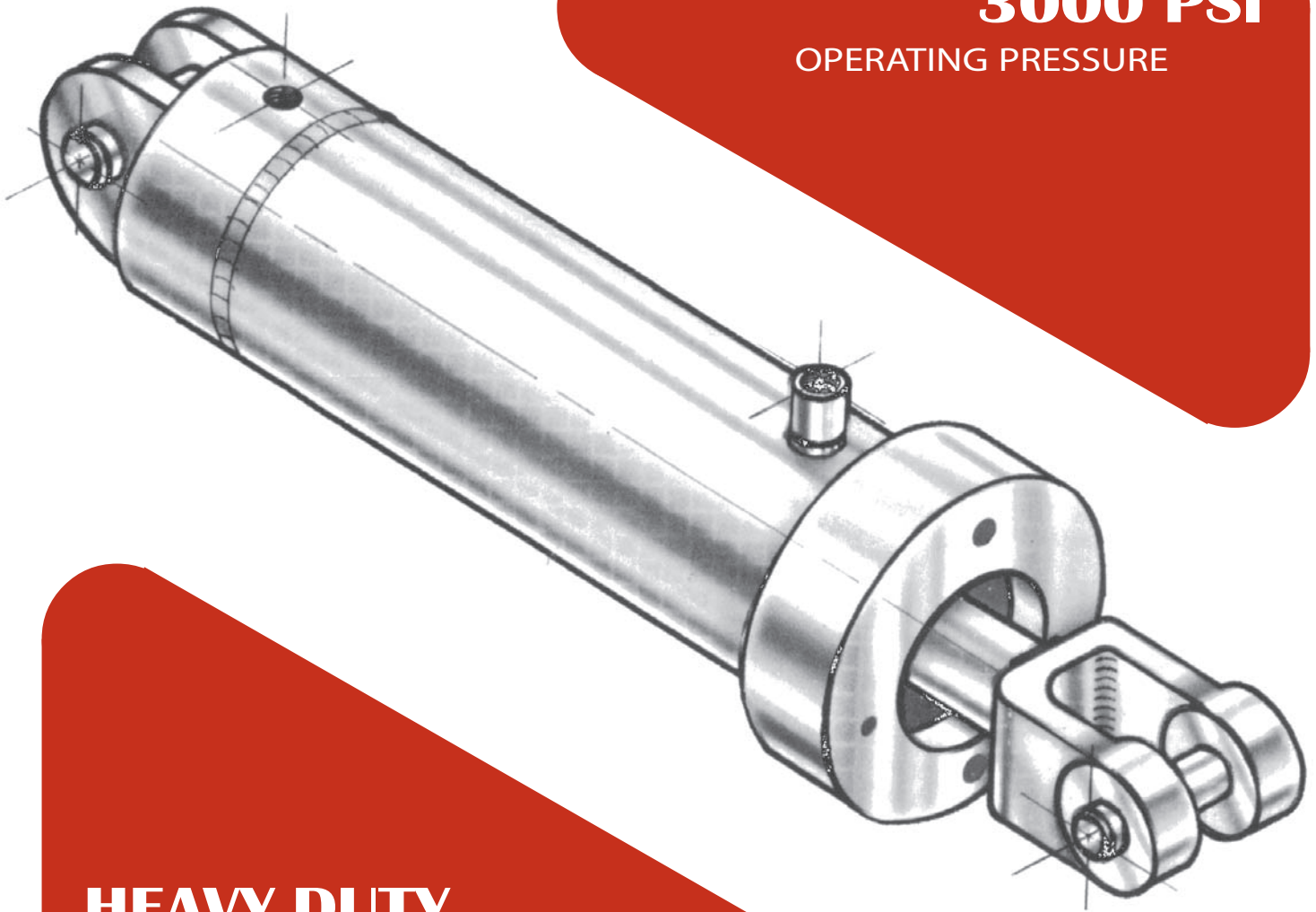




CYLINDERS, INC

**SERIES
2500**

3000 PSI
OPERATING PRESSURE



**HEAVY DUTY
HYDRAULIC CYLINDER**

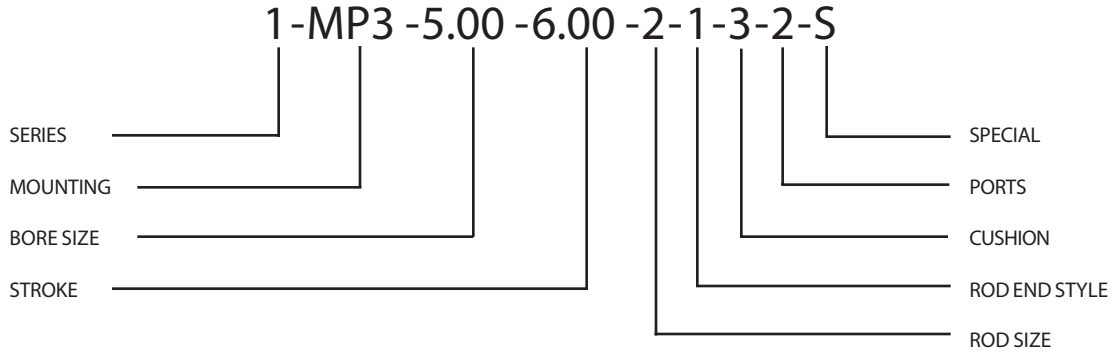
PURAKAL CYLINDERS, INC

P.O. Box 22038
Eugene, OR 97402-0414
Phone (541) 345-4199
FAX (541) 345-6522
www.purakal.com

Catalog 250001

ORDER INFORMATION

The example that follows illustrates the basic order code system. Use this code system for accurate and efficient processing of your cylinder order.



SERIES

- 1 = 100 (Air and low pressure hydraulic)
- 2 = 2500 (Welded hydraulic)
- 3 = 3000 (Hydraulic)
- 4 = 3050 (Transducer positioning)
- 5 = 3500 (Extra heavy duty hydraulic)

MOUNTING

- | | |
|-----|------|
| MX0 | MP1 |
| MF2 | MP3 |
| MF6 | MPU3 |
| | MPY3 |

BORE SIZE (INCHES)

- | | |
|------|------|
| 1.50 | 3.25 |
| 2.00 | 4.00 |
| 2.50 | 5.00 |
| | 6.00 |

(special sizes available on request)

STROKE (INCHES)

XXX.XX

ROD SIZE

- 1 = Standard #1 (smallest standard)
- 2 = Standard #2
- 3 = Oversized

ROD END STYLE

- 1 = Standard male thread (KK)
- 2 = Oversized male thread (CC)
- 3 = Female thread (KK)
- 4 = Special thread size
- 5 = Safety coupler

CUSHIONING

- 0 = Non cushioned
- 1 = Cushioned on rod end only
- 2 = Cushioned on blind end only
- 3 = Cushioned on both ends

PORTS

- 1 = NPT
- 2 = SAE

SPECIAL

S = Special (Omit for standard).
Specify any special features. A sketch may be submitted to facilitate your order.

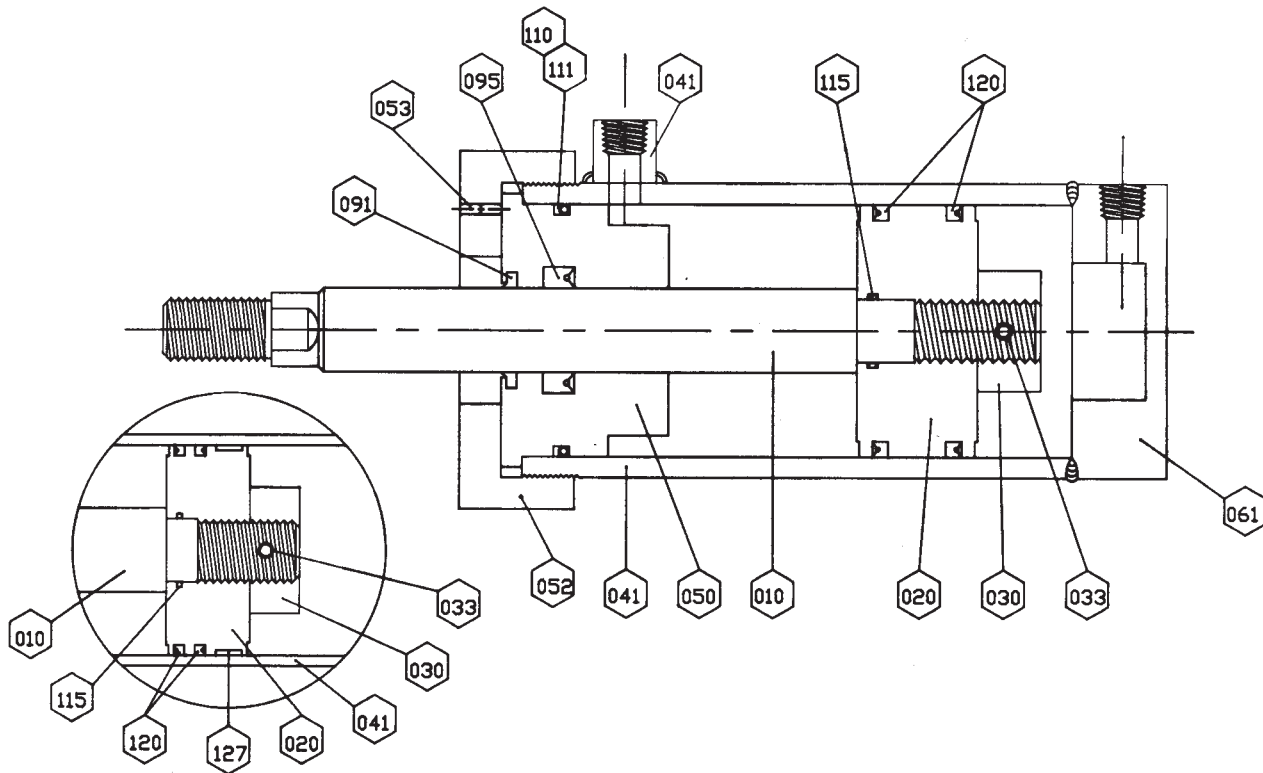
PURAKAL SERIES 2500

TABLE OF CONTENTS

How to Order		
Cylinder	. . . . .	inside front cover
Seal Kit	. . . . .	2
Warranty	. . . . .	1
Parts List	. . . . .	2
Design Features		
Cushions	. . . . .	3
Porting	. . . . .	3
Temperature	. . . . .	3
Fluid Medium	. . . . .	3
Mounting Dimensions		4 - 5
Accessories	. . . . .	6 - 12
Cylinder Selection	. . . . .	inside back cover

WARRANTY: Our products are warranted for one year to be free from defects in workmanship and material. We will replace or repair at our election, including lowest transportation costs, any product that our inspection shows to be defective. Any claim under this warranty must be made within ten days after Buyer's receipt of the product shipped or, in the event the defect is incapable of discovery until in use or in processing in the manufacture of other products, within ten days after buyer learns of the alleged defect giving rise to the claim. In any event, any such claim must be made within the one year period covered by this warranty. We assume no liability for consequential damages of any kind, or for damages arising from a claim of negligence. Our liability is limited to the replacement or repair of the defective part.

PURAKAL SERIES 2500 PARTS LIST



No.	ITEM
010	Piston Rod
020	Piston
030	Piston Nut or Blind End Cushion
033	Piston Mechanical Lock
041	Barrel Weldment
050	Rod End Head
052	Retainer Cap
053	Retainer Cap Lock

No.	ITEM
061	Blind Head
091	Rod Wiper
095	Rod Seal
110	Barrel Seal - 'O' Ring
111	Barrel Seal - Backup
115	Piston I.D. - 'O' Ring
120	Piston O.D. - Cup
127	Piston Wear Ring - 5" & Above

SEAL KIT CONTENTS Items 091-095-110-111-115-120-127

To insure the proper components and to speed your order, please specify:

- | | |
|---|------------------------|
| 1. Serial number of cylinder | 4. Bore of cylinder |
| 2. Drawing number of cylinder (if applicable) | 5. Stroke of cylinder |
| 3. Model: | 6. Piston rod diameter |
| Series | 7. Operating medium |
| Mounting | |

PURAKAL SERIES 2500 CYLINDER FEATURES

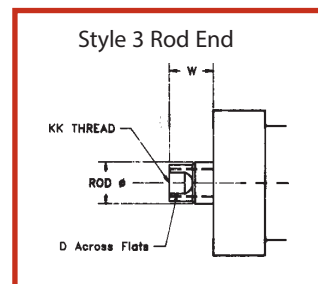
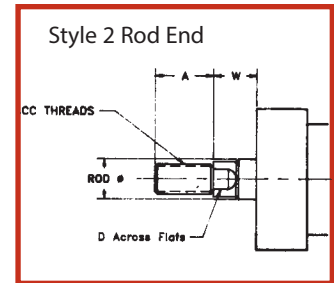
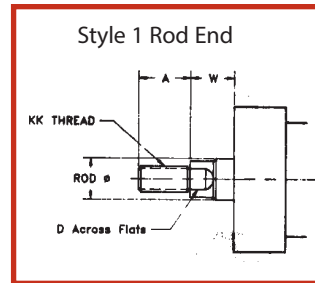
CUSHIONS:	<p>Cushion is available only on the blind end. Contact factory for rod end cushion information.</p> <p>All cylinders supplied as non-cushioned unless otherwise specified.</p>
LUBRICATION:	<p>Series 2500 cylinders are designed for oil operation with mineral or petroleum based oils. Specify any special fluids or lubricants if required.</p>
MOUNTINGS:	<p>All cylinder mountings are interchangeable with standard NFPA envelope mounting dimensions. Special mountings can be obtained if needed.</p>
PISTON:	<p>The one piece design gives our pistons longer life. For strength, the piston is threaded to the rod and is mechanically locked to the rod through the piston nut or cushion sleeve. 5" bore and above cylinders have wear rings.</p>
PISTON ROD:	<p>Standard supplied rods are hard chrome plated with a 90,000 PSI or better tensile strength. Special material or strength requirements can be obtained upon request.</p>
PORTING:	<p>Standard cylinders will be supplied with SAE 'O' ring ports. NPT ports of appropriate size are an option at no extra cost. The standard location for ports is position #1. Specify any position (1, 2, 3, or 4) for either head end.</p>
PRESSURES:	<p>Series 2500 hydraulic cylinders are rated at 3,000 PSI and 5,000 PSI non-shock.</p>
ROD WIPER:	<p>Wipers are made of urethane. Brass wipers are available at extra cost.</p>
SEALS:	<p>Polyurethane cups are used for the piston O.D. seals and polyurethane deep cups for the rod seal. 'O' rings are used for barrel seals with backups.</p>
TEMPERATURES:	<p>Series 2500 cylinders operate continuously at -10 °F to 165 °F. With any special temperature or medium, contact our engineering department.</p>
TOLERANCES:	<p>All dimensions are in inches with tolerances of $\pm 1/32"$. There will be an additional cost for closer tolerances.</p>

PURAKAL SERIES 2500
ENVELOPE AND MOUNTING DIMENSIONS
AFFECTED BY ROD SIZE

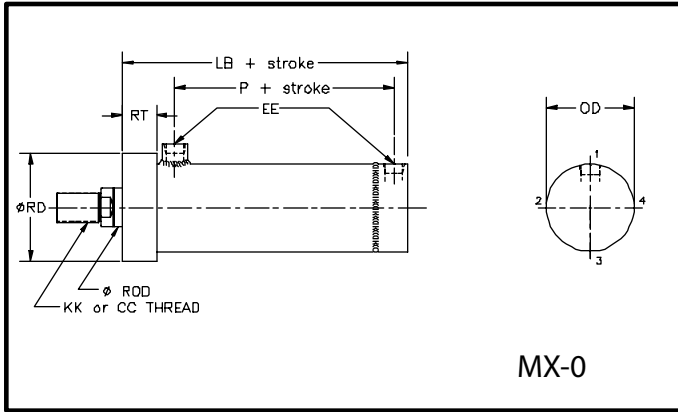
CYL BORE	ROD DIA	A	CC	D	KK	W	XC	XH	XP	Y	ZF	ZJ
1 1/2	5/8	3/4	1/4-20	1/2	7/16-20	5/8	6 3/8	6 7/16	6 3/8	2 3/4	6	5 5/8
	1	1 1/8	7/8-14	7/8	3/4-16	1	6 3/4	6 13/16	6 3/4	3 1/8	6 3/8	6
2	1	1 1/8	7/8-14	7/8	3/4-16	3/4	7 1/4	7 3/16	7 1/4	3 1/4	6 5/8	6
	1 3/8	1 5/8	1 1/4-12	1 1/8	1-14	1	7 1/2	7 7/16	7 1/2	3 3/8	6 7/8	6 1/4
2 1/2	1	1 1/8	7/8-14	7/8	3/4-16	3/4	7 3/8	7 5/16	7 3/8	3 1/8	6 3/4	6 1/8
	1 3/8	1 5/8	1 1/4-12	1 1/8	1-14	1	7 5/8	7 9/16	7 5/8	3 3/8	7	6 3/8
	1 3/4	2	1 1/2-12	1 1/2	1 1/4-12	1 1/4	7 7/8	7 13/16	7 7/8	3 5/8	7 1/4	6 5/8
3 1/4	1 3/8	1 5/8	1 1/4-12	1 1/8	1-14	7/8	8 5/8	8 11/16	8 5/8	3 9/16	7 7/8	7 1/8
	1 3/4	2	1 1/2-12	1 1/2	1 1/4-12	1 1/8	8 7/8	8 15/16	8 7/8	3 13/16	8 1/8	7 3/8
	2	2 1/4	1 3/4-12	1 11/16	1 1/2-12	1 1/4	9	9 1/16	9	3 15/16	8 1/4	7 1/2
4	1 3/4	2	1 1/2-12	1 1/2	1 1/4-12	1	9 3/4	9 9/16	9 3/4	3 11/16	8 1/2	7 5/8
	2	2 1/4	1 3/4-12	1 11/16	1 1/2-12	1 1/8	9 7/8	9 11/16	9 7/8	3 13/16	8 5/8	7 3/4
	2 1/2	3	2 1/4-12	2 1/16	1 7/8-12	1 3/8	10 1/8	9 15/16	10 1/8	4 1/16	8 7/8	8
5	2	2 1/4	1 3/4-12	1 11/16	1 1/2-12	1 1/8	10 1/2	10 11/16	10 1/2	4 3/16	9 1/8	8 1/4
	2 1/2	3	2 1/4-12	2 1/16	1 7/8-12	1 3/8	10 3/4	10 15/16	10 3/4	4 7/16	9 3/8	8 1/2
	3 1/2	3 1/2	3 1/4-12	3	2 1/2-12	1 3/8	10 3/4	10 15/16	10 3/4	4 7/16	9 3/8	8 1/2
6	2 1/2	2 1/4	2 1/4-12	2 1/16	1 7/8-12	1 1/4	10 1/2	10 11/16	12 1/8	4 9/16	10 5/8	9 5/8
	3	3	2 3/4-12	2 5/8	2 1/4-12	1 1/4	10 3/4	10 15/16	12 1/8	4 9/16	10 5/8	9 5/8
	4	3 1/2	3 3/4-12	3 3/8	3-12	1 1/4	10 3/4	10 15/16	12 1/8	4 9/16	10 5/8	9 5/8

ENVELOPE AND MOUNTING DIMENSIONS

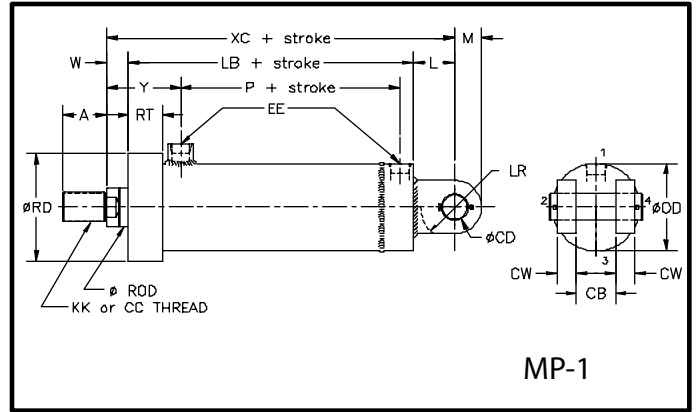
BORE	1 1/2	2	2 1/2	3 1/4	4	5	6
CB	3/4	1 1/4	1 1/4	1 1/2	2	2 1/2	2 1/2
CD	1/2	3/4	3/4	1	1 3/8	1 3/4	2
CK	7/16	21/32	21/32	7/8	13/16	1 7/32	1 3/4
CW	1/2	5/8	5/8	3/4	1	1 1/4	1 1/4
E	2 1/2	3	3 1/2	4 1/2	5	6 1/2	7 1/2
EE NPT	3/8	3/8	1/2	3/4	3/4	3/4	1
F	3/8	5/8	5/8	3/4	7/8	7/8	1
FB	7/16	9/16	9/16	11/16	11/16	15/16	1 1/16
L	3/4	1 1/4	1 1/4	1 1/2	2 1/8	2 1/4	2 1/2
LB	5	5 1/4	5 3/8	6 1/4	6 5/8	7 1/8	8 3/8
LE	9/16	7/8	7/8	1 1/8	1 1/2	1 15/16	2 3/16
LR	9/16	15/16	15/16	1 3/16	1 3/4	1 13/16	2 1/16
M	1/2	3/4	3/4	1	1 3/8	1 3/4	2
MA	3/4	1 3/4	1 3/4	1 3/8	1 3/4	2 1/4	2 3/4
OD	1 7/8	2 3/8	3	3 3/4	4 1/2	5 3/4	6 3/4
P	2 3/16	2 5/16	2 5/16	2 7/8	3 1/4	3 5/16	4
PD	1	1 1/4	1 1/4	1 3/4	2 1/4	2 3/4	3 1/2
PL	2	2 1/2	3 1/4	4	4 3/4	6	7
R	1.63	2.05	2.55	3.25	3.82	4.95	5.73
RD	2 1/4	3	3 1/2	4 1/2	5 1/2	6 3/4	8
RT	1 7/16	1 9/16	1 9/16	1 3/4	1 3/4	2 1/16	2 3/16
SL	13/16	1 3/16	1 3/16	1 9/16	1 15/16	2 7/16	2 11/16
TF	3 7/16	4 1/8	4 5/8	5 7/8	6 3/8	8 3/16	9 7/16
UF	4 1/4	5 1/8	5 5/8	7 1/8	7 5/8	9 3/8	11 1/4



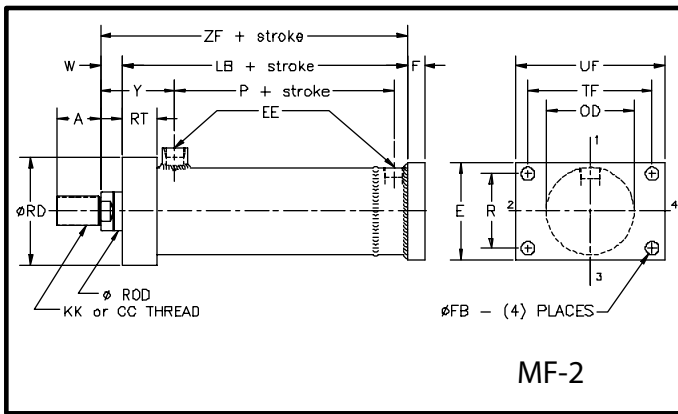
PURAKAL SERIES 2500 MOUNTING STYLES



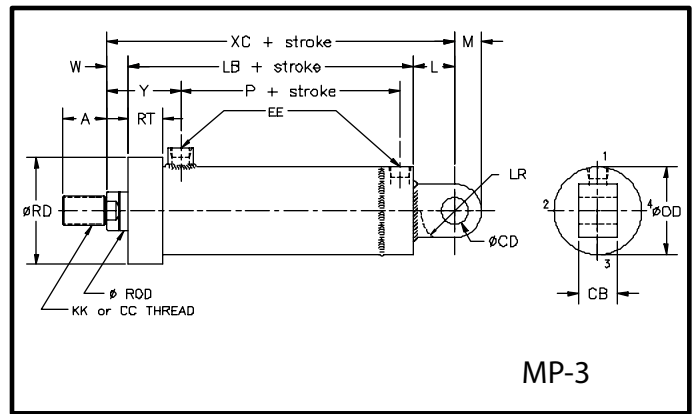
MX-0



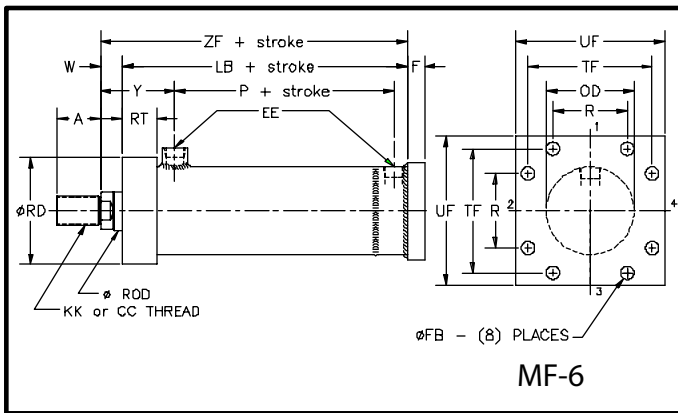
MP-1



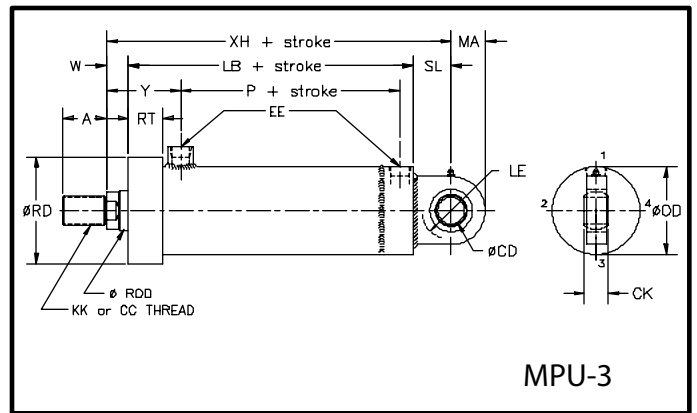
MF-2



MP-3

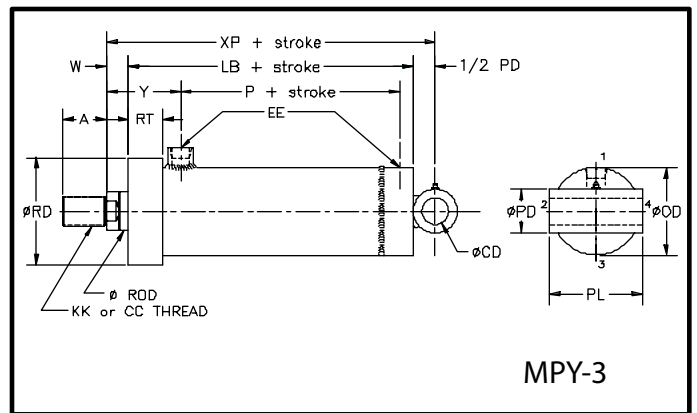


MF-6



MPU-3

Special rod end: special thread, extension, pin eye, plain end, etc. Specify style #4 when ordering and the desired dimensions for KK or CC , A , W , or that which is special. A sketch with the changes may be submitted to facilitate your cylinder order.

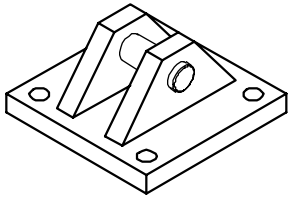


MPY-3

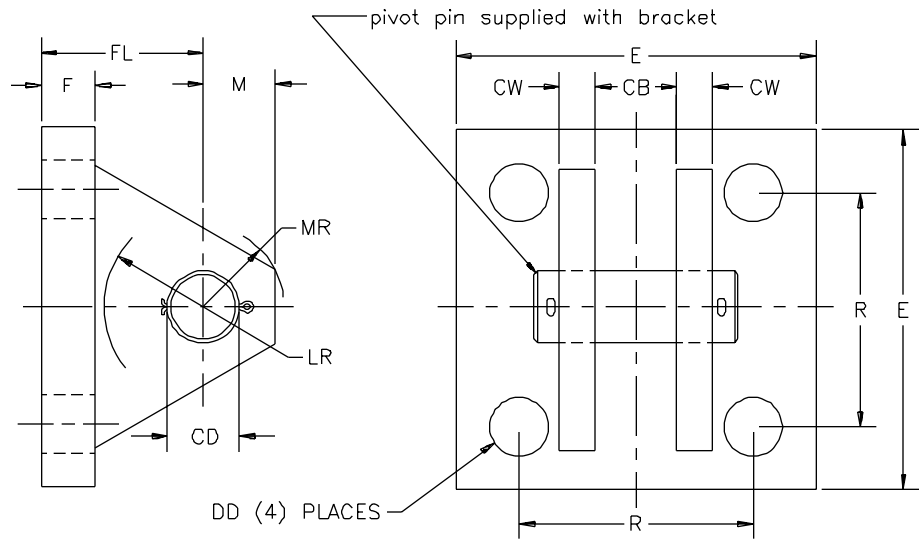
PCB
PME
PSE

PURAKAL SERIES 2500 MOUNTING ACCESSORIES

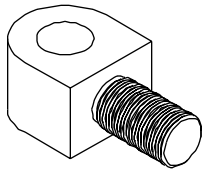
CLEVIS BRACKET



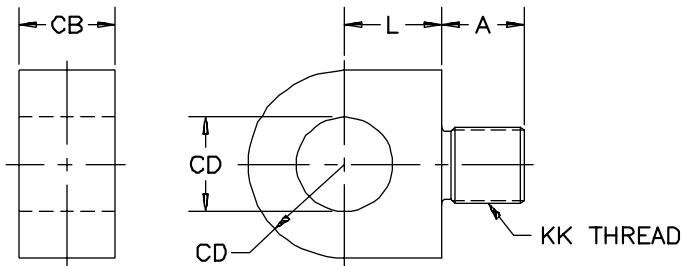
PCB



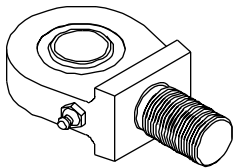
MALE ROD EYE



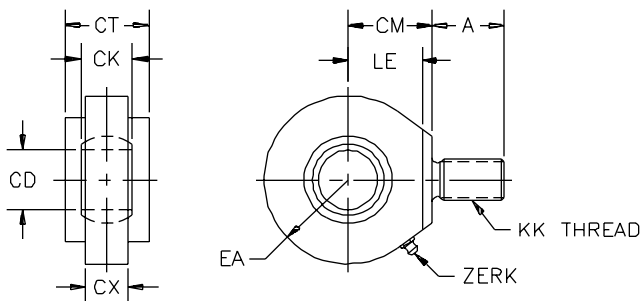
PME



SELF ALIGNING ROD EYE



PSE



PURAKAL SERIES 2500 MOUNTING ACCESSORIES

PCB
PME
PSE

CLEVIS BRACKET

	PART NUMBER											
	PCB-05	PCB-07	PCB-10	PCB-13	PCB-17	PCB-20	PCB-25	PCB-30	PCB-30-35	PCB-35	PCB-40	PCB-40-50
CB	3/4	1 1/4	1 1/2	2	2 1/2	2 1/2	3	3	3 1/2	4	4 1/2	5
CD	1/2	3/4	1	1 3/8	1 3/4	2	2 1/2	3	3	3 1/2	4	4
CW	1/2	5/8	3/4	1	1 1/4	1 1/2	1 1/2	1 1/2	1 1/2	2	2	2
DD	13/32	17/32	21/32	21/32	29/32	1 1/16	1 3/16	1 5/16	1 5/16	1 13/16	2 1/16	2 1/16
E	3 1/2	5	6 1/2	7 1/2	9 1/2	12 3/4	12 3/4	12 3/4	12 3/4	15 1/2	17 1/2	17 1/2
F	1/2	5/8	3/4	7/8	7/8	1	1	1	1	1 11/16	1 15/16	1 15/16
FL	1 1/2	1 7/8	2 1/4	3	3 5/8	4 1/4	4 1/2	6	6	6 11/16	7 11/16	7 11/16
LR	3/4	1 3/16	1 1/2	2	2 3/4	3 3/16	3 1/2	4 1/4	4 1/4	5	5 3/4	5 3/4
M	1/2	3/4	1	1 3/8	1 3/4	2	2 1/2	3	3	3 1/2	4	4
MR	5/8	1 1/16	1 1/4	1 3/4	2 7/32	2 3/4	3 1/8	3 5/8	3 5/8	4 1/8	4 7/8	4 7/8
R	2.55	3.82	4.95	5.73	7.50	9.40	9.40	9.40	9.40	12.00	13.75	13.75

MALE ROD EYE

	PART NUMBER															
	PME-05	PME-05-05	PME-07	PME-10-08	PME-10	PME-13	PME-17	PME-20	PME-20-18	PME-25	PME-30	PME-30-27	PME-35	PME-35-35	PME-40	PME-40-45
A	3/4	3/4	1 1/8	1 1/8	1 5/8	2	2 1/4	2 1/4	3	3 1/2	3 1/2	3 1/2	4	5	5 1/2	5 1/2
CB	3/4	3/4	1 1/4	1 1/2	1 1/2	2	2 1/2	2 1/2	2 1/2	3	3	3 1/2	4	4	4 1/2	5
CD	1/2	1/2	3/4	1	1	1 3/8	1 3/4	2	2	2 1/2	3	3	3 1/2	3 1/2	4	4
L	5/8	5/8	7/8	7/8	1 1/8	1 5/8	2	2	2 1/4	2 3/4	4 1/4	4 1/4	5	5	5 3/4	5 3/4
KK	7/16-20	1/2-20	3/4-16	7/8-14	1-14	1 1/4-12	1 1/2-12	1 3/4-12	1 7/8-12	2 1/4-12	2 1/2-12	2 3/4-12	3 1/4-12	3 1/2-12	4-12	4 1/2-12

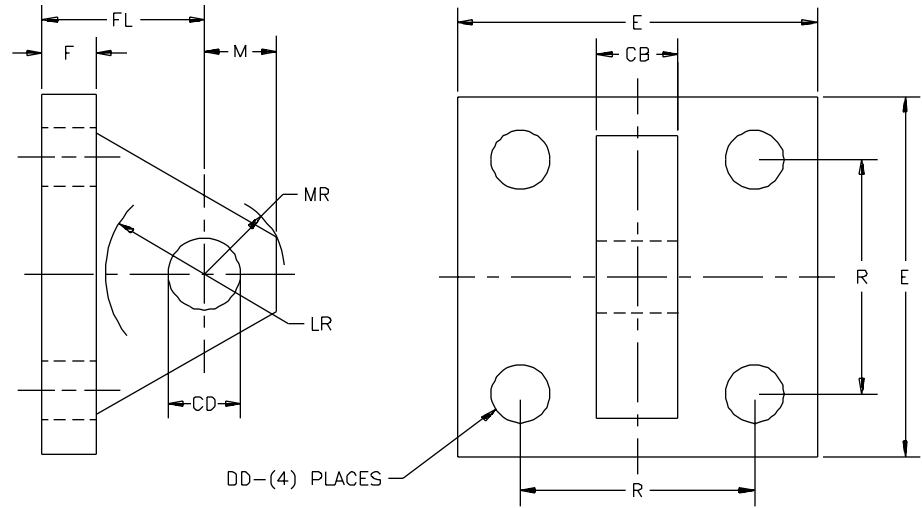
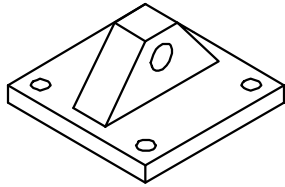
SELF ALIGNING ROD EYE

	PART NUMBER					
	PSE-05	PSE-07	PSE-10	PSE-13	PSE-17	PSE-20
A	3/4	1 1/8	1 5/8	2	2 1/4	3
CD	1/2	3/4	1	1 3/8	1 3/4	2
CK	7/16	21/32	7/8	1 3/16	1 17/32	1 3/4
CM	7/8	1 1/4	1 7/8	2 1/8	2 1/2	2 3/4
CT	1/2	7/8	1 1/8	1 1/2	1 3/4	2
CX	3/8	9/16	3/4	1 1/32	1 5/16	1 1/2
EA	7/8	1 1/4	1 3/8	1 13/16	2 3/16	2 1/2
LE	3/4	1 1/16	1 7/16	1 7/8	2 1/4	2 1/2
KK	7/16-20	3/4-16	1-14	1 1/4-12	1 1/2-12	1 7/8-12

PEB
PC
PE

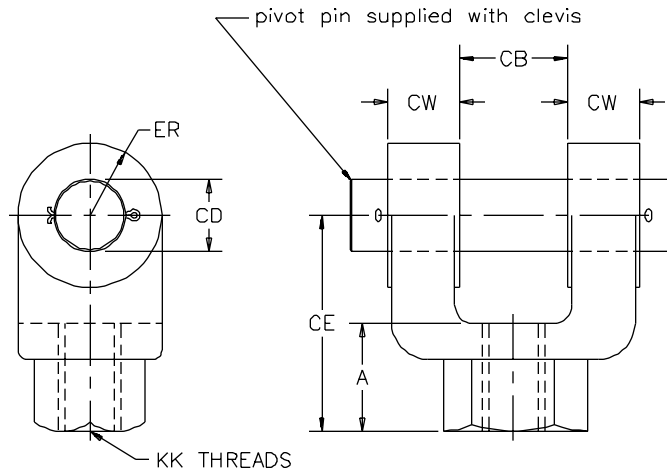
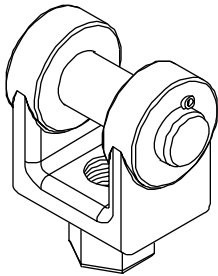
PURAKAL SERIES 2500 MOUNTING ACCESSORIES

EYEBRACKET



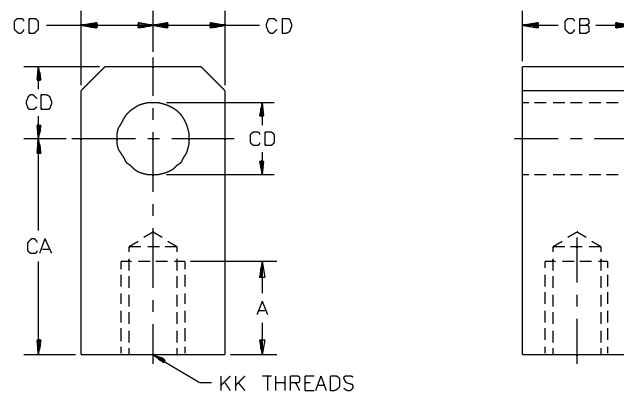
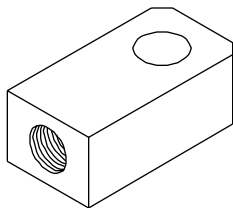
PEB

FEMALE ROD CLEVIS



PC

FEMALE ROD EYE



PE

PURAKAL SERIES 2500 MOUNTING ACCESSORIES

PEB
PC
PE

EYE BRACKET

	PART NUMBER									
	PEB-05	PEB-07	PEB-10	PEB-13	PEB-17	PEB-20	PEB-25	PEB-30	PEB-35	PEB-40
CB	3/4	1 1/4	1 1/2	2	2 1/2	2 1/2	3	3	4	4 1/2
CD	1/2	3/4	1	1 3/8	1 3/4	2	2 1/2	3	3 1/2	4
DD	13/32	17/32	21/32	21/32	29/32	1 1/16	1 3/16	1 5/16	1 13/16	2 1/16
E	2 1/2	3 1/2	4 1/2	5	6 1/2	7 1/2	8 1/2	9 1/2	12 5/8	14 7/8
F	3/8	5/8	3/4	7/8	7/8	1	1	1	1 11/16	1 15/16
FL	1 1/8	1 7/8	2 1/4	3	3 1/8	3 1/2	4	4 1/4	5 11/16	6 7/16
LR	3/4	1 1/4	1 1/2	2 1/8	2 1/4	2 1/2	3	3 1/4	4	4 1/2
M	1/2	3/4	1	1 3/8	1 3/4	2	2 1/2	2 3/4	3 1/2	4
MR	9/16	7/8	1 1/4	1 5/8	2 1/8	2 7/16	3	3 1/4	4 1/8	5 1/4
R	1.63	2.55	3.25	3.82	4.95	5.73	6.58	7.50	9.62	11.45

FEMALE ROD CLEVIS

	PART NUMBER														
	PC -05	PC -05-05	PC -07	PC -10-08	PC -10	PC -13	PC -17	PC -20	PC -20-18	PC -25	PC -30	PC -30-27	PC -35	PC -40-35	PC -40
A	3/4	3/4	1 1/8	1 5/8	1 5/8	2	2 1/4	3	3	3 1/2	3 1/2	3 1/2	4 1/2	5	5 1/2
CB	3/4	3/4	1 1/4	1 1/2	1 1/2	2	2 1/2	2 1/2	2 1/2	3	3	3	4	4 1/2	4 1/2
CD	1/2	1/2	3/4	1	1	1 3/8	1 3/4	2	2	2 1/2	3	3	3 1/2	4	4
CE	1 1/2	1 1/2	2 3/8	3 1/8	3 1/8	4 1/8	4 1/2	5 1/2	5 1/2	6 1/2	6 3/4	6 3/4	8 1/2	9 13/16	10
CW	1/2	1/2	5/8	3/4	3/4	1	1 1/4	1 1/4	1 1/4	1 1/2	1 1/2	1 1/2	2	2 1/4	2 1/4
ER	1/2	1/2	3/4	1	1	1 3/8	1 3/4	2	2	2 1/2	2 3/4	2 3/4	3 1/2	4	4
KK	7/16-20	1/2-20	3/4-16	7/8-14	1-14	1 1/4-12	1 1/2-12	1 3/4-12	1 7/8-12	2 1/4-12	2 1/2-12	2 3/4-12	3 1/4-12	3 1/2-12	4-12

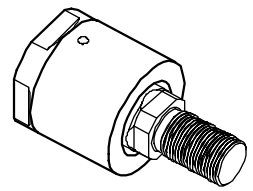
FEMALE ROD EYE

	PART NUMBER															
	PE -05	PE -05-05	PE -07	PE -10-08	PE -10	PE -13	PE -17	PE -20	PE -20-18	PE -25	PE -30	PE -30-27	PE -35	PE -35-35	PE -40	PE -40-45
A	3/4	3/4	1 1/8	1 1/8	1 5/8	2	2 1/4	2 1/4	3	3 1/2	3 1/2	3 5/8	4 1/2	5	5 1/2	5 1/2
CA	1 1/2	1 1/2	2 1/16	2 3/8	2 13/16	3 7/16	4	4 3/8	5	5 13/16	6 1/8	6 1/2	7 5/8	7 5/8	9 1/8	9 1/8
CB	3/4	3/4	1 1/4	1 1/2	1 1/2	2	2 1/2	2 1/2	2 1/2	3	3	3 1/2	4	4	4 1/2	5
CD	1/2	1/2	3/4	1	1	1 3/8	1 3/4	2	2	2 1/2	3	3	3 1/2	3 1/2	4	4
KK	7/16-20	1/2-20	3/4-16	7/8-14	1-14	1 1/4-12	1 1/2-12	1 3/4-12	1 7/8-12	2 1/4-12	2 1/2-12	2 3/4-12	3 1/4-12	3 1/2-12	4-12	4 1/2-12

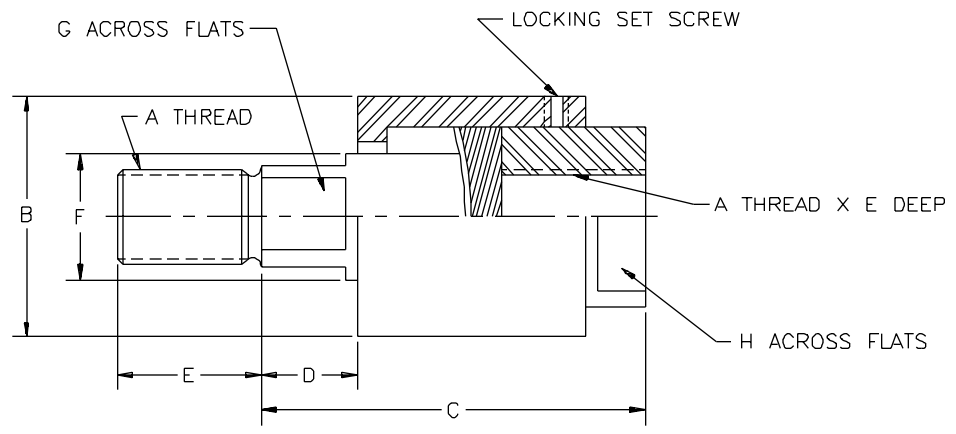
PAC
PP

PURAKAL SERIES 2500 MOUNTING ACCESSORIES

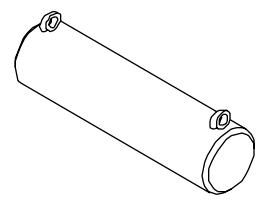
ALIGNMENT COUPLER



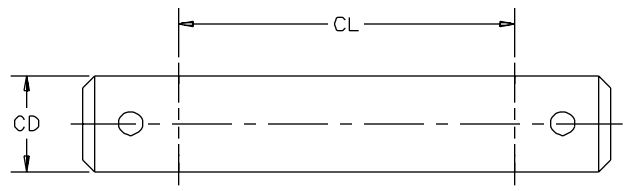
PAC



PIVOT PIN



PP



**PURAKAL SERIES 2500
MOUNTING ACCESSORIES**

PAC
PP

ALIGNMENT COUPLER

	PART NUMBER									
	PAC-04	PAC-05	PAC-07	PAC-08	PAC-10	PAC-12	PAC-15	PAC-17	PAC-18	PAC-20
A	7/16-20	1/2-20	3/4-16	7/8-14	1-14	1 1/4-12	1 1/2-12	1 3/4-12	1 7/8-12	2-12
B	1 1/4	1 1/4	1 3/4	1 3/4	2 1/2	2 1/2	3 1/4	3 1/4	3 3/4	3 3/4
C	2	2	2 5/16	2 5/16	2 15/16	2 15/16	4 3/8	4 3/8	5 7/16	5 7/16
D	1/2	1/2	1/2	1/2	1/2	1/2	13/16	13/16	7/8	7/8
E	3/4	3/4	1 1/8	1 1/8	1 5/8	1 5/8	2 1/4	2 1/4	3	3
F	5/8	5/8	31/32	31/32	1 3/8	1 3/8	1 3/4	1 3/4	2	2
G	1/2	1/2	13/16	13/16	1 5/32	1 5/32	1 1/2	1 1/2	1 7/8	1 7/8
H	1	1	1 1/2	1 1/2	2 1/4	2 1/4	3	3	3 1/2	3 1/2
MAX PULL	10,000	14,000	34,000	39,000	64,000	78,000	134,000	134,000	240,000	240,000

PIVOT PIN

	PART NUMBER												
	PP-05	PP-07	PP-10	PP-13	PP-17	PP-20	PP-20-55	PP-25	PP-30	PP-30-65	PP-35	PP-40-85	PP-40
CD	1/2	3/4	1	1 3/8	1 3/4	2	2	2 1/2	3	3	3 1/2	4	4
CL	1 3/4	2 1/2	3	4	5	5	5 1/2	6	6	6 1/2	8	8 1/2	9

PURAKAL SERIES 2500 MOUNTING ACCESSORIES

ROD DIA														
KK	CC	THREAD	PIN	CLEVIS	ROD EYE	MALE ROD END	SELF ALIGNING ROD EYE	PIN	EYE BRACKET	CLEVIS BRACKET	SERIES 100	SERIES 2500	SERIES 3000	
5/8		7/16-20	PP-05	PC-05	PE-05	PME-05	PSE-05	PP-05	PEB-05	PCB-05	1 1/2, 2, 2 1/2	1 1/2	1 1/2	
	5/8	1/2-20	PP-05	PC-05-05	PE-05-05			PP-05	PEB-05	PCB-05	1 1/2, 2, 2 1/2	1 1/2	1 1/2	
1		3/4-16	PP-07	PC-07	PE-07	PME-07	PSE-07	PP-07	PEB-07	PCB-07	3 1/4, 4, 5	2, 2 1/2	2, 2 1/2	
	1	7/8-14	PP-10	PC-10-08	PE-10-08	PME-10-08		PP-10	PEB-10	PCB-10	6, 8	3 1/4	3 1/4	
1 3/8		1-14	PP-10	PC-10	PE-10	PME-10	PSE-10	PP-10	PEB-10	PCB-10	6, 8	3 1/4	3 1/4	
1 3/4	1 3/8	1 1/4-12	PP-13	PC-13	PE-13	PME-13	PSE-13	PP-13	PEB-13	PCB-13	10	4	4	
2	1 3/4	1 1/2-12	PP-17	PC-17	PE-17	PME-17	PSE-17	PP-17	PEB-17	PCB-17	12	5	5	
	2	1 3/4-12	PP-20	PC-20	PE-20	PME-20		PP-20	PEB-20	PCB-20		6	6	
2 1/2		1 7/8-12	PP-20	PC-20-18	PE-20-18	PME-20-18	PSE-20	PP-25	PEB-25	PCB-25		7	7	
3	2 1/2	2 1/4-12	PP-25	PC-25	PE-25	PME-25		PP-30	PEB-30	PCB-30		8	8	
3 1/2		2 1/2-12	PP-30	PC-30	PE-30	PME-30		PP-30	PEB-30	PCB-30		8	8	
	3	2 3/4-12	PP-30	PC-30-27	PE-30-27	PME-30-27								
4		3-12						PP-35	PEB-35	PCB-35		10	10	
4 1/2	3 1/2	3 1/4-12	PP-35	PC-35	PE-35	PME-35		PP-35	PEB-35	PCB-35		10	10	
5		3 1/2-12	PP-35		PE-35-35	PME-35-35		PP-40	PEB-40	PCB-40		12	12	
5		3 1/2-12	PP-40	PC-40-35										
	4	3 3/4-12						PP-40	PEB-40	PCB-40		12	12	
5 1/2, 7		4-12	PP-40	PC-40	PE-40	PME-40								
	4 1/2	4 1/4-12						PP-40	PEB-40	PCB-40		12	12	
8, 8 1/2		4 1/2-12	PP-40		PE-40-45	PME-40-45								
	5	4 3/4-12												
	5 1/2	5 1/4-12												
	7	5 1/2-12												
	8 1/2	6-12												

PURAKAL SERIES 2500 CYLINDER SELECTION

SELECT THE BORE SIZE

Use the table below to select the cylinder bore size that provides the required force at the desired working pressure. As a general guideline, select a cylinder that provides about 10% more force than the minimum requirement.

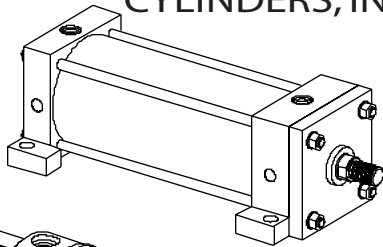
After selecting the proper size cylinder for the job use the envelope and mounting dimension charts to determine cylinder dimensions.

CYL BORE DIA	PISTON ROD DIA	PRESSURE RATING		CYL WORK ACTION	WORK AREA SQ IN	WORKING PRESSURE PSI										FLUID REQUIRED PER INCH OF STROKE	
		HEAVY DUTY SERVICE	4:1 SAFETY FACTOR			250	500	750	1000	1250	1500	1750	2000	2500	3000	GAL	CU FT
1 1/2	5/8 1	3000	1800	PUSH	1.767	442	884	1325	1767	2209	2651	3093	3534	4418	5301	.0077	.00102
				PULL	1.460	365	730	1095	1460	1825	2191	2556	2921	3651	4381	.0063	.00084
				PULL	0.982	245	491	736	982	1227	1473	1718	1963	2454	2945	.0043	.00057
2	1 1 3/8	3000	3400	PUSH	3.141	785	1571	2356	3142	3927	4712	5498	6283	7854	9425	.0136	.00182
				PULL	2.356	589	1178	1767	2356	2945	3534	4123	4712	5890	7069	.0102	.00136
				PULL	1.656	414	828	1243	1657	2071	2485	2899	3313	4142	4970	.0072	.00096
2 1/2	1 1 3/8 1 3/4	3000	2000	PUSH	4.909	1227	2454	3682	4909	6136	7363	8590	9817	12272	14726	.0213	.00284
				PULL	4.124	1031	2062	3093	4123	5154	6185	7216	8247	10308	12370	.0179	.00239
				PULL	3.424	856	1712	2568	3424	4280	5136	5992	6848	8560	10272	.0148	.00198
				PULL	2.504	626	1252	1878	2503	3129	3755	4381	5007	6259	7510	.0108	.00145
3 1/4	1 3/8 1 3/4 2	3000	2200	PUSH	8.296	2074	4148	6222	8296	10370	12444	14518	16592	20739	24887	.0359	.00480
				PULL	6.811	1703	3405	5108	6811	8514	10216	11919	13622	17027	20433	.0295	.00394
				PULL	5.891	1473	2945	4418	5890	7363	8836	10308	11781	14726	17671	.0255	.00341
				PULL	5.154	1289	2577	3866	5154	6443	7731	9020	10308	12885	15463	.0223	.00298
4	1 3/4 2 2 1/2	3000	2300	PUSH	12.566	3142	6283	9425	12566	15708	18850	21991	25133	31416	37699	.0544	.00727
				PULL	10.161	2540	5081	7621	10161	12701	15242	17782	20322	25403	30483	.0440	.00588
				PULL	9.424	2356	4712	7069	9425	11781	14137	16493	18850	23562	28274	.0408	.00545
				PULL	7.657	1914	3829	5743	7658	9572	11486	13401	15315	19144	22973	.0331	.00443
5	2 2 1/2 3 1/2	3000	2500	PUSH	19.635	4909	9817	14726	19635	24544	29452	34361	39270	49087	58905	.0850	.01136
				PULL	16.492	4123	8247	12370	16493	20617	24740	28863	32987	41233	49480	.0714	.00954
				PULL	14.726	3682	7363	11045	14726	18408	22089	25771	29452	36816	44179	.0637	.00852
				PULL	10.014	2503	5007	7510	10014	12517	15021	17524	20028	25035	30041	.0433	.00580
6	2 1/2 3 4	3000	2300	PUSH	28.274	7069	14137	21206	28274	35343	42411	49480	56549	70686	84823	.1224	.01636
				PULL	23.365	5841	11683	17524	23366	29207	35048	40890	46731	58414	70097	.1011	.01352
				PULL	21.205	5301	10603	15904	21206	26507	31809	37110	42411	53014	63617	.0918	.01227
				PULL	15.708	3927	7854	11781	15708	19635	23562	27489	31416	39270	47124	.0680	.00909

WARNING: Hydraulic systems may contain large levels of stored energy. Do not attempt to connect, disconnect, test, or repair a hydraulic device unless properly trained. Always exhaust the pressure from a system before performing any service work. Make certain all ports are properly connected or vented before pressurizing a cylinder. Disregarding this warning could result in serious, possibly fatal, injury.

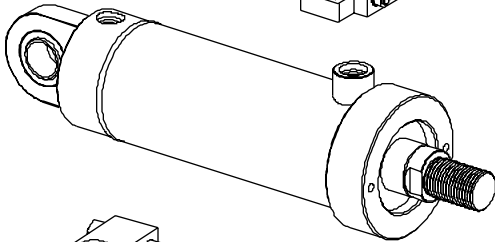


CYLINDERS, INC



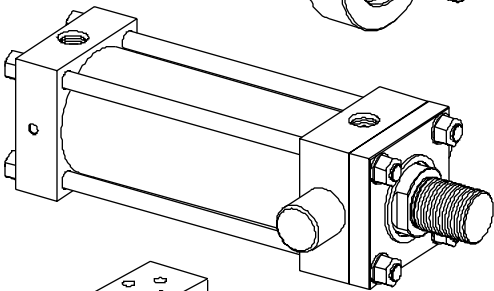
100 SERIES
PNEUMATIC CYLINDER

250 PSI air/750 PSI hydraulic operating pressure 1 1/2" to 12" Bore
Tie rod cylinder * Ground and polished hard chrome plated piston rod * Honed and chrome plated barrel I.D. * Polyurethane seals * All NFPA mountings available



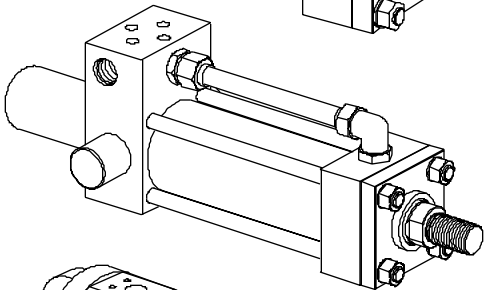
2500 SERIES
HEAVY DUTY HYDRAULIC CYLINDER

3000 PSI operating pressure 1 1/2" to 6" Bore
Welded construction * Ground and polished hard chrome plated piston rod * Heavy wall honed barrel I.D. * Polyurethane seals * Clevis, Pin Eye, Single Lug, and Blind End Plate mounts * NFPA interchangeable mounting dimensions



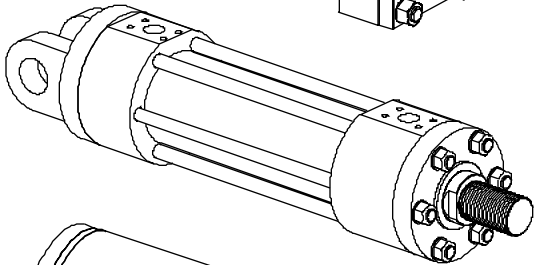
3000 SERIES
HYDRAULIC CYLINDER

3000 PSI operating pressure 1 1/2" to 12" Bore
Tie rod cylinder * Ground and polished hard chrome plated piston rod * Heavy wall honed barrel I.D. * Polyurethane seals * All NFPA mountings available



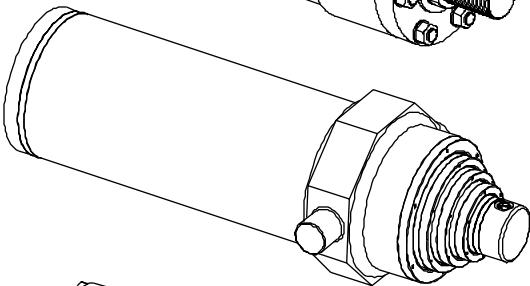
3050 SERIES
LINEAR POSITIONING HYDRAULIC CYLINDER

3000 PSI operating pressure 2" to 5" Bore
Tie rod cylinder * Ground and polished hard chrome plated piston rod * Heavy wall honed barrel I.D. * Low friction seals * Most NFPA mountings available * Direct Servo Valve Mounting * Transducer position sensing * Large bore models available on request



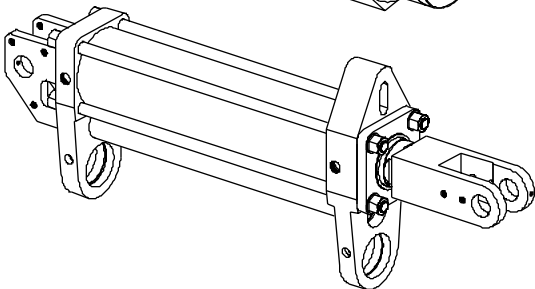
3500 SERIES
SUPER HEAVY DUTY HYDRAULIC CYLINDER

3500 PSI operating pressure 2 1/2" to 6" Bore
Tie rod cylinder for extreme service requirements * Ground and polished heavy chrome plated piston rod * 4-Bolt Flange ports * Polyurethane seals * Tie rod, Clevis, Single Lug, Trunnion mounts * Heavy duty cushions for high inertial loads



2100 SERIES
TELESCOPIC HYDRAULIC CYLINDER

2000 PSI operating pressure 3 1/2" to 13 3/4" Bore
Multi-Stage telescopic cylinder for long strokes in a compact package * Double Acting or Single Acting * Ground and polished, hard chrome plated rods * Quick and easy rod seal replacement in the field * Bronze filled teflon piston bearings * Available with trunnion mounts, eye mounts, and other special designs.



SPECIAL DESIGNS

1 1/2" to 36" Bore Pneumatic, 1 1/2" to 24" Bore Hydraulic
Up to 240" Stroke
Intensifier cylinders * Accumulators * Multiport swivels * Spring Loaded cylinders * Computer aided design and analysis by an experienced engineering staff
Consult the PURAKAL distributor in your area or call our factory direct to discuss your unique applications.