



- FEATURES:**
- Honed tubing
 - Heavy duty, high strength tie-rods
 - Induction hardened piston rods plated with RoyalPlate Plus® (piston rods on 2" bore not hardened)
 - Ductile iron piston, butt, gland & clevis
 - Urethane u-cup & metal encased wiper 2 1/2" bore & larger models
 - Crown seal on piston
 - Pins & cotter pins (Hardened pins on 4", 4 1/2" & 5" models)
 - Standard color is gloss black
 - Stroke control may be installed on 8" strokes (2" - 3.5" bore, A models only)
 - Side ports available on request
 - Nylon bearing ring on 4", 4 1/2" & 5" bore models
 - 3000 PSI continuous operating pressure

2 INCH BORE CYLINDERS									
New Standard Model No.	Old Standard Model No. 2500 PSI / 3000 PSI	List Price	Stroke	Wt	Column Load (lbs)	Retract	Tare Dist. (H)	Standard Dimensions of 2 Inch Bore Cylinders	
B200040ABAAA07B	none /SAE-32004	\$ 147.10	4"	17	9425 lbs	14 1/4	3 1/2	* 1 1/8" rod diameter	
B200060ABAAA07B	none /SAE-32006	\$ 149.50	6"	19	9425 lbs	16 1/4	3 1/2	A 3/16" cylinder tube wall thickness	
A200080ABAAA07B	none /SAE-32008	\$ 152.80	8"	21	9425 lbs	20 1/4	5 1/2	B, C SAE 3/4 -16 extend & retract ports	
B200100ABAAA07B	none /SAE-32010	\$ 153.40	10"	22	9425 lbs	20 1/4	3 1/2	D 1.015" clevis pin hole size	
B200120ABAAA07B	SAE-9012 /SAE-32012	\$ 155.30	12"	23	9425 lbs	22 1/4	3 1/2	E, F 1 1/8" base clevis throat depth with 2 1/8" from pin center to port center	
B200140ABAAA07B	SAE-9014 /SAE-32014	\$ 158.50	14"	25	9425 lbs	24 1/4	3 1/2	G 1 13/16" rod clevis throat depth	
A200160ABAAA07B	SAE-9016 /SAE-32016	\$ 165.60	16"	28	7630 lbs	31 1/2	8 3/4	J 1.06" min. distance between ears at pin center line	
B200180ABAAA07B	SAE-9018 /SAE-32018	\$ 170.00	18"	28	9200 lbs	28 1/4	3 1/2	K 1 1/8" base clevis ear radius	
B200200ABAAA07B	SAE-9020 /SAE-32020	\$ 175.70	20"	30	7760 lbs	30 1/4	3 1/2	L 1 1/8" rod clevis ear radius	
B200240ABAAA07B	SAE-9024 /SAE-32024	\$ 187.20	24"	33	5730 lbs	34 1/4	3 1/2	M 1 1/8" - 12 UNF-3 piston rod clevis thread size	
B200300ABAAA07B	SAE-9030 /SAE-32030	\$ 204.30	30"	37	3910 lbs	40 1/4	3 1/2	N 7/8" piston width	
								O 2 3/16" gland width	

2.5 INCH BORE CYLINDERS									
New Standard Model No.	Old Standard Model No. 2500 PSI / 3000 PSI	List Price	Stroke	Wt	Column Load (lbs)	Retract	Tare Dist. (H)	Standard Dimensions of 2.5 Inch Bore Cylinders	
B250060ABAAA07B	none /SAE-32506	\$ 152.10	6"	22	14730 lbs	16 1/4	3 3/16	* 1 1/4" rod diameter	
A250080ABAAA07B	SAE-9108 /SAE-32508	\$ 155.40	8"	25	14730 lbs	20 1/4	5 1/16	A 3/16" cylinder tube wall thickness	
B250100ABAAA07B	SAE-9110 /SAE-32510	\$ 161.40	10"	26	14730 lbs	20 1/4	3 3/16	B, C SAE 3/4 -16 extend & retract ports	
B250120ABAAA07B	SAE-9112 /SAE-32512	\$ 168.50	12"	28	14730 lbs	22 1/4	3 3/16	D 1.015" clevis pin hole size	
B250140ABAAA07B	SAE-9114 /SAE-32514	\$ 175.70	14"	30	14730 lbs	24 1/4	3 3/16	E, F 1 1/8" base clevis throat depth with 2 1/8" from pin center to port center	
A250160ABAAA07B	SAE-9116 /SAE-32516	\$ 184.10	16"	34	11520 lbs	31 1/2	8 3/16	G 1 13/16" rod clevis throat depth	
B250180ABAAA07B	SAE-9118 /SAE-32518	\$ 190.00	18"	34	13880 lbs	28 1/4	3 3/16	J 1.06" min. distance between ears at pin center line	
B250200ABAAA07B	SAE-9120 /SAE-32520	\$ 197.20	20"	36	11720 lbs	30 1/4	3 3/16	K 1 1/8" base clevis ear radius	
B250240ABAAA07B	SAE-9124 /SAE-32524	\$ 211.70	24"	41	8670 lbs	34 1/4	3 3/16	L 1 1/8" rod clevis ear radius	
B250300ABAAA07B	SAE-9130 /SAE-32530	\$ 233.10	30"	47	5930 lbs	40 1/4	3 3/16	M 1 1/8" - 12 UNF-3 piston rod clevis thread size	
								N 1" piston width	
								O 2 3/16" gland width	

3 INCH BORE CYLINDERS									
New Standard Model No.	Old Standard Model No. 2500 PSI / 3000 PSI	List Price	Stroke	Wt	Column Load (lbs)	Retract	Tare Dist. (H)	Standard Dimensions of 3 Inch Bore Cylinders	
B300060ABAAA07B	none /SAE-33006	\$ 161.70	6"	26	21210 lbs	16 1/4	3 3/4	* 1 3/8" rod diameter	
A300080ABAAA07B	SAE-9208 /SAE-33008	\$ 170.40	8"	29	21210 lbs	20 1/4	5 1/4	A 3/16" cylinder tube wall thickness	
B300100ABAAA07B	SAE-9210 /SAE-33010	\$ 177.80	10"	30	21210 lbs	20 1/4	3 3/4	B, C SAE 3/4 -16 extend & retract ports	
B300120ABAAA07B	SAE-9212 /SAE-33012	\$ 186.50	12"	33	21210 lbs	22 1/4	3 3/4	D 1.015" clevis pin hole size	
B300140ABAAA07B	SAE-9214 /SAE-33014	\$ 195.10	14"	35	21210 lbs	24 1/4	3 3/4	E, F 1 1/8" base clevis throat depth with 2 1/8" from pin center to port center	
A300160ABAAA07B	SAE-9216 /SAE-33016	\$ 205.10	16"	40	16730 lbs	31 1/2	9	G 1 13/16" rod clevis throat depth	
B300180ABAAA07B	SAE-9218 /SAE-33018	\$ 212.40	18"	40	20120 lbs	28 1/4	3 3/4	J 1.06" min. distance between ears at pin center line	
B300200ABAAA07B	SAE-9220 /SAE-33020	\$ 221.20	20"	42	17010 lbs	30 1/4	3 3/4	K 1 1/8" base clevis ear radius	
B300240ABAAA07B	SAE-9224 /SAE-33024	\$ 242.60	24"	47	12620 lbs	34 1/4	3 3/4	L 1 1/8" rod clevis ear radius	
B300300ABAAA07B	SAE-9230 /SAE-33030	\$ 280.80	30"	54	8640 lbs	40 1/4	3 3/4	M 1 1/8" - 12 UNF-3 piston rod clevis thread size	
B300360ABAAA07B	SAE-9236 /SAE-33036	\$ 319.00	36"	61	6290 lbs	46 1/4	3 3/4	N 1" piston width	
B300480ABAAA07B	SAE-9248 /SAE-33048	\$ 395.40	48"	75	3760 lbs	58 1/4	3 3/4	O 1 13/16" gland width	

3.5 INCH BORE CYLINDERS									
New Standard Model No.	Old Standard Model No. 2500 PSI / 3000 PSI	List Price	Stroke	Wt	Column Load (lbs)	Retract	Tare Dist. (H)	Standard Dimensions of 3.5 Inch Bore Cylinders	
A350080ABAAA07B	SAE-9308A /SAE-33508	\$ 184.80	8"	35	28860 lbs	20 1/4	5 3/4	* 1 3/8" rod diameter	
B350100ABAAA07B	SAE-9310A /SAE-33510	\$ 193.90	10"	37	28860 lbs	20 1/4	3 3/4	A 3/16" cylinder tube wall thickness	
B350120ABAAA07B	SAE-9312A /SAE-33512	\$ 205.00	12"	39	28860 lbs	22 1/4	3 3/4	B, C SAE 3/4 -16 extend & retract ports	
B350140ABAAA07B	SAE-9314A /SAE-33514	\$ 216.00	14"	42	28860 lbs	24 1/4	3 3/4	D 1.015" clevis pin hole size	
A350160ABAAA07B	SAE-9316A /SAE-33516	\$ 228.90	16"	46	16900 lbs	31 1/2	9	E, F 1 1/8" base clevis throat depth with 2 1/8" from pin center to port center	
B350180ABAAA07B	SAE-9318A /SAE-33518	\$ 237.90	18"	47	20400 lbs	28 1/4	3 3/4	G 1 13/16" rod clevis throat depth	
B350200ABAAA07B	SAE-9320A /SAE-33520	\$ 248.90	20"	49	17240 lbs	30 1/4	3 3/4	J 1.06" min. distance between ears at pin center line	
B350240ABAAA07B	SAE-9324A /SAE-33524	\$ 271.00	24"	54	12780 lbs	34 1/4	3 3/4	K 1 1/8" base clevis ear radius	
B350300ABAAA07B	SAE-9330A /SAE-33530	\$ 311.80	30"	62	8760 lbs	40 1/4	3 3/4	L 1 1/8" rod clevis ear radius	
B350360ABAAA07B	SAE-9336A /SAE-33536	\$ 352.50	36"	69	6370 lbs	46 1/4	3 3/4	M 1 1/8" - 12 UNF-3 piston rod clevis thread size	
B350480ABAAA07B	SAE-9348A /SAE-33548	\$ 434.10	48"	85	3800 lbs	58 1/4	3 3/4	N 1" piston width	
								O 1 13/16" gland width	

4 INCH BORE CYLINDERS									
New Standard Model No.	Old Standard Model No. 2500 PSI / 3000 PSI	List Price	Stroke	Wt	Column Load (lbs)	Retract	Tare Dist. (H)	Standard Dimensions of 4 Inch Bore Cylinders	
A400080ABACA07B	SAE-9408 /SAE-34008	\$ 244.40	8"	48	37700 lbs	20 1/4	5 1/4	* 1 3/4" rod diameter	
B400100ABACA07B	SAE-9410 /SAE-34010	\$ 255.00	10"	50	37700 lbs	20 1/4	3 3/4	A 3/16" cylinder tube wall thickness	
B400120ABACA07B	SAE-9412 /SAE-34012	\$ 268.20	12"	54	37700 lbs	22 1/4	3 3/4	B, C SAE 3/4 -16 extend & retract ports	
B400140ABACA07B	SAE-9414 /SAE-34014	\$ 281.30	14"	57	37700 lbs	24 1/4	3 3/4	D 1.015" clevis pin hole size	
A400160ABACA07B	SAE-9416 /SAE-34016	\$ 296.70	16"	64	37700 lbs	31 1/2	8 1/2	E, F 1 1/8" base clevis throat depth with 2 1/8" from pin center to port center	
B400180ABACA07B	SAE-9418 /SAE-34018	\$ 307.50	18"	64	37700 lbs	28 1/4	3 3/4	G 1 13/16" rod clevis throat depth	
B400200ABACA07B	SAE-9420 /SAE-34020	\$ 320.50	20"	68	37700 lbs	30 1/2	3 3/4	J 1.06" min. distance between ears at pin center line	
B400240ABACA07B	SAE-9424 /SAE-34024	\$ 339.00	24"	75	33710 lbs	34 1/4	3 3/4	K 1 1/8" base clevis ear radius	
B400300ABACA07B	SAE-9430 /SAE-34030	\$ 378.20	30"	85	22990 lbs	40 1/4	3 3/4	L 1 1/8" rod clevis ear radius	
B400360ABACA07B	SAE-9436 /SAE-34036	\$ 417.50	36"	95	16680 lbs	46 1/4	3 3/4	M 1 1/2" - 12 UNF-3 piston rod clevis thread size	
B400480ABACA07B	SAE-9448 /SAE-34048	\$ 496.00	48"	116	9920 lbs	58 1/4	3 3/4	N 1 1/2" piston width	
								O 1 13/16" gland width	

4.5 INCH BORE CYLINDERS									
New Standard Model No.	Old Standard Model No. 2500 PSI / 3000 PSI	List Price	Stroke	Wt	Column Load (lbs)	Retract	Tare Dist. (H)	Standard Dimensions of 4.5 Inch Bore Cylinders	
B450080ACDDA07B	none /SAE-34508	\$ 322.70	8"	60	47710 lbs	20 1/4	4	* 2" rod diameter	
B450120ACDDA07B	none /SAE-34512	\$ 353.00	12"	69	47710 lbs	24 1/4	4	A 1/4" cylinder tube wall thickness	
B450140ACDDA07B	none /SAE-34514	\$ 368.10	14"	74	47710 lbs	26 1/4	4	B, C SAE 7/8 -14 extend & retract ports	
A450160ACDDA07B	none /SAE-34516	\$ 385.60	16"	81	47710 lbs	31 1/2	7 1/4	D 1.265" clevis pin hole size	
B450180ACDDA07B	none /SAE-34518	\$ 398.40	18"	83	47710 lbs	30 1/4	4	E, F 1 3/8" base clevis throat depth with 2 1/8" from pin center to port center	
B450200ACDDA07B	none /SAE-34520	\$ 413.60	20"	87	47710 lbs	32 1/4	4	G 2" rod clevis throat depth	
B450240ACDDA07B	none /SAE-34524	\$ 443.80	24"	97	44710 lbs	36 1/4	4	J 1.13" min. distance between ears at pin center line	
B450300ACDDA07B	none /SAE-34530	\$ 489.40	30"	110	37530 lbs	42 1/4	4	K 1 15/16" base clevis ear radius	
B450360ACDDA07B	none /SAE-34536	\$ 534.90	36"	124	27430 lbs	48 1/4	4	L 1 1/4" rod clevis ear radius	
B450480ACDDA07B	none /SAE-34548	\$ 646.70	48"	152	16470 lbs	60 1/4	4	M 1 1/2" - 12 UNF-3 piston rod clevis thread size	
								N 1 7/8" piston width	
								O 1 15/16" gland width	

5 INCH BORE CYLINDERS									
New Standard Model No.	Old Standard Model No. 2500 PSI / 3000 PSI	List Price	Stroke	Wt	Column Load (lbs)	Retract	Tare Dist. (H)	Standard Dimensions of 5 Inch Bore Cylinders	
B500080ACDDA07B	SAE-9508 /SAE-35008	\$ 350.80	8"	72	58900 lbs	20 1/4	4	* 2" rod diameter	
B500120ACDDA07B	SAE-9512 /SAE-35012	\$ 381.50	12"	83	58900 lbs	24 1/4	4	A 1/4" cylinder tube wall thickness	
B500140ACDDA07B	SAE-9514 /SAE-35014	\$ 396.90	14"	88	58900 lbs	26 1/4	4	B, C SAE 7/8 -14 extend & retract ports	
A500160ACDDA07B	SAE-9516 /SAE-35016	\$ 417.40	16"	96	58900 lbs	31 1/2	7 1/4	D 1.265" clevis pin hole size	
B500180ACDDA07B	SAE-9518 /SAE-35018	\$ 427.70	18"	98	58900 lbs	30 1/4	4	E, F 1 3/8" base clevis throat depth with 2 1/8" from pin center to port center	
B500200ACDDA07B	SAE-9520 /SAE-35020	\$ 443.10	20"	103	58900 lbs	32 1/4	4	G 2" rod clevis throat depth	
B500240ACDDA07B	SAE-9524 /SAE-35024	\$ 464.10	24"	113	54510 lbs	36 1/4	4	J 1.13" min. distance between ears at pin center line	
B500300ACDDA07B	SAE-9530 /SAE-35030	\$ 512.50	30"	129	37620 lbs	42 1/4	4	K 1 3/8" base clevis ear radius	
B500360ACDDA07B	SAE-9536 /SAE-35036	\$ 563.90	36"	144	27520 lbs	48 1/4	4	L 1 1/4" rod clevis ear radius	
B500480ACDDA07B	SAE-9548 /SAE-35048	\$ 678.80	48"	175	16550 lbs	60 1/4	4	M 1 1/2" - 12 UNF-3 piston rod clevis thread size	
								N 1 7/8" piston width	
								O 2 1/2" gland width	

3000 P.S.I. Rated Tie-Rod

Standard Tie-Rod Options

Model Code Identification Matrix

MODEL CODE SYSTEM B 350 160 ABAAA07B

MODELS:
B=B SERIES-3000 PSI
A=ASAE VERSION OF B SERIES
(8" & 16" Strokes only,
8" stroke not available
in 4.5" & 5" bore size.)

BORE SIZE:
200=2.00" Bore 400=4.00" Bore
250=2.50" Bore 450=4.50" Bore
300=3.00" Bore 500=5.00" Bore
350=3.50" Bore

STROKE: (Inches)
First two digits are in inches
Third digit is 0-7 representing
1/8's of an inch for custom strokes.
Consult Prince for over 48"

GLAND PORT LOCATIONS: (See Pictorial Below)

A=(Top Port, STD)
B=(R. Side Port)
C=(Bottom Port)
D=(L. Side Port)

**PORT LOCATION DETERMINED FROM VIEWING
CYLINDER FROM BASE END.**

PORT STYLE & SIZE: (See Table Below)

CODE	PORT TYPE & SIZE	CYLINDER BORE SIZE (inch)							
		2.00	2.50	3.00	3.50	4.00	4.50	5.00	
A	#6 SAE ORB (9/16-18)	O	O	O	O	O	O	O	O
B	#8 SAE ORB (3/4-16)	S	S	S	S	S	S	S	S
C	#10 SAE ORB (7/8-14)							S	S
D	NPTF 3/8	O	O	O	O	O	O	O	O
E	NPTF 1/2	O	O	O	O	O	O	O	O
F	NPTF 3/4								

Table Identifiers: (For Tables Above)
S-STANDARD O-OPTIONAL BLANK-NOT AVAILABLE

CARTON & DECAL CODE
A=No carton-Std decals, Installed
B=Carton-Std decals, Installed (STD)
C=No carton-Std decals, Loose
D=Carton-Std decals, Loose
E=No carton-Std decals, customer I.D. decal, Installed
F=Carton-Std decals, customer I.D. decal, Installed
G=No carton-Std decals, customer I.D. decal, Loose
H=Carton-Std decals, customer I.D. decal, Loose
J=No carton-Customer I.D. decal, Installed
K=Carton-Customer I.D. decal, Installed
L=No carton-Customer I.D. decal, Loose
M=Carton-Customer I.D. decal, Loose
N=No carton-Warning decals, Installed
P=Carton-Warning decals, Installed
Q=No carton-Warning decal, Loose
R=Carton-Warning decals, Loose
S=No carton-Warning, Customer I.D. decal, Installed
T=Carton-Warning, Customer I.D. decal, Installed
U=No carton-Warning, Customer I.D. decal, Loose
V=Carton-Warning, Customer I.D. decal, Loose

PAINT:
00=No Paint
01=Gloss Red
03=Highway Yellow (STD)
04=Canary Yellow
05=Green
06=Blue
07=Gloss Black
14=Gloss White
20=Red Primer
30=Black Primer
35=Naval Gray
50=Yellow Primer
53=Gray Primer
55=Silver Gray
58=Gray

CLEVIS PIN INSTALLATION & RETAINER OPTIONS:
A=Cotter Pins & Clevis Pin(s) Shipped Loose (STD)
B=Cotter Pins & Clevis Pin(s) Installed
C=No Retainers, Clevis Pin(s) Shipped Loose if Selected

AVAILABLE CLEVIS PIN OPTIONS	CYLINDER BORE SIZE (inch)							
	2.00	2.50	3.00	3.50	4.00	4.50	5.00	
1.00"ø PIN	S	S	S	S	S	S	S	
1.00"ø HARDENED PIN	O	O	O	O	S			
1.25"ø HARDENED PIN					O	S	S	

CLEVIS PIN OPTIONS & AVAILABILITY: (See Table Above)
A=2-1.00"ø Pins
B=Reserved
C=2-1.00"ø Hardened Pins
D=2-1.25"ø Hardened Pins
E=1-1.00"ø Pin
F=Reserved
G=1-1.00"ø Hardened Pin
H=1-1.25"ø Hardened Pin
J=No Pins

END FITTING OPTIONS: (See Table Above)
A=ø1.00" Pin Holes, Both Ends
B=ø1.00" Base End Pin Hole, No Rod Clevis
C=ø1.00" Pin Holes, Both Ends, Stroke Control Assy *
D=ø1.25" Pin Holes, Both Ends
E=ø1.25" Base End Pin Hole, No Rod Clevis
F=ASAE Version 2.0-3.5" Bore with 8" stroke only

ITEMS IN GREEN SIGNIFY STANDARD OPTIONS.

3000 PSI BASE LIST PRICE

Model	2" Bore	2.5" Bore	3" Bore	3.5" Bore	4" Bore	4.5" Bore	5" Bore
*A	\$ 122.70	\$ 124.60	\$133.60	\$137.30	\$ 179.40	\$ 231.50	\$255.50
B	\$ 121.40	\$ 123.40	\$132.30	\$135.40	\$ 177.10	\$ 229.10	\$250.40

*8" & 16" stroke only

STROKE OPTIONS

Model	2" Bore	2.5" Bore	3" Bore	3.5" Bore	4" Bore	4.5" Bore	5" Bore
2 - 4"	\$ 3.40	\$ 4.30	\$ 4.90	\$ 7.30	\$ 11.50	\$ 16.10	\$ 19.80
4 1/8 - 6"	\$ 5.80	\$ 6.40	\$ 7.10	\$ 9.70	\$ 16.00	\$ 21.30	\$ 25.40
6 1/8 - 8"	\$ 7.80	\$ 8.50	\$ 14.50	\$ 18.00	\$ 25.30	\$ 31.70	\$ 38.50
8 1/8 - 10"	\$ 9.70	\$ 15.70	\$ 23.20	\$ 29.00	\$ 38.20	\$ 46.80	\$ 53.80
10 1/8 - 12"	\$ 11.60	\$ 22.80	\$ 31.90	\$ 40.10	\$ 51.40	\$ 62.00	\$ 69.20
12 1/8 - 14"	\$ 14.80	\$ 30.00	\$ 40.50	\$ 51.10	\$ 64.50	\$ 77.10	\$ 84.60
14 1/8 - 16"	\$ 20.60	\$ 37.20	\$ 49.20	\$ 62.10	\$ 77.60	\$ 92.20	\$ 100.00
16 1/8 - 18"	\$ 26.30	\$ 44.30	\$ 57.80	\$ 73.00	\$ 90.70	\$ 107.40	\$ 115.40
18 1/8 - 20"	\$ 32.00	\$ 51.50	\$ 66.60	\$ 84.00	\$ 103.70	\$ 122.60	\$ 130.80
20 1/8 - 22"	\$ 37.70	\$ 58.80	\$ 75.30	\$ 95.10	\$ 116.80	\$ 137.80	\$ 146.10
22 1/8 - 24"	\$ 43.50	\$ 66.00	\$ 88.00	\$ 106.10	\$ 122.20	\$ 152.80	\$ 151.80
24 1/8 - 26"	\$ 49.20	\$ 73.00	\$ 100.70	\$ 119.70	\$ 135.40	\$ 168.00	\$ 167.40
26 1/8 - 28"	\$ 54.90	\$ 80.20	\$ 113.50	\$ 133.30	\$ 148.40	\$ 183.20	\$ 183.10
28 1/8 - 30"	\$ 60.60	\$ 87.40	\$ 126.20	\$ 146.90	\$ 161.40	\$ 198.40	\$ 200.20
30 1/8 - 32"	\$ 66.40	\$ 94.60	\$ 138.80	\$ 160.40	\$ 174.60	\$ 213.50	\$ 217.40
32 1/8 - 34"	\$ 72.20	\$ 101.80	\$ 151.70	\$ 174.00	\$ 187.60	\$ 228.70	\$ 234.50
34 1/8 - 36"	\$ 77.80	\$ 109.00	\$ 164.40	\$ 187.60	\$ 200.70	\$ 243.90	\$ 251.60
36 1/8 - 38"	\$ 83.60	\$ 116.10	\$ 177.00	\$ 201.20	\$ 213.80	\$ 262.50	\$ 270.80
38 1/8 - 40"	\$ 89.30	\$ 123.20	\$ 189.90	\$ 214.80	\$ 226.80	\$ 281.10	\$ 289.90
40 1/8 - 42"	\$ 95.10	\$ 130.40	\$ 202.60	\$ 228.40	\$ 239.90	\$ 299.80	\$ 309.10
42 1/8 - 44"	\$ 100.70	\$ 137.70	\$ 215.20	\$ 242.00	\$ 253.00	\$ 318.40	\$ 328.30
44 1/8 - 46"	\$ 106.50	\$ 144.80	\$ 228.10	\$ 255.60	\$ 266.10	\$ 337.00	\$ 347.40
46 1/8 - 48"	\$ 112.20	\$ 152.00	\$ 240.80	\$ 269.20	\$ 279.20	\$ 355.70	\$ 366.50

PORT LOCATION OPTION

Model	2" Bore	2.5" Bore	3" Bore	3.5" Bore	4" Bore	4.5" Bore	5" Bore
A	N/C	N/C	N/C	N/C	N/C	N/C	N/C
*B	N/C	N/C	N/C	N/C	N/C	N/C	N/C
*C	\$ 4.90	\$ 4.90	\$ 4.90	\$ 4.90	\$ 4.90	\$ 4.90	\$ 4.90
*D	\$ 4.90	\$ 4.90	\$ 4.90	\$ 4.90	\$ 4.90	\$ 4.90	\$ 4.90

*Rotate Ports From Stock \$15.00 Net

PORT STYLE & SIZE OPTION

Model	2" Bore	2.5" Bore	3" Bore	3.5" Bore	4" Bore	4.5" Bore	5" Bore
A	\$ 6.50	\$ 6.50	\$ 6.50	\$ 6.50	\$ 6.50	\$ 6.50	\$ 6.50
B	N/C	N/C	N/C	N/C	N/C	\$ 6.50	\$ 6.50
C	NA	NA	NA	NA	NA	N/C	N/C
D	\$ 6.50	\$ 6.50	\$ 6.50	\$ 6.50	\$ 6.50	\$ 6.50	\$ 6.50
E	\$ 6.50	\$ 6.50	\$ 6.50	\$ 6.50	\$ 6.50	\$ 6.50	\$ 6.50
F	NA	NA	NA	NA	NA	NA	\$ 6.50

ITEMS IN GREEN SIGNIFY STANDARD OPTIONS.

END FITTINGS OPTIONS

	2" Bore	2.5" Bore	3" Bore	3.5" Bore	4" Bore	4.5" Bore	5" Bore
A	\$ 9.50	\$ 9.50	\$ 9.50	\$ 16.70	\$ 16.70	NA	NA
*B	N/C	N/C	N/C	N/C	N/C	N/C	N/C
*C	\$ 73.70	\$ 73.70	\$ 73.70	\$ 80.90	NA	NA	NA
*D	NA	NA	NA	NA	\$ 16.70	\$ 29.90	\$ 29.90
E	NA	NA	NA	NA	N/C	N/C	N/C

*Remove Clevis From Stock \$7.50

CLEVIS PIN OPTIONS

	2" Bore	2.5" Bore	3" Bore	3.5" Bore	4" Bore	4.5" Bore	5" Bore
A	\$ 3.90	\$ 3.90	\$ 3.90	\$ 3.90	NA	NA	NA
B	NA	NA	NA	NA	NA	NA	NA
C	\$ 10.60	\$ 10.60	\$ 10.60	\$ 10.60	\$ 10.60	NA	NA
D	NA	NA	NA	NA	\$ 19.60	\$ 19.60	\$ 19.60
E	\$ 2.00	\$ 2.00	\$ 2.00	\$ 2.00	NA	NA	NA
F	NA	NA	NA	NA	NA	NA	NA
G	\$ 5.40	\$ 5.40	\$ 5.40	\$ 5.40	\$ 5.40	NA	NA
H	NA	NA	NA	NA	\$ 9.90	\$ 9.90	\$ 9.90
J	N/C	N/C	N/C	N/C	N/C	N/C	N/C

PIN INSTALLATION & RETAINER OPTIONS

	2" Bore	2.5" Bore	3" Bore	3.5" Bore	4" Bore	4.5" Bore	5" Bore
A	\$ 0.90	\$ 0.90	\$ 0.90	\$ 0.90	\$ 0.90	\$ 0.90	\$ 0.90
B	\$ 0.90	\$ 0.90	\$ 0.90	\$ 0.90	\$ 0.90	\$ 0.90	\$ 0.90
C	N/C	N/C	N/C	N/C	N/C	N/C	N/C

PAINT OPTIONS

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2" Bore	2.5" Bore	3" Bore	3.5" Bore	4" Bore	4.5" Bore	5" Bore
N/C	N/C	N/C	N/C	N/C	N/C	N/C

PAINT OPTIONS

01, 03, 04, 05, 06, 07, 14, 20, 30, 35, 50, 53, 55, 58

2" Bore	2.5" Bore	3" Bore	3.5" Bore	4" Bore	4.5" Bore	5" Bore
\$3.60	\$3.60	\$ 3.60	\$3.60	\$6.10	\$6.10	\$6.10

BOX OPTIONS

A, C, E, G, J, L, N, Q, S, U

2" Bore	2.5" Bore	3" Bore	3.5" Bore	4" Bore	4.5" Bore	5" Bore
N/C	N/C	N/C	N/C	N/C	N/C	N/C

BOX OPTIONS

B, D, F, H, K, M, P, R, T, V

2" Bore	2.5" Bore	3" Bore	3.5" Bore	4" Bore	4.5" Bore	5" Bore
\$4.40	\$4.40	\$ 4.40	\$4.40	\$5.40	\$5.40	\$5.40

CONFIGURED TIE-ROD CYLINDER APPLICATION DATA

CYLINDER RETRACT LENGTH

Retract length is measured from pin center to pin center. Cylinders configured without a rod clevis shall have a retract length measured from base clevis pin center to end of piston rod.

RETRACT LENGTH FORMULA ("B" Models only)

Stroke (inches) + Cylinder Model Constant + Rod Clevis Constant
(see table below) (see table below)

"B" MODEL RETRACT LENGTH

Bore Size	Cylinder Model Constant	Rod Clevis Constant
2 - 3.5"	8.437"	1.813"
4"	8.375"	1.875"
4.5 - 5"	10.250"	2.000"

"A" MODEL RETRACT LENGTH

Bore Size	8" Stroke	16" Stroke
2 - 3.5"*	20.25"	31.50"
4"*	20.25"	31.50"
4.5"-5"***	-	31.50"

* Subtract 1.813 For Cylinders Without Rod Clevis

** Subtract 2" For Cylinders Without Rod Clevis

CYLINDER DIMENSIONAL FEATURES

For dimensional data of configured cylinders please refer to the Standard Dimensions column of the standard cylinder tables on the opposite page. For outside cylinder dimensions and clevis widths for both A & B models see table below.

Bore Size	Outside Sq. Dim.		Clevis Width	
	Butt	Gland	Butt	Rod
2"	2.875"	2.875"	2.375"	2.500"
2.5"	3.375"	3.375"	2.344"	2.500"
3"	3.875"	3.875"	2.375"	2.500"
3.5"	4.313"	4.313"	2.625"	2.875"
4"	5.063"	5.063"	2.750"	2.875"
4.5"	5.500"	5.500"	2.938"	2.875"
5"	5.875"	5.875"	2.938"	2.875"

CYLINDER PISTON ROD THREAD DATA

Cylinder Model Code/Bore Size	Piston Rod Thread Size	Piston Rod Thread Length (inches)	Piston Rod Turndown Length (inches)
A20016, B200's	1 1/8-12 UNF-3A	1.250	1.250
A25016, B250's	1 1/8-12 UNF-3A	1.063	1.250
A30016, B300's	1 1/8-12 UNF-3A	1.188	1.375
A35016, B350's	1 5/16-12 UNS-3A	1.188	1.375
A40016, B400's, C400's	1 1/2-12 UNF-3A	.938	1.125
B450's, B500's	1 1/2-12 UNF-3A	1.250	1.438
A20008	1 1/8-12 UNF-3A	1.750	1.750
A25008 - A30008	1 1/8-12 UNF-3A	1.563	1.750
A35008	1 5/16-12 UNS-3A	1.563	1.750

Cylinder Column Load Rating

Column load is the maximum recommended load for a specific cylinder stroke when the cylinder is in full extended position and has pin-pin mounting conditions. Rods are sized for a maximum safe push load (2:1 safety factor) given in the tables. This is based on the pin configuration shown with no center support. Operating pressures shown for equivalent column loads.

COLUMN LOAD DATA FOR "B" MODELS