Assembled Double Edge Ring System

The HepcoMotion double edge ring system with carriage may be used in either complete ring form or with segments. It can also be combined with straight slides to form a track system 💷 40-44.

Rings may also be encircled by bearings either externally and/or internally with either ring or bearings being the moving element (see page opposite). The HepcoMotion PRT2 eccentric bearings are of double eccentric design with sufficient throw to enable disengagement of the carriage or encircled ring, without further disassembly.



Ring	For use with											I	K	
Slide Ref No	bearing (Ø)	A	B ~	С	D	E	F	G	н	I *1	J *1	Max	Min	
R12 93	J13	93	12	11.67	34.7	19.0	9.1	8.6	1.5	5.8	9.5	6.7	2.2	
R12 127	J13	127	12	11.67	34.7	19.0	9.1	8.6	1.5	5.8	9.5	6.7	2.2	
R20 143	J18	143	20	14.75	52.5	24.75	16.3	12.4	2.4	7.4	14	10	2.4	
R20 210	J18	210	20	14.75	52.5	24.75	16.3	12.4	2.4	7.4	14	10	2.4	
R25 159	J25	159	25	19	71.2	30.5	20.9	15.4	2.4	9.8	19	13	2.2	
R25 255	J25	255	25	19	71.2	30.5	20.9	15.4	2.4	9.8	19	13	2.2	
R25 351	J25	351	25	19	71.2	30.5	20.9	15.4	2.4	9.8	19	13	2.2	
R44 468	J34	468	44	24	106.0	38.5	37.8	26	2.7	13.8	22	14.8	5.2	
R44 612	J34	612	44	24	106.0	38.5	37.8	26	2.7	13.8	22	14.8	5.2	
R76 799	J54	799	76	38.5	172.8	58.5	64.4	50.5	3.8	17.8	30	20.4	5.7	
R76 1033	J54	1033	76	38.5	172.8	58.5	64.4	50.5	3.8	17.8	30	20.4	5.7	
R76 1267	J54	1267	76	38.5	172.8	58.5	64.4	50.5	3.8	17.8	30	20.4	5.7	
R76 1501	J54	1501	76	38.5	172.8	58.5	64.4	50.5	3.8	17.8	30	20.4	5.7	

Notes:

- 1. Two lengths of stud are available for each size of bearing 📖 34-35. Choose according to required carriage thickness.
- 2. Offset holes in carriage for eccentric bearings necessitate adjustment in direction of arrow shown see 🕮 58.

3. Exact theoretical values have been given for 'Q', 'R' and 'S'. Positional accuracy of dimension 'S' will determine the axis of the ring. Positional accuracy for dimensions 'Q' and 'R' are not normally critical. Holes for bearing studs should be reamed to tolerance F6 for a sliding fit.

Assembled Double Edge Ring System



When using HepcoMotion Double Edge Ring Slides encircled by bearings as shown below it is recommended that two concentric bearings should be placed 120° apart in order to provide a datum reference. The other bearings should be the eccentric type. All eccentrics may be used where positional adjustment of the ring is required.

One or more lubricators may be fitted at convenient positions to take advantage of the increased load/life afforded by lubrication 🕮 55-57.



				Drilling Positions ^{*3}									
L	Μ	N	0	Р	Q	R	S	T ±0.2	U ±0.2	V ±0.2	W ±0.2	X	1
7.7	6.2	55	22	40	1.3	12.3	10.9	30	11.5	6.5	12	20.5	
7.7	6.2	55	21	40	1.3	12.3	10.9	30	11.5	6.5	12	20.5	
10	8	75	34	64	1.8	19	17.2	38	18	13	13	30.6	>
10	8	80	34	64	1.8	19	17.2	38	18	13	13	30.6	Δ 1
12.25	10	95	43	80	1.9	24.9	23.0	50	22.5	16	18	40.2	
12.25	10	100	42	80	1.9	24.9	23.0	50	22.5	16	18	40.2	
12.25	10	105	42	80	1.9	24.9	23.0	50	22.5	16	18	40.2	
15.5	12.5	145	61	116	2.5	38.5	35.9	60	34.5	22	25	59.1	
15.5	12.5	150	61	116	2.5	38.5	35.9	60	34.5	22	25	59.1	
24	19.5	190	96	185	3.9	63.1	59.2	89.5	57	33	38	95.6	
24	19.5	210	96	185	3.9	63.1	59.2	89.5	57	33	38	95.6	
24	19.5	250	97	185	3.9	63.1	59.2	89.5	57	33	38	95.6	
24	19.5	270	97	185	3.9	63.1	59.2	89.5	57	33	38	95.6	

Ordering details:

Simply list the components required and if relevant, bracket those you wish to be factory assembled.

Example:

Assembled

1 x R25 159 R180 1 x FCC 25 159 - 🥎 -- 🞲 -

180° Ring segment 🕮 26-27 Fixed centre carriage 🕮 38-39











Assembled Single Edge Ring System (External)



When using HepcoMotion external single edge ring slides it is recommended that two concentric bearings should be placed 120° apart in order to provide a datum reference. The other bearings should be eccentric type. All eccentrics may be used where positional adjustment of the ring is required. Either ring or bearings can be the moving element. The HepcoMotion PRT2 eccentric bearings are of double eccentric design with sufficient throw to enable disengagment of the ring without disassembly. One or more lubricators may be fitted at convenient positions to take advantage of the increased load/life afforded by lubrication III 54-57.



Ring Slide	For use with bearing (Ø)	_		C	Drilling	Posit	ions ^{*2}			_	_			Λ	٨	Р	Q	R
Ref No		A	В	С	D	E	F	G	н		J	K.1	Ľı	Μαχ	Min		_	
REV 156	J18	137.6	16.7	18.5	1.8	38	17.5	13	13	30.1	2.4	7.4	14	10	2.4	14.75	10	8
REV 223	J18	204.8	16.7	18.5	1.8	38	17.5	13	13	30.1	2.4	7.4	14	10	2.4	14.75	10	8
RES 184	J25	159	23.0	24.9	1.9	50	22.5	16	18	40.2	2.4	9.8	19	13	2.2	19	12.25	10
RES 280	J25	255	23.0	24.9	1.9	50	22.5	16	18	40.2	2.4	9.8	19	13	2.2	19	12.25	10
RES 376	J25	351	23.0	24.9	1.9	50	22.5	16	18	40.2	2.4	9.8	19	13	2.2	19	12.25	10
REM 505	J34	468.5	32.4	35	2.5	60	31	22	25	55.6	2.7	13.8	22	14.8	5.2	24	15.5	12.5
REM 655	J34	618.5	32.4	35	2.5	60	31	22	25	55.6	2.7	13.8	22	14.8	5.2	24	15.5	12.5
REL 874	J54	820	48.3	52.1	3.9	89.5	45.5	33	38	84.6	3.8	17.8	30	20.4	5.7	38.5	24	19.5

- 1. Short or long stud lengths are available for each size of bearing 🕮 34-35. Choose according to the required mounting plate thickness.
- Exact theoretical values have been given for `B`, `C` and `D`. Positional accuracy of dimension `B` will determine the axis of the ring. Positional accuracy for dimensions `C` and `D` are not normally critical. Holes for bearing studs should be reamed to tolerance F6 for a sliding fit.

Assembled Single Edge Ring System (Internal)



When using HepcoMotion internal single edge ring slides it is recommended that two concentric bearings should be placed 120° apart in order to provide a datum reference. The other bearings should be eccentric type. All eccentrics can be used where positional adjustment of the ring is required. Either ring or bearings may be the moving element. The HepcoMotion PRT2 eccentric bearings are of double eccentric design with sufficient throw to enable disengagement of the ring, without further disassembly. One or more lubricators may be fitted at convenient positions to take advantage of the increased load/ life afforded by lubrication 📖 54-57.



Ring Slide Ref No	For use with bearing (Ø)	Α		Di	rilling	Positi	ons ^{*3}				J	K ¹	Ľ	٨	٨	N	Р	Q	R
Ref No			В	С	D	E	F	G	н					Max	Min				
RIV 161	J18	148	16.7	18.5	1.8	38	17.5	13	13	30.1	2.4	7.4	14	10	2.4	90	14.75	10	8
RIV 228	J18	215.2	16.7	18.5	1.8	38	17.5	13	13	30.1	2.4	7.4	14	10	2.4	90	14.75	10	8
RIS 182 ^{•3}	J25	165	23.0	24.9	1.9	-	22.5	16	18	40.2	2.4	9.8	19	13	2.2	-	19	12.25	10
RIS 278	J25	261	23.0	24.9	1.9	50	22.5	16	18	40.2	2.4	9.8	19	13	2.2	84	19	12.25	10
RIS 374	J25	357	23.0	24.9	1.9	50	22.5	16	18	40.2	2.4	9.8	19	13	2.2	84	19	12.25	10
RIM 482	J34	461.5	32.4	35	2.5	60	31	22	25	55.6	2.7	13.8	22	14.8	5.2	90	24	15.5	12.5
RIM 627	J34	606.5	32.4	35	2.5	60	31	22	25	55.6	2.7	13.8	22	14.8	5.2	90	24	15.5	12.5
RIL 820	J54	788	48.3	52.1	3.9	89.5	45.5	33	38	84.6	3.8	17.8	30	20.4	5.7	90	38.5	24	19.5

- 1. Short or long stud lengths are available for each size of bearing 📖 34-35. Choose according to the required mounting plate thickness.
- 2. Exact theoretical values have been given for `B`, `C` and `D`. Positional accuracy of dimension `B` will determine the axis of the ring. Positional accuracy for dimensions `C` and `D` are not normally critical. Holes for bearing studs should be reamed to tolerance F6 for a sliding fit.
- 3. The eccentric blind hole fixing bearing cannot be used with the RIS 182 ring slide as it clashes with the ring.







VV7				L
VIT				/
ABC	H		\neq	
123		\square	<u> </u>	
	Ĺ			
Cal		ام	+i ~	
Cui	CL	Ла	110	ns
		54	-5	7

Double Edge Ring Slides & Segments



HepcoMotion double edge ring slides are manufactured from high quality steel, zone hardened on the V edges and precision ground all over with datum register faces provided both internally and externally for ease of location. Gear drive options are available with teeth machined into either the internal or external register face. The number of teeth on the standard external option is divisible by 4 and 12 in order to provide maximum choice of pinion size for exact ratio requirements. Customers may also choose the tapped hole option 'N' which enables the ring slide to be bolted from below. Stainless steel ring slides and segments are available for customers requiring corrosion resistance.



- 1. Standard ring segments will be slightly less than 90° and 180° because of the cutting allowance. Full 90° and 180° segments can be supplied to customer's special order.
- 2. Socket head cap screws DIN912 will protrude 1mm above the surface of the R12 and R20 section slide rings. Customers requiring screws to be flush should use low head type DIN7984, available from Hepco upon request.

Double Edge Ring Slides & Segments











Pinions	
1 1 53	

XYZ				F
ABC 123	\wedge	\nearrow	/	
Cal	ດເ ທີ່	ula	tio	n 7

HepcoMotion double edge ring segments are cut from complete 360° ring slides and held in stock in nominal 90° and 180° segments^{*1}. Any length segment can be cut to customer's special order and additional holes drilled as required. Although suitable for most applications, slight out of roundness and flatness may be experienced with slide rings and segments in their free unmounted condition. This may be overcome by installing against a register and bolting to a flat surface, True shape rings and segments are available on request. Please visit www.HepcoMotion.com/PRT2datauk and select datasheet No. 9 True Shape Rings & Segments.

Part Number	For use with bearing (Ø)	A ±0.2	B (JS6) Register ∅	C Register Ø	D	D1	E ~	F	G	н	 ±0.025	J	к	L	M	DIN912 Not supplier
R12 93	J13	93	84.4 ±0.011	101.6 ±0.037	105.37	80.63	12	12.37	8.6	7.7	6.2	3	3.5	6 x 3	3.7	M3*2
R12 127	J13	127	118.4 ±0.011	135.6 ±0.037	139.37	114.63	12	12.37	8.6	7.7	6.2	3	3.5	6 x 3	3.7	M3*2
R20 143	J18	143	130.6 ±0.013	155.4 ±0.037	163.37	122.63	20	20.37	12.4	10	8	4.2	3.8	8 x 3.5	5.0	M4
R20 210	J18	210	197.6 ±0.015	222.4 ±0.037	230.37	189.63	20	20.37	12.4	10	8	4.2	3.8	8 x 3.5	5.0	M4
R25 159	J25	159	143.6 ±0.013	174.4 ±0.039	184.74	133.26	25	25.74	15.4	12.25	10	4.5	5.75	9 x 6	5.5	M5
R25 255	J25	255	239.6 ±0.015	270.4 ±0.041	280.74	229.26	25	25.74	15.4	12.25	10	4.5	5.75	9 x 6	5.5	M5
R25 351	J25	351	335.6 ±0.018	366.4 ±0.044	376.74	325.26	25	25.74	15.4	12.25	10	4.5	5.75	9 x 6	5.5	M5
R44 468	J34	468	442 ±0.020	494 ±0.046	512.74	423.26	44	44.74	26	15.5	12.5	6	7	11 x 7	6.8	M6
R44 612	J34	612	586 ±0.022	638 ±0.048	656.74	567.26	44	44.74	26	15.5	12.5	6	7	11 x 7	6.8	M6
R76 799	J54	799	748.5 ±0.025	849.5 ±0.051	875.74	722.26	76	76.74	50.5	24	19.5	9	12	20 x 13	14	M12
R76 1033	J54	103 3	982.5 ±0.028	1083.5 ±0.054	1109.74	956.26	76	76.74	50.5	24	19.5	9	12	20 x 13	14	M12
R76 1267	′ J54	1267	1216.5 ±0.033	1317.5 ±0.057	1343.74	1190.26	76	76.74	50.5	24	19.5	9	12	20 x 13	14	M12
R76 1501	J54	1501	1450.5 ±0.039	1551.5 ±0.060	1577.74	1424.26	76	76.74	50.5	24	19.5	9	12	20 x 13	14	M12

		Ex	terna	l Gear	Int	erna	l Gear	Seg	Stocl gmei	c nts ^{.1}	Number	Holes with true po	nin ±0.2 of osition				Part
Ν	0	Р	MOD	No of teeth (R=360°)	Q	MOD	No of teeth (R=360°)		R°		(R=360°)	S°	T°	U	V	kg~ (R=360°)	Number
M4	0.2	100.8	0.4	252	85.2	0.4	213	90	180	360	8	45	22.5	16.8	1	0.16	R12 93
M4	0.2	134.4	0.4	336	119.2	0.4	298	90	180	360	8	45	22.5	23.3	1	0.22	R12 127
M6	0.4	153.6	0.8	192	132	0.8	165	90	180	360	8	45	22.5	26.3	1	0.45	R20 143
M6	0.4	220.8	0.8	276	199.2	0.8	249	90	180	360	8	45	22.5	39.2	1	0.66	R20 210
M8	0.5	172.8	0.8	216	145.6	0.8	182	90	180	360	8	45	22.5	29.4	1	0.77	R25 159
M8	0.5	268.8	0.8	336	241.6	0.8	302	90	180	360	8	45	22.5	47.8	1	1.2	R25 255
M8	0.5	364.8	0.8	456	337.6	0.8	422	90	180	360	12	30	15	44.4	1	1.65	R25 351
M8	0.5	492	1.0	492	444	1.0	444	90	180	360	12	30	15	58.6	2	5.1	R44 468
M8	0.5	636	1.0	636	588	1.0	588	90	180	360	16	22.5	11.25	57.7	2	6.7	R44 612
M16	1.0	846	1.5	564	751.5	1.5	501	90	180	360	16	22.5	11.25	75.9	2	25	R76 799
M16	1.0	1080	1.5	720	985.5	1.5	657	90	180	360	20	18	9	78.8	2	32	R76 1033
M16	1.0	1314	1.5	876	1219.5	1.5	813	90	180	360	20	18	9	97.1	2	41	R76 1267
M16	1.0	1548	1.5	1032	1453.5	1.5	969	90	180	360	20	18	9	115.4	2	48.7	R76 1501

Ordering details:

SS = Stainless Steel option -Leave blank for steel version

Part number

 $\mathbf{R90} = 90^\circ$ segment -2

R180 = 180° segment -

R360 = Full 360° ring -

(SS) R25 351 R360 (P) (Q) (N)

N = Tapped hole option Leave blank for plain holes

Q = Internal gear drive option Leave blank if not required

P = External gear drive option Leave blank if not required

External Single Edge Ring Slides & Segments



HepcoMotion single edge ring slides are manufactured from high quality steel, zone hardened on the V edge and precision ground all over. Datum register faces are provided both internally and externally for ease of location. Gear drive options are available with teeth machined into the internal register face. The number of teeth is divisible by 4 and 12 in order to provide maximum choice of pinion size for exact ratio requirements. Customers may also choose the tapped hole option 'N' which enables the ring slide to be bolted from below. Stainless steel ring slides and segments are available for customers requiring corrosion resistance.



Notes:

1. Standard ring segments will be slightly less than 90° and 180° because of the cutting allowance. Full 90° and 180° segments can be supplied to customer's special order.

External Single Edge Ring Slides & Segments

HepcoMotion ring segments are cut from complete 360° ring slides and held in stock in nominal 90° and 180° segments. Any length segment can be cut to customer's special order and additional holes drilled as required. Although suitable for most applications, slight out of roundness and flatness may be experienced with slide rings and segments in their free unmounted condition. This may be overcome by installing against a register and bolting to a flat surface. True shape rings and segments are available on request. Please visit <u>www.HepcoMotion.com/PRT2datauk</u> and select datasheet No. 9 True Shape Rings & Segments. Larger diameter single edge ring slides are available in the HDRT range for which there is a separate catalogue [] 61.

Part Number	For use with bearing (Ø)	A ±0.2	B (JS6) Register ∅	C Register Ø	D	E ~	F	G	н	 ±0.025	J	к	L	M	DIN912 (not supplied)
REV 156	J18	137.6	124.6 ±0.013	148.6 ±0.037	156.97	15.8	16.18	12	10	8	4.2	3.8	8 x 4.2	5.0	M4
REV 223	J18	204.8	191.8 ±0.015	215.8 ±0.037	224.17	15.8	16.18	12	10	8	4.2	3.8	8 x 4.2	5.0	M4
RES 184	J25	159	142 ±0.013	174 ±0.039	184.74	20.8	21.37	16	12.25	10	4.5	5.75	10 x 5.2	5.5	M5
RES 280	J25	255	238 ±0.015	270 ±0.041	280.74	20.8	21.37	16	12.25	10	4.5	5.75	10 x 5.2	5.5	M5
RES 376	J25	351	334 ±0.018	366 ±0.044	376.74	20.8	21.37	16	12.25	10	4.5	5.75	10 x 5.2	5.5	M5
REM 505	J34	468.5	447.5 ±0.020	487.5 ±0.046	506.24	28.8	29.37	20	15.5	12.5	6	7.0	11 x 6.2	6.8	M6
REM 655	J34	618.5	597.5 ±0.022	637.5 ±0.048	656.24	28.8	29.37	20	15.5	12.5	6	7.0	11 x 6.2	6.8	M6
REL 874	J54	820	788 ±0.025	848 ±0.051	874.74	42.8	43.37	30	24	19.5	9	12	18 x 10.3	11	M10

		In	ternal	Gear	Stock	Segm	ents ^{•1}	Number	Holes within pos	n ±0.2 of true sition				Part
N	ο	Q	MOD	No of teeth (R=360°)		R°		(R=360°)	S°	T°	U	v	kg~ (R=360°)	Number
M6	0.4	126	0.7	180	-	-	360	8	45	22.5	25.3	1	0.42	REV 156
M6	0.4	193.2	0.7	276	-	-	360	8	45	22.5	38.2	1	0.63	REV 223
M8	0.5	144	1	144	90	180	360	8	45	22.5	29.4	1	0.78	RES 184
M8	0.5	240	1	240	90	180	360	8	45	22.5	47.8	1	1.27	RES 280
M8	0.5	336	1	336	90	180	360	12	30	15	44.4	1	1.75	RES 376
M8	0.5	450	1.25	360	90	180	360	12	30	15	58.6	2	3.93	REM 505
M8	0.5	600	1.25	480	90	180	360	16	22.5	11.25	58.3	2	5.18	REM 655
M16	1.0	792	2	396	-	-	360	16	22.5	11.25	78	2	15.64	REL 874

Ordering details:













XYZ ABC 123			/	
Cal	 ເ	ות 54	tio 5	ns 7

Internal Single Edge Ring Slides & Segments



HepcoMotion single edge ring slides are manufactured from high quality steel, zone hardened on the V edge and precision ground all over. Datum register faces are provided both internally and externally for ease of location. Gear drive options are available with teeth machined into the external register face. The number of teeth is divisible by 4 and 12 in order to provide maximum choice of pinion size for exact ratio requirements. Customers may also choose the tapped hole option 'N' which enables the ring slide to be bolted from below. Stainless steel ring slides and segments are available for customers requiring corrosion resistance.



Notes:

1. Standard ring segments will be slightly less than 90° and 180° because of the cutting allowance. Full 90° and 180° segments can be supplied to customer's special order.

Internal Single Edge Ring Slides & Segments



Part Number	For use with bearing (Ø)	A ±0.2	B Regis	(JS6) ter Ø	C Register Ø	D	E ~	F	G	н	 ±0.025	J	к	L	M	DIN912 (not supplied
RIV 161	J18	148	161	±0.013	137 ±0.0	37 128.63	15.8	16.18	12	10	8	4.2	3.8	8 x 4.2	5.0	M4
RIV 228	J18	215.2	228.2	±0.015	204.2 ±0.0	37 195.83	15.8	16.18	12	10	8	4.2	3.8	8 x 4.2	5.0	M4
RIS 182	J25	165	182	±0.015	150 ±0.0	39 139.26	20.8	21.37	16	12.25	10	4.5	5.75	10 x 5.2	5.5	M5
RIS 278	J25	261	278	±0.016	246 ±0.0	41 235.26	20.8	21.37	16	12.25	10	4.5	5.75	10 x 5.2	5.5	M5
RIS 374	J25	357	374	±0.018	342 ±0.0	44 331.26	20.8	21.37	16	12.25	10	4.5	5.75	10 x 5.2	5.5	M5
RIM 482	J34	461.5	482.5	±0.020	442.5 ±0.0	46 423.76	28.8	29.37	20	15.5	12.5	6	7	11 x 6.2	6.8	M6
RIM 627	J34	606.5	627.5	±0.022	587.5 ±0.0	48 568.76	28.8	29.37	20	15.5	12.5	6	7	11 x 6.2	6.8	M6
RIL 820	J54	788	820	±0.028	760 ±0.0	51 733.26	42.8	43.37	30	24	19.5	9	12	18 x 10.3	11	M10

		Ex	ternal	Gear	Stock	c Segm	ents ^{*1}	Number	Holes within pos	n ±0.2 of true sition				Part
Ν	ο	Р	MOD	No of teeth (R=360°)		R°		(R=360°)	S°	T°	U	v	kg~ (R=360°)	Number
M6	0.4	159.6	0.7	228	-	-	360	8	45	22.5	27.3	1	0.42	RIV 161
M6	0.4	226.8	0.7	324	-	-	360	8	45	22.5	40.2	1	0.63	RIV 228
M8	0.5	180	1	180	90	180	360	8	45	22.5	30.6	1	0.78	RIS 182
M8	0.5	276	1	276	90	180	360	8	45	22.5	48.9	1	1.27	RIS 278
M8	0.5	372	1	372	90	180	360	12	30	15	45.2	1	1.75	RIS 374
M8	0.5	480	1.25	384	90	180	360	12	30	15	57.7	2	3.93	RIM 482
M8	0.5	625	1.25	500	90	180	360	16	22.5	11.25	57.2	2	5.18	RIM 627
M16	1.0	816	2	408	-	-	360	16	22.5	11.25	74.9	2	15.64	RIL 820







arings 34-36







Ring Discs

HepcoMotion Ring Discs are ideally suited for turntable applications where a precision platform is required for the mounting of components. Ring discs are made from high quality steel, hardened on the V edge and precision ground all over*1. An external datum register is provided and a gear drive option is available in which the number of teeth is divisible by 4 and 12 in order to provide maximum choice of pinion size for exact ratio requirements.

All key dimensions are the same as for the corresponding size of Double Edge Ring Slide 📖 27.



Notes:

1. The internal faces of the lightening recess in the lightweight version are not ground. On stainless steel ring discs, these surfaces are polished.





For applications where weight is an issue, a lightweight version (option 'L') is available. Stainless steel ring discs are also available, as is the tapped hole option 'N'.

Ring discs can be made to customer's specification, on request. Variations include other diameters, different thicknesses, special holes, registers or other mounting features, and alternative patterns of lightening recess.



Standard

Counterbored Hole





Lightweight

Option L









XYZ ABC 123		_	/	
Cal	сı	υla	tio	ns
]] .	54	-57	7

Part Number	For use with bearing (Ø)	A ±0.2	В	C Register Ø	D	F	G	H	 ±0.025	J	К	L
RD25 159	J25	159	184	174.4 ±0.039	184.74	5	15.4	12.25	10.0	4.5	5.75	9 x 6
RD25 255	J25	255	280	270.4 ±0.041	280.74	5	15.4	12.25	10.0	4.5	5.75	9 x 6
RD25 351	J25	351	376	366.4 ±0.044	376.74	5	15.4	12.25	10.0	4.5	5.75	9 x 6
RD44 468	J34	468	512	494 ±0.046	512.74	6	26	15.5	12.5	6	7	11 x 7

M		N	0		External	Gear	Number of	Holes within ±0.2 of true position		kg~	Part
m	DIN912 (not supplied)			Р	MOD	No of teeth	Holes	S°	Standard	Lightweight	Number
5.5	M5	M8	0.5	172.8	0.8	216	8	45	2.3	1.4	RD25 159
5.5	M5	M8	0.5	268.8	0.8	336	8	45	5.5	3.0	RD25 255
5.5	M5	M8	0.5	364.8	0.8	456	12	30	10.2	5.2	RD25 351
6.8	M6	M8	0.5	492	1	492	12	30	23.6	12.2	RD44 468

Ordering details:



Bearings



HepcoMotion PRT2 bearings are available in five sizes to suit the five ring slide sections. Bearings can be used with more than one ring size: for details, please visit **www.HepcoMotion.com/PRT2datauk** and select datasheet No. 11 PRT2 mix and match.

The following bearing formats and fixing methods cater for most design requirements:

Twin Bearing type has the smoothest running quality, is easiest to adjust and offers some compliance to accommodate misalignment. It has two deep groove ball bearings on a single stud, and is the usual choice for many systems.

Double Row Bearing type (DR) incorporates a one-piece outer ring with two ball tracks. It offers more load capacity, life and stiffness, and copes better with debris. Dimensions are identical to the twin bearings type. DR bearings are more demanding of installation tolerances and it is recommended that they are specified with the CHK option*⁴.

Nitrile Sealed option (NS) available for both bearing formats, provides better sealing against water or debris than the metal shielded type. A small increase in friction may result.

See 💷 20 for the bearing and lubrication selector.

Through Fixing Type (RSJ/RLJ)



Part		Fo	r use with				D.1*4		C	C	:1	c	2	
Number	\bigcirc	\bigcirc	33	\bigcirc	A	В	BI 4	RSJ	RLJ	RSJ	RLJ	RSJ	RLJ	
J13	R12	-	-	TNMS	12.7	10.1	5.47	5.8	9.5	3	6.7	2.2	2.4	
J18	R20	-	REV, RIV	TNV	18	12.4	6.75	7.4	14	3.4	10	2.4	2.5	
J25	R25	RD25	RES, RIS	TNS	25	16.6	9	9.8	19	3.8	13	2.2	4.9	
J34	R44	RD44	REM, RIM	TNM	34	21.3	11.5	13.8	22	6.6	14.8	5.2	5.9	
J54	R76	-	REL, RIL	TNL	54	34.7	19	17.8	30	8.2	20.4	5.7	7.9	

Q	R*3	S	S 1	т	ті	T2	U ±0.1	UI	v	w	x	Y	z	
1.5	1.0	6.25	6.6	8.5	3.75	6.75	30	47.5	8	20	M3	5.5	8	
2	1.2	8	10.5	10	4	8	38	54	11	24.5	M4	7	7	
3	1.5	7	9	12	5	10	50	72	14	32	M5	8.5	10	
4	2.0	9.5	8.5	17.5	6.5	12.5	60	90.5	17	42	M6	10	14	
8	3.0	14.5	16.4	23.5	10.5	18.5	89.5	133	25	62	M8	13	20	

Notes:

1. It is recommended that holes to suit bearing mounting studs should be reamed to tolerance F6 for a sliding fit.

Nuts and washers are supplied with both concentric and eccentric RSJ/RLJ type bearings.

3. 'N' is the eccentric offset due to the double eccentric design (2 x N = total stroke). R dimension is both the eccentric offset of the adjusting nut and total stroke at the bearing centreline.

4. Controlled height (CHK) bearings are selected in ±0.010mm bands in respect of the B1 dimension. They are supplied in sets of up to 50 parts as standard, with larger sets on request.

5. For adjusting tool part numbers see table. For adjustment procedure and fixing nut tightening torques see 💷 58.

6. Fasteners for the through fixing type bearings are black on the concentric version and bright zinc plated on the eccentric version for identification purposes, except stainless steel type.

7. Stainless steel bearings are only available nitrile sealed.

Bearings



Through Hole Fixing type is available in two stud lengths covering most thicknesses of mounting plate, the short version being used in HepcoMotion carriages. Both are available in **Concentric (C)** which provides a datum for the system, and **Eccentric (DE)** to provide enough adjustment to permit disengagement of a carriage or ring encircled by bearings III 58.

All bearings are available in a **Controlled Height version (CHK)** which minimises variation in the B1 dimension*⁴. This is desirable in high precision applications and is recommended whenever Double Row Bearings are used.

Blind Hole Fixing type (RBHJ) allows mounting into a solid machine base where through mounting holes are not possible, or where the thickness of the mounting plate is too great. The Blind Hole Fixing type is also useful where adjustment from the front is preferred or where access to the opposite side of the mounting hole is restricted. They are available in **Concentric (C)** which are fixed, or **Eccentric (E)** which are adjustable.

All bearings are greased for life internally. Customers are strongly advised to provide lubrication to the interface between bearings and ring slide by specifying HepcoMotion Lubricators and 37 or Bleed Lubrication system a 52. Lubrication greatly increases load capacity and life.





D ±0.025	E	F Metric Fine	G	н	I	J	к	L	M	MI	N*3	O *1 +0.0 -0.03	Р
9.51	5	M4 x 0.5	8	0.5	5.8	0.8	2.2	-	7	9	1.9	4	7
14.00	7	M6 x 0.75	10	0.6	7.4	0.8	3.2	2.5	10	13	2.6	6	11
20.27	10	M8 x 1	14	0.5	9.8	1	5	3	13	17	2.75	8	13
27.13	12	M10 x 1.25	18	0.7	13.8	1.25	6	4	17	21	3.6	10	15
41.76	25	M14 x 1.5	28	1.6	17.8	1.6	8	6	22	28	5.5	14	27

Adjusting	Socket		A a	•			0	ptions Availab	le		Deart
Wrench	Tool 's		A 9	~		-	NS'7	-	DR	СНК	Part
		RSJC/E	RLJC/E	RBHJC	RBHJE	Metal shields	Nitrile Seals	Twin Bearing	Double Row	Controlled Height	Number
AT13	-	8	8	7	27	×	\checkmark	\checkmark	×	✓	J13
AT18	RT6	19	20	18	45	×	✓	√	√	✓	J18
AT25	RT8	48	51	43	105	✓	✓	√	√	✓	J25
AT34	RT10	115	120	105	235	\checkmark	\checkmark	√	√	✓	J34
AT54	RT14	415	425	390	800	\checkmark	✓	\checkmark	✓	✓	J54



ABC

Floating Bearings



HepcoMotion Floating Bearings incorporate caged needle rollers and are designed to provide axial movement (float) of the V position. This is especially useful where two rings or track systems are mounted apart, see application example 📖 14.

The float compensates for parallelism tolerances between the opposing V's, eliminating additional loading and maintaining consistent running quality. Three sizes are available, each to correspond with one ring slide section, but they can be used with other sections. Please visit **www.HepcoMotion.com/PRT2datauk** and select datasheet No. 11 PRT2 mix and match.

Two stud lengths are available covering most thicknesses of mounting plate, the short version being compatible with HepcoMotion carriage plates. Both versions are available in **Concentric (C)** which provides a datum (in radial direction) for the system, and **Eccentric (DE)** which provides sufficient adjustment to allow disengagement of a carriage or ring encircled by bearings \square 58.

All bearings are greased for life internally. Customers are strongly advised to provide lubrication to the interface between bearings and ring slide by specifying HepcoMotion Lubricators 🕮 37 or bleed lubrication system 🕮 52. Lubrication greatly increases load capacity and life.



Short stud (RSFJ) / Long stud (RLFJ)

Part		For us	se with				B	*5	C		c	1	С	2		_		_		
Number	O	\bigcirc	33	\mathcal{O}	A	В	Min	Max	RSFJ	RLFJ	RSFJ	RLFJ	RSFJ	RLFJ	D ±0.025	E	EI	F Metric Fine	G	н ~
FJ25	R25	RD25	RES, RIS	TNS	25	18.1	9	10.5	9.8	19	3.8	13	3.4	4.9	20.27	11.5	10	M8 x 1	14	0.8
FJ34	R44	RD44	REM, RIM	TNM	34	23.2	11.5	13.5	13.8	22	6.6	14.8	5.2	5.9	27.13	16	12	M10 x 1.25	18	1
FJ54	R76	-	REL, RIL	TNL	54	37.2	19	21.6	17.8	30	8.2	20.4	5.7	7.9	41.76	28	25	M14 x 1.5	28	1.3

								Adjusting Wrench ^{*3}	Socket		g~	Max Working	Bearing Static ((C) Radial Load	Co) and Dynamic d Capacities (N)	Part
J	K	L	M	MI	N [°]	•0 •0.03	Ρ		e	RSFJC/DE	RLFJC/DE	Load Capacity (N)	Co	с	Number
1	5	3	13	17	2.75	8	13	AT25	RT8	58	60	1500	6100	4900	FJ25
1.25	6	4	17	21	3.6	10	15	AT34	RT10	130	135	3000	12500	11500	FJ34
1.6	8	6	22	28	5.5	14	27	AT54	RT14	495	505	5000	28900	21500	FJ54

- 1. It is recommended that holes to suit bearing mounting studs should be reamed to tolerance F6 for a sliding fit.
- 2. Nuts and washers are supplied with both concentric and eccentric RSFJ/RLFJ type bearings.
- 3. For adjustment procedure and bearing fixing nut tightening torques see \square 58.
- 4. Fasteners are black on the concentric version and bright zinc plated on the eccentric version for identification purposes.
- 5. 'B1' dimension is the min/max axial movement of the V centre.
- 6. 'N' is the eccentric offset due to the double eccentric design (2 x N = total stroke).

Ordering details:	<u>RSFJ 25</u>	<u>C NS</u>	
Fixing type: RSFJ = Short Stud RLFJ = Long Stud			NS = Nitrile Sealed Standard for all floating bearings
Bearing diameter (options are 25, 34 & 54)			Journal Type: C = Concentric (fixed) DE = Eccentric (adjustable)

Lubricators







Part		F	or Use w	ith	Type F	Type C								
Number	0	0	83	\mathcal{O}	A	A 1	В	С	D	E	F	G ±0.1	GI ±0.1	
LB 12	R12	-	-	TNMS 12	17	7	10	13	5.2	2	3	6.5	12	
LB 20	R20	-	REV, RIV	TNV 20	19	8	12	22.5	6.5	2	4.75	13	13	
LB 25	R25	RD25	RES, RIS	TNS 2 5, T NSE	25	12	16.5	28	9.9	2	6	16	18	
LB 44	R44	RD44	REM, RIM	TNM 44, TNME	34	17	20	38	15	2.4	8	22	25	
LB 76	R76	-	REL, RIL	TNL 76	50	25	33.5	57	22.7	4.5	12	33	38	

ш	н			JI	K			N	•	9	Part	
п			Ø x Length	Screw Size	Hole Ø	ĸ					4 9~	Number
3.1	-	3	2.5 x 5	M2.5 x 6	2.7	2.5	3	5.46	9	2.2	2	LB 12
7.2	-	4	2.5 x 10	M2.5 x 6	2.7	2.5	3.5	6.75	10.75	4.5	3	LB 20
5.5	7.1	7	3 x 10	M3 x 8	3.2	4.5	5	9	15.25	5.5	6	LB 25
7	9	11	3 x 16	M4 x 10	4.2	5.5	6.25	11.5	18.25	8	16	LB 44
10	12.6	18	3.5 x 22	M5 x 12	5.2	9	10	19	31.5	11.5	44	LB 76

Notes:

- 2 machine screws with cross-recessed pan heads to DIN7985A are supplied for fixing the flanged type lubricator (see J1 in table). Additionally, 2 self tapping screws for plastic with PT thread form and cross-recessed pan heads are supplied for the compact type lubricator (see J in table).
- 2. Lubrication interval depends on length of stroke, duty and environmental factors. Replenish lubricant as necessary using a 68 viscosity EP mineral oil.
- 3. Size 25,44 & 76 lubricators are available with increased clearance "H1" to accommodate the "V float" of the floating bearings 🕮 36.

(<u>FB</u>)

DE

Ordering details:

		LD ZJ
Part Number —		
Lubricator Type:	F = Flanged Type	
	C = Compact Type	

FB = Floating Bearing option Specify only for lubricators used with floating bearings





Ring slides



0° °

CC carriage





XYZ ABC 123	- -	_	/	
Cal	cı	Jα	tio	ns

Fixed Centre Carriage



The HepcoMotion Fixed Centre Carriage is designed for use with track systems with unidirectional bends of a common radii 📖 40 and for use with double edge ring slides and segments 📖 26-27. The unique geometry enables carriages on a track system to travel from straight to curve with negligible play in the transition zone. Such play as may develop is not detrimental to the performance of the system^{*1}.

Carriages are available with twin or double row (DR) bearings 📖 34-35, and with floating bearings 📖 36. Carriages with twin bearings have the smoothest running quality and have some compliance to accommodate misalignment. Carriages with DR bearings have better load capacity and stiffness. Due to the rigidity of DR bearings, carriages with this option are supplied as Controlled Height (CHK)*5 as standard.

The corrosion resistant version has stainless steel bearings and fasteners, and a high performance USDA approved surface treatment to the aluminium carriage plate in place of the standard anodised finish.



- 1. Fixed centre carriages will experience a reduction in preload or a slight clearance as they pass between the curves and straights on a track system, but this is rarely an issue. This clearance is detailed on 📖 57. Please note the FCC25 159 has a larger than normal clearance. Bogie carriages 🕮 47 are not subject to clearance.
- Offset holes in carriage for eccentric bearings necessitate adjustment rotation in the direction shown.
 It is recommended that carriages are fitted with lubricators. The quantity of lubricators may be reduced in systems with many carriages or where the bleed lubrication facility is used 📖 52
- 4. Dowel holes V1 define the centre and may be used for location purposes. They are not included as standard on the corrosion resistant version, but are available on special request.
- CHK controlled height carriages use CHK bearings 📖 35 and are supplied in sets, matched by their E dimension. It is recommended to specify 5. CHK for precision applications or where consistent carriage heights are important. CHK is standard for carriages with DR bearings.
- 6. The W dimension is greater for carriages with floating bearings - see Wf in the table. Dimensions D and E will change for carriages with floating bearings. The amount of float is indicated by dimension B1 \square 36.

Fixed Centre Carriage

	For Use with															
Part Number	0 93	0	В	B1	С	CI	C2 ±0.01	D*6	E*6	F	G	н	I	J	К	
FCC12 93	R12 93 R360/R180/R90	TR12 93	55	40	25	48	20	45	19	12.8	21.9	25.52	11.11	14.41	6.5	9.3
FCC12 127	R12 127 R360/R180/R90	TR12 127	55	40	25	48	20	45	19	12.8	21.9	23.84	10.27	13.56	6.5	8.8
FCC20 143	R20 143 R360/R180/R90	TR20 143	75	64	40	60	25	65	24.75	16.75	34.4	32.03	13.76	18.27	13	13
FCC20 210	R20 210 R360/R180/R90	TR20 210	80	64	40	65	28	70	24.75	16.75	34.4	33.06	14.28	18.87	13	12.7
FCC25 159 ⁻¹	R25 159 R360/R180/R90	TR25 159	95	80	50	85	37	80	30.5	20.5	46	50.15	22.70	27.46	16	17.1
FCC25 255	R25 255 R360/R180/R90	TR25 255	100	80	50	80	36.5	85	30.5	20.5	46	43.86	19.55	24.31	16	15.9
FCC25 351	R25 351 R360/R180/R90	TR25 351	105	80	50	85	40	90	30.5	20.5	46	45.66	20.45	25.21	16	15.6
FCC44 468	R44 468 R360/R180/R90	TR44 468	145	116	75	120	65	125	38.5	26	71.9	75.95	35.22	40.73	22	25.8
FCC44 612	R44 612 R360/R180/R90	TR44 612	150	116	75	125	70	130	38.5	26	71.9	78.80	36.64	42.16	22	25.5
FCC76 799	R76 799 R360/R180/R90	TR76799	190	185	100	160	90	165	58.5	39	118.5	104.56	49.13	55.44	33	43
FCC76 1033	R76 1033 R360/R180/R90	TR76 1033	210	185	100	180	110	185	58.5	39	118.5	123.48	58.59	64.90	33	43
FCC76 1267	R76 1267 R360/R180/R90	TR76 1267	250	185	100	205	130	225	58.5	39	118.5	142.82	68.26	74.57	33	44
FCC76 1501	R76 1501 R360/R180/R90	TR76 1501	270	185	100	225	150	245	58.5	39	118.5	162.38	78.04	84.35	33	44

L	M (Ø x depth)	NØ	0	Р	Q (Ø x depth)	R Ø (hole size) (F6)		S	т	U	v		V1 Ø (K6)		W _f	g~	Part Number
7.8	4.5 x 4.5	2.7	11.89	10.94	12.5 x 4.8	4	+0.018 +0.010	1	3	7.34	M4	4	+0.002 - 0.006	10.1	-	70	FCC12 93
7.8	4.5 x 4.5	2.7	11.89	10.94	12.5 x 4.8	4	+0.018 +0.010	1	3	7.34	M4	4	+0.002 - 0.006	10.1	-	70	FCC12 127
12.3	4.5 x 2.5	2.7	18.49	17.19	15.8 x 7	6	+0.018 +0.010	1.5	4	10	M5	4	+0.002 - 0.006	12.4	-	190	FCC20 143
12.3	4.5 x 2.5	2.7	18.49	17.19	15.8 x 7	6	+0.018 +0.010	1.5	4	10	M5	4	+0.002 - 0.006	12.4	-	200	FCC20 210
14	5.3 x 4.5	3.2	24.38	23.01	22 x 8.4	8	+0.022 +0.013	2	5	11.5	M6	6	+0.002 - 0.006	16.6	18.1	400	FCC25 159 ^{•1}
14	5.3 x 4.5	3.2	24.38	23.01	22 x 8.4	8	+0.022 +0.013	2	5	11.5	M6	6	+0.002 - 0.006	16.6	18.1	410	FCC25 255
14	5.3 x 4.5	3.2	24.38	23.01	22 x 8.4	8	+0.022 +0.013	2	5	11.5	M6	6	+0.002 - 0.006	16.6	18.1	420	FCC25 351
23	5.3 x 4.5	3.2	38.25	35.94	25 x 8.7	10	+0.022 +0.013	2	6	14.5	M8	8	+0.002 - 0.007	21.3	23.2	1080	FCC44 468
23	5.3 x 4.5	3.2	38.25	35.94	25 x 8.7	10	+0.022 +0.013	2	6	14.5	M8	8	+0.002 - 0.007	21.3	23.2	1100	FCC44 612
40	8.0 x 6.0	3.8	63.76	59.25	32.1 x 13.5	14	+0.027 +0.016	4	8	20	M10	10	+0.002 - 0.007	34.7	37.2	3460	FCC76 799
40	8.0 x 6.0	3.8	63.76	59.25	32.1 x 13.5	14	+0.027 +0.016	4	8	20	M10	10	+0.002 - 0.007	34.7	37.2	3660	FCC76 1033
40	8.0 x 6.0	3.8	63.76	59.25	32.1 x 13.5	14	+0.027 +0.016	4	8	20	M10	10	+0.002 - 0.007	34.7	37.2	4050	FCC76 1267
40	8.0 x 6.0	3.8	63.76	59.25	32.1 x 13.5	14	+0.027 +0.016	4	8	20	M10	10	+0.002 - 0.007	34.7	37.2	4250	FCC76 1501

(CR) FCC 44 612 (LB) (DR) (NS) (CHK)

Ordering details:

CR^{*4} = Corrosion resistant option – Leave blank if not required

Part number -

LB^{*3} = Lubricator option -Leave blank if not required

Clamping Brake option available, please refer to PRT2 datasheet No.7 www.HepcoMotion.com/PRT2datauk **CHK*5** = Controlled height option (2) 35 Standard with DR bearings Leave blank if not required for twin bearing version

NS = Nitrile sealed bearings fitted 💷 34 Leave blank for metal shields

Bearing type: **FJ** = Floating bearings III 36 **DR** = double row bearings III 34 Leave blank for twin bearings







²⁶⁻²⁷



24-36 Bedrings







Frack system



