



**PENINSULAR[®]
CYLINDER CO.**

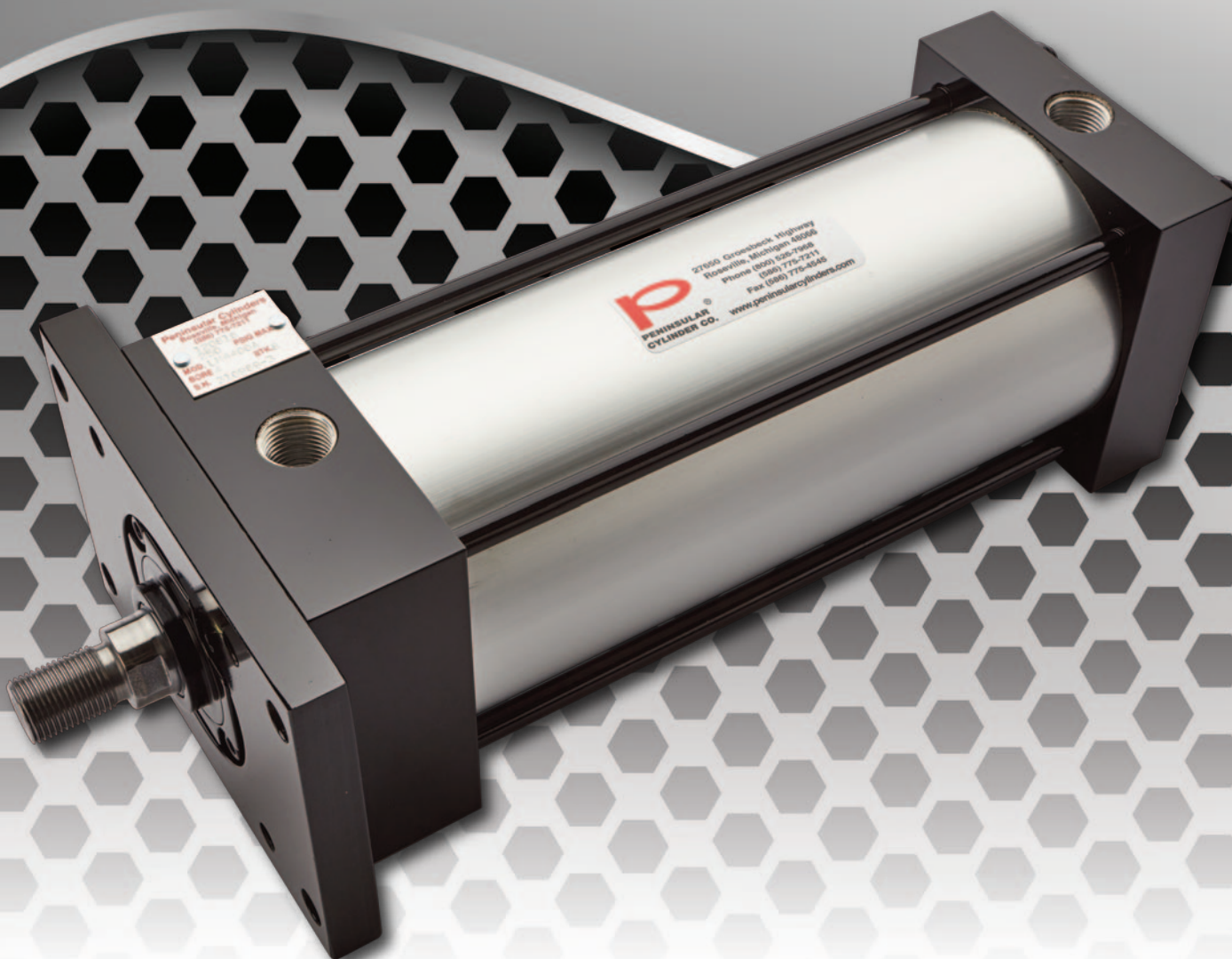
LM

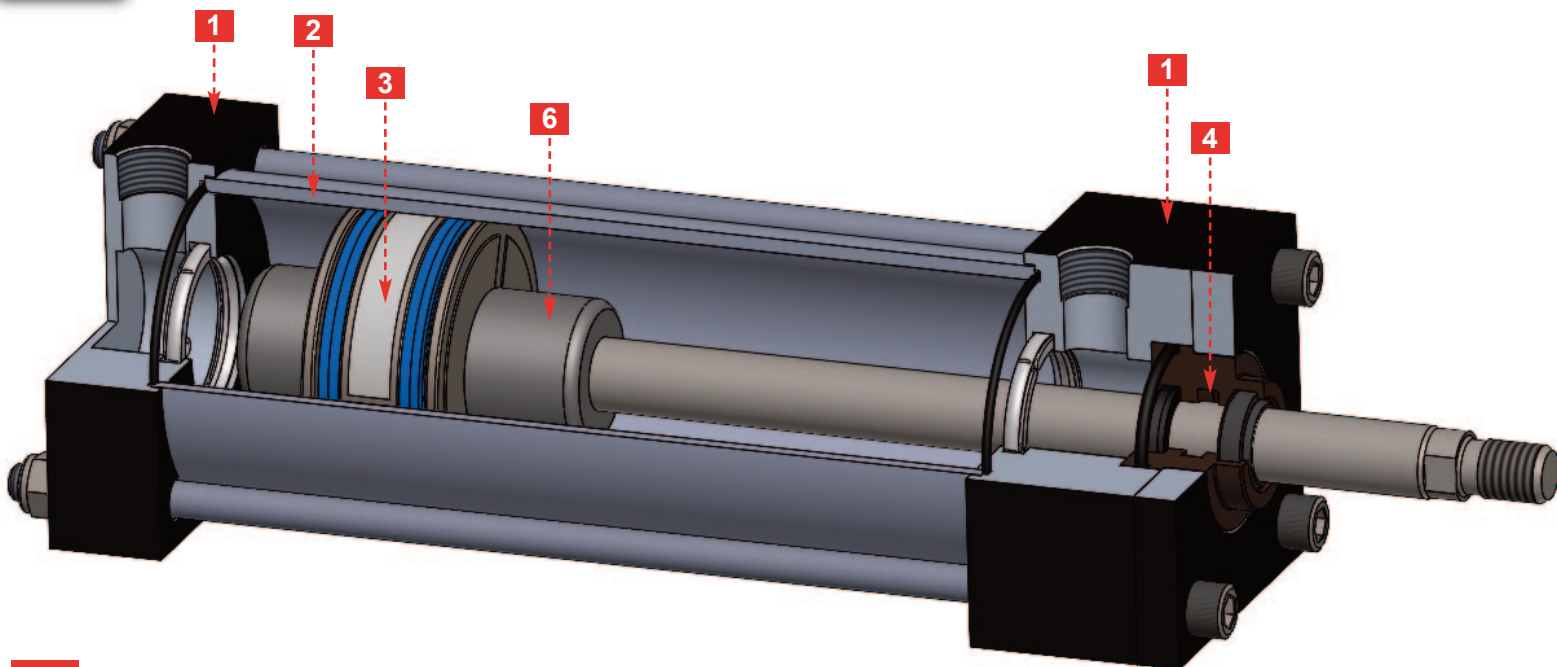
Series

PNEUMATIC

Air Cylinders

Aluminum • Medium Duty • 250 PSI
Pre-Lubricated • NFPA Interchangeable





1 Heads & Caps

Square, precision-machined aluminum to 6061-T6 anodized aluminum or painted. Precision machined for 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 6061-T6 aluminum tube; precision honed to 12/15 micro inch finish; hard coat anodized .001" thick on both ID and OD. Hard Coating resists wear and corrosion; also reduces wear on piston seals.

3 Wear Band

Precision wear band made of composite material. Offers low friction, long lasting wear surface which prevents scoring of cylinder tube inner wall.

4 Lubrication Reservoirs

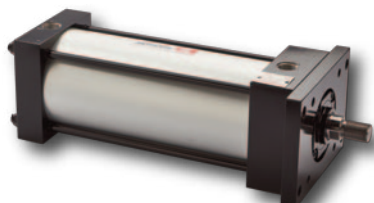
Located underneath wear band inside piston and also inside the bearing cartridge. Provides effective way of metering maximum amount of lubricant to all areas over a long time period. Not subject to air turbulence and contamination.

5 Lubricant *(Not Shown)*

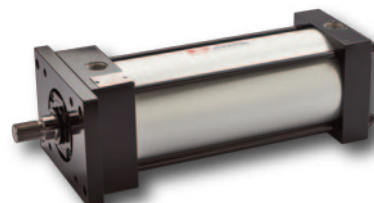
Teflon™ based grease. Long lasting lubrication of piston seals, inner cylinder wall surface, bearing cartridge ID, rod seal and rod wiper.

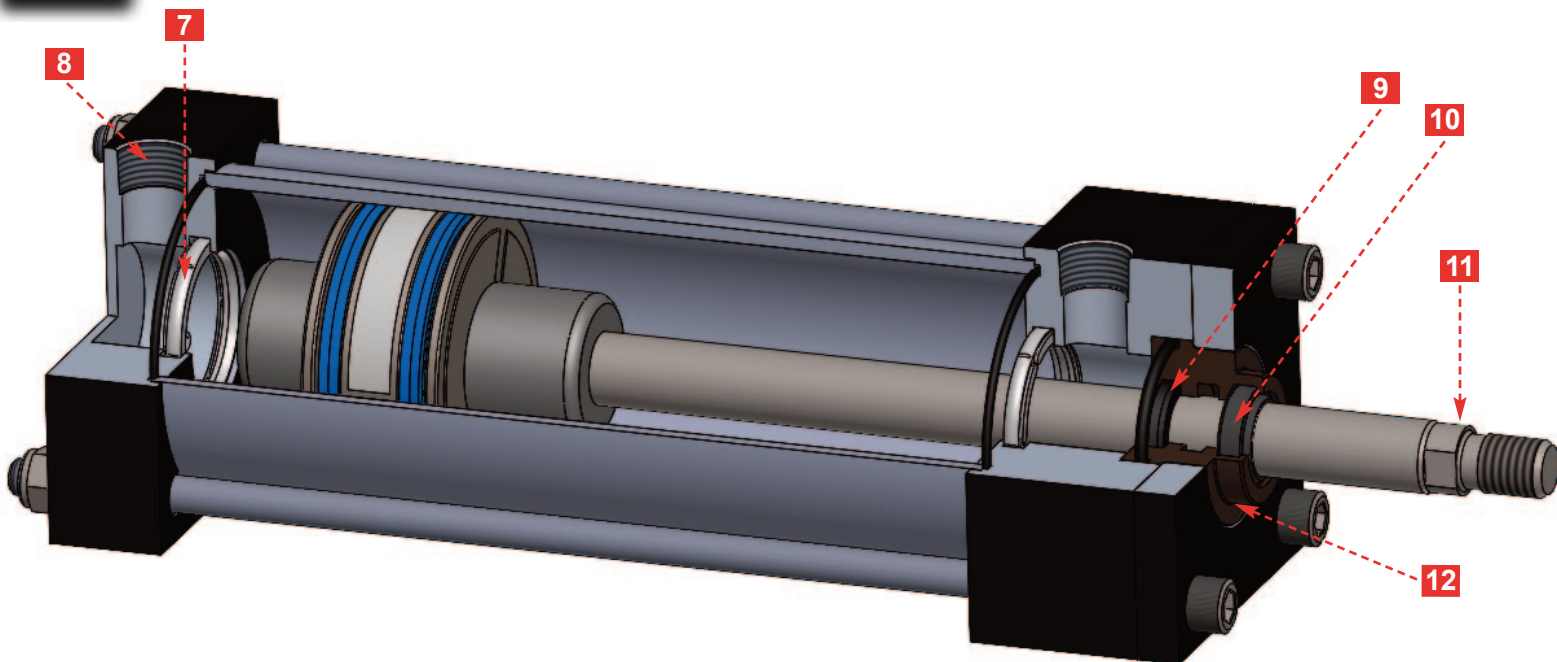
6 Piston

One-piece aluminum, with uniform cushion hubs on both sides, threaded onto piston rod, staked and secured with thread locker. Prevents rusting and air leakage; anchored onto piston rod with minimum undercut providing maximum strength. Magnetic piston sensing optional - see #19. NPT standard, SAE O-Ring optional. Metric & other thread size options. Universally adaptable to any hose or fitting.



800-526-7968





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 valve with Buna-N O-Ring sealed screw, held captive with locking snap ring. Accurate fine adjustment of cushioning speed; no air leakage and safe for all users due to internal captive screw.

9 Rod Seal

80 durometer, rounded lip, prelubricated, carboxylated nitrile cup style. Disperses grease throughout ID of rod cartridge extending seal life within. Resists abrasion; significantly increases life and prevents leakage around piston rod.

10 Rod Wiper

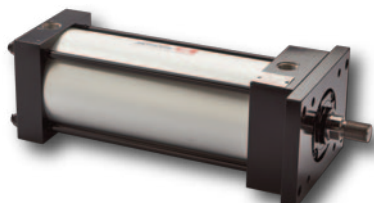
Urethane H type wiper seal keeps contaminants off the rod and provides additional sealing beyond rod seal. Severe external conditions could require the addition of an optional metallic rod scraper installed ahead of the rod wiper to effectively provide dual protection from the elements. Prevents dust,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

11 Piston Rod

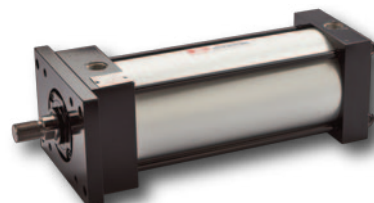
85,000 psi minimum yield strength chrome plated steel with core hardness of Rc 28-34. Rod is hard chrome-plated (.0003/.0005 thick) and polished to 12/15 micro inch finish. Solid male threads contain a radiused undercut. Resists wear and provides positive connections to existing machine components. Solid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

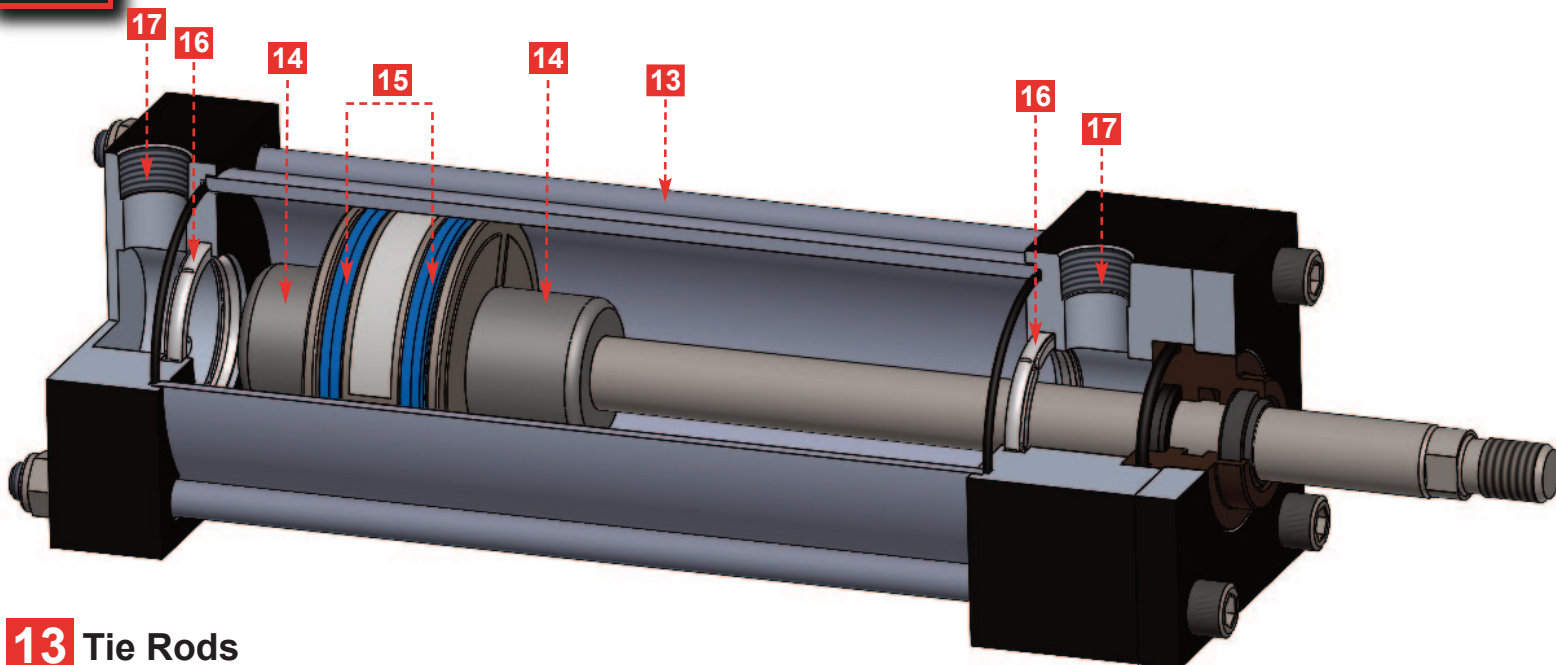
12 Bearing Cartridge

Floating, self-aligning ductile iron with internal lubrication reservoir. 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.



800-526-7968





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 oxide to prevent rusting and corrosion. Steel material permits the use of in-port cylinder head mounted proximity switches. Uniform size on each side of piston to eliminate different 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, prelubricated, 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 airtight cushioning assures smooth maximum effectiveness.

17 Ports

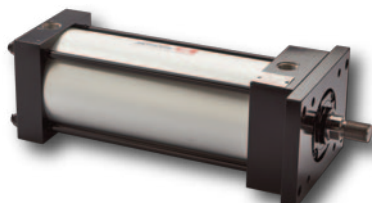
NPT standard, metric and other thread size options.

18 Optional Proximity Switch Capability *(Not Shown)*

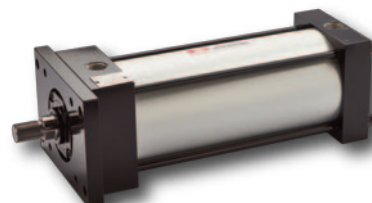
Allows for non-contact piston position sensing at near end of stroke. Precision machined cylinder heads and piston cushion hubs allow for mounting of "RF inductive" proximity switches using the same switch probe length at each cylinder end without shims or spacers underneath the switch. Self-contained switch probe not subject to contamination. This 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.

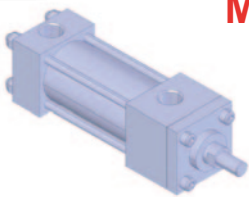
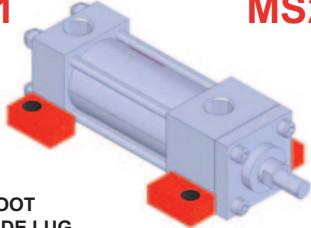
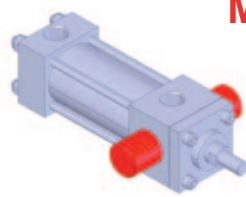
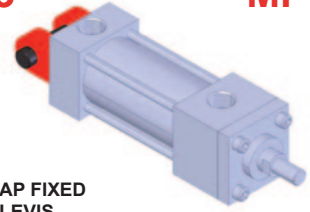
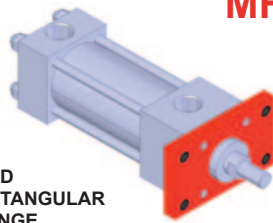
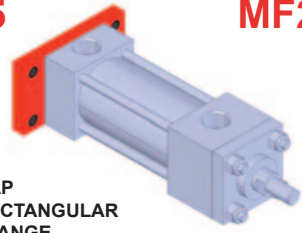
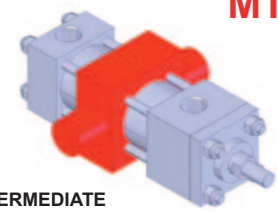
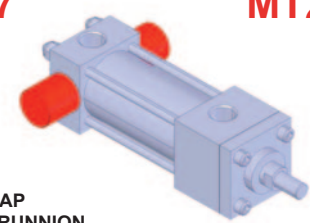
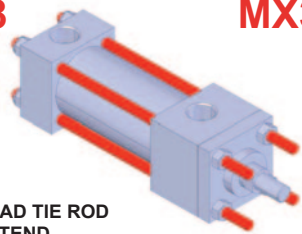
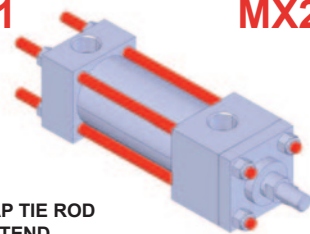
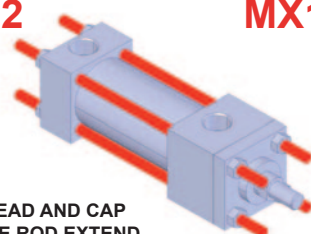
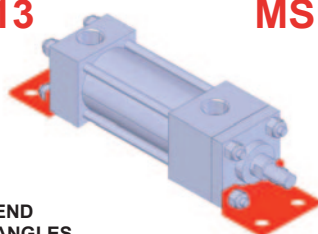
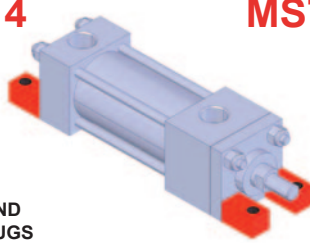
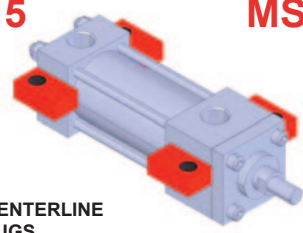
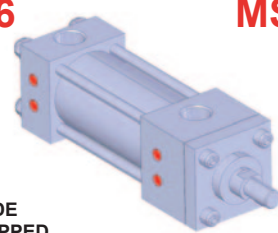
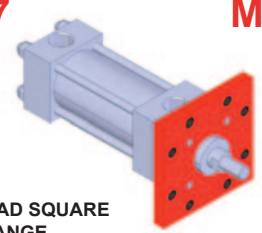
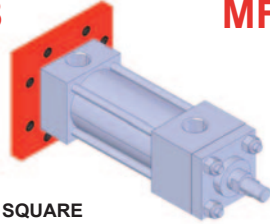
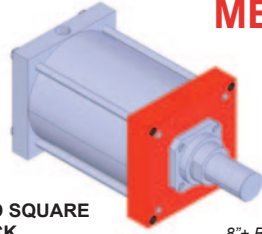
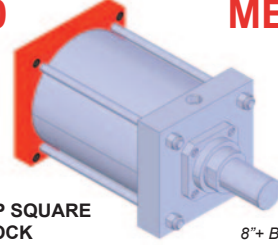
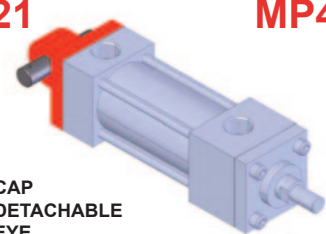
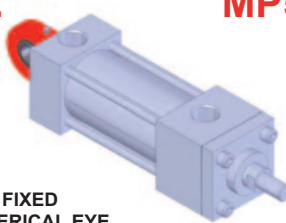
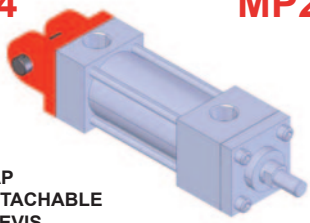
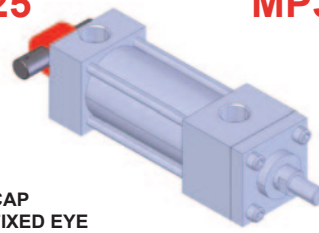
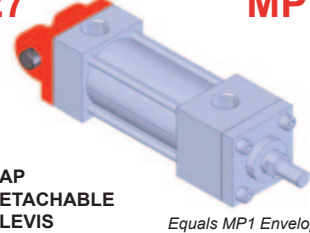
19 Optional Piston Magnet *(Not Shown)*

Tie-rod mounted switches can sense high gauss, "rare-earth material" magnet, anywhere along the cylinder stroke. Stronger magnetism outside of the cylinder tube insures actuation of the switch. Tie-rod mounted reed switches sense strong magnetic field provided by magnet in aluminum piston, allowing piston rod location to be determined wherever external switches are placed.

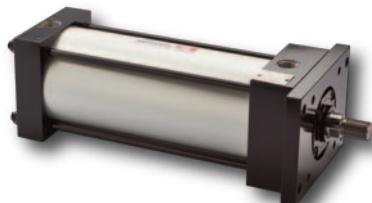


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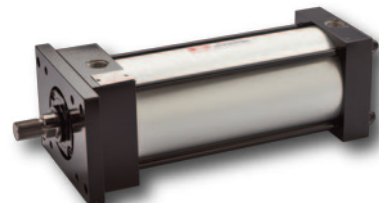


0  NO MOUNT	1  FOOT SIDE LUG	2  HEAD TRUNNION	3  CAP FIXED CLEVIS
4  HEAD RECTANGULAR FLANGE	5  CAP RECTANGULAR FLANGE	6  INTERMEDIATE TRUNNION	7  CAP TRUNNION
8  HEAD TIE ROD EXTEND	11  CAP TIE ROD EXTEND	12  HEAD AND CAP TIE ROD EXTEND	13  END ANGLES
14  END LUGS	15  CENTERLINE LUGS	16  SIDE TAPPED	17  HEAD SQUARE FLANGE
18  CAP SQUARE FLANGE	19  HEAD SQUARE BLOCK 8"+ Bores	20  CAP SQUARE BLOCK 8"+ Bores	21  CAP DETACHABLE EYE
22  CAP FIXED SPHERICAL EYE	24  CAP DETACHABLE CLEVIS	25  CAP FIXED EYE	27  CAP DETACHABLE CLEVIS Equals MP1 Envelope

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.



800-526-7968



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.



LM-4-325x8.25AM-ACNN-ACNN-O,SKLM-3210,RKLM-3210
Peninsular Cylinder > Air Cylinders

Remove all filters

Part Number

LM-4-325x8.25AM-ACNN-ACNN-O,SKLM-3210,RKLM-3210

Bore Size (in inches)

3.250

Mounting Style (For Intermediate Trunnion Mount-Specify XI Under Configurable Options Below)

LM 4 Head Rectangular Flange (MF1)

Stroke Length (in inches)

8.25

(0.5.. ±0.1 ..180.0)

Inch

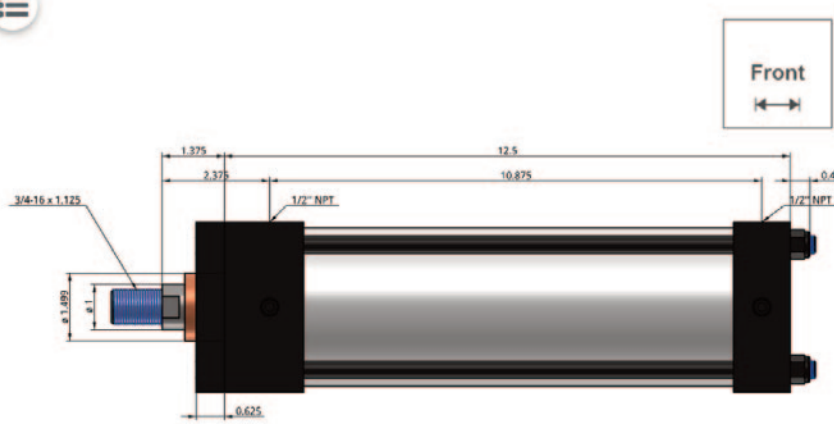
Piston Rod Diameter (in inches)

1.000

Inch

Piston Rod Material

Induction Hardened Chrome Plated 4140 Steel

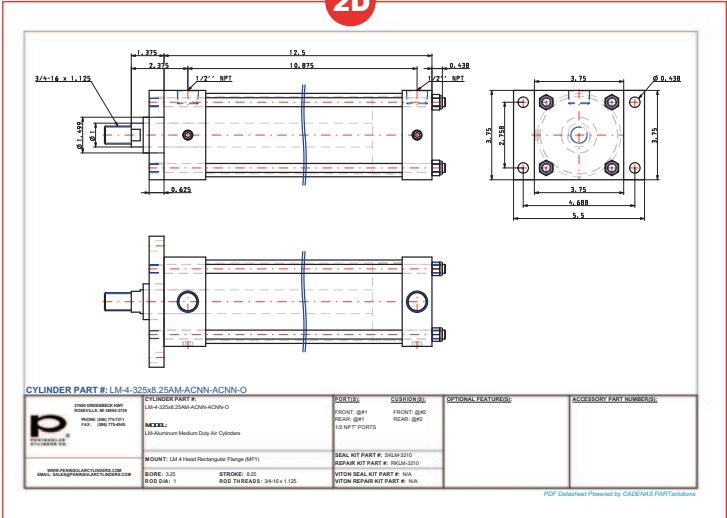


Front

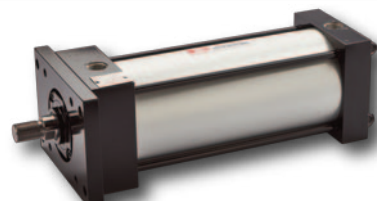
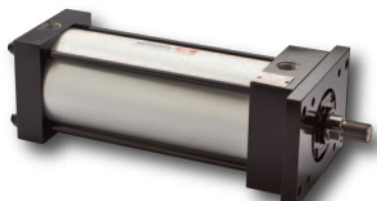
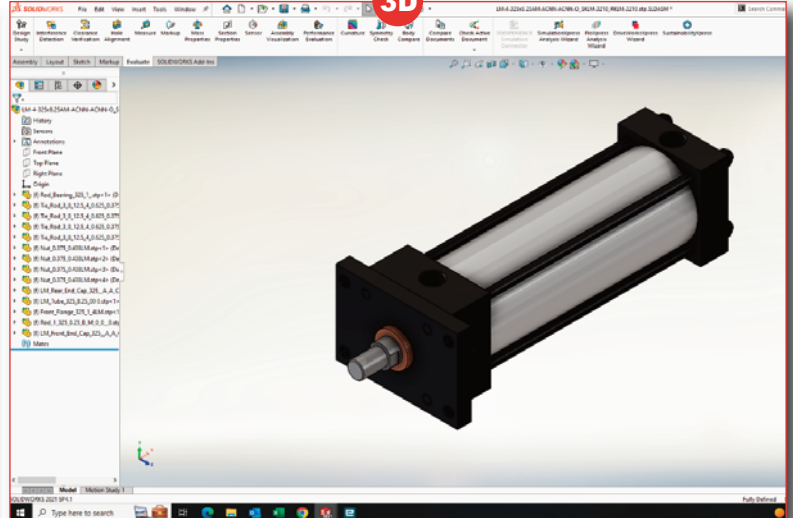
1.375 12.5 16.875 0.438 1/2" NPT 3/4-16 x 1.125 0.625

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2D

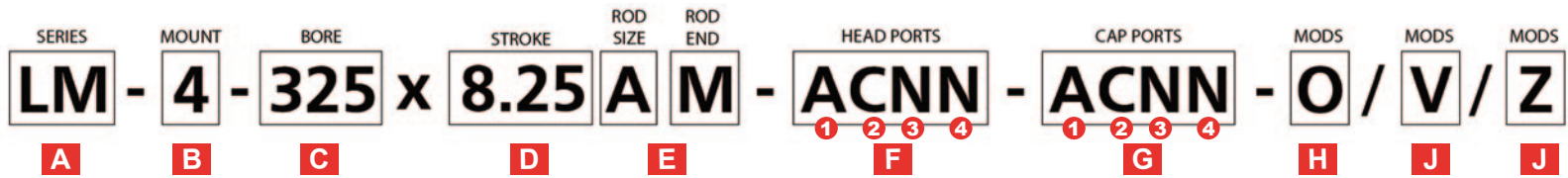


3D



HOW TO ORDER & SPECIFY MANUALLY

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



A Cylinder Model: **LM**

- 1 1/2" Bore through 12" Bore
- Longer lasting improved nitrile seals (std)
- Machined anodized or black painted aluminum cylinder heads (std)
- Machined anodized or black painted aluminum cylinder heads (std)
- "SlipTuff" coated bearing cartridge for severe side loaded applications (opt)
- Solid aluminum tube, hard coat anodized ID and OD (std)
- Internally lubricated for life, no inline lubrication required (std)
- 85,000 PSI yield "CPO" chrome plated high strength steel piston rod (std)
- Adjustable cushions with captive screws (cushions are optional)
- In-port mounted proximity switches for near end of stroke position sensing (opt). These replace mechanical limit switches.
- Magnetic piston sensing for tie rod mounted switches (opt)

B Cylinder Mounting: **4**

0 No Mount (MX0)	11 Cap Tie Rod Extend (MX2)	20 Cap Square Block (8"+ Bores) (ME4)
1 Foot Side Lugs (MS2)	12 Head & Cap Tie Rod Extend (MX1)	21 Cap Detachable Eye (MP4)
2 Head Trunnion (MT1)	13 End Angles (MS1)	22 Cap Fixed Spherical Eye (MP5)
3 Cap Fixed Clevis (MP1)	14 End Lugs (MS7)	24 Cap Detachable Clevis (MP2)
4 Head Rectangular Flange (MF1)	15 Centerline Lugs (MS3)	25 Cap Fixed Eye (MP3)
5 Cap Rectangular Flange (MF2)	16 Side Tapped (MS4)	27 Cap Detachable Clevis (*)
6 Intermediate Trunnion (MT4)	17 Head Square Flange (MF5)	*Equals MP1 Envelope Dimensions
7 Cap Trunnion (MT2)	18 Cap Spherical Eye (MF6)	
8 Head Tie Rod Extend (MX3)	19 Head Square Block (8"+ Bores) (ME3)	

C Cylinder Bore: **325**

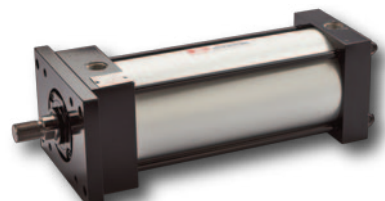
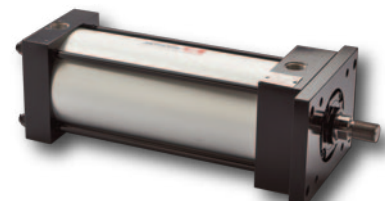
150 = 1 1/2" Bore	250 = 2 1/2" Bore	400 = 4" Bore	600 = 6" Bore	1000 = 10" Bore	14" Bore+
200 = 2" Bore	325 = 3 1/4" Bore	500 = 5" Bore	800 = 8" Bore	1200 = 12" Bore	Call Peninsular

D Stroke Length: **8.25**

Peninsular LM 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.

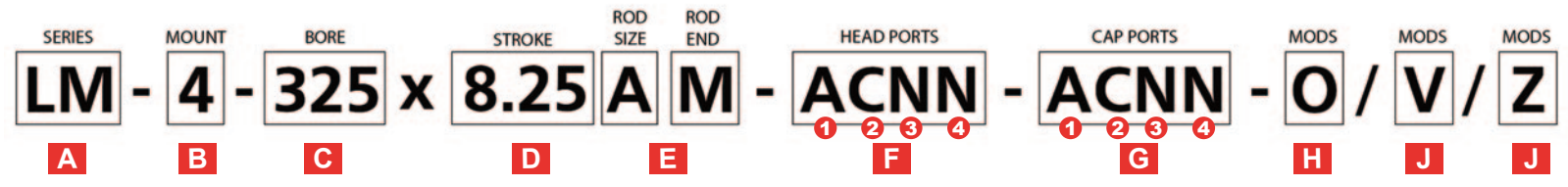
E Rod Diameter: **AM**

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



HOW TO ORDER & SPECIFY MANUALLY

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

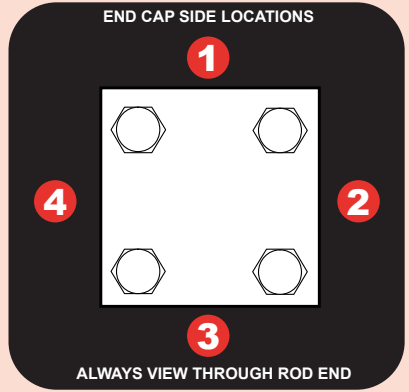


F Plumbing: ACNN

G Plumbing: ACNN

Specify Plumbing Configuration for Front & Rear End Cap.

- 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 Location
- K = Non-Adjustable Cushions
- P = Oversize Ports
- U = Undersize Ports



H Proximity Switches:

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

- T-11 = Turck Mini-Connector T-31 = Turck Micro-Connector B-11 = Balluff Mini-Connector B-31 = Balluff Micro Connector
- O = None

RD 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.

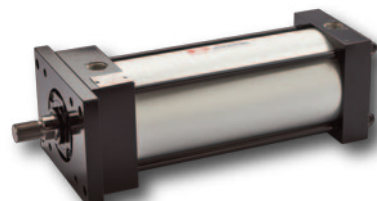
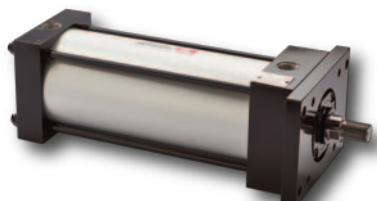
Proximity Switch Cordsets are Available in Various Lengths. Magnetic Inductive, Hall Effect and Reed Technologies are Available.

J Optional Features:

Specify Optional Features with Slash Mark and Alpha Characters

- /B = Adjustable Stroke
- /E = Extended Piston Rod*
- /F = Bronze Rod Cartridge
- /H = Rod Boot Cover
- /J = Spring Extend
- /K = Spring Return
- /M = Piston Magnet
- /N = Stop Tube*
- /R = Threaded Stud Rod End
- /S = Scraper Ring
- /U = Non-Rotatable Piston Rod
- /V = Viton Seals
- /XI = Specify XI Dimension (HP6)
- /Y = Double Rod End
- /Z = "Slip Tuff" Coated Rod Cartridge
- /O = Other Options (Describe)

*Specify Length



800-526-7968

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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)
E = (OVERSIZED ROD DIAMETER)

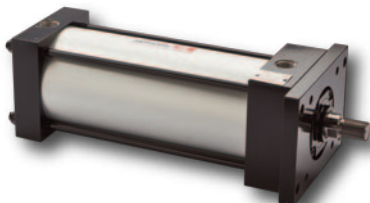
SECOND LETTER DENOTES ROD THREADS

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

LM Air Cylinder Piston Rod Diameter and Rod Threads Chart

BORE SIZE	ROD DIA.	SHORT MALE "M"	SHORT FEMALE "F"	FULL MALE "D"	INTERMEDIATE 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
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	1/2"-20 x 0.75	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
	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
12.00	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
	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

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