SMC

Air Cylinder
Series NCM

Now available in 8 different bore sizes, 7/16" to 2".

5 Actuation options available:
- Double Acting, Single Rod
- Double Acting, Double Rod
- Non-rotating Rod
- Single Acting, Spring Return
- Single Acting, Spring Extend

A wide variety of mounting configurations:

- Front Nose Mount
- Rear Pivot Mount
- Double End Mount
- Block Mount
- Foot Mount (optional brackets)

Chrome plated carbon steel piston rod improves corrosion resistance. Stainless steel 304 is available for further protection.

Available bumper for increased kinetic energy absorption, increased life cycles, and decreased noise.

Piston is crimped to rod to achieve tighter clearances and reduce piston rod deflection.

Chromated aluminum piston improves corrosion resistance.

Magnetic actuated limit switches are available as a standard option.

Seal, wear ring, and polished stainless steel tube work together to absorb side load and decrease overall friction, ensuring long lasting service life. (Wear ring used on 3/4" bore and larger.)

Pre-lubricated at the factory means that the NCM does not require a lubricated air system.

Air Cylinder: Non-rotating Rod
Double Acting, Single Rod
Series NCM

How to Order

NC [ ] M K [B] [075] – [01] [00] [ ] – [M9BW] [ ] – [ ]

Built-in magnet

Nil	None
D	Built-in magnet with auto switch

Non-rotating rod

Mounting

B	Front nose mount
C	Rear pivot mount
E	Double end mount

Bore size

075	3/4"
088	7/8"
106	1-1/16"
125	1-1/4"
150	1-1/2"

Standard stroke
Inches Note 1)

Stroke
Hundredths of an inch
(i.e. 06 = 0.06")

Bumper

Nil	Without bumper
C	Bumper

Auto switch

Nil	Without auto switch

* For applicable auto switch models, refer to the table on page 13.

Number of auto switches

Nil	2 pcs.
S	1 pc.
n	"n" pcs.

Option

Nil	None
X142US	Long stroke

Note 1) See specifications for standard and maximum stroke lengths.

Specifications: Double Acting, Single Rod Non-rotating Rod

Specifications

Bore size (inch)	075 (3/4")	088 (7/8")	106 (1-1/16")	125 (1-1/4")	150 (1-1/2")
Fluid	Air				
Maximum operating pressure	250 PSI / 1.7 MPa				
Minimum operating pressure	8 PSI / 0.06 MPa				
Ambient and fluid temperature	40 to 140°F / 5 to 60 °C				
Piston speed	2 to 20 in/sec / 50 to 500 mm/sec				
Rod material	Stainless steel 303				
Bumper	Optional (No additional charge on 7/8" and 1-1/4" bore)				
Non-rotating accuracy	± 2.0°		± 1.4°		
Maximum allowable torque	0.04 ft·Lbf (0.06 N·m)		0.09 ft·Lbf (0.13 N·m)	0.12 ft·Lbf (0.16 N·m)	

Standard Stroke

(inch)

Mounting	Standard stroke	Max. stroke as standard	Long stroke -X142US
Front nose mount (B)	1/2, 1, 2, 3, 4, 5, 6,	12	40
Double end mount (E) Rear pivot mount (C)	1/2, 1, 2, 3, 4, 5, 6, 7, 8, 10, 12	32	40

Note 1) Minimum stroke for mounting auto switches: 0.6 inch for 2 switches, 0.4 inch for one switch.
Note 2) Spring return up to 18" available as special request.

Theoretical Output: Non-rotating Rod

(lbf)

Bore size (inch)	Rod diameter (inch)	Operating direction	Effective area (sq.inch)	Operating pressure (PSI)					
				25	**50**	**75**	**100**	**125**	**150**
075 (3/4")	0.250	OUT	0.442	11.0	22.1	33.1	44.2	55.2	66.3
		IN	0.399	10.0	20.0	30.0	39.9	49.9	59.9
088 (7/8")	0.250	OUT	0.608	15.2	30.4	45.6	60.8	76.0	91.2
		IN	0.566	14.1	28.3	42.4	56.6	70.7	84.9
106 (1-1/16")	0.375	OUT	0.882	22.1	44.1	66.2	88.2	110.3	132.4
		IN	0.787	19.7	39.3	59.0	78.7	98.3	118.0
125 (1-1/4")	0.437	OUT	1.227	30.7	61.4	92.0	122.7	153.4	184.1
		IN	1.098	27.4	54.9	82.3	109.8	137.2	164.6
150 (1-1/2")	0.437	OUT	1.767	44.2	88.4	132.5	176.7	220.9	265.1
		IN	1.638	40.9	81.9	122.8	163.8	204.7	245.6

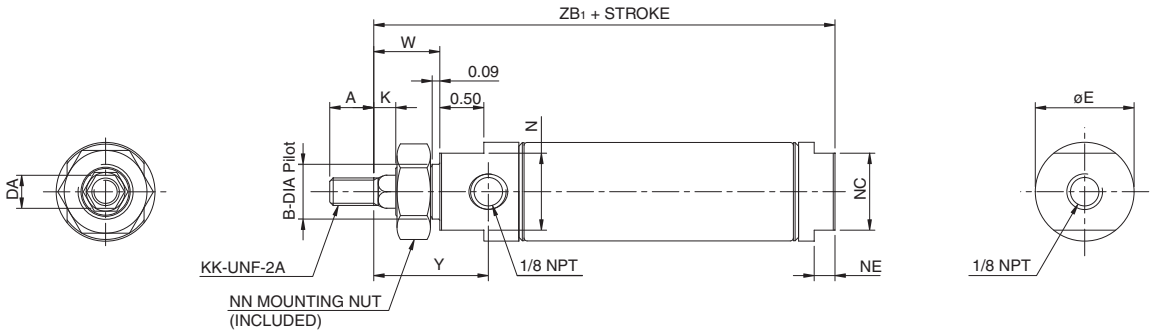
Weight

(lbs)

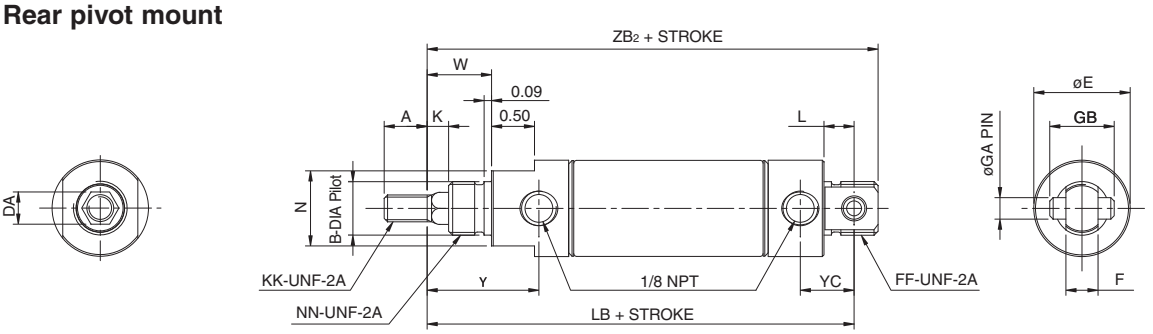
Bore size (inch)	Base weight by mounting style			Add'l weight per inch stroke	Add'l weight for magnet	Add'l weight for bumper
	B	**C**	**E**			
075 (3/4")	0.200	0.200	0.280	0.035	0.008	0.012
088 (7/8")	0.208	0.188	0.278	0.038	0.010	0.012
106 (1-1/16")	0.340	0.330	0.420	0.063	0.012	0.011
125 (1-1/4")	0.541	0.591	0.691	0.083	0.020	0.029
150 (1-1/2")	0.720	0.820	0.860	0.104	0.024	0.020

Dimensions: Double Acting, Single Rod Non-rotating Rod

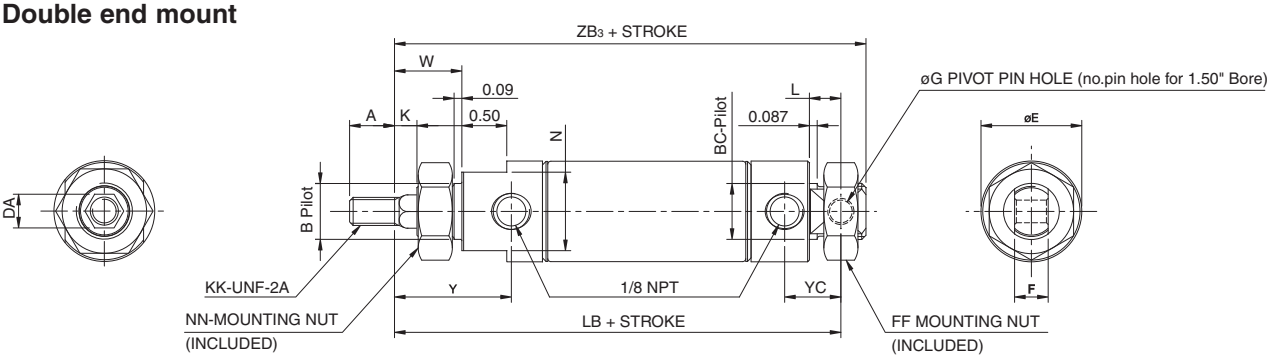
Front nose mount



Rear pivot mount



Double end mount



(inch)

Bore size (inch)	MM	KK	A	B	BC	DA	E	F	FF	G	GA	GB	K	L	N	NC	NE	NN	W	Y	YC
075 (3/4")	0.250	1/4-28	0.50	$0.624^{0}_{-0.003}$	$0.624^{0}_{-0.003}$	0.25	0.86	0.38	5/8-18	0.251	0.250	0.75	0.25	0.34	0.75	0.62	0.12	5/8-18	0.75	1.20	0.62
088 (7/8")	0.250	1/4-28	0.50	$0.624^{0}_{-0.003}$	$0.624^{0}_{-0.003}$	0.25	0.93	0.38	5/8-18	0.251	0.250	0.75	0.25	0.34	0.75	0.75	0.18	5/8-18	0.75	1.20	0.62
106 (1-1/16")	0.312	5/16-24	0.50	$0.624^{0}_{-0.003}$	$0.624^{0}_{-0.003}$	0.38	1.12	0.38	5/8-18	0.251	0.250	0.75	0.25	0.34	0.88	0.88	0.24	5/8-18	0.75	1.30	0.62
125 (1-1/4")	0.375	3/8-24	0.88	$0.749^{0}_{-0.003}$	$0.749^{0}_{-0.003}$	0.44	1.32	0.50	3/4-16	0.251	0.250	0.98	0.25	0.41	1.06	1.06	0.25	3/4-16	0.88	1.62	0.78
150 (1-1/2")	0.375	3/8-24	0.88	$0.874^{0}_{-0.004}$	$0.749^{0}_{-0.003}$	0.44	1.56	0.62 (C)	3/4-16(E)	–	0.375	1.00	0.38	0.50(C)	1.25	1.25	0.25	7/8-14	1.12	1.81	0.78(C)

Non-rotating Rod (B/C/E) Mount

Bore size (inch)	LB		ZB1		ZB2		ZB3	
	No bumper	With bumper	No bumper	With bumper	No bumper	With bumper	No bumper	With bumper
075 (3/4")	4.00	4.00	3.22	3.22	4.28	4.28	4.28	4.28
088 (7/8")	3.55	3.81	2.94	3.19	3.83	4.09	3.83	4.09
106 (1-1/16")	3.97	4.11	3.38	3.52	4.25	4.39	4.25	4.39
125 (1-1/4")	4.46	4.72	3.75	4.00	4.86	5.12	4.86	5.12
150 (1-1/2")	4.68 (C)	4.82 (C)	4.00	4.13	5.06 (C)	5.20 (C)	4.81	4.95

Note) Length not affected by addition of magnet.