

Linear Ball Bushings / Flanged Linear Ball Bushings

Single / Double

Type	Type	Outer Cylinder		Balls	Retainer	Ambient Operating Temperature
		Material	Hardness			
Single	LBUS	52100 Bearing Steel Equivalent	58 HRC min.	52100 Bearing Steel Equivalent	5052 Aluminum Alloy or Equivalent	-20~110°C
Double	LBWU					
Single	SLBUS	440C Stainless Steel Equivalent	56 HRC min.	440C Stainless Steel Equivalent	5052 Aluminum Alloy or Equivalent	-20~120°C
Double	SLWU					

*Retaining Rings
Material: 301 Stainless Steel

Part Number	Maximum Stroke	Number of Ball Rows		ℓ		D		L		B	W	D ₁	(r)	Basic Load Rating				Allowable Static Moment (N-m)		Mass(g)	
		Single	Double	Single	Double	Tol.	Tol.	Tol.	Tol.					C (Dynamic) N	Co (Static) N	Single	Double	Single	Double	Single	Double
Single LBUS	0	5	13	3	6	5.9	9.4	10	0	15	8	1.1	0.4	131	209	106	212	—	1.38	4	5
		6	15			7	8.3	12.3	12	0	19			11.3	210	333	164	328	—	2.18	8
Double LBWU	0	8	24	3	6	8.8	16.8	15	-0.011	24	15.3	1.3	0.8	323	512	278	556	—	4.331	15	17
		10	30			8	10.8	21.8	19	0	29			19.4	499	793	408	815	—	7.24	30
Double SLBUS	-0.009	12	32	3	6	10.4	22.4	21	0	30	20.4	1.6	0.8	722	1146	579	1157	—	10.9	32	36
		13	34			10	11.4	23.4	23	-0.013	32			23.3	773	1226	634	1268	—	11.6	45
Double SLWU	0	16	40	3	6	12.8	24.8	28	0	37	23.3	1.6	0.8	1330	2112	1029	2058	—	19.7	72	79
		20	46			28	14.8	23.8	32	0	42			27.3	1609	2554	1517	3035	—	26.8	94

For Precautions for Use, see P.369. Height-Adjusting Spacers for Flanged Bushings can be chosen from P.384. kgf=Nx0.101972

Type	Type			Outer Cylinder		Balls	Retainer	Ambient Operating Temp
	Round Flange	Square Flange	Compact Flange	Material	Hardness			
Single	LBHR	LBHS	LBHC	52100 Bearing Steel	58 HRC min.	52100 Bearing Steel	5052 Aluminum Alloy or Equivalent	-20~110°C
Double	LBHRW	LBHSW	LBHCW					

*Retaining Rings
Material: 301 Stainless Steel

dr	Tolerance	Maximum Stroke		Number of Ball Rows		ℓ ₁		D		L		H	T	d	d ₁	t	P.C.D.	W	F	A	Eccentricity	Perpendicularity	Basic Load Rating				Allowable Static Moment (N-m)	
		Single	Double	Single	Double	Tol.	Tol.	Tol.	Tol.	C (Dynamic) N	Co (Static) N												Single	Double	Single	Double		
6	0	15	7	3	6	8.3	12.3	12	0	19	28	5	3.5	6	3.1	20	22	20	20	0.012	0.012	210	333	164	328	—	2.18	
8	0	24	8			8.8	16.8	15	-0.013	24	32											24	32	24	24	24	24	24
10	-0.009	30	8	3	6	10.8	21.8	19	0	29	40	6	4.5	7.5	4.1	29	30	—	29	0.015	0.015	499	793	408	815	—	7.24	
12	-0.009	32	8			10.4	22.4	21	0	30	42											32	32	32	32	32	32	32
13	-0.009	34	10	3	6	11.4	23.4	23	-0.016	32	43	8	5.5	9	5.1	33	34	—	33	0.015	0.015	773	1226	634	1268	—	11.6	
16	-0.009	40	16			12.8	24.8	28	0	37	48											38	37	22	31	31	31	31
20	0	46	28	3	6	14.8	23.8	32	0	42	54	8	5.5	9	5.1	43	42	24	36	0.015	0.015	1609	2554	1517	3035	—	26.8	
20	-0.010	46	28			14.8	23.8	32	-0.019	42	54											43	42	24	36	36	36	36

For Precautions for Use, see P.369. *Perpendicularity of D to flange mounting surface. kgf=Nx0.101972

Single				Double			
Part Number	Type	dr	Mass (g)	Part Number	Type	dr	Mass (g)
LBHR	6	23	17	LBHRW	6	24	18
LBHS	8	41	33	LBHSW	8	43	35
LBHC	10	71	51	LBHCW	10	74	54
	12	67	48		12	71	52
	13	87	71		13	91	75
	16	119	103		16	126	110
	20	176	141		20	184	149

Product Specifications

- Motion mechanism utilizing rolling balls, capable of linear and rotary motion.
- The bearing balls and the rolling surface are in point contact relationship enabling low friction rolling motion.
- Compatible with linear bushings, and load is evenly distributed.
- O.D. tolerance g6 shafts can be used with the linear ball bushings. P.202–288
- When using preload, O.D. tolerance h5 shafts are recommended.

Precautions for Use

- Since the balls do not recirculate, its stroke capability is limited.

Part Number Example: LBHR10

Flanged Linear Bushings – Compact

Single, Pilot / Double, Pilot

Feature: 4 to 5mm smaller in flange diameter (H Dimension) and 2mm smaller in O.D. (D dimension) than Standard Type. (Compact - Standard comparison chart P.376)

Type	Outer Cylinder			Balls	Retainer	Ambient Operating Temp.	Accessories
	Round Flange	Square Flange	Compact Flange				
LHIRK	LHISK	LHICK	52100 Bearing Steel	58 HRC min.	—	-20~80°C	Seal Material Nitrile Rubber (-20~120°C)

For Piloted and Flanged Type application examples, see P.385.

dr	Tolerance	D		L	ℓ	H	T	d	d ₁	t	r	P.C.D.	W	F	A	Eccentricity	Balls Rows	Perpendicularity	Basic Load Rating		Mass (g)		
		Tolerance	Tolerance																C (Dynamic) N	Co (Static) N	Round Flange	Square Flange	Compact Flange
6	0	10	0	19	5	25	5	3.5	6	3.1	3	19	20	—	19	0.012	6	0.012	131	155	18	14	15
8	0	13	0	24															28	23	—	22	235
10	-0.009	17	-0.013	29	35	27	—	27	368	433	52	41	46										
12	-0.009	19	0	30	38	29	—	30	381	449	64	50	55										
16	0	26	-0.016	37	44	34	—	27	608	716	96	77	83										

For Precautions for Use, see P.369. *Perpendicularity of D part to flange mounting surface kgf=Nx0.101972

Feature: 4 to 5mm smaller in flange diameter (H Dimension) and 2mm smaller in O.D. (D dimension) than Standard Type. (Compact - Standard comparison chart P.376)

Type	Outer Cylinder			Balls	Retainer	Ambient Operating Temp.	Accessories
	Round Flange	Square Flange	Compact Flange				
LHIRKW	LHISKW	LHICKW	52100 Bearing Steel	58 HRC min.	—	-20~80°C	Seal Material Nitrile Rubber (-20~120°C)

For Piloted and Flanged Type application examples, see P.385.

dr	Tolerance	D		L	ℓ	H	T	d	d ₁	t	r	P.C.D.	W	F	A	Eccentricity	Balls Rows	Perpendicularity	Basic Load Rating		Mass (g)			
		Tolerance	Tolerance																C (Dynamic) N	Co (Static) N	Round Flange	Square Flange	Compact Flange	
6	0	10	0	35	5	25	5	3.5	6	3.1	3	19	20	—	19	0.015	6	0.015	206	309	2.46	24	20	21
8	0	13	0	45															28	23	—	22	383	555
10	-0.010	17	-0.013	55	35	27	—	27	585	867	10.99	79	68	73										
12	-0.010	19	0	57	38	29	—	30	608	899	11.85	95	82	87										
16	0	26	-0.016	70	44	34	—	27	965	1431	23.48	154	135	141										

For Precautions for Use, see P.369. *Perpendicularity of D part to flange mounting surface kgf=Nx0.101972

Part Number Example

- LHIRKW12
- LHIRKW12L (L Type Greased)
- LHIRKW12G (G Type Greased)
- LHIRKW12H (H Type Greased)

Alternative grease types available.