

Pancake® Cylinders 1 1/8" (121) Bore Model Number

1

Model Number Code

Leave blank if none desired

D

121

X

MR

Metric M
See pages 1.7, 1.31 & 1.34

Bore Code
1 1/8" 121
28.5mm 121

Standard Strokes

Original Series

Action	X	O	OP
	XK XDR XDRK	ODR	
Stroke			
1/8	A	A	A
3/16	B	B	B
1/4	C	C	C
1/2	D*	D	D
3/4	X	X	X
1	E	E	E
1 1/4	F	F	F
1 1/2	G	G	G
1 3/4	H	H	-
2	I	I	-
3	J	-	-
4	K	-	-

"T" Series Includes PTFE piston bearing

Action	X	O	OP
	XK	ODR	
Stroke			
1/16	TB	TB	TB
1/8	TC	TC	TC
3/8	TD*	TD	TD
5/8	TX	TX	TX
7/8	TE	TE	TE
1 1/8	TF	TF	TF
1 3/8	TG	TG	TG
1 5/8	TH	TH	-
1 7/8	TI	TI	-
2 7/8	TJ	-	-
3 7/8	TK	-	-

Grey shading indicates sensors are not available.

Strokes are NOT affected by magnetic piston Option "E"

Action

Single rod

Double acting -X

Double acting, Nonrotating

Internal guide pins - 150 psi max -XK

Single acting, spring retracted -O

Single acting, spring extended -OP

Double rod

Double acting -XDR

Double acting, Nonrotating

Internal guide pins - 150 psi max -XDRK

Single acting, spring retracted -ODR

See pages 1.5 & 1.6 for Action Information.
See pages 1.30 & 1.33 for Standard Specifications

HOW TO ORDER

- Under **Stroke** – select letter(s) for desired Series and Stroke.
 - Under **Bore** – select 121 for 1 1/8" bore.
Seven Other Bore Sizes are Available
- | Bore | Bore Code | See page |
|--------|-----------|----------|
| 1/2" | 5 | 1.17 |
| 3/4" | 7 | 1.23 |
| 1 1/8" | 121 | 1.35 |
| 2" | 321 | 1.41 |
| 2 1/2" | 521 | 1.47 |
| 3" | 721 | 1.53 |
| 4" | 1221 | 1.59 |
- Under **Action** – select letter(s) for desired action.
 - Under **Prefix & Suffix Options** – select letter(s) for desired options and add to model number.

EXAMPLES

D-121-X
Original Series, 1/2" stroke - 1 1/8" Bore -
Single Rod, Double Acting

TD-121-X-MR
"T" Series, 3/8" Stroke - 1 1/8" Bore -
Single Rod, Double Acting - Male Rod Thread

Suffix Options

Male rod thread: Single rod -MR
Double rod, rod end -MR
Double rod, cap end -MR1
Double rod, both ends -MR2

PTFE seals -T

Viton seals -V

Quad seals -Q

External guide, nonrotating for load guiding (See page 1.65) -G

Hydraulic: Standard cover -H

Hole thru double rod shaft: 1/8" hole -13
Plus size: 5/32" hole 150 psi max -16

Finish: ProCoat™ (Electroless Nickel) -N

Stroke collar:

1/4"	-C2	1/8"	-C1
1/2"	-C4	5/8"	-C5
3/4"	-C6	7/8"	-C7

Sound limiters:

Rod end	-LF
Cap end	-LR
Both ends	-LFR

Rubber Bumpers:

Rod end	-BF
Cap end	-BR
Both ends	-BFR

Adjustable extend stroke (Full stroke adjustment is standard) -AS

Adjustable retract stroke (Over 1" adjustment add desired length, e.g. -RS2) -RS

Clevis mount: Ports in-line with slot -PM
Ports 90° to slot -SM

Eye mount: Ports in-line with tang -EPM
Ports 90° to tang -ESM

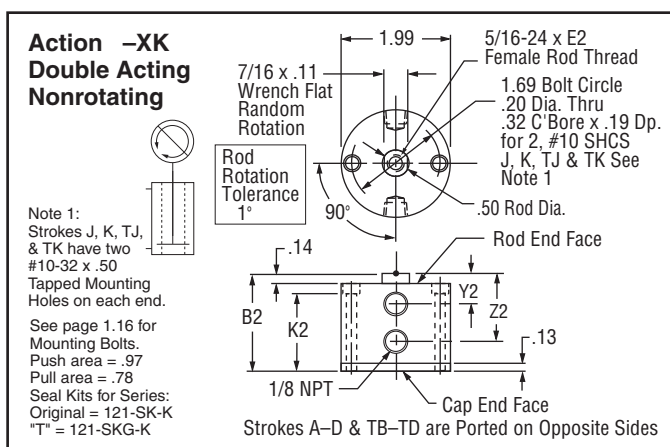
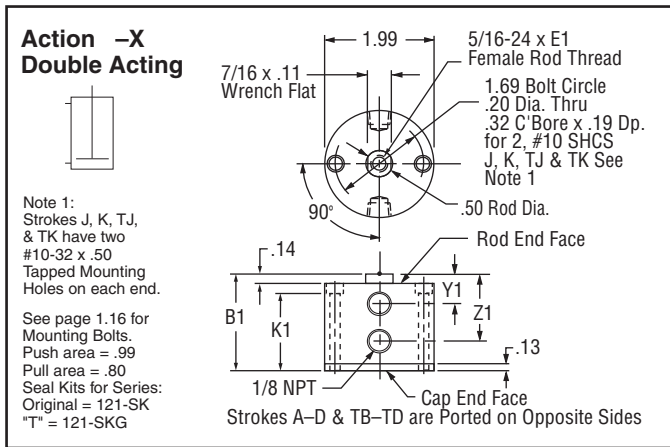
Threaded nose mount: Single rod -F
Double rod, rod end -F
Double rod, cap end -F1
Double rod, both ends -F2

Magnetic piston & sensor mounting slot(s) -E
Order sensors separately. See page 1.14.
Stroke length determines number of mounting slots. See page 1.14, 1.32, 1.34

See pages 1.3 – 1.15 for general option information and pages 1.31, 1.32 & 1.34 for option specifications of 1 1/8" bore models.

* Note – Sensors not available:
D-121-XK, TD-121-XK, D-121-XDRK

A complete library of cylinder CAD drawings is available from your local Fabco-Air Distributor or from the Fabco-Air web site – <http://www.fabco-air.com>

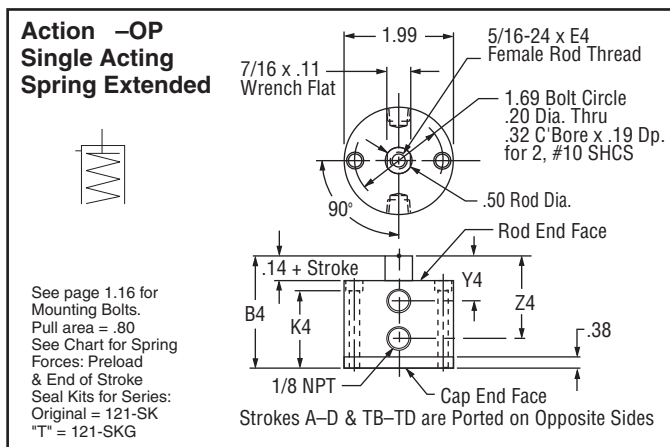
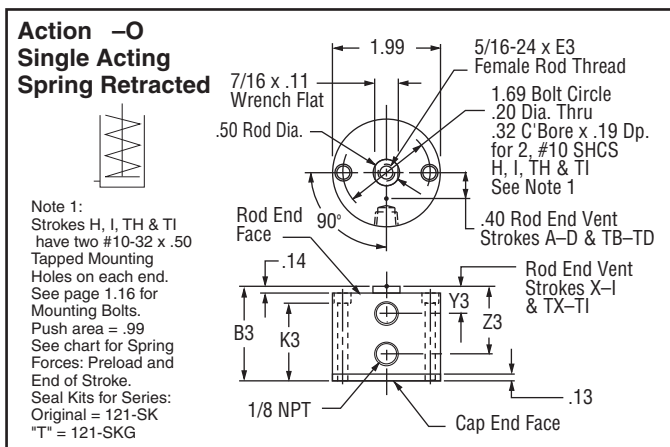


Original Series

"T" Series

Stroke, Inches	1/8	3/16	1/4	1/2	3/4	1	1 1/4	1 1/2	1 3/4	2	3	4	1/16	1/8	3/8	5/8	7/8	1 1/8	1 3/8	1 5/8	1 7/8	2 7/8	3 7/8
Stroke, Letter	A	B	C	D	X	E	F	G	H	I	J	K	TB	TC	TD	TX	TE	TF	TG	TH	TI	TJ	TK
Action -X Double Acting													Action -X Double Acting										
B1	1.02	1.02	1.02	1.33	1.77	2.02	2.27	2.52	2.95	3.39	3.99	4.99	1.02	1.02	1.33	1.77	2.02	2.27	2.52	2.95	3.39	3.99	4.99
E1	.38	.38	.38	.38	.63	.63	.63	.63	.63	.63	.63	.63	.38	.38	.38	.63	.63	.63	.63	.63	.63	.63	.63
K1	.69	.69	.69	1.00	1.44	1.69	1.94	2.19	2.62	3.06	Note 1	Note 1	.69	.69	1.00	1.44	1.69	1.94	2.19	2.62	3.06	Note 1	Note 1
Y1	.45	.45	.45	.67	.52	.52	.52	.52	.70	.89	.52	.52	.45	.45	.67	.52	.52	.52	.52	.70	.89	.52	.52
Z1	.45	.45	.45	.67	1.27	1.52	1.77	2.02	2.45	2.89	3.49	4.49	.45	.45	.67	1.27	1.52	1.77	2.02	2.45	2.89	3.49	4.49
Weight, lb.	.28	.27	.26	.37	.48	.54	.61	.67	.81	.95	1.08	1.35	.28	.27	.38	.49	.55	.62	.68	.82	.96	1.09	1.36
Action -XK Double Acting, Nonrotating													Action -XK Double Acting, Nonrotating										
B2	1.02	1.02	1.02	1.33	1.77	2.02	2.27	2.52	2.95	3.39	3.99	4.99	1.02	1.02	1.33	1.77	2.02	2.27	2.52	2.95	3.39	3.99	4.99
E2	.38	.38	.38	.38	.63	.63	.63	.63	.63	.63	.63	.63	.38	.38	.38	.63	.63	.63	.63	.63	.63	.63	.63
K2	.69	.69	.69	1.00	1.44	1.69	1.94	2.19	2.62	3.06	Note 1	Note 1	.69	.69	1.00	1.44	1.69	1.94	2.19	2.62	3.06	Note 1	Note 1
Y2	.45	.45	.45	.67	.52	.52	.52	.52	.70	.89	.52	.52	.45	.45	.67	.52	.52	.52	.52	.70	.89	.52	.52
Z2	.45	.45	.45	.67	1.27	1.52	1.77	2.02	2.45	2.89	3.49	4.49	.45	.45	.67	1.27	1.52	1.77	2.02	2.45	2.89	3.49	4.49
Weight, lb.	.28	.27	.26	.37	.49	.55	.62	.68	.83	.97	1.10	1.38	.28	.27	.38	.50	.56	.63	.69	.84	.98	1.11	1.39
Action -O Single Acting, Spring Retracted													Action -O Single Acting, Spring Retracted										
B3	1.02	1.02	1.02	1.33	2.02	2.27	2.95	3.39	3.99	3.99	NA*	NA*	1.02	1.02	1.33	2.02	2.27	2.95	3.39	3.99	3.99	NA*	NA*
E3	.38	.38	.38	.38	.63	.63	.63	.63	.63	.63	"	"	.38	.38	.38	.63	.63	.63	.63	.63	.63	"	"
K3	.69	.69	.69	1.00	1.69	1.94	2.62	3.06	Note 1	Note 1	"	"	.69	.69	1.00	1.69	1.94	2.62	3.06	Note 1	Note 1	"	"
Y3	Rod End Face Vent			.52	.52	.70	.89	.52	.52	"	"	"	Rod End Face Vent			.52	.52	.70	.89	.52	.52	"	"
Z3	.45	.45	.45	.67	1.52	1.77	2.45	2.89	3.49	3.49	"	"	.45	.45	.67	1.52	1.77	2.45	2.89	3.49	3.49	"	"
Weight, lb.	.28	.28	.28	.34	.57	.63	.84	.98	1.15	1.15	"	"	.29	.29	.35	.58	.65	.85	.99	1.16	1.16	"	"
Preload, lb.6.0	5.0	4.0	3.8	4.4	3.7	5.0	4.6	2.5	2.8	"	"	5.0	4.0	3.8	4.4	3.7	5.0	4.6	2.5	2.8	"	"	"
End of Stroke, lb.	8.5	8.5	8.5	11.8	17.7	18.6	17.8	18.3	22.2	17.7	"	"	8.5	8.5	11.8	17.7	18.6	17.8	18.3	22.2	17.7	"	"
Action -OP Single Acting, Spring Extended													Action -OP Single Acting, Spring Extended										
B4	1.40	1.46	1.52	2.08	3.02	3.52	4.45	5.14	NA*	NA*	NA*	NA*	1.33	1.40	1.96	2.90	3.40	4.33	5.02	NA*	NA*	NA*	NA*
E4	.38	.38	.38	.38	.63	.63	.63	.63	"	"	"	"	.38	.38	.38	.63	.63	.63	.63	"	"	"	"
K4	.94	.94	.94	1.25	1.94	2.19	2.87	3.31	"	"	"	"	.94	.94	1.25	1.94	2.19	2.87	3.31	"	"	"	"
Y4	.58	.64	.70	1.17	1.27	1.52	1.95	2.39	"	"	"	"	.51	.58	1.05	1.15	1.40	1.83	2.27	"	"	"	"
Z4	.58	.64	.70	1.17	2.27	2.77	3.70	4.39	"	"	"	"	.51	.58	1.05	2.15	2.65	3.58	4.27	"	"	"	"
Weight, lb.	.37	.36	.36	.43	.63	.70	.91	1.00	"	"	"	.37	.37	.44	.65	.72	.92	1.10	"	"	"	"	"
Preload, lb.6.0	5.0	4.0	3.5	3.9	3.3	2.5	4.3	"	"	"	5.0	4.0	3.5	6.1	5.1	4.0	5.5	"	"	"	"	"	"
End of Stroke, lb.	8.5	8.5	8.5	11.5	17.1	18.2	16.8	18.1	"	"	"	"	8.5	8.5	8.5	17.1	18.2	16.8	18.1	"	"	"	"

N/A* = Not Available



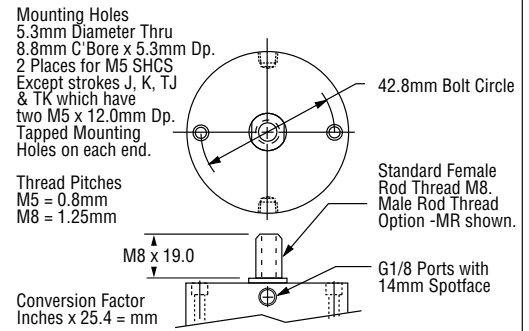
N/A* = Not Available

1

Prefix Option -M Metric Cylinder & Rod Thread, 28.5mm Bore
Available on Original and "T" Series with Actions: -X, -XK, -O, -OP
Also see *Option Information* on page 1.7.

Original Series												
Stroke mm	3.2	4.8	6.4	12.7	19.1	25.4	31.8	38.1	44.5	50.8	76.2	101.6
Stroke Letter	A	B	C	D	X	E	F	G	H	I	J	K

"T" Series											
Stroke mm	1.6	3.2	9.5	15.9	22.2	28.6	34.9	41.3	47.6	73.0	96.4
Stroke Letter	TB	TC	TD	TX	TE	TF	TG	TH	TI	TJ	TK

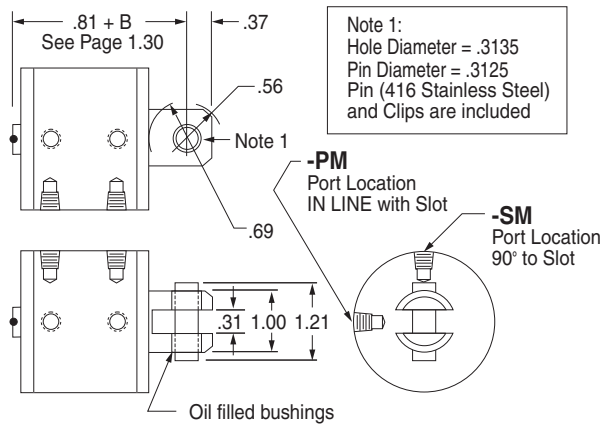


The **Suffix Options** charted on the right are available on Original and "T" Series with the Actions indicated (✓). They require no dimensional changes from the Standard Specifications on page 1.30.
- Also see *Option Information* on pages 1.7 thru 1.15.

	T	V	Q	H	N	C1-C7	LF	LR	LFR	BF	BR	BFR
-X	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
-XK	✓	✓	✓	NA	✓	✓	NA	✓	NA	✓	✓	✓
-O	NA	✓	✓	✓	✓	NA	NA	✓	NA	NA	✓	NA
-OP	NA	✓	✓	✓	✓	✓	✓	✓	✓	✓	NA	NA

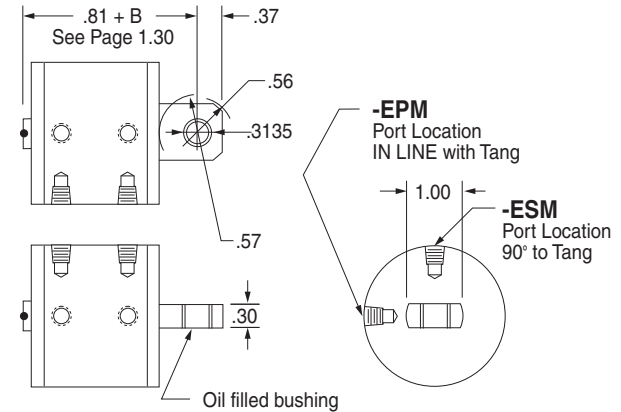
Suffix Options -PM & -SM Clevis Mount

Available on Original and "T" Series with Actions: -X, -XK, -O, -OP
Also see *Option Information* on page 1.13.



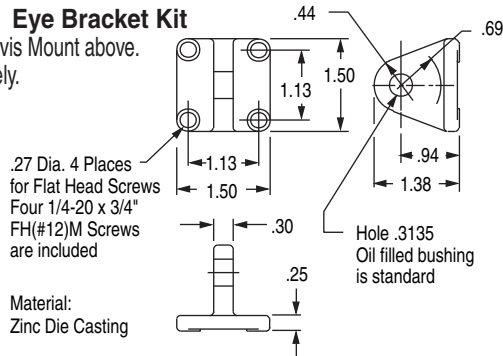
Suffix Options -EPM & -ESM Eye Mount

Available on Original and "T" Series with Actions: -X, -XK, -O, -OP
Also see *Option Information* on page 1.13.



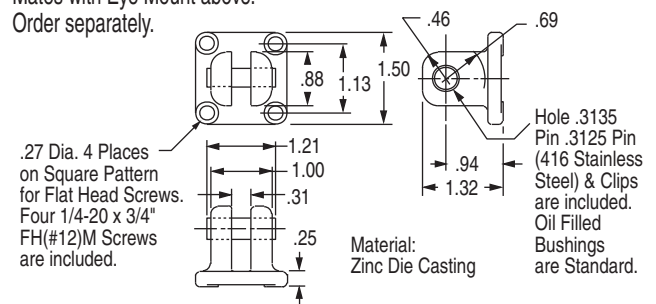
EM-121 Eye Bracket Kit

Mates with Clevis Mount above.
Order separately.



PM-121 Clevis Bracket Kit

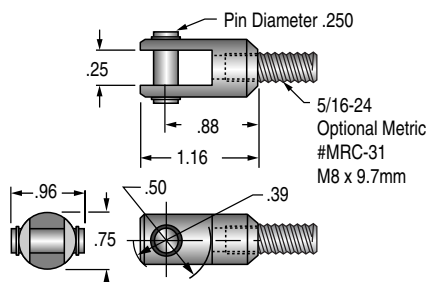
Mates with Eye Mount above.
Order separately.



RC-31 Rod Clevis and Pin

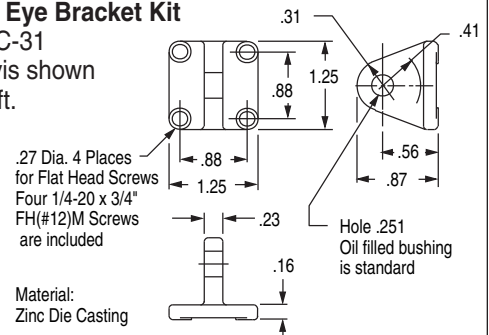
Threaded Stud mates with Female Rod thread in **Pancake®** Cylinders. Slot & Pin Mate with EM-04 Eye Bracket shown on the right.

Materials:
Clevis - Steel, Black Oxide
Stud - Steel
Pin - 416 Stainless Steel
Pin & Clips are included



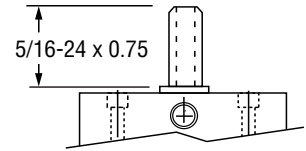
EM-04 Eye Bracket Kit

Mates RC-31 Rod Clevis shown on the left.



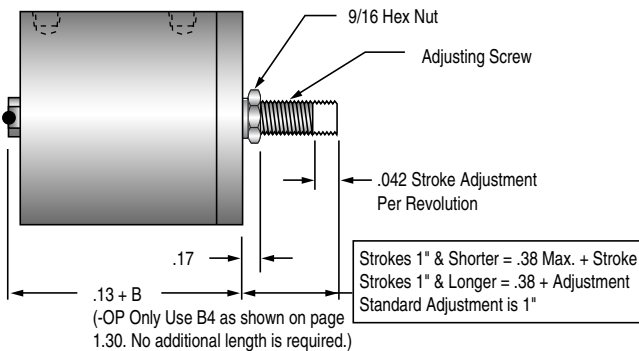
Suffix Option -MR Male Rod Thread

Available on Original and "T" Series with Actions: -X, -XK, -O, -OP. Also see *Option Information* on page 1.8.



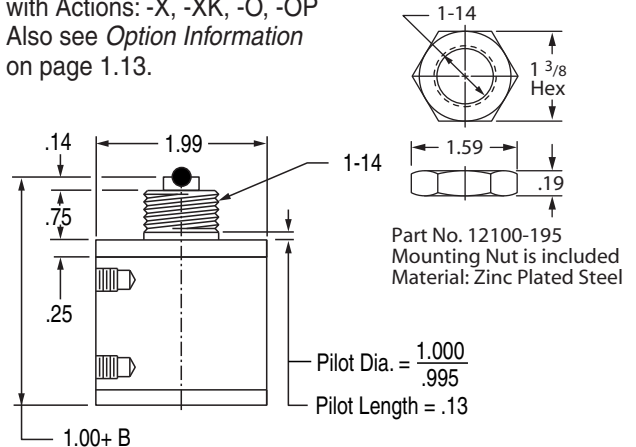
Suffix Option -RS Adjustable Retract Stroke

Available on Original and "T" Series with Actions: -X, -XK, -O, -OP. Also see *Option Information* on page 1.11.



Suffix Option -F Threaded Nose Mount

Available on Original and "T" Series with Actions: -X, -XK, -O, -OP. Also see *Option Information* on page 1.13.



Suffix Option -E Specifies Magnetic Piston and Dovetail Mounting Slot(s)

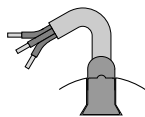
Strokes are NOT affected by magnetic piston.

**– Sensors Must be Ordered Separately
See Sensor Models Available page 1.14**

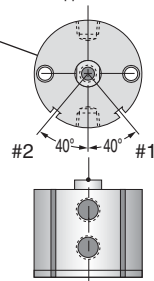
1 1/8" (121) Bore

Note:
Alloy steel mounting bolts may effect sensing. Stainless steel or other non-magnetic bolts are recommended.

Sensors available for "D" & "TD" strokes and longer. Strokes "D" & "TD" are ported on opposite sides.



1/4" 60° Dovetail Profile of Sensor & Mounting Slot.



Sensor Slots at Positions #1 and #2

Sensor Slot at Position #1 only

Quick Reference to Standard Strokes

Use the appropriate Stroke Letter in the Model Number

Available on Original Series

Available on "T" Series

Stroke	Action	X	XK
--------	--------	---	----

Stroke	Action	X	XK
--------	--------	---	----

1/2	----- D -----	Not Available	
3/4	----- X -----	X	
1	----- E -----		
1 1/4	----- F -----	F	

3/8	----- TD -----	Not Available	
5/8	----- TX -----	TX	
7/8	----- TE -----	TE	
1 1/8	----- TF -----	TF	

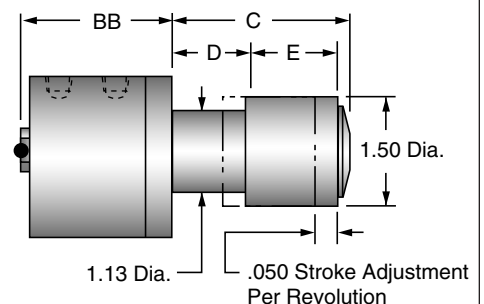
1 1/2	----- G -----	G	
1 3/4	----- H -----	H	
2	----- I -----	I	
3	----- J -----	J	
4	----- K -----	K	

1 3/8	----- TG -----	TG	
1 5/8	----- TH -----	TH	
1 7/8	----- TI -----	TI	
2 7/8	----- TJ -----	TJ	
3 7/8	----- TK -----	TK	

Suffix Option -AS Adjustable Extend Stroke

Available on Original Series with Actions: -X, -XK, -O. Also see *Option Information* on page 1.11.

Stroke Inches	1/8	3/16	1/4	1/2	3/4	1	1-1/4	1-1/2	1-3/4	2	3	4	
Stroke Letter	A	B	C	D	X	E	F	G	H	I	J	K	
Actions: -X, -XK	BB	1.36	1.36	1.36	1.67	2.11	2.36	2.61	2.86	3.30	3.74	4.33	5.33
Actions: -O	BB	1.36	1.36	1.36	1.67	2.36	2.61	3.30	3.74	4.33	4.33	NA	NA
C	1.40	1.53	1.66	2.16	2.66	3.16	3.66	4.16	4.66	5.16	7.16	9.16	
D	0.63	0.69	0.75	1.00	1.25	1.50	1.75	2.00	2.25	2.50	3.50	4.50	
E	0.63	0.69	0.75	1.00	1.25	1.50	1.75	2.00	2.25	2.50	3.50	4.50	

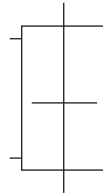


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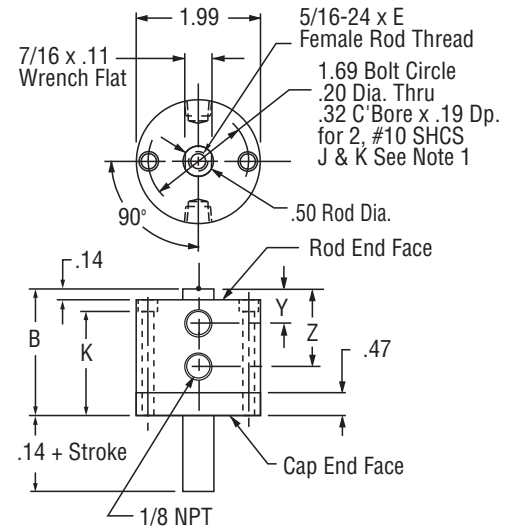
Action –XDR Original Series Double Rod, Double Acting

Note 1:
Strokes J & K have
two #10-32 x .50
Tapped Mounting
Holes on each end.

See page 1.16 for
Mounting Bolts
Force Area = .80
Seal Kit = 121-SK



Stroke, Inches	1/8	3/16	1/4	1/2	3/4	1	1 1/4	1 1/2	1 3/4	2	3	4
Stroke, Letter	A	B	C	D	X	E	F	G	H	I	J	K
B	1.36	1.36	1.36	1.67	2.11	2.36	2.61	2.86	3.30	3.74	4.33	5.33
E	.38	.38	.38	.34	.63	.63	.63	.63	.63	.63	.63	.63
K	1.04	1.04	1.04	1.34	1.78	2.03	2.28	2.53	2.96	3.40	Note 1	Note 1
Y	.45	.45	.45	.67	.52	.52	.52	.52	.70	.89	.52	.52
Z	.45	.45	.45	.67	1.27	1.52	1.77	2.02	2.45	2.89	3.49	4.49
Weight, lb.	.46	.45	.44	.55	.68	.76	.83	.91	1.07	1.22	1.41	1.71

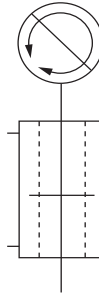


Strokes A – D are Ported on Opposite Sides

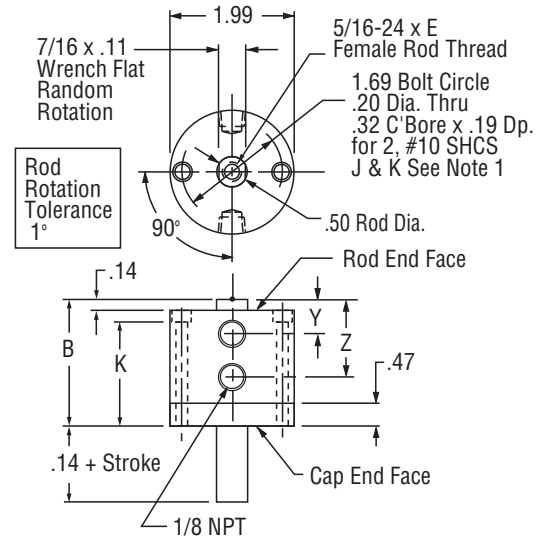
Action –XDRK Original Series Double Rod, Double Acting, Nonrotating

Note 1:
Strokes J & K have
two #10-32 x .50
Tapped Mounting
Holes on each end.

See page 1.16 for
Mounting Bolts
Force Area = .78
Seal Kit = 121-SK-K



Stroke, Inches	1/8	3/16	1/4	1/2	3/4	1	1 1/4	1 1/2	1 3/4	2	3	4
Stroke, Letter	A	B	C	D	X	E	F	G	H	I	J	K
B	1.36	1.36	1.36	1.67	2.11	2.36	2.61	2.86	3.30	3.74	4.33	5.33
E	.38	.38	.38	.34	.63	.63	.63	.63	.63	.63	.63	.63
K	1.04	1.04	1.04	1.34	1.78	2.03	2.28	2.53	2.96	3.40	Note 1	Note 1
Y	.45	.45	.45	.67	.52	.52	.52	.52	.70	.89	.52	.52
Z	.45	.45	.45	.67	1.27	1.52	1.77	2.02	2.45	2.89	3.49	4.49
Weight, lb.	.47	.46	.45	.56	.69	.77	.84	.93	1.09	1.24	1.43	1.74

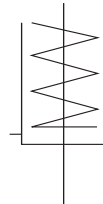


Strokes A – D are Ported on Opposite Sides

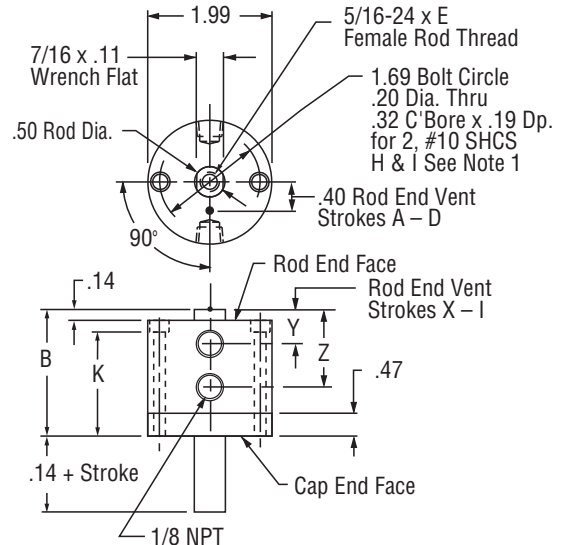
Action –ODR Original Series Double Rod, Single Acting, Spring Retracted

Note 1:
Strokes H & I have
two #10-32 x .50
Tapped Mounting
Holes on each end.

See page 1.16 for
Mounting Bolts
Force Area = .80
Seal Kit = 121-SK



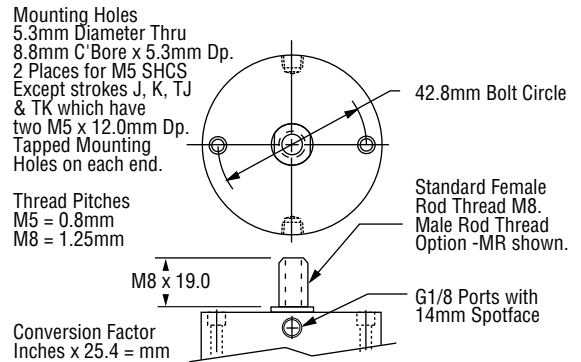
Stroke, Inches	1/8	3/16	1/4	1/2	3/4	1	1 1/4	1 1/2	1 3/4	2	
Stroke, Letter	A	B	C	D	X	E	F	G	H	I	
B	1.36	1.36	1.36	1.67	2.36	2.61	3.30	3.74	4.33	4.33	
E	.38	.38	.38	.34	.63	.63	.63	.63	.63	.63	
K	1.04	1.04	1.04	1.34	2.03	2.28	2.96	3.40	Note 1	Note 1	
Y	Rod End Vent Face										
Z	.45	.45	.45	.67	1.52	1.77	2.45	2.89	3.49	3.49	
Weight, lb.	.44	.44	.43	.53	.76	.83	1.07	1.22	1.41	1.41	
Spring Return Forces, lb.											
Preload	6.0	5.0	4.0	3.5	4.4	3.7	2.8	4.6	2.8	2.8	
End of Stroke	8.5	8.5	8.5	11.5	17.7	18.6	17.1	18.3	15.8	17.7	



Prefix Option -M Metric Cylinder & Rod Thread, 50.8mm Bore

Available on Original Series with Actions: -XDR, -XDRK, -ODR
Also see *Option Information* on page 1.7.

Stroke mm	3.2	4.8	6.4	12.7	19.1	25.4	31.8	38.1	44.5	50.8	76.2	101.6
Stroke Letter	A	B	C	D	X	E	F	G	H	I	J	K



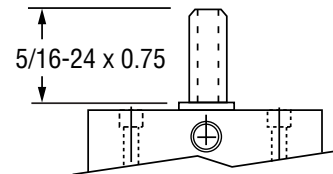
The **Suffix Options** charted on the right are available on Original Series with the Actions indicated (✓). They require no dimensional changes from the Standard Specifications on page 1.33. – Also see *Option Information* on pages 1.7 thru 1.15.

	T	V	Q	H	N	C1-C7	LF	LR	LFR	BF	BR	BFR	13	16
-XDR	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
-XDRK	NA	✓	✓	NA	✓	✓	NA	NA	NA	✓	✓	✓	✓	✓
-ODR	NA	✓	✓	✓	✓	NA	NA	✓	NA	NA	✓	NA	✓	✓

Suffix Options -MR, -MR1, -MR2 Male Rod Thread

Available on Original Series with Actions -XDR, -XDRK, -ODR.

- For Rod End only use –MR
- For Cap End only use –MR1
- For Both Ends use –MR2



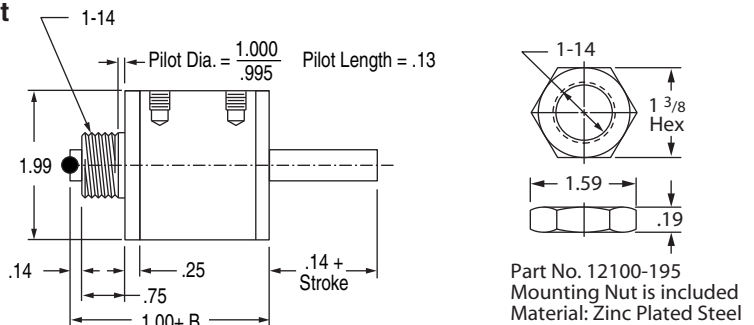
Also see *Option Information* on Page 1.8.

Suffix Options -F, -F1, -F2 Threaded Nose Mount

Available on Original Series with Actions -XDR, -XDRK, -ODR.

- For Rod End only use –F
- For Cap End only use –F1
- For Both Ends use –F2

Also see *Option Information* page 1.13.



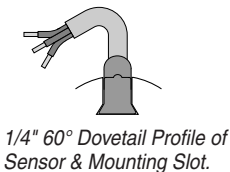
Suffix Option -E Specifies Magnetic Piston and Dovetail Mounting Slot(s)

Strokes are NOT affected by magnetic piston.

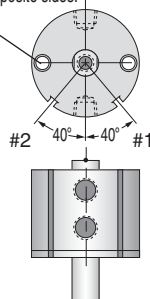
**–Sensors Must Be Ordered Separately
See Sensor Models Available page 1.14**

1 1/8" (121) Bore

Note:
Alloy steel mounting bolts may effect sensing. Stainless steel or other non-magnetic bolts are recommended.



Sensors available for "D" strokes and longer. Stroke D is ported on opposite sides.



Quick Reference to Standard Strokes
Use the appropriate Stroke Letter in the Model Number

Available on Original Series

Stroke	Action	
	XDR	XDRK
1/2	----- D	----- Not Available
3/4	----- X	----- X
1	----- E	----- E
1 1/4	----- F	----- F
1 1/2	----- G	----- G
1 3/4	----- H	----- H
2	----- I	----- I
3	----- J	----- J
4	----- K	----- K

Sensor Slots at Positions #1 and #2

Sensor Slot at Position #1 only