

PRECISION SERIES
CLOSED OR OPEN
SELF-LUBRICATING
LOW COST

PHONE: 516.328.3300 • FAX: 516.326.8827 • WWW.SDP-SI.COM



➤ MATERIAL:

Body - Aluminum, Anodized
Liner - Bonded Frelon®

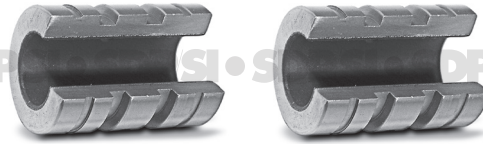
➤ SPECIFICATIONS:

d Tolerance:

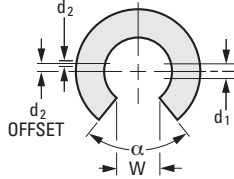
- 5 mm +0.028/+0.010
- 8 & 10 mm +0.035/+0.013
- 12 & 16 mm +0.043/+0.016
- 20, 25 & 30 mm +0.053/+0.020
- 40 mm +0.064/+0.025

D Tolerance:

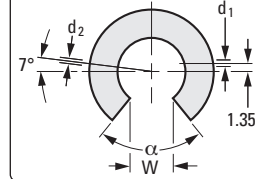
- 12 & 16 mm 0/-0.018
- 19, 22 & 26 mm 0/-0.021
- 32, 40 & 47 mm 0/-0.025
- 62 mm 0/-0.030



FOR ALL OTHER BORES

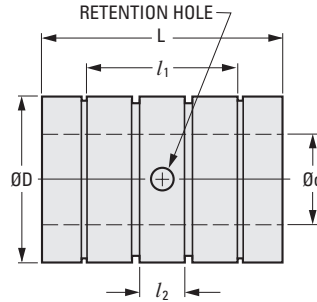


FOR 12 BORE ONLY



APPLICABLE RETAINING RINGS AND O-RINGS

Bearing Reference (Closed or Open Series)	Catalog Numbers	
	Retaining Ring	O-Ring
S99AP □ M05F012022	MD0471MQB012	A 6R11ML009713
S99AP □ M08F016025	MD0471MQB016	A 6R11ML013017
S99AP □ M10F019029	MD0471MQB019	A 6R11ML015520
S99AP □ M12F022032	MD0471MQB022	A 6R11ML017525
S99AP □ M16F026036	MD0471MQB026	A 6R11ML021525
S99AP □ M20F032045	MD0471MQB032	A 6R11ML027525
S99AP □ M25F040058	MD0471MQB040	A 6R11ML035525
S99AP □ M30F047068	MD0471MQB047	A 6R11ML042526
S99AP □ M40F062080	MD0471MQB062	A 6R11ML056035



METRIC COMPONENT

Catalog Number *	d Bore F8	D Dia. h7	L 0 -0.254	Slot (Open Series)		l ₁ Retaining Space	l ₂ O-Ring Spacing	Max. Load N
				W Slot Width	α Slot Angle			
S99AP □ M05F012022	5	12	22	3.2	60°	12	5	1135
S99AP □ M08F016025	8	16	25	5.1		14	5.33	2055
S99AP □ M10F019029	10	19	29	6.4		19.4	5.63	2985
S99AP □ M12F022032	12	22	32	7.6	78°	20	6	3950
S99AP □ M16F026036	16	26	36	10.4		22	8	5930
S99AP □ M20F032045	20	32	45	10.8	60°	28	10	9265
S99AP □ M25F040058	25	40	58	13.2		40	12.5	14935
S99AP □ M30F047068	30	47	68	14.2		48	15	21010
S99AP □ M40F062080	40	62	80	19.5	72°	56	20	32955

* To complete catalog number, specify C for Closed Series and Z for Open Series.

Catalog Number (Ref.)	Effective Surface Area cm ²	Retention Hole		
		d ₁	d ₂	d ₂ Offset
S99AP □ M05F012022	1.1	2.2	—	—
S99AP □ M08F016025	2	3		
S99AP □ M10F019029	2.9	3		
S99AP □ M12F022032	3.8	3	3	7°
S99AP □ M16F026036	5.8	2.2		0
S99AP □ M20F032045	9	3	3	-1.51
S99AP □ M25F040058	14.5			
S99AP □ M30F047068	20.4			
S99AP □ M40F062080	32			

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➤ **BEARINGS CARRY 4 TO 8 TIMES THE LOAD OF BALL BEARINGS:**

Frelon® lined bearings can tolerate up to 105 kgf/cm² over the portion of the bearing that is carrying the load. These bearings carry 4 to 8 times the load of ball bearings.

A 12 mm Frelon® bearing will carry as much load as a 25 mm ball bearing.

➤ **GREATER WEAR RATE THAN BALL BEARINGS:**

Although wear rates are affected by surface finish, shaft hardness, length of travel, contamination and lubrication, these bearings last on average 4 to 8 times longer than ball bearings.

➤ **BEARING PV:**

P = Pressure in kgf/cm² on the projected area.

V = Velocity of the wear surface in m/min.

The maximum PV is 214 kgf/cm² • m/min.

➤ **BEARING SPEED:**

The maximum average speed without lubrication is:

70 cm/sec - continuous

200 cm/sec - intermittent

When lubricated, the maximum speed is 200 cm/sec

➤ **CANTILEVERED LOADS:**

The distance between the bearings and the drive source or load should not exceed a maximum ratio of 2:1.

➤ **RECOMMENDED SHAFT FINISH AND HARDNESS:**

A shaft finish with an 0.2 to 0.3 μm R_a and a hardness of HRC 50 is recommended for best results. Acceptable performance can be attained with a finish of 0.2 to 0.4 μm R_a and a minimum hardness of HRC 35.

Softer shafting will cause an accelerated wear to both the shaft and the bearings.

Optional liners are available for both nonhardened shafting and for use in food applications.

➤ **APPLICATIONS:**

- Washdown conditions
- High load
- Cantilevered load
- Where vibration & shock load occurs.
- Extreme temperatures
- Operations where dirt, dust, and other contaminants are an issue.



➤ **RUNNING CLEARANCES:**

Precision Series -

approximately 0.025 mm. High precision, similar to a preloaded ball bearing.

Standard Series -

approximately 0.075 mm. Excellent for parallel shaft applications, similar to a typical ball bearing.

➤ **LUBRICATION FOR EXTENDED WEAR AND GREATER SPEEDS:**

Frelon lined bearings are self-lubricating.

Additional lubrication reduces friction up to 50%, minimizes wear, reduces heat, allows greater speed, and extends wear life.

Acceptable lubrication includes 3-in-1 oils, way lube oils and petroleum-based greases.

DO NOT USE PTFE FLUOROCARBON AND/OR SILICONE OILS, GREASE, SPRAY, OR WD40.

➤ **NO CATASTROPHIC FAILURE:**

No shaft scoring or shock load damage.

Liner dampens shock loads and vibration. These bearings provide more surface contact area than ball bearings.

No corrosion or rust.

No temperature induced bearing seizure.

Temperature range of -240°C to +260°C. Operates with consistent friction and load bearing characteristics throughout temperature range. Liner allows heat to dissipate through the shell.

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