LR120

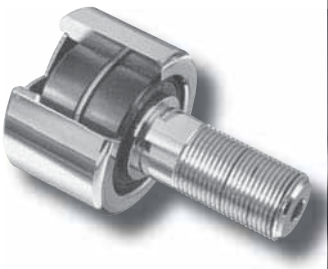
Load Runners®

Idler Rollers, Cam Followers and Track Systems

OSBORN®
INTERNATIONAL
A Unit of Jason Incorporated

Load Runners Load Guidance Systems for Precision Handling of Heavy Loads in Tough Environments

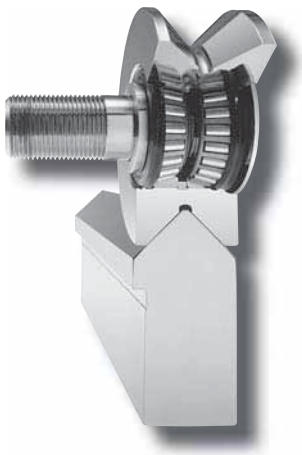
Combine the high capacity of Load Runners idler-rollers with high-strength-steel Load Rails, cut to length and drilled to your specifications. Eliminate design time and sourcing costs for heavy-duty material handling systems.



Every Piece is Designed to Perform

Idler-roller treads are machined from high-alloy steel, then case hardened (Rc 55-60) for a wear-resistant outer shell and tough inner core.

Precision tapered roller bearings (larger sizes) and deep-groove ball bearings withstand heavy radial and thrust loads, as well as high speeds.



Idler-rollers are tightly sealed and lubricated for life to withstand dirt, sand, and moisture.

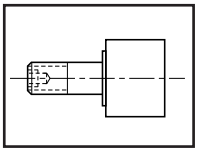
High-shear-strength studs (stud style) with hex socket for easy installation. Thru-shafts (yoke style) eliminate the need for customer fabrication.

Load Rails are straight and twist-free, with hardened contact surfaces.

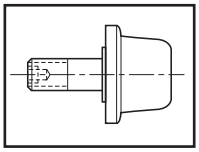
Needle Bearing Cam Followers

Osborn Needle Bearing Cam Followers are manufactured to rigorous and demanding specifications. Each of our products are constructed with radial lip seals (stud and yoke styles) and a lubrication plug (stud style) at one end.

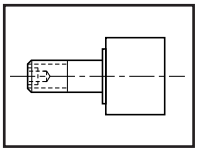
www.loadrunners.com
rollers@osborn.com



CAM RUNNER®
Pages 28, 29
- *composite outer*
- *stainless steel shaft*
- *wet environments*

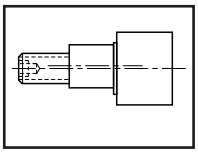


Flanged Crown
Inch, **page 16**
- *concentric and eccentric*
- *radial and thrust loads*
- *use on channels and I-beams*

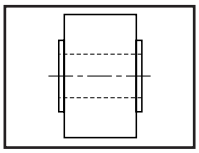


Plain Stud Style
Inch, **pages 6, 7**
Metric, **pages 52, 53**
- *radial and thrust loads*
- *easy to install*

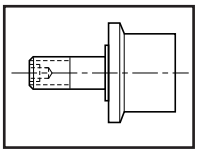
Load Runners for Special Applications
Inch, **pages 18-41**
- *Urethane Tread, p.31*
- *Nylon Tread, p.32-33*
- *Stainless Steel, p.18-21*
- *High Temperature, p.26-27*



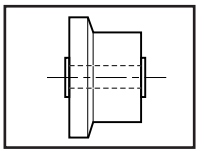
Plain Eccentric Stud Style
Inch, **pages 8, 9**
Metric, **pages 54, 55**
- *radial and thrust loads*
- *easy to install*
- *vertical adjustment*



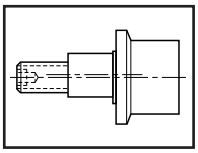
Plain Yoke Style
Inch, **page 44**
Metric, **page 63**
Crown Yoke Style
Inch, **page 45**
- *radial and thrust loads*
- *higher capacity than stud style*



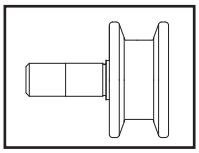
Flanged Stud Style
Inch, **pages 10, 11**
Metric, **pages 56, 57**
- *radial and thrust loads*
- *easy to install*



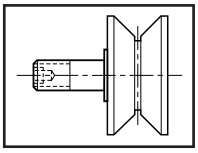
Flanged Yoke Style
Inch, **page 46**
Metric, **page 64**
- *radial and thrust loads*
- *higher capacity than stud style*



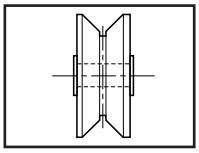
Flanged Eccentric Stud Style
Inch, **pages 12, 13**
Metric, **pages 58, 59**
- *radial and thrust loads*
- *easy to install*
- *vertical adjustment*



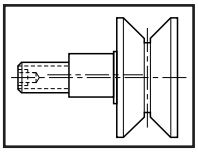
Double-Flanged Stud Style
Inch, **page 17**
-
-
-



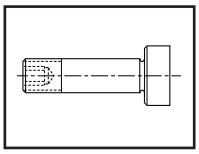
V-Grooved Stud Style
Inch, **pages 14, 15**
Metric, **pages 60, 61, 62**
- *radial and thrust loads*
- *rail profile sheds solid contaminants*



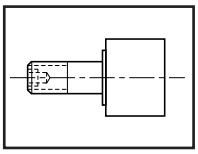
V-Grooved Yoke Style
Inch, **page 47**
Metric, **page 65**
- *radial and thrust loads*
- *higher capacity than stud style*
- *rail profile sheds solid contaminants*



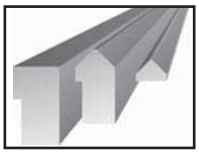
V-Grooved Eccentric Stud Style
Inch, **pages 16**
Metric, **pages 40**
- *radial and thrust loads*
- *rail profile sheds solid contaminants*
- *vertical adjustment*



Heavy Duty Yoke Shafts
Inch, **pages 48, 49**
Metric, **page 66**



Needle Bearings
pages 36-41



Load Rails
pages 68, 69, 70

INCH SIZES

Load Runners® Stud Style

Load Runners® for Special Applications

Load Runners® Yoke Style

METRIC SIZES

Load Runners® Stud Style

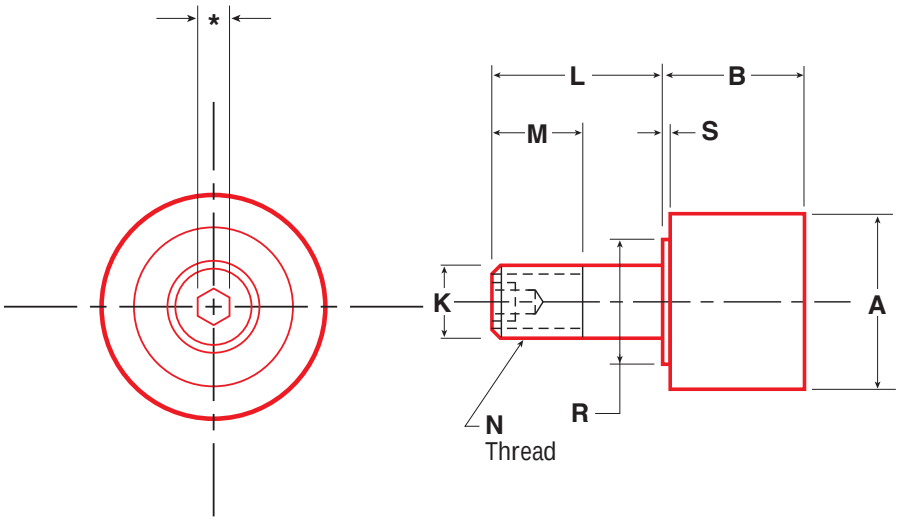
Load Runners® Yoke Style

LOAD RAILS

OTHER

Load Runners are widely used in steel mills and foundries for material and process conveying. Load Runners perform under conditions of heavy loads, high heat and an abrasive environment. Many steel mill original equipment manufacturers specify Load Runners in their machines. These large pieces of capital equipment are in use in facilities around the globe.

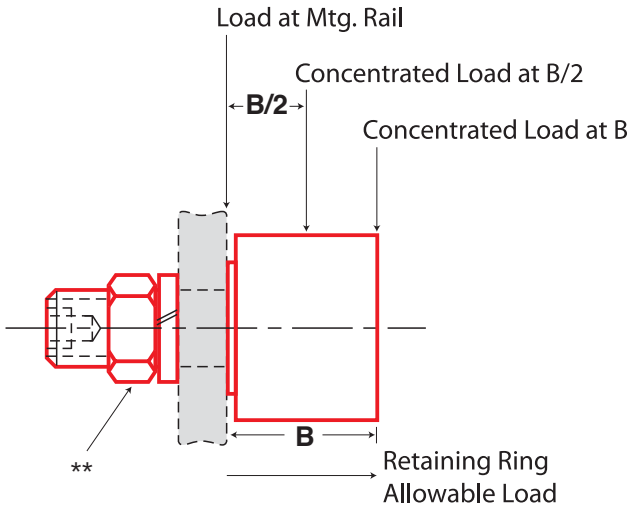
foundry



Part No.	Item No.	A	B	K	L	M	N	R	S	Rec. Mtg. Hole Size	Mounting Member Thickness	
		Roller Dia	Roller Width	Stud Dia	Stud Length	Thread Length	Thread	Shoulder Dia	Shoulder Length			
		+0.000 -0.001		+0.000 -0.001						+0.001 -0.000	Max	Min
PLR-1	97318	1.000	0.781	0.437	1.000	0.500	7/16-20	0.500	0.031	0.438	0.625	0.500
PLR-1-1/8	97319	1.125	0.781	0.437	1.000	0.500	7/16-20	0.500	0.031	0.438	0.625	0.500
PLR-1-1/4	97320	1.250	0.844	0.500	1.250	0.625	1/2-20	0.625	0.031	0.501	0.750	0.625
PLR-1-3/8	97321	1.375	0.844	0.500	1.250	0.625	1/2-20	0.625	0.031	0.501	0.750	0.625
PLR-1-1/2	95086	1.500	1.187	0.625	1.500	0.750	5/8-18	0.750	0.062	0.626	1.000	0.750
PLR-1-3/4	95112	1.750	1.187	0.750	1.750	0.875	3/4-16	1.000	0.062	0.751	1.125	0.875
PLR-1-3/4-5	95115	1.750	1.437	0.500	0.875	0.750	1/2-13NC	0.625	0.312	0.501	-	-
PLR-2	95125	2.000	1.687	0.875	2.000	1.125	7/8-14	1.000	0.062	0.876	1.250	0.875
PLR-2-3	95126	2.000	1.375	0.875	2.000	1.125	7/8-14	1.000	0.062	0.876	1.250	0.875
PLR-2-1/4	95152	2.250	1.687	0.875	2.000	1.125	7/8-14	1.000	0.062	0.876	1.250	0.875
PLR-2-1/2	95160	2.500	1.687	1.000	2.250	1.500	1-14	1.250	0.062	1.001	1.250	0.750
PLR-2-1/2-10	95164	2.500	1.812	1.000	2.250	1.500	1-14	1.250	0.187	1.001	1.250	0.750
PLR-2-1/2-16	95165	2.500	1.812	1.000	2.250	1.500	1-14	1.250	0.062	1.001	1.250	0.750
PLR-2-3/4	95190	2.750	1.687	1.000	2.250	1.500	1-14	1.250	0.062	1.001	1.250	0.750
PLR-3	95200	3.000	2.000	1.250	2.500	1.750	1-1/4-12	1.750	0.062	1.251	1.250	1.000
PLR-3-1/4	95245	3.250	2.000	1.250	2.500	1.750	1-1/4-12	1.750	0.062	1.251	1.250	1.000
PLR-3-1/2	95248	3.500	2.000	1.250	2.750	1.750	1-1/4-12	1.750	0.062	1.251	1.500	1.250
PLR-4	95268	4.000	2.000	1.250	2.750	1.750	1-1/4-12	1.750	0.062	1.251	1.500	1.250
PLR-4-1/2	95304	4.500	2.000	1.250	2.750	1.750	1-1/4-12	1.750	0.062	1.251	1.500	1.250
PLR-5	95323	5.000	3.000	2.000	4.500	2.500	2-12	3.250	0.062	2.001	2.750	2.000
PLR-6	95353	6.000	3.000	2.500	5.500	3.250	2-1/2-12	3.250	0.062	2.501	3.250	2.000
PLR-7	95374	7.000	3.000	2.500	5.500	3.250	2-1/2-12	3.250	0.062	2.501	3.250	2.000
PLR-8	95386	8.000	3.000	2.500	5.500	3.250	2-1/2-12	3.250	0.062	2.501	3.250	2.000
PLR-10	95398	10.000	3.000	2.500	5.500	3.250	2-1/2-12	3.250	0.062	2.501	3.250	2.000
PLR-10-1	95399	10.000	5.000	4.250	9.000	4.000	3-1/2-4NC	5.000	0.125	4.252	5.750	5.125

Other sizes available on request.
* For stud hex socket size, see page 71.
For special features and custom design considerations, see page 74.

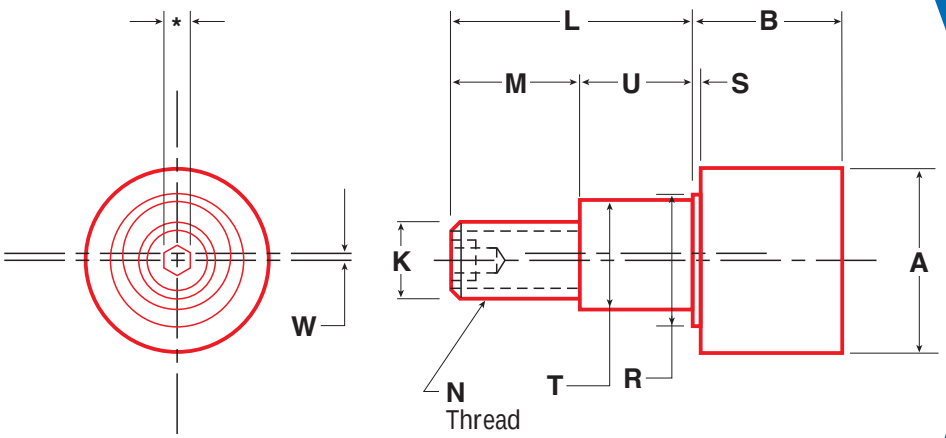
Plain - Concentric Stud Style
Inch Sizes



Part No.	Ball or Tapered Roller Bearings	Bearing Capacity Radial Load (lbs)			Bearing Capacity, Static Thrust (lbs)	Stud Capacity (lbs)			Retaining Ring Capacity (lbs)	Approx Weight (lbs)
		3000hrs L10 Life @ 100 RPM	500hrs L10 Life @ 33-1/3RPM	Static Limit		Stud Capacity Bend @B/2	Stud Capacity Bend @B	Stud Capacity Shear		
PLR-1	BB	240	630	230	140	480	210	1970	380	0.2
PLR-1-1/8	BB	240	630	230	140	480	210	1970	380	0.3
PLR-1-1/4	BB	520	1350	600	370	880	390	3250	470	0.3
PLR-1-3/8	BB	520	1350	600	370	880	390	3250	470	0.4
PLR-1-1/2	BB	1050	2760	1100	680	1390	650	5780	470	0.5
PLR-1-3/4	BB	1050	2760	1100	680	1390	650	5780	470	0.8
PLR-1-3/4-5	BB	1050	2750	1100	595	1570	690	4480	470	0.7
PLR-2	BB	1460	3830	1620	1000	4010	1500	11610	910	1.3
PLR-2-3	BB	1460	3830	1620	1000	3090	1520	11610	910	1.2
PLR-2-1/4	BB	1460	3830	1620	1000	4010	1500	11610	910	1.8
PLR-2-1/2	BB	1980	5190	2270	1400	3730	1770	14580	1340	2.3
PLR-2-1/2-10	BB	1980	5190	2270	1400	3730	1770	14580	1340	2.3
PLR-2-1/2-16	TRB	4570	10880	7630	4570	6920	3700	25920	N/A	2.3
PLR-2-3/4	BB	1980	5190	2270	1400	3730	1770	14580	1340	2.8
PLR-3	TRB	6000	14270	20000	12000	12270	6330	40500	N/A	4.0
PLR-3-1/4	TRB	6000	14270	20000	12000	12270	6330	40500	N/A	4.8
PLR-3-1/2	TRB	6000	14270	20000	12000	12270	6330	40500	N/A	5.5
PLR-4	TRB	6000	14270	20000	12000	12270	6330	40500	N/A	7.1
PLR-4-1/2	TRB	6000	14270	20000	12000	12270	6330	40500	N/A	9.0
PLR-5	TRB	13990	33290	51900	32500	34120	17350	103670	N/A	19.0
PLR-6	TRB	15060	35840	56400	33100	66710	33910	161990	N/A	28.0
PLR-7	TRB	15060	35840	56400	33100	66710	33910	161990	N/A	36.0
PLR-8	TRB	15060	35840	56400	33100	66710	33910	161990	N/A	49.0
PLR-10	TRB	15060	35840	56400	33100	66710	33910	161990	N/A	72.0
PLR-10-1	TRB	34410	81890	159800	116000	194120	99480	468150	N/A	130.0

** Lock washer and jam nut available at additional cost.
For size see "N" dimension.

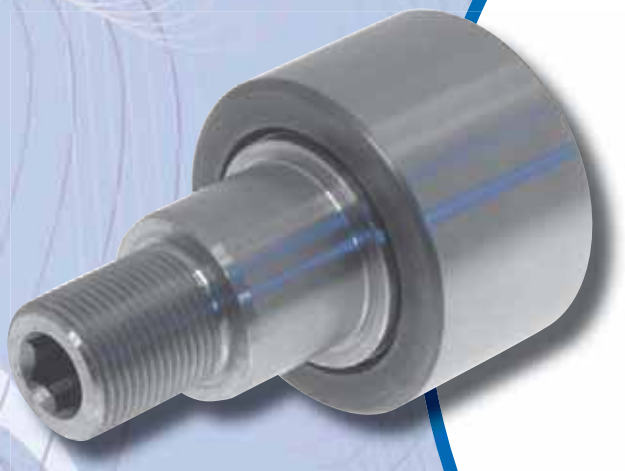
Please refer to Page 52-53 for our standard Metric offering, please note that we can make all sizes up to 250mm.

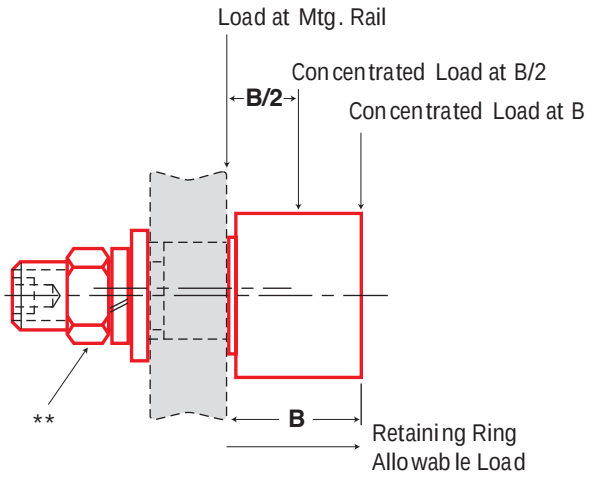


Part No.	Item No.	A	B	K	L	M	N	R	S	T	U	W	Rec. Mtg.
		Roller Dia	Roller Width	Stud Dia	Stud Length	Thread Length	Thread	Shoulder Dia	Shoulder Length	Eccentric Dia	Eccentric Length	Eccentricity	Hole Size
		+0.000 -0.001								+0.001 -0.001	+0.000 -0.010		+0.000 -0.001
PLRE-1	97322	1.000	0.781	0.437	1.000	0.500	7/16-20	0.750	0.031	0.625	0.500	0.030	0.627
PLRE-1-1/8	97323	1.125	0.781	0.437	1.000	0.500	7/16-20	0.750	0.031	0.625	0.500	0.030	0.627
PLRE-1-1/4	97324	1.250	0.844	0.500	1.250	0.625	1/2-20	0.812	0.031	0.687	0.625	0.030	0.689
PLRE-1-3/8	97325	1.375	0.844	0.500	1.250	0.625	1/2-20	0.812	0.031	0.687	0.625	0.030	0.689
PLRE-1-1/2	95849	1.500	1.188	0.625	1.500	0.770	5/8-18	1.125	0.062	0.875	0.730	0.030	0.877
PLRE-1-3/4	95853	1.750	1.188	0.750	1.750	0.895	3/4-16	1.240	0.062	1.000	0.855	0.030	1.002
PLRE-2	95857	2.000	1.688	0.875	2.000	1.020	7/8-14	1.500	0.062	1.187	0.980	0.030	1.189
PLRE-2-1/4	95863	2.250	1.688	0.875	2.000	1.020	7/8-14	1.500	0.062	1.187	0.980	0.030	1.189
PLRE-2-1/2	95869	2.500	1.688	1.000	2.250	1.145	1-14	1.687	0.062	1.375	1.105	0.030	1.377
PLRE-2-1/2-7	97603	2.500	1.812	1.000	2.250	1.145	1-14	1.687	0.062	1.375	1.105	0.030	1.377
PLRE-2-3/4	95875	2.750	1.688	1.000	2.250	1.145	1-14	1.687	0.062	1.375	1.105	0.030	1.377
PLRE-3	95876	3.000	2.000	1.250	2.500	1.270	1 1/4-12	2.312	0.062	1.750	1.230	0.060	1.752
PLRE-3-1/4	95887	3.250	2.000	1.250	2.500	1.270	1 1/4-12	2.312	0.062	1.750	1.230	0.060	1.752
PLRE-3-1/2	95888	3.500	2.000	1.250	2.750	1.395	1 1/4-12	2.312	0.062	1.812	1.355	0.060	1.814
PLRE-4	95892	4.000	2.000	1.250	2.750	1.395	1 1/4-12	2.312	0.062	1.812	1.355	0.060	1.814
PLRE-5	95900	5.000	3.000	2.000	4.500	2.375	2-12	3.250	0.062	2.625	2.125	0.060	2.627
PLRE-6	95903	6.000	3.000	2.500	5.500	2.625	2 1/2-12	3.625	0.062	3.125	2.875	0.060	3.127

Other sizes available on request.
* For stud hex socket size, see page 71.

Plain - Eccentric Stud Style
Inch Sizes

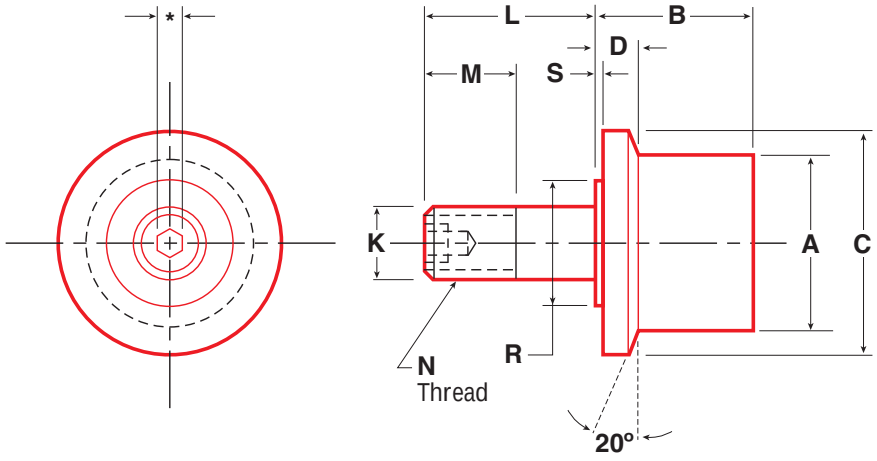




Part No.	Mounting Member Thickness		Ball or Tapered Roller Bearing	Bearing Capacity, Radial Load (lbs)			Bearing Static Thrust Capacity (lbs)	Stud Capacity (lbs)			Retaining Ring Capacity (lbs)	Approx. Weight (lbs)
	Max	Min		3000hrs L10 Life @ 100RPM	500hrs L10 Life @ 33-1/3RPM	Static Limit		Bend @B/2	Bend @B	Shear		
PLRE-1	0.625	0.500	BB	240	630	230	140	480	210	1970	470	0.3
PLRE-1-1/8	0.625	0.500	BB	240	630	230	140	480	210	1970	470	0.3
PLRE-1-1/4	0.750	0.625	BB	520	1350	600	370	880	390	3250	470	0.4
PLRE-1-3/8	0.750	0.625	BB	520	1350	600	370	880	390	3250	470	0.4
PLRE-1-1/2	0.875	0.750	BB	1050	2760	1100	680	1390	650	5780	470	0.6
PLRE-1-3/4	1.000	0.875	BB	1050	2760	1100	680	1390	650	5780	470	0.9
PLRE-2	1.125	1.000	BB	1460	3830	1620	1000	4010	1500	11610	910	1.6
PLRE-2-1/4	1.125	1.000	BB	1460	3830	1620	1000	4010	1500	11610	910	2.0
PLRE-2-1/2	1.250	1.125	BB	1980	5190	2270	1400	3730	1770	14580	1340	2.5
PLRE-2-1/2-7	1.250	1.125	TRB	4570	10880	7630	4570	6920	3610	29920	N/A	2.5
PLRE-2-3/4	1.250	1.125	BB	1980	5190	2270	1400	3730	1770	14580	1340	3.4
PLRE-3	1.375	1.250	TRB	6000	14270	20000	12000	12430	6370	40500	N/A	4.5
PLRE-3-1/4	1.375	1.250	TRB	6000	14270	20000	12000	12430	6370	40500	N/A	5.4
PLRE-3-1/2	1.500	1.375	TRB	6000	14270	20000	12000	12430	6370	40500	N/A	6.5
PLRE-4	1.500	1.375	TRB	6000	14270	20000	12000	12430	6370	40500	N/A	8.3
PLRE-5	2.500	2.250	TRB	13990	33290	51900	32500	34120	17350	103670	N/A	21.0
PLRE-6	3.250	3.000	TRB	15060	35840	56400	33100	68710	33910	161990	N/A	30.5

** Flat washer, lock washer and jam nut available at additional cost.
For size see "N" dimension.

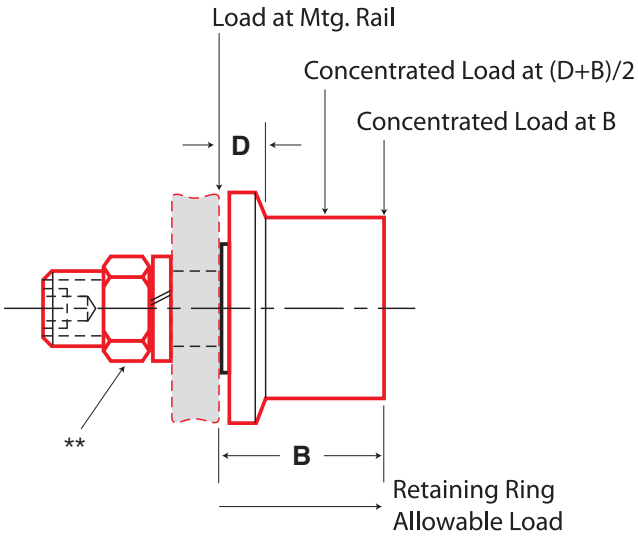
Please refer to Page 54-55 for our standard Metric offering, please note that we can make all sizes up to 250mm.



Part No.	Item No.	A Roller Dia	B Roller Width	C Flange Dia	D Flange Thickness	K Stud Dia +0.000 -0.001	L Stud Length	M Thread Length	N Thread	R Shoulder Dia	S Shoulder Length	Rec. Mtg. Hole Size +0.001 -0.000
FLR-1	97326	1.000	0.781	1.375	0.219	0.437	1.000	0.500	7/16-20	0.500	0.031	0.438
FLR-1-1/8	97327	1.125	0.781	1.500	0.219	0.437	1.000	0.500	7/16-20	0.500	0.031	0.438
FLR-1-1/4	97328	1.250	0.844	1.563	0.219	0.500	1.250	0.625	1/2-20	0.625	0.031	0.501
FLR-1-3/8	97329	1.375	0.844	1.688	0.219	0.500	1.250	0.625	1/2-20	0.625	0.031	0.501
FLR-1-1/2	95445	1.500	1.188	2.188	0.343	0.625	1.500	0.750	5/8-18	0.750	0.062	0.626
FLR-1-1/2-2	95446	1.500	1.063	2.000	0.343	0.500	1.375	0.750	1/2-20	0.625	0.125	0.501
FLR-1-3/4	95472	1.750	1.188	2.438	0.343	0.750	1.750	0.875	3/4-16	1.000	0.062	0.751
FLR-2	95482	2.000	1.688	2.688	0.593	0.875	2.000	1.125	7/8-14	1.000	0.062	0.876
FLR-2-1/4	95498	2.250	1.688	2.938	0.593	0.875	2.000	1.125	7/8-14	1.000	0.062	0.876
FLR-2-1/2	95502	2.500	1.688	3.188	0.593	1.000	2.250	1.500	1-14	1.250	0.062	1.001
FLR-2-1/2-1	95503	2.500	1.812	3.188	0.593	1.000	2.250	1.500	1-14	1.250	0.062	1.001
FLR-2-3/4	95515	2.750	1.688	3.438	0.593	1.000	2.250	1.500	1-14	1.250	0.062	1.001
FLR-3	95520	3.000	2.000	3.938	0.593	1.250	2.500	1.750	1 1/4-12	1.750	0.062	1.251
FLR-3-1/4	95555	3.250	2.000	4.188	0.593	1.250	2.500	1.750	1 1/4-12	1.750	0.062	1.251
FLR-3-1/2	95558	3.500	2.000	4.438	0.593	1.250	2.750	1.750	1 1/4-12	1.750	0.062	1.251
FLR-4	95562	4.000	2.000	4.938	0.593	1.250	2.750	1.750	1 1/4-12	1.750	0.062	1.251
FLR-4M	95567	4.000	2.000	4.938	1.000	1.250	2.750	1.750	1 1/4-12	1.750	0.062	1.251
FLR-4-1/2	95591	4.500	2.000	5.438	0.593	1.250	2.750	1.750	1 1/4-12	1.750	0.062	1.251
FLR-5	95601	5.000	3.000	5.938	0.718	2.000	4.500	2.500	2-12	3.250	0.062	2.001
FLR-6	95625	6.000	3.000	6.938	0.718	2.500	5.500	3.250	2 1/2-12	3.250	0.062	2.501
FLR-7	95640	7.000	3.000	7.938	0.718	2.500	5.500	3.250	2 1/2-12	3.250	0.062	2.501
FLR-8	95641	8.000	3.000	8.938	0.718	2.500	5.500	3.250	2 1/2-12	3.250	0.062	2.501

Other sizes available on request.
* For stud hex socket size, see page 71.

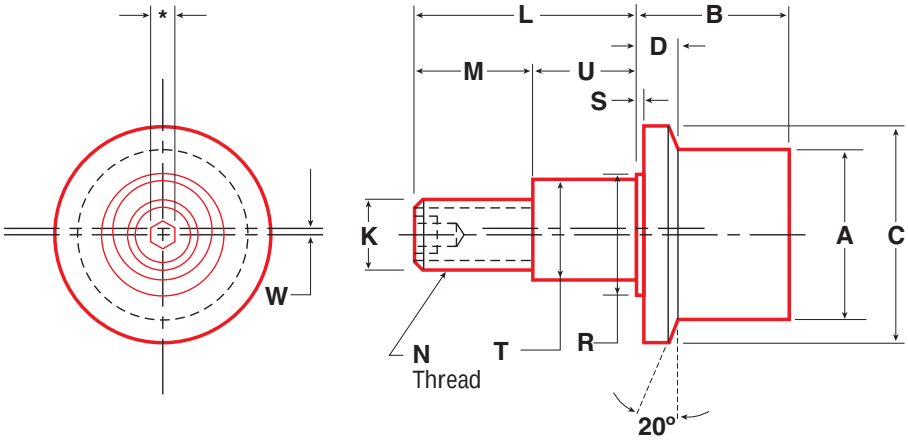
Flanged - Concentric Stud Style
Inch Sizes



Part No.	Mounting Member Thickness		Ball or Tapered Roller Bearing	Bearing Capacity, Radial Load (lbs)			Bearing Static Thrust Capacity (lbs)	Stud Capacity (lbs)			Retaining Ring Capacity (lbs)	Approx. Weight (lbs)
	Max	Min		3000hrs L10 Life @ 100RPM	500hrs L10 Life @ 33-1/3RPM	Static Limit		Bend @(D+B)/2	Bend @B	Shear		
FLR-1	0.625	0.500	BB	240	630	230	140	370	210	1970	380	0.3
FLR-1-1/8	0.625	0.500	BB	240	630	230	140	370	210	1970	380	0.3
FLR-1-1/4	0.750	0.625	BB	520	1350	600	370	710	390	3250	470	0.4
FLR-1-3/8	0.750	0.625	BB	520	1350	600	370	710	390	3250	470	0.4
FLR-1-1/2	1.000	0.750	BB	1050	2760	1100	680	1100	650	5780	470	0.6
FLR-1-1/2-2	1.000	0.750	BB	930	2430	970	600	700	420	4020	335	0.5
FLR-1-3/4	1.125	0.875	BB	1050	2760	1100	680	1100	650	5780	470	1.0
FLR-2	1.250	0.875	BB	1460	3830	1620	1000	2640	1500	11610	910	1.8
FLR-2-1/4	1.250	0.875	BB	1460	3830	1620	1000	2640	1500	11610	910	2.1
FLR-2-1/2	1.250	0.750	BB	1980	5190	2270	1400	2780	1770	14580	1340	2.8
FLR-2-1/2-1	1.250	0.750	TRB	4570	10890	7630	4570	5460	3580	25920	N/A	2.8
FLR-2-3/4	1.250	0.750	BB	1980	5190	2270	1400	2780	1770	14580	1340	3.2
FLR-3	1.250	1.000	TRB	6000	14270	20000	12000	9880	6330	40500	N/A	4.7
FLR-3-1/4	1.250	1.000	TRB	6000	14270	20000	12000	9880	6330	40500	N/A	5.3
FLR-3-1/2	1.250	1.000	TRB	6000	14270	20000	12000	9880	6330	40500	N/A	6.2
FLR-4	1.250	1.000	TRB	6000	14270	20000	12000	9880	6330	40500	N/A	7.9
FLR-4M	1.250	1.000	TRB	6000	14270	20000	12000	8530	6330	40500	N/A	8.1
FLR-4-1/2	1.250	1.000	TRB	6000	14270	20000	12000	9880	6330	40500	N/A	9.9
FLR-5	2.750	2.000	TRB	13990	33290	51900	32500	28300	17350	103670	N/A	18.5
FLR-6	3.250	2.000	TRB	15060	35840	56400	33100	55320	33910	161990	N/A	29.5
FLR-7	3.250	2.000	TRB	15060	35840	56400	33100	55320	33910	161990	N/A	38.0
FLR-8	3.250	2.000	TRB	15060	35840	56400	33100	55320	33910	161990	N/A	46.0

** Lock washer and jam nut available at additional cost.
For size see "N" dimension.

Please refer to Page 56-57 for our standard Metric offering, please note that we can make all sizes up to 250mm.

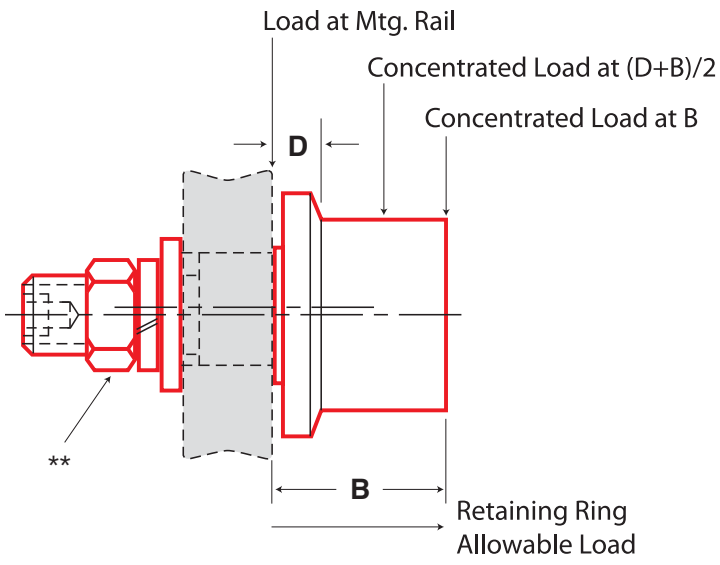


Part No.	Item No.	A	B	C	D	K	L	M	N	R	S	T	U	W
		Roller Dia	Roller Width	Flange Dia	Flange Thickness	Stud Dia	Stud Length	Thread Length	Thread	Shoulder Dia	Shoulder Length	Eccentric Dia +0.001 -0.001	Eccentric Length +0.000 -0.010	Eccent.
FLRE-1	97330	1.000	0.781	1.375	0.219	0.437	1.000	0.500	7/16-20	0.750	0.031	0.625	0.500	0.030
FLRE-1-1/8	97331	1.125	0.781	1.500	0.219	0.437	1.000	0.500	7/16-20	0.750	0.031	0.625	0.500	0.030
FLRE-1-1/4	97332	1.250	0.844	1.563	0.219	0.500	1.250	0.625	1/2-20	0.812	0.031	0.687	0.625	0.030
FLRE-1-3/8	97333	1.375	0.844	1.688	0.219	0.500	1.250	0.625	1/2-20	0.812	0.031	0.687	0.625	0.030
FLRE-1-1/2	95917	1.500	1.187	2.188	0.343	0.625	1.500	0.770	5/8-18	1.125	0.062	0.875	0.730	0.030
FLRE-1-3/4	95922	1.750	1.187	2.438	0.343	0.750	1.750	0.895	3/4-16	1.240	0.062	1.000	0.855	0.030
FLRE-2	95924	2.000	1.688	2.688	0.593	0.875	2.000	1.020	7/8-14	1.500	0.062	1.187	0.980	0.030
FLRE-2-1/4	95927	2.250	1.688	2.938	0.593	0.875	2.000	1.020	7/8-14	1.500	0.062	1.187	0.980	0.030
FLRE-2-1/2	95928	2.500	1.688	3.188	0.593	1.000	2.250	1.145	1-14	1.687	0.062	1.375	1.105	0.030
FLRE-2-1/2-4	97604	2.500	1.812	3.188	0.593	1.000	2.250	1.145	1-14	1.687	0.062	1.375	1.105	0.030
FLRE-2-3/4	95931	2.750	1.688	3.438	0.593	1.000	2.250	1.145	1-14	1.687	0.062	1.375	1.105	0.030
FLRE-3	95932	3.000	2.000	3.938	0.593	1.250	2.500	1.270	1 1/4-12	2.312	0.062	1.750	1.230	0.060
FLRE-3-1/4	95939	3.250	2.000	4.188	0.593	1.250	2.500	1.270	1 1/4-12	2.312	0.062	1.750	1.230	0.060
FLRE-3-1/2	95940	3.500	2.000	4.438	0.593	1.250	2.750	1.395	1 1/4-12	2.312	0.062	1.812	1.355	0.060
FLRE-4	95941	4.000	2.000	4.938	0.593	1.250	2.750	1.395	1 1/4-12	2.312	0.062	1.812	1.355	0.060
FLRE-4-1/2	95946	4.500	2.000	5.438	0.593	1.250	2.750	1.395	1 1/4-12	2.312	0.062	1.812	1.355	0.060
FLRE-5	95948	5.000	3.000	5.938	0.718	2.000	4.500	2.375	2-12	3.250	0.062	2.625	2.125	0.060
FLRE-6	95949	6.000	3.000	6.938	0.718	2.500	5.500	2.625	2 1/2-12	3.625	0.062	3.125	2.875	0.060

Other sizes available on request.

* For stud hex socket size, see page 71.

Flanged - Eccentric Stud Style
Inch Sizes

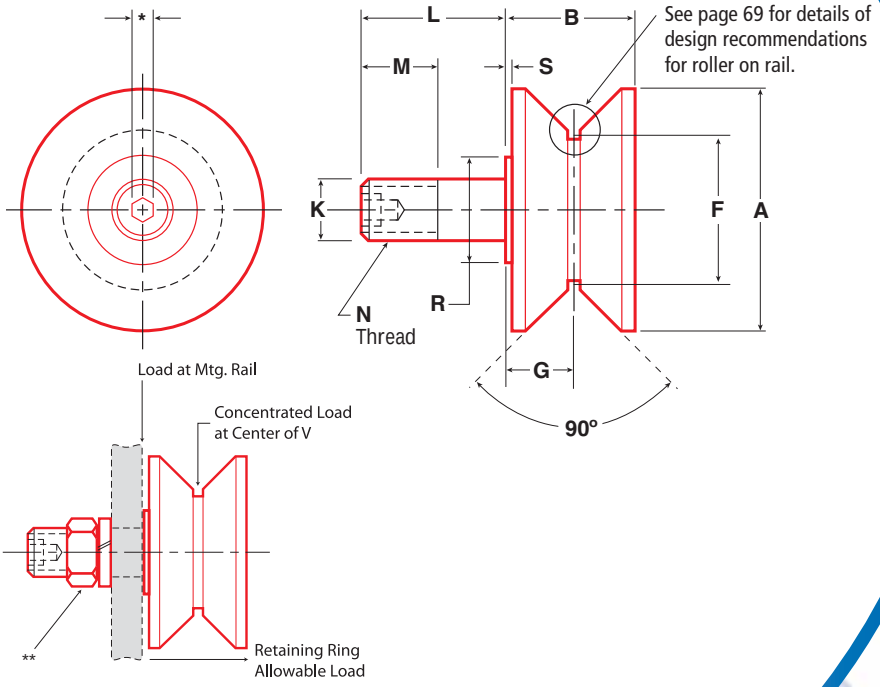


Part No.	Rec. Mtg. Hole Size	Mounting Member Thickness		Ball or Tapered Roller Bearing	Bearing Capacity, Radial Load (lbs)			Bearing Static Thrust Capacity (lbs)	Stud Capacity (lbs)			Retaining Ring Capacity (lbs)	Approx. Weight (lbs)
					3000hrs L10 Life @ 100RPM	500hrs L10 Life @ 33-1/3RPM	Static Limit		Bend @(D+B)/2	Bend @B	Shear		
	+0.001 -0.000	Max	Min										
FLRE-1	0.627	0.625	0.500	BB	240	630	230	140	370	210	1970	380	0.3
FLRE-1-1/8	0.627	0.625	0.500	BB	240	630	230	140	370	210	1970	380	0.4
FLRE-1-1/4	0.689	0.750	0.625	BB	520	1350	600	370	710	390	3250	470	0.4
FLRE-1-3/8	0.689	0.750	0.625	BB	520	1350	600	370	710	390	3250	470	0.5
FLRE-1-1/2	0.877	0.875	0.750	BB	1050	2760	1100	680	1100	650	5780	470	0.8
FLRE-1-3/4	1.002	1.000	0.875	BB	1050	2760	1100	680	1130	650	5780	470	1.1
FLRE-2	1.189	1.125	1.000	BB	1460	3830	1620	1000	2640	1500	11610	910	2.1
FLRE-2-1/4	1.189	1.125	1.000	BB	1460	3830	1620	1000	2640	1500	11610	910	2.5
FLRE-2-1/2	1.377	1.250	1.125	BB	1980	5190	2270	1400	2780	1770	14580	1340	3.0
FLRE-2-1/2-4	1.377	1.250	1.125	TRB	4570	10880	7630	4570	5460	3580	29920	N/A	3.0
FLRE-2-3/4	1.377	1.250	1.125	BB	1980	5190	2270	1400	2780	1770	14580	1340	3.5
FLRE-3	1.752	1.375	1.250	TRB	6000	14270	20000	12000	9980	6370	40500	N/A	5.1
FLRE-3-1/4	1.752	1.375	1.250	TRB	6000	14270	20000	12000	9980	6370	40500	N/A	5.8
FLRE-3-1/2	1.814	1.500	1.375	TRB	6000	14270	20000	12000	9980	6370	40500	N/A	6.8
FLRE-4	1.814	1.500	1.375	TRB	6000	14270	20000	12000	9980	6370	40500	N/A	8.5
FLRE-4-1/2	1.814	1.500	1.375	TRB	6000	14270	20000	12000	9980	6370	40500	N/A	10.5
FLRE-5	2.627	2.500	2.250	TRB	13990	33290	51900	32500	28300	17350	103670	N/A	19.5
FLRE-6	3.127	3.250	3.000	TRB	15060	35840	56400	33100	55320	33910	161990	N/A	32.0

**Flat washer, lock washer and jam nut available at additional cost.
For size see "N" dimension.

Please refer to Page 58-59 for our standard Metric offering, please note that we can make all sizes up to 250mm.

V-Grooved - Concentric Stud Style
Inch Sizes



Part No.	Item No.	A Roller Dia	B Roller Width	F Point Dia	G Groove Location	K Stud Dia +0.000 -0.001	L Stud Length	M Thread Length	N Thread	R Shoulder Dia	S Shoulder Length	Rec. Mtg. Hole Size +0.001 +0.000
VLR-1-1/2	97334	1.500	0.781	1.125	0.391	0.437	1.000	0.500	7/16-20	0.500	0.031	0.438
VLR-2	97335	2.000	0.844	1.375	0.422	0.500	1.250	0.625	1/2-20	0.625	0.031	0.500
VLR-2-1/2	95660	2.500	1.312	1.500	0.687	0.750	1.750	0.875	3/4-16	1.000	0.062	0.751
VLR-3-1/2	95678	3.500	1.687	2.250	0.875	0.875	2.000	1.125	7/8-14	1.000	0.062	0.876
VLR-3-1/2-16	95685	3.500	2.000	2.250	0.875	0.750	2.000	1.125	3/4-16	1.250	0.062	0.751
VLR-4-1/2	95729	4.500	2.000	3.000	1.000	1.250	2.500	1.750	1 1/4-12	1.750	0.062	1.251
VLR-5-1/2	95760	5.500	2.000	4.000	1.000	1.250	2.750	1.750	1 1/4-12	1.750	0.062	1.251
VLR-6-1/2	95770	6.500	3.000	5.000	1.500	2.000	4.500	2.500	2-12	3.250	0.062	2.001
VLR-7-1/2	95777	7.500	3.000	6.000	1.500	2.500	5.500	3.250	2 1/2-12	3.250	0.062	2.501
VLR-8-1/2	95782	8.500	3.000	7.000	1.500	2.500	5.500	3.250	2 1/2-12	3.250	0.062	2.501

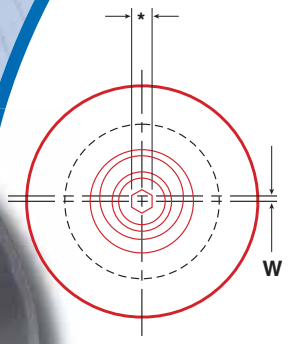
Part No.	Mounting Member Thickness Max	Mounting Member Thickness Min	Ball or Tapered Roller Bearings	Bearing Capacity, Radial Load (lbs) 3000hrs L10 Life @ 100RPM	500hrs L10 Life @ 33-1/3RPM	Static Limit	Bearing Static Thrust Capacity (lbs)	Stud Capacity (lbs) Bend @V	Shear	Retaining Ring Capacity (lbs)	Approx. Weight (lbs)
VLR-1-1/2	0.625	0.500	BB	240	630	230	140	370	1970	380	0.5
VLR-2	0.750	0.625	BB	520	1350	600	370	920	3250	470	0.6
VLR-2-1/2	1.250	1.000	BB	1050	2760	1100	680	1230	5780	470	1.3
VLR-3-1/2	1.250	1.000	BB	1980	5190	2270	1400	3730	14580	1340	3.4
VLR-3-1/2-16	1.250	1.000	TRB	3780	8990	7200	3150	3120	14580	N/A	3.4
VLR-4-1/2	1.250	1.000	TRB	6000	14270	20000	12000	12660	40500	N/A	7.0
VLR-5-1/2	1.500	1.250	TRB	6000	14270	20000	12000	12660	40500	N/A	10.5
VLR-6-1/2	3.000	2.000	TRB	15060	35840	56400	33100	34880	103670	N/A	25.5
VLR-7-1/2	3.250	2.250	TRB	15060	35840	56400	33100	68130	161990	N/A	37.0
VLR-8-1/2	3.250	2.250	TRB	15060	35840	56400	33100	68130	161990	N/A	46.0

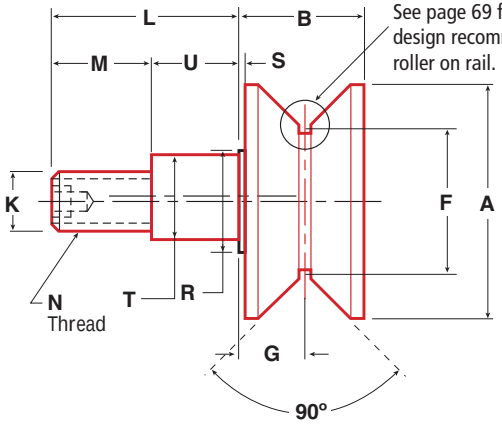
Other sizes available on request. *For stud hex socket size, see page 71.
**Lock washer and jam nut available at additional cost.

www.loadrunners.com
rollers@osborn.com

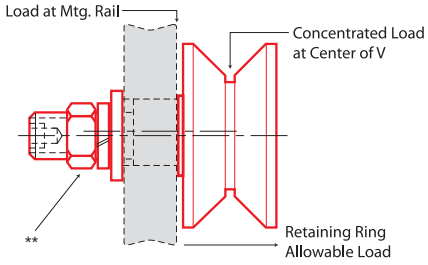
Please refer to Page 60-61 for our standard Metric offering, please note that we can make all sizes up to 250mm.

V-Grooved - Eccentric Stud Style Inch Sizes





See page 69 for details of design recommendations for roller on rail.



Part No.	Item No.	A	B	F	G	K	L	M	N	R	S	T	U	W
		Roller Dia	Roller Width	Point Dia	Groove Location	Stud Dia	Stud Length	Thread Length	Thread	Shoulder Dia	Shoulder Length	Eccentric Dia	Eccentric Length	Eccentricity
												+0.001 -0.001	+0.000 -0.010	
VLRE-1-1/2	97336	1.5	0.731	1.125	0.391	0.437	1.000	0.500	7/16-20	0.750	0.031	0.625	0.500	0.030
VLRE-2	97337	2	0.844	1.375	0.422	0.500	1.250	0.625	1/2-20	0.812	0.031	0.687	0.625	0.030
VLRE-2-1/2	95958	2.5	1.312	1.500	0.687	0.750	1.750	0.895	3/4-16	1.375	0.062	1.000	0.855	0.030
VLRE-3-1/2	95970	3.5	1.687	2.250	0.875	0.875	2.000	1.020	7/8-14	1.500	0.062	1.187	0.980	0.030
VLRE-3-1/2-4	95973	3.5	1.890	2.250	0.875	0.750	2.000	1.020	3/4-16	1.500	0.125	1.187	0.980	0.030
VLRE-4-1/2	95986	4.5	2.000	3.000	1.000	1.250	2.500	1.270	1 1/4-12	2.312	0.062	1.750	1.230	0.060
VLRE-5-1/2	95995	5.5	2.000	4.000	1.000	1.250	2.750	1.395	1 1/4-12	2.312	0.062	1.812	1.355	0.060
VLRE-6-1/2	95997	6.5	3.000	5.000	1.500	2.000	4.500	2.375	2-12	3.250	0.062	2.625	2.125	0.060
VLRE-7-1/2	90110	7.5	3.000	6.000	1.500	2.500	5.500	2.625	2 1/2-12	3.625	0.062	3.125	2.875	0.060

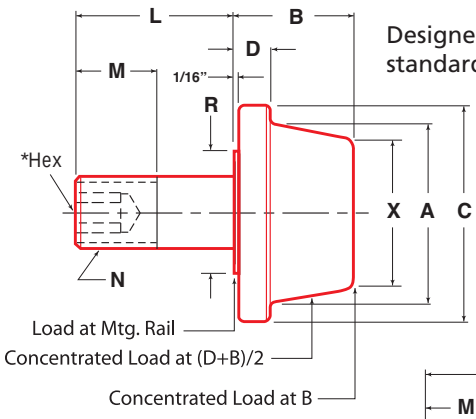
Part No.	Rec. Mtg. Hole Size	Mounting Member Thickness		Ball or Tapered Roller Bearing	Bearing Capacity, Radial Load (lbs)			Bearing Static Thrust Capacity (lbs)	Stud Capacity (lbs)		Retaining Ring Capacity (lbs)	Approx. Weight (lbs)
					3000hrs L10 Life @ 100RPM	500hrs L10 Life @ 33-1/3RPM	Static Limit		Bending = 0.75 Sy Bend @V	Shear = 0.75 x 0.5 x Sy Load @ Mtg. Rail		
	+0.001 -0.000	Max	Min									
VLRE-1-1/2	0.627	0.625	0.500	BB	240	630	230	140	480	1970	380	0.5
VLRE-2	0.689	0.750	0.625	BB	520	1350	600	370	920	3250	470	0.6
VLRE-2-1/2	1.002	1.000	0.875	BB	1050	2760	1100	680	1230	5780	470	1.4
VLRE-3-1/2	1.189	1.125	1.000	BB	1980	5190	2270	1400	3730	14580	1340	3.4
VLRE-3-1/2-4	1.189	1.125	1.000	TRB	3780	8990	7200	3150	3120	14580	N/A	3.6
VLRE-4-1/2	1.752	1.375	1.250	TRB	6000	14270	20000	12000	12820	40500	N/A	7.3
VLRE-5-1/2	1.814	1.500	1.325	TRB	6000	14270	20000	12000	12820	40500	N/A	10.9
VLRE-6-1/2	2.627	2.500	2.250	TRB	15060	35840	56400	33100	37300	103670	N/A	26.5
VLRE-7-1/2	3.127	3.250	3.000	TRB	15060	35840	56400	33100	72900	161990	N/A	39.5

Other sizes available on request.
* For stud hex socket size, see page 71.
**Flat washer, lock washer and jam nut available at additional cost.

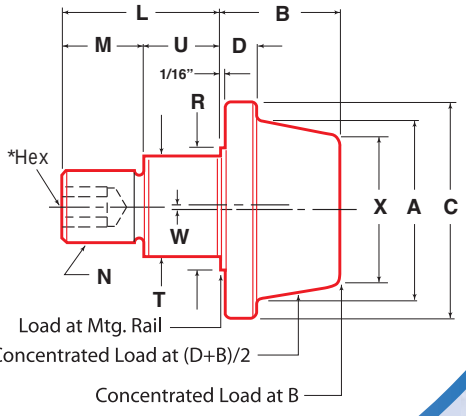
Please refer to Page 62 for our standard Metric offering, please note that we can make all sizes up to 250mm.

Flanged Crown Style
Concentric & Eccentric Studs - Inch Sizes

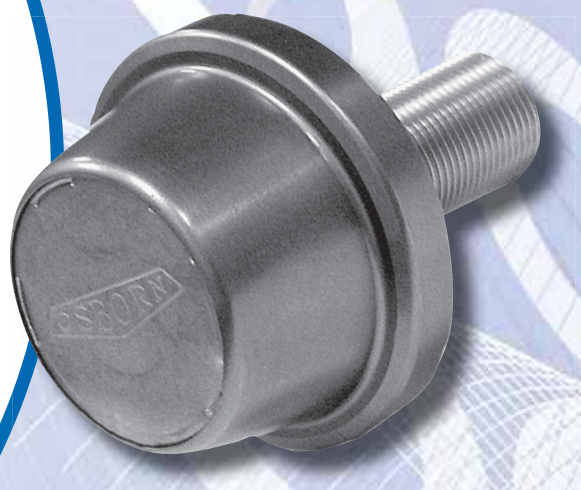
Designed to run on commercially available standard structural I-beams and channels.



Concentric (FLRC)



Eccentric (FLRCE)



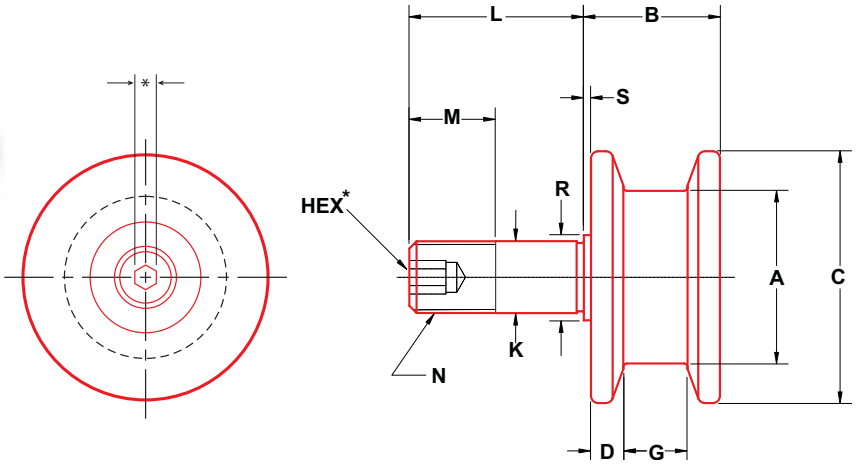
Part No.	Item No.	A	B	C	D	K	L	M	N	R	X	T	U	W
		Roller Dia	Roller Width	Flange Dia	Flange Thickness	Stud Dia	Stud Length	Thread Length	Thread	Shoulder Dia	Minor Diameter	Eccentric Dia	Eccentric Length	Eccent.
												+0.001 -0.001	+0.000 -0.010	
FLRC-2-1/2	97531	2.500	1.688	3.000	0.500	1.000	2.250	1.500	1-14	1.250	2.062	N/A	N/A	N/A
FLRC-3	97533	3.000	1.812	3.938	0.593	1.000	2.250	1.500	1-14	1.250	2.562	N/A	N/A	N/A
FLRC-4	96057	4.000	2.000	4.938	0.593	1.250	2.750	1.750	1 1/4-12	1.750	3.312	N/A	N/A	N/A
FLRCE-2-1/2	96100	2.500	1.688	3.000	0.500	1.000	2.250	1.145	1-14	1.687	2.062	1.375	1.105	0.030
FLRCE-3	97534	3.000	1.812	3.938	0.593	1.000	2.250	1.145	1-14	1.687	2.562	1.375	1.105	0.030
FLRCE-4	97535	4.000	2.000	4.938	0.593	1.250	2.750	1.395	1 1/4-12	2.312	3.312	1.812	1.355	0.060

Part No.	Rec. Mtg. Hole Size	Mounting Member Thickness Max		Ball or Tapered Roller Bearing	Bearing Capacity, Radial Load (lbs)			Bearing Static Thrust Capacity (lbs)	Stud Capacity (lbs)			Retaining Ring Capacity (lbs)	Approx. Weight (lbs)
					3000hrs L10 Life @ 100RPM	500hrs L10 Life @ 33-1/3RPM	Static Limit		Bend @(D+B)/2	Bend @B	Shear		
	+0.001 -0.001	Max	Min										
FLRC-2-1/2	1.001	1.250	0.750	BB	1980	5190	2270	1400	3930	1770	14580	1340	2.8
FLRC-3	1.001	1.250	0.750	TRB	4570	10890	7630	4570	6960	3580	25920	N/A	4.7
FLRC-4	1.251	1.250	1.000	TRB	6000	14270	20000	12000	13620	6330	40500	N/A	7.9
FLRCE-2-1/2	1.377	1.250	1.125	BB	1980	5190	2270	1400	3930	1770	14580	1340	3.0
FLRCE-3	1.377	1.250	1.125	TRB	4570	10890	7630	4570	6960	3580	25920	N/A	5.1
FLRCE-4	1.814	1.500	1.375	TRB	6000	14270	20000	12000	13620	6330	40500	N/A	8.5

Other sizes available on request.
Flat washer, lock washer and jam nut available at additional cost.
For size see "N" dimension.
* For stud hex socket size, see page 71.

www.loadrunners.com
rollers@osborn.com

Double Flanged Concentric Stud Style
Inch Sizes



Part No.	Item No.	A	B	C	D	G	K	L	M	N	R	S
		Roller Dia	Roller Width	Flange Dia	Flange Thickness (Both Sides)	Groove Width	Stud Dia +0.000 -0.001	Stud Length	Thread Length	Thread	Shoulder Dia	Shoulder Length
FFLR-1-1/2-4	90670	1.500	1-3/16	2-3/16	0.281	0.558	0.625	1-1/2	3/4	5/8-18	3/4	1/16
FFLR-2-4	90671	2.000	1-11/16	2-11/16	0.531	0.558	0.875	2"	1-1/8	7/8-14	1"	1/16
FFLR-2-1/2-4	90672	2.500	1-11/16	3-3/16	0.531	0.562	1.000	2-1/4	1-1/2	1"-14	1-1/4	1/16
FFLR-3-4	90673	3.000	2"	3-15/16	0.531	0.874	1.250	2-1/2	1-3/4	1-1/4-12	1-3/4	1/16

Part No.	Rec. Mtg. Hole Size +0.001 -0.000	Ball or Tapered Roller Bearings	Bearing Capacity, Radial Load (lbs)			Thrust Capacity Static Limit (lbs)	Mounting Member Thickness		Stud Capacity (lbs) Bending Concent. Load at (B-D)/2	Retaining Ring Capacity (lbs)	Approx. Weight (lbs)
			3000hrs L10 Life @ 100 RPM	500hrs L10 Life @ 33-1/3 RPM	Radial Capacity Static Limit		Max	Min			
FFLR-1-1/2-4	0.626	BB	1050	2760	1100	680	1"	3/4	1374	470	0.9
FFLR-2-4	0.876	BB	1460	3826	1620	1000	1-1/4	7/8	3984	910	2.3
FFLR-2-1/2-4	1.001	BB	1979	5187	2268	1400	1-1/4	3/4	3694	1340	3.5
FFLR-3-4	1.251	TRB	5990	14270	12263	12000	1-1/4	1"	12260	N/A	6.0

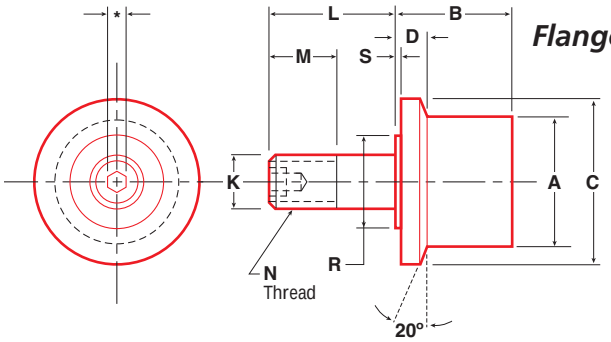
Other sizes available on request.
Assemblies are provided with jam nuts and lock washers.
* For stud hex socket size, see page 71.

Stainless Steel Concentric Stud
Plain Style, Flanged, V-Groove - Inch Sizes

Load Runners®

Use where corrosive or other conditions make standard steel rollers unsuitable.

- **All-stainless construction**
- **Corrosion resistant**
- **Tread 440C & hardened to 55-60Rc**
- **Stud & cap 300 grade stainless steel**



Flanged Concentric Stud

Applications:

- **Chemical Treatment**
- **Tank Building**
- **Food Processing**
- **Aerospace**
- **Marine**
- **Waste Treatment**
- **Pharmaceutical**

Plain - Concentric Stud

Part No.	Item No.	A Roller Dia +0.000 -0.001	B Roller Width	K Stud Dia +0.000 -0.001	L Stud Length	M Thread Length	N Thread	R Shldr. Dia	S Shldr. Length
PLRS-1	97734	1.000	0.781	0.437	1.000	0.500	7/16-20	0.500	0.031
PLRS-1-1/4	97735	1.250	0.844	0.500	1.250	0.625	1/2-20	0.625	0.031
PLRS-1-1/2	97736	1.500	1.187	0.625	1.500	0.750	5/8-18	0.750	0.062
PLRS-1-3/4	90341	1.750	1.187	0.750	1.750	0.875	3/4-16	1.000	0.062
PLRS-2	97737	2.000	1.687	0.875	2.000	1.125	7/8-14	1.000	0.062
PLRS-2-1/2	97738	2.500	1.687	1.000	2.250	1.500	1-14	1.250	0.062

Flanged - Concentric Stud

Part No.	Item No.	A Roller Dia	B Roller Width	C Flange Dia	D Flange Thickness	K Stud Dia +0.000 -0.001	L Stud Length	M Thread Length	N Thread	R Shldr. Dia	S Shldr. Length
FLRS-1	97739	1.000	0.781	1.375	0.219	0.437	1.000	0.500	7/16-20	0.500	0.031
FLRS-1-1/4	97740	1.250	0.844	1.563	0.219	0.500	1.250	0.625	1/2-20	0.625	0.031
FLRS-1-1/2	97741	1.500	1.188	2.188	0.343	0.625	1.500	0.750	5/8-18	0.750	0.062
FLRS-2	97742	2.000	1.688	2.688	0.593	0.875	2.000	1.125	7/8-14	1.000	0.062
FLRS-2-1/2	97743	2.500	1.688	3.188	0.593	1.000	2.250	1.500	1-14	1.250	0.062

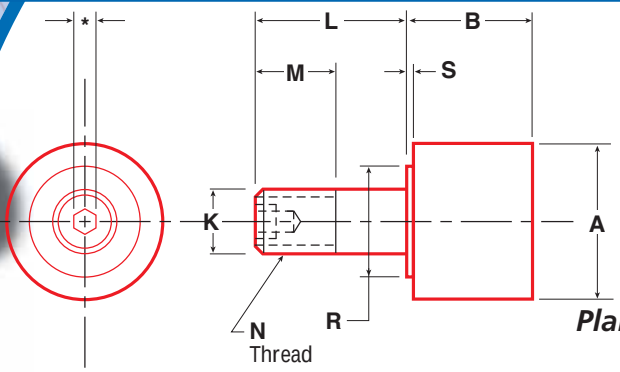
V-Groove - Concentric Stud

Part No.	Item No.	A Roller Dia	B Roller Width	F Point Dia	G Groove Location	K Stud Dia +0.000 -0.001	L Stud Length	M Thread Length	N Thread	R Shldr. Dia	S Shldr. Length
VLRS-1-1/2	97994	1.500	0.781	1.125	0.391	0.437	1.000	0.500	7/16-20	0.500	0.031
VLRS-2	97995	2.000	0.844	1.375	0.422	0.500	1.250	0.625	1/2-20	0.625	0.031
VLRS-2-1/2	97996	2.500	1.312	1.500	0.687	0.750	1.750	0.875	3/4-16	1.000	0.062

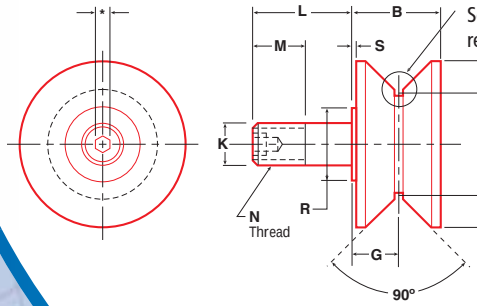
www.loadrunners.com
rollers@osborn.com

* Stainless steel assemblies are provided with lock washer and jam nut.

Stainless Steel Concentric Stud
Plain Style, Flanged, V-Groove - Inch Sizes



Plain Concentric Stud



See page 69 for details of design recommendations for roller on rail.

V-grooved Concentric Stud

Part No.	Rec. Mtg. Hole Size	Mounting Member Thickness		Bearing Capacity, Radial Load (lbs)			Thrust Capacity Static Limit (lbs)	Stud Capacity (lbs)			Retaining Ring Capacity (lbs)	Approx. Weight (lbs)
				3000hrs L10 Life @ 100	500hrs L10 Life @ 33-1/3	Static Limit		Bend @B/2	Bend @B	Shear		
	+0.001 -0.000	Max	Min									
PLRS-1	0.438	0.625	0.500	350	920	390	240	190	80	780	150	0.3
PLRS-1-1/4	0.501	0.750	0.625	480	1250	520	320	350	160	1290	230	0.3
PLRS-1-1/2	0.626	1.000	0.750	940	2470	1110	690	550	260	2300	350	0.5
PLRS-1-3/4	0.751	1.125	0.875	940	2470	1110	690	550	260	2300	350	0.8
PLRS-2	0.876	1.250	0.875	1330	3480	1750	1080	1590	600	4620	740	1.3
PLRS-2-1/2	1.001	1.250	0.750	1330	3480	1750	1080	1590	600	4620	740	2.3

Part No.	Rec. Mtg. Hole Size	Mounting Member Thickness		Bearing Capacity, Radial Load (lbs)			Thrust Capacity Static Limit (lbs)	Stud Capacity (lbs)			Retaining Ring Capacity (lbs)	Approx. Weight (lbs)
				3000hrs L10 Life @ 100 RPM	500hrs L10 Life @ 33-1/3 RPM	Static Limit		Bend @B	Bend @(D+B)/2	Shear		
	+0.001 -0.000	Max	Min									
FLRS-1	0.438	0.625	0.500	350	920	390	240	80	150	780	150	0.4
FLRS-1-1/4	0.501	0.750	0.625	480	1250	520	320	160	280	1290	230	0.5
FLRS-1-1/2	0.626	1.000	0.750	940	2470	1110	690	260	440	2300	350	0.8
FLRS-2	0.876	1.250	0.875	1330	3480	1750	1080	600	1050	4620	740	2.0
FLRS-2-1/2	1.001	1.250	0.750	1330	3480	1750	1080	600	1050	4620	740	3.0

Part No.	Rec. Mtg. Hole Size	Mounting Member Thickness		Bearing Capacity, Radial Load (lbs)			Thrust Capacity Static Limit (lbs)	Stud Capacity (lbs)		Retaining Ring Capacity (lbs)	Approx. Weight (lbs)
				3000hrs L10 Life @ 100 RPM	500hrs L10 Life @ 33-1/3 RPM	Static Limit		Bend @V	Shear		
	+0.001 -0.000	Max	Min								
VLRS-1-1/2	0.438	0.750	0.625	350	920	390	240	200	780	150	0.6
VLRS-2	0.500	0.875	0.750	480	1250	520	320	370	1290	230	0.8
VLRS-2-1/2	0.751	1.250	1.000	940	2470	1110	690	490	2260	350	1.6

Other sizes available on request.
* For stud hex socket size, see page 71.

Stainless Steel Eccentric Stud
Plain Style, Flanged, V-Groove - Inch Sizes

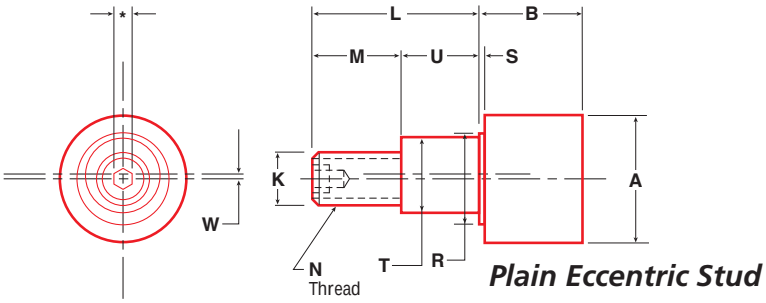
Load Runners®

Use where corrosive or other conditions make standard steel rollers unsuitable.

- **All-stainless construction**
- **Corrosion resistant**
- **Tread 440C & hardened to 55-60Rc**
- **Stud & cap 300 grade stainless steel**

Applications:

- **Chemical Treatment**
- **Tank Building**
- **Food Processing**
- **Aerospace**
- **Marine**
- **Waste Treatment**
- **Pharmaceutical**



Plain Eccentric Stud

Plain - Eccentric Stud Style

Part No.	Item No.	A	B	K	L	M	N	R	S	T	U	W
		Roller Dia +0.000 -0.001	Roller Width	Stud Dia	Stud Length	Thread Length	Thread	Shldr. Dia	Shldr. Length	Eccentric Dia +0.001 -0.001	Eccentric Length +0.000 -0.010	Eccent.
PLRSE-1	97896	1.000	0.781	0.437	1.000	0.500	7/16-20	0.750	0.031	0.625	0.500	0.030
PLRSE-1-1/4	97897	1.250	0.844	0.500	1.250	0.625	1/2-20	0.812	0.031	0.687	0.625	0.030
PLRSE-1-1/2	97898	1.500	1.188	0.625	1.500	0.770	5/8-18	1.125	0.062	0.875	0.730	0.030
PLRSE-1-3/4	90241	1.750	1.188	0.750	1.750	0.875	3/4-16	1.240	0.062	1.000	0.855	0.030
PLRSE-2	97899	2.000	1.688	0.875	2.000	1.020	7/8-14	1.500	0.062	1.187	0.980	0.030
PLRSE-2-1/2	97900	2.500	1.688	1.000	2.250	1.145	1-14	1.687	0.062	1.375	1.105	0.030

Flanged - Eccentric Stud

Part No.	Item No.	A	B	C	D	K	L	M	N	R	S	T	U	W
		Roller Dia	Roller Width	Flange Dia	Flange Thickness	Stud Dia	Stud Length	Thread Length	Thread	Shldr. Dia	Shldr. Length	Eccentric Dia +0.001 -0.001	Eccentric Length +0.000 -0.010	Eccent.
FLRSE-1	97965	1.000	0.781	1.375	0.219	0.437	1.000	0.500	7/16-20	0.750	0.031	0.625	0.500	0.030
FLRSE-1-1/4	97966	1.250	0.844	1.563	0.219	0.500	1.250	0.625	1/2-20	0.812	0.031	0.687	0.625	0.030
FLRSE-1-1/2	97967	1.500	1.188	2.188	0.343	0.625	1.500	0.770	5/8-18	1.125	0.062	0.875	0.730	0.030
FLRSE-2	97968	2.000	1.688	2.688	0.593	0.875	2.000	1.020	7/8-14	1.500	0.062	1.187	0.980	0.030
FLRSE-2-1/2	97969	2.500	1.688	3.188	0.593	1.000	2.250	1.145	1-14	1.687	0.062	1.375	1.105	0.030

V-Groove - Eccentric Stud

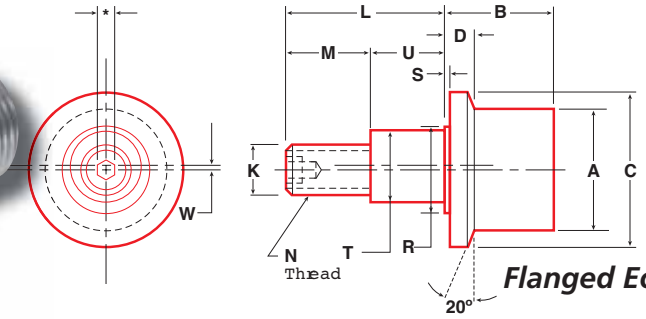
Part No.	Item No.	A	B	F	G	K	L	M	N	R	S	T	U	W
		Roller Dia	Roller Width	Point Dia	Groove Location	Stud Dia +0.000 -0.001	Stud Length	Thread Length	Thread	Shldr. Dia	Shldr. Length	Eccentric Dia +0.001 -0.001	Eccentric Length +0.000 -0.010	Eccent.
VLRSE-1-1/2	97997	1.500	0.781	1.125	0.391	0.437	1.000	0.500	7/16-20	0.750	0.031	0.625	0.500	0.030
VLRSE-2	97998	2.000	0.844	1.375	0.422	0.500	1.250	0.625	1/2-20	0.812	0.031	0.687	0.625	0.030
VLRSE-2-1/2	97999	2.500	1.312	1.500	0.687	0.750	1.750	0.875	3/4-16	1.240	0.062	1.000	0.855	0.030

Stainless steel assemblies provided with jam nuts & lock washers.

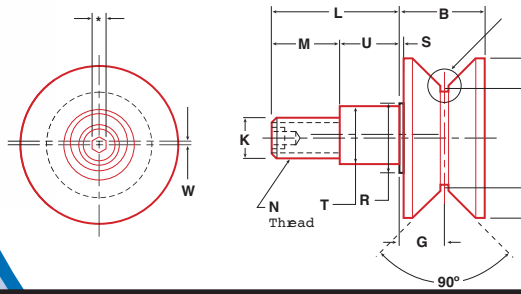
* For stud hex socket size, see page 71.

www.loadrunners.com
rollers@osborn.com

Stainless Steel Eccentric Stud
Plain Style, Flanged, V-Groove - Inch Sizes



Flanged Eccentric Stud



V-Groove Eccentric Stud

See page 69 for details of design recommendations for roller on rail.

Part No.	Rec. Mtg. Hole Size	Mounting Member Thickness		Bearing Capacity, Radial Load (lbs)			Bearing Static Thrust Capacity (lbs)	Stud Capacity (lbs)			Retaining Ring Capacity (lbs)	Approx. Weight (lbs)
				3000hrs L10 Life @ 100 RPM	500hrs L10 Life @ 33-1/3 RPM	Static Limit		Bend @B/2	Bend @B	Shear		
	+0.001 -0.000	Max	Min									
PLRSE-1	0.627	0.625	0.500	350	920	390	240	190	80	780	150	0.4
PLRSE-1-1/4	0.689	0.750	0.625	480	1250	520	320	350	160	1290	230	0.5
PLRSE-1-1/2	0.877	0.875	0.750	940	2470	1110	690	550	260	2300	350	0.7
PLRSE-1-3/4	1.002	1.000	0.875	940	2470	1110	690	550	260	2300	350	1.0
PLRSE-2	1.189	1.125	1.000	1330	3480	1750	1080	1610	600	4620	740	1.9
PLRSE-2-1/2	1.377	1.250	1.125	1330	3480	1750	1080	1600	600	4620	740	3.0

Part No.	Rec. Mtg. Hole Size	Mounting Member Thickness		Bearing Capacity, Radial Load (lbs)			Bearing Static Thrust Capacity (lbs)	Stud Capacity (lbs)			Retaining Ring Capacity (lbs)	Approx. Weight (lbs)
				3000hrs L10 Life @ 100 RPM	500hrs L10 Life @ 33-1/3 RPM	Static Limit		Bend @B	Bend @(B-D)/2	Shear		
	+0.001 -0.000	Max	Min									
FLRSE-1	0.627	0.625	0.500	350	920	390	240	80	150	780	150	0.5
FLRSE-1-1/4	0.689	0.750	0.625	480	1250	520	320	160	280	1290	230	0.7
FLRSE-1-1/2	0.877	0.875	0.750	940	2470	1110	690	260	440	2300	350	0.8
FLRSE-2	1.189	1.125	1.000	1330	3480	1750	1080	600	1050	4620	740	2.0
FLRSE-2-1/2	1.377	1.250	1.125	1330	3480	1750	1080	600	1050	4620	740	3.0

Part No.	Rec. Mtg. Hole Size	Mounting Member Thickness		Bearing Capacity, Radial Load (lbs)			Bearing Static Thrust Capacity (lbs)	Stud Capacity (lbs)		Retaining Ring Capacity (lbs)	Approx. Weight (lbs)
				3000hrs L10 Life @ 100RPM	500hrs L10 Life @ 33-1/3RPM	Static Limit		Bend @V	Shear		
		Max	Min								
VLRSE-1-1/2	0.627	0.625	0.500	350	920	390	240	190	780	150	1.0
VLRSE-2	0.689	0.750	0.625	480	1250	520	320	370	1290	230	1.2
VLRSE-2-1/2	1.002	1.000	0.875	940	2470	1110	690	490	2300	350	1.6


Did you know...
Osborn has Fourteen International Plants and Locations.

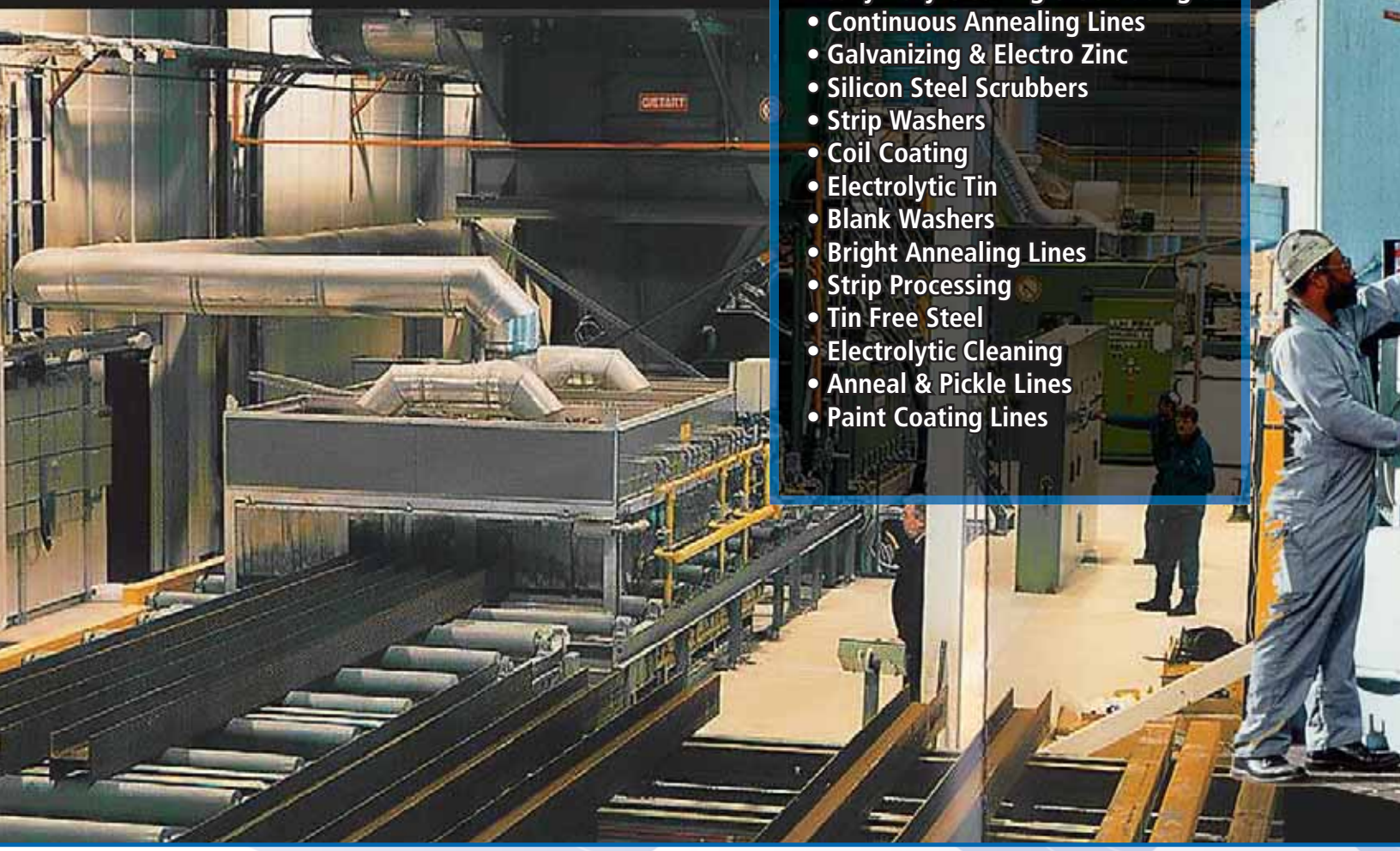
Our total commitment is to exceed the expectations of our customers, Osborn International is the World's leading name in Idler Roller & Brush products for the Primary Metals industry.

primary metals

WIDE FACE BRUSHES

Specially engineered to meet the demands of the Primary Metals industry, Osborn wide face brushes provide consistent, accurate surface finish control.

Osborn Wide Face Brushes are great for surface conditioning during brass, copper and other non-ferrous metal processing, cleaning in steel rolling or scale removal and controlling oxide buildup in aluminum rolling.



Heavy Duty Cleaning & Scrubbing on:

- Continuous Annealing Lines
- Galvanizing & Electro Zinc
- Silicon Steel Scrubbers
- Strip Washers
- Coil Coating
- Electrolytic Tin
- Blank Washers
- Bright Annealing Lines
- Strip Processing
- Tin Free Steel
- Electrolytic Cleaning
- Anneal & Pickle Lines
- Paint Coating Lines

Heli-Master U Brushes

These helically wound brushes feature a hard working, welded, one piece construction. Designed for arbor mounting in your plant for fast, easy removal and replacement, keeping your process interruptions to a minimum. The dense fill and excellent balance of Osborn Heli-Master U Brushes provide a uniform finish, lower vibration, highter operating speeds, closer control of the brushing process and higher brushing efficiency to keep your finishing costs down. Fill materials include high tensile steel wire, stainless steel wire, ATB™ abrasive nylon, tampico, or crimped polypropylene synthetic. Trim lengths can be provided to match your specific application.

Heli-Master FA Brushes

Smooth, efficient performance begins with design. Helical winding of Osborn Heli-Master FA Brushes provides a continuous, uniform density. Each brush is dynamically balanced to assure smooth operation at the designed operating speed. Application speeds exceeding 5,000 SFPM are no problem to the Osborn professionals. Constructed on a reusable arbor, Osborn Heli-Master FA Brushes are frequently your lowest cost solution. When worn beyond your process control limits, simply return the worn brush to Osborn to be remanufactured using the same or a different fill material.

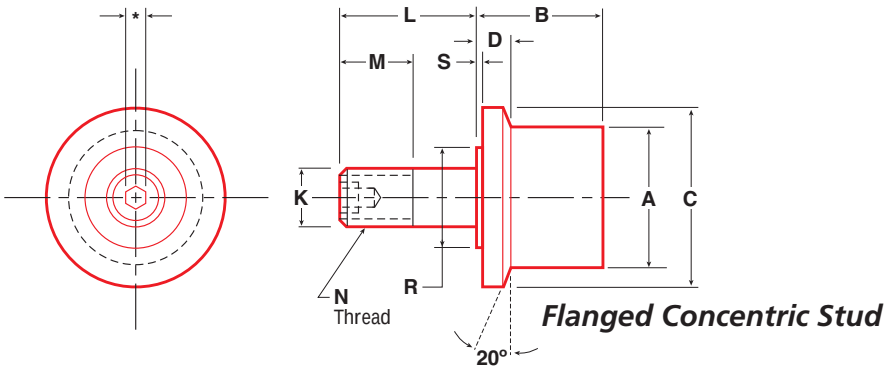
SCRUBBERS

Interlock Scrubber Brushes The patented construction of Osborn Section Scrubber brushes is designed for strong, secure mounting on a disposable steel carrier. Brushes are available in wire, polypropylene synthetic, natural, and abrasive nylon filaments.

Load Runners®

For ovens, galvanizing lines, heat treat furnaces and industrial dryers.

- **Resists 325°F (continuous)**
- **High-temp seals and lubricant**



Flanged Concentric Stud

Typical Applications:

- **Paper Mills**
- **Steel Mills**
- **Aluminum Mills**
- **Foundries**
- **Food Processing**
- **Aerospace**

Plain - Concentric Stud Style

Part No.	Item No.	A	B	K	L	M	N	R	S
		Roller Dia	Roller Width	Stud Dia	Stud Length	Thread Length	Thread	Shldr. Dia	Shldr. Length
		+0.000 -0.001		+0.000 -0.001					
PLRH-1	97724	1.000	0.781	0.437	1.000	0.500	7/16-20	0.500	0.031
PLRH-1-1/4	97725	1.250	0.844	0.500	1.250	0.625	1/2-20	0.625	0.031
PLRH-1-1/2	97726	1.500	1.187	0.625	1.500	0.750	5/8-18	0.750	0.062
PLRH-2	97727	2.000	1.687	0.875	2.000	1.125	7/8-14	1.000	0.062
PLRH-2-1/2	97728	2.500	1.687	1.000	2.250	1.500	1-14	1.250	0.062

Flanged - Concentric Stud Style

Part No.	Item No.	A	B	C	D	K	L	M	N	R	S
		Roller Dia	Roller Width	Flange Dia	Flange Thickness	Stud Dia	Stud Length	Thread Length	Thread	Shldr. Dia	Shldr. Length
						+0.000 -0.001					
FLRH-1	97729	1.000	0.781	1.375	0.219	0.437	1.000	0.500	7/16-20	0.500	0.031
FLRH-1-1/4	97730	1.250	0.844	1.563	0.219	0.500	1.250	0.625	1/2-20	0.625	0.031
FLRH-1-1/2	97731	1.500	1.188	2.188	0.343	0.625	1.500	0.750	5/8-18	0.750	0.062
FLRH-2	97732	2.000	1.688	2.688	0.593	0.875	2.000	1.125	7/8-14	1.000	0.062
FLRH-2-1/2	97733	2.500	1.688	3.188	0.593	1.000	2.250	1.500	1-14	1.250	0.062

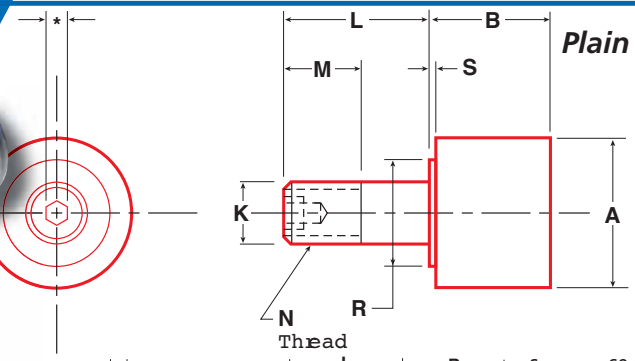
V-Grooved - Concentric Stud Style

Part No.	Item No.	A	B	F	G	K	L	M	N	R	S
		Roller Dia	Roller Width	Point Dia	Groove Location	Stud Dia	Stud Length	Thread Length	Thread	Shldr. Dia	Shldr. Length
						+0.000 -0.001					
VLRH-1-1/2	90048	1.500	0.781	1.125	0.391	0.437	1.000	0.500	7/16-20	0.500	0.031
VLRH-2	90072	2.000	0.844	1.375	0.422	0.500	1.250	0.625	1/2-20	0.625	0.031
VLRH-2-1/2	90049	2.500	1.312	1.500	0.687	0.750	1.750	0.875	3/4-16	1.000	0.062

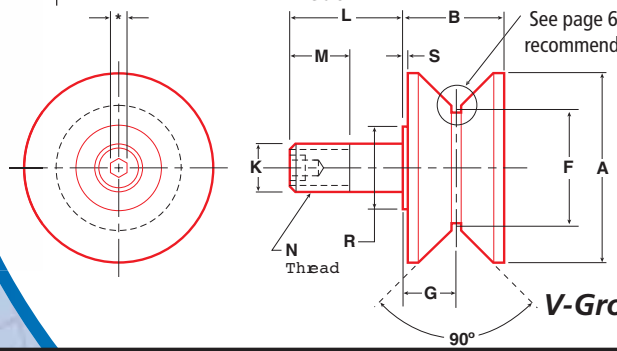
www.loadrunners.com
rollers@osborn.com

High temp assemblies provided with jam nuts & lock washers.
*For stud hex socket size, see page 71.

High-Temp Load Runners
Plain Style, Flanged, V-Groove - Inch Sizes



Plain Concentric Stud



See page 69 for details of design recommendations for roller on rail.

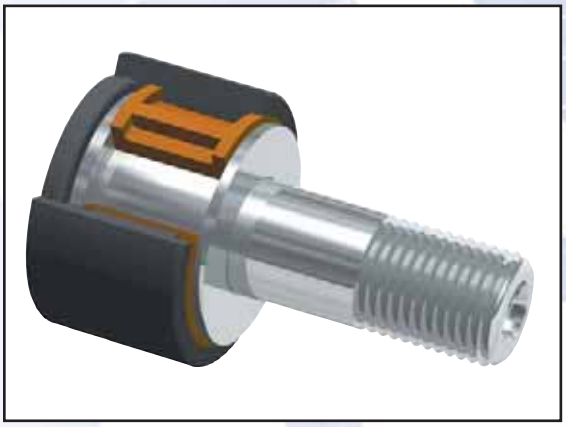
V-Groove Concentric Stud

Part No.	Rec. Mtg. Hole Size	Mounting Member Thickness		Bearing Capacity, Radial Load (lbs)			Bearing Thrust Capacity Static Limit (lbs)	Stud Capacity (lbs)			Retaining Ring Capacity (lbs)	Approx. Weight (lbs)
	+0.001 -0.000	Max	Min	3000hrs L10 Life @ 100 RPM	500hrs L10 Life @ 33-1/3 RPM	Static Limit		Bend @B	Bend @B/2	Shear		
PLRH-1	0.438	0.625	0.500	350	920	380	240	210	480	1970	380	0.2
PLRH-1-1/4	0.501	0.750	0.625	480	1250	520	320	390	880	3250	470	0.3
PLRH-1-1/2	0.626	1.000	0.750	940	2470	1110	690	650	1390	5780	470	0.4
PLRH-2	0.876	1.250	0.875	1330	3480	1750	1080	1500	4000	11610	910	1.3
PLRH-2-1/2	1.001	1.250	0.750	1330	3480	1750	1080	1500	4010	11610	910	2.3

Part No.	Rec. Mtg. Hole Size	Mounting Member Thickness		Bearing Capacity, Radial Load (lbs)			Bearing Static Thrust Capacity (lbs)	Stud Capacity (lbs)			Retaining Ring Capacity (lbs)	Approx. Weight (lbs)
	+0.001 -0.000	Max	Min	3000hrs L10 Life @ 100RPM	500hrs L10 Life @ 33-1/3RPM	Static Limit		Bend @B	Bend @(B-D)/2	Shear		
FLRH-1	0.438	0.625	0.500	350	920	390	240	210	370	1970	380	0.3
FLRH-1-1/4	0.501	0.750	0.625	480	1250	520	320	390	710	3250	470	0.4
FLRH-1-1/2	0.626	1.000	0.750	940	2470	1110	690	810	1100	5780	470	0.6
FLRH-2	0.876	1.250	0.875	1330	3480	1750	1080	1500	2640	11610	910	1.8
FLRH-2-1/2	1.001	1.250	0.750	1330	3480	1750	1080	1500	2640	11610	910	2.8

Part No.	Rec. Mtg. Hole Size	Mounting Member Thickness		Bearing Capacity, Radial Load (lbs)			Bearing Static Thrust Capacity (lbs)	Stud Capacity (lbs)		Retaining Ring Capacity (lbs)	Approx. Weight (lbs)
	+0.001 -0.000	Max	Min	3000hrs L10 Life @ 100	500hrs L10 Life @ 33-1/3	Static Limit		Bend @V	Shear		
VLRH-1-1/2	0.438	0.750	0.625	350	920	390	240	500	1970	380	0.5
VLRH-2	0.500	0.875	0.750	480	1250	520	320	920	3250	470	0.6
VLRH-2-1/2	0.751	1.250	1.000	940	2470	1110	690	1310	6230	470	14

CAM RUNNER®



Osborn Cam Runners are significantly different from conventional needle bearing style cam followers. This product is protected by U.S. patent and other patents pending.

General Characteristics

Cam Runners are manufactured with a composite synthetic tread and stainless steel stud. The composite tread consists of two different synthetic materials chosen to provide optimal characteristics for the outer wear surface and the inner bearing surface. The two synthetic parts are molded together to form a single mechanically bonded assembly that is mounted on the stud, eliminating the need for conventional seals and lubricants. The outer tread material offers high mechanical strength while the inner bearing material provides high lubricity.

The stud provides optimum life and corrosion resistance. Tread bearing wear is critically dependent on the hardness of the mating surface. When this assembly is used as a direct replacement for a conventional cam follower, the life will be optimized if the cam or other mating surface is within the range of 55 - 60 Rc. Softer or harder materials may result in decreased life, particularly under high loads. The mating surface must be free of grease, oil and abrasive contaminants.

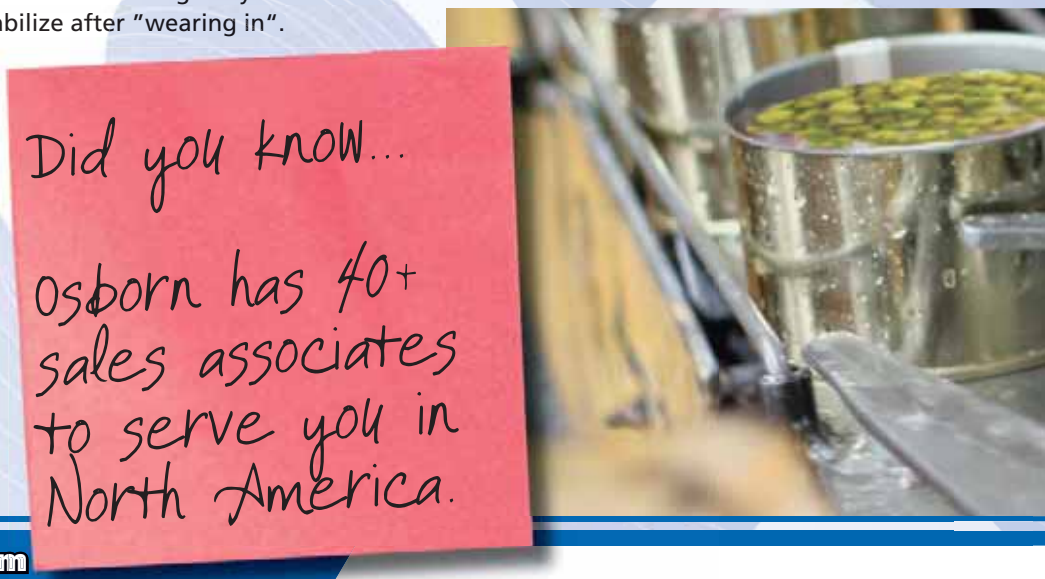
This assembly is dimensionally interchangeable with conventional steel cam followers. Because of its unique construction, comparable load ratings are not applicable. In order to guide you in choosing applications, extensive testing has been utilized to develop life expectancies based upon continuous duty testing at various speeds and loads. In continuous duty operation under identical loads and speeds, the Cam Runner has been found to outlast conventional steel cam followers by an average of 10 times!

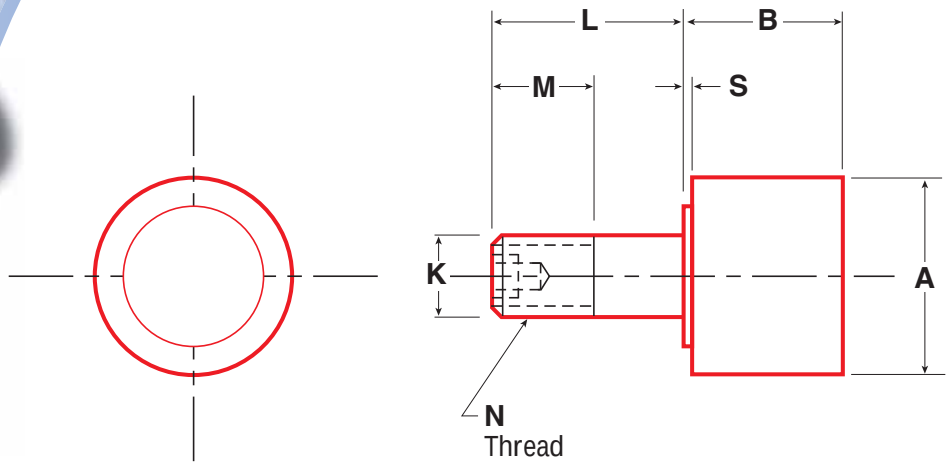
Bearing to stud clearance is greater than for needle bearing designs and will increase during early use and will stabilize after "wearing in".

Advantages

- No lubrication required – ever!
- Non sparking and low electrical conductivity
- Thrust load tolerant
- Extended life, ideal for difficult-to-service-operations
- No lubricant leakage to contaminate your process
- Quiet operation resulting from no internal moving parts
- Wide range of operating temperatures
- ISO 9001 compliant

Not recommended for ambient temperatures above 250° F, highly abrasive applications or repeated heavy shock loads.

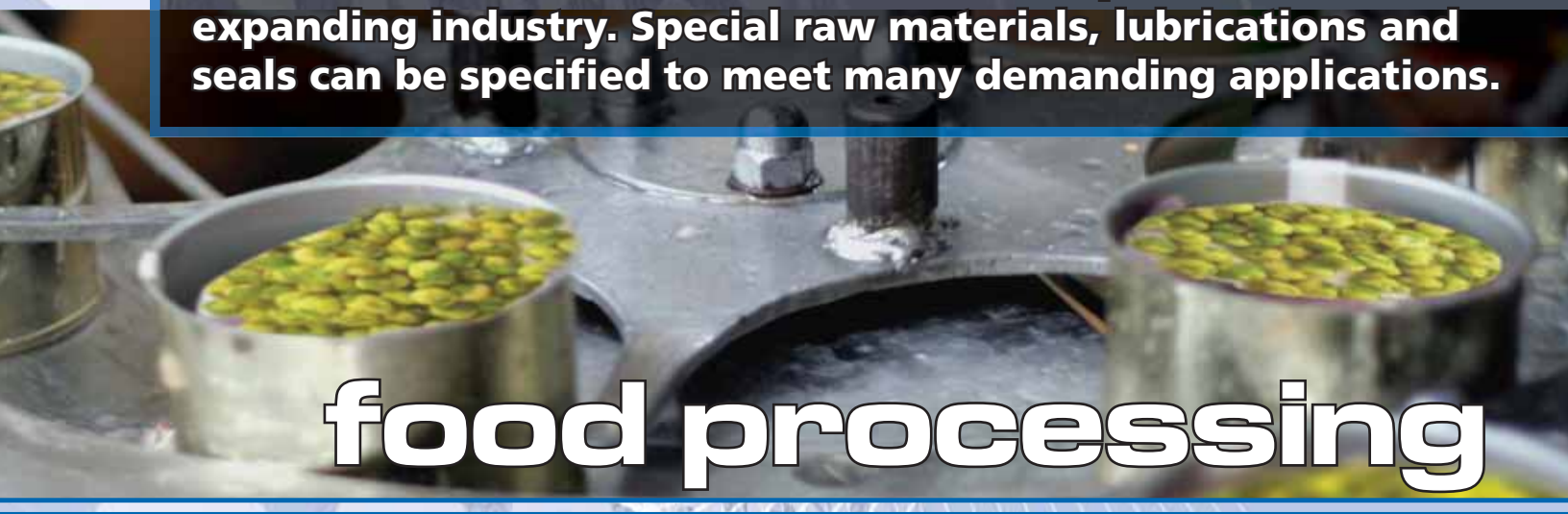




Part No.	Item No.	A Roller Dia	B Roller Width	K Stud Dia	L Stud Length	M Thread Length	N Thread	S Shoulder Length	Radial Capacity Static Limit (lbs)	Approx. Weight (lbs)
PCR-1/2	96959	0.500	0.406	0.188	0.625	0.250	10-32	0.031	110	0.05
PCR-9/16	96960	0.563	0.406	0.188	0.625	0.250	10-32	0.031	110	0.05
PCR-5/8	96961	0.625	0.469	0.250	0.750	0.313	1/4-28	0.031	230	0.05
PCR-11/16	96962	0.688	0.469	0.250	0.750	0.313	1/4-28	0.031	230	0.05
PCR-3/4	96963	0.750	0.563	0.375	0.875	0.375	3/8-24	0.063	700	0.1
PCR-7/8	96964	0.875	0.563	0.375	0.875	0.375	3/8-24	0.063	700	0.1
PCR-1	96965	1.000	0.688	0.438	1.000	0.500	7/16-20	0.063	870	0.1
PCR-1-1/8	96966	1.125	0.688	0.438	1.000	0.500	7/16-20	0.063	870	0.1
PCR-1-1/4	96967	1.250	0.813	0.500	1.250	0.625	1/2-20	0.063	1100	0.2
PCR-1-3/8	96968	1.375	0.813	0.500	1.250	0.625	1/2-20	0.063	1100	0.2
PCR-1-1/2	96969	1.500	0.938	0.625	1.500	0.750	5/8-18	0.063	1800	0.4
PCR-1-5/8	96970	1.625	0.938	0.625	1.500	0.750	5/8-18	0.063	1800	0.4

Cam Runners provided with hex jam nuts and lock washers.

Osborn Idler Rollers used in Food Processing can be engineered to meet the diverse conditions that are required in this ever expanding industry. Special raw materials, lubrications and seals can be specified to meet many demanding applications.



food processing

From low speed, quiet applications for medical equipment to high speed, reliable, and maintenance-free pharmaceutical & packaging applications.

Osborn Load Runners has the products to meet your requirements.

medical & pharmaceutical

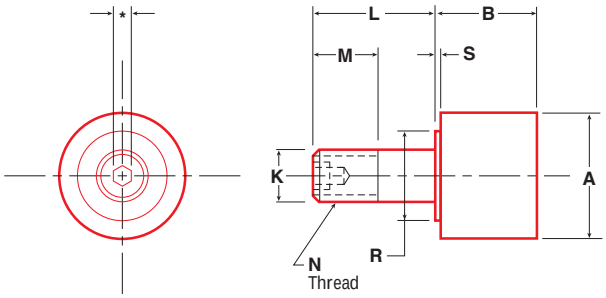
Proven in special applications calling for a wear-resistant, non-metallic rolling surface.

- **Impact resistant**
- **Reduced track wear**
- **Outdoor durability**

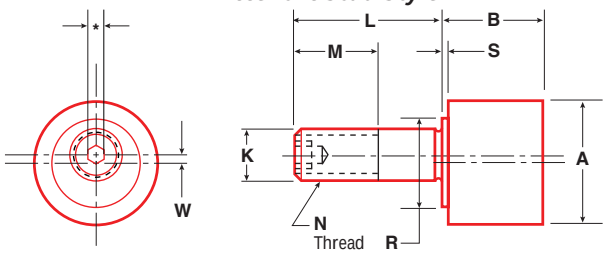
Typical Applications:

- **Medical Equipment**
- **Construction Sites**
- **Postage Systems**
- **Amusement Parks**

Concentric Stud Style



Eccentric Stud Style



Concentric Stud Style

Part No.	Item No.	A Roller Dia	B Roller Width	K Stud Dia +0.000 -0.001	L Stud Length	M Thread Length	N Thread	R Shldr. Dia	S Shldr. Length	Rec. Mtg. Hole Size +0.001 -0.000	Mounting Member Thickness Max	Mounting Member Thickness Min	Bearing Radial Capacity 3000hrs L10 Life @100RPM	Tread Capacity (lbs)	Tread Speed Limit (RPM)	Approx. Weight (lbs)
PLRU-1	97744	1.000	0.781	0.437	1.000	0.500	7/16-20	0.500	0.031	0.438	0.625	0.500	230	80	300	0.2
PLRU-1-1/8	97824	1.125	0.781	0.437	1.000	0.500	7/16-20	0.500	0.031	0.438	0.625	0.500	230	80	260	0.2
PLRU-1-1/4	97745	1.250	0.843	0.500	1.250	0.625	1/2-20	0.625	0.031	0.501	0.750	0.625	240	110	320	0.3
PLRU-1-3/8	97825	1.375	0.843	0.500	1.250	0.625	1/2-20	0.625	0.031	0.501	0.750	0.625	240	140	310	0.3
PLRU-1-1/2	97746	1.500	1.187	0.625	1.500	0.750	5/8-18	0.750	0.062	0.626	1.000	0.750	520	170	310	0.35
PLRU-1-3/4	97826	1.750	1.187	0.750	1.750	0.875	3/4-16	0.875	0.062	0.751	1.125	0.875	520	250	360	0.7
PLRU-2	97747	2.000	1.687	0.875	2.000	1.125	7/8-14	1.000	0.062	0.876	1.250	0.875	1050	340	360	1
PLRU-2-1/4	97827	2.250	1.687	0.875	2.000	1.125	7/8-14	1.000	0.062	0.876	1.250	0.875	1050	430	370	1.5
PLRU-2-1/2	97748	2.500	1.687	1.000	2.250	1.500	1-14	1.250	0.062	1.001	1.250	0.750	1980	410	400	2
PLRU-2-3/4	97828	2.750	1.687	1.000	2.250	1.500	1-14	1.250	0.062	1.001	1.250	0.750	1980	420	850	3

Eccentric Stud Style

Part No.	Item No.	A Roller Dia	B Roller Width	K Stud Dia	L Stud Length	M Thread Length	N Thread	R Shldr. Dia	S Shldr. Length	W Eccent.	Rec. Mtg Hole +0.001 -0.000	Mounting Member Thickness Max	Mounting Member Thickness Min	Bearing Radial Capacity 3000hrs L10 Life @100 RPM	Tread Capacity (lbs)	Tread Speed Limit (RPM)	Approx. Weight (lbs)
PLRUE-1	97881	1.000	0.781	0.437	1.000	0.500	7/16-20	0.500	0.031	0.030	0.439	0.625	0.500	230	80	300	0.3
PLRUE-1-1/8	97882	1.125	0.781	0.437	1.000	0.500	7/16-20	0.500	0.031	0.030	0.439	0.625	0.500	230	80	260	0.3
PLRUE-1-1/4	97883	1.250	0.843	0.500	1.250	0.625	1/2-20	0.625	0.031	0.030	0.502	0.750	0.625	240	110	320	0.3
PLRUE-1-3/8	97884	1.375	0.843	0.500	1.250	0.625	1/2-20	0.625	0.031	0.030	0.502	0.750	0.625	240	140	310	0.3
PLRUE-1-1/2	97885	1.500	1.187	0.625	1.500	0.750	5/8-18	0.750	0.062	0.030	0.627	1.000	0.750	520	170	310	0.5
PLRUE-1-3/4	97886	1.750	1.187	0.750	1.750	0.750	3/4-16	0.875	0.062	0.030	0.752	1.125	0.875	520	250	360	1.0
PLRUE-2	97887	2.000	1.687	0.875	2.000	1.125	7/8-14	1.000	0.062	0.030	0.877	1.250	0.875	1050	340	360	1.2
PLRUE-2-1/4	97888	2.250	1.687	0.875	2.000	1.125	7/8-14	1.000	0.062	0.030	0.877	1.250	0.875	1050	430	370	1.5
PLRUE-2-1/2	97889	2.500	1.687	1.000	2.250	1.500	1-14	1.250	0.062	0.030	1.002	1.250	0.750	1980	410	400	2.0
PLRUE-2-3/4	97890	2.750	1.687	1.000	2.250	1.500	1-14	1.250	0.062	0.030	1.002	1.250	0.750	1980	420	850	2.1

Urethane assemblies provided with jam nuts and lock washers.
* For stud hex socket size, see page 71.

Nylon Tread Load Runners
Concentric & Eccentric - Inch Sizes

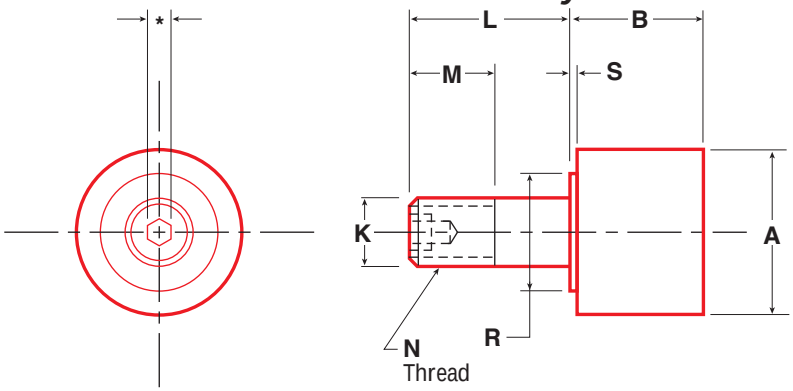
Cost-effective performance in applications requiring a non-metallic outer face.

- **Seals out contamination**
- **Non-sparking**
- **Non-marking**

Typical Applications:

- **Racking & Storage Retrieval Systems**
- **Food Processing**
- **Postal Systems**
- **Medical Equipment**

Concentric Stud Style



Concentric Stud Style

Part No.	Item No.	A	B	K	L	M	N	R	S
		Roller Dia +0.000 -0.001	Roller Width	Stud Dia +0.000 -0.001	Stud Length	Thread Length	Thread	Shldr. Dia	Shldr. Length
PLRN-1	97749	1.000	0.781	0.437	1.000	0.500	7/16-20	0.500	0.031
PLRN-1-1/4	97750	1.250	0.844	0.500	1.250	0.625	1/2-20	0.625	0.031
PLRN-1-1/2	97751	1.500	1.187	0.625	1.500	0.750	5/8-18	0.750	0.062
PLRN-2	97752	2.000	1.687	0.875	2.000	1.125	7/8-14	1.000	0.062
PLRN-2-1/2	97753	2.500	1.687	1.000	2.250	1.500	1-14	1.250	0.062

Eccentric Stud Style

Part No.	Item No.	A	B	K	L	M	N	R	S	T	U	W
		Roller Dia +0.000 -0.001	Roller Width	Stud Dia	Stud Length	Thread Length	Thread	Shldr. Dia	Shldr. Length	Eccentric Dia +0.001 -0.001	Eccentric Length +0.000 -0.010	Eccent.
PLRNE-1	97891	1.000	0.781	0.437	1.000	0.500	7/16-20	0.750	0.031	0.625	0.500	0.030
PLRNE-1-1/4	97892	1.250	0.844	0.500	1.250	0.625	1/2-20	0.812	0.031	0.687	0.625	0.030
PLRNE-1-1/2	97893	1.500	1.187	0.625	1.500	0.770	5/8-18	1.125	0.062	0.875	0.730	0.030
PLRNE-2	97894	2.000	1.687	0.875	2.000	1.020	7/8-14	1.500	0.062	1.187	0.980	0.030
PLRNE-2-1/2	97895	2.500	1.687	1.000	2.250	1.145	1-14	1.687	0.062	1.375	1.105	0.030

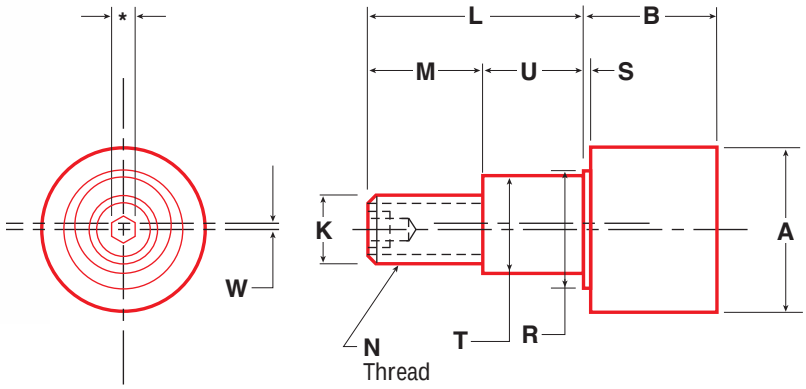
Nylon assemblies provided with jam nuts and lock washers.

* For stud hex socket size, see page 71.

www.loadrunners.com
rollers@osborn.com

Nylon Tread Load Runners
Concentric & Eccentric -Sizes

Eccentric Stud Style



Part No.	Rec. Mtg. Hole	Mounting Member Thickness		Bearing Capacity, Radial Load (lbs)			Bearing Capacity, Static Thrust (lbs)	Retaining Ring Capacity (lbs)	Tread Capacity (lbs)	Approx. Weight (lbs)
	+0.001 -0.000	Max	Min	3000hrs L10 Life @ 100 RPM	500hrs L10 Life @ 33-1/3RPM	Static Limit				
PLRN-1	0.438	0.625	0.500	240	630	230	140	280	30	0.2
PLRN-1-1/4	0.501	0.750	0.625	520	1350	600	370	470	40	0.25
PLRN-1-1/2	0.626	1.000	0.750	1050	2760	1100	680	470	60	0.5
PLRN-2	0.876	1.250	0.875	1460	3830	1620	1000	910	120	1.1
PLRN-2-1/2	1.001	1.250	0.750	1980	5190	2270	1400	1340	130	1.6

Part No.	Rec. Mtg. Hole Size	Mounting Member Thickness		Bearing Capacity, Radial Load (lbs)			Bearing Static Thrust Capacity (lbs)	Retaining Ring Capacity (lbs)	Tread Capacity (lbs)	Approx. Weight (lbs)
	+0.001 -0.000	Max	Min	3000hrs L10 Life @100 RPM	500hrs L10 Life @ 33-1/3 RPM	Static Limit				
PLRNE-1	0.627	0.625	0.500	240	630	230	140	280	30	0.2
PLRNE-1-1/4	0.689	0.750	0.625	520	1350	600	370	470	40	0.3
PLRNE-1-1/2	0.877	0.875	0.750	1050	2760	1100	680	470	60	1.1
PLRNE-2	1.189	1.125	1.000	1460	3830	1620	1000	910	120	1.4
PLRNE-2-1/2	1.377	1.250	1.125	1980	5190	2270	1400	1340	130	1.9


Did you know...
Osborn has 2500 employees worldwide.

construction & defense

Basic Dynamic Load Rating and Life

Life

Due to various causes, rolling bearings will suffer some wear and tear during normal use. Damage such as abnormal wear, seizure, and cracks is caused by improper use, including incorrect mounting, lack of oil, dust intrusion and so on, and can be avoided by remedying these causes. However, bearings will eventually be damaged due to fatigue-flaking even if used properly. When a bearing rotates under load, the raceways and the rolling elements are subjected to repeated stresses concentrated on the part close to the surface. Fatigue, therefore, occurs in the surface layer, producing damage in the form of scaling. This is called flaking (spalling). When this occurs, the bearing can no longer be used.

Bearing Life

Bearing life is defined as the total number of revolutions (or total service hours at a constant rotational speed) before a sign of the first flaking appears on the rolling surface of raceway or rolling elements.
However, even when bearings of the same size, structure, material and heat treatment are subjected to the same conditions, the bearing lives will show variation (See Fig. 1.). This results from the statistical nature of the fatigue phenomenon.

In selecting a bearing, it is incorrect to take an average life for all bearings as the design standard. It is more practical to consider a bearing life that is reliable for the greater proportion of bearings used. Therefore, the basic rating life defined in the following is used.

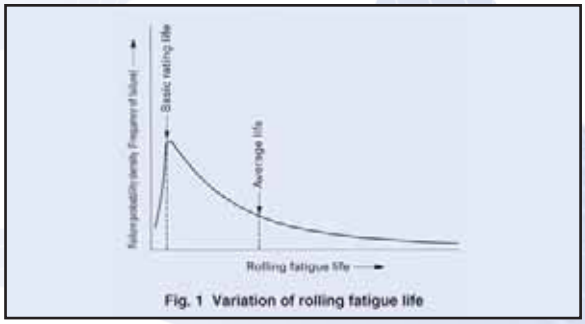


Fig. 1 Variation of rolling fatigue life

Basic rating life

The basic rating life is defined as the total number of revolutions that 90% of a group of identical bearings can be operated individually under the same conditions free from any material damage caused by rolling fatigue.

For rotation at a constant rotational speed, the basic rating life can be represented by the total service hours.

Basic dynamic load rating

The basic dynamic load rating is defined as the constant radial load (in the case of radial bearings) or the constant axial load acting along the bearing central axis (in the case of thrust bearings) that allows a basic rating life of 1,000,000 revolutions.

Calculation of rating life

The relationship among the basic rating life, basic dynamic load rating and dynamic equivalent load (bearing load) of rolling bearings is as follows:

$$L_{10} = \left(\frac{C}{P}\right)^{p} \quad \cdots\cdots (1)$$

where, L_{10} : Basic rating life, 10^6 rev.
C : Basic dynamic load rating, N
P : Dynamic equivalent load, N
p : Exponent, Roller bearing: 10/3
Ball bearing: 3

Accordingly, when the rotational speed per minute is given, the basic rating life is represented as the total service hours according to the following equations:

$$L_h = \frac{10^6 L_{10}}{60n} = 500 f_h^{\,p} \quad \cdots\cdots (2)$$

$$f_h = f_n \frac{C}{P} \quad \cdots\cdots (3)$$

$$f_n = \left(\frac{33.3}{n}\right)^{1/p} \quad \cdots\cdots (4)$$

where, L_h : Basic rating life represented by service hours, h
n : Rotation speed, rpm
f_h : Life factor
f_n : Velocity factor

In addition, the rating life can be calculated by obtaining f_h and f_n from the life calculation scales of Fig. 2.

In addition, the rating life can be calculated by obtaining f h and f n from the life calculation scales of Fig. 2.

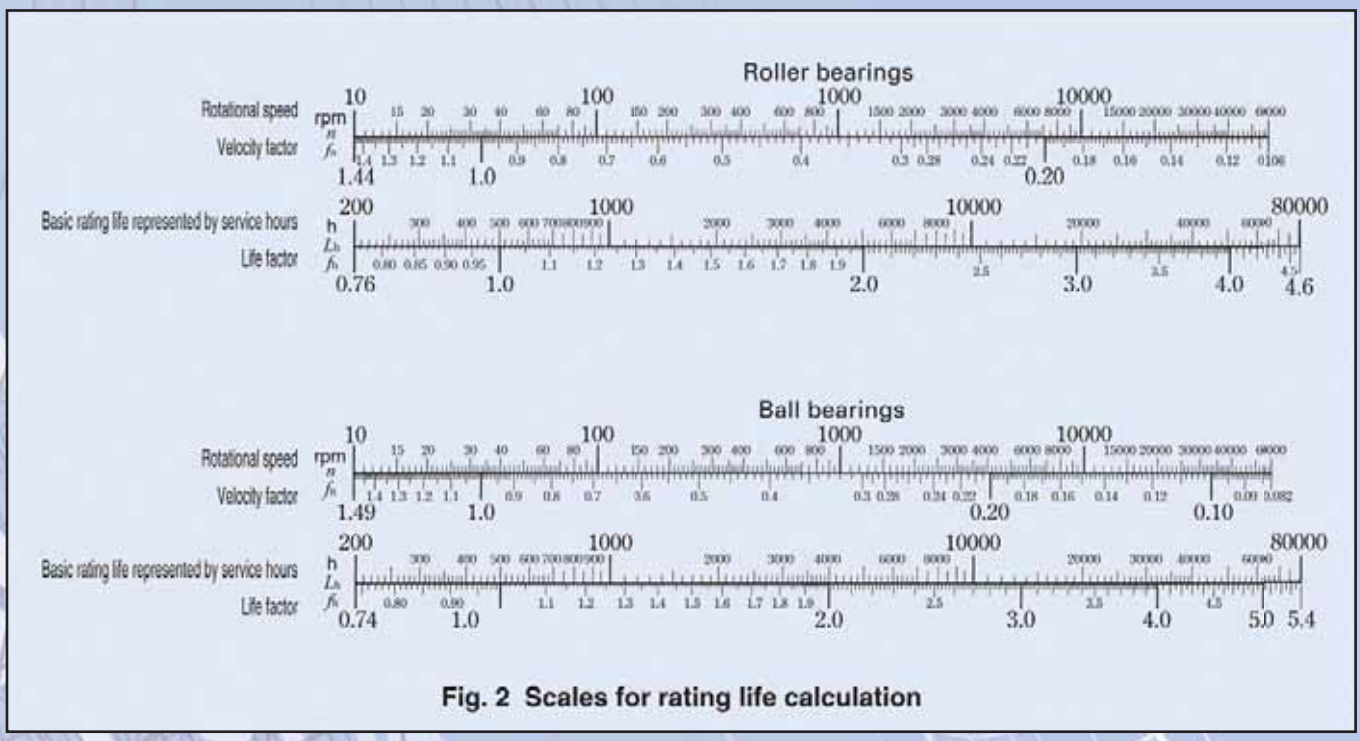


Fig. 2 Scales for rating life calculation

Bearing life factors for various machines

The required life of the bearing must be determined according to the machine in which the bearing is to be used and the operating conditions.

Table 1 shows reference values of life factors for selecting a bearing for each machine.

Table 1 Life factor of bearings f_h for various machines

Operating conditions	Machine and life factor f_h				
	~3	2~4	3~5	4~7	6~
Occasional or short term usage	• Power tools	• Agricultural machines			
Infrequent usage but requiring reliable operation		• Construction machinery	• Conveyors • Elevators		
Intermittent operation but for comparatively long periods	• Roll neck of rolling mills	• Small motors • Deck cranes • General cargo cranes • Passenger cars	• Factory motors • Machine tools • General gear units • Printing machines	• Crane sheaves • Compressors • Important gear units	
Operated in excess of 8 hours per day or continuously for an extended time		• Escalators	• Centrifugal separators • Blowers • Wood working machines • Plastic extruding machines		• Paper making machines
Continuous use for 24 hours and accidental stops not allowed					• Water supply equipment • Power station equipment

Life of oscillating bearing

The life of an oscillating bearing can be obtained from equation (5).

$$L_{OC} = \frac{90}{\theta}\left(\frac{C}{P}\right)^{p} \quad \cdots\cdots (5)$$

where, L_{OC} : Basic rating life of oscillating bearing, 10^6 cycles
2θ : Oscillating angle, deg. (See Fig.3)
P : Dynamic equivalent load, N

Therefore, when the oscillating frequency n1cpm is given, the basic rating life as represented by total oscillating hours can be obtained by substituting n1 for n in equation (2) on page A17.

When 2 is small, an oil film cannot be formed easily between the contact surfaces of the raceway and the rolling elements. This may cause fretting corrosion. In this case, please consult Osborn customer service.

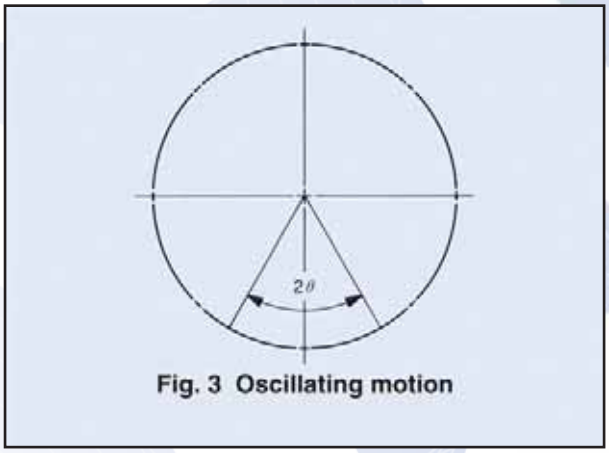


Fig. 3 Oscillating motion

Corrected rating life

When a rolling bearing is used in ordinary applications, the basic rating life can be calculated by equations (1) and (2) mentioned previously. This basic rating life applies to bearings which require a reliability of 90%, have ordinary bearing properties being made of materials of ordinary quality for rolling bearings, and are used under ordinary operating conditions.

In some applications, however, it is necessary to obtain a rating life that applies to bearings which require high reliability, have special bearing properties or are used under special operating conditions. The corrected rating life for these special cases can be obtained from the following equation by using the bearing life adjustment factors a1, a2 and a3, respectively.

$$L_{na} = a_1 a_2 a_3 L_{10} \quad \cdots\cdots (6)$$

where, L_{na} : Corrected rating life, 10^6 rev.
a_1 : Life adjustment factor for reliability
a_2 : Life adjustment factor for special bearing properties
a_3 : Life adjustment factor for operating conditions

Life adjustment factor for reliability a1

The reliability of rolling bearings is defined as the proportion of bearings having a life equal to or greater than a certain specified value when a group of identical bearings are operated under identical conditions. With respect to individual bearings, it refers to the probability of the life of a bearing being equal to or greater than a certain specified value.

The corrected rating life for a reliability of (100-n)% can be obtained using equation (6). Table 2 shows the values of the life adjustment factor a1 for various reliabilities.

Table 2 Life adjustment factor for reliability a_1

Reliability %	L_n	a_1
90	L_{10}	1
95	L_5	0.62
96	L_4	0.53
97	L_3	0.44
98	L_2	0.33
99	L_1	0.21

Life adjustment factor for special bearing properties a2
The bearing life is extended or shortened according to the quality of the material, the manufacturing technology of the bearing and its internal design. For these special bearing life properties, the life is corrected by the life adjustment factor for special bearing properties a2.

The table of dimensions for Bearings shows the values of the basic dynamic load rating which are determined taking into consideration the fact that bearing life has been extended by improved quality of materials and advances in manufacturing technologies. Therefore, the bearing life is

calculated using equation (6) usually assuming a2 = 1.
Life adjustment factor for operating conditions a3
This factor helps take into account the effects of operating conditions, especially lubrication on the bearing. The bearing life is limited by the phenomenon of fatigue which occurs, in general, beneath surfaces subjected to repeated stresses. Under good lubrication conditions where the rolling element and raceway surfaces are completely separated by an oil film and surface damage can be disregarded, a3 is set to be 1. However, when conditions of lubrication are not good, namely, when the viscosity of the lubricating oil is low or the peripheral speed of the rolling elements is especially low, and so on, a3< 1 is used.

On the other hand, when lubrication is especially good, a value of a3 > 1 can be used. When lubrication is not good and a3 < 1 is used, the life adjustment factor a2 cannot generally exceed 1.

When selecting a bearing according to the basic dynamic load rating, it is recommended that a suitable value for reliability factor a1 is chosen for each application. The selection should be made using the (C/P) or f h values determined by machine type and based upon the actual conditions of lubrication, temperature, mounting, etc., which have already been experienced and observed in the same type of machines.

Limiting conditions

These bearing life equations are applicable only when the bearing is mounted and lubricated normally without intrusion of foreign materials and not used under extreme operating conditions.

Unless these conditions are satisfied, the life may be shortened. For example, it is necessary to separately consider the effects of bearing mounting errors, excessive deformation of housing and shaft, centrifugal force acting on rolling elements at high-speed revolution, excessive preload, especially large radial internal clearance of radial bearings, etc.

When the dynamic equivalent load exceeds 1/2 of the basic dynamic load rating, the life equations may not be applicable.

Correction of basic dynamic load rating for temperature and hardness

Temperature factor

The operating temperature for each bearing is determined according to its material and structure. If special heat treatment is performed, bearings can be used at temperatures higher than +150°C. However, the allowable contact stress decreases gradually as the operating temperature increases. Accordingly, the basic dynamic load rating is lowered and can be obtained by the following equation:

$$C_t = f_t\, C \quad \cdots\cdots (7)$$

where, C_t : Basic dynamic load rating considering temperature rise, N
f_t : Temperature factor (See Fig. 4.)
C : Basic dynamic load rating, N

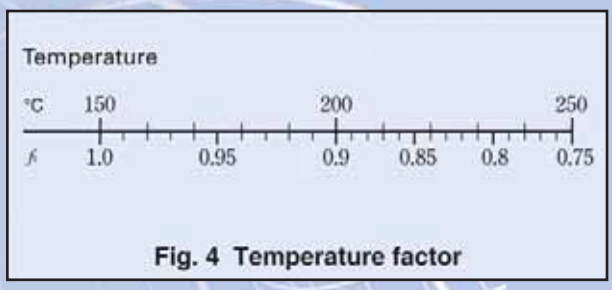


Fig. 4 Temperature factor

Hardness factor

When the shaft or housing is used as the raceway surface instead of the inner or outer ring, the surface hardness of the part used as the raceway surface should be 58 64HRC. If it is less than 58HRC, the basic dynamic load rating is lowered and can be obtained by the following equation:

$$C_H = f_H\, C \quad \cdots\cdots (8)$$

where, C_H : Basic dynamic load rating considering hardness, N
f_H : Hardness factor (See Fig. 5.)
C : Basic dynamic load rating N

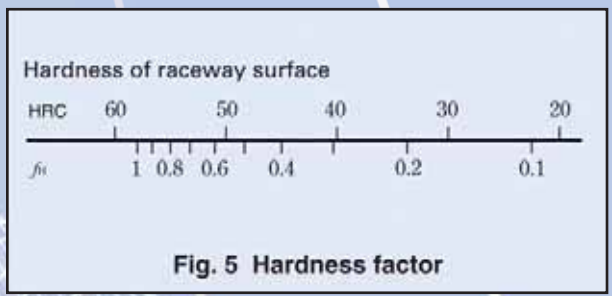


Fig. 5 Hardness factor

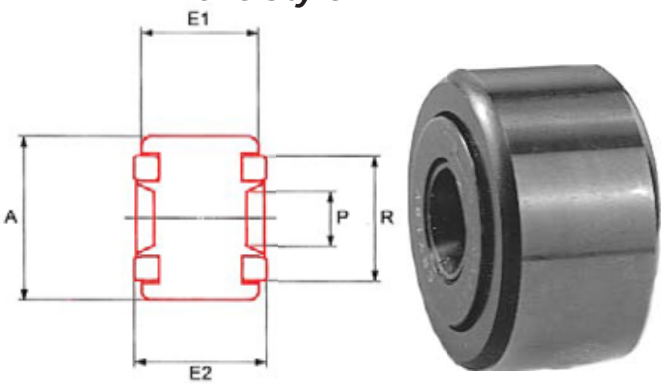
Concentric Stud Style

Part No.	Item No.	A	E1	K	L	M	N	S	H	g1	g2	B
		Roller Dia.	Roller Width	Stud Dia.	Stud Length	Thread Length	Fine Thread	Shldr. Length	Hex Size	Fitting Diameter		
		+0.000 -0.001		+0.001 -0.000								
NCF1/2SB	90916	0.500	0.43	0.190	0.625	0.250	10-32	0.031	1/8	-	-	-
NCF5/8SB	90905	0.625	0.49	0.250	0.750	0.313	1/4-28	0.031	1/8	-	-	-
NCF3/4SB	90906	0.750	0.56	0.375	0.875	0.375	3/8-24	0.031	3/16	3/16	3/32	1/4
NCF7/8SB	90907	0.875	0.56	0.375	0.875	0.375	3/8-24	0.031	3/16	3/16	3/32	1/4
NCF1SB	90908	1.000	0.68	0.437	1.000	0.500	7/16-20	0.031	1/4	3/16	1/8	1/4
NCF1-1/8SB	90934	1.125	0.68	0.437	1.000	0.500	7/16-20	0.031	1/4	3/16	1/8	1/4
NCF1-1/4SB	90909	1.250	0.80	0.500	1.250	0.625	1/2-20	0.031	1/4	3/16	1/8	5/16
NCF1-3/8SB	90910	1.375	0.80	0.500	1.250	0.625	1/2-20	0.031	1/4	3/16	1/8	5/16
NCF1-1/2SB	90911	1.500	0.93	0.625	1.500	0.750	5/8-18	0.031	5/16	3/16	5/32	3/8
NCF1-5/8SB	90935	1.625	0.93	0.625	1.500	0.750	5/8-18	0.031	5/16	3/16	5/32	3/8
NCF1-3/4SB	90912	1.750	1.06	0.750	1.750	0.875	3/4-16	0.031	5/16	3/16	5/32	7/16
NCF1-7/8SB	90936	1.875	1.06	0.750	1.750	0.875	3/4-16	0.031	5/16	3/16	5/32	7/16
NCF2SB	90913	2.000	1.32	0.875	2.000	1.000	7/8-14	0.031	7/16	3/16	3/16	1/2
NCF2-1/2SB	90914	2.500	1.56	1.000	2.250	1.125	1-14	0.031	1/2	3/16	3/16	9/16
NCF3SB	90915	3.000	1.83	1.250	2.500	1.250	1 1/4-12	0.062	3/4	1/4	3/16	5/8

Eccentric Stud Style

Part No.	Item No.	A	E1	K	L	M	N	S	T	U	W	H	g1
		Roller Dia.	Roller Width	Stud Dia.	Stud Length	Thread Length	Fine Thread	Shldr. Length	Ecc. Dia.	Eccent. Length	Eccent.	Hex Size	Fitting Diameter
		+0.000 -0.001		+0.001 -0.000					+0.001 -0.001				
NCFE1/2SB	90938	0.500	0.40	0.190	0.625	0.375	10-32	0.031	0.253	0.250	0.010	1/8	-
NCFE5/8SB	90939	0.625	0.46	0.250	0.750	0.312	1/4-28	0.031	0.378	0.437	0.015	1/8	-
NCFE3/4SB	90940	0.750	0.56	0.375	0.875	0.375	3/8-24	0.031	0.503	0.500	0.015	3/16	3/16
NCFE7/8SB	90941	0.875	0.56	0.375	0.875	0.375	3/8-24	0.031	0.503	0.500	0.015	3/16	3/16
NCFE1SB	90942	1.000	0.68	0.437	1.000	0.500	7/16-20	0.031	0.628	0.500	0.030	1/4	3/16
NCFE1-1/4SB	90944	1.250	0.80	0.500	1.250	0.625	1/2-20	0.031	0.690	0.625	0.030	1/4	3/16
NCFE1-3/8SB	90945	1.375	0.80	0.500	1.250	0.625	1/2-20	0.031	0.690	0.625	0.030	1/4	3/16
NCFE1-1/2SB	90946	1.500	0.93	0.625	1.500	0.750	5/8-18	0.031	0.878	0.750	0.030	5/16	3/16
NCFE1-3/4SB	90948	1.750	1.06	0.750	1.750	0.875	3/4-16	0.031	1.003	0.875	0.030	5/16	3/16
NCFE2SB	90950	2.000	1.32	0.875	2.000	1.000	7/8-14	0.031	1.190	1.000	0.030	7/16	3/16
NCFE2-1/2SB	90951	2.500	1.56	1.000	2.250	1.125	1-14 NS	0.031	1.315	1.125	0.030	1/2	3/16
NCFE3SB	90952	3.000	1.83	1.250	2.500	1.250	1 1/4-12	0.062	1.503	1.250	0.030	3/4	1/4

Yoke Style

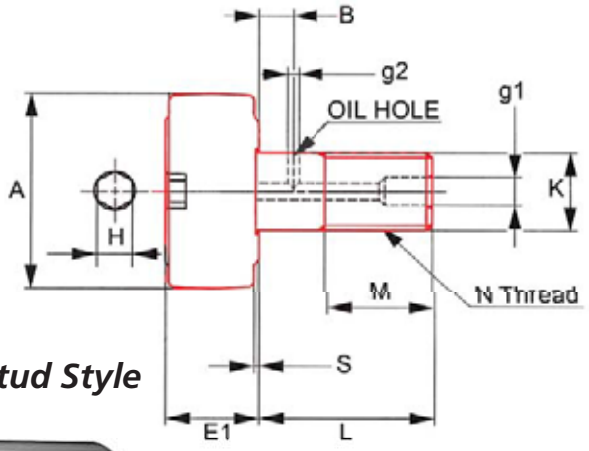


Yoke Style

Part No.	Item No.	A	E1	E2	P	R
		Roller Dia.	Roller Width	Tread Width	Bore	Shoulder Diameter
		+0.000 -0.001	+0.0051 -0.0098	+0.000 -0.005	+0.0002 -0.0004	
NCFY3/4S	90917	0.750	0.5625	0.500	0.2500	0.567
NCFY7/8S	90918	0.875	0.5625	0.500	0.2500	0.567
NCFY1S	90919	1.000	0.6875	0.625	0.3125	0.772
NCFY1-1/4S	90920	1.250	0.8125	0.750	0.3750	0.984
NCFY1-1/2S	90921	1.500	0.9375	0.875	0.4375	1.134
NCFY1-3/4S	90922	1.750	1.0625	1.000	0.5000	1.287
NCFY2S	90923	2.000	1.3125	1.250	0.6250	1.417
NCFY2-1/4S	90924	2.250	1.3125	1.250	0.6250	1.417
NCFY2-1/2S	90925	2.500	1.5625	1.500	0.7500	1.705
NCFY3S	90926	3.000	1.8125	1.750	1.0000	2.125
NCFY4S	90927	4.000	2.3125	2.250	1.2500	2.797

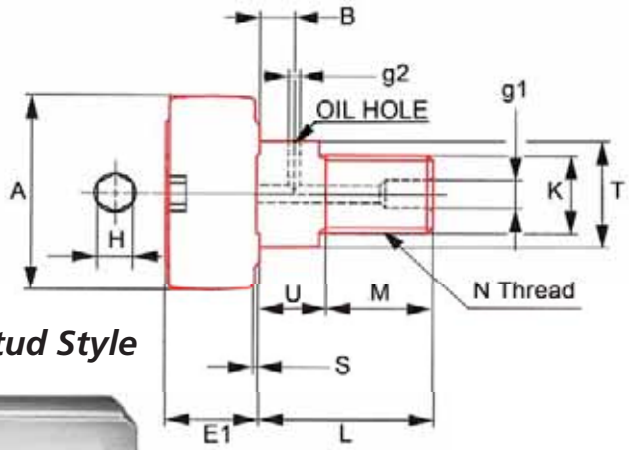
Needle Bearing Load Runners
Plain Concentric, Eccentric and Yoke Style

Part No.	Basic Dynamic Load Rating (lbs)	Basic Static Load Rating (lbs)	Maximum Tightening Torque (ft-lbs)	Approx. Weight (lbs)
NCF1/2SB	1050	1210	1.0	0.05
NCF5/8SB	1420	1900	2.5	0.10
NCF3/4SB	1950	2760	8.0	0.10
NCF7/8SB	1950	2760	8.0	0.15
NCF1SB	2940	5100	12.8	0.20
NCF1-1/8SB	2940	5100	12.8	0.20
NCF1-1/4SB	5300	7100	20.4	0.40
NCF1-3/8SB	5300	7100	20.4	0.45
NCF1-1/2SB	6340	9010	41.1	0.70
NCF1-5/8SB	6340	9010	41.1	1.60
NCF1-3/4SB	7900	12500	73.8	1.90
NCF1-7/8SB	7900	12500	73.8	2.10
NCF2SB	10270	18100	119.5	2.50
NCF2-1/2SB	13800	26000	-	3.00
NCF3SB	17400	38600	368.8	3.50

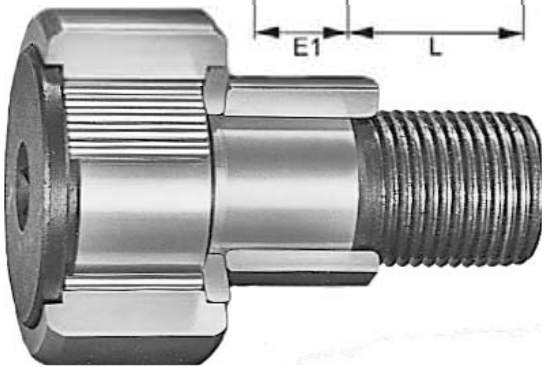


Concentric Stud Style

Part No.	Basic Dynamic Load Rating (lbs)	Basic Static Load Rating (lbs)	Maximum Tightening Torque (ft-lbs)	Approx. Weight (lbs)
NCFE1/2SB	958	1060	4.8	0.10
NCFE5/8SB	1310	1720	10.2	0.15
NCFE3/4SB	1950	2760	16.2	0.15
NCFE7/8SB	1950	2760	N/A	0.20
NCFE1SB	2940	5100	43.1	0.25
NCFE1-1/4SB	5300	7120	87.8	0.25
NCFE1-3/8SB	5300	7126	N/A	0.50
NCFE1-1/2SB	6340	9010	158.6	0.60
NCFE1-3/4SB	7930	12500	N/A	1.10
NCFE2SB	10200	18100	N/A	2.50
NCFE2-1/2SB	13800	26000	N/A	3.50
NCFE3SB	17400	38600	N/A	4.00



Eccentric Stud Style

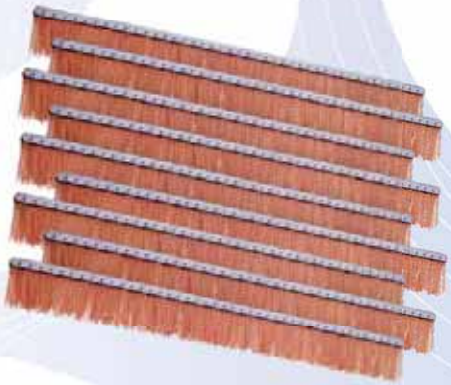


Part No.	Basic Dynamic Load Rating	Basic Static Load Rating	Approx. Weight (lbs)
NCFY3/4S	1950	2760	0.1
NCFY7/8S	1950	2760	0.1
NCFY1S	2940	5100	0.2
NCFY1-1/4S	5300	7120	0.2
NCFY1-1/2S	6340	9010	0.4
NCFY1-3/4S	7940	12500	0.6
NCFY2S	10200	18100	1.0
NCFY2-1/4S	10200	18100	1.3
NCFY2-1/2S	13800	26000	1.8
NCFY3S	17400	38600	4.0
NCFY4S	31900	71200	7.0

Needle Bearing assemblies provided with jam nuts and lock washers.

CONVEYOR CLEANING BRUSHES

Carryover on rubber and fabric conveyor belts will cause destructive wear and add costly down-time hours spent in frequent cleaning. Osborn Helix Strip Brushes automatically and efficiently prevent build-up of such materials as chemicals, metal, food, tobacco, chips, cement, compounds, core sand, coal, coke and ore on belts, rolls, snubber pulleys and return idlers.



Helix Strip Brush

Osborn Helix Strip Brushes are ruggedly built to withstand the most severe usage. The lightweight aluminum mountings are reusable, with extruded channels that are accurately constructed to allow easy insertion of Helix replacement Strip Brushes. Mountings are epoxy coated to provide maximum corrosion protection.

Strip Brushes and channels are helically formed, thereby assuring constant contact of the brush face with the work surface. Open face construction results in flexible brushing action to conform to irregular surfaces, and also eliminates the possibility of loading.
Easy to install and adaptable to any system, Helix Strip Brushes clean conveyor belts with a unique flexible sweeping action that does a thorough job.

The three factors that usually determine the size and type of brush fill materials are:
1) The condition of the carryover - dry, wet, tacky, etc.
2) The weight of the carryover - light, medium or heavy.
3) The temperature of the carryover or the environment.

Stainless steel wire is recommended where on-belt temperatures may exceed 200° F.

The 6″ Helix mounts use nine 1-7/8″ trim strips, and the 10-3/4″ Helix mounts use ten 2-1/2″ trim strips.

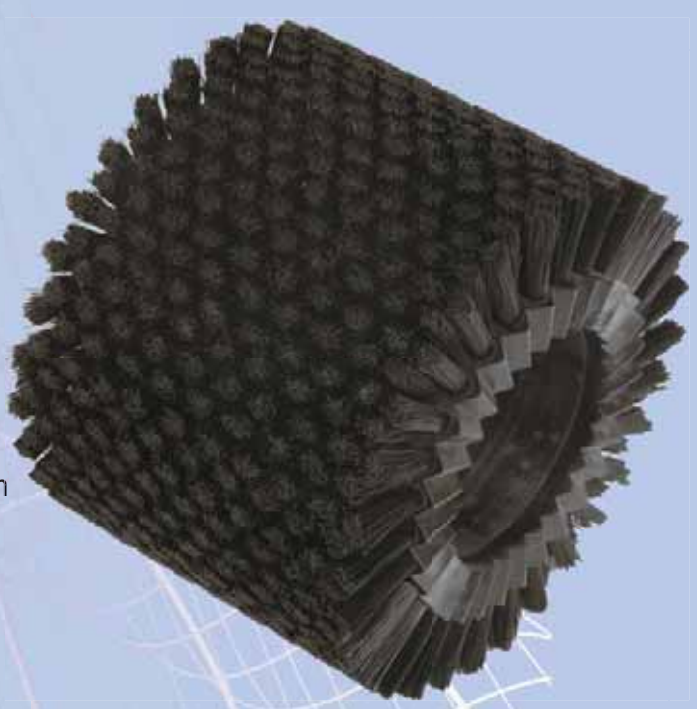
MultiZack Segment Brush System

Easy...economical...versatile

A superior alternative to single spiral wound brushes, the MultiZack brush system effectively and efficiently performs complete cleaning for all of your fabrication needs. Whether you are removing Lucor, grinding particles, preprocessing for screening or laminating applications, or final washing of coated glass without scratching, the MultiZack brush system can be designed to meet the cleaning task.

The Multizack has significant cost savings over spiral wound brushes. Product life is extended. Replace only worn brush segments not the entire brush. Reduces inventories and minimizes storage. No need to store and ship used core for refills.

Applications: Removing Lucor or Grinding Particles, Preprocessing for Screening or Laminating, Final Washing of Coated Glass without Scratching

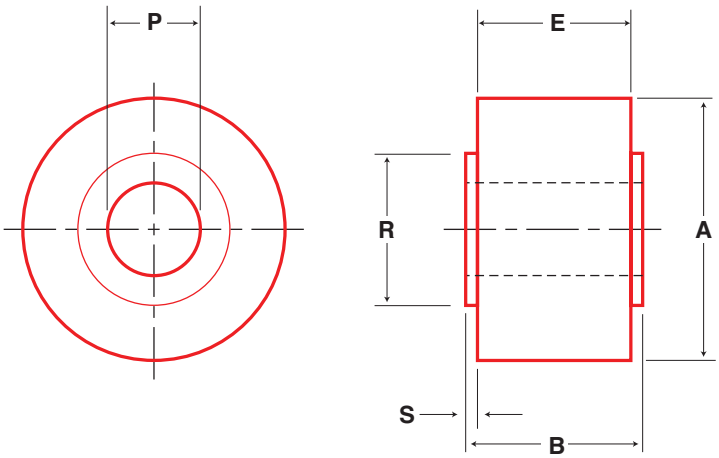


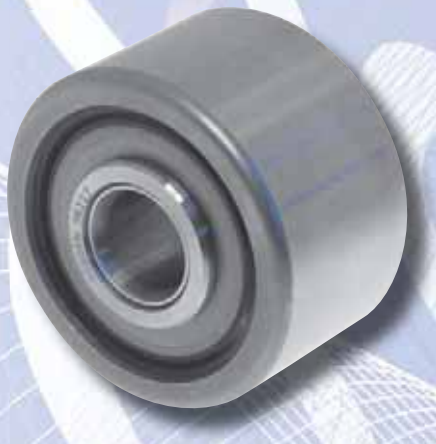
Strip Brushes

Demanding applications that require long-life and continuous effective service call for Osborn Strip Brushes. Their rugged construction assure long reliable performance. Osborn Strip Brushes are furnished in 72" standard lengths. With a bolt cutter, you can easily cut them to desired lengths, then mount them with Osborn Channel Clips to create custom-made special purpose brushes.

Channel Clips

Channel Clips for assembling Osborn Strip Brushes are available in two styles. They are used to hold the brush securely by means of metal tabs which engage the metal back of the brush. These clips are welded 8" to 10" apart along the length of the brush mounting. No. 75104 clips are used at the ends of each strip to prevent lateral movement and offer a positive lock. One end of each 75104 clip has been rolled over to form an accurate seat for the ends of the brush.



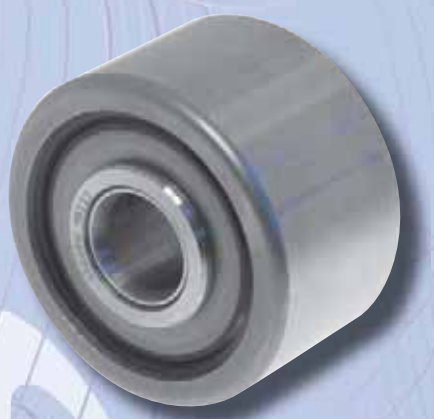


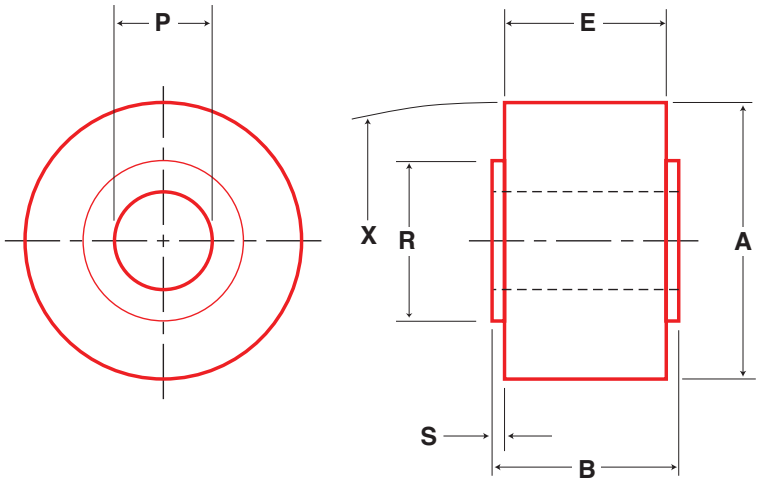
Part No.	Item No.	A	B	E	P		R	S	Ball or Tapered Roller Bearing	Bearing Capacity, Radial Load (lbs)			Bearing Static Thrust Capacity (lbs)	Approx. Weight (lbs)
		Roller Dia	Roller Width	Tread Width	Bore		Shldr. Dia	Shldr. Length		3000hrs L10 Life @ 100 RPM	500hrs L10 Life @ 33-1/3 RPM	Static Limit		
		+0.000 -0.001	+0.005 -0.010		Nom.	Tol.								
PLRY-1-1/2	90254	1.500	0.937	0.875	0.437		0.875	0.031	BB	710	1850	780	480	0.3
PLRY-1-3/4	90255	1.750	1.063	1.000	0.500		1.000	0.031	BB	710	1850	780	480	0.7
PLRY-2	90256	2.000	1.313	1.250	0.625		1.125	0.031	BB	1300	3400	1810	1120	0.9
PLRY-2-1/4	90257	2.250	1.313	1.250	0.625		1.125	0.031	BB	1300	3400	1810	1120	1.4
PLRY-2-1/2	96117	2.500	1.562	1.500	0.750		1.250	0.031	TRB	4570	10880	7630	4570	2.0
PLRY-2-1/2-7	90107	2.500	1.562	1.500	0.750	+0.0005 -0.0000	1.250	0.031	BB	2130	5590	2530	1560	2.0
PLRY-2-3/4-7	90108	2.750	1.562	1.500	0.750		1.250	0.031	BB	2130	5590	2530	1560	2.3
PLRY-3	96118	3.000	1.812	1.750	1.000		1.750	0.031	TRB	6000	14270	20000	12000	2.6
PLRY-3-1/4	96133	3.250	1.812	1.750	1.000		1.750	0.031	TRB	6000	14270	20000	12000	3.4
PLRY-3-1/2	96138	3.500	2.062	2.000	1.125		2.000	0.031	TRB	7390	17590	27200	13100	4.2
PLRY-4	96144	4.000	2.312	2.250	1.250		2.250	0.031	TRB	7390	17590	27200	13100	6.6
PLRY-5	96154	5.000	2.875	2.750	1.750		3.250	0.062	TRB	13990	33290	51900	32500	11.3
PLRY-6	96165	6.000	3.375	3.250	2.250		3.500	0.062	TRB	15060	35840	56400	33100	19.4
PLRY-7	96177	7.000	3.875	3.750	2.750		4.250	0.062	TRB	17830	42430	79800	48400	29.3
PLRY-8	96184	8.000	4.500	4.250	3.255	+0.001 -0.000	4.750	0.125	TRB	35250	83890	159800	110000	43.9
PLRY-9	96194	9.000	5.000	4.750	3.755		5.500	0.125	TRB	56400	134230	250000	147000	51.6
PLRY-10	96197	10.000	5.500	5.250	4.255		6.500	0.125	TRB	58080	138240	276000	196000	80.0

Other sizes available on request.
For special features and custom design considerations, see page 74.
For heavy-duty shafts see pages 48-49.

Please refer to Page 63 for our standard Metric offering, please note that we can make all sizes up to 250mm.

Crowned - Yoke Style
Inch Sizes

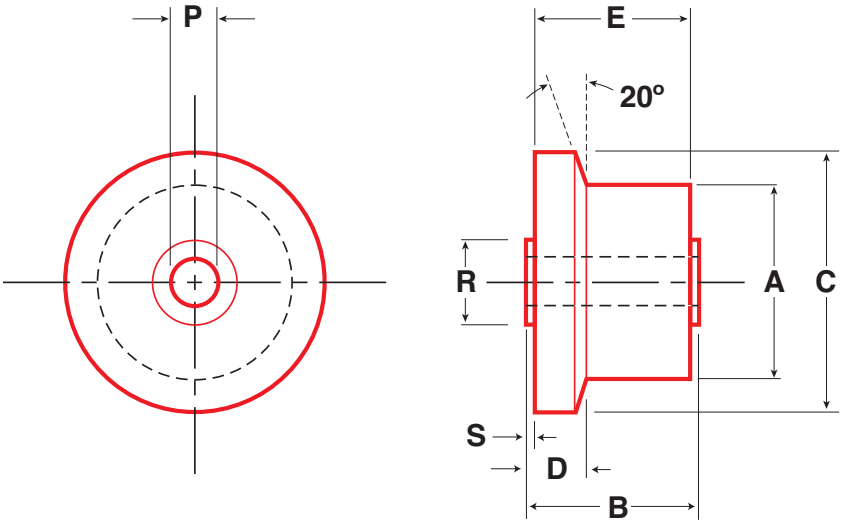




Part No	Item No.	A	B	E	P		R	S	X	Ball or Tapered Roller Bearing	Bearing Capacity, Radial Load (lbs)			Bearing Static Thrust Capacity (lbs)	Approx. Weight (lbs)
		Roller Dia	Roller Width	Tread Width	Bore		Shldr. Dia	Shldr Length	Crown Radius		3000hrs L10 Life @ 100RPM	500hrs L10 Life @ 33-1/3RPM	Static Limit		
		+0.000 -0.001	+0.005 -0.010		Nom.	Tol.									
CLRY-1-1/2	90265	1.500	0.937	0.875	0.437		0.875	0.031	20.0	BB	710	1850	780	480	0.3
CLRY-1-3/4	90266	1.750	1.063	1.000	0.500		1.000	0.031	20.0	BB	710	1850	780	480	0.7
CLRY-2	90267	2.000	1.313	1.250	0.625		1.125	0.031	24.0	BB	1300	3400	1810	1120	0.9
CLRY-2-1/4	90268	2.250	1.313	1.250	0.625		1.125	0.031	24.0	BB	1300	3400	1810	1120	1.4
CLRY-2-1/2	90269	2.500	1.562	1.500	0.750		1.250	0.031	30.0	TRB	4570	10880	7630	4570	2.0
CLRY-2-1/2-7	90270	2.500	1.532	1.500	0.750	+0.0005	1.250	0.031	30.0	BB	2130	5590	2530	1560	2.0
CLRY-3	96307	3.000	1.812	1.750	1.000	-0.0000	1.750	0.031	30.0	TRB	6000	14270	20000	12000	2.6
CLRY-3-1/4	97204	3.250	1.812	1.750	1.000		1.750	0.031	30.0	TRB	6000	14270	20000	12000	3.4
CLRY-3-1/2	97568	3.500	2.062	2.000	1.125		2.000	0.031	30.0	TRB	7390	17590	27200	13100	4.2
CLRY-4	96312	4.000	2.312	2.250	1.250		2.250	0.031	30.0	TRB	7390	17590	27200	13100	6.6
CLRY-5	97569	5.000	2.875	2.750	1.750		3.250	0.062	48.0	TRB	13990	33290	51900	32500	11.3
CLRY-6	96320	6.000	3.375	3.250	2.250		3.500	0.062	56.0	TRB	15060	35840	56400	33100	19.4
CLRY-7	97570	7.000	3.875	3.750	2.750		4.250	0.062	60.0	TRB	17830	42430	79800	48400	29.3
CLRY-8	96327	8.000	4.500	4.250	3.255	+0.001	4.750	0.125	40.0	TRB	35250	83890	159800	110000	43.9
CLRY-9	97571	9.000	5.000	4.750	3.755	-0.000	5.500	0.125	40.0	TRB	56400	134230	250000	147000	51.6
CLRY-10	97572	10.000	5.500	5.250	4.255		6.500	0.125	40.0	TRB	58080	138240	276000	196000	80.0

Other sizes available on request.
For special features and custom design considerations, see page 74.
For heavy-duty shafts see pages 48-49.

Please refer to Page 63 for our standard Metric offering, please note that we can make all sizes up to 250mm.

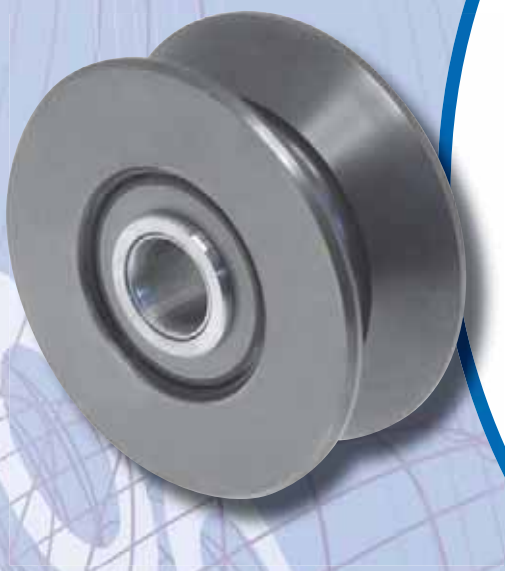


Part No.	Item No.	A	B	C	D	E	P		R	S	Ball or	Bearing Capacity, Radial Load (lbs)			Bearing	Approx.
		Roller Dia	Roller Width +0.005 -0.010	Flange Dia	Flange Thickness	Tread Width	Bore +0.0005 -0.0000		Shldr. Dia	Shldr. Length	Tapered Roller Bearing	3000hrs L10 Life @ 100 RPM	500hrs L10 Life @ 33-1/3 RPM	Static Limit	Static Thrust Capacity (lbs)	Weight (lbs)
FLRY-1-1/2	90258	1.500	0.937	2.188	0.218	0.872	0.437		0.875	0.031	BB	710	1850	780	480	0.4
FLRY-1-3/4	90259	1.750	1.063	2.438	0.250	1.000	0.500		1.000	0.031	BB	710	1850	780	480	0.8
FLRY-2	90260	2.000	1.313	2.688	0.312	1.250	0.625		1.125	0.031	BB	1300	3400	1810	1120	1.4
FLRY-2-1/4	90261	2.250	1.313	2.938	0.312	1.250	0.625		1.125	0.031	BB	1300	3400	1810	1120	1.7
FLRY-2-1/2	96652	2.500	1.562	3.187	0.500	1.500	0.750		1.250	0.031	TRB	4570	10880	7630	4570	2.4
FLRY-2-1/2-7	90105	2.500	1.562	3.187	0.500	1.500	0.750		1.250	0.031	BB	2130	5590	2530	1560	2.4
FLRY-2-3/4-7	90106	2.750	1.562	3.437	0.500	1.500	0.750	+0.0005 -0.0000	1.250	0.031	BB	2130	5590	2530	1560	2.9
FLRY-3	96220	3.000	1.812	3.937	0.590	1.750	1.000		1.750	0.031	TRB	6000	14270	20000	12000	3.5
FLRY-3-1/4	96225	3.250	1.812	4.187	0.590	1.750	1.000		1.750	0.031	TRB	6000	14270	20000	12000	4.3
FLRY-3-1/2	96227	3.500	2.062	4.437	0.590	2.000	1.125		2.000	0.031	TRB	7390	17590	27200	13100	5.2
FLRY-4	96229	4.000	2.312	4.937	0.590	2.250	1.250		2.250	0.031	TRB	7390	17590	27200	13100	7.7
FLRY-5	96231	5.000	2.875	5.937	0.720	2.750	1.750		3.500	0.062	TRB	13990	33290	51900	32500	12.9
FLRY-6	96237	6.000	3.375	6.937	0.720	3.250	2.250		3.500	0.062	TRB	15060	35840	56400	33100	21.4
FLRY-7	96241	7.000	3.875	7.937	0.720	3.750	2.750		4.250	0.062	TRB	17830	42430	79800	48400	31.7
FLRY-8	96243	8.000	4.500	8.937	0.720	4.250	3.255	+0.001 -0.000	4.750	0.125	TRB	35250	83890	159800	110000	46.6
FLRY-9	96246	9.000	5.000	9.937	0.720	4.750	3.755		5.500	0.125	TRB	56400	134230	250000	147000	54.6
FLRY-10	96250	10.000	5.500	10.937	0.720	5.250	4.255		6.500	0.125	TRB	58080	138240	276000	196000	83.4

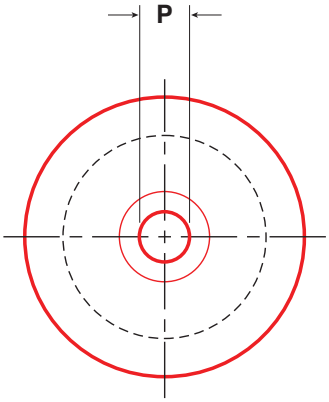
Other sizes available on request.
For special features and custom design considerations, see page 74.
For heavy-duty shafts see pages 48-49.

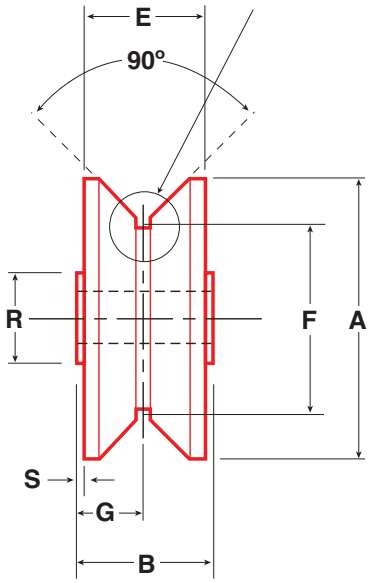
Please refer to Page 64 for our standard Metric offering, please note that we can make all sizes up to 250mm.

V-Grooved - Yoke Style
Inch Sizes



See page 68 for details of design recommendations for roller on rail..



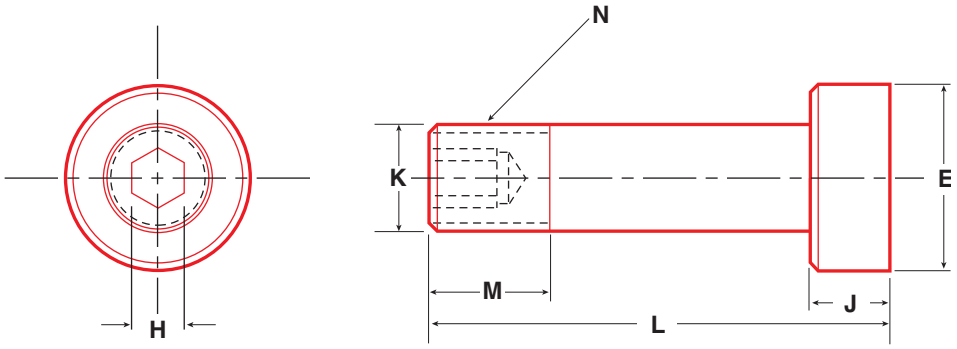


Part No.	Item No.	A	B	E	F	G	P		R	S	Ball or Tapered Roller Bearing	Bearing Capacity, Radial Load (lbs)			Bearing Static Thrust Capacity (lbs)	Approx. Weight (lbs)
		Roller Dia	Roller Width +0.005 -0.010	Tread Width	Point Dia	Groove Location	Bore		Shldr. Dia	Shldr. Length		3000hrs L10 Life @ 100 RPM	500hrs L10 Life @33-1/3 RPM	Static Limit		
							Nom.	Tol.								
VLRY-2-1/2	90262	2.500	0.937	0.875	1.750	0.468	0.437	+0.0005 -0.0000	0.875	0.031	BB	710	1850	780	480	1.0
VLRY-3	90263	3.000	1.312	1.250	2.000	0.656	0.625		1.125	0.031	BB	1300	3400	1810	1120	2.1
VLRY-3-1/2-7	90109	3.500	1.562	1.500	2.250	0.781	0.750		1.250	0.031	BB	2130	5590	2530	1560	2.8
VLRY-3-3/4	96655	3.750	1.562	1.500	2.500	0.781	0.750		1.250	0.031	TRB	4570	10880	7630	4570	3.1
VLRY-4-1/2	96266	4.500	1.812	1.750	3.000	0.906	1.000		1.750	0.031	TRB	6000	14270	20000	12000	5.0
VLRY-5	96279	5.000	2.062	2.000	3.500	1.030	1.125		2.000	0.031	TRB	7390	17590	27200	13100	7.6
VLRY-5-1/2	96283	5.500	2.312	2.250	4.000	1.156	1.250		2.250	0.031	TRB	7390	17590	27200	13100	11.2
VLRY-6-1/2	96287	6.500	2.875	2.750	5.000	1.437	1.750		3.500	0.062	TRB	15060	35840	44600	23010	18.8
VLRY-7-1/2	96291	7.500	3.375	3.250	6.000	1.687	2.250		3.500	0.062	TRB	15060	35840	52600	26930	30.5
VLRY-8-1/2	96292	8.500	3.875	3.750	7.000	1.937	2.750		4.250	0.062	TRB	17830	42430	60300	30850	44.7
VLRY-9-1/2	96297	9.500	4.500	4.250	8.000	2.250	3.255	+0.001 -0.000	4.750	0.125	TRB	35250	69540*	69540	34770	64.2
VLRY-10-1/2	96300	10.500	5.000	4.750	9.000	2.500	3.755		5.500	0.125	TRB	56400	77380*	77380	38690	77.5
VLRY-11-1/2	96302	11.500	5.500	5.250	10.000	2.750	4.255		6.500	0.125	TRB	58080	85220*	85220	42610	112.2

* Exceeds static capacity
Other sizes available on request.
For special features and custom design considerations, see page 74.
For heavy-duty shafts see pages 48-49.

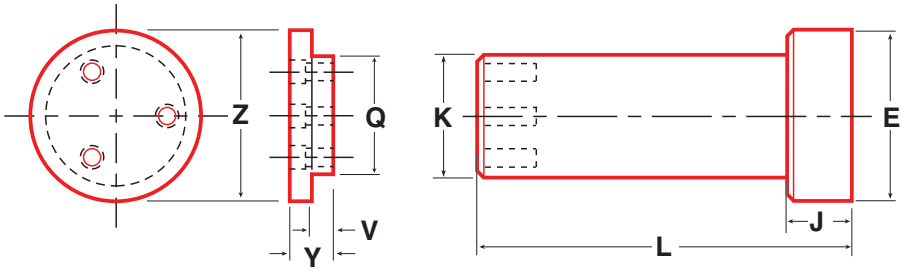
Please refer to Page 65 for our standard Metric offering, please note that we can make all sizes up to 250mm.

Shaft Style A includes jam nut and lock washer



Part No.	Item No.	Fits PLRY & CLRY	Fits FLRY	Fits VLRY	E Head Dia -0.0002 -0.0012	H Hex Size	J Head Length	K Shaft Dia -0.0002 -0.0012	L Shaft Length	M Thread Length	N Thread	Approx. Weight (lbs)
SHA-437	90282	1-1/2	1-1/2	2-1/2	0.750	0.157	0.375	0.438	2.062	5/8	7/16-20	0.7
SHA-500	90283	1-3/4	1-3/4	-	0.875	0.250	0.437	0.500	2.375	3/4	1/2-20	0.8
SHA-625	90284	2 & 2-1/4	2 & 2-1/4	3	1.125	0.312	0.500	0.625	3.000	7/8	5/8-18	1.0
SHA-750	95006	2-1/2	2-1/2	3-1/2-7 & 3-3/4	1.250	0.312	0.625	0.750	3.687	1	3/4-16	1.2
SHA-1000	95008	3 & 3-1/4	3 & 3-1/4	4-1/2	1.750	0.500	0.750	1.000	4.312	1 1/8	1-14	1.5
SHA-1125	95020	3-1/2	3-1/2	5	2.000	0.500	0.875	1.125	4.875	1 1/5	1 1/8-12	2.1
SHA-1250	95023	4	4	5-1/2	2.250	0.500	0.875	1.250	5.250	1 1/3	1 1/4-12	2.7
SHA-1750	95028	5	5	6-1/2	3.500	0.500	1.250	1.750	7.000	1 7/8	1 3/4-12	8.3
SHA-2250	95036	6	6	7-1/2	3.500	0.625	1.250	2.250	7.750	2 1/8	2 1/4-12	12.6
SHA-2750	95042	7	7	8-1/2	4.250	0.625	1.375	2.750	9.000	2 5/8	2 3/4-12	22.3

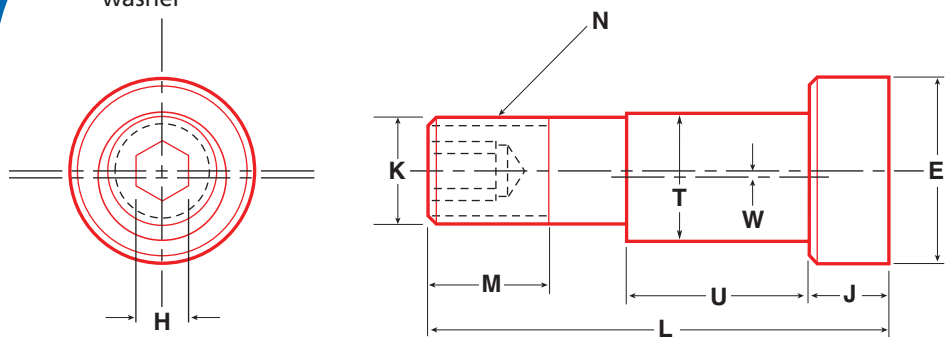
Shaft Style B includes shaft retainers, socket head cap screws and lock washers



Part No.	Item No.	Fits FLRY	Fits PLRY	Fits VLRY	E Head Dia -0.0002 -0.0012	J Head Length	K Shaft Dia -0.0002 -0.0012	L Shaft Length	Q Retainer Mount Dia	V Retainer Mount Length	Y Retainer Length	Z Retainer Dia	Approx. Weight (lbs)
SHB-3250	95045	8	8	9-1/2	4.750	1.875	3.254	7.625	3.250	0.500	1.000	4.000	25.3
SHB-3750	95049	9	9	10-1/2	5.500	2.125	3.754	8.625	3.750	0.500	1.125	4.500	38.3
SHB-4250	95050	10	10	11-1/2	6.500	2.250	4.254	9.375	4.250	0.500	1.125	5.000	54.6

Heavy-Duty Eccentric Shafts for Yoke Style Idler-Rollers - Inch Sizes

Shaft Style E includes flat washer, jam nut and lock washer



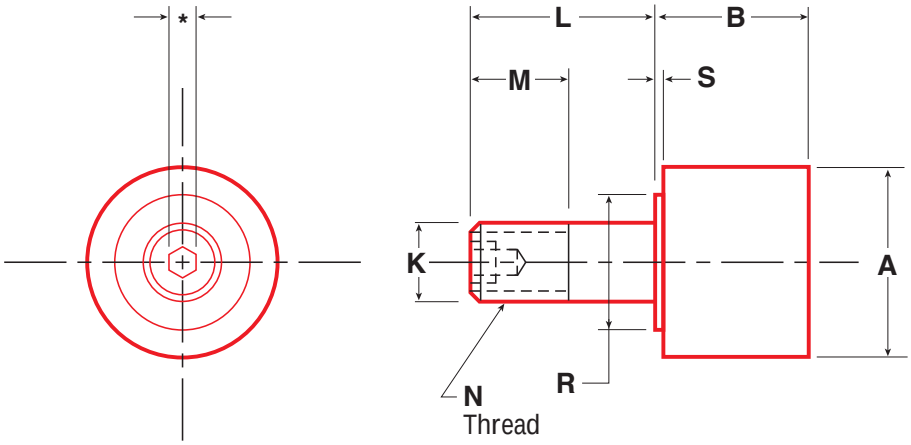
Part No.	Item No.	Fits PLRY & CLRY	Fits FLRY	Fits VLRY	E Head Dia -0.0002 -0.0012	H Hex Size	J Head Length	K Shaft Dia -0.0002 -0.0012	L Shaft Length	M Thread Length	N Thread	T Eccentric Dia +0.001 -0.001	U Eccentric Length +0.000 -0.010	W Eccent.	Approx. Weight (lbs)
SHE-437	90285	1-1/2	1-1/2	2-1/2	0.750	0.109	0.375	0.313	2.062	3/8	5/16-18	0.438	0.843	0.030	0.700
SHE-500	90286	1-3/4	1-3/4	-	0.875	0.156	0.437	0.375	2.375	5/9	3/8-24	0.500	0.968	0.030	1.000
SHE-625	90287	2 & 2-1/4	2 & 2-1/4	3	1.125	0.187	0.500	0.500	3.000	5/9	1/2-20	0.625	1.187	0.030	1.200
SHE-750	97507	2-1/2	2 1/2	3-1/2-7 & 3-3/4	1.250	0.312	0.625	0.625	3.687	3/4	5/8-18	0.750	1.495	0.030	1.500
SHE-1000	95056	3 & 3-1/4	3 & 3-1/4	4-1/2	1.750	0.312	0.750	0.875	4.312	1-1/8	7/8-14	1.000	1.745	0.030	1.350
SHE-1125	95058	3-1/2	3-1/2	5	2.000	0.500	0.875	1.000	4.875	1-3/16	1-14	1.125	1.995	0.030	2.000
SHE-1250	95059	4	4	5-1/2	2.250	0.500	0.875	1.000	5.250	1-5/16	1-14	1.250	2.245	0.060	2.250
SHE-1750	96848	5	5	6-1/2	3.500	0.500	1.250	1.500	7.000	1-7/8	1 1/2-12	1.750	2.807	0.060	2.812
SHE-2250	97508	6	6	7-1/2	3.500	0.625	1.250	2.000	7.750	2-1/8	2-12	2.250	3.307	0.060	3.312
SHE-2750	97509	7	7	8-1/2	4.250	0.625	1.375	2.500	9.000	2-5/8	2 1/2-12	2.750	3.807	0.060	3.812

Please refer to Page 66 for our standard Metric offering.

Load Runners are used on conveyor and handling systems in assembly plants and cylinder-actuated carriages on equipment, such as paint operations, subassemblies, automated storage and retrieval systems.


Did you know...
All Load Runner Idler Rollers are Made in the USA!

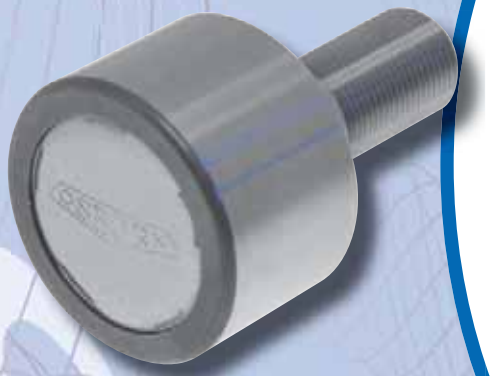
automotive

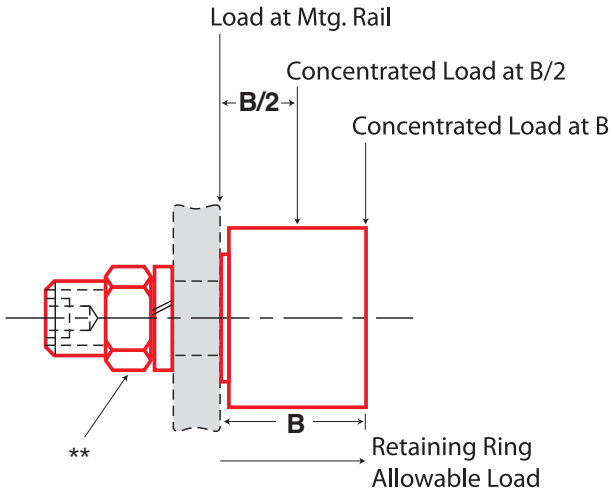


Part No.	Item No.	A Roller Dia +0.00 -0.02	B Roller Width	K Stud Dia +0.00 -0.02	L Stud Length	M Thread Length	N Thread	R Shoulder Dia	S Shoulder Length	Rec. Mtg. Hole Size +0.00 -0.02
HPC-26	97374	26	20.0	10	23.0	13	M10x1	13.1	0.8	10.02
HPC-30	97375	30	20.0	12	25.0	14	M12x1.5	15.9	0.8	12.02
HPC-32	97376	32	22.0	12	25.0	14	M12x1.5	15.9	0.8	12.02
HPC-35	97377	35	22.0	16	32.5	18	M16x1.5	19.1	0.8	16.02
HPC-40	95064	40	30.0	14	40.0	26	M14x2	18.0	1.6	14.02
HPC-40-1	95063	40	27.6	18	36.5	19	M18x1.5	22.0	1.6	18.02
HPC-47	95065	47	27.6	20	40.5	21	M20x1.5	25.5	1.6	20.02
HPC-50	95068	50	40.0	16	50.0	35	M16x2	23.0	1.6	16.02
HPC-52	95066	52	33.6	20	40.5	21	M20x1.5	25.5	1.6	20.02
HPC-62	95070	62	44.0	24	58.0	35	M24x3	32.0	1.6	24.02
HPC-62-1	95069	62	44.0	24	49.5	25	M24x1.5	32.0	1.6	24.02
HPC-72	95072	72	44.0	24	49.5	25	M24x1.5	32.0	1.6	24.02
HPC-76	95074	76	52.0	30	69.5	40	M30x3.5	44.5	1.6	30.02
HPC-80	95075	80	52.0	30	69.5	40	M30x3.5	44.5	1.6	30.02
HPC-85	95076	85	52.0	30	69.5	40	M30x3.5	44.5	1.6	30.02
HPC-90	95077	90	52.0	30	69.5	40	M30x3.5	44.5	1.6	30.02
HPC-100	95079	100	52.0	30	80.0	50	M30x3.5	44.5	1.6	30.02
HPC-100-1	95078	100	52.0	30	69.5	40	M30x3.5	44.5	1.6	30.02
HPC-125	95080	125	76.0	48	105.0	60	M48x5	82.5	1.6	48.02
HPC-150	95081	150	76.0	64	140.0	82	M64x6	82.5	1.6	64.02
HPC-200	95082	200	76.0	64	140.0	82	M64x6	82.5	1.6	64.02

Other sizes available on request.
For special features and custom design considerations, see page 74.

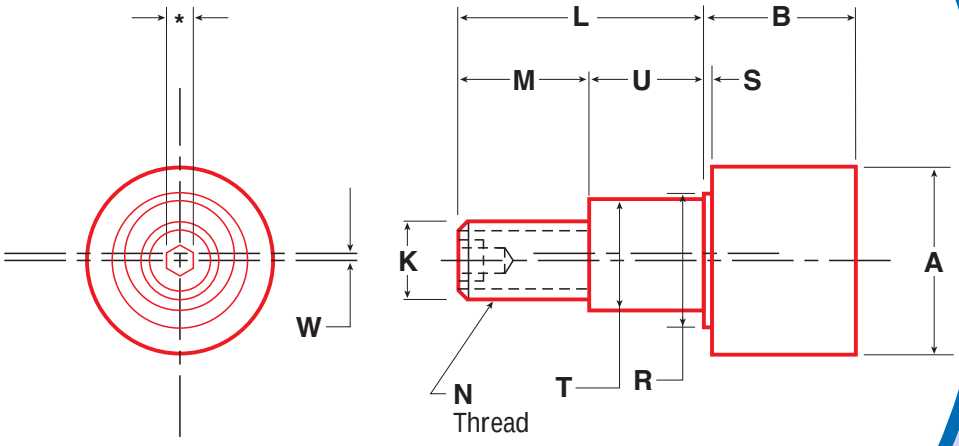
Plain - Concentric Stud Style
Metric Sizes (mm)





Part No.	Ball or Tapered Roller Bearing	Bearing Capacity, Radial Load (N)			Bearing Thrust Capacity Static Limit (N)	Stud Capacity (N)			Retaining Ring Thrust Capacity (N)	Approx. Weight (kg)
		3000hrs L10 Life @ 100RPM	500hrs L10 Life @ 33-1/3RPM	Static Limit		Bend @B/2	Bend @B	Shear		
HPC-26	BB	1070	2790	1000	620	2120	910	8780	1700	
HPC-30	BB	1070	2790	1000	620	2120	910	8780	1700	0.11
HPC-32	BB	2300	6010	2690	1660	3820	1690	14450	2090	0.14
HPC-35	BB	2300	6010	2690	1660	3820	1690	14450	2090	0.17
HPC-40	BB	4680	12260	4900	3030	6170	2890	25690	2090	0.27
HPC-40-1	BB	4680	12260	4900	3030	6330	3060	25690	2090	0.24
HPC-47	BB	4680	12260	4900	3030	6330	3060	25690	2090	0.42
HPC-50	BB	6490	17020	7210	4450	8810	4570	45760	4050	0.54
HPC-52	BB	6490	17020	7210	4450	14430	7030	51600	4050	0.54
HPC-62	BB	8810	23080	10090	6230	16090	7650	64850	5960	1.04
HPC-62-1	BB	8810	23080	10090	6230	16070	7650	64850	5960	1.04
HPC-72	TRB	20330	48390	33940	20330	26410	13840	102960	N/A	1.4
HPC-76	TRB	26670	63480	88960	53380	45000	23170	160800	N/A	1.91
HPC-80	TRB	26670	63480	88960	53380	45000	23170	160800	N/A	2.07
HPC-85	TRB	26670	63480	88960	53380	45000	23170	160800	N/A	2.37
HPC-90	TRB	26670	63480	88960	53380	45000	23170	160800	N/A	2.65
HPC-100	TRB	26670	63480	88960	53380	45000	23170	160800	N/A	3.33
HPC-100-1	TRB	26670	63480	88960	53380	45000	23170	160800	N/A	3.15
HPC-125	TRB	62210	148070	230860	144570	128100	65120	411830	N/A	8.48
HPC-150	TRB	66990	159430	250880	147240	301500	153930	731550	N/A	12.5
HPC-200	TRB	66990	159430	250880	147240	301500	153930	731550	N/A	21.87

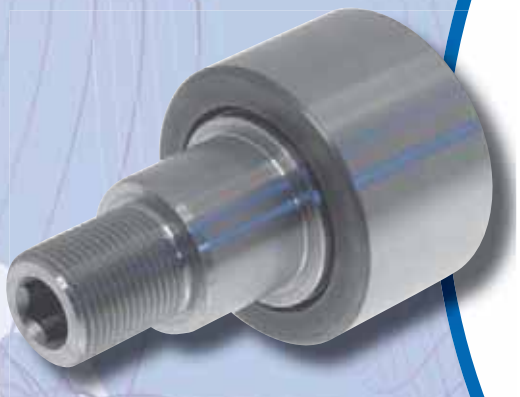
** Lock washer and jam nut available at additional cost.
For size see "N" dimension.

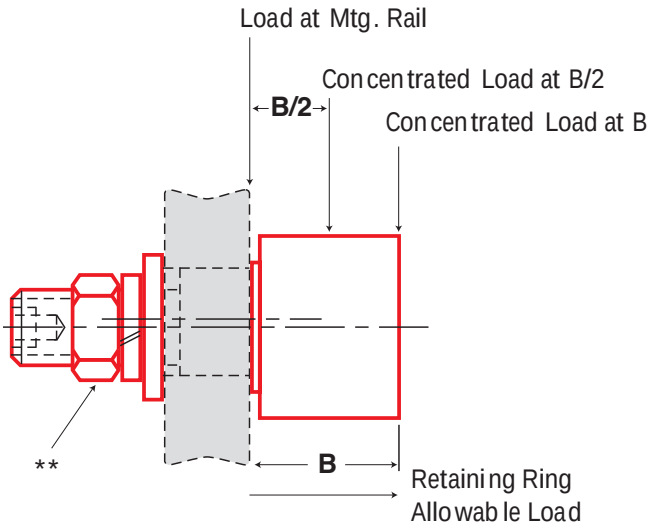


Part No.	Item No.	A Roller Dia. +0.00 -0.02	B Roller Width	K Stud Dia.	L Stud Length	M Thread Length	N Thread Dia.	R Shldr. Dia.	S Shldr. Length	T Eccent. Dia. +0.00 -0.05	U Eccent. Length +0.00 -0.25	W Eccent.	Rec. Mtg. Hole Size
HPCE-26	97378	26	20.0	10	23.0	13.0	M10×1	17.1	0.8	13	10	0.5	13.02
HPCE-30	97379	30	20.0	12	25.0	14.0	M12×1.5	17.5	0.8	15	11	0.5	15.02
HPCE-32	97380	32	22.0	12	25.0	14.0	M12×1.5	17.5	0.8	15	11	0.5	15.02
HPCE-35	97381	35	22.0	16	32.5	18.0	M16×1.5	23.8	0.8	20	14.5	1.0	20.02
HPCE-40-1	95833	40	27.6	18	36.5	20.5	M18×1.5	28.5	1.6	22	16	1.0	22.02
HPCE-47	95835	47	27.6	20	40.5	22.5	M20×1.5	32.0	1.6	24	18	1.0	24.02
HPCE-50	95837	50	40.0	16	50.0	32.0	M16×2	32.0	1.6	24	18	1.0	24.02
HPCE-52	95836	52	33.6	20	40.5	22.5	M20×1.5	32.0	1.6	24	18	1.0	24.02
HPCE-62	95839	62	44.0	24	58.0	38.0	M24×3	43.0	1.6	28	20	1.5	28.02
HPCE-62-1	95838	62	44.0	24	49.5	27.5	M24×1.5	43.0	1.6	28	22	1.0	28.02
HPCE-72	95840	72	44.0	20	49.5	27.5	M20×1.5	38.0	1.6	28	22	1.0	28.02
HPCE-76-1	95841	76	52.0	24	70.0	41.0	M24×1.5	50.0	1.6	35	29	1.5	35.02
HPCE-80	95843	80	52.0	24	70.0	41.0	M24×1.5	50.0	1.6	35	29	1.5	35.02
HPCE-85	95844	85	52.0	24	70.0	41.0	M24×1.5	50.0	1.6	35	29	1.5	35.02
HPCE-90	95845	90	52.0	24	70.0	41.0	M24×1.5	50.0	1.6	35	29	1.5	35.02
HPCE-100	95846	100	52.0	24	70.0	41.0	M24×1.5	50.0	1.6	35	29	1.5	35.02
HPCE-125	95847	125	76.0	48	105.0	55.0	M48×5	82.5	1.6	64	50	1.5	64.02
HPCE-150	95848	150	76.0	64	140.0	75.0	M64×6	82.5	1.6	80	65	1.5	80.02

Other sizes available on request.
For special features and custom design considerations, see page 74.

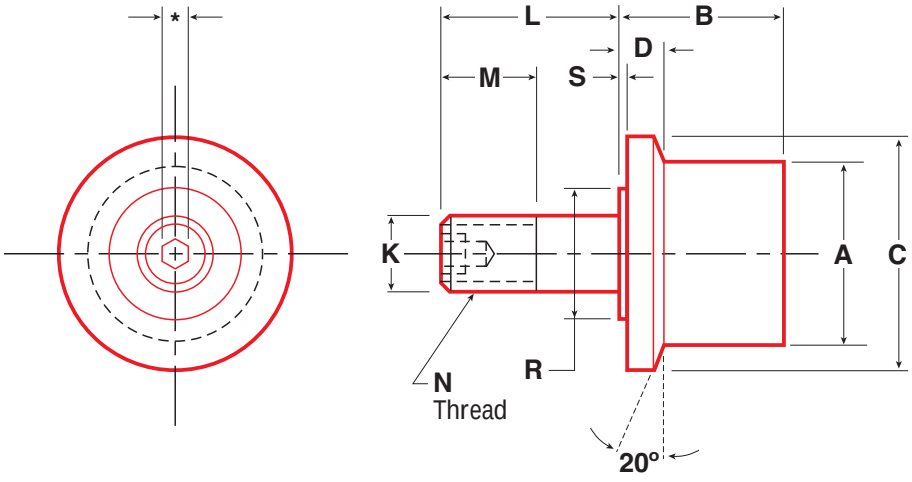
Plain - Eccentric Stud Style
Metric Sizes (mm)





Part No.	Ball or Tapered Roller Bearings	Bearing Radial Load (N)			Bearing Thrust Load (N)			Stud Capacity (N)			Ret. Ring Allow. Load (N)	Approx. Weight (kg)
		3000hrs L10 Life @ 100RPM	500hrs L10 Life @ 33-	Static Limit	3000hrs L10 Life @ 100RPM	500hrs L10 Life @ 33-1/3RPM	Static Limit	Bend @B/2	Bend @B	Shear		
HPCE-26	BB	1060	2790	1000	650	1720	1350	1990	900	8700	2090	0.11
HPCE-30	BB	1060	2790	1000	650	1720	1350	1990	900	8700	2090	0.14
HPCE-32	BB	2290	6000	2680	1410	3700	1950	3750	1670	14400	2090	0.17
HPCE-35	BB	2290	6000	2680	1410	3700	1950	3750	1670	14400	2090	0.20
HPCE-40-1	BB	4670	12200	4900	2890	7560	2650	6230	3250	25470	2090	0.29
HPCE-47	BB	4670	12200	4900	2890	7560	2650	6230	3250	25470	2090	0.45
HPCE-50	BB	6450	17700	7200	4030	10600	3050	14450	7740	51750	4050	0.69
HPCE-52	BB	6450	17700	7200	4030	10600	3050	14450	7740	51750	4050	0.72
HPCE-62	BB	8800	23100	10100	5400	14200	6850	16000	8680	64850	5960	1.10
HPCE-62-1	BB	8800	23100	10100	5400	14200	6850	16000	8680	64850	5960	1.08
HPCE-72	TRB	20330	48400	33950	7520	17840	20330	17990	9870	71950	N/A	1.60
HPCE-76-1	TRB	26700	63600	89000	10800	25700	53400	27840	14690	101870	N/A	1.99
HPCE-80	TRB	26700	63600	89000	10800	25700	53400	27840	14690	101870	N/A	2.39
HPCE-85	TRB	26700	63600	89000	10800	25700	53400	27840	14690	101870	N/A	2.54
HPCE-90	TRB	26700	63600	89000	10800	25700	53400	27840	14690	101870	N/A	2.98
HPCE-100	TRB	26700	63600	89000	10800	25700	53400	27840	14690	101870	N/A	3.29
HPCE-125	TRB	62200	148100	230800	24600	58500	144600	143070	74830	411800	N/A	4.63
HPCE-150	TRB	67000	159000	251000	26500	63100	147000	330120	173200	720500	N/A	5.56

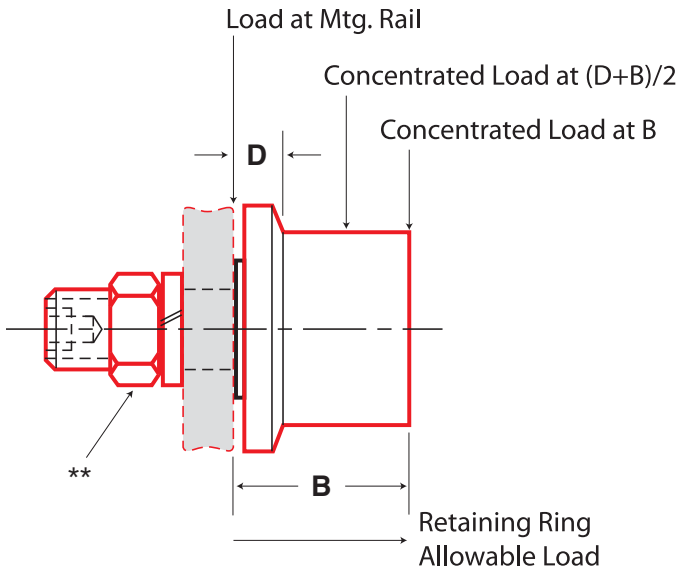
** Flat washer, lock washer and jam nut available at additional cost.
For size see "N" dimension.



Part No.	Item No.	A Roller Dia	B Roller Width	C Flange Dia	D Flange Thickness	K Stud Dia +0.00 -0.02	L Stud Length	M Thread Length	N Thread	R Shoulder Dia	S Shoulder Length	Rec. Mtg. Hole Size +0.02 -0.00
HPJ-26	97382	26	20.0	35	5.0	10	23.0	13	M10x1	13.1	0.8	10.02
HPJ-30	97383	30	20.0	40	5.0	12	25.0	14	M12x1.5	15.9	0.8	12.02
HPJ-32	97384	32	22.0	42	5.0	12	25.0	14	M12x1.5	15.9	0.8	12.02
HPJ-35	97385	35	22.0	46	5.0	16	32.5	18	M16x1.5	19.1	0.8	16.02
HPJ-40	95410	40	30.0	54	8.8	14	40.0	26	M14x2	18	1.6	14.02
HPJ-40-1	95409	40	27.6	54	7.8	18	36.5	19	M18x1.5	22	1.6	18.02
HPJ-47	95411	47	27.6	61	7.8	20	40.5	21	M20x1.5	25.5	1.6	20.02
HPJ-50	95415	50	40.0	68	14.0	16	50.0	35	M16x2	23	1.6	16.02
HPJ-52	95413	52	33.6	66	10.8	20	40.5	21	M20x1.5	25.5	1.6	20.02
HPJ-62	95420	62	44.0	78	14.0	24	58.0	35	M24x3	32	1.6	24.02
HPJ-62-2	95418	62	44.0	78	14.0	24	49.5	25	M24x1.5	32	1.6	24.02
HPJ-72	95422	72	44.0	90	14.0	24	49.5	25	M24x1.5	32	1.6	24.02
HPJ-76	95427	76	52.0	98	14.0	30	69.5	40	M30x3.5	44.5	1.6	30.02
HPJ-80	95429	80	52.0	102	14.0	30	69.5	40	M30x3.5	44.5	1.6	30.02
HPJ-85	95430	85	52.0	107	14.0	30	69.5	40	M30x3.5	44.5	1.6	30.02
HPJ-90	95431	90	52.0	112	14.0	30	69.5	40	M30x3.5	44.5	1.6	30.02
HPJ-100	95435	100	52.0	125	14.0	30	80.0	50	M30x3.5	44.5	1.6	30.02
HPJ-100-1	95434	100	52.0	125	14.0	30	69.5	40	M30x3.5	44.5	1.6	30.02
HPJ-125	95440	125	76.0	148	18.0	48	105.0	60	M48x5	82.5	1.6	48.02
HPJ-150	95441	150	76.0	173	18.3	64	140.0	82	M64x6	82.5	1.6	64.02
HPJ-200	95443	200	76.0	223	18.3	64	140.0	82	M64x6	82.5	1.6	64.02

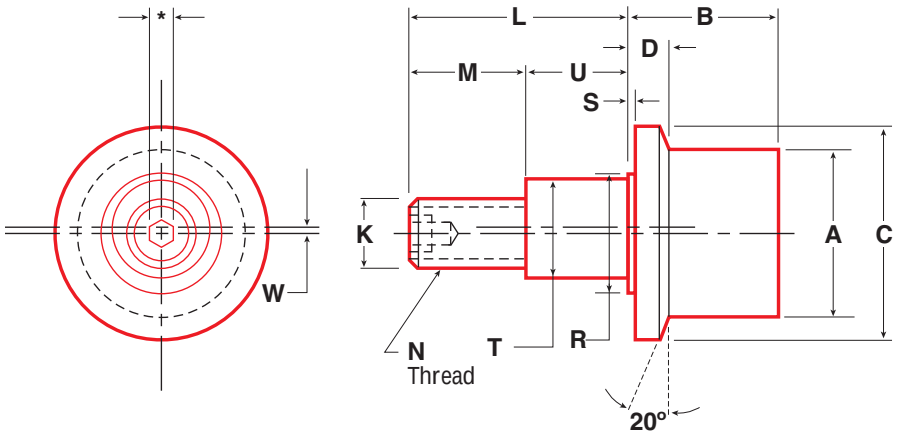
Other sizes available on request.
For special features and custom design considerations, see page 74.

Flanged - Concentric Stud Style
Metric Sizes (mm)



Part No.	Ball or Tapered Roller Bearing	Bearing Radial Capacity (N)			Bearing Thrust Capacity Static Limit (N)	Stud Capacity (N)			Retaining Ring Capacity (N)	Approx. Weight (kg)
		3000hrs L10 Life @ 100RPM	500hrs L10 Life @ 33-1/3RPM	Static Limit		Bend @(D+B)/2	Bend @B	Shear		
HPJ-26	BB	1070	2790	1000	620	1610	890	8780	1700	0.11
HPJ-30	BB	1070	2790	1000	620	1610	890	8780	1700	0.14
HPJ-32	BB	2300	6010	2690	1660	3070	1690	14450	2090	0.17
HPJ-35	BB	2300	6010	2690	1660	3070	1690	14450	2090	0.20
HPJ-40	BB	4680	12260	4900	3030	4890	2890	25690	2090	0.33
HPJ-40-1	BB	4680	12260	4900	3030	5040	3060	25690	2090	0.24
HPJ-47	BB	4680	12260	4900	3030	5040	3060	25690	2090	0.47
HPJ-50	BB	6490	17020	7210	4450	6860	4570	45760	4050	0.70
HPJ-52	BB	6490	17020	7210	4450	11080	7030	51600	4050	0.83
HPJ-62	BB	8810	23080	10090	6230	12340	7650	64850	5960	1.21
HPJ-62-2	BB	8810	23080	10090	6230	12340	7650	64850	5960	1.21
HPJ-72	TRB	20330	48390	33940	20330	21390	14030	102960	N/A	1.28
HPJ-76	TRB	26670	63480	88960	53380	36890	23150	160800	N/A	2.17
HPJ-80	TRB	26670	63480	88960	53380	36890	23150	160800	N/A	2.41
HPJ-85	TRB	26670	63480	88960	53380	36890	23150	160800	N/A	2.75
HPJ-90	TRB	26670	63480	88960	53380	36890	23150	160800	N/A	2.98
HPJ-100	TRB	26670	63480	88960	53380	36890	23150	160800	N/A	3.70
HPJ-100-1	TRB	2670	63480	88960	53380	36890	23150	160800	N/A	3.52
HPJ-125	TRB	62210	148070	230860	144570	106160	64910	411830	N/A	8.86
HPJ-150	TRB	66990	159430	250880	147240	254530	153930	731550	N/A	13.07
HPJ-200	TRB	66990	159430	250880	147240	254530	153930	731550	N/A	20.37

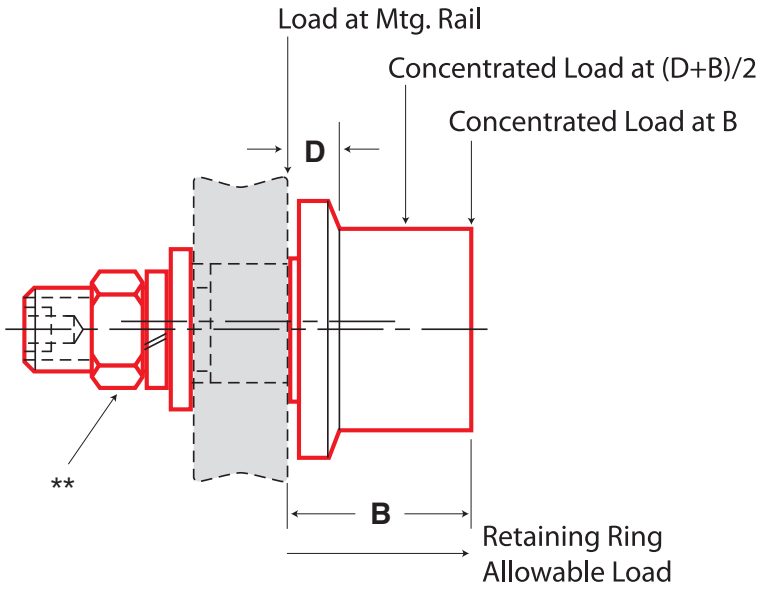
** Lock washer and jam nut available at additional cost.
For size see "N" dimension.



Part No.	Item No.	A	B	C	D	K	L	M	N	R	S	T	U	W
		Roller Dia	Roller Width	Flange Dia	Flange Thickness	Stud Dia	Stud Length	Thread Length	Thread	Shoulder Dia	Shoulder Length	Eccentric Dia +0.00 -0.05	Eccentric Length +0.00 -0.25	Eccent.
HPJE-26	97386	26	20.0	35	5	10	23.0	13.0	M10x1	17.1	0.8	13	10.0	0.5
HPJE-30	97387	30	20.0	40	5	12	25.0	14.0	M12x1.5	17.5	0.8	15	11.0	0.5
HPJE-32	97388	32	22.0	42	5	12	25.0	14.0	M12x1.5	17.5	0.8	15	11.0	0.5
HPJE-35	97389	35	22.0	46	5	16	32.5	18.0	M16x1.5	23.8	0.8	20	14.5	1.0
HPJE-40-1	95907	40	27.6	54	7.8	18	36.5	20.5	M18x1.5	28.5	1.6	22	16.0	1.0
HPJE-50	95909	50	40.0	68	14	16	50.0	32.0	M16x2	32.0	1.6	24	18.0	1.0
HPJE-62-1	95910	62	44.0	78	14	24	49.5	27.5	M24x1.5	43.0	1.6	28	22.0	1.0
HPJE-76	95912	76	52.0	98	14	24	70.0	41.0	M24x1.5	50.0	1.6	35	29.0	1.5
HPJE-90	95913	90	52.0	112	14	24	70.0	41.0	M24x1.5	50.0	1.6	35	29.0	1.5
HPJE-100	95914	100	52.0	125	14	24	70.0	41.0	M24x1.5	50.0	1.6	35	29.0	1.5
HPJE-125	95915	125	76.0	148	18	48	105.0	55.0	M48x5	82.5	1.6	64	50.0	1.5
HPJE-150	95916	150	76.0	173	18.3	64	140.0	75.0	M64x6	92.0	1.6	80	65.0	1.5

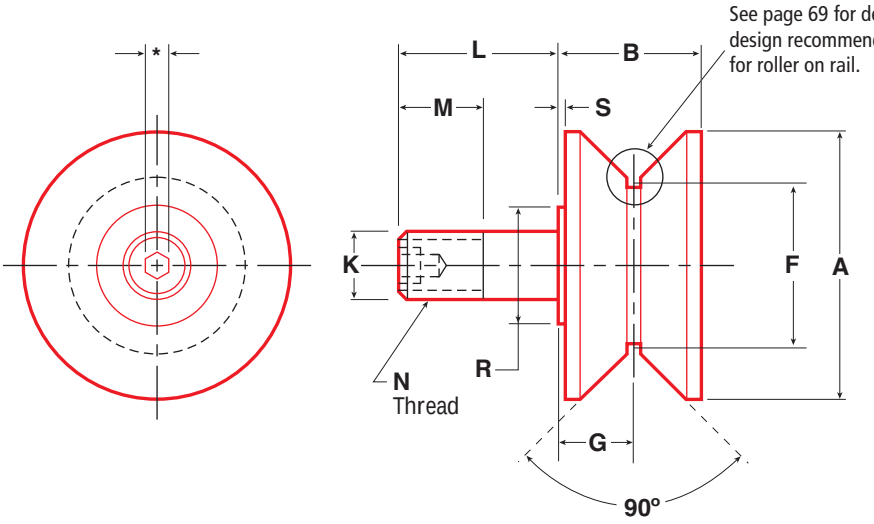
Other sizes available on request.
For special features and custom design considerations, see page 74.

Flanged - Eccentric Stud Style
Metric Sizes (mm)



Part No.	Rec. Mtg. Hole Size	Ball or Tapered Roller Bearing	Bearing Radial Capacity (N)			Bearing Static Thrust Capacity (N)	Stud Capacity (N)			Retaining Ring Capacity (N)	Approx. Weight (kg)
			3000hrs L10 Life @ 100RPM	500hrs L10 Life @ 33-1/3RPM	Static Limit		Bend @(D+B)/2	Bend @B	Shear		
HPJE-26	13.02	BB	1070	2790	1000	620	1610	890	8780	1700	0.14
HPJE-30	15.02	BB	1070	2790	1000	620	1610	890	8780	1700	0.17
HPJE-32	15.02	BB	2300	6010	2690	1660	3070	1690	14450	2090	0.20
HPJE-35	20.02	BB	2300	6010	2690	1660	3130	1690	14450	2090	0.23
HPJE-40-1	22.02	BB	4680	12260	4900	3030	5040	3060	25690	2090	0.35
HPJE-50	24.02	BB	6490	17020	7210	4450	11980	6930	51600	4050	0.94
HPJE-62-1	28.02	BB	8810	23080	10090	6230	12340	7650	64850	5960	1.13
HPJE-76	35.02	TRB	26670	63480	88960	53380	18840	11820	102740	N/A	2.31
HPJE-90	35.02	TRB	26670	63480	88960	53380	18840	11820	102740	N/A	3.09
HPJE-100	35.02	TRB	26670	63480	88960	53380	18840	11820	102740	N/A	3.79
HPJE-125	64.02	TRB	62210	148070	230860	144570	106160	65120	411830	N/A	4.74
HPJE-150	80.02	TRB	66990	159430	250880	147240	254530	153930	731550	N/A	5.69

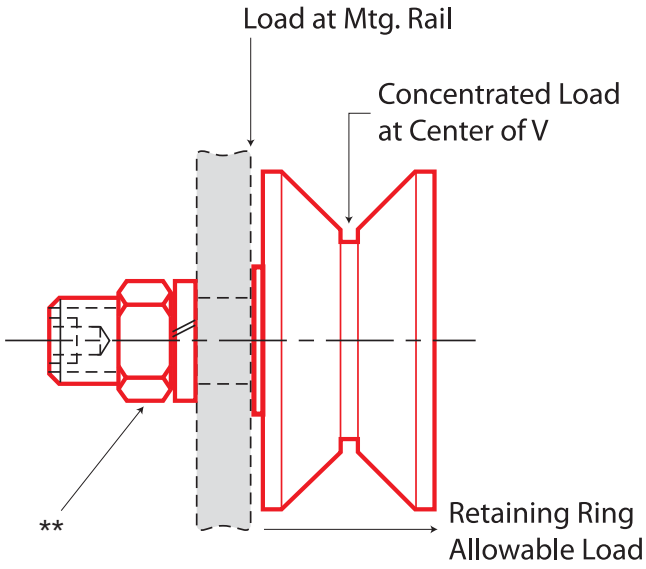
** Flat washer, lock washer and jam nut available at additional cost.
For size see "N" dimension.



Part No.	Item No.	A	B	F	G	K	L	M	N	R	S	Rec. Mtg.
		Roller Dia	Roller Width	Point Dia	Groove Location	Stud +0.00 -0.02	Stud Length	Thread Length	Thread	Shoulder Dia	Shoulder Length	Hole Size +0.02 +0.00
HPV-26	97390	40	20.0	26	10.0	10	23.0	13.0	M10x1	13.1	0.5	10.02
HPV-32	97391	50	22.0	32	11.0	12	25.0	14.0	M12x1.5	15.9	0.8	12.02
HPV-40	95648	60	33.0	40	17.0	14	40.0	26.0	M14x2	18.0	1.6	14.02
HPV-62	95652	90	44.5	62	23.0	24	57.9	34.9	M24x3	32.0	1.6	24.02
HPV-62-1	95651	90	44.5	62	23.0	24	49.5	25.0	M24x1.5	32.0	1.6	24.02
HPV-76	95654	120	50.5	76	26.0	30	70.0	40.0	M30x3.5	44.5	1.6	30.02
HPV-100	95656	140	50.5	100	26.0	30	80.0	50.0	M30x3.5	44.5	1.6	30.02
HPV-100-1	95655	140	50.5	100	26.0	30	69.5	40.0	M30x3.5	44.5	1.6	30.02
HPV-125	95657	165	76.0	125	37.8	48	105.0	60.0	M48x5	82.5	1.6	48.02

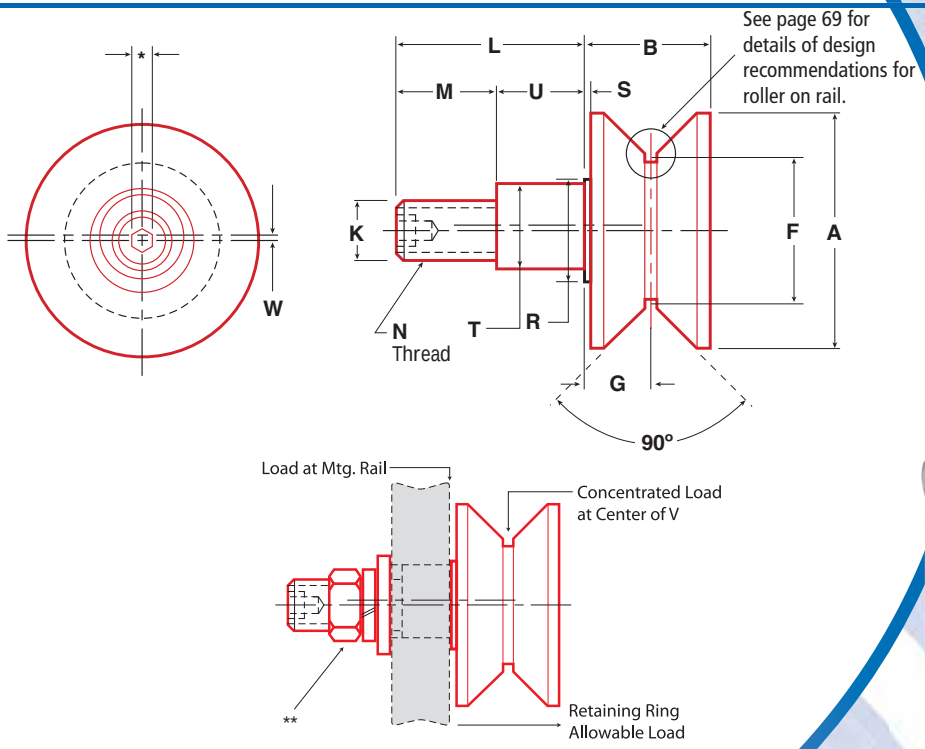
Other sizes available on request.
For special features and custom design considerations, see page 74.

V-Grooved - Concentric Stud Style Metric Sizes (mm)



Part No.	Ball or Tapered Roller Bearing	Bearing Capacity, Radial Load (N)			Bearing Static Thrust Capacity (N)	Stud Capacity (N)		Retaining Ring Capacity (N)	Approx. Weight (kg)
		3000hrs L10 Life @ 100RPM	500hrs L10 Life @ 33-1/3 RPM	Static Limit		Bending = 0.75Sy Bend @V	Shear = 0.75 x 0.5 x Sy Load @ Mtg. Rail		
HPV-26	BB	1070	2790	1000	620	2210	8780	1700	0.23
HPV-32	BB	2300	6010	2690	1660	3960	14450	2090	0.26
HPV-40	BB	4680	12260	4900	3030	5480	25690	2090	0.53
HPV-62	BB	8810	23080	10090	6230	15960	64850	5960	1.79
HPV-62-1	BB	8810	23080	10090	6230	15880	64850	5960	1.90
HPV-76	TRB	26670	63480	88960	53380	46270	160800	N/A	3.27
HPV-100	TRB	26670	63480	88960	53380	46270	160800	N/A	4.77
HPV-100-1	TRB	26670	63480	88960	53380	46270	160800	N/A	4.77
HPV-125	TRB	62210	148070	216290	108140	130770	411830	N/A	11.56

** Lock washer and jam nut available at additional cost.
For size see "N" dimension.



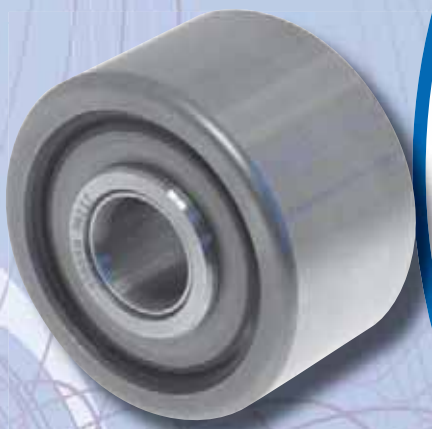
Part No.	Item No.	A Roller Dia	B Roller Width	F Point Dia	G Groove Location	K Stud Dia	L Stud Length	M Thread Length	N Thread	R Shoulder Dia	S Shoulder Length	T Eccentric Dia +0.00 -0.05	U Eccentric Length +0.00 -0.25	W Eccent.
HPVE-26	97392	40	20.0	26	10.0	10	23.0	13.0	M10x1	17.1	0.8	13	10	0.5
HPVE-32	97393	50	22.0	32	11.0	12	25.0	14.0	M12x1.5	17.5	0.8	15	11	0.5
HPVE-40	95951	60	33.0	40	17.0	14	40.0	24.0	M14x2	28.5	1.6	22	16	1.0
HPVE-62	95953	90	44.5	62	23.0	24	58.0	38.0	M24x3	43.0	1.6	28	20	1.5
HPVE-62-1	95952	90	44.5	62	23.0	24	49.5	27.5	M24x1.5	43.0	1.6	28	22	1.0
HPVE-76	95955	120	50.5	76	26.0	24	70.0	41.0	M24x1.5	50.0	1.6	35	29	1.5
HPVE-100	95956	140	50.5	100	26.0	24	70.0	41.0	M24x1.5	50.0	1.6	35	29	1.5
HPVE-125	95957	165	76.0	125	37.8	48	105.0	55.0	M48x5	82.5	1.6	64	50	1.5

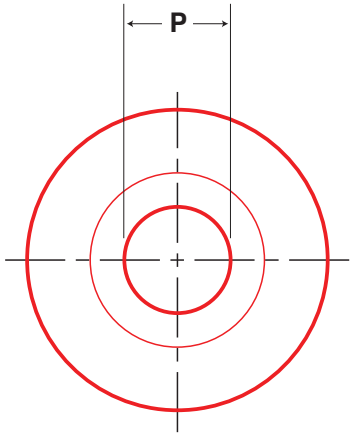
Part No.	Rec. Mtg. Hole Size +0.001 -0.000	Ball or Tapered Roller Bearing	Bearing Radial Capacity (N) 3000hrs L10 Life @ 100RPM	500hrs L10 Life @ 33-1/3RPM	Static Limit	Bearing Static Thrust Capacity (N)	Stud Capacity (N) Bending = 0.75Sy Bend @V	Shear = 0.75 x 0.5 x Sy Load @ Mtg. Rail	Retaining Ring Capacity (N)	Approx Weight (kg)
HPVE-26	13.02	BB	1070	2790	1000	620	2220	8780	1700	0.26
HPVE-32	15.02	BB	2300	6010	2690	1660	3960	14450	2090	0.30
HPVE-40	22.02	BB	4680	12260	4900	3030	5480	25690	2090	0.64
HPVE-62	28.02	BB	8810	23080	10090	6230	15800	64850	5960	1.57
HPVE-62-1	28.02	BB	8810	23080	10090	6230	15880	64850	5960	1.57
HPVE-76	35.02	TRB	26670	63480	88960	53380	23520	113910	N/A	3.43
HPVE-100	35.02	TRB	26670	63480	88960	53380	23630	113910	N/A	4.00
HPVE-125	64.02	TRB	62210	148070	216290	108140	130770	411830	N/A	4.72

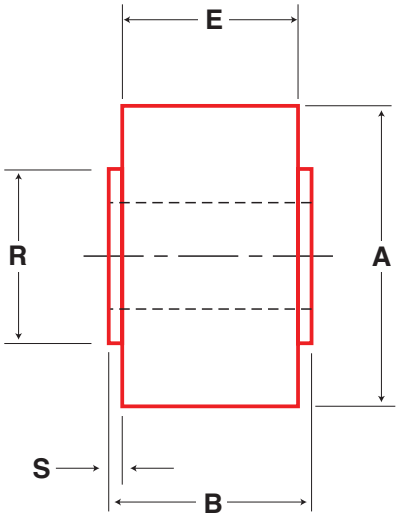
Flat washer, lock washer and jam nut available at additional cost.
For size see "N" dimension.
Other sizes available on request.

* For stud hex socket size see page 71.
For special features and custom design considerations, see page 74.

Plain - Yoke Style
Metric Sizes (mm)

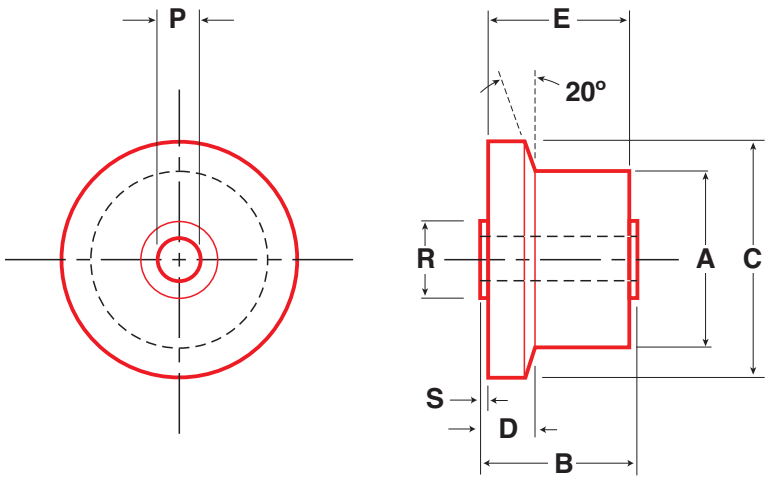






Part No.	Item No.	A Roller Dia +0.00 -0.02	B Roller Width	E Tread Width	P Bore +0.00 -0.02	R Shoulder Dia	S Shoulder Length	Ball or Tapered Roller Bearing	Bearing Radial Capacity (N) 3000hrs L10 Life @ 100RPM	Bearing Radial Capacity (N) 500hrs L10 Life @ 33-1/3RPM	Bearing Radial Capacity (N) Static Limit	Bearing Static Thrust Capacity (N)	Approx. Weight (kg)
HPCA-40	90271	40	23	22	10	22.0	0.5	BB	3140	8220	3460	2140	0.14
HPCA-50	90272	50	33	32	15	28.0	0.5	BB	5780	15140	8070	4980	0.32
HPCA-62	97297	62	40	38	20	32.0	1.0	TRB	20330	48390	33940	20300	0.91
HPCA-62-2	90273	62	40	38	20	32.0	1.0	BB	9490	24880	11240	6940	0.91
HPCA-76	96105	76	46	44	25	44.5	1.0	TRB	26670	63480	88960	53380	1.24
HPCA-80	96107	80	46	44	25	44.5	1.0	TRB	26670	63480	88960	53380	1.41
HPCA-85	96108	85	46	44	25	44.5	1.0	TRB	26670	63480	88960	53380	1.60
HPCA-90	96109	90	56	54	30	57.2	1.0	TRB	32870	78240	120990	58270	1.92
HPCA-100	96110	100	56	54	30	57.2	1.0	TRB	32870	78240	120990	58270	2.93
HPCA-125	96111	125	71	68	45	82.6	1.5	TRB	62210	148070	230860	144570	5.01
HPCA-150	96112	150	73	70	55	88.9	1.5	TRB	66990	159430	250880	147240	8.65
HPCA-200	96114	200	79	76	70	108.0	1.5	TRB	79300	188740	354970	215290	19.58
HPCA-250	96116	250	79	76	70	108.0	1.5	TRB	79300	188740	354970	215290	35.74

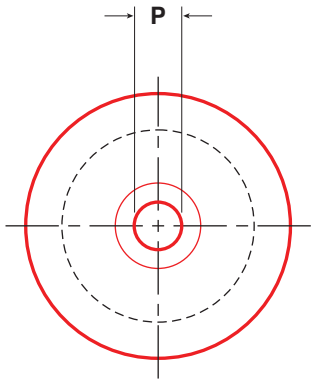
Other sizes available on request.
For special features and custom design considerations, see page 65.
For heavy-duty shafts see page 66.

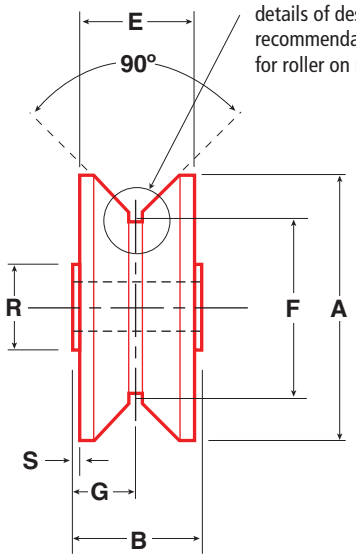


Part No.	Item No.	A	B	C	D	E	P	R	S	Ball or Tapered Roller Bearing	Bearing Radial Capacity (N)			Bearing Static Thrust Capacity (N)	Approx. Weight (kg)
		Roller Dia	Roller Width	Flange Dia	Flange Thickness	Tread Width	Bore +0.00 -0.02	Shoulder Dia	Shoulder Length		3000hrs L10 Life @ 100RPM	500hrs L10 Life @ 33-1/3RPM	Static Limit		
HPJA-40	90274	40	23	54	6.0	22	10	22.0	0.5	BB	3140	8220	3460	2140	0.19
HPJA-50	90275	50	33	68	10.0	32	15	28.0	0.5	BB	5780	15140	8070	4980	0.64
HPJA-62	97298	62	40	78	14.0	38	20	32.0	1.0	TRB	20330	48390	33940	20330	1.09
HPJA-62-2	90276	62	40	78	14.0	38	20	32.0	1.0	BB	9490	24880	11240	6940	1.09
HPJA-76	96209	76	46	98	13.5	44	25	44.5	1.0	TRB	26670	63480	88960	53380	1.24
HPJA-80	96210	80	46	102	13.5	44	25	44.5	1.0	TRB	26670	63480	88960	53380	1.71
HPJA-85	96211	85	46	107	13.5	44	25	44.5	1.0	TRB	26670	63480	88960	53380	1.95
HPJA-90	96212	90	56	112	13.5	54	30	57.2	1.0	TRB	32870	78240	120990	58270	2.37
HPJA-100	96213	100	56	122	13.5	54	30	57.2	1.0	TRB	32870	78240	120990	58270	3.43
HPJA-125	96214	125	71	148	18.2	68	45	82.6	1.5	TRB	62210	148070	230860	144570	5.72
HPJA-150	96215	150	73	173	18.2	70	55	88.9	1.5	TRB	66990	159430	250880	147240	9.56
HPJA-200	96217	200	79	223	18.2	76	70	108.0	1.5	TRB	79300	188740	354970	215290	20.78
HPJA-250	96219	250	79	273	18.2	76	70	108.0	1.5	TRB	79300	188740	354970	215290	37.25

Other sizes available on request.
For special features and custom design considerations, see page 74.
For heavy-duty shafts see page 66.

V-Grooved - Yoke Style
Metric Sizes (mm)





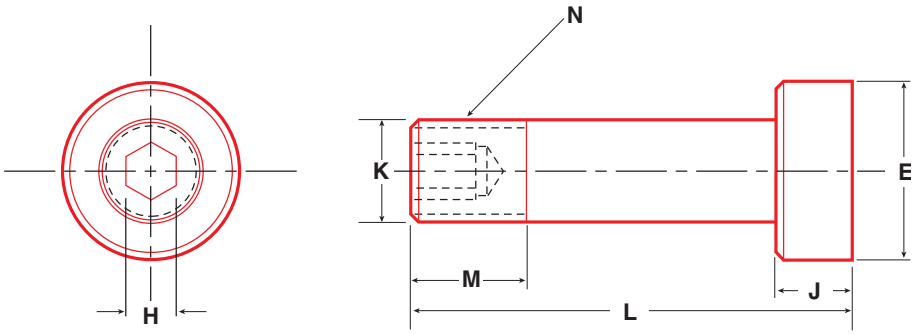
See page 69 for details of design recommendations for roller on rail.

Part No.	Item No.	A Roller Dia	B Roller Width	E Tread Width	F Point Dia	G Groove Location	P Bore +0.00 -0.02	R Shoulder Dia	S Shoulder Length	Ball or Tapered Roller Bearing	Bearing Radial Capacity (N) 3000hrs L10 Life @ 100RPM	500hrs L10 Life @ 33-1/3RPM	Static Limit	Bearing Static Thrust Capacity (N)	Approx. Weight (kg)
HPVA-40	90277	60	23	22	40	11.5	10	22.0	0.5	BB	3140	8220	3460	2140	0.46
HPVA-50	90278	75	33	32	50	16.5	15	28.0	0.5	BB	5780	15140	8070	4980	0.96
HPVA-62	97299	90	40	38	62	20	20	32.0	1.0	TRB	20330	48390	33940	20330	1.27
HPVA-62-2	90279	90	40	38	62	20	20	32.0	1.0	BB	6930	18170	8070	6540	1.27
HPVA-76	96255	110	46	44	76	23	25	44.5	1.0	TRB	26670	63480	88960	53380	2.21
HPVA-100	96256	140	56	54	100	28	30	57.2	1.0	TRB	32870	78240	120990	58270	5.08
HPVA-125	96257	165	71	68	125	35.5	45	82.6	1.5	TRB	62210	148070	216290	108140	8.52
HPVA-150	96259	190	73	70	150	36.5	55	88.9	1.5	TRB	66990	159430	250880	126380	13.79
HPVA-200	96261	240	79	76	200	39.5	70	108.0	1.5	TRB	79300	188740	325740	162870	29.60
HPVA-250	96263	290	79	76	250	39.5	70	108.0	1.5	TRB	79300	188740	354970	199360	56.52

Other sizes available on request.
For special features and custom design considerations, see page 74.
For heavy-duty shafts see page 66.

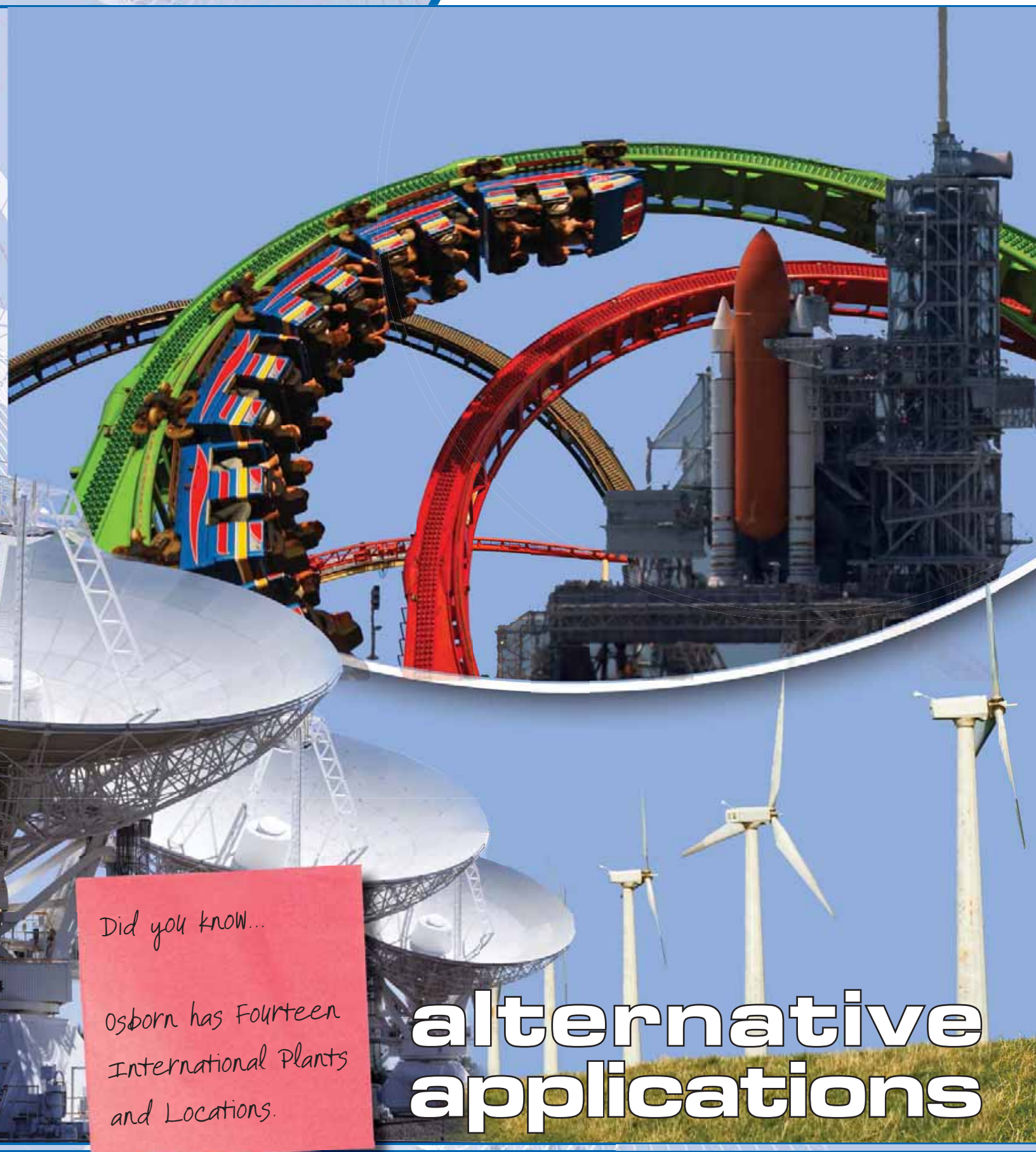
Heavy-Duty Shafts for Yoke Style Idler-Rollers - Metric Sizes (mm)

Shaft Style A includes jam nut and lock washer



Part No.	Item No.	Fits HPCA & HPJA	Fits HPVA	E Head Dia -0.025 -0.050	H Hex Size	J Head Length	K Shaft Dia -0.025 -0.050	L Stud Length	M Thread Length	N Thread	Approx. Weight (kg)
MSHA-10	90280	40	40	18.00	4.0	10	10	55	15	M10x1.0	0.32
MSHA-15	90281	50	50	25.00	8.0	14	15	80	22	M14x2.0	0.46
MSHA-20	97300	62	62	31.75	8.0	16	20	94	25	M20x1.5	0.70
MSHA-25	95001	76, 80, 85	76	44.50	8.0	19	25	110	29	M24x1.5	0.75
MSHA-30	95002	90,100	100	57.20	12.2	22	30	135	31	M30x3.5	0.95
MSHA-45	95003	125	125	82.60	12.2	32	45	185	54	M45x4.5	1.50
MSHA-55	95004	150	150	88.90	12.2	32	55	195	62	M52x5	5.70
MSHA-70	95005	200, 250	200, 250	108.00	12.2	35	70	220	74	M70x6	10.00

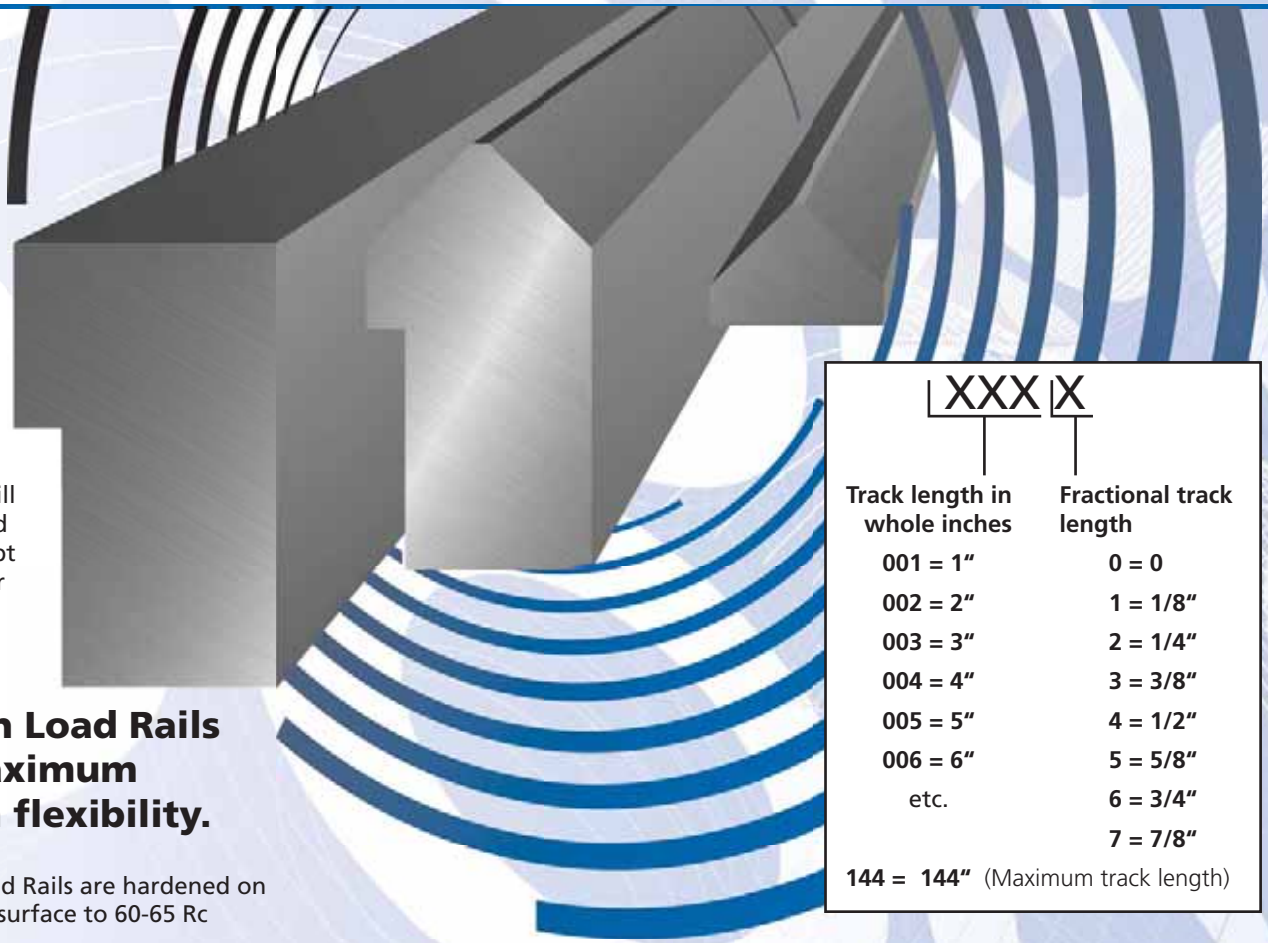
Other sizes available on request.
For special features and custom design considerations, see page 74.



Did you know...

Osborn has Fourteen International Plants and Locations.

alternative applications



Drawing will be provided upon receipt of order for approval.

XXXX

Track length in whole inches	Fractional track length
001 = 1"	0 = 0
002 = 2"	1 = 1/8"
003 = 3"	2 = 1/4"
004 = 4"	3 = 3/8"
005 = 5"	4 = 1/2"
006 = 6"	5 = 5/8"
etc.	6 = 3/4"
	7 = 7/8"

144 = 144" (Maximum track length)

Osborn Load Rails for maximum design flexibility.

Osborn Load Rails are hardened on the rolling surface to 60-65 Rc

To determine a part number, specify the type, replace "XXXX" with the track length dimension, and add the appropriate mounting option code (see chart).

Maximum track length is specified below. Track length tolerance is ±1/16"

Osborn Load Rails offer allowable rail loadings of up to 71,500 lbs (317450 N) per roller for maximum design flexibility.

To complete part number, replace "XXXX" with track length dimension and mounting option.

For example - to specify a 4" high V-track 28-1/2" long with a clearance hole for a cap screw, the part number is: **LRTV-20284-1.**

Need help in figuring out the proper Load Rails Item Number?

Visit the site below for an item number calculator.

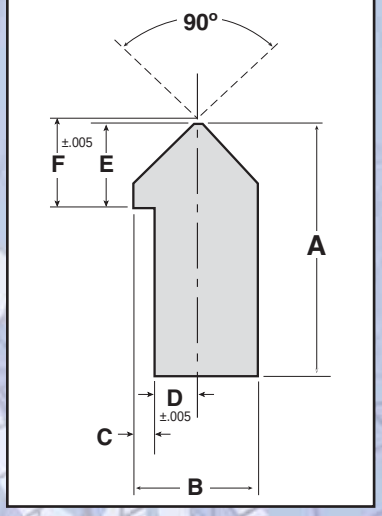
www.loadrunners.com/rails

Part No.	Maximum Length		A		B		C		D		E		F		G	
	in.	mm*	in.	mm*	in.	mm*	in.	mm*	in.	mm*	in.	mm*	in.	mm*	in.	mm*
LRTV-4 XXXX	72	1828.8	2	50.8	1.000	25.4	0.125	3.18	0.375	9.53	0.750	19.05	0.780	19.81	0.500	12.70
LRTV-1 XXXX	144	3657.6	3	76.2	1.500	38.1	0.250	6.35	0.500	12.70	1.000	25.40	1.047	26.59	0.750	19.05
LRTV-2 XXXX	144	3657.6	4	101.6	2.000	50.8	0.250	6.35	0.750	19.05	1.500	38.10	1.562	39.67	1.000	25.40
LRTP-4 XXXX	72	1828.8	2	50.8	1.000	25.4	0.125	3.18	–	–	–	–	0.780	19.81	0.500	12.70
LRTP-1 XXXX	144	3657.6	3	76.2	1.500	38.1	0.250	6.35	–	–	–	–	1.047	26.59	0.750	19.05
LRTP-2 XXXX	144	3657.6	4	101.6	2.000	50.8	0.250	6.35	–	–	–	–	1.562	39.67	1.000	25.40
HPTV-4 XXXX	72	1828.8	1	25.4	1.000	25.4	–	–	–	–	–	–	1.030	26.16	–	–
HPTV-1 XXXX	144	3657.6	1.5	38.1	1.500	38.1	–	–	–	–	–	–	1.547	39.29	–	–
HPTV-2 XXXX	144	3657.6	2	50.8	2.000	50.8	–	–	–	–	–	–	2.062	52.37	–	–

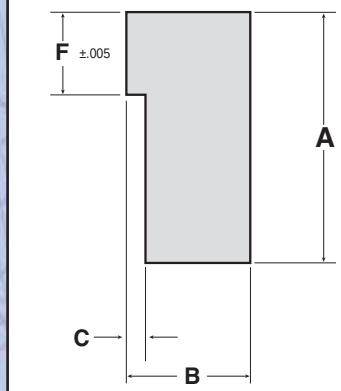
* Approximate metric dimensions are for reference only.

Load Rail Specifications

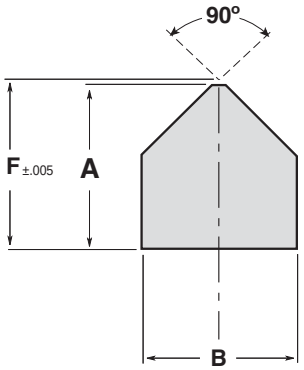
Type LRTV



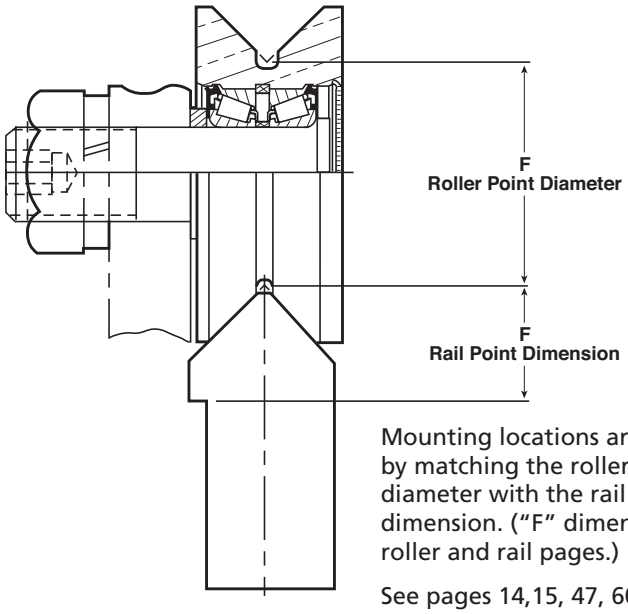
Type LRTP



Type HPTV



Load Runner on Load Rail Design Recommendations



Mounting locations are determined by matching the roller point diameter with the rail point dimension. ("F" dimensions on roller and rail pages.)

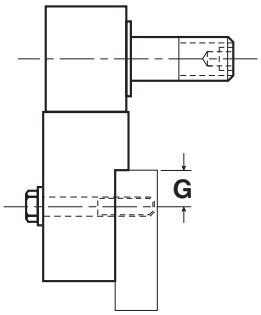
See pages 14,15, 47, 60, 62, 65 for roller selection.

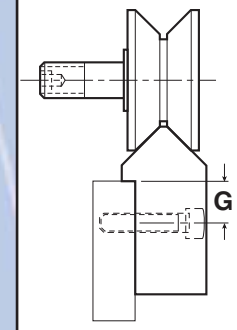
Part No.	Mounting		
	Option #1	Option #2	Option #3
LRTV-4 XXXX	1/4 Cap Screw	1/4 Soc.Hd.Cap Screw	1/4-20 UNC Cap Screw
LRTV-1 XXXX	3/8 Cap Screw	3/8 Soc.Hd.Cap Screw	3/8-16 UNC Cap Screw
LRTV-2 XXXX	1/2 Cap Screw	1/2 Soc.Hd.Cap Screw	1/2-13 UNC Cap Screw
LRTP-4 XXXX	1/4 Cap Screw	1/4 Soc.Hd.Cap Screw	1/4-20 UNC Cap Screw
LRTP-1 XXXX	3/8 Cap Screw	3/8 Soc.Hd.Cap Screw	3/8-16 UNC Cap Screw
LRTP-2 XXXX	1/2 Cap Screw	1/2 Soc.Hd.Cap Screw	1/2-13 UNC Cap Screw
HPTV-4 XXXX	–	–	1/4-20 UNC Cap Screw
HPTV-1 XXXX	–	–	3/8-16 UNC Cap Screw
HPTV-2 XXXX	–	–	1/2-13 UNC Cap Screw

Mounting holes equally spaced from rail ends on each option.

Mounting Option # 1

Clearance hole for cap screw. Holes spaced 12 apart. To order. add -1 to end of part number.



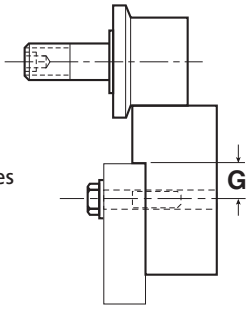


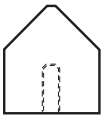
Mounting Option # 2

Clearance hole and counterbore for socket head cap screw and hi-collar lock washer. Holes spaced 12 apart. To order, add -2 to part number.

Mounting Option # 3

Tapped thru hole for cap screw on LRTP & LRTV. Holes spaced 12 apart. To order, add -3 to end of part number.





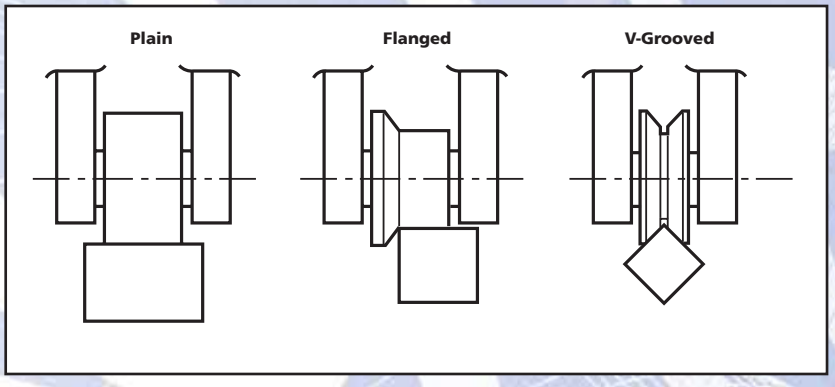
Tapped hole in bottom of rail for HPTV.

Track Alignment

The track and roller should be aligned so that the roller tread lies flat on the track surface.

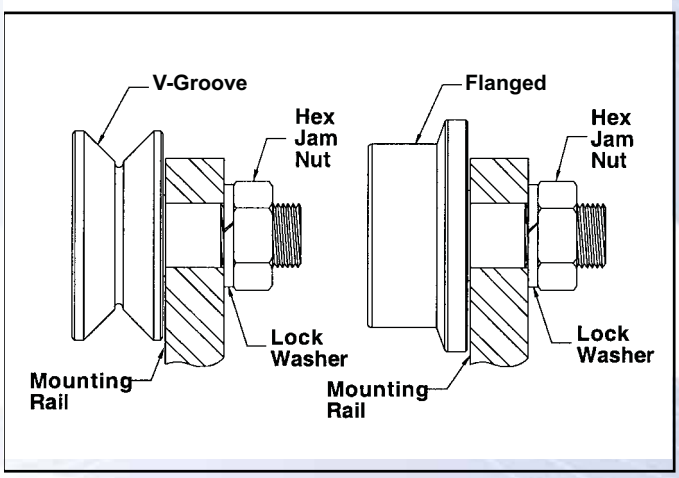
Track Capacity

For steel track of 180,000 PSI tensile strength (Rc=40), refer to the track capacity chart to find the track load capacity for the style and size of roller to be used. For steel track other than 180,000 PSI tensile strength, first refer to the track capacity factor chart for the type of steel to be used. Then multiply the track capacity for the roller being used by the track capacity factor for the steel to be used.



TRACK CAPACITY*									TRACK CAPACITY FACTOR			
PLR & PLRY			FLR & FLRY			VLR & VLRY						
Roller Size	Capacity		Roller Size	Capacity		Roller Size	Capacity		Track Hardness Rc	Tensile Strength		Capacity Factor
3	14,760	LBS.	3	10,500	LBS.	3 1/2	8,100	LBS.	26	120,000	PSI	0.369
	65,680	N		44,720	N		36,000	N		8,437	Kg/Cm2	
3 1/4	16,000	LBS.	3 1/4	10,900	LBS.	4 1/2	13,200	LBS.	32	140,000	PSI	0.552
	71,200	N		48,500	N		58,800	N		9,843	Kg/Cm2	
3 1/2	17,225	LBS.	3 1/2	14,200	LBS.	5	15,000	LBS.	36	160,000	PSI	0.755
	76,650	N		63,190	N		66,600	N		11,249	Kg/Cm2	
4	25,300	LBS.	4	19,000	LBS.	5 1/2	16,700	LBS.	40	180,000	PSI.	1.000
	112,580	N		84,550	N		74,400	N		12,655	Kg/Cm2	
5	38,650	LBS.	5	29,400	LBS.	6 1/2	20,200	LBS.	44	200,000	PSI	1.235
	172,000	N		130,830	N		90,100	N		14,061	Kg/Cm2	
6	54,830	LBS.	6	47,730	LBS.	7 1/2	23,800	LBS.	47	220,000	PSI.	1.494
	244,000	N		212,400	N		106,000	N		15,467	Kg/Cm2	
7	73,810	LBS.	7	60,860	LBS.	8 1/2	27,300	LBS.	50	240,000	PSI.	1.777
	328,450	N		270,830	N		121,000	N		16,874	Kg/Cm2	
8	95,600	LBS.	8	82,220	LBS.	9 1/2	30,800	LBS.	53	260,000	PSI	1.995
	425,400	N		365,880	N		137,000	N		18,280	Kg/Cm2	
9	120,200	LBS.	9	105,160	LBS.	10 1/2	34,300	LBS.	56	280,000	PSI	2.209
	534,900	N		467,960	N		153,000	N		19,686	Kg/Cm2	
10	147,600	LBS.	10	130,900	LBS.	11 1/2	37,900	LBS.	58	300,000	PSI	2.306
	656,800	N		582,500	N		168,000	N		21,092	Kg/Cm2	

* Radial load only for tracks made of 180,000 PSI steel (Hardness Rc = 40)



Installation Notes

Mounting Considerations

Mounting holes should be machined to the nominal stud size within +.001/-.000 (+.025 mm/-.000 mm) tolerance.

When properly aligned, the roller stud should slip into the mounting member. Do not force the stud into the mounting member as damage to the roller may occur.

When mounting rollers, do not torque the jam nuts beyond what is recommended or damage may occur. Be sure that the mounting member is of sufficient thickness to support the applied loads.

STUD DIAMETER	DRY THREADS	LUBRICATED THREADS
Less than 5/8" / 16mm	15 ft. lb. / 20 Nm	8 ft lb. / 10 Nm
5/8"/16 mm to 1"/24 mm	50 ft. lb. / 68 Nm	25 ft. lb. / 34 Nm
Over 1" / 24 mm	100 ft. lb. / 136 Nm	50 ft. lb. / 68 Nm

Installation Notes (continued)

Yoke Style

General Considerations

Load Runners yoke-style idler-rollers offer considerable mounting flexibility. They can be installed on a bolt or thru-shaft between yoke brackets ("ears") which are fabricated as an integral part of the equipment, or in individual yoke brackets which can be bolted into position wherever needed.

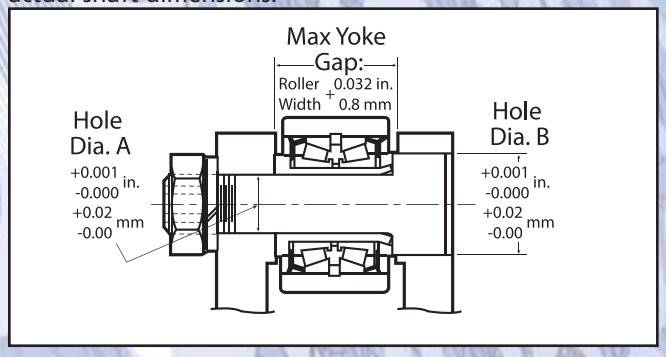
It is important that the members which support the mounting bolt or thru-shaft are rigid enough to resist bending (which could cause uneven loading on the rollers) and strong enough to withstand the operational radial and thrust loads.

Osborn offers an exclusive line of heavy-duty thru-shafts designed specifically for use with yoke-style Load Runners idler-rollers. See Pages 48, 49, and 66.

Axial clamping of yoke-style rollers (through the bore) is required to prevent the bearing components from separating, causing loss of bearing adjustment and premature failure. The outboard end of the mounting bolt or thru-shaft should be allowed to float in the yoke ear to avoid "pinching" and restricting the idler-roller tread when the roller is clamped. (See drawings below).

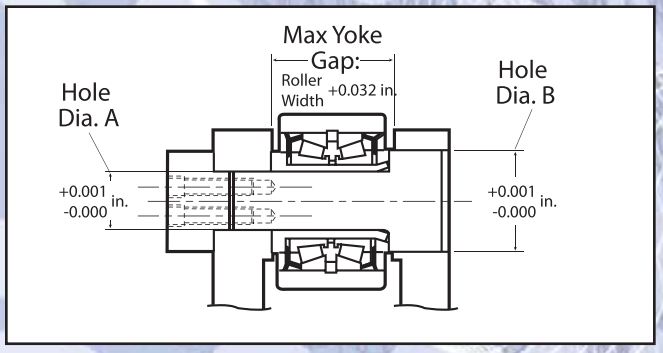
Shaft Style A
See pages 48 & 66 for actual shaft dimensions.

For Roller Sizes: PLRY + FLRY 1 1/2" Thru 7", VLRY 2 1/2" Thru 8 1/2" and all metrics



Shaft Style B
See page 48 for actual shaft dimensions.

For Roller Sizes: PLRY + FLRY 8" Thru 10", VLRY 9 1/2" Thru 11 1/2"

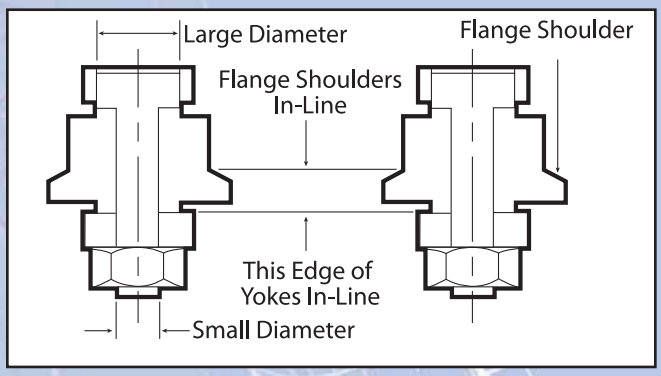


Flange Alignment

The shoulder on the flange end of a flanged yoke-style idler-roller serves as the dimensional reference point for accurate positioning of the roller flange with respect to the supported structure.

Orient each roller so that the flange is closest to the fixed (small diameter) end of the bolt or thru-shaft. (See Drawing.) When the bolt or thru-shaft is clamped, the reference shoulder will be pulled up tightly against the structure reference surface.

By mounting a string of flanged yoke-style rollers in this manner, all flanges will be properly aligned.

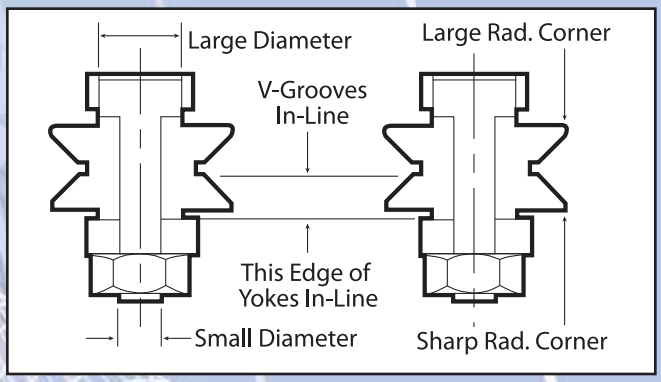


V-Groove Alignment

The sharp-radius corner of a V-grooved, yoke-style idler-roller indicates which shoulder should be used as a dimensional reference point for accurate alignment of a V-grooved roller with respect to the supported structure.

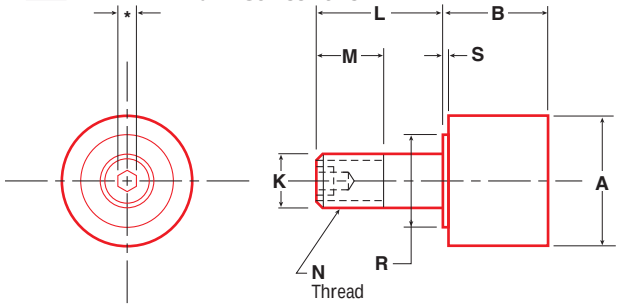
Orient each roller so that the sharp-radius corner is closest to the fixed (small diameter) end of the bolt or thru-shaft. (See Drawing.) When the bolt or thru-shaft is clamped, the reference shoulder will be pulled up tightly against the structure reference surface.

By mounting a string of V-grooved yoke-style rollers in this manner, all V-grooves will be properly aligned.

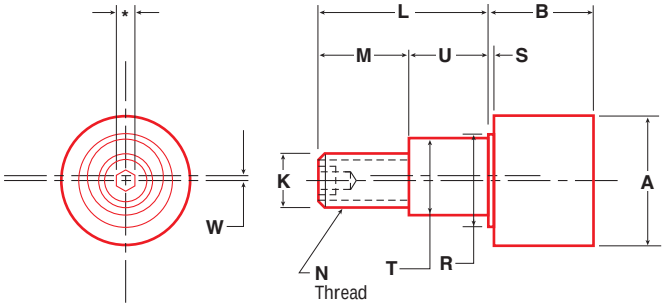


Inch		Metric	
Stud Diameter	Hex Socket Size	Stud Diameter	Hex Socket Size
≤ 1/2"	3/16"	≤ 12 mm	4 mm
5/8" – 7/8"	5/16"	14 mm	6 mm
1" – 1 1/4"	1/2"	16 - 30 mm	8 mm
≥ 2"	5/8"	≥ 30 mm	12 mm

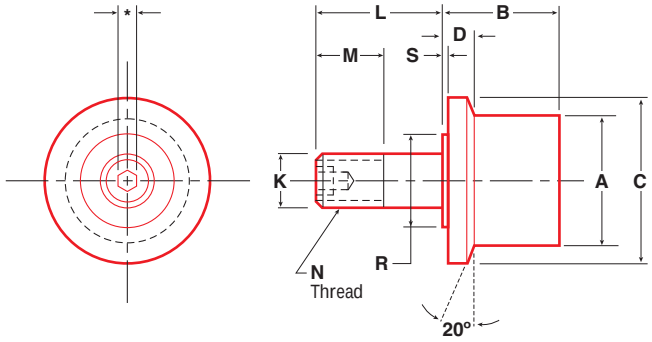
☐ PLR Plain Concentric



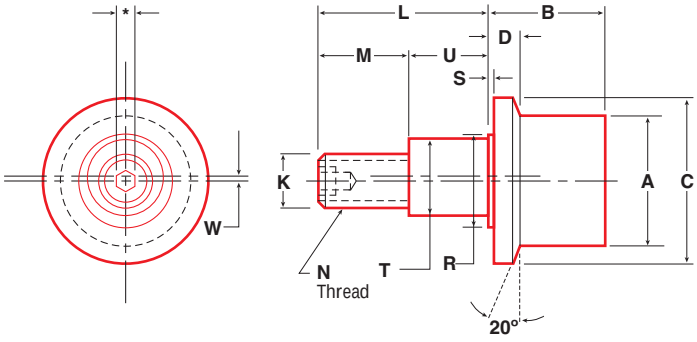
☐ PLRE Plain Eccentric



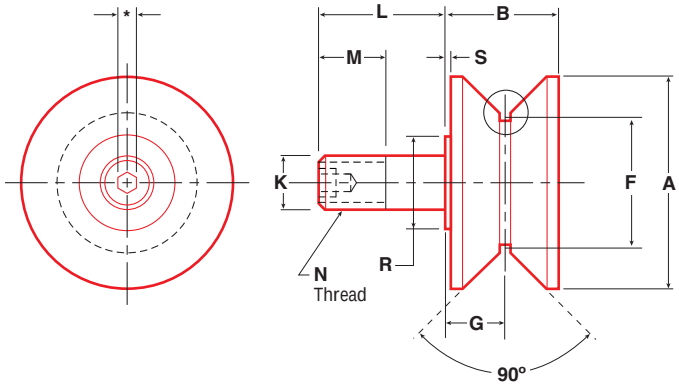
☐ FLR Flanged Concentric



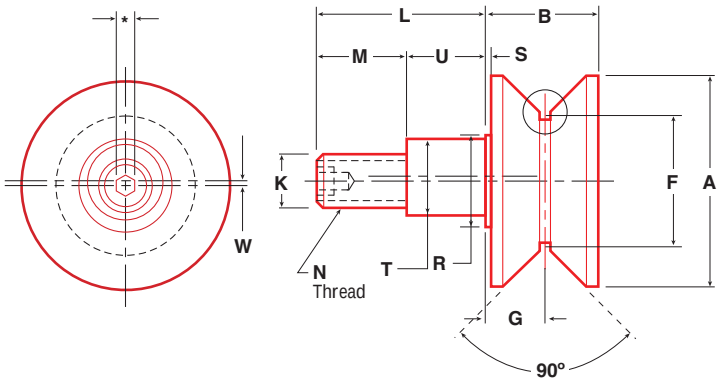
☐ FLRE Flanged Eccentric



☐ VLR V-Grooved Concentric



☐ VLRE V-Grooved Eccentric



Name: _____

Company: _____

Address: _____

Phone: _____

Application: _____

_____

_____

_____

FAX TO 216-361-1606

Operating Temperature: _____

Loads: _____

Speeds: _____

Desired L-10 Life: _____

Lubrication:
[ ] Sealed [ ] Solid Lub. [ ] Manual

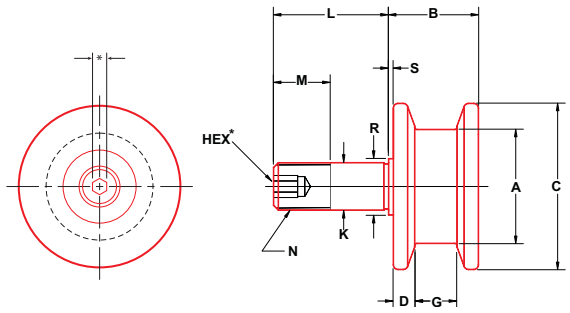
Material:
[ ] Steel [ ] Stainless [ ] Other _____

Critical Dimensions: _____

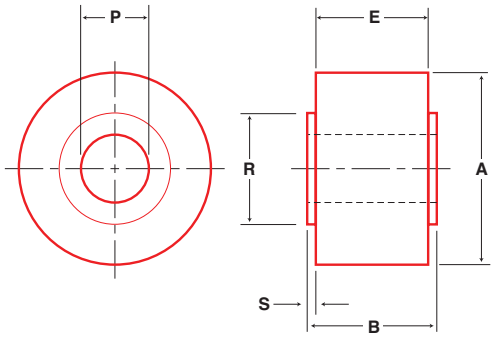
_____

A Roller Dia.
B Roller Width
C Flange Dia.
D Flange Width
F Point Dia.
G Groove Loc.
K Stud Dia.
L Stud Length
M Thread Len.
N Thread
R Shoulder Dia.
S Shoulder Len.
T Eccent. Dia.
U Eccent. Len.
W Eccentricity

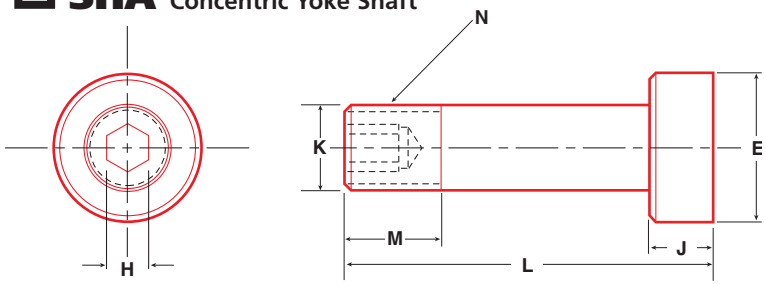
☐ FFLR Double Flanged Concentric



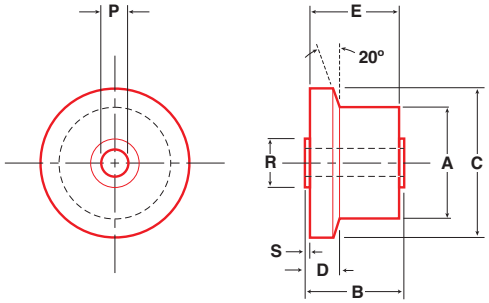
☐ PLRY Plain Yoke Style



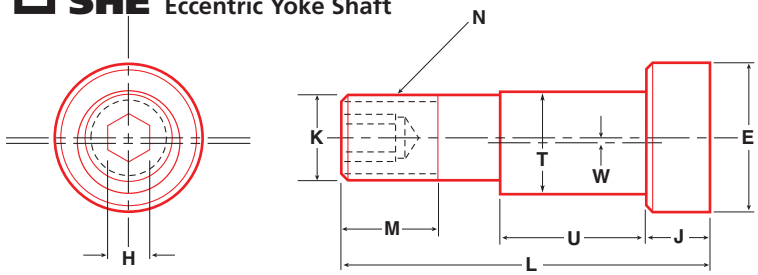
☐ SHA Concentric Yoke Shaft



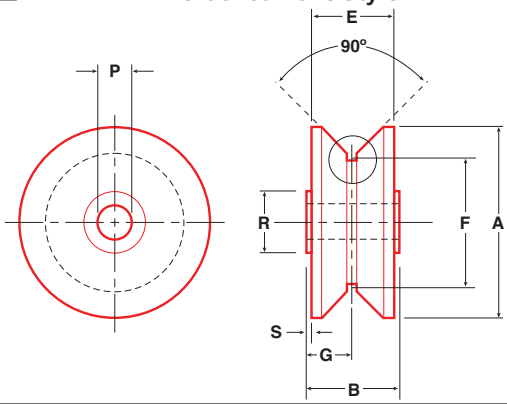
☐ FLRY Flanged Yoke Style



☐ SHE Eccentric Yoke Shaft



☐ VLRY V-Grooved Yoke Style



Name: _____

Company: _____

Address: _____

Phone: _____

Application: _____

_____

_____

_____

FAX TO 216-361-1606

Operating Temperature: _____

Loads: _____

Speeds: _____

Desired L-10 Life: _____

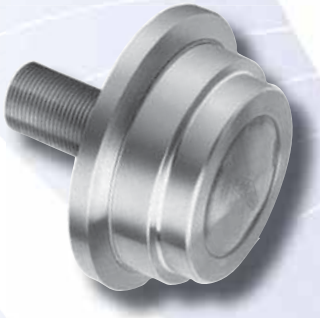
Lubrication:
[ ] Sealed [ ] Solid Lub. [ ] Manual

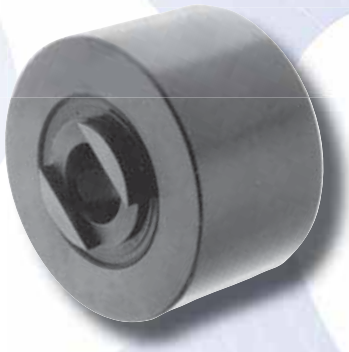
Material:
[ ] Steel [ ] Stainless [ ] Other _____

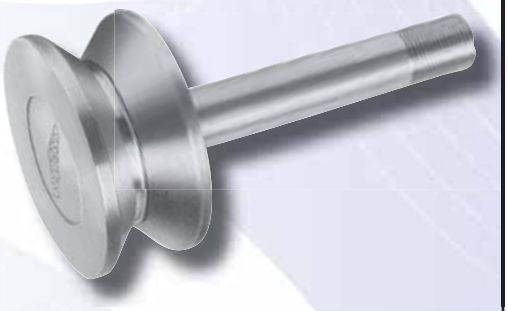
Critical Dimensions: _____

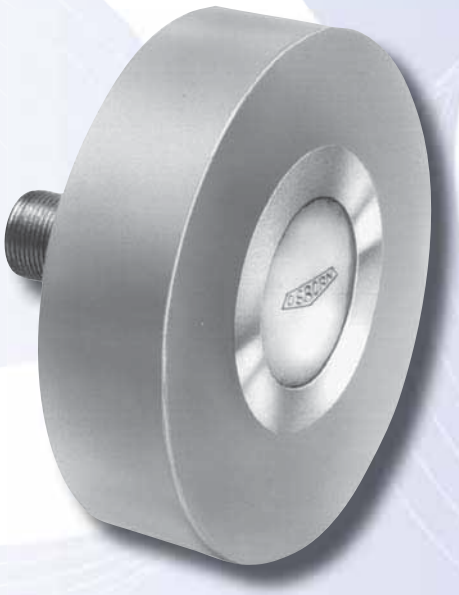
_____

A Roller Dia.
B Roller Width
C Flange Dia.
D Flange Width
E Head Dia.
F Point Dia.
G Groove Loc.
J Head Length
K Shaft Dia.
P Shaft Length
M Thread Len.
N Thread
R Shoulder Dia.
S Shoulder Len.
T Eccent. Dia.
U Eccent. Len.
W Eccentricity









In addition to the standard Load Runners idler-rollers listed in this catalog, custom tread profiles, studs and special features are available. A few examples include:

1. Crowned profiles
2. Solid lubricants
3. Double-flange rollers
4. Stainless steel treads, studs
5. Special plating (zinc, chrome etc.)
6. Non-metallic tread materials (urethane etc.)
7. Special seals
8. Special lubricants
9. Provision for re-lubrication

Consult Osborn International with special features or requirements not listed here.

Operation in Severe Environments

Temperature Extremes

Standard Load Runners idler-rollers are designed to operate in temperatures ranging from -30° F to +225° F (-34° C to +107° C).

Operation in extreme temperature environments as low as -40°F (-40°C) and as high as +400°F (+240°C) requires special seals and/or lubrication provisions.

Nuclear

Osborn Load Runners, Cam Runners and Load Rails are not recommended for use in any nuclear and related applications.

Moisture Extremes

Operation in wash-down or similar extreme-moisture environments may also require special lubrication provisions.

Consult Osborn International for application assistance.

Bearing Disassembly (If Required)

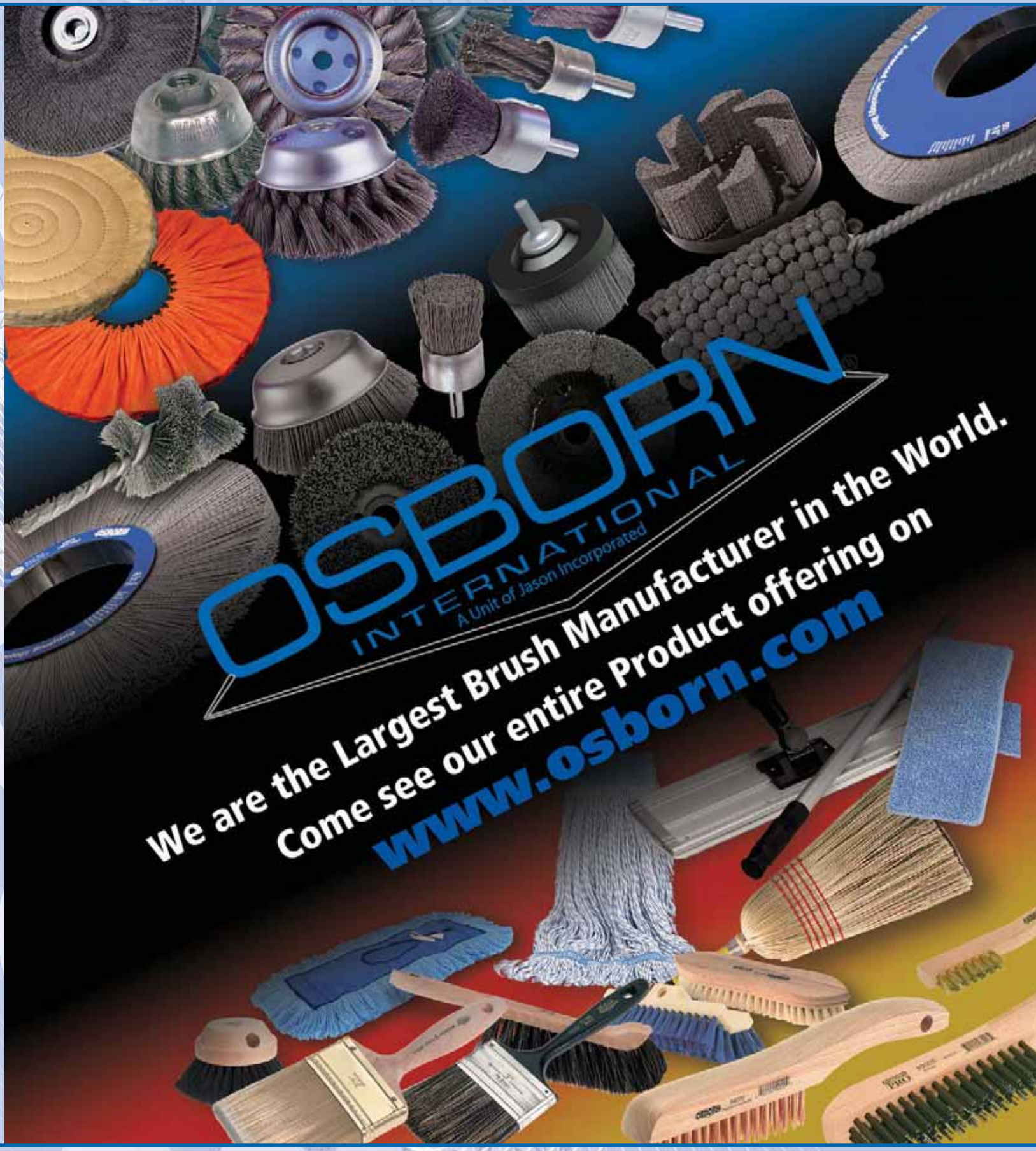
Tapered-roller-bearing assemblies used in Load Runners idler-rollers are pre-set with custom-ground spacers for the correct running clearance. If for some reason, a bearing assembly is removed and then reassembled, the same cups, cones and spacers must be used.

Bearing assembly components cannot be mixed and matched. Even new cups or cones cannot be substituted in an existing assembly.

Osborn does not recommend disassembly and does not provide component parts.

Application Considerations

The customer assumes responsibility for proper selection and application of Osborn Load Runners, Cam Runners and Load Rails. Technical advice or review provided by Osborn International with respect to the use of Osborn products is given in good faith and without charge, and Osborn International assumes no obligation of liability for the advice given. Advice provided is to be accepted at the customer's risk.


OSBORN
INTERNATIONAL
A Unit of Jason Incorporated
We are the Largest Brush Manufacturer in the World.
Come see our entire Product offering on
www.osborn.com

Terms and Conditions

A copy of Osborn International's standard terms and conditions of sale (including disclaimers of warranty, limitation of liability and remedy) can be attained by contacting Osborn at 800.720.5248.

Subject sales policy applies to direct purchasers as well as any person who buys from authorized distributors of Osborn products.

OSBORN®
INTERNATIONAL
A Unit of Jason Incorporated

5401 HAMILTON AVE.
CLEVELAND, OH 44114
phone: (800) 720-5248
fax: (216) 361 1606
www.loadrunners.com
rollers@osborn.com

CODE NO: LITLR 15M, PRINTED IN USA 2008-03