

Linear Bushings

Single

= For customers using industry standard products =
The part enclosed in the red frame is as per industry standard specifications (Outer cylinder EN 1.3505 Equiv. equivalent, Retainer resin).
Consider these specifications while selecting the product.

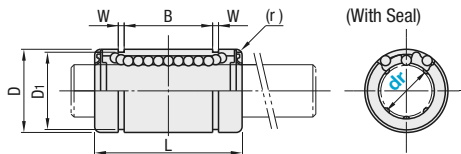
Features: The most popular Linear Bushing style.

Industry Standard



RoHS

Type	Outer Cylinder			Balls	Retainer	Ambient Operating Temp.	Accessory
	Material	Hardness	Surface Treatment	Material	Material		
LMU-N	EN 1.3505 Equiv.	58HRC~	-	EN 1.3505 Equiv.	Plastic (Duracon M90 Equiv.)	-20~ 80°C	Seal Material Nitrile Rubber (-20~120°C)
LMU					Stainless Steel (Stainless Steel)	-20~110°C	
LMUF-N				Plastic (Duracon M90 Equiv.)	-20~ 80°C		
LMUF			Stainless Steel (Stainless Steel)		-20~110°C		
LMUR			Plastic (Duracon M90 Equiv.)		-20~ 80°C		
LMUM			EN 1.4125 Equiv.	Electroless Nickel Plating	Stainless Steel (Stainless Steel)	-20~110°C	
LMUMF	Plastic (Duracon M90 Equiv.)	-20~ 80°C					
SLMU	Stainless Steel (Stainless Steel)	-20~120°C					
SLMUS	EN 1.4125 Equiv.	56HRC~	-				



(With Seal)

Part Number		D Tolerance			L		B		W	D1	(r)	Eccentricity (Max.)	Rows of Balls	Basic Load Rating		Mass (g)
Type	dr	Tolerance	No Surface Treatment	Surface Treatment	Tolerance	Tolerance	Tolerance	Tolerance						C (Dynamic) N	Co (Static) N	
LMU-N (No Seal)	3	0	7	0	10	-	-	-	-	-	0.3	0.008	4	69	105	1.4
LMU-N (No Seal)	4	-0.008	8	-0.009	12	-	-	-	-	-	0.3	0.008		88	127	2.0
LMU-N (No Seal)	5	-0.008	10	-0.015	15	8	-	-	9.6	-	0.3	0.008		167	206	4.0
LMU-N (No Seal)	6	-0.008	12	-0.018	19	11.3	-	-	11.5	-	0.3	0.008		206	265	8.5
LMU-N (No Seal)	8	-0.009	15	-0.021	24	15.3	-	-	14.3	-	0.4	0.012	5	265	380	17
LMU-N (No Seal)	10	-0.009	19	-0.025	29	19.4	-	-	18	-	0.4	0.012		372	549	31
LMU-N (No Seal)	12	-0.009	21	-0.028	30	20	-	-	20	-	0.4	0.012		412	598	41
LMU-N (No Seal)	13	-0.009	23	-0.031	32	20.4	-	-	22	-	0.4	0.012		510	784	46
LMU-N (No Seal)	16	-0.010	28	-0.037	37	23.3	-	-	27	-	0.8	0.015	6	775	1180	73
LMU-N (No Seal)	20	-0.010	32	-0.042	42	27.3	-	-	30.5	-	0.8	0.015		882	1370	98
LMU-N (No Seal)	25	-0.010	40	-0.051	59	37.3	-	-	38	-	1.5	0.020		980	1570	236
LMU-N (No Seal)	30	-0.010	45	-0.056	64	40.8	-	-	43	-	1.5	0.020		1570	2740	262
LMU-N (No Seal)	35	-0.012	52	-0.064	70	45.3	-	-	49	-	1.5	0.020	6	1670	3140	425
LMU-N (No Seal)	40	-0.012	60	-0.076	80	56.3	-	-	57	-	1.5	0.020		2160	4020	654
LMU-N (No Seal)	50	-0.012	80	-0.100	100	68.8	-	-	76.5	-	1.5	0.020		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 LTBC Plating, see P.304.
Spacers and Stoppers for linear bushings can be selected from P.330.

dr	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

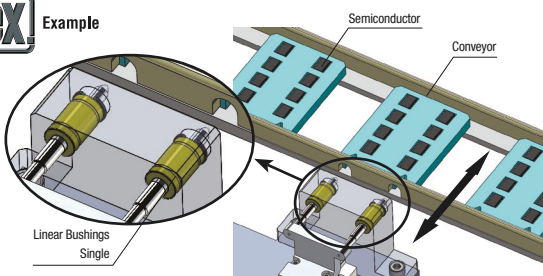
Part Number

LMU20 (No Seal)
LMU-N20 (LTBC Plating)
LMUR20L (L Type Greased)
LMUR20G (G Type Greased)
LMUR20H (H Type Greased)

Alternative grease types available.
For Days to Ship, Price and Performance, see P.304.



Example



▲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 EN 1.3505 Equiv. equivalent, Retainer resin).
Consider these specifications while selecting the product.

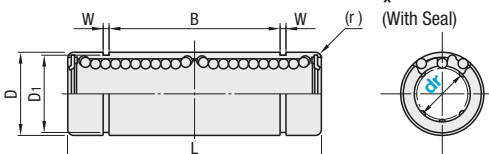
Features: Most common specification in Linear Bushings. Use Double Type in case moment load is to be applied.

Industry Standard



RoHS

Type	Outer Cylinder			Balls	Retainer	Ambient Operating Temp.	Accessory	
	Material	Hardness	Surface Treatment	Material	Material			
LMUW-N	EN 1.3505 Equiv.	58HRC~	-	EN 1.3505 Equiv.	Plastic (Duracon M90 Equiv.)	-20~ 80°C	* Seal Material Nitrile Rubber (-20~120°C)	
LMUW					Stainless Steel (Stainless Steel)	-20~110°C		
LMUWF				Low Temperature Black Oxide Plating	EN 1.4125 Equiv.	Plastic (Duracon M90 Equiv.)		-20~ 80°C
LMUWR			Stainless Steel (Stainless Steel)			-20~110°C		
LMUWM			Electroless Nickel Plating			Plastic (Duracon M90 Equiv.)		-20~ 80°C
LMUWMF						Stainless Steel (Stainless Steel)		-20~120°C
SLMUW	EN 1.4125 Equiv.	56HRC~	-	Plastic (Duracon M90 Equiv.)	-20~ 80°C			
SLMUWS				Stainless Steel (Stainless Steel)	-20~120°C			



(With Seal)

Part Number		D Tolerance			L		B		W	D1	(r)	Eccentricity (Max.)	Rows of Balls	Basic Load Rating		Mass (g)
Type	dr	Tolerance	No Surface Treatment	Surface Treatment	Tolerance	Tolerance	Tolerance	Tolerance						C (Dynamic) N	Co (Static) N	
LMUW-N (No Seal)	3	0	7	0	19	-	-	-	-	-	0.3	0.010	4	138	210	0.51
LMUW-N (No Seal)	4	-0.011	8	-0.011	23	-	-	-	-	-	0.3	0.010		176	254	0.63
LMUW-N (No Seal)	5	-0.011	10	-0.015	28	18.2	-	-	9.6	-	0.3	0.010		263	412	1.38
LMUW-N (No Seal)	6	-0.010	12	-0.013	35	24.8	-	-	11.5	-	0.3	0.010		324	529	2.18
LMUW-N (No Seal)	8	-0.010	15	-0.018	45	32.8	-	-	14.3	-	0.4	0.015	5	431	784	4.31
LMUW-N (No Seal)	10	-0.010	19	-0.021	55	41.4	-	-	18	-	0.4	0.015		588	1100	7.24
LMUW-N (No Seal)	12	-0.010	21	-0.024	57	43.4	-	-	20	-	0.4	0.015		657	1200	10.9
LMUW-N (No Seal)	13	-0.010	23	-0.026	61	43.4	-	-	22	-	0.4	0.015		813	1570	11.6
LMUW-N (No Seal)	16	-0.012	28	-0.031	70	49.8	-	-	27	-	0.8	0.020	6	1230	2350	19.7
LMUW-N (No Seal)	20	-0.012	32	-0.036	80	57.8	-	-	30.5	-	0.8	0.020		1400	2740	26.8
LMUW-N (No Seal)	25	-0.012	40	-0.044	112	78.3	-	-	38	-	1.5	0.025		1560	3140	43.4
LMUW-N (No Seal)	30	-0.012	45	-0.049	123	85.3	-	-	43	-	1.5	0.025		2490	5490	82.8
LMUW-N (No Seal)	35	-0.015	52	-0.058	135	94.8	-	-	49	-	1.5	0.025	6	2650	6270	110
LMUW-N (No Seal)	40	-0.015	60	-0.069	151	116.8	-	-	57	-	1.5	0.025		3430	8040	147
LMUW-N (No Seal)	50	-0.015	80	-0.090	192	142.8	-	-	76.5	-	1.5	0.025		6080	15900	397

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 LTBC Plating, see P.304.
Spacers and Stoppers for linear bushings can be selected from P.330.

dr	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

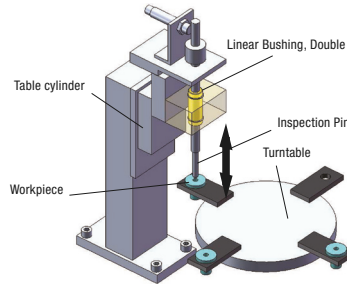
Part Number

LMUW20 (No Seal)
LMUW-N20 (LTBC Plating)
LMUWR20L (L Type Greased)
LMUWR20G (G Type Greased)
LMUWR20H (H Type Greased)

Alternative grease types available.
For Days to Ship, Price and Performance, see P.304.



Example



▲Inspection instrument to confirm the precision of work piece hole