

# Nitrogen Gas Spring Hose System Components



- Control Panels
- TNKMAN® Distribution Blocks
- Compression Tanks
- Hose Systems with Hoses, Fittings and Adapters
  - Micro EO24™ Hose and Tube System
  - EZ-Hose System
  - EO24-Hose System
  - JIC Hose System
  - O-Ring Face Seal Hose System
- Pressure Monitors
- Tools

**HYSON**





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**7200 Interstate 20 Kennedale TX, 76060**





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# Introduction

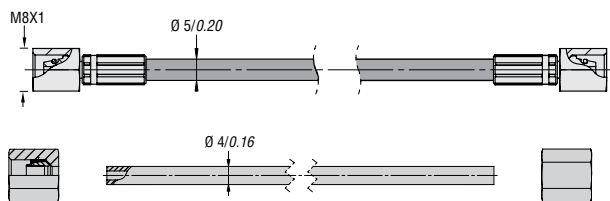


Connecting nitrogen gas springs via hose or tube offers the distinct advantage of being able to monitor and adjust pressure as well as charge and discharge the springs from outside the die. Hyson Products offers four separate systems for connecting gas springs including JIC/O-Ring Face Seals, EZ-Hose (CNOMO), EO24-Hose and Micro EO24™ Hose and Tube\*.

We have selected hoses, adapters and other components because they comply with the highest standards. All have undergone rigorous testing including endurance tests, static leakage tests and performance tests.

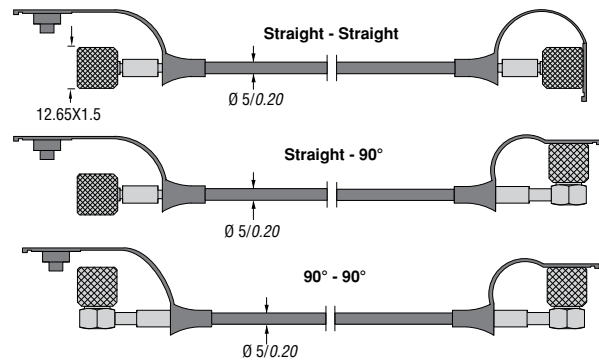
\* The Micro EO24™ Hose and Tube System replaces the Micro EZ-Hose which is being phased out in 2010. Please contact your Hyson Regional Sales Manager or Customer Service Department for more information.

## Micro EO24™



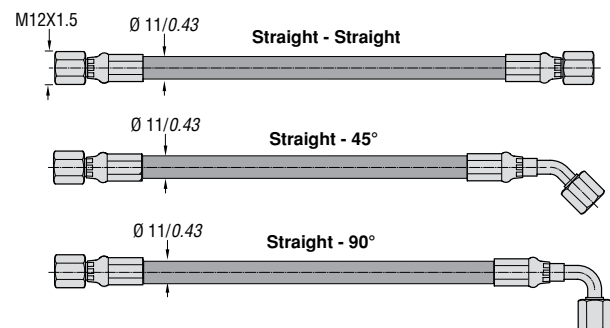
A combined system of hose and tube, the Micro EO24 is the most compact we offer. It features a dual seal system and is specially designed to allow gas springs with M6 charge ports to be connected to each other. The Micro EO24 can also be used for G 1/8" and G 1/4" charge ports via an adapter.

## EZ



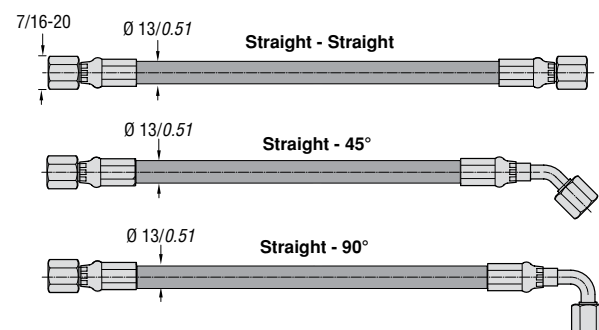
The EZ Hose system is useful for components with adapters with O-ring face seals that allow hoses to be attached easily, using only finger strength.

## EO24



The EO24 Hose system is used mainly for larger gas springs with G 1/8" ports or if compression tanks are used. This system is recommended when high gas flow is required such as with the CS2 Series of controllable gas springs.

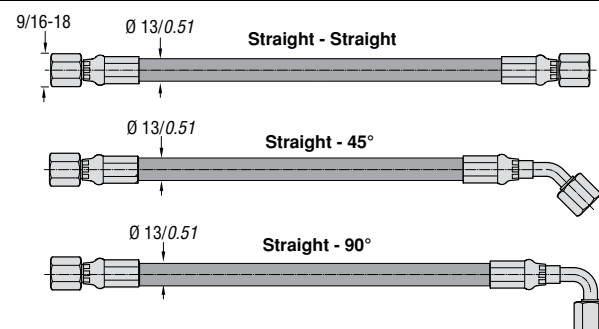
## JIC



The JIC system is used in standard applications. For high vibration applications, use the O-Ring Face Seal system.

## O-Ring Face Seals

The O-Ring Face Seal system meets ISO standards and is used for high vibration applications. For standard applications, use the JIC system.





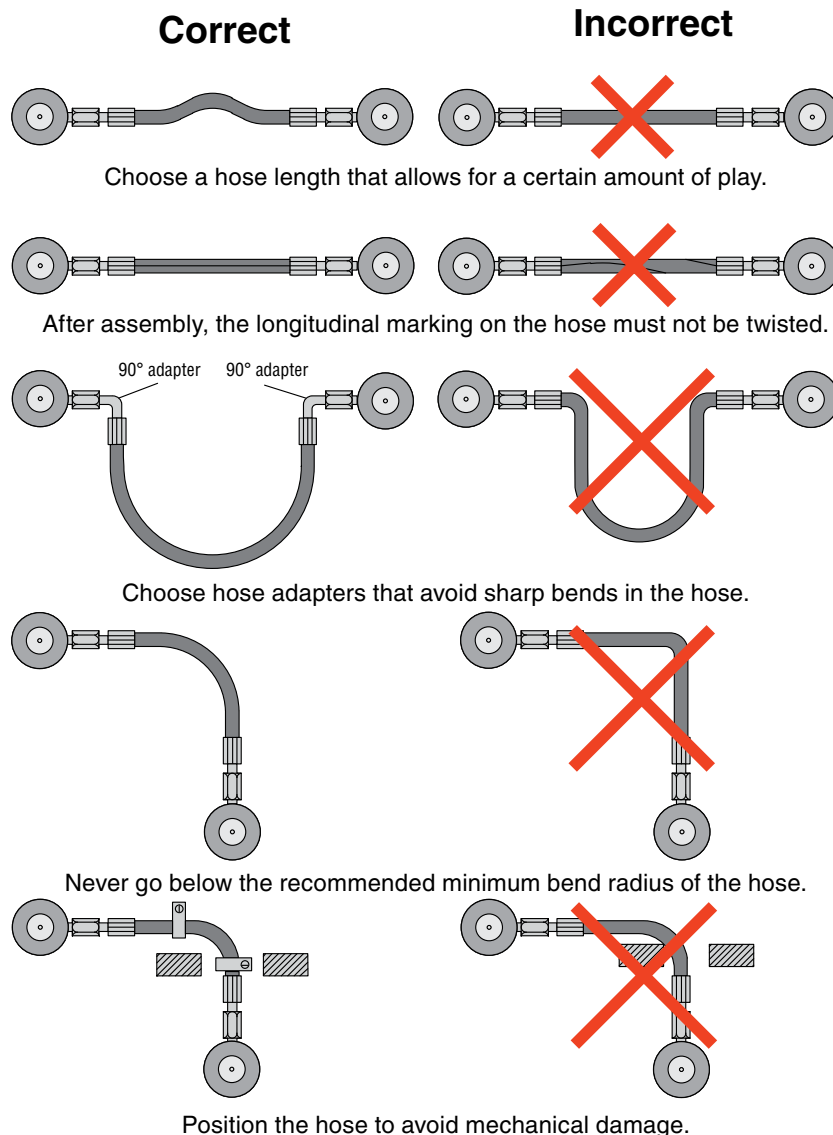
## Safety Guidelines

For safety and optimum performance life:

- Before connecting gas springs to a hosed system, remove the inlet valve from each spring.
- Position the control valve in the tool where it will be protected from mechanical damage, and on a higher level than the gas springs to minimize loss of lubrication oil when discharging the gas.
- Use only nitrogen (N<sub>2</sub>) gas. The use of other types of gas can result in personal injury or failure of the gas spring/control panel.
- Never exceed the maximum charging pressure marked on the gas spring. For most standard gas springs, the maximum charging pressure is 150 bar/2175 psi.
- All valves on the control panel should be closed during operation.
- All gas springs that are hosed together should be of the same size and model.
- We do not recommend hosing gas springs mounted using FC or FSC flanges as there is a risk that the gas spring will rotate while in operation.
- Do not use control panels fitted with rupture disks for gas springs with a maximum charging pressure of 180 bar/2610 psi.

### Hose Installation Guidelines

Note: Never exceed the maximum values given for pressure and temperature for the hoses. Make sure that hoses and adapters are clean before assembling.



# Control Panels



We offer a variety of control panels, each of which contains all the necessary components for charging, exhausting and reading pressure in the system.

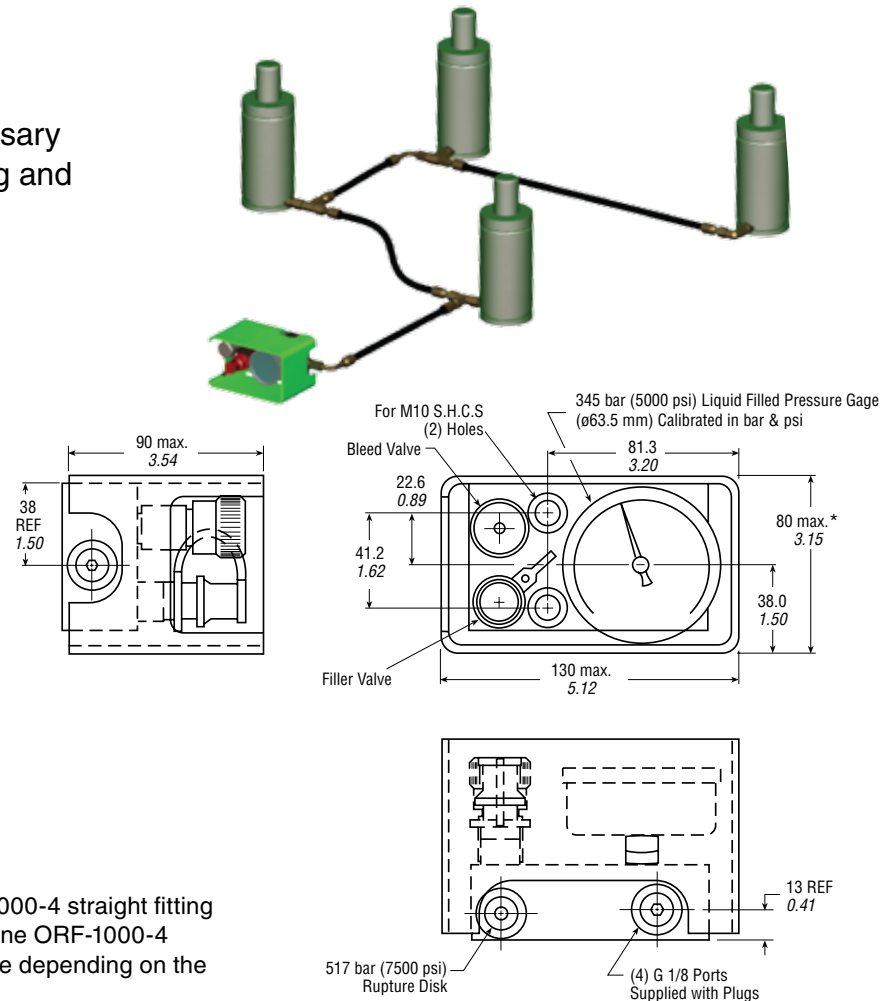


## CP-N2 LG

Part No. CP-N2 LG

Part No. CP-N2 LG OR

The CP-N2 LG control panel includes one NF-1000-4 straight fitting while the CP-N2 LG OR comes complete with one ORF-1000-4 straight fitting. Other configurations are available depending on the hose system you are using.



\*Includes clearance for button head cap screws.

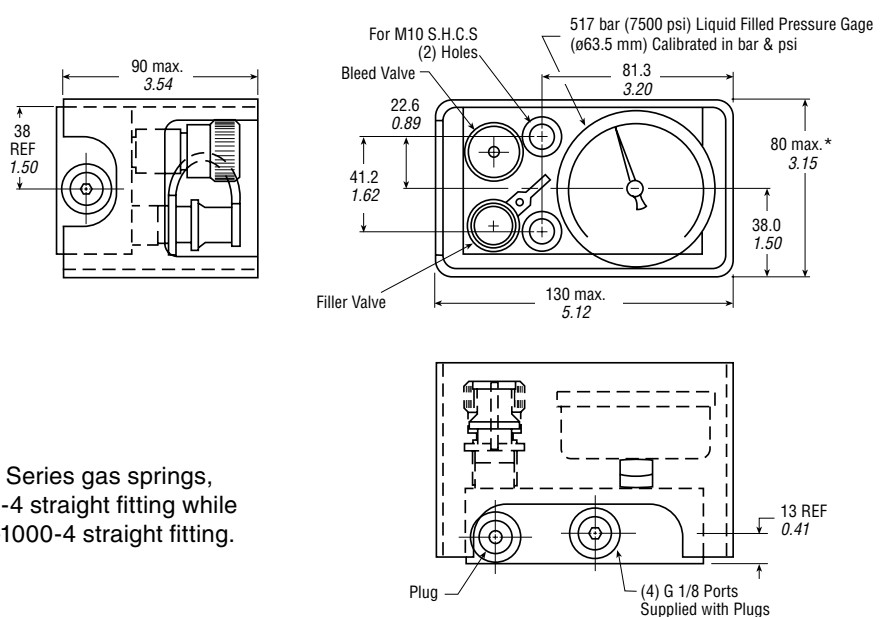


## CP-XM

Part No. CP-XM

Part No. CP-XM OR

Designed for hosing high performance Tanker® Series gas springs, the CP-XM control panel includes one NF-1000-4 straight fitting while the CP-XM OR comes complete with one ORF-1000-4 straight fitting.



\*Includes clearance for button head cap screws.







## Control Panels



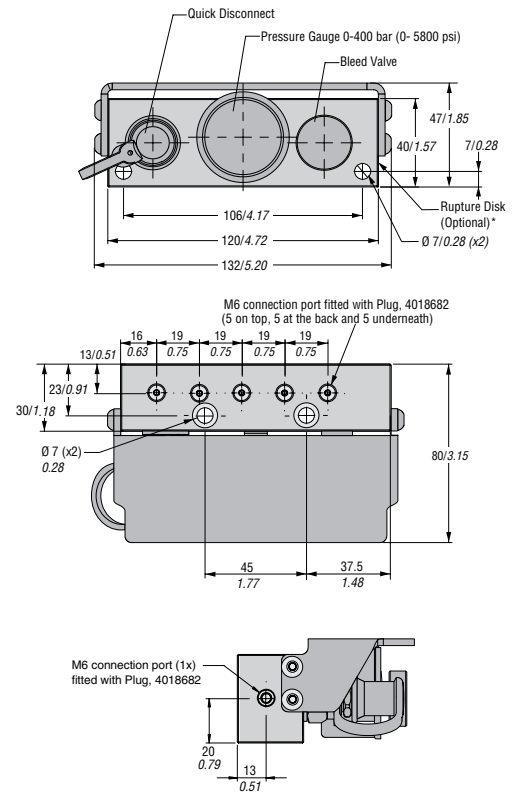
### Micro EO24™

Part No: 3023888 without rupture disk

Part No. 3123888 with rupture disk\*

The Micro EO24 control panel is designed specifically for the Micro EO24 hose and tube system. This very compact control panel is fitted with a pressure gauge that reads to 417 bar/5800 psi, and contains 16 M6 connection ports.

\*Rupture disks are not recommended for use where the initial charging pressure exceeds 150 bar/2175 psi

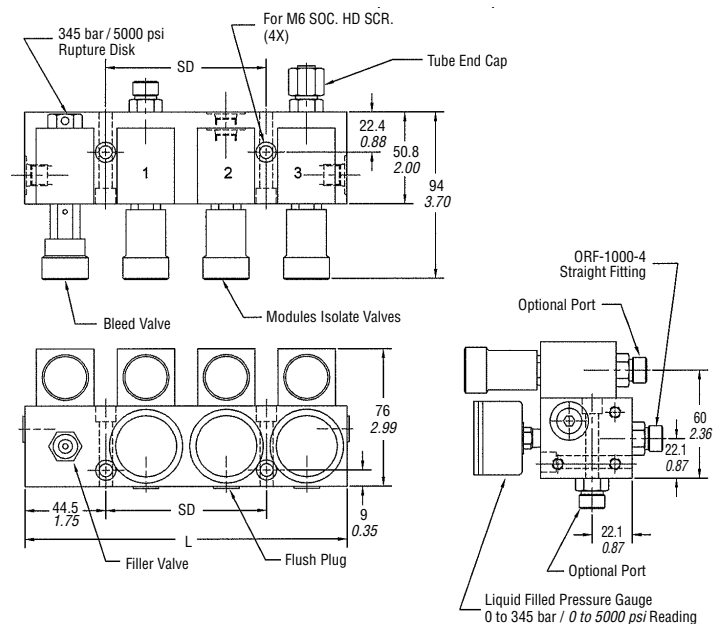


### MODCP

The modular control panel conveniently controls individual gas springs or banks of gas springs from one central unit. Each module can charge pressure, read pressure, or bleed off pressure as if each gas spring had its own control panel.

#### Features

- Simple operation: each module has a 2-position valve that opens to bleed and closes to isolate the modules.
- Piping flexibility: each module has three port locations.
- Easy monitoring: each 345 bar/5000 psi gauge is easy to read.
- Complete package: each module includes a straight service fitting and tube end caps for unused ports.
- Mounting: flush mount either horizontally or vertically.
- Bottom guard: protects modules during use.



#### MODCP Dimensional Information

| Hyson Part No. | No. of Modules | L     |       | SD    |      |
|----------------|----------------|-------|-------|-------|------|
|                |                | mm    | in.   | mm    | in.  |
| MODCP-2        | 2              | 133.5 | 5.26  | 44.5  | 1.75 |
| MODCP-3        | 3              | 178.0 | 7.01  | 89.0  | 3.50 |
| MODCP-4        | 4              | 222.5 | 8.76  | 133.5 | 5.26 |
| MODCP-5        | 5              | 267.0 | 10.51 | 178.0 | 7.01 |
| MODCP-6        | 6              | 311.5 | 12.26 | 222.5 | 8.76 |

Note: Other sizes available on request.

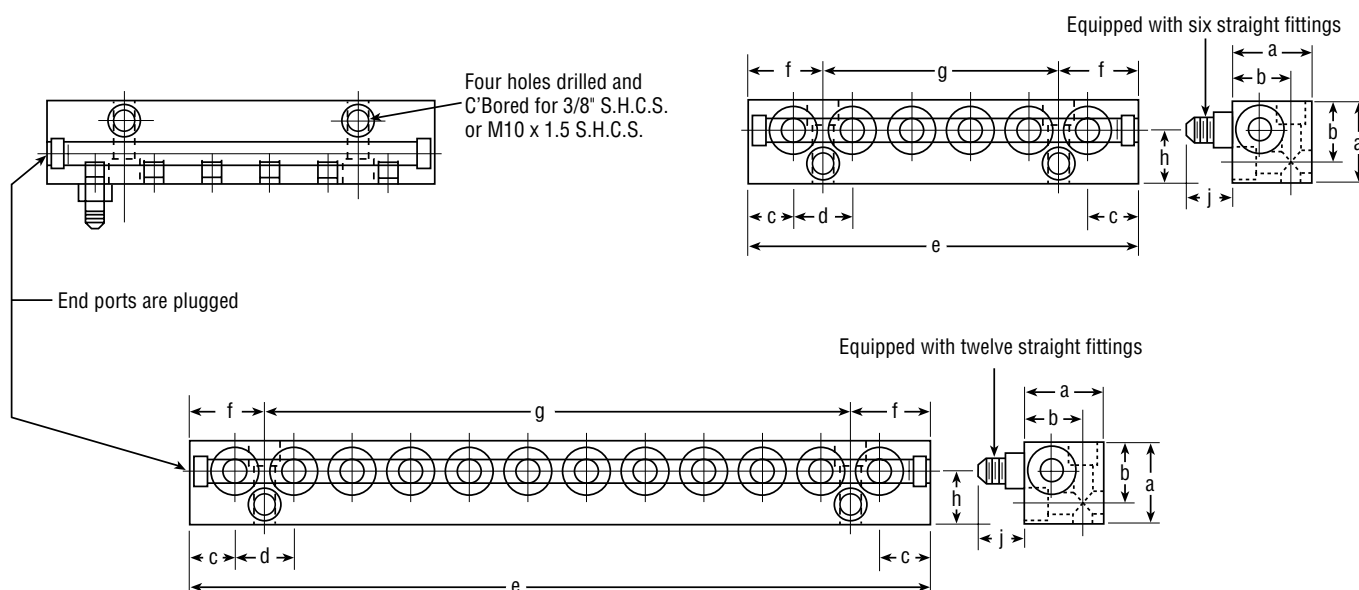
# Distribution Blocks



The TNKMAN® distribution block provides an alternative to hosing self-contained gas springs to each other. It eliminates as many fittings as possible, including all elbow and tee fittings, often sources of leaks.

## Features

- Gas springs can be connected outside the die.
- Two end ports can be used for additional gas springs or connection of a control panel and/or pressure monitor.
- Complete set of plugs included for ports not in use.
- Complete set of straight fittings included. JIC fittings standard.



| TNKMAN Dimensional Information |    |      |      |      |      |       |      |       |      |      |
|--------------------------------|----|------|------|------|------|-------|------|-------|------|------|
| Hyson Part Number              |    | a    | b    | c    | d    | e     | f    | g     | h    | j    |
| TNKMAN-6                       | mm | 38   | 29   | 22   | 29   | 187   | 37   | 114   | 25   | 22   |
|                                | in | 1.50 | 1.14 | 0.87 | 1.14 | 7.36  | 1.46 | 4.49  | 0.98 | 0.87 |
| TNKMAN-12                      | mm | 38   | 29   | 22   | 29   | 359   | 37   | 286   | 25   | 22   |
|                                | in | 1.50 | 1.14 | 0.87 | 1.14 | 14.13 | 1.46 | 11.26 | 0.98 | 0.87 |
| TNKMAN-6 OR                    | mm | 38   | 29   | 22   | 29   | 187   | 37   | 114   | 25   | 18   |
|                                | in | 1.50 | 1.14 | 0.87 | 1.14 | 7.36  | 1.46 | 4.49  | 0.98 | 0.71 |
| TNKMAN-12 OR                   | mm | 38   | 29   | 22   | 29   | 359   | 37   | 286   | 25   | 18   |
|                                | in | 1.50 | 1.14 | 0.87 | 1.14 | 14.13 | 1.46 | 11.26 | 0.98 | 0.71 |

**Note:** These models feature 7/16-20 thread ports. G 1/8 EO and G 1/8 OR TNKMAN models available on request.





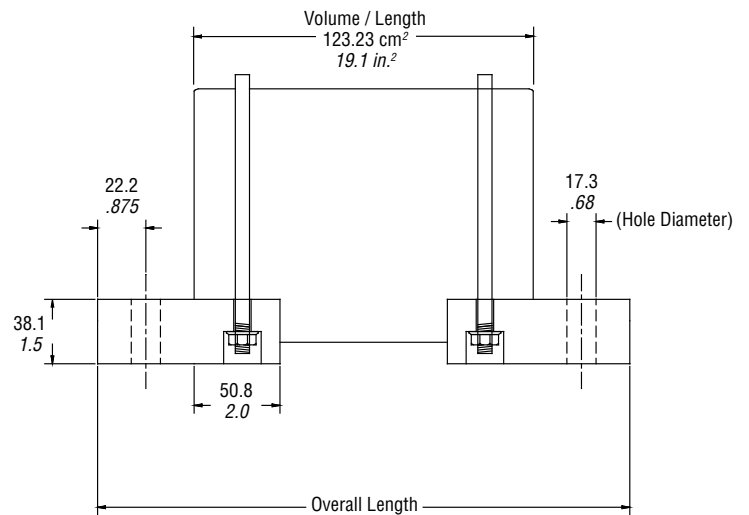
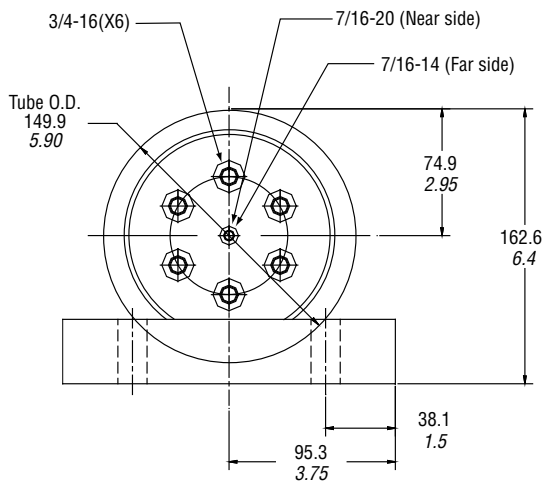


## Compression Tank

The ST compression tank is designed to increase the volume and lower the pressure rise in a gas spring system. Its compact, modular design makes it less costly than conventional welded tanks.

### Features

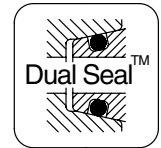
- Engineered for 150 bar/2175 psi maximum pressure.
- Less heat build-up for long gas spring life.
- Rupture disk plug for added safety.
- Multiple ports on each end for increased flexibility.



### ST Compression Tank Dimensional Information

| Hyson Part Number | Standard Volume |                  | Standard Overall Length |       | Number of Ports on Each Face                      |
|-------------------|-----------------|------------------|-------------------------|-------|---------------------------------------------------|
|                   | cm <sup>3</sup> | in. <sup>3</sup> | mm                      | in.   |                                                   |
| ST-50-HP          | 819             | 50               | 244                     | 9.61  | 6 each 3/4-16<br>1 face 7/16-20<br>1 face 7/16-14 |
| ST-100-HP         | 1639            | 100              | 311                     | 12.23 |                                                   |
| ST-160-HP         | 2622            | 160              | 390                     | 15.36 |                                                   |
| ST-200-HP         | 3278            | 200              | 443                     | 17.46 |                                                   |
| ST-320-HP         | 5244            | 320              | 603                     | 23.73 |                                                   |
| ST-460-HP         | 7540            | 460              | 789                     | 31.06 |                                                   |
| ST-730-HP         | 11963           | 730              | 1149                    | 45.25 |                                                   |

# Micro EO24™ Hose and Tube System



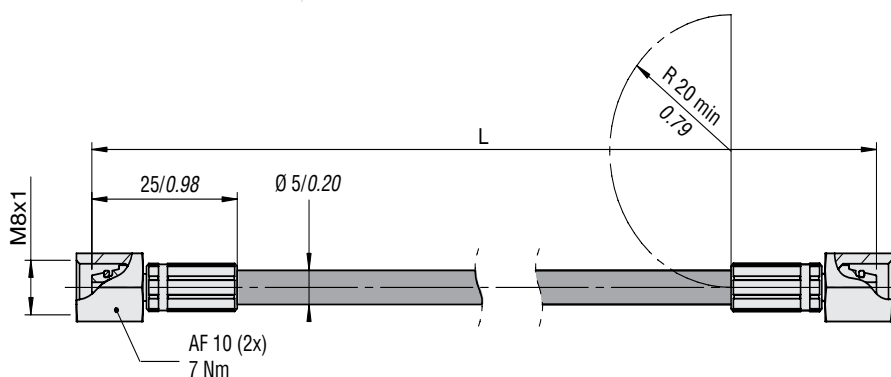
## Micro EO24 Hose

The Micro EO24 hose features a Dual Seal System to ensure double leak-proof joints as well as rotational protection. It shares the same fittings and adapters with the Micro EO24 tube for a wide range of application options. In addition, G 1/8" and G 1/4" ports can be connected to the Micro EO24 using an appropriate adapter. A wide range of standard lengths is available with custom lengths from 100mm up.

OD ..... 5mm/0.20 in.  
 ID ..... Ø2mm/0.079 in  
 Max. Working Pressure ..... 475 bar/6888 psi  
 Min. Burst Pressure ..... 1900 bar/27550 psi  
 Min. Bend Radius ..... 20mm/0.79 in.  
 Min. Crimped Hose Length ..... 100mm/3.94 in. (total length with sleeves)

| Hyson Part No. | L (mm) |
|----------------|--------|
| 4023500-0100   | 100    |
| 4023500-0200   | 200    |
| 4023500-0300   | 300    |
| 4023500-0400   | 400    |
| 4023500-0630   | 630    |
| 4023500-0800   | 800    |
| 4023500-1000   | 1000   |
| 4023500-1500   | 1500   |
| 4023500-2000   | 2000   |
| 4023500-XXXX   | XXXX*  |

\*Customer specified lengths.



## Micro/EZ-Hose clip

Part No. 502646

(Can be used to secure hoses using an M5 screw)





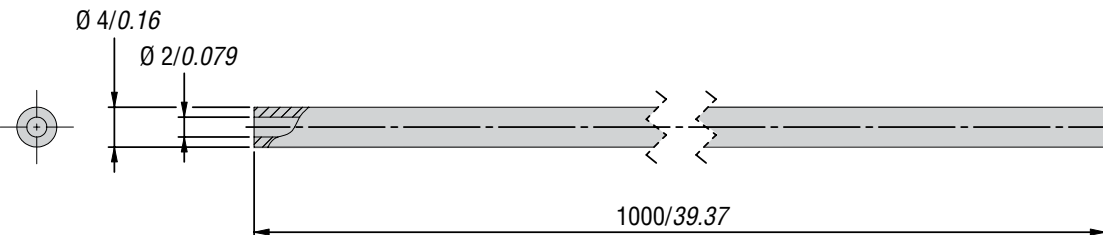
# Micro EO24™ Hose and Tube System

## Micro EO24 Tube

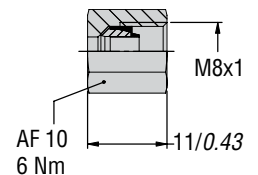
The Micro EO24 tube features soft sealed and self-crimping connections to ensure leak-proof tube joints. Easily cut into correct lengths, the tube can be bent into the desired shape using a tube bending tool or even by hand.

**Tube** (available in one meter lengths)

Part No. 504594



OD ..... 4mm/0.16 in.  
ID ..... 2mm/0.079 in.  
Max. Working Pressure..... 430 bar/6235 psi  
Min. Burst Pressure..... 1100 bar/15950 psi  
Min. Bend Radius..... 12mm/0.47 in.  
Min. Tube Length..... 30mm/1.18 in.



**Clamp Nut**  
Part No. 504589

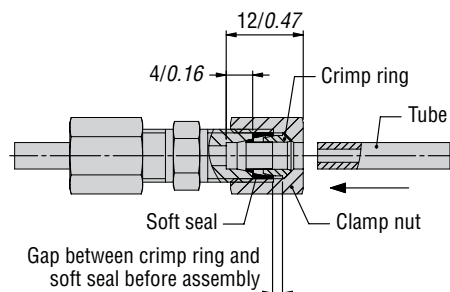
## Using the Micro EO24 Tube

The cutting angle is  $90^\circ \pm 1^\circ$ . A hacksaw can be used to cut the tube. If a regular tube cutter or cutting pliers are used, the tube can become clogged limiting gas flow. Deburr the tube inside and out (max.  $0.3 \times 45^\circ$  alt. R0.3) using the tube deburring tool. After cutting and deburring, clean the tube. Use compressed air to remove all loose particles.

Fit the clamp nut onto the adapter. **Note: Do not tighten.** Run the tube through the nut until it stops (~12mm from the top surface of the nut). When tightening the nut, use a torque of 7 Nm. Tools to have available are a hacksaw, tube cutting fixture, tube bending tool, deburring tool, compressed air and torque wrench.



**Tube Deburring Tool**  
Part No. 505096

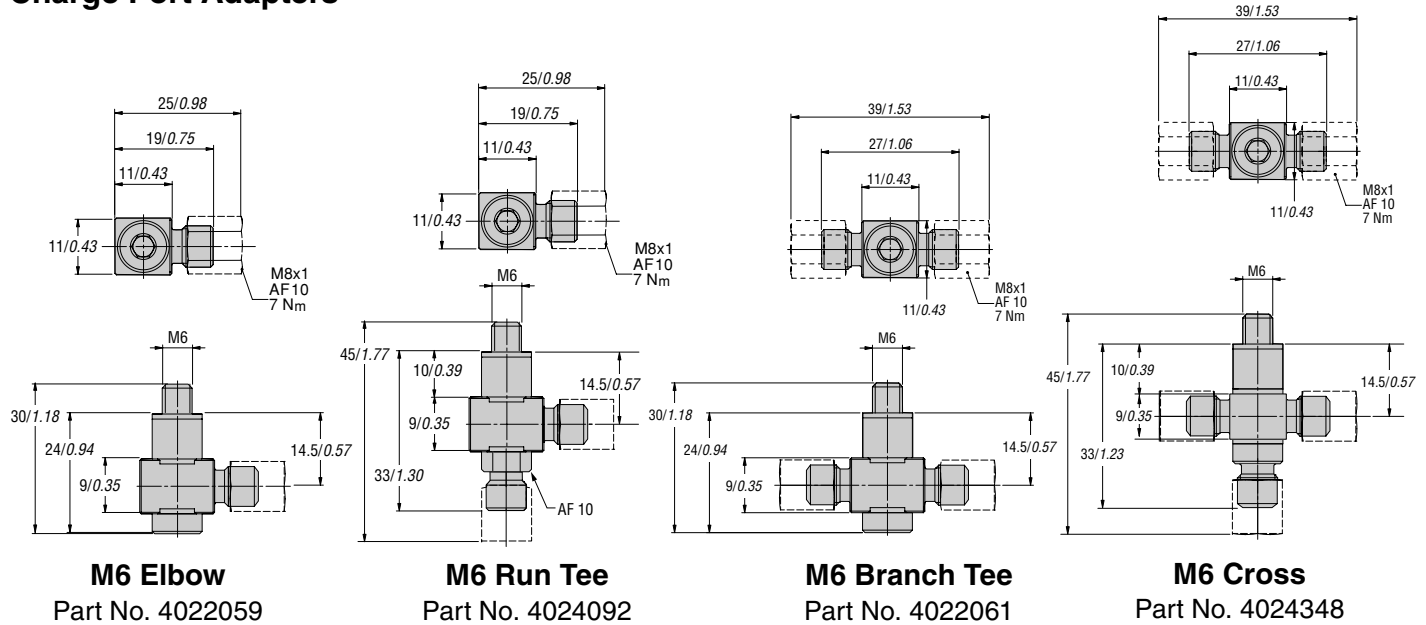


**Tube Bending Tool** (Bend radius 20mm)  
Part No. 504711

# Micro E024™ Hose and Tube System

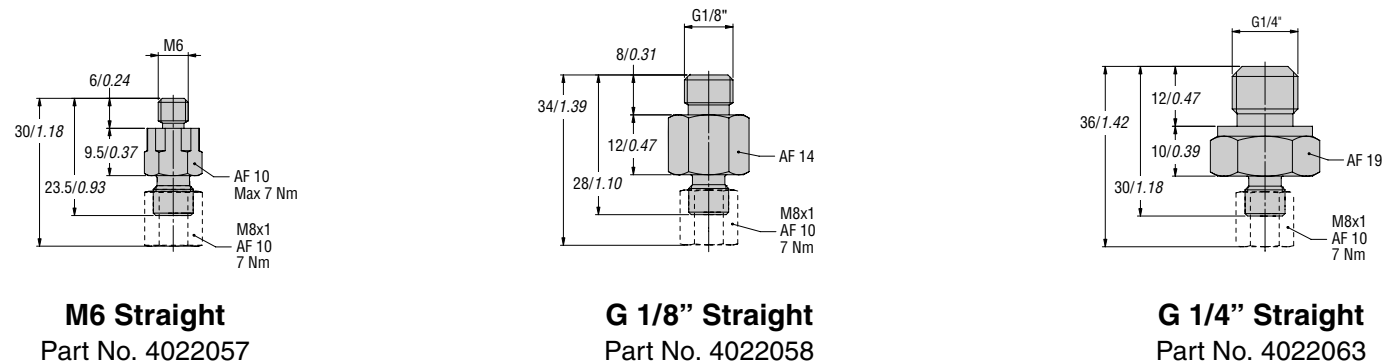


## Charge Port Adapters

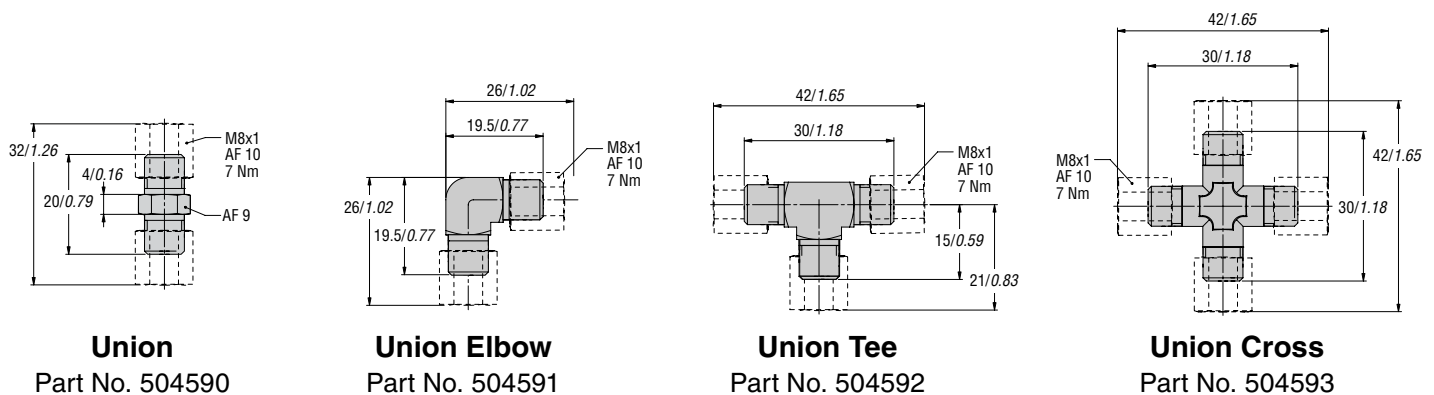


**Note:** When using tubes, order Clamp Nut separately.

**Note:** To use these two adapters with G 1/8" charge ports, use adapter G 1/8" to M6, Part No. 503764. See page 13.



## Hose to Hose, Tube to Tube, Hose to Tube Connectors



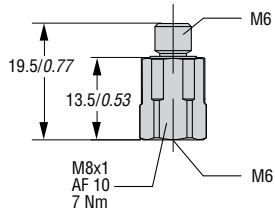
**NOTE:** All dimensions are nominal. Data shown are typical. Actual data for any particular unit may vary.





# Micro EO24™ Hose and Tube System

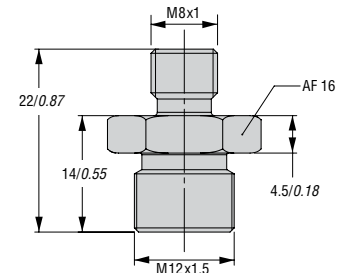
## M6 Charge Port to Micro EO24 Hose and Tube Adapter



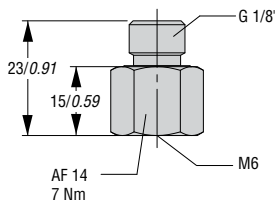
**M6 to M6**  
Part No. 503762  
Extension for gas springs  
using foot mounts.

## Adapter for Micro EO24 M12 Hose

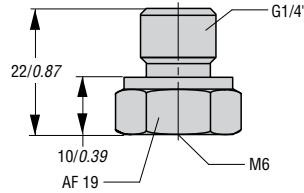
Part No. 4024351



## Adapters for G 1/8" and G 1/4" Connection Ports



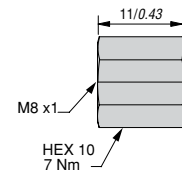
**G 1/8" to M6**  
Part No. 503764



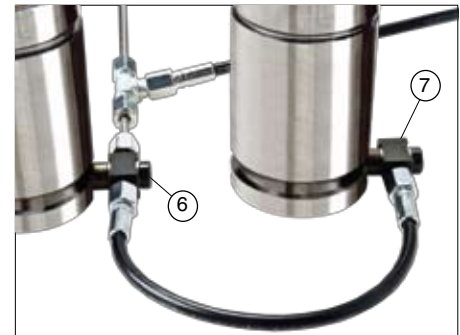
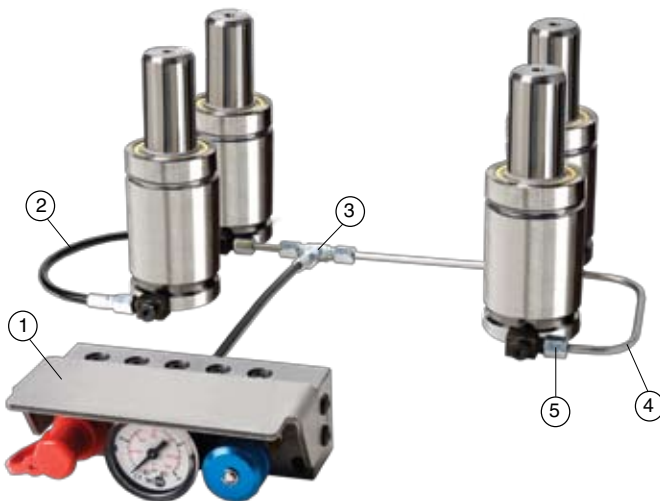
**G 1/4" to M6**  
Part No. 503966

## End Cap for Micro EO24

Part No. 4024353



## Micro EO24 Hose and Tube Example



### Ordering Information

| Position | Quantity | Description              | Part No.     |
|----------|----------|--------------------------|--------------|
| 1        | 1        | Micro EO24 Control Panel | 3023888      |
| 2        | 2        | Micro EO24 Hose          | 4023500-XXXX |
| 3        | 1        | Union Tee                | 504592       |
| 4        | 1        | Micro EO24 Tube          | 504594       |
| 5        | 6        | Clamp Nut                | 504589       |
| 6        | 1        | M6 Tee                   | 4022061      |
| 7        | 2        | M6 Elbow                 | 4022059      |



# EZ-Hose System



A very compact and versatile O-ring sealed system that allows connections to be tightened by hand. In addition, G 1/8" and G 1/4" ports can be connected to the EZ-Hose System using an appropriate adapter. Not for use with compression tanks. A wide range of standard lengths is available with custom lengths from 150mm up.

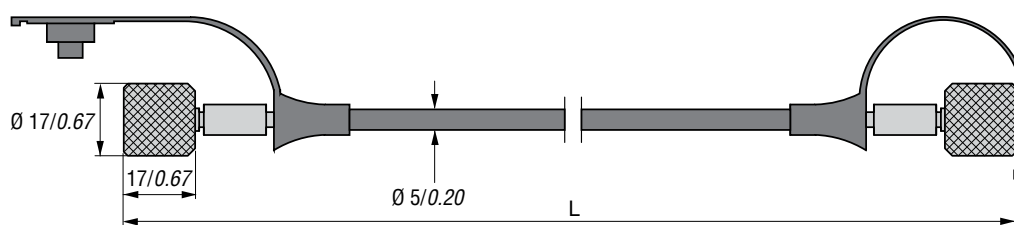
OD ..... 5mm/0.20 in.  
 ID ..... Ø2mm/0.079 in.  
 Max. Working Pressure ..... 500 bar/7250 psi  
 Min. Burst Pressure ..... 2000 bar/29000 psi  
 Min. Bend Radius ..... 20mm/0.79 in.  
 Min. Crimped Hose Length ..... 150mm/5.91 in. (total length with sleeves)



**EZ-Hose Clip**  
 Part No. 502646  
 Secure hoses using an M5 screw.

## Straight-Straight

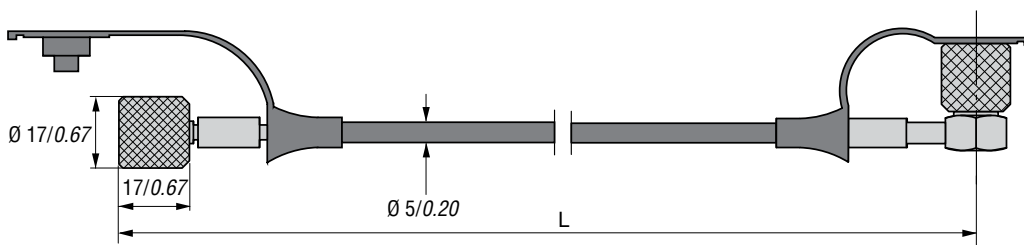
Part No. 4014974-XXXX



| Hyson Part No. | L (mm) |
|----------------|--------|
| 4014974-0200   | 200    |
| 4014974-0300   | 300    |
| 4014974-0400   | 400    |
| 4014974-0630   | 630    |
| 4014974-0800   | 800    |
| 4014974-1000   | 1000   |
| 4014974-1500   | 1500   |
| 4014974-2000   | 2000   |
| 4014974-XXXX   | XXXX*  |

## Straight-90°

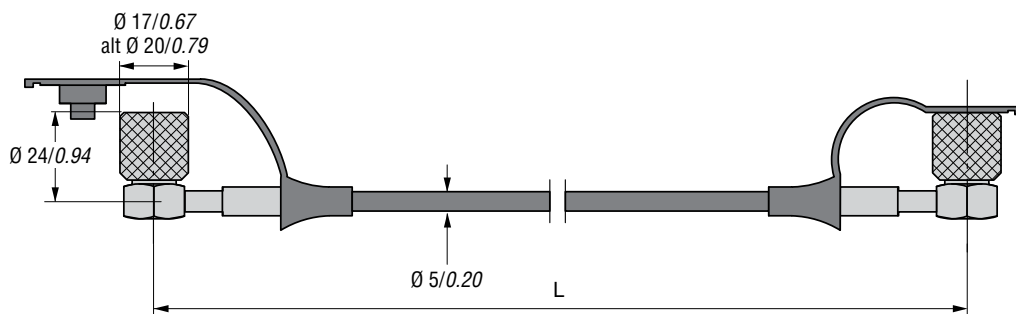
Part No. 4017568-XXXX



| Hyson Part No. | L (mm) |
|----------------|--------|
| 4017568-0200   | 200    |
| 4017568-0300   | 300    |
| 4017568-0400   | 400    |
| 4017568-0630   | 630    |
| 4017568-0800   | 800    |
| 4017568-1000   | 1000   |
| 4017568-1500   | 1500   |
| 4017568-2000   | 2000   |
| 4017568-XXXX   | XXXX*  |

## 90°-90°

Part No. 4117568-XXXX



| Hyson Part No. | L (mm) |
|----------------|--------|
| 4117568-0200   | 200    |
| 4117568-0300   | 300    |
| 4117568-0400   | 400    |
| 4117568-0630   | 630    |
| 4117568-0800   | 800    |
| 4117568-1000   | 1000   |
| 4117568-1500   | 1500   |
| 4117568-2000   | 2000   |
| 4117568-XXXX   | XXXX*  |

\*Customer specified lengths.

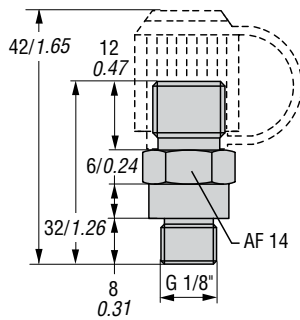




## EZ-Hose System

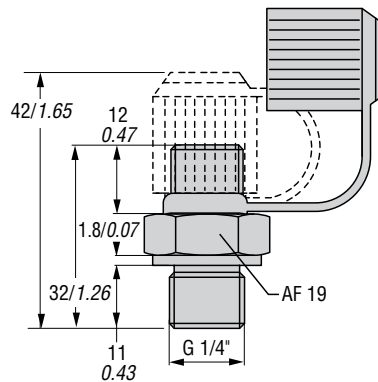
### EZ-Hose Charge Port Adapters

Hose adapters are available with three different threads: G 1/8", G 1/4", and 7/16". The G 1/4" adapter fits most control panels. The G 1/8" is available with and without a check valve. We recommend the version without the check valve for gas springs.

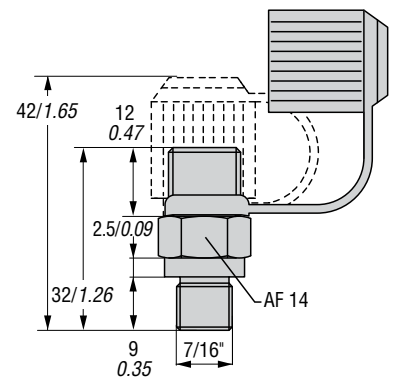


Part No. 4014973-G1/8  
(with check valve)

Part No. 4114973-G1/8  
(without check valve)

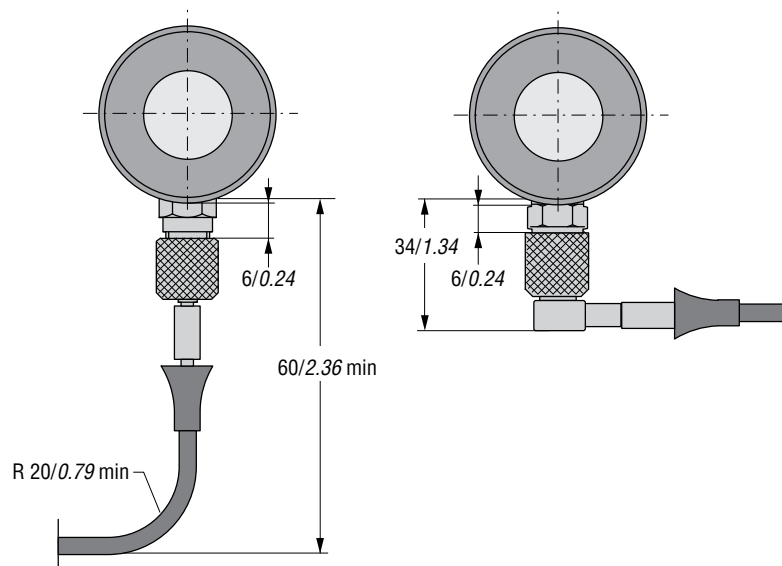


Part No. 4014973-G 1/4  
(with check valve)



Part No. 4114973-7/16  
(without check valve)

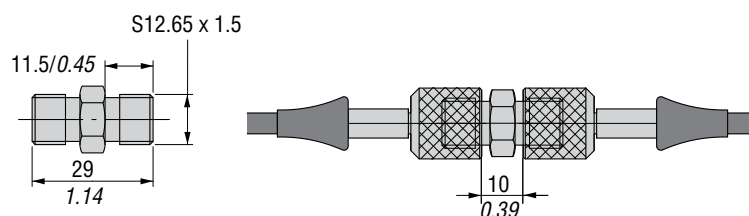
### Adapter example with straight and 90° hose



### Hose-to-Hose Connector

Union

Part No. 503674



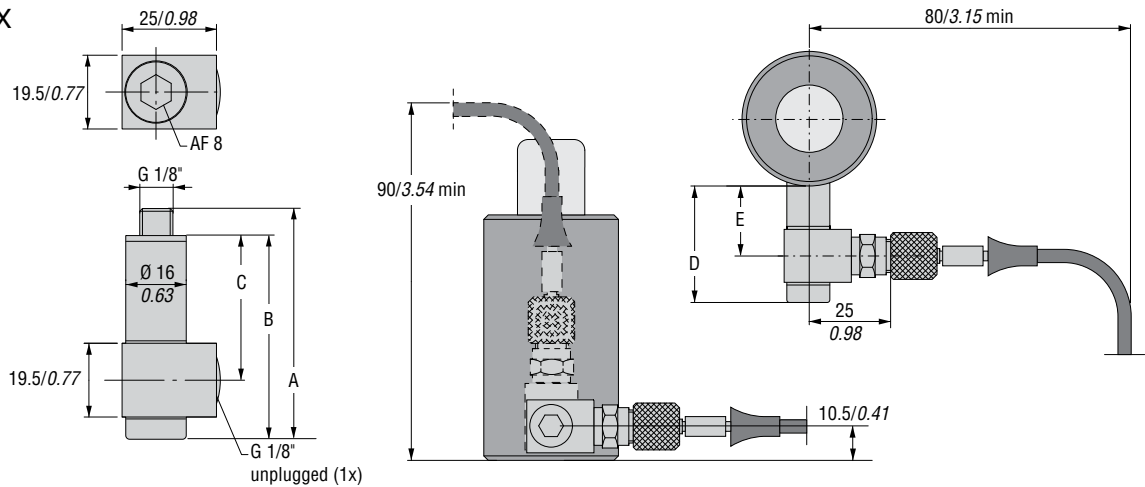
# EZ-Hose System



## EZ-Hose Adapters

### Angle Adapter

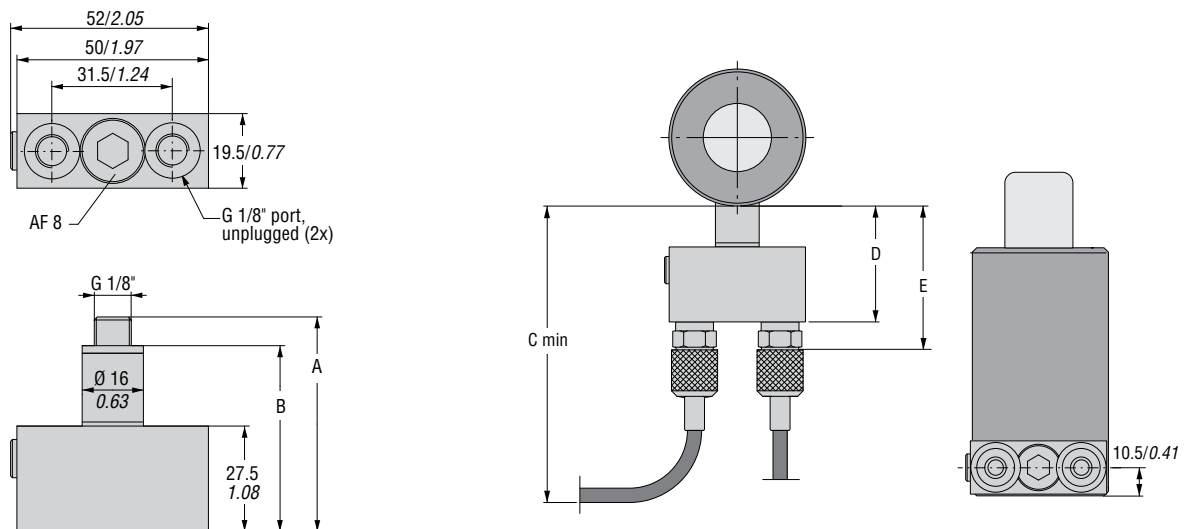
Part No. 4016050-XX



| Part No.   | A  |      | B    |      | C  |      | D    |      | E  |      | Mounts                                   |
|------------|----|------|------|------|----|------|------|------|----|------|------------------------------------------|
|            | mm | in.  | mm   | in.  | mm | in.  | mm   | in.  | mm | in.  |                                          |
| 4016050-01 | 40 | 1.57 | 32.5 | 1.28 | 17 | 0.67 | 26   | 1.02 | 11 | 0.43 | All applicable mounts except those below |
| 4016050-02 | 54 | 2.13 | 46.5 | 1.83 | 31 | 1.22 | 40.5 | 1.59 | 25 | 0.98 | FFC 500, 750, 1500 and 3000              |
| 4016050-03 | 61 | 2.40 | 53.5 | 2.11 | 38 | 1.50 | 47.5 | 1.87 | 32 | 1.26 | FFC 5000, 7500, and 10000                |

### Front Adapter

Part No. 4017314-XX



| Part No.   | A  |      | B    |      | C   |      | D    |      | E  |      | Mounts                                   |
|------------|----|------|------|------|-----|------|------|------|----|------|------------------------------------------|
|            | mm | in.  | mm   | in.  | mm  | in.  | mm   | in.  | mm | in.  |                                          |
| 4017314-01 | 42 | 1.65 | 34.5 | 1.36 | 95  | 3.74 | 28.5 | 1.12 | 40 | 1.57 | All applicable mounts except those below |
| 4017314-02 | 56 | 2.20 | 48.5 | 1.91 | 110 | 4.33 | 42.5 | 1.67 | 54 | 2.13 | FFC 500, 750, 1500 and 3000              |
| 4017314-03 | 63 | 2.48 | 56.5 | 2.19 | 115 | 4.53 | 49.5 | 1.95 | 61 | 2.40 | FFC 5000, 7500, and 10000                |

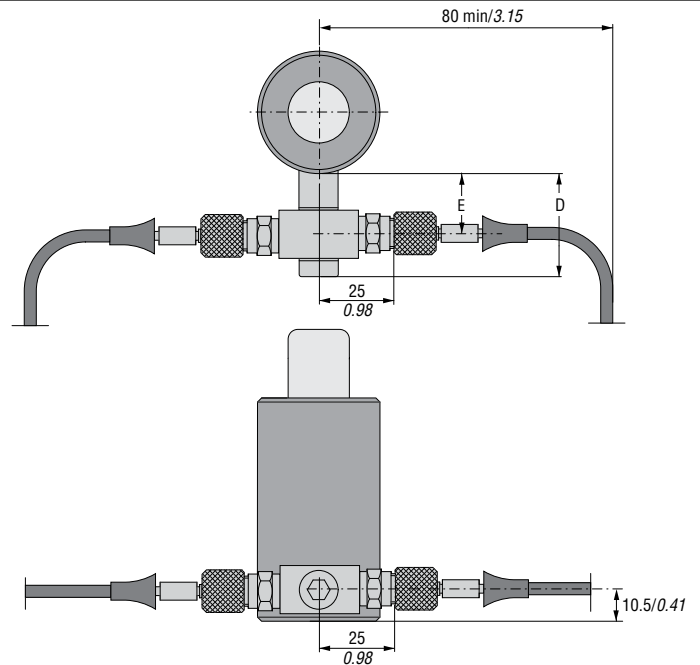
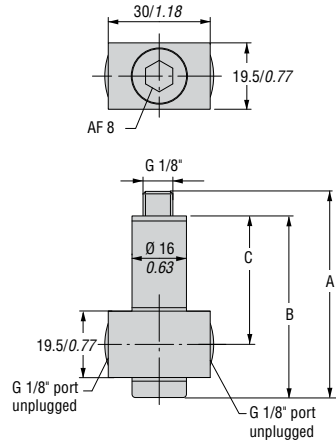




## EZ-Hose System

### Two-Way Adapter

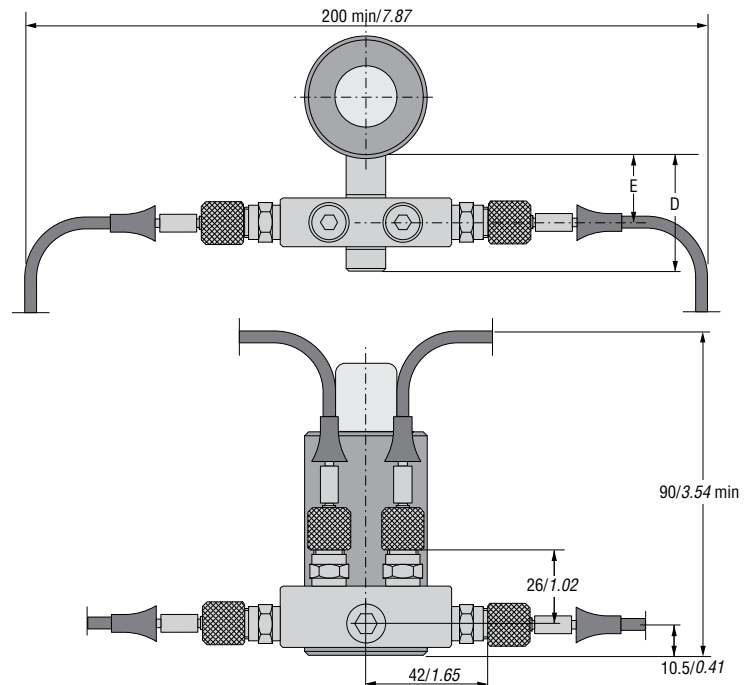
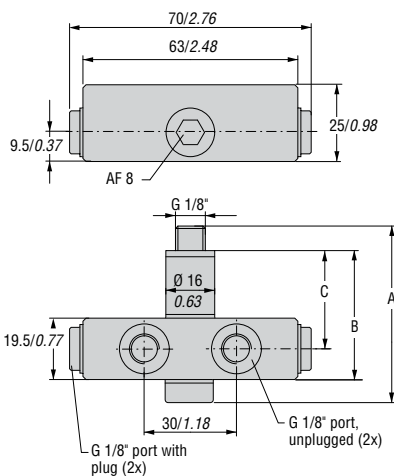
Part No. 4016051-XX



| Part No.   | A  |      | B    |      | C  |      | D    |      | E  |      | Mounts                                   |
|------------|----|------|------|------|----|------|------|------|----|------|------------------------------------------|
|            | mm | in.  | mm   | in.  | mm | in.  | mm   | in.  | mm | in.  |                                          |
| 4016051-01 | 40 | 1.57 | 32.5 | 1.28 | 17 | 0.67 | 26.5 | 1.04 | 11 | 0.43 | All applicable mounts except those below |
| 4016051-02 | 54 | 2.13 | 46.5 | 1.83 | 31 | 1.22 | 40.5 | 1.59 | 25 | 0.98 | FFC 500, 750, 1500 and 3000              |
| 4016051-03 | 61 | 2.40 | 53.5 | 2.11 | 38 | 1.50 | 47.5 | 1.87 | 32 | 1.26 | FFC 5000, 7500, and 10000                |

### Four-Way Adapter

Part No. 4015035-XX



| Part No.   | A  |      | B    |      | C  |      | D    |      | E  |      | Mounts                                   |
|------------|----|------|------|------|----|------|------|------|----|------|------------------------------------------|
|            | mm | in.  | mm   | in.  | mm | in.  | mm   | in.  | mm | in.  |                                          |
| 4015035-01 | 40 | 1.57 | 32.5 | 1.28 | 17 | 0.67 | 2.5  | 1.04 | 11 | 0.43 | All applicable mounts except those below |
| 4015035-02 | 54 | 2.13 | 46.5 | 1.83 | 31 | 1.22 | 40.5 | 1.59 | 25 | 0.98 | FFC 500, 750, 1500 and 3000              |
| 4015035-03 | 61 | 2.40 | 53.5 | 2.11 | 38 | 1.50 | 47.5 | 1.87 | 32 | 1.26 | FFC 5000, 7500, and 10000                |

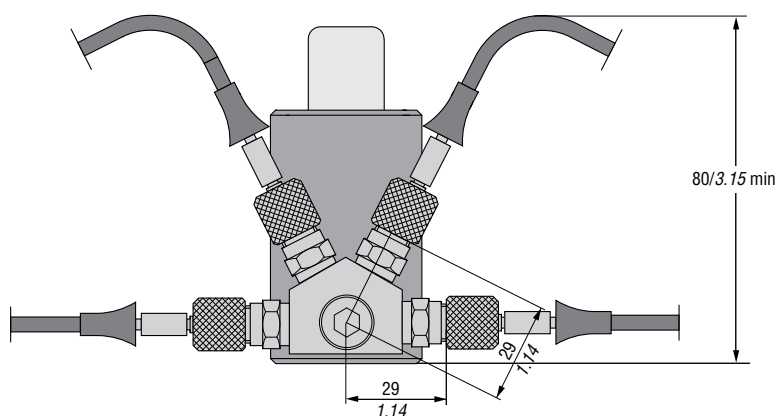
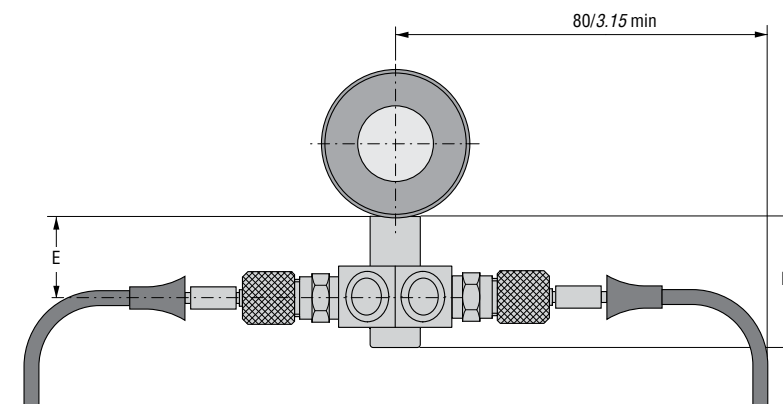
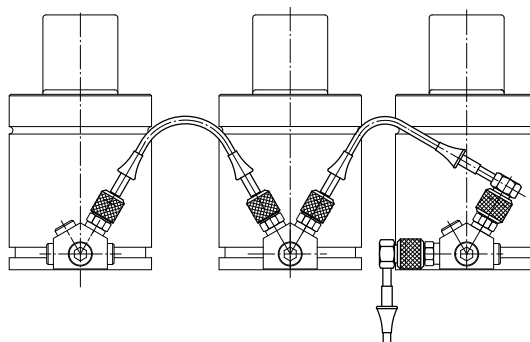
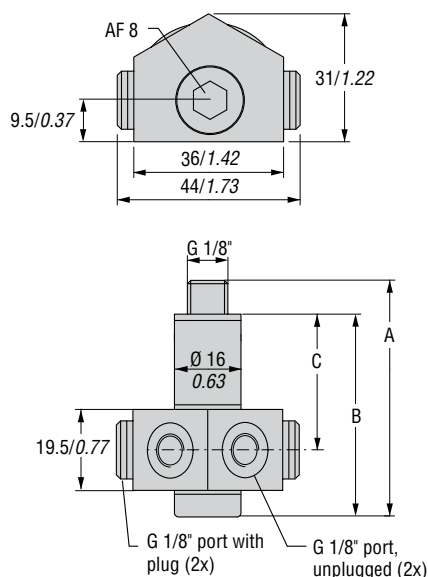
# EZ-Hose System



## Multi-Way Adapter

Part No. 3017191-XX

This adapter is ideal when the distance between gas springs is short.



| Part No.   | A  |      | B    |      | C  |      | D    |      | E  |      | Mounts                                   |
|------------|----|------|------|------|----|------|------|------|----|------|------------------------------------------|
|            | mm | in.  | mm   | in.  | mm | in.  | mm   | in.  | mm | in.  |                                          |
| 3017191-01 | 40 | 1.57 | 32.5 | 1.28 | 17 | 0.67 | 26.5 | 1.04 | 11 | 0.43 | All applicable mounts except those below |
| 3017191-02 | 54 | 2.13 | 46.5 | 1.83 | 31 | 1.22 | 40.5 | 1.59 | 25 | 0.98 | FFC 500, 750, 1500 and 3000              |
| 3017191-03 | 61 | 2.40 | 53.5 | 2.11 | 38 | 1.50 | 47.5 | 1.87 | 32 | 1.26 | FFC 5000, 7500, and 10000                |





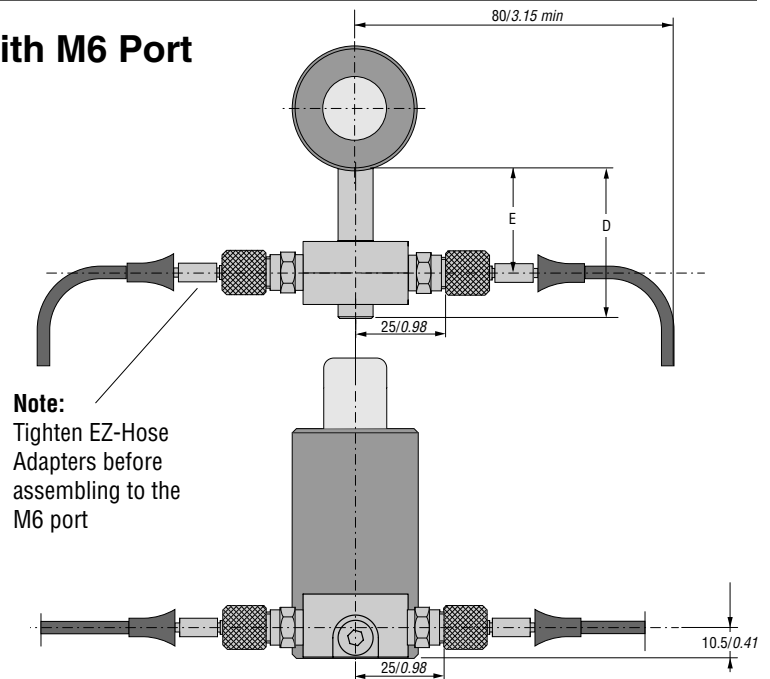
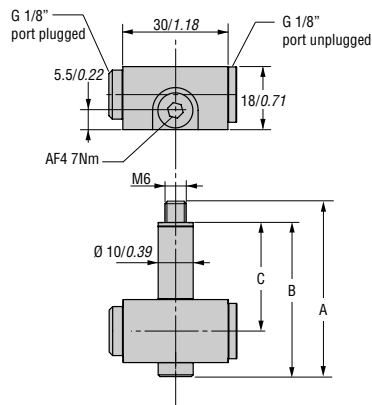


## EZ-Hose System

### Two-way Adapter for Gas Springs with M6 Port

Part No. 4023519

Part No. 4023506

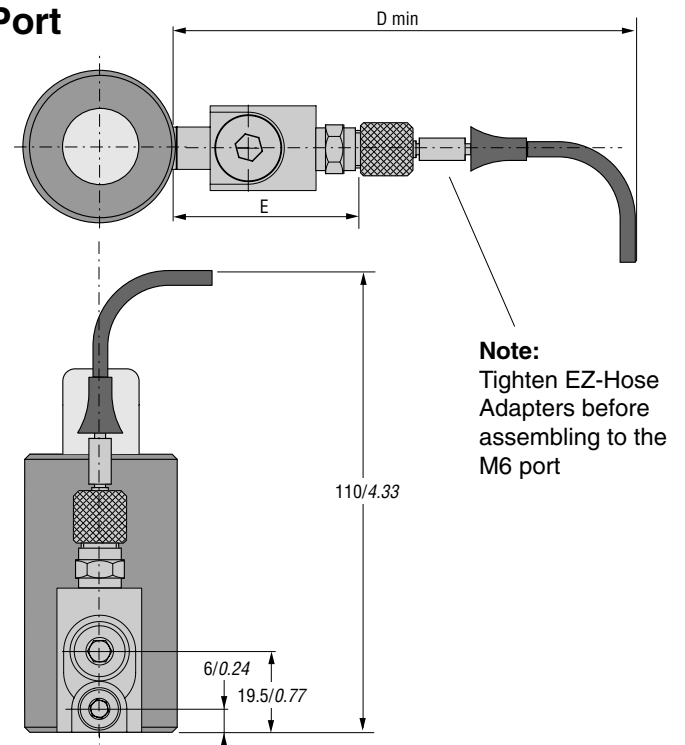
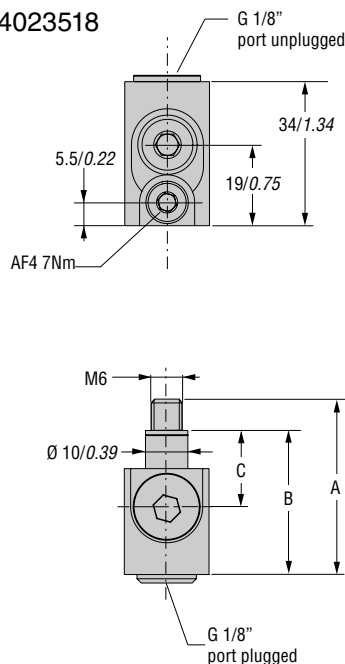


| Part No. | A  |      | B  |      | C  |      | D    |      | E    |      | Mounts                      |
|----------|----|------|----|------|----|------|------|------|------|------|-----------------------------|
|          | mm | in.  | mm | in.  | mm | in.  | mm   | in.  | mm   | in.  |                             |
| 4023519  | 36 | 1.42 | 30 | 1.18 | 17 | 0.67 | 25.5 | 1.00 | 12.5 | 0.49 | FFC 500, 750, 1500 and 3000 |
| 4023506  | 49 | 1.93 | 44 | 1.73 | 31 | 1.22 | 39.5 | 1.56 | 26.5 | 1.04 | FFC 5000, 7500, and 10000   |

### Angle Adapter for Gas Springs with M6 Port

Part No. 4023520

Part No. 4023518



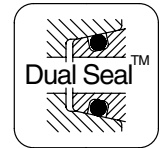
| Part No. | A  |      | B  |      | C  |      | D   |      | E  |      | Mounts                      |
|----------|----|------|----|------|----|------|-----|------|----|------|-----------------------------|
|          | mm | in.  | mm | in.  | mm | in.  | mm  | in.  | mm | in.  |                             |
| 4023520  | 39 | 1.54 | 34 | 1.34 | 18 | 0.71 | 110 | 4.33 | 45 | 1.77 | FFC 500, 750, 1500 and 3000 |
| 4023518  | 51 | 2.01 | 46 | 1.81 | 30 | 1.18 | 120 | 4.72 | 57 | 2.24 | FFC 5000, 7500, and 10000   |



# EO24 Hose System



Our largest hose system, recommended for use with compression tanks. In addition, G 1/8" and G1/4" ports can be connected to the EO24 Hose System using an appropriate adapter.



OD .....11mm/0.43 in.  
ID ..... Ø5mm/0.20 in.  
Max. Working Pressure .....345 bar/5000 psi  
Min. Burst Pressure ..... 1380 bar/20000 psi  
Min. Bend Radius ..... 40mm/1.57 in.  
Min. Crimped Hose Length ..... 150mm/5.91 in. (total length with sleeves)



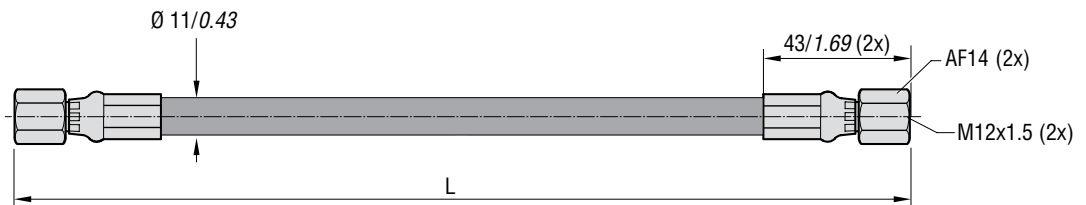
**EO24-Hose Clip**  
Part No. 502322

Secure hoses using an M6 screw.

Customer specified hose lengths can be ordered from 120mm and up. Simply add the hose length onto the Part Number, i.e. 3020857X2500 for a Straight-Straight system with 2500mm hose length.

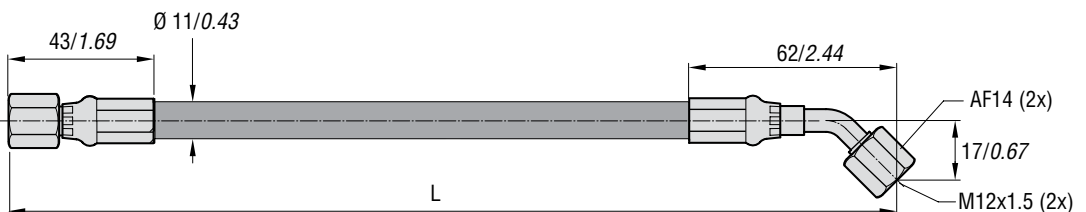
## Straight-Straight

Part No. 3020857-XXXX



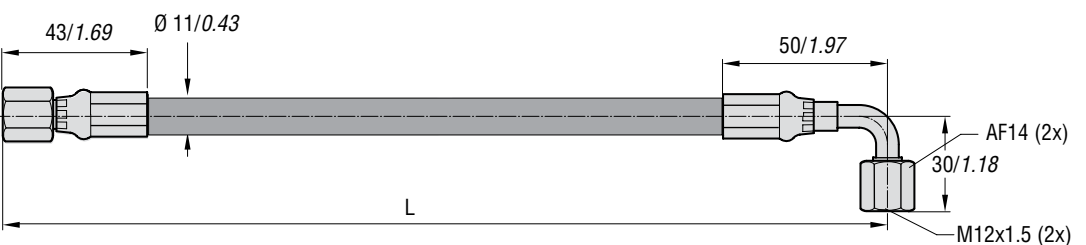
## Straight-45°

Part No. 3120857-XXXX



## Straight-90°

Part No. 3220857-XXXX



## EO24-Hose

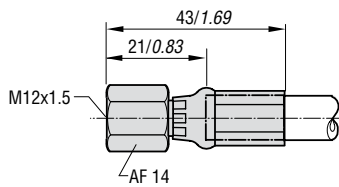
Part No. 502319



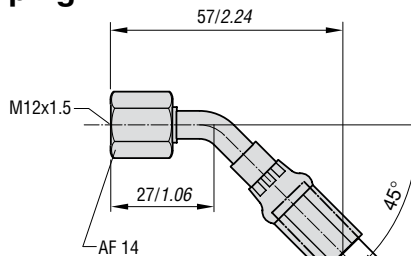


## E024 Hose System

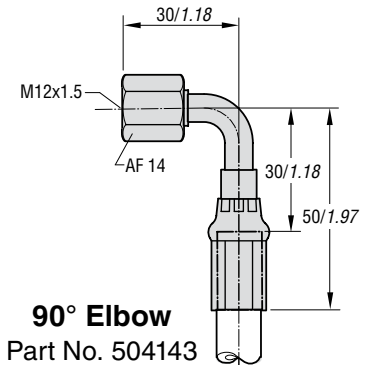
### EO24-Hose Connections for Crimping



**Straight**  
Part No. 504141



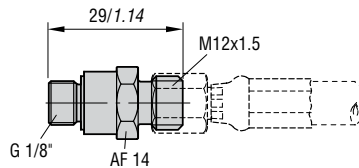
**45° Elbow**  
Part No. 504142



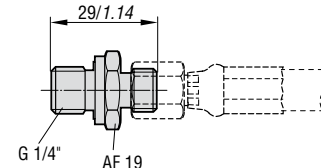
**90° Elbow**  
Part No. 504143

### EO24-Hose Adapters

The EO24-Hose system has M12X1.5 threads for connecting the hose and adapter. G 1/8" and G 1/4" are used to connect to gas springs, distribution blocks and control panels.

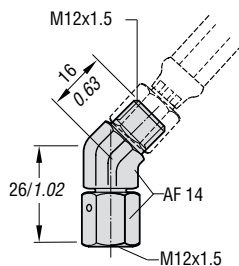


**Straight G1/8" Adapter**  
Part No. 503593

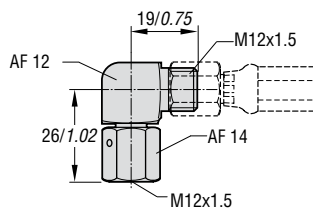


**Straight G1/4" Adapter**  
Part No. 504144

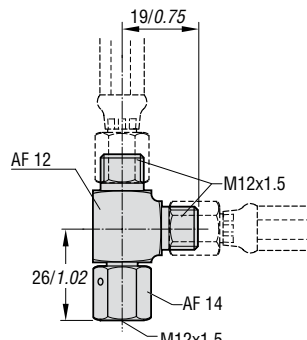
### Adapter-to-Hose Connectors



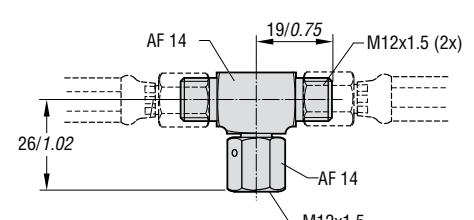
**45° Elbow**  
Part No. 504145



**90° Elbow**  
Part No. 504146

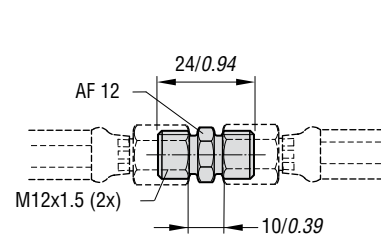


**Run Tee**  
Part No. 504147

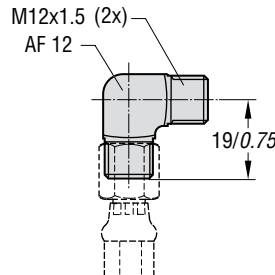


**Branch Tee**  
Part No. 504148

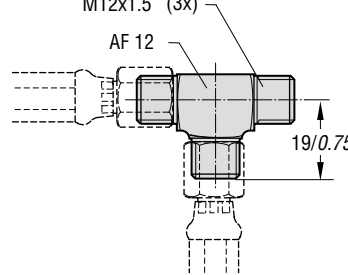
### Hose-to-Hose Connectors



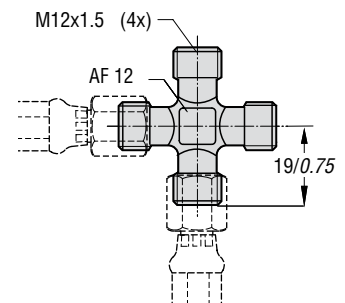
**Union**  
Part No. 504149



**Union Elbow**  
Part No. 504150



**Union Tee**  
Part No. 504151



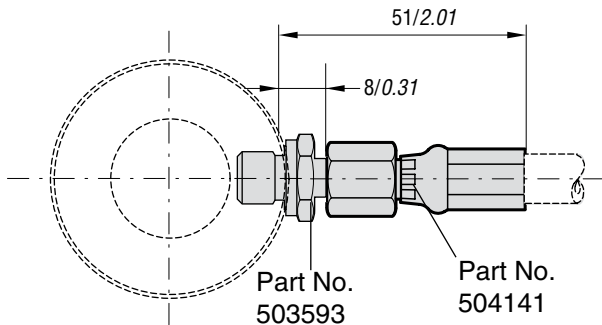
**Union Cross**  
Part No. 504152



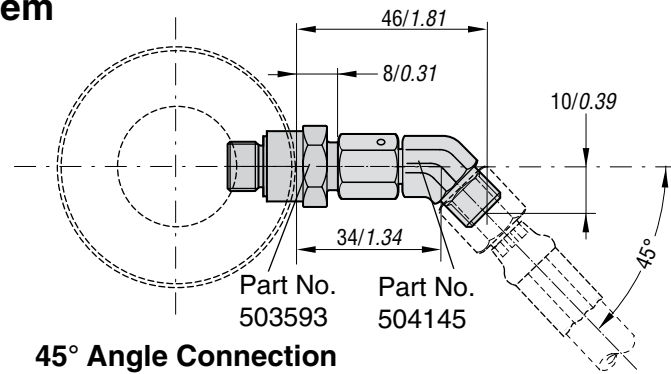
# E024 Hose System



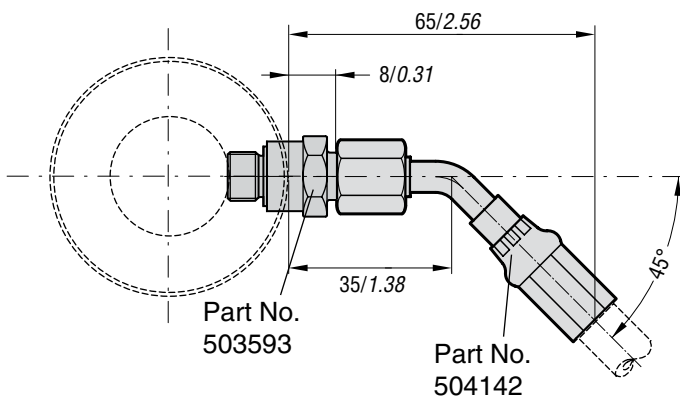
## Installation Examples, E024-Hose System



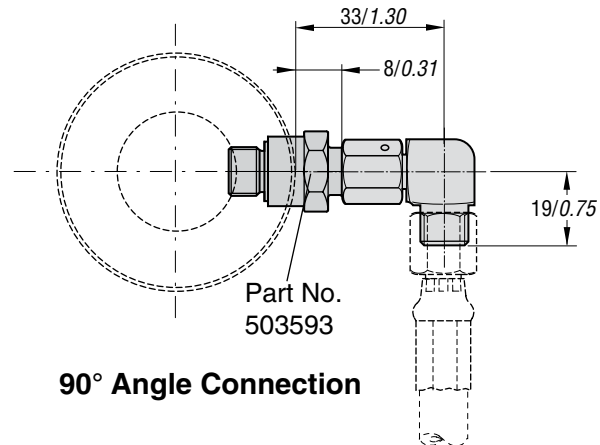
**Straight Hose Connection**



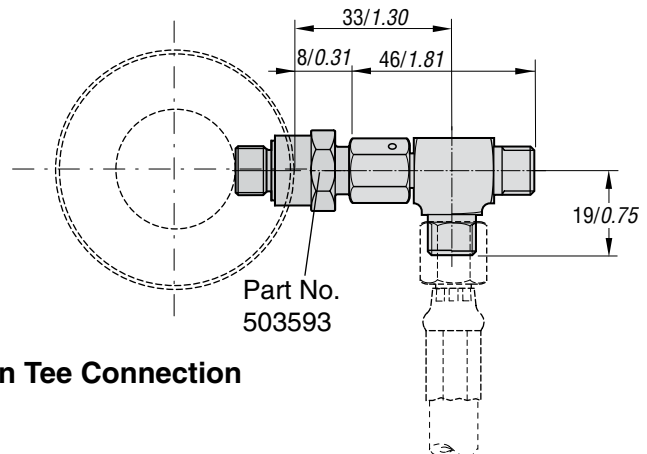
**45° Angle Connection**



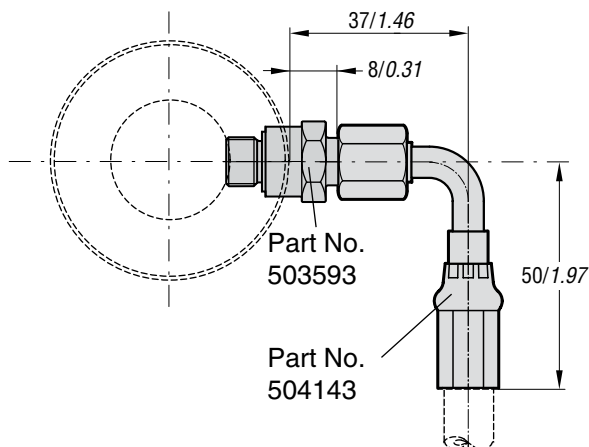
**45° Hose Connection**



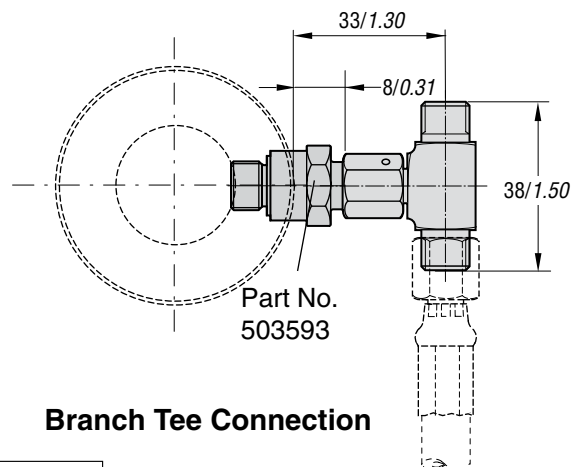
**90° Angle Connection**



**Run Tee Connection**



**90° Hose Connection**



**Branch Tee Connection**





## JIC Hose System

The JIC Hose System is used in standard applications. For high vibration applications, use the O-Ring Face Seal System.

OD ..... 13mm/0.51 in.  
 ID ..... 6.25mm/0.25 in.  
 Max. Working Pressure ..... 345 bar/5000 psi  
 Min. Burst Pressure ..... 1380 bar/20000 psi  
 Min. Bend Radius ..... 51mm/2.00 in.  
 Min. Crimped Hose Length ..... 150mm/5.91 in. (total length with sleeves)

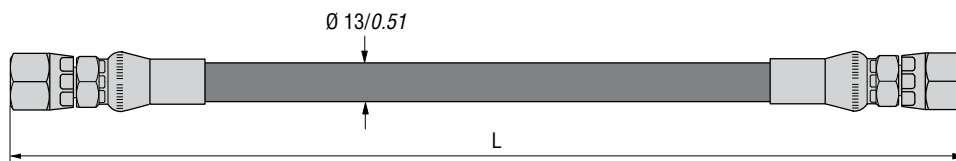
**JIC Hose Clip**  
 Part No. HC-5



Secure hoses using an M6 screw.

### Straight-Straight

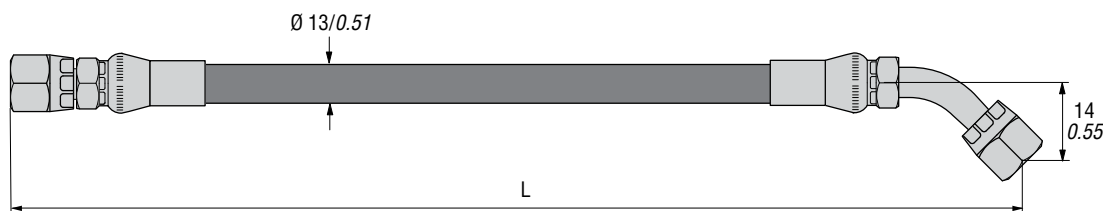
Part No. SHF-S-S-XXXX



| Hyson Part No. | L (mm) |
|----------------|--------|
| SHF-S-S-0200   | 200    |
| SHF-S-S-0300   | 300    |
| SHF-S-S-0400   | 400    |
| SHF-S-S-0630   | 630    |
| SHF-S-S-0800   | 800    |
| SHF-S-S-1000   | 1000   |
| SHF-S-S-1500   | 1500   |
| SHF-S-S-2000   | 2000   |
| SHF-S-S-XXXX   | XXXX*  |

### Straight-45°

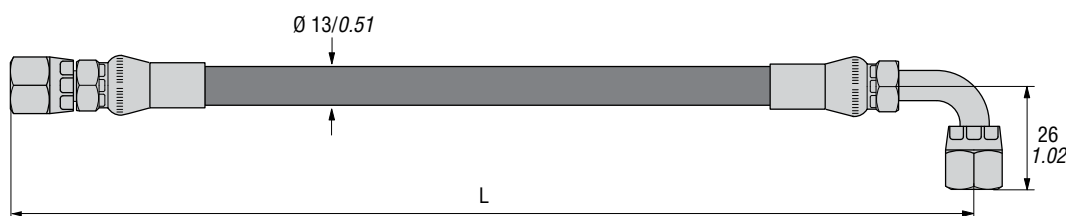
Part No. SHF-S-45-XXXX



| Hyson Part No. | L (mm) |
|----------------|--------|
| SHF-S-45-0200  | 200    |
| SHF-S-45-0300  | 300    |
| SHF-S-45-0400  | 400    |
| SHF-S-45-0630  | 630    |
| SHF-S-45-0800  | 800    |
| SHF-S-45-1000  | 1000   |
| SHF-S-45-1500  | 1500   |
| SHF-S-45-2000  | 2000   |
| SHF-S-45-XXXX  | XXXX*  |

### Straight-90°

Part No. SHF-S-90-XXXX



| Hyson Part No. | L (mm) |
|----------------|--------|
| SHF-S-90-0200  | 200    |
| SHF-S-90-0300  | 300    |
| SHF-S-90-0400  | 400    |
| SHF-S-90-0630  | 630    |
| SHF-S-90-0800  | 800    |
| SHF-S-90-1000  | 1000   |
| SHF-S-90-1500  | 1500   |
| SHF-S-90-2000  | 2000   |
| SHF-S-90-XXXX  | XXXX*  |



**JIC Hose**  
 Part No. ORH-4

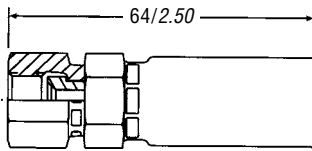




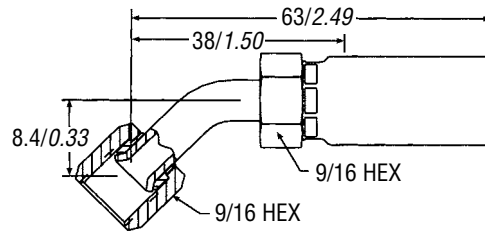
# JIC Hose System



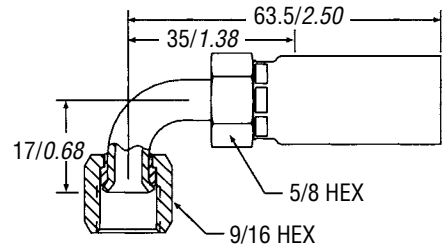
## JIC Hose Connections for Crimping



**Straight**  
Part No. SHF-4

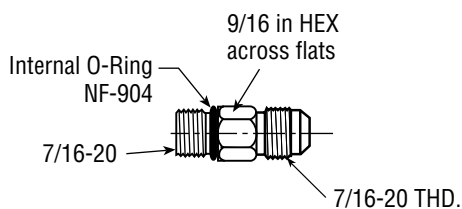


**45° Elbow**  
Part No. NHF-4 45

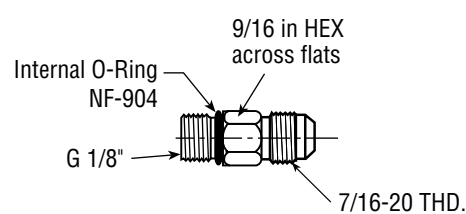


**90° Elbow**  
Part No. NHF-4C 90

## JIC Hose Adapters

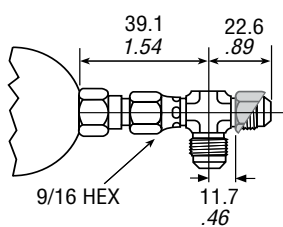


**Straight 7/16-20 Adapter**  
Part No. NF-1000-4

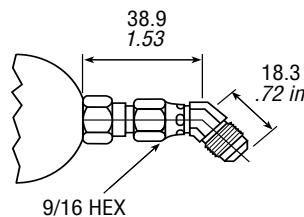


**Straight G1/8" Adapter**  
Part No. NF-1000-4-G1/8

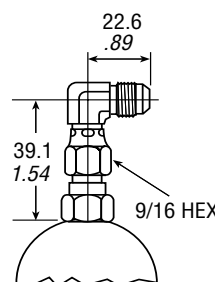
## Adapter-to-Hose Connectors



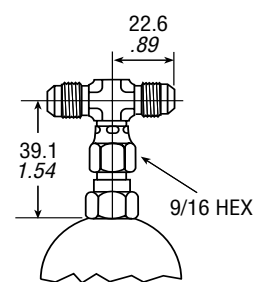
**Swivel Nut Run Tee**  
Part No. NF-3300-4



**Swivel Nut 45° Elbow**  
Part No. NF-4500-4

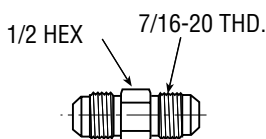


**Swivel Nut 90° Elbow**  
Part No. NF-2000-4

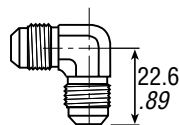


**Swivel Nut Branch Tee**  
Part No. NF-3000-4

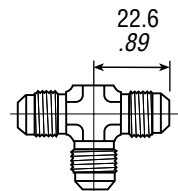
## Hose-to-Hose Connectors



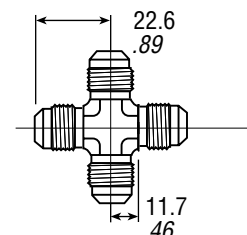
**Union**  
Part No. NF-1100-4



**Union Elbow**  
Part No. NF-2500-4



**Union Tee**  
Part No. NF-3500-4



**Union Cross**  
Part No. NF-5500-4





# O-Ring Face Seal Hose System

The O-Ring Face Seal System is for use in high vibration applications.. For standard applications, use the JIC Hose System.

OD ..... 13mm/0.51 in.  
 ID ..... 6.25mm/0.25 in.  
 Max. Working Pressure ..... 345 bar/5000 psi  
 Min. Burst Pressure ..... 1380 bar/20000 psi  
 Min. Bend Radius ..... 51mm/2.00 in.  
 Min. Crimped Hose Length ..... 150mm/5.91 in. (total length with sleeves)

## O-Ring Face Seal Hose Clip

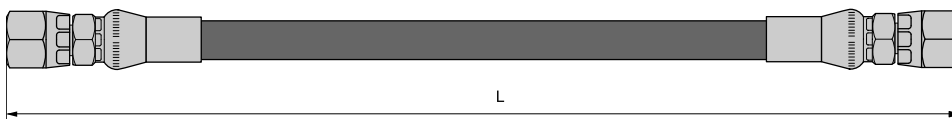
Part No. HC-5



Secure hoses using an M6 screw.

### Straight-Straight

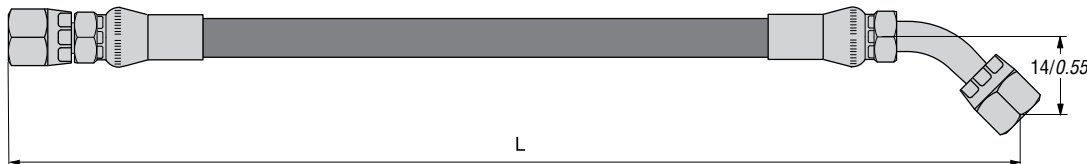
Part No. ORH-S-S-XXXX



| Hyson Part No. | L (mm) |
|----------------|--------|
| ORH-S-S-0200   | 200    |
| ORH-S-S-0300   | 300    |
| ORH-S-S-0400   | 400    |
| ORH-S-S-0630   | 630    |
| ORH-S-S-0800   | 800    |
| ORH-S-S-1000   | 1000   |
| ORH-S-S-1500   | 1500   |
| ORH-S-S-2000   | 2000   |
| ORH-S-S-XXXX   | XXXX*  |

### Straight-45°

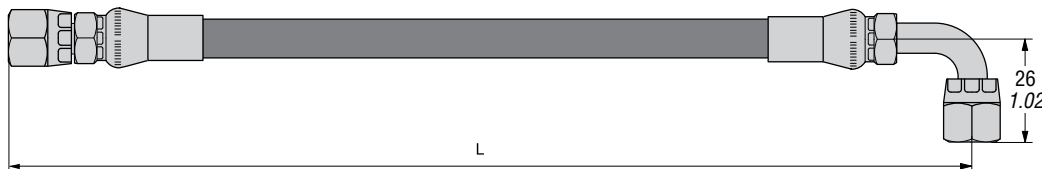
Part No. ORH-S-45-XXXX



| Hyson Part No. | L (mm) |
|----------------|--------|
| ORH-S-45-0200  | 200    |
| ORH-S-45-0300  | 300    |
| ORH-S-45-0400  | 400    |
| ORH-S-45-0630  | 630    |
| ORH-S-45-0800  | 800    |
| ORH-S-45-1000  | 1000   |
| ORH-S-45-1500  | 1500   |
| ORH-S-45-2000  | 2000   |
| ORH-S-45-XXXX  | XXXX*  |

### Straight-90°

Part No. ORH-S-90-XXXX



| Hyson Part No. | L (mm) |
|----------------|--------|
| ORH-S-90-0200  | 200    |
| ORH-S-90-0300  | 300    |
| ORH-S-90-0400  | 400    |
| ORH-S-90-0630  | 630    |
| ORH-S-90-0800  | 800    |
| ORH-S-90-1000  | 1000   |
| ORH-S-90-1500  | 1500   |
| ORH-S-90-2000  | 2000   |
| ORH-S-90-XXXX  | XXXX*  |



### O-Ring Face Seal Hose

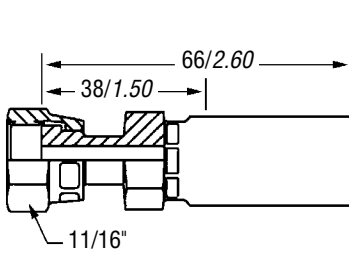
Part No. ORH-4



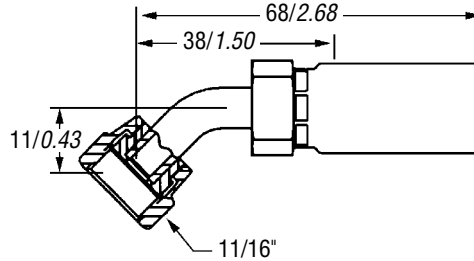
# O-Ring Face Seal Hose System



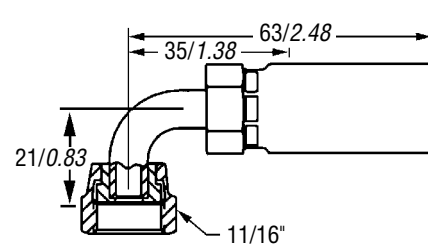
## O-Ring Face Seal Hose Connections for Crimping



**Straight**  
Part No. ORHF-4

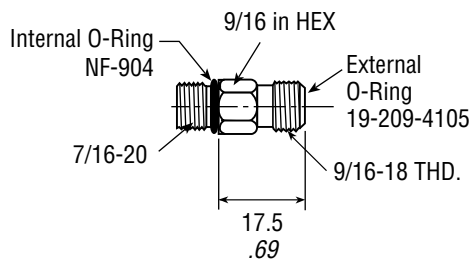


**45° Elbow**  
Part No. ORHF-4500-4

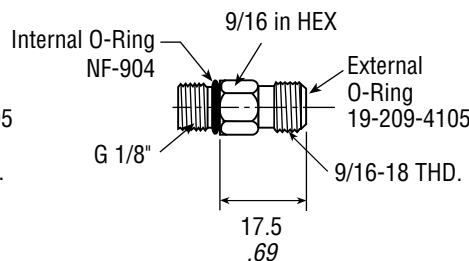


**90° Elbow**  
Part No. ORHF-2000-4

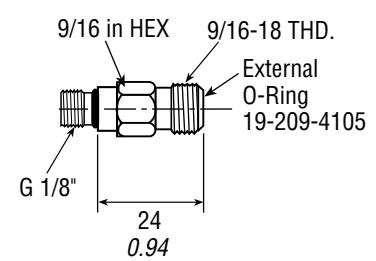
## O-Ring Face Seal Hose Adapters



**Straight 7/16-20 Adapter**  
Part No. ORF-1000-4

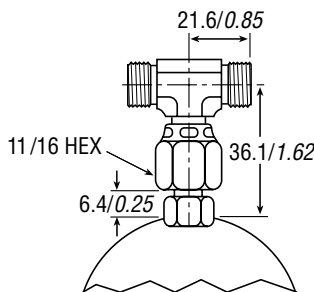


**Straight G 1/8" Adapter**  
Part No. ORF-1000-G1/8

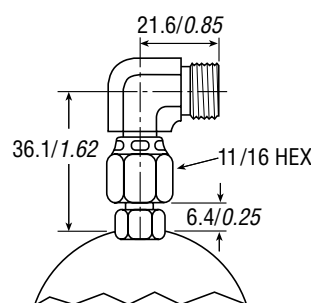


**Straight G 1/8" Adapter**  
Part No. 9106252-F

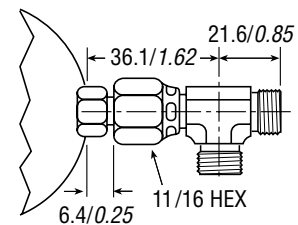
## Adapter-to-Hose Connectors



**Branch Tee**  
Part No. ORF-3000-4

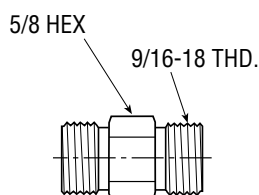


**90° Elbow**  
Part No. ORF-2000-4

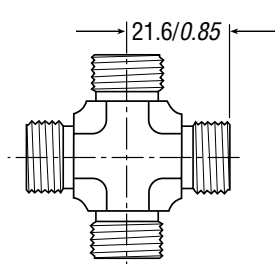


**Run Tee**  
Part No. ORF-3300-4

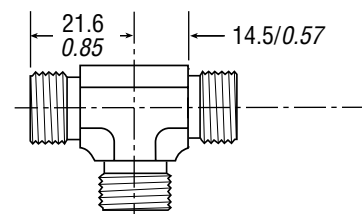
## Hose-to-Hose Connectors



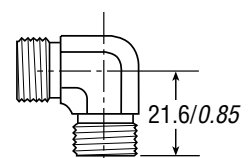
**Union**  
Part No. ORF-1100-4



**Union Cross**  
Part No. ORF-5500-4



**Union Tee**  
Part No. ORF-3500-4



**Union Elbow**  
Part No. ORF-2500-4



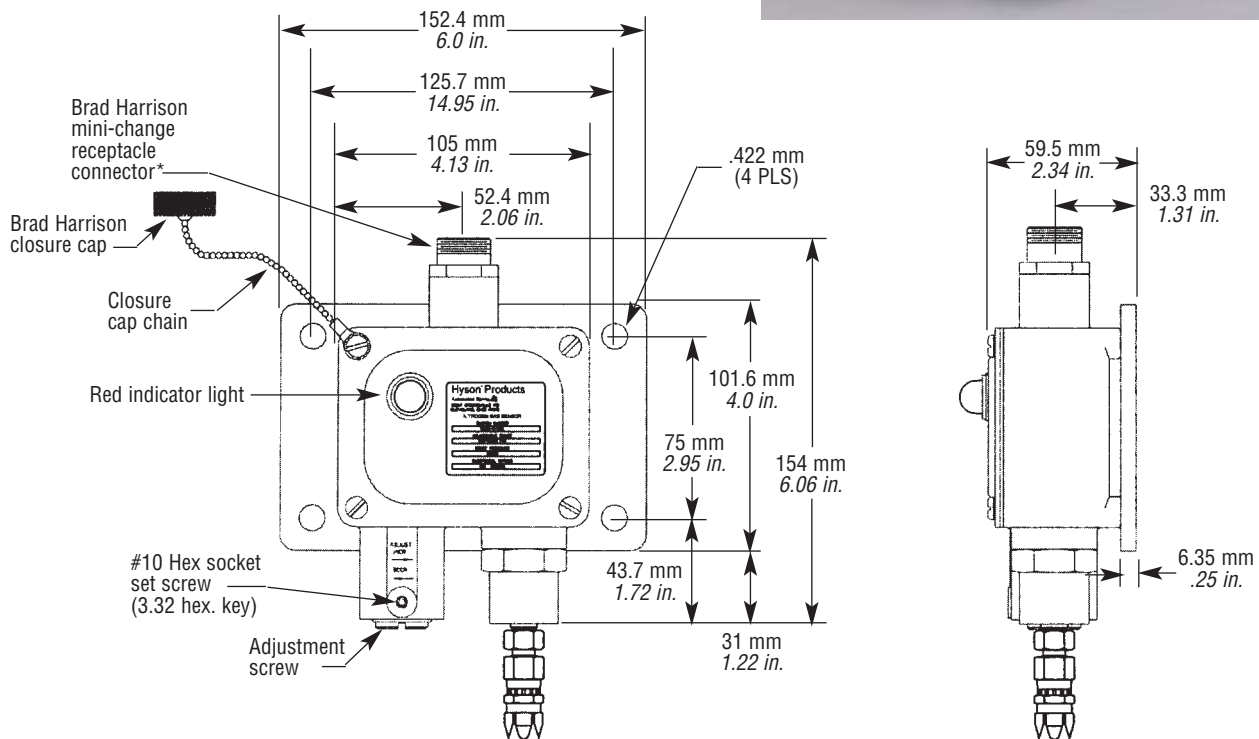


## Pressure Monitors

Pressure monitors indicate pressure in hoses systems. If pressure rises above or falls below preset points, the operation is interrupted, reducing the probability of damage to a tool and/or machinery.

### APM-3000

- Measures 0-206 bar (0-3000 psi).
- Supplied with 15 foot cable and female quick disconnect.
- Brad Harrison mini-charge receptacle connector.

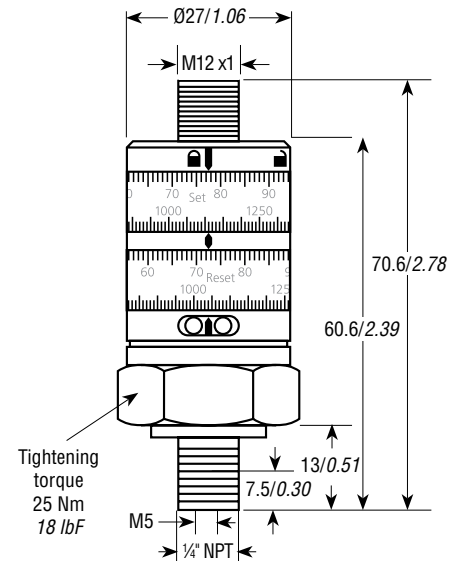


# Pressure Monitors



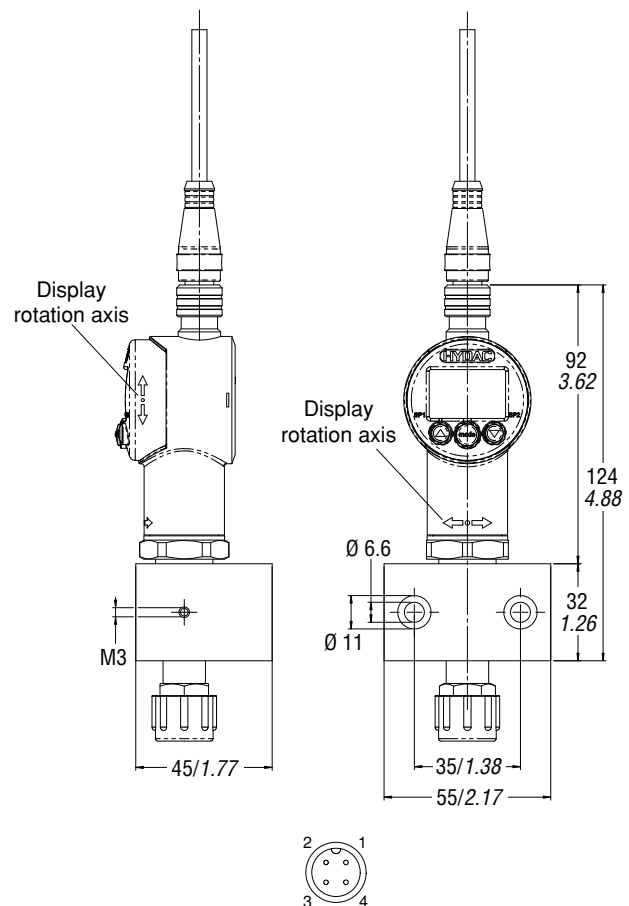
## APM-5800

- Measures 0-400 bar (0-5800 psi).
- Supplied with cable and protective cover.
- 4-wire Micro DC connection.



## DPM-3000

- Measures 0-400 bar (0-5800 psi).
- 4-wire connection.
- Supplied with charging block, 15 foot cable with a straight connector.
- Optional DPM-3000-NC pressure monitor with charging block and no cable is pre-programmed and conforms to GM 90.25.225 standard.



- |                              |       |
|------------------------------|-------|
| 1. + Current feed 9 - 35 VDC | Brown |
| 2. Set-point 1               | White |
| 3. - Current feed (0V)       | Blue  |
| 4. Set-point 2               | Black |







## Tools

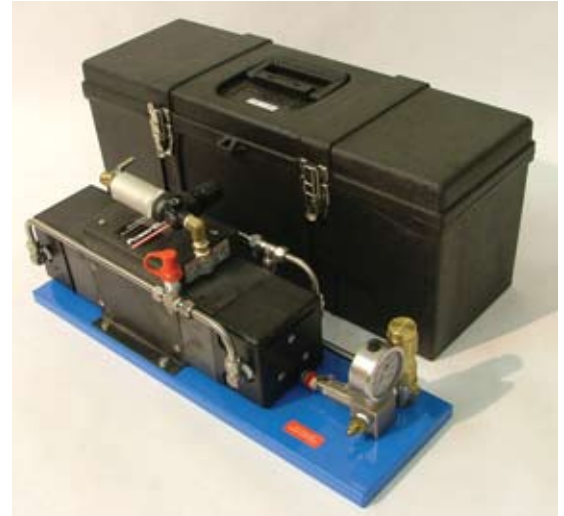
### Nitrogen Gas Booster Assembly

Part No. HPB-11

The HPB-11 nitrogen gas booster assembly gets the most from your nitrogen gas supply by safely and easily boosting nitrogen gas bottles with a minimum of 21 bar (300 psi). Driven by plant air, the assembly provides pressures up to 180 bar (2610 psi) to charge high pressure gas springs and manifold systems.

**Features:**

- Double-acting, air driven piston pump
- High pressure regulator on discharge side of assembly
- High pressure safety relief valve
- 3-meter charging hose
- High pressure output gauge



### Digital Test Stand

Part No. DTS

This light weight system measures the initial force of self-contained gas springs.

**Features:**

- Maximum rated capacity of 5000 lbs.
- Accuracy  $\pm 0.5\%$  of full scale equating to 25 lbs.
- Digital read-out in lbs. or kg force.
- Travel reads in in. and mm.
- Includes holding fixtures for smaller gas springs.
- Can be mounted directly to a table.



# Crimping Equipment



Create your own permanent hose assemblies with Hyson crimping equipment.

## EZ-Crimp

### Features:

- Ideal for EZ-Hose and Micro EO24 Hose systems. Additional dies available for crimping larger diameter hoses.
- Compact and portable
- Crimps straight, 45° and 90° fittings
- Crimping force: 955 kN



| Hyson Part No. | Description                        |
|----------------|------------------------------------|
| EZ-Crimp       | Crimper and die for 5-8mm OD hoses |
| DIE07-6        | Die for 5-8mm OD hoses             |
| DIE07-8        | Die for 8-10mm OD hoses            |
| DIE07-10       | Die for 10-12mm OD hoses           |
| DIE07-12       | Die for 12-14mm OD hoses           |
| DIE07-14       | Die for 14-16mm OD hoses           |

## Crimping Press

### Features:

- Combine with appropriate die to create hose assemblies
- Pneumatically-operated hydraulic pump
- Crimps straight, 45° and 90° fittings
- Crimping force: 300 kN

| Hyson Part No. | Description                    |
|----------------|--------------------------------|
| 3121381        | Crimping Press                 |
| 3024010        | Die for Micro EO24 and EZ-Hose |
| 504196         | Die for EO24                   |

**Note:** Dies for other hose systems available on request.



## Hose Cutting Plier

Part No. 502839





## Charging Accessories

### Service Gauge Assembly

Part No. MGA-3000NH

Charging and discharging gas springs for use in the self-contained mode is simple with the MGA-3000NH.



### Nitrogen Charging Assembly

Part Nos. NCA-2600 and NCA-2600-HP

Transfer nitrogen gas from a commercial bottle to gas springs with the NCA-2600. The charging assembly includes a CGA-580 bottle fitting, regulator with bottle and system pressure gauges, shut-off valve and 10 feet of high pressure hose with a fitting for the control panel quick disconnect inlet or to the MGA-3000NH service gauge assembly.

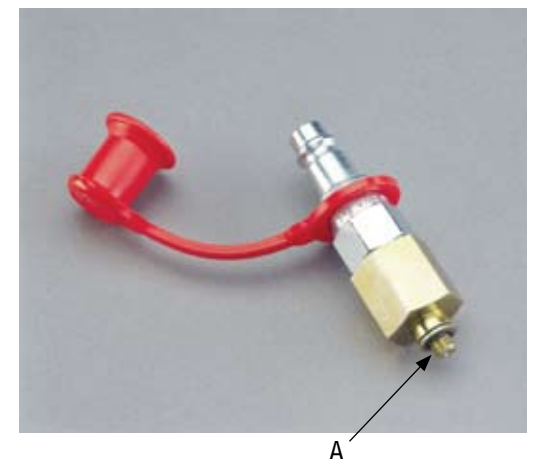
The NCA-2600-HP is available for use with 3000-5000 psi bottles and includes a CGA-680 bottle fitting.



### Male Quick Disconnects (Charge Fittings)

Hyson offers a variety of charge fittings for use with gas springs. For the appropriate charge fitting for your application, refer to Hyson's Charge Fitting Selection Chart at [www.hysonproducts.com](http://www.hysonproducts.com) or contact Customer Service.

| Hyson Part No.  | Thread (A)        |
|-----------------|-------------------|
| T2-770-T3       | M6 (side or base) |
| T2-770-M6       | M6 (rod)          |
| T2-770-4        | 7/16"-20          |
| T2-770-4-L      | 7/16"-20          |
| T2-770-G1/8-P   | BSPP 1/8          |
| 11-770-0705 MTY | 3/8"-32           |





**Tanker®T and Tanker®S Gas Springs**



**Nitro-Dyne® XP Manifolds**



**Delay Return Manifolds**



**Di-Dro Advanced Forming**



**T2 Standard Gas Springs**



**T3 Gas Springs**



**T4 Gas Springs**



**Mini Gas Springs**



**Controllable Gas Springs**



**Adaptive Cams**



**Mechanical Cams**



**Accessories**

**HYSON**

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