

ORDER  
ONLINE



Cylinders



# ***B Square Series***

## ***Compact, Flat-Square Cylinder Line***

*We're everywhere you need us to be!*



## B Square Series

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Pneuhair



## B Square Series Compact, Flat-Square



The **B Square Series** is an extremely efficient and lightweight compact, square end cap cylinder line. It is designed for maximizing space without sacrificing quality. Our square end cap design provides flexibility for either flush-face or horizontal (side) mounting. The B Square Series also significantly reduces the centerline distance when cylinders are mounted side-by-side.

### Tube

The type 304 stainless steel **tube** is drawn and polished to a micro-inch finish on the inner diameter. This ensures low friction and longevity.

### End Caps

The **end caps** are accurately machined from aluminum alloy. They are anodized for corrosion resistance. Additionally, a recess on the piston-mating surface (at both ends) enables the air to work on a larger piston area for effortless breakaway.

### Rod Bushing

The B Square Series includes split style bronze **rod bushing** for maximum load bearing support.

### Rod Seal

The quad type **rod seal** is used for double sealing efficiency.

### Piston Rod

High strength steel **piston rod** is roller burnished for long, trouble free life.

### Piston Seal

The Buna-N O-Ring **piston seal** ensures proper sealing even at low pressures.

### Piston

The solid aluminum alloy **piston** is strong and durable.

### Tie Rods

The stainless steel **tie rods** provide high strength and corrosion resistance.

### Tube End Seal

The **tube end seals** are compression type and reusable.

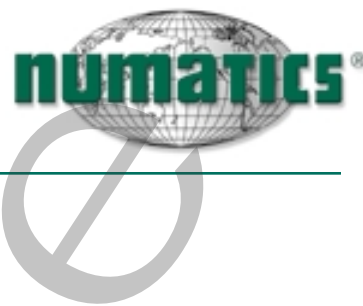
### Standard Specifications:

- Variety of mounts
- Bore sizes from 3/4" through 4"
- Piston rod diameters from 5/16" to 1"
- Nominal pressure rating is 150 psi air
- Standard temperature -10°F to 165°F (-23°C to 74°C)





B Square Series  
Compact, Flat-Square



How to Order

X Z B C-02 A 3 A-A AA 0

Mounting

- P = Pivot Mount
- R = Pivot Mount Rotated 90 Deg.
- X = Basic Mount

Type

- Z = Double Acting
- Y = Reverse Acting (Spring Extend)
- X = Single Acting (Spring Return)
- W = Double Acting Double Rod

Series

- B = B Square Series

Bore

- C = 3/4"
- E = 1-1/16"
- K = 1-1/2"
- L = 2"
- M = 2-1/2"
- N = 3"
- R = 4"

Full Inch of Stroke

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

Consult factory for strokers greater than 4".

Fractional Inches of Stroke

- |           |            |
|-----------|------------|
| A = 0"    | I = 1/2"   |
| B = 1/16" | J = 9/16"  |
| C = 1/8"  | K = 5/8"   |
| D = 3/16" | L = 11/16" |
| E = 1/4"  | M = 3/4"   |
| F = 5/16" | N = 13/16" |
| G = 3/8"  | O = 7/8"   |
| H = 7/16" | P = 15/16" |

Magnet Piston

- 0 = No Magnet
- 2 = Magnet

Options

- AA = No Option
- DH = Double Hollow Rod
- LB = Low Breakaway Piston
- FS = Fail Safe
- LT = Low Temperature Seals
- VA = Viton Seals
- WA = Wear Band
- WI = Rod Wiper
- 1A = Rod Extension  
(One End Only on Double Rods)
- 2A = Thread Extension (Male Threads)
- 3A = Studded Rod End

Cushions

- A = N/A

Ports

- A = 10-32 Port for 3/4" Bore
- B = 1/8 NPTF for 1-1/16" to 2" Bore
- C = 1/4 NPTF for 2-1/2" to 3" Bore
- D = 3/8 NPTF for 4" Bore

Rod End Codes

- 1 = Male Fine Thread
- 2 \* = Non-Threaded Rod
- 3 = Female Fine Thread
- 6 = Male Coarse Thread
- 8 = Female Coarse Thread
- \* Same length as female rod.

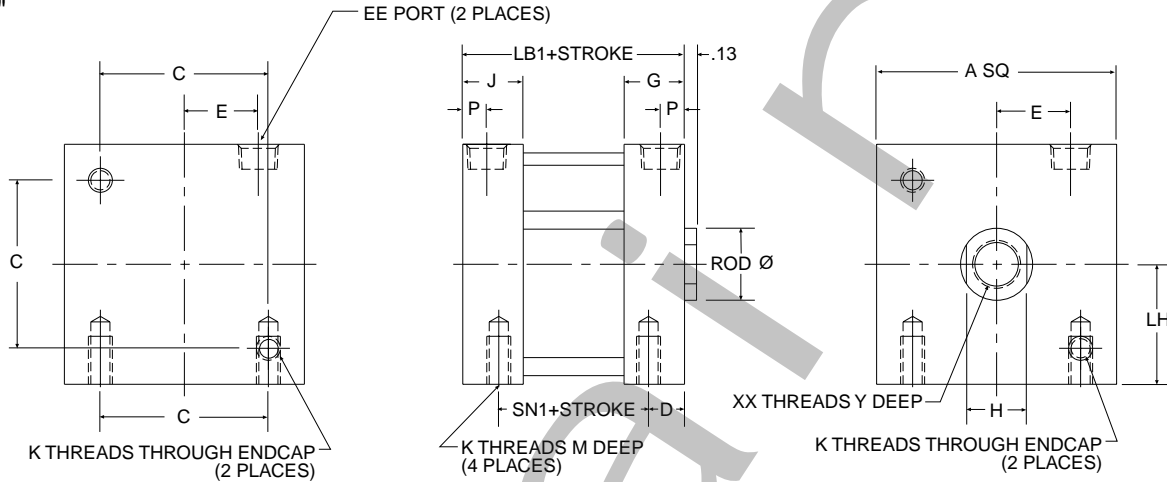


B Square Series  
Compact, Flat-Square

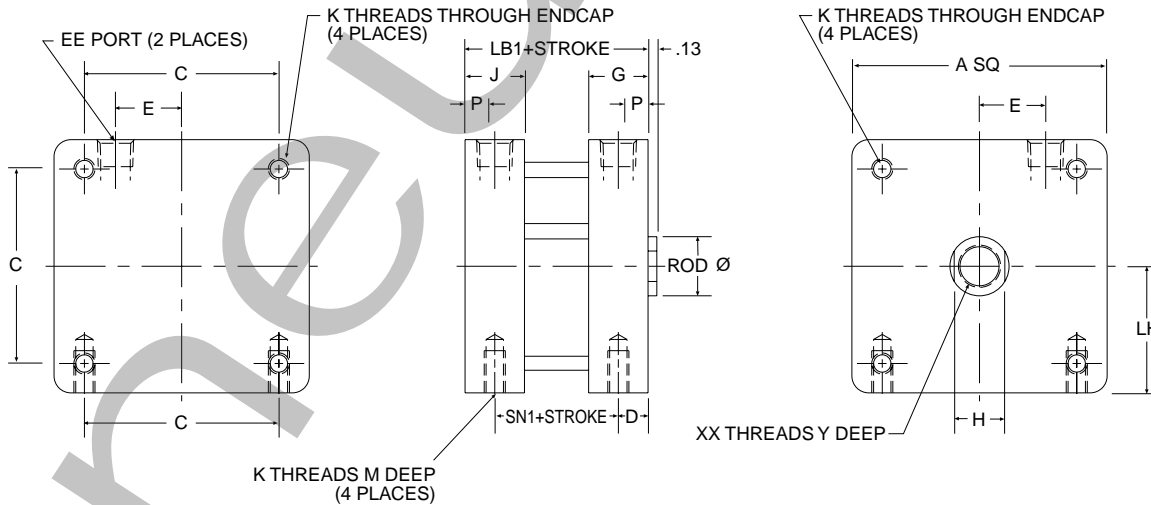


Basic Cylinder Models

Double Acting  
Single Rod  
3/4" to 2"  
Bore



Double Acting  
Single Rod  
2-1/2" to 4"  
Bore



X Mount  
Dimensions

BORE	ROD Ø	A	C	D	E	EE	G	H	J	K	LB1	M	P	SN1	XX (FINE)	XX (COARSE)	Y
0.750	0.313	1.25	0.75	0.28	0.30	10-32	0.42	0.25	0.42	6-32	0.75	0.25	0.14	0.19	10-32	10-24	0.46
1.063	0.500	1.50	1.00	0.38	0.50	1/8	0.58	0.44	0.50	8-32	1.25	0.25	0.25	0.49	5/16-24	5/16-18	0.70
1.500	0.625	2.00	1.38	0.31	0.65	1/8	0.58	0.50	0.50	10-24	1.25	0.35	0.25	0.63	3/8-24	3/8-16	0.70
2.000	0.750	2.50	1.75	0.38	0.77	1/8	0.63	0.63	0.63	1/4-20	1.31	0.38	0.25	0.55	1/2-20	1/2-13	0.70
2.500	0.750	3.25	2.38	0.42	0.78	1/4	0.84	0.63	0.84	5/16-18	1.66	0.52	0.42	0.82	1/2-20	1/2-13	0.70
3.000	0.875	3.75	2.88	0.44	0.95	1/4	0.88	0.75	0.88	5/16-18	1.71	0.52	0.44	0.83	5/8-18	5/8-11	0.73
4.000	1.000	5.00	3.63	0.50	1.25	3/8	1.00	0.88	1.00	7/16-14	2.00	0.79	0.50	1.00	3/4-16	3/4-10	0.83

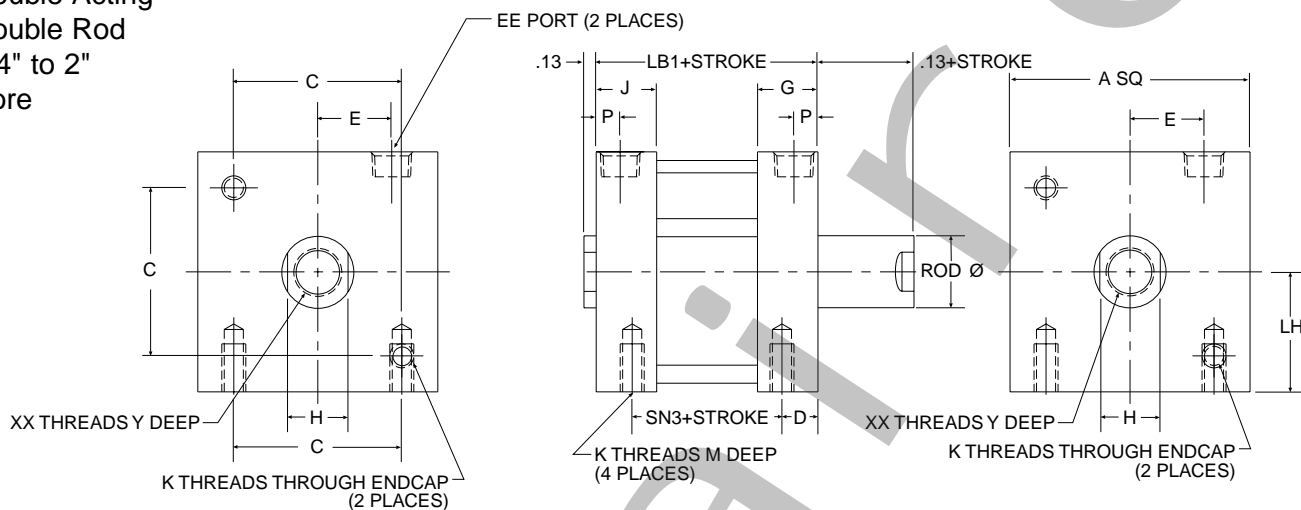


**B Square Series**  
Compact, Flat-Square

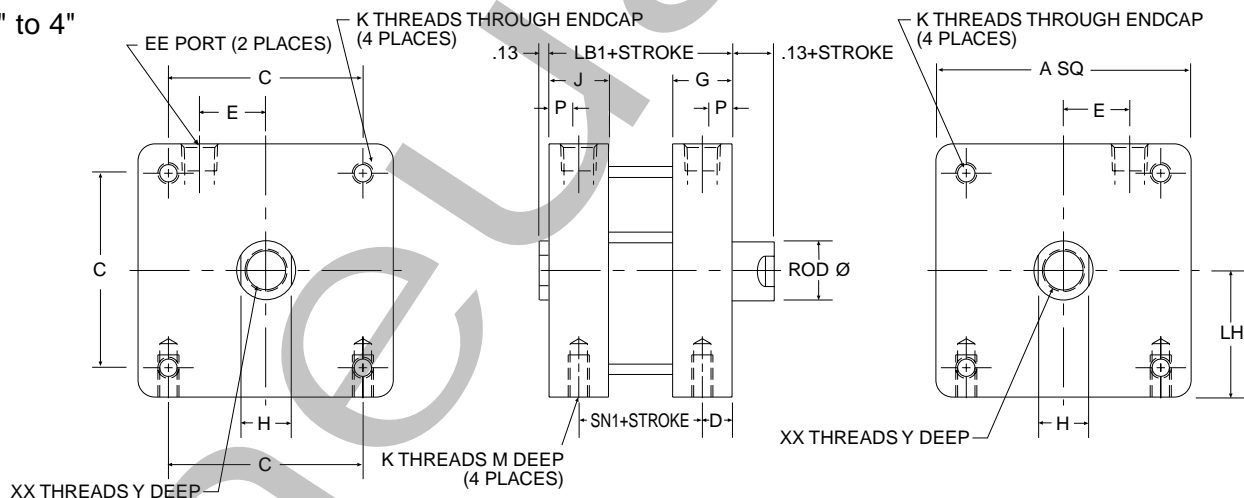


**Basic Cylinder Models continued**

Double Acting  
Double Rod  
3/4" to 2"  
Bore



Double Acting  
Double Rod  
2-1/2" to 4"  
Bore



**X Mount  
Dimensions**

BORE	ROD Ø	A	C	D	E	EE	G	H	J	K	LB1	M	P	SN1	XX (FINE)	XX (COARSE)	Y
0.750	0.313	1.25	0.75	0.28	0.30	10-32	0.42	0.25	0.42	6-32	0.75	0.25	0.14	0.19	10-32	10-24	0.46
1.063	0.500	1.50	1.00	0.38	0.50	1/8	0.58	0.44	0.50	8-32	1.25	0.25	0.25	0.49	5/16-24	5/16-18	0.70
1.500	0.625	2.00	1.38	0.31	0.65	1/8	0.58	0.50	0.50	10-24	1.25	0.35	0.25	0.63	3/8-24	3/8-16	0.70
2.000	0.750	2.50	1.75	0.38	0.77	1/8	0.63	0.63	0.63	1/4-20	1.31	0.38	0.25	0.55	1/2-20	1/2-13	0.70
2.500	0.750	3.25	2.38	0.42	0.78	1/4	0.84	0.63	0.84	5/16-18	1.66	0.52	0.42	0.82	1/2-20	1/2-13	0.70
3.000	0.875	3.75	2.88	0.44	0.95	1/4	0.88	0.75	0.88	5/16-18	1.71	0.52	0.44	0.83	5/8-18	5/8-11	0.73
4.000	1.000	5.00	3.63	0.50	1.25	3/8	1.00	0.88	1.00	7/16-14	2.00	0.79	0.50	1.00	3/4-16	3/4-10	0.83

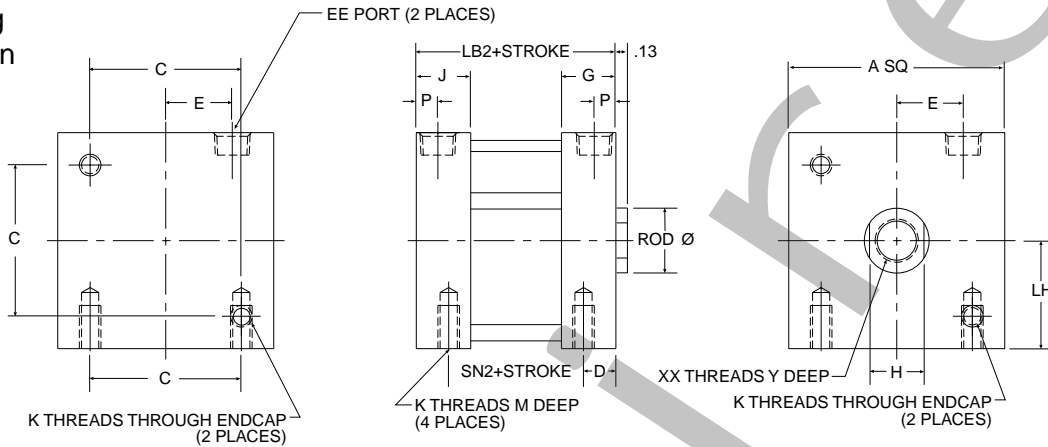


B Square Series  
Compact, Flat-Square

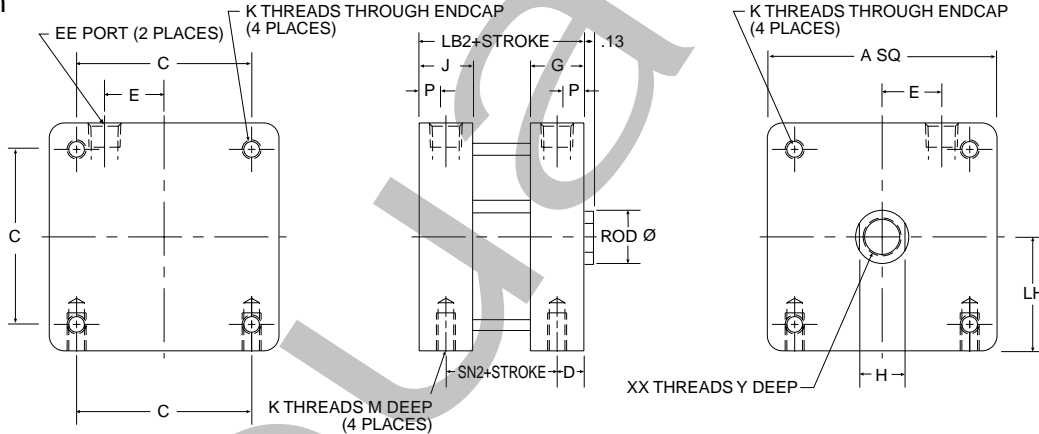


Basic Cylinder Models continued

Single Acting  
Spring Return  
3/4" to 2"  
Bore



Single Acting  
Spring Return  
2-1/2" to 4"  
Bore



Spring Data

BORE	MAX FORCE (lbf)	SPRING RATE	
		13"-1" STROKE (lbf/in)	1.13"-2" STROKE (lbf/in)
3/4"	10.0	6.00	2.50
1-1/16"	11.5	6.00	2.50
1-1/2"	13.0	5.50	2.25
2"	13.0	5.50	2.25
2-1/2"	25.0	6.75	2.75
3"	25.0	6.75	2.75
4"	25.0	6.75	2.75

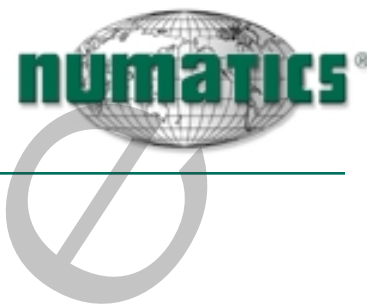
X Mount

Single Acting Spring Return

BORE	ROD Ø	A	C	D	E	EE	G	H	J	K	LB2		M	P	SN2		XX (FINE)	XX (COARSE)	Y
											13"-1" STROKE	1.13"-2" STROKE			13"-1" STROKE	1.13"-2" STROKE			
0.750	0.313	1.25	0.75	0.28	0.30	10-32	0.42	0.25	0.42	6-32	1.00	1.56	0.25	0.14	0.44	1.00	10-32	10-24	0.46
1.063	0.500	1.50	1.00	0.38	0.50	1/8	0.58	0.44	0.50	8-32	1.25	1.88	.025	0.25	0.49	1.12	5/16-24	5/16-18	0.70
1.500	0.625	2.00	1.38	0.31	0.65	1/8	0.58	0.50	0.50	10-24	1.25	1.88	.035	0.25	0.63	1.26	3/8-24	3/8-16	0.70
2.000	0.750	2.50	1.75	0.38	0.77	1/8	0.63	0.63	0.63	1/4-20	1.31	1.94	.038	0.25	0.55	1.18	1/2-20	1/2-13	0.70
2.500	0.750	3.28	2.38	0.42	0.78	1/4	0.84	0.63	0.84	5/16-18	1.66	2.54	.052	0.42	0.82	1.70	1/2-20	1/2-13	0.70
3.000	0.875	3.78	2.88	0.44	0.95	1/4	0.88	0.75	0.88	5/16-18	1.71	2.58	.052	0.44	0.83	1.70	5/8-18	5/8-11	0.73
4.000	1.000	5.04	3.63	0.50	1.25	3/8	1.00	0.88	1.00	7/16-14	2.00	2.88	.079	0.50	1.00	1.88	3/4-16	3/4-10	0.83

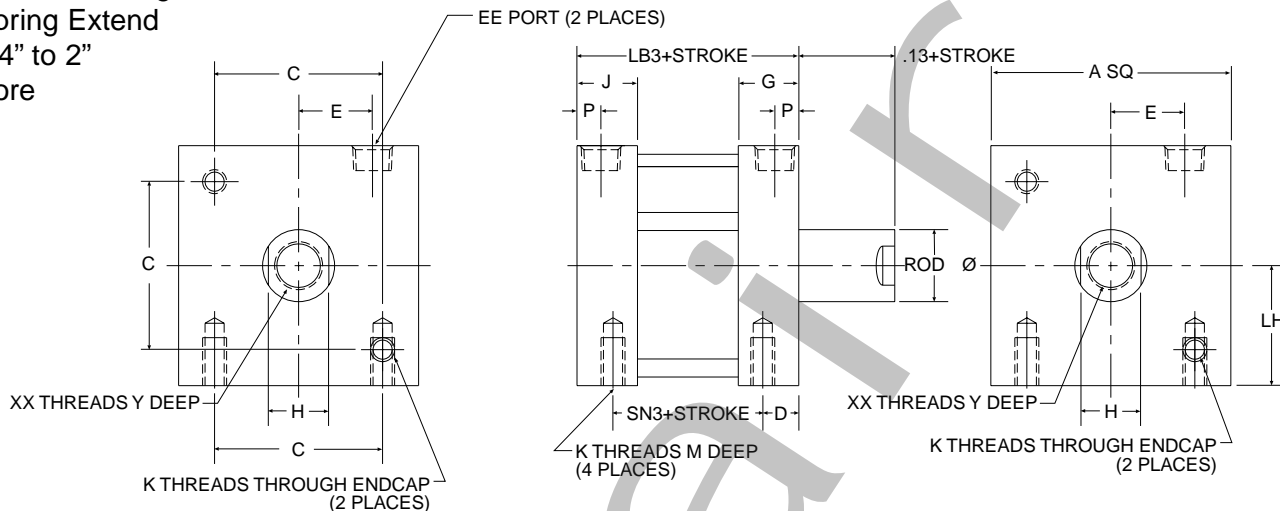


B Square Series  
Compact, Flat-Square

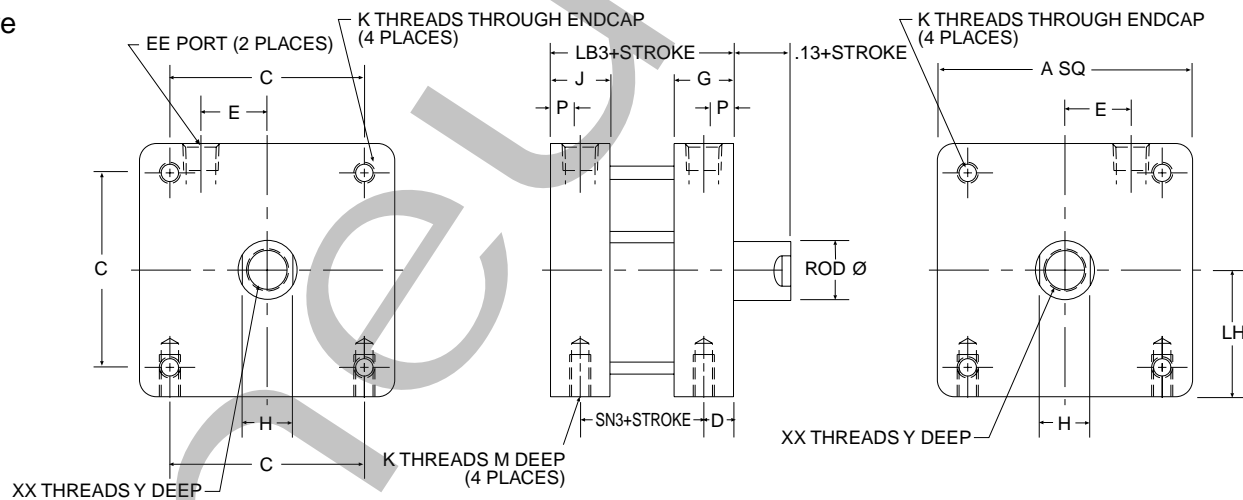


Basic Cylinder Models continued

Reverse Acting  
Spring Extend  
3/4" to 2"  
Bore



Reverse Acting  
Spring Extend  
2-1/2" to 4"  
Bore



Reverse Acting Spring Extend

BORE	ROD Ø	A	C	D	E	EE	G	H	J	K	LB3		M	P	SN3		XX (FINE)	XX (COARSE)	Y
											13"-1" STROKE	1.13"-2" STROKE			13"-1" STROKE	1.13"-2" STROKE			
0.750	0.313	1.25	0.75	0.28	0.30	10-32	0.42	0.25	0.42	6-32	1.25	1.81	0.25	0.14	0.69	1.25	10-32	10-24	0.46
1.063	0.500	1.50	1.00	0.38	0.50	1/8	0.58	0.44	0.50	8-32	1.75	2.38	0.25	0.25	1.00	1.63	5/16-24	5/16-18	0.70
1.500	0.625	2.00	1.38	0.31	0.65	1/8	0.58	0.50	0.50	10-24	1.75	2.38	0.35	0.25	1.13	1.76	3/8-24	3/8-16	0.70
2.000	0.750	2.50	1.75	0.38	0.77	1/8	0.63	0.63	0.63	1/4-20	1.81	2.44	0.38	0.25	1.05	1.68	1/2-20	1/2-13	0.70
2.500	0.750	3.25	2.38	0.42	0.78	1/4	0.84	0.63	0.84	5/16-18	2.39	3.27	0.52	0.42	1.55	2.43	1/2-20	1/2-13	0.70
3.000	0.875	3.75	2.88	0.44	0.95	1/4	0.88	0.75	0.88	5/16-18	2.44	3.31	0.52	0.44	1.56	2.43	5/8-18	5/8-11	0.73
4.000	1.000	5.00	3.63	0.50	1.25	3/8	1.00	0.88	1.00	7/16-14	2.74	3.61	0.79	0.50	1.74	2.61	3/4-16	3/4-10	0.83





B Square Series  
Compact, Flat-Square



Length Adders Weights

Basic Cylinder Models  
Length Adders

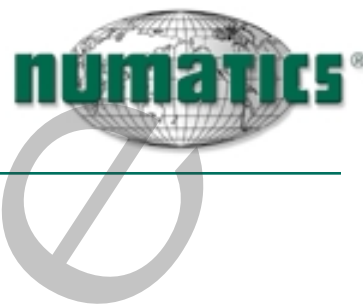
BORE	LOW BREAKAWAY	WEAR BAND	MAGNETIC PISTON
3/4"	0.25	0.16	0.75
1-1/16"	0.38	0.19	0.50
1-1/2"	0.38	0.19	0.63
2"	0.38	0.19	0.63
2-1/2"	0.38	0.19	0.88
3"	0.50	0.19	0.88
4"	0.50	0.19	0.88

Weights (oz.)

BORE	SINGLE ROD DOUBLE ACTING		DOUBLE ROD DOUBLE ACTING		SINGLE ROD SINGLE ACTING		SINGLE ROD REVERSEACTING	
	BASE	PER ADDITIONAL 1/8" STROKE	BASE	PER ADDITIONAL 1/8" STROKE	BASE	PER ADDITIONAL 1/8" STROKE	BASE	PER ADDITIONAL 1/8" STROKE
3/4"	2.2	0.1	2.4	0.2	2.2	0.1	2.2	0.1
1-1/16"	5.1	0.2	5.7	0.4	5.1	0.2	5.5	0.2
1-1/2"	10.1	0.3	10.5	0.6	10.1	0.3	10.4	0.3
2"	14.2	0.4	16.0	0.8	14.2	0.4	15.0	0.4
2-1/2"	28.6	0.4	34.2	0.6	28.6	0.4	31.2	0.4
3"	40.2	0.6	49.3	0.9	40.2	0.6	43.8	0.6
4"	71.6	0.6	87.7	0.9	71.6	0.6	77.7	0.6

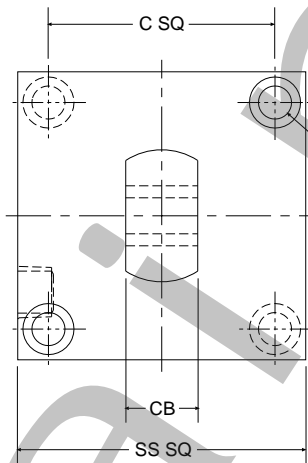
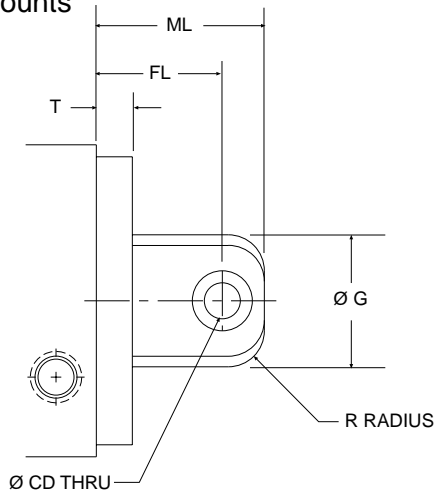


**B Square Series**  
Compact, Flat-Square



**Accessories**

**Pivot Mounts**

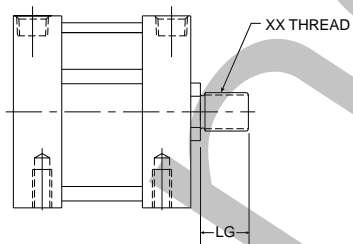


2X ØN Thru 2 Places (3/4" - 2")  
4X ØN Thru 2 Places (2-1/2" - 4")  
ØQ CBORE X U Deep.

NOTE: The standard pivot mount, code "P" is shown in its relationship to the port. If the 90° rotation pivot mount, code "R" is specified, then the pivot hole will be oriented 90° from the port.

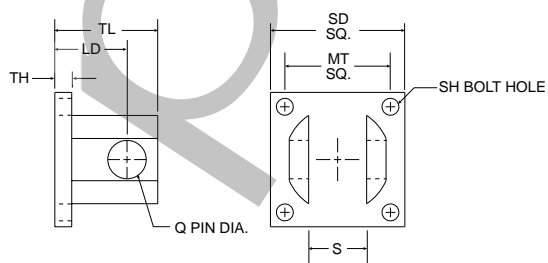
BORE	C	CB	CD	FL	G	ML	N	Q	R	SS	T	U
3/4"	0.75	0.38	0.188	0.75	0.75	1.00	0.17	0.28	-	1.13	0.19	0.12
1-1/16"	1.00	0.38	0.188	0.81	1.75	1.00	0.19	0.31	-	1.25	0.25	0.14
1-1/2"	1.38	0.75	0.375	1.19	1.38	1.63	0.22	0.38	-	1.75	0.25	0.16
2"	1.75	0.75	0.375	1.38	1.38	1.81	0.28	0.44	-	2.25	0.31	0.17
2-1/2"	2.36	0.75	0.375	1.31	1.38	1.75	0.34	0.53	0.38	3.00	0.38	0.26
3"	2.88	1.00	0.625	1.69	1.88	2.25	0.34	0.53	0.38	3.50	0.38	0.26
4"	3.62	1.00	0.625	1.75	1.88	2.31	0.47	0.72	0.38	4.50	0.44	0.43

**Male Rod Ends**



BORE	XX FINE	XX COARSE	LG
3/4"	10-32	10-24	0.38
1-1/16"	5/16-24	5/16-18	0.50
1-1/2"	3/8-24	3/8-16	0.50
2"	1/2-20	1/2-13	0.63
2-1/2"	1/2-20	1/2-13	0.63
3"	5/8-18	5/8-11	0.75
4"	3/4-16	3/4-10	0.75

**Clevis Bracket**

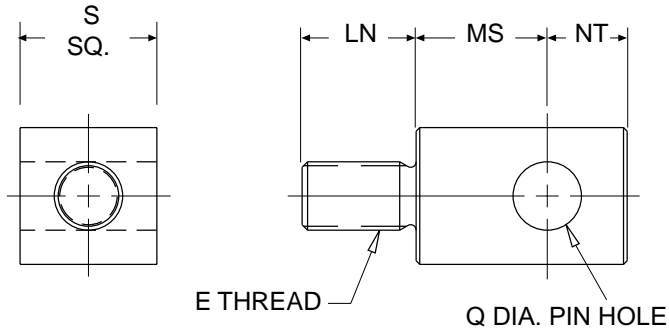


PART #	BORE	LD	MT	Q	S	SH	SD	TH	TL
B513-B01	3/4" 1-1/8"	0.56	0.75	0.19	0.39	#6	1.00	0.16	0.78
B513-K01	1-1/2" 2" 2-1/2"	0.94	1.38	0.38	0.75	#10	1.75	0.22	1.34
B513-N01	3" 4"	1.25	2.00	0.63	1.00	0.25	2.50	0.25	1.81



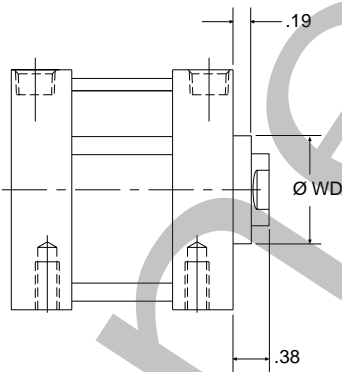
## Accessories

### Rod Pivot



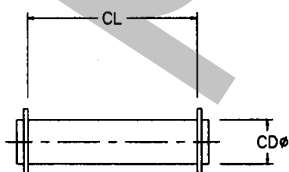
PART #	BORE	E	LN	MS	NT	Q	S
B511-C01	3/4"	10-32	0.38	0.47	0.25	0.19	0.38
B511-G01	1-1/8"	5/16-24	0.63	0.47	0.25	0.19	0.38
B511-K01	1-1/2"	3/8-24	0.63	0.72	0.44	0.38	0.75
B511-L01	2" 2-1/2"	1/2-20	0.75	0.72	0.44	0.38	0.75
B511-N01	3"	5/8-18	0.88	1.00	0.63	0.63	1.00
B511-R01	4"	3/4-16	0.88	1.00	0.63	0.63	1.00

### Wiper Option



BORE	WD
3/4"	0.69
1-1/16"	0.88
1-1/2"	1.00
2"	1.13
2-1/2"	1.13
3"	1.25
4"	1.38

### Clevis Pins 1 1/2" to 4" Bores



PART NO.	ØCD	CL
B531-B01	0.188	0.750
B531-K01	0.500	1.313
B531-N01	0.625	1.813