

Linear Bushings

Single

= For customers using industry standard products =
 The part enclosed in the red frame is as per industry standard specifications (Outer cylinder SUJ2 equivalent, Retainer resin).
 Consider these specifications while selecting the product.

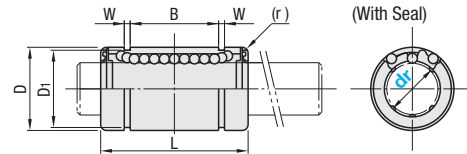
Features: The most popular Linear Bushing style.

Industry Standard



RoHS 10

Type	Outer Cylinder			Balls	Retainer Material	Ambient Operating Temp.	Accessory	
	Material	Hardness	Surface Treatment					
LMU-N	SUJ2 Equivalent	58HRC~	-	SUJ2 Equivalent	Plastic (Duracon M90 Equivalent)	-20~ 80°C	Seal Material Nitrile Rubber (-20~120°C)	
LMU					Stainless Steel (SUS)	-20~110°C		
LMUF-N					SUS440C Equivalent	Plastic (Duracon M90 Equivalent)		-20~ 80°C
LMUR						Stainless Steel (SUS)		-20~110°C
LMUM						Plastic (Duracon M90 Equivalent)		-20~ 80°C
LMUMF	Stainless Steel (SUS)	-20~120°C						
SLMU	SUS440C Equivalent	56HRC~	-	-	-	-	-	



(With Seal)

Part Number	Type	dr	D Tolerance		L Tolerance	B Tolerance	W	D1	(r)	Eccentricity (Max.)	Rows of Balls	Basic Load Rating		Mass (g)
			Tolerance	No Surface Treatment / Surface Treatment								C (Dynamic) N / Co (Static) N	Co (Static) N	
LMU-N (No Seal)	3	0	-0.008	7	0	10	-	-	0.3	0.008	4	69	105	1.4
				8	-0.009	12	-	88				127	2.0	
				10	-0.015	15	8	167				206	4.0	
				12	0	19	11.3	206				265	8.5	
				15	-0.011	24	15.3	265				380	17	
LMUF-N (No Seal)	8	0	-	19	0	29	1.1	11.5	0.4	0.012	4	372	549	31
				21	-0.011	30	15.3	412				598	41	
				23	-0.013	32	20.4	510				784	46	
				25	0	37	23.3	775				1180	73	
				30	-0.010	42	27.3	882				1370	98	
LMUF (No Seal)	10	0	-0.009	19	0	29	1.3	18	0.8	0.015	5	980	1570	236
				21	-0.011	30	15.3	1570				2740	262	
				23	-0.013	32	20.4	1750				3740	310	
				25	0	37	23.3	2160				4020	654	
				30	-0.010	42	27.3	3820				7940	1700	
LMUR (No Seal)	12	0	-	19	0	29	1.85	38	1.5	0.020	6	1670	3140	425
				21	-0.011	30	15.3	2160				4020	654	
				23	-0.013	32	20.4	2160				4020	654	
				25	0	37	23.3	2160				4020	654	
				30	-0.010	42	27.3	3820				7940	1700	
LMUM (No Seal)	16	0	-0.012	19	0	29	2.1	49	0.020	0.020	6	2160	4020	654
				21	-0.011	30	15.3	2160				4020	654	
				23	-0.013	32	20.4	2160				4020	654	
				25	0	37	23.3	2160				4020	654	
				30	-0.010	42	27.3	3820				7940	1700	
LMUMF (No Seal)	20	0	-0.015	19	0	29	2.6	76.5	0.020	0.020	6	2160	4020	654
				21	-0.011	30	15.3	2160				4020	654	
				23	-0.013	32	20.4	2160				4020	654	
				25	0	37	23.3	2160				4020	654	
				30	-0.010	42	27.3	3820				7940	1700	
SLMU (No Seal)	25	0	-0.010	19	0	29	2.6	76.5	0.020	0.020	6	2160	4020	654
				21	-0.011	30	15.3	2160				4020	654	
				23	-0.013	32	20.4	2160				4020	654	
				25	0	37	23.3	2160				4020	654	
				30	-0.010	42	27.3	3820				7940	1700	
SLMUS (No Seal)	30	0	-0.015	19	0	29	2.6	76.5	0.020	0.020	6	2160	4020	654
				21	-0.011	30	15.3	2160				4020	654	
				23	-0.013	32	20.4	2160				4020	654	
				25	0	37	23.3	2160				4020	654	
				30	-0.010	42	27.3	3820				7940	1700	

kgf=Nx0.101972

- For Precautions for Use, see P.303.
- For LMU-N and LMUF-N, dr=3/4.
- Products with dr=3, 4 are without seal. No-Seal Type has lower sliding resistance (0.4~1.2N). Separate dust-proofing measures are necessary to keep the dust entering into sliding parts.
- For Low Temperature Black Chrome Plating, see P.304.
- Spacers and Stoppers for linear bushings can be selected from P.330.

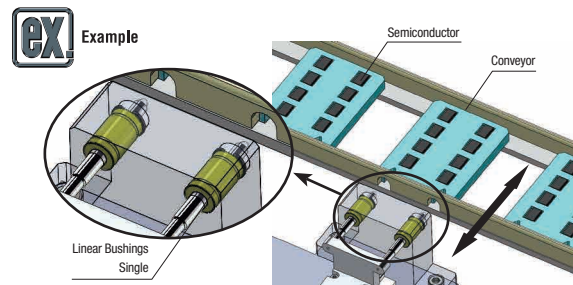
dr	Unit Price									
	LMU-N	LMU	LMUF-N	LMUF	LMUR	LMUM	LMUMF	SLMU	SLMUS	
3										
4										
5										
6										
8										
10										
12										
13										
16										
20										
25										
30										
35										
40										
50										

Ordering Example

Part Number

- LMU20 (No Seal)
- LMU-N20 (Low Temperature Black Chrome Plating)
- LMUR20 (L Type Greased)
- LMUR20L (G Type Greased)
- LMUR20G (H Type Greased)
- LMUR20H (Alternative grease types available)

For Days to Ship, Price and Performance, see P.304.



▲ Semiconductor conveyor tray locating mechanism

Linear Bushings

Double

= For customers using industry standard products =
 The part enclosed in the red frame is as per industry standard specifications (Outer cylinder SUJ2 equivalent, Retainer resin).
 Consider these specifications while selecting the product.

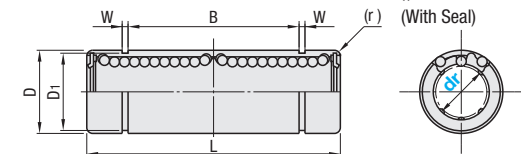
Features: Most common specification in Linear Bushings. Use Double Type in case moment load is to be applied.

Industry Standard



RoHS 10

Type	Outer Cylinder			Balls	Retainer Material	Ambient Operating Temp.	Accessory	
	Material	Hardness	Surface Treatment					
LMUW-N	SUJ2 Equivalent	58HRC~	-	SUJ2 Equivalent	Plastic (Duracon M90 Equivalent)	-20~ 80°C	Seal Material Nitrile Rubber (-20~120°C)	
LMUW					Stainless Steel (SUS)	-20~110°C		
LMUWF					SUS440C Equivalent	Plastic (Duracon M90 Equivalent)		-20~ 80°C
LMUWR						Stainless Steel (SUS)		-20~110°C
LMUWM						Plastic (Duracon M90 Equivalent)		-20~ 80°C
LMUWMF	Stainless Steel (SUS)	-20~120°C						
SLMUW	SUS440C Equivalent	56HRC~	-	-	-	-	-	



(With Seal)

Part Number	Type	dr	D Tolerance		L Tolerance	B Tolerance	W	D1	(r)	Eccentricity (Max.)	Rows of Balls	Basic Load Rating		Allowable Static Moment (N·m)	Mass (g)
			Tolerance	No Surface Treatment / Surface Treatment								C (Dynamic) N / Co (Static) N	Co (Static) N		
LMUW-N (No Seal)	3	0	-0.010	7	0	19	-	-	0.3	0.010	4	138	210	0.51	3.2
				8	-0.011	23	-	176				254	0.63	4.8	
				10	-0.015	28	18.2	263				412	1.38	11	
				12	0	35	24.8	324				529	2.18	16	
				15	-0.013	45	32.8	431				784	4.31	31	
LMUW (No Seal)	8	0	-	19	0	55	1.1	11.5	0.4	0.015	4	588	1100	7.24	62
				21	-0.011	57	14.3	657				1200	10.9	80	
				23	-0.016	61	18	813				1570	11.6	90	
				25	0	70	22	1230				2350	19.7	145	
				30	-0.012	80	27	1400				2740	26.8	180	
LMUWF (No Seal)	10	0	-0.010	19	0	57	1.3	20	0.8	0.020	5	1560	3140	43.4	440
				21	-0.011	61	14.3	2490				5490	82.8	480	
				23	-0.016	61	18	2650				6270	110	795	
				25	0	70	22	3430				8040	147	1170	
				30	-0.012	80	27	6080				15900	397	3100	
LMUWR (No Seal)	12	0	-0.012	19	0	123	1.6	27	1.5	0.025	6	2160	4020	654	1700
				21	-0.011	123	14.3	2160				4020	654	1700	
				23	-0.016	123	18	2160				4020	654	1700	
				25	0	135	22	2160				4020	654	1700	
				30	-0.015	151	27	3820				7940	1700	1700	
LMUWM (No Seal)	16	0	-0.015	19	0	192	2.1	49	0.025	0.025	6	2160	4020	654	1700
				21	-0.011	192	14.3	2160				4020	654	1700	
				23	-0.016	192	18	2160				4020	654	1700	
				25	0	192	22	2160				4020	654	1700	
				30	-0.015	192	27	3820				7940	1700	1700	

kgf=Nx0.101972

- For Precautions for Use, see P.303.
- dr=3, 4 are not available for LMUW-N and LMUWR
- Products with dr=3, 4 are without seal. No-Seal Type has lower sliding resistance (0.4~1.2N). Separate dust-proofing measures are necessary to keep the dust entering into sliding parts.
- For Low Temperature Black Chrome Plating, see P.304.
- Spacers and Stoppers for linear bushings can be selected from P.330.

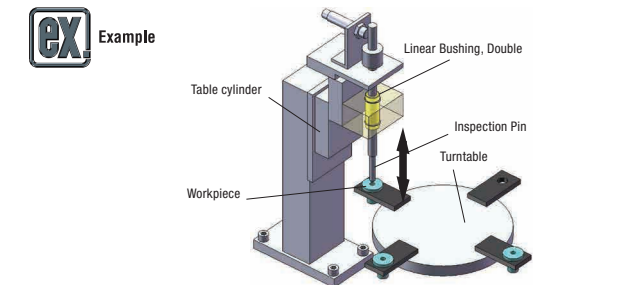
dr	Unit Price									
	LMUW-N	LMUW	LMUWF	LMUWR	LMUWM	LMUWMF	SLMUW	SLMUWS		
3										
4										
5										
6										
8										
10										
12										
13										
16										
20										
25										
30										
35										
40										
50										

Ordering Example

Part Number

- LMUW20 (No Seal)
- LMUW-N20 (Low Temperature Black Chrome Plating)
- LMUWR20 (L Type Greased)
- LMUWR20L (G Type Greased)
- LMUWR20G (H Type Greased)
- LMUWR20H (Alternative grease types available)

For Days to Ship, Price and Performance, see P.304.



▲ Inspection instrument to confirm the precision of work piece hole