

How to Order and Specify

Example: Model LM Medium Duty NFPA Aluminum Air Cylinder
Aluminum Constructed Cylinder: Head rectangular flange mount (MF1), 3 1/4" bore x 12" stroke, 1" diameter piston rod with 3/4"-16 x 1.12 short male threads. Front and rear end caps have NPT Air supply ports at end cap side position #1 and cushion adjustment screw at side position #2 and nothing at positions #3 and #4. No proximity switches are required; however, the piston magnet feature (to sense a tie rod mounted proximity switch) is ordered for this cylinder in position J.

End Cap Side Locations: **1 2 3 4** **1 2 3 4**
LM 4 325 x 12 AM - ACNN - ACNN - O / M
 Position No: **A B C D E F G H J**

A Cylinder Model: Specify LM in this position.

- 1 1/2" bore through 12" bore
- Longer lasting improved Nitrile seals. (Std.)
- Machined anodized or black painted aluminum cylinder heads. (Std.)
- Removable, internally lubricated, bearing cartridge. (Std.)
- "SlipTuff" coated bearing cartridge for severe side loaded applications (optional)
- Solid aluminum tube, hard coat anodized ID and OD. (Std.)
- Internally lubricated for life; no in-line lubrication required. (Std.)
- 100,000 PSI yield, IHCP chrome plated piston rod. (Std.)
- Adjustable cushions with captive screw. (Cushions are optional).
- In-port mounted proximity switches for near end of stroke position sensing (optional). These replace mechanical limit switches.
- Magnetic piston sensing for tie rod mounted reed switches. (Optional).

B Specify Cylinder Mounting Style: See inside for illustrations and material composition.

- | | |
|---|---|
| LM 0 No Mount ... (Adaptable for front or rear flush mounts) | LM 14 End Lugs ... (MS7) |
| LM 1 Foot Side Lugs ... (MS2) | LM 15 Centerline Lugs ... (MS3) |
| LM 2 Head Trunnion ... (MT1) | LM 16 Side Tapped ... (MS4) |
| LM 3 Cap Fixed Clevis ... (MP1) | LM 17 Head Square Flange ... (MF5) |
| LM 4 Head Rectangular Flange ... (MF1) | LM 18 Cap Square Flange ... (MF6) |
| LM 5 Cap Rectangular Flange ... (MF2) | LM 19 Head Square Block (For 8" and larger bores) ... (ME3) |
| LM 6 Intermediate Trunnion ... (MT4)
(See XI note on back page) | LM 20 Cap Square Block (For 8" and larger bores) ... (ME4) |
| LM 7 Cap Trunnion ... (MT2) | LM 21 Cap Detachable Eye ... (MP4) |
| LM 8 Head Tie Rod Extended ... (MX3) | LM 22 Cap Fixed Spherical Eye ... (MP5) |
| LM 11 Cap Tie Rod Extended ... (MX2) | LM 24 Cap Detachable Clevis ... (MP2) |
| LM 12 Head & Cap Tie Rod Extended ... (MX1) | LM 25 Cap Fixed Eye ... (MP3) |
| LM 13 End Angles ... (MS1) | LM 27 Cap Detachable Clevis ... (Equals MP1 envelope dimensions) |

C Specify Cylinder Bore

- | | |
|--------------------------|------------------------|
| 150 = 1 1/2" bore | 500 = 5" bore |
| 200 = 2" bore | 600 = 6" bore |
| 250 = 2 1/2" bore | 800 = 8" bore |
| 325 = 3 1/4" bore | 1000 = 10" bore |
| 400 = 4" bore | 1200 = 12" bore |

D Specify Stroke Length

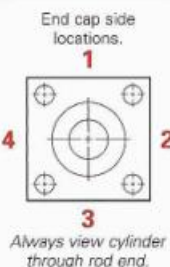
Peninsular LM Cylinders can be ordered in 1/4" increments with stroke lengths from 1/2" to over 15 feet.

For Stop Spool (Stop Tube) and Spring Return or Extend applications, contact Peninsular to determine call out for correct stroke length to specify.

E Specify Piston Rod Diameter and Rod Threads: See Rod Chart on next page.

F-G Specify Plumbing Configuration for Front End Cap (F) and Rear End Cap (G)

- N** = No air supply port. No cushion adjustment screw.
- A** = Air supply port - NPTF threads.
- S** = Proximity switch will be affixed by Peninsular to the cylinder head. (Complete position **H**)
- M** = Cylinder head is prepared to receive an "in port" mounted proximity switch. Peninsular will not mount the switch to the cylinder head. (Specify "O" in position **H**)
- C** = Cushion adjustment screw.
- B** = Cushion adjustment screw and air port at same end cap side location.



NFPA Mounting Styles

LM 0 No Mount (MX0) 	LM 8 Head Tie Rod Extended (MX3) 	LM 18 Cap Square Flange (MF6)
Adaptable for front or rear flush mounts.		
LM 1 Foot Side Lugs (MS2) 	LM 11 Cap Tie Rod Extended (MX2) 	LM 19 Head Square Block (ME3)
		For 8" and bigger bores.
LM 2 Head Trunnion (MT1) 	LM 12 Head and Cap Tie Rod Extended (MX1) 	LM 20 Cap Square Block (ME4)
		For 8" and bigger bores.
LM 3 Cap Fixed Clevis (MP1) 	LM 13 End Angles (MS1) 	LM 21 Cap Detachable Eye (MP4)
Maintenance Free Bushings		
LM 4 Head Rectangular Flange (MF1) 	LM 14 End Lugs (MS7) 	LM 22 Cap-Fixed Spherical Eye (MP5)
LM 5 Cap Rectangular Flange (MF2) 	LM 15 Centerline Lugs (MS3) 	LM 24 Cap Detachable Clevis (MP2)
LM 6 Intermediate Trunnion (MT4) 	LM 16 Side Tapped (MS4) 	LM 25 Cap-Fixed Eye (MP3)
		Maintenance Free Bushing
LM 7 Cap Trunnion (MT2) 	LM 17 Head Square Flange (MF5) 	LM 27 Cap Detachable Clevis
		Equals MP1 envelope.

*See note
 ■ = Steel ■ = Aluminum
 Note: Specify XI dimension at position "J" when ordering an intermediate trunnion cylinder (LM 6). In the absence of an XI dimension, Peninsular will center the intermediate trunnion between the two end caps.

H Optional Proximity Switches (If none required, specify "O" in Position H)

CYLINDER HEAD MOUNTED PROXIMITY SWITCHES - RF Inductive Proximity Switches are In-Port Mounted to a Precision Machined Surface on the Cylinder End Caps

Specify Switch Type **B11** = Balluff - Mini-Connector **T-11** = Turck Mini-Connector
B31 = Balluff - Micro-Connector **T-31** = Turck Micro-Connector

Other Cylinder Head Mounted Proximity Switches are also available - Topworx, Namco, Pepperl & Fuchs, etc. Proximity Switch Cordsets are available in various lengths - contact Peninsular for Ordering Information.

RF Inductive (Cylinder Head Mounted) Proximity Switch Probe Length Dimensions (both End Caps without Spacers)										
Bore Size	1 1/2"	2"	2 1/2"	3 1/4"	4"	5"	6"	8"	10"	12"
Probe Length	1.025"	1.025"	1.025"	1.025"	1.250"	2.062"	2.062"	2.875"	3.775"	4.562"

TIE ROD MOUNTED PROXIMITY SWITCHES - Magnetic Piston Sensing (Call Peninsular if Required)

0V to 120V AC/DC. NPN (Sinking) and PNP (Sourcing) - DC. Mini, Micro and other connectors are available. Proximity switch cordsets are available in various lengths. Magnetic inductive, hall effect and reed technologies are all available. Contact Peninsular to obtain information for ordering the correct tie rod mounted switch and cordset to meet your cylinder requirements.

J Specify Optional Features with Slash Mark and Alpha Character(s)

- | | | |
|-------------------------------|-----------------------------------|---|
| /B Adjustable Stroke | /M Piston Magnet | /XI Specify XI Dimension (LM6) |
| /E Extended Piston Rod* | /N Stop Tube* | /Y Double Rod End |
| /F Bronze Rod Cartridge | /R Threaded Stud Rod End | /Z "Slip Tuff" Coated Rod Cartridge |
| /H Rod Boot Cover | /S Scraper Ring | /O Other options (describe) |
| /J Spring Extend | /U Non-Rotatable Piston Rod | |
| /K Spring Return | /V Viton Seals | |

* Specify Length

E Specify Piston Rod Diameter and Rod Threads

First letter denotes Rod Diameter, specify:

- A** = (Standard Rod Diameter)
- B** = (Medium Rod Diameter)
- C** = (Large Rod Diameter)
- D** = (Oversized Rod Diameter)
- E** = (Oversized Rod Diameter)

Second letter denotes Rod Threads, specify:

- M** = (External NFPA Short Male)
- F** = (NFPA Short Female)
- D** = (NFPA Full Male)
- I** = (NFPA Intermediate Male)
- A** = (NFPA Long Male)
- S** = (Spoiled Rod End, contact Peninsular for dimensional information)
- X** = (Other Rod Ends - please specify)

Other rod sizes & thread sizes are available, please call Peninsular.

Bore Size	Rod Diameter	Short Male Specify "M"	Short Female Specify "F"	Full Male Specify "D"	Intermediate Male Specify "I"	Long Male Specify "A"
1.50	A = 0.62	7/16"-20 x 0.75	7/16"-20 x 0.75	5/8"-18 x 0.75	1/2"-20 x 0.75	1/2"-20 x 1.12
	B = 1.00	3/4"-16 x 1.12	3/4"-16 x 1.12	1"-14 x 1.12	7/8"-14 x 1.12	7/8"-14 x 1.87
	C = 1.38	1"-14 x 1.62	1"-14 x 1.62	1-3/8"-12 x 1.62	1-1/4"-12 x 1.62	1-1/4"-12 x 2.50
2.00	A = 0.62	7/16"-20 x 0.75	7/16"-20 x 0.75	5/8"-18 x 0.75	1/2"-20 x 0.75	1/2"-20 x 1.12
	B = 1.00	3/4"-16 x 1.12	3/4"-16 x 1.12	1"-14 x 1.12	7/8"-14 x 1.12	7/8"-14 x 1.87
	C = 1.75	1-1/4"-12 x 2.00	1-1/4"-12 x 2.00	1-3/4"-12 x 2.00	1-1/2"-12 x 2.00	1-1/2"-12 x 3.00
2.50	A = 0.62	7/16"-20 x 0.75	7/16"-20 x 0.75	5/8"-18 x 0.75	1/2"-20 x 0.75	1/2"-20 x 1.12
	B = 1.00	3/4"-16 x 1.12	3/4"-16 x 1.12	1"-14 x 1.12	7/8"-14 x 1.12	7/8"-14 x 1.87
	C = 1.38	1"-14 x 1.62	1"-14 x 1.62	1-3/8"-12 x 1.62	1-1/4"-12 x 1.62	1-1/4"-12 x 2.50
3.25	A = 1.00	3/4"-16 x 1.12	3/4"-16 x 1.12	1"-14 x 1.12	7/8"-14 x 1.12	7/8"-14 x 1.87
	B = 1.38	1"-14 x 1.62	1"-14 x 1.62	1-3/8"-12 x 1.62	1-1/4"-12 x 1.62	1-1/4"-12 x 2.50
	C = 1.75	1-1/4"-12 x 2.00	1-1/4"-12 x 2.00	1-3/4"-12 x 2.00	1-1/2"-12 x 2.00	1-1/2"-12 x 3.00
4.00	A = 1.00	3/4"-16 x 1.12	3/4"-16 x 1.12	1"-14 x 1.12	7/8"-14 x 1.12	7/8"-14 x 1.87
	B = 1.38	1"-14 x 1.62	1"-14 x 1.62	1-3/8"-12 x 1.62	1-1/4"-12 x 1.62	1-1/4"-12 x 2.50
	C = 1.75	1-1/4"-12 x 2.00	1-1/4"-12 x 2.00	1-3/4"-12 x 2.00	1-1/2"-12 x 2.00	1-1/2"-12 x 3.00
5.00	A = 1.00	3/4"-16 x 1.12	3/4"-16 x 1.12	1"-14 x 1.12	7/8"-14 x 1.12	7/8"-14 x 1.87
	B = 1.38	1"-14 x 1.62	1"-14 x 1.62	1-3/8"-12 x 1.62	1-1/4"-12 x 1.62	1-1/4"-12 x 2.50
	C = 1.75	1-1/4"-12 x 2.00	1-1/4"-12 x 2.00	1-3/4"-12 x 2.00	1-1/2"-12 x 2.00	1-1/2"-12 x 3.00
6.00	A = 1.38	1"-14 x 1.62	1"-14 x 1.62	1-3/8"-12 x 1.62	1-1/4"-12 x 1.62	1-1/4"-12 x 2.50
	B = 1.75	1-1/4"-12 x 2.00	1-1/4"-12 x 2.00	1-3/4"-12 x 2.00	1-1/2"-12 x 2.00	1-1/2"-12 x 3.00
	C = 2.00	1-1/2"-12 x 2.25	1-1/2"-12 x 2.25	2"-12 x 2.25	1-3/4"-12 x 2.25	1-3/4"-12 x 3.50
8.00	A = 1.38	1"-14 x 1.62	1"-14 x 1.62	1-3/8"-12 x 1.62	1-1/4"-12 x 1.62	1-1/4"-12 x 2.50
	B = 1.75	1-1/4"-12 x 2.00	1-1/4"-12 x 2.00	1-3/4"-12 x 2.00	1-1/2"-12 x 2.00	1-1/2"-12 x 3.00
	C = 2.00	1-1/2"-12 x 2.25	1-1/2"-12 x 2.25	2"-12 x 2.25	1-3/4"-12 x 2.25	1-3/4"-12 x 3.50
10.00	A = 1.38	1"-14 x 1.62	1"-14 x 1.62	1-3/8"-12 x 1.62	1-1/4"-12 x 1.62	1-1/4"-12 x 2.50
	B = 1.75	1-1/4"-12 x 2.00	1-1/4"-12 x 2.00	1-3/4"-12 x 2.00	1-1/2"-12 x 2.00	1-1/2"-12 x 3.00
	C = 2.50	1-7/8"-12 x 3.00	1-7/8"-12 x 3.00	2-1/2"-12 x 3.00	2-1/4"-12 x 3.00	2-1/4"-12 x 4.50
12.00	A = 2.00	1-1/2"-12 x 2.25	1-1/2"-12 x 2.25	2"-12 x 2.25	1-3/4"-12 x 2.25	1-3/4"-12 x 3.50
	B = 2.50	1-7/8"-12 x 3.00	1-7/8"-12 x 3.00	2-1/2"-12 x 3.00	2-1/4"-12 x 3.00	2-1/4"-12 x 4.50
	C = 3.00	2-1/4"-12 x 3.50	2-1/4"-12 x 3.50	3"-12 x 3.50	2-3/4"-12 x 3.50	2-3/4"-12 x 5.50



Peninsular Cylinder Company • 27650 Groesbeck Hwy. • Roseville, MI 48066-2759
 phone: (586) 775-7211 • fax: (586) 775-4545 • toll-free: 1-800-526-7968
 e-mail: sales@peninsularcylinders.com • www.peninsularcylinders.com