

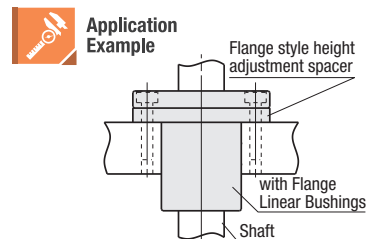
Flanged Linear Bushing

Height Adjusting Spacers / Spacers / Fixing Plates

Flanged Linear Bushings – Height Adjusting Spacers

| Type | | | Material | |
|--------------|---------------|----------------|-----------------------------------|--|
| Round Flange | Square Flange | Compact Flange | 304 Stainless Steel or Equivalent | |
| LCSR | LCSS | LCSC | | |

| Part Number | Type | Nominal | T | D | Tolerance | d | H | P.C.D. | W | F | A |
|----------------------|------|---------|----|------|-----------|-----|----|--------|----|----|----|
| | | | | | | | | | | | |
| LCSR LCSS LCSC | 1 | 6 | 3 | 12.1 | +0.2 | 3.5 | 28 | 20 | 22 | — | 20 |
| | | 8 | | | | | 32 | 24 | 25 | — | 24 |
| | | 10 | | | | | 40 | 29 | 30 | — | 29 |
| | | 12 | | | | | 42 | 32 | 32 | — | 32 |
| | | 13 | | | | | 43 | 33 | 34 | — | 33 |
| | | 16 | | | | | 48 | 38 | 37 | 22 | 31 |
| | 5 | 20 | 54 | 43 | 42 | 24 | 36 | | | | |
| | | 25 | 62 | 51 | 50 | 32 | 40 | | | | |
| | | 30 | 74 | 60 | 58 | 35 | 49 | | | | |



Linear Bushing Mini-Flanged Type P.383 or Compact Type P.380, 382, 386, 388, 390 are not applicable.

Part Number Example

| | | |
|-------------|---|---|
| Part Number | - | T |
| LCSR12 | - | 5 |
| LCSC25 | - | 3 |

Flanged Linear Bushings – Spacers

| Type | Material | Surface Treatment |
|------|------------------------------|-------------------|
| LBS | 1045 Carbon Steel Equivalent | Black Oxide |
| LBSA | 5052 Aluminum Alloy | — |

| Part Number | Type | No. | L 1 mm Increment | D | d |
|-------------|--------|-----|---------------------|----|----|
| | | | | | |
| LBSA | 5-50 | 3 | 5-50 | 7 | 4 |
| | | 4 | | 8 | 5 |
| | | 5 | | 10 | 6 |
| | | 6 | | 12 | 7 |
| | | 8 | | 15 | 9 |
| | | 10 | | 19 | 11 |
| | 10-100 | 12 | 21 | 13 | |
| | | 13 | 23 | 14 | |
| | | 16 | 28 | 17 | |
| | | 20 | 32 | 22 | |
| | | 25 | 40 | 27 | |
| | | 30 | 45 | 32 | |
| 10-150 | 35 | 52 | 37 | | |
| | 40 | 60 | 42 | | |
| | 50 | 80 | 52 | | |

Linear Bushings – Compact P.376 are not compatible.

Part Number Alterations

| | | | | |
|-------------|---|----|---|------|
| Part Number | - | L | - | (MC) |
| LBSA12 | - | 55 | - | MC |

| Alteration | Code | Spec. |
|----------------------|------|------------------------|
| Oil Groove Machining | MC | Oil groove is added. |
| | | No. A B d ₁ |
| | | 3.4 1.5 0.3 1 |
| | | 5-8 2.5 0.5 2 |
| | | 10-50 5 1 3 |

Part Number Example

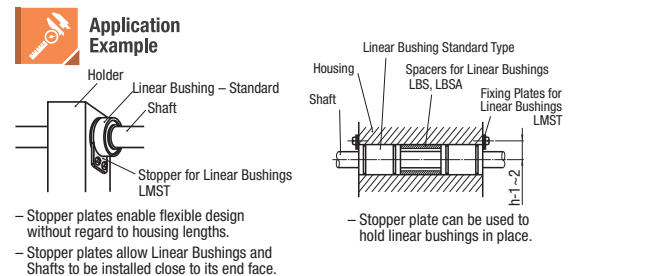
| | | |
|-------------|---|----|
| Part Number | - | T |
| LBSA12 | - | 55 |

Flanged Linear Bushings – Fixing Plates

Material: 304 Stainless Steel

| Part Number | Type | External Dimensions | | | | | Mounting Hole Dimensions | | Reference Dimensions | | | | Mass (g) | |
|-------------|------|---------------------|----------------|----|------|------|--------------------------|-------|----------------------|-------|-------|-------|----------|-----|
| | | dr | D ₁ | W | H | B | t | d | P | h | D | F | | G |
| LMST | 6 | 5 | 9.6 | 14 | 13 | 12 | 1.0 | 3.4 | 6 | 9 | 10 | 11.5 | 3.5 | 1.0 |
| | | 6 | 11.5 | | 14 | 13 | | | | 10 | 12 | 15.15 | 3.85 | |
| | | 8 | 14.3 | | 16 | 15 | | | | 12 | 15 | 19.65 | 4.35 | |
| | | 10 | 18 | | 18 | 13 | | | | 14 | 19 | 24.2 | 4.8 | |
| | | 12 | 20 | | 19 | 12.5 | | | | 15 | 21 | 25.2 | — | |
| | | 13 | 22 | | 20 | 12 | | | | 16 | 23 | 26.2 | 5.8 | |
| | 10 | 16 | 27 | 25 | 15.5 | 20 | 28 | 30.15 | 6.85 | | | | | |
| | | 20 | 30.5 | 27 | 15 | 22 | 32 | 34.65 | 7.35 | | | | | |
| | | 25 | 38 | 31 | 1.5 | 4.5 | 10 | 26 | 40 | 48.15 | 10.85 | | | |
| | | 30 | 43 | 34 | | | | 29 | 45 | 52.4 | 11.6 | | | |

Linear Bushing Compact P.376 not compatible.



Part Number Example

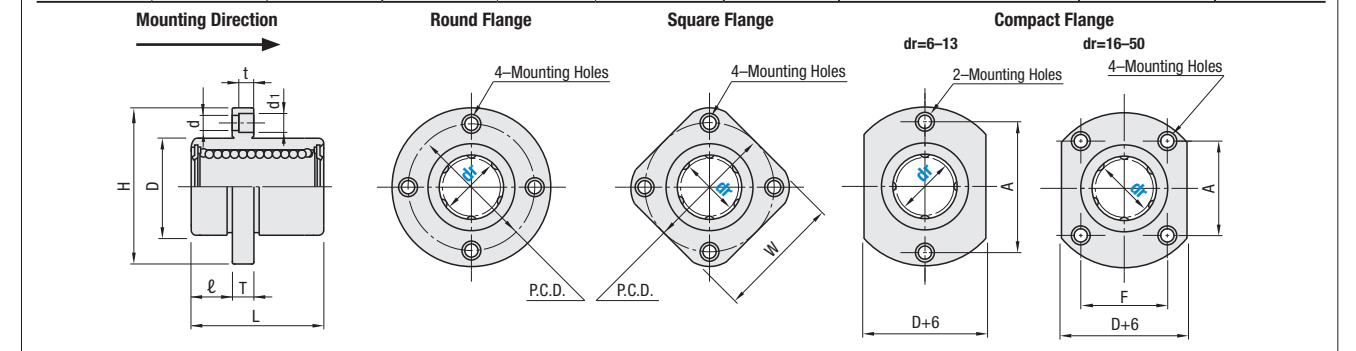
| | | |
|-------------|---|----|
| Part Number | - | T |
| LMST16 | - | 16 |

Flanged Linear Bushing (Single with Pilot)

Standard Type

Flanged Linear Bushings (Single with Pilot) – Standard Type

| Type | | | Outer Cylinder | | Balls | Retainer | Ambient Operating Temp. | Accessories |
|--------------|---------------|----------------|----------------------|-------------|----------------------|----------------------------------|-------------------------|---|
| Round Flange | Square Flange | Compact Flange | Material | Hardness | Material | Material | | |
| LHIFR | LHIFS | LHIFC | 52100 Bearing Steel | 58 HRC min. | 52100 Bearing Steel | Plastic (Duracon M90 Equivalent) | -20~80°C | Seal Material Nitrile Rubber (-20~120°C) |
| LHIFRF | LHIFSF | LHIFCF | | | | Stainless Steel (JIS SUS) | -20~110°C | |
| LHIFRM | LHIFSM | LHIFCM | | | | Electroless Nickel Plating | 440C Stainless Steel | |
| LHIFRMF | LHIFSMF | LHIFCMF | 440C Stainless Steel | 56 HRC min. | 440C Stainless Steel | Stainless Steel (JIS SUS) | -20~110°C | |
| SLHIFR | SLHIFS | SLHIFC | | | | Plastic (Duracon M90 Equivalent) | -20~80°C | |
| SLHIFRS | SLHIFSS | SLHIFCS | | | | Stainless Steel (JIS SUS) | -20~120°C | |



kgf=Nx0.101972

| dr | Tol. | D Tolerance | | L | Tol. | ℓ | H | T | d | d ₁ | t | P.C.D. | W | F | A | Eccentricity | Rows of Balls | *Perpendicularity | Basic Load Rating | | | Mass(g) | | | | | | | | | | | |
|----|--------|----------------------|-------------------|--------|------|-----|-----|----|-----|----------------|-----|--------|----|----|----|--------------|---------------|-------------------|-------------------|---------------|--------------|---------------|----------------|-----|----|----|----|----|-----|------|-----|-----|-----|
| | | No Surface Treatment | Surface Treatment | | | | | | | | | | | | | | | | C (Dynamic) N | Co (Static) N | Round Flange | Square Flange | Compact Flange | | | | | | | | | | |
| 6 | -0.009 | 12 | 0 | 19 | ±0.3 | 5 | 28 | 5 | 3.5 | 6 | 3.1 | 20 | 22 | — | 20 | 0.012 | 4 | 0.012 | 206 | 265 | 24 | 18 | 21 | | | | | | | | | | |
| 8 | | 15 | -0.013 | -0.018 | | | | | | | | | | | | | | | 24 | 32 | 5 | 3.5 | 6 | 3.1 | 24 | 25 | — | 24 | 265 | 380 | 37 | 29 | 33 |
| 10 | | 19 | — | — | | | | | | | | | | | | | | | 29 | 40 | 6 | 4.5 | 7.5 | 4.1 | 29 | 30 | — | 29 | 372 | 549 | 72 | 52 | 64 |
| 12 | | 21 | 0 | 0 | | | | | | | | | | | | | | | 30 | 42 | 6 | 4.5 | 7.5 | 4.1 | 32 | 32 | — | 32 | 412 | 598 | 76 | 57 | 68 |
| 13 | | 23 | -0.016 | -0.021 | | | | | | | | | | | | | | | 32 | 43 | 6 | 4.5 | 7.5 | 4.1 | 33 | 34 | — | 33 | 510 | 784 | 88 | 72 | 81 |
| 16 | | 28 | — | — | | | | | | | | | | | | | | | 42 | 48 | 8 | 5.5 | 9 | 5.1 | 38 | 37 | 22 | 31 | 775 | 1180 | 120 | 104 | 112 |
| 20 | | 32 | 0 | 0 | | 47 | 54 | 8 | 5.5 | 9 | 5.1 | 43 | 42 | 24 | 36 | 882 | 1370 | 180 | 145 | 167 | | | | | | | | | | | | | |
| 25 | | 40 | 0 | 0 | | 59 | 62 | 10 | 6.6 | 11 | 6.1 | 51 | 50 | 32 | 40 | 980 | 1570 | 340 | 300 | 325 | | | | | | | | | | | | | |
| 30 | | 45 | -0.019 | -0.025 | | 64 | 74 | 10 | 6.6 | 11 | 6.1 | 60 | 58 | 35 | 49 | 1570 | 2740 | 470 | 375 | 388 | | | | | | | | | | | | | |
| 35 | | 52 | 0 | 0 | | 70 | 82 | 13 | 9 | 14 | 8.1 | 67 | 64 | 38 | 55 | 1670 | 3140 | 650 | 560 | 575 | | | | | | | | | | | | | |
| 40 | | 60 | 0 | 0 | | 80 | 96 | 13 | 9 | 14 | 8.1 | 78 | 75 | 45 | 64 | 2160 | 4020 | 1060 | 880 | 913 | | | | | | | | | | | | | |
| 50 | | 80 | -0.022 | -0.030 | | 100 | 116 | 13 | 9 | 14 | 8.1 | 98 | 92 | 56 | 80 | 3820 | 7940 | 2200 | 2000 | 2037 | | | | | | | | | | | | | |

For Precautions for Use, see P.369. For linear bushings, hardened shafts with g6 tolerance are recommended. P.202-288

Height-Adjusting Spacers for Flanged Bushings can be chosen from P.384.

* Perpendicularity of D part to flange mounting surface

Part Number Example

| | | |
|-------------|---|----|
| Part Number | - | T |
| LHIFR20 | - | 20 |
| LHIFR20L | - | 20 |
| LHIFR20G | - | 20 |
| LHIFR20H | - | 20 |

Alternative grease types available.

