PBC Linear

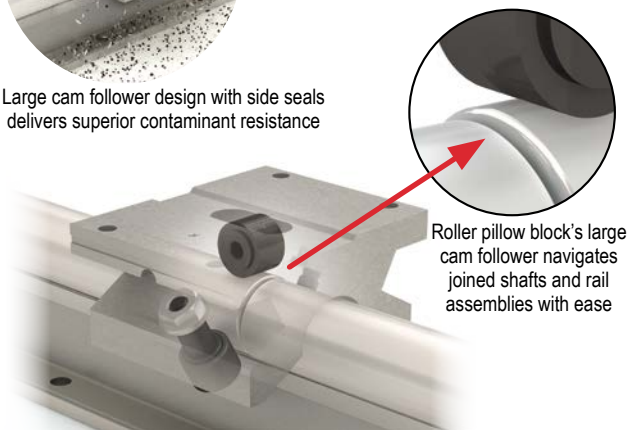
Roller Pillow Blocks

Features

The Roller Pillow Block system carries heavy loads and easily maneuvers over joined or misaligned shafts over long travels. The system is corrosion resistant and provides high speeds and rigidity in the toughest applications. Large cam followers, equipped with side seals, deliver industrial strength performance and excel in dirty environments.

- Superior for joined rail applications
- Best suited for horizontal applications with normal downward loading
- Available in 3 Cam Follower Configurations
- Available for various shafts sizes from 1/2" thru 1 1/4"
- Dynamic Load Rating up to 2,800 lbf (12,455 N)
- Adjustable clearance
- Corrosion resistant
- Interchangeable with industry standard pillow blocks

Large cam follower design with side seals delivers superior contaminant resistance

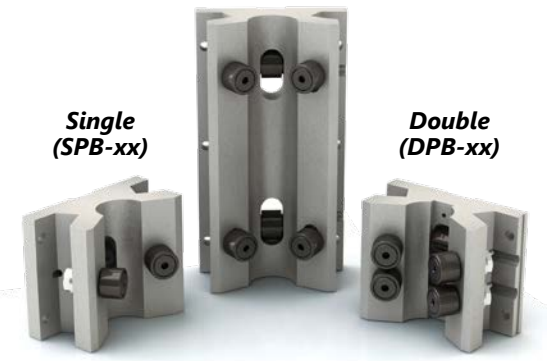


Roller pillow block's large cam follower navigates joined shafts and rail assemblies with ease

Twin (TWN-xx)

Single (SPB-xx)

Double (DPB-xx)

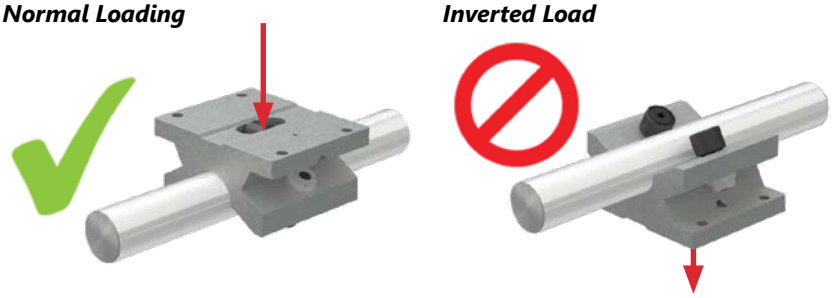


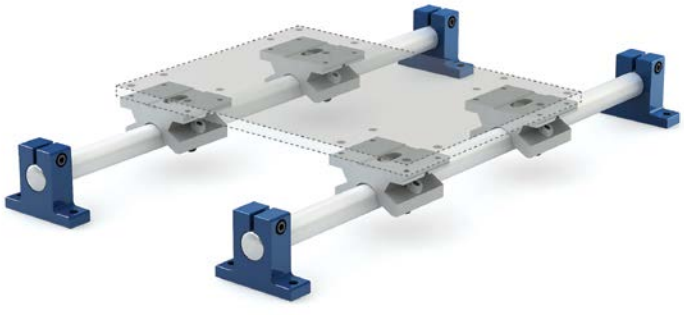
Loading and Design

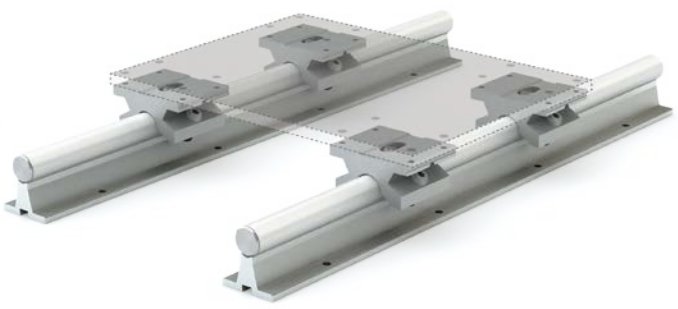
Roller Pillow Blocks are best suited for Normal Downward Loading and used together as shown here with 2 rails and 4 roller pillow blocks. Individually they are not designed for large moment loads, so such loading will lead to premature failure

Normal Loading

Inverted Load







PBC Linear

Roller Pillow Blocks

Features

- Pillow Block Housing Material: Aluminum
- Bearing Type: Sealed Cam Follower
- Bearing Material: Carbon Steel
- Linear travel maximum speed: 7.6m/s (25ft/s)
- Single Roller Pillow Block (SPB-xx)
  - Self aligning +/-0.5°
  - Can be used on curved rails
- Double Roller Pillow Block (DPB-xx)
  - Twice the dynamic load rating of Single Pillow Block
- Twin Roller Pillow Block (TWN-xx)
  - Same load rating as Double Roller Pillow Block
  - Can be used when using only one block per shaft
- Compatible with linear precision ground shafts such as the PBC Simplicity 60 Plus series (sold by AutomationDirect)

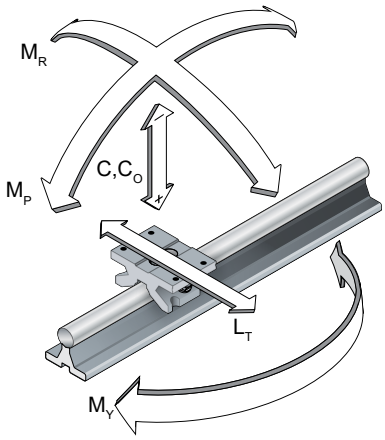
SPB-08-OPN

DPB-08-OPN

TWN-08-OPN

Roller Pillow Block Specifications

Part Number	Price	For Shaft Diameter	Carriage Length (C)	Dynamic (C) (N)	Drawing Links
Single Roller Pillow Block					
SPB-08-OPN	$;06f9z:	1/2in	1.5 in	1779	PDF
SPB-10-OPN	$;06f9?:	5/8in	1.75 in	2224	PDF
SPB-12-OPN	$;;06f9,:	3/4in	1.87 in	2669	PDF
SPB-16-OPN	$;06fa0:	1in	2.62 in	4248	PDF
SPB-20-OPN	$;06fa1:	1-1/4in	3.37 in	6228	PDF
Double Roller Pillow Block					
DPB-08-OPN	$;;06f9t:	1/2in	2 in	3559	PDF
DPB-10-OPN	$;06f9u:	5/8in	2.5 in	4448	PDF
DPB-12-OPN	$;06f9v:	3/4in	2.62 in	5338	PDF
DPB-16-OPN	$;06f9x:	1in	2.62 in	8496	PDF
DPB-20-OPN	$;06f9y:	1-1/4in	3.37 in	12455	PDF
Twin Roller Pillow Block					
TWN-08-OPN	$;;06f9]:	1/2in	3.5 in	3559	PDF
TWN-10-OPN	$;;06f9[:	5/8in	4 in	4448	PDF
TWN-12-OPN	$;06f9_:	3/4in	4.5 in	5338	PDF
TWN-16-OPN	$;06f9#:	1in	6 in	8496	PDF
TWN-20-OPN	$;;06f9!:	1-1/4in	7.5 in	12455	PDF



Note: Pillow blocks are designed for only downward, normal loads (C). Moment loads and Lateral Loads (Lt) are not recommended and not rated.

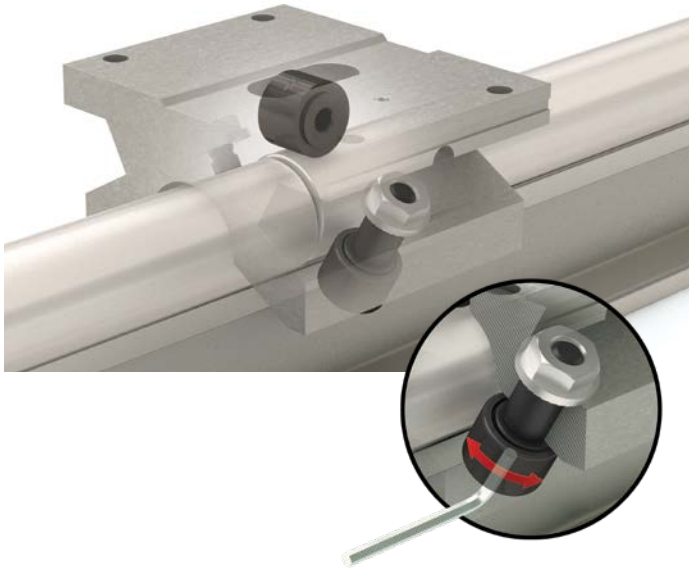
PBC Linear

Roller Pillow Blocks

Adjustments

Roller Pillow Blocks are factory set for use with Simplicity® 60 Plus® shafting (sold by AutomationDirect). Adjustments can be made to the eccentric cam follower to either increase or decrease the shaft clearance.

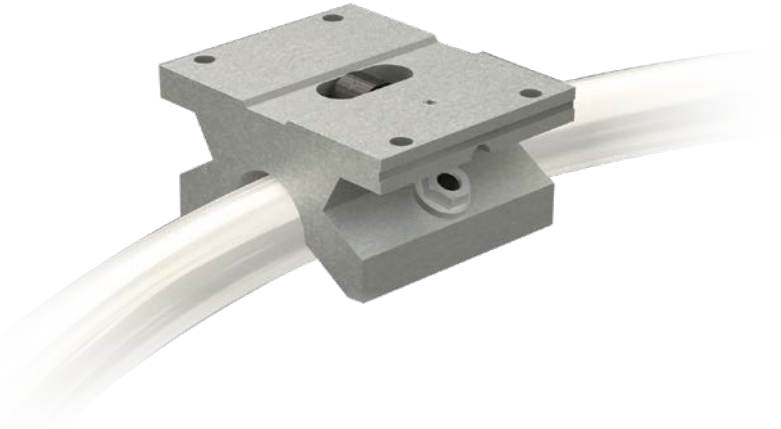
Located on the same side of the Roller Pillow Block as the set screw, the eccentric cam follower is adjusted by using a stubby allen wrench while allowing a 0.002" feeler gauge to freely move between the shaft and the eccentric roller. The fixed side must remain in contact with the shaft. If care is taken not to overload the roller, then a slight pre-load is possible. Rollers should never be tightened to the point where they cannot move freely.



Turning a Curve

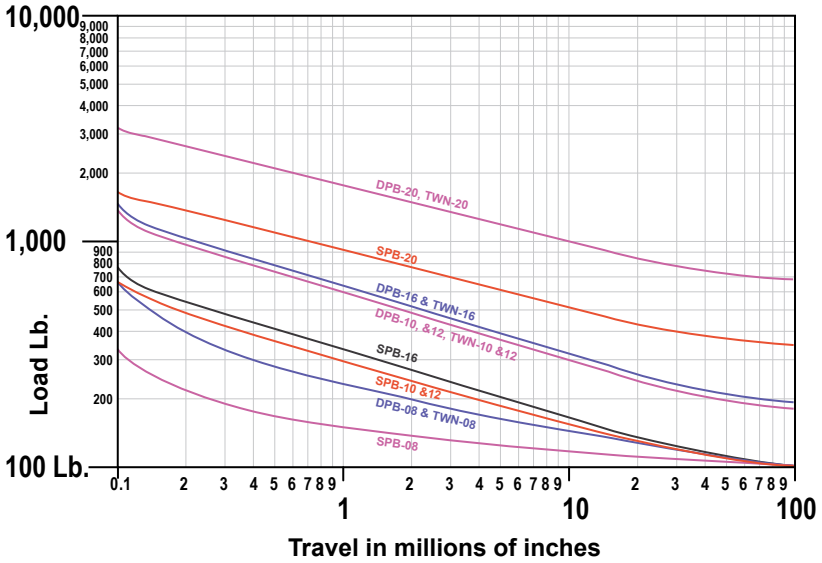
A single Roller Pillow Block has the ability to turn a curve or run on a non-linear system. The following table lists the minimum track radius that the single Roller Pillow Block can tolerate without additional alteration.

Pillow Block Size	*Minimum Track Radius*
8	6"
10	12"
12	14"
16	18"
20	36"



Lubrication, Rails & Bearings

The rollers are internally lubricated for life, but the rails must always have a layer of grease. As a guideline, reapply fresh grease every 50,000 cycles.



PBC Linear

PBC Linear Shafts and Shaft Supports

PBC Linear Simplicity® 60 Plus Linear Shaft Features

- Optimized surface finish for plain and ball bearings
- Straightness: 0.001"–0.002" per ft cumulative
- Length Tolerance: ±0.030"
- Surface Finish: 8-12Ra
- Hardness:
  - RC60-65 for 1060 Steel
  - RC50-55 for 440C Stainless Steel

In most applications, smoother is not better; in fact it means decreased performance and shortened life. PBC Linear has engineered the surface finish for optimum performance

PBC Linear Shafts (1060 Carbon Steel)

Part Number	Price	Nominal Diameter	Length	Material	Drawing Links
NIL04-006.000-SL	$--5#ji:	1/4in	6.0 in	1060 steel	PDF
NIL04-012.000-SL	$--5#jj:		12.0 in		PDF
NIL06-006.000-SL	$-5#jk:	3/8in	6.0 in		PDF
NIL06-012.000-SL	$--5#jl:		12.0 in		PDF
NIL06-018.000-SL	$-5#jn:		18.0 in		PDF
NIL08-012.000-SL	$-5#jo:	1/2in	12.0 in		PDF
NIL08-024.000-SL	$-5#jp:		24.0 in		PDF
NIL08-036.000-SL	$-5#jq:		36.0 in		PDF
NIL10-012.000-SL	$-5#js:	5/8in	12.0 in		PDF
NIL10-024.000-SL	$;-5#jt:		24.0 in		PDF
NIL10-036.000-SL	$-5#ju:		36.0 in		PDF
NIL12-012.000-SL	$-5#jv:	3/4in	12.0 in		PDF
NIL12-024.000-SL	$-5#jx:		24.0 in		PDF
NIL12-036.000-SL	$-5#jy:		36.0 in		PDF
NIL16-012.000-SL	$-5#jz:	1in	12.0 in		PDF
NIL16-024.000-SL	$;-5#j]:		24.0 in		PDF
NIL16-036.000-SL	$;-5#j[:		36.0 in		PDF
NIL20-012.000-SL	$-5#j_:	1-1/4in	12.0 in		PDF
NIL20-024.000-SL	$-5#j#:		24.0 in		PDF
NIL20-036.000-SL	$;-5#j!:		36.0 in		PDF

PBC Linear Shafts (440C Stainless Steel)

Part Number	Price	Nominal Diameter	Length	Material	Drawing Links
NIL06SS-006.000-SL	$-5#j?:	3/8in	6.0 in	440C stainless steel	PDF
NIL06SS-012.000-SL	$;-5#j,:		12.0 in		PDF
NIL08SS-012.000-SL	$5#k0:	1/2in			PDF
NIL08SS-024.000-SL	$5#k1:		24.0 in		PDF
NIL08SS-036.000-SL	$5#k2:		36.0 in		PDF
NIL10SS-012.000-SL	$5#k3:	5/8in	12.0 in		PDF
NIL10SS-024.000-SL	$5#k4:		24.0 in		PDF
NIL10SS-036.000-SL	$05#k5:		36.0 in		PDF
NIL12SS-012.000-SL	$5#k6:	3/4in	12.0 in		PDF
NIL12SS-024.000-SL	$5#k7:		24.0 in		PDF
NIL12SS-036.000-SL	$05#k8:		36.0 in		PDF
NIL16SS-012.000-SL	$5#k9:	1in	12.0 in		PDF
NIL16SS-024.000-SL	$05#ka:		24.0 in		PDF
NIL16SS-036.000-SL	$05#kb:		36.0 in		PDF
NIL20SS-012.000-SL	$5#kc:	1-1/4in	12.0 in		PDF
NIL20SS-024.000-SL	$05#kd:		24.0 in		PDF
NIL20SS-036.000-SL	$05#ke:		36.0 in		PDF

PBC Linear Shaft Support Features

- End support blocks can be used for end or intermediate shaft support
- Instant bolt-down installation
- Lightweight and strong.
- Can be used with all shaft types.
- Should be used where deflection between supports is not a problem.
- Material: Aluminum with anodize finish
- Center height tolerance: +/- 0.001"

PBC Shaft Support

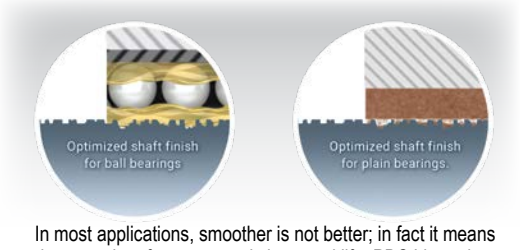
Part Number	Price	Nominal Diameter	Center Height	Drawing Links
NSB04	$-5#l7:	1/4 in	11/16 in	PDF
NSB06	$-5#l8:	3/8 in	3/4 in	PDF
NSB08	$-5#l9:	1/2 in	1 in	PDF
NSB10	$-5#la:	5/8 in	1 in	PDF
NSB12	$-5#lb:	3/4 in	1-1/4 in	PDF
NSB16	$-5#l5:	1 in	1-1/2 in	PDF
NSB20	$-5#l6:	1-1/4 in	1-3/4 in	PDF

PBC Linear

PBC Linear Supported Shafts

PBC Linear Simplicity® 60 Plus Supported Linear Shaft Features

- Optimized surface finish for plain and ball bearings
- Straightness: 0.001"–0.002" per ft cumulative
- Length Tolerance: ±0.030"
- Surface Finish: 8-12Ra
- Hardness:
  - RC60-65 for 1060 Steel
  - RC50-55 for 440C Stainless Steel
- Shaft support material: Aluminum
- Centerline tolerance: ±0.002"



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PBC Supported Linear Shafts (1060 Carbon Steel)

Part Number	Price	Nominal Diameter	Length	Material	Drawing Links
SRA08-012.000-SL	$;05#kf:	1/2in	12.0 in	1060 steel	PDF
SRA08-024.000-SL	$05#kg:		24.0 in		PDF
SRA08-036.000-SL	$05#kh:		36.0 in		PDF
SRA10-012.000-SL	$-05#ki:	5/8in	12.0 in		PDF
SRA10-024.000-SL	$-05#kj:		24.0 in		PDF
SRA10-036.000-SL	$05#kk:		36.0 in		PDF
SRA12-012.000-SL	$-05#kl:	3/4in	12.0 in		PDF
SRA12-024.000-SL	$05#kn:		24.0 in		PDF
SRA12-036.000-SL	$05#ko:		36.0 in		PDF
SRA16-012.000-SL	$05#kp:	1in	12.0 in		PDF
SRA16-024.000-SL	$05#kq:		24.0 in		PDF
SRA16-036.000-SL	$05#ks:		36.0 in		PDF
SRA20-012.000-SL	$;05#kt:	1-1/4in	12.0 in		PDF
SRA20-024.000-SL	$05#ku:		24.0 in		PDF
SRA20-036.000-SL	$05#kv:		36.0 in		PDF

PBC Supported Linear Shafts (440C Stainless Steel)

Part Number	Price	Nominal Diameter	Length	Material	Drawing Links
SRA08SS-012.000-SL	$05#kx:	1/2in	12.0 in	440C stainless steel	PDF
SRA08SS-024.000-SL	$05#ky:		24.0 in		PDF
SRA08SS-036.000-SL	$05#kz:		36.0 in		PDF
SRA10SS-012.000-SL	$;05#k]:	5/8in	12.0 in		PDF
SRA10SS-024.000-SL	$;05#k[:		24.0 in		PDF
SRA10SS-036.000-SL	$05#k_:		36.0 in		PDF
SRA12SS-012.000-SL	$05#k#:	3/4in	12.0 in		PDF
SRA12SS-024.000-SL	$;05#k!:		24.0 in		PDF
SRA12SS-036.000-SL	$05#k?:		36.0 in		PDF
SRA16SS-012.000-SL	$;05#k,:	1in	12.0 in		PDF
SRA16SS-024.000-SL	$-05#l0:		24.0 in		PDF
SRA16SS-036.000-SL	$-05#l1:		36.0 in		PDF
SRA20SS-012.000-SL	$-05#l2:	1-1/4in	12.0 in		PDF
SRA20SS-024.000-SL	$-05#l3:		24.0 in		PDF
SRA20SS-036.000-SL	$-05#l4:		36.0 in		PDF