



# H-Series 16mm Pneumatic Cylinders

## 16mm Bore, Double Acting with Magnet



Part No. H16M005MD-M

### 16mm Bore H-Series Cylinders - Double Acting w/ Magnet

| Part Number        | Stroke Length (mm) | "A" (mm [in]) | "B" (mm [in]) | Port Size | Weight (lbs) | Price   |
|--------------------|--------------------|---------------|---------------|-----------|--------------|---------|
| <u>H16M005MD-M</u> | 5                  | 39.0 [1.54]   | 35.5 [1.40]   | M5x0.8    | 0.2          | \$49.00 |
| <u>H16M010MD-M</u> | 10                 | 44.0 [1.73]   | 40.5 [1.59]   |           | 0.2          | \$50.00 |
| <u>H16M015MD-M</u> | 15                 | 49.0 [1.93]   | 45.5 [1.79]   |           | 0.2          | \$52.00 |
| <u>H16M020MD-M</u> | 20                 | 54.0 [2.13]   | 50.5 [1.99]   |           | 0.3          | \$53.00 |
| <u>H16M025MD-M</u> | 25                 | 59.0 [2.32]   | 55.5 [2.19]   |           | 0.3          | \$55.00 |
| <u>H16M030MD-M</u> | 30                 | 64.0 [2.52]   | 60.5 [2.38]   |           | 0.3          | \$56.00 |
| <u>H16M040MD-M</u> | 40                 | 74.0 [2.91]   | 70.5 [2.78]   |           | 0.4          | \$62.00 |
| <u>H16M050MD-M</u> | 50                 | 84.0 [3.31]   | 80.5 [3.17]   |           | 0.4          | \$68.00 |

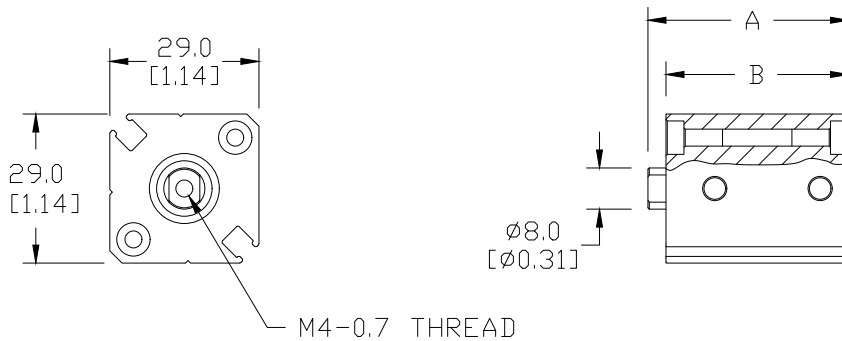
### Mounting Accessories

|                           |                |
|---------------------------|----------------|
| <b>Rod Clevis</b>         | <u>HRC-16M</u> |
| <b>Rod Male Adapter</b>   | <u>HMA-16M</u> |
| <b>Female Rear Clevis</b> | <u>HFC-16M</u> |

Note: For full details see Accessories at the end of the section.

## Dimensions

mm [inches]

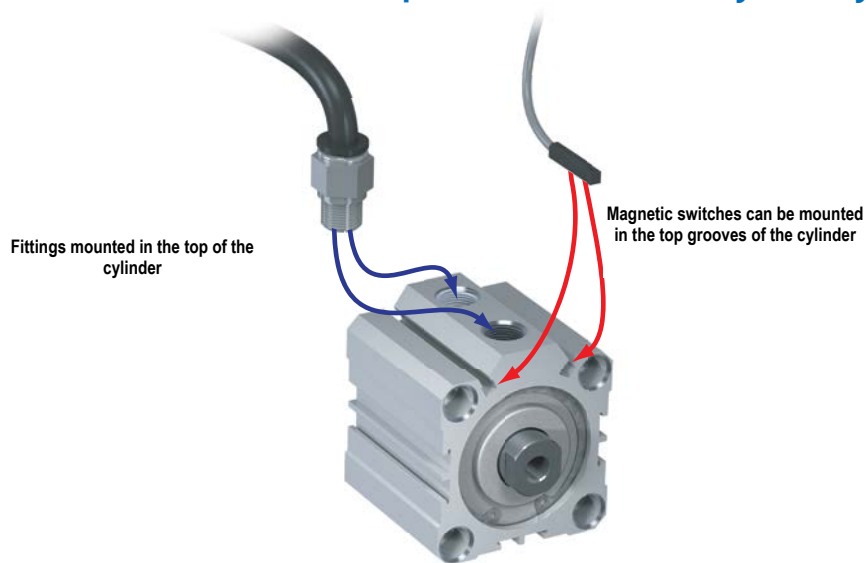


See our website [www.AutomationDirect.com](http://www.AutomationDirect.com) for complete Engineering drawings.



# H-Series Pneumatic Cylinders

## NITRA Pneumatic Compact Extruded Body Air Cylinders



Click on the thumbnail or go to <https://www.automationdirect.com/VID-PN-0052> for a short video on pneumatic cylinder selection and purchasing.

The NITRA Pneumatics H-Series compact extruded body cylinders includes bore sizes from 12mm to 100mm and stroke lengths from 5mm to 100mm to meet a broad range of limited space applications. These high quality cylinders are constructed with hard anodized extruded aluminum bodies and end caps. Cylinder switch

mounting slots are built in to the bodies. All sizes include a magnet in the piston and a chrome plated steel piston rod. Interchangeable with other common brands, these cylinders are factory lubricated for optimum performance and long, reliable life.

### Features

- Ten bore sizes
- Eight stroke lengths
- Interchangeable with other popular brands
- Work with 4mm square T-slot cylinder switches
- Nitrile / Buna-N O-rings



Click the icon or scan the QR code to be taken to [https://www.automationdirect.com/pneumatics/cylinders/cylinder\\_sizing](https://www.automationdirect.com/pneumatics/cylinders/cylinder_sizing) for additional information regarding cylinder sizing & force.

### H-Series Cylinder Specifications

| Bore Size (mm)               | 12                                                     | 16 | 20 | 25 | 32      | 40  | 50      | 63  | 80      | 100  |
|------------------------------|--------------------------------------------------------|----|----|----|---------|-----|---------|-----|---------|------|
| Action                       | Double acting                                          |    |    |    |         |     |         |     |         |      |
| Fluid                        | Air (clean/dry)                                        |    |    |    |         |     |         |     |         |      |
| Temperature Range            | -4 to 176°F (-20 to 80°C)                              |    |    |    |         |     |         |     |         |      |
| Pressure Range               | 14 to 145 psi (0.96 to 9.9 bar)                        |    |    |    |         |     |         |     |         |      |
| Proof Pressure               | 215psi (14.8 bar)                                      |    |    |    |         |     |         |     |         |      |
| Lubrication                  | Not required                                           |    |    |    |         |     |         |     |         |      |
| Cushion Type                 | Bumper - Polyurethane (ø12 - ø25); Buna-N (ø32 - ø100) |    |    |    |         |     |         |     |         |      |
| Speed Range                  | 30 to 500 mm/s                                         |    |    |    |         |     |         |     |         |      |
| Stroke Tolerance             | +1.0 / -0 mm                                           |    |    |    |         |     |         |     |         |      |
| Port Size                    | M5x0.8                                                 |    |    |    | 1/8-NPT |     | 1/4-NPT |     | 3/8-NPT |      |
| Extend Force @ 87psi (lbs.)  | 15                                                     | 27 | 42 | 66 | 108     | 169 | 264     | 420 | 678     | 1059 |
| Retract Force @ 87psi (lbs.) | 11                                                     | 20 | 32 | 51 | 81      | 142 | 222     | 378 | 611     | 950  |
| Sensor Switch Compatibility  | CPS9H Series Switches                                  |    |    |    |         |     |         |     |         |      |



# H-Series Pneumatic Cylinder Accessories

| H-Series Pneumatic Cylinder Accessories |                                                                                                                                       |         |         |         |
|-----------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|---------|---------|---------|
| Part Number                             | Description                                                                                                                           | Pcs/Pkg | Wt (lb) | Price   |
| <a href="#"><u>HRC-12M</u></a>          | NITRA cylinder rod clevis, plated steel, M5 x 0.8 thread. For use with 12 mm H-series cylinders. Male adapter and hex nut included.   | 1       | 0.1     | \$14.00 |
| <a href="#"><u>HRC-16M</u></a>          | NITRA cylinder rod clevis, plated steel, M6 x 1.0 thread. For use with 16 mm H-series cylinders. Male adapter and hex nut included.   | 1       | 0.1     | \$15.00 |
| <a href="#"><u>HRC-20M</u></a>          | NITRA cylinder rod clevis, plated steel, M8 x 1.25 thread. For use with 20 mm H-series cylinders. Male adapter and hex nut included.  | 1       | 0.1     | \$15.50 |
| <a href="#"><u>HRC-25M</u></a>          | NITRA cylinder rod clevis, plated steel, M10 x 1.25 thread. For use with 25 mm H-series cylinders. Male adapter and hex nut included. | 1       | 0.2     | \$16.00 |
| <a href="#"><u>HRC-32M</u></a>          | NITRA cylinder rod clevis, cast iron, M14 x 1.5 thread. For use with 32 mm H-series cylinders. Male adapter and hex nut included.     | 1       | 0.3     | \$19.50 |
| <a href="#"><u>HRC-40M</u></a>          | NITRA cylinder rod clevis, cast iron, M14 x 1.5 thread. For use with 40 mm H-series cylinders. Male adapter and hex nut included.     | 1       | 0.3     | \$19.50 |
| <a href="#"><u>HRC-50M</u></a>          | NITRA cylinder rod clevis, cast iron, M18 x 1.5 thread. For use with 50 mm H-series cylinders. Male adapter and hex nut included.     | 1       | 0.6     | \$25.00 |
| <a href="#"><u>HRC-63M</u></a>          | NITRA cylinder rod clevis, cast iron, M18 x 1.5 thread. For use with 63 mm H-series cylinders. Male adapter and hex nut included.     | 1       | 0.6     | \$25.50 |
| <a href="#"><u>HRC-80M</u></a>          | NITRA cylinder rod clevis, cast iron, M22 x 1.5 thread. For use with 80 mm H-series cylinders. Male adapter and hex nut included.     | 1       | 1.5     | \$32.50 |
| <a href="#"><u>HRC-100M</u></a>         | NITRA cylinder rod clevis, cast iron, M26 x 1.5 thread. For use with 100 mm H-series cylinders. Male adapter and hex nut included.    | 1       | 2.0     | \$38.00 |
| <a href="#"><u>HMA-12M</u></a>          | NITRA cylinder male adapter, stainless steel, M5 x 0.8 thread. For use with 12 mm H-series cylinders. Hex nut included.               | 1       | 0.1     | \$8.75  |
| <a href="#"><u>HMA-16M</u></a>          | NITRA cylinder male adapter, stainless steel, M6 x 1.0 thread. For use with 16 mm H-series cylinders. Hex nut included.               | 1       | 0.1     | \$8.75  |
| <a href="#"><u>HMA-20M</u></a>          | NITRA cylinder male adapter, stainless steel, M8 x 1.25 thread. For use with 20 mm H-series cylinders. Hex nut included.              | 1       | 0.1     | \$9.25  |
| <a href="#"><u>HMA-25M</u></a>          | NITRA cylinder male adapter, stainless steel, M10 x 1.25 thread. For use with 25 mm H-series cylinders. Hex nut included.             | 1       | 0.1     | \$9.50  |
| <a href="#"><u>HMA-32M</u></a>          | NITRA cylinder male adapter, stainless steel, M14 x 1.5 thread. For use with 32 mm H-series cylinders. Hex nut included.              | 1       | 0.1     | \$10.50 |
| <a href="#"><u>HMA-40M</u></a>          | NITRA cylinder male adapter, stainless steel, M14 x 1.5 thread. For use with 40 mm H-series cylinders. Hex nut included.              | 1       | 0.1     | \$10.50 |
| <a href="#"><u>HMA-50M</u></a>          | NITRA cylinder male adapter, stainless steel, M18 x 1.5 thread. For use with 50 mm H-series cylinders. Hex nut included.              | 1       | 0.2     | \$12.00 |
| <a href="#"><u>HMA-63M</u></a>          | NITRA cylinder male adapter, stainless steel, M18 x 1.5 thread. For use with 63 mm H-series cylinders. Hex nut included.              | 1       | 0.2     | \$12.00 |
| <a href="#"><u>HMA-80M</u></a>          | NITRA cylinder male adapter, stainless steel, M22 x 1.5 thread. For use with 80 mm H-series cylinders. Hex nut included.              | 1       | 0.4     | \$14.50 |
| <a href="#"><u>HMA-100M</u></a>         | NITRA cylinder male adapter, stainless steel, M26 x 1.5 thread. For use with 100 mm H-series cylinders. Hex nut included.             | 1       | 0.5     | \$17.00 |
| <a href="#"><u>HFC-12M</u></a>          | NITRA cylinder rear clevis bracket, aluminum. For use with 12 mm H-series cylinders. Mounting hardware and pivot pin included.        | 1       | 0.1     | \$14.00 |
| <a href="#"><u>HFC-16M</u></a>          | NITRA cylinder rear clevis bracket, aluminum. For use with 16 mm H-series cylinders. Mounting hardware and pivot pin included.        | 1       | 0.1     | \$14.50 |
| <a href="#"><u>HFC-20M</u></a>          | NITRA cylinder rear clevis bracket, aluminum. For use with 20 mm H-series cylinders. Mounting hardware and pivot pin included.        | 1       | 0.2     | \$16.00 |
| <a href="#"><u>HFC-25M</u></a>          | NITRA cylinder rear clevis bracket, aluminum. For use with 25 mm H-series cylinders. Mounting hardware and pivot pin included.        | 1       | 0.2     | \$19.00 |
| <a href="#"><u>HFC-32M</u></a>          | NITRA cylinder rear clevis bracket, cast iron. For use with 32 mm H-series cylinders. Mounting hardware and pivot pin included.       | 1       | 0.4     | \$22.50 |
| <a href="#"><u>HFC-40M</u></a>          | NITRA cylinder rear clevis bracket, cast iron. For use with 40 mm H-series cylinders. Mounting hardware and pivot pin included.       | 1       | 0.4     | \$22.50 |
| <a href="#"><u>HFC-50M</u></a>          | NITRA cylinder rear clevis bracket, cast iron. For use with 50 mm H-series cylinders. Mounting hardware and pivot pin included.       | 1       | 0.8     | \$31.00 |
| <a href="#"><u>HFC-63M</u></a>          | NITRA cylinder rear clevis bracket, cast iron. For use with 63 mm H-series cylinders. Mounting hardware and pivot pin included.       | 1       | 1.3     | \$31.00 |
| <a href="#"><u>HFC-80M</u></a>          | NITRA cylinder rear clevis bracket, cast iron. For use with 80 mm H-series cylinders. Mounting hardware and pivot pin included.       | 1       | 2.3     | \$41.50 |
| <a href="#"><u>HFC-100M</u></a>         | NITRA cylinder rear clevis bracket, cast iron. For use with 100 mm H-series cylinders. Mounting hardware and pivot pin included.      | 1       | 3.8     | \$46.50 |



# H-Series Pneumatic Cylinder Accessories

## Rod Clevis

Part no. [HRC-20M](#)Part no. [HRC-32M](#)

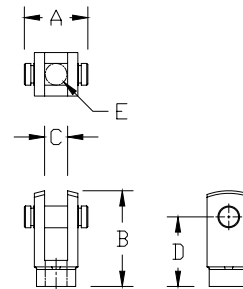
Note: Comes with Pivot Pin installed. Includes Rod Male Adapter (see below)

### Rod Clevis Dimension Table

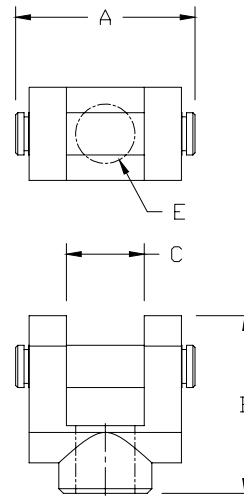
| Part #                   | A           | B           | C           | D           | E       |
|--------------------------|-------------|-------------|-------------|-------------|---------|
| <a href="#">HRC-12M</a>  | 14.6 [0.57] | 22.0 [0.87] | 5.3 [0.21]  | 16.0 [0.63] | M5x0.8  |
| <a href="#">HRC-16M</a>  | 16.8 [0.66] | 28.0 [1.10] | 6.6 [0.26]  | 21.0 [0.83] | M6x1.0  |
| <a href="#">HRC-20M</a>  | 21.0 [0.83] | 34.0 [1.34] | 8.3 [0.33]  | 25.0 [0.98] | M8x1.25 |
| <a href="#">HRC-25M</a>  | 26.4 [1.04] | 41.0 [1.61] | 10.3 [0.41] | 30.0 [1.18] | M10x1.5 |
| <a href="#">HRC-32M</a>  | 42.4 [1.67] | 42.0 [1.65] | 18.4 [0.72] | 30.0 [1.18] | M14x1.5 |
| <a href="#">HRC-40M</a>  | 42.4 [1.67] | 42.0 [1.65] | 18.4 [0.72] | 30.0 [1.18] | M14x1.5 |
| <a href="#">HRC-50M</a>  | 50.4 [1.98] | 56.0 [2.20] | 22.4 [0.88] | 40.0 [1.57] | M18x1.5 |
| <a href="#">HRC-63M</a>  | 50.4 [1.98] | 56.0 [2.20] | 22.4 [0.88] | 40.0 [1.57] | M18x1.5 |
| <a href="#">HRC-80M</a>  | 63.6 [2.50] | 71.0 [2.80] | 28.4 [1.12] | 50.0 [1.97] | M22x1.5 |
| <a href="#">HRC-100M</a> | 72.6 [2.86] | 79.0 [3.11] | 32.4 [1.28] | 55.0 [2.17] | M26x1.5 |

## Dimensions

mm [inches]



HRC-12M - HRC-25M



HRC-32M - HRC-100M

## Rod Male Adapter

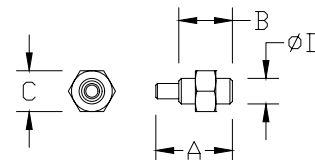
Part no. [HMA-32M](#)

### Rod Male Adapter Dimension Table

| Part #                   | A           | B           | C           | D        |
|--------------------------|-------------|-------------|-------------|----------|
| <a href="#">HMA-12M</a>  | 15.0 [0.59] | 10.5 [0.41] | 8.0 [0.31]  | M5x0.8   |
| <a href="#">HMA-16M</a>  | 18.0 [0.71] | 12.0 [0.47] | 10.0 [0.39] | M6x1.0   |
| <a href="#">HMA-20M</a>  | 19.5 [0.77] | 14.0 [0.55] | 12.0 [0.47] | M8x1.25  |
| <a href="#">HMA-25M</a>  | 26.5 [1.04] | 17.5 [0.69] | 17.0 [0.67] | M10x1.25 |
| <a href="#">HMA-32M</a>  | 31.5 [1.24] | 21.5 [0.85] | 19.0 [0.75] | M14x1.5  |
| <a href="#">HMA-40M</a>  | 31.5 [1.24] | 21.5 [0.85] | 19.0 [0.75] | M14x1.5  |
| <a href="#">HMA-50M</a>  | 36.5 [1.44] | 25.5 [1.00] | 27.0 [1.06] | M18x1.5  |
| <a href="#">HMA-63M</a>  | 36.5 [1.44] | 25.5 [1.00] | 27.0 [1.06] | M18x1.5  |
| <a href="#">HMA-80M</a>  | 49.5 [1.95] | 33.5 [1.32] | 32.0 [1.26] | M22x1.5  |
| <a href="#">HMA-100M</a> | 51.5 [2.03] | 31.5 [1.24] | 36.0 [1.42] | M26x1.5  |

## Dimensions

mm [inches]



HMA-12M - HMA-100M

See our website [www.AutomationDirect.com](http://www.AutomationDirect.com) for complete Engineering drawings.



# H-Series Pneumatic Cylinder Accessories

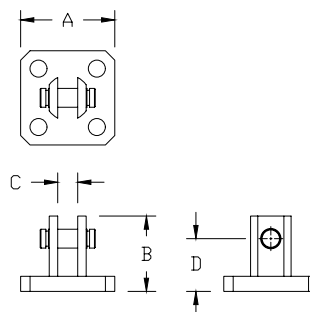
## Female Rear Clevis

Part no. HFC-20MPart no. HFC-32M

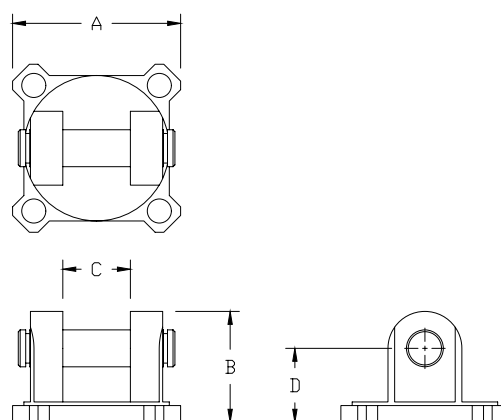
comes with Pivot Pin installed. Mount-  
ware Included.

## Dimensions

mm [inches]



HFC-12M - HFC-25M



HFC-32M - HFC-100M

| Female Rear Clevis Dimension Table |              |             |             |             |
|------------------------------------|--------------|-------------|-------------|-------------|
| Part #                             | A            | B           | C           | D           |
| <u>HFC-12M</u>                     | 25.0 [0.98]  | 20.0 [0.79] | 5.3 [0.21]  | 14.0 [0.55] |
| <u>HFC-16M</u>                     | 29.0 [1.14]  | 21.0 [0.83] | 6.8 [0.27]  | 15.0 [0.59] |
| <u>HFC-20M</u>                     | 36.0 [1.42]  | 27.0 [1.06] | 8.3 [0.33]  | 18.0 [0.71] |
| <u>HFC-25M</u>                     | 40.0 [1.57]  | 30.0 [1.18] | 10.3 [0.41] | 20.0 [0.79] |
| <u>HFC-32M</u>                     | 45.5 [1.79]  | 30.0 [1.18] | 18.3 [0.72] | 20.0 [0.79] |
| <u>HFC-40M</u>                     | 53.5 [2.11]  | 32.0 [1.26] | 18.3 [0.72] | 22.0 [0.87] |
| <u>HFC-50M</u>                     | 64.5 [2.54]  | 42.0 [1.65] | 22.3 [0.88] | 28.0 [1.10] |
| <u>HFC-63M</u>                     | 77.5 [3.05]  | 44.0 [1.73] | 22.3 [0.88] | 30.0 [1.18] |
| <u>HFC-80M</u>                     | 98.5 [3.88]  | 56.0 [2.20] | 28.3 [1.11] | 38.0 [1.50] |
| <u>HFC-100M</u>                    | 117.5 [4.63] | 67.0 [2.64] | 32.3 [1.27] | 45.0 [1.77] |

See our website [www.AutomationDirect.com](http://www.AutomationDirect.com) for complete Engineering drawings.



# CPS Series Cylinder Position Switches

## Position Switch Cross Reference Chart

| NITRA Switch Type   | Cylinder Brand (may fit some of these cylinders)                                       | Photo Example | Groove Illustration |  |
|---------------------|----------------------------------------------------------------------------------------|---------------|---------------------|--|
| <b>CPS<br/>CPSF</b> | NITRA A-Series<br>NITRA D-Series<br>NITRA F-Series                                     |               |                     |  |
| <b>CPS9C</b>        | DE-STA-CO<br>Robohand<br>SMC<br>Compact Air<br>Bimba<br>Fabco                          |               |                     |  |
| <b>CPS9D</b>        | NITRA L-Series<br>Fabco<br>Numatics<br>Rotomation                                      |               |                     |  |
| <b>CPS9E</b>        | NITRA L-Series<br>Fabco<br>Numatics<br>Rotomation                                      |               |                     |  |
| <b>CPS9F</b>        | NITRA G-Series<br>Fabco<br>Festo<br>Numatics<br>Rotomation                             |               |                     |  |
| <b>CPS9H</b>        | NITRA E-Series<br>NITRA H-Series                                                       |               |                     |  |
| <b>CPS9M</b>        | Norgren                                                                                |               |                     |  |
| <b>CPS9Q</b>        | NITRA L-Series<br>NITRA G-Series<br>Parker<br>Fabco<br>Festo<br>Numatics<br>Rotomation |               |                     |  |