

Black Racer Ceramic Coated Linear Motion Bearings

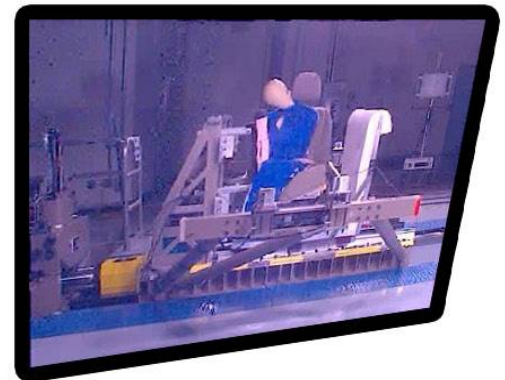
Champion of high loads,
low friction and wear life.



Direct drop-In Replacements for Linear Ball Bearings

No Acceleration or System
Speed where they have failed when
properly employed - Over 120G's!

Longest Life Test we know of:
19000 Miles with only .00004" Wear!



1-800-513-3163
www.LM76.com

Engineer's choice for high speed crash test systems

Black Racer Family



Mike Quinn is VP Sales & Marketing at LM76
Please call me with any questions: 617-538-8756

Linear Ball Bearing Family



Since 1976 LM76 has been helping engineers solve their most desperate linear applications. Our Black Racer Ceramic Coated linear bearings are without equal when compared to PTFE, plastic and linear ball bearings. Case in point, linear ball bearings must be greased - the same with our Black Racer Ceramic Coated Bearings. Do linear ball bearings offer a lower coefficient of friction - yes - but so low they blow the Black Racer out - **NO**. The Black Racer will take 10x's plus the load of what a linear ball bearing can take. Do Black Racer bearings blow out linear ball bearings load wise - **YES!** What about life testing? Black Racer has the longest life test we know of. How about some more facts:



VS.



Linear Speed - *Unlimited

10 feet per second

Acceleration - *Unlimited

acceleration to 450 fps²

Max Load: 1" Black Racer Bearing 6000+ lbs.

650 lbs.

Coefficient of Friction - .09 - .12 Lubricated
(A factor Lower Than PTFE/Teflon® Composite Bearings)

as low as .001

Shock/Vibration: OK

NO

Rapid Oscillation: OK

NO

Contamination: OK

NO

Cost: Lower

Moderate

In Stock: YES

YES

Life/Wear: 19,000 miles @ .00004" wear

2 million linear inches

Noise: Quiet/Smooth

Generates Noise and Resonance

Mechanical Failure Mode: None/One Piece Unit

Balls/Races/Shaft Brinelling

* To date we have not experienced any failures due to acceleration or system speeds when properly employed.

If you lubricate, there is no
equal in performance or price!



BLACK RACER, CERAMIC COATED LINEAR BEARINGS™

The “original” drop-in replacement for linear ball bushings, our Ceramic Coated bearing is simply awesome in applications where traditional linear ball bushings fail. Ceramic Coated bearings require lubrication - either a grease or light oil. They excel in “Hellish” environments, operate with a low Coefficient of friction (.04 - .08) and outlast any comparable product: .00004” wear after 100 million linear FEET!

OVER 100 G's Acceleration!

To date, we are not aware of any application where Black Racer Ceramic Coated Bearings™ have failed due to Acceleration or system speed when properly employed. **We have seen accelerations over 100G's!**



LM76

LM76 Linear Motion Bearings
140 Industrial Drive
East Longmeadow, Massachusetts 01028
1-800-513-3163
www.LM76.com



Minuteman PTFE composite linear bearings offer a tough, hard ceramic coated aluminum shell which does not chip, flake or generate debris. Bonded to the bearing shell ID is our Minuteman - Green - PTFE , self-lubricating liner which ranges from .025" - .035" thickness depending on bearing size. Minuteman's self-lube PTFE linear is not filled with abrasive materials like glass or metallics that require hardened steel or 440c stainless shafting. Rather, our blend employs high load, non-abrasive polyimide fillers which are able to run on soft, 300 series stainless steels- 303, 304 and 316 SS. Our white, FDA linear is very similar but takes a lesser load.



PSI = 5000

Max Velocity = 400 SFM

Max PV = 30,000

Required Shafting = Class L Rc60/440c

300 SS (303, 304, 316)

Coefficient of Friction = .09 - .12

Self-Lubricating

Minuteman FDA Compliant Self-Lube Bearings



PSI = 1000

Max Velocity = 400 SFM

Max PV = 10,000

Shell: 300 SS

Required Shafting = Class L Rc60/440c

300 SS (303, 304, 316)

Coefficient of Friction = .09 - .12

Self-Lubricating



Black Racer Ceramic Coated Linear Bearings offer a 1 piece design employing a file hard (FDA Compliant) ceramic coating over an aluminum shell. Our ceramic coating is not a surface anodize like Black Oxide or Zinc. It has a depth of .001" penetration and a .001" surface build-up for a total of .002". Our ceramic coating does not fracture, flake, chip or wash off in most chemical (see chemical resistance chart - Page 27) environments.

Black Racer requires lubrication and must be run on case hardened shafting: Rc60 Steel or 440c stainless.

Black Racer bearings were the "original" drop-in replacements for Linear Ball Bearings in 1976 and were hailed as a design innovation among mechanical engineers.



PSI = 5000

Max Velocity = *Unlimited

Max PV = 40,000

Required Shafting = Class L Rc60/440c

Coefficient of Friction = .04 -.08 (Lower than PTFE)

Requires Lubrication

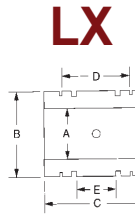
* To date, LM76 have not experienced a failure due to high acceleration or system speed when properly employed.

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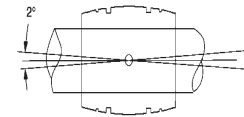


Closed and Open, Ceramic Coated Linear Bearings



SA

Self Aligning



INCH SIZES

BEARING NUMBER (L OR LX)	WORKING BORE		OUTSIDE DIAMETER		LENGTH		DISTANCE BETWEEN RETAINING RINGS D	DISTANCE BETWEEN O-RING GROOVES E	SLOT WIDT +0.02 -0.00 F	RETAINING HOLE DIAMETER H	HOLE LOCATION TO BRG. END I
	INCHES A	TOL. -0.000 +	INCHES B	TOL. +0.000 -	INCHES C	TOL. +0.000 -					
408-6	0.2505	0.0010	0.5000	0.0010	0.750	0.015	0.437	0.018	0.094	0.094	on center
610-7	0.3755	0.0010	0.6250	0.0010	0.875	0.015	0.562	0.260	0.156	0.094	on center
610-7SU	0.3755	0.0010	0.6250	0.0010	0.875	0.015	0.625	0.260	0.156	0.094	on center
814-10	0.5005	0.0010	0.8750	0.0010	1.250	0.015	0.875	0.490	0.312	0.133	5/8
814-10SU	0.5005	0.0010	0.8750	0.0010	1.250	0.015	0.940	0.490	0.312	0.133	5/8
1018-12	0.6255	0.0010	1.1250	0.0010	1.500	0.015	1.000	0.550	0.375	0.133	1/8
1220-13	0.7508	0.0010	1.2500	0.0010	1.625	0.015	1.062	0.612	0.438	0.133	1/8
1220-13SU	0.7508	0.0010	1.2500	0.0010	1.625	0.015	1.160	0.612	0.438	0.133	1/8
1625-18	1.0008	0.0010	1.5625	0.0010	2.250	0.015	1.625	1.180	0.563	0.133	1/8
1625-18SU	1.0008	0.0010	1.5625	0.0010	2.250	0.015	1.750	1.180	0.563	0.133	1/8
2032-21	1.2508	0.0010	2.0000	0.0010	2.625	0.020	1.875	1.425	0.625	0.201	3/16
2438-24	1.5008	0.0015	2.3750	0.0015	3.000	0.020	2.250	1.670	0.750	0.201	3/16
3248-32	2.0012	0.0015	3.0000	0.0015	4.000	0.020	3.000	1.450	1.000	0.275	5/16
4060-40	2.5012	0.0015	3.7500	0.0015	5.000	0.025	3.750	1.600	1.250	0.275	5/16
4872-48	3.0012	0.0020	4.5000	0.0020	6.000	0.030	4.500	2.190	1.500	0.275	5/16
6496-64	4.0012	0.0020	6.0000	0.0020	8.000	0.040	6.000		2.000	0.275	5/16

Ordering Information:

For Closed Bearings use Prefix L Example: L1625-18SL

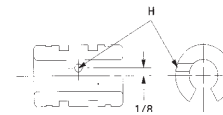
For Open Bearings use Prefix LX LX1625-18SL

For Self Aligning Bearings, add SA to part number. Example: L1625-18 SLSA

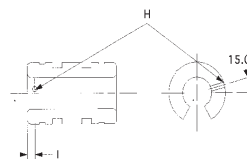
BEARING NUMBER (L OR LX)	MAX. SHAFT DIA.	HOUSING BORE		BEARING WEIGHT LBS (L)	BEARING WEIGHT LBS. (LX)	MAX STATIC LOAD LBS.
			TOL. -0.000 +			
408-6	0.2495	0.5000	0.0005	0.010	0.008	939
610-7	0.3745	0.6250	0.0005	0.015	0.013	1643
610-7SU	0.3745	0.6250	0.0005	0.015	0.013	1643
814-10	0.4995	0.8750	0.0005	0.046	0.034	3128
814-10SU	0.4995	0.8750	0.0005	0.046	0.034	3128
1018-12	0.6245	1.1250	0.0005	0.096	0.072	4691
1220-13	0.7495	1.2500	0.0005	0.125	0.091	6100
1220-13SU	0.7495	1.2500	0.0005	0.125	0.091	6100
1625-18	0.9995	1.5625	0.0005	0.247	0.184	11259
1625-18SU	0.9995	1.5625	0.0005	0.247	0.184	11259
2032-21	1.2495	2.0000	0.0010	0.500	0.381	16417
2438-24	1.4994	2.3750	0.0010	0.780	0.603	22512
3248-32	1.9994	3.0000	0.0010	1.540	1.190	40024
4060-40	2.4993	3.7500	0.0010	3.000	2.334	62518
4872-48	2.9992	4.5000	0.0010	5.060	4.080	90009
6496-64	3.9988	6.0000	0.0010	12.100	9.870	160048

LM76 Bearings can be press fit, held in place with snap rings or pinned in housing with a retaining pin. Retaining pin location is illustrated above.
NOTE: Oil hole centrally located on the "C" dimension on all standard bearings.

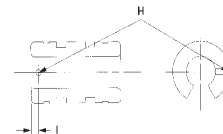
Retaining Pin Location, LX inch series Bearings



LX 814-10



LX 1018-12



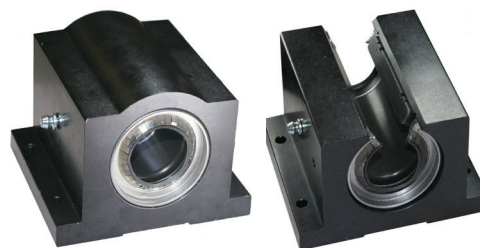
LX 1220-13 THRU LX 6496-64

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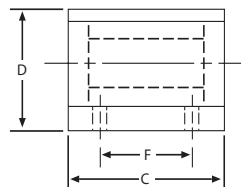
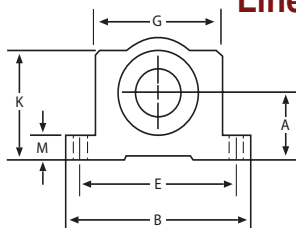
CERAMIC COATED BEARINGS

BLACK RACER

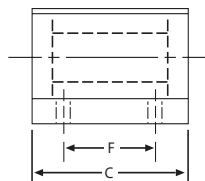
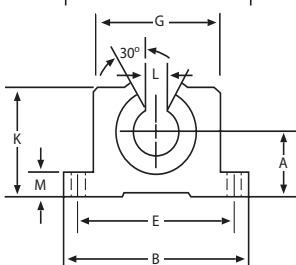


Closed and Open, Single Ceramic Coated Pillow Block Linear Bearings

(L)
Closed



(LX)
Open

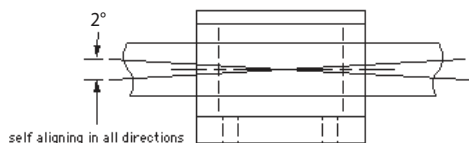


INCH Sizes

PART NUMBER (L) (LX)	SHAFT DIA.		A +/- .003	B	C	D	E +/- .010	F +/- .010	G	BOLT/ HOLE	K	L MIN.	M MIN.
	NOM.	MAX.											
PB 408-6	1/4	.2495	.437	1 5/8	1 3/16	13/16	1.312	.750	1	#6-5/32	3/4	3/32	3/16
PB 610-7	3/8	.3745	.500	1 3/4	1 5/16	15/16	1.437	.875	1 1/8	#6-5/32	7/8	9/64	3/16
PB 814-10	1/2	.4995	.687	2	1 11/16	1 1/4	1.688	1.000	1 3/8	#6-5/32	1 1/8	5/16	1/4
PB 1018-12	5/8	.6245	.875	2 1/2	1 15/16	1 5/8	2.125	1.125	1 3/4	#8-3/16	1 7/16	3/8	9/32
PB 1220-13	3/4	.7495	.937	2 3/4	2 1/16	1 3/4	2.375	1.250	1 7/8	#8-3/16	1 9/16	7/16	5/16
PB 1625-18	1	.9995	1.187	3 1/4	2 13/16	2 3/16	2.875	1.750	2 3/8	#10-7/32	2	9/16	3/8
PB 2032-21	1 1/4	1.2495	1.500	4	3 5/8	2 13/16	3.500	2.000	3	#10-7/32	2 1/2	5/8	7/16
PB 2438-24	1 1/2	1.4994	1.750	4 3/4	4	3 1/4	4.125	2.500	3 1/2	1/4-9/32	2 7/8	3/4	1/2
PB 3248-32	2	1.9994	2.125	6	5	4 1/16	5.250	3.250	4 1/2	3/8-13/32	3 5/8	1	5/8

Complete Pillow Block Units include Bearing, Grease Fitting, Retention Pin and Seals.

PILLOW BLOCK HOUSINGS



Self aligning Pillow Blocks allow 360° misalignment of 1° from shaft centerline, 2° total misalignment for applications where proper alignment is difficult or self alignment desirable.

PART NUMBER	
PREFIXES (L) (LX)	HOUSING BORE
PBH 408-6	.5000/.5005
PBH 610-7	.6250/.6255
PBH 814-10	.8750/.8755
PBH 1018-12	1.1250/1.1255
PBH 1220-13	1.2500/1.2505
PBH 1625-18	1.5625/1.5635
PBH 2032-21	2.0000/2.0010
PBH 2438-24	2.3750/2.3760
PBH 3248-32	3.0000/3.0010

Ordering Information

For Open Pillow Blocks , use Prefix LX before number. Example: LXPB1625-18

For Closed Pillow Blocks , use Prefix L before number. Example: LPB1625-18

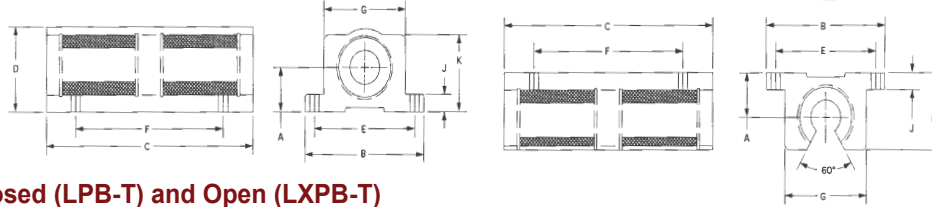
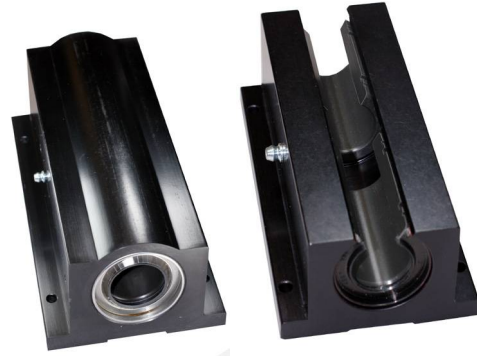
For Self Aligning Pillow Blocks, add the Suffix SA to part number. Example: LPB1625-18SA

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CERAMIC COATED BEARINGS

Ceramic Coated Twin, Closed and Open Pillow Blocks



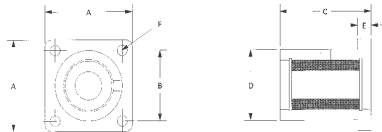
Closed (LPB-T) and Open (LXPB-T)

PART NUMBER	WORKING BORE		A	B	C	D	E	F	G	BOLT	HOLE	J MIN.	K
	INCHES	TOLERANCE	+/- .002				+/- .010	+/- .010					
LPB-4 T	.2505	+.001	.437	1 5/8	2 1/2	13/16	1.312	2.000	1	#6	5/32	3/16	3/4
LPB-6 T	.3755	+.001	.500	1 3/4	2 3/4	15/16	1.437	2.250	1 1/8	#6	5/32	3/16	7/8
L or LXPB-8 T	.5005	+.001	.687	2	3 1/2	1 1/4	1.688	2.500	1 3/8	#6	5/32	1/4	1 1/8
L or LXPB-10 T	.6255	+.001	.875	2 1/2	4	1 5/8	2.125	3.000	1 3/4	#8	3/16	9/32	1 7/16
L or LXPB-12 T	.7505	+.001	.937	2 3/4	4 1/2	1 3/4	2.375	3.500	1 7/8	#8	3/16	5/16	1 9/16
L or LXPB-16 T	1.0008	+.001	1.187	3 1/4	6	2 3/16	2.875	4.500	2 3/8	#10	7/32	3/8	1 15/16
L or LXPB-20 T	1.2508	+.001	1.500	4	7 1/2	2 13/16	3.500	5.500	3	#10	7/32	7/16	2 1/2
L or LXPB-24 T	1.5008	+.0015	1.750	4 3/4	9	3 1/4	4.125	6.500	3 1/2	1/4"	9/32	1/2	2 7/8
L or LXPB-32T	2.0012	+.0015	2.125	6	10	4.063	5.250	8.250	4.500	3/8	13/32	5/8	3.625

Complete Pillow Block Units include Bearing, Grease Fitting, Retention Pin and Seals.

**BLACK
RACER**

Flange Blocks



Part Number	Shaft Diameter		A	B	C	D	E	F	
	Nom	Max						Bolt	Hole
LF6	3/8"	.3745	1-1/4"	0.875	1-5/16"	7/8"	3/16"	# 6	5/32"
LF8	1/2"	.4995	1-5/8"	1.250	1-11/16"	1-1/4"	1/4"	# 8	3/16"
LF10	5/8"	.6245	2"	1.500	1-15/16"	1-1/2"	1/4"	# 8	3/16"
LF12	3/4"	.7495	2-3/8"	1.750	2-1/16"	1-3/4"	3/8"	# 10	7/32"
LF16	1"	.9995	2-3/4"	2.125	2-13/16"	2-1/4"	1/2"	1/4"	9/32"
LF20	1-1/4"	1.2495	3"	2.250	3-5/8"	2-1/2"	1/2"	1/4"	9/32"

LM76 will design and manufacture special twin flange blocks upon request

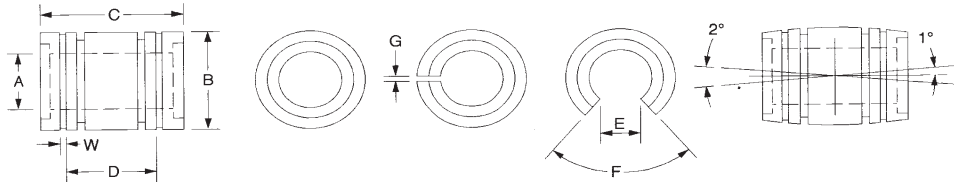
Complete Pillow Block Units include Bearing, Grease Fitting, Retention Pin and Seals.

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CERAMIC COATED BEARINGS

Ceramic Coated European Metric Closed and Open Bearings



Ceramic Coated European Closed and Open Bearings

PART NUMBER add prefix L, LX or LA	WORKING BORE		OUTSIDE DIA. h7 Tolerance	LENGTH h14 Tolerance	RETAINING RING		MAX. SHAFT DIA.	HOUSING BORE DIA.	OPEN(LX) SLOT WIDTH	OPEN (LX) SLOT ANGLE	ADJ (LA) SLOT WIDTH
	A	Tolerance -0,000	B	C	D	W (h6 or h7)	H7	E	F	G	
		+									
L /LX/LA 5	5	0,038-0,065	12	22	12	1,1	5	12	-	-	2
8	8	"	16	25	14	1,1	8	16	-	-	2
12	12	"	22	32	20	1,3	12	22	7,6	78	2,5
16	16	"	26	36	22	1,3	16	26	10,8	78	3
20	20	0,047-0,074	32	45	28	1,6	20	32	10,8	60	3,5
25	25	"	40	58	40	1,85	25	40	13,2	60	4,5
30	30	"	47	68	48	1,85	30	47	14,2	50	5
40	40	0,049-0,089	62	80	56	2,15	40	62	18,7	50	7
50	50	"	75	100	72	2,65	50	75	23,6	50	8
60	60	"	90	125	95	3,2	60	90	29,6	54	10
80	80	0,122-0,173	120	165	125	4,2	80	120	38,4	54	14

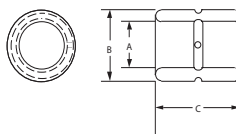
Part Number Prefix

L = Closed LX = Open LA = Adjustable Slot L50SL = Closed Bearing LX50SL = Open Bearing LA50SL = Adjustable Slot Bearing

Part Number Suffix

SA = Self-Aligning L50LSA = Closed, Self-Aligning Bearing

Ceramic TWM Thin Wall Bearings



PART NUMBER	WORKING BORE		OUTSIDE DIAMETER	LENGTH h14 Tolerance	MAX. SHAFT DIA. (h6 or h7)	HOUSING BORE DIA. H7
	A	TOL. -0,000				
		+	B	C	D	E
L6 TWM	6	0,038-0,065	12	22	6	12
L8 TWM	8	"	15	24	8	15
L10 TWM	10	"	17	26	10	17
L12 TWM	12	"	19	28	12	19
L14 TWM	14	"	21	28	14	21
L16 TWM	16	"	24	30	16	24
L20 TWM	20	0,047-0,074	28	30	20	28
L25 TWM	25	"	35	40	25	35
L30 TWM	30	"	40	50	30	40
L40 TWM	40	0,049-0,089	52	60	40	52
L50 TWM	50	"	62	70	50	62

Black Racer Ceramic Coated Linear/Rotary Thin Wall Bushings

Designed to replace a variety of thin wall bearings used in linear, rotary and oscillatory applications. They have all the advantages of our standard ceramic coated linear bearings, and may be used to replace a variety of other materials, including sintered bronze, cast bronze, various non-metallic materials and needle bearings. Each bearing has an internal and external grease groove for simplified lubrication. Note: the LM76 ceramic coated bearing must be lubricated by at least a thin film. SILICON SPRAY LUBRICANTS MUST NOT BE USED.

Several of the sizes are specifically designed as die and mold replacement bushings. These are marked with an asterisk for ease of identification.



Part Number Sleeve Series	ID inches A	OD inches B	Length inches C	Recommended	
				Shaft Size +.000/- .0005	Housing Bore +.000/- .0005
LS0203-03	.2535	.377	3/8	.2490	.3750
LS0204-04	.2530	.502	1/2	.2490	.5000
LS0304-04	.3785	.502	1/2	.3740	.5000
LS0305-05	.378	.627	5/8	.3745	.6250
LS0405-05	.503	.627	5/8	.4990	.6250
LS0406-06	.503	.752	3/4	.4990	.7500
LS0407-08	.503	.814	1	.4990	.8125
LS0506-06	.628	.752	3/4	.6240	.7500
LS0508-08	.628	1.002	1	.6240	1.0000
LS0607-07	.753	.877	7/8	.7490	.8750
LS0609-11*	.751	1.126	1 3/8	.7485	1.1245
LS0710-11*	.876	1.251	1 3/8	.8740	1.2495
LS0709-10	.878	1.127	1 1/4	.8740	1.1250
LS0712-12	.877	1.502	1 1/2	.8740	1.5000
LS0811-11*	1.001	1.376	1 3/8	.9990	1.3750
LS0810-10	1.003	1.252	1 1/4	.9990	1.2500
LS0812-12	1.003	1.502	1 1/2	.9990	1.5000
LS0912-12	1.128	1.502	1 1/2	1.1240	1.5000
LS0913-14	1.127	1.627	1 3/4	1.1240	1.6250
LS1013-11*	1.251	1.626	1 3/8	1.2490	1.6245
LS1012-12	1.253	1.502	1 1/2	1.2490	1.5000
LS1014-14	1.253	1.752	1 3/4	1.2490	1.7500
LS1216-11*	1.501	2.001	1 3/8	1.4990	1.9995
LS1214-14	1.503	1.752	1 3/4	1.4990	1.7500
LS1216-15	1.502	2.002	1 7/8	1.4990	2.0000
LS1416-16	1.753	2.002	2	1.7490	2.0000
LS1418-18	1.752	2.252	2 1/4	1.7490	2.2500
LS1620-31*	2.001	2.501	3 7/8	1.9980	2.4985
LS1618-18	2.004	2.253	2 1/4	1.9990	2.2500
LS2026-39*	2.501	3.251	4 7/8	2.4980	3.2485
LS2430-39*	3.001	3.751	4 7/8	2.9980	3.7485

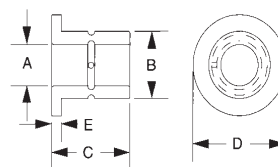
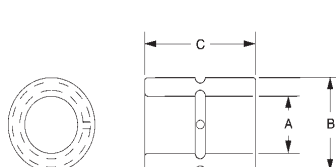
* These sizes are used for die and mold replacement bushings

Bearings are dimensioned to allow for ID close-in based on recommended housing bore. Proper running clearance is achieved after press fit.

Part Number Flange Series	ID inches A	OD inches B	Length inches C	Flange Diameter D	Flange Thickness E	Recommended	
						Shaft Size +.000/- .0005	Bore Size +.000/- .0005
LF0607-08	.753	.877	1	1.125	.125	.7485	.8750
LF0609-15*	.751	1.126	1 7/8	1.302	.187	.7485	1.1245
LF0710-15*	.876	1.251	1 7/8	1.427	.187	.8740	1.2495
LF0709-14	.878	1.127	1 3/4	1.500	.125	.8740	1.1250
LF0712-14	.877	1.502	1 3/4	1.750	.125	.8740	1.5000
LF0811-15*	1.001	1.376	1 7/8	1.552	.187	.9990	1.3750
LF0810-14	1.003	1.252	1 3/4	1.625	.125	.9990	1.2500
LF0812-14	1.003	1.502	1 3/4	1.750	.125	.9990	1.5000
LF0912-14	1.128	1.502	1 3/4	1.687	.125	1.1240	1.5000
LF0913-15	1.127	1.627	1 7/8	1.875	.125	1.1240	1.6250
LF1013-15*	1.251	1.626	1 7/8	1.802	.187	1.2490	1.6245
LF1012-14	1.253	1.502	1 3/4	1.687	.125	1.2490	1.5000
LF1014-15	1.253	1.752	1 7/8	2.000	.125	1.2490	1.7500
LF1216-19*	1.501	2.001	2 3/8	2.177	.187	1.4990	1.9995
LF1214-15	1.503	1.752	1 7/8	2.000	.125	1.4990	1.7500
LF1216-15	1.502	2.002	1 7/8	2.250	.125	1.4990	2.0000
LF1416-19	1.753	2.002	2 3/8	2.250	.125	1.7490	2.0000
LF1418-13	1.752	2.252	2 3/8	2.500	.125	1.7490	2.2500
LF1620-19*	2.001	2.501	2 3/8	2.677	.187	1.9980	2.4985
LF1618-19*	2.004	2.253	2 3/8	2.500	.187	1.9990	2.2500
LF2026-33*	2.501	3.251	4 7/8	3.427	.187	2.4980	3.2485
LF2430-39*	3.001	3.751	4 7/8	3.990	.500	2.9980	3.7485

* These sizes are used for die and mold replacement bushings

TOLERANCES FOR THIN WALL BUSHINGS	
ID & OD	LENGTH
.252 ID to 1.752 - +.000/- .001	Up to 1 1/2" long - +.000/- .010
2.003 ID to 3.003 - +.000/- .002	1 1/2" to 3" long - +.000/- .015
CONCENTRICITY	FLANGE DIAMETER
Up to and including	Up to 2" - +.000/- .010
1.252 ID - .0005 TIR	
1.502 to 2.002 ID - .001 TIR	2" and over - +.000/- .020
FLANGE THICKNESS	
+/- .005	





CHEMICAL RESISTANCE OF LM76 BLACK RACER CERAMIC COATED LINEAR BEARINGS

**Note: Black Racer Ceramic Coated Bearings are FDA Compliant
for direct food contact**

The data shown below is based on laboratory tests and actual service records. Because factors such as turbulence, temperature, PV, degree of contact, etc. are variables which can affect performance, it is always advisable to test the material under service conditions before specifying LM76 for new applications. If this is impractical, a test should be devised to simulate service conditions as closely as possible. For advice, consult factory.

A—Fluid has little or no effect

B—Fluid has minor to moderate effect

C—Fluid has severe effect

Unless otherwise noted, concentrations or aqueous solutions are saturated. All ratings are at room temperature unless specified.

Should the coating wear through to the aluminum substrate, this chart is no longer applicable.

Chemical

Acetaldehyde	A
Acetic acid, 20%	A
Acetic acid, 30%	A
Acetic acid, glacial	A
Acetic anhydride	A
Acetone	A
Acetylene	A
Aluminum chloride solutions	B
Aluminum sulfate solutions	A
Ammonia, anhydrous	A
Ammonium hydroxide solutions	C
Ammonium chloride solutions	C
Ammonium sulfate solutions	B
Amyl acetate	A (122°F) (50°C)
Amyl Alcohol	A
Aniline	A
ASTM oil #1	A (158°F) (70°C)
ASTM oil #3	A (158°F) (70°C)
ASTM reference fuel A	A
ASTM reference fuel B	A (122°F) (50°C)
ASTM reference fuel C	A
Asphalt	A
Barium hydroxide solutions	C
Beer	A
Benzaldehyde	A
Benzene	A (158°F) (70°C)
Benzoyl chloride anhydrous	A
Benzoyl chloride boiling	C
Borax solutions	A (to 176°F)
Boric acid solutions	A
Bromine, anhydrous liquid	A
Butane	A
Butyl acetate	A
Butyraldehyde	A
Butyric acid	A
Calcium bisulfite solutions	B
Calcium chloride solutions	C
Calcium hydroxide solutions	B
Calcium hypochlorite, 5%	B
Calcium hypochlorite, 20%	B
Carbon bisulfide	A
Carbon dioxide	A
Carbon monoxide	A
Carbon tetrachloride, dry	A (122°F) (50°C)
Carbon tetrachloride, wet	B
Castor oil	A
Chlorine gas, dry	A
Chlorine gas, wet	C
Chlorosulfonic acid	A
Chromic acid, 10-15%	B
Citric acid solutions	A
Copper chloride solutions	B
Copper sulfate solutions	B
Cottonseed oil	A
Creosote oil	A
Cyclohexane	A

Chemical

Ethyl acetate	A (122°F) (50°C)
Ethyl alcohol	A
Ethyl chloride, dry	A
Ethyl glycol	A
Ferric chloride solutions	C
Formaldehyde	A
Formic acid	A
FREON-11	A
FREON-11	A (130°F) (54°C)
FREON-12	A
FREON-12	A (130°F) (54°C)
FREON-22	A
FREON-22	A (130°F) (54°C)
FREON-113	A
FREON-113	A (130°F) (54°C)
FREON-114	A
FREON-114	A (130°F) (54°C)
Furfural	A
Gasoline	A
Glue	A
Glycerin	A
n-Hexane	A (122°F) (50°C)
Hydrazine	A
Hydrochloric acid, 20%	B
Hydrochloric acid, 37%	B
Hydrocyanic acid	C
Hydrofluoric acid, 48%	C
Hydrofluoric acid, 75%	C
Hydrofluoric acid, anhydrous	C
Hydrogen	A
Hydrogen peroxide, 90%	A
Hydrogen sulfide	A
JP-4	A
JP-5	A
JP-6	A
Kerosene	A
Lacquer solvents	A
Lactic acid	A
Linseed Oil	A
Lubricating oils	A
Magnesium chloride solutions	B
Mercuric chloride solutions	C
Mercury	C
Methyl alcohol	A
Methyl ethyl ketone	A (122°F) (50°C)
Methylene chloride	B
Mineral oil	A
Naptha	A
Nathalene	A
Nitric acid, 10%	A
Nitric acid, 30%	A
Nitric acid, 60%	A
Nitric acid, 70%	A
Nitric acid, red fuming	A
Nitrobenzene	A
Oleic acid	A

Chemical

Palmitic acid	A
Perchloroethylene	A
Phenol	A
Phosphoric acid, 20%	C
Phosphoric acid, 60%	C
Phosphoric acid, 70%	C
Phosphoric acid, 85%	C
Pickling solution (20% nitric acid, 4% HF)	B
Pickling solution (17% nitric acid, 4% HF)	B
Potassium dichromate solutions	A
Potassium hydroxide solutions	C
Pyridine	A
SAE #10 oil	A (158°F) (70°C)
Sea Water	A
Silicone grease	A
Soap solutions	A
Sodium chloride solutions	A
Sodium dichromate, 20%	A
Sodium hydroxide, 20%	C
Sodium hydroxide, 461/2%	C
Sodium hydroxide, 50%	C
Sodium hydroxide, 73%	C
Sodium hypochlorite, 5%	C
Sodium hypochlorite, 20%	C
Sodium peroxide solutions	A
Soybean oil	A
Steam (see water)	A
Stearic acid	A
Styrene	A
Sulfur, molten	A
Sulfur dioxide, liquid	C
Sulfur dioxide, gas	C
Sulfur trioxide	C
Sulfuric acid, up to 50%	C
Sulfuric acid, 50%-80%	C
Sulfuric acid, 60%	C
Sulfuric acid, 90%	C
Sulfuric acid, 95%	C
Sulfuric acid, fuming (20% oleum)	C
Sulfurous acid	B
Tannic acid, 10%	A
Tartaric acid	A
Toluene	A (122°F) (50°C)
Trichloroethylene	A
Tricresyl phosphate	A
Triethanolamine	A
Tung oil	A
Turpentine	A
Water	A (122°F) (50°C)
Water	A (212°F) (100°C)
Xylene	A
Zinc chloride solutions	B

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Black Racer Ceramic Coated Bearing Data

Life Testing

Ceramic LM76

Test Parameters:	Dynamic Test Load:	100 PSI
	Speed During Test:	100 feet per minute
	Lubrication:	Lithium Stearate Grease
Results:	Run-in Wear (10 Hours)	.00001" Total Wear
	Constant Wear Rate After Run-in	3.0×10^{-13} inches per linear foot of travel
e.g. Total wear for 100,000,000 linear feet of travel is .00004".		

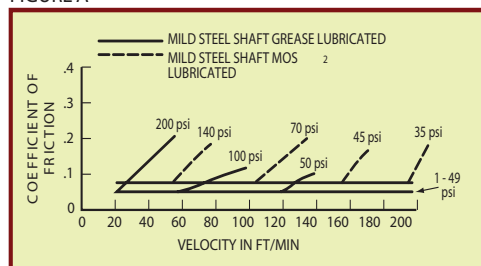
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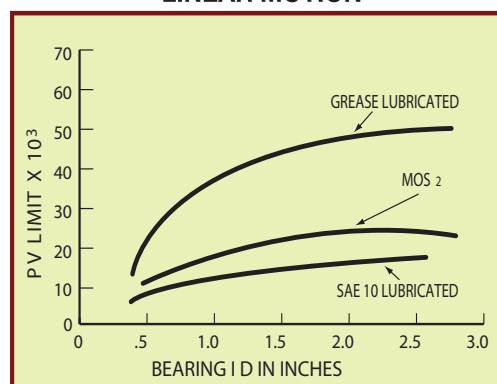
Optimum performance of the LM76 Ceramic Bearing is achieved when standard hardened and ground "S" or "L" type precision shafting is used. Mild steel shafting or drill rod ground to the same tolerances and finish may also be used. Testing has determined that the LM76 ceramic bearing, when run against these softer shaft materials, and lubricated at a frequency of one-hour intervals, results in a coefficient of friction of .05-.06 at a PV limit of 6000. Examination of the shaft after testing indicated that with the exception of light score marks on the shaft, there was no measureable wear to either the shaft or the bearing surfaces. Please note Figure A for actual test data.

In order to achieve maximum performance of the LM76 Ceramic bearing, a lubrication method is essential. The proper amount of lubrication required is that amount which maintains a constant thin film during operation. The method selected will depend on the speed-load-coefficient of friction requirements of the application. Approved (tested) lubrication methods include lithium stearate grease, MOS₂ Dry Film, most oils, greases and moly pastes. We do not recommend using any silicon based spray lubricants. The following charts illustrate the results of various speed/load and lubricant tests.

FIGURE A **LINEAR MOTION**



LINEAR MOTION



Performance Data (Ceramic Series)

Linear Motion Performance Data

Maximum Velocity Unlimited
Maximum Load (static) 5000 PSI
Coefficient of Friction as low as04

Rotar Motion Performance Data

Maximum Velocity Unlimited
Maximum Load (static) 10,000 PSI
Coefficient of Friction as low as04

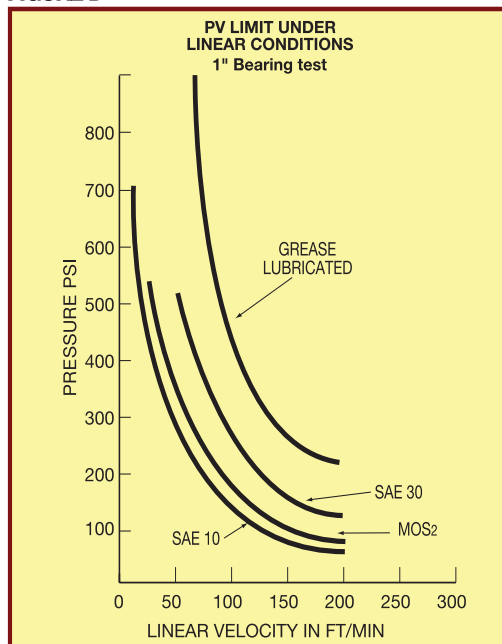
Temperature Limitation

Low Temp -200°F
High Temp +400°F

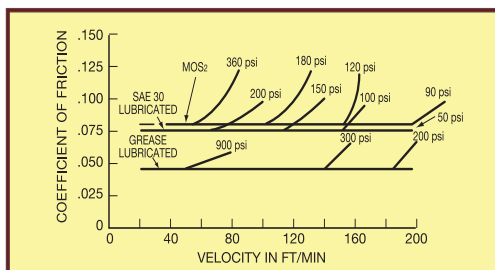
PV Limits-Linear Motion

PV limits as applied to plane bearings vary depending upon the manufacturer's testing procedures. The PV limit for the LM76 bearing was determined to be that point in the testing where the constant coefficient of friction (e.g. .04 increased to .05) remained at that level or higher. At that point, the test was terminated and that load and speed was determined to be the PV limit. Therefore, it should be noted that the PV limit only signifies an increase in friction, and NOT SIGNIFICANT SURFACE DAMAGE OR WEAR. Please refer to Figures D and E to determine PV values at various speeds and loads.

FIGURE D



1" BEARING TEST

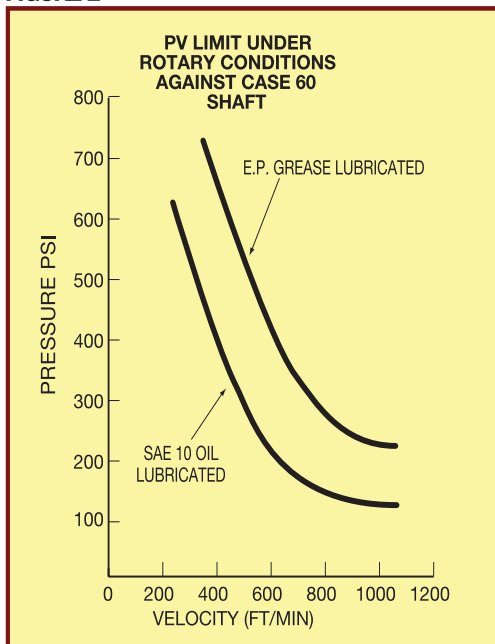


Lubricant	Linear PV Limit 1" Dia. Bearing	Friction Coefficient
SAE 10	15,000	.08
MOS ₂	18,000	.08
SAE 30	25,000	.06
Lithium Stearate Grease	40,000	.04

PRESS FIT I.D. CLOSE IN

Wall thickness	% Close in (Approx.)
1/16"	100%
3/32"	90%
1/8"	75%
3/16"	60%
1/4"	50%
3/8"	30%
1/2"	20%

FIGURE E



Performance Data: Linear and Rotary

Ceramic Metric Bearing Performance

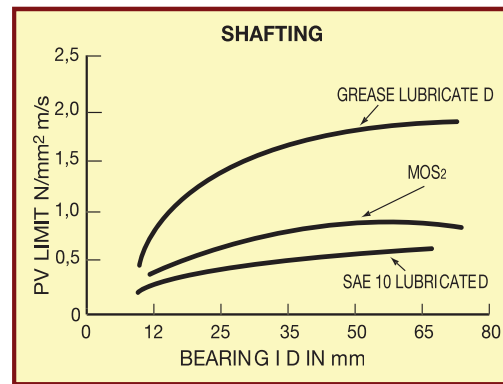
Linear motion performance data

Maximum Velocity Unlimited
Maximum Load (static) 34,4 N/mm²
Coefficient of Friction as low as 0.04

PV Limits-Linear Motion

PV limits as applied to plane bearings vary depending upon the manufacturer's testing procedures. The PV limit for the LM76 bearing was determined to be that point in the testing where the constant coefficient of friction (e.g. .04 increased to .05) remained at that level or higher. At that point, the test was terminated and that load and speed was determined to be the PV limit. Therefore, it should be noted that the PV limit only signifies an increase in friction, and NOT SIGNIFICANT SURFACE DAMAGE OR WEAR. Please refer to Figures D and E to determine PV values at various speeds and loads.

LINEAR MOTION



Rotary Motion Performance

Maximum Velocity Unlimited
Maximum Load (static) 70 N/mm²
Coefficient of Friction as low as .04
Temperature Limitation
Low Temp. -130°C
High Temp. +200°C

	LM76 SL Series	LM76 Ceramic
Maximum PV (continuous)	0,26 N/mm ² m/s	1,4 N/mm ² m/s
Maximum P-(static)	5,2 N/mm ²	34,4 N/mm ²
Maximum V (no load)	2 m/s	unlimited
Shaft Hardness (minimum)	RB 25	RC 35-63
Shaft Finish (RMS)	8-1	8-16
Coefficient of Friction	.10-.1	.04-.08
Temperature Limits-typical range	-240°C to +190°	-130°C to +200°C

FIGURE D

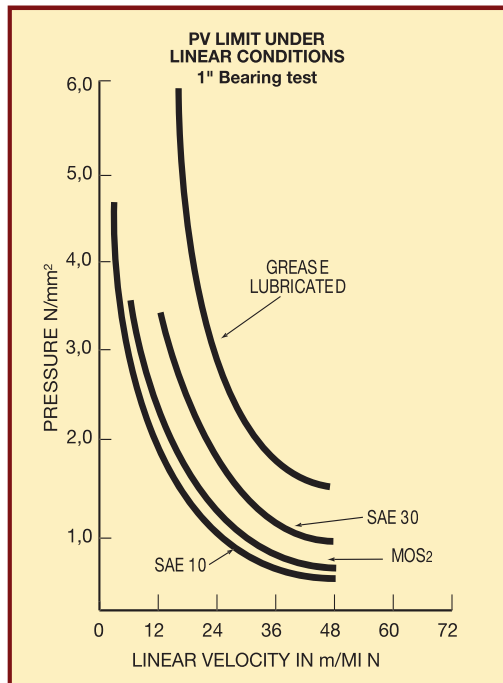
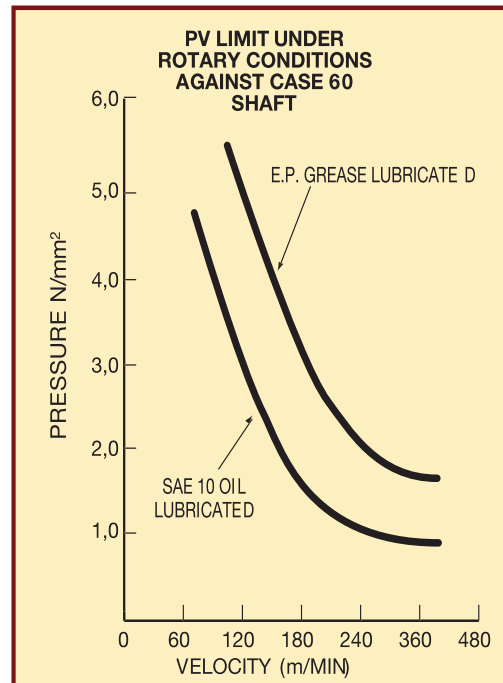


FIGURE E



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HARDENED AND PRECISION GROUND LINEAR SHAFTING

1060 STEEL CASE HARDENED AND PRECISION GROUND LINEAR SHAFTING								
NOMINAL DIA. (IN)	CLASS "L" DIA. (IN)	CLASS "S" DIA. (IN)	CLASS "D" DIA. (IN)	CLASS "N" DIA. (IN)	MIN. DEPTH OF 60-65 Rc (IN)	WEIGHT PER IN. (LBS/IN)	MAX LENGTH (FT)	NOMINAL DIA. (IN)
3/16	.1870/.1865	-	-	-	.027	.008	5	3/16
1/4	.2495/.2490	.2490/.2485	-	.2500/.2498	.027	.014	8	1/4
3/8	.3745/.3740	.3740/.3735	-	.3750/.3748	.027	.031	14	3/8
1/2	.4995/.4990	.4990/.4985	-	.5000/.4998	.040	.055	14	1/2
5/8	.6245/.6240	.6240/.6235	-	.6250/.6248	.040	.086	15	5/8
3/4	.7495/.7490	.7490/.7485	-	.7500/.7498	.060	.125	15 or 17*	3/4
7/8	.8745/.8740	-	-	.8750/.8748	.060	.170	15	7/8
1	.9995/.9990	.9990/.9985	1.0000/1.003	1.0000/.9998	.060	.222	15 or 17*	1
1-1/8	1.1245/1.1240	-	-	1.1250/1.1248	.080	.281	15	1-1/8
1-1/4	1.2495/1.2490	1.2490/1.2485	1.2500/1.2503	1.2500/1.2498	.080	.348	17	1-1/4
1-3/8	1.3745/1.3740	-	-	1.3750/1.3747	.080	.420	15	1-3/8
1-1/2	1.4994/1.4989	1.4989/1.4984	1.5000/1.5003	1.5000/1.4997	.080	.500	17	1-1/2
1-5/8	1.6245/1.6240	-	-	1.6250/1.6247	.080	.587	15	1-5/8
1-3/4	1.7495/1.7490	-	-	1.7500/1.7497	.100	.681	15	1-3/4
2	1.9994/1.9987	1.9987/1.9980	2.0000/2.0003	2.0000/1.9997	.100	.890	17	2
2-1/2	2.4993/2.4985	2.4985/2.4977	-	2.5000/2.4996	.100	1.391	17	2-1/2
3	2.9992/2.9983	2.9983/2.9974	-	3.0000/2.9996	.100	2.003	15 or 17*	3
3-1/2	3.4990/3.4980	-	-	-	.100	2.726	17	3-1/2
4	3.9988/3.9976	3.9976/3.9964	-	-	.100	3.560	17	4

440C STAINLESS STEEL CASE HARDENED AND PRECISION GROUND LINEAR SHAFTING							
NOMINAL DIA. (IN)	CLASS "L" DIA. (IN)	CLASS "S" DIA. (IN)	MIN. DEPTH OF 50-60 Rc (IN)	WEIGHT PER IN. (LBS/IN)	MAX LENGTH (FT)	NOMINAL DIA. (IN)	
1/4	.2495/.2490	.2490/.2485	.027	.014	5	1/4	
3/8	.3745/.3740	.3740/.3735	.027	.031	14	3/8	
1/2	.4995/.4990	.4990/.4985	.040	.055	14	1/2	
5/8	.6245/.6240	.6240/.6235	.040	.086	14	5/8	
3/4	.7495/.7490	.7490/.7485	.060	.125	15 or 17*	3/4	
1	.9995/.9990	.9990/.9985	.080	.222	15 or 17*	1	
1-1/4	1.2495/1.2490	1.2490/1.2485	.080	.348	17	1-1/4	
1-1/2	1.4994/1.4989	1.4989/1.4984	.080	.500	17	1-1/2	
2	1.9994/1.9987	1.9987/1.9980	.100	.890	17	2	
2-1/2	2.4993/2.4985	2.4985/2.4977	.100	1.391	17	2-1/2	

NOTES:

- (*) 17 FT. LENGTHS AVAILABLE IN CLASS "L" ONLY
- 303 AND 316 STAINLESS STEEL (UNHARDENED CLASS "L") AVAILABLE UPON REQUEST
- CUSTOM LINEAR SHAFTING INQUIRES CAN BE FAXED OR EMAILED TO: 413-525-3735 mquinn@LM76.com

1-800-513-3163

www.LM76.com

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HARDENED AND PRECISION GROUND PRE-DRILLED SHAFTING

1060 STEEL CASE HARDENED AND PRECISION GROUND PREDRILLED LINEAR SHAFTING

NOMINAL DIA. (IN)	CLASS "L" DIA. (IN)	STANDARD THREAD SIZE	X (IN)	Y (IN)	MIN. DEPTH OF 60-65 Rc (IN)	WEIGHT PER IN. (LBS/IN)	MAX LENGTH (IN)	NOMINAL DIA. (IN)
1/2	.4995/.4990	#6-32	4	2	.040	.055	166	1/2
5/8	.6245/.6240	#8-32	4	2	.040	.086	178	5/8
3/4	.7495/.7490	#10-32	6	3	.060	.125	178	3/4
1	.9995/.9990	1/4-20	6	3	.080	.222	178	1
1-1/4	1.2495/1.2490	5/16-18	6	3	.080	.348	178	1-1/4
1-1/2	1.4994/1.4989	3/8-16	8	4	.080	.500	178	1-1/2
2	1.9994/1.9987	1/2-13	8	4	.100	.890	178	2

440C STAINLESS STEEL CASE HARDENED AND PRECISION GROUND PREDRILLED LINEAR SHAFTING

NOMINAL DIA. (IN)	CLASS "L" DIA. (IN)	STANDARD THREAD SIZE	X (IN)	Y (IN)	MIN. DEPTH OF 50-60 Rc (IN)	WEIGHT PER IN. (LBS/IN)	MAX LENGTH (IN)	NOMINAL DIA. (IN)
1/2	.4995/.4990	#6-32	4	2	.040	.055	166	1/2
5/8	.6245/.6240	#8-32	4	2	.040	.086	178	5/8
3/4	.7495/.7490	#10-32	6	3	.060	.125	178	3/4
1	.9995/.9990	1/4-20	6	3	.080	.222	178	1
1-1/4	1.2495/1.2490	5/16-18	6	3	.080	.348	178	1-1/4
1-1/2	1.4994/1.4989	3/8-16	8	4	.080	.500	178	1-1/2
2	1.9994/1.9987	1/2-13	8	4	.100	.890	178	2

52100 STEEL CASE HARDENED AND PRECISION GROUND TUBULAR LINEAR SHAFTING

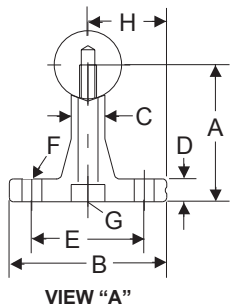
NOMINAL DIA. (IN)	NOMINAL I.D. (IN)	CLASS "L" DIA. (IN)	CLASS "S" DIA. (IN)	MIN. DEPTH OF 58 Rc (IN)	WEIGHT PER IN. (LBS/IN)	MAX LENGTH (FT)	NOMINAL DIA. (IN)
3/4	.438 ± 5%	.7495/.7490	.7490/.7485	.060	.075	15	3/4
1	.599 ± 5%	.9995/.9990	.9990/.9985	.060	.158	15	1
1-1/2	.890 ± 5%	1.4994/1.4989	1.4989/1.4984	.080	.328	15	1-1/2
2	1.250 ± 5%	1.9994/1.9987	1.9987/1.9980	.100	.542	15	2
2-1/2	1.750 ± 5%	2.4993/2.4985	2.4985/2.4977	.100	.749	15	2-1/2
3	2.000 ± 10%	2.9992/2.9983	2.9983/2.9974	.100	1.112	15	3
4	3.000 ± 10%	3.9988/3.9976	3.9976/3.9964	.100	1.558	15	4

NOTES:

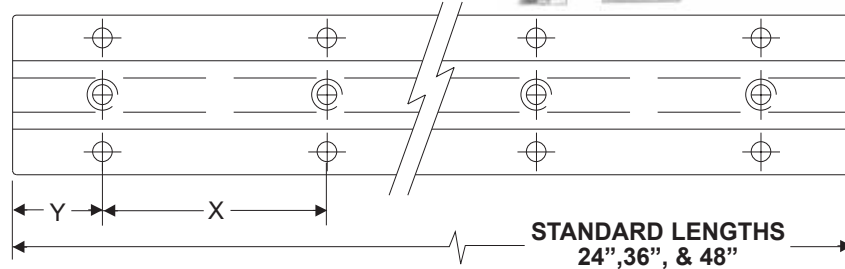
- CUSTOM PREDRILLED OR TUBULAR LINEAR SHAFTING INQUIRES CAN BE FAXED OR EMAILED TO: 413-525-3735 mquinn@LM76.com



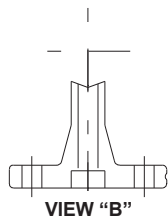
SHAFT SUPPORT ASSEMBLIES



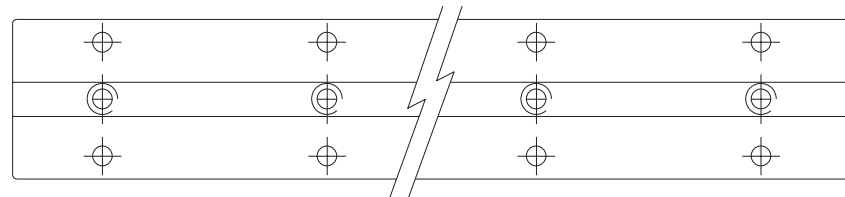
VIEW
"A"



PREDRILLED SHAFT SUPPORT RAILS



VIEW
"B"



SHAFT DIA.	SHAFT SUPPORT ASSEMBLY	PREDRILLED SHAFT SUPPORT RAIL	*PLAIN SHAFT SUPPORT RAIL	A +/- .001	B	C	D	E +/- .005
1/2	LMSA-8	SR-8-PD	SMR-8	1.125	1-1/2	1/4	3/16	1.000
5/8	LMSA-10	SR-10-PD	SMR-10	1.125	1-5/8	5/16	1/4	1.125
3/4	LMSA-12	SR-12-PD	SMR-12	1.500	1-3/4	3/8	1/4	1.250
1	LMSA-16	SR-16-PD	SMR-16	1.750	2-1/8	1/2	1/4	1.500
1-1/4	LMSA-20	SR-20-PD	SMR-20	2.125	2-1/2	9/16	5/16	1.875
1-1/2	LMSA-24	SR-24-PD	SMR-24	2.500	3	11/16	3/8	2.250
2	LMSA-32	SR-32-PD	SMR-32	3.250	3-3/4	7/8	1/2	2.750

SHAFT DIA.	F BOLT	F HOLE	G SCREW	G HOLE	H +/- .001	X	Y	WT/FT LBS
1/2	6	.169	6-32 x 7/8	.169	.750	4	2	.6
5/8	8	.193	8-32 x 7/8	.193	.812	4	2	.8
3/4	10	.221	10-32 x 1-1/4	.221	.875	6	3	1.0
1	1/4	.281	1/4-20 x 1-1/2	.281	1.062	6	3	1.4
1-1/4	5/16	.343	5/16-18 x 1-3/4	.343	1.250	6	3	2.1
1-1/2	5/16	.343	3/8-16 x 2	.406	1.500	8	4**	2.6
2	3/8	.406	1/2-13 x 2-1/2	.531	1.875	8	4**	4.2

NOTES:

- (*) DOES NOT INCLUDE ANY HOLES IN SHAFT SUPPORT
- (**) LMSA-24-PD-36" & SMR-32-PD-36" (Y=2")
- MANUFACTURED FROM EXTRUDED 6061-T6 ALUMINUM FOR ENGINEERED PERFORMANCE
- CUSTOM SHAFT SUPPORT AND ASSEMBLY INQUIRES CAN BE FAXED OR EMAILED TO: 413-525-3735 mquinn@LM76.com

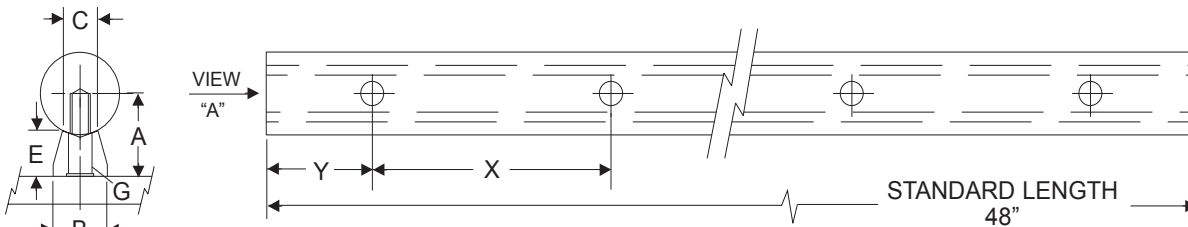
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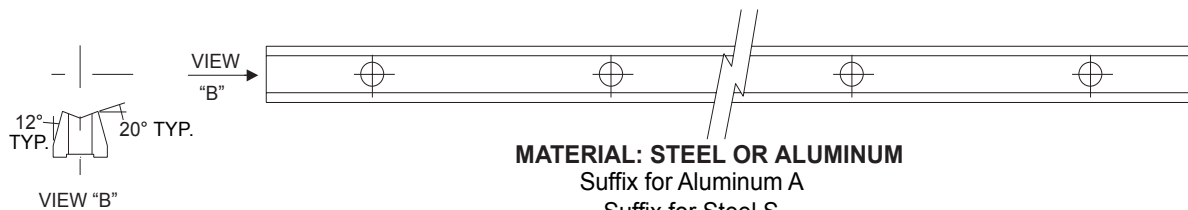
P R E C I S I O N L I N E A R S H A F T I N G



LOW SHAFT SUPPORT ASSEMBLIES



PRE-DRILLED LOW SHAFT SUPPORT RAILS



SHAFT DIA.	SHAFT SUPPORT ASSEMBLY	PREDRILLED SHAFT SUPPORT RAIL	*PLAIN SHAFT SUPPORT RAIL	A +/- .001	B	C
1/2	LSRA-8	LSR-8-PD	LSR-8	.562	.370	1/4
5/8	LSRA-10	LSR-10-PD	LSR-10	.687	.450	5/16
3/4	LSRA-12	LSR-12-PD	LSR-12	.750	.510	3/8
1	LSRA-16	LSR-16-PD	LSR-16	1.000	.690	1/2
1-1/4	LSRA-20	LSR-20-PD	LSR-20	1.187	.780	9/16
1-1/2	LSRA-24	LSR-24-PD	LSR-24	1.375	.930	11/16
2	LSRA-32	LSR-32-PD	LSR-32	1.750	1.180	7/8

SHAFT DIA.	E (REF.)	G SCREW	G HOLE	X	Y	WT/FT LBS
1/2	.341	6-32	.169	4	2	.32
5/8	.412	8-32	.193	4	2	.49
3/4	.420	10-32	.221	6	3	.59
1	.560	1/4-20	.281	6	3	1.01
1-1/4	.626	5/16-18	.343	6	3	1.27
1-1/2	.703	3/8-16	.406	8	4	1.68
2	.845	1/2-13	.531	8	4	2.59

NOTES:

- (*) DOES NOT INCLUDE ANY HOLES IN SHAFT SUPPORT
- CUSTOM SHAFT SUPPORT AND ASSEMBLY INQUIRES CAN BE FAXED OR EMAILED TO: 413-525-3735 mquinn@LM76.com

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HARDENED AND PRECISION GROUND METRIC LINEAR SHAFTING

1060 STEEL CASE HARDENED AND PRECISION GROUND METRIC LINEAR SHAFTING					
NOMINAL DIA. (MM)	TOLERANCES CLASS "M" (h6) (IN)	MIN. DEPTH OF 60-65 Rc (MM)	WEIGHT PER IN. (LBS/IN)	MAX LENGTH (MM)	NOMINAL DIA. (MM)
5	.1969/.1965	0.4	.008	3600	5
6	.2362/.2359	0.4	.012	4000	6
8	.3150/.3146	0.4	.022	4000	8
10	.3937/.3933	0.4	.034	4000	10
12	.4724/.4720	0.6	.050	6000	12
14	.5512/.5507	0.6	.068	6000	14
15	.5906/.5901	0.6	.076	6000	15
16	.6299/.6295	0.6	.088	6000	16
18	.7087/.7082	0.6	.111	6000	18
20	.7874/.7869	0.9	.137	6000	20
24	.9449/.9444	0.9	.198	6000	24
25	.9843/.9838	0.9	.214	6000	25
30	1.1811/1.1806	0.9	.308	6000	30
35	1.3780/1.3773	1.5	.419	6000	32
40	1.5748/1.5743	1.5	.548	6000	40
50	1.9685/1.9679	1.5	.855	6000	50
60	2.3622/2.3615	2.2	1.23	6000	60
80	3.1496/3.1489	2.2	2.19	6000	80

440C STAINLESS STEEL CASE HARDENED AND PRECISION GROUND METRIC LINEAR SHAFTING					
NOMINAL DIA. (MM)	TOLERANCES CLASS "M" (h6) (IN)	MIN. DEPTH OF 50-60 Rc (MM)	WEIGHT PER IN. (LBS/IN)	MAX LENGTH (MM)	NOMINAL DIA. (MM)
5	.1969/.1965	0.4	.008	3600	5
8	.3150/.3146	0.4	.022	4000	8
10	.3937/.3933	0.4	.034	4000	10
12	.4724/.4720	0.6	.050	6000	12
16	.6299/.6295	0.6	.088	6000	16
20	.7874/.7869	0.9	.137	6000	20
25	.9843/.9838	0.9	.214	6000	25
30	1.1811/1.1806	0.9	.308	6000	30
40	1.5748/1.5743	1.5	.548	6000	40
50	1.9685/1.9679	1.5	.855	6000	50
60	2.3622/2.3615	2.2	1.23	6000	60

NOTES:

- PREDRILLED AND ASSEMBLED METRIC LINEAR SHAFTING AVAILABLE UPON REQUEST
- CUSTOM METRIC LINEAR SHAFTING INQUIRES CAN BE FAXED OR EMAILED TO: 413-525-3735 mquinn@LM76.com

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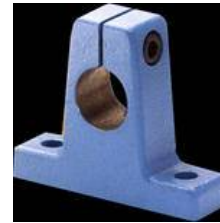
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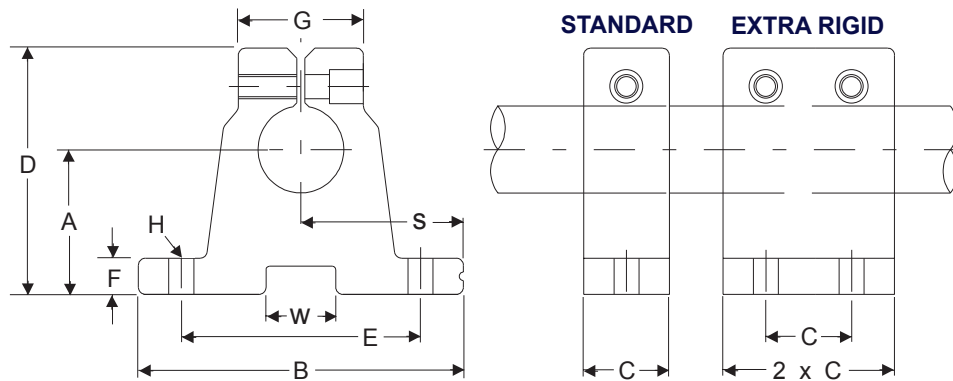


Aluminum = A



Steel = S

STANDARD AND EXTRA RIGID SHAFT END SUPPORTS



SHAFT DIA.	STANDARD SHAFT END SUPPORT	EXTRA RIGID SHAFT END SUPPORT	A +/- .001	B	C	D	E +/- .005
1/4	LMSB-4-A or S	RSB-4	.750	1-5/8	9/16	1-3/16	1.250
3/8	LMSB-6-A or S	RSB-6	.750	1-5/8	9/16	1-3/16	1.250
1/2	LMSB-8-A or S	RSB-8	1.000	2	5/8	1-5/8	1.500
5/8	LMSB-10-A or S	RSB-10	1.000	2-1/2	11/16	1-3/4	1.875
3/4	LMSB-12-A or S	RSB-12	1.250	2-3/4	3/4	2-1/8	2.000
1	LMSB-16-A or S	RSB-16	1.500	3-1/4	1	2-9/16	2.500
1-1/4	LMSB-20-A or S	RSB-20	1.750	4	1-1/8	3	3.000
1-1/2	LMSB-24-A or S	RSB-24	2.000	4-3/4	1-1/4	3-1/2	3.500
2	LMSB-32-A or B	RSB-32	2.500	6	1-1/2	4-1/2	4.500

SHAFT DIA.	F	G	H BOLT	H HOLE	S +/- .001	*W + .00/- .01	T
1/4	1/4	11/16	6	5/32	.812	1/4	1/8
3/8	1/4	11/16	6	5/32	.812	1/4	1/8
1/2	1/4	3/4	8	3/16	1.000	1/2	3/16
5/8	5/16	7/8	10	7/32	1.250	1/2	3/16
3/4	5/16	1	10	7/32	1.375	5/8	1/4
1	3/8	1-3/8	1/4	9/32	1.625	5/8	1/4
1-1/4	7/16	1-3/4	5/16	11/32	2.000	5/8	1/4
1-1/2	1/2	2	5/16	11/32	2.375	3/4	5/16
2	5/8	2-5/8	3/8	13/32	3.000	1	3/8

NOTES:

- (*) THE DIMENSION "W" IS NOT MACHINED (PROVISION CAN BE MADE FOR THIS DIMENSION TO BE MACHINED)
- MANUFACTURED FROM EXTRUDED 6061-T6 ALUMINUM FOR ENGINEERED PERFORMANCE
- CUSTOM SHAFT END SUPPORTS INQUIRES CAN BE FAXED OR EMAILED TO: 413-525-3735 mquinn@LM76.com

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Founded in 1938, J.C. Tarbell Associates was one of the first exclusive regional distributors for Chrysler's oil impregnated bronze bearing line - a technological innovation at the time. Over the past 60 years, Tarbell has engineered this material into every product conceivable from sewing machines to jet engines. Today, Tarbell supplies engineering expertise, standard products and machined specials to companies throughout the world.

LM76

Founded in 1976, LM76 found its genesis in combating traditional problems which plagued linear ball bushings: mechanical cage/ball failure and shaft brinelling or grooving. LM76's response was their ceramic coated, direct drop-in replacement linear bearing line which was hailed as a genuine innovation by engineers and maintenance personnel alike. LM76's latest product innovation is its **MINUTEMAN Self Lubricating Linear/Rotary bearing line**. This line offers outstanding load carrying capability coupled with a remarkably low coefficient of friction.

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