



AIR CYLINDERS				HYDRAULIC CYLINDERS		
NFPA STEEL HEAVY DUTY	NFPA ALUMINUM MED DUTY	METRIC STEEL HEAVY DUTY	METRIC ALUMINUM MED DUTY	NFPA HIGH PRESSURE	NFPA LOW PRESSURE	METRIC HIGH PRESSURE

DIMENSIONAL CHARTS	PRODUCT INFO SHEETS	CYLINDER ACCESSORIES	CYLINDER REPAIR DIVISION	FORD & DAIMLER CHRYSLER STANDARD CYLINDERS	AIR POWERED CLAMPS	PNEUMATIC THRUSTERS (SLIDES & DIE LIFTERS)	SPECIAL CYLINDERS	ABOUT US
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When the pressure is on, You can count on Peninsular!

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AIR CYLINDERS
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- NFPA Aluminum Medium Duty
- Metric Steel Heavy Duty
- Metric Aluminum Medium Duty

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- Hydraulic Cylinders
 - Pneumatic Cylinders
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Air Cylinders

▶ NFPA Aluminum Medium Duty Air Cylinder- Model LM



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High Quality Light Weight Long Lasting Aluminum NFPA Air Cylinders

- Designed To Survive In Harsh Applications where other Aluminum Cylinders have failed
- Internally Lubricated for Life (No In-Line Oilers Required)
- 250 PSI Rated
- Repairable Air Cylinder with a removable Rod Cartridge
- 1 1/2" to 12" Bore sizes
- All NFPA mounting styles, piston rod diameters and thread sizes available
- All cylinder special options and features available
- LM Cylinders may also be custom designed to suit specific customer applications.

- Features and Advantages
- View Dimensional Charts

Accessories and Repair Services are available. Call us Today.

▶ DIMENSIONAL CHARTS
Looking for a specific mounting type? Click Here.

Ordering Information

HOW TO ORDER MODEL LM:
For your convenience, please refer to the 'How to Order Brochure'. Just follow steps A thru J in the example creating your Cylinder Callout No. We would like to give you two easy ways to view our 'How to Order Brochure'.

- Quick View--(Brochure will be viewed in a side-by-side format.)
- Printable Version--(Brochure will be viewed in a single page format.)
- Click here to place order or request quote

Feature	Advantage	Benefit
1. Heads and Caps	Square, precision-machined 6061T6 anodized or black painted aluminum.	Corrosion resistant. Assures concentricity of tube, bearing, cushion and piston rod. Can be made proximity switch ready to accept same probe-length switches at each end without spacers.
2. Cylinder Tube	Solid 6061T6 aluminum tube; precision honed to 12/15 micro inch finish; hard coat anodized .001" thick on both ID and OD.	Resists wear and corrosion; also reduces wear on piston seals.
3. Wear Band	Delrin™ material.	Creates low friction, long lasting wear surface, which prevents scoring of cylinder tube inner wall. Will not expand with moisture.
4. Lubrication Reservoirs	Located underneath wear band inside piston and also inside the bearing	Provides effective way of metering maximum amount of lubricant to all areas over

Shortcut to: Peninsular's Cylinder Configurator

Fast Simplified Cylinder Ordering !

Important Configurator Information !

Our model LM cylinder configurator will provide our customers with significant cost savings because it eliminates the complexities and reduces the time associated with the engineering and ordering process.

Contact Us Today
Peninsular Cylinder Co.
27650 Groesbeck Hwy.
Roseville, MI 48066

- Toll Free: 800-526-7968
- Phone: 586-775-7211
- Fax: 586-775-4545

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ISO 9001:2000 REGISTERED

	cartridge.	a long time period. Not subject to air turbulence and contamination.
5. Lubricant (not shown)	Teflon™ based grease.	Long lasting lubrication of piston seals, inner cylinder wall surface, bearing cartridge ID, rod seal and rod wiper.
6. Piston	One-piece precision-machined 6061T6 hard coat anodized aluminum or steel piston with uniform polished steel, black oxidized, cushion hubs on both sides, threaded onto piston rod, staked and secured with Loc-Tite™.	Prevents corrosion and air leakage; anchored onto piston rod with minimum undercut providing maximum strength. Additional pinning onto rod is optional. Aluminum piston required for magnetic piston sensing - see #19.
7. Tube Seals	Buna-N Nitrile axial placed O-Rings.	When combined with accurately torqued tie rods, prevents extrusion of seal and air leaks under pressure.
8. Cushion Adjustment Screw	Steel needle valves with Buna-N O-Ring sealed screws, held captive with locking snap rings.	Accurate fine adjustment of cushioning speed; no air leakage and safe for all users due to internal captive screws.
9. Rod Seal	80 durometer, rounded lip, pre-lubricated, carboxylated nitrile cup style.	Smears grease through ID of bearing cartridge extending seal life within. Resists abrasion; significantly increases life and prevents leakage around piston rod.
10. Rod Wiper	80 durometer, sharp double lip, pre-lubricated, carboxylated nitrile seal. Provides additional sealing benefit beyond the rod seal.	Inside edge always lubricated extends life significantly, prevents dirt and grit from entering bearing cartridge and cylinder.
11. Piston Rod	High yield strength steel, case hardened OD to 50-55 RC. Core hardness to 28-34 RC. Hard chrome plated .0003/.0005" thick and polished to 12/15 micro inch finish. Rolled threads.	Resists wear. All NFPA rod and thread sizes, including female and studded male ends available, plus metric threads. Provides positive connections to existing machine components.
12. Bearing Cartridge	Floating, self-aligning in either ductile iron or SAE 660 bronze with internal lubrication reservoir. Optional "Slip Tuff" coated cartridge is also available for heavy side loaded applications. Retained by plate with cap screws; strong and shock resistant. A Buna-N O-ring located around the cartridge OD prevents leakage.	Float condition minimizes piston rod misalignment by reducing side loading. ID of bearing cartridge, rod seal and rod wiper lubricated on each stroke, reducing wear. Easily removed for maintenance without special tools to disassemble cylinder. Optional "Slip Tuff" bearing provides lubricistic wear surface with hardness characteristics that significantly reduce galling and bearing cartridge failure under severe side loaded operating conditions.
13. Tie Rods	Made from 100,000 psi minimum yield, stress-proof, medium carbon steel with rolled threads at each end.	Provides maximum strength for connecting cylinder mounts and used with lock nuts to prevent loosening in service. Accurate torquing prevents leaks at tube seals.
14. Cushion Hubs	Steel with 8/12 micro inch finish RMS. Black oxidized to prevent rusting and corrosion. Steel material permits the use of in-port cylinder head mounted proximity switches.	Uniform on each side of piston to eliminate different size cushion seals and reduce spare parts inventory. Smooth surface stops cushion seal wear and provides airtight accurate operation. Ideal for proximity switch applications.
15. Piston Seals	80 durometer, rounded lip, pre-	Resists abrasion; when used with

	lubricated, carboxylated Nitrile U-Cups.	Peninsular's internal lubrication system, provides considerably less wear and increases operating life.
16. Cushion Seals	90 durometer floating check type Urethane seals eliminate ball checks and related parts.	Low friction breakaway and 100% air-tight cushioning assures smooth maximum effectiveness. Metal to metal cushions are eliminated and same size seals at each end reduce parts inventory.
17. Ports	NPT standard, SAE O-Ring optional. Metric and other thread size options.	Universally adaptable to any hose or fitting.
18. Optional Proximity Switch Capability (not shown)	Allows for non-contact piston position sensing at near end of stroke. Precision machined cylinder heads and piston cushion hubs allow for in-port mounting of "RF inductive" proximity switches using the same switch probe length at each cylinder end without shims or spacers underneath the switch.	Self-contained switch probe not subject to contamination. This patented design creates the same air gap between the sensing probe and target (cushion hubs), thus providing consistent, reliable and repeatable stroke-to-go. Eliminates the design and construction of brackets necessary to mount mechanical limit switches. US Pat. No. 4,726,282 & D 295,753
19. Optional Piston Magnet (not shown, but located under wear band)	Tie-rod mounted reed switches can sense high gauss, shunted "rare-earth material" magnet, anywhere along the cylinder stroke. Stronger magnetism outside of the cylinder tube insures actuation of the reed switch.	Tie-rod mounted reed switches sense strong magnetic field provided by shunted magnet in aluminum piston, allowing piston rod location to be determined wherever external switches are placed. Reed switches may be locked onto tie-rods at factory, as an option, to prevent sliding due to cylinder vibration.

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Field Service and Engineering Support

We understand the importance of technical assistance and the availability of products and repair parts. That's why we have a distributor network and technical representatives throughout the country. You can also reach our Customer Service Department for help.

Complete Repair Facility

Peninsular repairs all air and hydraulic cylinder makes and models. All cylinders are performance tested before shipment. Estimates are provided prior to repair activity.

Easy Order Procedure

For your convenience, please refer to the "How to Order and Specify Section". Just follow steps A thru J in the example and forward to us for price and delivery information or contact our Customer Service Department or your Authorized Peninsular Distributor.

Optional Piston Magnet Sensing Technology is available which provides higher gauss readings outside of the cylinder tube to assure the actuation of tie rod mounted reed switches.

This cylinder is capable of utilizing hybrid sensing technologies - tie rod mounted sensors and in-port cylinder head mounted RF output sensors.

For Near End of Stroke Position Sensing

Improved Optional Proximity Switch Capability In-Port cylinder head mounted proximity switch Design allows for the use of the same switch probe length at both ends WITHOUT SPACERS UNDERNEATH THE SWITCH. May be used as an air supply port if a switch is not required. U.S. Patent No. 4,726,282 & D295,753



RF Inductive (In-Port Mounted) Proximity Switch Probe Length Dimensions (Both cylinder heads)										
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

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