



VAV TERMINALS

An ISO 9001:2015 Certified Company



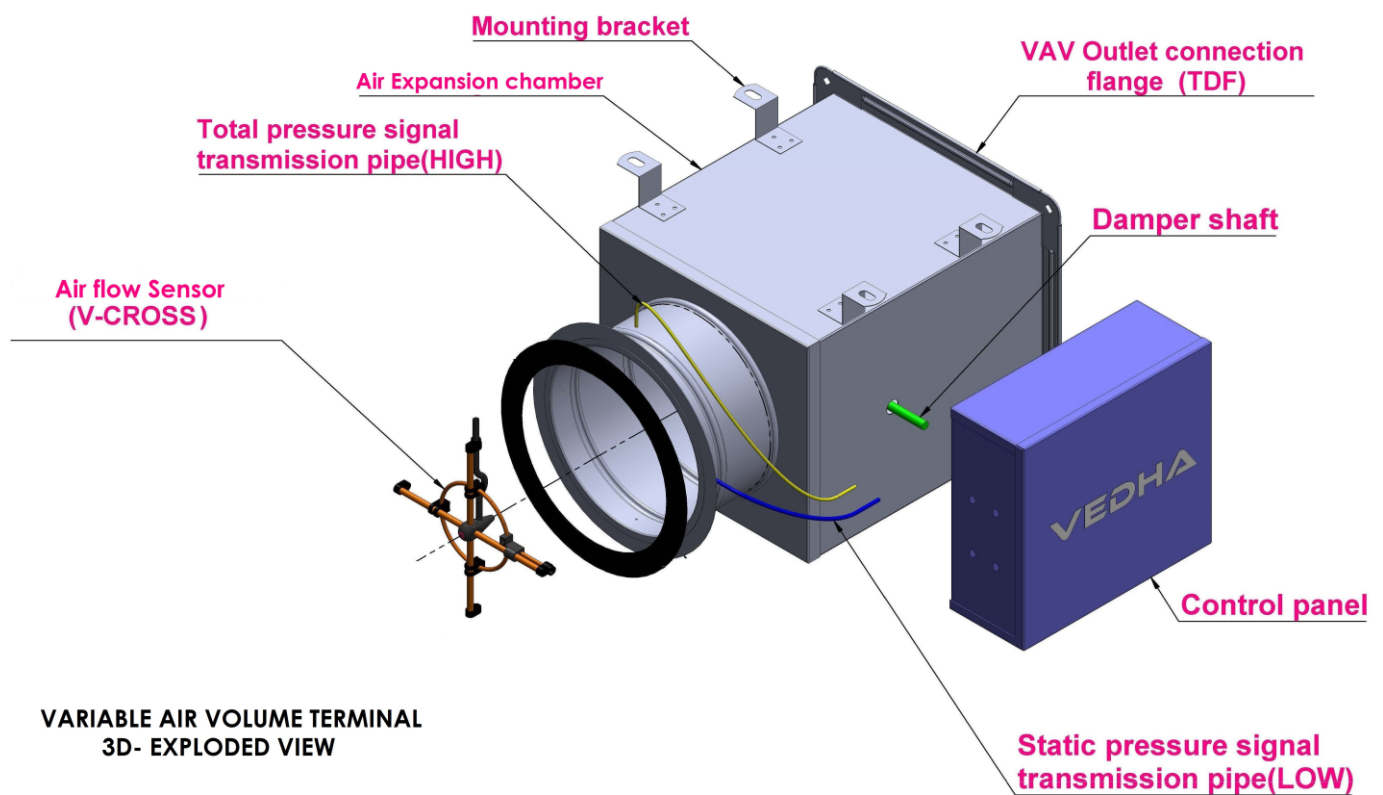
VAV TERMINAL

Variable-Air-Volume (VAV) system is a single path system that controls temperature of a **Zone** by modulating airflow while maintaining constant supply air temperature. VAV terminal units, located at each Zone, adjust the quantity of air reaching each Zone depending on its load requirements.

A VAV Terminal provides constant or variable airflow depending on the temperature demands of the Zone. As the temperature raises the VAV damper opens to send a designed amount of airflow to the Zone.

Pressure independent VAV controls use Cross airflow sensor which transmits the velocity pressure signal to the VAV controller. This allows the VAV terminal to deliver the calibrated airflow independent of the upstream Air pressure. VAVs are with Single or Double skin construction depending upon requirement.

VAV TERMINAL MAJOR PART IDENTIFICATION



VARIABLE AIR VOLUME TERMINAL
3D- EXPLODED VIEW

KEY PART DESCRIPTION

AIR FLOW SENSOR (V-CROSS)

Air Flow Sensor (V-CROSS) a specially designed Airflow station for measuring the Air flow which transmits the velocity pressure signal to the VAV controller by mechanically amplifying the signal.

The Velocity pressure signal is transmitted as two signals to the transducer in the Controller, High Signal – Total Pressure signal & Low Signal – Static pressure signal.

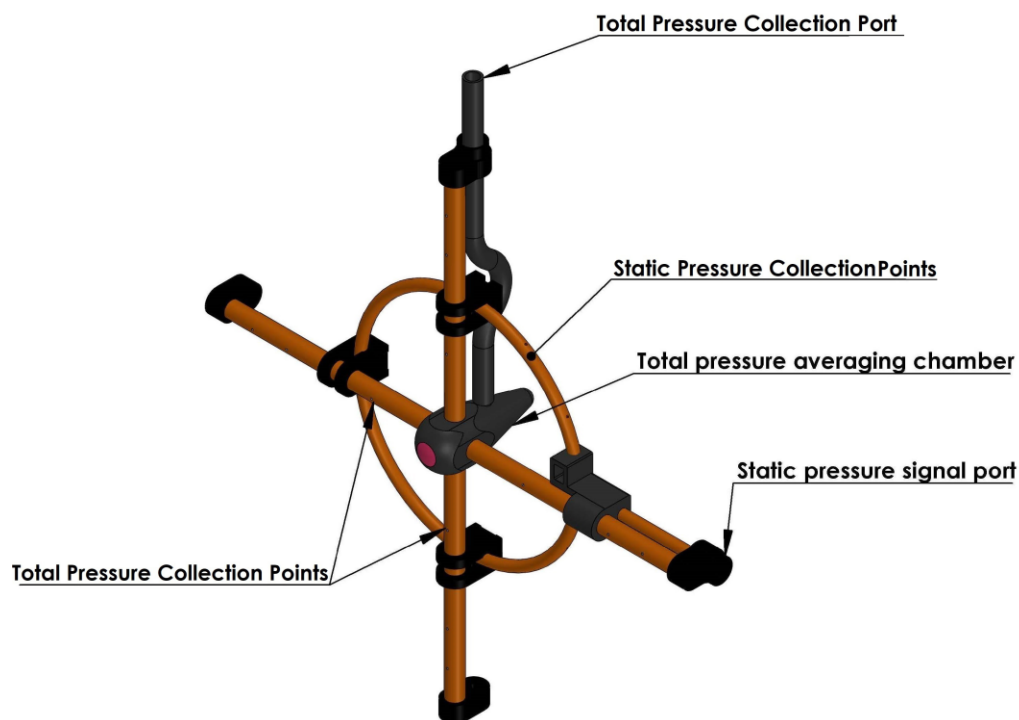


Fig. V-CROSS Air Flow Sensor

Total pressure collection points placed in the Airstream direction to cover equally concentric circular areas or covering full Inlet area of flow measurement grid and routed to centre averaging chamber for high accuracy measurement and further transmitted to controller.

Static Pressure collection points placed in perpendicular to the Air stream direction on a radial ring and further transmitted to the controller.

Air flow sensor designed with improved amplification factor for accurate measurement of Air flow. Pneumatic connectors used for avoiding damages while disconnection and reconnection of signal tubes to the controller multiple times during maintenance.

AIR FLOW SENSOR (V-CROSS)

AIR FLOW SENSOR TECHNICAL DATA^{[1][2]}

MODEL	VC-04	VC-05	VC-06	VC-08	VC-10	VC-12	VC-14	VC-16	VC-0404	VC-0505	VC-0606	VC-0805	VC-1206	VC-1208	VC-1606	VC-1608	VC-1810	VC-2012
INLET SIZE	Ø 4"	Ø 5"	Ø 6"	Ø 8"	Ø 10"	Ø 12"	Ø 14"	Ø 16"	4" x 4"	5" x 5"	6" x 6"	8" x 5"	12" x 6"	12" x 8"	16" x 6"	16" x 8"	18" x 10"	20" x 12"
VAV INLET AREA	0.088 ft ²	0.139 ft ²	0.196 ft ²	0.349 ft ²	0.545 ft ²	0.785 ft ²	1.06 ft ²	1.39 ft ²	0.119 ft ²	0.183 ft ²	0.260 ft ²	0.291 ft ²	0.512 ft ²	0.686 ft ²	0.688 ft ²	0.896 ft ²	1.251 ft ²	1.667 ft ²
K-FACTOR (ft³/min @ 1 IN-WC)	240 ft ³ / min	400 ft ³ / min	560 ft ³ / min	1060 ft ³ / min	1650 ft ³ / min	2360 ft ³ / min	3270 ft ³ / min	4350 ft ³ / min	325 ft ³ / min	520 ft ³ / min	720 ft ³ / min	885 ft ³ / min	1480 ft ³ / min	1980 ft ³ / min	1980 ft ³ / min	2750 ft ³ / min	3805 ft ³ / min	5050 ft ³ / min
AMPLIFICATION FACTOR (F)	2.17	1.82	1.97	1.75	1.74	1.78	1.70	1.63	2.16	1.98	2.09	1.73	1.92	1.93	1.94	1.70	1.73	1.75

¹Above technical data is subject to change without prior intimation for betterment of product from time to time.

²Data Revised R01 – 09/02/2021.

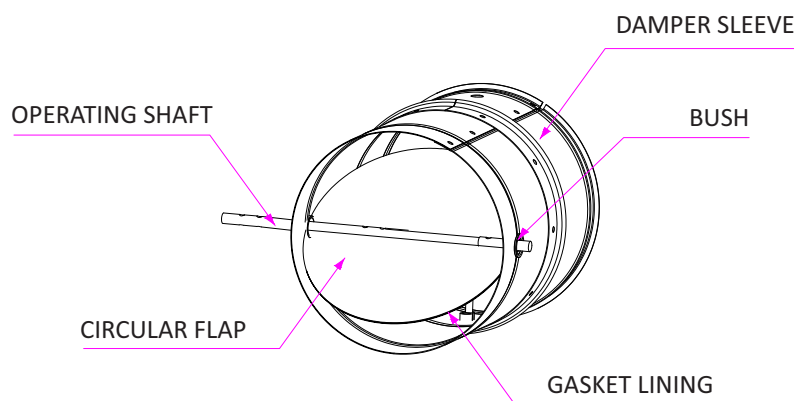
DAMPER

Damper Assembly used for control of Air flow for delivering Variable Air Volume and ensuring low pressure drop.

Two types of Damper viz., Circular Damper & Aerofoil profile blade Damper.

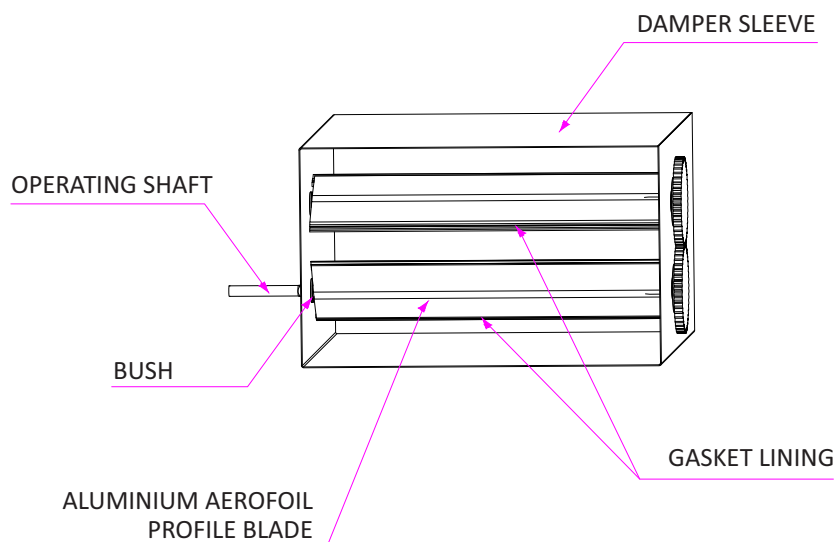
Circular Damper

Damper arrangement having Specially made **Twin 22SWG GSS Sandwich Circular flap with Neoprene Gasket lining** for Leak proofing when in close position and assembled with Zinc plated steel shafts and Self lubricated bushes.



Aerofoil Profile Blade Damper

Damper Assembly having Aerofoil profile aluminium blade integrated with Gasket lining for additional Leak proofing. Damper operating by action of opposed blade volume control damper with high quality nylon gear train and self-lubricated bushes.



MODELS



CIRCULAR DAMPER
BASIC - CDB



AEROFOIL PROFILE DAMPER
SPIRAL FLATOVAL - ADSF



AEROFOIL PROFILE DAMPER
RECTANGULAR - ADR



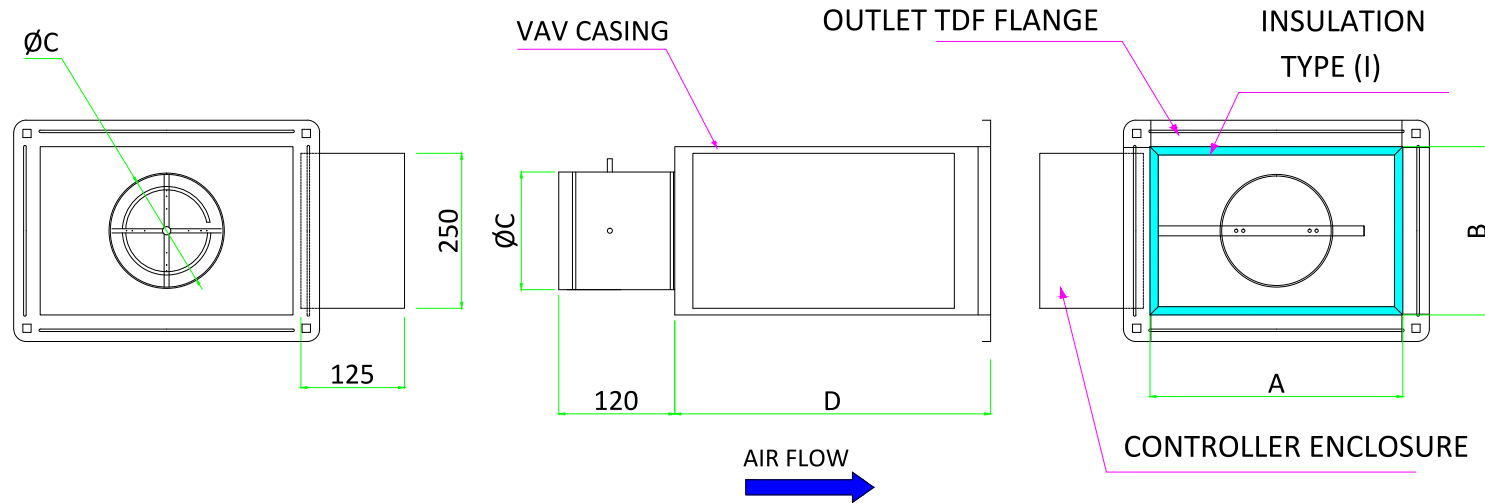
CIRCULAR DAMPER
BASIC - INTEGRATED
TRANSITION PIECE - CDB - ITP



CIRCULAR DAMPER SPIRAL
ROUND - CDSR

CIRCULAR DAMPER BASIC (CDB)

TECHNICAL INFORMATION DRAWING



TECHNICAL DATA

S NO	MODEL	CROSS FLOW SENSOR	INLET SIZE (Inch)	AIR FLOW RANGE (CFM)	PRESSURE DROP (Pa)	CASING INLET & OUTLET DIMENSIONS				INSULATION TYPE (I)	
						A (mm)	B (mm)	ØC (mm)	D (mm)	SINGLE SKIN	DOUBLE SKIN
1	CIRCULAR DAMPER BASIC - CDB	VC-04	4	40 - 170	49	305	203	101	400	CLOSED CELL / OPEN CELL NITRILE RUBBER FOAM	GLASS WOOL FIBRE WITH PROTECTIVE TISSUE & ALU. PERFORATED SHEET
2		VC-05	5	64 - 320	49	305	203	126	400		
3		VC-06	6	90 - 450	49	305	203	152	400		
4		VC-08	8	170 - 850	46	305	254	203	400		
5		VC-10	10	270 - 1350	44	356	318	254	400		
6		VC-12	12	380 - 1900	44	405	381	305	400		
7		VC-14	14	560 - 2800	41	508	444	356	500		
8		VC-16	16	740 - 3700	39	610	457	406	500		

CIRCULAR DAMPER BASIC (CDB)

TECHNICAL MODEL DATA (GENERAL)		
1.	Type	Pressure Independent.
2.	Model	Circular Damper Basic (CDB).
3.	Make & Origin	Vedha, India.
4.	Air Flow Range	40 - 3700 CFM.
5.	VAV Terminal Selection Criteria	VAV terminal Design Air flow volume shall not be less than 30% of the selected VAV terminal Air flow sensor K-Factor. VAV terminal Minimum Air flow volume (V-Min) shall not be less than 20% of the selected VAV terminal Max Air flow Range.
6.	Material For Construction	
	A. Casing	22SWG Galvanised Sheet Steel conforming to IS:277.
	B. Damper Sleeve	22SWG Galvanised Sheet Steel conforming to IS:277.
	C. Controller Enclosure	22SWG Galvanised Sheet Steel conforming to IS:277.
	D. Insulation	Single Skin - closed cell Nitrile rubber foam. (Optional – Open cell Nitrile rubber foam / XLPE). Double Skin – Glass wool Fibre with Protective (RP) tissue and Aluminium Perforated Sheet.
7.	Inlet type	Spigot assembly with Circular Plain Inlet end (Optional: with Circular Flange).
8.	Outlet type	Rectangular with TDF Flange (same sheet folded) similar to Duct flange for easy, seamless & leak proof connectivity with ducts.
9.	Damper	Specially made Twin 22SWG GSS Sandwich Circular flap with Neoprene Gasket lining for Leak proofing when in close position and assembled with Zinc plated steel shafts and Self lubricated bushes.
10.	Casing	Inlet side mounted with Round Spigot assembly and Outlet side having TDF Flanges .
11.	Controller Enclosure	Mounted on the Damper shaft side of the Casing, The enclosure is designed with provision to mount Various types of Controller Packages. Flow measurement signal transmitted via high quality PU tubes routed to controller enclosure and Pneumatic connectors used for connecting sensor signal transmitting pipes to controller. Top entry points for communication & power cables and side entry for Sensor signal transmission pipes with rubber grommets for Water and Dust resistant sealing.

CIRCULAR DAMPER BASIC (CDB)

BOQ SPECIFICATION

Pressure independent VAV terminal of different capacities with Inlet spigot assembly with Circular damper capable of delivering variable air volume with gasket lining integrated circular flap for leak proofing.

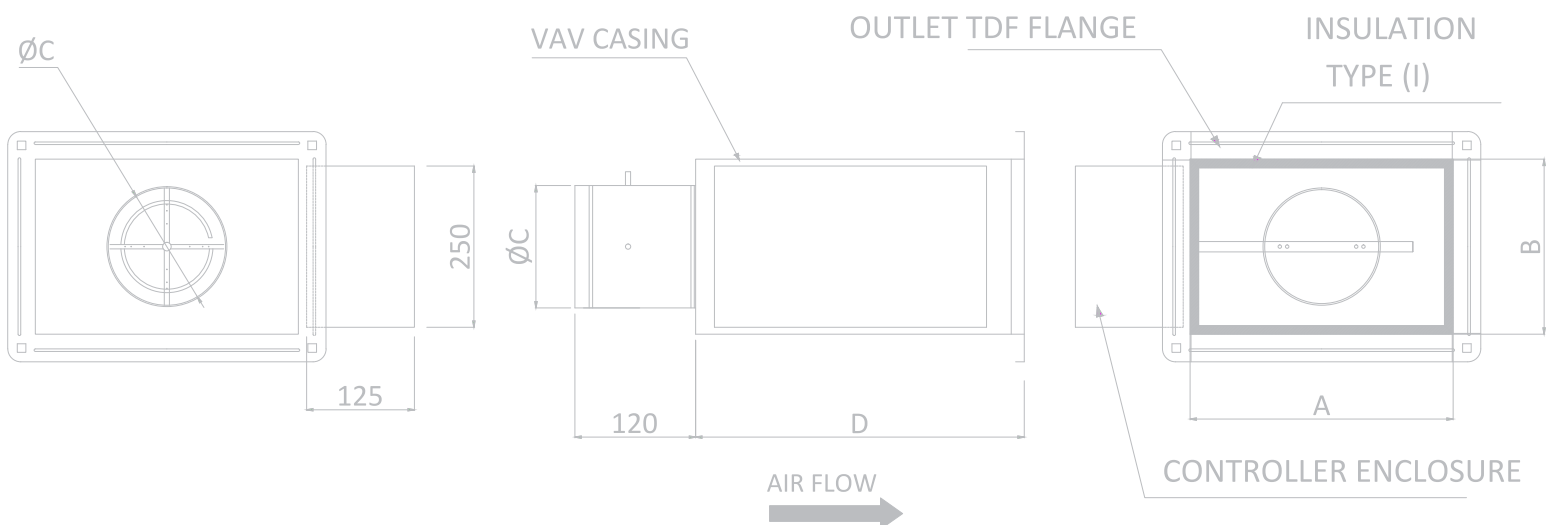
VAV box casing shall be made with 22SWG Galvanized sheet steel construction completely sealed at all joints and with Outlet side TDF flanges (Same sheet folded) similar to Duct flange for seamless, easy and leak proof connectivity with Inlet & Outlet ducts, and Casing with internal Insulation Lining.

VAV box shall have Air Flow Sensor having total pressure collected from multiple pickup points covering equally concentric areas of flow measurement grid and routed through centre averaging chamber to controller, static pressure collected from points placed in perpendicular to the total pressure pickup points for better sample collection and high accuracy.

Flow measurement signal transmitted via high quality PU tubes routed from Spigot to Controller enclosure. Pneumatic connectors shall be used for connecting signal tubes to controller.

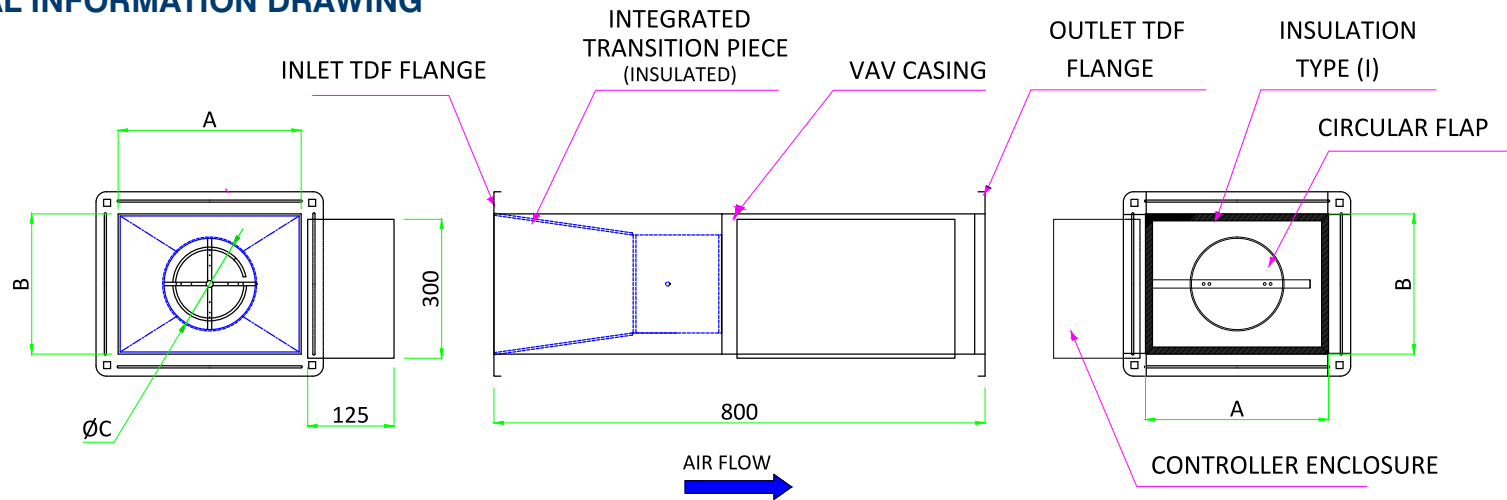
The VAV shall be suitable to operate on 230 V, single phase electrical supply and shall have built-in transformer suitable to the controller operating voltage.

VAV shall be electronically controlled networkable controller type complete with low leakage damper, actuator, Microprocessor unit, and wall/ ceiling mounted thermostat with ON/OFF Switch, control transformer, unit hanger brackets etc.



CIRCULAR DAMPER BASIC - INTEGRATED TRANSITION PIECE (CDB-ITP)

TECHNICAL INFORMATION DRAWING



TECHNICAL DATA

S NO	MODEL	CROSS FLOW SENSOR	INLET SIZE (Inch)	AIR FLOW RANGE (CFM)	PRESSURE DROP (Pa)	CASING INLET & OUTLET DIMENSIONS*			INSULATION TYPE (I)	
						A (mm)	B (mm)	ØC (mm)	SINGLE SKIN	DOUBLE SKIN
1	CIRCULAR DAMPER BASIC - INTEGRATED TRANSITION PIECE CDB-ITP	VC-04	4	40 - 170	49	250	250	101	CLOSED CELL / OPEN CELL NITRILE RUBBER FOAM	GLASS WOOL FIBRE WITH PROTECTIVE TISSUE & ALU. PERFORATED SHEET
2		VC-05	5	64 - 320	49	250	250	126		
3		VC-06	6	90 - 450	49	250	250	152		
4		VC-08	8	170 - 850	46	300	300	203		
5		VC-10	10	270 - 1350	44	350	350	254		
6		VC-12	12	380 - 1900	44	400	400	305		
7		VC-14	14	560 - 2800	41	450	450	356		
8		VC-16	16	740 - 3700	39	500	500	406		

* Suit to duct option with dimensions to suit with inlet / outlet duct sizes - only possible if duct size (both Width & Height) is more than the VAV casing dimensions.

CIRCULAR DAMPER BASIC - INTEGRATED TRANSITION PIECE (CDB-ITP)

TECHNICAL MODEL DATA (GENERAL)		
1.	Type	Pressure Independent.
2.	Model	Circular Damper Basic-Integrated Transition Piece (CDB-ITP).
3.	Make & Origin	Vedha, India.
4.	Air Flow Range	40 - 3700 CFM.
5.	VAV Terminal Selection Criteria	VAV terminal Design Air flow volume shall not be less than 30% of the selected VAV terminal Air flow sensor K-Factor. VAV terminal Minimum Air flow volume (V-Min) shall not be less than 20% of the selected VAV terminal Max Air flow Range.
6.	Material For Construction	
	A. Casing	22SWG Galvanised Sheet Steel conforming to IS:277.
	B. Damper Sleeve	22SWG Galvanised Sheet Steel conforming to IS:277.
	C. Controller Enclosure	22SWG Galvanised Sheet Steel conforming to IS:277.
	D. Insulation	Single Skin - Closed cell Nitrile rubber foam. (Optional – Open cell Nitrile rubber foam / XLPE). Double Skin - Glass wool Fibre with Protective (RP) tissue and Aluminium Perforated Sheet.
7.	Inlet type	TDF Flange similar to Duct flange for easy, seamless & leak proof connectivity with ducts and with Inlet transition piece (Insulated) integrated inside the VAV Casing.
8.	Outlet type	TDF Flange similar to Duct flange for easy, seamless & leak proof connectivity with ducts.
9.	Damper	Specially made Twin 22SWG GSS Sandwich Circular flap with Neoprene Gasket lining for Leak proofing when in close position and assembled with Zinc plated steel shafts and Self lubricated bushes.
10.	Casing	GSS Duct with Inlet Side and Outlet side having TDF Flanges
11.	Controller Enclosure	Mounted on the Damper shaft side of the Casing, The enclosure is designed with provision to mount Various types of Controller Packages. Flow measurement signal transmitted via high quality PU tubes routed to controller enclosure and Pneumatic connectors used for connecting sensor signal transmitting pipes to controller. Top entry points for communication & power cables and side entry for Sensor signal transmission pipes with rubber grommets for Water and Dust resistant sealing.

CIRCULAR DAMPER BASIC - INTEGRATED TRANSITION PIECE (CDB-ITP)

BOQ SPECIFICATION

Pressure independent VAV terminal of different capacities with Circular damper capable of delivering variable air volume with gasket lining integrated circular flap for leak proofing. Inlet transition cone piece integrated inside VAV box casing with external Insulation treatment and connected to Damper Sleeve.

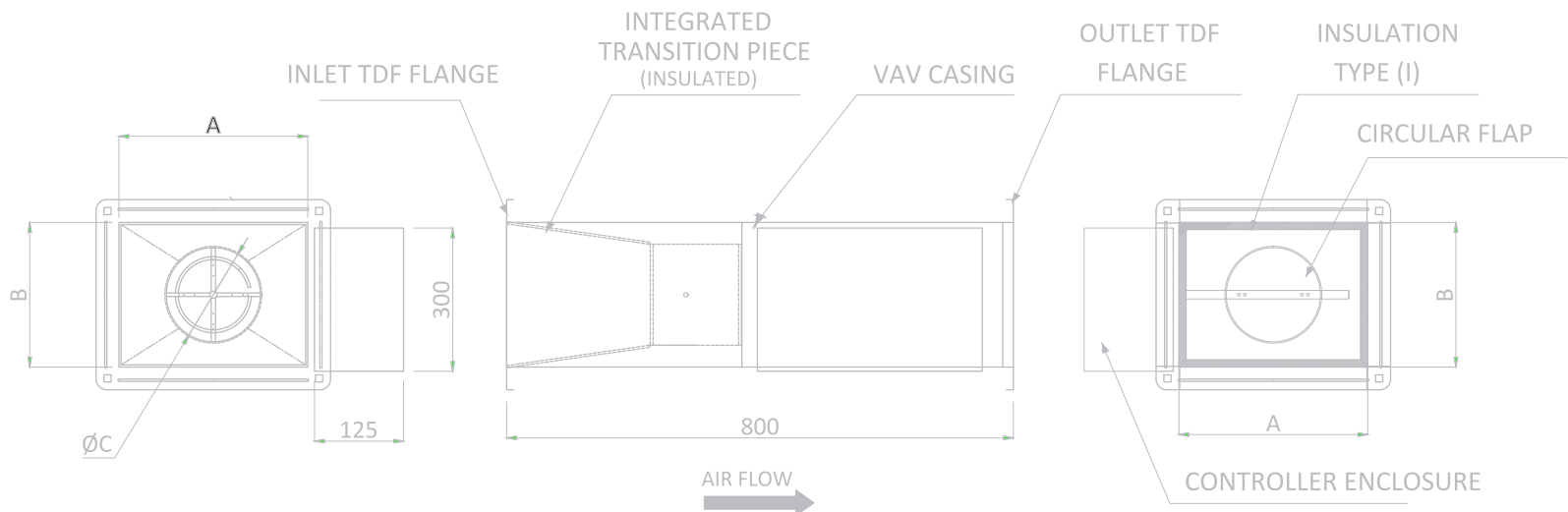
VAV casing shall be made with 22SWG Galvanized sheet steel Duct with Inlet and Outlet side TDF flanges (Same sheet folded) similar to Duct flange for seamless, easy and leak proof connectivity with Inlet & Outlet ducts, and Casing with internal Insulation Lining.

VAV box shall have Air Flow Sensor having total pressure collected from multiple pickup points covering equally concentric areas of flow measurement grid and routed through centre averaging chamber to controller, static pressure collected from points placed in perpendicular to the total pressure pickup points for better sample collection and high accuracy.

Flow measurement signal transmitted via high quality PU tubes routed from VAV casing to Controller enclosure. Pneumatic connectors shall be used for connecting signal tubes to controller.

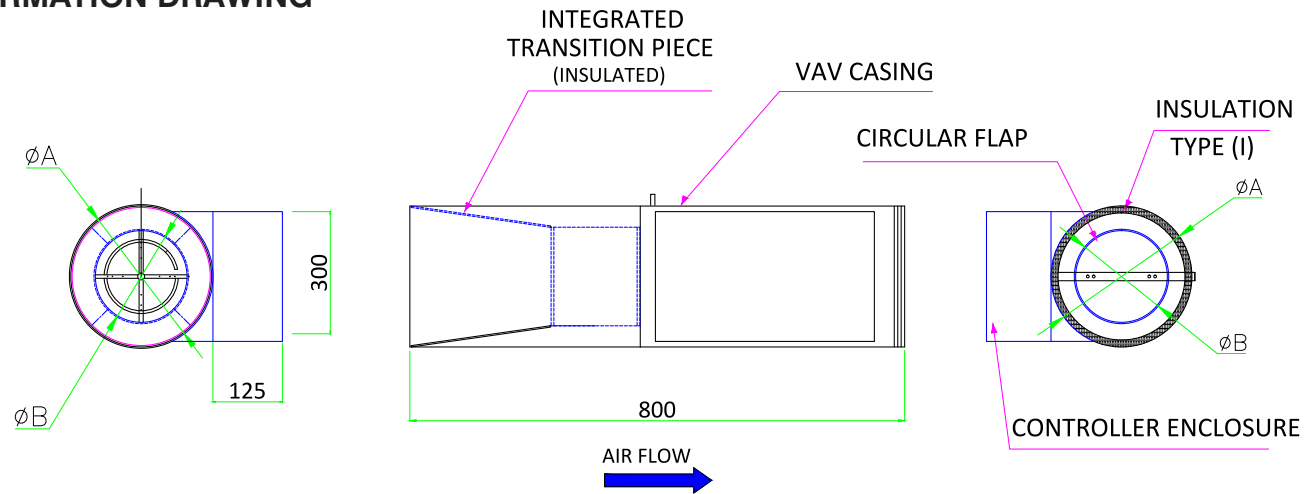
The VAV shall be suitable to operate on 230 V, single phase electrical supply and shall have built-in transformer suitable to the controller operating voltage.

VAV shall be electronically controlled networkable controller type complete with low leakage damper, actuator, Microprocessor unit, and wall/ ceiling mounted thermostat with ON/OFF Switch, control transformer, unit hanger brackets etc.



CIRCULAR DAMPER SPIRAL ROUND (CDSR)

TECHNICAL INFORMATION DRAWING



TECHNICAL DATA								
S NO	MODEL	CROSS FLOW SENSOR	INLET SIZE (Inch)	AIR FLOW RANGE (CFM)	PRESSURE DROP (Pa)	CASING INLET & OUTLET DIMENSIONS*		INSULATION TYPE (I)
						ϕA (mm)	ϕB (mm)	
1	CIRCULAR DAMPER SPIRAL ROUND - CDSR	VC-04	4	40 - 170	49	250	101	CLOSED CELL / OPEN CELL NITRILE RUBBER FOAM
2		VC-05	5	64 - 320	49	250	126	
3		VC-06	6	90 - 450	49	250	152	
4		VC-08	8	170 - 850	46	300	203	
5		VC-10	10	270 - 1350	44	350	254	
6		VC-12	12	380 - 1900	44	400	305	
7		VC-14	14	560 - 2800	41	450	356	
8		VC-16	16	740 - 3700	39	500	406	

* Suit to duct option with dimensions to suit with inlet / outlet duct sizes - only possible if duct size (both width & height) is more than the VAV casing dimensions.

CIRCULAR DAMPER SPIRAL ROUND (CDSR)

TECHNICAL MODEL DATA (GENERAL)		
1.	Type	Pressure Independent.
2.	Model	Circular Damper Spiral Round (CDSR).
3.	Make & Origin	Vedha, India.
4.	Air Flow Range	40 - 3700 CFM.
5.	VAV Terminal Selection Criteria	VAV terminal Design Air flow volume shall not be less than 30% of the selected VAV terminal Air flow sensor K-Factor. VAV terminal Minimum Air flow volume (V-Min) shall not be less than 20% of the selected VAV terminal Max Air flow Range.
6.	Material For Construction	
	A. Casing	22SWG Galvanised Sheet Steel conforming to IS:277.
	B. Damper Sleeve	22SWG Galvanised Sheet Steel conforming to IS:277.
	C. Controller Enclosure	22SWG Galvanised Sheet Steel conforming to IS:277.
	D. Insulation	Single Skin - Closed cell Nitrile rubber foam. (Optional – Open cell Nitrile rubber foam / XLPE).
7.	Inlet type	Coupling Joint similar to Spiral Round Duct Joint with Inlet transition piece (Insulated) integrated inside the VAV Casing.
8.	Outlet type	Coupling Joint similar to Spiral Round Duct Joint for easy, seamless and leak proof connectivity with ducts.
9.	Damper	Specially made Twin 22SWG GSS Sandwich Circular flap with Neoprene Gasket lining for Leak proofing when in close position and assembled with Zinc plated steel shafts and Self lubricated bushes.
10.	Casing	Casing made of GSS Spiral Round duct with Inlet & Outlet having Coupling Joints similar to Round Duct.
11.	Controller Enclosure	Mounted on the Damper shaft side of the Casing, The enclosure is designed with provision to mount Various types of Controller Packages. Flow measurement signal transmitted via high quality PU tubes routed to controller enclosure and Pneumatic connectors used for connecting sensor signal transmitting pipes to controller. Top entry points for communication & power cables and side entry for Sensor signal transmission pipes with rubber grommets for Water and Dust resistant sealing.

CIRCULAR DAMPER SPIRAL ROUND (CDSR)

BOQ SPECIFICATION

Pressure independent VAV terminal of different capacities with Circular damper capable of delivering variable air volume with gasket lining integrated circular flap for leak proofing. Inlet transition cone piece integrated inside VAV box casing with external Insulation treatment and connected to Damper Sleeve.

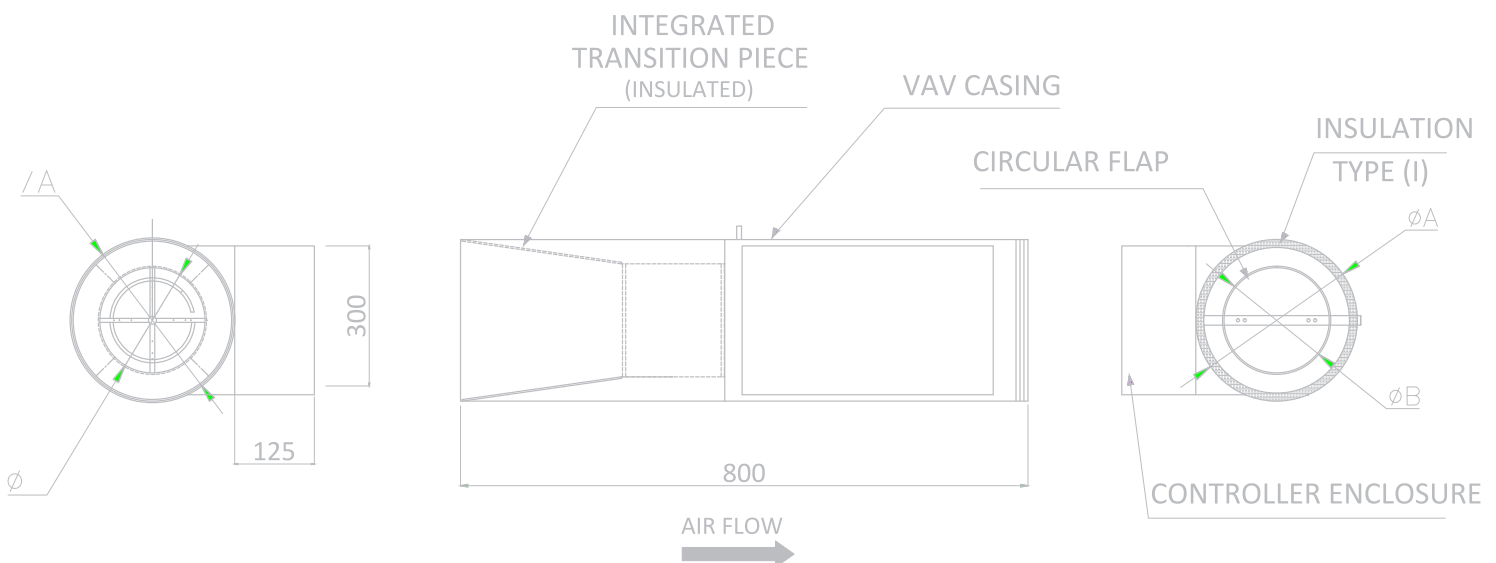
VAV casing shall be made with 22SWG Galvanised Sheet Steel Single Spiral Round duct with Inlet and Outlet side Coupling joints similar to Spiral round Duct for seamless, easy and leak proof connectivity with Inlet & Outlet ducts, and Casing with internal Insulation Lining.

VAV box shall have Air Flow Sensor having total pressure collected from multiple pickup points covering equally concentric areas of flow measurement grid and routed through centre averaging chamber to controller, static pressure collected from points placed in perpendicular to the total pressure pickup points for better sample collection and high accuracy.

Flow measurement signal transmitted via high quality PU tubes routed from VAV casing to Controller enclosure. Pneumatic connectors shall be used for connecting signal tubes to controller.

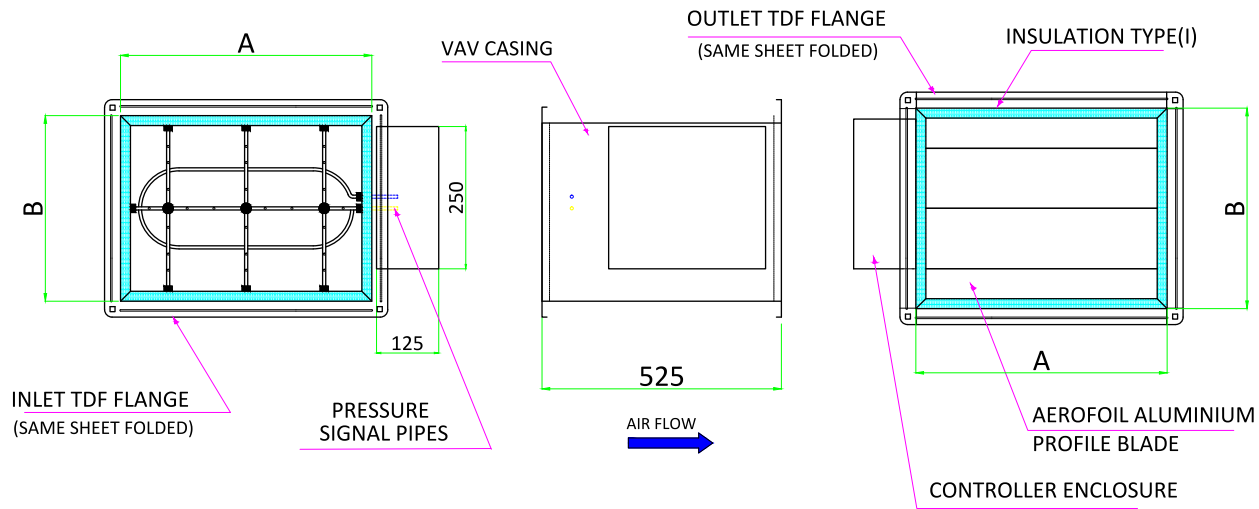
The VAV shall be suitable to operate on 230 V, single phase electrical supply and shall have built-in transformer suitable to the controller operating voltage.

VAV shall be electronically controlled networkable controller type complete with low leakage damper, actuator, Microprocessor unit, and wall/ ceiling mounted thermostat with ON/OFF Switch, control transformer, unit hanger brackets etc.



AEROFOIL BLADE DAMPER RECTANGULAR (ADR)

TECHNICAL INFORMATION DRAWING



TECHNICAL DATA

S NO	MODEL ^[1]	CROSS FLOW SENSOR	INLET SIZE (Inch)	AIR FLOW RANGE (CFM)	PRESSURE DROP (Pa)	CASING INLET & OUTLET DIMENSIONS		INSULATION TYPE (I)	
						A (mm)	B (mm)	SINGLE SKIN	DOUBLE SKIN
1	AEROFOIL BLADE DAMPER RECTANGULAR - ADR	VC-0404	04 x 04	40 - 260	46	200	200	CLOSED CELL / OPEN CELL NITRILE RUBBER FOAM	GLASS WOOL FIBRE WITH PROTECTIVE TISSUE & ALU. PERFORATED SHEET
2		VC-0505	05 x 05	90 - 450	45	200	200		
3		VC-0606	06 x 06	130 - 650	44	250	250		
4		VC-1206	12 x 06	240 - 1200	40	400	250		
5		VC-1208	12 x 08	340 - 1700	40	400	300		
6		VC-1608	16 x 08	460 - 2300	40	500	300		
7		VC-1810	18 x 10	620 - 3100	37	550	350		
8		VC-2012	20 x 12	840 - 4200	35	600	400		

¹Higher CFM models available, details shall be provided on request.

AEROFOIL BLADE DAMPER RECTANGULAR (ADR)

TECHNICAL MODEL DATA (GENERAL)		
1.	Type	Pressure Independent.
2.	Model	Aerofoil blade Damper Rectangular (ADR).
3.	Make & Origin	Vedha, India.
4.	Air Flow Range	40 - 4200 CFM (Higher CFM models available on requirement).
5.	VAV Terminal Selection Criteria	VAV terminal Design Air flow volume shall not be less than 30% of the selected VAV terminal Air flow sensor K-Factor. VAV terminal Minimum Air flow volume (V-Min) shall not be less than 20% of the selected VAV terminal Max Air flow Range.
6.	Material For Construction	
	A. Casing	22SWG Galvanised Sheet Steel conforming to IS:277.
	B. Damper Sleeve	22SWG Galvanised Sheet Steel conforming to IS:277.
	C. Controller Enclosure	22SWG Galvanised Sheet Steel conforming to IS:277.
	D. Insulation	Single Skin - Closed cell Nitrile rubber foam. (Optional – Open cell Nitrile rubber foam / XLPE). Double Skin - Glass wool Fibre with Protective (RP) tissue and Aluminium Perforated Sheet.
7.	Inlet type	TDF Flange similar to Duct flange for easy, seamless and leak proof connectivity with ducts.
8.	Outlet type	TDF Flange similar to Duct flange for easy, seamless and leak proof connectivity with ducts.
9.	Damper	Aerofoil profile aluminium blade integrated with Gasket lining for additional Leak proofing. Operating by action of opposed blade volume control damper with high quality nylon gear train and Self lubricated bushes.
10.	Casing	Made of GSS Duct with Inlet & Outlets having TDF flanges (same sheet folded) similar to duct flange .
11.	Controller Enclosure	Mounted on the Damper shaft side of the Casing, The enclosure is designed with provision to mount Various types of Controller Packages. Flow measurement signal transmitted via high quality PU tubes routed to controller enclosure internally without being exposed and Pneumatic connectors used for connecting sensor signal transmitting pipes to controller. Internal entry points for communication & power cables with rubber grommets for Water and Dust resistant sealing.

AEROFOIL BLADE DAMPER RECTANGULAR (ADR)

BOQ SPECIFICATION

Rectangular pressure independent VAV terminal of different capacities with Aluminium Aerofoil profile blade damper capable of delivering variable air volume by action of opposed blade volume control damper with gasket lining integrated aerofoil blades for leak proofing.

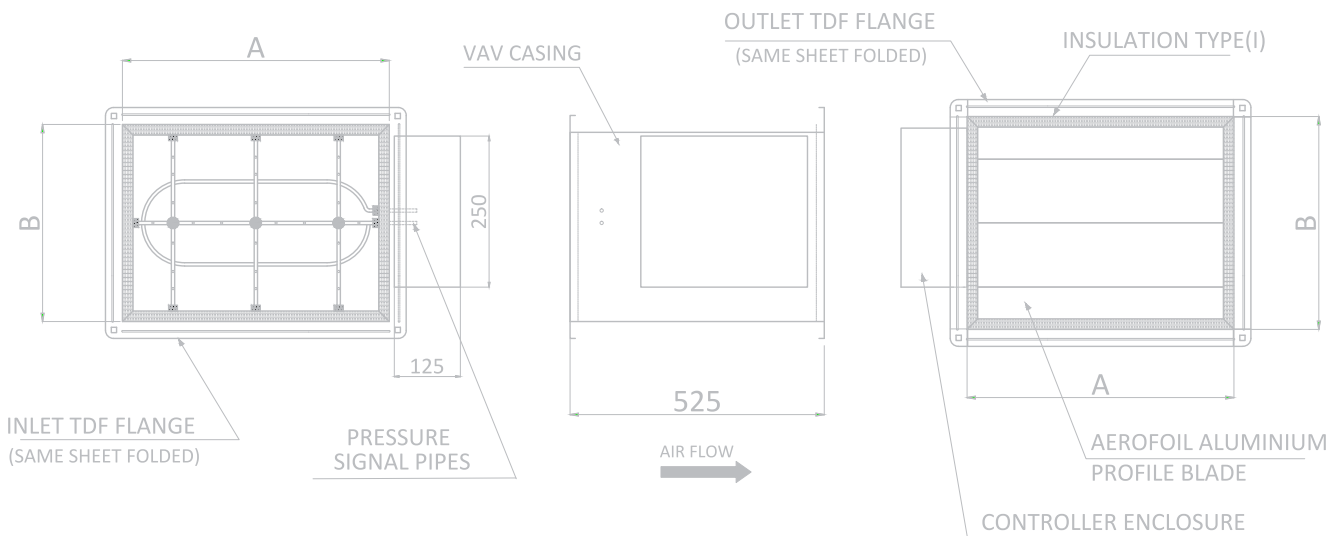
VAV box casing shall be made with single sheet of 22SWG Galvanized sheet steel construction completely sealed at all joints and with TDF flanges (Same sheet folded) similar to Duct flange for seamless, easy and leak proof connectivity with Inlet & Outlet ducts, and casing with internal Insulation Lining.

VAV box shall have Air Flow Sensor having total pressure collected from multiple pickup points covering full Inlet area of flow measurement grid and routed through centre averaging chamber to controller, static pressure collected from points placed in perpendicular to the total pressure pickup points for better sample collection and high accuracy.

Flow measurement signal transmitted via high quality PU tubes routed inside from Casing to Controller enclosure without being exposed to prevent accidental damages to signal tubes. Pneumatic connectors shall be used for connecting signal tubes to controller.

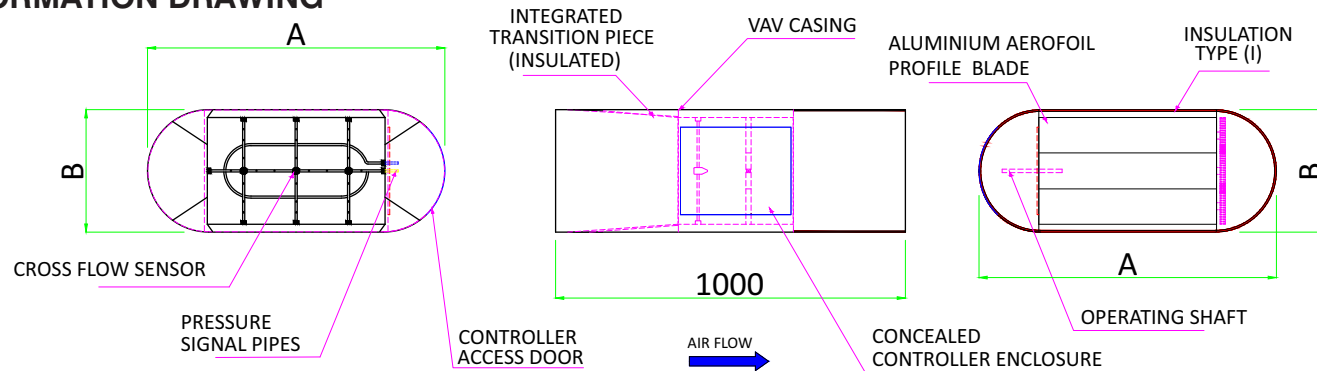
The VAV shall be suitable to operate on 230 V, single phase electrical supply and shall have built-in transformer suitable to the controller operating voltage.

VAV shall be electronically controlled networkable controller type complete with low leakage damper, actuator, Microprocessor unit, and wall/ ceiling mounted thermostat with ON/OFF Switch, control transformer, unit hanger brackets etc.



AEROFOIL BLADE DAMPER SPIRAL FLAT OVAL (ADSF)

TECHNICAL INFORMATION DRAWING



TECHNICAL DATA

S NO	MODEL*	CROSS FLOW SENSOR	INLET SIZE (Inch)	AIR FLOW RANGE (CFM)	PRESSURE DROP (Pa)	CASING INLET & OUTLET DIMENSIONS**		INSULATION TYPE (I)
						A (mm)	B (mm)	
1	AEROFOIL BLADE DAMPER SPIRAL FLAT OVAL - ADSF	VC-0505	05 x 05	90 - 450	45	550	150	CLOSED CELL / OPEN CELL NITRILE RUBBER FOAM
2		VC-0606	06 x 06	130 - 650	44	525	200	
3		VC-0805	08 x 05	140 - 700	44	550	150	
4		VC-1206	12 x 06	240 - 1200	42	600	200	
5		VC-1606	16 x 06	340 - 1700	41	675	200	
6		VC-1208	12 x 08		41	575	250	
7		VC-2106	21 x 06	460 - 2300	40	825	200	
8		VC-1608	16 x 08		40	650	250	
9		VC-2208	22 x 08	620 - 3100	37	800	250	
10		VC-1810	18 x 10		37	700	300	
11		VC-2410	24 x 10	840 - 4200	35	850	300	
12		VC-2012	20 x 12		35	750	350	

* Higher CFM models available, details shall be provided on request | ** Suit to duct option with dimensions to suit with inlet / outlet duct sizes - only possible if duct size (both width & height) is more than the VAV casing dimensions

AEROFOIL BLADE DAMPER SPIRAL FLATOVAL (ADSF)

TECHNICAL MODEL DATA (GENERAL)		
1.	Type	Pressure Independent.
2.	Model	Aerofoil blade Damper Spiral Flat Oval (ADSF).
3.	Make & Origin	Vedha, India.
4.	Air Flow Range	90 - 4200 CFM (Higher CFM models available on requirement).
5.	VAV Terminal Selection Criteria	VAV terminal Design Air flow volume shall not be less than 30% of the selected VAV terminal Air flow sensor K-Factor. VAV terminal Minimum Air flow volume (V-Min) shall not be less than 20% of the selected VAV terminal Max Air flow Range.
6.	Material For Construction	
	A. Casing	22SWG Galvanised Sheet Steel conforming to IS:277.
	B. Damper Sleeve	22SWG Galvanised Sheet Steel conforming to IS:277.
	C. Controller Enclosure	22SWG Galvanised Sheet Steel conforming to IS:277.
	D. Insulation	Single Skin - closed cell Nitrile rubber foam. (Optional – Open cell Nitrile rubber foam / XLPE).
7.	Inlet type	Coupling Joint similar to Flat Oval Duct Joint for easy, seamless and leak proof connectivity with ducts.
8.	Outlet type	Coupling Joint similar to Flat Oval Duct Joint for easy, seamless and leak proof connectivity with ducts.
9.	Damper	Aerofoil profile aluminium blade integrated with Gasket lining for additional Leak proofing. Operating by action of opposed blade volume control damper with high quality nylon gear train and Self lubricated bushes.
10.	Casing	Casing made of GSS Spiral Flat Oval Duct with Inlet & Outlet having Coupling Joints similar to Round Duct. Casing having Internal leak proof partition arrangement for Inlet Air Transmission chamber, Controller enclosure and Damper arrangement.
11.	Controller Enclosure	Enclosure made inside the VAV with a Leak proof partition concealed under VAV casing with base plate to mount Various types of Controller Packages. Flow measurement signal transmitted via high quality PU tubes routed to controller enclosure internally without being exposed and Pneumatic connectors used for connecting sensor signal transmitting pipes to controller. Controller enclosure is covered with Hinge mounted Door made of GSS with Spiral seam joints to match the look of the VAV Casing duct for good aesthetics. Internal entry points for communication & power cables with rubber grommets for Water and Dust resistant sealing.

AEROFOIL BLADE DAMPER SPIRAL FLATOVAL (ADSF)

BOQ SPECIFICATION

Flat Oval pressure independent VAV terminal of different capacities with Concealed type Control Panel and Aluminium Aerofoil profile blade damper capable of delivering variable air volume by action of opposed blade volume control damper with gasket lining integrated aerofoil blades for leak proofing. Inlet transition cone piece integrated inside VAV box casing with external Insulation treatment and connected to Damper Sleeve.

VAV box casing shall be made with Spiral Flat Oval Duct fabricated of 22SWG Galvanized sheet steel construction completely sealed at all joints and with matching coupling joints (of 18 SWG) similar to Flat Oval Duct Joint for seamless, easy and leak proof connectivity with Inlet & Outlet Flat Oval ducts, and Casing with internal Insulation.

VAV casing duct height shall be proportionally maintained w.r.to Air Flow Delivery Volume viz.

- 150 mm up to 450 cfm.
- 200 mm for 451-1200 cfm.
- 250 mm for 1201-2300 cfm.
- 300 mm for 2301-3100 cfm.
- 350 mm for 3101-4200 cfm.

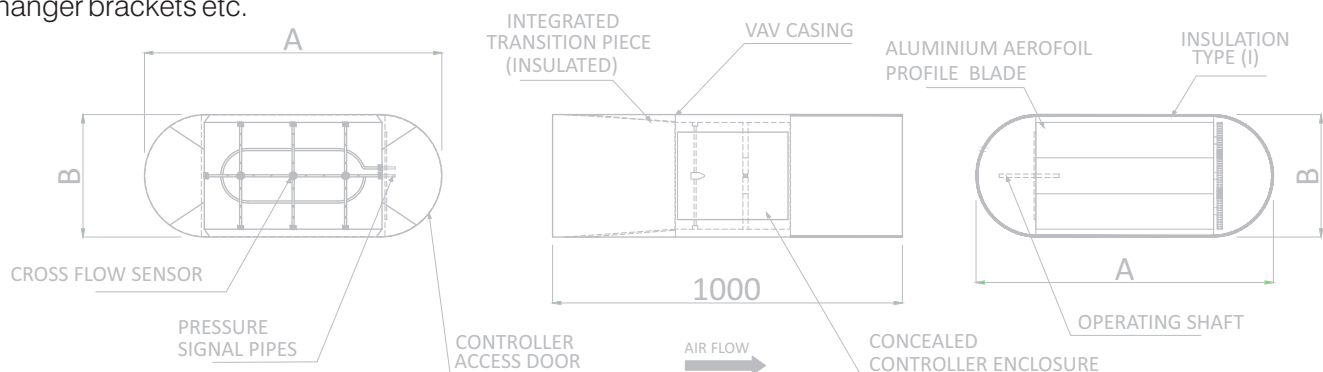
VAV box shall have leak-proof partition arrangement concealed under the Casing for accommodating Inlet air transmission chamber, controller enclosure and damper arrangement. Access to Control Panel shall be with Hinge mounted Door made of GSS with Spiral seam joints to look alike the VAV Casing duct.

VAV box shall have Air Flow Sensor having total pressure collected from multiple pickup points covering full Inlet area and routed through centre averaging chamber to controller, static pressure collected from points placed in perpendicular to the total pressure pickup point for better sample collection and high accuracy.

Flow measurement signal transmitted via high quality PU tubes routed inside from Casing to Controller enclosure. Pneumatic connectors shall be used for connecting signal tubes to controller.

The VAV shall be suitable to operate on 230 V, single phase electrical supply and shall have built-in transformer suitable to the controller operating voltage.

VAV shall be electronically controlled networkable controller type complete with low leakage damper, actuator, Microprocessor unit, and wall/ ceiling mounted thermostat with ON/OFF Switch, control transformer, unit hanger brackets etc.



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