AV3000

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

Laboratories, Life Sciences, Healthcare



2008 AHR Expo® INNOVATION AWARDS Value Impact Application WINNER

AccuValve®

- Low Pressure Drop
- Fast Speed of Response
- True Airflow Feedback
- No Straight Run Requirements
- Linear Response
- High Accuracy and Turndown
- Can be Mounted in Any Position
- ASHRAE 90.1 Compliant – No Additional Hardware
- No Scheduled Maintenance
- Universal Voltage and Current Input/Output
- 5-Year Manufacturer Warranty

Manufactured in the USA.

CE

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Contents and specifications are subject to change without notice.

The Accutrol AccuValve® AV3000 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 very 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 AV3000 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:

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 all other available technologies.

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.

Simple Layout and Installation

All parts of the AccuValve are accessible from the front of the valve simplifying installation requirements. In addition, the actuator can be completely inverted should field conditions require such.

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 cost. This is unique to the AccuValve for critical environments.

Operating Pressure Selector

Optimal Energy Efficiency

Valve Size (mm)	Eng Units	Airflow Range								Transmitter Range
		Minimum	Maximum Design Airflow						Maximum	
6" (152)	CFM	30	69	99	123	143	206	254	315	0-330
	L/S	14	33	47	58	67	97	120	149	0-156
	CMH	51	117	168	209	243	350	432	535	0-561
8" (203)	CFM	80	169	252	315	367	528	650	800	0-850
	L/S	38	80	119	149	173	249	307	378	0-401
	CMH	136	287	428	535	624	897	1104	1359	0-1444
10" (254)	CFM	120	304	428	524	606	860	1056	1300	0-1370
	L/S	57	143	202	247	286	406	498	614	0-647
	CMH	204	516	727	890	1030	1461	1794	2209	0-2328
12" (305)	CFM	180	413	591	726	840	1192	1461	1790	0-1900
	L/S	85	195	279	343	396	563	690	845	0-897
	CMH	306	702	1004	1233	1427	2025	2482	3041	0-3228
14" (356)	CFM	250	678	979	1191	1364	1884	2275	2750	0-3000
	L/S	118	320	462	562	644	889	1074	1298	0-1416
	CMH	425	1152	1663	2024	2317	3201	3865	4672	0-5097
12"x18" (305x457)	CFM	260	722	1003	1235	1437	2086	2596	3200	0-3400
	L/S	123	341	473	583	678	984	1225	1510	0-1605
	CMH	442	1227	1704	2098	2441	3544	4411	5437	0-5777
12"x24" (305x610)	CFM	350	890	1261	1558	1812	2614	3237	4000	0-4200
	L/S	165	420	595	735	855	1234	1528	1888	0-1982
	CMH	595	1512	2142	2647	3079	4441	5500	6796	0-7136
12"x36" (305x915)	CFM	520	1443	2005	2470	2875	4172	5191	6400	0-6800
	L/S	245	681	946	1166	1357	1969	2450	3020	0-3209
	CMH	883	2452	3407	4197	4885	7088	8820	10874	0-11553
12"x48" (305x1220)	CFM	700	1780	2522	3115	3625	5228	6473	8000	0-8400
	L/S	330	840	1190	1470	1711	2467	3055	3776	0-3964
	CMH	1189	3024	4285	5292	6159	8882	10998	13592	0-14272
Operating Pressure	"W.C.	< 0.01	0.025	0.05	0.075	0.1	0.2	0.3	0.45	
	Pa	< 2.5	6.25	12.5	18.75	25	50	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 guide for iPhone and iPad application is also available to assist with AccuValve selections.

Specifications

ACTUATOR ELECTRICAL

Input Power	24VAC ±20% 50/60Hz 24VA max. for round, 12"x18" and 12"x24" 48VA max. for 12"x36" and 12"x48" 24VDC ±10% 12W max. for round, 12"x18" and 12"x24" 24W max. for 12"x36" and 12"x48"
Control Inputs	2-10 VDC Standard, 0-10 VDC available (4-20mA using a 500ohm ¼ W resistor)

TRANSMITTER ELECTRICAL

Input Power	24VAC ±20% 50/60Hz, 2.5 VA max. 24VDC ±20%, 75mA max.
Output Signal	0-10 VDC, 2-10 VDC, 0-20mA or 4-20mA (jumper selectable)
Electromagnetic Compatibility	EMC Directive 2004/108/EC Low Voltage Directive 2004/108/EEC EN61326-1-2006 FCC Part 15
Product Safety	IEC/EN/UL/CSA 61010:2001 CAN/CSA-C22.2 No. 61010-1

PERFORMANCE

Accuracy	±5% of reading or 5 CFM (2 L/S; 8 CMH), whichever is greater
Speed of Response	< 1 second
Shut-off Leakage Rate @ 3"wc valve DP	Standard round valves (model AV31xx-xx) <1.5% FS max. Round valves with blade seals (model AV31xx-xx-S) <0.5% FS max. Standard rectangular valves (model AV32xx-xx) <2% FS max. Rectangular valves with blade seals (model AV32xx-xx-S) <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	0° to 150° F (-18° to 66° C)
Storage	-40° to 150° F (-40° to 66° C)
Humidity	0% to 90% non-condensing

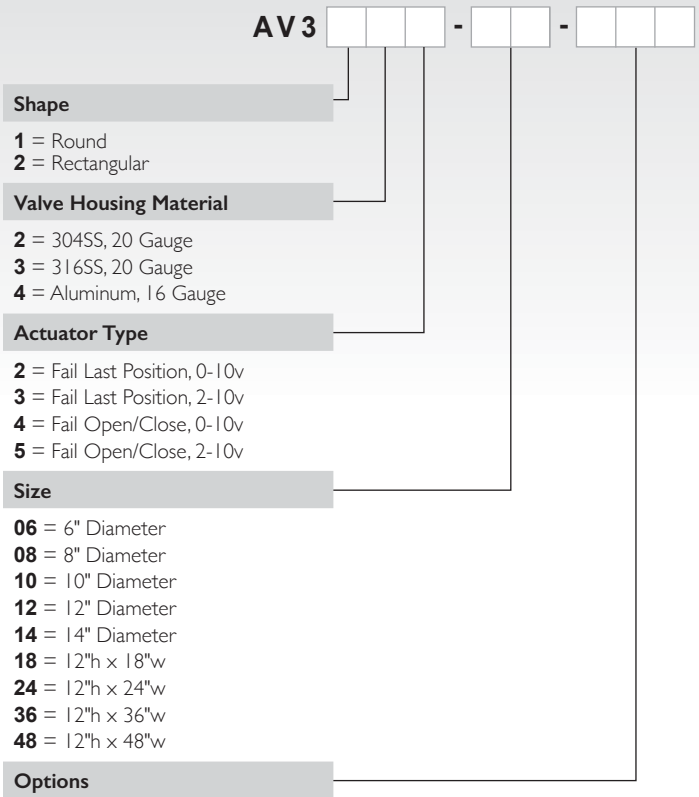
MATERIALS OF CONSTRUCTION

Valve Housing	Aluminum (16 Gauge) 304SS (20 Gauge) 316SS (20 Gauge)
Shafts	316SS
Shaft Bearings	Teflon®
Seals	Neoprene with aluminum valves Viton with stainless steel valves
Airflow Sensors	Polycarbonate plastic, UL94-VO

Ordering Guides

Please see the following page for Ordering Guides.

AV3000 AccuValve®
Ordering Guide



Shape

1 = Round
2 = Rectangular

Valve Housing Material

2 = 304SS, 20 Gauge
3 = 316SS, 20 Gauge
4 = Aluminum, 16 Gauge

Actuator Type

2 = Fail Last Position, 0-10v
3 = Fail Last Position, 2-10v
4 = Fail Open/Close, 0-10v
5 = Fail Open/Close, 2-10v

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
F = Flanges
I = Insulation
S = Tight Shut-off*

* Blade seals are standard on all 6" valves

Your representative is: