TIMKEN







TIMKEN® FAFNIR® MOUNTED BALL BEARINGS

MAXIMIZE PERFORMANCE. REDUCE MAINTENANCE.



THE TIMKEN FAFNIR DIFFERENCE

- Since introducing the wide inner ring bearing design in the early 1900s, the Fafnir brand has been a **leading name** in mounted ball bearings. Today, the Timken® Fafnir® name can be found on a wide array of mounted bearings.
- The Timken® Fafnir® difference is the ability to understand the demands of the application and provide the right product for it. All products are designed with the same idea in mind – to **maximize performance and keep maintenance low.**
- You can see the difference in our advances in the bearing, sealing, locking systems and housings. And it's in our **manufacturing processes that implement improvements and instill quality.**
- The ability to combine this distinguished history with a **dedication to innovate** provides us with the expertise, product breadth and drive for continuous improvement to welcome your most difficult challenges.

THAT'S WHAT MAKES US DIFFERENT. WE'VE BEEN THERE.

TIMKEN FAFNIR ADVANTAGES

- Broad product range
- Low maintenance
- Availability
- Assemble to order (ATO)
- Customization possible
- Multiple sealing and locking types for various applications
- Higher load ratings than competition
- Polymer cage (misalignment capability)

FAFNIR LOCKING STYLES







CHARACTERISTICS	ECCENTRIC	SHAFT GUARD	SET SCREW
Holding Power	Excellent	Good	Very good
Damage to shaft	Minimal	Minimal	Some
Reverse Direction Applications	Not Recommended	Very Good	Very Good
Axial Loading	Good	Good	Good
High Speed Applications	Good	Fair	Fair
Interchangeable w/ competition	Direct	Unique	Direct

FEATURES AND BENEFITS OF TIMKEN FAFNIR MOUNTED BALL BEARINGS



FEATURE	BENEFIT
1 Grease fitting offset	Minimized risk of accidental and side impact while maintaining accessibility for single-point lubricators.
2 Nylon patch	Included on all set screw product. Helps maintain the holding power by preventing set screw from loosening due to vibrations.
3 Grade 10 balls	Quiet and smoother-running bearings resulting from higher-specification steel and improved roundness.
4 Buna-N seal material	Buna-N rubber has cotton fiber embedded to wick oil, which enhances lubrication and improves sealing integrity.
5 6/6 nylon heat stabilized retainer	Excellent misalignment capability. Resists size changes and moisture trapping. Non-corrosive and self-lubricating, as well as resistant to abrasion, wear and most solvents.
6 Super-finished raceways	Even surfaces reduce friction, leading to cooler, quieter running and longer life.
7 Hardened and ground seal land	Seal protected from inner ring abrasion, resulting in less wear (longer life) and prolonged seal integrity.
8 Black powder-coated epoxy finish	Chipping, scratching and subsequent exposure to parent metal is reduced, helping to prevent corrosion and deliver superior performance.
9 Special quality steel	Fewer carbides, inclusions and voids result in reduced risk of stress risers that can cause premature fatigue.
10 Double-filtered polyurea grease	Particles that can cause noise in application are removed. Improved lubrication cleanliness also leads to superior performance at higher speeds.
11 Housing tolerances	Better grease purge throughout the bearing due to reduced risk of grease purge at outer diameter.
12 Heavier, stronger block	Wider along the shaft axis and 30% heavier for better bearing seat strength. Three times stronger in both upright and upside-down mounting positions.
13 Easy access to mounting bolts	Uses the same mounting hardware as current block design.
14 Solid, flat feet	Increased strength and no recess corner stress points. Virtually eliminates deformation of mounting surface. Prevents accumulation of ambient material under the feet.
15 Set screw access	Allows for bearing set screw access (during installation or removal) regardless of pillow block orientation.
16 Base-to-center line height indicator	To help identify correct base-to-center line block. HB=high base; LB=low base.

BROAD PRODUCT RANGE

Timken Fafnir Mounted Ball Bearings offer a wide range of housing styles, locking styles, and the ability to customize.

Pillow blocks, the most commonly used type of mounted units, provide shaft support where the mounting surface is parallel to the shaft axis. The bolt holes are usually slotted for easy adjustment during mounting.

Flanged units are used where a shaft passes through the machine frame at a right angle. A four-bolt mounting is the most common. Where mounting is restricted, two- and three-bolt versions are available. A piloted flanged unit can provide additional mounting accuracy and support. Flanged cartridges are supplied in multiple series (standard and heavy duty) and materials (iron and rubber). Also, a complete line of flangettes – pressed steel flanged units – provides an economical solution for light-duty applications.

- **Standard Duty:** ½ in. bore to 2 3/16 in. bore (17mm to 55mm)
- **Industrial Duty:** ½ in. bore to 2 15/16 in. bore (17mm to 75mm)
- **Medium Duty:** 1 in. bore to 3 15/16 in. bore (25mm to 100mm)
- **Heavy Duty:** 1 3/16 in. bore to 4 15/16 in. bore



Two-Bolt Pillow Block



Four-Bolt Flange



Two-Bolt Flange



Wide Slot Take-Up Unit



Tapped Base



Pressed Steel Flange

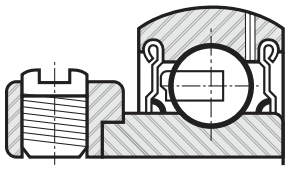
MULTIPLE STYLES, TYPES AND CONFIGURATIONS AVAILABLE



A RANGE OF PRODUCTS TO SUIT YOUR TECHNICAL AND COMMERCIAL DEMANDS

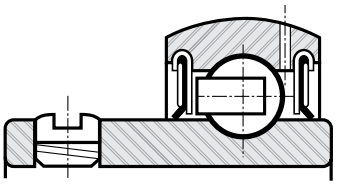
Find the right mounted bearings solutions for your applications through our Timken Fafnir product portfolio. Choose from four standard series of mounted ball bearings, each with distinct characteristics and levels of service.

STANDARD DUTY



"V" Series

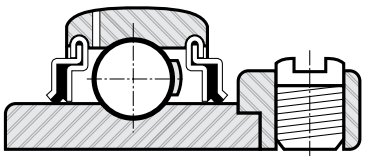
FEATURE	BENEFIT
Narrow width	Ideal where space is limited.
Model R-seal	Buna-N rubber contact. Shroud to protect seal and rabbet to prevent seal lip inversion.
Eccentric locking collar	Self-tightens in application with no shaft damage.



"S" Series

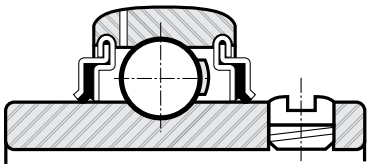
FEATURE	BENEFIT
Narrow width	Ideal where space is limited.
Three-piece seal	Buna-N rubber contact. Shroud to protect seal and inner cap to prevent seal lip inversion.
Set screw locking	Easy to install and ideal for reversing applications.

INDUSTRIAL DUTY



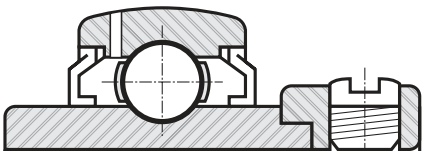
"R" Series

FEATURE	BENEFIT
Full width	More tolerant of static misalignment and accepts a more aggressive seal.
Three-piece R-seal with fiber	Longer sealing integrity provided by outboard and inboard caps.
Eccentric locking collar	Self-tightens in application with no shaft damage.



"Y" Series

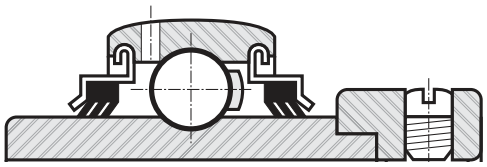
FEATURE	BENEFIT
Full width	More tolerant of static misalignment and accepts a more aggressive seal.
Three-piece R-seal with fiber	Longer sealing integrity resulting from outboard and inboard caps.
Set screw locking (90°) with nylon patch or Shaft Guard Technology	Easy to install, well suited for reversing applications. 90° set screw angle optimizes balance between holding power and inner ring distortion. Nylon patch prevents set screw from backing out.



"L" Series

FEATURE	BENEFIT
Full width	More tolerant of static misalignment.
Labyrinth-type Mechani-Seal with steel retainer and high temp lubricant	Low rotational torque for higher speeds and/or higher temperatures
Eccentric locking collar	Self-tightens in application with no shaft damage.

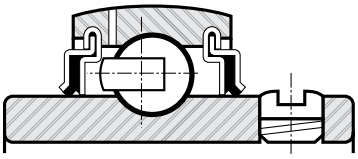
INDUSTRIAL DUTY (CONTINUED)



"T" Series

FEATURE	BENEFIT
Full width	More tolerant of static misalignment.
Tri-Ply (triple lip) seal shroud with outboard cap	Extra layer of protection against moisture and contaminant ingress. The cap helps protect the seal from fiber wrap and abrasion.
Eccentric locking collar	Self-tightens in application with no shaft damage.

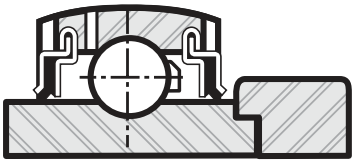
MEDIUM DUTY



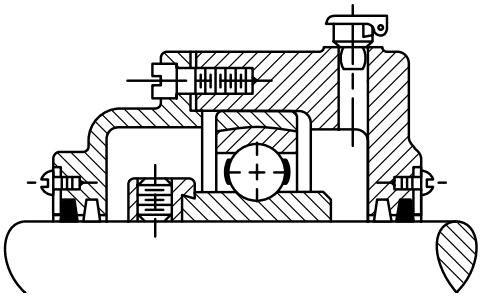
"Y" Series

FEATURE	BENEFIT
Full width	More tolerant of static misalignment.
Larger bearing insert	30 percent additional capacity over standard series. Extra storage capacity for lubrication.
Three-piece R-seal with fiber	Longer sealing integrity resulting from outboard and inboard caps.
Set screw locking (Y Series)	Self-tightens in application with no shaft damage.

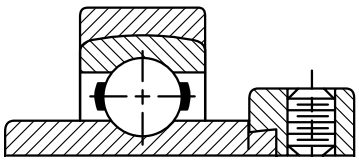
HEAVY DUTY



RAO



SAOL



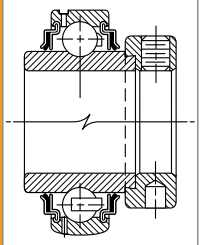
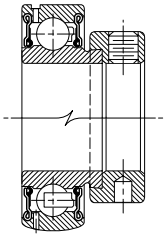
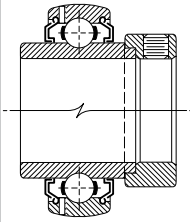
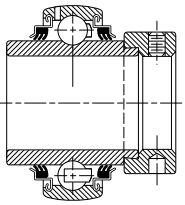
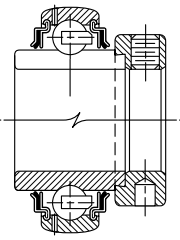
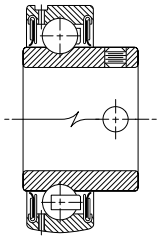
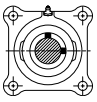
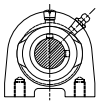
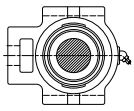
SMN-S

FEATURE	BENEFIT
Full width	More tolerant of static misalignment.
Larger bearing insert	Additional capacity over medium duty series and designed to withstand continuous, heavy or shock loads.
RABR, SAL. SAOL units - Specifically designed for HVAC operations	Reliable protection, longer life and enhanced performance.
For SAOL – SMN-S two-piece construction	Permits its inner assembly to swivel in the outer aligning ring allowing inner ring to become square and true with the shaft and assembly. External cylindrical S-ring allows the option of the bearing to float and compensates for thermal shaft expansion.
Eccentric locking collar	Self-tightens in application with no shaft damage.

BASIC HOUSING/BEARING COMBINATIONS

ASSEMBLE TO ORDER (ATO) ADVANTAGE:

- Ability to mix/match inserts and housings at our US based Timken facility
  - For extra units beyond stock levels in warehouses
  - For MTO and special combinations

SERIES MOUNTED UNIT	INSERT BEARINGS					
	G-KRRB	**GRA-RRB**	**G-KLLB**	**G-KPPB**	**GY-KRRB**	**GYA-RRB**
						
	G1103KRRB	GRA103RRB	G1103KLLB	G1103KPPB3	GY1103KRRB	GYA103RRB
Pillow Block Low Base to Center Height 	RAK	VAK	LAK	TAK	YAK	SAK
Pillow Block High Base to Center Height 	RAS	VAS	LAS	TAS	YAS	SAS
Four-Bolt Flange 	RCJ	VCJ	LCJ	TCJ	YCJ	SCJ
Two-Bolt Flange 	RCJT	VCJT	LCJT	TCJT	YCJT	SCJT
Tapped Base 	RTB	VTB	LTB	TTB	YTB	STB
Take-Up Unit 	RTU	VTU	LTU	TTU	YTU	STU

BALL BEARING INSERT NOMENCLATURE

Prefixes:
Basic Series and Additional Features

C	concentric collar
E	metric bore
G	relubricatable
1	standard series (200-series bearings)
L	light series
N	heavy series (300-series bearings)
RA	extended inner ring, one side only
SM	standard series (open-type bearings)
SMN	heavy series (open-type bearings)
ER, YA	set screw locking device series
M	medium-duty set screw lock series

Suffixes:
Internal Construction

K	full width inner, Conrad, non-filling slot-type
W	maximum capacity filling slot-type

G1 **103** **K** **RRB** – **SGT**

Numbers:
Last three numbers indicate bore size — first in inches, last two in sixteenths

015	15/16 in.
103	1 3/16 in.
203	2 3/16 in.
25	25 mm (metric)
40	40 mm (metric)

Additional Features

L	one Mechani-Seal
LL	two Mechani-Seals
PP	two seals
R	one land-riding rubber seal
RR	two land-riding rubber seals
B	spherical outside diameter
S	external self-aligning
PP2, 3, 4, etc., –	tri-ply seals (if preceded by K)
TDC™	thin-dense chrome plate
F	food-grade grease
SGT	Shaft Guarding Technology™

MOUNTED BALL BEARING NOMENCLATURE

AK	low base
AO	heavy series
AS	high base
C	cylindrical cartridge
CJ	four-bolt mount
CJT	two-bolt mount
AS	high base
TU	take-up unit
TB	tapped base

***Options:**

C	concentric collar
H	heavy housing
L	expansion unit
M	medium duty

PT	polymer housing with TDC™ bearing
NT	nickel-plated housing with TDC bearing
PS	polymer housing with stainless-steel bearing
SGT	Shaft Guarding Technology

R **AK** ***** **1** **NT** – **SGT**

L	labyrinth seal with self-locking collar
R	contact shroud seal with self-locking collar
S	contact shroud seal, narrow inner ring, set screw lock
T	tri-ply shroud seal with self-locking collar
V	contact shroud seal, narrow inner ring, self-locking collar
Y	contact shroud seal, with wide inner ring, set screw lock

Bore Size
inch 1/2 in. – 3 15/16 in.
metric 15 – 75 mm

TIMKEN

The Timken team applies their know-how to improve the reliability and performance of machinery in diverse markets worldwide. The company designs, makes and markets bearings, gear drives, automated lubrication systems, belts, brakes, clutches, chain, couplings, linear motion products and related industrial motion rebuild and repair services.

Stronger. By Design.

www.timken.com

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