

Air Saver Unit

An environmentally friendly solution to reducing air consumption.

Catalog 0698P



ENGINEERING YOUR SUCCESS.

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For more information and videos visit: www.parker.com/pneu/airsaver



Important !
 Before carrying out any service work, ensure that the Air Saver Unit has been vented.
 Remove the primary supply air hose to ensure total disconnection of the air supply before dismantling valves or blank connection blocks.



NB !
 All technical data in this catalog is typical only.
 The air quality is decisive for the valve life: see ISO 8573.



WARNING

FAILURE OR IMPROPER SELECTION OR IMPROPER USE OF THE PRODUCTS AND/OR SYSTEMS DESCRIBED HEREIN OR RELATED ITEMS CAN CAUSE DEATH, PERSONAL INJURY AND PROPERTY DAMAGE.

This document and other information from Parker Hannifin Corporation, its subsidiaries and authorized distributors provide product and/or system options for further investigation by users having technical expertise. It is important that you analyze all aspects of your application including consequences of any failure, and review the information concerning the product or system in the current product catalog. Due to the variety of operating conditions and applications for these products or systems, the user, through its own analysis and testing, is solely responsible for making the final selection of the products and systems and assuring that all performance, safety and warning requirements of the application are met.

The products described herein, including without limitation, product features, specifications, designs, availability and pricing, are subject to change by Parker Hannifin Corporation and its subsidiaries at any time without notice.

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The items described in this document are available for sale by Parker Hannifin Corporation, its subsidiaries or its authorized distributors. Any sale contract entered into by Parker will be governed by the provisions stated in Parker's standard terms and conditions of sale (copy available upon request).

**An easy solution to your environmental protection efforts!
The Air Saver Unit contributes to power savings and CO₂ reduction.**

Parker Air Saver Unit

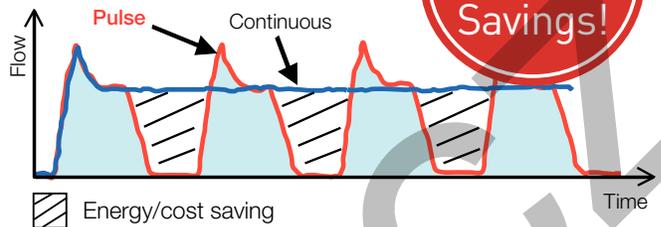
Up to **50%*** Savings!

Pulsing air technology reduces consumption.

The Air Saver Unit is a valve that converts a continuous air blow to a pulsed air blow without the need for any other external control. Air is blown with a series of ON and OFF pulses. When the blow is OFF, there is no air consumption.

When using an Air Saver Unit several significant benefits can be achieved. Air blowing accounts for almost 50% of all compressed air used in plants. By using switching valve technology the Air Saver Unit can reduce air consumption by up to 50%!

- Large reductions in air consumption.
- Savings in compressor power consumption.
- Reduction in plant CO₂ emissions.
- Big contribution to energy-saving activities.
- Improved efficiency.

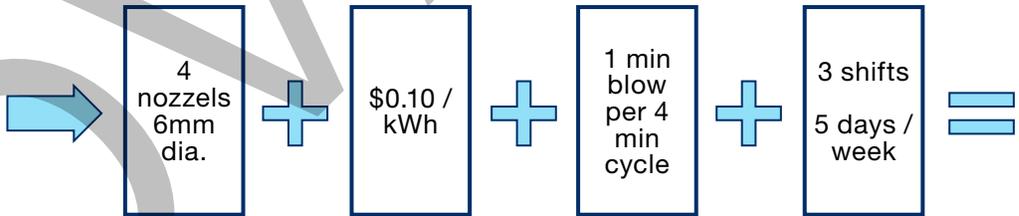


* To achieve the benefits of pulsed air, the Air Saver Unit should be installed no more than 3 meters away from the air blow orifice. For optimal results install within 1 meter.



Try our fast and easy online savings calculator! www.linktovms.com/airsaver

Sample Application



ENGINEERING YOUR SUCCESS.

Prepared for

Prepared by

Air Saver Unit Valve Calculator
Summary Sheet

VALUE IMPACT SUMMARY

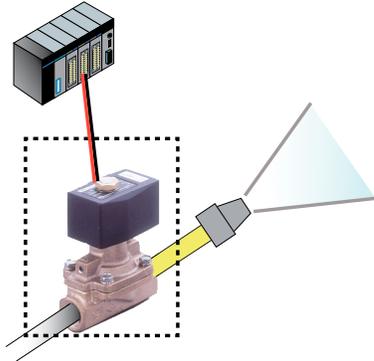
| | |
|---|-------------|
| Reduced Total Annual Air Discharge Per Blowing Nozzle (scfm) by: | 3,232,005 |
| Reduced Annual CO ₂ Emissions Generated (Per Blowing Nozzle - in Tons) by: | 5.77 tons |
| Reduced Annual Air Generating Costs Per Blowing Nozzle by: | \$ 892.03 |
| Quantity of Air Blowing Nozzles With Same Application Specifications | 4 |
| Reduced Annual Air Generating Costs For All Nozzles by: | \$ 3,568.13 |
| Reduced Annual CO ₂ Emissions Generated (For All Blowing Nozzles) by: | 23.07 |



Installation is simple and reduction in air consumption can be realized immediately.

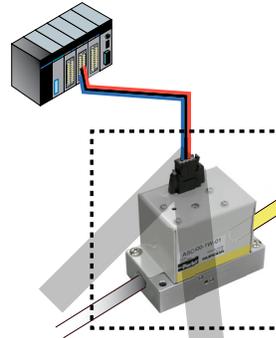
- When using an electrically operated solenoid valve to control the air blow, an Air Saver Unit can quickly and easily be retrofitted providing an immediate reduction in air consumption with no changes to the PLC program.

Before introduction of the unit



After introduction of the unit

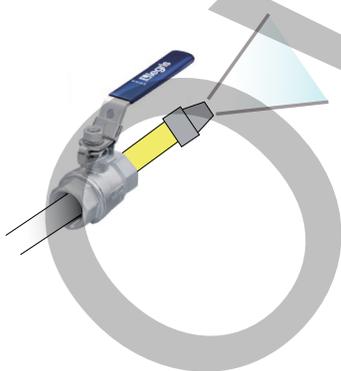
- Easy to install. Change the current solenoid valve to Air Saver Unit. (ASC500 or ASO500)
- Program change of controller is not necessary.



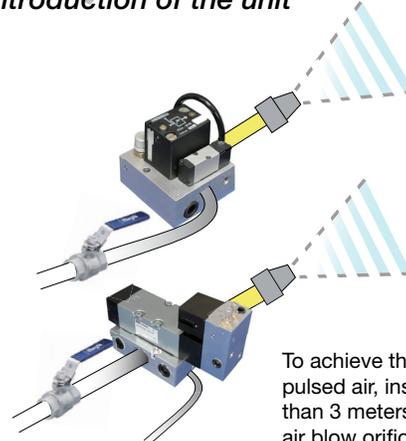
To achieve the benefits of pulsed air, install no more than 3 meters away from the air blow orifice. For optimal results install within 1 meter.

- When using manual valves such as ball valves, simply install either ASV200, ASV500 or ASV2000 units which do not need electrical power. Installing the unit brings immediate reduction in air consumption and improved compressor efficiency.

Before introduction of the unit



After introduction of the unit



To achieve the benefits of pulsed air, install no more than 3 meters away from the air blow orifice. For optimal results install within 1 meter.

[Company A] Food & Beverage manufacturer

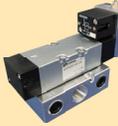
"When we tested ASV5000, we achieved about 55% reduction of our air consumption. Because air blow efficiency was improved, we plan to use more Air Saver Units in other areas in the plant".

[Company B] Manufacturer of office document machines

"We are working on energy-saving activities. In those activities, we decided to use an Air Saver Unit. We have more than 100 points of air blow and we reduced our air consumption by 42% using this unit".



Specifications

| |  |  |  |  |  |  |  | Unit |
|--|---|---|---|---|--|---|---|------------|
| Function | Normally closed | | | | | | Normally open | -- |
| Fluid | Non lubricated air | | | | | | | -- |
| Flow (at 72.5 psi) | 5.3 | 70.6 | 176.6 | 459.1 | 529.7 | 15.9 | 15.9 | scfm |
| Adjustable pulse frequency | Up to 5 | Up to 5 | Up to 5 | Up to 1 | Up to 1 | 2-22 | 2-22 | Hz |
| Port size | M5 | 3/8" | 1/2" | 1" | 1-1/4" | 1/8" | 1/8" | NPT (BSPP) |
| Operating temperature | 23 to 122 | | | | | | | ° F |
| Pressure range | 43.5 - 116 | 0 - 116 | | | | 29 - 101.5 | 29 - 72.5 | PSI |
| Pilot air supply | Internal pilot | 43.5 - 116 * | | | | Internal pilot | | PSI |
| Blow | Pulse blow | | | | | Pulse/Continuous blow | | -- |
| Rated voltage | Electrical power is not necessary | | | | | DC 24 V | | V |
| Power consumption | - | | | | | 1.2 W | | W |
| Grade of Insulation | - | | | | | NEMA 1 | | -- |
| Permissible voltage fluctuation | - | | | | | + or - 10 | | % |
| Wiring | - | | | | | e-CON standard 4 pole sockets | | -- |
| Filtration | Dry w/ 40 µm filtration † | | | | | | | -- |

Notes:

* External pilot of 43.5 - 116 is required, to ensure proper operation.

† For maximum life of the unit we recommend 5 micron, but 40 micron filtration is acceptable and will not void warranty.

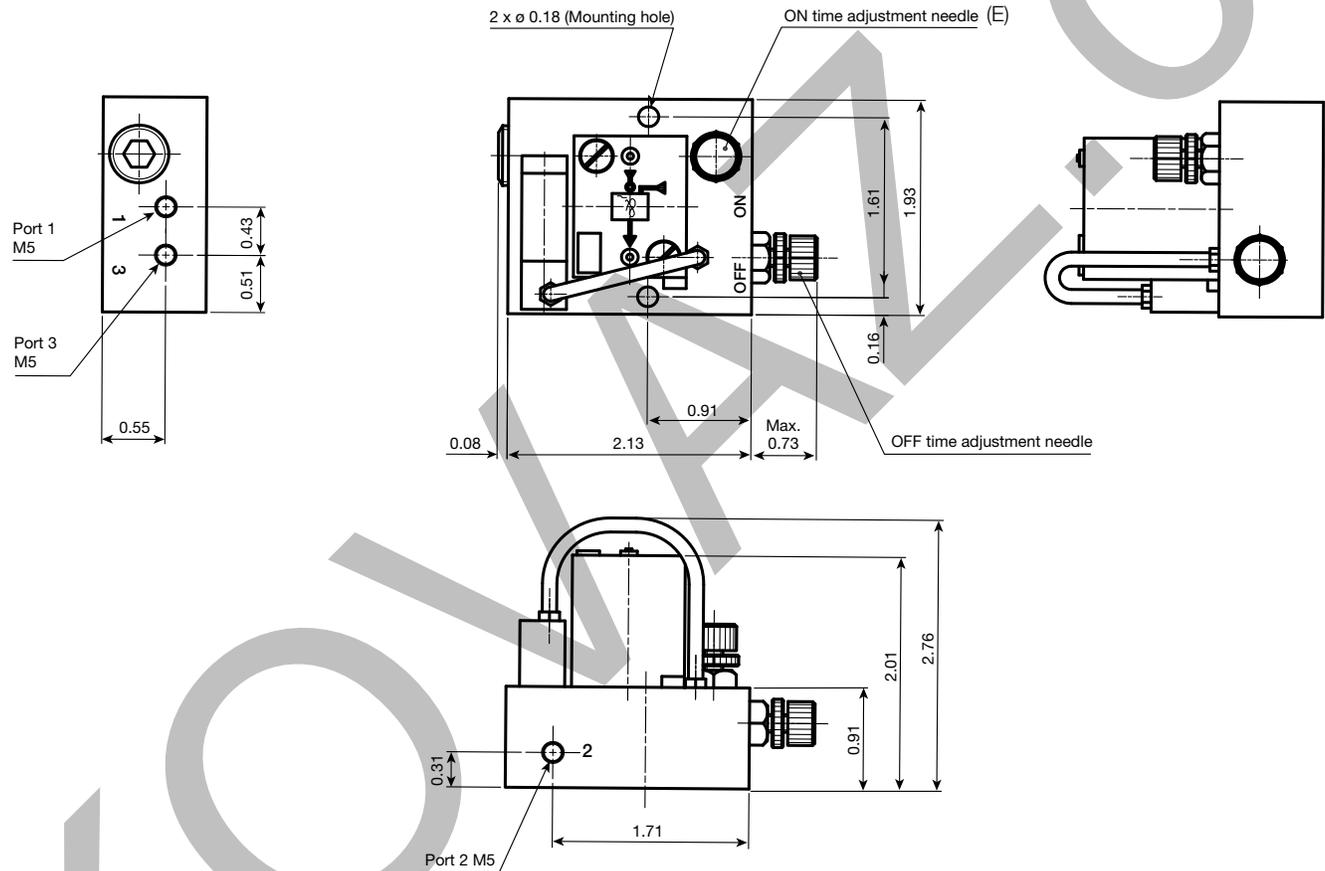
To achieve the benefits of pulsed air, the Air Saver Unit should be installed no more than 3 meters away from the air blow orifice. For optimal results install within 1 meter.



Ordering Information ASV200-AA-M5

| Function | Fluid | Flow @ 72.5 psi | Port size | Operating temperature | Pressure range, psi | Pilot air supply, psi | Blow type | Grease | Part number |
|-----------------|---------|-----------------|-----------|-----------------------|---------------------|-----------------------|-----------|---|-----------------------|
| Normally closed | Dry air | 5.3 scfm | M5 | 23-122°F (A) | 43.5-116 | Internal pilot | Pulse | Food grade | ASV200-AA-M5 |
| | | | | | | | | Petrolatum (B), (C), (D) (for painting applications) | WPASV200-AA-M5 |

Dimensions: ASV200-AA-M5



Piping

- Port 1: Supply port (Compressor side)
- Port 2: Output port (Blow nozzle side)
- Port 3: Exhaust port*

* In order to keep out dust, the air muffler is recommended for exhaust port.

Notes:

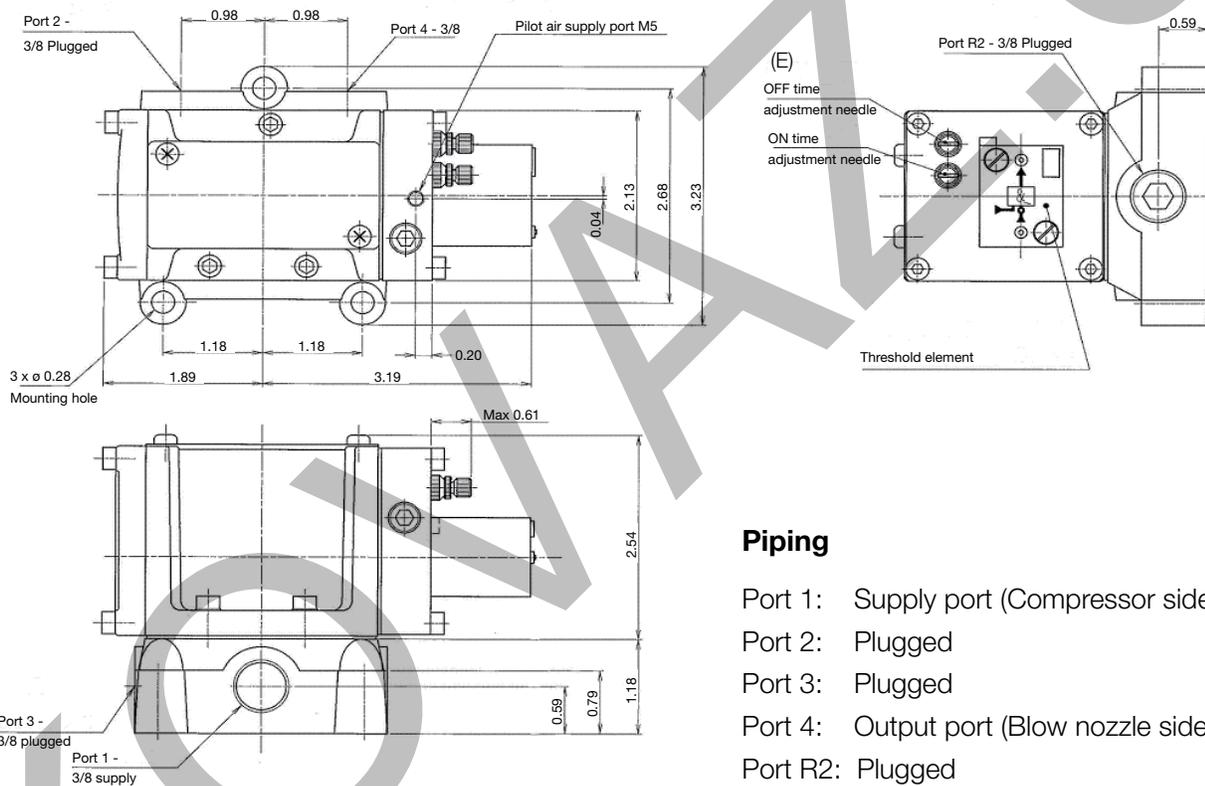
- A. When temperature of valve goes below 5°C (41°F), complete dry air shall be supplied to prevent from freezing.
- B. Air Saver Units with WP prefix are suitable for most painting applications. Test before use if in direct contact with painted surface.
- C. If test in painting application fails, try cycling Air Saver Unit for 48 hours and repeat test.
- D. DO NOT use “WP” Air Saver Unit in ‘clear coat’ applications.
- E. Adjustable to maximum frequency of 5Hz.



Ordering Information ASV2000-AA-xx

| Function | Fluid | Flow @ 72.5 psi | Port size | Operating temperature | Pressure range, psi | Pilot air supply, psi | Blow type | Grease | Port type | Part number |
|-----------------|---------|-----------------|-----------|-----------------------|---------------------|-----------------------|-----------|----------|--------------|------------------------|
| Normally closed | Dry air | 70.6 scfm | 3/8" | 23-122°F (A) | 0-116 | 43.5-116 | Pulse | Standard | NPT | ASV2000-AA-97 |
| | | | | | | | | | BSP | ASV2000-AA-17 |
| | | | | | | | | | NPT (B), (C) | WPASV2000-AA-97 |
| | | | | | | | | | BSP (D) | WPASV2000-AA-17 |

Dimensions: ASV2000-AA-97 (NPT model)



Piping

- Port 1: Supply port (Compressor side)
- Port 2: Plugged
- Port 3: Plugged
- Port 4: Output port (Blow nozzle side)
- Port R2: Plugged
- Port X: M5 pilot air supply
>43.5 psi is required

Notes:

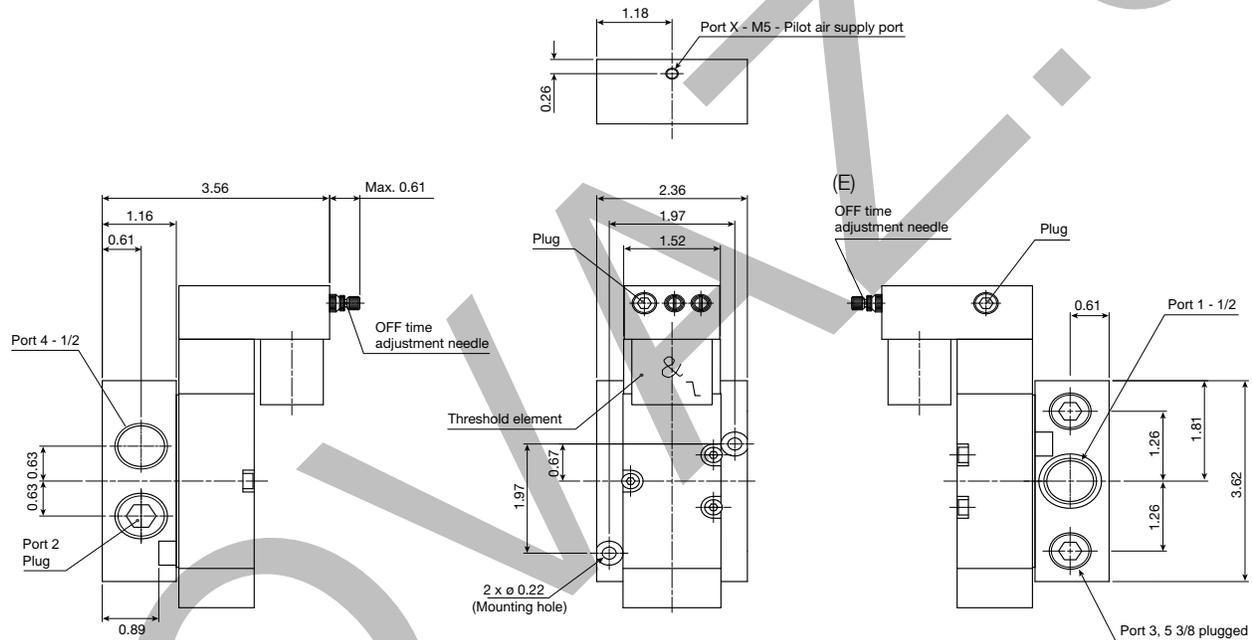
- A. When temperature of valve goes below 5°C (41°F), complete dry air shall be supplied to prevent from freezing.
- B. Air Saver Units with WP prefix are suitable for most painting applications. Test before use if in direct contact with painted surface.
- C. If test in painting application fails, try cycling Air Saver Unit for 48 hours and repeat test.
- D. DO NOT use "WP" Air Saver Unit in 'clear coat' applications.
- E. Adjustable to maximum frequency of 5Hz.



Ordering Information ASV5000-AA-xx

| Function | Fluid | Flow @ 72.5 psi | Port size | Operating temperature | Pressure range, psi | Pilot air supply, psi | Blow type | Grease | Port type | Part number | |
|-----------------|---------|-----------------|-----------|-----------------------|---------------------|-----------------------|-----------|------------|--|------------------------|------------------------|
| Normally closed | Dry air | 176.6 scfm | 1/2" | 23-122°F (A) | 0-116 | 43.5-116 | Pulse | Food grade | NPT | ASV5000-AA-91 | |
| | | | | | | | | | BSPP | ASV5000-AA-21 | |
| | | | | | | | | | Petrolatum (B), (for painting (C), applications) (D) | NPT | WPASV5000-AA-91 |
| | | | | | | | | | BSPP | WPASV5000-AA-21 | |

Dimensions: ASV5000-AA-91 (NPT model)



Piping

- Port 1: Supply port (Compressor side)
- Port 2: Plugged
- Port 3: Plugged
- Port 4: Output port (Blow nozzle side)
- Port 5: Plugged
- Port X: M5 pilot air supply >43.5 psi is required

Notes:

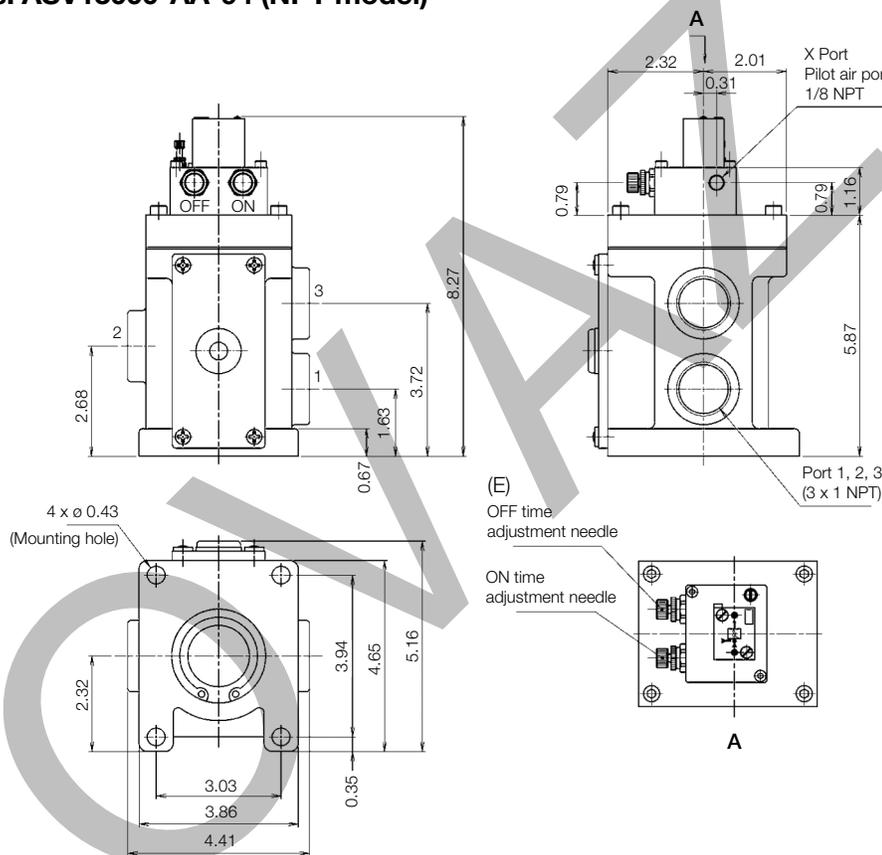
- A. When temperature of valve goes below 5°C (41°F), complete dry air shall be supplied to prevent from freezing.
- B. Air Saver Units with WP prefix are suitable for most painting applications. Test before use if in direct contact with painted surface.
- C. If test in painting application fails, try cycling Air Saver Unit for 48 hours and repeat test.
- D. DO NOT use "WP" Air Saver Unit in 'clear coat' applications.
- E. Adjustable to maximum frequency of 5Hz.



Ordering Information ASV13000-AA-xx

| Function | Fluid | Flow @ 72.5 psi | Port size | Operating temperature | Pressure range, psi | Pilot air supply, psi | Blow type | Grease | Port type | Part number |
|-----------------|---------|-----------------|-----------|-----------------------|---------------------|-----------------------|-----------|--|-------------|-------------------------|
| Normally closed | Dry air | 459.1 scfm | 1" | 23-122°F (A) | 0-116 | 43.5-116 | Pulse | Petrolatum (for painting applications) | (B), | WPASV13000-AA-94 |
| | | | | | | | | | (C), (D) | WPASV13000-AA-34 |

Dimensions: ASV13000-AA-94 (NPT model)



Piping

- Port 1: Supply port (Compressor side)
- Port 2: Output port (Blow nozzle side)
- Port 3: Plugged
- Port X: 1/8 NPT pilot air supply
 >43.5 psi is required

Notes:

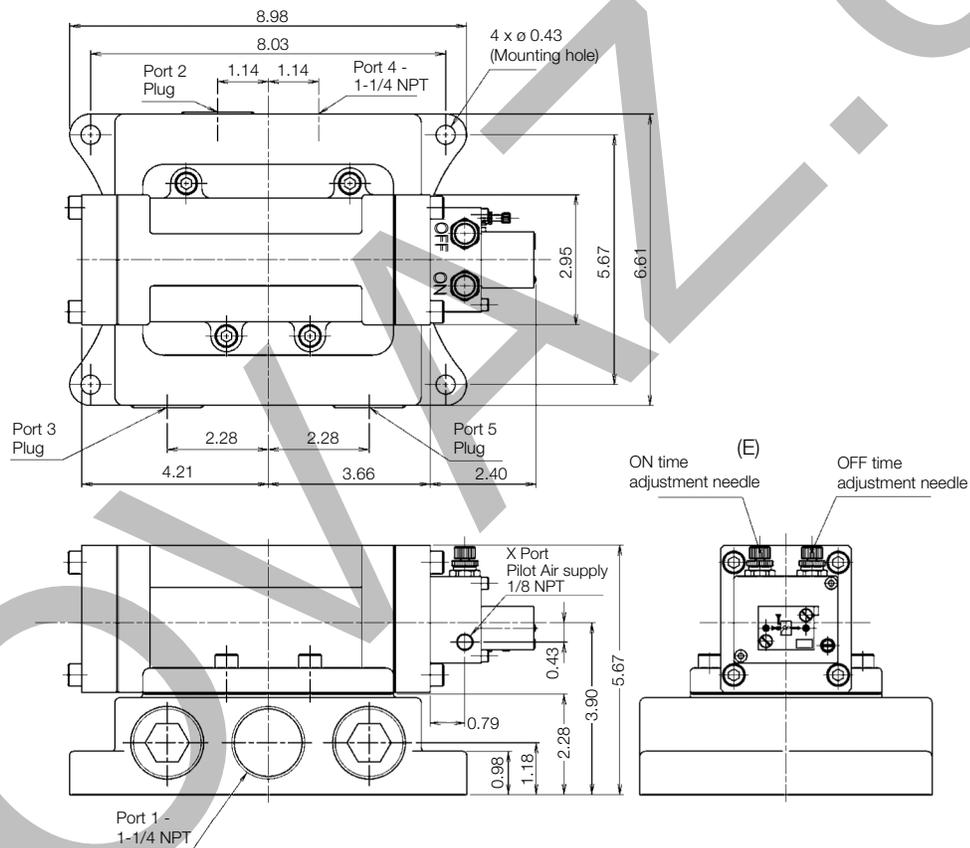
- A. When temperature of valve goes below 5°C (41°F), complete dry air shall be supplied to prevent from freezing.
- B. Air Saver Units with WP prefix are suitable for most painting applications. Test before use if in direct contact with painted surface.
- C. If test in painting application fails, try cycling Air Saver Unit for 48 hours and repeat test.
- D. DO NOT use "WP" Air Saver Unit in 'clear coat' applications
- E. Adjustable to maximum frequency of 1Hz.



Ordering Information ASV15000-AA-xx

| Function | Fluid | Flow @ 72.5 psi | Port size | Operating temperature | Pressure range, psi | Pilot air supply, psi | Blow type | Grease | Port type | Part number |
|-----------------|---------|-----------------|-----------|-----------------------|---------------------|-----------------------|-----------|---|-----------|-------------------------|
| Normally closed | Dry air | 529.7 scfm | 1-1/4" | 23-122°F (A) | 0-116 | 43.5-116 | Pulse | Petrolatum (B), (for painting applications) (C), (D) | NPT | WPASV15000-AA-92 |
| | | | | | | | | | BSPP | WPASV15000-AA-42 |

Dimensions: ASV15000-AA-92 (NPT model)



Piping

- Port 1: Supply port (Compressor side)
- Port 2: Plug (1-1/4)
- Port 3: Plug (1-1/4)
- Port 4: Output port (Blow nozzle side)
- Port 5: Plug (1-1/4)
- Port X: 1/8 NPT pilot air supply
 >43.5 psi is required

Notes:

- A. When temperature of valve goes below 5°C (41°F), complete dry air shall be supplied to prevent from freezing.
- B. Air Saver Units with WP prefix are suitable for most painting applications. Test before use if in direct contact with painted surface.
- C. If test in painting application fails, try cycling Air Saver Unit for 48 hours and repeat test.
- D. DO NOT use "WP" Air Saver Unit in 'clear coat' applications.
- E. Adjustable to maximum frequency of 1Hz.

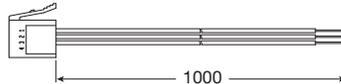


Ordering Information ASC500-1W / ASO500-1W

| Function | Fluid | Flow @ 72.5 psi | Port size | Operating temperature | Pressure range, psi | Pilot air supply, psi | Blow type | Port type | Part number |
|-----------------|---------|-----------------|-----------|-----------------------|---------------------|-----------------------|------------------|-----------|---------------------|
| Normally closed | Dry air | 15.9 scfm | 1/8" | 23-122°F | 29-72.5 | Internal pilot | Pulse/continuous | NPT | ASC500-1W-90 |
| | | | | | | | | BSPP | ASC500-1W-10 |
| Normally open | Dry air | 15.9 scfm | 1/8" | 23-122°F (A) | 29-72.5 | Internal pilot | Pulse/continuous | NPT | ASO500-1W-90 |
| | | | | | | | | BSPP | ASO500-1W-10 |

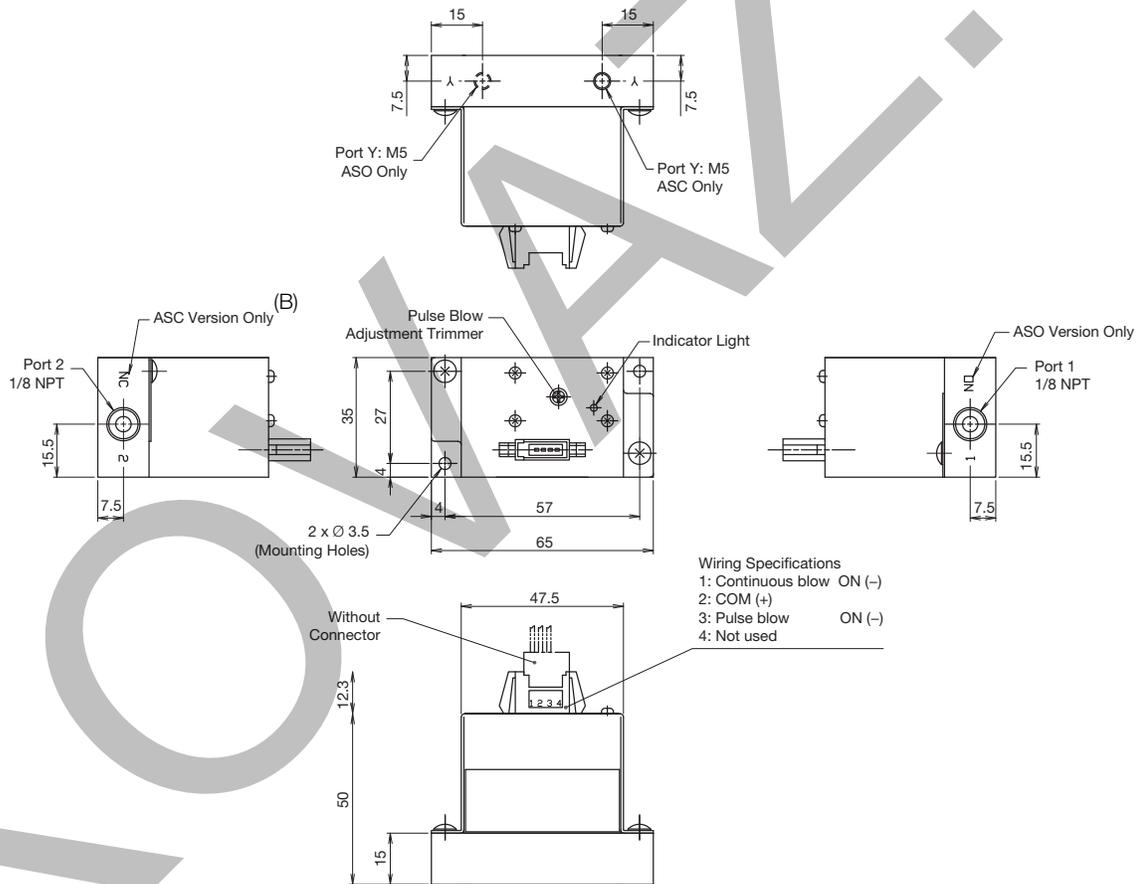
Cable

Cable with specific connector (AWG26 ASC/ASO in common)



ASC-D24-CL10

Dimensions: ASC500-1W-90 / ASO500-1W-90 (NPT model)



Piping

Port 1: Supply port (Compressor side)
 Port 2: Output port (Blow nozzle side)
 Y port: Pilot exhaust port*

* In order to avoid dust, it is recommended to attach an air muffler.

Notes:

- A. When temperature of valve goes below 5°C (41°F), complete dry air shall be supplied to prevent from freezing.
- B. Adjustable to maximum frequency of 22Hz.

**Cleaning blow before
assembly**



Paint spraying *



Swarf removal



**Assist blow for PET
bottle transfer**



Electrical parts



**Liquid removal after the
manufacturing process**

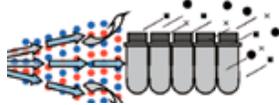
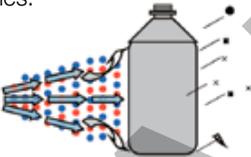
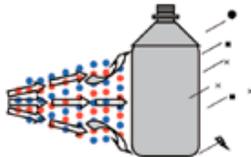
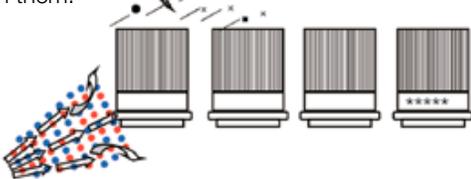


* Air Saver Units with WP prefix are suitable for most painting applications. Test before use in direct contact with painted surface. If test in painting application fails, try cycling Air Saver Unit for 48 hours and repeat test. DO NOT use "WP" Air Saver Unit in 'clear coat' applications.

Air Saver Unit



Pneumatic Solutions for Beverage and Bottle Plants

| Process | Application | Advantage |
|---------------------------------|---|---|
| Before blow molding PET bottles | Pulse ionized blow by Air Saver Unit in order to remove particles before PET bottles are molded.  | Pulsed ionized blow and the blast of each pulse, increases the efficiency of particle removal in the production of PET bottles. |
| After blow molding PET bottles | Cleaning blow for particles that attach to the blow molded PET bottles.  | Reduces up to 50% of consumption air. |
| Conveying PET bottles | Assisting blow to convey PET bottles  | Reduces up to 50% of consumption air. |
| | Escape blow for PET bottles when the line is stopped.  | Reduces up to 50% of consumption air. |
| | Pulse ionized blow for PET bottles before pasting labels on them.  | Pulse blow and its blast of each pulse increase to remove particles effectively. |
| Printing machine | Pulse ionized blow for bottles or caps before printing date on them.  | Pulse blow and its blast of each pulse increase to remove particles effectively. |

Selection of Air Saver Unit

Guide data for the correct selection of an Air Saver Unit for blow applications.

Please take into account the two variables:

- System operation pressure (PSI)
- Required air consumption of nozzle or set of nozzles (scfm) to be controlled with one Air Saver Unit

Color coding indicates correct Air Saver Unit

| |
|-------------------|
| ASV200 |
| ASC500/ ASO500 |
| ASV2000 |
| ASV5000 |
| ASV13000 |
| ASV15000 |

| Nozzle area (mm ²) | Nozzle Ø (mm) | Air consumption (scfm) | | | | | | |
|-----------------------------------|------------------|------------------------|--------|--------|----------|----------|----------|----------|
| | | System pressure (PSI) | | | | | | |
| | | 29.0 | 43.5 | 58.0 | 72.5 | 87.0 | 101.5 | 116.0 |
| 0.0 | 0.1 | | 0.014 | 0.018 | 0.018 | 0.021 | 0.025 | 0.028 |
| 0.0 | 0.2 | | 0.053 | 0.064 | 0.078 | 0.088 | 0.102 | 0.113 |
| 0.1 | 0.3 | | 0.117 | 0.145 | 0.173 | 0.201 | 0.230 | 0.258 |
| 0.2 | 0.5 | | 0.321 | 0.388 | 0.494 | 0.565 | 0.636 | 0.706 |
| 0.8 | 1.0 | | 1.27 | 1.59 | 1.91 | 2.22 | 2.54 | 2.86 |
| 1.8 | 1.5 | | 2.90 | 3.60 | 4.31 | 5.01 | 5.72 | 6.46 |
| 3.1 | 2.0 | | 5.12 | 6.39 | 7.66 | 8.90 | 10.17 | 11.44 |
| 7.1 | 3.0 | 8.65 | 11.51 | 14.34 | 17.20 | 20.06 | 22.92 | 25.78 |
| 12.6 | 4.0 | 15.40 | 20.45 | 25.53 | 30.55 | 35.67 | 40.61 | 45.91 |
| 19.6 | 5.0 | 24.05 | 31.96 | 39.91 | 47.67 | 55.80 | 63.57 | 71.69 |
| 28.3 | 6.0 | 34.64 | 46.05 | 57.56 | 68.86 | 80.16 | 91.82 | 103.12 |
| 35.8 | 7.0 | 47.11 | 62.65 | 78.19 | 89.59 | 109.19 | 124.06 | 140.38 |
| 50.2 | 8.0 | 61.80 | 81.93 | 102.06 | 122.19 | 142.67 | 163.15 | 183.28 |
| 63.6 | 9.0 | 77.90 | 103.58 | 129.22 | 148.07 | 180.53 | 206.10 | 232.05 |
| 78.5 | 10.0 | 96.06 | 127.84 | 159.62 | 191.05 | 222.84 | 254.62 | 286.40 |
| 95.0 | 11.0 | 116.36 | 154.71 | 193.03 | 221.21 | 269.66 | 307.87 | 346.61 |
| 113.0 | 12.0 | 138.43 | 184.34 | 229.55 | 274.75 | 321.01 | 367.27 | 412.48 |
| 132.7 | 13.0 | 162.52 | 216.09 | 269.59 | 308.97 | 376.63 | 430.03 | 484.13 |
| 153.9 | 14.0 | 188.47 | 250.63 | 312.68 | 358.30 | 436.81 | 498.71 | 561.47 |
| 176.6 | 15.0 | 216.48 | 287.81 | 360.21 | 430.84 | 501.47 | 572.10 | 644.49 |
| 201.0 | 16.0 | 246.18 | 327.33 | 408.41 | 467.99 | 570.51 | 651.38 | 733.34 |
| 226.9 | 17.0 | 277.93 | 369.53 | 461.03 | 528.34 | 644.07 | 735.36 | 827.88 |
| 254.3 | 18.0 | 311.58 | 414.28 | 516.87 | 592.30 | 722.04 | 824.42 | 928.14 |
| 283.4 | 19.0 | 347.14 | 461.60 | 575.91 | 659.96 | 804.50 | 918.57 | 1,034.15 |
| 314.0 | 20.0 | 384.93 | 512.06 | 639.2 | 766.33 | 889.93 | 1,017.06 | 1,144.20 |
| 346.2 | 21.0 | 424.09 | 563.87 | 703.54 | 806.20 | 982.81 | 1,122.12 | 1,263.31 |
| 379.9 | 22.0 | 465.45 | 618.85 | 772.12 | 884.81 | 1,078.62 | 1,231.53 | 1,386.49 |
| 415.3 | 23.0 | 508.71 | 676.38 | 843.91 | 967.09 | 1,178.91 | 1,346.05 | 1,515.42 |
| 452.2 | 24.0 | 553.91 | 736.49 | 918.89 | 1,053.01 | 1,283.65 | 1,465.63 | 1,650.04 |
| 490.6 | 25.0 | 600.35 | 798.11 | 995.87 | 1,193.64 | 1,394.93 | 1,589.16 | 1,790.45 |

Reduced performance flow capacity of 10% is applied

Consider min. operating pressure (see tech specs on page 5)

Consider min. pilot air pressure (see tech specs on page 5)



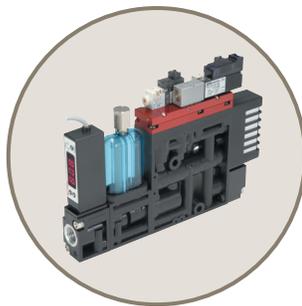
Pressure Differential Sensors

- Monitor pressure drop on filters.
- Provide electrical signals or visual indicators when pressure drop is high and filter elements need replaced.
- Can assist you in lowering compressed air costs by reducing pressure drops.



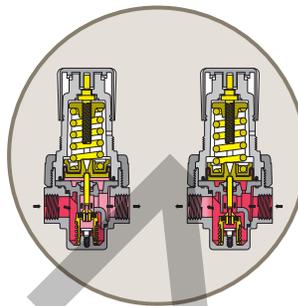
Air Economizing Vacuum Generators

- Built-in sensors only apply air pressure when vacuum is needed.
- Sensor turns generator on when vacuum drops to a preset level.
- Reduces plant compressed air costs.



Reverse Flow Regulators

- Most actuators only need work force in one direction.
- Installed between valve and actuator.
- Reduces pressure on the return stroke of an actuator where work force is not needed.
- Reduces plant compressed air costs.

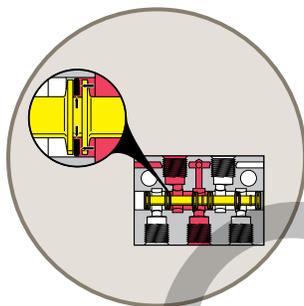


Zero Loss Air Drains

- Many Compressors and Air Tanks use Timer Drains to purge water and moisture from the tanks.
- Timer Drains waste compressed air because they blow too long, and blow when no water is present.
- Zero Loss Drains use floats to actuate the drain to open and blow out moisture and shut off once moisture is gone, saving compressed air costs.



Other Parker Energy Saving Products and Tools Portfolio



Wear Compensated Seals

- Air valve spools that have wear compensation
- Air pressure forces the seals out to the valve bore.
- Very little air leakage across these spools through out it's life.
- Especially better than lapped spool valves.



Straight Fittings, Pre-Sealed

- Factory applied thread sealant perform better than operator applied sealant.
- Where ever possible, use straight fittings in place of 45 or 90 degree elbow fittings to minimize pressure drop and save on compressed air costs.



Low Power Solenoids

- Typical Class 8 22mm Coil Wattage 5.4W
- Parker 15mm Coil Wattage 1.2W
- Save 4.2W while doing work



Pneumatic Sizing Tools

- Air Cost, Flow, and Product Sizing Calculators
- Conversion tools (e.g. Pressure BAR to PSI)
- Available on website www.parkerpdncalc.com, downloadable for cell phones and I Pads from Apple App Store.

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