



AVT6000

US Patents 6,991,177 & 7,543,759

Laboratories, Life Sciences, Healthcare



Innovative features for the AVT6000!

- Intuitive Graphical User Interface Dashboard
- Software Selectable I/O
- BACnet® Available
- 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)
- Fast Speed of Response
- True Airflow Feedback
- No Straight Run Requirements
- Linear Control Response
- High Accuracy and Turndown
- Can be Mounted in Any Position
- Optional Remote Airflow Monitor
- ASHRAE 90.1 Compliant – No Additional Hardware
- No Scheduled Maintenance
- Universal Voltage and Current Input/Output
- 5-Year Manufacturer Warranty



Manufactured in the USA.



The Accutrol® AccuValve® AVT6000 represents the first truly new design in airflow control valves in decades.

The revolutionary design of the AccuValve created for sustainable laboratory and critical environments maximizes turndown while maintaining exceptionally low pressure drop. The features and benefits of the AccuValve make it the choice of many of the world's most prestigious and demanding clients.

Features & Benefits

The AVT6000 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 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. In addition, the valve can be mounted at any angle and rotated 360°.

Intuitive Insight Software

The AVT6000 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® Option

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

AccuNet® Option

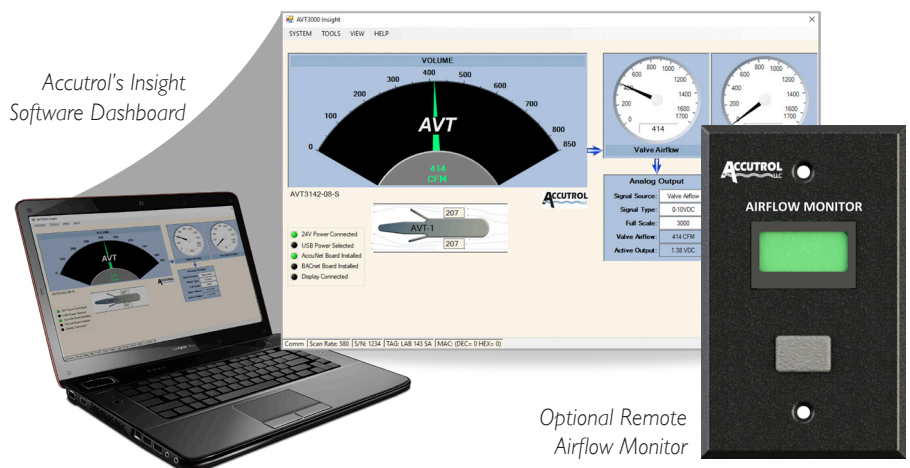
The optional AccuNet high-speed serial bus provides a room level network for summing multiple AccuValve airflow values into a single analog signal representing the total sum of the AccuValve exhaust airflows within the space.

Bluetooth® Configuration Option

The AVT6000 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 AVT6000 is available with an optional airflow monitor that can be mounted remotely, which displays actual measured airflow.



Operating Pressure Selector

| Valve Size (mm) | Eng Units | Airflow Range | | | | | | | |
|-----------------------|-----------|---------------|------------------------|------|------|------|------|-------|---------|
| | | Minimum | Maximum Design Airflow | | | | | | Maximum |
| 6" (152) | CFM | 30 | 99 | 143 | 174 | 206 | 230 | 254 | 315 |
| | L/S | 14 | 47 | 67 | 82 | 97 | 108 | 120 | 149 |
| | CMH | 51 | 168 | 243 | 296 | 350 | 391 | 432 | 535 |
| 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 |
| 12"x18" (305x457) | CFM | 260 | 1003 | 1437 | 1761 | 2086 | 2341 | 2596 | 3200 |
| | L/S | 123 | 473 | 678 | 831 | 984 | 1104 | 1225 | 1510 |
| | CMH | 442 | 1704 | 2441 | 2992 | 3544 | 3977 | 4411 | 5437 |
| 12"x24" (305x610) | CFM | 350 | 1261 | 1812 | 2213 | 2614 | 2925 | 3237 | 4000 |
| | L/S | 165 | 595 | 855 | 1044 | 1234 | 1381 | 1528 | 1888 |
| | CMH | 595 | 2142 | 3079 | 3760 | 4441 | 4970 | 5500 | 6796 |
| 12"x36" (305x915) | CFM | 520 | 2005 | 2875 | 3523 | 4172 | 4681 | 5191 | 6400 |
| | L/S | 245 | 946 | 1357 | 1663 | 1969 | 2209 | 2450 | 3020 |
| | CMH | 883 | 3407 | 4885 | 5986 | 7088 | 7954 | 8820 | 10874 |
| 12"x48" (305x1220) | CFM | 700 | 2522 | 3625 | 4426 | 5228 | 5850 | 6473 | 8000 |
| | L/S | 330 | 1190 | 1711 | 2089 | 2467 | 2761 | 3055 | 3776 |
| | CMH | 1189 | 4285 | 6159 | 7520 | 8882 | 9940 | 10998 | 13592 |
| 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

ACTUATOR ELECTRICAL

Please reference the following Actuator Submittal documents:

Actuator #20-0008 (High-Speed FLP 0-10V)
 Actuator #20-0009 (High-Speed FLP 2-10V)
 Actuator #20-0010 (High-Speed FSP 0-10V)
 Actuator #20-0011 (High-Speed FSP 2-10V)
 Actuator #20-0057 (Standard-Speed FLP 2-10V)

TRANSMITTER ELECTRICAL

| | |
|--------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Input Power | 24VAC ±20% 50/60Hz, 4VA max. (8.5VA max with remote monitor) 24VDC ±10%, 1.5m W max. (3.5 W max with remote display) |
| Output Signal | Software configurable 0-20mA, 4-20mA, 0-10v, 2-10v, 0-5v or 1-5v |
| Electromagnetic Compatibility | 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 |
| Product Safety | 2014/35/EU, Low Voltage Directive EN61010-1:2010/A1:2019/AC:2019 |

ELECTRICAL (COM & CONFIGURATION)

| | |
|---------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Network Com Port 1 | EIA 485 2-wire BACnet MS/TP (optional) Galvanically isolated Data Rates 9600, 19200, 38400, 57600, 76800 and 115200 Software provided for setting the MAC address ½ Unit load receiver input impedance Network bias and EOL termination not provided within the AVT |
| Network Com Port 2 | AccuNet internal LAN (optional) |
| Configuration Port | USB 2.0, Isolated, "C" type connector Optional Bluetooth® |

PERFORMANCE

| | |
|----------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Accuracy | ±5% of reading or 5 CFM (2 L/S; 8 CMH), whichever is greater |
| Speed of Response | < 1 second (< 2 seconds for standard actuator) |
| Shut-off Leakage Rate @ 3"wc valve DP | Standard round valves (size 06 through 14) <1.5% FS max. Round valves with blade seals (size 08 through 14) <0.5% FS max. Standard rectangular valves (size 18 through 48) <2% FS max. Rectangular valves with blade seals (size 18 through 48) <1% FS max. |
| Max. Operating Pressure | 3"wc differential pressure across valve |
| Failure Mode | Fail Last Position or Fail Open/Closed (selectable by model code) |

ENVIRONMENTAL

| | |
|--------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|
| Temperature | Operating -20° to 165° F (-29° to 74° C) -20° to 375° F (-29° to 190° C) High Temperature 304SS AVT Storage -40° to 165° F (-40° to 74° C) |
| Humidity | 0% to 90% non-condensing |

MATERIALS OF CONSTRUCTION

| | |
|------------------------|------------------------------------------------------------------------|
| Valve Housing | Aluminum (16 Gauge) 304SS (20 Gauge) 316SS (20 Gauge) |
| Shafts | 316SS |
| Shaft Bearings | Teflon® |
| Seals | EPDM with aluminum valves Viton with stainless steel valves |
| Airflow Sensors | Polycarbonate plastic, UL94-VO 303SS for High Temperature 304SS AVT |

Ordering Guides

Please see the following page for Ordering Guides.

AVT6000 AccuValve® Ordering Guide



Valve Housing Material

- 2** = 304SS, 20 Gauge
- 3** = 316SS, 20 Gauge
- 4** = Aluminum, 16 Gauge
- 6** = High Temperature, 304SS, 20 Gauge

Size

- 06** = 6" Diameter
- 08** = 8" Diameter
- 10** = 10" Diameter
- 12** = 12" Diameter
- 14** = 14" Diameter
- 18** = 12"h x 18"w
- 24** = 12"h x 24"w
- 36** = 12"h x 36"w
- 48** = 12"h x 48"w

Options

- Blank = No Options
 - A** = AccuNet
 - B** = BACnet MS/TP
 - F** = Flanges
 - I** = Insulation*
 - S** = Tight Shut-off**
 - W** = Wireless Bluetooth® Configuration
- *Insulation is not available for High Temperature valves
**Blade seals are standard on all 6" valves

Actuator Type

- 02** = Fail Last Position, 0-10v (high speed)
- 03** = Fail Last Position, 2-10v (high speed)
- 04** = Fail Open/Close, 0-10v (high speed)
- 05** = Fail Open/Close, 2-10v (high speed)
- 07** = Fail Last Position, 2-10v (standard speed)

Your representative is: