

How to Order and Specify

Example: Heavy Duty Hydraulic Cylinder

Cap fixed clevis, 4" bore x 12" stroke, 1.75" rod with 1 1/4"-12 x 2.00 short male threads. Front and rear end caps have SAE ports at *position 1*, cushions at *position 2* and nothing at *positions 3 and 4*. *Viton seals are required*.

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

HP **3** **400** x **12** **AM** - **T C N N** - **T C N N** - **O / V**

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

A Cylinder Model: Specify HP in this position.

- | | |
|--|---|
| <ul style="list-style-type: none"> ■ 1 1/2" bore through 24" bore. ■ Nitrile seals with Teflon backup rings. (Std.) ■ Precision machined steel cylinder heads. (Std.) ■ Removable, self-aligning, bearing cartridge. (Std.) ■ D.O.M. Seamless tube precision honed and chrome plated ID with thick wall. (STD) ■ Nitrile Seals and Teflon backup rings at all leak points. ■ 100,000 PSI yield, "IHCP" chrome plated piston rod. (Std.) | <ul style="list-style-type: none"> ■ Adjustable cushions with captive screw. (Cushions are optional) ■ In-port mounted proximity switches for near end of stroke position sensing (optional). (Replaces mechanical limit switches.) ■ Air bleed system (optional). ■ Rod cartridge drain back system (optional). ■ "Slip Tuff" coated rod cartridge for severe side loaded conditions (optional) |
|--|---|

B Specify Cylinder Mounting Style: See inside for illustrations.

<p>HP 1 Foot Side Lugs (MS2)</p> <p>HP 2 Head Trunnion (MT1)</p> <p>HP 3 Cap Fixed Clevis (MP1)</p> <p>HP 4 Head Rectangular Flange (MF1)</p> <p>HP 5 Cap Rectangular Flange (MF2)</p> <p>HP 6 Intermediate Trunnion (MT4) <i>(See XI note on back page)</i></p> <p>HP 7 Cap Trunnion (MT2)</p> <p>HP 8 Head Tie Rod Extended (MX3)</p> <p>HP 11 Cap Tie Rod Extended (MX2)</p>	<p>HP 12 Head & Cap Tie Rod Extended (MX1)</p> <p>HP 14 End Lugs (MS7)</p> <p>HP 15 Centerline Lugs (MS3)</p> <p>HP 16 Side Tapped (MS4)</p> <p>HP 17 Head Square Flange (MF5)</p> <p>HP 18 Cap Square Flange (MF6)</p> <p>HP 22 Cap Fixed Spherical Eye (MP5)</p> <p>HP 25 Cap Fixed Eye (MP3)</p> <p>HP 28 Head Rectangular (ME5)</p> <p>HP 29 Cap Rectangular (ME6)</p>
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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

Note: For 14" bore through 24" bore call Peninsular.

D Specify Stroke Length

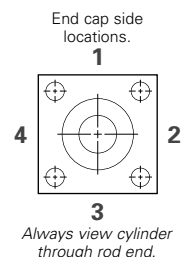
Peninsular HP Cylinders can be ordered in 1/4" increments with stroke lengths from 1/2" to over 15 feet.

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

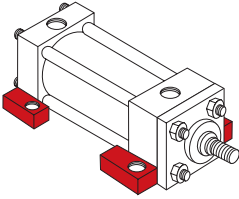
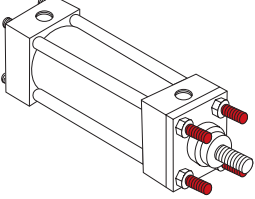
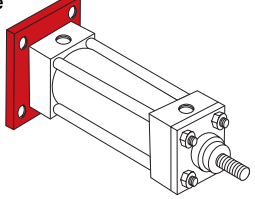
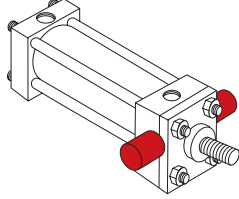
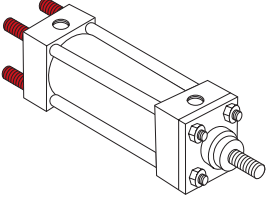
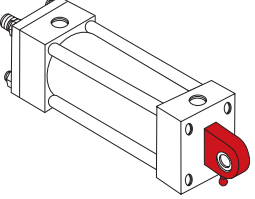
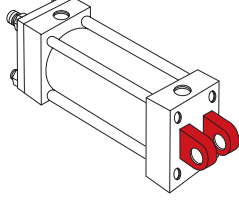
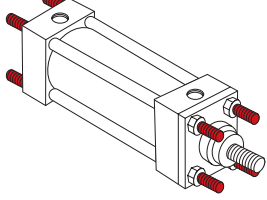
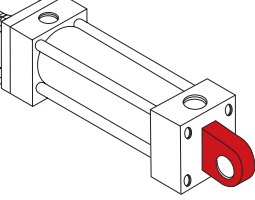
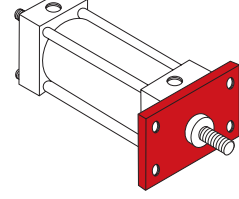
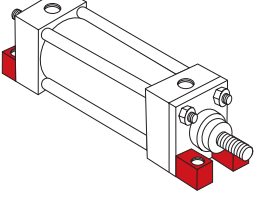
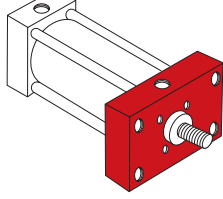
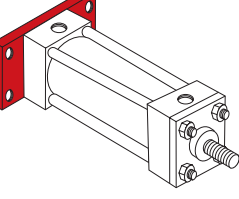
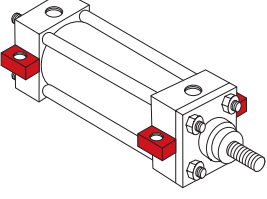
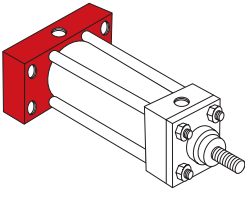
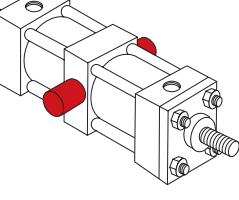
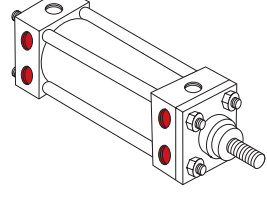
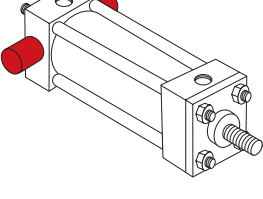
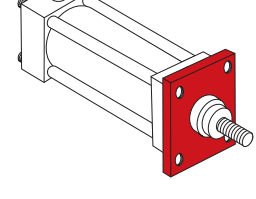
E Specify Piston Rod Diameter and Rod Threads: See Rod Chart on next page.

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

- A** = Hydraulic Supply Port - NPTF Threads.
- T** = Hydraulic Supply Port - SAE Straight 'O' Ring Threads.
- C** = Cushion.
- M** = Proximity Switch Ready only, no switch mounted to the cylinder end cap.
- N** = Nothing. (No port, cushion or prox.)
- S** = Proximity Switch to be in-port mounted to the cylinder end cap. (complete position **H**)



NFPA Mounting Styles

<p>HP 1 Foot Side Lugs (MS2)</p> 	<p>HP 8 Head Tie Rod Extended (MX3)</p> 	<p>HP 18 Cap Square Flange (MF6)</p> 
<p>HP 2 Head Trunnion (MT1)</p> 	<p>HP 11 Cap Tie Rod Extended (MX2)</p> 	<p>HP 22 Cap Fixed Spherical Eye (MP5)</p> 
<p>HP 3 Cap Fixed Clevis (MP1)</p> 	<p>HP 12 Head and Cap Tie Rod Extended (MX1)</p> 	<p>HP 25 Cap-Fixed Eye (MP3)</p> 
<p>HP 4 Head Rectangular Flange (MF1)</p> 	<p>HP 14 End Lugs (MS7)</p> 	<p>HP 28 Head Rectangular (ME5)</p> 
<p>HP 5 Cap Rectangular Flange (MF2)</p> 	<p>HP 15 Centerline Lugs (MS3)</p> 	<p>HP 29 Cap Rectangular (ME6)</p> 
<p>HP 6 Intermediate Trunnion (MT4)</p>  <p>*See note</p>	<p>HP 16 Side Tapped (MS4)</p> 	
<p>HP 7 Cap Trunnion (MT2)</p> 	<p>HP 17 Head Square Flange (MF5)</p> 	

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

H Proximity Switches: Specify the required proximity switch that is to be affixed to cylinder.

S Namco Standard / Mini-Connector **B-11** Balluff Mini-Connector
L Namco Low Profile / Micro-Connector **B-31** Balluff Micro-Connector
LPR Namco Low-Profile Rotatable **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. Spacerless design using the same switch probe length at each end is optional.

Self-contained switch probe not subject to contamination. This patented design provides consistent, reliable, repeatable stroke-to-go and eliminates the design and construction of brackets necessary to mount external mechanical limit switches.

Spacers are not used under proximity switches. Peninsular assigned U.S. Patent No. 4,726,282 and D295,753.

(If proximity switch cords are required, contact Peninsular.)

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

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

/C Air Bleed **/L** ... Lubricated Trunnion Pins **/X** Extended Key * **Specify Length**
/D Drain Back **/N** Stop Tube* **/XI** Specify XI Dimension (HP6)
/E Extended Piston Rod* **/P** ... Oversize Ports (Specify) **/Y** Double Rod End
/F Bronze Rod Cartridge **/R** ... Threaded Stud Rod End **/Z** "Slip Tuff" coated
/H Rod Boot Cover **/S** Scraper Ring rod cartridge
/I Cast Iron Piston Rings **/V** Viton Seals **/O** ... Other options (describe)

E Specify Piston Rod Diameter and Rod Threads

First letter denotes
Rod Diameter, specify:

A = (Standard Rod Diameter)
B = (Larger Rod Diameter)
C = (Oversized Rod Diameter)
D = (Oversized Rod Diameter)
E = (Oversized Rod Diameter)
F = (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)

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

For Bore Sizes 12" through
20" Bore, contact Peninsular.

Bore Size	Rod Diameter	Piston Rod Threads				
		Short Male Specify "M"	Short Female Specify "F"	Full Male Specify "D"	Intermediate Male Specify "I"	Long Male Specify "A"
1.50	A = .62	7/16"-20 x .75	7/16"-20 x .75	5/8"-18 x .75	1/2"-20 x .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 = 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
2.50	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
3.25	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
4.00	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
5.00	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
	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
6.00	A = 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
	B = 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
	C = 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
	D = 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
8.00	A = 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
	B = 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
	D = 4.50	3 1/4"-12 x 4.50	3 1/4"-12 x 4.50	4 1/2"-12 x 4.50	4 1/4"-12 x 4.50	4 1/4"-12 x 8.25
	E = 5.00	3 1/2"-12 x 5.00	3 1/2"-12 x 5.00	5"-12 x 5.00	4 3/4"-12 x 5.00	4 3/4"-12 x 9.00
	C = 5.50	4"-12 x 5.50	4"-12 x 5.50	5 1/2"-12 x 5.50	5 1/4"-12 x 5.50	5 1/4"-12 x 10.00
10.00	D = 4.50	3 1/4"-12 x 4.50	3 1/4"-12 x 4.50	4 1/2"-12 x 4.50	4 1/4"-12 x 4.50	4 1/4"-12 x 8.25
	E = 5.00	3 1/2"-12 x 5.00	3 1/2"-12 x 5.00	5"-12 x 5.00	4 3/4"-12 x 5.00	4 3/4"-12 x 9.00
	B = 5.50	4"-12 x 5.50	4"-12 x 5.50	5 1/2"-12 x 5.50	5 1/4"-12 x 5.50	5 1/4"-12 x 10.00
	F = 6.00	4 1/2"-12 x 6.00	4 1/2"-12 x 6.00	6"-12 x 6.00	5 3/4"-12 x 6.00	5 3/4"-12 x 10.00
	C = 7.00	5"-12 x 7.00	5"-12 x 7.00	7"-12 x 7.00	6 1/2"-12 x 7.00	6 1/2"-12 x 10.00
12.00	A = 5.50	4"-12 x 5.50	4"-12 x 5.50	5 1/2"-12 x 5.50	5 1/4"-12 x 5.50	5 1/4"-12 x 10.00
	B = 6.00	4 1/2"-12 x 6.00	4 1/2"-12 x 6.00	6"-12 x 6.00	5 3/4"-12 x 6.00	5 3/4"-12 x 10.00
	C = 7.00	5"-12 x 7.00	5"-12 x 7.00	7"-12 x 7.00	6 1/2"-12 x 7.00	6 1/2"-12 x 10.00
	D = 8.00	5 3/4"-12 x 8.00	5 3/4"-12 x 8.00	8"-12 x 8.00	7 1/2"-12 x 8.00	7 1/2"-12 x 12.00



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