

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.

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

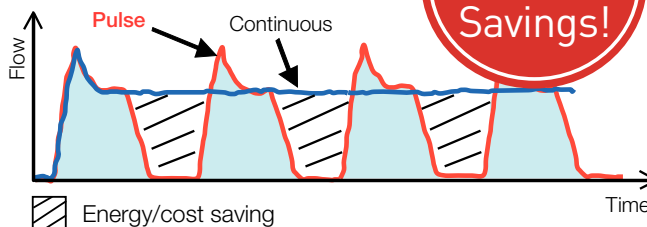
Parker Air Saver Unit

Pulsing air technology reduces consumption.

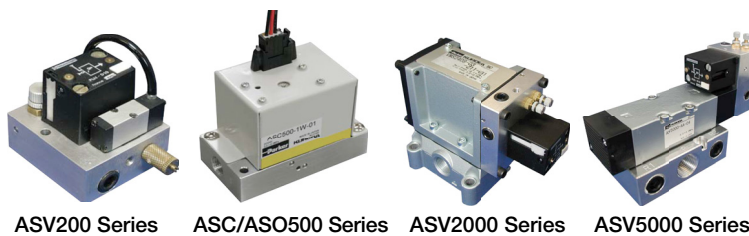
The Air Saver Unit is a valve that converts a continuous air blow to a pulsed air blow without the need for any other external control. Air is blown with a series of ON and OFF pulses. When the blow is OFF, there is no air consumption.

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%!

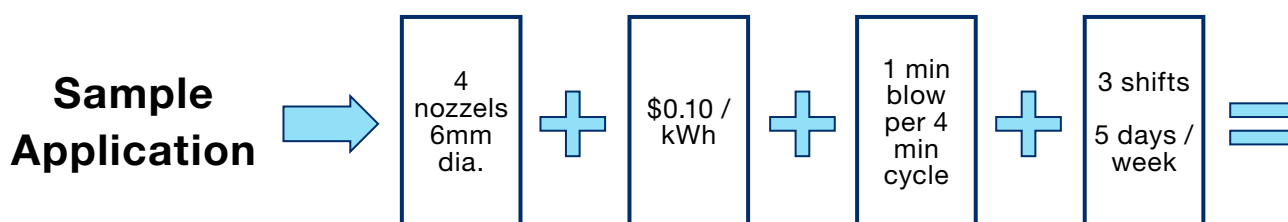
- Large reductions in air consumption.
- Savings in compressor power consumption.
- Reduction in plant CO₂ emissions.
- Big contribution to energy-saving activities.
- Improved efficiency.



★ 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



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Prepared for

Prepared by

Air Saver Unit Valve Calculator
Summary Sheet

VALUE IMPACT SUMMARY

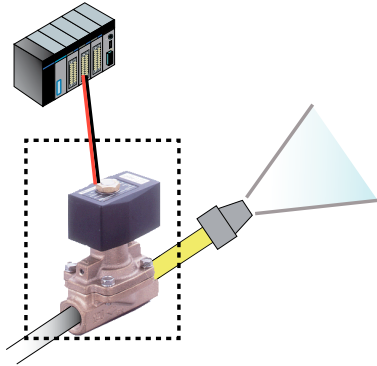
Reduced Total Annual Air Discharge Per Blowing Nozzle (scfm) by:	3,232,005
Reduced Annual CO ₂ Emissions Generated (Per Blowing Nozzle - in Tons) by:	5.77 tons
Reduced Annual Air Generating Costs Per Blowing Nozzle by:	\$ 892.03
Quantity of Air Blowing Nozzles With Same Application Specifications	4
Reduced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

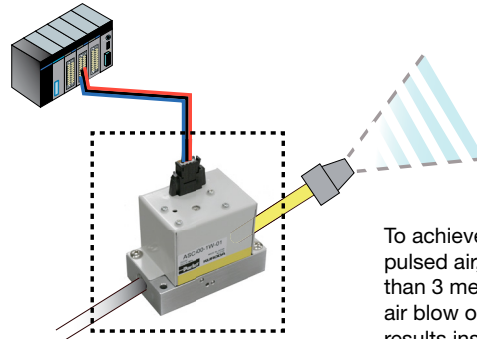
- When using an electrically operated solenoid valve to control the air blow, an Air Saver Unit can quickly and easily be retrofitted providing an immediate reduction in air consumption with no changes to the PLC program.

Before introduction of the unit



After introduction of the unit

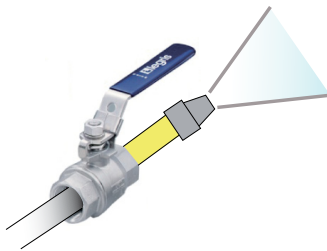
- Easy to install. Change the current solenoid valve to Air Saver Unit. (ASC500 or ASO500)
- Program change of controller is not necessary.



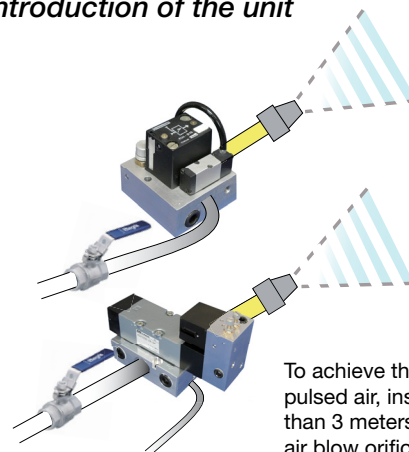
To achieve the benefits of pulsed air, install no more than 3 meters away from the air blow orifice. For optimal results install within 1 meter.

- 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

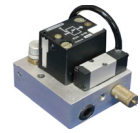
								
	ASV200	ASV2000	ASV5000	ASV13000	ASV15000	ASC500	ASO500	Unit
Function	Normally closed						Normally open	— —
Fluid	Non lubricated air							— —
Flow (at 72.5 psi)	5.3	70.6	176.6	459.1	529.7	15.9	15.9	scfm
Adjustable pulse frequency	Up to 5	Up to 5	Up to 5	Up to 1	Up to 1	2-22	2-22	Hz
Port size	M5	3/8"	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.



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), (for painting (C), applications) (D)	WPASV200-AA-M5

Technical drawings of the E1000-01 relay, showing dimensions and labels for various components.

Front View (Top Left):

- Port 1 M5 (Top terminal)
- Port 3 M5 (Bottom terminal)
- Dimensions: 0.55 (width), 0.51 (distance between terminals), 0.43 (height of terminal block).

Top View (Middle):

- 2 x $\phi 0.18$ (Mounting hole)
- ON time adjustment needle (E)
- OFF time adjustment needle
- Dimensions: 0.08 (left offset), 2.13 (main body width), 0.91 (distance to ON needle), Max. 0.73 (distance to OFF needle), 1.61 (height to ON needle), 1.93 (height to OFF needle), 0.16 (height of terminal block).

Side View (Bottom):

- Port 2 M5 (Left terminal)
- Dimensions: 0.31 (height of Port 2), 1.71 (width), 0.91 (height of terminal block), 2.01 (height to top of coil), 2.76 (total height).

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

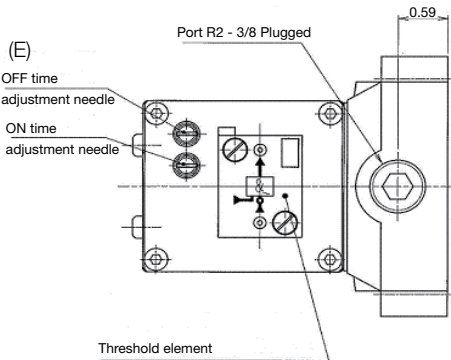
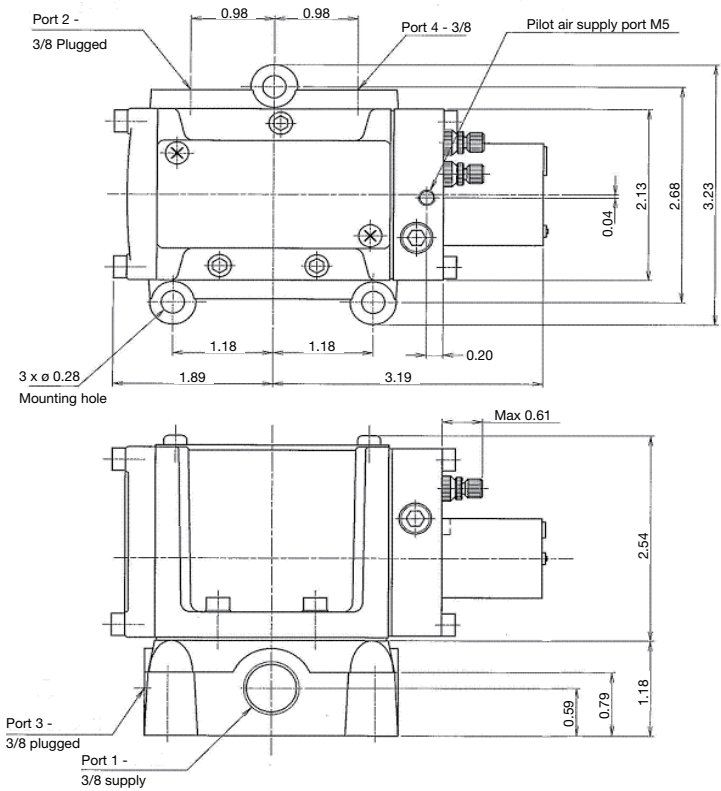
- A. When temperature of valve goes below 5°C (41°F), complete dry air shall be supplied to prevent from freezing.
- B. Air Saver Units with WP prefix are suitable for most painting applications. Test before use if in direct contact with painted surface.
- C. If test in painting application fails, try 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
									BSPP	ASV2000-AA-17
								Petrolatum (B), (for painting (C), applications) (D)	NPT	WPASV2000-AA-97
									BSPP	WPASV2000-AA-17

Dimensions: ASV2000-AA-97 (NPT model)

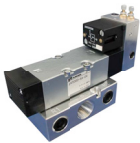


Piping

- 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:

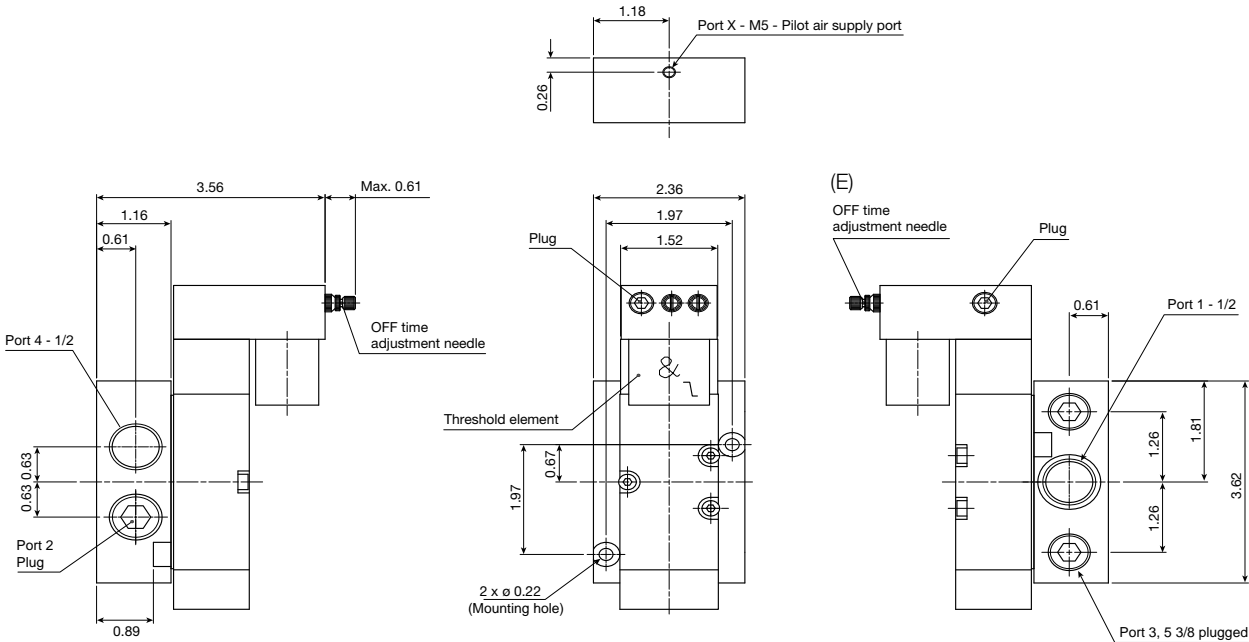
- A. When temperature of valve goes below 5°C (41°F), complete dry air shall be supplied to prevent from freezing.
- B. Air Saver Units with WP prefix are suitable for most painting applications. Test before use if in direct contact with painted surface.
- C. If test in painting application fails, try 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:

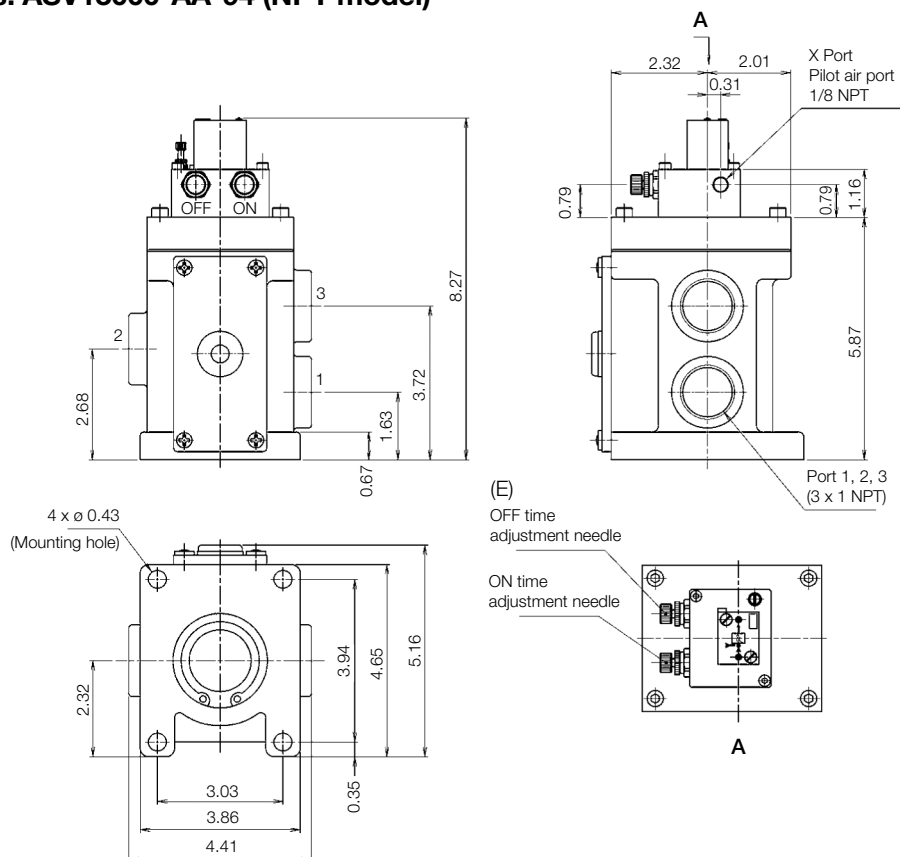
- A. When temperature of valve goes below 5°C (41°F), complete dry air shall be supplied to prevent from freezing.
- B. Air Saver Units with WP prefix are suitable for most painting applications. Test before use if in direct contact with painted surface.
- C. If test in painting application fails, try 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), (C), (D)	NPT	WPASV13000-AA-94
										BSPP	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:

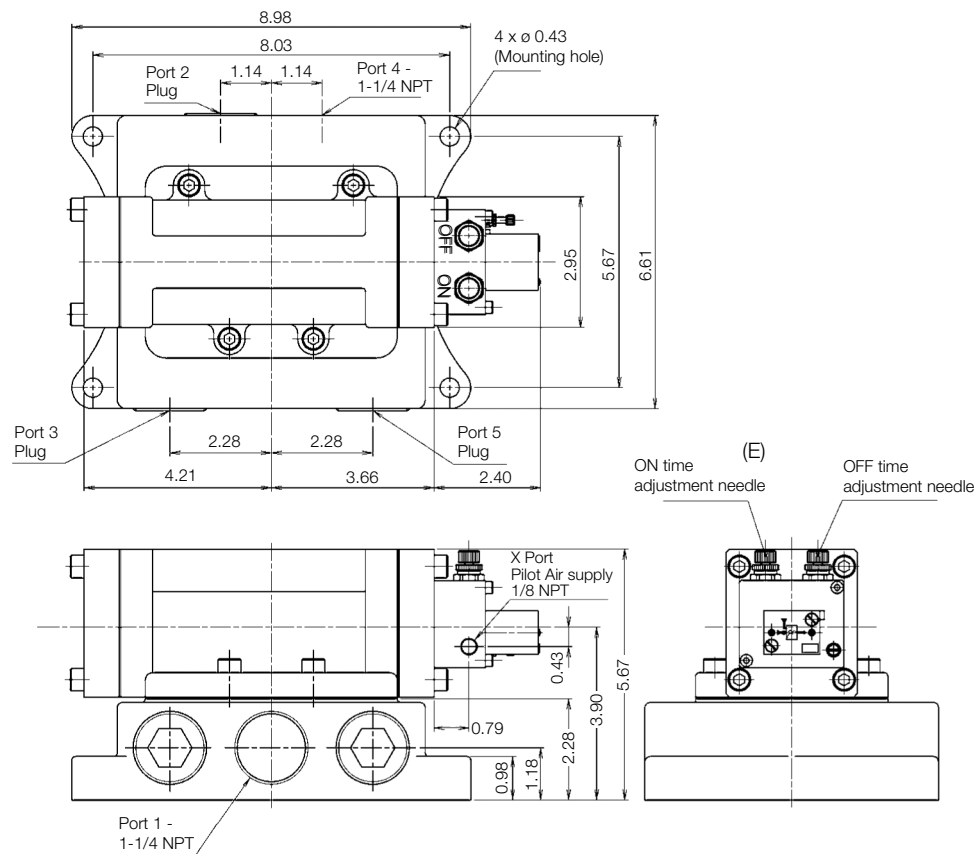
- When temperature of valve goes below 5°C (41°F), complete dry air shall be supplied to prevent from freezing.
- Air Saver Units with WP prefix are suitable for most painting applications. Test before use if in direct contact with painted surface.
- If test in painting application fails, try cycling Air Saver Unit for 48 hours and repeat test.
- DO NOT use "WP" Air Saver Unit in 'clear coat' applications
- 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 (for painting applications)	(B), NPT	WPASV15000-AA-92
									(C), 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:

- When temperature of valve goes below 5°C (41°F), complete dry air shall be supplied to prevent from freezing.
- Air Saver Units with WP prefix are suitable for most painting applications. Test before use if 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.
- Adjustable to maximum frequency of 1Hz.

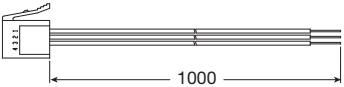


Ordering Information ASC500-1W / ASO500-1W

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

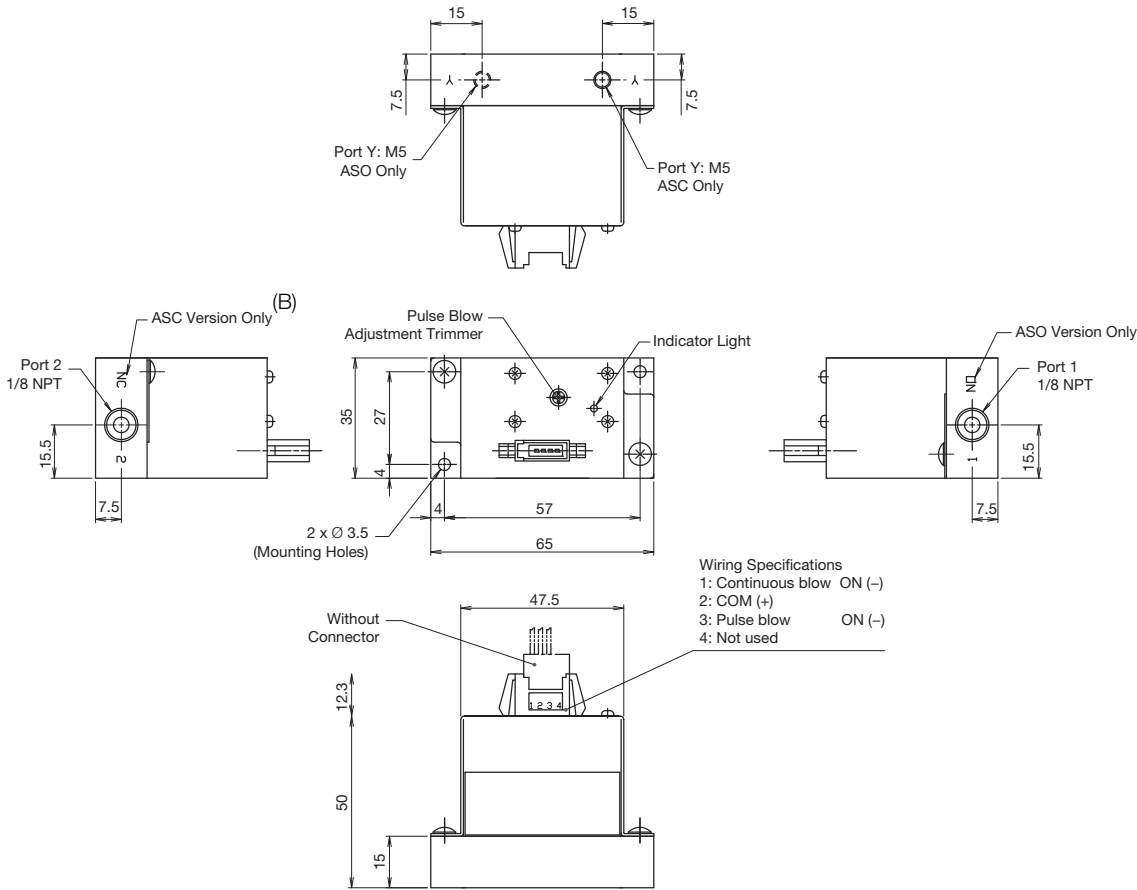
Cable

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



**Drying
Applications**

**Car Painting
Process**

**Swarf
Removal**

**Can be used
in many applications
where air blow is a
requirement**

**PET
Bottle
Transfer**

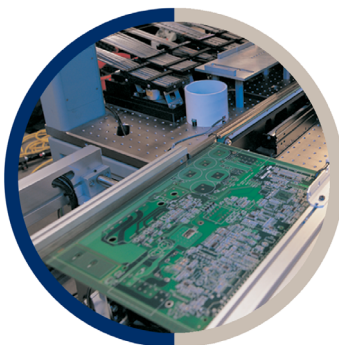
**Cooling
Application**

**Ionizer
Dust Removal**

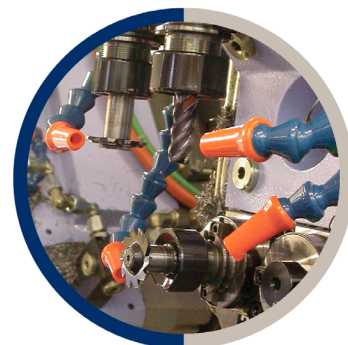
**Assist blow for PET
bottle transfer**



Electrical parts

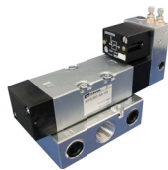


**Liquid removal after the
manufacturing process**

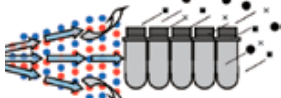
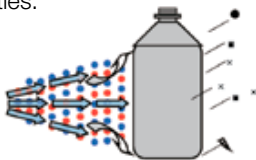


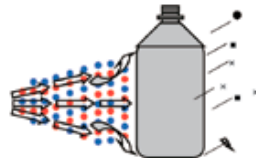
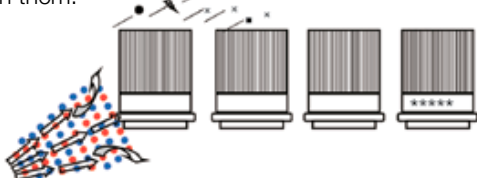


* Air Saver Units with WP prefix are suitable for most painting applications. Test before use if in direct contact with painted surface. If test in painting application fails, try cycling Air Saver Unit for 48 hours and repeat test. DO NOT use "WP" Air Saver Unit in 'clear coat' applications.

Air Saver Unit



Pneumatic Solutions for Beverage and Bottle Plants

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

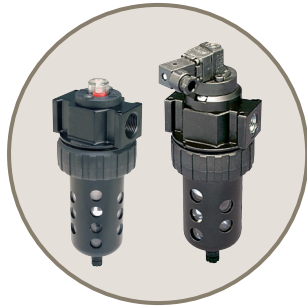
Reduced performance flow capacity of 10% is applied

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

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

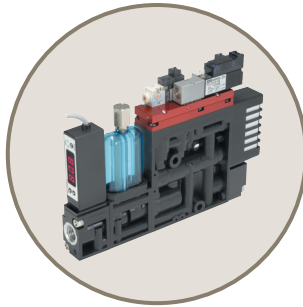
Pressure Differential Sensors

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



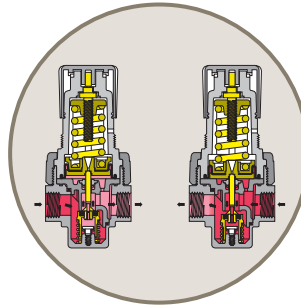
Air Economizing Vacuum Generators

- 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.

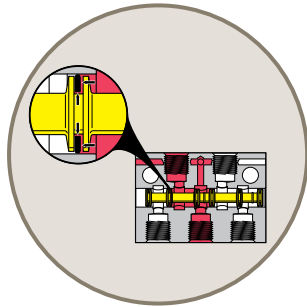


Zero Loss Air Drains

- 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



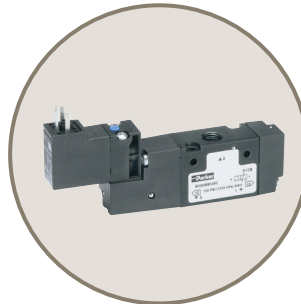
Wear Compensated Seals

- 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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