

## How to Order and Specify

### Example: Model MH Steel Heavy Duty NFPA Air Cylinder

**Steel Constructed Cylinder:** Cap fixed clevis mount (MP1), 3 1/4" bore x 12" stroke, 1" diameter piston rod with 3/4"-16 x 1.12 short male threads. The front and rear end caps have NPT air supply ports at end cap side *position #1*, cushions adjustment screw at side *position #2* and nothing at *positions #3 and #4*. No proximity switches are required; however, this cylinder is equipped with a "Slip Tuff" specially coated rod cartridge (optional feature) in position **J** because of severe side loaded operating conditions.

End Cap Side Locations: **1 2 3 4**      **1 2 3 4**

**MH 3 325 x 12 AM - ACNN - ACNN - O/Z**

Position No: **A B C D E F G H J**

### A Cylinder Model: Specify MH in this position.

- 1 1/2" bore through 24" bore
- Longer lasting improved nitrile seals. (Std.)
- Machined steel cylinder heads. (Std.)
- Removable, internally lubricated, bearing cartridge. (Std.)
- D.O.M. Seamless tube with hard chrome plated I.D. (Std.)
- Internally lubricated for life; no in-line lubrication required. (Std.)
- 100,000 PSI yield, 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
- "Slip Tuff" coated rod cartridge for severe side loaded conditions (*optional*).

### B Specify Cylinder Mounting Style: See inside for illustrations.

<p><b>MH 0</b> No Mount ..... (MX0)</p> <p><b>MH 1</b> Foot Side Lugs ..... (MS2)</p> <p><b>MH 2</b> Head Trunnion ..... (MT1)</p> <p><b>MH 3</b> Cap Fixed Clevis ..... (MP1)</p> <p><b>MH 4</b> Head Rectangular Flange ..... (MF1)</p> <p><b>MH 5</b> Cap Rectangular Flange ..... (MF2)</p> <p><b>MH 6</b> Intermediate Trunnion ..... (MT4) <i>(See XI note on back page)</i></p> <p><b>MH 7</b> Cap Trunnion ..... (MT2)</p> <p><b>MH 8</b> Head Tie Rod Extended ..... (MX3)</p> <p><b>MH 11</b> Cap Tie Rod Extended ..... (MX2)</p> <p><b>MH 12</b> Head &amp; Cap Tie Rod Extended ..... (MX1)</p> <p><b>MH 13</b> End Angles ..... (MS1)</p>	<p><b>MH 14</b> End Lugs ..... (MS7)</p> <p><b>MH 15</b> Centerline Lugs ..... (MS3)</p> <p><b>MH 16</b> Side Tapped ..... (MS4)</p> <p><b>MH 17</b> Head Square Flange ..... (MF5)</p> <p><b>MH 18</b> Cap Square Flange ..... (MF6)</p> <p><b>MH 19</b> Head Square Block (<i>For 8" and larger bores</i>) ... (ME3)</p> <p><b>MH 20</b> Cap Square Block (<i>For 8" and larger bores</i>) ... (ME4)</p> <p><b>MH 21</b> Cap Detachable Eye ..... (MP4)</p> <p><b>MH 22</b> Cap Fixed Spherical Eye ..... (MP5)</p> <p><b>MH 24</b> Cap Detachable Clevis ..... (MP2)</p> <p><b>MH 25</b> Cap Fixed Eye ..... (MP3)</p> <p><b>MH 27</b> Cap Detachable Clevis ..... (<i>Equals MP1 envelope dimensions</i>)</p>
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### C Specify Cylinder Bore

<p><b>150</b> = 1 1/2" bore</p> <p><b>200</b> = 2" bore</p> <p><b>250</b> = 2 1/2" bore</p> <p><b>325</b> = 3 1/4" bore</p> <p><b>400</b> = 4" bore</p>	<p><b>500</b> = 5" bore</p> <p><b>600</b> = 6" bore</p> <p><b>800</b> = 8" bore</p> <p><b>1000</b> = 10" bore</p> <p><b>1200</b> = 12" bore</p>
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**Note:** For 14" bore through 24" bore call Peninsular.

### D Specify Stroke Length

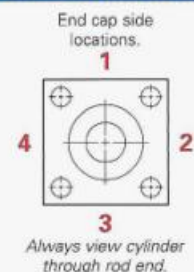
Peninsular MH Cylinders can be ordered in 1/4" increments with stroke lengths from 1/2" to over 15 feet.

For Stop Spool (Stop Tube) and Spring Return 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.

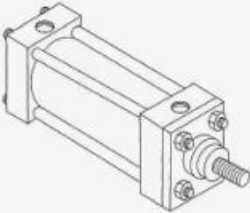
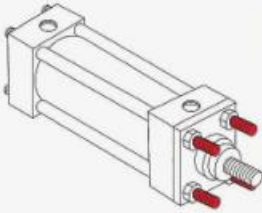
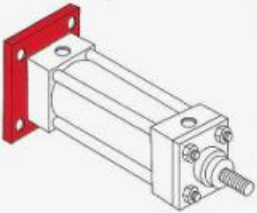
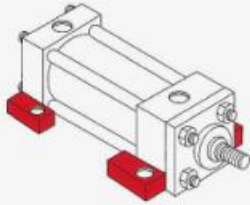
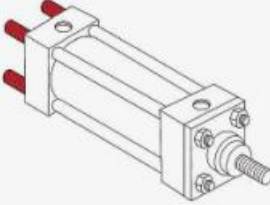
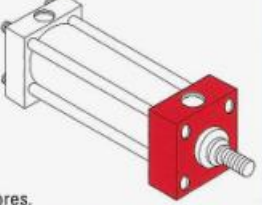
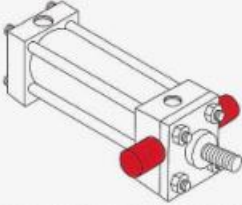
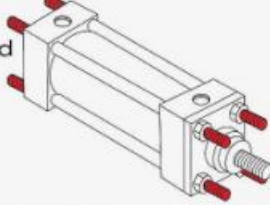
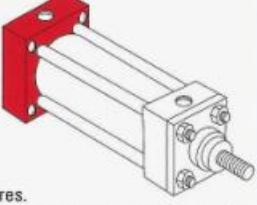
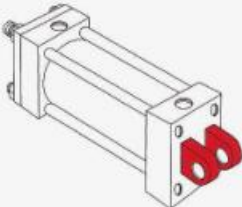
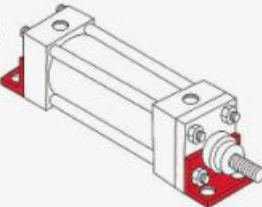
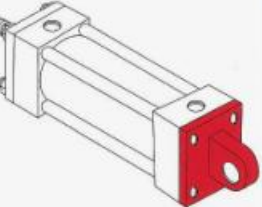
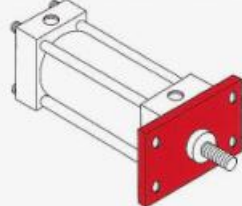
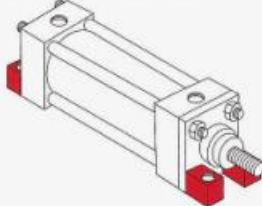
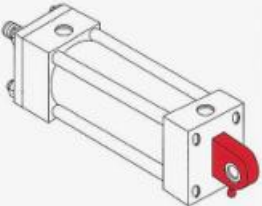
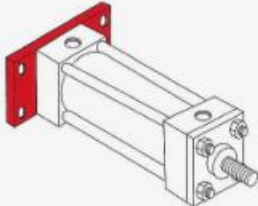
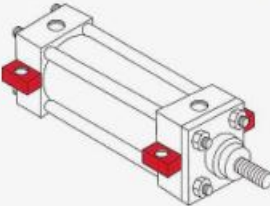
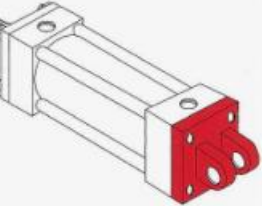
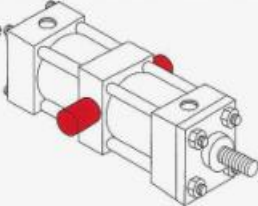
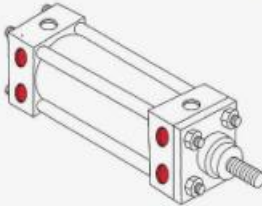
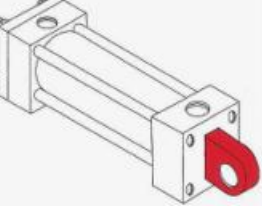
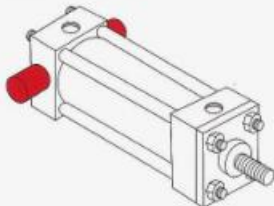
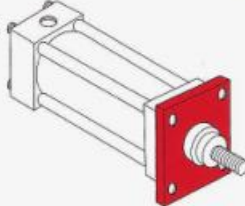
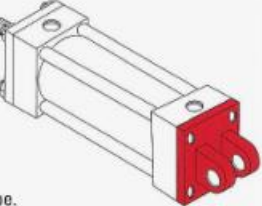
### F-G Specify Plumbing Configuration for Front End Cap (F) and Rear End Cap (G)

- N** = No air supply port. No cushion adjustment screw.
- A** = Air supply port.
- 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 port at same end cap side location.





# NFPA Mounting Styles

<p><b>MH 0</b> No Mount</p> 	<p><b>MH 8</b> Head Tie Rod Extended (MX3)</p> 	<p><b>MH 18</b> Cap Square Flange (MF6)</p> 
<p><b>MH 1</b> Foot Side Lugs (MS2)</p> 	<p><b>MH 11</b> Cap Tie Rod Extended (MX2)</p> 	<p><b>MH 19</b> Head Square Block (ME3)</p>  <p>For 8" and bigger bores.</p>
<p><b>MH 2</b> Head Trunnion (MT1)</p> 	<p><b>MH 12</b> Head and Cap Tie Rod Extended (MX1)</p> 	<p><b>MH 20</b> Cap Square Block (ME4)</p>  <p>For 8" and bigger bores.</p>
<p><b>MH 3</b> Cap Fixed Clevis (MP1)</p> 	<p><b>MH 13</b> End Angles (MS1)</p> 	<p><b>MH 21</b> Cap Detachable Eye (MP4)</p> 
<p><b>MH 4</b> Head Rectangular Flange (MF1)</p> 	<p><b>MH 14</b> End Lugs (MS7)</p> 	<p><b>MH 22</b> Cap-Fixed Spherical Eye (MP5)</p> 
<p><b>MH 5</b> Cap Rectangular Flange (MF2)</p> 	<p><b>MH 15</b> Centerline Lugs (MS3)</p> 	<p><b>MH 24</b> Cap Detachable Clevis (MP2)</p> 
<p><b>MH 6</b> Intermediate Trunnion (MT4)</p>  <p>*See note</p>	<p><b>MH 16</b> Side Tapped (MS4)</p> 	<p><b>MH 25</b> Cap-Fixed Eye (MP3)</p> 
<p><b>MH 7</b> Cap Trunnion (MT2)</p> 	<p><b>MH 17</b> Head Square Flange (MF5)</p> 	<p><b>MH 27</b> Cap Detachable Clevis</p>  <p>Equals MP1 envelope.</p>

**Note:** Specify XI dimension at position "J" when ordering an intermediate trunnion cylinder (MH 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, Pepper & 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.

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

/B ..... Adjustable Stroke	/R ..... Threaded Stud Rod End	/O ..... Other options ( <i>describe</i> )
/E ..... Extended Piston Rod*	/S ..... Scraper Ring	
/F ..... Bronze Rod Cartridge	/U ..... Non-Rotatable Piston Rod	
/H ..... Rod Boot Cover	/V ..... Viton Seals	
/J ..... Spring Extend	/XI ..... Specify XI Dimension (MH6)	
/K ..... Spring Return	/Y ..... Double Rod End	
/N ..... Stop Tube*	/Z ..... "Slip Tuff" Coated Rod Cartridge	

**\* 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)  
**X** = (Other Rod Ends —  
*please specify*)  
**S** = (Spooled Rod End, Contact  
 Peninsular for Dimensional  
 Information)

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

**For Bore Sizes 14" through  
 24" bore, contact 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
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
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
	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
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
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
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
	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
10.00	A = 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
	B = 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
	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
	D = 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
12.00	E = 3.50	2-1/2"-12 x 3.50	2-1/2"-12 x 3.50	3-1/2"-12 x 3.50	3-1/4"-12 x 3.50	3-1/4"-12 x 6.50
	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
	D = 3.50	2-1/2"-12 x 3.50	2-1/2"-12 x 3.50	3-1/2"-12 x 3.50	3-1/4"-12 x 3.50	3-1/4"-12 x 6.50
E = 4.00	3"-12 x 4.00	3"-12 x 4.00	4"-12 x 4.00	3-3/4"-12 x 4.00	3-3/4"-12 x 7.50	



**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