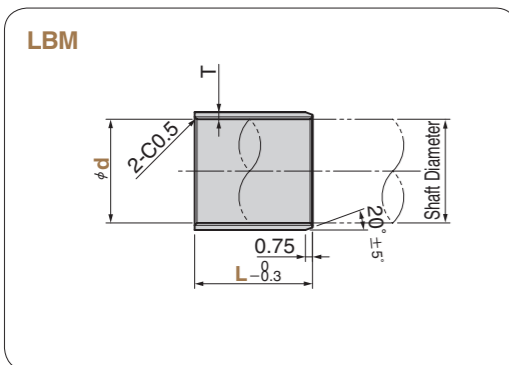


Oilless Bush

Drystar Lead Free · Straight Type

SO#936FR

RoHS Lead Free



Order **Catalog No.** **d** - **L**
LBM 100 - 30

Housing I.D.	H7	Shaft		Dimension of Bushing				Catalog No.	d	L
		O.D.	Tolerance	Tolerance I.D. after press-fit	O.D.	Tolerance	Thickness T			
105		100		100	105			LBM	100	30
										50
										70
										80
										95
110		105		105	110			LBM	105	+0.035 0
										50
										90
115		110		110	115			LBM	110	+0.035 0
										30
										50
125		120		120	125	2.47	0 -0.050	LBM	120	30
										50
										70
										95
										100
135		130		130	135			LBM	130	+0.185 +0.120
										50
										100
145		140		140	145			LBM	140	+0.040 0
										50
										100
155		150		150	155			LBM	150	+0.035 -0.005
										50
										100
165		160		160	165			LBM	160	+0.205 +0.140
										50
										100

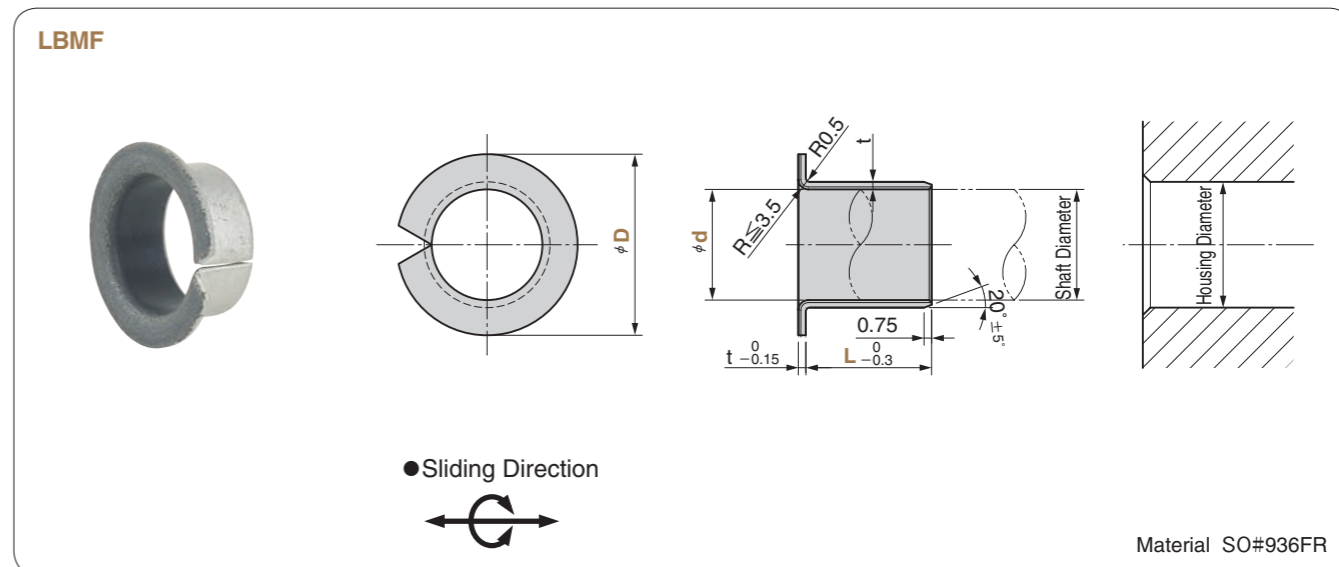
⚠ Tolerance I.D. after press-fit is applicable to used as reference.

Oilless Bush

Drystar Lead Free · Flange Type

SO#936FR

RoHS Lead Free



Operation Range

Lubricating Condition	Max. Allowable Load P N/mm ²				Operation Range Temperature °C
	Very Slow Movement	Rotation, Oscillation or Sliding	Change of Load 100,000 Times or Less	Change of Load 10 Million Times or More	
No lubrication	147	59	29	15	-200~+280

Physical Properties

Compression Strength Mpa	Linear Expansion Coefficient ×10 ⁻⁶ /°C		Thermal Conductivity W/(m·K)
	Parallel to Bearing Surface	Vertical to Bearing Surface	
304	11	30	42

Refer to page 131 for caution in using

Order **Catalog No.** **d** - **D** - **L**
LBMF 06 - 12 - 08

Housing I.D.	H7	Shaft		Dimension of Bushing				Catalog No.	d	D	L
		O.D.	Tolerance	Tolerance I.D. after press-fit	O.D.	Tolerance	Thickness t				
4.6	+0.012 0	3	-0.025 -0.034	3	+0.062 0	5	+0.047 +0.017	0.8			03
											07
5.6		4		4		6					04
											09
7		5		5		7					05
											10
8		6		6		8	+0.053 +0.023	1.0	0 -0.025		06
											12
9		7		7		9					07
											13
10		8	-0.025 -0.040	8		10	+0.055 +0.025				08
											15
											10
											12

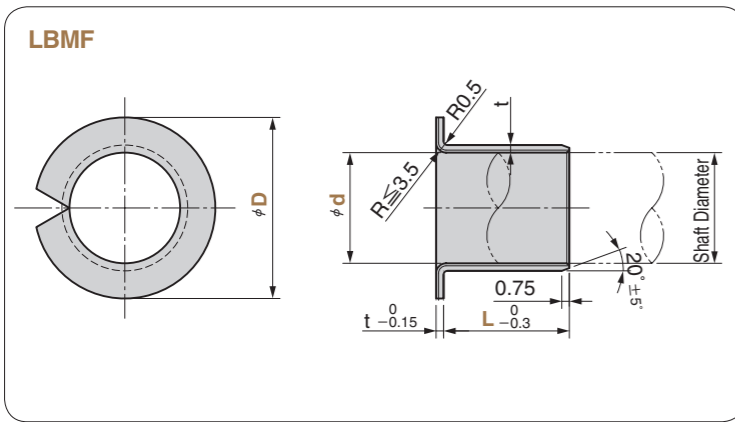
⚠ Tolerance I.D. after press-fit is applicable to used as reference.

Oilless Bush

Drystar Lead Free • Flange Type

SO#936FR

RoHS Lead Free



Order

Catalog No.	d	D	L
LBMF	26	38	20

Operation Range

Lubricating Condition	Max. Allowable Load P N/mm ²				Operation Range Temperature °C
	Very Slow Movement	Rotation, Oscillation or Sliding	Change of Load 100,000 Times or Less	Change of Load 10 million Times or More	
No lubrication	147	59	29	15	-200~+280

Physical Properties

Compression Strength Mpa	Linear Expansion Coefficient ×10 ⁻⁶ /°C		Thermal Conductivity W/(m·K)
	Parallel to Bearing Surface	Vertical to Bearing Surface	
304	11	30	42

Housing I.D.	H7	Shaft O.D.	Tolerance	Dimension of Bushing			Catalog No.	d	D	L
				Tolerance I.D. after press-fit	O.D.	Tolerance				
										06
										07
12		10	-0.025 -0.040	10	12		10	18		08
										10
										12
										15
										06
										07
										08
14		12		12	14		12	20		10
										12
										15
										20
										06
										10
16		14		14	16	+0.063 +0.033	1.0	0	-0.025	LBMF 14 22
										15
										20
										10
										12
17		15	-0.025 -0.043	15	17					15
										20
										25
										10
18		16		16	18					15
										20
										25
										10
										12
20		18		18	20	+0.071 0				LBMF 18 26
										15
										20
										25

Housing I.D.	H7	Shaft O.D.	Tolerance	Dimension of Bushing			Catalog No.	d	D	L
				Tolerance I.D. after press-fit	O.D.	Tolerance				
										10
										12
23		20		20	23					LBMF 20 31
										15
										20
										25
										30
										10
										12
25		22		22	25	+0.086 +0.051				LBMF 22 33
										15
										20
										25
										15
										15
27		24		24	27		1.5			LBMF 24 35
										20
										25
										30
										10
										12
28		25		25	28	+0.093 +0.056				LBMF 25 36
										15
										20
										25
										30
30		26		26	30					LBMF 26 38
										15
										20
										12
32		28		28	32					LBMF 28 40
										15
										20
										30
										12
										15
34		30		30	34					LBMF 30 42
										20
										25
										30
										40
35		31		31	35					LBMF 31 45
										25
										20
36		32		32	36	+0.115 +0.075	2.0			LBMF 32 46
										25
										30
										12
										20
39		35		35	39					LBMF 35 49
										25
										30
										40
										50
										20
42		38		38	42					LBMF 38 52
										30
										40
										12
										20
44		40		40	44					LBMF 40 54
										25
										30
										40
										50

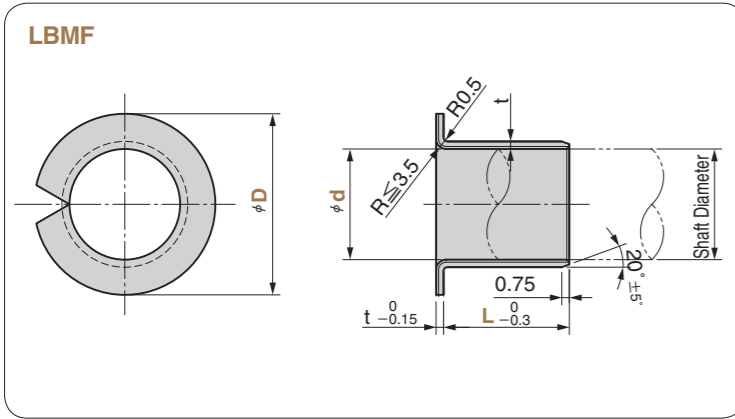
⚠ Tolerance I.D. after press-fit is applicable to used as reference.

Oilless Bush

Drystar Lead Free • Flange Type

SO#936FR

RoHS Lead Free



Order **Catalog No.** **d** - **D** - **L**
LBMF 50 - 65 - 40

Operation Range

Lubricating Condition	Max. Allowable Load P N/mm ²				Operation Range Temperature °C
	Very Slow Movement	Rotation, Oscillation or Sliding	Change of Load 100,000 Times or Less	Change of Load 10 Million Times or More	
No lubrication	147	59	29	15	-200~+280

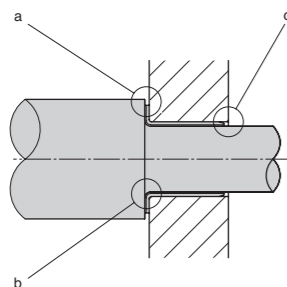
Physical Properties

Compression Strength Mpa	Linear Expansion Coefficient ×10 ⁻⁶ /°C		Thermal Conductivity W/(m·K)
	Parallel to Bearing Surface	Vertical to Bearing Surface	
304	11	30	42

Housing		Shaft		Dimension of Bushing				Catalog No.	d	D	L		
I.D.	H7	O.D.	Tolerance	Tolerance I.D. after press-fit	O.D.	Tolerance	Thickness t					Tolerance	
50	+0.025 0	45	-0.025 -0.050	45	+0.105 0	50	+0.115 +0.075	2.5	0 -0.040	LBMF	50	60	20
													25
													30
													40
55	+0.030 0	55	-0.025 -0.055	55	+0.110 0	60	+0.145 +0.095	2.5	0 -0.040	LBMF	50	65	30
													40
60	+0.030 0	60	-0.025 -0.055	60	+0.110 0	65	+0.145 +0.095	2.5	0 -0.040	LBMF	50	70	30
													40
65	+0.030 0	65	-0.025 -0.055	65	+0.110 0	70	+0.145 +0.095	2.5	0 -0.040	LBMF	50	75	30
													40

⚠ Tolerance I.D. after press-fit is applicable to used as reference.

Caution in Using Flange Bush



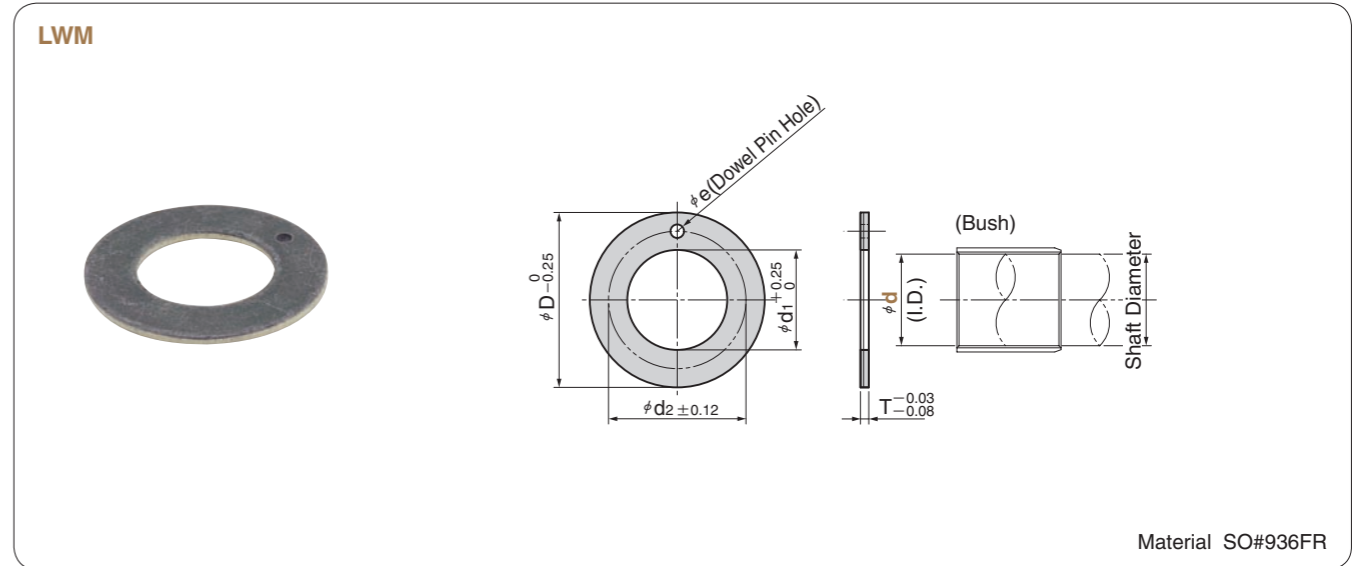
- Make the shaft outer diameter larger than the flange outer diameter. In press fit, make the arbor diameter larger than the flange outer diameter.
- Chamfer on the shaft is 1R.
- Keep the bushing end inside the housing end.

Oilless Washer

Drystar Lead Free Type

SO#936FR

RoHS Lead Free



Material SO#936FR

Bush I.D. #d	d ₁	D	T Thickness	d ₂	e	Housing Depth	Catalog No.	d
6	8	16	1.5	12	1.300	1.20 ~0.95	LWM	06
8	10	18		14	~1.100			
10	12	24		18	1.875 ~1.625			
12	14	26		20	2.375 ~2.125			
14	16	30		23				
16	18	32		25	4.375 ~4.125			
18	20	36		28				
20	22	38		30	3.375 ~3.125			
22	24	42		33	1.70 ~1.45			
24	26	44		35				
25	28	48	38	2.0				
30	32	54	43					
35	38	62	50	1.70 ~1.45				
40	42	66	54					
45	48	74	61	2.0				
50	52	78	65					

Order **Catalog No.** **d**
LWM 30

For Operation

- When a dowel pin is used for retention. Provide a step down on housing. Make step down dia larger by 0.05 to 0.15 mm. than thrust washer O.D. Make dowel pin top lower by 0.3 to 0.5 mm than washer face.
- When adhesive is used for retention. Adhesives can be used for thrust washer retention but in this case take the max.usable temperature and running condition into consideration for adhesive selection.

