Airflow AC MIDDLE EAST FZE-LLC
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Pressure Independent

Variable Air Volume (Single Duct)

Our Product Ranges

Dampers

1 Fire Dampers
2 Fire / Smoke Dampers
3 Volume Control Dampers
4 Motorized Control Dampers
5 Pressure Relief Dampers /Non Return Dampers

Variable Air Volumes

6 Pressure Independent VAV
7 Constant Air Volume VAV
8 By Pass VAV

Louvers

9 Sand Trap Louvers
10 Acoustic Louvers
11 Stationery Louvers / Architectural Louvers
12 Storm Louvers
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Sound Attenuators

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Electric Duct Heaters

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Air Outlets

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21 Swirl Diffusers & Disc Valves
22 Drum Louvers

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Pressure Independent
Variable Air Volume (Single Duct)

Introduction

Airflowac Variable Air Volume (VAV) controller is an electronic device for digital control of single duct, dual duct, fan powered, and supply / ex-haust VAV terminal configurations.

Central VAV systems are considered to be the most energy efficient method to air condition buildings. By designing central systems instead of distributed systems, a greater efficiency can be obtained.

Airflowac Pressure Independent VAV System controls the exact volume of primary air which flows to the occupied area by the help of an airflow measuring device on the VAV terminal. The VAVs can be widely used as a standalone controller or connected to a Network through our Network Control Module.

Pressure independent control upsurges the steadiness of flow control permitting minimum and maximum flow settings to become actual airflows rather than physical positions of the modulation device, as common as most popular in all VAV Control Systems.

The VAV System that works..

The air passes into each zone from the ductwork through individual VAV boxes. A temperature sensor located in each zone is connected to its VAV box and opens or closes the VAV box to maintain the defined temperature set-point.

As the zone becomes satisfied, the VAV box modulates to a closed position. As the zone's requirements become satisfied, the pressure in the ductwork begins to rise as the openings in the ductwork close.

Variable Air Volume systems, are used to control both the ventilation and temperature to satisfy the requirements of a building.

VAV Applications :

- Residential & Commercial Buildings
- Airports
- Office space
- Hospitals
- Hotels
- Retail stores
- Shopping Malls
- Educational facilities
- Indoor Games
- Stadiums
- Theaters

Key features & benefits of VAV System

Cost-Effective & Improved Indoor Air Quality

Airflowac VAV systems can change the supply air volume according to the cooling and heating load variation to enable the cooling, heating capacity and fan power to meet actual load requirement, resulting the significant reduction of energy consumption.

These VAV systems can utilize the outdoor fresh air as much as possible during transitional seasons, which not only saves energy consumption, but also improves indoor air quality. It is estimated that over 30% of the annual energy consumption can be saved and 10-30% of total equipment capacity can be reduced by using VAV system.

Simple Construction & Installation

Airflowac VAV boxes are constructed with high quality Galvanized Steel casing/ Aluminium casing which makes handling & installation simple and easy.

Compatible to any Building Management System (BMS)

Airwellcare VAV systems can be integrated to any BMS (Building Management System) through Direct Digital Control (DDC)control.

System optimization and monitoring of the whole system can be achieved by computerized centralized system.

Quality Assurance & Performance

Airwellcare VAV Systems & Controllers ensures the product quality, system compatibility and the perfect system integration, to meet the current industry regulations and standards.

- Compact Design.
- Low Pressure Loss over the Unit.
- Single or Double Wall Construction.
- Factory assembled controls & calibration.
- Multi-leaf low leakage Blades for Heavy Duty Applications.
- Maintenance Free.
- Accurate Air Volume Control with Centre averaging multipoint airflow differential cross velocity pressure sensor.
- Demand based single room application.
- Individual room comfort.

AIRFLOW AC

Standard Construction Details

- **Casing** Casings are made of high quality Galvanized Sheet Steel of 1.0mm Thick.

- **Internal Insulation** VAV Boxes are Internally Insulated with ½ Inch Or 1 Inch Acoustic Liner (in compliance with project requirement).

  Metal encapsulated edge prevents cut fibers of the insulating plate falling off, and avoids erosion in the air stream.

- **VAV Damper Shafts** VAV Damper Shafts are made of 12mm Dia Round Solid Composite Steel shafts, which prevents condensation and breakage.

- **Damper Gaskets** Blade edges are sealed with Rubber Gaskets, preventing air leakage and for an air tight operation with low leakage characteristics.

- **VAV Sound Attenuator (optional only)** VAVs are provided with Sound Attenuator as an optional (upon request), where excess noise to be decreased or controlled maximum.

- **Flow Grid** Differential Flow Grids are located inside the VAV inlet with pre-calibrated holes with die cast aluminum junction, which measures air volume accurately.

- **Electric Duct Heater** (Optional only) Terminal shall include an integral electric heater, where indicated on the plans. The heater Control Box shall be constructed of not less than 20 gauge galvanized steel. Heater shall have a hinged access panel for entry to the controls.

- **VAV Controls**

  VAVs Controls are factory assembled & calibrated based on Customers project requirements, which will comprise of :

  - **DDC Controls (BACnet & LON Works)**
  - **Standalone System**
  - **Double wall construction**

Standard Construction Details

Blade Gasket
Blade edges are sealed with Gaskets, preventing the air leakage and for an air tight operation

Brass / SS Ball Bearing
Self -lubricating bearing to reduce friction and air leakage

VAV Damper Shafts are made of 12mm Round Solid Composite Steel which prevents condensation & breakage

Internal Insulation
Internally insulated with 12.5 (1/2 Inch) 25mm (1 Inch) Acoustic liner. Metal encapsulated edge prevents cut fibers of the insulating plate falling off, and avoids erosion in the air stream.

Double Wall
0.7mm Thick (3mm hole x 5mm pich) Galvanized perforation prevents cut fibers of the insulating plate falling off, and avoids erosion in the air stream.

Slip and drive discharge collar for quick field installation

Control Box (Heater)
Electrical Heater devices installed within NEMA 1 enclosure, with single point power connection

Control Box (VAV)
Electrical devices installed with single point power connection

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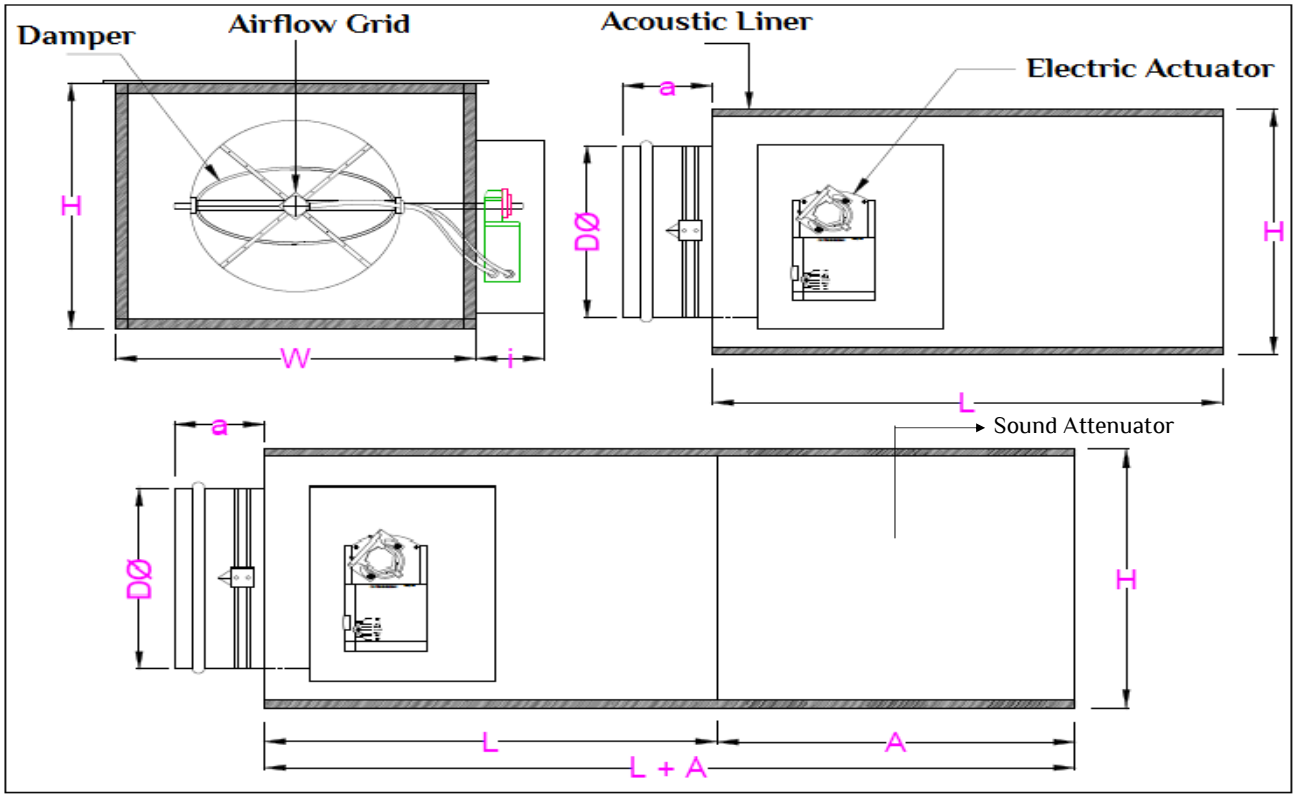
Dimensional Data



Airflow Ranges (CFM)

Model & Unit Size	Air Flow (cfm)		Box Dimensions (mm)						
	Min	Max	W	H	L	A	I	D	L+A
AHS 4	45	250	275	250	400	500	80	175	900
AHS 5	70	350	300	250	400	500	80	175	900
AHS 6	75	475	325	275	400	500	80	175	900
AHS 8	140	950	375	300	500	500	80	200	1000
AHS 10	230	1540	425	350	500	600	80	300	1100
AHS 12	340	2200	450	400	600	600	80	350	1200
AHS 14	480	3100	550	425	600	600	80	350	1200
AHS 16	625	4100	650	450	700	600	80	400	1300
AHS 18	1180	5200	750	450	750	600	80	400	1350

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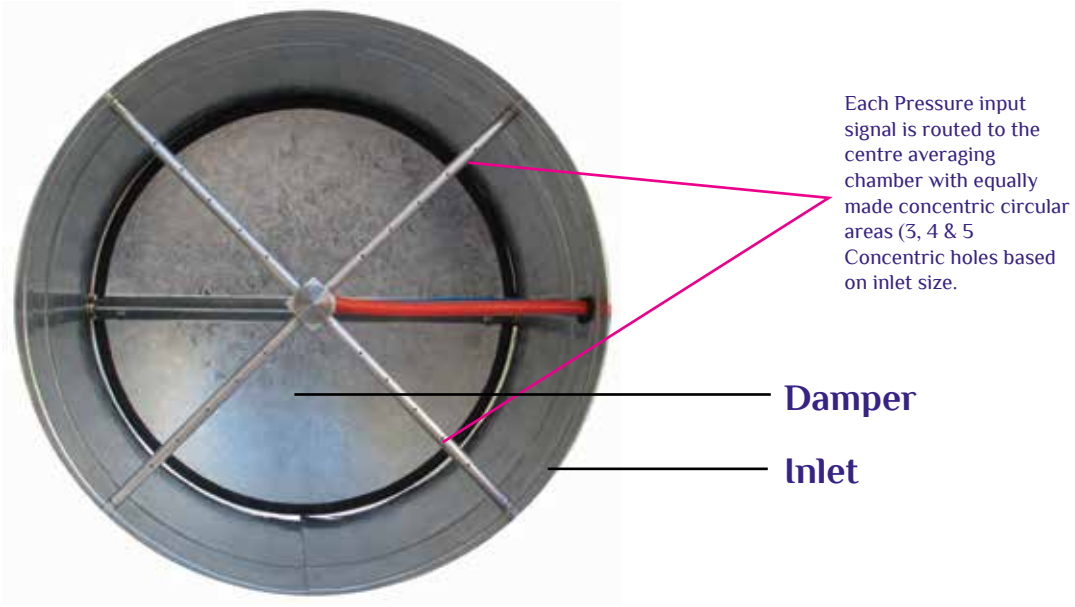
Leakage Characteristics for Single Duct VAV

Unit Size	Max. Leakage (Damper)	Max. Leakage (Casing)	Electric Heater Max. Leakage
	(Lt/s)	(Lt/s)	(Lt/s)
AHS 4	3	1.4	2.3
AHS 5	3	1.4	2.3
AHS 6	3	1.4	2.3
AHS 8	5	2.8	2.5
AHS 10	8	4.2	2.8
AHS 12	9	6	3.5
AHS 14	18	8.5	4.5
AHS 16	23	11	5.6

- The above data for Single Duct VAV units.
- Damper leakage tested at 1.0” Differential Pressure.
- Casing has been leakage tested at 0.5” Differential Pressure.
- The Leakage ratings as per ASHRAE 90.1 & AHRI Standards for VAVs.



Types & Selections

Airflowac Variable Air Volume models are designed & manufactured to achieve the optimum performance by carefully selecting the inlet size of a variable air volume (VAV) terminal box considering the important factors such as :

- Pressure drop across the box ability of the VAV box controller to measure & control the desired minimum and maximum air flow set points.
- Its installation
- Noise generation

Rectangular Type

- Rectangular Pressure Independent Variable Air Volume Box.
- Stand Alone System with Standard Controllers
- Comprising weather proof Control Box
- Double Wall Construction
- Optional with DDC Controls (BACnet Or Lon Marks)
- With Suitable Thermostats

Circular Type

Circular Pressure Independent Variable Air Volume Box

- Stand Alone System with Standard Controllers
- Comprising weather proof Control Box
- Double Wall Construction
- Optional with DDC Controls (BACnet Or Lon Marks)
- With Suitable Thermostats

With Electrical Duct Heater

Pressure Independent Variable Air Volume Box with Electric Duct Heater

- Stand Alone System
- Double Wall Construction
- Comprising weather proof Control Box
- Optional with DDC Controls (BACnet Or Lon Marks)
- Comprising all Electrical Heater Components
- Modulating Or On/Off Heater Control selections
- Single Phase Or 3 Phase Selections
- With Suitable Thermostats

Electric Heater Details

Electric heaters shall be factory mounted to the terminal with the heating elements located upstream of the air-flow control damper to ensure uniform velocity profile over the elements.

A power disconnect shall be furnished to render the heater non-operational. Heater shall be furnished with all controls necessary for safe operation and full compliance with UL 1996 and National Electric Code requirements.

Heater shall have a single point electrical connection. It shall include a primary disc type automatic reset high temperature limit, secondary high limit(s), airflow switch, Ni-Chrome elements, and fusing per UL and NEC. Heater shall have complete wiring diagram with label indicating power requirement and kw output.

Electrical Heater Components

- **Stainless Steel Finned Tubular Elements**
- **Hinged Weather proof Control Panel**
- **Airflow Switch**
- **Control Transformer (optional)**
- **Magnetic Contactors**
- **Fuse**
- **SCR Power Controllers / On-Off Controller**
- **Miniature Circuit Breaker (MCB)**
- **Bimetal Linear Manual Resettable Thermal Cut out**
- **Automatic Thermal cut out.**

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Engineering Guidelines

Radiated Sound Power Data

Unit Size	CFM	OCTAVE BAND																					
		0.5" ΔPs						1.0" ΔPs						1.5" ΔPs						3.0" ΔPs					
		125	250	500	1k	2k	4k	125	250	500	1k	2k	4k	125	250	500	1k	2k	4k	125	250	500	1k	2k	4k
4	100	46	43	35	29	26	27	49	44	39	32	27	24	49	46	42	34	29	26	48	50	46	38	33	31
	150	49	47	40	33	29	28	52	48	44	36	31	28	53	53	46	38	33	30	53	55	50	43	37	34
	200	52	51	44	37	32	29	56	52	48	40	35	31	56	54	50	42	37	33	58	59	54	47	41	38
	250	54	54	47	40	36	32	58	55	51	43	38	34	59	57	53	45	40	37	61	62	58	50	45	41
5	100	42	36	33	27	23	20	45	40	37	29	25	22	46	42	40	32	27	24	47	47	44	36	32	30
	200	46	44	40	33	28	28	49	48	44	36	31	28	50	49	46	38	33	29	52	53	50	43	37	34
	250	49	47	43	36	31	28	51	51	47	39	33	29	53	53	49	41	33	29	54	54	46	45	40	36
	300	51	49	45	38	34	30	54	53	49	41	36	32	55	55	51	43	36	32	56	57	56	48	42	39
	350	54	52	47	40	36	32	57	55	51	43	38	35	57	57	54	45	40	37	58	59	58	50	45	41
6	200	43	38	38	37	33	23	47	44	45	44	40	29	48	46	49	47	43	32	51	52	54	51	47	37
	250	46	41	39	36	32	23	48	46	45	44	41	30	49	49	51	49	46	34	53	54	56	55	51	40
	300	48	43	40	36	31	24	50	48	46	44	41	30	51	51	51	49	46	35	55	56	58	57	54	42
	350	50	46	42	37	31	26	53	50	47	43	40	30	52	52	51	49	46	36	57	58	60	58	55	43
	400	52	47	43	37	32	27	55	52	48	44	40	31	56	52	48	42	37	32	58	59	61	59	56	44
	450	54	48	45	38	32	28	57	53	50	45	40	32	58	55	53	49	46	36	60	60	61	59	56	45
	550	60	53	49	43	36	30	64	58	53	46	41	34	58	56	56	50	46	38	63	63	62	57	55	46
8	300	46	37	38	33	28	24	49	46	42	38	33	29	50	48	45	41	37	30	53	53	52	47	43	35
	400	49	40	40	35	30	24	52	47	44	39	35	30	54	49	47	43	38	32	58	56	54	49	44	37
	500	50	42	41	36	32	25	53	48	46	41	37	31	54	50	49	44	40	33	57	57	55	51	46	40
	600	53	44	43	38	33	26	56	50	47	42	38	31	57	52	50	46	41	34	60	58	57	52	47	41
	700	56	45	44	39	34	27	58	52	48	44	39	32	58	55	53	49	46	36	62	60	58	53	48	42
	800	58	47	45	40	35	28	60	53	50	45	40	33	61	56	53	48	43	36	64	61	59	54	50	43
	1000	60	52	48	42	37	30	62	56	52	46	42	35	63	58	55	50	45	38	67	63	62	56	51	45
10	600	49	40	38	32	27	28	53	47	43	37	31	29	54	50	46	40	34	31	58	58	57	49	42	36
	800	51	42	40	34	28	29	55	49	45	38	33	30	56	52	48	42	37	32	60	59	57	50	43	38
	1000	53	44	43	36	30	29	56	51	47	40	35	30	58	53	50	44	38	33	62	60	57	50	45	40
	1100	54	45	44	37	31	29	56	52	48	41	36	31	58	55	49	46	45	40	63	60	58	51	45	40
	1200	55	46	45	37	32	29	57	53	49	42	37	31	59	55	53	45	40	35	64	61	59	52	46	41
	1400	57	48	46	39	33	29	59	54	50	43	38	33	60	56	54	47	42	36	65	62	60	53	48	43
	1600	61	51	48	40	34	29	63	56	52	45	40	34	64	58	55	48	43	38	67	63	62	54	49	44
12	800	47	41	39	33	30	29	51	49	47	40	37	33	52	52	50	43	40	36	54	60	58	52	47	43
	1100	49	44	41	34	31	29	54	51	48	42	38	33	55	54	51	45	40	36	58	61	59	53	48	45
	1400	51	46	42	35	32	29	56	52	50	43	39	34	57	54	52	46	42	37	60	62	60	54	49	46
	1600	52	47	44	37	33	29	56	53	51	44	39	34	59	56	50	46	43	39	62	63	61	55	49	46
	1700	53	48	44	37	33	29	56	53	51	44	39	34	59	56	54	47	42	37	63	63	61	55	49	46
	2000	54	49	46	39	33	29	58	54	52	45	40	34	60	56	54	48	42	37	64	64	62	56	50	46
	2300	55	50	48	40	35	30	59	55	53	46	41	35	62	58	56	49	44	39	66	65	63	57	51	47
14	1100	47	42	36	34	34	30	53	49	42	39	40	36	55	52	45	42	42	38	60	60	54	50	47	45
	1500	49	44	39	36	34	30	54	51	45	40	41	36	56	54	48	43	43	39	62	61	55	52	48	47
	1900	51	46	42	37	34	30	56	53	47	43	43	37	58	55	49	46	45	40	63	62	56	53	51	48
	2100	52	47	43	38	34	30	56	54	48	43	43	37	60	62	60	54	49	46	64	62	57	54	52	49
	2300	53	48	44	38	34	30	57	54	48	43	43	37	60	58	52	46	46	41	65	63	58	54	53	50
	2700	55	50	46	40	35	31	59	56	50	45	43	37	61	58	54	48	46	41	66	64	60	55	54	50
	3100	56	53	48	42	37	32	61	58	52	46	43	38	63	60	55	49	46	41	67	65	62	57	55	50
16	1600	48	44	37	35	30	30	53	49	43	40	36	33	55	52	46	42	38	35	60	62	56	50	46	41
	2100	50	46	40	36	33	30	55	52	46	41	39	34	57	55	48	44	41	37	61	64	56	52	47	44
	2600	53	48	43	39	35	31	57	53	47	43	40	36	59	56	50	46	43	39	63	64	58	53	49	46
	2800	54	48	44	39	36	31	58	54	48	44	41	37	60	60	54	50	47	45	64	64	58	54	50	46
	3100	55	49	45	41	37	32	59	55	49	45	42	38	61	59	52	48	45	41	65	65	59	55	51	47
	3600	56	51	47	42	38	34	61	57	51	47	43	39	63	59	54	50	47	43	67	66	61	56	53	49
	4100	58	53	50	44	40	35	62	59	53	48	45	40	65	61	56	51	48	44	69	67	63	58	54	50

- Sound Levels are based on dB re: 1x 10^{-12} Watts.
- The above data is obtained outside the Certification Programme.

Engineering Guidelines

Discharge Sound Power Data

Unit Size	CFM	0.5" ΔPs						1.0" ΔPs						1.5" ΔPs						3.0" ΔPs					
		OCTAVE BAND																							
		125	250	500	1K	2K	4K	125	250	500	1K	2K	4K	125	250	500	1K	2K	4K	125	250	500	1K	2K	4K
4	100	57	55	46	42	36	35	61	59	50	46	43	43	61	60	52	48	45	44	62	60	55	53	51	52
	150	61	60	50	46	41	36	66	64	54	50	46	45	69	65	55	51	47	45	68	67	60	57	56	55
	200	65	63	53	49	44	42	71	67	57	53	48	48	72	69	59	550	50	50	73	72	64	60	57	55
	250	68	65	55	53	46	45	72	70	59	55	51	49	73	71	61	58	53	52	76	76	65	62	59	58
5	100	55	53	44	40	35	33	58	57	48	43	42	43	59	58	50	46	44	45	59	59	54	50	50	51
	200	62	60	51	46	41	38	66	64	54	50	45	44	67	66	57	52	47	66	66	61	57	55	55	56
	250	65	62	53	48	43	41	69	67	56	52	47	45	70	68	59	55	51	50	69	69	63	59	56	56
	300	68	64	54	50	45	43	71	68	54	49	47	70	70	60	56	51	50	70	70	70	63	60	58	58
	350	68	65	55	51	47	45	73	70	59	55	50	49	74	71	62	57	53	51	73	72	66	62	60	57
6	200	54	51	48	44	38	36	59	56	52	48	44	42	60	59	55	51	47	45	65	65	2	57	54	53
	250	59	53	49	46	40	37	63	58	53	49	45	43	64	61	56	52	48	47	66	67	63	59	56	55
	300	61	55	51	47	41	39	64	60	54	51	46	44	65	63	57	54	50	48	68	68	64	60	57	55
	350	62	57	52	48	42	40	65	63	55	52	47	46	66	64	58	55	51	50	70	70	65	62	58	57
	400	63	58	53	50	43	41	66	64	57	53	48	48	69	65	61	57	56	53	71	71	66	63	59	58
	450	64	59	54	51	44	42	68	65	58	54	49	48	70	68	60	57	52	52	73	72	67	64	59	60
	550	67	62	55	53	46	45	70	68	61	56	50	50	72	70	63	59	54	53	76	74	69	66	61	63
8	300	55	50	47	44	41	37	58	55	52	47	47	45	60	58	55	50	50	48	65	65	65	60	60	68
	400	58	53	49	46	43	39	61	58	53	50	48	56	63	61	56	53	51	49	67	67	66	59	59	58
	500	60	55	51	48	44	41	64	60	54	52	49	47	65	63	57	55	53	50	69	69	67	61	61	60
	600	62	57	52	50	46	42	66	61	56	53	50	48	67	65	59	56	54	52	71	70	68	63	61	62
	700	64	58	54	51	47	43	68	63	57	55	52	49	69	69	63	59	56	56	73	72	68	64	62	60
	800	66	60	55	52	48	44	69	64	59	56	53	50	71	67	63	60	57	55	74	73	68	65	63	61
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	1000	63	58	54	51	48	44	67	63	59	54	52	50	69	65	61	57	56	53	74	72	69	64	63	60
	1100	64	58	55	52	48	45	68	64	59	55	53	50	70	68	60	57	52	52	74	73	69	65	64	61
	1200	65	59	55	53	49	45	69	65	60	56	54	51	71	67	63	61	57	55	75	74	70	66	64	62
	1400	67	61	57	54	50	47	70	67	62	58	55	52	73	69	64	61	58	56	77	75	71	67	65	63
	1600	69	63	59	56	51	48	74	69	65	60	56	53	76	71	67	62	60	57	80	76	73	69	67	64
12	800	57	52	49	45	43	40	61	59	58	54	52	50	63	61	61	56	54	52	68	68	68	63	60	59
	1100	61	55	52	48	46	42	65	61	60	55	53	52	67	63	62	58	56	54	71	69	68	65	63	61
	1400	63	57	54	51	48	44	67	63	61	56	54	52	70	65	63	59	56	54	74	71	71	67	64	62
	1600	65	58	56	52	49	45	69	64	62	57	55	52	71	66	62	59	57	56	75	72	72	68	65	63
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	2000	68	61	58	54	51	47	71	65	64	60	57	53	74	68	66	62	60	57	78	75	73	70	67	66
	2300	69	63	61	56	52	49	73	67	65	61	58	55	75	70	67	63	60	58	80	76	75	70	68	67
14	1100	58	51	49	46	43	40	63	58	54	53	52	52	64	61	57	56	54	54	69	68	67	64	62	62
	1500	61	54	52	48	46	42	65	59	56	54	53	52	67	62	59	57	56	55	72	70	68	65	63	63
	1900	64	57	55	51	47	44	68	62	58	55	54	53	70	64	61	58	56	56	74	71	69	66	64	63
	2100	65	58	56	52	48	45	69	63	59	56	54	54	71	66	62	59	57	56	76	72	69	67	65	64
	2300	66	59	57	53	49	46	70	63	60	56	55	54	73	67	65	60	58	57	77	73	70	68	66	64
	2700	68	60	59	54	50	47	72	65	62	58	56	55	74	68	65	61	59	51	79	74	72	69	67	65
	3100	70	62	61	56	52	48	74	66	64	60	57	56	76	69	67	62	60	59	80	75	74	70	68	67
16	1600	60	52	51	46	43	41	63	57	54	54	52	51	66	59	57	56	54	53	70	65	64	62	62	60
	2100	63	55	54	49	46	43	67	60	57	55	54	51	69	63	60	58	56	54	73	70	67	65	64	62
	2600	65	57	56	51	47	45	69	63	59	56	54	53	71	66	62	59	57	56	76	74	69	67	67	65
	2800	66	58	57	52	48	45	70	64	60	56	54	53	74	68	65	61	59	58	76	74	70	68	64	65
	3100	67	59	58	53	49	46	71	65	61	57	55	54	75	69	65	60	58	57	78	75	71	69	67	66
	3600	69	61	9	54	50	47	73	67	63	58	56	54	75	69	66	61	59	57	80	77	73	70	68	67
	4100	71	63	62	56	51	49	75	68	67	60	57	55	77	71	69	62	60	58	81	79	74	70	68	68

- Sound levels are based on dB re: 1 x 10-12 Watts
- The above data is obtained outside the certification programme.

AIRFLOW AC

Engineering Guidelines

Sound Data

Noise Levels & Static Presure Drop

Discharge Noise						Radiated Noise			
Unit Size	CFM	△Pa	NC (Min. Inlet Static Pressure)			NC (Min.Inlet Static Pressure)			
			0.5"	1.0"	3.0"	0.5"	1.0"	3.0"	
4	100	0.011	12	15	20	< 20	< 23	25	
	150	0.011	14	18	30	< 20	< 23	28	
	200	0.011	22	23	35	< 20	23	31	
	250	0.011	25	26	38	< 20	25	35	
5	100	0.011	13	16	25	< 20	< 23	25	
	200	0.011	14	18	29	< 20	< 23	29	
	300	0.011	23	20	32	20	23	31	
	350	0.011	24	22	34	22	24	31	
6	200	0.022	12	16	26	< 20	< 23	32	
	250	0.031	14	18	29	< 20	< 23	33	
	300	0.042	15	18	29	< 20	25	36	
	350	0.063	17	19	31	< 20	25	38	
	450	0.12	18	21	34	< 20	26	40	
	550	0.16	20	24	36	23	28	43	
8	300	0.02	10	19	26	< 22	< 23	28	
	400	0.02	11	19	26	< 22	< 23	31	
	500	0.02	13	21	31	< 22	25	34	
	600	0.02	15	21	32	< 22	27	36	
	800	0.02	17	23	34	21	27	37	
	1000	0.05	21	25	36	23	29	40	
10	600	0.015	12	18	32	< 22	23	35	
	800	0.015	14	20	34	< 22	25	37	
	1000	0.03	16	20	34	< 22	25	38	
	1200	0.03	16	22	35	< 22	30	40	
	1400	0.03	17	24	38	23	31	42	
	1600	0.05	20	25	40	25	33	45	
12	800	0.014	12	17	27	< 22	25	35	
	1100	0.014	14	18	29	< 22	27	39	
	1400	0.03	15	20	31	< 22	30	40	
	1700	0.03	17	22	33	< 22	31	42	
	2000	0.05	18	23	34	25	32	45	
	2300	0.06	20	26	36	27	35	46	
14	1100	0.017	11	22	30	< 25	25	33	
	1500	0.04	12	24	32	< 25	26	35	
	1900	0.05	16	25	34	< 25	28	39	
	2300	0.06	18	27	36	< 25	30	44	
	2700	0.08	19	29	37	27	32	45	
	3100	0.15	21	30	41	28	35	48	
16	1600	0.12	15	24	32	< 25	27	36	
	2100	0.03	17	26	34	< 25	29	39	
	2600	0.05	18	29	37	< 25	32	43	
	3100	0.05	20	31	40	28	35	45	
	3600	0.07	21	34	42	31	36	49	
	4100	0.08	23	37	45	33	38	51	

Our OEM Partners

BELIMO

Honeywell

PRIVA

Johnson Controls

Note : The above OEM Controller's images are indicative only. The actual models and the image displayed above may vary in compatible with the selection of VAV and its applications.

Material Storage, Operation & Maintenance

Receiving, Handling & Storage

The Variable Air Volume needs to be handled carefully while loading or offloading, as per the upright arrow marks given on the unit in the right position. Care should be taken in lifting the product in all 4 corners and placing them on a raised floor level. Don't pull or push the product on the floor level.

Store the product always dry in environment. Do not expose this product into the dust or humid environment.

Never expose this product to temperature exceeding 140°F (60°C). After receiving the VAVs, check for both obvious and hidden damages. If damage is found, record all necessary information and file a claim with the final carrier.

Indoor storage and protection from dirt, dust and weather is highly recommended. For safety and protection, follow all instructions and adhere to applicable building and electrical codes.

Safety Warning

Improper installation, adjustment, alteration, service or maintenance can cause property damage, Injury or death. Read the installation, operating and maintenance instructions thoroughly before installing or servicing of this equipment.

Maintenance

VAV's does not typically require maintenance as long as it is kept dry and clean. If cleaning is required, use mild detergents or solvents.

If the lubrication is desired for components such as axle bearings, Shaft bearings etc. do not use oil based lubricants or any other lubricant that attract contamination or any other lubricants that attack contaminants such as dust.

Once the installation is finished, the contractor should note / record complete operation of the VAV's. Also, on the VAV performance the contractor / Building owner should record the readings at every month intervals, the complete operations of the VAV from V-min. to V-max. positions, date, time and maintenance engineer's name and signature.

VAV and their actuator must be maintained, cycled and tested in accordance with:

- The standards of ARI 880 (ETL intertek), NFPA90A and SMACNA.
- Actuator manufacturer recommendations.
- VAV manufacturer recommendations.

Warranty

AIRFLOWAC warrants this equipment to be free from defects in material and workmanship for a period of one year from the purchase date. Any units or parts which prove to be defective during the warranty period will be required or replaced at our option. AIRFLOWAC shall not be liable for damages resulting from misapplication or misuse of its products. AIRFLOWAC shall not be responsible for any installation or removal costs. AIRFLOWAC shall not be responsible for any services work done by a third party or back charges from the direct party.

AIRFLOW AC

Trouble Shooting

The following is a possible cause and correction list for common concerns with the Variable Air Volumes.

Symptom	Possible Cause	Correction
VAV does not closing and / or opening	Frame is racked causing blades to bind on frames	**Adjust frame such that it is square and plumb**
	Actuator linkage loose	**Close damper, disconnect power, adjust and tightening linkage**
	Loose in wire connection	**Close damper, disconnect power, adjust and tightening linkage**
	Defective motor	**Replace the motor (Actuator)**
	Foreign screw in VAV linkage	**Check VAV Linkages**
	Contaminants on VAV	**Cleanwith a non-oil based solvent**
Improper Thermostat response	Defective Thermostat	**Replace the Thermostat**
	Loose Wire Connection	**Disconnect the power connection and check the wiring connections**
VAV does not work	No power supplied to the Actuator	**Add power supply to the device**
Reheating coil does not work (optional fittings)	TRD Heated	**Reset Manually**
	Loose Wire Connection	**Disconnect the power and check the wiring connections**

Airflow aC MIDDLE EAST FZE-LLC

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