

Round Line Stainless Steel Body Air Actuator

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ACT-2-6 – Single Acting Spring Return – Nose Mount



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ACT-2-8 – Single Acting Spring Return – Front Block Mount



ACT-2-9 – Single Acting Non-rotating – Nose Mount



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ACT-2-11 – Reverse Acting Spring Extend – Nose Mount



ACT-2-12 – Reverse Acting Spring Extend – Pivot Mount



ACT-2-13 – Double Acting – Nose Mount



ACT-2-14 – Double Acting – Pivot Mount



ACT-2-15 – Double Acting – Double End Mount



ACT-2-16 – Double Acting – Front Block Mount



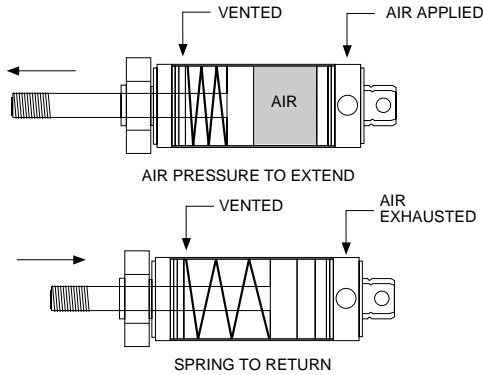
ACT-2-17 – Double Acting Double Rod End – Double End Mount



ACT-2-20 – Position Sensing Systems



Operating Variations

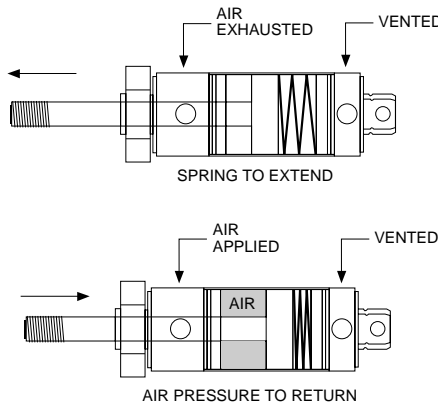


Single Acting Spring Return Cylinders

Air introduced into the cylinder at the port furthest away from the rod actuates the cylinder extending the piston rod. A spring returns the piston to its original retracted position when pressure is removed from the cylinder.

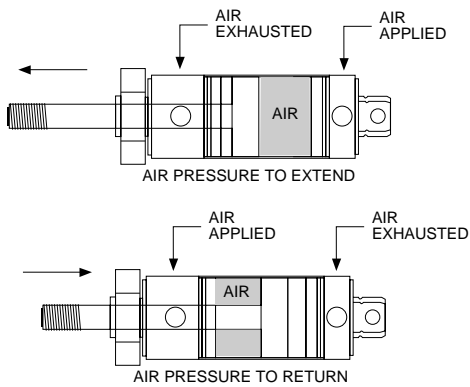
Single Acting Non-Rotating Cylinders

Identical in operation to a Single Acting Spring Return Cylinder, Non-Rotating Cylinders incorporate a hexagonal shaped piston rod and bearing to prevent the rod from turning.



Single Acting Spring Extend Cylinders

Air introduced into the cylinder at the port closest to the rod actuates the cylinder – retracting the piston rod. A spring returns the piston to its original extended position when pressure is removed from the cylinder.



Double Acting Cylinders

Air pressure is used to both extend and retract the piston rod. Pressure applied to one end port of the cylinder moves the piston in the opposite direction as the air is exhausted from the other cylinder end.



Specifications

Operating Specifications

Fluids: Filtered, lubricated or non-lubricated, compressed air
 Maximum Operating Pressure: 250 psig (17.2 bar)
 Temperature Range*:

Standard Nitrile Seals: -20° to 200°F (-29° to 93°C)
 Viton Seals: -20° to 400°F (-29° to 205°C)

Lubrication: All Series S stainless steel body air cylinders are pre-lubricated at the time of assembly with a Teflon®-based grease. Cylinder life will be enhanced with the use of a properly maintained Lubricator. In the absence of a lubricator, it is recommended that a non-detergent, mineral-based oil be directly introduced into the cylinder periodically.

Side Loading: Cylinders are specifically designed to push and pull. Side loading of the piston rod should be avoided to ensure maximum operating performance and life. Care should be taken during installation to properly align the load to be moved with the centerline of the cylinder.

*With dew point of supply air less than air temperature below 35°F (2°C)

Materials of Construction

Cylinder Body: Type 304 Stainless Steel
 Head Cap: Aluminum Alloy
 Piston Rod: Type 303 Stainless Steel
 Rod Bearing: Oil Impregnated Sintered Bronze
 Piston: 2011-T3 Aluminum Alloy
 Rod & Piston Seals: Nitrile
 Pivot Bracket, Rod Clevis, Foot Bracket, Mounting Nut: Zinc Plated Carbon Steel

Mounting Dimensions

All dimensions contained within this catalog are sufficiently accurate for general use. However, the manufacturer assumes no responsibility for errors or omissions. Certified prints are available upon request at a nominal charge.

Port Sizes

Bore	7/16"	9/16"	3/4"	1-1/16"	1-1/4"	1-1/2"	2"	2-1/2"
Port Size	10-32	10-32	1/8" N.P.T.	1/8" N.P.T.	1/8" N.P.T.	1/8" N.P.T.	1/4" N.P.T.	1/4" N.P.T.

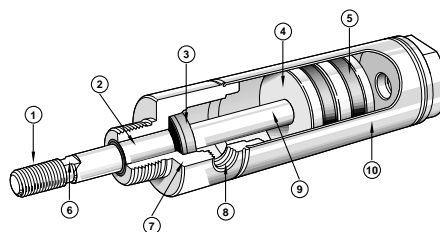
Force Factor Data			
Bore Size	Rod Diameter (Hex [†])	Force Factor (Area)	
		Extend	Retract
7/16"	3/16"	.15	.12
9/16"	3/16"	.25	.22
3/4"	1/4"	.44	.39
1-1/16"	*5/16"	.89	.61
1-1/4"	7/16"	1.23	1.08
1-1/2"	7/16"	1.77	1.62
2"	*5/8"	3.14	2.84
2-1/2"	*5/8"	4.91	4.61

Cylinder Output Formula

Cylinder Output Force = Force Factor (Area) x Air Line Pressure (psi)

[†]Non-Rotating Cylinders have hex-shaped piston rods.
 *Non-Rotating 1-1/16" bore size uses a 3/8" hex piston rod.
 2" and 2-1/2" bore not available

Approximate Spring Forces — In Pounds				
Bore Size	Spring Return Models		Spring Extend Models	
	With Piston Rod Retracted	With Piston Rod Extended	With Piston Rod Extended	With Piston Rod Retracted
7/16"	1	2	1	2
9/16"	2	4	2	4
3/4"	3	6	3	6
1-1/16"	3	6	3	6
1-1/4"	7.5	15	7.5	15
1-1/2"	6	12	6	12
2"	15	30	15	30



Quality Cylinder Components for Dependable Service

- Rod Threads** Roll-formed for superior strength and resistance to wear or breakage.
- Bearing** Oil impregnated sintered bronze provides exceptional rod support, smooth rod movement and optimum cycle life
- Rod Seal** Lip-type nitrile, pressure energized and wear compensating.
- Piston** Solid aluminum alloy 2011-T3 is strong yet lightweight for low inertia. The piston is spin riveted to roll-formed piston rod threads for maximum strength.
- Piston Seals** Lip-type nitrile seals are pressure energized and wear compensating. Excellent lubrication retention characteristics reduce seal friction, ensuring long life.
- Wrench Flats** Broached wrench flats are standard on most models.
- Head/Cap** Precision machined from 2011-T3 solid aluminum alloy for strength and durability. "V" grooves in the face of the head and cap provide maximum air flow for fast response.
- Pressure Ports** Full, unrestricted porting for maximum air flow.
- Piston Rod** The Type 303 stainless steel is hard chrome plated, ground and polished for extended rod seal life.
- Cylinder Body** Type 304 stainless steel with a drawn and polished internal diameter ensures smooth performance and outstanding cycle life. The body is secured to the head and cap using double rolled-in construction.
Springs (Not shown.) The springs used on single acting cylinders are manufactured from music wire and designed for literally millions of trouble-free cycles.



Competitive Cross-Reference Guide

□ = manufacturer's stroke length designation

Bore	Cylinder Model	Mounting Style	Roundline Model No.	Manufacturer					
				Bimba Model No.	Clippard Model No.	American Model No.	Humphrey Model No.	Parker Model No.	
7/16"	Single Acting — Spring Return	Nose	RLA□□□-SAN-AA00	01□	↑	437SNS-□	↑	.44NSR□	
	Single Acting — Spring Return	Pivot	RLA□□□-SAP-AA00	01□-P		437SVS-□		.44PSR□	
	Single Acting — Spring Return	Front Block	RLA□□□-SAB-AA00	BF-01□		437SBFS-□		.44BFNSR□	
	Single Acting Non-Rotating	Nose	RLA□□□-NRN-AA00	01□-NR	↓	437SNHS-□	↓	.44NRSR□	
	Single Acting Non-Rotating	Pivot	RLA□□□-NRP-AA00	01□-NRP		437RVHS-□		.44NRPSR□	
	Reverse Acting — Spring Extend	Nose	RLA□□□-RAN-AA00	01□-R	N/A	437RNS-□	N/A	.44RSR□	
	Reverse Acting — Spring Extend	Pivot	RLA□□□-RAP-AA00	01□-RP	↓	437RVS-□	↓	.44RPSR□	
	Double Acting	Nose	RLA□□□-DAN-AA00	01□-D		437DNS-□		.44DSR□	
	Double Acting	Pivot	RLA□□□-DAP-AA00	01□-DP		437DVS-□		.44DPSR□	
	Double Acting	Double End	RLA□□□-DAD-AA00	01□-DX		437DVS-□-2		.44DXPSR□	
	Double Acting	Front Block	RLA□□□-DAB-AA00	BF-01□-D		437DBFS-□		.44BFDSR□	
	Double Acting Double Rod End	Double End	RLA□□□-DRD-AA00	01□-DXDE		437DES-□		.44DXSR□	
	9/16"	Single Acting — Spring Return	Nose	RLB□□□-SAN-AA00	02□	↑	562SNS-□	↑	.56NSR□
		Single Acting — Spring Return	Pivot	RLB□□□-SAP-AA00	02□-P		562SVS-□		.56PSR□
Single Acting Non-Rotating		Nose	RLB□□□-NRN-AA00	02□-NR	562SNHS-□		.56NRSR□		
Single Acting Non-Rotating		Pivot	RLB□□□-NRP-AA00	02□-NRP	↓	562SVHS-□	↓	.56NRPSR□	
Reverse Acting — Spring Extend		Nose	RLB□□□-RAN-AA00	02□-R		N/A		562RNS-□	N/A
Reverse Acting — Spring Extend		Pivot	RLB□□□-RAP-AA00	02□-RP	↓	562RVS-□	↓	.56RPSR□	
Double Acting		Nose	RLB□□□-DAN-AA00	02□-D		562DNS-□		.56DSR□	
Double Acting		Pivot	RLB□□□-DAP-AA00	02□-DXP		562DVS-□		.56DXPSR□	
Double Acting		Double End	RLB□□□-DAD-AA00	02□-DXP		562DVS-□-2		.56DXPSR□	
Double Acting		Front Block	RLB□□□-DAB-AA00	02□-DXDE		562DES-□		.56DXSR□	
Double Acting Double Rod End		Double End	RLB□□□-DRD-AA00	02□-DXDE		562DES-□		.56DXSR□	
3/4"		Single Acting — Spring Return	Nose	RLC□□□-SAN-AA00	04□	SSR-12-□	750SNS-□	7-S-□	.75NSR□
		Single Acting — Spring Return	Pivot	RLC□□□-SAP-AA00	04□-P	USR-12-□	750SVS-□	7-SP-□	.75PSR□
		Single Acting — Spring Return	Front Block	RLC□□□-SAB-AA00	BF-04□	FSR-12-□	750SBFS-□	7-BFS-□	.75BFNSR□
	Single Acting Non-Rotating	Nose	RLC□□□-NRN-AA00	04□-NR	SSN-12-□	750SNHS-□	7-SH-□	.75NRSR□	
	Single Acting Non-Rotating	Pivot	RLC□□□-NRP-AA00	04□-NRP	USN-12-□	750SVHS-□	7-SHP-□	.75NRPSR□	
	Reverse Acting — Spring Extend	Nose	RLC□□□-RAN-AA00	04□-R	SRR-12-□	750RNS-□	7-SR-□	.75RSR□	
	Reverse Acting — Spring Extend	Pivot	RLC□□□-RAP-AA00	04□-RP	URR-12-□	750RVS-□	7-SRP-□	.75RPSR□	
	Double Acting	Nose	RLC□□□-DAN-AA00	04□-D	SDR-12-□	750DNS-□	7-D-□	.75DSR□	
	Double Acting	Pivot	RLC□□□-DAP-AA00	04□-DP	UDR-12-□	750DVS-□	7-DP-□	.75DPSR□	
	Double Acting	Double End	RLC□□□-DAD-AA00	04□-DX	UDR-12-□	750DVS-□-2	7-DP-□	.75DXPSR□	
	Double Acting	Front Block	RLC□□□-DAB-AA00	BF-04□-D	FDR-12-□	750BFS-□	7-BFD-□	.75BFDSR□	
	Double Acting Double Rod End	Double End	RLC□□□-DRD-AA00	04□-DXDE	SDD-12-□	750DES-□	7-D2EY-□	.75KDXXSR□	
	1-1/16"	Single Acting — Spring Return	Nose	RLD□□□-SAN-AA00	09□	SSR-17-□	1062SNS-□	6-S-□	1.06NSR□
		Single Acting — Spring Return	Pivot	RLD□□□-SAP-AA00	09□-P	USR-17-□	1062SVS-□	6-SP-□	1.06PSR□
Single Acting — Spring Return		Front Block	RLD□□□-SAB-AA00	BF-09□	FSR-17-□	1062SBFS-□	6-BFS-□	1.06BFNSR□	
Single Acting Non-Rotating		Nose	RLD□□□-NRN-AA00	09□-NR	SSN-17-□	1062SNHS-□	6-SH-□	1.06NRSR□	
Single Acting Non-Rotating		Pivot	RLD□□□-NRP-AA00	09□-NRP	USN-17-□	1062SVHS-□	6-SHP-□	1.06NRPSR□	
Reverse Acting — Spring Extend		Nose	RLD□□□-RAN-AA00	09□-R	SRR-17-□	1062RNS-□	6-SR-□	1.06RSR□	
Reverse Acting — Spring Extend		Pivot	RLD□□□-RAP-AA00	09□-RP	URR-17-□	1062RVS-□	6-SRP-□	1.06RPSR□	

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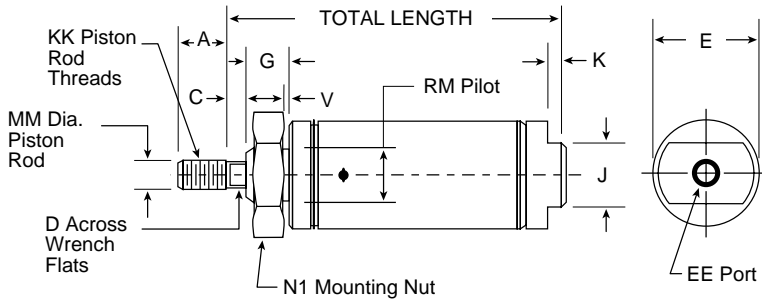


Competitive Cross-Reference Guide (Continued)

□ = manufacturer's stroke length designation

Bore	Cylinder Model	Mounting Style	Round Line Model No.	Manufacturer				
				Bimba Model No.	Clippard Model No.	American Model No.	Humphrey Model No.	Parker Model No.
1-1/16"	Double Acting	Nose	RLD□□□-DAN-AA00	09□-D	SDR-17-□	1062DNS-□	6-D-□	1.06DSR□
	Double Acting	Pivot	RLD□□□-DAP-AA00	09□-DP	UDR-17-□	1062DVS-□	6-DP-□	1.06DPSR□
	Double Acting	Double End	RLD□□□-DAD-AA00	09□-DX	UDR-17-□	1062DVS-□-2	6-DP-□	1.06DXPSR□
	Double Acting	Front Block	RLD□□□-DAB-AA00	BF-09□-D	FDR-17-□	1062DBFS-□	6-BFD-□	1.06BFDSR□
	Double Acting Double Rod End	Double End	RLD□□□-DRD-AA00	09□-DXDE	SDD-17-□	1062DES-□	6-D2EY-□	1.06KDXSR□
1-1/4"	Single Acting — Spring Return	Nose	RLE□□□-SAN-AA00	12□	SSR-20-□	1250SNS-□	25-S-□	1.25NSR□
	Single Acting — Spring Return	Pivot	RLE□□□-SAP-AA00	12□-P	USR-20-□	1250SVS-□	25-SP-□	1.25PSR□
	Single Acting Non-Rotating	Nose	RLE□□□-NRN-AA00	12□-NR	SSN-20-□	1250SNHS-□	25-SH-□	1.25NRSR□
	Single Acting Non-Rotating	Pivot	RLE□□□-NRP-AA00	12□-NRP	USN-20-□	1250SVHS-□	25-SHP-□	1.25NRPSR□
	Reverse Acting — Spring Extend	Nose	RLE□□□-RAN-AA00	12□-R	SRR-20-□	1250RNS-□	25-SR-□	1.25RSR□
	Reverse Acting — Spring Extend	Pivot	RLE□□□-RAP-AA00	12□-RP	URR-20-□	1250RVS-□	25-SRP-□	1.25RPSR□
	Double Acting	Nose	RLE□□□-DAN-AA00	12□-D	SDR-20-□	1250DNS-□	25-D-□	1.25DSR□
	Double Acting	Pivot	RLE□□□-DAP-AA00	12□-DP	UDR-20-□	1250DVS-□	25-DP-□	1.25DXPSR□
1-1/2"	Double Acting	Double End	RLE□□□-DAD-AA00	12□-DP	UDR-20-□	1250DVS-□-2	25-DP-□	1.25DXPSR□
	Double Acting Double Rod End	Double End	RLE□□□-DRD-AA00	12□-DXDE	SDD-20-□	1250DES-□	25-D2EY-□	1.25KDXSR□
	Single Acting — Spring Return	Nose	RLF□□□-SAN-AA00	17□	SSR-24-□	1500SNS-□	5-S-□	1.50NSR□
	Single Acting — Spring Return	Pivot	RLF□□□-SAP-AA00	17□-P	CSR-24-□	1500SVS-□	5-SP-□	1.50PSR□
	Single Acting — Spring Return	Front Block	RLF□□□-SAB-AA00	BF-17□	N/A	1500SBFS-□	5-BFS-□	1.50BFNSR□
	Single Acting Non-Rotating	Nose	RLF□□□-NRN-AA00	17□-NR	SSN-24-□	1500SNHS-□	5-SH-□	1.50NRSR□
	Single Acting Non-Rotating	Pivot	RLF□□□-NRP-AA00	17□-NRP	CSN-24-□	1500SVHS-□	5-SHP-□	1.50NRPSR□
	Reverse Acting — Spring Extend	Nose	RLF□□□-RAN-AA00	17□-R	SRR-24-□	1500RNS-□	5-SR-□	1.50RSR□
	Reverse Acting — Spring Extend	Pivot	RLF□□□-RAP-AA00	17□-RP	CRR-24-□	1500RVS-□	5-SRP-□	1.50RPSR□
	Double Acting	Nose	RLF□□□-DAN-AA00	17□-D	SDR-24-□	1500DNS-□	5-D-□	1.50DSR□
2"	Double Acting	Pivot	RLF□□□-DAP-AA00	17□-DP	CDR-24-□	1500DVS-□	5-DP-□	1.50DPSR□
	Double Acting	Double End	RLF□□□-DAD-AA00	17□-DX	EDR-24-□	1500DVS-□-2	5-DP-□	1.50DXSR□
	Double Acting	Front Block	RLF□□□-DAB-AA00	BF-17□-D	N/A	1500DBFS-□	5-BFD-□	1.50BDSR□
	Double Acting Double Rod End	Double End	RLF□□□-DRD-AA00	17□-DXDE	SDD-24-□	1500DES-□	5-D2EY-□	1.50KDXSR□
	Single Acting — Spring Return	Nose	RLG□□□-SAN-AA00	31□	N/A	↑	4-S-□	2.00NSR□
	Single Acting — Spring Return	Pivot	RLG□□□-SAP-AA00	31□-XP	N/A		4-SP-□	2.00PSR□
	Reverse Acting — Spring Extend	Nose	RLG□□□-NRN-AA00	31□-R	↓	N/A	4-SR-□	2.00RSR□
	Reverse Acting — Spring Extend	Pivot	RLG□□□-NRP-AA00	31□-RP			4-SRP-□	2.00RPSR□
	Double Acting	Nose	RLG□□□-DAN-AA00	31□-D	SDR-32-□	↓	4-D-□	2.00DSR□
	Double Acting	Pivot	RLG□□□-DAP-AA00	31□-DXP	UDR-32-□		4-DP-□	2.00XPSR□
Double Acting	Double End	RLG□□□-DAD-AA00	31□-DXP	UDR-32-□	4-DP-□		2.00DXPSR□	
Double Acting Double Rod End	Double End	RLG□□□-DRD-AA00	31□-DXDE	N/A	2000DES-□	4-D2EY-□	2.00KDXSR□	
2-1/2"	Double Acting	Nose	RLH□□□-DAN-AA00	50□-D	N/A	↓	3-D-□	N/A
	Double Acting	Pivot	RLH□□□-DAP-AA00	50□-DXP	UDR-40-□		3-DP-□	N/A
	Double Acting	Double End	RLH□□□-DAD-AA00	50□-DXP	UDR-40-□		3-DP-□	N/A
	Double Acting Double Rod End	Double End	RLH□□□-DRD-AA00	50□-DXDE	N/A		3-D2EY-□	N/A

- Standard stroke length cylinders are available from shelf stock.
- Custom stroke lengths manufactured in minimal time.



Bore Size	Dimensions — All Dimensions in Inches												
	A	C	D	E	EE	G	J	K	KK	MM	N1	RM	V
7/16"	0.50	NA	NA	0.50	10-32	0.31	0.38	0.19	10-32	0.18	3/8-24	.369/.373	0.05
9/16"	0.50	NA	NA	0.62	10-32	0.38	0.50	0.19	10-32	0.18	7/16-20	.434/.437	0.06
3/4"	0.50	NA	NA	0.81	1/8 NPT	0.44	0.62	0.19	1/4-28	0.25	1/2-20	.494/.498	0.08
1-1/16"	0.50	NA	NA	1.12	1/8 NPT	0.50	0.88	0.19	5/16-24	0.31	5/8-18	.621/.624	0.07
1-1/4"	0.75	0.25	0.38	1.34	1/8 NPT	0.63	0.88	0.25	7/16-20	0.43	3/4-16	.746/.749	0.09
1-1/2"	0.75	0.25	0.38	1.56	1/8 NPT	0.63	0.88	0.25	7/16-20	0.43	3/4-16	.746/.749	0.09
2"	0.88	0.38	0.50	2.08	1/4 NPT	0.81	1.25	0.31	1/2-20	0.62	1-1/4-12	1.372/1.375	0.12

Bore Size	Total Length – Standard Strokes							Total length for stroke longer than 4" standard
	1/2	1	1-1/2	2	2-1/2	3	4	
7/16"	2.25	3.19	4.12	5.07	6.01	6.95	8.83	1.31 + (.94 per 1/2" of stroke)
9/16"	2.66	3.15	4.27	4.77	5.90	6.39	8.01	1.53 + (1.62 per 1" of stroke)
3/4"	2.69	3.19	4.38	4.88	–	6.57	8.26	1.50 + (1.69 per 1" of stroke)
1-1/16"	3.00	3.50	4.56	5.06	–	6.62	8.18	1.94 + (1.56 per 1" of stroke)
1-1/4"	3.97	4.47	–	6.28	–	8.09	9.90	2.66 + (1.81 per 1" of stroke)
1-1/2"	3.63	4.13	–	5.82	–	7.51	9.20	2.44 + (1.69 per 1" of stroke)
2"	4.91	5.41	–	7.41	–	8.66	11.59	Consult Factory

Maximum Stroke Lengths
7/16" – 1-1/2" Bore – 15"
2" Bore – Consult Factory

Ordering Information — Standard Stroke Lengths

Stock bore sizes and strokes are shown below. Contact the factory for custom stroke lengths. For Options and Accessories see ACT-2-18/19. See ACT-2-21 for complete Product Numbering System.

Stock Stroke Lengths (in)

Bore Sizes	Standard Stroke Lengths
7/16, 9/16	1/2, 1, 1-1/2, 2, 2-1/2, 3, or 4
3/4, 1-1/16	1, 2, 3, 4, 5, or 6
1-1/4, 1-1/2, 2	1, 2, 3, 4, 5, or 6

Product Numbering System: R L ■ ■ ■ ■ - S A N - A A 0 0

1 2 3 4 5 6 7 8 9 10 11 12 13

Series	
Bore Size	
A	7/16"
B	9/16"
C	3/4"
D	1-1/16"
E	1-1/4"
F	1-1/2"
G	2"

Full Inches of Stroke			
00	0" Stroke	03	3" Stroke
01	1" Stroke	04	4" Stroke
02	2" Stroke		

Fractional Increments of Stroke*	
A	0"
J	1/2"

Model ^{(4)Double End Mount Only}	
SA	Single Acting Spring Return
RA	Reverse Acting Spring Extend
NR	Non-Rotating Rod
DA	Double Acting
DR	Double Acting Double Rod End ⁴

Options	
00	No Options
90	Standard Magnetic Piston Only ¹

¹Magnetic pistons will change overall cylinder length. See table on ACT-2-20.

Special Designation	
A	Standard
X	Special

Options ^{(2)Bumpers on air side only with spring version}	
A	No Options
B	Viton Seals
C	Bumpers (Head & Cap) ²
D	Viton seals and bumpers
X	Special

Mounting Style ^{(3)Includes Mounting Nut}	
N	Nose Mount ³
P	Pivot Mount
D	Double End Mount ³
B	Front Block Mount

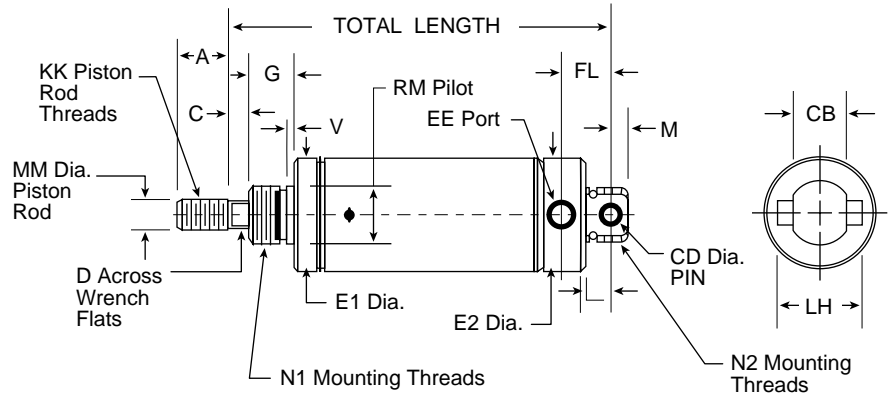
* See ACT-2-22 for stroke increments.

Round Line Actuators



Single Acting Spring Return — Pivot Mount

- Standard stroke length cylinders are available from shelf stock.
- Custom stroke lengths manufactured in minimal time.



Dimensions — All Dimensions in Inches

Bore	A	CB	C	CD	D	E1	E2	EE	FL	G	KK	L	LH	M	MM	N1	N2	V	RM
7/16"	0.50	0.31	NA	0.156	NA	0.50	0.74	10-32	0.44	0.31	10-32	0.25	0.50	0.25	0.18	3/8-24	7/16-20	0.05	.369/.373
9/16"	0.50	0.31	NA	0.156	NA	0.62	0.62	10-32	0.38	0.38	10-32	0.25	0.50	0.19	0.18	7/16-20	7/16-20	0.06	.434/.437
3/4"	0.50	0.38	NA	0.250	NA	0.81	0.86	1/8 NPT	0.62	0.44	1/4-28	0.34	0.75	0.28	0.25	1/2-20	5/8-18	0.08	.494/.498
1-1/16"	0.50	0.38	0.12	0.250	.25	1.12	1.12	1/8 NPT	0.62	0.50	5/16-24	0.34	0.75	0.28	0.31	5/8-18	5/8-18	0.07	.621/.624
1-1/4"	0.75	0.50	0.25	0.250	.38	1.34	1.34	1/8 NPT	0.78	0.63	7/16-20	0.41	0.88	0.40	0.43	3/4-16	3/4-16	0.09	.746/.749
1-1/2"	0.75	0.62	0.25	0.375	.38	1.56	1.56	1/8 NPT	0.81	0.63	7/16-20	0.50	1.00	0.38	0.43	3/4-16	NA	0.09	.746/.749
2"	0.88	0.75	0.38	0.375	.50	2.08	2.08	1/4 NPT	1.03	0.81	1/2-20	0.56	1.63	0.44	0.62	1-1/4-12	1-1/4-12	0.12	1.372/1.375

Bore Size	Total Length – Standard Strokes							Total length for stroke longer than 4" standard
	1/2	1	1-1/2	2	2-1/2	3	4	
7/16"	2.69	3.63	4.57	5.51	–	7.39	9.27	1.75 + (.94 per 1/2" of stroke)
9/16"	2.93	3.43	4.55	5.05	–	6.67	8.29	1.81 + (1.62 per 1" of stroke)
3/4"	3.47	3.97	5.16	5.66	–	7.35	9.04	2.28 + (1.69 per 1" of stroke)
1-1/16"	3.72	4.22	5.28	5.78	–	7.34	8.90	2.66 + (1.56 per 1" of stroke)
1-1/4"	–	5.19	–	7.00	–	8.81	10.62	3.38 + (1.81 per 1" of stroke)
1-1/2"	4.31	4.81	–	6.50	–	8.19	9.88	3.12 + (1.69 per 1" of stroke)
2"	–	6.34	–	8.34	–	9.59	12.53	Consult Factory

Maximum Stroke Lengths
 7/16" – 1-1/2" Bore – 15"
 2" Bore – Consult Factory

Ordering Information — Standard Stroke Lengths

Stock bore sizes and strokes are shown below. Contact the factory for custom stroke lengths. For Options and Accessories see ACT-2-18/19. See ACT-2-21 for complete Product Numbering System.

Stock Stroke Lengths (in)

Bore Sizes	Standard Stroke Lengths
7/16	1/2, 1
3/4, 1-1/16, 1-1/4	1, 2, or 3
1-1/2, 2	

Product Numbering System: R L [] [] [] [] - S A P - A A 0 0

1 2 3 4 5 6 7 8 9 10 11 12 13

Bore Size	
A	7/16"
B	9/16"
C	3/4"
D	1-1/16"

Full Inches of Stroke	
00	0" Stroke
01	1" Stroke
02	2" Stroke
03	3" Stroke
04	4" Stroke

Fractional Increments of Stroke*	
A	0"
J	1/2"

Options	
00	No Options
90	Standard Magnetic Piston Only ¹

¹Magnetic pistons will change overall cylinder length. See table on ACT-2-20.

Special Designation	
A	Standard
X	Special

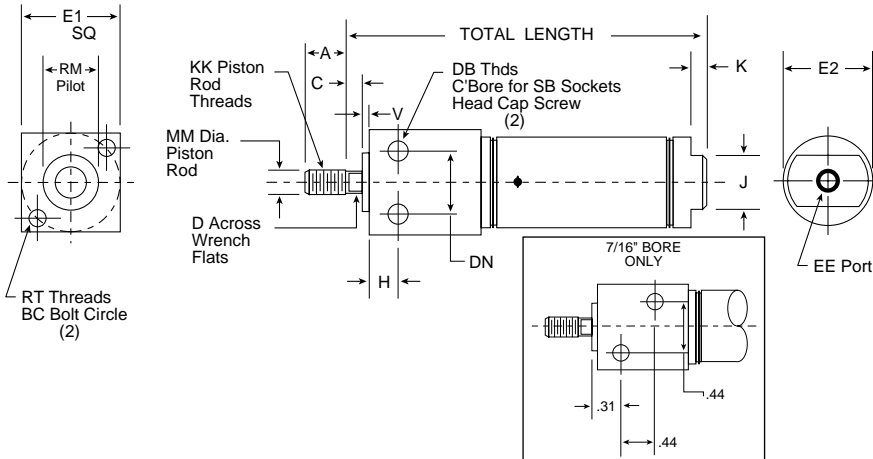
Options (2Bumpers on air side only with spring version)	
A	No Options
B	Viton Seals
C	Bumpers (Head & Cap) ²
D	Viton seals and bumpers
X	Special

Mounting Style (3Includes Mounting Nut)	
N	Nose Mount ³
P	Pivot Mount
D	Double End Mount ³
B	Front Block Mount

Model (4Double End Mount Only)	
SA	Single Acting Spring Return
RA	Reverse Acting Spring Extend
NR	Non-Rotating Rod
DA	Double Acting
DR	Double Acting Double Rod End ⁴

* See ACT-2-22 for stroke increments.

- Standard stroke length cylinders are available from shelf stock.
- Custom stroke lengths manufactured in minimal time.



Dimensions — All Dimensions in Inches

Bore	A	BC	C	D	DB	DN	E1	E2	EE	H	J	K	KK	MM	RM	RT	SB	V
7/16"	0.50	0.75	NA	NA	8-32	NA	0.75	0.50	10-32	NA	0.38	0.19	10-32	0.18	.437	8-32	NA	0.06
3/4"	0.75	1.00	0.25	0.22	1/4-20	0.62	1.00	0.81	1/8 NPT	0.38	0.62	0.19	1/4-28	0.25	.625	10-32	#10	0.09
1-1/16"	0.75	1.25	0.38	0.25	1/4-20	0.81	1.25	1.12	1/8 NPT	0.62	0.88	0.19	5/16-24	0.31	.750	10-32	#10	0.09
1-1/2"	1.25	1.75	0.25	0.38	5/16-18	1.12	1.75	1.56	1/4 NPT	0.88	0.88	0.25	7/16-20	0.43	1.00	1/4-20	1/4	0.13

Bore Size	Total Length – Standard Strokes							Total length for stroke longer than 4" standard
	1/2	1	1-1/2	2	2-1/2	3	4	
7/16"	2.88	3.82	4.76	5.70	–	7.58	9.46	1.94 + (.94 per 1/2" of stroke)
3/4"	3.85	4.35	–	6.04	–	7.73	9.42	2.66 + (1.69 per 1" of stroke)
1-1/16"	–	5.19	–	7.00	–	8.81	10.62	3.38 + (1.81 per 1" of stroke)
1-1/2"	–	5.69	–	7.69	–	9.69	11.69	3.69 + (2.00 per 1" of stroke)

Ordering Information — Standard Stroke Lengths

Stock bore sizes and strokes are shown below. Contact the factory for custom stroke lengths. For Options and Accessories see ACT-2-18/19. See ACT-2-21 for complete Product Numbering System.

Maximum Stroke Lengths
7/16" – 1-1/2" Bore – 15"
2" Bore – Consult Factory

Series 1 2 3 4 5 6 - 7 8 9 - 10 11 12 13

Bore Size

A	7/16"
C	3/4"
D	1-1/16"
F	1-1/2"

Full Inches of Stroke

00	0" Stroke	03	3" Stroke
01	1" Stroke	04	4" Stroke
02	2" Stroke		

Fractional Increments of Stroke*

A	0"	J	1/2"
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Options

00	No Options
90	Standard Magnetic Piston Only ¹

¹Magnetic pistons will change overall cylinder length. See table on ACT-2-20.

Special Designation

A	Standard
X	Special

Options (²Bumpers on air side only with spring version)

A	No Options
B	Viton Seals
C	Bumpers (Head & Cap) ²
D	Viton seals and bumpers
X	Special

Model (⁴Double End Mount Only)

SA	Single Acting Spring Return
RA	Reverse Acting Spring Extend
NR	Non-Rotating Rod
DA	Double Acting
DR	Double Acting Double Rod End ⁴

Mounting Style (³Includes Mounting Nut)

N	Nose Mount ³
P	Pivot Mount
D	Double End Mount ³
B	Front Block Mount

* See ACT-2-22 for stroke increments.

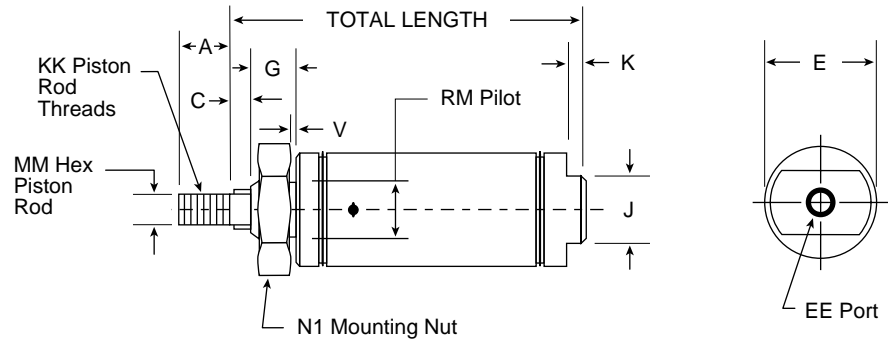
Round Line Actuators



Single Acting Non-Rotating — Nose Mount



- Standard stroke length cylinders are available from shelf stock.
- Custom stroke lengths manufactured in minimal time.



Dimensions — All Dimensions in Inches

Bore	A	C	E	EE	G	J	K	KK	MM	N1	RM	V
7/16"	0.50	0.25	0.50	10-32	0.31	0.38	0.19	10-32	0.18	3/8-24	.369/.373	0.05
9/16"	0.50	0.25	0.62	10-32	0.38	0.50	0.19	10-32	0.18	7/16-20	.434/.437	0.06
3/4"	0.50	0.25	0.81	1/8 NPT	0.44	0.62	0.19	1/4-28	0.25	1/2-20	.494/.498	0.08
1-1/16"	0.50	0.25	1.12	1/8 NPT	0.50	0.88	0.19	5/16-24	0.38	5/8-18	.621/.624	0.07
1-1/4"	0.88	0.25	1.34	1/8 NPT	0.63	0.88	0.25	7/16-20	0.43	3/4-16	.746/.749	0.09
1-1/2"	0.88	0.25	1.56	1/8 NPT	0.63	0.88	0.25	7/16-20	0.43	3/4-16	.746/.749	0.09

Bore Size	Total Length – Standard Strokes							Total length for stroke longer than 4" standard
	1/2	1	1-1/2	2	2-1/2	3	4	
7/16"	2.50	3.44	4.38	5.32	–	7.20	9.08	1.56 + (.94 per 1/2" of stroke)
9/16"	2.90	3.40	4.52	5.02	–	6.64	8.26	1.78 + (1.62 per 1" of stroke)
3/4"	2.94	3.44	4.63	5.13	–	6.82	8.51	1.75 + (1.69 per 1" of stroke)
1-1/16"	3.25	3.75	4.81	5.31	–	6.87	8.43	2.19 + (1.56 per 1" of stroke)
1-1/4"	–	4.47	–	6.28	–	8.09	9.90	2.66 + (1.81 per 1" of stroke)
1-1/2"	3.63	4.13	–	5.82	–	7.51	9.20	2.44 + (1.69 per 1" of stroke)

Ordering Information — Standard Stroke Lengths

Stock bore sizes and strokes are shown below. Contact the factory for custom stroke lengths. For Options and Accessories see ACT-2-18/19. See ACT-2-21 for complete Product Numbering System.

Maximum Stroke Lengths
7/16" – 1-1/2" Bore – 15"

Product Numbering System: R L ■ ■ ■ ■ - N R N - A A 0 0

1 2 3 4 5 6 7 8 9 10 11 12 13

Series

Bore Size	A	7/16"	E	1-1/4"
	B	9/16"	F	1-1/2"
	C	3/4"		
	D	1-1/16"		

Full Inches of Stroke

00	0" Stroke	03	3" Stroke
01	1" Stroke	04	4" Stroke
02	2" Stroke		

Fractional Increments of Stroke*

A	0"	J	1/2"
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Model ^{(4)Double End Mount Only}

SA	Single Acting Spring Return
RA	Reverse Acting Spring Extend
NR	Non-Rotating Rod
DA	Double Acting
DR	Double Acting Double Rod End ⁴

Options

00	No Options
90	Standard Magnetic Piston Only ¹

¹Magnetic pistons will change overall cylinder length. See table on ACT-2-20.

Special Designation

A	Standard
X	Special

Options ^(2)Bumpers on air side only with spring version)

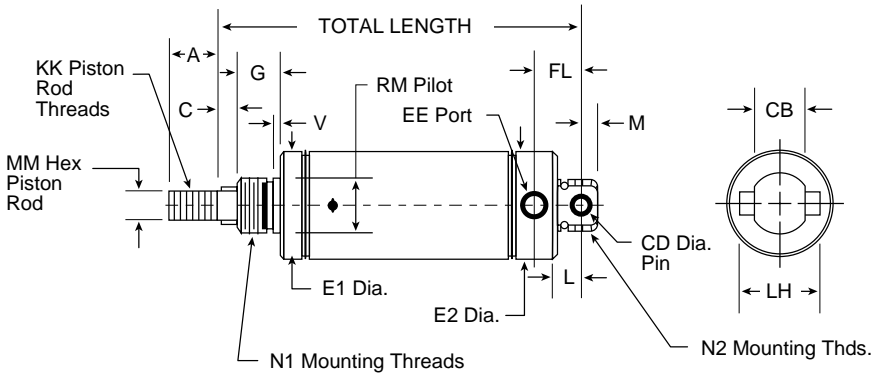
A	No Options
B	Viton Seals
C	Bumpers (Head & Cap) ²
D	Viton seals and bumpers
X	Special

Mounting Style ^(3)Includes Mounting Nut)

N	Nose Mount³
P	Pivot Mount
D	Double End Mount ³
B	Front Block Mount

* See ACT-2-22 for stroke increments.

- Standard stroke length cylinders are available from shelf stock.
- Custom stroke lengths manufactured in minimal time.



Dimensions — All Dimensions in Inches

Bore	A	C	CB	CD	E1	E2	EE	FL	G	KK	L	LH	M	MM	N1	N2	RM	V
7/16"	0.50	0.25	0.31	0.156	0.50	0.74	10-32	0.44	0.31	10-32	0.25	0.50	0.25	0.19	3/8-24	7/16-20	.369/.373	0.05
9/16"	0.50	0.25	0.31	0.156	0.62	0.62	10-32	0.38	0.38	10-32	0.25	NA	0.19	0.19	7/16-20	7/16-20	.434/.437	0.06
3/4"	0.50	0.25	0.38	0.250	0.81	0.86	1/8 NPT	0.62	0.44	1/4-28	0.34	0.75	0.28	0.25	1/2-20	5/8-18	.494/.498	0.08
1-1/16"	0.50	0.25	0.38	0.250	1.12	1.12	1/8 NPT	0.62	0.50	5/16-24	0.34	0.75	0.28	0.38	5/8-18	5/8-18	.621/.624	0.07
1-1/4"	0.88	0.25	0.50	0.250	1.34	1.34	1/8 NPT	0.78	0.63	7/16-20	0.41	0.88	0.40	0.43	3/4-16	3/4-16	.746/.749	0.09
1-1/2"	0.88	0.38	0.62	0.375	1.56	1.56	1/8 NPT	0.81	0.63	7/16-20	0.50	1.00	0.37	0.43	3/4-16	NA	.746/.749	0.09

Bore Size	Total Length – Standard Strokes							Total length for stroke longer than 4" standard
	1/2	1	1-1/2	2	2-1/2	3	4	
7/16"	3.19	4.13	5.07	6.01	–	7.89	9.77	2.25 + (.94 per 1/2" of stroke)
9/16"	3.18	3.68	4.8	5.30	–	6.92	8.54	2.06 + (1.62 per 1" of stroke)
3/4"	3.72	4.22	5.41	5.91	–	7.60	9.29	2.53 + (1.69 per 1" of stroke)
1-1/16"	3.84	4.34	5.40	5.90	–	7.46	9.02	2.78 + (1.56 per 1" of stroke)
1-1/4"	–	5.19	–	7.00	–	8.81	10.62	3.38 + (1.81 per 1" of stroke)
1-1/2"	–	4.94	–	6.63	–	8.32	10.01	3.25 + (1.69 per 1" of stroke)

Ordering Information — Standard Stroke Lengths

Stock bore sizes and strokes are shown below. Contact the factory for custom stroke lengths. For Options and Accessories see ACT-2-18/19. See ACT-2-21 for complete Product Numbering System.

Maximum Stroke Lengths
7/16" – 1-1/2" Bore – 15"

Series: **R** **L** **■** **■** **■** **■** - **N** **R** **P** - **A** **A** **0** **0**

1 2 3 4 5 6 7 8 9 10 11 12 13

Bore Size			
A	7/16"	E	1-1/4"
B	9/16"	F	1-1/2"
C	3/4"		
D	1-1/16"		

Full Inches of Stroke			
00	0" Stroke	03	3" Stroke
01	1" Stroke	04	4" Stroke
02	2" Stroke		

Fractional Increments of Stroke*	
A	0"
J	1/2"

Model	
SA	Single Acting Spring Return ⁽⁴⁾
RA	Reverse Acting Spring Extend
NR	Non-Rotating Rod
DA	Double Acting
DR	Double Acting Double Rod End ⁽⁴⁾

Options	
00	No Options
90	Standard Magnetic Piston Only ¹

¹Magnetic pistons will change overall cylinder length. See table on ACT-2-20.

Special Designation	
A	Standard
X	Special

Options	
A	No Options
B	Viton Seals
C	Bumpers (Head & Cap) ²
D	Viton seals and bumpers
X	Special

²Bumpers on air side only with spring version

Mounting Style	
N	Nose Mount ³
P	Pivot Mount
D	Double End Mount ³
B	Front Block Mount

³Includes Mounting Nut

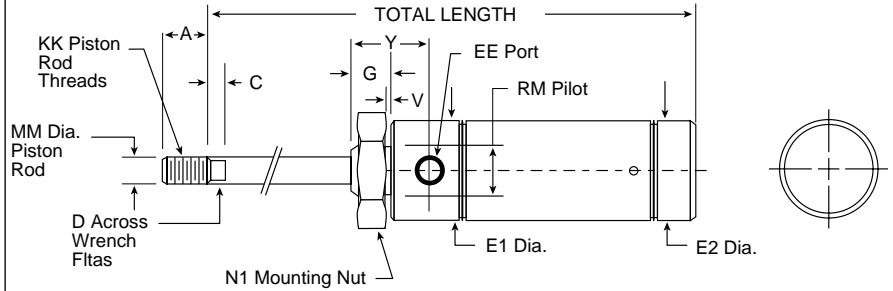
* See ACT-2-22 for stroke increments.

Round Line Actuators



Reverse Acting Spring Extend — Nose Mount

- Standard stroke length cylinders are available from shelf stock.
- Custom stroke lengths manufactured in minimal time.



Dimensions — All Dimensions in Inches

Bore	A	C	D	E1	E2	EE	G	KK	MM	N1	RM	V	Y
7/16"	0.50	NA	NA	0.74	0.50	10-32	0.38	10-32	0.19	7/16-20	.434/.437	0.05	0.72
9/16"	0.50	NA	NA	0.62	0.62	10-32	0.38	10-32	0.19	7/16-20	.434/.437	0.06	0.75
3/4"	0.50	NA	NA	0.86	0.81	1/8 NPT	0.50	1/4-28	0.25	5/8-18	.621/.624	0.09	0.97
1-1/16"	0.50	0.12	0.25	1.12	1.12	1/8 NPT	0.50	5/16-24	0.31	5/8-18	.621/.624	0.09	1.06
1-1/4"	0.75	0.25	0.38	1.34	1.34	1/8 NPT	0.63	7/16-20	0.44	3/4-16	.746/.749	0.09	1.37
1-1/2"	1.25	0.25	0.38	1.56	1.56	1/8 NPT	0.63	7/16-20	0.44	3/4-16	.746/.749	0.09	1.25
2"	0.88	0.38	0.50	2.08	2.08	1/4 NPT	0.81	1/2-20	0.62	1-1/4-12	1.372/1.375	0.12	1.46

Bore Size	Total Length – Standard Strokes							Total length for stroke longer than 4" standard
	1/2	1	1-1/2	2	2-1/2	3	4	
7/16"	3.38	4.82	6.26	7.70	–	10.58	–	1.94 + (1.44 per 1/2" of stroke)
9/16"	3.62	4.62	6.24	7.24	–	9.86	–	2.00 + (2.62 per 1" of stroke)
3/4"	4.00	5.00	–	7.69	–	10.38	13.07	2.31 + (2.69 per 1" of stroke)
1-1/16"	4.43	5.43	7.24	8.24	–	11.05	13.86	2.62 + (2.81 per 1" of stroke)
1-1/4"	–	6.28	–	9.09	–	11.90	14.71	3.47 + (2.81 per 1" of stroke)
1-1/2"	–	6.19	–	9.19	–	12.19	15.19	3.19 + (3.00 per 1" of stroke)
2"	–	7.11	–	10.11	–	12.34	16.34	Consult Factory

Ordering Information — Standard Stroke Lengths

Stock bore sizes and strokes are shown below. Contact the factory for custom stroke lengths. For Options and Accessories see ACT-2-18/19. See ACT-2-21 for complete Product Numbering System.

Maximum Stroke Lengths
 7/16" – 1-1/2" Bore – 15"
 2" Bore - Consult Factory

Product Numbering System: R L ■ ■ ■ ■ - R A N - A A 0 0

1 2 3 4 5 6 7 8 9 10 11 12 13

Series			
Bore Size		E	
A	7/16"	E	1-1/4"
B	9/16"	F	1-1/2"
C	3/4"	G	2"
D	1-1/16"		

Full Inches of Stroke			
00	0" Stroke	03	3" Stroke
01	1" Stroke	04	4" Stroke
02	2" Stroke		

Fractional Increments of Stroke*	
A	0"
J	1/2"

Model	
SA	Single Acting Spring Return
RA	Reverse Acting Spring Extend
NR	Non-Rotating Rod
DA	Double Acting
DR	Double Acting Double Rod End ⁴

Options	
00	No Options
90	Standard Magnetic Piston Only ¹

¹Magnetic pistons will change overall cylinder length. See table on ACT-2-20.

Special Designation	
A	Standard
X	Special

Options	
A	No Options
B	Viton Seals
C	Bumpers (Head & Cap) ²
D	Viton seals and bumpers
X	Special

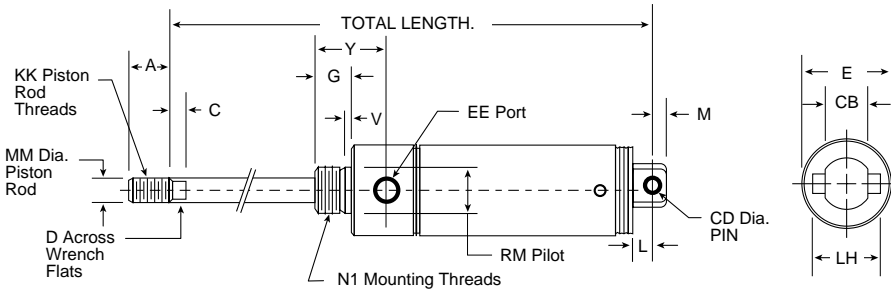
²Bumpers on air side only with spring version

Mounting Style	
N	Nose Mount ³
P	Pivot Mount
D	Double End Mount ³
B	Front Block Mount

³Includes Mounting Nut

* See ACT-2-22 for stroke increments.

- Standard stroke length cylinders are available from shelf stock.
- Custom stroke lengths manufactured in minimal time.



Dimensions — All Dimensions in Inches

Bore	A	C	CB	CD	EE	E	G	KK	L	LH	MM	M	N1	RM	V	Y
7/16"	0.50	NA	0.31	0.156	10-32	0.74	0.38	10-32	0.25	0.50	0.19	0.25	7/16-20	.434/.437	0.05	0.72
9/16"	0.50	NA	0.31	0.156	10-32	0.62	0.38	10-32	0.25	0.50	0.19	0.19	7/16-20	.434/.437	0.06	0.75
3/4"	0.50	NA	0.38	0.250	1/8 NPT	0.86	0.50	1/4-28	0.34	0.75	0.25	0.28	5/8-18	.621/.624	0.09	0.97
1-1/16"	0.50	0.12	0.38	0.250	1/8 NPT	1.12	0.50	5/16-24	0.34	0.75	0.31	0.28	5/8-18	.621/.624	0.09	1.06
1-1/4"	0.75	0.25	0.50	0.250	1/8 NPT	1.34	0.63	7/16-20	0.34	0.88	0.44	0.38	3/4-16	.746/.749	0.09	1.37
1-1/2"	1.25	0.25	0.62	0.375	1/8 NPT	1.56	0.63	7/16-20	0.50	1.00	0.44	0.38	3/4-16	.746/.749	0.09	1.25
2"	0.88	0.38	0.75	0.375	1/4 NPT	2.08	0.81	1/2-20	0.56	1.63	0.62	0.44	1-1/4-12	1.372/1.375	0.12	1.46

Bore Size	Total Length – Standard Strokes							Total length for stroke longer than 4" standard
	1/2	1	1-1/2	2	2-1/2	3	4	
7/16"	3.82	5.26	6.70	8.14	–	11.02	–	2.38 + (1.44 per 1/2" of stroke)
9/16"	3.90	4.90	6.52	7.52	–	10.14	–	2.28 + (2.62 per 1" of stroke)
3/4"	4.13	5.13	–	7.82	–	10.51	13.20	2.44 + (2.69 per 1" of stroke)
1-1/16"	4.59	5.59	–	8.40	–	11.21	14.02	2.78 + (2.81 per 1" of stroke)
1-1/4"	–	6.59	–	9.40	–	12.21	15.02	3.78 + (2.81 per 1" of stroke)
1-1/2"	–	6.88	–	9.88	–	12.88	15.88	3.88 + (3.00 per 1" of stroke)
2"	–	8.05	–	11.05	–	13.28	17.28	Consult Factory

Ordering Information — Standard Stroke Lengths

Stock bore sizes and strokes are shown below. Contact the factory for custom stroke lengths. For Options and Accessories see ACT-2-18/19. See ACT-2-21 for complete Product Numbering System.

Maximum Stroke Lengths
 7/16" – 1-1/2" Bore – 15"
 2" Bore - Consult Factory

Series

1 **2** **3** **4** **5** **6** **7** **8** **9** **10** **11** **12** **13**

R L ■ ■ ■ ■ - R A P - A A 0 0

Bore Size	
A	7/16"
B	9/16"
C	3/4"
D	1-1/16"

Full Inches of Stroke	
00	0" Stroke
01	1" Stroke
02	2" Stroke
03	3" Stroke
04	4" Stroke

Fractional Increments of Stroke*	
A	0"
J	1/2"

Model ^{(4)Double End Mount Only}	
SA	Single Acting Spring Return
RA	Reverse Acting Spring Extend
NR	Non-Rotating Rod
DA	Double Acting
DR	Double Acting Double Rod End ⁴

Options	
00	No Options
90	Standard Magnetic Piston Only ¹

¹Magnetic pistons will change overall cylinder length. See table on ACT-2-20.

Special Designation	
A	Standard
X	Special

Options ^{(2)Bumpers on air side only with spring version}	
A	No Options
B	Viton Seals
C	Bumpers (Head & Cap) ²
D	Viton seals and bumpers
X	Special

Mounting Style ^{(3)Includes Mounting Nut}	
N	Nose Mount ³
P	Pivot Mount
D	Double End Mount ³
B	Front Block Mount

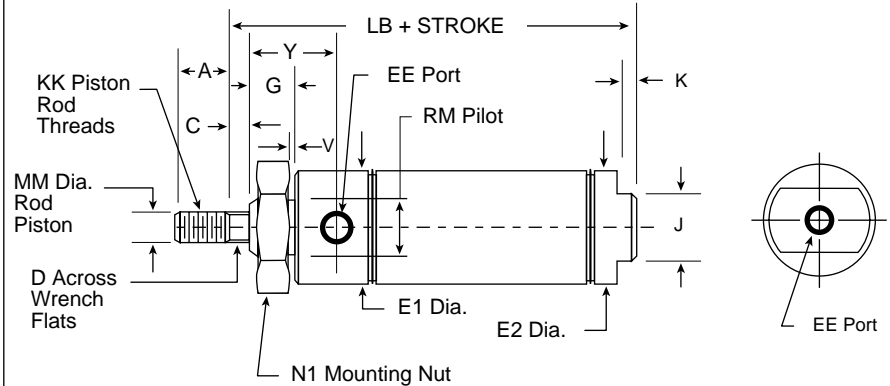
* See ACT-2-22 for stroke increments.

Round Line Actuators



Double Acting — Nose Mount

- Standard stroke length cylinders are available from shelf stock.
- Custom stroke lengths manufactured in minimal time.



Dimensions — All Dimensions in Inches

Bore	A	C	D	EE	E1	E2	G	J	K	KK	LB	MM	N1	RM	Y	V
7/16"	0.50	NA	NA	10-32	0.74	0.50	0.38	0.38	0.19	10-32	2.12	0.18	7/16-20	.434/.437	0.72	0.05
9/16"	0.50	NA	NA	10-32	0.62	0.62	0.38	0.50	0.19	10-32	2.28	0.18	7/16-20	.434/.437	0.75	0.06
3/4"	0.50	NA	NA	1/8 NPT	0.86	0.81	0.50	0.62	0.19	1/4-28	2.97	0.25	5/8-18	.621/.624	0.97	0.09
1-1/16"	0.50	NA	NA	1/8 NPT	1.12	1.12	0.50	0.88	0.19	5/16-24	3.12	0.31	5/8-18	.621/.624	1.06	0.09
1-1/4"	0.75	0.25	0.38	1/8 NPT	1.34	1.34	0.63	0.88	0.25	7/16-20	4.00	0.43	3/4-16	.746/.749	1.37	0.09
1-1/2"	0.75	0.25	0.38	1/8 NPT	1.56	1.56	0.63	0.88	0.25	7/16-20	3.69	0.43	3/4-16	.746/.749	1.25	0.09
2"	0.88	0.38	0.50	1/4 NPT	2.08	2.08	0.81	1.25	0.31	1/2-20	4.69	0.62	1-1/4-12	1.372/1.375	1.46	0.12
2-1/2"	0.88	0.38	0.50	1/4 NPT	2.62	2.62	0.81	1.75	0.31	1/2-20	4.69	0.62	1-3/8-12	1.497/1.500	1.46	0.12

Ordering Information — Standard Stroke Lengths

Stock bore sizes and strokes are shown below. Contact the factory for custom stroke lengths. For Options and Accessories see ACT-2-18/19. See ACT-2-21 for complete Product Numbering System.

Stock Stroke Lengths (in)

Bore Sizes	Standard Stroke Lengths
7/16, 9/16	1/2, 1, 1-1/2, or 2
3/4	1, 2, 3, 4, 5, or 6
1-1/16	1, 1-1/2, 2, 3, 4, 5, or 6
1-1/4, 1-1/2, 2, 2-1/2	1, 2, 3, 4, 5, or 6

Maximum Stroke Lengths

7/16" – 2-1/2" Bore – 36"

Product Numbering System: R L ■ ■ ■ ■ - D A N - A A 0 0

1 2 3 4 5 6 7 8 9 10 11 12 13

Bore Size	
A	7/16"
B	9/16"
C	3/4"
D	1-1/16"

Full Inches of Stroke	
00	0" Stroke
01	1" Stroke
02	2" Stroke
03	3" Stroke
04	4" Stroke

Fractional Increments of Stroke*	
A	0"
J	1/2"

Model	
SA	Single Acting Spring Return
RA	Reverse Acting Spring Extend
NR	Non-Rotating Rod
DA	Double Acting
DR	Double Acting Double Rod End ⁴

Options	
00	No Options
90	Standard Magnetic Piston Only ¹

¹Magnetic pistons will change overall cylinder length. See table on ACT-2-20.

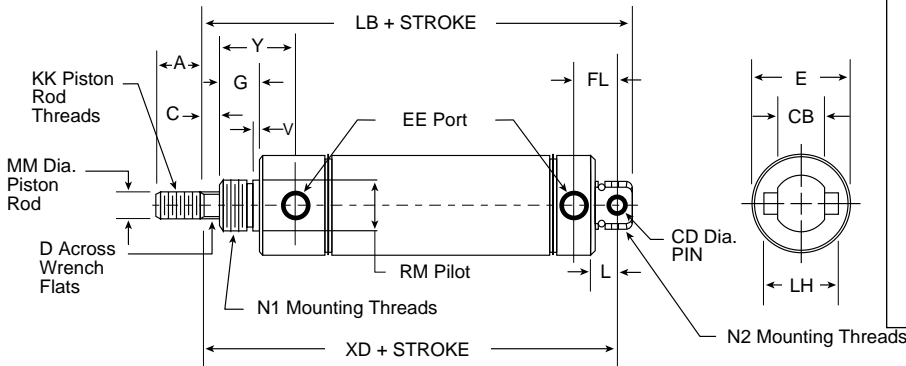
Special Designation	
A	Standard
X	Special

Options	
A	No Options
B	Viton Seals
C	Bumpers (Head & Cap) ²
D	Viton seals and bumpers
X	Special

Mounting Style	
N	Nose Mount ³
P	Pivot Mount
D	Double End Mount ³
B	Front Block Mount

* See ACT-2-22 for stroke increments.

- Standard stroke length cylinders are available from shelf stock.
- Custom stroke lengths manufactured in minimal time.



Dimensions — All Dimensions in Inches

Bore	A	C	CB	CD	D	E	EE	FL	G	KK	L	LB	LH	MM	N1	N2	RM	V	XD	Y
7/16"	0.50	NA	0.31	0.156	NA	0.74	10-32	0.44	0.38	10-32	0.25	2.81	0.50	0.18	7/16-20	7/16-20	.434/.437	0.05	2.56	0.72
9/16"	0.50	NA	0.31	0.156	NA	0.62	10-32	0.38	0.38	10-32	0.25	2.75	0.50	0.18	7/16-20	7/16-20	.434/.437	0.06	2.56	0.75
3/4"	0.50	NA	0.38	0.250	NA	0.86	1/8 NPT	0.62	0.50	1/4-28	0.34	4.03	0.75	0.25	5/8-18	5/8-18	.621/.624	0.09	3.75	0.97
1-1/16"	0.50	0.12	0.38	0.250	0.25	1.12	1/8 NPT	0.62	0.50	5/16-24	0.34	4.12	0.75	0.31	5/8-18	5/8-18	.621/.624	0.09	3.84	1.07
1-1/4"	0.75	0.25	0.50	0.250	0.38	1.34	1/8 NPT	0.78	0.63	7/16-20	0.41	5.12	0.88	0.43	3/4-16	3/4-16	.746/.749	0.09	4.72	1.37
1-1/2"	0.75	0.25	0.62	0.375	0.38	1.56	1/8 NPT	0.81	0.63	7/16-20	0.50	4.76	1.00	0.43	3/4-16	NA	.746/.749	0.09	4.38	1.25
2"	0.88	0.38	0.75	0.375	0.50	2.08	1/4 NPT	1.03	0.81	1/2-20	0.56	6.06	1.63	0.62	1 1/4-12	1-1/4-12	1.372/1.375	0.12	5.62	1.46
2-1/2"	0.88	0.38	0.75	0.375	0.50	2.62	1/4 NPT	1.03	0.81	1/2-20	0.56	6.06	1.63	0.62	1 3/8-12	1-3/8-12	1.497/1.500	0.12	5.62	1.46

Ordering Information — Standard Stroke Lengths

Stock bore sizes and strokes are shown below. Contact the factory for custom stroke lengths. For Options and Accessories see ACT-2-18/19. See ACT-2-21 for complete Product Numbering System.

Stock Stroke Lengths (in)

Bore Sizes	Standard Stroke Lengths
7/16, 9/16	1/2, 1, 1-1/2, or 2
3/4, 1-1/16, 1-1/4,	1, 2, 3, 4, 5, or 6
1-1/2, 2, 2-1/2	

Maximum Stroke Lengths
7/16" – 2-1/2" Bore – 36"

Series

Bore Size

A	7/16"	E	1-1/4"
B	9/16"	F	1-1/2"
C	3/4"	G	2"
D	1-1/16"	H	2-1/2"

Full Inches of Stroke

00	0" Stroke	03	3" Stroke
01	1" Stroke	04	4" Stroke
02	2" Stroke		

Fractional Increments of Stroke*

A	0"	J	1/2"
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Model ^{(4)Double End Mount Only}

SA	Single Acting Spring Return
RA	Reverse Acting Spring Extend
NR	Non-Rotating Rod
DA	Double Acting
DR	Double Acting Double Rod End ⁴

Options

00	No Options
90	Standard Magnetic Piston Only ¹

¹Magnetic pistons will change overall cylinder length. See table on ACT-2-20.

Special Designation

A	Standard
X	Special

Options ^(2)Bumpers on air side only with spring version)

A	No Options
B	Viton Seals
C	Bumpers (Head & Cap) ²
D	Viton seals and bumpers
E	Ecology piston seals (3/4-2-1/2 bores only)**
X	Special

Mounting Style ^(3)Includes Mounting Nut)

N	Nose Mount ³
P	Pivot Mount
D	Double End Mount ³
B	Front Block Mount

Options

00	No Options
90	Standard Magnetic Piston Only ¹

¹Magnetic pistons will change overall cylinder length. See table on ACT-2-20.

Special Designation

A	Standard
X	Special

Options ^(2)Bumpers on air side only with spring version)

A	No Options
B	Viton Seals
C	Bumpers (Head & Cap) ²
D	Viton seals and bumpers
E	Ecology piston seals (3/4-2-1/2 bores only)**
X	Special

Mounting Style ^(3)Includes Mounting Nut)

N	Nose Mount ³
P	Pivot Mount
D	Double End Mount ³
B	Front Block Mount

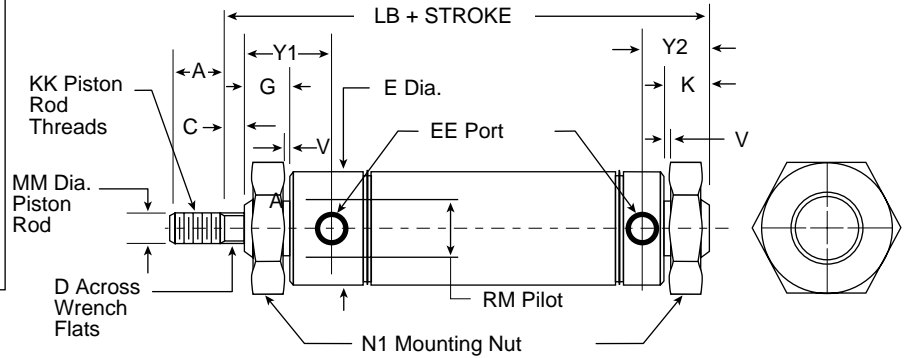
* See ACT-2-22 for stroke increments.
** See ACT-2-21 for complete information on the Ecology seal.

Round Line Actuators



Double Acting — Double End Mount

- Standard stroke length cylinders are available from shelf stock.
- Custom stroke lengths manufactured in minimal time.



Dimensions — All Dimensions in Inches															
Bore	A	C	D	E	EE	G	K	KK	LB	MM	N1	RM	V	Y1	Y2
7/16"	0.50	NA	NA	0.74	10-32	0.38	0.50	10-32	2.81	0.18	7/16-20	.434/.437	0.05	0.73	0.69
9/16"	0.50	NA	NA	0.62	10-32	0.38	0.44	10-32	2.75	0.18	7/16-20	.434/.437	0.06	0.75	0.57
3/4"	0.50	NA	NA	0.86	1/8 NPT	0.50	0.62	1/4-28	4.03	0.25	5/8-18	.621/.624	0.09	0.97	0.90
1-1/16"	0.50	0.12	0.25	1.12	1/8 NPT	0.50	0.62	5/16-24	4.12	0.31	5/8-18	.624/.624	0.09	1.07	0.90
1-1/4"	0.75	0.25	0.38	1.34	1/8 NPT	0.63	0.81	7/16-20	5.12	0.43	3/4-16	.746/.749	0.09	1.37	1.18
1-1/2"	0.75	0.25	0.38	1.56	1/8 NPT	0.63	0.62	7/16-20	4.50	0.43	3/4-16	.746/.749	0.09	1.25	0.94
2"	0.88	0.38	0.50	2.08	1/4 NPT	0.81	1.00	1/2-20	6.06	0.62	1-1/4-12	1.372/1.375	0.12	1.46	1.47
2-1/2"	0.88	0.38	0.50	2.62	1/4 NPT	0.81	1.00	1/2-20	6.06	0.62	1-3/8-12	1.497/1.500	0.12	1.46	1.47

Ordering Information — Standard Stroke Lengths

Stock bore sizes and strokes are shown below. Contact the factory for custom stroke lengths. For Options and Accessories see ACT-2-18/19. See ACT-2-21 for complete Product Numbering System.

Stock Stroke Lengths (in)

Bore Sizes
3/4, 1-1/16, 1-1/4,
1-1/2, 2, 2-1/2

Standard Stroke Lengths
1, 2, 3, 4, 5, or 6

Maximum Stroke Lengths

7/16" – 2-1/2" Bore – 36"

Series

Bore Size

A	7/16"	E	1-1/4"
B	9/16"	F	1-1/2"
C	3/4"	G	2"
D	1-1/16"	H	2-1/2"

Full Inches of Stroke

00	0" Stroke	03	3" Stroke
01	1" Stroke	04	4" Stroke
02	2" Stroke		

Fractional Increments of Stroke*

A	0"	J	1/2"
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Model ^{(4)Double End Mount Only}

SA	Single Acting Spring Return
RA	Reverse Acting Spring Extend
NR	Non-Rotating Rod
DA	Double Acting
DR	Double Acting Double Rod End ⁴

Options

00	No Options
90	Standard Magnetic Piston Only ¹

¹Magnetic pistons will change overall cylinder length. See table on ACT-2-20.

Special Designation

A	Standard
X	Special

Options ^{(2)Bumpers on air side only with spring version}

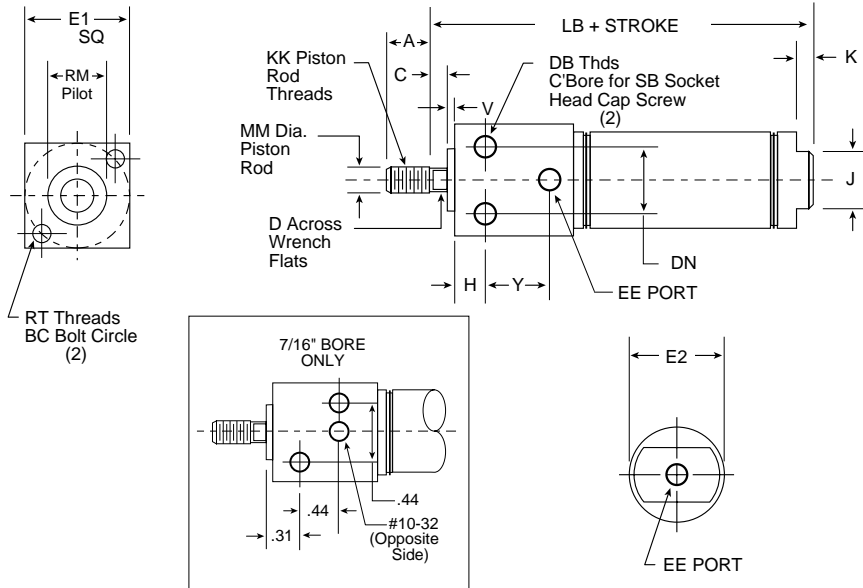
A	No Options
B	Viton Seals
C	Bumpers (Head & Cap) ²
D	Viton seals and bumpers
E	Ecology piston seals (3/4-2-1/2 bores only)**
X	Special

Mounting Style ^{(3)Includes Mounting Nut}

N	Nose Mount ³
P	Pivot Mount
D	Double End Mount³
B	Front Block Mount

* See ACT-2-22 for stroke increments.
** See ACT-2-21 for complete information on the Ecology seal.

- Standard stroke length cylinders are available from shelf stock.
- Custom stroke lengths manufactured in minimal time.



Dimensions — All Dimensions in Inches

Bore	A	BC	C	D	DB	DN	EE	E1	E2	H	J	K	KK	LB	MM	RM	RT	SB	V	Y
7/16"	0.50	0.75	NA	NA	8-32	NA	NA	0.75	0.50	NA	0.38	0.19	10-32	2.12	0.18	0.437	8-32	NA	0.06	NA
3/4"	0.75	1.00	0.25	0.22	1/4-20	0.62	1/8 NPT	1.00	0.81	0.38	0.62	0.19	1/4-28	3.22	0.25	0.625	10-32	#10	0.09	0.50
1-1/16"	0.75	1.25	0.38	0.25	1/4-20	0.81	1/8 NPT	1.25	1.12	0.62	0.88	0.19	5/16-24	3.75	0.31	0.750	10-32	#10	0.09	0.54
1-1/2"	1.25	1.75	0.25	0.38	5/16-18	1.12	1/4 NPT	1.75	1.56	0.88	0.88	0.25	7/16-20	4.19	0.43	1.000	1/4-20	1/4	0.13	0.65

Ordering Information — Standard Stroke Lengths

Stock bore sizes and strokes are shown below. Contact the factory for custom stroke lengths. For Options and Accessories see ACT-2-18/19. See ACT-2-21 for complete Product Numbering System.

Maximum Stroke Lengths

7/16" – 1-1/2" Bore – 36"

Product Numbering System

Series: **R L** (1, 2) Bore Size: **■ ■ ■ ■** (3, 4, 5, 6) **- D A B -** (7, 8, 9) **A A 0 0** (10, 11, 12, 13)

Bore Size	
A	7/16"
C	3/4"
D	1-1/16"
F	1-1/2"

Full Inches of Stroke			
00	0" Stroke	03	3" Stroke
01	1" Stroke	04	4" Stroke
02	2" Stroke		

Fractional Increments of Stroke*			
A	0"	J	1/2"

Options	
00	No Options
90	Standard Magnetic Piston Only ¹

¹Magnetic pistons will change overall cylinder length. See table on ACT-2-20.

Special Designation	
A	Standard
X	Special

Options (2) Bumpers on air side only with spring version	
A	No Options
B	Viton Seals
C	Bumpers (Head & Cap) ²
D	Viton seals and bumpers
X	Special

Mounting Style (3) Includes Mounting Nut	
N	Nose Mount ³
P	Pivot Mount
D	Double End Mount ³
B	Front Block Mount

Model (4) Double End Mount Only	
SA	Single Acting Spring Return
RA	Reverse Acting Spring Extend
NR	Non-Rotating Rod
DA	Double Acting
DR	Double Acting Double Rod End ⁴

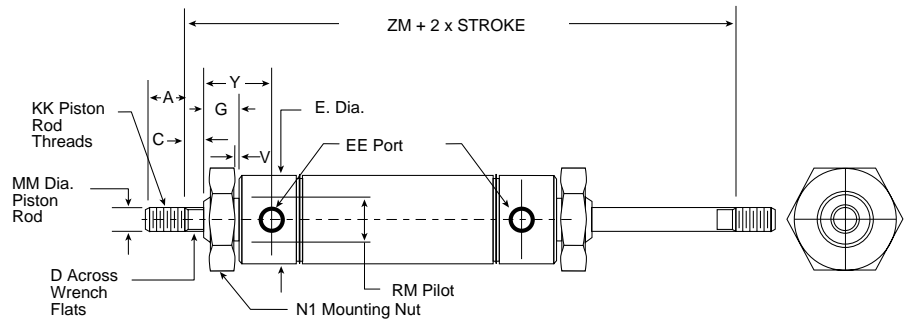
* See ACT-2-22 for stroke increments.

Round Line Actuators



Double Acting Double Rod End — Double End Mount

- Standard stroke length cylinders are available from shelf stock.
- Custom stroke lengths manufactured in minimal time.



Dimensions — All Dimensions in Inches

Bore	A	C	D	E	EE	G	KK	MM	N1	RM	V	Y	ZM
7/16"	0.50	NA	NA	0.74	10-32	0.38	10-32	0.19	7/16-20	.434/.437	0.05	0.72	2.81
9/16"	0.50	NA	NA	0.62	10-32	0.38	10-32	0.19	7/16-20	.434/.437	0.06	0.75	2.94
3/4"	0.50	NA	NA	0.86	1/8 NPT	0.50	1/4-28	0.25	5/8-18	.621/.624	0.09	0.97	4.00
1-1/16"	0.50	0.12	0.25	1.12	1/8 NPT	0.50	5/16-24	0.31	5/8-18	.621/.624	0.09	1.06	4.00
1-1/4"	0.75	0.25	0.38	1.34	1/8 NPT	0.63	7/16-20	0.43	3/4-16	.746/.749	0.09	1.37	5.56
1-1/2"	0.75	0.25	0.38	1.56	1/8 NPT	0.63	7/16-20	0.43	3/4-16	.746/.749	0.09	1.25	5.12
2"	0.88	0.38	0.50	2.08	1/4 NPT	0.81	1/2-20	0.62	1-1/4-12	1.372/1.375	0.12	1.46	6.56
2-1/2"	0.88	0.38	0.50	2.62	1/4 NPT	0.81	1/2-20	0.62	1-3/8-12	1.497/1.500	0.12	1.46	6.56

Ordering Information — Standard Stroke Lengths

Stock bore sizes and strokes are shown below. Contact the factory for custom stroke lengths. For Options and Accessories see ACT-2-18/19. See ACT-2-21 for complete Product Numbering System.

Product Numbering System: R L ■ ■ ■ ■ - D R D - A A 0 0

1 2 3 4 5 6 7 8 9 10 11 12 13

Series			
Bore Size			
A	7/16"	E	1-1/4"
B	9/16"	F	1-1/2"
C	3/4"	G	2"
D	1-1/16"	H	2-1/2"

Full Inches of Stroke			
00	0" Stroke	03	3" Stroke
01	1" Stroke	04	4" Stroke
02	2" Stroke		

Fractional Increments of Stroke*			
A	0"	J	1/2"

Model		(*Double End Mount Only)	
SA	Single Acting Spring Return		
RA	Reverse Acting Spring Extend		
NR	Non-Rotating Rod		
DA	Double Acting		
DR	Double Acting Double Rod End ⁴		

Options	
00	No Options
90	Standard Magnetic Piston Only ¹

¹Magnetic pistons will change overall cylinder length. See table on ACT-2-20.

Special Designation	
A	Standard
X	Special

Options		(*Bumpers on air side only with spring version)	
A	No Options		
B	Viton Seals		
C	Bumpers (Head & Cap) ²		
D	Viton seals and bumpers		
X	Special		

Mounting Style		(*Includes Mounting Nut)	
N	Nose Mount ³		
P	Pivot Mount		
D	Double End Mount ³		
B	Front Block Mount		

* See ACT-2-22 for stroke increments.



Round Line Actuators

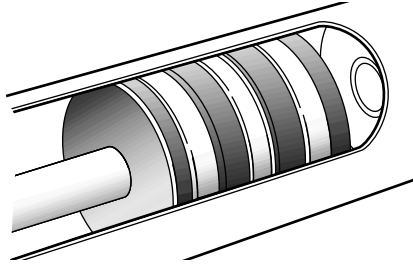
Options

The following options can be requested at the time of cylinder order. Position 10 of the Product Numbering System (ACT-2-21) pertains to these options

Noise Dampening Bumpers

Nitrile bumpers are installed in each end of the cylinder preventing metal-to-metal contact to provide extremely quiet cylinder operation.

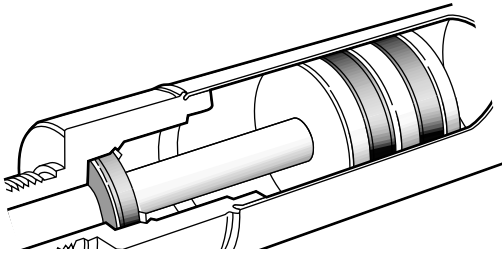
Note: Overall cylinder length increases by .125 per bumper.



To Order: Enter "C" in the 10th position of the Product Number

Viton Rod & Piston Seals

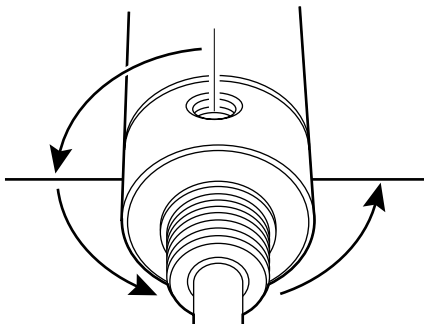
For higher temperature applications use Viton Seals (-20° to 400°F).



To Order: Enter "B" in the 10th position of the Product Number

Ports Rotated 90°

Viewing cylinder from the rod end, specify port relocation in 90° increments moving counterclockwise from the standard port location.



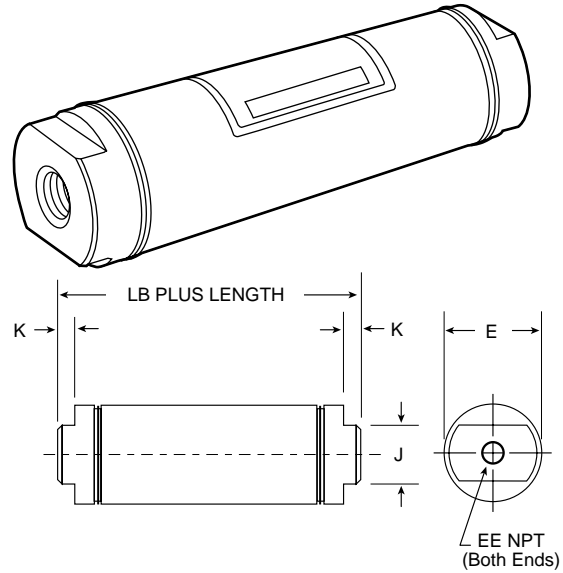
To Order: Enter "X" in the 11th position of the Product Number and specify new port location at 90°, 180°, or 270° from origin.

Accessories

The following accessories are ordered separately from the cylinder, use the order number included with the product description.

Air Reservoir

Air Reservoirs are made of the same high-quality stainless steel as the Series RL Cylinders.



Dimensions — All Dimensions in Inches						
Bore	E	EE	J	K	LB	Standard Internal Lengths
3/4"	0.813	1/8"	0.625	0.187	1.938	1" increments thru 4"
1-1/16"	1.125	1/8"	0.875	0.187	2.375	1" increments thru 8"
1-1/2"	1.562	1/8"	0.875	0.250	2.250	1" increments thru 16"
2"	2.080	1/4"	1.250	0.312	2.875	1" increments thru 16"
2-1/2"	2.610	1/4"	1.750	0.312	2.875	1" increments thru 24"

How to Order

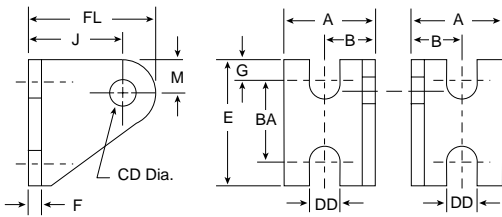
Example:
1-1/16" bore air reservoir with a 3" internal length would be ordered as follows: **AR-1 1/16 x 3**

Flow Controls		
Part No	Tube Size	Port Size
12 VAO 0210	5/32" O.D.	X10-32UNF
12 VAO 0218	5/32" O.D.	1/8" N.P.T.
12 VAO 0418	1/4" O.D.	1/8" N.P.T.
12 VAO 0428	1/4" O.D.	1/4" N.P.T.
12 VAO 0628	3/8" O.D.	1/4" N.P.T.



- All accessories are clear zinc plated carbon steel

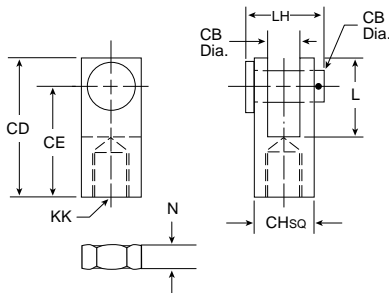
Pivot Bracket



Dimensions — All Dimensions in Inches

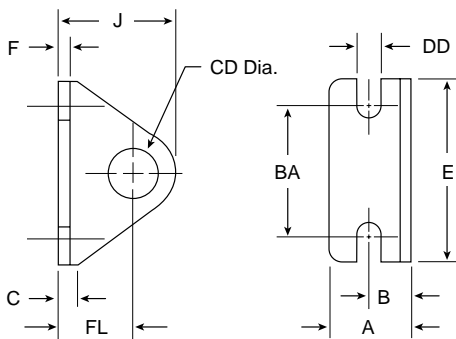
Bore	Part Number	A	B	BA	CD	DD	E	F	FL	G	J	M
7/16", 9/16"	PB-1	0.50	0.28	0.50	0.156	0.19	0.75	0.06	0.77	0.12	0.56	0.20
3/4", 1-1/16", 1-1/4"	PB-2	0.81	0.44	0.75	0.250	0.27	1.12	0.12	1.19	0.19	0.88	0.31
1-1/2"	PB-3	1.00	0.62	1.00	0.375	0.27	1.50	0.12	1.75	0.25	1.38	0.38
2", 2-1/2"	PB-4	1.125	0.68	1.00	0.375	0.26	1.50	0.25	1.75	0.25	1.38	0.38

**Rod Clevis
(Includes Pin & Jam Nut)**



Bore	Part Number	CB	CD	CE	CH	KK	L	LH	N
7/16", 9/16"	RC-1	0.19	0.94	0.75	0.38	10-32	0.56	0.66	0.12
3/4"	RC-2	0.25	1.19	0.94	0.50	1/4-28	0.68	0.85	0.16
1-1/16"	RC-3	0.25	1.19	0.94	0.50	5/16-24	0.69	0.85	0.19
1-1/4", 1-1/2"	RC-4	0.38	1.69	1.31	0.75	7/16-20	0.94	1.12	0.25
2", 2-1/2"	RC-5	0.38	1.69	1.31	0.75	1/2-20	0.94	1.12	0.31

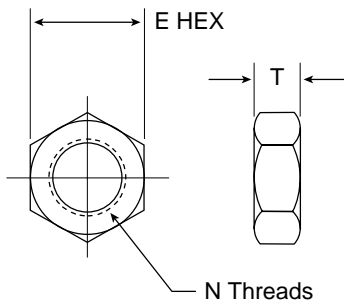
Foot Bracket



Bore	Part Number	A	B	BA	C	CD	DD	E	F	FL	J
7/16" (S)	FB-1	0.62	0.31	1.00	0.12	0.38	0.19	1.38	0.07	0.56	0.88
7/16" (D), 9/16" (S/D)	FB-2	0.69	0.38	1.00	0.12	0.44	0.19	1.38	0.09	0.56	0.83
3/4" (S)	FB-3	0.75	0.44	1.25	0.19	0.50	0.19	1.62	0.10	0.69	1.09
3/4" (D), 1-1/16" (S/D)	FB-4	1.00	0.56	1.50	0.25	0.62	0.27	1.88	0.12	0.81	1.38
1-1/4" (S/D), 1-1/2" (S/D)	FB-5	1.50	0.75	1.88	0.62	0.75	0.28	2.50	0.12	1.00	1.75
2" (S/D)	FB-6	1.62	1.00	2.25	0.62	1.38	0.34	3.12	0.25	1.50	2.50
2-1/2" (S/D)	FB-7	1.62	1.00	2.88	0.75	1.50	0.34	3.75	0.25	1.75	3.00

S = Single Acting Models D = Double Acting Models S/D= Single & Double Acting Models

Mounting Nut



Single Acting Spring Return Models

Bore	Part Number	N	E	T
7/16"	MN-1	3/8-24	0.56	0.22
9/16"	MN-2	7/16-20	0.69	0.25
3/4"	MN-3	1/2-20	0.75	0.31
1-1/16"	MN-4	5/8-18	0.94	0.38
1-1/4", 1-1/2"	MN-5	3/4-16	1.12	0.42
2"	MN-6	1-1/4-12	1.88	0.50

Single Acting Spring Extend & Double Acting Models

Bore	Part Number	N	E	T
7/16", 9/16"	MN-2	7/16-20	0.69	0.25
3/4", 1-1/16"	MN-4	5/8-18	0.94	0.38
1-1/4", 1-1/2"	MN-5	3/4-16	1.12	0.42
2"	MN-6	1-1/4-12	1.88	0.50
2-1/2"	MN-7	1-3/8-12	2.00	0.50

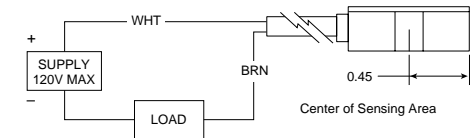
- Attach to Series S Cylinders with an adjustable band
- Switches can be positioned anywhere along the range of piston travel.
- LED indicator light facilitates installation and trouble shooting.
- Several switches can be mounted to a cylinder to control or initiate any sequence function.
- All switches are supplied with 9-ft leads.



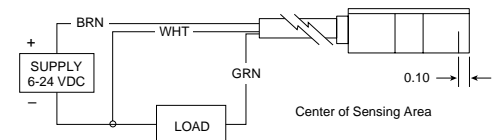
Specifications & Order Number			
Model Number	CS8-04	CS8-31	CS8-32
Switch Type	Reed Switch *MOV & Light	Hall Effect & Light, Sourcing	Hall Effect & Light, Sinking
Function	SPST Normally Open	Normally Open	Normally Open
Switching Voltage	5-120 VDC/VAC 50/60 Hz	6-24 VDC	6-24 VDC
Switching Current	0.5 Amp Max. 0.005 Amp Min.	0.5 Amp Max.	0.5 Amp Max.
Switching Power	10 VA	12 Watts Max.	12 Watts Max.
Max. Voltage Drop	3.5 Volts	0.5 Volts	0.5 Volts
Magnetic Sensitivity	85 Gauss	85 Gauss	85 Gauss
Enclosure Classification	NEMA 6	NEMA 6	NEMA 6
Temperature Range	-22°F to + 176°F	-22°F to + 176°F	-22°F to + 176°F

* Metal Oxide Varistor Surge Suppression

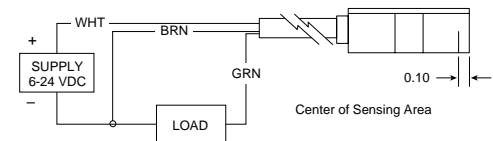
Wiring Diagram



CS8-04



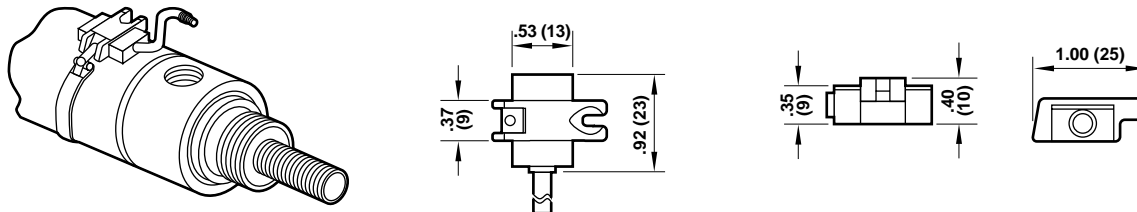
CS8-31 (Source)



CS8-32 (Sink)

Bore Size	9/16	3/4	1-1/16	1-1/4	1-1/2	2	2-1/2
Change in overall cylinder length when specifying a magnetic piston	+0.25	+0.31	+0.41	-0.09	+0.43	+0.47	+0.72

CS8 Series Switch & Mounting Strap Dimensions — In inches



CS8 Reed & Hall Effect Application Recommendations and Precautions

All Switches have been carefully engineered and tested, but since they may be installed in virtually an unlimited number of applications under a great variety of plant conditions, they should be installed as outlined to provide maximum reliability.

1. Always stay within the specifications and power rating limitations of the unit installed.
2. Primary and control circuit wiring should not be mixed in the same conduit. Motors will produce high pulses that will be introduced into the control wiring if the wiring is carried in the same conduit.
3. Never connect the switch without a load present. The switch will be destroyed.

In order to obtain optimum performance and long life, magnetically operated limit switches should not be subjected to: (1) strong magnetic fields, (2) extreme temperature and (3) excessive ferrous filing or chip buildup.

Improper wiring may damage or destroy the switch. Therefore, the wiring diagram along with the listed power ratings, should be carefully observed before connecting power to the switch.

Lower power switches are designed for signalling electronic circuits. Do not use on relay loads or with incandescent bulbs. Resistive loads only.



Roundline Ecology Piston Seal Option (E)

The Ecology (Impact Dampening) Piston Seal option is available on 3/4 to 2-1/2 inch bore size Roundline cylinders in DAP and DAD configurations. This option includes non-adjustable air cushions on both the extend and retract stroke of the cylinder. By including the Ecology Piston Seal option, cylinders can be specified based on weights of load being carried and speed of load. This is shown in the top table below.

Energy Absorption Capacity of the Impact Dampening Piston Seal

This chart represents the energy absorption capacity of the Impact Dampening piston seals with standard Non-Adjustable air cushions. The values given are usable pounds stoppable at stated piston speeds.

In/Sec	Cylinder Bore					
	3/4	1-1/16	1-1/4	1-1/2	2	2-1/2
6	36.6	62.3	74.5	115.5	258.9	421.1
12	5.6	15.6	18.6	28.9	64.7	105.3
18	2.5	6.9	8.3	12.8	28.8	46.8
24	1.4	3.9	4.7	7.2	16.2	26.3
30	0.9	2.5	3.0	4.6	10.4	16.8
36	0.6	1.7	2.1	3.2	7.2	11.7
42	0.5	1.3	1.5	2.4	5.3	8.6
48	0.3	1.0	1.2	1.8	4.0	6.6
54	0.3	0.8	0.9	1.4	3.2	5.2
60	0.2	0.6	0.7	1.2	2.6	4.2

The figures below represent total stroke loss (both ends) for the pressure indicated for new cylinders. The impact dampening seals will take some compression set during operation of the cylinder and the stroke loss will decrease. To determine stroke loss for either the head or cap, divide the value shown by 2

PSI	Cylinder Bore					
	3/4	1-1/16	1-1/4	1-1/2	2	2-1/2
0	.11	.12	.12	.14	.15	.17
20	.08	.09	.09	.10	.10	.12
40	.05	.06	.06	.07	.07	.08
60	.03	.04	.04	.04	.04	.05
80	.01	.02	.02	.02	.02	.02
100	0	0	0	0	0	0



The face of the Impact Dampening (Ecology) Piston Seal extends beyond the face of the machined aluminum piston. This allows for energy absorption when the Impact Dampening Piston Seal contacts the head or cap and compresses. In conjunction with the non-adjustable air cushions, the load is effectively stopped with minimal shock or vibration.

For complete "how to order" instructions on the Ecology Piston Seal Options, see ACT-2-22.

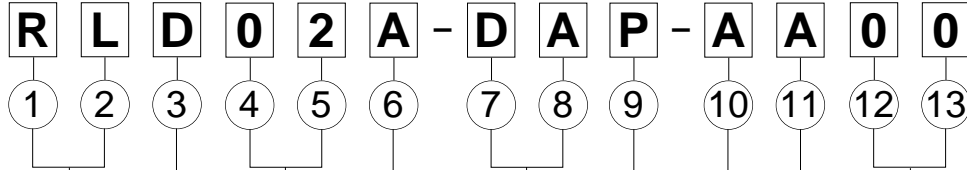


Round Line Actuators

EXAMPLE: Stainless Steel Body Air Cylinder – 1-1/16" Bore – 2" Stroke – Double Acting – Pivot Mount – No Options

IMPORTANT: When using "X" in the model number, please be specific!
X=DESCRIBE IN DETAIL

Cylinder Order Information



Series

Bore Size	
A	7/16"
B	9/16"
C	3/4"
D	1-1/16"
E	1-1/4"
F	1-1/2"
G	2"
H	2-1/2"
X	Special

Options	
00	No Options
90	Standard Magnetic Piston Only ¹

¹Magnetic pistons will change overall cylinder length. See table on preceding page.

Special Designation	
A	Standard
X	Special

Options	
A	No Options
B	Viton Seals
C	Bumpers (Head & Cap) ²
D	Viton Seals and Bumpers
E	Ecology Piston Seals ³
X	Special

²Bumpers on air side only with spring version
³DAD and DAP models only

Mounting Style	
N	Nose Mount ⁴
P	Pivot Mount
D	Double End Mount ⁴
B	Front Block Mount

⁴Includes Mounting Nut

Full Inches of Stroke			
00	0" Stroke	13	13" Stroke
01	1" Stroke	14	14" Stroke
02	2" Stroke	15	15" Stroke
03	3" Stroke	16	16" Stroke
04	4" Stroke	17	17" Stroke
05	5" Stroke	18	18" Stroke
06	6" Stroke	19	19" Stroke
07	7" Stroke	20	20" Stroke
08	8" Stroke	21	21" Stroke
09	9" Stroke	22	22" Stroke
10	10" Stroke	23	23" Stroke
11	11" Stroke	24	24" Stroke
12	12" Stroke	XX	Special

Fractional Inches of Stroke					
A	0"	G	3/8"	P	3/4"
B	1/16"	H	7/16"	R	13/16"
C	1/8"	J	1/2"	S	7/8"
D	3/16"	K	9/16"	T	15/16"
E	1/4"	M	5/8"	X	Special
F	5/16"	N	11/16"		

Model	
SA	Single Acting Spring Return
RA	Reverse Acting Spring Extend
NR	Non-Rotating Rod
DA	Double Acting
DR	Double Acting Double Rod End ⁵

⁵Double End Mount Only