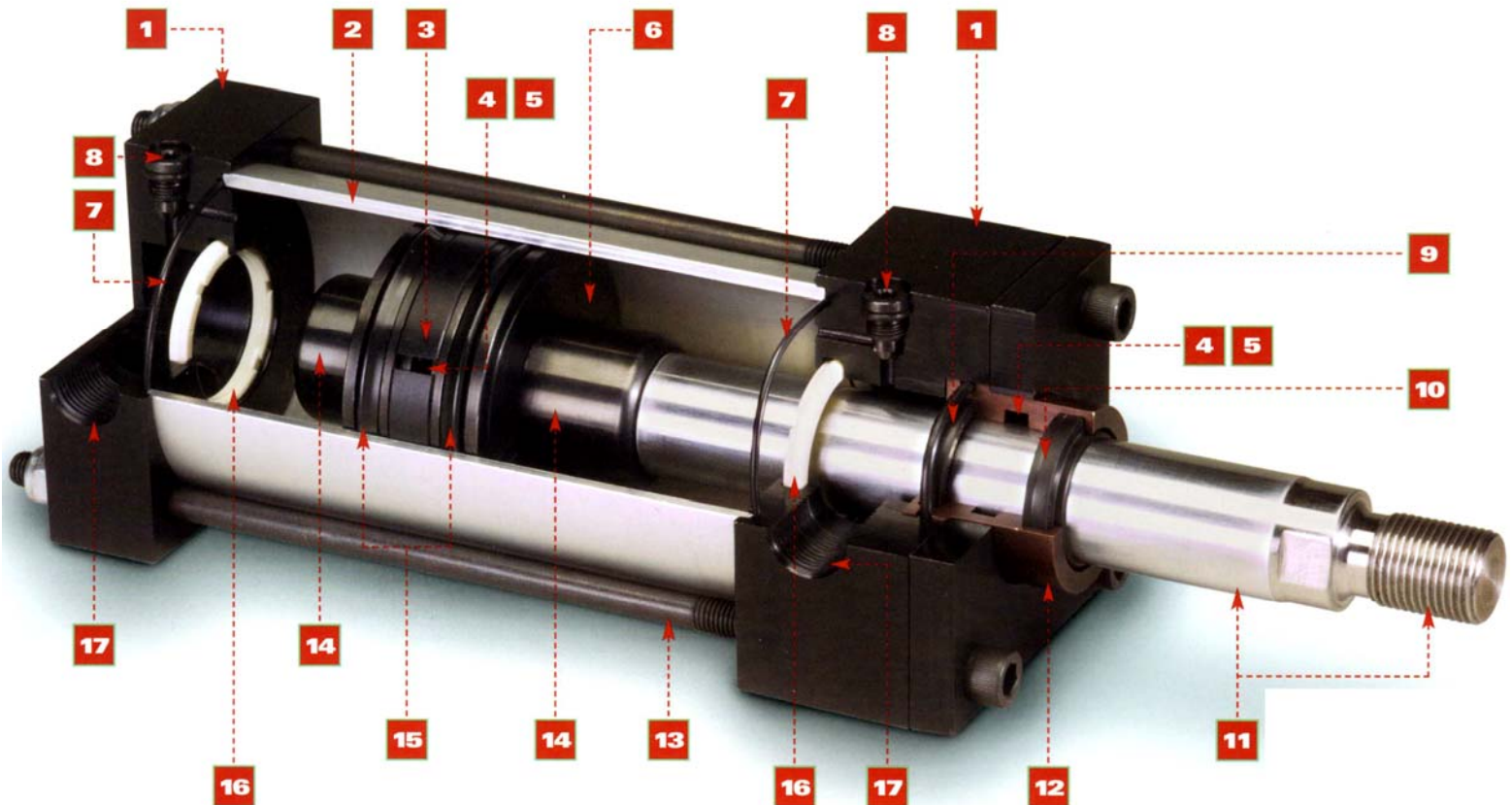


LM Series aluminum air cylinders

Pre-Lubricated, 250 psi, Medium Duty Service

Feature for feature,

Peninsular Cylinders are exceptional!



Peninsular Cylinder Company

For over 50 years Peninsular has been manufacturing pneumatic and hydraulic cylinders for OEM and MRO applications that require top performance and extended service in all types of manufacturing environments.

Engineered and Built for Endurance

Because of the above features, the LM Series Cylinder is designed for those applications where other aluminum type cylinders have failed. The result is reliable and trouble-free operation under the most demanding conditions.

The addition of a piston magnet can provide for sensing intermittent stroke lengths using reed switches mounted on the tie rods. Mounting other type proximity switches on the cylinder heads can also provide near end of stroke position sensing.

Choose From a Wide Selection

LM Series Air Cylinders are available in all NFPA mounting styles and rod diameters with bore sizes ranging from 1-1/2" to 12". In addition, LM Series Cylinders may also be custom designed to suit specific customer applications. "Viton" and other type seal materials are available to meet your specific needs. **These cylinders are also available with metric dimensions. When ordering our Metric Aluminum Cylinder use the prefix letter "I" for model designation; e.g. (ILM).**

ISO 9001:2000 Registered

LM Series Cylinders are manufactured to world class quality standards with a proven track record of superior performance and endurance. Consult the factory for more information.

Feature	Advantage	Benefit
1. Heads and Caps	Square, precision-machined 6061T6 anodized 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 cartridge.	Provides effective way of metering maximum amount of lubricant to all areas over 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 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.
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 Screws	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. Special "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 lubricative 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 air-tight accurate operation. Ideal for proximity switch applications.
15. Piston Seals	80 durometer, rounded lip, pre-lubricated, carboxylated Nitrile U-Cups.	Resists abrasion; when used with 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 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.

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.



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