ACCUVALVE

PRECISE AIR BALANCING TECHNOLOGY

PRODUCT CATALOGUE

WHY **ACCUVALVE**?

The Accuvalve series airflow control valve represents the first real progress in air valve design in decades.

The revolutionary new design of the Accuvalve was created for sustainable laboratory and critical environments, to maximise turndown while maintaining a very low pressure drop.

ACCUVALVE FOR BUILDING OWNERS

✓ Saves energy
✓ Increases control
✓ Lowers noise

FEATURES AND BENEFITS

Accuvalve is designed for critical environment airflow control in laboratories, life science and healthcare facilities where fast speed of response and precise airflow measurement is essential. Outstanding features include:

- Low pressure drop
- True airflow measurement
- No straight run requirements

Unlike alternative air valve designs such as Venturi valves, Accuvalve constantly measure the real airflow with twin patented Vortex Shedding Sensors in the compression section of the valve.

JOIN A DISTINGUISHED LIST OF **DISCERNING INSTITUTIONS AND COMPANIES** WHO HAVE SELECTED ACCUVALVE AS THEIR **FIRST CHOICE IN HVAC CONTROL**:

ACCUVALVE CLIENTS

Stanford University
Cornell University
Caltech
UNSW Australia
MD Anderson Cancer Center
Harvard University
Novartis
Yale University
ExxonMobil
IBM
Bayer
New York University
Woolcock Leaders in Breathing & Sleep Research
UCLA


Secuflow
Secuflow
WASTE

ACCUVALVE FOR CONSULTANTS

✓ **Lowers** HVAC operating pressure

✓ **Optimises** Fan performance

✓ **Increases** BMS interface choices

✓ Offers **multiple mounting** options

- Lowest pressure - operates from 2.5pa
- Highest accuracy +/- 2% across vol range
- 10:1 turndown
- Linear volume feedback signal
- Less than 2 second full stroke
- No straight runs required
- Can be mounted in any orientation
- True airflow measurement with Vortex Shedding Sensors - not PID
- Bacnet controls or 3rd party controls

MULTIPLE AHR AWARD WINNER

2008 AHR Expo INNOVATION AWARDS Value Impact Application WINNER

AHR EXPO INNOVATION AWARDS 2016 WINNER

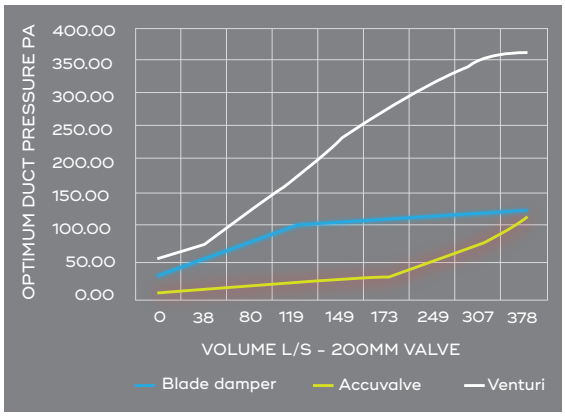
USE **AWARD WINNING TECHNOLOGY** TO MAKE YOUR PROJECTS STAND OUT FROM THE REST

5 REASONS WHY ACCUVALVE IS LIKE NO OTHER AIR VALVE ON THE MARKET TODAY.

THE BENEFITS WHICH ACCUVALVE OFFERS YOUR NEXT HVAC PROJECT

1. LOW PRESSURE

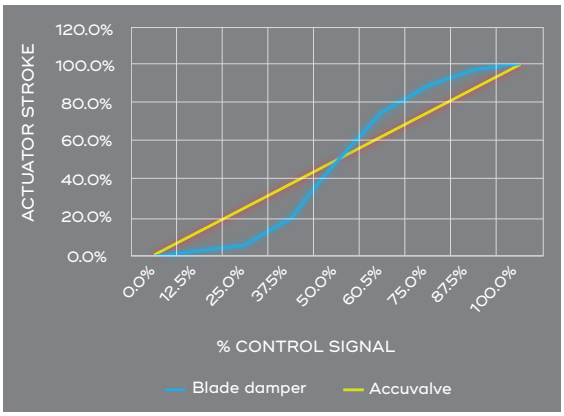
Accuvalve was designed using geometry proven by NASA, combined with vortex shedding sensors, resulting in valves which are highly accurate with no minimum pressure conditions. This is a world first and can be compared to alternative valve designs in this graph below.



2. LINEAR AIR VOLUME SIGNAL

Vortex shedding sensors and a patented eccentric linkage system, achieve a truly linear volume feedback, which is transmitted to the valve controller in real time:

- No guessing the volume based on actuator position
- No loss in accuracy at low / high ends of the air range
- Can be controlled by almost any third party controls.



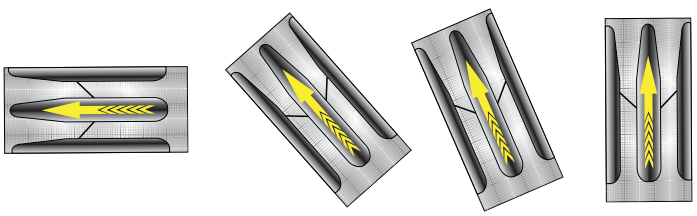
3. LOW NOISE

Low pressure means low noise, it's that simple. Compare the decibels of Accuvalve compared to other valve types in this table:

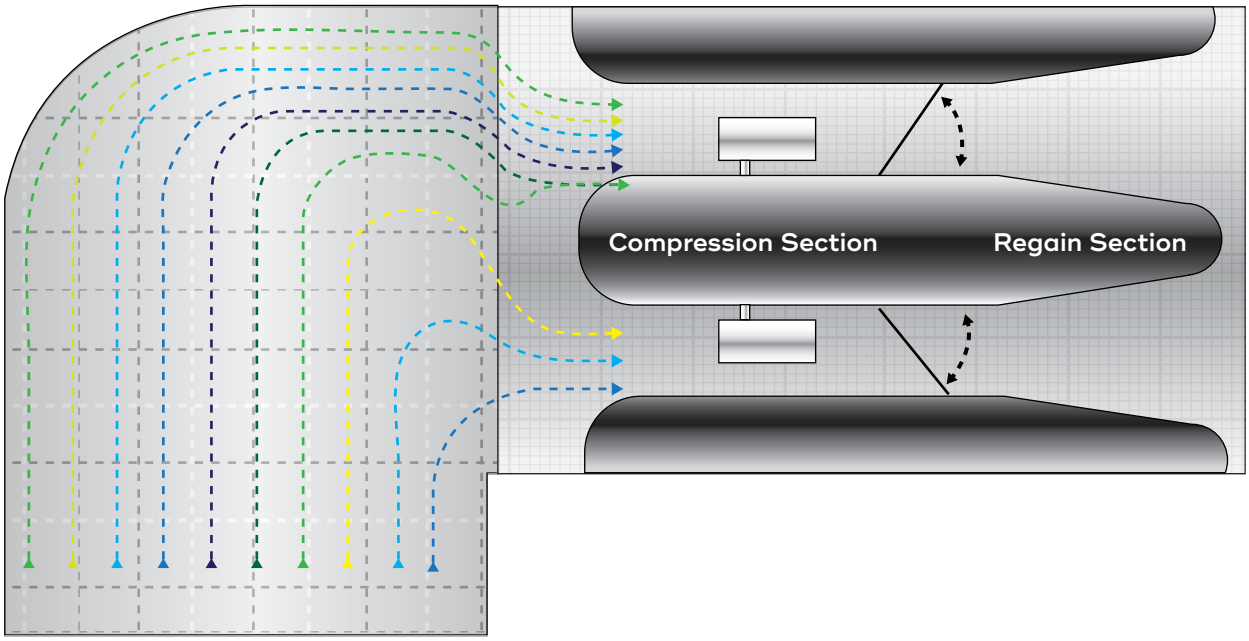
DECIBELS AT OCTAVE BAND:	125	250	500	1000	2000	4000
Accuvalve 200mm @380L/s - **Duct pressure 125Pa**	54	49	48	49	50	43
Venturi 200mm @380L/s - **Duct pressure 125Pa**	62	57	54	58	54	51
Venturi 200mm @380L/s - **Duct pressure 750Pa**	73	70	64	66	65	60

4. MOUNT IN ANY DIRECTION

The unique butterfly valve design of Accuvalve allows mounting of valves in any orientation. One of the most popular features and one which avoids ordering specific to vertical / horizontal orientation. Ideal for fume cupboards, crowded ceiling voids and retro-fits.



ACCUVALVE USES **PATENTED VORTEX SHEDDING SENSORS** FOR **HIGH ACCURACY**, REAL TIME AIRFLOW MEASUREMENT, WITH NO REQUIREMENT FOR STRAIGHT RUNS BEFORE OR AFTER THE VALVE.



FEATURES

- ✓ 2 SEC duration full stroke Actuator
- ✓ Controls interface (optional)
- BACnet

AVT3100

ROUND VALVE WITH **HIGH SPEED** ACTUATOR AND TRANSMITTER

AVT3100 BARE VALVE

AVT3100 WITH FLANGE

AVT3100 WITH FLANGE & INSULATION

ACCUVALVE ROUND BODY - AIRFLOW RANGE L/S

SIZE	MODEL	UNIT	MIN				PREMIUM EFFICIENCY			MAX
6"	*(see ordering guide below)* AVT31__-06	L/s	14	33	47	58	67	97	120	149
		M/s	0.79	1.87	2.66	3.28	3.79	5.49	6.79	8.43
8"	AVT31__-08	L/s	38	80	119	149	173	249	307	378
		M/s	1.21	2.55	3.79	4.74	5.51	7.92	9.77	12.03
10"	AVT31__-10	L/s	57	143	202	247	286	406	498	614
		M/s	1.16	2.91	4.11	5.03	5.83	8.27	10.14	12.51
12"	AVT31__-12	L/s	85	195	279	343	396	563	690	845
		M/s	1.2	2.76	3.95	4.85	5.6	7.96	9.76	11.95
14"	AVT31__-14	L/s	118	320	462	562	644	889	1074	1298
		M/s	1.23	3.33	4.8	5.84	6.69	9.24	11.16	13.49
Min operating Pressure when tested to ANSI/ASHRAE 130-2008		Pa	2.5	6.25	12.5	18.75	25	50	75	112.5

AVT3100 ACCUVALVE ORDERING GUIDE

AVT3 [1]□□-□□-□□□□□

SHAPE
1 = Round
2 = Rectangular

VALVE HOUSING MATERIAL
2 = 304SS, 20 gauge
3 = 316SS, 20 gauge
4 = Aluminium, 16 gauge
6 = High Temperature, 304SS, 20 gauge

ACTUATOR TYPE
2 = Fail last position, 0-10v
3 = Fail last position, 2-10v
4 = Fail Open/close, 0-10v
6 = Fail Open/close, 2-10v

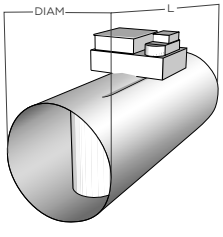
OPTIONS
Blank = No Options
A = AccuNet
B = BACnet
F = Flanges
I = Insulation*
S = Tight Shut-off**

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

*Insulation is not available for High Temperature valves
**Blade seals are standard on all 6" valves

DIMENSIONS

SIZE	DIAM mm	L mm
6"	149	559
8"	200	610
10"	250	610
12"	300	686
14"	350	762



FEATURES

- ✓ 2 SEC duration full stroke Actuator
- ✓ Controls interface (optional)
  BACnet

AVT3200

RECTANGULAR VALVE WITH **HIGH SPEED** ACTUATOR AND TRANSMITTER

AVT3200 BARE VALVE

AVT3200 WITH FLANGE & INSULATION

ACCUVALVE RECTANGULAR BODY - AIRFLOW RANGE L/S

SIZE MODEL	UNIT	MIN				PREMIUM EFFICIENCY			MAX
(see ordering guide below) 12x18" AVT32__-18	L/s	123	341	473	583	678	984	1225	1510
	M/s	0.91	2.53	3.5	4.32	5.02	7.29	9.07	11.19
12x24" AVT32__-24	L/s	165	420	595	735	855	1234	1528	1888
	M/s	0.92	2.33	3.31	4.08	4.75	6.86	8.49	10.49
12x36" AVT32__-36	L/s	245	681	946	1166	1357	1969	2450	3020
	M/s	0.91	2.52	3.5	4.32	5.03	7.29	9.07	11.19
12x48" AVT32__-48	L/s	330	840	1190	1470	1711	2467	3055	3776
	M/s	0.92	2.33	3.31	4.08	4.75	6.85	8.49	10.49
Min operating Pressure when tested to ANSI/ASHRAE 130-2008	Pa	2.5	6.25	12.5	18.75	25	50	75	112.5

AVT3200 ACCUVALVE ORDERING GUIDE

AVT3 2 □□ □□ □□□□□

SHAPE
1 = Round
2 = Rectangular

VALVE HOUSING MATERIAL
2 = 304SS, 20 gauge
3 = 316SS, 20 gauge
4 = Aluminium, 16 gauge
6 = High Temperature, 304SS, 20 gauge

ACTUATOR TYPE
2 = Fail last position, 0-10v
3 = Fail last position, 2-10v
4 = Fail Open/close, 0-10v
6 = Fail Open/close, 2-10v

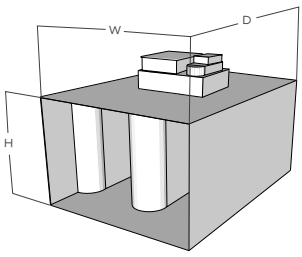
OPTIONS
Blank = No Options
A = AccuNet
B = BACnet
F = Flanges
I = Insulation*
S = Tight Shut-off**

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

*Insulation is not available for High Temperature valves
**Blade seals are standard on all 6" valves

DIMENSIONS

SIZE	W mm	D mm	H mm
12x18"	454	762	302
12x24"	607	762	302
12x36"	911	762	302
12x48"	1216	762	302



FEATURES

- ✓ 2 SEC duration full stroke Actuator
- ✓ Controls interface (standard)
  BACnet

AVC5100

ROUND VALVE WITH **HIGH SPEED** ACTUATOR AND BACNET CONTROLLER

AVC5100 BARE VALVE

AVC5100 WITH FLANGE

AVC5100 WITH FLANGE & INSULATION

ACCUVALVE ROUND BODY - AIRFLOW RANGE L/S

SIZE	MODEL	UNIT	MIN				PREMIUM EFFICIENCY			MAX
6"	*(see ordering guide below)* AVC51__-06	L/s	14	33	47	58	67	97	120	149
		M/s	0.79	1.87	2.66	3.28	3.79	5.49	6.79	8.43
8"	AVC51__-08	L/s	38	80	119	149	173	249	307	378
		M/s	1.21	2.55	3.79	4.74	5.51	7.92	9.77	12.03
10"	AVC51__-10	L/s	57	143	202	247	286	406	498	614
		M/s	1.16	2.91	4.11	5.03	5.83	8.27	10.14	12.51
12"	AVC51__-12	L/s	85	195	279	343	396	563	690	845
		M/s	1.2	2.76	3.95	4.85	5.6	7.96	9.76	11.95
14"	AVC51__-14	L/s	118	320	462	562	644	889	1074	1298
		M/s	1.23	3.33	4.8	5.84	6.69	9.24	11.16	13.49
Min operating Pressure when tested to ANSI/ASHRAE 130-2008		Pa	2.5	6.25	12.5	18.75	25	50	75	112.5

AVC5100 ACCUVALVE ORDERING GUIDE

AVC5 1 □□ - □□ - □□□□□

SHAPE
1 = Round
2 = Rectangular

VALVE HOUSING MATERIAL
2 = 304SS, 20 gauge
3 = 316SS, 20 gauge
4 = Aluminium, 16 gauge
6 = High Temperature, 304SS, 20 gauge

ACTUATOR TYPE
2 = Fail last position, 0-10v
3 = Fail last position, 2-10v
4 = Fail Open/close, 0-10v
6 = Fail Open/close, 2-10v

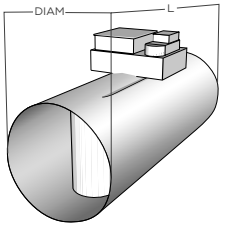
OPTIONS
Blank = No Options
A = AccuNet
B = BACnet
F = Flanges
I = Insulation*
S = Tight Shut-off**

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

*Insulation is not available for High Temperature valves
**Blade seals are standard on all 6" valves

DIMENSIONS

SIZE	DIAM mm	L mm
6"	149	559
8"	200	610
10"	250	610
12"	300	686
14"	350	762



FEATURES

- ✓ 2 SEC duration full stroke Actuator
- ✓ Controls interface (standard)
  BACnet

2s

AVC5200

RECTANGULAR VALVE WITH **HIGH SPEED** ACTUATOR AND BACNET CONTROLLER

AVC5200 BARE VALVE

AVC5200 WITH FLANGE & INSULATION

ACCUVALVE RECTANGULAR BODY - AIRFLOW RANGE L/S

SIZE	MODEL	UNIT	MIN				PREMIUM EFFICIENCY			MAX
12x18"	*(see ordering guide below)* AVC52__-18	L/s	123	341	473	583	678	984	1225	1510
		M/s	0.91	2.53	3.5	4.32	5.02	7.29	9.07	11.19
12x24"	AVC52__-24	L/s	165	420	595	735	855	1234	1528	1888
		M/s	0.92	2.33	3.31	4.08	4.75	6.86	8.49	10.49
12x36"	AVC52__-36	L/s	245	681	946	1166	1357	1969	2450	3020
		M/s	0.91	2.52	3.5	4.32	5.03	7.29	9.07	11.19
12x48"	AVC52__-48	L/s	330	840	1190	1470	1711	2467	3055	3776
		M/s	0.92	2.33	3.31	4.08	4.75	6.85	8.49	10.49
Min operating Pressure when tested to ANSI/ASHRAE 130-2008		Pa	2.5	6.25	12.5	18.75	25	50	75	112.5

AVC5200 ACCUVALVE ORDERING GUIDE

AVC5 2 □□ □□ □□□□□

SHAPE
1 = Round
2 = Rectangular

VALVE HOUSING MATERIAL
2 = 304SS, 20 gauge
3 = 316SS, 20 gauge
4 = Aluminium, 16 gauge
6 = High Temperature, 304SS, 20 gauge

ACTUATOR TYPE
2 = Fail last position, 0-10v
3 = Fail last position, 2-10v
4 = Fail Open/close, 0-10v
6 = Fail Open/close, 2-10v

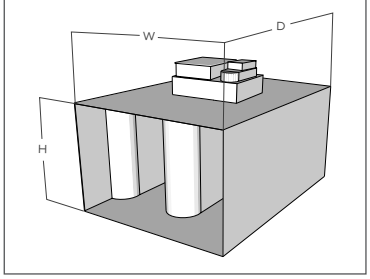
OPTIONS
Blank = No Options
A = AccuNet
B = BACnet
F = Flanges
I = Insulation*
S = Tight Shut-off**

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

*Insulation is not available for High Temperature valves
**Blade seals are standard on all 6" valves

DIMENSIONS

SIZE	W mm	D mm	H mm
12x18"	454	762	302
12x24"	607	762	302
12x36"	911	762	302
12x48"	1216	762	302



FEATURES

- ✓ 23 SEC duration full stroke Actuator
- ✓ Controls interface (optional)
  BACnet

H-AVT3100

ROUND VALVE WITH STANDARD ACTUATOR AND TRANSMITTER

H-AVT3100 BARE VALVE

H-AVT3100 WITH FLANGE

H-AVT3100 WITH FLANGE & INSULATION

ACCUVALVE ROUND BODY - AIRFLOW RANGE L/S

SIZE	MODEL	UNIT	MIN				PREMIUM EFFICIENCY			MAX
6"	*(see ordering guide below)* H-AVT31__-06	L/s	14	33	47	58	67	97	120	149
		M/s	0.79	1.87	2.66	3.28	3.79	5.49	6.79	8.43
8"	H-AVT31__-08	L/s	38	80	119	149	173	249	307	378
		M/s	1.21	2.55	3.79	4.74	5.51	7.92	9.77	12.03
10"	H-AVT31__-10	L/s	57	143	202	247	286	406	498	614
		M/s	1.16	2.91	4.11	5.03	5.83	8.27	10.14	12.51
12"	H-AVT31__-12	L/s	85	195	279	343	396	563	690	845
		M/s	1.2	2.76	3.95	4.85	5.6	7.96	9.76	11.95
14"	H-AVT31__-14	L/s	118	320	462	562	644	889	1074	1298
		M/s	1.23	3.33	4.8	5.84	6.69	9.24	11.16	13.49
Min operating Pressure when tested to ANSI/ASHRAE 130-2008		Pa	2.5	6.25	12.5	18.75	25	50	75	112.5

H-AVT3100 ACCUVALVE ORDERING GUIDE

H-AVT3 1□□-□□-□□□□

SHAPE
1 = Round
2 = Rectangular

VALVE HOUSING MATERIAL
2 = 304SS, 20 gauge
3 = 316SS, 20 gauge
4 = Aluminium, 16 gauge
6 = High Temperature, 304SS, 20 gauge

ACTUATOR TYPE
2 = Fail last position, 0-10v
3 = Fail last position, 2-10v
4 = Fail Open/close, 0-10v
6 = Fail Open/close, 2-10v

OPTIONS
Blank = No Options
A = AccuNet
B = BACnet
F = Flanges
I = Insulation*
S = Tight Shut-off**

SIZE
06 = 6" Diameter
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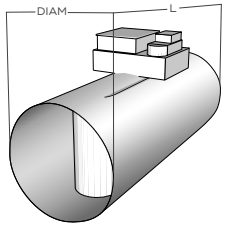
14 = 14" Diameter
18 = 12"h x 18"w
24 = 12"h x 24"w
36 = 12"h x 36"w
48 = 12"h x 48"w

*Insulation is not available for High Temperature valves
**Blade seals are standard on all 6" valves

DIMENSIONS

SIZE	DIAM mm	L mm
6"	149	559
8"	200	610
10"	250	610
12"	300	686
14"	350	762



FEATURES

- ✓ 23 SEC duration full stroke Actuator
- ✓ Controls interface (optional)
  BACnet

23s

H-AVT3200

RECTANGULAR VALVE WITH STANDARD ACTUATOR AND TRANSMITTER

H-AVT3200 BARE VALVE

H-AVT3200 WITH FLANGE & INSULATION

ACCUVALVE RECTANGULAR BODY - AIRFLOW RANGE L/S

SIZE	MODEL	UNIT	MIN				PREMIUM EFFICIENCY			MAX
12x18"	*(see ordering guide below)* H-AVT32__-18	L/s	123	341	473	583	678	984	1225	1510
		M/s	0.91	2.53	3.5	4.32	5.02	7.29	9.07	11.19
12x24"	H-AVT32__-24	L/s	165	420	595	735	855	1234	1528	1888
		M/s	0.92	2.33	3.31	4.08	4.75	6.86	8.49	10.49
12x36"	H-AVT32__-36	L/s	245	681	946	1166	1357	1969	2450	3020
		M/s	0.91	2.52	3.5	4.32	5.03	7.29	9.07	11.19
12x48"	H-AVT32__-48	L/s	330	840	1190	1470	1711	2467	3055	3776
		M/s	0.92	2.33	3.31	4.08	4.75	6.85	8.49	10.49
Min operating Pressure when tested to ANSI/ASHRAE 130-2008		Pa	2.5	6.25	12.5	18.75	25	50	75	112.5

H-AVT3200 ACCUVALVE ORDERING GUIDE

H-AVT3 2 □□ □□ □□□□□

SHAPE
1 = Round
2 = Rectangular

VALVE HOUSING MATERIAL
2 = 304SS, 20 gauge
3 = 316SS, 20 gauge
4 = Aluminium, 16 gauge
6 = High Temperature, 304SS, 20 gauge

ACTUATOR TYPE
2 = Fail last position, 0-10v
3 = Fail last position, 2-10v
4 = Fail Open/close, 0-10v
6 = Fail Open/close, 2-10v

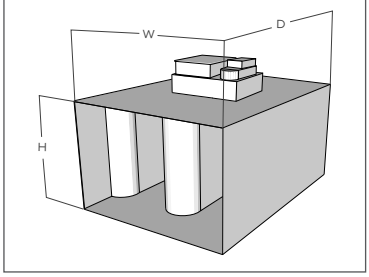
OPTIONS
Blank = No Options
A = AccuNet
B = BACnet
F = Flanges
I = Insulation*
S = Tight Shut-off**

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

*Insulation is not available for High Temperature valves
**Blade seals are standard on all 6" valves

DIMENSIONS

SIZE	W mm	D mm	H mm
12x18"	454	762	302
12x24"	607	762	302
12x36"	911	762	302
12x48"	1216	762	302



FEATURES

- ✓ 23 SEC duration full stroke Actuator
- ✓ Controls interface (standard)

BACnet

H-AVC5100

ROUND VALVE WITH STANDARD ACTUATOR AND **BACNET CONTROLLER**

H-AVC5100 BARE VALVE

H-AVC5100 WITH FLANGE

H-AVC5100 WITH FLANGE & INSULATION

ACCUVALVE ROUND BODY - AIRFLOW RANGE L/S

SIZE	MODEL	UNIT	MIN				PREMIUM EFFICIENCY			MAX
6"	*(see ordering guide below)* H-AVC51__-06	L/s	14	33	47	58	67	97	120	149
		M/s	0.79	1.87	2.66	3.28	3.79	5.49	6.79	8.43
8"	H-AVC51__-08	L/s	38	80	119	149	173	249	307	378
		M/s	1.21	2.55	3.79	4.74	5.51	7.92	9.77	12.03
10"	H-AVC51__-10	L/s	57	143	202	247	286	406	498	614
		M/s	1.16	2.91	4.11	5.03	5.83	8.27	10.14	12.51
12"	H-AVC51__-12	L/s	85	195	279	343	396	563	690	845
		M/s	1.2	2.76	3.95	4.85	5.6	7.96	9.76	11.95
14"	H-AVC51__-14	L/s	118	320	462	562	644	889	1074	1298
		M/s	1.23	3.33	4.8	5.84	6.69	9.24	11.16	13.49
Min operating Pressure when tested to ANSI/ASHRAE 130-2008		Pa	2.5	6.25	12.5	18.75	25	50	75	112.5

H-AVC5100 ACCUVALVE ORDERING GUIDE

H-AVC5 1 □□ - □□ - □□□□□

SHAPE
1 = Round
2 = Rectangular

VALVE HOUSING MATERIAL
2 = 304SS, 20 gauge
3 = 316SS, 20 gauge
4 = Aluminium, 16 gauge
6 = High Temperature, 304SS, 20 gauge

ACTUATOR TYPE
2 = Fail last position, 0-10v
3 = Fail last position, 2-10v
4 = Fail Open/close, 0-10v
6 = Fail Open/close, 2-10v

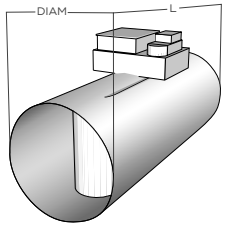
OPTIONS
Blank = No Options
A = AccuNet
B = BACnet
F = Flanges
I = Insulation*
S = Tight Shut-off**

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

*Insulation is not available for High Temperature valves
**Blade seals are standard on all 6" valves

DIMENSIONS

SIZE	DIAM mm	L mm
6"	149	559
8"	200	610
10"	250	610
12"	300	686
14"	350	762



FEATURES

- ✓ 23 SEC duration full stroke Actuator
- ✓ Controls interface (standard)
  BACnet

23s

H-AVC5200

RECTANGULAR VALVE WITH STANDARD ACTUATOR AND **BACNET CONTROLLER**

H-AVC5200 BARE VALVE

H-AVC5200 WITH FLANGE & INSULATION

ACCUVALVE RECTANGULAR BODY - AIRFLOW RANGE L/S

SIZE	MODEL	UNIT	MIN				PREMIUM EFFICIENCY			MAX
12x18"	*(see ordering guide below)* H-AVC52__-18	L/s	123	341	473	583	678	984	1225	1510
		M/s	0.91	2.53	3.5	4.32	5.02	7.29	9.07	11.19
12x24"	H-AVC52__-24	L/s	165	420	595	735	855	1234	1528	1888
		M/s	0.92	2.33	3.31	4.08	4.75	6.86	8.49	10.49
12x36"	H-AVC52__-36	L/s	245	681	946	1166	1357	1969	2450	3020
		M/s	0.91	2.52	3.5	4.32	5.03	7.29	9.07	11.19
12x48"	H-AVC52__-48	L/s	330	840	1190	1470	1711	2467	3055	3776
		M/s	0.92	2.33	3.31	4.08	4.75	6.85	8.49	10.49
Min operating Pressure when tested to ANSI/ASHRAE 130-2008		Pa	2.5	6.25	12.5	18.75	25	50	75	112.5

H-AVC5200 ACCUVALVE ORDERING GUIDE

H-AVC5 2 □□ □□ □□□□□

SHAPE
1 = Round
2 = Rectangular

VALVE HOUSING MATERIAL
2 = 304SS, 20 gauge
3 = 316SS, 20 gauge
4 = Aluminium, 16 gauge
6 = High Temperature, 304SS, 20 gauge

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OPTIONS
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SIZE
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08 = 8" Diameter
10 = 10" Diameter
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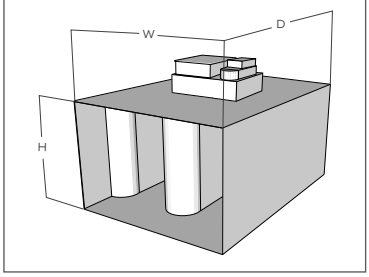
14 = 14" Diameter
18 = 12"h x 18"w
24 = 12"h x 24"w
36 = 12"h x 36"w
48 = 12"h x 48"w

*Insulation is not available for High Temperature valves
**Blade seals are standard on all 6" valves

DIMENSIONS

SIZE	W mm	D mm	H mm
12x18"	454	762	302
12x24"	607	762	302
12x36"	911	762	302
12x48"	1216	762	302



> THE FACT THAT THE ACCUVALVE CAN OPERATE AT HIGH STATIC PRESSURE JUST AS WELL AS IT CAN AT VERY LOW STATIC PRESSURES MAKES IT THE ONLY PRODUCT THAT CAN PULL OFF A PHASED RENOVATION PROJECT LIKE THE ONE FOR OWENS HALL.

DAVID CLYSDALE
ST THOMAS FACILITY MANAGER

LESS PRESSURE, LESS SOUND LESS ENERGY, LESS MONEY... MORE SUSTAINABLE

The University of St. Thomas in St. Paul, Minnesota is known for academic excellence and state-of-the-art facilities. An innovative project to upgrade the laboratory airflow control system in Owens Science Hall delivered energy, sound and performance improvements that surpassed even optimistic expectations. In addition, the new system provided over $75,000 in annual energy savings.

PROJECT HIGHLIGHTS

	BEFORE	AFTER
EXHAUST STATIC PRESSURE	-1250pa	-250pa
EXHAUST FAN USE	112KW	45-55KW
ROOM SOUND LEVEL	56 dBA	49 dBA

ANNUAL ENERGY SAVINGS OVER $75,000!

CASE STUDY

A SUSTAINABLE LAB
UNIVERSITY OF ST. THOMAS

THE PROBLEM

The Owens Hall facility, constructed in 1996, includes 90 fume hoods with a total of 217 venturi airflow control valves. In 2012, university facility staff identified pressure issues throughout the building that could not be resolved. With annual budgets influencing the potential solution, the university decided to execute a 3-year phased project strategy to replace the system. Two important criteria would need to be addressed for any potential renovation solution. The first would be to minimise the need for modifications to the existing expensive 316 stainless steel exhaust duct work. The second required that any solution would need to operate with the current high static pressure while the old system was phased out over the three year period.

Both Accutrol and the existing system manufacturer were asked to bid on replacement of the system. Despite the inherent advantages of replacing a like-for-like system, Jon Hartman of Midwest Mechanical Solutions submitted a significantly lower cost and was awarded the project. Acting as the general contractor, Jon used his experience as a consulting engineer to deliver a comprehensive solution to the University of St. Thomas that included data collection before and after the upgrade. With this data, the university was able to quantify exact performance gains and energy savings as a result of replacing the venturi valve based system with an AccuValve system.

Prior to project commencement, room differential pressure measurements revealed that only 16 out of 43 (37%) rooms were maintaining a negative static pressure as intended. In addition, removal of the existing venturi plunger airflow control valves revealed numerous obstruction issues (paper towels lodged in the valves, shut fire dampers, plugged reheat coils). By design, the existing venturi valves did not have the capability to provide indications of airflow issues. In contrast, the new AccuValves include constant airflow measurement and immediately detect and alarm any and all airflow issues. Student safety and confidence in the system are greatly increased. A Sustainable Lab – University of St. Thomas.

THE SOLUTION

Laboratories are notoriously high energy users with Owens Hall being no exception. The existing venturi valves utilised a high-pressure design to achieve performance. Prior to the upgrade, the exhaust static pressure set-point was -125Opa and the supply static pressure set-point was 7OOpa Low pressure drop AccuValves resulted in a final exhaust static pressure set-point of -25Opa and a supply static pressure set-point of 175pa. In addition to the duct static pressure reductions, the minimum air change per hour (ACH) rates were reduced from 8 ACH to 6 ACH when occupied.

Annual energy savings were conservatively estimated as $75,OOO (813,OOO kWh) and early returns are exceeding those estimates. The energy utility also provided $73,OOO in rebates for selecting an energy efficient solution.

Less Pressure, Less Sound, Less Energy, Less Money, More Sustainable – The high pressure requirement of the existing venturi valve system created an exceedingly loud environment in the classroom, which the chemistry department chair, Dr. Tony Borgerding, likened to “the sound of a freight train rolling through the classroom.” Dr. Borgerding stated that “professors had to complete lectures with fume hoods in the closed position and move to one-on-one conversations when the hoods were opened.” Project testing showed a reduction of sound from 56 dBA to a whisper quiet 49 dBA making it possible to complete classroom lectures in all modes of operation.

The project was completed in three phases over a three year period. As the existing airflow control valves rely on high pressure to operate properly, the static pressure set-points could not be lowered until the end of Phase 3. This forced several AccuValves to operate for years at a pressure of -125Opa and subsequently perform at a pressure of 75pa. No other valve on the market is capable of high performance operation at these extreme pressure ranges.

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