

Linear Slides Miniature Sizes



TABLE OF CONTENTS

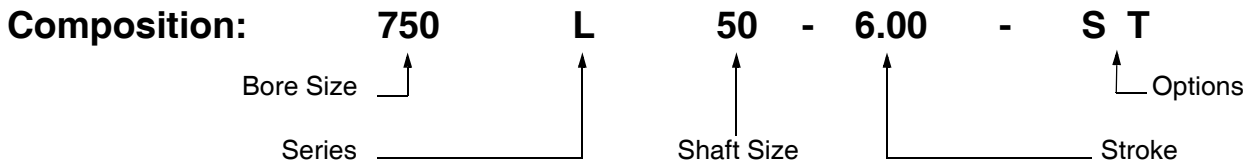
Table of Contents.....	Page 1	Single Bearing Block	
How to Order.....	Page 1	Series S (Short).....	Page 4
Physical Data.....	Page 1	Double Bearing Block	
Standard Features and Benefits.....	Page 2	Series L (Long).....	Page 5
Engineering Data.....	Page 3	Standard Options	Page 6
		Accessories	Page 6
		Optional Sensing Switches	Page 7
		Warranty	Page 8

HOW TO ORDER

Example: 3/4 Bore, Long Series, 6" Stroke Slide with Adjustable Stop Collars and Tapped Mounting Holes.

Model No.: 750L50-6.00-ST

Model No.



Bore Size	Series		Std. Guide Shaft Size	Standard Strokes				Standard Options
	S = Short	L = Long						
5/16" = 312	L	S	1/4" = 25	0.50	1.00	1.50	2.00	B = Bumpers (Both Ends) E = Bumper (Extend Only) P = Top Port (S Series) R = Bumper (Retract Only) S = Adjustable Stop Collars T = Tapped Mounting Holes V = Fluoroelastomer Seals
9/16" = 562	L	S	3/8" = 38	3.00	4.00			
3/4" = 750	L	S	1/2" = 50	1.00	2.00	3.00	4.00	
1-1/16" = 1062	L	S	3/4" = 75	6.00	8.00	10.00	12.00	
1-1/2" = 1500	L	S	1" = 100	1.00	2.00	3.00	4.00	
				6.00	8.00	10.00	12.00	
				14.00	16.00	18.00	20.00	
				22.00	24.00			

PHYSICAL DATA

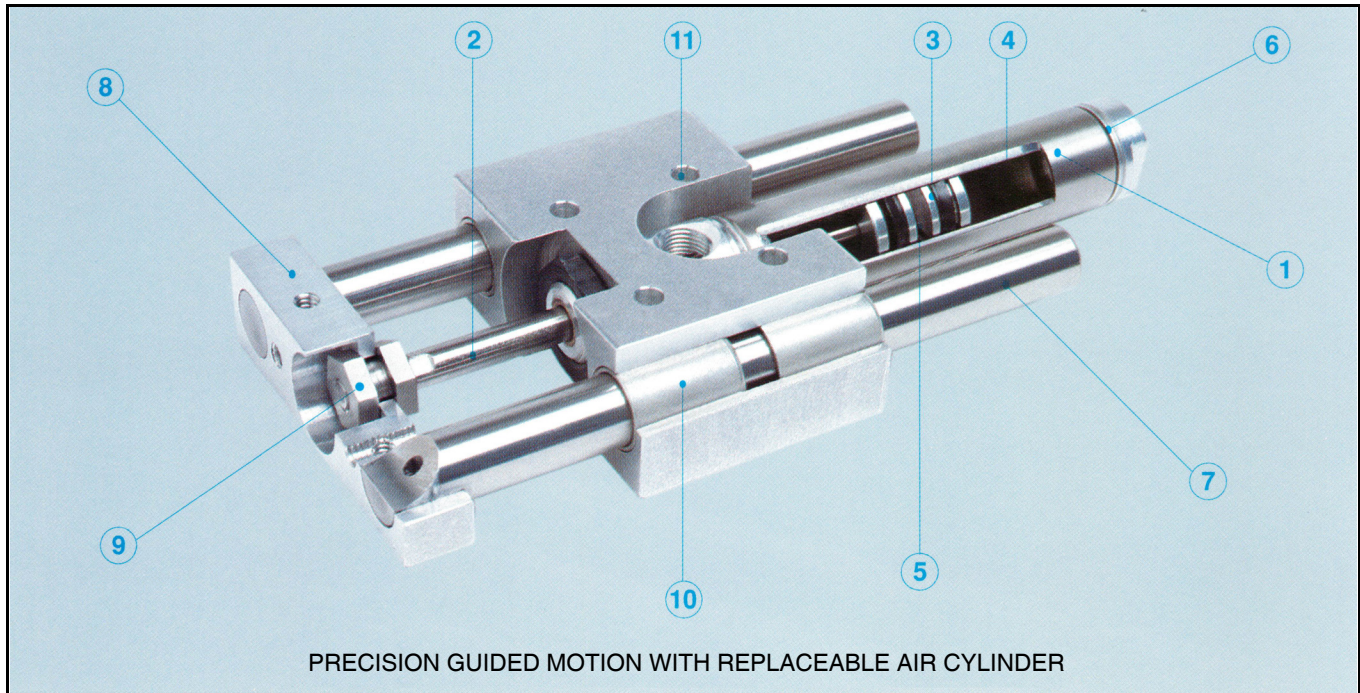
Unit Weight:

	312S25	312L25	562S38	562L38	750S50	750L50	1062S75	1062L75	1500S100	1500L100
Unit weight at zero stroke	.17	.19	.46	.57	1.00	1.22	1.89	2.38	5.49	6.79
Add per inch of stroke	.04	.07	.07	.13	.18	.25	.30	.54	.72	1.03

Power Factor:

	5/16" Bore	9/16" Bore	3/4" Bore	1-1/16" Bore	1-1/2" Bore
Extend	.07	.25	.44	.89	1.77
Retract	.06	.22	.39	.81	1.62

STANDARD FEATURES AND BENEFITS



① **Cylinder Body:** Type 304 Stainless Steel tubing with strict specifications and tolerances to ensure longer cylinder life.

② **Piston Rod Assembly:** Ground & Polished Type 303 Stainless Steel piston rod with special accuracy specifications is threaded, anaerobically sealed and machine staked into the piston for triple protection.

③ **Buna-N U-Cup Rod & Piston Seals:** U-Cup seals provide low breakaway friction and extended seal life. Standard Buna-N seals are recommended for operating temperatures of -20° F to 200° F. Fluoroelastomer seals are available for higher temperature applications.

④ **Prelubricated:** All cylinders are factory lubricated with a special high endurance oil.

⑤ **Magnetic Piston Band:** All units (except 5/16 bore) are provided with a magnetic piston band as standard for applications requiring position sensing. Solid State and Reed Switches are available as accessory items. (See page 6)

⑥ **End Caps:** High strength aluminum alloy

⑦ **Guide Shafts:** Large diameter special accuracy Hard ChromePlated Type 303 Stainless Steel shafts act as the inner race for the precision sleeve bearings and provide a rigid attachment for the tooling mounting bar.

⑧ **Tooling Mounting Bar:** Sturdy aluminum alloy, machined top and front surfaces with standard tapped mounting holes. Special configurations available upon request.

⑨ **Floating Coupler:** Prevents cylinder rod binding ensuring longer life.

⑩ **Shaft Bearings:** High performance Duralon® sleeve bearings have a composite inner liner of low-friction, self-lubricating fibers with a reinforced filament-wound Fiberglass and epoxy shell to provide smooth guided motion with high load carrying capabilities.

⑪ **Mounting Holes:** Standard through mounting holes designed for standard cap screws. Alternative threaded mounting holes available as a standard option. (See Option "T" page 6)

⑫ **Pre-Tested:** The quality of each assembly is assured by testing each unit for leakage and binding resistance prior to shipment.

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Product enhancements resulting from our quality improvement program may necessitate changes in specifications without notice.

ENGINEERING DATA

Pressure Rating: Maximum operating pressure is 200 PSI Air.

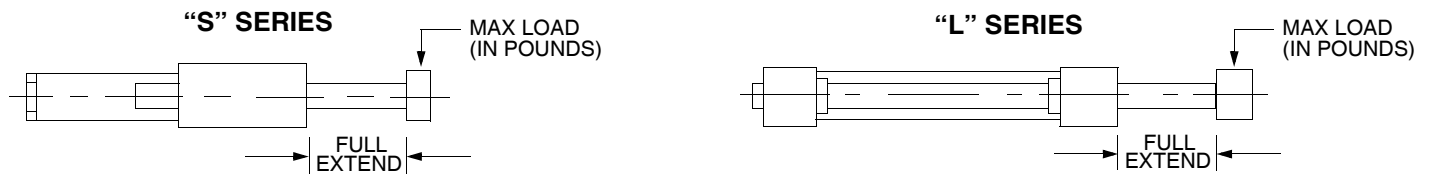
Output Force: Output Force = Effective Air Line Pressure X Power Factor. (See Physical Data Table, page 1)

Speed: Safe speed range is determined by a number of factors. The most important consideration is total reciprocating weight. High loads combined with high speeds can develop severe and damaging impact loads. For speeds over 10 inches per second use optional extend and retract bumper package.

Accuracy: The toolbar rod coupler design allows clearance for piston rod float to protect against binding. At full extension, the toolbar will exhibit a small amount of axial endplay and actual toolbar travel may vary slightly from nominal as a result. In applications requiring extreme accuracy, adjustable stop collars should be used in conjunction with a longer stroke length to eliminate the effect of endplay.

Running clearances are required between the sleeve bearings and guide shafts. The minimal resultant toolbar freeplay due to these running clearances is not included in the tabulated load limits.

Load Limits: Safe loading involves a combination of factors including: bearing capacity, shaft deflection, life expectancy, and how the load is applied. The following chart indicates safe load limits in typical applications. **DO NOT OVERLOAD** - overloading can cause reduced life, shaft bending and loss of positional accuracy.



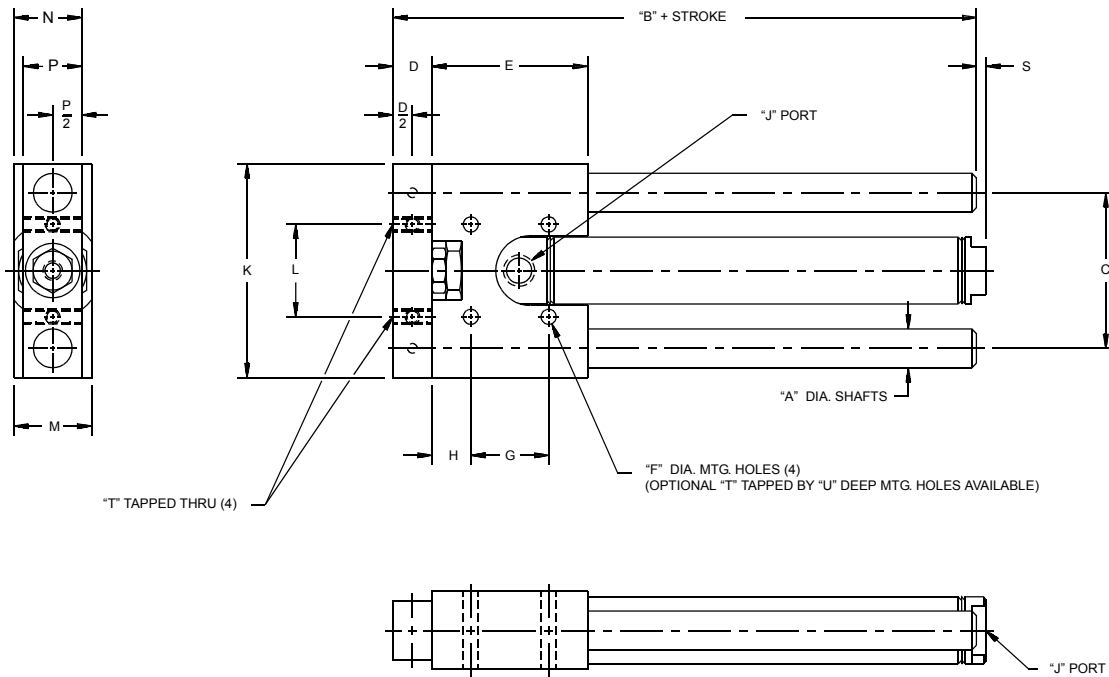
Do NOT exceed values shown in the "MAX LOAD" column. Overhung loads that produce .005" and .015" deflection at full extend position are listed for each stroke. It is not recommended to apply loads that cause more than .015" deflection.

Model Number	Max. Load	Stroke										
		1/2"	1"	1-1/2"	2"	3"	4"	6"	8"	10"	12"	
312S25	3.75	3.7	3.7	3.0	2.1	1.5	1.0					Safe Load @ .005" Max Deflection
		3.7	3.7	3.7	3.7	3.0	2.0					@ .015" Max Deflection
312L25	5.00	5.0	5.0	4.0	2.5	1.7	1.2					Safe Load @ .005" Max Deflection
		5.0	5.0	5.0	5.0	5.0	3.0					@ .015" Max Deflection
562S38	7.50	7.5	7.5	7.5	7.5	4.8	2.5					Safe Load @ .005" Max Deflection
		7.5	7.5	7.5	7.5	7.5	7.5					@ .015" Max Deflection
562L38	10.00	10.0	10.0	10.0	10.0	6.0	3.5					Safe Load @ .005" Max Deflection
		10.0	10.0	10.0	10.0	10.0	10.0					@ .015" Max Deflection
750S50	18.75		18.7		18.7	14.0	5.8	2.5	2.0	1.2	0.8	Safe Load @ .005" Max Deflection
			18.7		18.7	18.7	16.0	6.8	4.5	2.1	1.7	@ .015" Max Deflection
750L50	25.00		25.0		22.0	15.0	7.0	3.0	2.5	1.5	1.0	Safe Load @ .005" Max Deflection
			25.0		25.0	25.0	25.0	8.0	5.0	2.5	2.0	@ .015" Max Deflection
1062S75	30.00		30.0		30.0	20.0	13.0	5.0	3.0	2.5	2.0	Safe Load @ .005" Max Deflection
			30.0		30.0	30.0	30.0	28.0	15.0	8.5	5.0	@ .015" Max Deflection
1062L75	40.00		40.0		40.0	35.0	23.0	10.0	5.5	4.0	2.5	Safe Load @ .005" Max Deflection
			40.0		40.0	40.0	40.0	35.0	19.0	10.0	6.0	@ .015" Max Deflection
1500S100	55.00		55.0		55.0	55.0	55.0	20.0	12.0	10.0	8.2	Safe Load @ .005" Max Deflection
			55.0		55.0	55.0	55.0	55.0	50.0	35.0	18.0	@ .015" Max Deflection
1500L100	70.00		70.0		70.0	70.0	70.0	32.0	25.0	16.4	12.0	Safe Load @ .005" Max Deflection
			70.0		70.0	70.0	70.0	70.0	70.0	40.0	22.0	@ .015" Max Deflection

 Load shown produces less than .005" deflection. The additional weight required to achieve .005" deflection would exceed maximum recommended load.
 Load shown produces less than .015" deflection. The additional weight required to achieve .015" deflection would exceed maximum recommended load.
 Consult factory for unlisted safe loads on 1 1/2" bore standard strokes over 12".

Single Bearing Block - Series S (Short)

COMPACT SINGLE BEARING BLOCK DESIGN PROVIDES SHORT OVERALL LENGTH.



Dimensional Data

Model No.		Bore	A	B	BB	C	D	E	EE	F	G	GG	H
Series S	Series L												
312S25-□.□□	312L25-□.□□	5/16"	.2485	2.25	3.25	1.312	.25	1.00	.50	.144	.50	1.75	.31
562S38-□.□□	562L38-□.□□	9/16"	.3735	2.37	4.37	1.625	.37	1.50	.62	.177	.75	2.18	.43
750S50-□.□□	750L50-□.□□	3/4"	.4980	3.50	5.50	2.000	.50	2.00	.75	.196	1.00	3.31	.50
1062S75-□.□□	1062L75-□.□□	1-1/16"	.7480	4.00	6.00	2.750	.62	2.50	1.00	.266	1.25	3.37	.62
1500S100-□.□□	1500L100-□.□□	1-1/2"	.9985	5.75	7.75	4.000	1.00	3.75	1.25	.406	2.50	4.12	.62

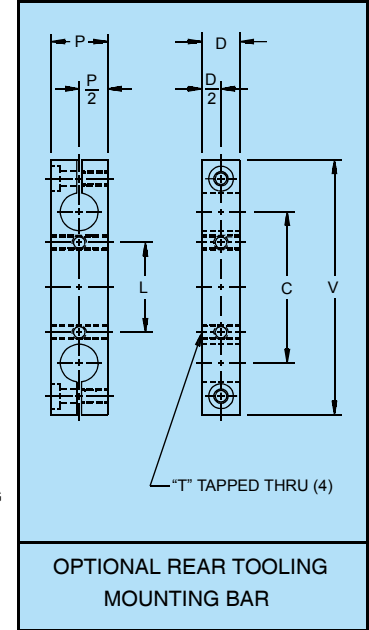
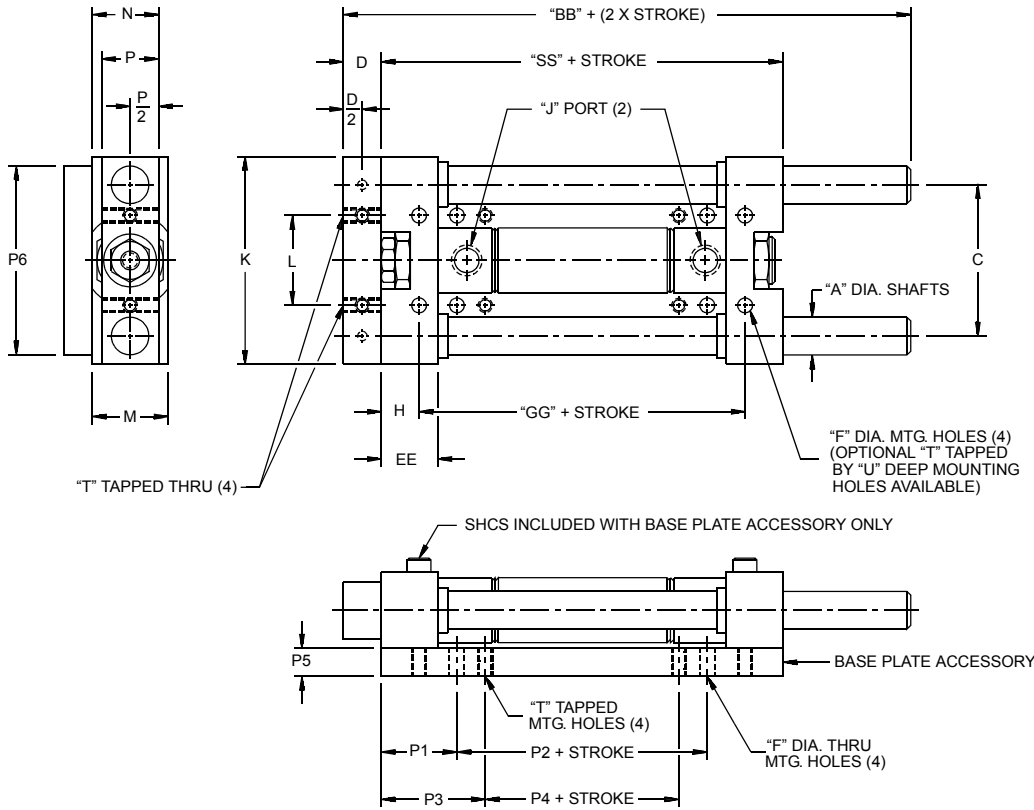
□.□□ Enter stroke length to two decimal places to complete model number.

J	K	L	M	N	P	S	SS	T	U	V	Optional Base Mtg Plate ¹					
											P1	P2	P3	P4	P5	P6
#10-32	1.75	.781	.62	.59	.56	-.23	2.37	#6-32	.31	2.06	0.68	1.00	0.93	0.50	0.25	1.25
#10-32	2.25	.937	.75	.71	.68	.34	3.06	#8-32	.37	2.56	0.93	1.18	1.25	0.56	0.25	2.00
1/8 NPT	2.75	1.187	1.00	.87	.75	.12	4.31	#10-24	.50	3.37	1.00	2.31	1.37	1.56	0.37	2.50
1/8 NPT	3.87	1.500	1.25	1.12	1.00	.00	4.62	1/4-20	.75	4.62	1.37	1.87	1.87	0.87	0.50	3.00
1/8 NPT	5.50	2.250	1.75	1.62	1.50	.80	5.37	3/8-16	.87	6.25	1.62	2.12	2.37	0.62	0.75	4.00

1. Std. "F" Dia mtg. holes must be used with base mounting plate.

Double Bearing Block - Series L (Long)

DUAL BEARING BLOCKS PROVIDE GREATER STABILITY AND INCREASED LOADING CAPACITY.



Dimensional Data

Model No.		Bore	A	B	BB	C	D	E	EE	F	G	GG	H
Series S	Series L												
312S25-□.□□	312L25-□.□□	5/16"	.2485	2.25	3.25	1.312	.25	1.00	.50	.144	.50	1.75	.31
562S38-□.□□	562L38-□.□□	9/16"	.3735	2.37	4.37	1.625	.37	1.50	.62	.177	.75	2.18	.43
750S50-□.□□	750L50-□.□□	3/4"	.4980	3.50	5.50	2.000	.50	2.00	.75	.196	1.00	3.31	.50
1062S75-□.□□	1062L75-□.□□	1-1/16"	.7480	4.00	6.00	2.750	.62	2.50	1.00	.266	1.25	3.37	.62
1500S100-□.□□	1500L100-□.□□	1-1/2"	.9985	5.75	7.75	4.000	1.00	3.75	1.25	.406	2.50	4.12	.62

□.□□ Enter stroke length to two decimal places to complete model number.

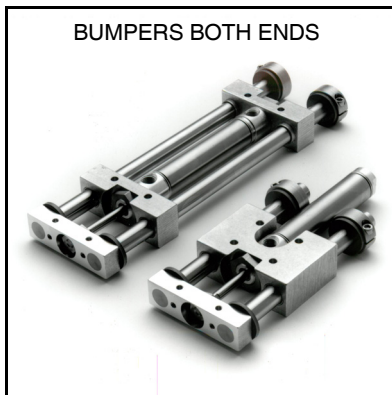
J	K	L	M	N	P	S	SS	T	U	V	Optional Base Mtg Plate ¹					
											P1	P2	P3	P4	P5	P6
#10-32	1.75	.781	.62	.59	.56	-.23	2.37	#6-32	.31	2.06	0.68	1.00	0.93	0.50	0.25	1.25
#10-32	2.25	.937	.75	.71	.68	.34	3.06	#8-32	.37	2.56	0.93	1.18	1.25	0.56	0.25	2.00
1/8 NPT	2.75	1.187	1.00	.87	.75	.12	4.31	#10-24	.50	3.37	1.00	2.31	1.37	1.56	0.37	2.50
1/8 NPT	3.87	1.500	1.25	1.12	1.00	.00	4.62	1/4-20	.75	4.62	1.37	1.87	1.87	0.87	0.50	3.00
1/8 NPT	5.50	2.250	1.75	1.62	1.50	.80	5.37	3/8-16	.87	6.25	1.62	2.12	2.37	0.62	0.75	4.00

1. Std. "F" Dia mtg. holes must be used with base mounting plate.

Standard Options

Option	Spec No.
Guide Shaft Bumpers (Both Ends).....	B ¹ ₂
Guide Shaft Bumper (Extend Only)	E ²
Guide Shaft Bumper (Retract Only)	R ²
Adjustable Extend Stop Collars	S
Fluoroelastomer Seals	V
Tapped Bearing Block Mtg Holes	T
In-Line Top Port (Series S Only).....	P

1. Reduces effective stroke length by 0.25 inch on bore sizes up to 1-1/16 and 0.50 inch on bore size 1-1/2 inch.
 2. Reduces effective stroke length by 0.12 inch on bore sizes up to 1-1/16 and 0.25 inch on bore size 1-1/2 inch.

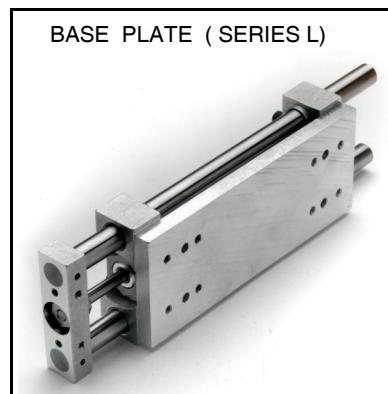
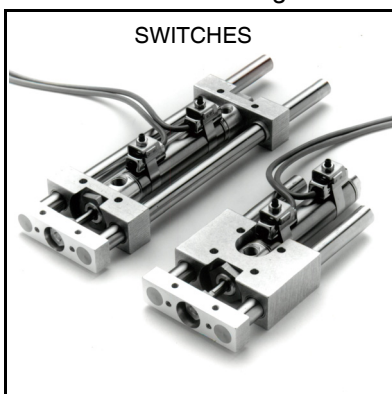


Accessories

Series S & Series L

Bore Size	Accessory				
	Solid State Switch Sinking	Solid State Switch Sourcing	Reed Switch	Base Mtg. Plate	Rear Tooling Mtg. Bar
5/16"	N/A	N/A	N/A	312BP-□	312RTB
9/16"	M16SH	M16SHP	M16SL	562BP-□	562RTB
3/4"	M26SH	M26SHP	M26SL	750BP-□	750RTB
1-1/16"	M36SH	M36SHP	M36SL	1062BP-□	1062RTB
1-1/2"	M66SH	M66SHP	M66SL	1500BP-□	1500RTB

□.□.□ Enter stroke length to complete model number.



OPTIONAL SENSING SWITCHES

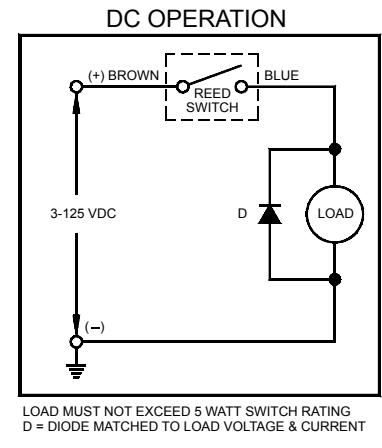
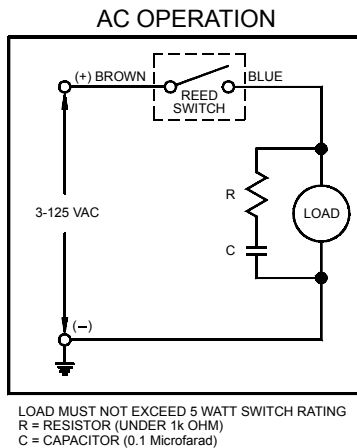
All slide units (except 5/16" bore) are equipped with a magnetic piston band which can be used in conjunction with Reed or Solid State switches for position sensing. Clamping bands are included with each switch ordered and are pre-sized for easy installation. Switches must be ordered separately as accessory items. (See pg. 4)

Reed Switches (AC or DC)

American's Reed Switches can be used on either AC or DC applications. In order to avoid premature contact deterioration, always operate within switch specifications listed below. Switch life can be maximized by implementing protection circuits as indicated.

Reed Switch Specifications

- Switching Logic.....Normally Open
- Contact Type.....Single Pole
Single Throw
- Contact Rating:
- Power.....5 Watts
- Voltage.....3 to 125V (AC or DC)
- Switching Current.....10mA to 40mA
- Breakdown Voltage.....250 Volts
- Ambient Temperature.....14°F to 140°F
- Indicator.....Red LED
- Lead Wire Length.....39 in. (std.)
- Enclosure Rating.....IEC Standard IP67
- DC Polarity.....Pos. (brown) or (white)
Neg. (blue) or (black)



Solid State Switches (DC only)

American's Solid State Switches are devices designed for DC applications only. With no mechanical parts to wear out or arc, the solid state circuitry provides a compact, reliable positioning switch for extended service life when used within the specified parameters.

Solid State Switch Specifications

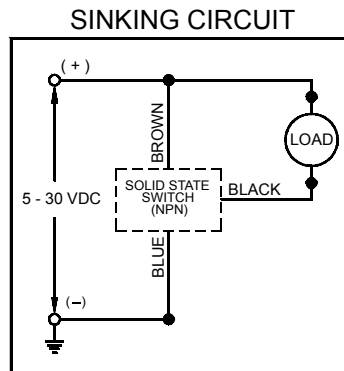
Sinking (NPN)

- Switching Logic.....Normally Open
- Switching Voltage.....5 VDC to 30 VDC
- Switching Current.....100mA Max. @ 5 VDC
.....200mA Max. @ 12 VDC
.....200mA Max. @ 24 VDC
- Current Consumption.....10mA Max. @ 12 VDC
.....20mA Max. @ 24 VDC
- Ambient Temperature.....14°F to 140°F
- Indicator.....Red LED
- Lead Wire Length.....39 in.
- Enclosure Rating.....IEC Standard IP66

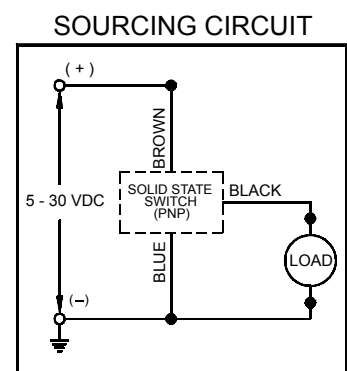
Sourcing (PNP)

- Switching Logic.....Normally Open
- Switching Voltage.....5 VDC to 30 VDC
- Switching Current.....100mA Max. @ 12 VDC
.....200mA Max. @ 24 VDC
- Current Consumption.....7mA Max. @ 12 VDC
.....14mA Max. @ 24 VDC
- Ambient Temperature.....14°F to 140°F
- Indicator.....Green LED
- Lead Wire Length.....39 in.
- Enclosure Rating.....IEC Standard IP66

Wiring Diagram:



Wiring Diagram:





American Cylinder Co., Inc.
Peotone, Illinois 60468-9116
708/258-3935
FAX 708/258-3980

ON THE INTERNET

<http://www.americancylinder.com>

<http://www.ameristore.biz>

E-MAIL: amcyl@americancylinder.com

Warranty

American Cylinder Co., Inc. warrants its products to be free from defects in material and workmanship under normal wear and service for a period of 3 years from date of shipment of the order. American Cylinder Company shall have no liability under this warranty if: 1) The product is used other than in accordance with specifications. 2) The product is subjected to abuse, negligence, accident, misapplication, or unintended use. 3) The product is manufactured to buyer's specifications.

Manufacturer's liability shall be limited to allowance of credit or replacement of defective product. American Cylinder Company shall not be liable or responsible for injuries or damages to persons or property arising out of the use or operation of American Cylinder products.

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