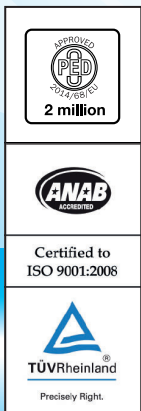


EZ Hose System

CNOMO HAND CONNECTION HOSE SYSTEM

FOR APPLICATIONS WHERE HAND-TIGHTENED CONNECTIONS ARE IDEAL



HYSON
Metal Forming Solutions™

**FOR APPLICATIONS WHERE
HAND-TIGHTENED CONNECTIONS ARE IDEAL**

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General Information

HYSON, headquartered in Brecksville, Ohio, is a world class engineering and manufacturing company that provides high-quality, safety-engineered force and motion control solutions for a wide range of applications and industries, including automotive, aerospace, appliance, medical and HVAC. HYSON partners with our customers to understand applications and provide the best solutions for each one. We are a full service force control provider for critical machine, vehicle and precision metal processing applications, meaning we can supply dependent upon each customer's needs, including: gas springs, cam systems, cushions, manifolds and knockout systems.

Our success lies with our commitment to continually improve ourselves, our processes and our products to ensure we meet or exceed our customers' expectations. Our ISO-9001, AS-9000 and PED certifications attest to our ongoing commitment to the highest standards of quality.

Introduction

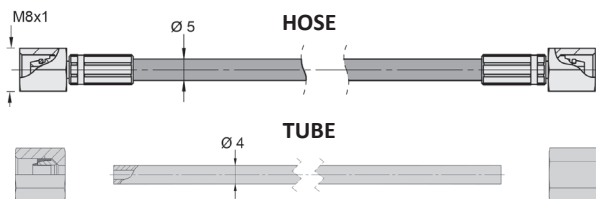
Connecting nitrogen gas springs via hose or tube offers the distinct advantage of being able to monitor and adjust pressure as well as charge and discharge the springs from outside the die. HYSON features five separate systems for connecting gas springs including DualSeal 24™, Micro24™, O-Ring Face Seal, EZ Hose (CNOMO), and JIC, all of which have undergone rigorous testing including endurance, static leakage and performance.

DualSeal 24™ Hose System – The Preferred Hose System



- Incorporates a dual seal design which utilizes both metal to metal & o-ring sealing, this is ideal for high vibration applications
- Featuring 5mm hose ID offering a high flow rate between springs and external tanks as well as quick charge and drain times
- The 11mm OD hose offers a minimum bend radius of 40mm and minimum hose length of 120mm
- Compatible for hosing springs with G 1/8, 7/16-20 & M6 ports
- Double leak-proof joints and rotational protection

Micro24™ – Compact Hose & Tube System



- Featuring a dual seal design which utilizes both metal to metal & o-ring sealing, this is ideal for high vibration applications
- Offers hard tubing options as short as 75mm as well as the smallest hose bend radius of 20mm which allows springs to be connected with minimum center to center distances
- 2mm hose & tube ID limits the speed of charge and drain times
- Compatible for hosing springs with G 1/8, 7/16-20 & M6 ports

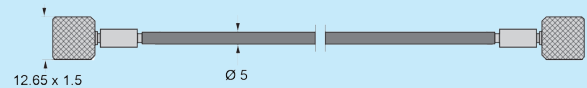
O-Ring Face Seal – Traditional High Vibration Hose System



- Used for high vibration applications
- Featuring 6.25mm hose ID offering the highest flow rate between springs & external tanks as well as the fastest charge and drain times
- The large diameter 13mm OD hose requires additional accommodation to account for a minimum bend radius of 51mm and minimum hose length of 152mm
- Compatible for hosing springs with G 1/8 or 7/16-20 ports only
- This system is recommended when high gas flow is required, such as with the CS2 Series of controllable gas springs

FEATURED IN THIS CATALOG....

EZ – CNOMO Hand Connection Hose System



- Offers hand tightened connections which facilitates easy connection of the hose system with no tool required
- 2mm hose ID limits the speed of charge and drain times
- The 5mm OD hose offers a minimum bend radius of 20mm and minimum hose length of 75mm
- Compatible for hosing springs with G 1/8, 7/16-20 and M6 ports

JIC – Traditional Hose System










- Featuring 6.25mm hose ID offering the highest flow rate between springs & external tanks as well as the fastest charge and drain times
- The large diameter 13mm OD hose requires additional accommodation to account for a minimum bend radius of 51mm and minimum hose length of 152mm
- Compatible for hosing springs with G 1/8 or 7/16-20 ports only
- This system is recommended for servicing existing dies only

All dimensions are in millimeters unless otherwise noted.

Safety Guidelines

For safety and optimum performance life:

-  Before connecting gas springs to a hosed system, discharge the nitrogen gas and 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 (N₂) 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.
-  We do not recommend hosing gas springs mounted using FC or FCS flanges as there is a risk that the gas spring will rotate while in operation.
-  Gas springs should be connected in a closed loop to help prevent the pad from tilting during charging.

All dimensions are in millimeters unless otherwise noted.

Control Panel

The Control Panel contains bleed and fill valves and a pressure gauge for charging, exhausting and reading pressure in the system. A rupture disk safety feature is also included to ensure all system pressure is exhausted, keeping springs from becoming over-pressurized in the event the pressure exceeds a safe level for the system.



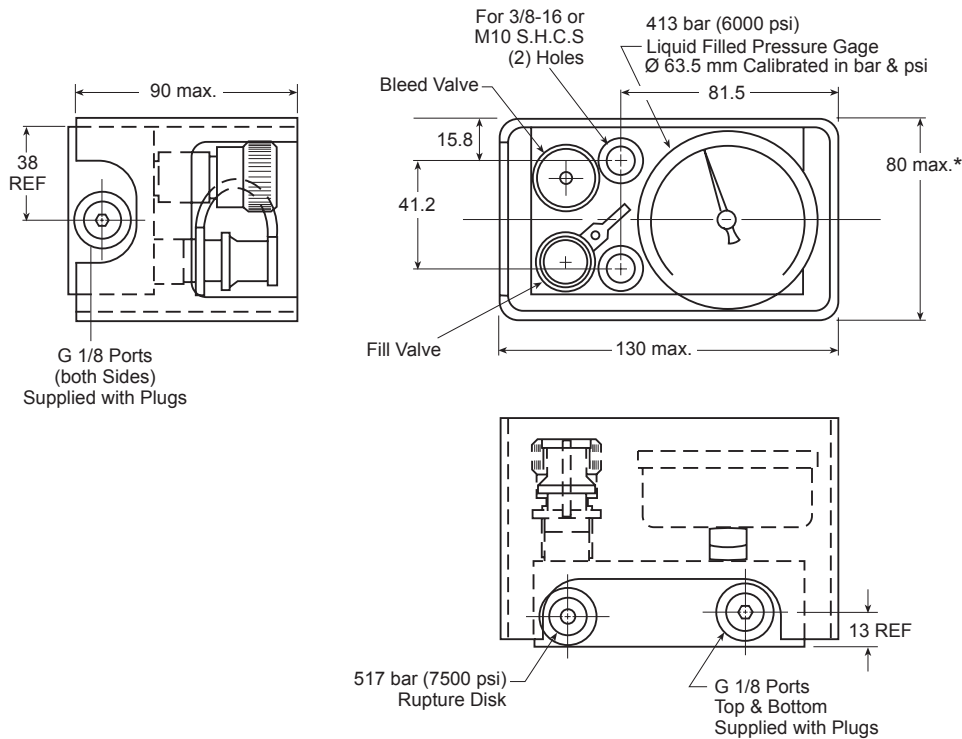
Control Panel

Order Number CP-N2-T

* Straight Adapter and Mounting Screws are sold separately.

Service Parts	
Order Number	Description
4024535	Bleed Valve
11-700-8555	Fill Valve
51-700-9000-LG	Pressure Gauge
RD-XP	Rupture Disk

Mounting Parts	
Order Number	Description
4114973-G1/8	Straight Adapter
CS M10-1.5X30MM	Mounting Screws - Metric
CS 3/8-16X1250	Mounting Screws - English



All dimensions are in millimeters unless otherwise noted.

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.

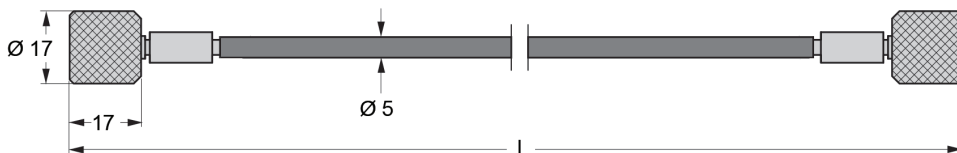
OD 5mm
 ID Ø2mm
 Max. Working Pressure 500 bar/7250 psi
 Min. Burst Pressure 2000 bar/29000 psi
 Min. Bend Radius 20mm/0.79 in.
 Min. Crimped Hose Length..... 150mm (total length with sleeves)



EZ-Hose Clip
Order Number 502646
 Secure hoses using an M5 screw.

Straight–Straight

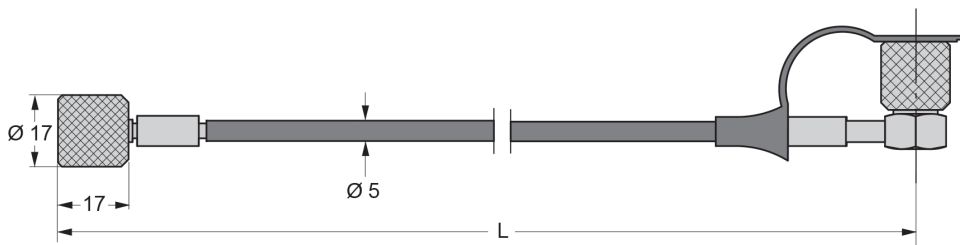
Order Number 4014974-XXXX*



Straight to Straight	
Order Number	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°

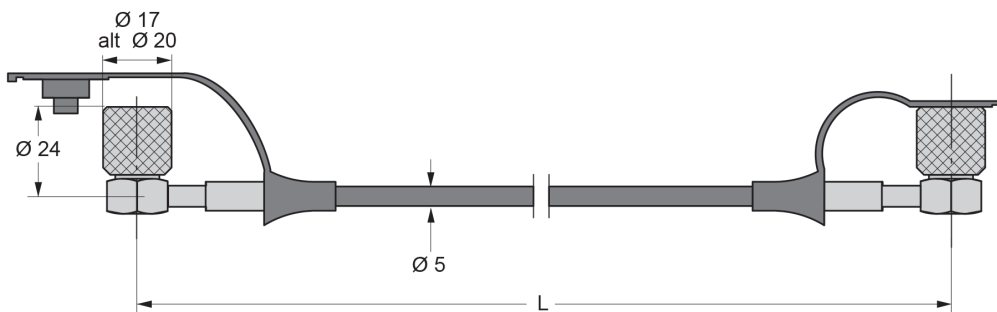
Order Number 4017568-XXXX*



Straight to 90°	
Order Number	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°

Order Number 4117568-XXXX*

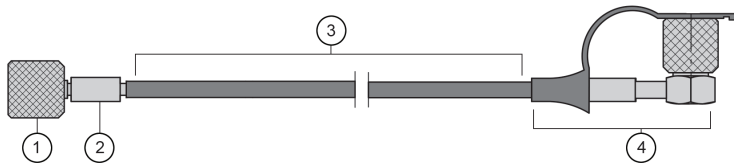


90° to 90°	
Order Number	L (mm)
4117568-0200	200
4117568-0300	300
4117568-0400	400
4117568-0630	630
4117568-0800	800
4117568-1000	1000
4117568-1500	1500
4117568-2000	2000
4117568-XXXX	XXXX*

*** NOTE:** “xxxx” = Assembled hose length in millimeters. Minimum order length is 120 mm. Simply add the hose length onto the Order Number (i.e., 4014974–2500 for a Straight-Straight assembly with a 2500 mm hose length).

All dimensions are in millimeters unless otherwise noted.

Separate Components for EZ Hose System

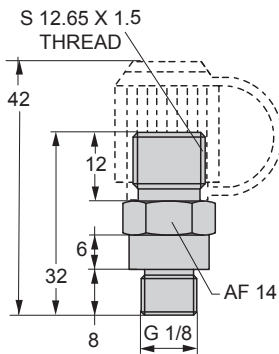


Separate Components for EZ Hose System		
	Order Number	Description
1	EZHF-HOSEEND	Order Ferrule Separately
2	EZHF-FERRULE	Ferrule
3	EZH-2	Hose
4	EZHF-HOSEEND-90	Comes with Ferrule and Cap

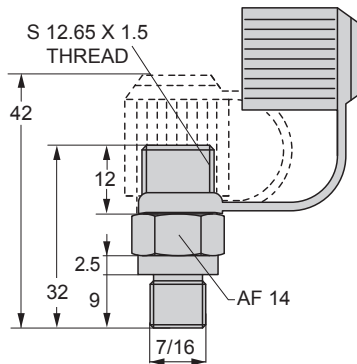
Adapters

Charge Port Adapters

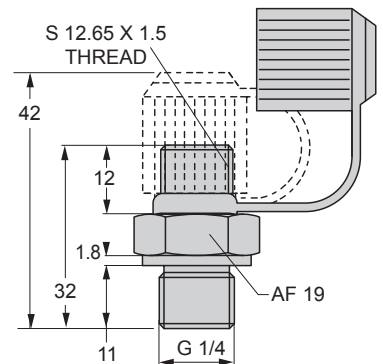
Hose adapters are available with three different threads: G 1/8, G 1/4, and 7/16. The G 1/8 is available with and without a check valve. We recommend the version without the check valve for gas springs.



Order Number 4014973-G 1/8
(with check valve)

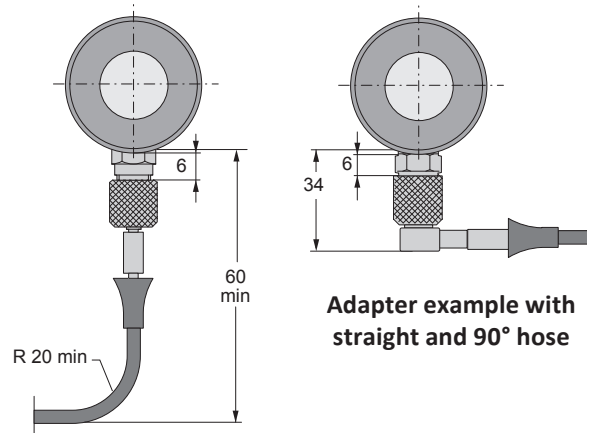


Order Number 4114973-7/16
(without check valve)



Order Number 4014973-G 1/4
(with check valve)

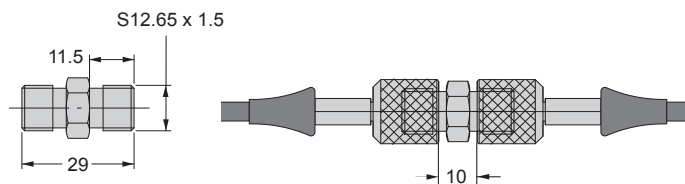
Order Number 4114973-G 1/8
(without check valve)



Adapter example with straight and 90° hose

Hose-to-Hose Connector Union

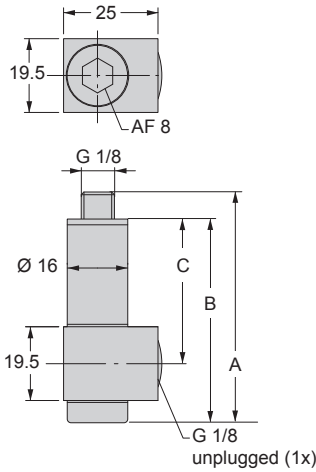
Order Number 503674



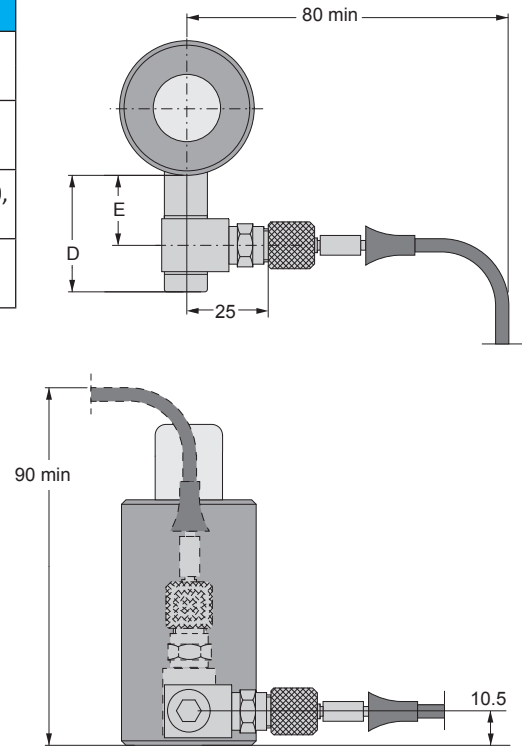
All dimensions are in millimeters unless otherwise noted.

EZ-Hose Adapters for Gas Springs with G 1/8 Port

EZ-Hose Adapters						
Order Number	A	B	C	D	E	FFC Mounting Limitations
	mm	mm	mm	mm	mm	
4016050-01	40	32.5	17	26	11	Cannot be used with FFC mounts.
4016050-02	54	46.5	31	40.5	25	Can be used only with FFC 500, 750, 1500 & 3000 mounts.
4016050-03	61	53.5	38	47.5	32	Can be used with all FFC mounts.

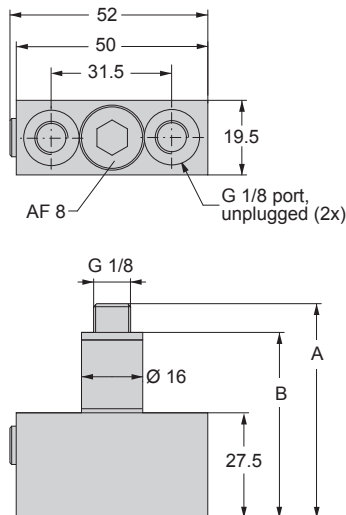


Application Example

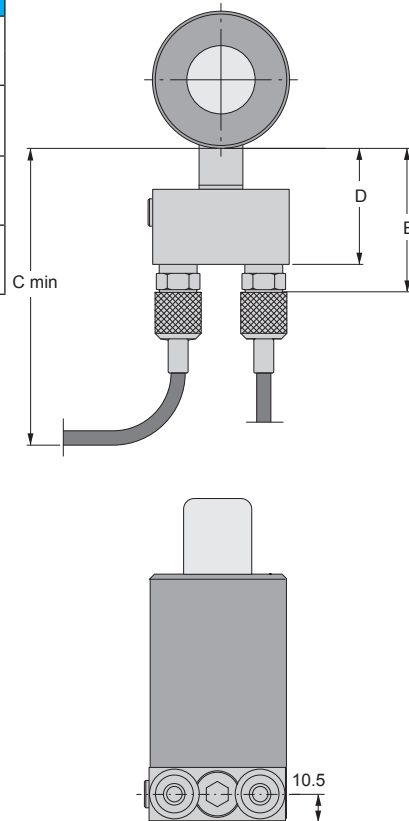


Front Adapter for Gas Springs with G 1/8 Port

Front Adapter						
Order Number	A	B	C	D	E	FFC Mounting Limitations
	mm	mm	mm	mm	mm	
4017314-01	42	34.5	95	28.5	40	Cannot be used with FFC mounts.
4017314-02	56	48.5	110	42.5	54	Can be used only with FFC 500, 750, 1500 & 3000 mounts.
4017314-03	63	56.5	115	49.5	61	Can be used with all FFC mounts.



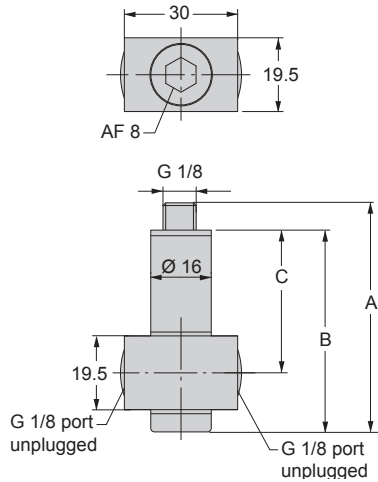
Application Example



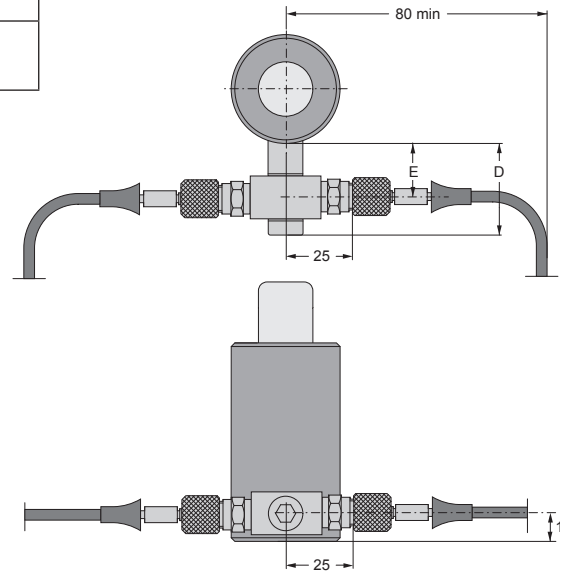
All dimensions are in millimeters unless otherwise noted.

Two-Way Adapter for Gas Springs with G 1/8 Port

Two-Way Adapter						
Order Number	A	B	C	D	E	FFC Mounting Limitations
	mm	mm	mm	mm	mm	
4016051-01	40	32.5	17	26.5	11	Cannot be used with FFC mounts.
4016051-02	54	46.5	31	40.5	25	Can be used only with FFC 500, 750, 1500 & 3000 mounts.
4016051-03	61	53.5	38	47.5	32	Can be used with all FFC mounts.

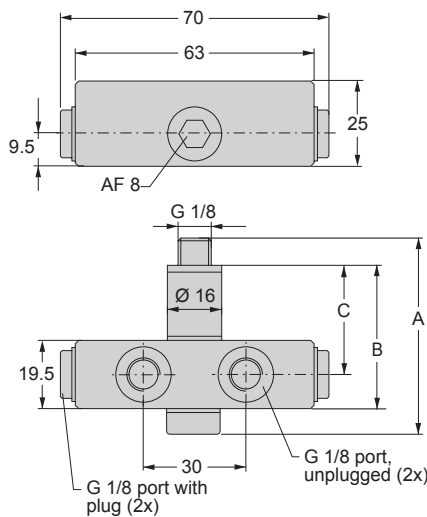


Application Example

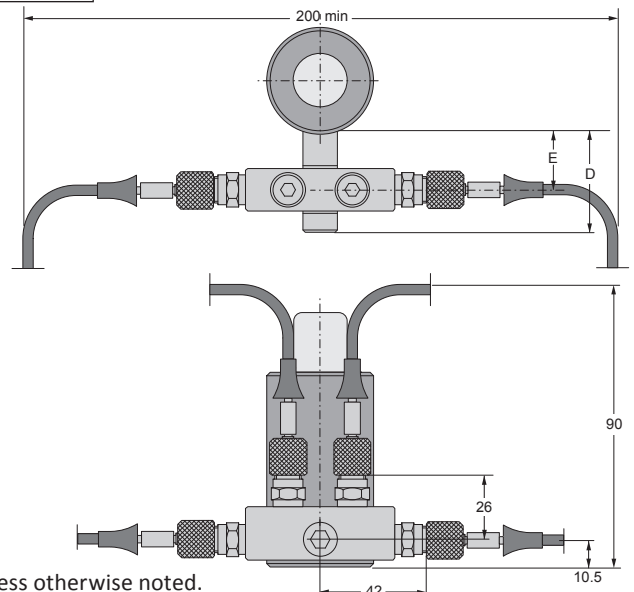


Four-Way Adapter for Gas Springs with G 1/8 Port

Four-Way Adapter						
Order Number	A	B	C	D	E	FFC Mounting Limitations
	mm	mm	mm	mm	mm	
4015035-01	40	32.5	17	26.5	11	Cannot be used with FFC mounts.
4015035-02	54	46.5	31	40.5	25	Can be used only with FFC 500, 750, 1500 & 3000 mounts.
4015035-03	61	53.5	38	47.5	32	Can be used with all FFC mounts.



Application Example



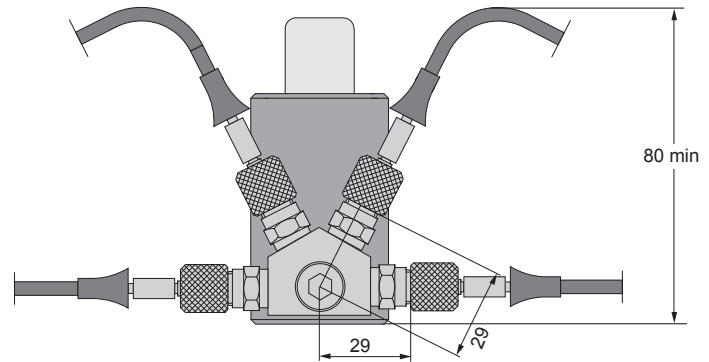
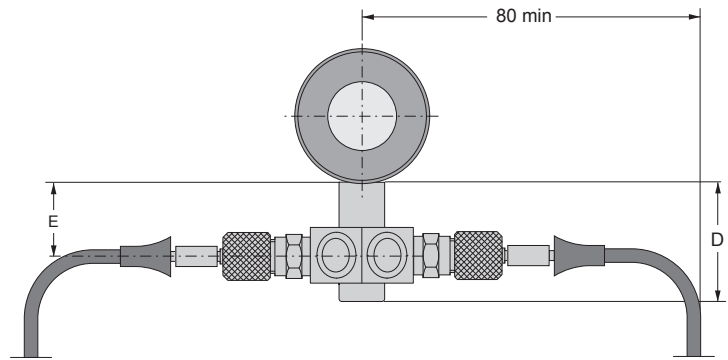
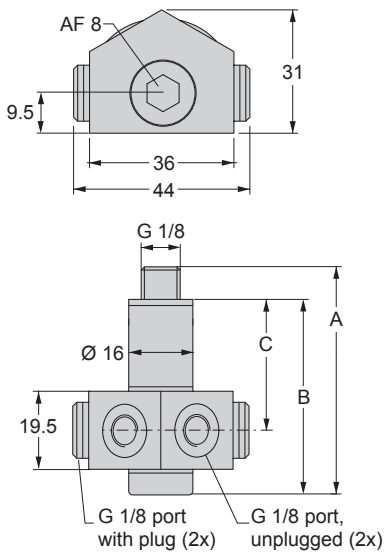
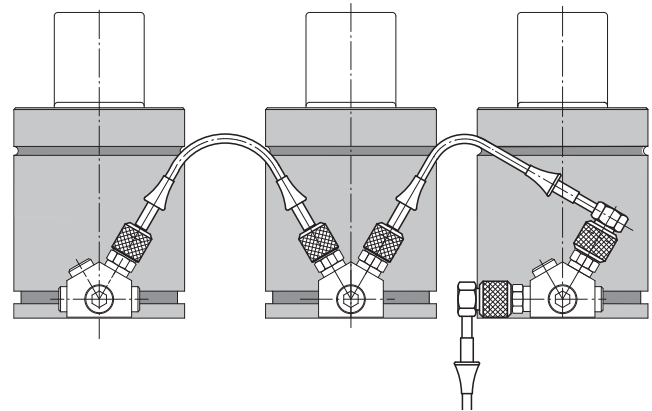
All dimensions are in millimeters unless otherwise noted.

Multi-Way Adapter for Gas Springs with G 1/8 Port

Multi-Way Adapter						FFC Mounting Limitations
Order Number	A mm	B mm	C mm	D mm	E mm	
3017191-01	40	32.5	17	26.5	11	Cannot be used with FFC mounts.
3017191-02	54	46.5	31	40.5	25	Can be used only with FFC 500, 750, 1500 & 3000 mounts.
3017191-03	61	53.5	38	47.5	32	Can be used with all FFC mounts.

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

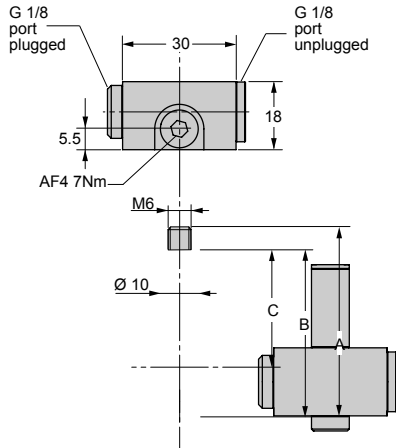
Application Example



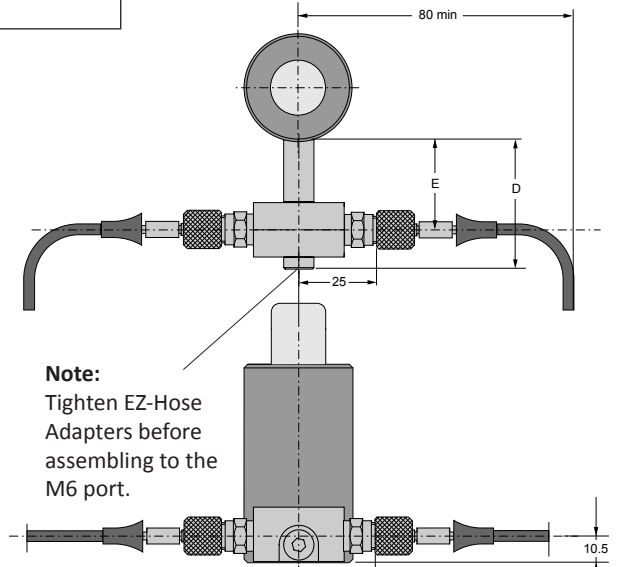
All dimensions are in millimeters unless otherwise noted.

Two-Way Adapter for Gas Springs with M6 Port

Two-Way Adapter for Gas Springs with M6 Port						
Order Number	A	B	C	D	E	FFC Mounting Limitations
	mm	mm	mm	mm	mm	
4023519	36	30	17	25.5	12.5	Can be used only with FFC 500, 750, 1500 & 3000 mounts.
4023506	49	44	31	39.5	26.5	Can be used with all FFC mounts.

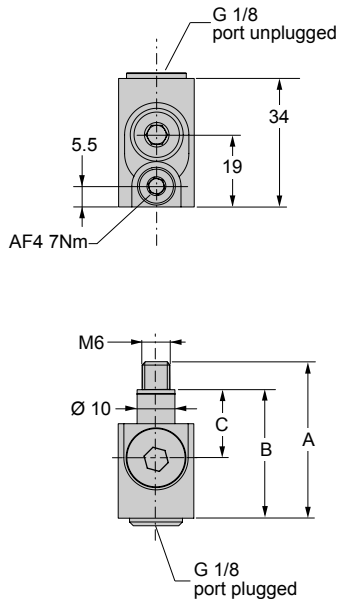


Application Example

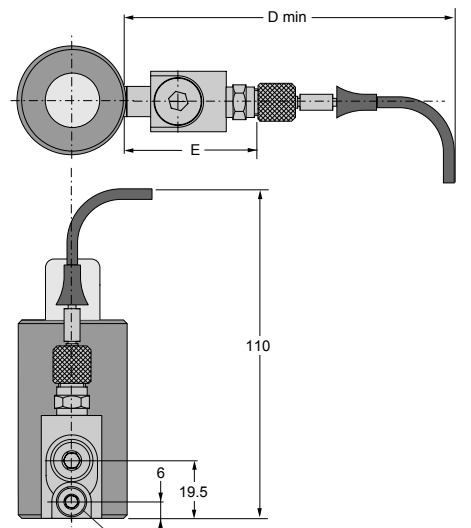


Angle Adapter for Gas Springs with M6 Port

Angle Adapter for Gas Springs with M6 Port						
Order Number	A	B	C	D	E	FFC Mounting Limitations
	mm	mm	mm	mm	mm	
4023520	39	34	18	110	45	Can be used only with FFC 500, 750, 1500 & 3000 mounts.
4023518	51	46	30	120	57	Can be used with all FFC mounts.



Application Example



All dimensions are in millimeters unless otherwise noted.

Note:
Tighten EZ-Hose Adapters before assembling to the M6 port.



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