



**PENINSULAR<sup>®</sup>  
CYLINDER CO.**

**LH**

**Series**

**HYDRAULIC**

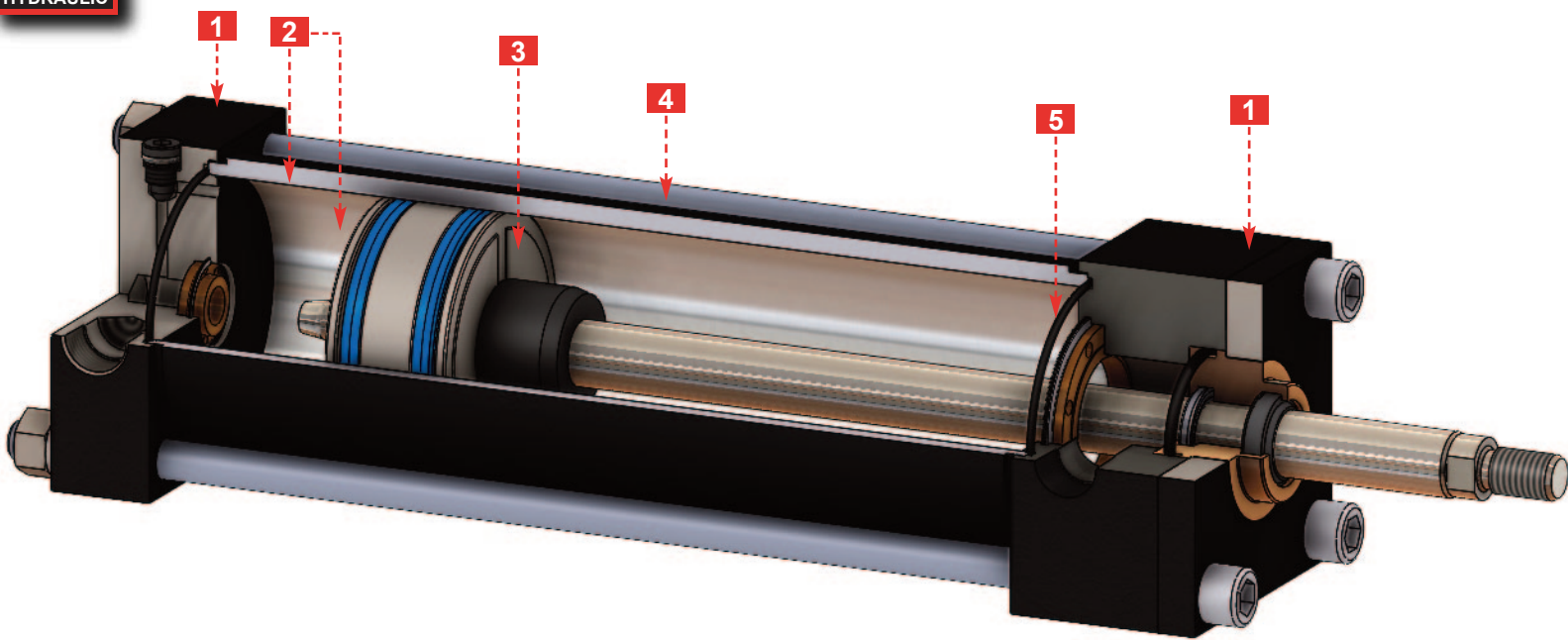
## Hydraulic Cylinders

Steel Light & Medium Duty

1,500 PSI Working Pressure • 2,500 PSI Rated Pressure

NFPA Interchangeable





## Working & Rated Pressure by Bore Size

1.50 BORE	1500 WORKING PSI	2500 RATED PSI	4.00 BORE	1000 WORKING PSI	1500 RATED PSI
2.00 BORE	1500 WORKING PSI	2500 RATED PSI	5.00 BORE	800 WORKING PSI	1200 RATED PSI
2.50 BORE	1000 WORKING PSI	1500 RATED PSI	6.00 BORE	800 WORKING PSI	1200 RATED PSI
3.25 BORE	1000 WORKING PSI	1500 RATED PSI			

### 1 Heads & Caps

Square, precision made carbon steel end covers. Precision machined for concentricity of tube, bearing, cushion and piston rod. Can be modified to accommodate proximity switches.

### 2 Cylinder Tube

D.O.M. seamless 1020 to 1026 steel tube precision honed to 10/15 micro inch finish. Thicker wall tube than traditional low-pressure cylinders.

### 3 Piston

One-piece fine grained ductile iron piston is threaded onto piston rod and held in place with thread locker. And a set screw to a secured position.

### 4 Tie Rods

Larger diameter tie rods are used and made from 100,000 psi minimum yield, stress-proof, medium carbon steel with rolled threads at each end.

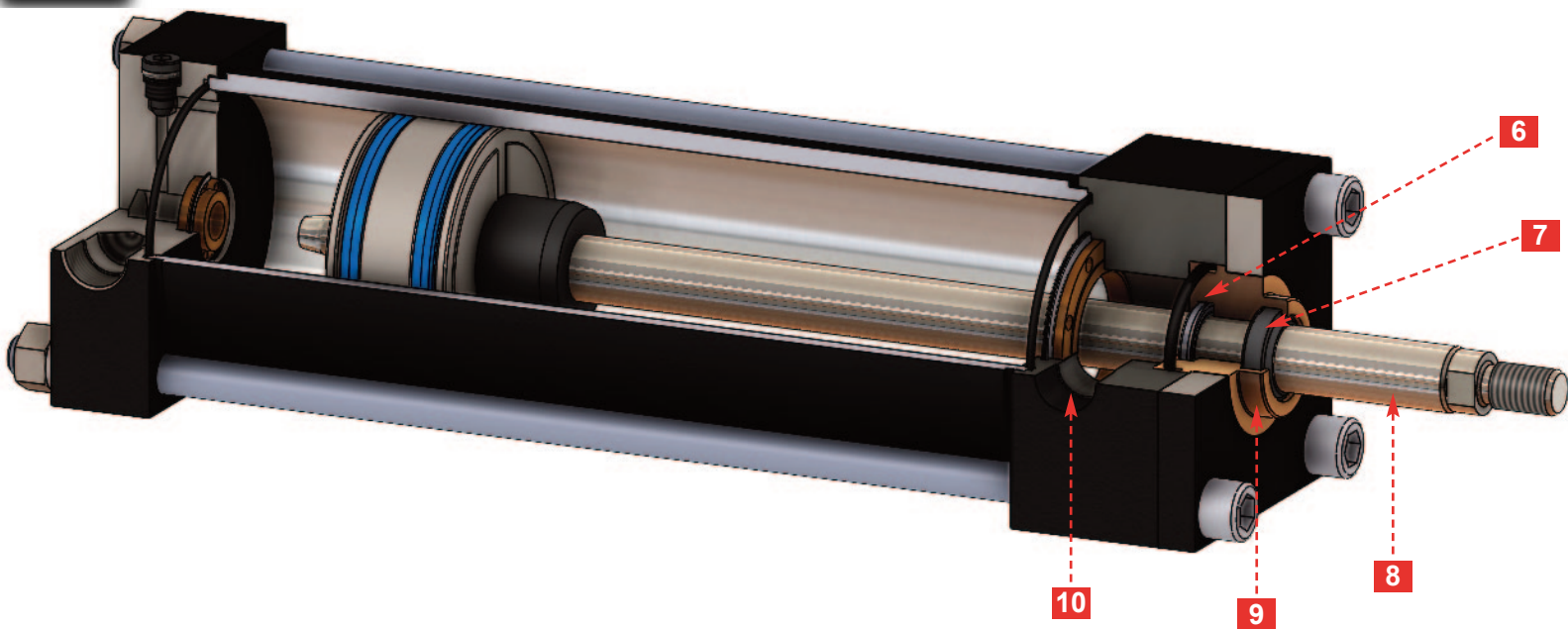
### 5 Tube Seals

Nitrile axial placed O-Rings. Larger diameter tie rods, guards against extrusion of seal and hydraulic leaks under normal operating pressures.



**800-526-7968**





## Working & Rated Pressure by Bore Size

1.50 BORE	1500 WORKING PSI	2500 RATED PSI	4.00 BORE	1000 WORKING PSI	1500 RATED PSI
2.00 BORE	1500 WORKING PSI	2500 RATED PSI	5.00 BORE	800 WORKING PSI	1200 RATED PSI
2.50 BORE	1000 WORKING PSI	1500 RATED PSI	6.00 BORE	800 WORKING PSI	1200 RATED PSI
3.25 BORE	1000 WORKING PSI	1500 RATED PSI			

### 6 Rod Seal

Beveled lip loaded U-cup 95A urethane X-Pac is positioned in a groove in the back end of the bearing cartridge ID. Pre-loaded seal provides positive static and dynamic sealing of piston rod at both high and low pressures.

### 7 Rod Wiper

Urethane H type wiper guards against contaminants. Severe external conditions could require the addition of an optional metallic rod scraper installed ahead of the rod wiper to effectively provide dual protection from the elements. Prevents dust, dirt and grit from entering the bearing cartridge and cylinder, which significantly extends the cylinder life.

### 8 Piston Rod

85,000 psi minimum yield strength chrome plated steel with core hardness of Rc 28-34. Rod is hard chrome-plated (.0003/.0005 thick) and polished to 12/15 micro inch finish. Solid male threads contain a radiused undercut. Resists wear and provides positive connections to existing machine components.

### 9 Bearing Cartridge

Floating, self-aligning ductile iron retained by plate with cap screws; strong and shock resistant. A Buna-N O-Ring with back-up ring located around the cartridge OD prevents leakage around the outside of bearing cartridge and seal extrusion.

### 10 Ports

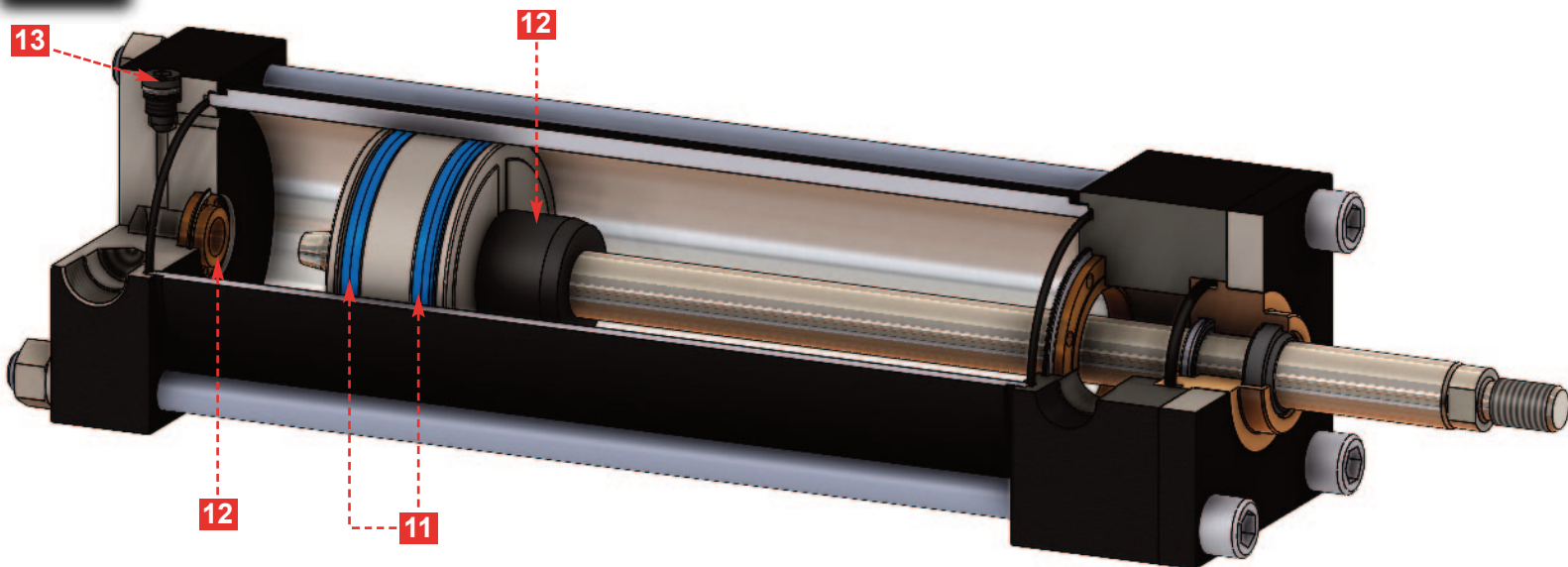
NPT standard, SAE O-Ring optional. Metric & other thread size options.



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## Working & Rated Pressure by Bore Size

1.50 BORE	1500 WORKING PSI	2500 RATED PSI
2.00 BORE	1500 WORKING PSI	2500 RATED PSI
2.50 BORE	1000 WORKING PSI	1500 RATED PSI
3.25 BORE	1000 WORKING PSI	1500 RATED PSI

4.00 BORE	1000 WORKING PSI	1500 RATED PSI
5.00 BORE	800 WORKING PSI	1200 RATED PSI
6.00 BORE	800 WORKING PSI	1200 RATED PSI

## 11 Piston Seals

Asymmetrical Urethane U-Cups with seal material options available including backup rings. Step cut cast iron piston rings & high load piston seals are also available.

## 12 Cushions

Floating Ductile iron, check type seal insert held in place by a retaining ring. Ductile iron rod end cushion hub is polished to 8/12 microinch finish RMS, and black oxidized. Tapered leading edge assures proper entry into seal. Low friction break-away under lower hydraulic pressures are the result of an exclusive insert design. The seal "Step" which seats against the inside of the cylinder head provides maximum cushion effectiveness, thus assuring a longer cylinder life.

## 13 Cushion Adjustment Screw

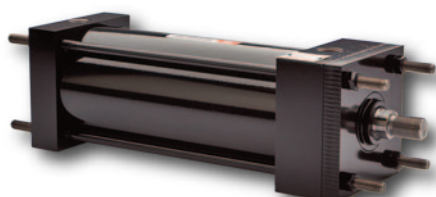
Steel needle valve with 90 durometer Nitrile O-Ring and backup ring. The captive adjustment screw can be locked in place and is flush with the end cap. The backup ring behind the O-Ring prevents fluid leakage around the adjustment screw, The cushion design allows fine adjustment of cushioning speed. Captive screw assures user safety.

## 14 Optional Air Bleed System *(Not Shown)*

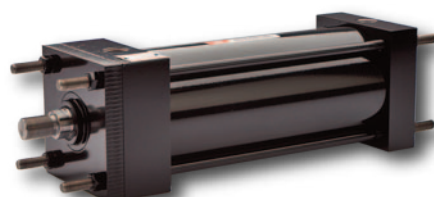
Manual air bleed plug is located on the cylinder tube.

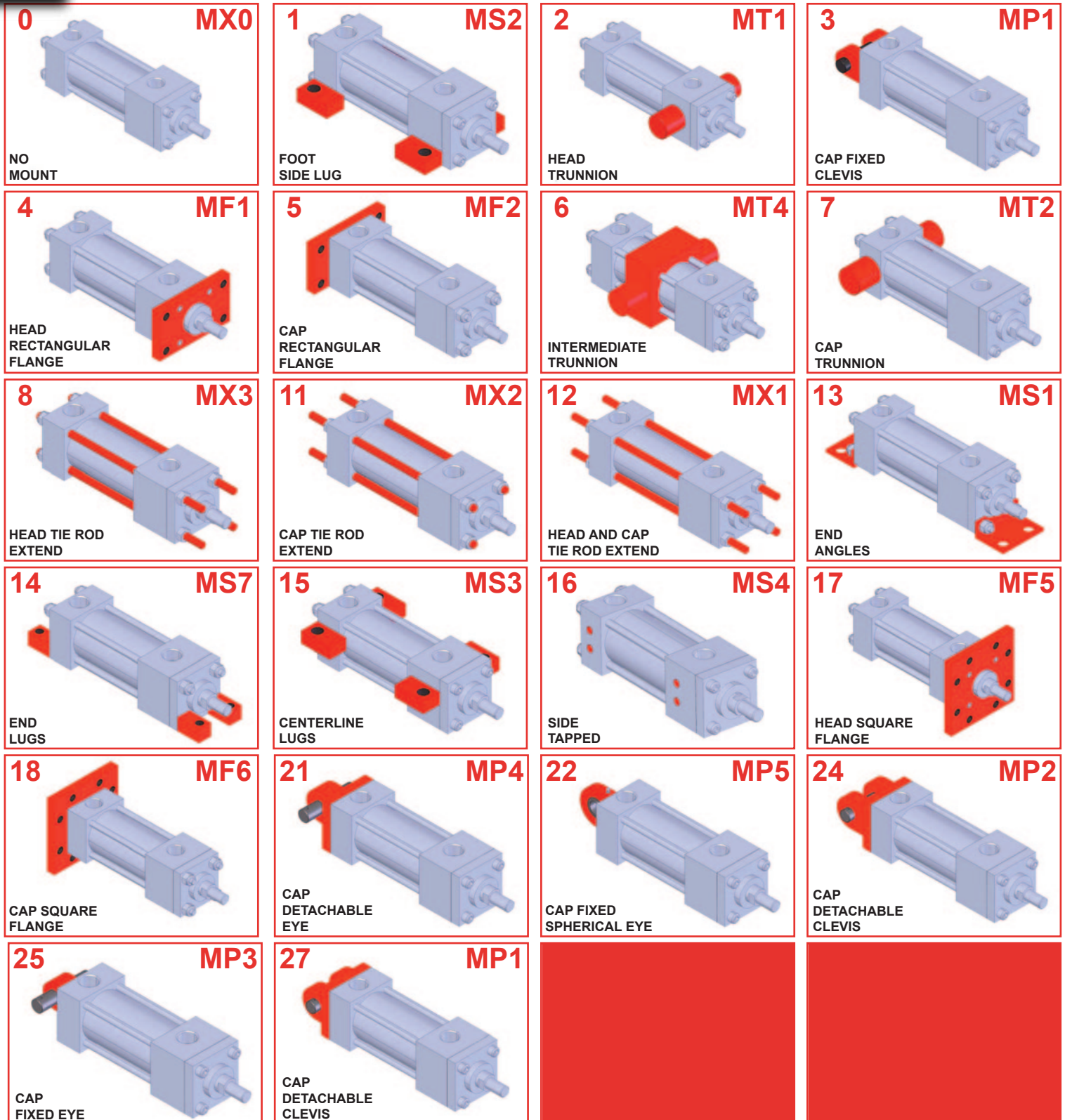
## 15 Optional Rod Drain Back System *(Not Shown)*

Drain feature is an additional groove cut into the front end of the bearing cartridge, between the rod wiper and rod seal, that drains off any accumulation of fluid between the seals. A cartridge drain port is located on the cartridge retainer plate for a user-installed drain line back to the reservoir. Captures hydraulic fluid and drains it back to the reservoir. This minimizes the slow weepage of hydraulic fluid through the rod wiper onto the piston rod. By capturing it and redirecting it to the tank



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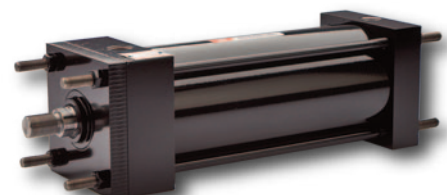




*Note: Specify XI dimension at position "J" when ordering an intermediate trunnion cylinder (Mount Style #6). In the absence of an XI dimension, Peninsular will center the intermediate trunnion between the two end caps.*



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## Generate a Part Number Quickly Using the Online Configurator

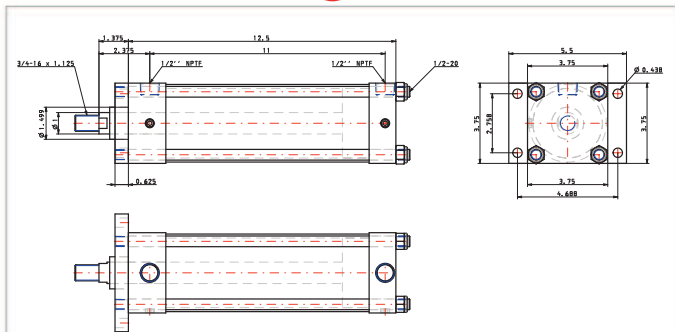
<https://www.peninsularcylinders.com/configurator/>

Utilize the drop-down options & input fields to select the desired cylinder configuration. The system will automatically generate the part number. The cylinder configurator is equipped with various features, accessories, and kits to customize your cylinder. After configuration, you can export 2D drawings/3D CAD models and request a quote.

**LH-4-325x8.25AM-ACNN-ACNN-O,SKLH-3210,RKLH-3210**  
 Peninsular Cylinder > Hydraulic Cylinders

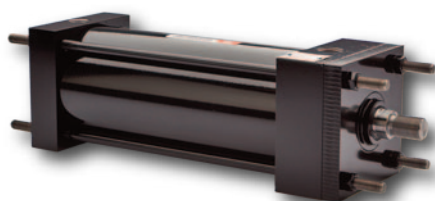
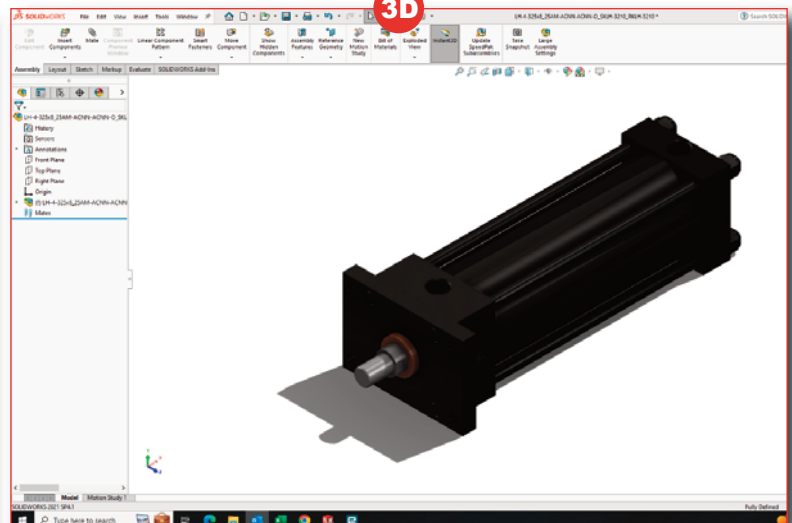
Part Number	LH-4-325x8.25AM-ACNN-ACNN-O,SKLH-3210,RKLH-3210	
Bore Size (in Inches)	3.250	
Mounting Style (For Intermediate Trunnion Mount-Specify XI Under Configurable Options Below)	LH 4 Head Rectangular Flange (MF1)	
Stroke Length (in inches)	8.25 (0.5.. ±0.1 ..180.0)	Inch
Piston Rod Diameter (in inches)	1.000	Inch
Piston Rod Material	Induction Hardened Chrome	

**2D**

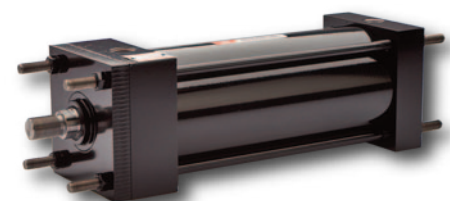


CYLINDER PART #: LH-4-325x8.25AM-ACNN-ACNN-O			
	DETAILS	OPTIONS	ACCESSORY PART NUMBERS
	FRONT: Q41	FRONT: Q40	
	REAR: Q41	REAR: Q40	
	UP: NPT PORTS		
MODEL: LH 4 Head Rectangular Flange (MF1) MOUNT: LH 4 Head Rectangular Flange (MF1) BORE: 3.25 ROD DIA.: 1 STROKE: 8.25 ROD THREADS: 3/16-16 x 1.125			
SEAL KIT PART #: SKLH-3210 REPAIR KIT PART #: RKLH-3210 NITON SEAL KIT PART #: N/A NITON REPAIR KIT PART #: N/A			

**3D**



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Generate a Part Number using the information below  
Or use the online configurator to generate a part number automatically.

SERIES	MOUNT	BORE	STROKE	ROD SIZE	ROD END	HEAD PORTS	CAP PORTS	MODS	MODS	MODS
<b>LH</b>	<b>4</b>	<b>325</b>	<b>x 8.25</b>	<b>A</b>	<b>M</b>	<b>ACNN</b>	<b>ACNN</b>	<b>O</b>	<b>V</b>	<b>Z</b>
<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>E</b>		<b>F</b>	<b>G</b>	<b>H</b>	<b>J</b>	<b>J</b>

## A Cylinder Model: LH

- 1 1/2" bore through 6" bore
- D.O.M. Seamless tube precision honed I.D. with thick wall (std)
- Larger diameter tie rods than industry standard for max strength. (std)
- Removable, self aligning bearing cartridge (std)
- Nitrile O-Ring seals with backup rings on O.D. of rod cartridge
- Longer lasting improved sealing system
- Precision machined steel cylinder heads (std)
- 85,000 PSI yield "CPO" chrome plated high strength steel piston rod (std)
- Adjustable cushions with captive screw (cushions are optional)
- Air bleed system (optional)
- Rod cartridge drain back system (optional)
- "Slip Tuff" coated rod cartridge for severe side loaded conditions (optional)

## B Cylinder Mounting: 4

0 No Mount (MX0)	8 Head Tie Rod Extend (MX3)	18 Cap Spherical Eye (MF6)
1 Foot Side Lugs (MS2)	11 Cap Tie Rod Extend (MX2)	21 Cap Detachable Eye (MP4)
2 Head Trunnion (MT1)	12 Head & Cap Tie Rod Extend (MX1)	22 Cap Fixed Spherical Eye (MP5)
3 Cap Fixed Clevis (MP1)	13 End Angles (MS1)	24 Cap Detachable Clevis (MP2)
4 Head Rectangular Flange (MF1)	14 End Lugs (MS7)	25 Cap Fixed Eye (MP3)
5 Cap Rectangular Flange (MF2)	15 Centerline Lugs (MS3)	27 Cap Detachable Clevis (MF5)
6 Intermediate Trunnion (MT4)	16 Side Tapped (MS4)	(Equals MP1 envelope dimensions)
7 Cap Trunnion (MT2)	17 Head Square Flange (MF5)	

## C Cylinder Bore: 325

150 = 1 1/2" Bore	250 = 2 1/2" Bore	400 = 4" Bore	600 = 6" Bore
200 = 2" Bore	325 = 3 1/4" Bore	500 = 5" Bore	

## D Stroke Length: 8.25

Peninsular LH Cylinders can be ordered in 1/4" increments with stroke lengths from 1/2" to over 15 feet.  
For Stop Spool (Stop Tube) applications, contact Peninsular to determine call out for correct stroke length to specify.

## E Rod Diameter: AM

Specify Piston Rod Diameter and Rod Threads. See Rod Chart on Page 9



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Generate a Part Number using the information below  
Or use the online configurator to generate a part number automatically.

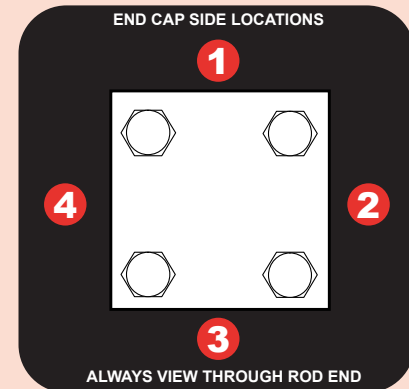


## F Plumbing: ACNN

Specify Plumbing Configuration for Front & Rear End Cap.

- A** = Hydraulic Supply Port - NPTF Threads
- T** = Hydraulic Supply Port - SAE Straight 'O' Ring Threads
- C** = Cushion Adjustment Screw
- K** = Non-Adjustable Cushions
- M** = Proximity Switch Ready only, no switch mounted to the cylinder end cap
- N** = Nothing (No port, cushion, or prox.)
- P** = Oversize Ports
- U** = Undersize Ports
- S** = Proximity Switch to be in-port mounted to the cylinder end cap by Peninsular (complete position H)

## G Plumbing: ACNN



## H Proximity Switches:

Specify the required proximity switch that is to be affixed to cylinder.

**LPR** = Namco Low-Profile Rotatable Mini-Connector   **T-11** = Turck Mini-Connector   **B-11** = Balluff Mini-Connector   **O** = None

### Optional Proximity Switch Capability

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. Self contained switch probe not subject to contamination. This design provides consistent, reliable, repeatable stroke-to-go and eliminates the design and construction of brackets necessary to mount external mechanical limit switches. (If proximity switch cords are required, contact Peninsular).

Contact Peninsular for probe lengths and stroke-to-go distances.

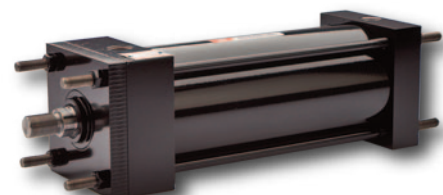
## J Optional Features:

Specify Optional Features with Slash Mark and Alpha Characters

- |                                    |                                      |  |
|------------------------------------|--------------------------------------|--|
| <b>/C</b> = Air Bleed              | <b>/L</b> = Lubricated Trunnion Pins | <b>/X</b> = Extended Key                     |
| <b>/D</b> = Drain Back             | <b>/N</b> = Stop Tube*               | <b>/XI</b> = Specify XI Dimension (HP6)      |
| <b>/E</b> = Extended Piston Rod*   | <b>/P</b> = Oversize Ports           | <b>/Y</b> = Double Rod End                   |
| <b>/F</b> = Bronze Rod Cartridge   | <b>/R</b> = Threaded Stud Rod End    | <b>/Z</b> = "Slip Tuff" Coated Rod Cartridge |
| <b>/H</b> = Rod Boot Cover         | <b>/S</b> = Scraper Ring             | <b>/O</b> = Other Options (Describe)         |
| <b>/I</b> = Cast Iron Piston Rings | <b>/V</b> = Viton Seals              | <i>*Specify Length</i>                       |



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**FIRST LETTER DENOTES ROD DIAMETER**

**A** = (STANDARD ROD DIAMETER)  
**B** = (LARGER ROD DIAMETER)  
**C** = (OVERSIZED ROD DIAMETER)  
**D** = (OVERSIZED ROD DIAMETER)

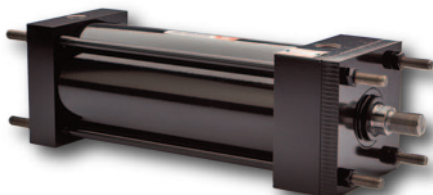
**SECOND LETTER DENOTES ROD THREADS**

**M** = (EXTERNAL NFPA SHORT MALE)  
**F** = (NFPA SHORT FEMALE)  
**D** = (NFPA FULL MALE)  
**I** = (NFPA INTERMEDIATE MALE)  
**A** = (NFPA LONG MALE)  
**X** = (OTHER ROD ENDS - PLEASE SPECIFY)  
**S** = (SPOOLED ROD END) CONTACT PENINSULAR FOR DIMENSIONAL INFO

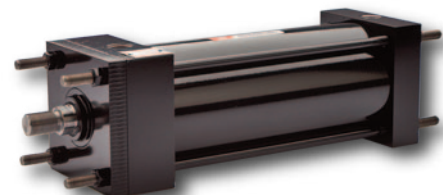
## LH Hydraulic Cylinder Piston Rod Diameter & Rod Threads Chart

BORE SIZE	ROD DIA.	SHORT MALE "M"	SHORT FEMALE "F"	FULL MALE "D"	INTERMED. MALE "I"	LONG MALE "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
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= 1.38	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
2.50	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
	D= 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
3.25	A= 1.00	3/4"-16 x 1.00	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
	D= 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
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
	D= 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
	E= 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
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
	D= 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
	E= 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
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
	D= 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
	E= 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

LARGER ROD DIAMETERS ARE AVAILABLE UP THROUGH 4" DIAMETER.  
 OTHER ROD AND THREAD SIZES ARE AVAILABLE, PLEASE CALL PENINSULAR.



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