



# Acid Resistant AVC6500

US Patent 7,543,759

*Laboratories, Life Sciences, Healthcare*



Manufactured in the USA.



## Innovative features for the AVC6500!

- Intuitive Graphical User Interface Dashboard
- Software Selectable I/O
- BACnet® is Software Selectable (no dip switches)
- Bluetooth® Configuration Optional
- AccuNet® High-speed, Room-level Network Optional

## Plus, these standard AccuValve features...

- Exceptionally Low Pressure Drop
  - Design System Pressure – as low as 0.05" (12.5 Pa)
- Electronic Pressure Independence
- Fast Speed of Response
- True Airflow Feedback
- No Straight Run Requirements
- Linear Control Response
- High Accuracy and Turndown
- Native BACnet® MS/TP

The Accutrol AVC6500 is an electronically pressure independent AccuValve®. It takes the revolutionary design of the exceptionally low pressure drop AccuValve and builds airflow control into the electronics. The integral native BACnet® MS/TP allows direct communication to the Building Automation System (BAS) where desired.

## Features & Benefits

The AVC6000 series is designed for critical environment airflow control in laboratories, life science and healthcare facilities where fast speed of response and precise airflow measurement is required. The AccuValve's ISO 9001:2015 certified, award winning design incorporates:

### Exceptionally Low Pressure Drop

AccuValve's award winning design incorporates a streamlined compression section and a carefully designed static regain section. These features provide lower pressure drop, lower noise level and better flow measurement conditions than any other available technology.

### True Airflow Measurement

The integral high accuracy vortex airflow sensing provides high turndown while maintaining accuracies of 5% of reading over the flow range, ensuring precise airflow control.

### No Straight Run Requirements

There are no straight duct runs required before or after the valve, making application of the valve very simple. The air compression in the valve provides laminar airflow throughout the airflow range providing repeatable airflow measurement regardless of inlet or outlet conditions.

### ASHRAE Standard 90.1 Compliant without need for additional hardware

ASHRAE Standard 90.1 calls for the reset of the static pressure setpoint in VAV systems equipped with DDC controls. The AccuValve design allows the Building Automation System to provide this benefit to the owner without the requirement of any additional hardware or complexity. This is unique to the AccuValve for critical environments.

## Simple Layout and Installation

All parts of the AccuValve are accessible from the front of the valve simplifying installation requirements.

## Intuitive Insight Software

The AVC6500 also incorporates a simple and intuitive graphical user interface which enables the user to configure the valve for their specific requirements. Accutrol's Insight software, provided free of charge, insures that the owner is not required to contact the manufacturer of the airflow control system when changes are required in the field.

## BACnet®

The integral, native BACnet® MS/TP allows direct communication to the Building Automation System (BAS) where desired.

## AccuNet® Option

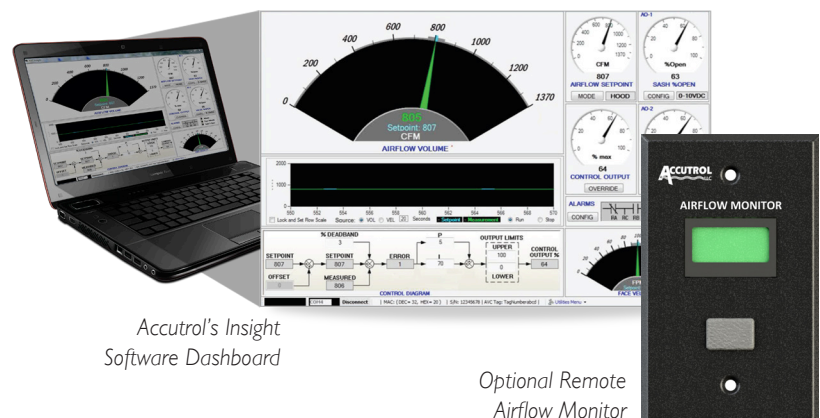
The optional AccuNet high-speed serial bus provides a room level network for summing multiple AccuValve airflow values into a single analog signal representing the total sum of the AccuValve exhaust airflows within the space.

## Bluetooth® Configuration Option

The AVC6500 is available with a Bluetooth® configuration option, which alleviates the requirement for a USB connector when accessing the airflow valve via Accutrol's Insight graphical user interface software.

## Remote Airflow Monitor Option

The AVC6500 is available with an optional airflow monitor that can be mounted remotely, which displays actual measured airflow.



Accutrol's Insight  
Software Dashboard

Optional Remote  
Airflow Monitor

## Standard Control Information

### Constant Volume Application

- Single set point
- Dry contact input (up to 4 discreet set points determined by 2 dry-contact inputs)
- BACnet® MS/TP programmed set point value
- Airflow output to BAS is available either through hardwired analog output or BACnet MS/TP
- Valve position is available either through hardwired analog output or BACnet MS/TP

### Variable Volume Applications

- Analog input (set point received via analog output from another controller)
- BACnet MS/TP programmed set point value
- Airflow output to BAS is available either through hardwired analog output or BACnet MS/TP
- Valve position is available either through hardwired analog output or BACnet MS/TP

### Tracking Pair Configurations

- Lead AVC analog output is wired directly to tracking AVC analog input
- Lead AVC setpoint can be pre-programmed at factory as analog input, digital inputs or BACnet MS/TP
- Airflow output to BAS is available either through hardwired analog output or BACnet MS/TP
- Valve position is available either through hardwired analog output or BACnet MS/TP

### Fume Hood Control Applications

- The AVC6500 incorporates a selectable Fume Hood Mode, which will configure the AVC to operate as a fume hood controller utilizing the Accutrol Fume Hood Monitor and Accutrol Sash Sensor(s)
- The AVC6500 allows multiple occupancy / set back mode changes through dry contact closures
- Configurable purge mode function
- Configurable alarm functions
- Air flow output to BAS is available either through hardwired analog output\* or BACnet MS/TP
  - \* Recommended hardwired connection when utilizing airflow signal for lab airflow balancing
- Face velocity output to BAS is available either through hardwired analog output or BACnet MS/TP
- Sash position or valve position output to BAS is available either through hardwired analog output or BACnet MS/TP
- Fume hood control specific BACnet MS/TP available read/write points

### Additional Accutrol Product Reference *Accutrol AVC Fume Hood Control System*

### Operating Pressure Selector

Valve Size (mm)	Eng Units	Airflow Range							
		Minimum	Maximum Design Airflow						Maximum
8" (203)	CFM	80	252	367	447	528	589	650	800
	L/S	38	119	173	211	249	278	307	378
	CMH	136	428	624	760	897	1000	1104	1359
10" (254)	CFM	120	428	606	733	860	958	1056	1300
	L/S	57	202	286	346	406	452	498	614
	CMH	204	727	1030	1245	1461	1627	1794	2209
12" (305)	CFM	180	591	840	1016	1192	1326	1461	1790
	L/S	85	279	396	479	563	626	690	845
	CMH	306	1004	1427	1726	2025	2253	2482	3041
14" (356)	CFM	250	979	1364	1624	1884	2079	2275	2750
	L/S	118	462	644	766	889	981	1074	1298
	CMH	425	1663	2317	2759	3201	3533	3865	4672
Operating Pressure	"W.C.	< 0.01	0.05	0.1	0.15	0.2	0.25	0.3	0.45
	Pa	< 2.5	12.5	25	37.5	50	62.5	75	112.5



\* Minimum operating pressure when tested in accordance with ANSI/ASHRAE 130-2008

**For further assistance in making your AccuValve selections, please refer to the AccuValve Selection Guide for Operating Pressure. An AccuValve selection tool for iPhone, iPad and Android devices is also available to assist with AccuValve selections.**

## Specifications

### ELECTRICAL

<b>Input Power</b>	24VAC ±20% 50/60Hz 32VA max. for round, 12"x18" and 12"x24" 55VA max. for 12"x36" and 12"x48" 24VDC ±10% 18W max. for round, 12"x18" and 12"x24" 31W max. for 12"x36" and 12"x48"
<b>Analog Inputs</b>	AI-1, AI-2 and AI-3: (jumper configurable) Voltage 0-10VDC range, 100K ohm impedance Current 0-20mA range, 500 ohm impedance Resistance 20K ohm range, 500uA Current Source AI-2 and AI-3 also include 100K ohm range, 100uA current source 12-bit resolution
<b>Digital Inputs</b>	2 dry-contact inputs
<b>Analog Outputs</b>	AO-1 and AO-2: (software configurable) 0-20mA, 4-20mA, 0-10v, 2-10v, 0-5v or 1-5v 12-bit resolution V-out capable of driving 1K ohm load
<b>Alarm Relay Output</b>	DPDT, NC/NO contacts, Rated load 1A @ 30VDC or 0.3A @ 125VAC Max. operating voltage = 125VAC or 60VDC Max. carry current = 1A Max. switching capacity = 37VA, 30W
<b>Network Com Port 1</b>	EIA 485 2-wire BACnet MS/TP Full Master Node State Machine Data Rates 9600, 19200, 38400, 57600, 76800 and 115200 Software provided for setting the MAC address ¼ Unit load receiver input impedance Network bias and EOL termination not provided within the AVC
<b>Network Com Port 2</b>	AccuNet Internal LAN (optional)
<b>Configuration Port</b>	USB 2.0, Isolated, "C" type connector Optional Bluetooth®
<b>Status Indicators</b>	LED status indicators for Power, Alarm, Analog output, BACnet communications, USB communications and AVC status
<b>Terminal Blocks</b>	2 and 3 position vertical pluggable screw terminal blocks
<b>Electromagnetic Compatibility</b>	2014/30/EU, EMC Directive EN61236-1:2013 2014/53/EU, Radio Equipment Directive EN301489-1, V1.9.2:2011 ETSI EN301489-1, V2.2.0:2017 ETSI EN301489-3, V1.6.1:2013/V2.1.1:2017 ETSI EN301489-17, V2.2.1:2012/V3.2.0:2017
<b>Product Safety</b>	2014/35/EU, Low Voltage Directive EN61010-1:2010/A1:2019/AC:2019

### PERFORMANCE

<b>Accuracy</b>	±5% of reading or 5 CFM (2 L/S; 8 CMH), whichever is greater
<b>Speed of Response</b>	< 1 second
<b>Shut-off Leakage Rate @ 3"wc valve DP</b>	<1.5% FS max.
<b>Max. Operating Pressure</b>	3"wc differential pressure across valve
<b>Failure Mode</b>	Fail Last Position or Fail Open/Closed (selectable by model code)

### ENVIRONMENTAL

<b>Temperature</b>	
Operating	-20° to 165° F (-29° to 74° C)
Storage	-40° to 165° F (-40° to 74° C)
<b>Humidity</b>	0% to 90% non-condensing

### MATERIALS OF CONSTRUCTION

<b>Valve Housing</b>	PFA Coated 304SS (20 Gauge)
<b>Shafts</b>	PFA Coated 316SS
<b>Shaft Bearings</b>	Teflon®
<b>Seals</b>	Viton
<b>Airflow Sensors</b>	Kynar® PVDF
<b>Control Module Enclosure</b>	16 Gauge Aluminum

## Ordering Guides

Please see the following page for Ordering Guide.



## AVC6500 Acid Resistant AccuValve® Ordering Guide

AVC 6 **5**   -   -

**Valve Housing Material**

**5** = PFA Coated 304SS, 20 Gauge

**Size**

- 08** = 8" Diameter
- 10** = 10" Diameter
- 12** = 12" Diameter
- 14** = 14" Diameter

**Options**

- Blank = No Options
- A** = AccuNet
- W** = Wireless Bluetooth® Configuration

**Actuator Type**

- 03** = Fail Last Position, 2-10v (High Speed)
- 05** = Fail Open/Close, 2-10v (High Speed)

Your representative is:

