with extra long
carriage

HepcoMotion supply a comprehensive range of components and assemblies to enable the 25-351 and 44-612 size track systems to be incorporated into customers own designs complete with drive facility. Many of the components shown below can be also be used for other sizes of track system. The components are well proven having been used for many years in the HepcoMotion DTS, a complete ready to use Driven Track System highly recommended for customers able to use this fully assembled standard product.


Carriages

Fixed centre type  38-39, can be supplied with belt connection facility or carriage locking cam as shown,  48-49 for moment load version.

Trip Latch assembly

Transmits the drive from the belt to the carriages and can be set to trip out of engagement at any force up to 60N.
- Fixed latches can also be supplied.

Track sizes available:

25mm wide slides with 351mm \varnothing ring segments or 44mm wide slides with 612mm \varnothing ring segments. See  42-44

Carriage Locking System

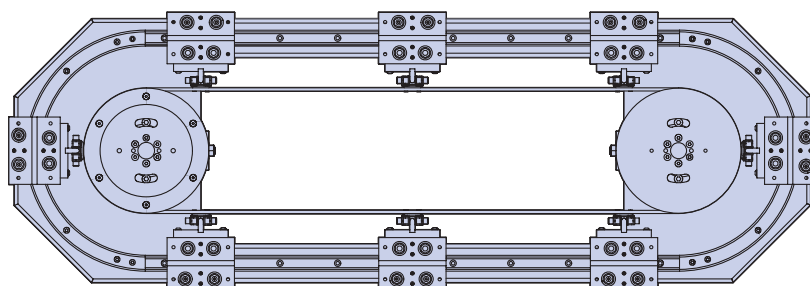
For intermittent motion systems, locks carriages in position to a repeatable accuracy of $\pm 0.05\text{mm}$ - Adjustable locking position - Multiple locking devices can be operated by one actuator.

Sensor Mounting Bracket

To suit M8 threaded proximity switch
- Detects carriage position for control and safety purposes.


Bearing Cartridge

Able to withstand high tension forces of the belt - Caters for belt adjustment - Idler type or, extended shaft type available for attaching the drive - Sealed bearings lubricated for life.



Oval path driven track system

Driven Track System Components

Moment load carriage systems  48-49 are also compatible with the DTS which is the full system as illustrated below and is comprehensively detailed in a separate catalogue. Please contact Hepco or visit www.HepcoMotion.com.

For all details of Driven Track System components please visit www.HepcoMotion.com/PRT2datauk and select datasheet No. 8

Pulley

Toothed version for driving or plain version for idling - Fits to Hepco bearing cartridge.

Timing Belt

High tensile 10mm pitch belt fitted with lugs at desired spacing for transmitting drive to the carriages - Lugs securely fixed through to opposite side of belt.

Slide attachment profile

Precision aluminium T profile provides strong and convenient method of attaching and locating slides with no loss of position when slides are disassembled - Long lengths available.

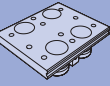
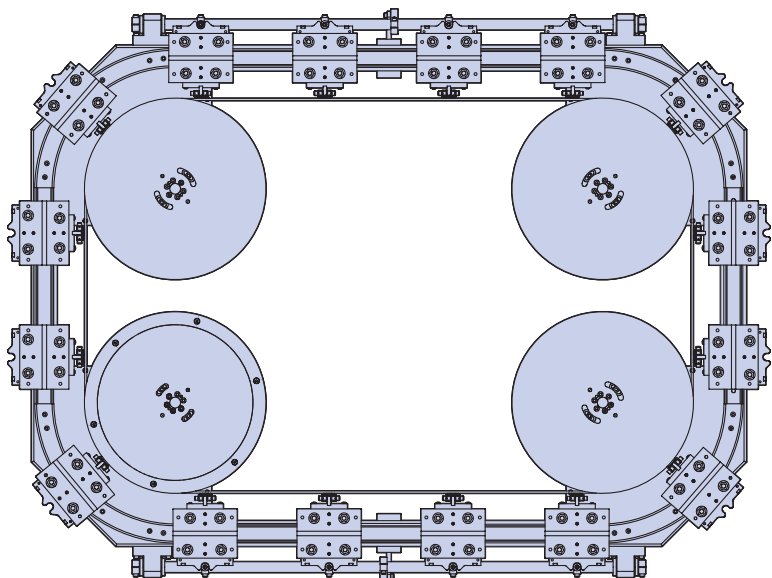
Track system support beam

Precision aluminium profile provides a rigid chassis for the system - Centre T slot provided for attaching slides - Can be machined away to expose secondary T slot for end plate fixing - Other T slots enable ancillary equipment to be attached - Compatible with HepcoMotion MCS aluminium frame system which enables full supporting structure to be constructed. Refer to separate MCS catalogue www.HepcoMotion.com/MCSdatauk.

End Plates

Top plate supports the bearing cartridge and connects to the track system support beams providing continuity of support for the ring slide segment - Bottom plate braces between track system support beams.

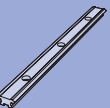
Rectangular path driven track system



FCC carriage
 38-39



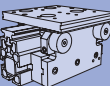
Track system
 40-41



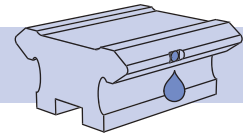
Track slides
 42-43



Track segments
 44



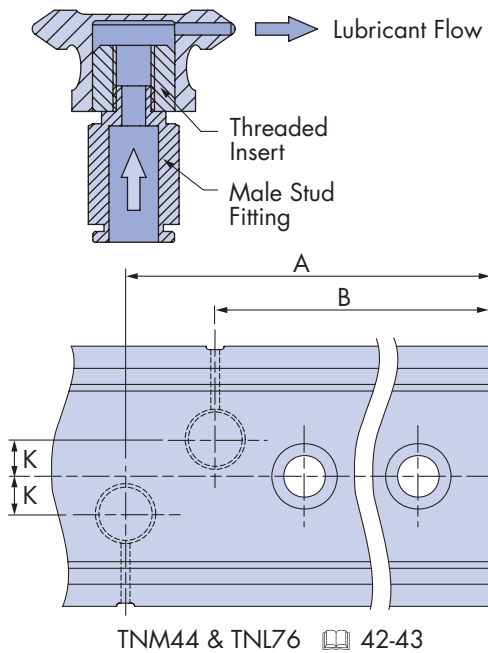
MLC carriage
 48-49



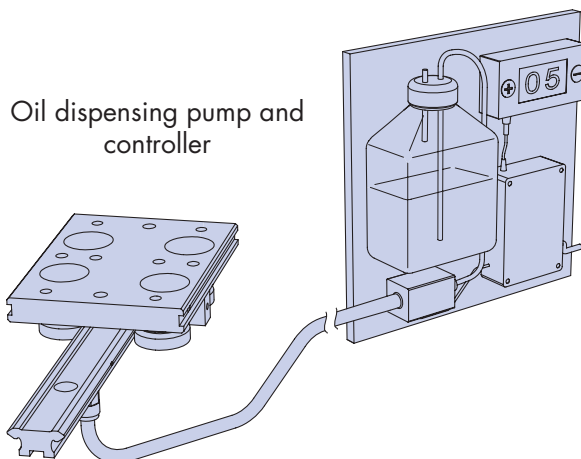
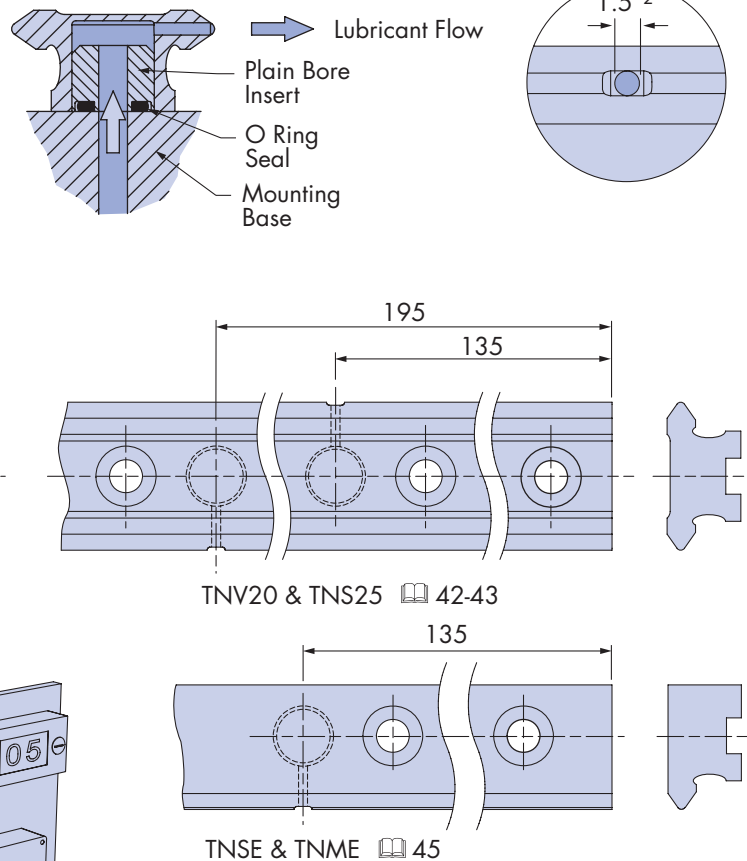
The HepcoMotion bleed lubrication facility channels lubricant direct to the V faces of a straight slide for best lubrication of a track system. The felt inserts of the lubricators fitted to the carriages*1, collect the lubricant and distribute it around the circuit. Some of the lubricant is absorbed into the felts which act as reservoirs and help prevent excess oil accumulating. The bleed lubrication facility is available with either an M5 screw fitting insert or, an O ring seal insert as illustrated. Connection can be made to any centralised lubrication system or pressure feed canister (part no. PRT2BLC available from Hepco).

Also available is a highly efficient oil dispensing pump and controller which can be programmed to meter a set dose of lubricant according to the distance travelled by the carriages. Both the dose and distance travelled can be set according to the length of circuit and duty. For details of inserts and oil dispensing system, please visit www.HepcoMotion.com/PRT2datauk and select datasheet No. 6 Bleed Lubrication.

Threaded Insert (T)



Plain Bore Insert (P)



Part No.	A	B	K
TNM 44	195	135	6.25
TNL 76	360	240	18.0

For slide dimensions not specified please refer 42,43 & 45

Notes:

- Track systems with bleed lubrication facility require only one in four carriages to be fitted with lubricators. This will also have the effect of reducing system friction.
- Hole Diameter for TNL76 slide is 2mm. For more details, please visit www.HepcoMotion.com/PRT2datauk and select datasheet No. 6 Bleed Lubrication.

Ordering details:

Example:

SS TNM 44 **BLP** B1500 2 x AK

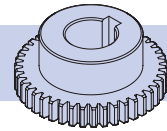
Please state BLP or BLT within the straight slide part number.

42-43 for double edge straight slides.

45 for single edge straight slides.

Bleed Lubrication facility: **BLP** = Plain bore insert
BLT = Threaded insert

Pinions

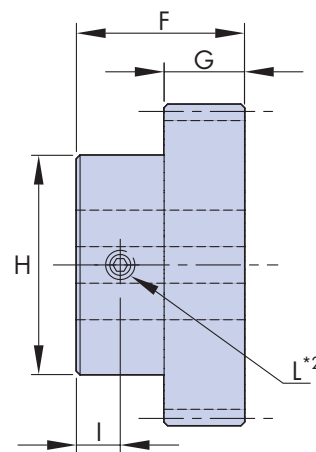
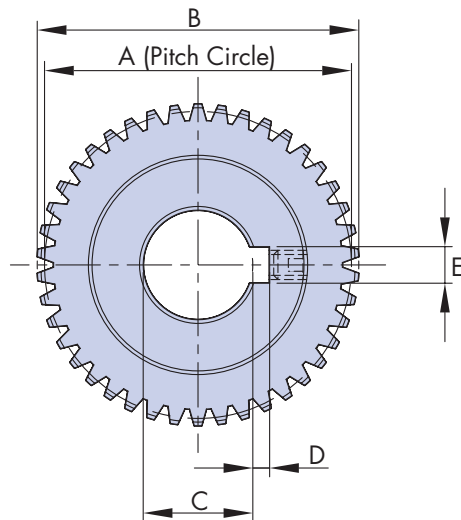


HepcoMotion pinions are compatible with gear cut ring slides, segments and ring discs 26-33. Gear teeth have a 20° pressure angle.

Pinions smaller than 1 module are made in unhardened stainless steel with teeth that conform to ISO 1328 grade 10. These are supplied with a plain bore (B type), with a keyway and set screw (BK type for bores of 8mm and above) or with set screw only (BK type for bores below 8mm*1).

Pinions with modules of 1 and above have hardened and ground teeth, conform to ISO 1328 grade 6 and are available in both steel and stainless steel. These pinions are supplied with a plain bore (B type) or with keyway and set screw (BK type).

In all cases, the pinion and slide ring teeth should be lubricated. A range of pinions with integral shaft, suitable for hollow shaft connection to Hepco supplied AC geared motors and other motors is available from the HepcoMotion GV3 product range, please visit www.HepcoMotion.com.



Pinion shown is BK type bore > 8mm

Part Number	For Use with				Material ³	Condition ⁴	Iso 1328 Grade	No. of teeth	Module	A \emptyset	B \emptyset	C	D ¹	E ¹	F	G	H	I	L ²	g~
SSP04 W3.5 T42	R12	-	-	-	SS	✗	10	42	0.4	16.8	17.6	5	-	-	10	3.5	10	3	M3	10
SSP07 W9 T28	-	-	REV, RIV	-	SS	✗	10	28	0.7	19.6	21	5	-	-	17	9	16	4	M3	31
SSP08 W4 T48	R20	-	-	-	SS	✗	10	48	0.8	38.4	40	12	1.8	4	12	4	26	4	M3	50
SSP08 W6 T48	R25	RD25	-	-	SS	✗	10	48	0.8	38.4	40	12	1.8	4	14	6	26	4	M3	75
P10 W11 T42	-	-	RES, RIS	TNSE	ST/SS	✓	6	42	1	42	44	15	2.3	5	23	11	30	6	M4	160
P10 W7 T48	R44	RD44	-	-	ST/SS	✓	6	48	1	48	50	15	2.3	5	18.5	7	27	5.75	M4	170
P125 W14 T34	-	-	REM, RIM	TNME	ST/SS	✓	6	34	1.25	42.5	45	15	2.3	5	25.5	14	30	5.75	M4	200
P15 W12 T48	R76	-	-	-	ST/SS	✓	6	48	1.5	72	75	15	2.3	5	25	12	30	6.5	M4	350
P20 W20 T27	-	-	REL, RIL	-	ST/SS	✓	6	27	2	54	58	20	2.8	6	35	20	40	7.5	M5	430

Notes:

- Small "BK" type pinions with bores below 8mm are supplied with set screw through to the bore but without keyway. It is usual practice to secure these pinions by means of a set screw onto a flat on the shaft or by using a taper pin.
- Pinions are supplied with a flat point set screw DIN 913 (ISO 4026).
- ST = Steel, SS = Stainless Steel.
- ✓ = Teeth hardened and ground. ✗ = Teeth unhardened and unground.

Ordering details:

(SS) P20 W20 T27 B

SS = Stainless Steel option
Leave blank for steel version

P20 = Part number

W20 = Face width in mm

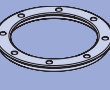
B = Pinion with plain bore

BK = Pinion with keyway and set screw*1

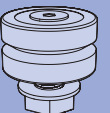
T27 = Number of teeth



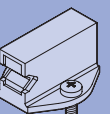
Track system
 40-41



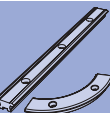
Ring slides
 22-29



Bearings
 34-36



Lubricators
 37



Track slides & segments
 44-48





Calculations
 54-59

Load Capacity and Life

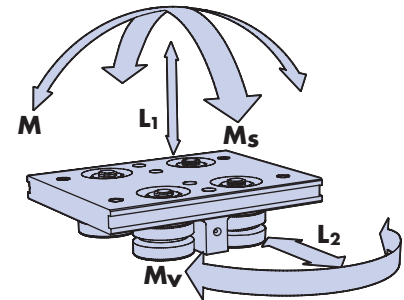
The load capacity and life expectancy of HepcoMotion ring slides, segments and track systems is determined by many factors including the ring size, the type and number of bearings, the presence of lubrication, the magnitude and direction of loads, the speed and the distance travelled.

It is usual to run systems at much less than the maximum load to prolong life, which can be calculated using the data and formulae in this section. For calculation purposes, systems fall into two categories, those where a carriage runs on a ring slide, segment or track system and those where a ring slide is captivated and rotates in a number of bearings (or the similar arrangement where the ring slide is stationary and the bearings and load rotate).

Where possible, systems should be oiled using Hepco lubricators  37 and/or the bleed lubrication system  52. This will greatly extend system life.

Systems with carriages

When calculating the life, first the load on each carriage should be resolved into the direct load components L_1 and L_2 and moment load components M , M_v and M_s .




Carriage Load Capacities

Capcities are shown for both 'dry' and 'lubricated' conditions - this refers to the bearing and slide 'V' contact, since all bearings are lubricated internally for life.

Values are based on shock-free duty.

Carriage Part Number	Dry System (Twin and DR Type Bearings)					Lubricated System (Twin Type Bearings)					Lubricated System (DR Type Bearings)				
	$L_{1(max)}$	$L_{2(max)}$	$M_{S(max)}$	$M_{V(max)}$	$M_{(max)}$	$L_{1(max)}$	$L_{2(max)}$	$M_{S(max)}$	$M_{V(max)}$	$M_{(max)}$	$L_{1(max)}$	$L_{2(max)}$	$M_{S(max)}$	$M_{V(max)}$	$M_{(max)}$
	N	N	Nm	Nm	Nm	N	N	Nm	Nm	Nm	N	N	Nm	Nm	Nm
FCC 12 93	90	90	0.5	1	1	240	240	1.3	2.7	2.7	Not Available				
FCC 12 127	90	90	0.5	1	1	240	240	1.3	2.6	2.6	Not Available				
FCC 20 143	180	180	1.6	2.5	2.5	500	400	4.5	5.5	7	760	1200	7	16	10
FCC 20 210	180	180	1.6	2.7	2.7	500	400	4.5	6	7.5	760	1200	7	18	11
FCC 25 159	400	400	4.5	8.5	8.5	1280	1200	14	25	27	1600	3000	18	64	33
FCC 25 255	400	400	4.5	8	8	1280	1200	14	23	25	1600	3000	18	60	31
FCC 25 351	400	400	4.5	8.5	8.5	1280	1200	14	24	27	1600	3000	18	63	33
BCP 25	400	400	4.5	15	15	1280 ^{*1}	1200 ^{*1}	14 ^{*1}	45 ^{*1}	48 ^{*1}	1600 ^{*1}	3000 ^{*1}	18 ^{*1}	110 ^{*1}	60 ^{*1}
FCC 44 468	800	800	16	28	28	3200	2800	64	95	110	3600	6000	73	210	120
FCC 44 612	800	800	16	29	29	3200	2800	64	100	115	3600	6000	73	220	130
BCP 44	800	800	16	40	40	3200 ^{*1}	2800 ^{*1}	64 ^{*1}	140 ^{*1}	160 ^{*1}	3600 ^{*1}	6000 ^{*1}	73 ^{*1}	300 ^{*1}	180 ^{*1}
FCC 76 799	1800	1800	64	85	85	7200	6400	250	300	340	10000	10000	360	470	470
FCC 76 1033	1800	1800	64	105	105	7200	6400	250	360	410	10000	10000	360	570	570
FCC 76 1267	1800	1800	64	120	120	7200	6400	250	420	480	10000	10000	360	670	670
FCC 76 1501	1800	1800	64	140	140	7200	6400	250	480	550	10000	10000	360	770	770
BCP 76	1800	1800	64	115	115	7200 ^{*1}	6400 ^{*1}	250 ^{*1}	415 ^{*1}	460 ^{*1}	10000 ^{*1}	10000 ^{*1}	360 ^{*1}	650 ^{*1}	650 ^{*1}

The L_2 & M_v load capacities for carriages using floating bearings  36 are the same as is shown above for DR bearings. The L_1 & M_s load capacities for carriages using floating bearings are zero (they are free to float in these directions). Please note that bogie carriages (BCP) are not available with floating bearings.

To determine life, calculate the load factor L_F using equation [1] below, then use equation [3] or [4] to determine life for the system.

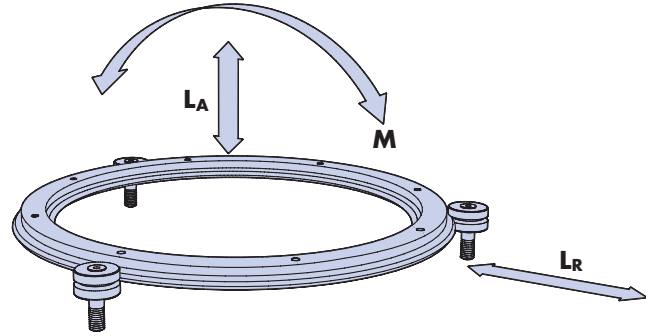
$$[1] \quad L_F = \frac{L_1}{L_{1(max)}} + \frac{L_2}{L_{2(max)}} + \frac{M_s}{M_{S(max)}} + \frac{M_v}{M_{V(max)}} + \frac{M}{M_{(max)}} \leq 1 \text{ or } 0.8 \text{ for stainless steel}$$

Notes:

1. In heavily loaded applications using bogie carriages, the bogie swivel bearings can affect life. Applications for bogie carriages in which L_F is more than 0.43, calculated using the ^{*1} load figures from the table above, should be referred to Hepco to confirm suitability.
2. When calculating L_2 and M_s loadings, the centrifugal force must be included which acts radially outwards from the centre of mass (COM) of the moving object. Its magnitude is $F = DV^2/R$, where V is the velocity of the COM in m/s, R is the distance of the COM from the ring axis in metres and D is the mass in kg. F is in N (newtons).

Systems with Ring Slides in Bearings


It is usual to space bearings equally around the ring^{*1}. When calculating the life, the load should be resolved into the direct load components L_A and L_R and the moment load component M , as shown in the diagram opposite.




System Load Capacities

Capcities are shown for both 'dry' and 'lubricated' conditions - this refers to the bearing and slide 'V' contact, since all bearings are lubricated internally for life.

Values are based on shock-free duty.

Bearing Part Numbers 	Used with Ring Slides	Number of equally spaced bearings	Dry System (Twin and DR Type Bearings)			Lubricated System (Twin Type Bearings)			Lubricated System (DR Type Bearings)		
			$L_A(max)$	$L_R(max)$	$M(max)$	$L_A(max)$	$L_R(max)$	$M(max)$	$L_A(max)$	$L_R(max)$	$M(max)$
			N	N	Nm	N	N	Nm	N	N	Nm
...J13...	R12	3	67	38	$16 \times \varnothing_c^{*4}$	180	102	$43 \times \varnothing_c^{*4}$	Not Available		
		4	83	45	$19 \times \varnothing_c^{*4}$	220	120	$52 \times \varnothing_c^{*4}$	Not Available		
		Each additional 1	10	6	$2 \times \varnothing_c^{*4}$	43	30	$9 \times \varnothing_c^{*4}$	Not Available		
...J18...	R20	3	135	76	$32 \times \varnothing_c^{*4}$	375	170	$90 \times \varnothing_c^{*4}$	570	510	$135 \times \varnothing_c^{*4}$
	REV	4	165	90	$39 \times \varnothing_c^{*4}$	465	200	$108 \times \varnothing_c^{*4}$	700	600	$165 \times \varnothing_c^{*4}$
	RIV	Each additional 1	21	13	$4 \times \varnothing_c^{*4}$	90	50	$18 \times \varnothing_c^{*4}$	135	150	$28 \times \varnothing_c^{*4}$
...J25...	R25	3	300	170	$72 \times \varnothing_c^{*4}$	960	510	$230 \times \varnothing_c^{*4}$	1200	1280	$285 \times \varnothing_c^{*4}$
	RES	4	370	200	$87 \times \varnothing_c^{*4}$	1190	600	$278 \times \varnothing_c^{*4}$	1480	1500	$340 \times \varnothing_c^{*4}$
	RIS	Each additional 1	48	30	$9 \times \varnothing_c^{*4}$	230	150	$48 \times \varnothing_c^{*4}$	285	375	$60 \times \varnothing_c^{*4}$
...J34...	R44	3	600	340	$140 \times \varnothing_c^{*4}$	2400	1200	$570 \times \varnothing_c^{*4}$	2700	2550	$640 \times \varnothing_c^{*4}$
	REM	4	740	400	$170 \times \varnothing_c^{*4}$	2950	1400	$690 \times \varnothing_c^{*4}$	3340	3000	$780 \times \varnothing_c^{*4}$
	RIM	Each additional 1	96	60	$19 \times \varnothing_c^{*4}$	570	350	$120 \times \varnothing_c^{*4}$	640	750	$135 \times \varnothing_c^{*4}$
...J54...	R76	3	1350	765	$320 \times \varnothing_c^{*4}$	5400	2740	$1290 \times \varnothing_c^{*4}$	7500	4250	$1800 \times \varnothing_c^{*4}$
	REL	4	1670	900	$390 \times \varnothing_c^{*4}$	6650	3200	$1560 \times \varnothing_c^{*4}$	9300	5000	$2170 \times \varnothing_c^{*4}$
	RIL	Each additional 1	210	130	$44 \times \varnothing_c^{*4}$	1290	800	$270 \times \varnothing_c^{*4}$	1800	1250	$375 \times \varnothing_c^{*4}$

The L_R load capacities for systems using floating bearings  36 are the same as is shown above for DR bearings. The L_A & M load capacities for systems using floating bearings are zero (they are free to float in these directions).

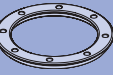
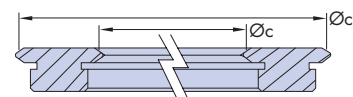
To determine the life of this system, first obtain a value for the load factor L_F by entering the values for L_A , L_R and M in respect of the proposed duty into equation [2] below, together with the maximum load capacities from the table above.

$$[2] \quad L_F = \frac{L_A}{L_{A(max)}} + \frac{L_R}{L_{R(max)}} + \frac{M}{M_{(max)}} \leq 1 \text{ or } 0.8 \text{ for stainless steel}$$

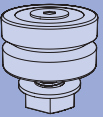
The life is then determined using equations [3] or [4] on on the next page.

Notes:

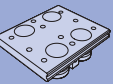
1. In some applications where the bearings rotate with the load, it may be beneficial to distribute the bearings unequally around the ring. Contact Hepco for application advice.
2. SPEED OF OPERATION. Hepco ring slides, segments and track systems are rated for speeds of 1m/s without lubrication or 5m/s when lubricated, but take care to allow for inertial loads. Greater speeds may be tolerated at reduced loads. Contact Hepco for details.
3. SHORT STROKE OPERATION. If the stroke length is less than five times the bearing outside diameter, then calculate the life as if the stroke is five times the bearing outside diameter.
4. \varnothing_c is ring slide contact diameter in metres (the diameter of the circle through the mid position of the contact points between the bearings and the ring).



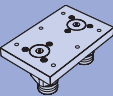
Ring slides
 26-33



Bearings
 34-36




FCC carriage
 38-39



BCP carriage
 47



Track system
 40-41

Calculating System Life

With L_F determined for either a 4 bearing carriage 54 or for a ring system 55, the life in km can be calculated using one of the two equations below. In these equations, the Basic Life is taken from the table on the right in respect of the bearings and the lubrication condition applicable.

For dry systems use equation [3]:

$$[3] \quad \text{System life (km)} = \frac{B_L}{(0.03 + 0.97L_F)^2}$$

For lubricated systems use equation [4]:

$$[4] \quad \text{System life (km)} = \frac{B_L}{(0.03 + 0.97L_F)^3}$$

Example load-life calculations for PRT2 systems are available online. Please visit www.HepcoMotion.com/PRT2datauk and select datasheet No. 3 Load Life Calculations.

Bearings	Basic Life Dry	Basic Life Lubricated
...J13...	40	40
SS...J13...	30	30
...J18...	50	60
SS...J18...	35	45
...J18DR...	50	60
SS...J18DR...	35	45
...J25...	70	40
SS...J25...	40	25
...J25DR...	70	45
SS...J25DR...	40	35
...J34...	100	70
SS...J34...	60	50
...J34DR...	100	160
SS...J34DR...	60	120
...J54...	150	150
SS...J54...	100	110
...J54DR...	150	280
SS...J54DR...	100	220

The above data assumes that steel bearings run on steel rings, and that stainless steel bearings run on stainless steel rings.

Industry Standard Bearing Load Capacities

The load capacities and calculations in the previous sections have been carefully developed, and are based on rigorous testing and years of application experience.

Many competitive systems use industry standard, theoretically derived figures for bearing static and dynamic load capacities, which are generally higher than the true working load capacities which Hepco uses.

The table below shows the industry standard static (C_{OR} & C_{OA}) and dynamic (C_R & C_A) load figures for PRT2 bearings (R & A subscripts indicate radial & axial loading). These are included principally to allow the comparison of Hepco components with those from other manufacturers. It is NOT recommended that they are used for determining system life.

For each of two Twin Bearings	Bearing Dynamic & Static Load Capacities (N)				For Double Row Bearings	Bearing Dynamic & Static Load Capacities (N)				For Floating Bearings	Dynamic & Static Load Capacities (N)	
	C_R	C_A	C_{OR}	C_{OA}		C_R	C_A	C_{OR}	C_{OA}		C_R	C_{OR}
...J13...	695	194	265	74	-	-	-	-	-	-	-	-
...J18...	1438	419	593	173	...J18DR...	2301	857	1168	435	-	-	-
...J25...	3237	791	1333	326	...J25DR...	5214	1618	2646	821	...FJ25...	4900	6100
...J34...	5291	1270	2600	557	...J34DR...	9293	2523	5018	1362	...FJ34...	11500	12500
...J54...	13595	2320	6657	1136	...J54DR...	21373	4601	12899	2777	...FJ54...	21500	28900

The above load capacities apply to standard steel bearings. Stainless steel bearings may be different.



Pinion and Gear Force Calculations

The driving force which can be transmitted through a pinion and gear will depend on the tooth (Mod) size, the size of pinion and ring or segment selected, the length of stroke and the desired life.

The table below details the tangential driving force in newtons (N) for all pinion and ring combinations and for a useful range of design lives. The figures assume that the pinion revolves around the complete ring, rather than moving to and fro over just a portion of the ring's teeth. The load capacity for shorter strokes will be lower.

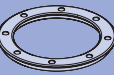
All figures assume ideal lubrication and pinion contact conditions. It is recommended that a safety factor be applied when selecting gear and pinion components. This table is suitable for selection of parts, but please contact Hepco if a specific calculation is required for a particular application.

For rack-cut track systems using single edge straight slides, the max driving force will be the same as for the largest diameter RI... ring which has the matching section size.

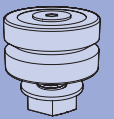
Pinion Part Number	Used with Ring	Max Working Tangential Load (N)		
		Life - distance travelled around Ring Gear		
		1 000 km	5 000 km	25 000 km
SSP04 W3.5 T42	R12 93	50	30	25
	R12 127	40	30	25
SSP07 W9 T28	REV 156	150	100	75
	REV 223	155	100	80
	RIV 161	150	100	75
	RIV 228	155	100	80
SSP08 W4 T48	R20 143	100	80	60
	R20 210	110	85	65
SSP08 W6 T48	R25 159	155	120	95
	R25 255	165	125	100
	R25 351	170	130	100
P10 W11 T42 & SSP10 W11 T42	RES 184	960	730	530
	RES 280	970	850	640
	RES 376	970	880	660
	RIS 182	960	730	530

Pinion Part Number	Used with Ring	Max Working Tangential Load (N)		
		Life - distance travelled around Ring Gear		
		1 000 km	5 000 km	25 000 km
P10 W11 T42 & SSP10 W11 T42	RIS 278	970	850	640
	RIS 374	970	880	680
P10 W7 T48 & SS P10 W7 T48	R44 468	630	585	470
	R44 612	760	585	470
P125 W14 T34 & SS P125 W14 T34	REM 505	1510	1400	960
	REM 655	1820	1400	990
	RIM 482	1510	1400	970
	RIM 627	1820	1400	990
P15 W12 T48 & SS P15 W12 T48	R76 799	1950	1560	1290
	R76 1033	1950	1640	1290
	R76 1267	1950	1640	1290
	R76 1501	1950	1640	1290
P20 W20 T27 & SS P20 W20 T27	REL 874	3990	2530	1890
	RIL 812	3990	2530	1890

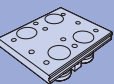
For racks on TNSE...R slides use RIS 374 figures & for TNME...R slides use RIM 627 figures



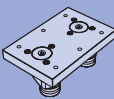
Ring slides
36-33



Bearings
34-36



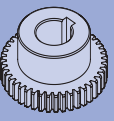
FCC carriage
38-39



BCP carriage
47



Track system
40-41



Pinions
53

Fixed Centre Carriage Play at Track System Joints

HepcoMotion fixed centre carriages have the same fit on both straight slides and curved segments in a track system. As the carriage traverses the join between these two components, slight play develops between each pair of opposing bearings. The maximum play is given in the table below.

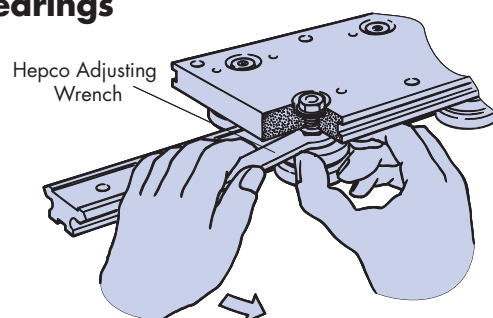
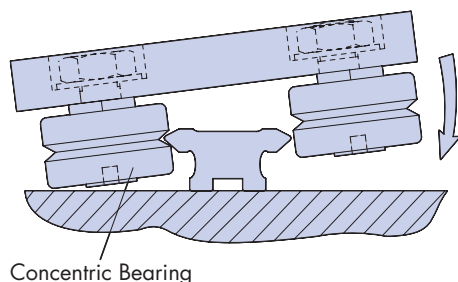
Carriage Type	FCC 12 93	FCC 12 127	FCC 20 143	FCC 20 210	FCC 25 159	FCC 25 255	FCC 25 351	FCC 44 468	FCC 44 612	FCC 76 799	FCC 76 1033	FCC 76 1267	FCC 76 1501
Maximum Clearance /mm	0.17	0.08	0.18	0.10	0.47*	0.15	0.09	0.21	0.14	0.22	0.19	0.17	0.16

These figures are theoretical clearances. In most applications, the bearings are slightly preloaded against the slides, and some of this clearance will appear as a "relaxation" of the system. In these instances the carriage will have a slightly freer movement as it traverses between the straight and curved section than when the carriage is fully on the straight slide or curved segment. In most duties the clearance or momentary reduction in preload will not present an issue, however, in some applications it may be undesirable. In such cases customers should consider using the Hepco bogie type carriage 47, which does not develop play in the same way when traversing from straight to curved sections.

* The FCC 25 159 has greater than normal clearance. This will be noticeable, but not detrimental in many applications.

Adjusting method for Through Fixing Eccentric bearings

To get the best performance from a HepcoMotion ring slide system, it must be correctly assembled and adjusted. To fit a carriage, the concentric bearings should be fully tightened and the eccentric bearings semi-tightened and rotated to their outermost position. The carriage may then be introduced to the slide as shown below. **Both eccentric bearings should be rotated in the direction of the arrow shown opposite**, until the bearings captivate the slide with minimal preload. To fit a ring slide into encircling bearings, all eccentrics should be fully adjusted away from the V edge to permit the ring to be engaged. The eccentrics may then be adjusted onto the V edge as for carriages.



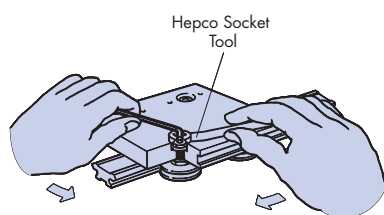
The correct condition of adjustment should be assessed by rotating the bearings by holding them between forefinger and thumb whilst preventing the ring slide or carriage from moving such that the bearings skid against the slide. A uniform degree of resistance should be felt, but the bearings should be able to be rotated without difficulty. Once adjusted in this manner, the eccentric bearing fixing nuts should be fully tightened to the relevant torque value shown in the table below whilst preventing the bearing stud from further rotation, by means of the specified Hepco Adjusting Wrench. A further check should be made to ensure the correct condition of adjustment.

It should be noted that the load/life calculations assume a light preload, as is described above. Systems which are preloaded more heavily than this will suffer a reduction in the life as compared with that predicted by the calculations.

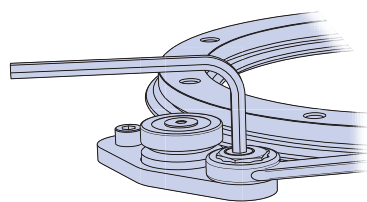
In some circumstances, it may be difficult to gain access to the hexagonal flange for system adjustment. In these situations it is possible to adjust by rotating the eccentric bearing using an allen key located in the hexagonal socket in the end of the stud and tightening the fixing nut at the same time using the Hepco socket tool, see table below. Due to the reduced control associated with this method, it is only recommended when the adjusting wrench method above is not possible.

When adjusting fixed centre carriages the lubricators should first be removed in order to gain access. When adjusting bogie carriages, the steps outlined in the adjustment procedure on 47, should be observed. In cases where an assembled system is supplied, the carriages will be supplied pre-adjusted.

Alternative adjusting method using end socket in journal



Adjusting method for Blind Hole Eccentric bearings


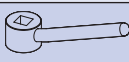


Ring and Track System Installation

For details on Ring and Track system installation, please visit www.HepcoMotion.com/PRT2datauk and select datasheet No. 2 Installation details.

Bearing Adjusting Tools and Tightening Torques

When ordering individual components for the first time an Adjusting Wrench or Socket Tool should be ordered, these are only available from Hepco.

		Bearing Ø 				
		13	18	25	34	54
Adjusting Wrench 		AT13	AT18	AT25	AT34	AT54
Socket Tool 		-	RT6	RT8	RT10	RT14
Fixing Nut Torque		2 Nm	7 Nm	18 Nm	33 Nm	90 Nm

Technical Specifications



Ring Slides and Segments

Material and finish:

Standard version: High carbon steel, hardened on V faces. Ground on all main surfaces to N5 finish.

Stainless steel version: Special martensitic stainless steel generally conforming to 420 series, hardened on V faces. Ground on all main surfaces to N5 finish, other faces polished.

Track System Slides

Material and finish:

Standard version: High carbon-chromium steel, hardened on V faces. Ground on all main surfaces to N5 finish, other faces chemically blacked.

Stainless steel version: Special martensitic stainless steel generally conforming to 420 series, hardened on V faces. Ground on all main surfaces to N5 finish.

Bearings

Bearing rings, balls, rollers:

Standard version: Carbon-chromium bearing steel AISI 52100 hardened and tempered.

Stainless steel version: AISI 440C stainless bearing steel, hardened and tempered.

Shields:

Standard version only: Steel with bright zinc plated finish.

Seals:

Nitrile rubber.

Cages:

Plastic (metal for floating bearing).

Studs:

Standard version: High tensile steel with chemical black finish.

Stainless steel version: AISI 303 series stainless steel.

Temperature range:

All versions: -20°C to +120°C.

Bearings for low temperature, high temperature and vacuum use are available on request.

Carriage Plates

Material:

All versions: High strength aluminium alloy

Finish:

Standard version: Clear anodised.

Stainless version: Special finish approved by US Department of Agriculture for food use. Stainless steel carriage plates available on request.

Lubricators

Material:

Impact resistant thermoplastic with felt wiper.

Fixings:

Stainless steel.

Temperature range:

-20°C to +60°C.

Lubricant:

Slideway oil with viscosity 68 cSt or similar.

Pinions

Material and finish (<Mod1):

Stainless steel only version: 300 series stainless steel, finish as gearcut. ISO 1328 accuracy grade 10.

Material and finish (\geq Mod1)

Standard version: Case hardened carburising steel. Ground on teeth to N5 finish. ISO 1328 accuracy grade 6.

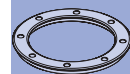
Stainless steel version: Hardened 420 series stainless steel. Ground on teeth and all main surfaces to N5 finish. ISO 1328 accuracy grade 6.

Friction

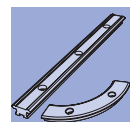
Coefficient of friction for lubricated systems is typically 0.02. Lubricators will add between 0.5 (for LB12) & 2N (for LB54) each.

Maximum Speed

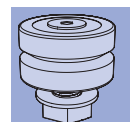
Generally 1m/s for dry (unlubricated) operation and 5m/s when lubricated. Greater speeds may be possible at reduced loads. Contact Hepco for details.



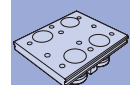
Ring slides
26-33



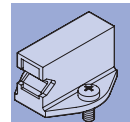
Track slides
& segments
42-46



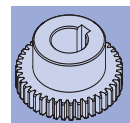
Bearings
34-36



Carriages
38-39



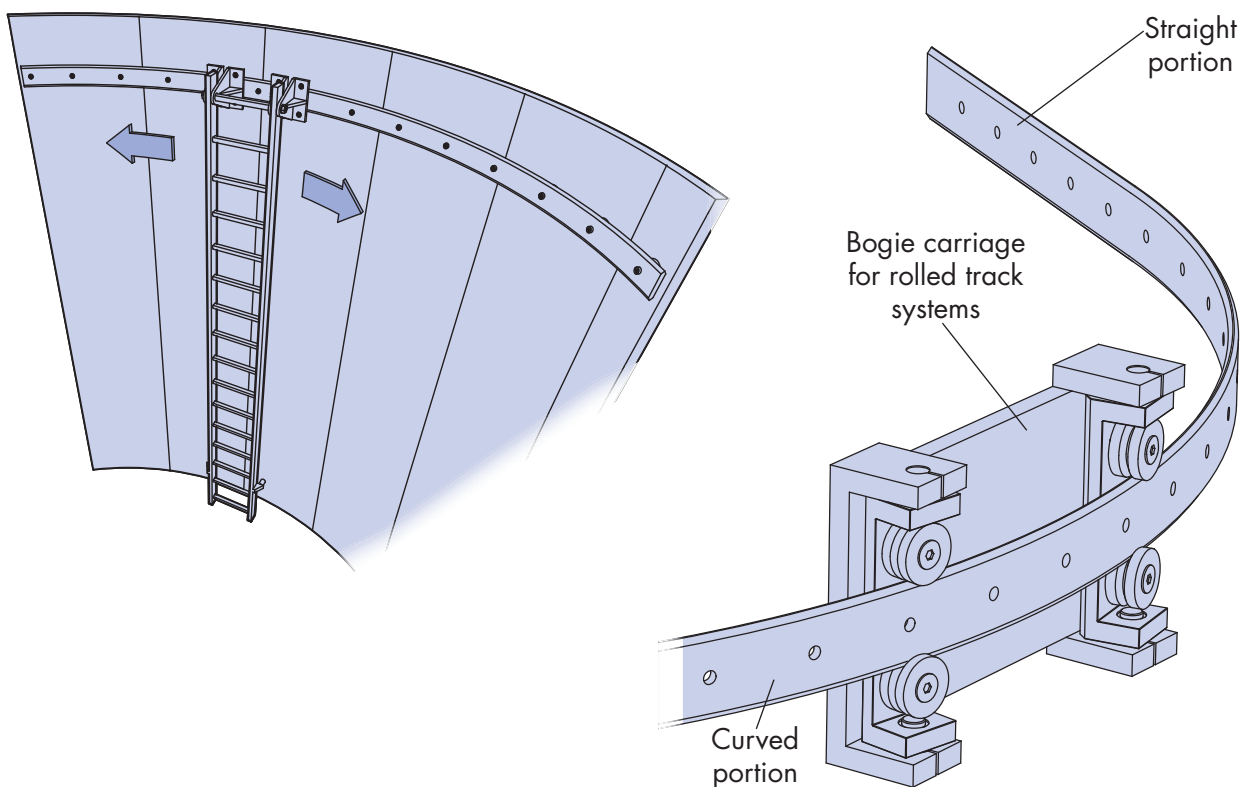
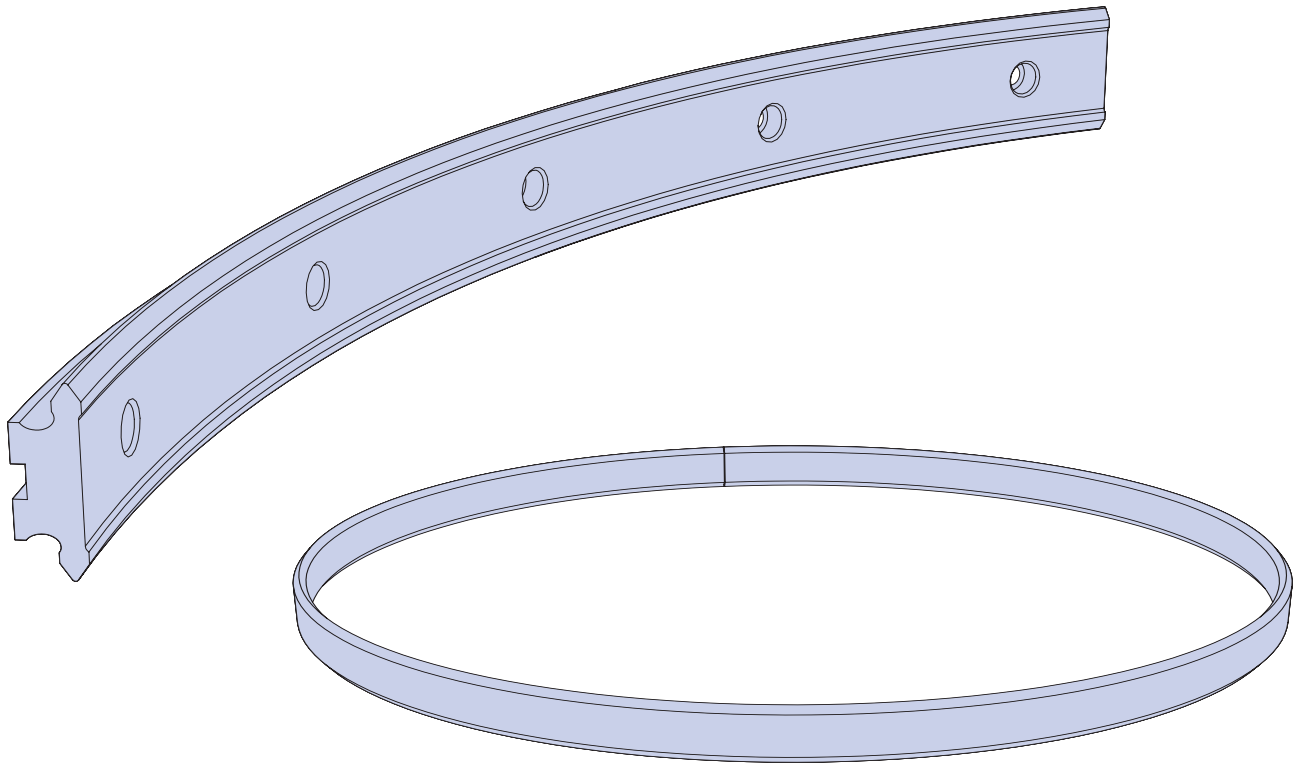
Lubricators
37



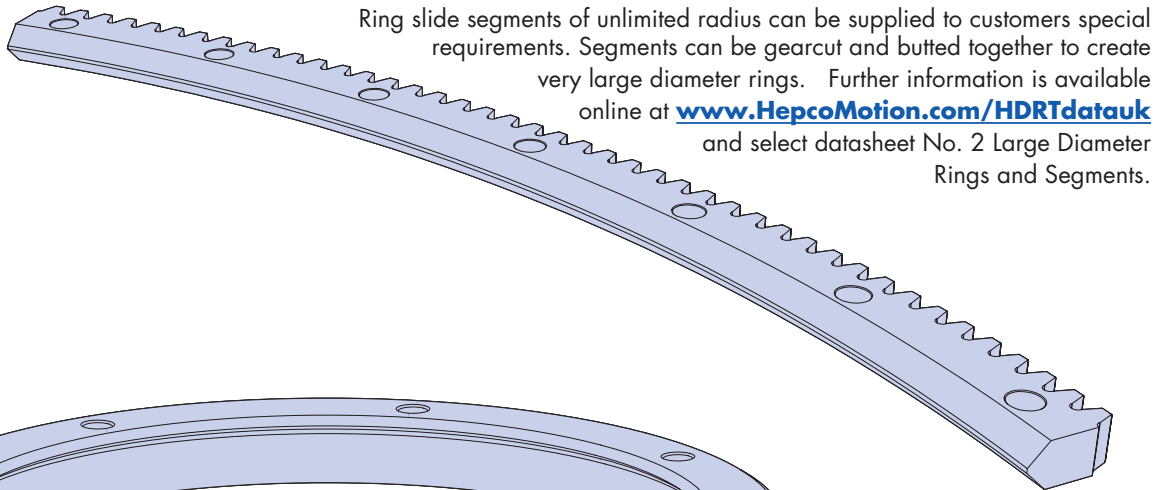
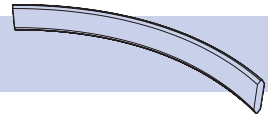
Pinions
53

The HepcoMotion facility for rolled rings and segments provides a means of achieving circular guidance of unlimited maximum diameter. Most slide sections in P3 grade from Hepco's highly acclaimed GV3 range can be rolled to achieve curved segments in either edge hardened or unhardened condition. Segments can be butt joined to make complete rings or to make track systems as shown below.

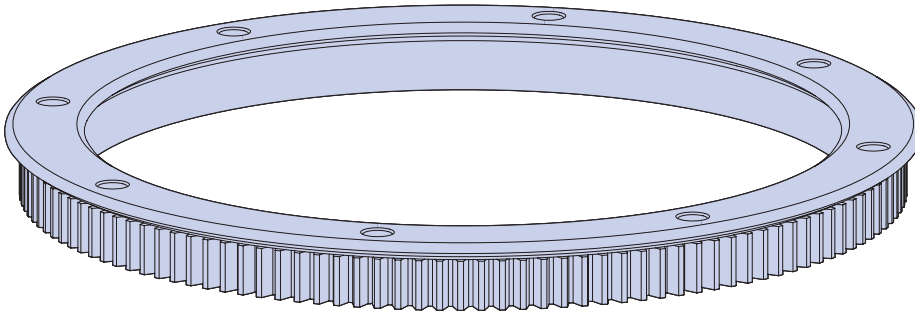
Please visit: www.HepcoMotion.com/PRT2datauk and select datasheet No. 12 Rolled Rings, Segments & Track Systems. The HepcoMotion GV3 catalogue is also available on this web site.



Rolled Rings, Segments & Specials

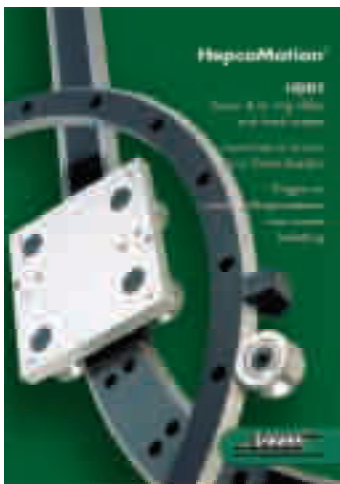


Ring slide segments of unlimited radius can be supplied to customers special requirements. Segments can be gearcut and butted together to create very large diameter rings. Further information is available online at www.HepcoMotion.com/HDRTdatauk and select datasheet No. 2 Large Diameter Rings and Segments.



Ring slides and segments can be supplied with a wider gear face and/or larger gear teeth.

Related Products



HDRT combines the flexibility and function of the PRT2 ring track system with the size and strength of the HepcoMotion HDS2 heavy duty slide system.

HDRT has a large range of precision ground single edge V ring slides with high load capacity. There is also a track system combining double edge V ring segments and HD linear slides.

For more details and catalogue visit www.HepcoMotion.com/HDRTdatauk

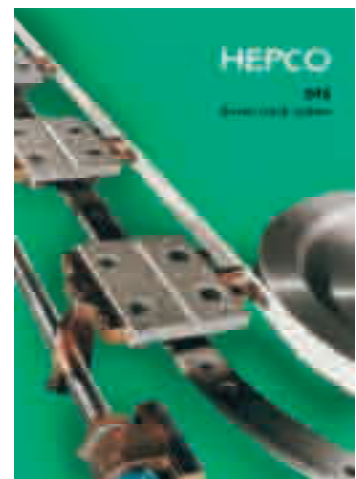
- High load capacity up to 60kN
- 7 sizes of ring from 512 to 1656mm diameter with internal or external V
- Double edged V rings
- Track systems: limitless variety of open and closed circuits
- Stainless steel option
- Gearcut ring option with matching pinions
- Ø64, Ø95 & Ø120 bearings designed for ease of installation and setting
- Full range of fixed centre and bogie type carriages

Using the HepcoMotion PRT2 ring slides and track system as its basis, the DTS is a fully assembled unit ready to be incorporated into the customer's machine or framework.

Carriages are driven around an oval or rectangular track with continuous or intermittent (indexing) motion. The belt driven carriages are rigidly guided along the precision track thus maintaining accurate alignment and resistance to deflection.

For more details and catalogue visit www.HepcoMotion.com/DTSdatauk

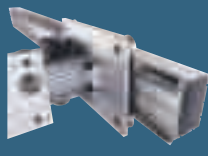
- Two sizes based on the PRT2 Track System size 25 and 44
- Oval or rectangular circuit format options
- Direct load capacity up to 4000N per carriage
- Carriage locking system for accurate repeatable positioning
- Mounts directly to HepcoMotion MCS Machine Construction System
- Ingenious safety trip latch mechanism disengages drive if carriage is impeded
- AC geared motor and gearbox options available



HepcoMotion® Product Range



GV3
Linear Guidance and
Transmission System



HDS2
Heavy Duty
Slide System



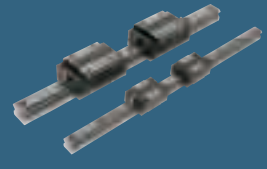
PRT
Precision Ring and
Track System



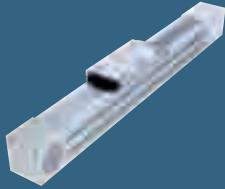
HDRT
Heavy Duty Ring Slides
and Track System



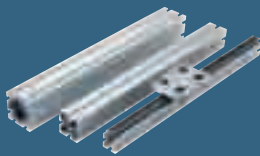
SL2
Stainless Steel Based
Slide System



LBG
Linear Ball Guides



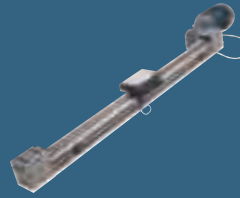
SBD
Sealed Belt
Drive



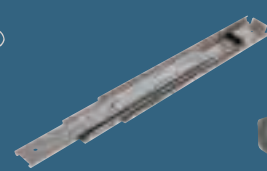
MCS
Aluminium Frame
and Machine
Construction System



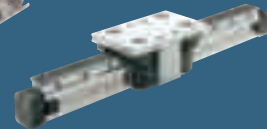
HDLS
Heavy Duty Driven
Linear System



DLS
Linear Transmission and
Positioning System



HTS
Telescopic Ball
Bearing Slides



HPS
Powerslide-2 Guided
Rodless Cylinder



MHD
Heavy Duty Track Roller
Guidance System



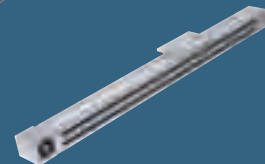
DTS
Driven Track System



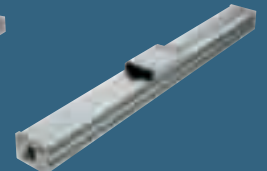
BSP
Ballscrew Premier



Simple Select
Vee Slide Linear
Guidance Systems



PDU2
Profile Driven Unit



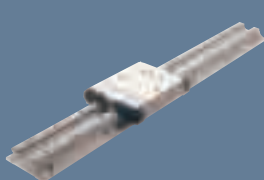
PSD120
Profile Screw Driven Unit

Bishop-Wisecarver Product Range

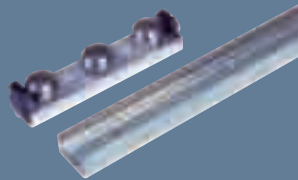
HepcoMotion® – Exclusive European partners and distributors for Bishop-Wisecarver since 1984.



DUAL VEE
Single Edge Slide System



LoPro
Aluminium Based
Slide System



UtiliTrak
Lightweight U Channel
Guideway



STATEWIDE
LINEAR BEARINGS