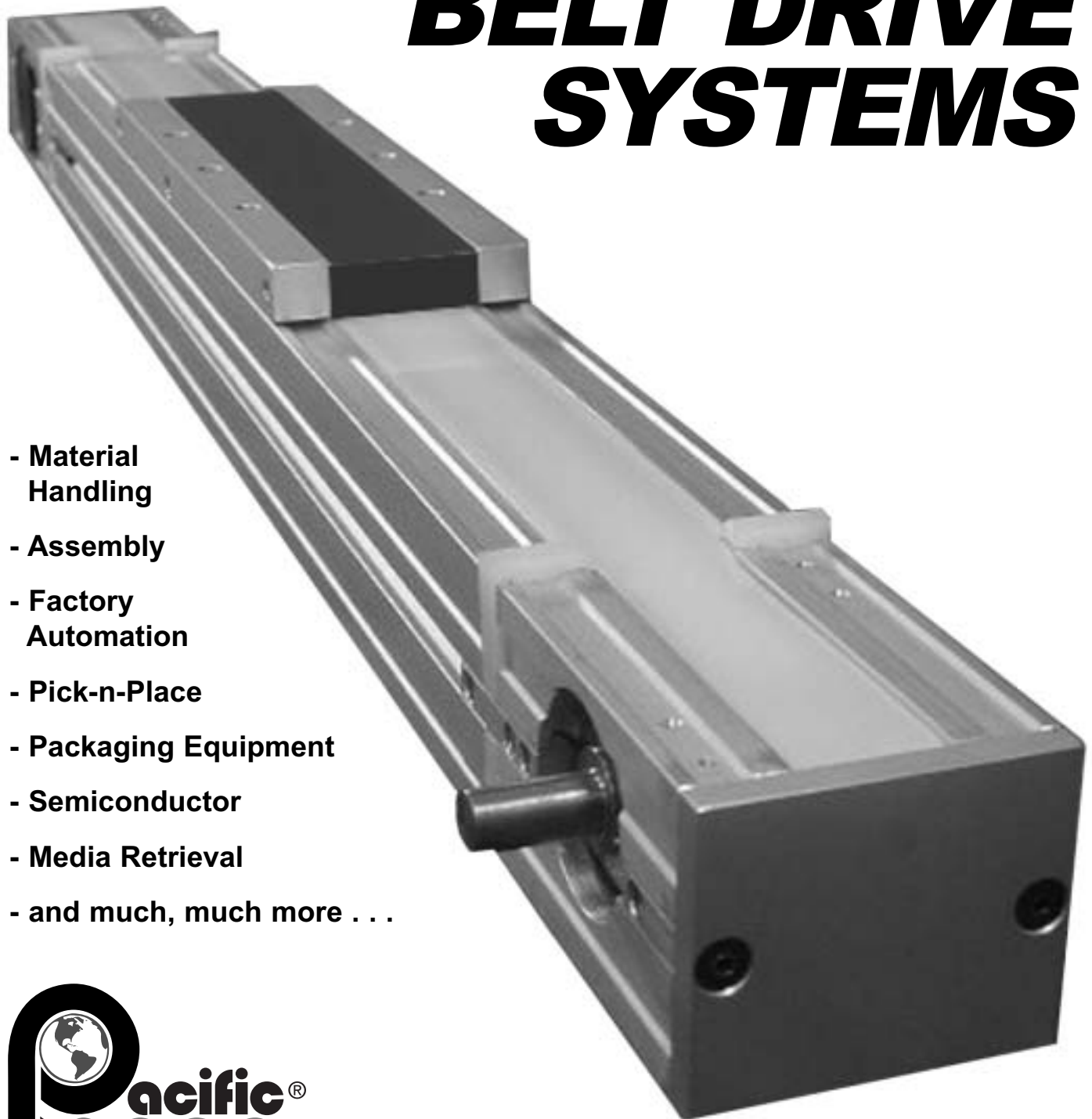


# redi-rail®

## ***BELT DRIVE SYSTEMS***



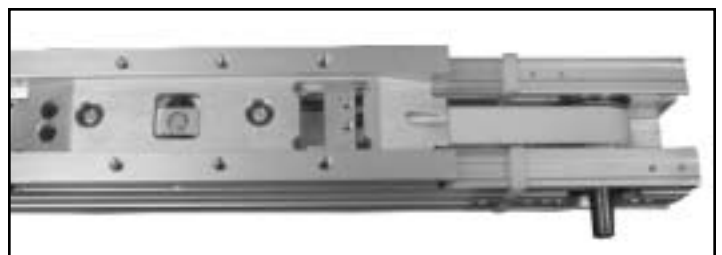
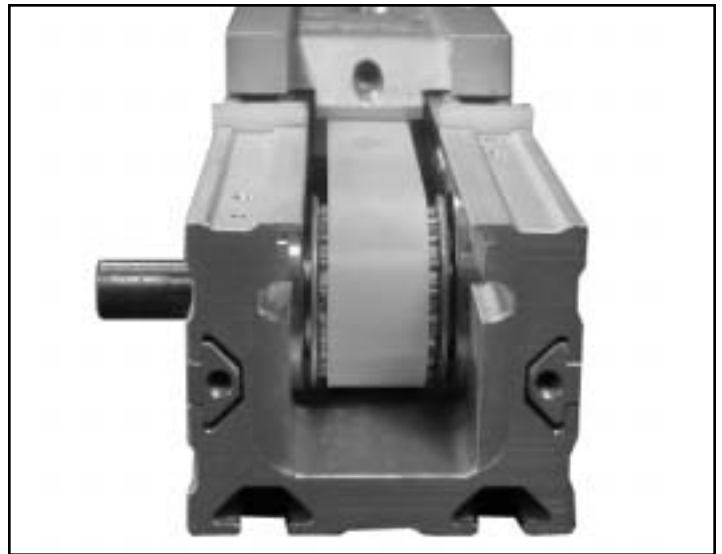
- Material Handling
- Assembly
- Factory Automation
- Pick-n-Place
- Packaging Equipment
- Semiconductor
- Media Retrieval
- and much, much more . . .



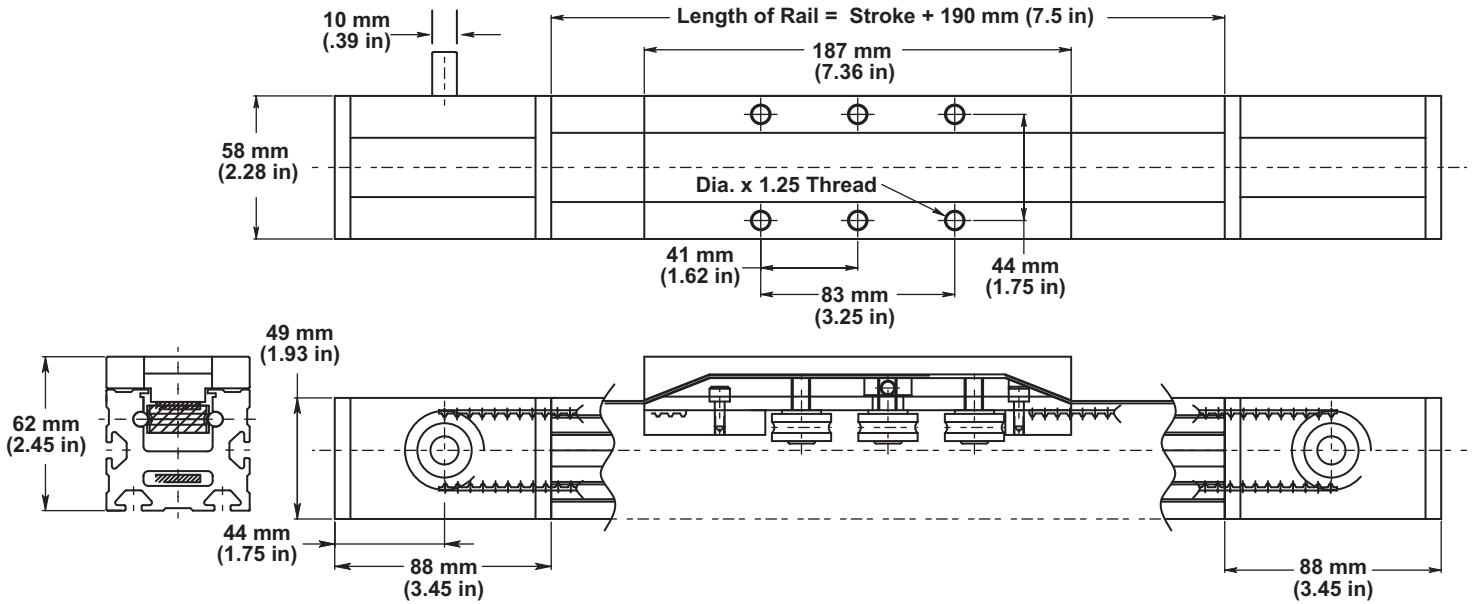
# The REDI-RAIL Advantage

The **REDI-RAIL Belt Drive System** is an innovative product designed to make linear motion simple.

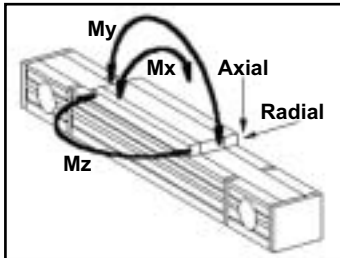
- ◆ The base guidance system is a REDI-RAIL Linear Guide featuring 3 dual row ball bearings.
- ◆ Preload is easily adjusted by set screws that are accessible from the outside of the carriage. No disassembly is required.
- ◆ The hardened steel raceways provide a consistent running surface for the bearings resulting in smooth performance and long life.
- ◆ Belt tension is easily accomplished by removing the carriage cover and adjusting a set screw.
- ◆ The belt and linear guide rails are completely covered with a plastic seal to prevent damage from contamination.
- ◆ Modular end blocks are locked to the stroking section of the unit via T-slots.
- ◆ The pulley bearings are sealed and covered to keep contamination clear.
- ◆ The drive pulley is not keyed, but is a one-piece design for greater accuracy and life.
- ◆ REDI-RAIL Belt Drive Systems are an excellent solution for high speed, low friction linear motion up to (5 m/s) 196 in/sec.
- ◆ Maximum stroke for one-piece rail is 3.65 m (12 ft). Rails may be joined together for longer length strokes.
- ◆ The REDI-RAIL Belt Drive Systems are priced to be an economical solution for a wide range of linear motion applications.
- ◆ Option to mount motor shaft on left or right (consult factory).



# Specifications



## Performance Specifications for Redi-Rail Belt Drive



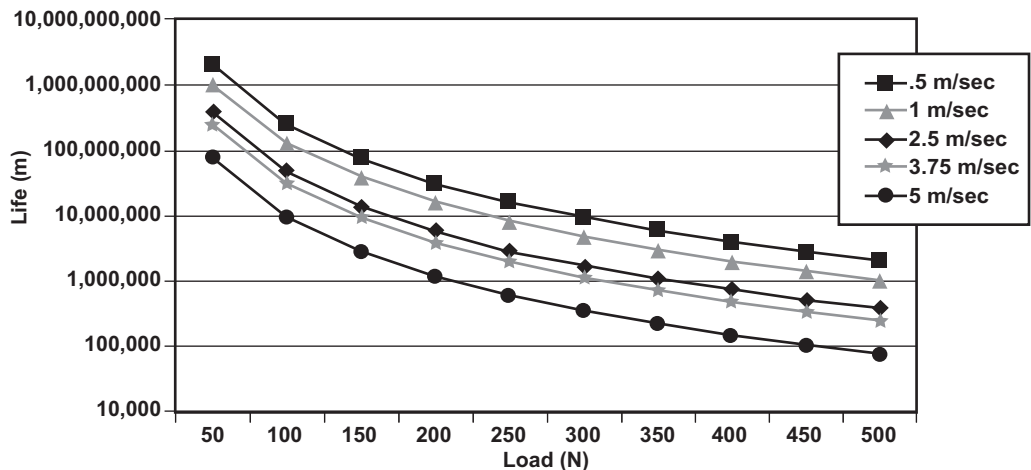
### PRODUCT SPECIFICATIONS

Repeatability	$\pm 0.025 \text{ mm/m}$ (.0003 in/ft)	Carriage Weight	623 g (22 oz)
Accuracy	$\pm 0.025 \text{ mm/m}$ (.0003 in/ft)	Maximum length	3600 mm (12 in)
Straightness	.33 mm/m (.004 in/ft)	Temperature Range	-30 C to +80 C (-22 F to 176 F)
Parallelism	$\pm 0.025 \text{ mm/m}$ (.0003 in/ft)	Belt Tension Limit	1260 N (283 lbs)
Flatness (Carriage)	.05 mm (.002 in)	Breakaway Torque	.18 Nm (25 oz-in)
Flatness (Rail)	.05 mm (.002 in)	Max Carriage Thrust	Based on application
Pulley Diameter (root)	26.82 mm (1.056 in)	Maximum Speed	5 m/s (196 in/s)
Pulley Diameter (O.D.)	29.4 mm (1.157 in)	Maximum Acceleration	$F = ma$
Pulley # of teeth	19	Radial Load Capacity	2660 N (598 lbs)
Drive Lead	101.22 mm (3.984 in)	Axial Load Capacity	827 N (186 lbs)
Pulley Weight (drive)	179 g (6.3 oz)	Moment Load Capacity	
Pulley Weight (slave)	162 g (5.7 oz)	Roll (Mx)	6.6 Nm (58.4 in-lbs)
Drive Pulley Moment of Inertia	.193 k/cm sq.	Pitch (My)	19.9 Nm (176 in-lbs)
Slave Pulley Moment of Inertia	.175 k/cm sq.	Yaw (Mz)	47.9 Nm (424 in-lbs)
Belt Width	16 mm (.630 in)	Moment of Inertia	$I_x = .729 \text{ in}^4$ $I_y = 1.299 \text{ in}^4$
Belt Weight	60 g/m (0.054 oz/in)	Initial Belt Tension	220 N (49.5 lbs)
Belt Composition	Polyurethane Steel reinforced		

## Load/Life for Redi-Rail Belt Drive

The Load / Life graph applies to REDI-RAIL Belt Drive Systems that are loaded in a radial orientation.

Systems loaded in an axial orientation will have a life at 30% of those shown in the graph.

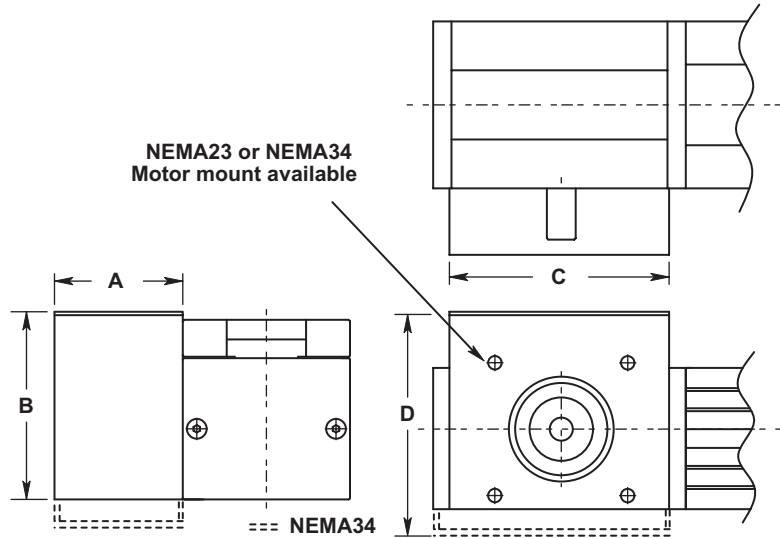


The data and specifications in this publication have been carefully compiled and are believed to be accurate and correct. However, it is the responsibility of the user to determine and ensure the suitability of Pacific Bearing products for a specific application. Pacific Bearing's only obligation will be to repair or replace without charge, any defective components if returned promptly. No liability is assumed beyond such replacement.

# Ordering and Technical Data

## REDI-RAIL Belt Drive System Motor Mount Options:

- ◆ Standard aluminum motor mounts are available for NEMA23 or NEMA34 size motors.
- ◆ Consult the factory for complete motion control packages



	A		B		C		D	
	mm	in	mm	in	mm	in	mm	in
NEMA23	44.5	1.75	65.1	2.56	76.2	3.00	N/A	N/A
NEMA34	64.8	2.55	N/A	N/A	108.0	4.25	88.1	3.47

### Ordering Code:

**RRB**

**45**

**Nxx**

**xxx**

**RRB** - REDI-RAIL belt drive unit

**45** - nominal size of unit

**No Entry** - belt drive unit only with NO motor mounting bracket

**Nxx** - NEMA standard motor mounting bracket

**N23** - motor mount for standard NEMA23 motor

**N34** - motor mount for standard NEMA34 motor

**xxx** - enter length of rail in mm\*

\*Rail = stroke + 190 mm (7.5 in)



Manufactured by:



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