

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 XK XDR XDRK	O ODR OP	
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 XK	O OP	
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

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	-16
150 psi max	
Finish: ProCoat™ (Electroless Nickel)	-N
Stroke collar:	
1/4"	1/8" -C1
1/2"	3/8" -C3
3/4"	5/8" -C5
	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.

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 5/8" | 221 | 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

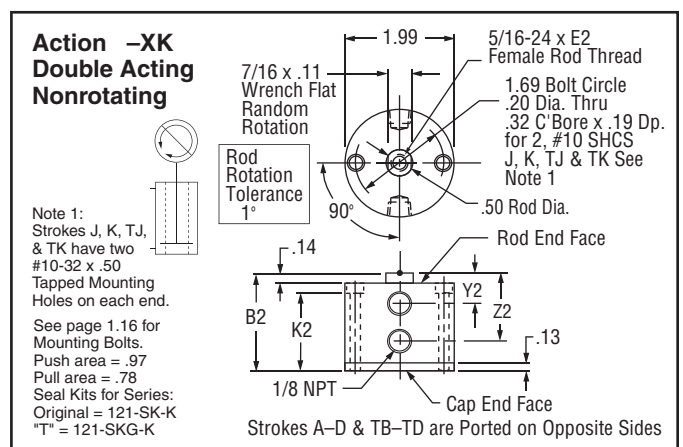
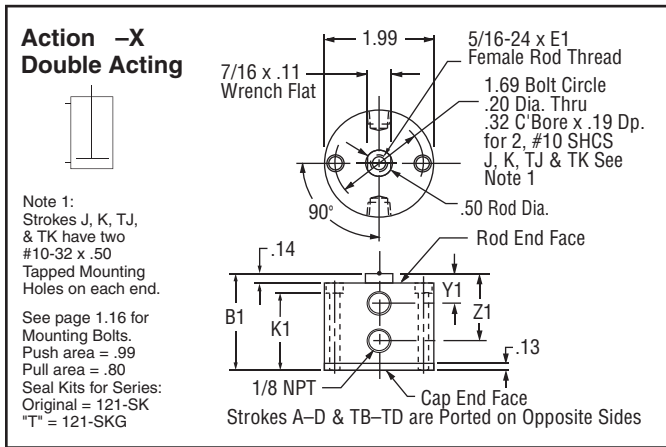
Original Series, 1/2" stroke - 1 1/8" Bore - Single Rod, Double Acting

TD-121-X-MR

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

* 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

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
Action -XK 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
E1	.38	.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
Y1	.45	.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
Weight, lb.	.28	.27	.26	.37	.48	.61	.67	.81	.95	1.08	1.35	

"T" Series

Stroke, Inches	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	TB	TC	TD	TX	TE	TF	TG	TH	TI	TK
Action -XK Double Acting										
B1	1.02	1.02	1.33	1.77	2.02	2.27	2.52	2.95	3.39	4.99
E1	.38	.38	.38	.63	.63	.63	.63	.63	.63	.63
K1	.69	.69	1.00	1.44	1.69	1.94	2.19	2.62	3.06	Note 1
Y1	.45	.45	.67	.52	.52	.52	.52	.70	.89	.52
Z1	.45	.45	.67	1.27	1.52	1.77	2.02	2.45	2.89	3.49
Weight, lb.	.28	.27	.38	.49	.56	.62	.68	.82	.96	1.09

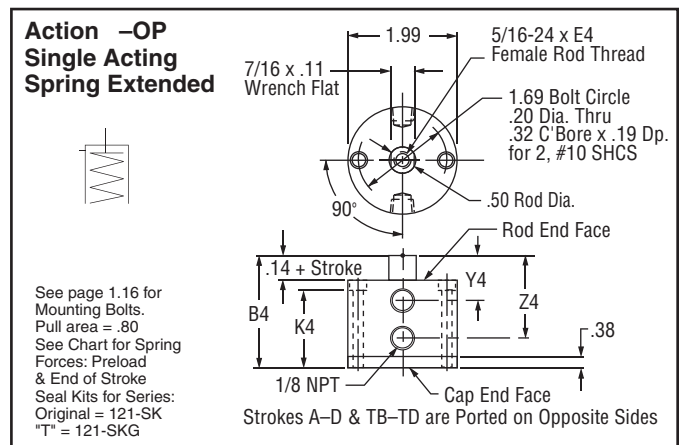
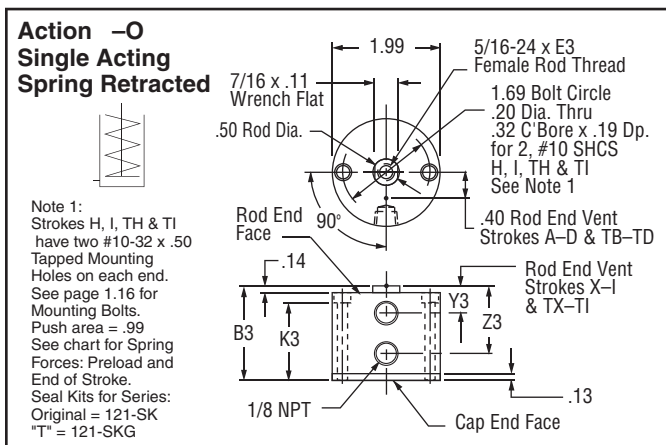
Action -XK Double Acting, Nonrotating												
B2	1.02	1.02	1.02	1.33	1.77	2.02	2.27	2.52	2.95	3.39	3.99	4.99
E2	.38	.38	.38	.38	.63	.63	.63	.63	.63	.63	.63	.63
K2	.69	.69	.69	1.00	1.44	1.69	1.94	2.19	2.62	3.06	Note 1	Note 1
Y2	.45	.45	.45	.67	.52	.52	.52	.52	.70	.89	.52	.52
Z2	.45	.45	.45	.67	1.27	1.52	1.77	2.02	2.45	2.89	3.49	4.49
Weight, lb.	.28	.27	.26	.37	.49	.55	.62	.68	1.35	1.10	1.38	

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	NA*	NA*	
E3	.38	.38	.38	.38	.63	.63	.63	.63	.63	"	"	
K3	.69	.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		
Z3	.45	.45	.45	.67	1.52	1.77	2.45	2.89	3.49	"	"	
Weight, lb.	.28	.28	.28	.34	.57	.63	.84	.98	1.15	"	"	
Preload, lb.6.0	5.0	4.0	3.8	4.4	3.7	5.0	4.6	2.5	2.8	"	5.0	
End of Stroke, lb.	8.5	8.5	8.5	11.8	17.7	18.6	17.8	18.3	22.2	17.7	"	

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*
E4	.38	.38	.38	.38	.63	.63	.63	.63	"	"	"	"
K4	.94	.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	"	"	"	"
Z4	.58	.64	.70	1.17	2.27	2.77	3.70	4.39	"	"	"	"
Weight, lb.	.37	.36	.36	.43	.63	.70	.91	1.00	"	"	.37	
Preload, lb.6.0	5.0	4.0	3.5	3.9	3.3	2.5	4.3	"	"	5.0		
End of Stroke, lb.	8.5	8.5	8.5	11.5	17.1	18.2	16.8	18.1	"	"	"	

Action -OP Single Acting, Spring Extended										
B4	1.33	1.40	1.96	2.90	3.40	4.33	5.02	NA*	NA*	NA*
E4	.38	.38	.38	.63	.63	.63	.63	"	"	"
K4	.94	.94	1.25	1.94	2.19	2.87	3.31	"	"	"
Y4	.51	.58	1.05	1.15	1.40	1.83	2.27	"	"	"
Z4	.51	.58	1.05	2.15	2.65	3.58	4.27	"	"	"
Weight, lb.	.37	.44	.65	.72	.92	1.10	"	"	"	"
Preload, lb.6.0	4.0	3.5	6.1	5.1	4.0	5.5	"	"	"	"
End of Stroke, lb.	8.5	8.5	8.5	17.1	18.2	16.8	18.1	"	"	"

NA* = Not Available



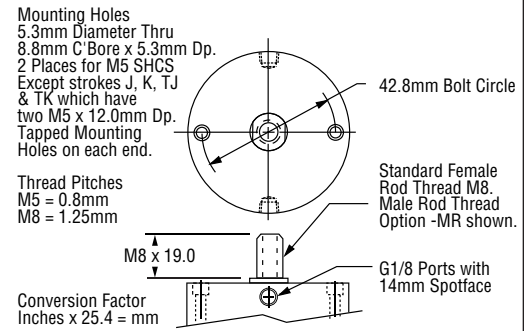
NA* = Not Available

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

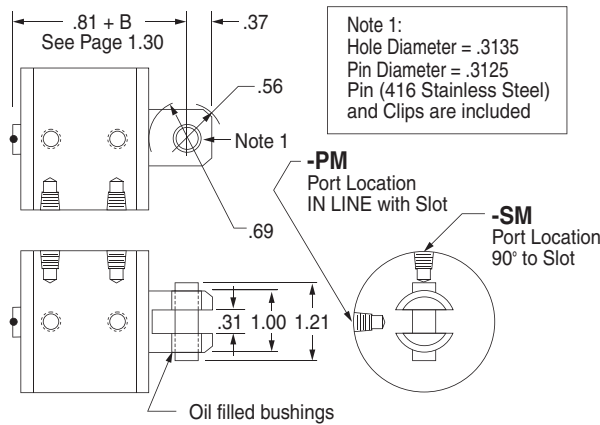


The **Suffix Options** charted on the right are available on Original and "T" Series with the Actions indicated (✓). They require no dimensional changes from the Standard Specifications on page 1.30.
- Also see *Option Information* on pages 1.7 thru 1.15.

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

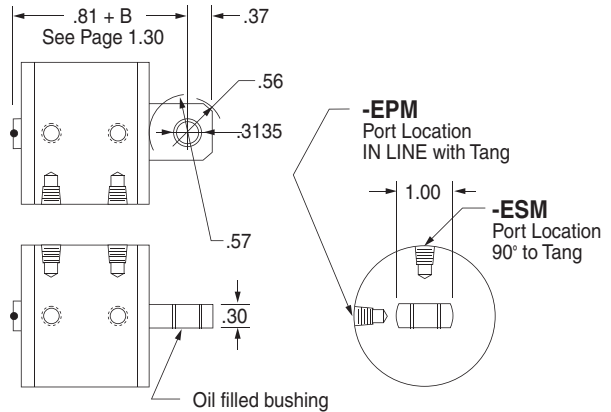
Suffix Options -PM & -SM Clevis Mount

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



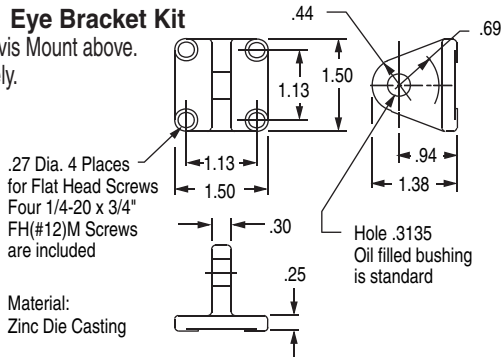
Suffix Options -EPM & -ESM Eye Mount

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



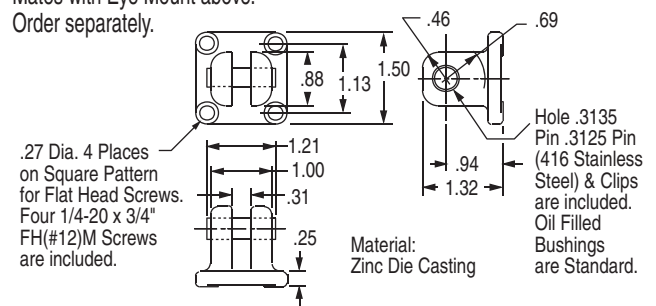
EM-121 Eye Bracket Kit

Mates with Clevis Mount above.
Order separately.



PM-121 Clevis Bracket Kit

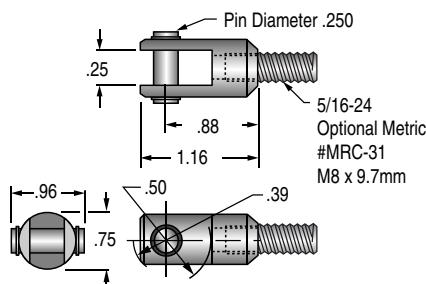
Mates with Eye Mount above.
Order separately.



RC-31 Rod Clevis and Pin

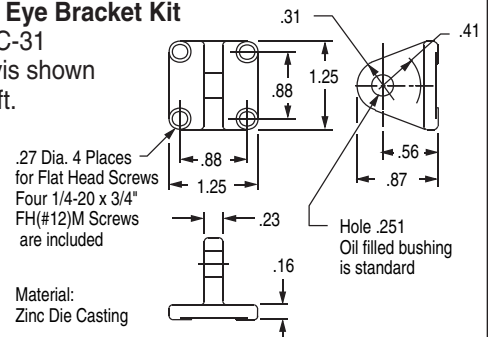
Threaded Stud mates with
Female Rod thread
in **Pancake®** Cylinders.
Slot & Pin Mate with
EM-04 Eye Bracket
shown on the right.

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



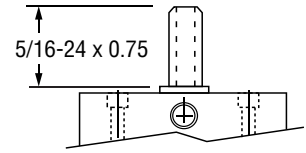
EM-04 Eye Bracket Kit

Mates RC-31
Rod Clevis shown
on the left.



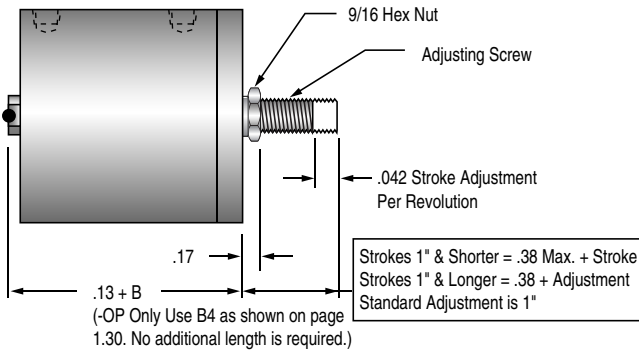
Suffix Option -MR Male Rod Thread

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



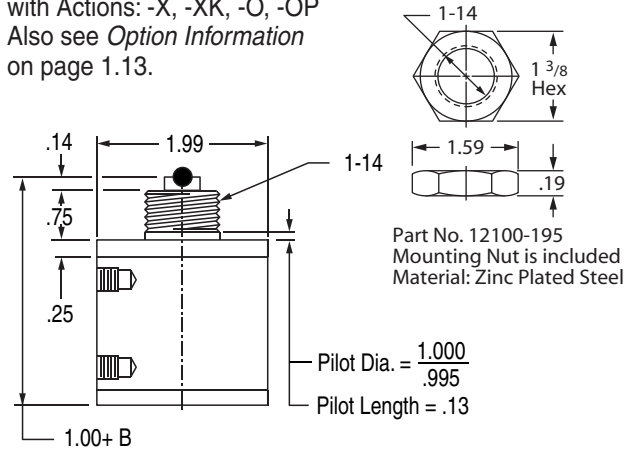
Suffix Option -RS Adjustable Retract Stroke

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)

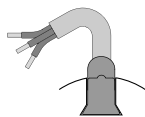
Strokes are NOT affected by magnetic piston.

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

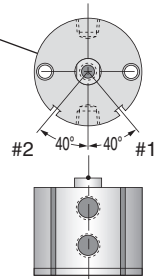
1 1/8" (121) Bore

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	

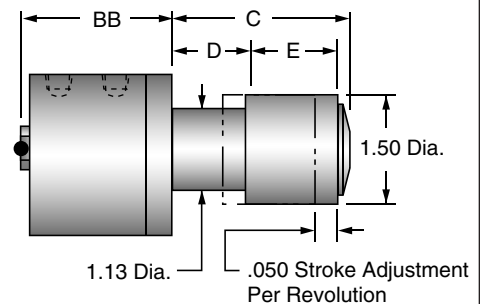
1 1/2	----- G -----	G	
1 3/4	----- H -----	H	
2	----- I -----	I	
3	----- J -----	J	
4	----- K -----	K	

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	



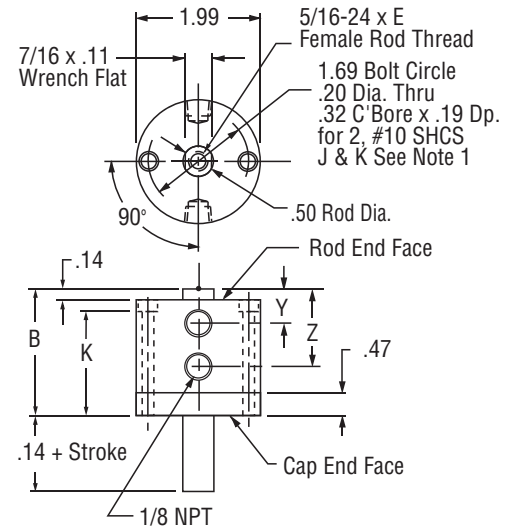
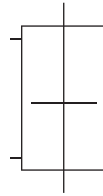
1

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



Strokes A – D are Ported on Opposite Sides

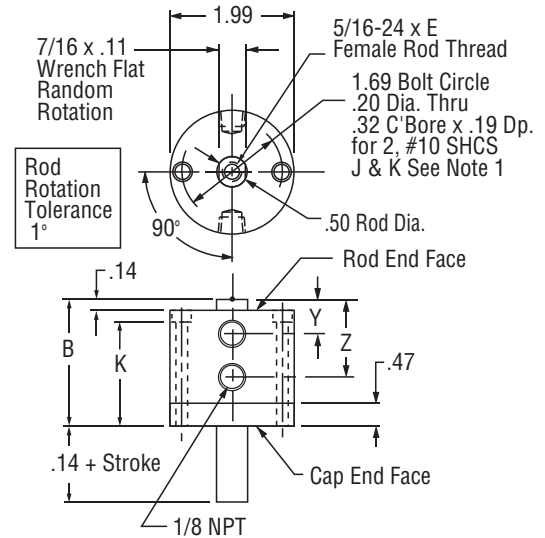
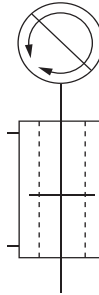
Stroke, Inches	1/8	3/16	1/4	1/2	3/4	1	1 1/4	1 1/2	1 3/4	2	3	4
Stroke, Letter	A	B	C	D	X	E	F	G	H	I	J	K
B	1.36	1.36	1.36	1.67	2.11	2.36	2.61	2.86	3.30	3.74	4.33	5.33
E	.38	.38	.38	.34	.63	.63	.63	.63	.63	.63	.63	.63
K	1.04	1.04	1.04	1.34	1.78	2.03	2.28	2.53	2.96	3.40	Note 1	Note 1
Y	.45	.45	.45	.67	.52	.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

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



Strokes A – D are Ported on Opposite Sides

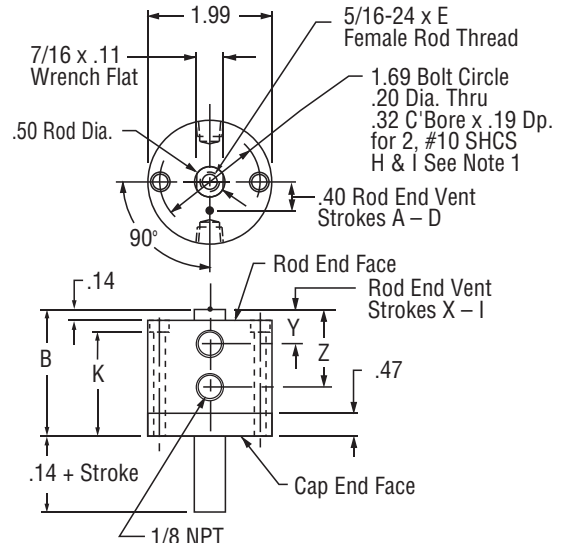
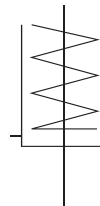
Stroke, Inches	1/8	3/16	1/4	1/2	3/4	1	1 1/4	1 1/2	1 3/4	2	3	4
Stroke, Letter	A	B	C	D	X	E	F	G	H	I	J	K
B	1.36	1.36	1.36	1.67	2.11	2.36	2.61	2.86	3.30	3.74	4.33	5.33
E	.38	.38	.38	.34	.63	.63	.63	.63	.63	.63	.63	.63
K	1.04	1.04	1.04	1.34	1.78	2.03	2.28	2.53	2.96	3.40	Note 1	Note 1
Y	.45	.45	.45	.67	.52	.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

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

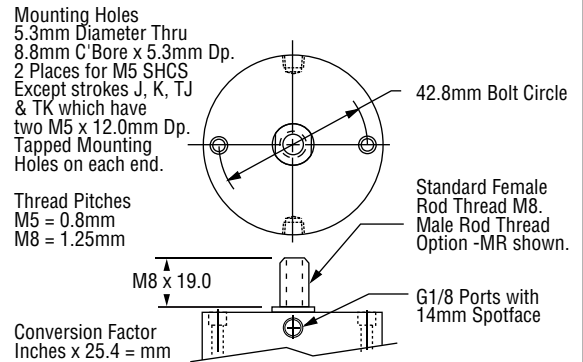


Stroke, Inches	1/8	3/16	1/4	1/2	3/4	1	1 1/4	1 1/2	1 3/4	2
Stroke, Letter	A	B	C	D	X	E	F	G	H	I
B	1.36	1.36	1.36	1.67	2.36	2.61	3.30	3.74	4.33	4.33
E	.38	.38	.38	.34	.63	.63	.63	.63	.63	.63
K	1.04	1.04	1.04	1.34	2.03	2.28	2.96	3.40	Note 1	Note 1
Y	.45	.45	.45	.67	.52	.52	.70	.89	.52	.52
Z	.45	.45	.45	.67	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



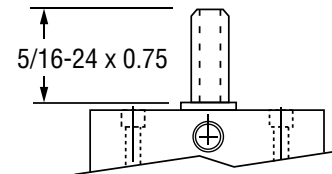
The **Suffix Options** charted on the right are available on Original Series with the Actions indicated (✓). They require no dimensional changes from the Standard Specifications on page 1.33. – Also see *Option Information* on pages 1.7 thru 1.15.

	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



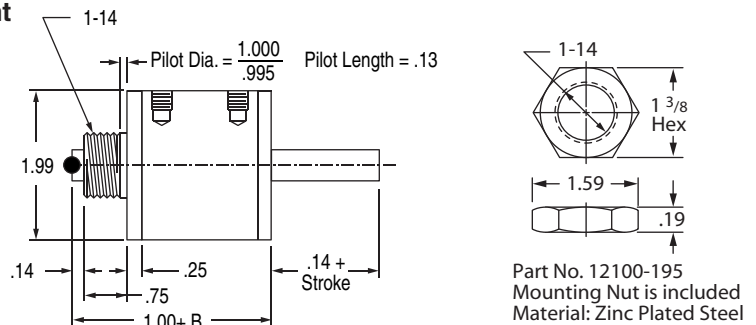
Also see *Option Information* on Page 1.8.

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.



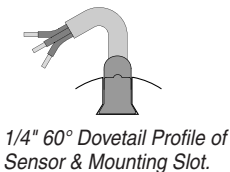
Suffix Option -E Specifies Magnetic Piston and Dovetail Mounting Slot(s)

Strokes are NOT affected by magnetic piston.

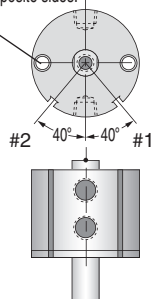
**–Sensors Must Be Ordered Separately
See Sensor Models Available page 1.14**

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