AIR RIDE SUSPENSION SYSTEMS

Solenoid Valves (Fast Valves)
Valve Manifold Systems
Pressure Switches
Filters (Water Traps)
Air Bellows & Fittings

www.asconumatics.com
ASCO Numatics Air Ride Components

ASCO Numatics is the ideal supplier for all of your air ride component requirements. Our broad line includes valves, valve manifolds, pressure switches, filters, fittings, and air bellow components. Providing unquestioned reliability, application expertise, and unmatched quality, we’re the supplier of choice to get the parts you want when you need them.

How do air suspension systems work?

The compressor keeps the air tank charged with pressurized air. When the pressure in the tank drops below the ASCO Pressure Switch set point, the compressor starts up to maintain the tank’s pressure. The Numatics Filter (water trap) keeps clean, dry air flowing to the ASCO Valve Manifold System. The valves then direct the air flow to the Numatics Air Bellows.

ASCO Valve Manifolds include a pressure gauge port connection, allowing you to monitor the pressures of each air bellow in your system. Numatics Fittings are used to connect the tubing to all of these components.

To Raise it - simply energize the manifold's supply solenoid coil(s).
To Drop it - simply energize the manifold's exhaust solenoid coil(s).

Looking for a lightning quick level response time like those seen in competitive hopping vehicles? ASCO S Series Solenoid Valves provide high flow and the ultimate performance in extreme air ride suspension systems.
ASCO® S solenoid valves are designed for high flow, high reliability air suspension systems. The unique design provides high pressure control at minimal power consumption. DIN connection reduces installation time and decreases installation cost. Available in nickel plated designs for maximum appeal.

**BENEFITS**
- High flow
- 300 psi inlet pressure capability
- DIN connection for easy wiring
- Compact size for tight locations
- High ambient temperature rating (176˚F) for under hood applications

**OPTIONS**
- Nickel plating for show quality finish
- Private labeling
- Mounting bracket #HV282451002
- DIN connector with 6’ leads #285481-018

**Specifications**

<table>
<thead>
<tr>
<th></th>
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<td>SC8238T410</td>
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鹞 = Component Solenoid.

**Dimensions:** inches

<table>
<thead>
<tr>
<th>Const. Ref.</th>
<th>B</th>
<th>C</th>
<th>E</th>
<th>F</th>
<th>G</th>
<th>H</th>
<th>I</th>
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<td>0.86</td>
<td>2.80</td>
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**Const. Ref. 1, 2, 3, 4**
ASCO®
VALVE MANIFOLD SYSTEMS
Anodized Aluminum Body • 3/8" NPT

DESCRIPTION
ASCO Valve Manifolds are engineered to provide maximum flexibility for your air system design. Single valves allow you to raise and lower your vehicle from one point. Dual control manifolds allow for either front to rear or side to side control of your suspension. Quad control manifolds provide you with the flexibility and speed to control each wheel independently providing the ultimate in suspension control.

BENEFITS
• Gang mountable for easy installation and maintenance
• Rated for air pressures up to 200 psi at ambient and air system temperatures of 32°F to 125°F
• Highest flow manifold on the market with a 0.7 Cv factor with a 7/32" orifice
• 1/8" NPT pressure gauge ports for in-vehicle monitoring of your air system
• Single pressure inlet and exhaust minimizes fittings and plumbing required
• Compact size
• Mounting brackets and assembly kits available

Selecting a Catalog Number

<table>
<thead>
<tr>
<th>Color Sample</th>
<th>Color</th>
<th>Single - Controls Entire System</th>
<th>Dual - For Side to Side or Front to Rear Control</th>
<th>Quad - For Side to Side or Front to Rear Control</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gold</td>
<td>HV283597-001</td>
<td>HV283597-201</td>
<td>HV283597-401</td>
<td></td>
</tr>
<tr>
<td>Silver</td>
<td>HV283597-002</td>
<td>HV283597-202</td>
<td>HV283597-402</td>
<td></td>
</tr>
<tr>
<td>Red</td>
<td>HV283597-004</td>
<td>HV283597-204</td>
<td>HV283597-404</td>
<td></td>
</tr>
<tr>
<td>Aluminum</td>
<td>HV283597-009</td>
<td>HV283597-209</td>
<td>HV283597-409</td>
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Kits

<table>
<thead>
<tr>
<th>Kits</th>
<th>323099</th>
<th>2x 323099 required</th>
<th>2x 323099 required</th>
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<tbody>
<tr>
<td>Mounting Bracket Kits</td>
<td>323099</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ganging Kits</td>
<td>① ②</td>
<td>(assembly includes 323098)</td>
<td>(assembly includes 323140)</td>
</tr>
</tbody>
</table>

① - 2 single valves can be attached with 323098 to create a Dual control manifold.
② - 4 single valves can be attached with 323140 to create a Quad control manifold.
Dimensions: inches

PIPING SCHEMATIC

EXHAUST
AIR FROM
AIR BELLOW

Solenoids
(2)

PRESSURE
FROM TANK

AIR BELLOW
PRESSURE GAUGE

AIR BELLOW

EXHAUST
AIR FROM
AIR BELLOW

SUPPLY

GAUGE

GAUGE

GAUGE

GAUGE

Ø 17/64
2 PLACES

Ø.28 HOLES
16 PLACES

3.56
1.56
.310
2.00
4.00
8.00

4.07
1.96
4.63
1.50
3.94

5.94
5.32

1.252
.75
.75
Air Ride Suspension Systems

ASCO® PRESSURE SWITCHES
Brass Body • 1/8” to 1/4” NPT

DESCRIPTION
The ASCO Adjustable Range Pressure Switch line is designed for installation where input pressure parameters are adjusted for personalized control.

The ASCO Fixed Range Pressure Switch line is designed for systems with consistent input pressures.

When mounted directly to your air tank, or in-line between the compressor and tank, the switches ensure reliable control of your ride height.

BENEFITS
Adjustable Range
• Adjustable settings for personalized system control
• Hand adjustment eliminates the need for tools
• Long life diaphragm ensures set point repeatability despite environmental temperature variations
• Vibration resistant

Fixed Range
• Compact size
• Factory preset eliminates the need for calibration
• Sealed against dust, oils, or water for improved life
• Vibration resistant

Adjustable Range Specifications

<table>
<thead>
<tr>
<th>Catalog Number</th>
<th>Male Pipe Size (ins)</th>
<th>Operation</th>
<th>Diaphragm</th>
<th>Terminals</th>
<th>Adjustable Operating Range (psi)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Open Frame</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HC16A218L</td>
<td>1/8</td>
<td>SPDT (Form C Contact)</td>
<td>NBR</td>
<td>Screw</td>
<td>80-200</td>
</tr>
<tr>
<td>HC16A214L</td>
<td>1/4</td>
<td>SPDT (Form C Contact)</td>
<td>NBR</td>
<td>Screw</td>
<td>80-200</td>
</tr>
<tr>
<td>General Purpose</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HC10A218</td>
<td>1/8</td>
<td>SPDT (Form C Contact)</td>
<td>NBR</td>
<td>Screw</td>
<td>80-200</td>
</tr>
<tr>
<td>HC10A214</td>
<td>1/4</td>
<td>SPDT (Form C Contact)</td>
<td>NBR</td>
<td>Screw</td>
<td>80-200</td>
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<tr>
<td>Watertight</td>
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<tr>
<td>HC11A218</td>
<td>1/8</td>
<td>SPDT (Form C Contact)</td>
<td>NBR</td>
<td>Screw</td>
<td>80-200</td>
</tr>
<tr>
<td>HC11A214</td>
<td>1/4</td>
<td>SPDT (Form C Contact)</td>
<td>NBR</td>
<td>Screw</td>
<td>80-200</td>
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Fixed Range Specifications

<table>
<thead>
<tr>
<th>Catalog Number</th>
<th>Male Pipe Size (ins)</th>
<th>Operation</th>
<th>Diaphragm</th>
<th>Terminals</th>
<th>Set Point</th>
<th>Decreasing Pressure (psi)</th>
<th>Increasing Pressure (psi)</th>
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<tbody>
<tr>
<td>JC17A218B</td>
<td>1/8</td>
<td>Normally Closed</td>
<td>NBR</td>
<td>Screw</td>
<td>138</td>
<td>162</td>
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<tr>
<td>JC17A214B</td>
<td>1/4</td>
<td>Normally Closed</td>
<td>NBR</td>
<td>Screw</td>
<td>138</td>
<td>162</td>
<td></td>
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Dimensions: inches
PARTICULATE FILTERS
Automatic Drain with Bowl Protection • 3/8” to 1/2” NPT

DESCRIPTION
Numatics Filters (water traps) are designed to provide your air ride suspension system with top quality air. By removing water and particulate, air suspension systems perform more reliably and efficiently, and have longer life.

BENEFITS
• Semi-automatic drain allows for simple removal of filtered water
• High flow rates maintain air ride suspension system speed
• Metal bowl guard protects the unit from inadvertent breakage

Specifications

<table>
<thead>
<tr>
<th>Series</th>
<th>Pipe Size (ins.)</th>
<th>Bowl Capacity (oz.)</th>
<th>Max. Flow @ 90 psi and 1 psi Drop (scfm)</th>
<th>Max. Inlet Pressure (psi) @125˚F</th>
<th>Filter Capacity (microns)</th>
<th>Ambient Temp.˚F Min.</th>
<th>Max.</th>
<th>Automatic Drain with Bowl Protection</th>
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</thead>
<tbody>
<tr>
<td>F22</td>
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<td>3.8</td>
<td>84.7</td>
<td>150</td>
<td>5</td>
<td>40</td>
<td>120</td>
<td>F22B-03AM</td>
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<tr>
<td>F22</td>
<td>1/2</td>
<td>3.8</td>
<td>84.7</td>
<td>150</td>
<td>5</td>
<td>40</td>
<td>120</td>
<td>F22B-04AM</td>
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</table>

① 230 psi @ 75˚F max. Ambient & Fluid Temperature.

Dimensions: inches

[Diagram of Numatics filter with dimensions]
Numatics Air Bellows provide load boosting performance for air ride suspension systems.

**BENEFITS**
- Vehicle leveling
- Pressure adjustable from 5-100 psi
- Enable complete load stabilization
- Maximizes vehicle load carrying capacity

**Specifications**

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Port Size (ins)</th>
<th>Number of Pliés</th>
<th>Plate Diameter</th>
<th>Const. Ref.</th>
<th>Inlet Dia.</th>
<th>Male Mounting Studs</th>
<th>Female Mounting Holes</th>
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<tr>
<td>ASND11-5-1-733</td>
<td>1/2</td>
<td>2</td>
<td>4.25&quot;</td>
<td>1</td>
<td>1/2 - 14</td>
<td>3/8 - 16 UNC</td>
<td>3/8 - 16 UNC</td>
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<tr>
<td>ASND18-5-1-734</td>
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<td>2</td>
<td>5.50&quot;</td>
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<td>3/8 - 24 UNF</td>
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<tr>
<td>ASND18-5-1-739</td>
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<td>2</td>
<td>5.50&quot;</td>
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<tr>
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<td>4</td>
<td>4.25</td>
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<td>3/8 - 16 UNC</td>
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<td>4</td>
<td>5.50&quot;</td>
<td>2</td>
<td>1/2 - 14</td>
<td>3/8 - 24 UNF</td>
<td>3/8 - 16 UNC</td>
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**Dimensions: inches**

- **Mounting Plate Dimensions**
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<th>D</th>
<th>E</th>
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<td>0.79</td>
<td>-</td>
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<td>ASND18-5-1-734</td>
<td>2.75</td>
<td>1.38</td>
<td>2.75</td>
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<tr>
<td>ASND11-5-1-738</td>
<td>1.75</td>
<td>0.79</td>
<td>-</td>
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<td>ASND18-5-1-739</td>
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<td>ASND11-5-1-740</td>
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<td>ASND11-5-1-744</td>
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<td>0.79</td>
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<td>ASND18-5-1-745</td>
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<td>1.38</td>
<td>2.75</td>
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- **Air Bellow Dimensions**
<table>
<thead>
<tr>
<th>Const. Ref.</th>
<th>A</th>
<th>B</th>
<th>Min. Height (H1)</th>
<th>Extended Height at 20 psi (H2)</th>
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<tbody>
<tr>
<td>1</td>
<td>4.21</td>
<td>6.70</td>
<td>2.80</td>
<td>8.75</td>
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<td>2</td>
<td>5.49</td>
<td>8.00</td>
<td>2.80</td>
<td>8.50</td>
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<td>3</td>
<td>5.49</td>
<td>8.00</td>
<td>2.80</td>
<td>8.75</td>
</tr>
</tbody>
</table>

- **NOT SPECIFIC ALIGNMENT**
Air Ride Suspension Systems

Numatics®

TUBE FITTINGS & ACCESSORIES

BENEFITS

- Pressure rating to 265 psi
- Temperature range: -20˚F to 176˚F
- Push-in fittings with NPTF threads
- PTFE thread sealant
- Tube diameter: 1/8" to 1/2"
- Thread size: 1/8" NPTF to 1/2" NPTF

HOW TO ORDER

<table>
<thead>
<tr>
<th>Fitting Series</th>
<th>INB</th>
<th>101</th>
<th>104</th>
<th>22</th>
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<tbody>
<tr>
<td>INB</td>
<td>NPTF/Brass</td>
<td></td>
<td></td>
<td></td>
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</tbody>
</table>

| Fitting Style  | 100 Union  | 101 Bulkhead Union | 103 Male Connector | 105 Female Connector w/o external box | 106 Union Elbow | 109 Swivel Elbow | 110 Union Tee | 114 Swivel Branch Tee | 121 Reducer | 131 Union Y |

| Thread Size    | 000 No Thread | 020 1/8 NPTF | 021 1/4 NPTF | 022 3/8 NPTF | 023 1/2 NPTF |

| Tube Size      | 104 1/8" | 308 3/8" | 102 1/2" |

Housing (Brass, Nickel Plated)
Release Ring (Polyacetal)
Locking Ring (Stainless Steel)
Lead Bushing (Brass)
Stop Bushing (Brass)
O-Ring (Buna, FKM fluoroelastomer available)
Bushing for Swivel (Brass)
Dimensions: inches

**IN100 Union**

**IN101 Bulkhead Union**

**IN103 Male Connector**

**IN105 Female Connector**

**IN106 Union Elbow**

**IN109 Swivel Elbow**
IN114 Swivel Branch Tee

IN121 Reducer

IN131 Reducer

M Series Metal Air Silencer

P Series Porous Bronze Air Silencer
ASCO Numatics offers a wide range of valves and components for onboard air systems and other automotive related applications.

**ASCO Numatics valves and control components are used on some of the following vehicles:**
- **Trains and buses** – brakes, suspensions, and door controls
- **Heavy duty trucks** – turbocharger, suspension, transmission, and coolant control systems
- **Street cleaning equipment** – water and cleaner control valves
- **Heavy construction equipment** – control valves for transmissions
- **Racing vehicles** – fuel shutoff valves
- **Fuel cell powered vehicles**

**ASCO Numatics valves and components are also used in these related industries:**
- Tire manufacturing facilities
- Auto painting facilities
- Automotive assembly robots
- Car wash water and cleaner control systems
- Fueling stations – in the pumps and for vapor recovery

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### Global Contacts

#### ASCO

**Location** | **Phone**
--- | ---
World Headquarters (U.S.A.) | (1) 800-972-ASCO (2726)
Brazil | (55) 11-4208-1700
Canada | (1) 519-758-2700
Mexico | (52) 55-5809-5640

E-mail: info-valve@asco.com

#### NUMATICS

**Location** | **Phone**
--- | ---
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Canada | (1) 519-758-2700
Mexico | (52) 55-5809-5640

E-mail: InsideSales@numatics.com

#### Other Worldwide Locations

**Location** | **Phone**
--- | ---
Australia | (61) 2-9-451-7077
China | (86) 21-3395-0000
Czech Republic | (420) 235-090-061
France | (33) 1-47-14-32-00
Germany | (49) 7237-9960
Italy | (39) 02-356931
Japan | (81) 798-65-6361
Netherlands | (31) 33-277-7911
Singapore | (65) 6556-1100
Spain | (34) 942-87-6100
United Kingdom | (44) 1695-713600