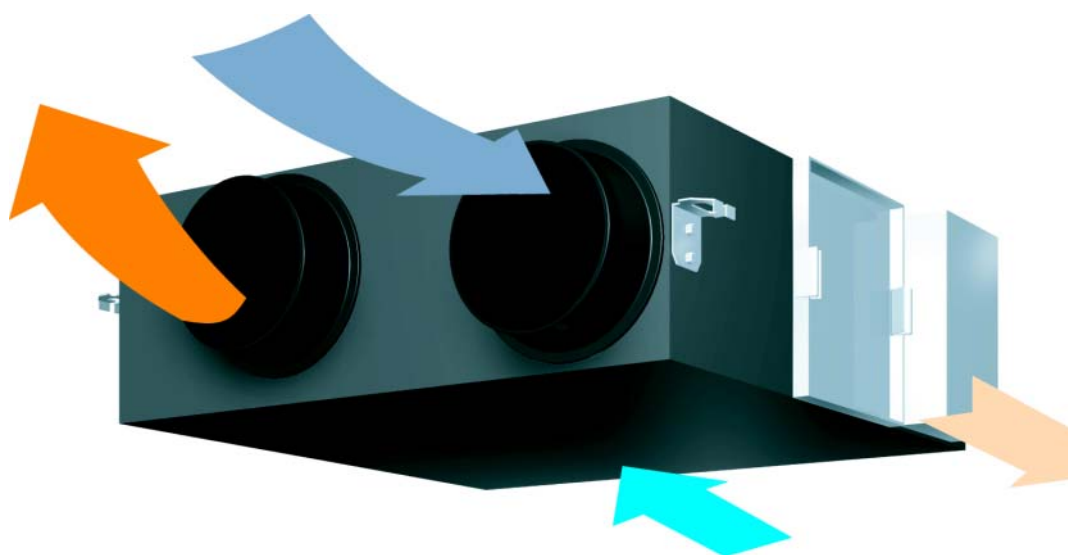


Air Conditioning

Technical Data

Heat reclaim ventilation



EEEN14-205

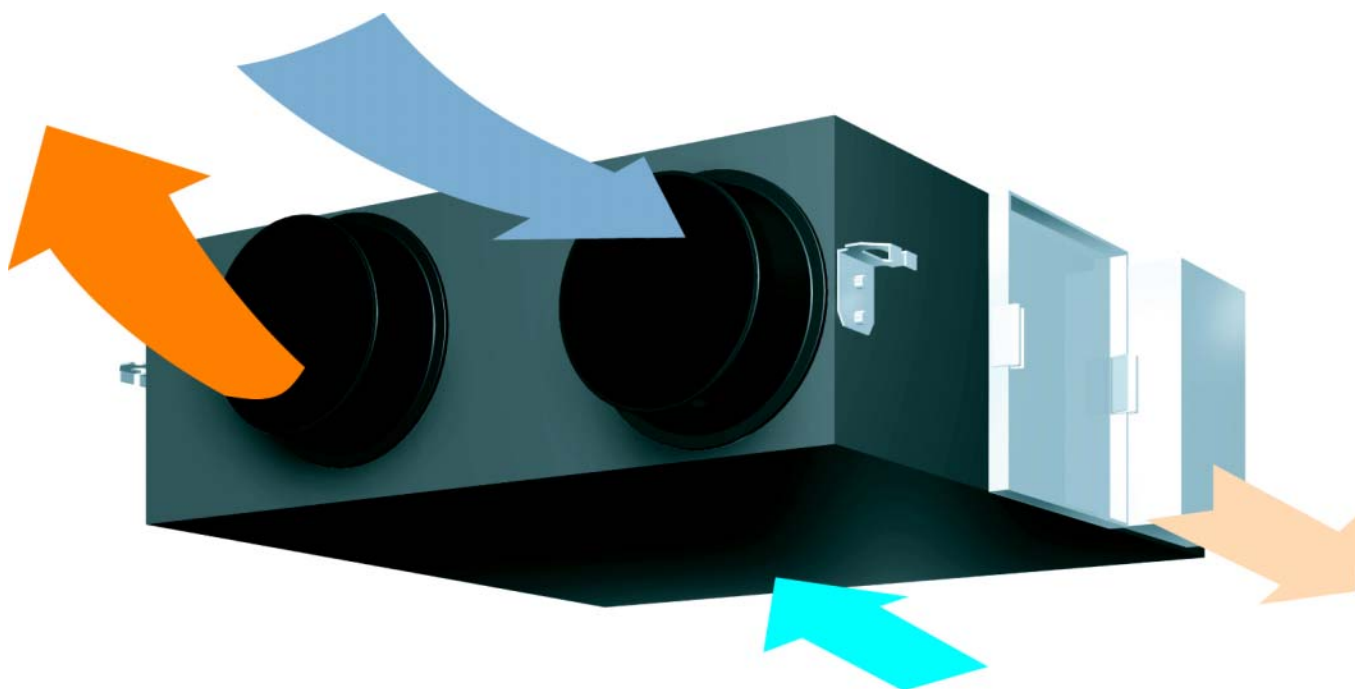
VAM-FA/FB

VAM-FA/FB

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1 Features

- Energy saving ventilation using indoor heating, cooling and moisture recovery
- Ideal solution for shops, restaurants or offices requiring maximum floor space for furniture, decorations and fittings
- Free cooling possible when outdoor temperature is below indoor temperature (eg. during nighttime)
- Low energy consumption thanks to DC fan motors
- Prevent energy losses from over-ventilation while maintaining indoor air quality with optional CO₂ sensor
- Can be used as stand alone unit or integrated in the Sky Air or VRV system
- Wide range of units: air flow rate from 150 up to 2,000 m³/h
- High efficiency filters available in F6 ,F7, F8 grades
- Specially developed heat exchange element with High Efficiency Paper (HEP)
- No drain piping needed
- Can operate in over- and under pressure



2 Specifications

2-1 Technical Specifications					VAM150F A	VAM250F A	VAM350F B	VAM500F B	VAM650F B	VAM800F B	VAM1000 FB	VAM1500 FB	VAM2000 FB	
Power input - 50Hz	Heat exchange mode	Nom.	Ultra high	kW	0.116	0.141	0.132	0.178	0.196	0.373	0.375	0.828	0.852	
			High	kW	0.100	0.112	0.107	0.135	0.129	0.270	0.275	0.668	0.695	
			Low	kW	0.056	0.062	0.042	0.076	0.073	0.102	0.168	0.313	0.291	
	Bypass mode	Nom.	Ultra high	kW	0.116	0.141	0.132	0.178	0.196	0.373	0.375	0.828	0.852	
			High	kW	0.100	0.112	0.107	0.135	0.129	0.270	0.275	0.668	0.695	
			Low	kW	0.056	0.062	0.042	0.076	0.073	0.102	0.168	0.313	0.291	
Power input - 60Hz	Heat exchange mode	Nom.	Ultra high	kW	0.117	0.138	0.132	0.178	0.196	0.373	0.375	0.828	0.852	
			High	kW	0.099	0.119	0.107	0.135	0.129	0.270	0.275	0.668	0.695	
			Low	kW	0.056	0.062	0.042	0.076	0.073	0.102	0.168	0.313	0.291	
	Bypass mode	Nom.	Ultra high	kW	0.117	0.138	0.132	0.178	0.196	0.373	0.375	0.828	0.852	
			High	kW	0.099	0.119	0.107	0.135	0.129	0.270	0.275	0.668	0.695	
			Low	kW	0.056	0.062	0.042	0.076	0.073	0.102	0.168	0.313	0.291	
Temperature exchange efficiency - 50Hz	Ultra high			%	74	72	75	74			75			
	High			%	74	72	75	74			75			
	Low			%	79	77	80	77		76	76.5	78		
Temperature exchange efficiency - 60Hz	Ultra high			%	74	72	75	74			75			
	High			%	74	72	75	74			75			
	Low			%	80	77	80	77		76	76.5	78		
Enthalpy exchange efficiency - 50Hz	Cooling	Ultra high		%	58		61	58		60	61			
		High		%	58		61	58		60	61			
		Low		%	64	62	67	63		62	63	64	66	
	Heating	Ultra high		%	64		65	62	63	65	66			
		High		%	64		65	62	63	65	66			
		Low		%	69	68	70	67	66	67	68		70	
Enthalpy exchange efficiency - 60Hz	Cooling	Ultra high		%	58		61	58		60	61			
		High		%	58		61	58		60	61			
		Low		%	66	63	67	63		62	63	64	66	
	Heating	Ultra high		%	64		65	62	63	65	66			
		High		%	64		65	62	63	65	66			
		Low		%	71	69	70	67	66	67	68		70	
Operation mode					Heat exchange mode / Bypass mode / Fresh-up mode									
Heat exchange system					Air to air cross flow total heat (sensible + latent heat) exchange									
Heat exchange element					Specially processed non-flammable paper									
Connection ratio	Outdoor units	with only ventilation units connected	Minimu m	%	-									
			Maximu m	%	-									
	Ventilation units	when combin ed with VRV® indoor units	Maximu m	%	-									
Casing	Material				Galvanised steel plate									
Dimensions	Unit	Height		mm	285		301		364			726		
		Width		mm	776		828		1,004			1,512		
		Depth		mm	525		816		868		1,156	868	1,156	
Weight	Unit			kg	24		33		52	55	64	131	152	

2 Specifications

2-1 Technical Specifications					VAM150F A	VAM250F A	VAM350F B	VAM500F B	VAM650F B	VAM800F B	VAM1000 FB	VAM1500 FB	VAM2000 FB		
Fan	Type				Sirocco fan										
	Air flow rate - 50Hz	Heat exchan ge mode	Ultra high	m³/h	150	250	350	500	650	800	1,000	1,500	2,000		
			High	m³/h	150	250	-								
			Low	m³/h	110	155	-								
		Bypass mode	Ultra high	m³/h	150	250	350	500	650	800	1,000	1,500	2,000		
			High	m³/h	150	250	-								
			Low	m³/h	110	155	-								
	Air flow rate - 60Hz	Heat exchan ge mode	Ultra high	m³/h	150	250	-								
			High	m³/h	150	250	-								
			Low	m³/h	110	145	-								
		Bypass mode	Ultra high	m³/h	150	250	-								
			High	m³/h	150	250	-								
			Low	m³/h	110	145	-								
	External static pressure - 50Hz	Ultra high		Pa	69	64	98		93	137	157	137			
		High		Pa	39		-								
		Low		Pa	20		-								
	External static pressure - 60Hz	Ultra high		Pa	98		-								
		High		Pa	54		-								
		Low		Pa	24	20	-								
Fan motor	Quantity				2								4		
	Output	50 Hz		W	30		80		106	210					
		60 Hz		W	30		80		106	210					
Sound pressure level - 50Hz	Heat exchange mode	Ultra high		dBA	27 / 28.5	28 / 29	32	33	34.5	36		39.5	40		
		High		dBA	26 / 27.5	26 / 27	31.5		33	34.5	35	38			
		Low		dBA	20.5 / 21.5	21 / 22	23.5	24.5	27	31		34	35		
	Bypass mode	Ultra high		dBA	27 / 28.5	28 / 29	32	33.5	34.5	36		40.5	40		
		High		dBA	26.5 / 27.5	27 / 28	31	32.5	34	34.5	35.5	38			
		Low		dBA	20.5 / 21.5	21 / 22	24.5	25.5	27	31		33.5	35		
Sound pressure level - 60Hz	Heat exchange mode	Ultra high		dBA	28.5	29.5	34	34.5	35.5	37		41.5	42.5		
		High		dBA	26.5	26	33		34	36		39	41		
		Low		dBA	19	19.5	26	26.5	28	32		36	37		
	Bypass mode	Ultra high		dBA	28	29	34	34.5	35.5	37		41.5	42.5		
		High		dBA	27		32.5	33.5	35	36		39	41		
		Low		dBA	20	20.5	26.5	27.5	28.5	33	32	36	37		
Operation range	Min.			°CDB	-15										
	Max.			°CDB	50										
	Relative humidity			%	80% or less										
	On coil temperature	Cooling	Max.	°CDB	-										
		Heating	Min.	°CDB	-										
Connection duct diameter				mm	100	150		200		250		350			
Insulation material					Self-extinguishable urethane foam										

Standard Accessories : Installation and operation manual;

2-2 Electrical Specifications					VAM150F A	VAM250F A	VAM350F B	VAM500F B	VAM650F B	VAM800F B	VAM1000 FB	VAM1500 FB	VAM2000 FB
Power supply	Name				VE								
	Phase				1~								
	Frequency			Hz	50/60								
	Voltage			V	220-240/220								
Voltage range	Min.			%	-10								
	Max.			%	10								

2 Specifications

2-2 Electrical Specifications				VAM150F A	VAM250F A	VAM350F B	VAM500F B	VAM650F B	VAM800F B	VAM1000 FB	VAM1500 FB	VAM2000 FB	
Current	Minimum circuit amps (MCA)		A	0.9			1.3	1.6	2.5	3.0	5.0		
	Maximum fuse amps (MFA)		A	15		16							
	Fan motor rated output		kW	0.03x2		0.08x2		0.106x2	0.210x2		0.210x4		
	Full load amps (FLA)	Fan motor	A	0.4			0.6	0.7	1.1	1.3	2.2		
		Fan motor 2	A	0.4			0.6	0.7	1.1	1.3	2.2		
		Fan motor 3	A	-								2.2	
		Fan motor 4	A	-								2.2	
	Normal amps - 50Hz	Heat exchan ge mode	Ultra high	A	0.67	0.72	0.60	0.81	0.93	1.69	1.71	3.76	3.87
			High	A	0.57		0.49	0.62		1.23	1.25	3.04	3.16
			Low	A	0.33	0.32	0.19	0.34	0.35	0.46	0.76	1.42	1.32
		Bypass mode	Ultra high	A	0.67	0.72	0.60	0.81	0.93	1.69	1.71	3.76	3.87
			High	A	0.57		0.49	0.62		1.23	1.25	3.04	3.16
			Low	A	0.33	0.32	0.19	0.34	0.35	0.46	0.76	1.42	1.32
	Normal amps - 60Hz	Heat exchan ge mode	Ultra high	A	0.66	0.64	0.60	0.81	0.93	1.69	1.71	3.76	3.87
			High	A	0.59	0.56	0.49	0.62		1.23	1.25	3.04	3.16
			Low	A	0.33	0.29	0.19	0.34	0.35	0.46	0.76	1.42	1.32
		Bypass mode	Ultra high	A	0.66	0.64	0.60	0.81	0.93	1.69	1.71	3.76	3.87
			High	A	0.59	0.56	0.49	0.62		1.23	1.25	3.04	3.16
			Low	A	0.33	0.29	0.19	0.34	0.35	0.46	0.76	1.42	1.32

Notes

- (1) Operation sound is measured at 1.5m below the center of the body.
- (2) Air flow rate can be changed to Low mode or High mode.
- (3) Normal amplitude, input and efficiency depend on the mentioned conditions.
- (4) Sound values are measured in an anechoic chamber. Operating sound level generally becomes higher than this value depending on the operating conditions, reflected sound, and peripheral noise.
- (5) The noise level at the air discharge port is about 8dB higher than the operating sound of the unit.
- (6) The specifications, designs and information here are subject to change without notice.
- (7) Voltage range: units are suitable for use on electrical systems where voltage supplied to unit terminal is not below or above listed range limits.
- (8) Maximum allowable voltage range variation between phases is 2%.
- (9) MCA/MFA: $MCA = 1.25 \times FLA(FM1) + FLA(FM2)$; $MFA \leq 4 \times FLA$; (VAM2000 is regarded as 2x VAM1000)
- (10) Select wire size based on the value of MCA
- (11) Instead of a fuse, use a circuit breaker
- (12) $MCA = 1.25 \times FLA(FM1) + FLA(FM2)$
- (13) MCA represents maximum input current. MFA represents capacity which may accept MCA.
- (14) Next lower standard fuse rating minimum 16A
- (15) Specifications measured at fan curve 8 (factory settings)

3 Electrical data

3 - 1 Electrical Data

3

VAM350-2000FB

Unit model name	Power supply				FM	
	50Hz	60Hz	MCA	MFA	kW	FLA
VAM350FB	Power supply Max.: 264V Min.: 198V	Power supply Max.: 242V Min.: 198V	0.9	16	0.08 x 2	0.4 x 2
VAM500FB			1.3	16	0.08 x 2	0.6 x 2
VAM650FB			1.6	16	0.106 x 2	0.7 x 2
VAM800FB			2.5	16	0.210 x 2	1.1 x 2
VAM1000FB			3.0	16	0.210 x 2	1.3 x 2
VAM1500FB			5.0	16	0.210 x 2	2.2 x 4
VAM2000FB			5.0	16	0.210 x 2	2.2 x 4

LEGEND

MCA : minimum circuit Amps. (A)
 MFA : maximum fuse Amps. (A) (see note 5)
 kW : fan motor rated output (kW)
 FLA : full load Amps. (A)
 FM : Fan motor

NOTES

- Voltage range:
The units are suitable for use on electrical systems where the voltage, supplied to unit terminals, is not below or above listed range limits.
- The maximum allowable voltage variation between phases is 2%.
- $MCA = 1.25 \times FLA (FM1) + FLA (FM2)$
MCA represents maximum unit input current.
MFA represents acceptable capacity for MCA.
(Next lower standard fuse rating minimum 16A).
- Select a wire size based on the MCA value.
- Instead of a fuse, use a circuit breaker.

4D082062

4 Options

4 - 1 Options

VAM150-250FA

Item		Model	
		VAM150FA	VAM250FA
Controlling device	Remote control	BRC301B61	
	Wired remote control	BRC1D52	
	Centralized controlling device	BRC1E52A / BRC1E52B ⁽¹⁾	
		DCS302C51 (For General) ⁽²⁾	
		DCS301B51 (For EC Market) ⁽²⁾	
		DST301B51 (For EC Market) ⁽²⁾	
	PC board adapter ⁽⁴⁾	For humidifier or heater kit ⁽³⁾	
		-	
		KRP50-2	
		+ installation box KRP50-2A90	
	Fixing plate to install a PCB on double VAM	BRP4A50	
		-	
		-	

NOTES

1. BRC1E52A contains languages english, german, french, dutch, spanish, italian, greek, portuguese, russian, turkish and polish.
2. BRC1E52B contains languages english, german, albanian, bulgarian, croatian, czech, hungarian, romanian, serbian, slovak and slovenian.
3. 'For General' = documents in japanese and english / 'For EC Market' = documents translated in european languages - identical content.
4. PCB Humidifier and Heater control kit cannot be combined.

3TW24921-1B

VAM350-2000FB

Model type: ceiling mounted duct connection

Item			Model							
			VAM350FB	VAM500FB	VAM650FB	VAM800FB	VAM1000FB	VAM1500FB	VAM2000FB	
Controlling device	Remote control		BRC301B61							
	Wired remote control		BRC1D52							
	Centralized controlling device	Central remote control	BRC1E52A / BRC1E52B *							
		Unified on/off controller	DCS302C51							
		Schedule timer	DCS301B51							
	PC board adapter	Wiring adapter for electrical appendices	DST301B51							
		For heater of humidifier kit	KRP2A51 + installation box KRP1BA101							
		Fixing plate	BRP4A50A							
Additional function	Silencer	Model name						EKMP/VAM **		
		Nominal pipe diameter (mm)	-	KDDM24B50 Ø 200	KDDM24B100 Ø 200	KDDM24B100 Ø 250	KDDM24B100 Ø 250	KDDM24B100 x 2 Ø 250	KDDM24B100 x 2 Ø 250	
	Air filter EN779:2012	EN779 M6	EKAFV50F6		EKAFV80F6		EKAFV100F6	EKAFV80F6 x 2	EKAFV100F6 x 2	
		EN779 F7	EKAFV50F7		EKAFV80F7		EKAFV100F7	EKAFV80F7 x 2	EKAFV100F7 x 2	
		EN779 F8	EKAFV50F8		EKAFV80F8		EKAFV100F8	EKAFV80F8 x 2	EKAFV100F8 x 2	
CO ₂ sensor			BRYMA65	BRYMA65	BRYMA65	BRYMA100	BRYMA100	BRYMA200	BRYMA200	

NOTES

1. * BRC1E52A contains languages English, German, French, Dutch, Spanish, Italian, Greek, Portuguese, Russian, Turkish and Polish.
2. BRC1E52B contains languages English, German, Albanian, Bulgarian, Croatian, Czech, Hungarian, Romanian, Serbian, Slovak and Slovenian.
3. Fixing plate marked with ** is necessary for installation of option PC boards on VAM1500FB/VAM2000FB.
4. Humidifier & heater kit can not be combined.
4. If you order 1 instance of the filter references, you can use it for either Supply side or Exhaust Side.

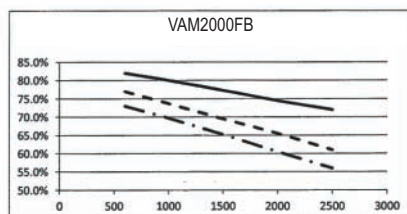
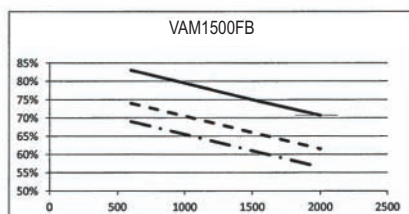
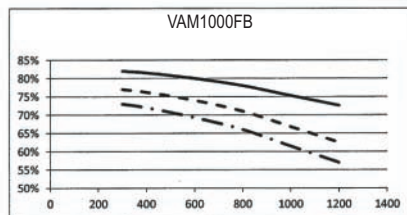
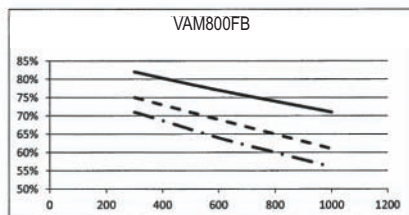
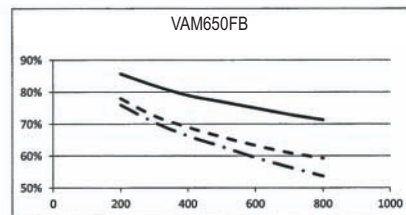
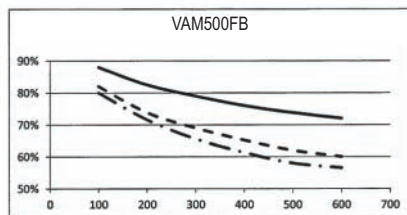
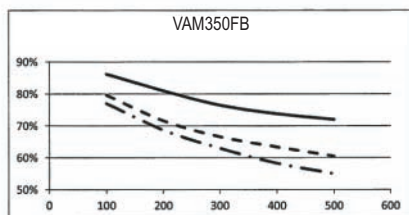
3D082107D

5 Exchange efficiency

5 - 1 Exchange efficiency

5

VAM350-2000FB



NOTE

1. At high fan speed

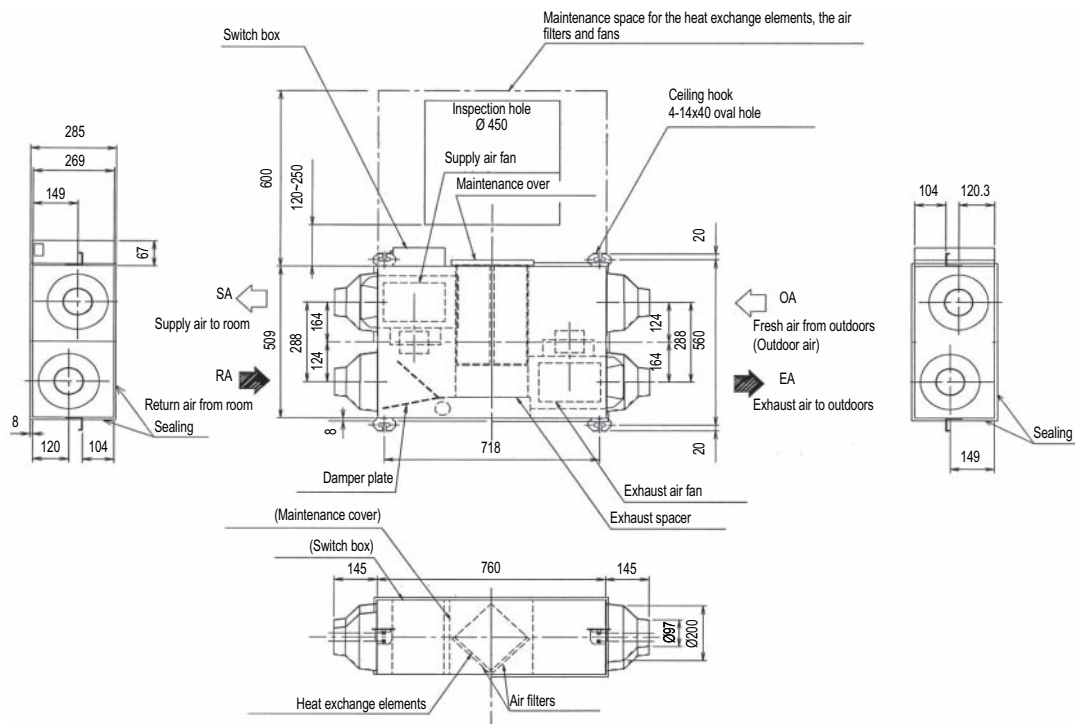
- Temperature exchange efficiency
- - Enthalpy exchange efficiency (heating)
- · Enthalpy exchange efficiency (cooling)

3D082313

6 Dimensional drawings

6 - 1 Dimensional Drawings

VAM150FA

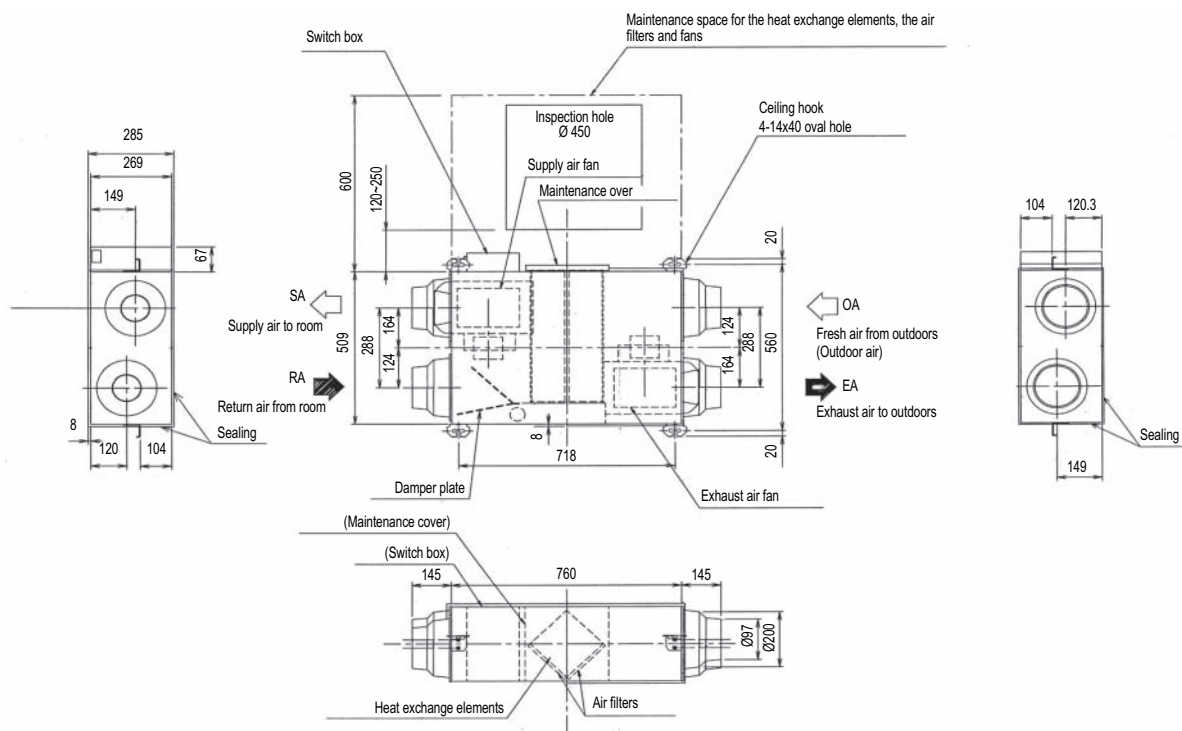


NOTE

- 1 Be sure to provide the inspection hole (450x450 mm) to inspect the air filters, the exchange elements and fans.

3TW27874-1

VAM250FA



NOTE

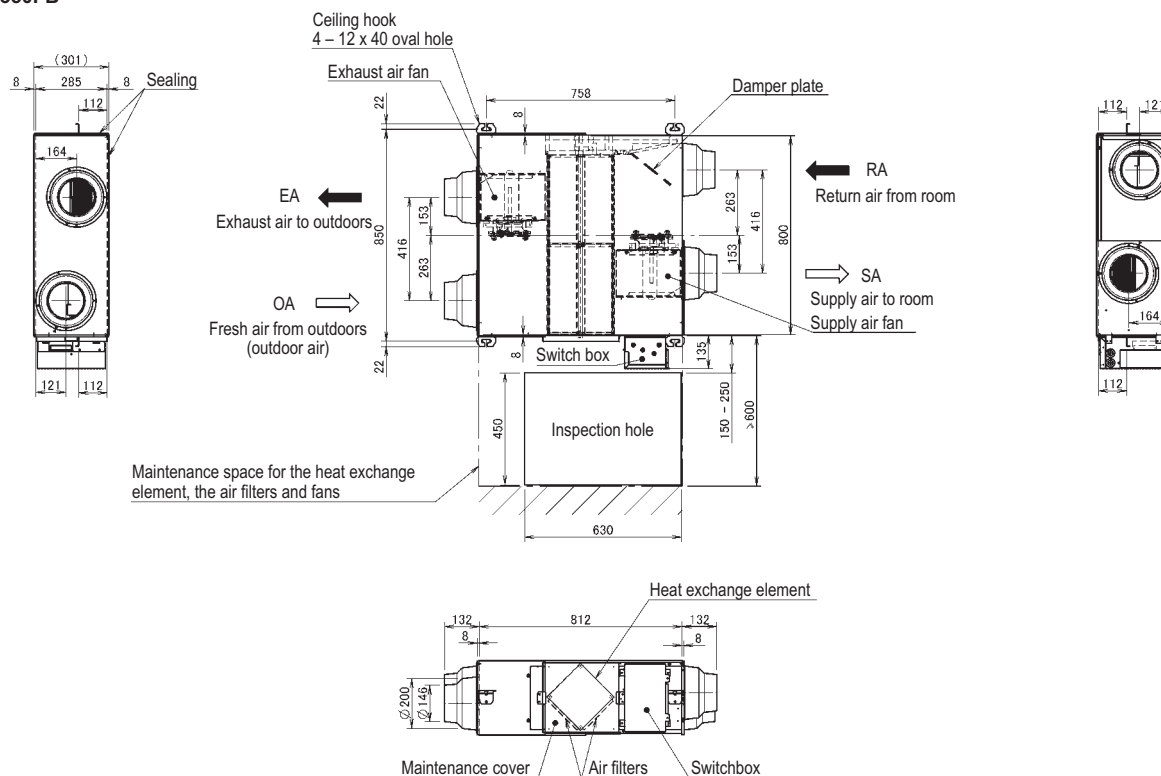
- 1 Be sure to provide the inspection hole (450x450 mm) to inspect the air filters, the exchange elements and fans.

3TW27884-1

6 Dimensional drawings

6 - 1 Dimensional Drawings

VAM350FB

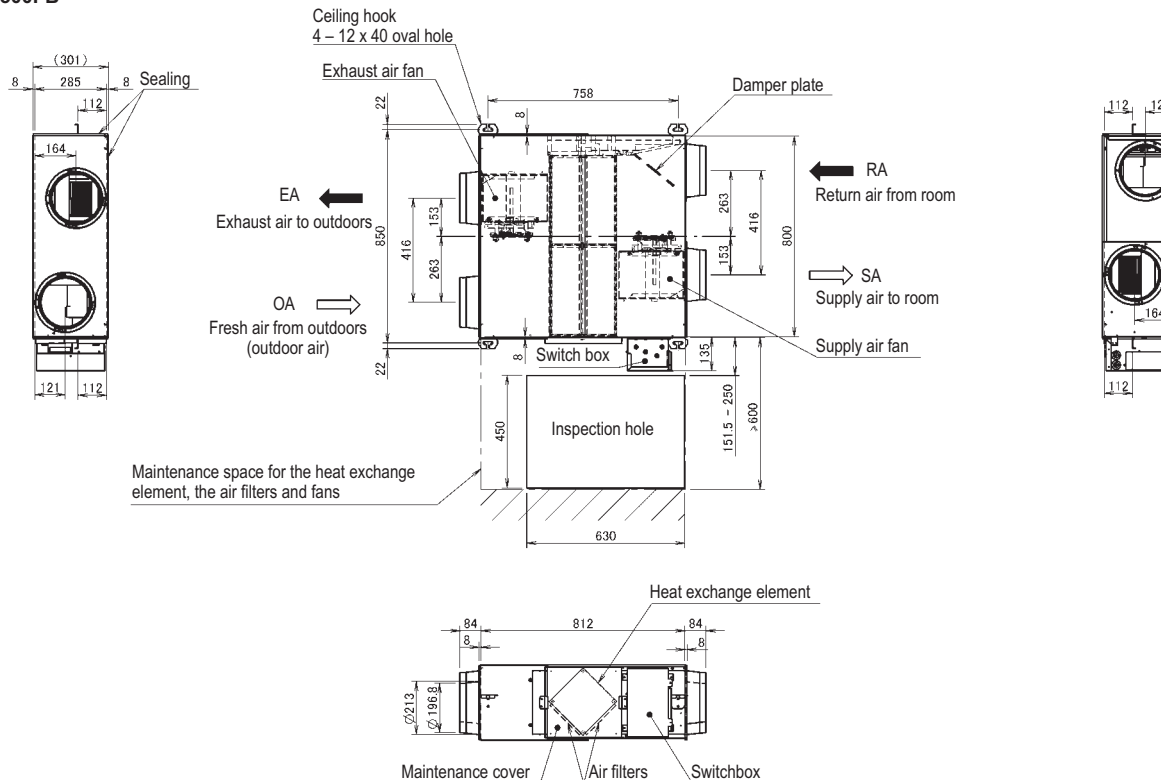


NOTES

1. Be sure to provide the inspection hole to inspect the air filters, the exchange elements and fans.

3D081162

VAM500FB



NOTES

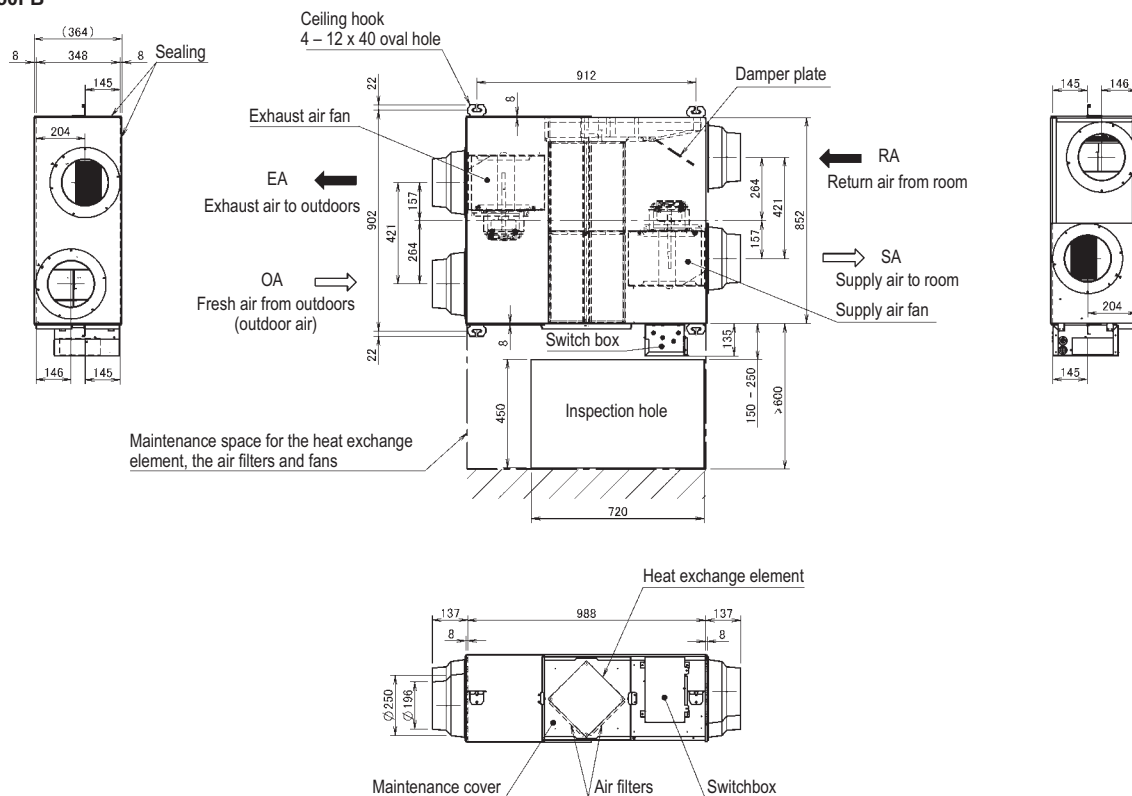
1. Be sure to provide the inspection hole to inspect the air filters, the exchange elements and fans.

3D081163

6 Dimensional drawings

6 - 1 Dimensional Drawings

VAM650FB

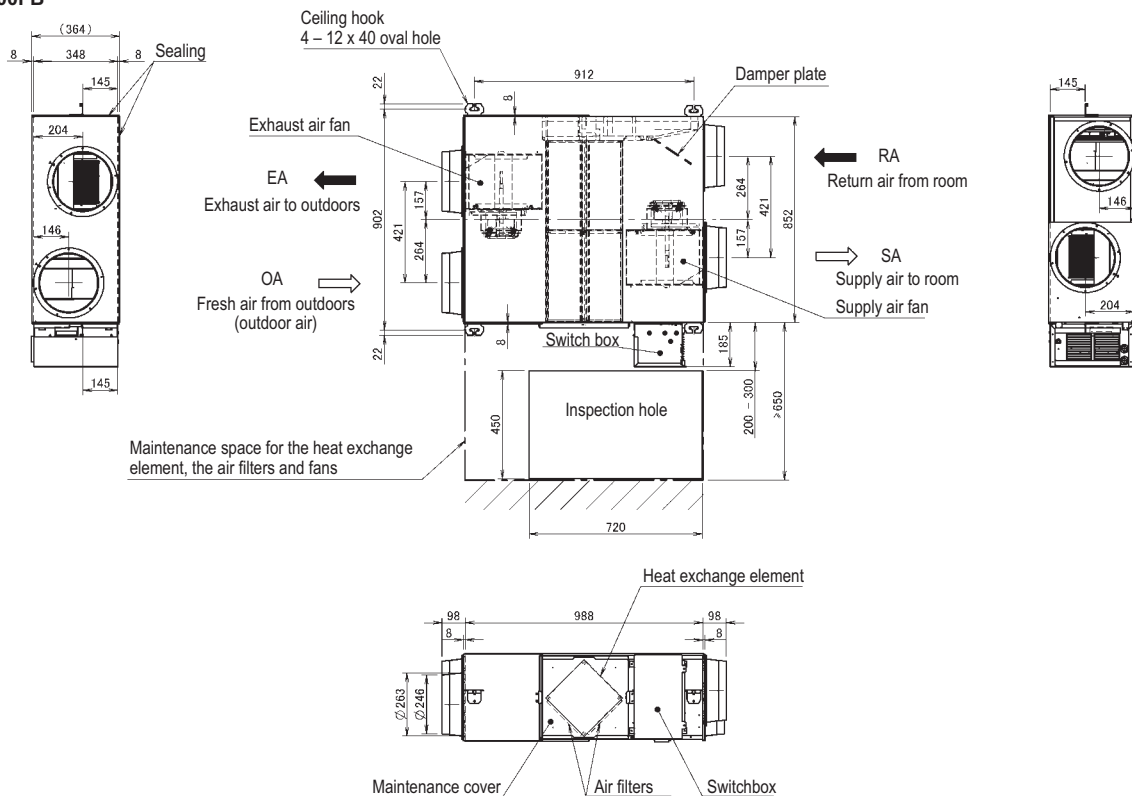


NOTES

1. Be sure to provide the inspection hole to inspect the air filters, the exchange elements and fans.

3D081164

VAM800FB



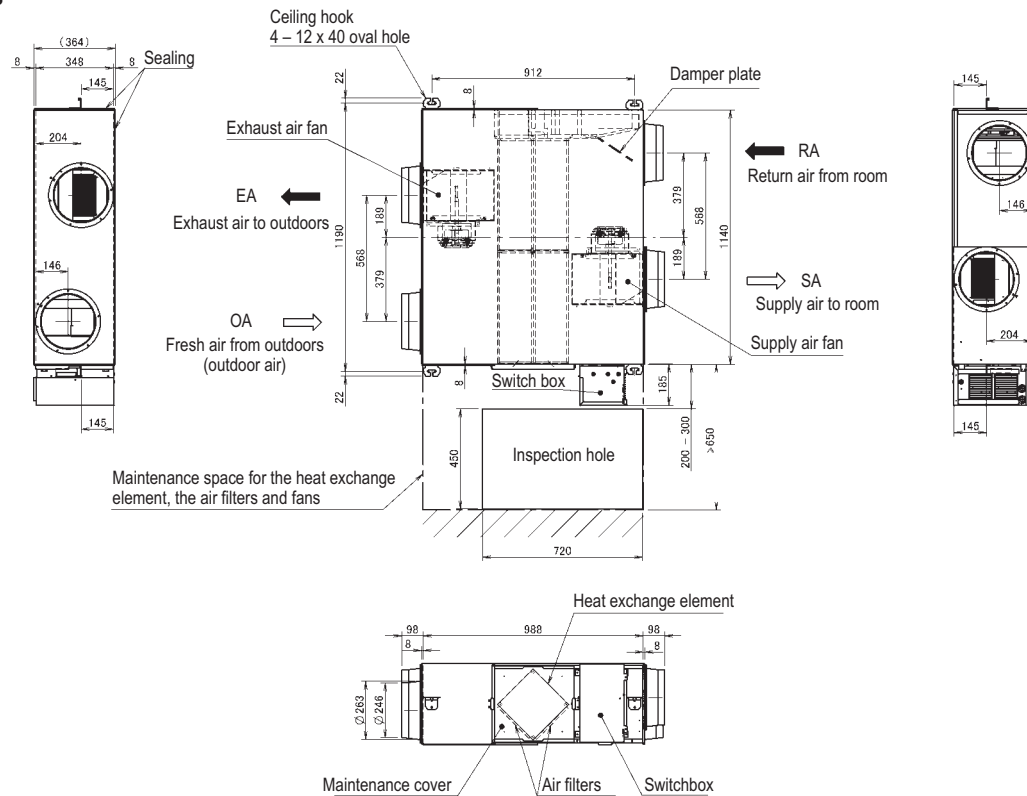
NOTES

1. Be sure to provide the inspection hole to inspect the air filters, the exchange elements and fans.

3D081165

6 - 1 Dimensional Drawings

VAM1000FB

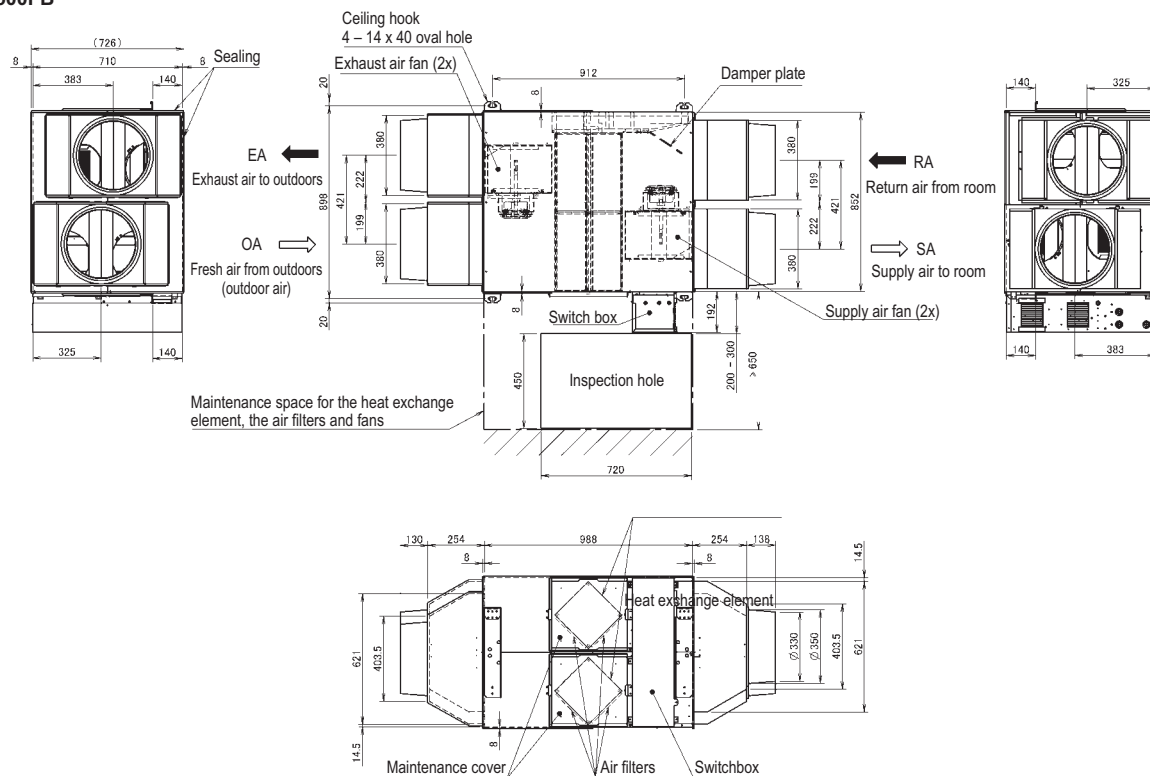


NOTES

1. Be sure to provide the inspection hole to inspect the air filters, the exchange elements and fans.

3D081166

VAM1500FB



NOTES

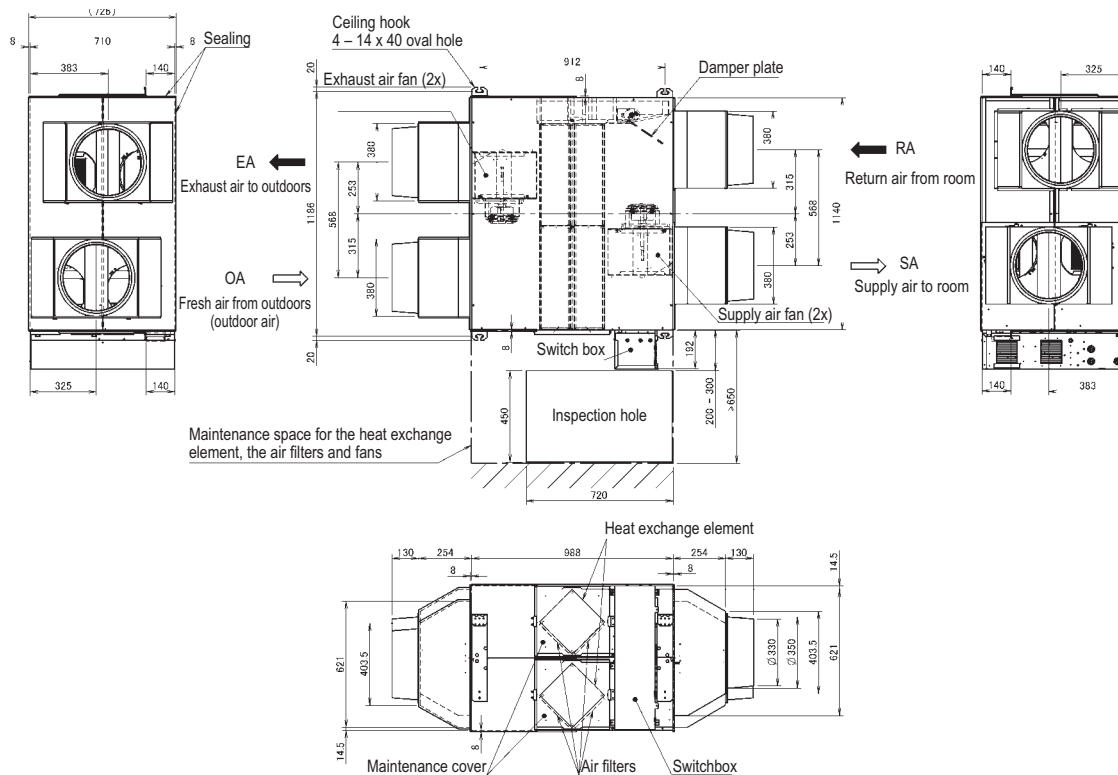
1. Be sure to provide the inspection hole to inspect the air filters, the exchange elements and fans.

3D081167

6 Dimensional drawings

6 - 1 Dimensional Drawings

VAM2000FB



NOTES

1. Be sure to provide the inspection hole to inspect the air filters, the exchange elements and fans.

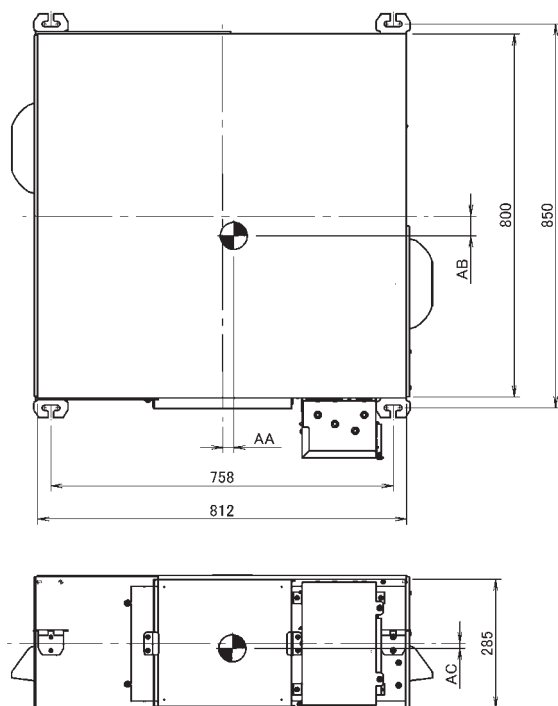
3D081168

7 Centre of gravity

7 - 1 Centre of Gravity

7

VAM350-500FB



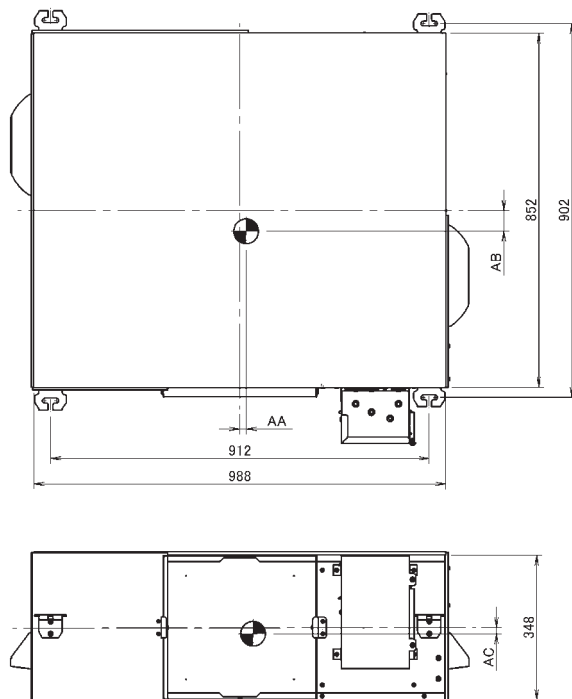
Design ref.	AA	AB	AC
VAM350FB	24	51	10
VAM500FB	23	36	9

NOTES

1. The shown unit is VAM350FB

4D081262

VAM650-800FB



Design ref.	AA	AB	AC
VAM650FB	20	42	6
VAM800FB	32	58	5

NOTES

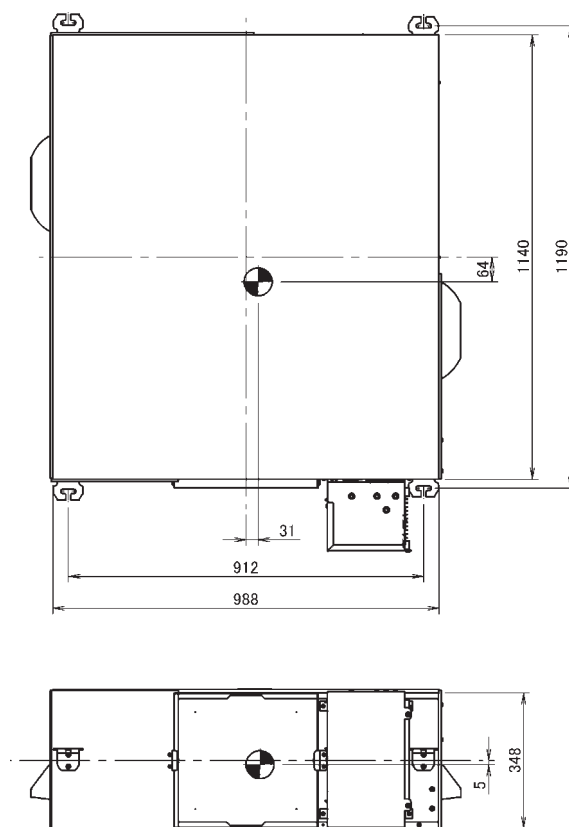
1. The shown unit is VAM650FB

4D081263

7 Centre of gravity

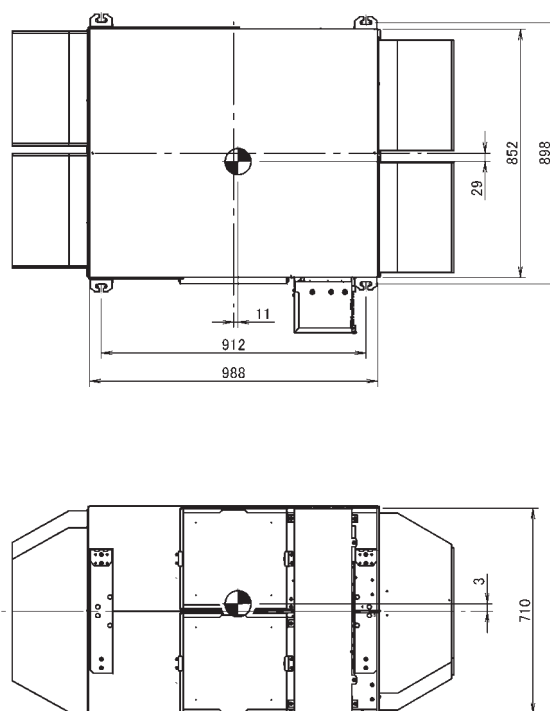
7 - 1 Centre of Gravity

VAM1000FB



4D081264

VAM1500FB

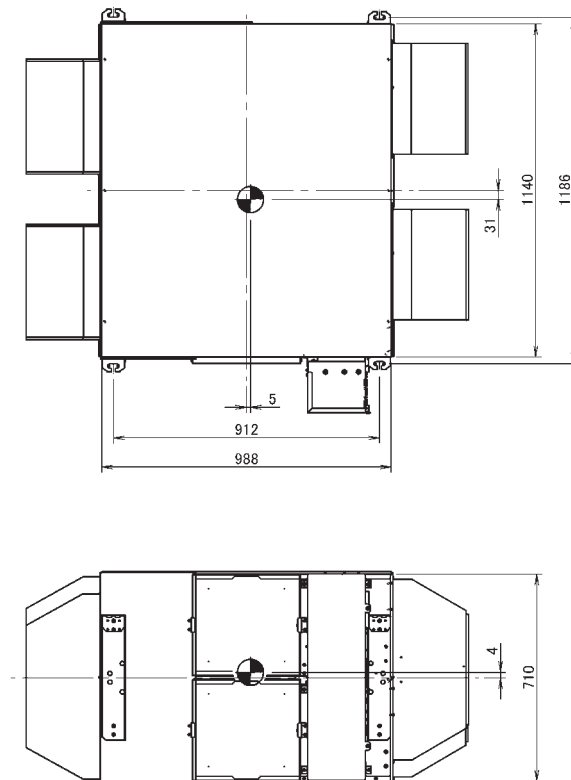


4D081265

7 Centre of gravity

7 - 1 Centre of Gravity

VAM2000FB

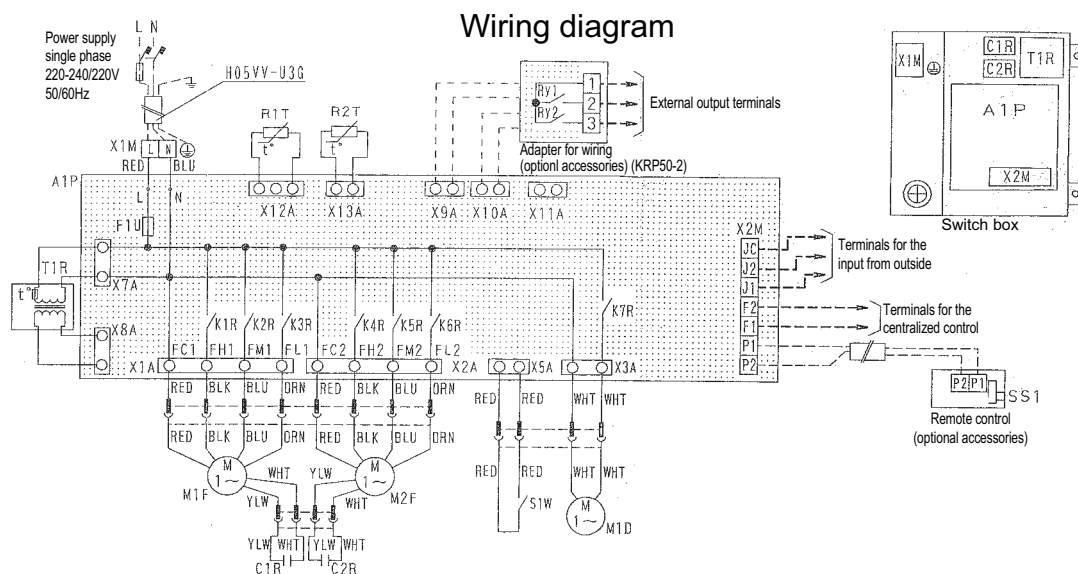


4D081266

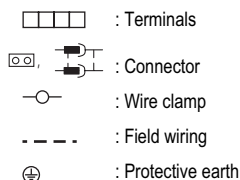
8 Wiring diagrams

8 - 1 Wiring Diagrams - Single Phase

VAM150-250FA



L - RED	N - BLU	M2F	Motor (exhaust fan motor)	Optional accessories	
A1P	Printed circuit board	Q1L • Q2L	Thermo switch (MF1 • 2 built-in)	Adapter for wiring (KRP50-2)	
C1R • C2R	Capacitor (M1F • M2F)	R1T	Thermistor (indoor air)	Ry1	Magnetic relay (On/Off)
F1U	Fuse (250V, 10A)	R2T	Thermistor (outdoor air)	Ry2	Magnetic relay (humidifier operation)
K1R ~ K3R	Magnetic relay (M1F)	S1W	Limit switch	X9A • 10A	Connector (KRP50-20)
K4R ~ K6R	Magnetic relay (M2F)	T1R	Transformer (supply 220-240V/22V)	Remote control	
K7R	Magnetic relay (M1D)	X1M	Terminal (power supply)	SS1	Selector switch (main/sub)
M1D	Motor (damper motor)	X2M	Terminal (control)	Optional connector	
M1F	Motor (air supply fan motor)			X11A	Connector (adapter power supply)



Colors: BLK: Black GRN: Green
 BLU: Blue RED: Red
 BRN: Brown WHT: White
 ORN: Orange YLW: Yellow

2TW24836-1C

⚠ Before obtaining access to terminal devices, all power supply circuits must be interrupted.

⚠ Clean the heat exchange elements once every two years or more often and the air filter once a year or more often. (Before cleaning, make sure that the unit is not operating.)

⚠ To prevent electric shock hazards, provide grounding work according to the installation manual.

9 Sound data

9 - 1 Sound Power Spectrum

VAM150FA

Power level data (in case of Total Heat Exchange mode)

(dB)

Model	Power supply	Hz		63	125	250	500	1000	2000	4000	8000
		NOTCH									
VAM150FA	220V	U-H		50	48	46	40.5	38.5	34	25.5	27
		H		47	47	42	40	37.5	27.5	25	26.5
		L		44	42	38.5	35.5	29.5	21.5	22.5	23.5
	50Hz 230V	U-H		51	49	47	41.5	39.5	35	27	28.5
		H		47.5	47.5	42.5	39.5	37	28.5	26	27.5
		L		44	42	38.5	36	29.5	21.5	22.5	23.5
	240V	U-H		53	50.5	46.5	42	40	36.5	30	31.5
		H		49.5	49.5	45	42	39.5	31.5	29.5	31.5
		L		44.5	42.5	39.5	36	30	22.5	23.5	25
	60Hz 220V	U-H		52	51	46	42.5	39.5	33.5	24.5	27
		H		49	49	44.5	40.5	37	29.5	26	27.5
		L		41	42	39	35.5	29	21	21.5	23.5

NOTES

1. Operation sound is measured in an anechoic chamber.
2. The operating sound level may become greater than this value depending on the operating conditions, reflected sound and peripheral noise.
3. Operation sound differs with operation and ambient conditions.
4. The power levels have been calculated on the assumption that the measuring point were right under the source of operating sound.

4D036765

VAM350FB

Power level data (in case of Total Heat Exchange mode)

(dB) (dBA)

Unit model name	Hz		63	125	250	500	1000	2000	4000	8000	Total
	Fan speed										
VAM350FB	U-H		57.5	53.0	49.5	45.0	42.5	39.5	31.5	25.5	48
	H		58.5	51.0	46.5	43.5	40.5	35.0	26.0	26.5	46
	L		58.5	45.5	41.5	38.0	33.5	24.0	25.0	27.0	41

NOTES

1. dBA = A-weighted sound power level (A-scale according to IEC).
2. Reference acoustic intensity $0dB = 10E-6\mu W/m^2$
3. Measured according to ISO 3744.
4. The operating sound level may become higher than this value depending on the operating conditions, reflected sound and peripheral noise.
5. The power levels have been calculated in the assumption that the measuring point is immediately under the source of operating sound.

4D082464

VAM250FA

Power level data (in case of Total Heat Exchange mode)

(dB)

Model	Power supply	Hz		63	125	250	500	1000	2000	4000	8000
		NOTCH									
VAM250FA	220V	U-H		51.5	51	48	42	38.5	33.5	25.5	25.5
		H		49.5	48.5	46	40	36.5	29	22	23.5
		L		44.5	44	42	34	28	19.5	21	22
	50Hz 230V	U-H		52	51.5	47	43	39.5	34	27	27
		H		50.5	49.5	47	41	37.5	30	24.5	26
		L		44.5	44.5	42	35	28	19.5	21	22
	240V	U-H		51.5	52.5	48	44.5	41	36	29	29.5
		H		52	52	48.8	40.5	37	32.5	28	30
		L		45	44.5	43	34.5	28.5	21	22.5	23.5
	60Hz 220V	U-H		51.5	52	49	43.5	39.5	34	25.5	25.5
		H		49	50	45.5	40	38	30	24.5	26
		L		44.5	41	39	34.5	30.5	20	20	22

NOTES

1. Operation sound is measured in an anechoic chamber.
2. The operating sound level may become greater than this value depending on the operating conditions, reflected sound and peripheral noise.
3. Operation sound differs with operation and ambient conditions.
4. The power levels have been calculated on the assumption that the measuring point were right under the source of operating sound.

4D036766

VAM500FB

Power level data (in case of Total Heat Exchange mode)

(dB) (dBA)

Unit model name	Hz		63	125	250	500	1000	2000	4000	8000	Total
	Fan speed										
VAM500FB	U-H		57.0	54.0	51.0	48.0	45.0	37.5	27.5	25.5	50
	H		54.0	51.5	49.0	46.0	42.5	36.0	26.5	26.0	48
	L		50.5	47.5	44.0	39.0	33.5	25.0	23.0	24.5	41

NOTES

1. dBA = A-weighted sound power level (A-scale according to IEC).
2. Reference acoustic intensity $0dB = 10E-6\mu W/m^2$
3. Measured according to ISO 3744.
4. The operating sound level may become higher than this value depending on the operating conditions, reflected sound and peripheral noise.
5. The power levels have been calculated in the assumption that the measuring point is immediately under the source of operating sound.

4D082465

9 Sound data

9 - 1 Sound Power Spectrum

9

VAM650FB

Power level data (in case of Total Heat Exchange mode)

Unit model name	Fan speed	(dB) (dBA)								
		63	125	250	500	1000	2000	4000	8000	Total
VAM650FB	U-H	62.0	58.0	52.5	48.5	45.5	41.5	34.0	26.0	51
	H	61.0	56.5	51.0	47.0	44.5	39.0	30.0	26.0	50
	L	53.5	50.5	46.0	42.0	37.5	32.0	24.0	25.5	44

NOTES

1. dBA = A-weighted sound power level (A-scale according to IEC).
2. Reference acoustic intensity $0\text{dB} = 10\text{E-}6\mu\text{W/m}^2$
3. Measured according to ISO 3744.
4. The operating sound level may become higher than this value depending on the operating conditions, reflected sound and peripheral noise.
5. The power levels have been calculated in the assumption that the measuring point is immediately under the source of operating sound.

4D082466

VAM800FB

Power level data (in case of Total Heat Exchange mode)

Unit model name	Fan speed	(dB) (dBA)								
		63	125	250	500	1000	2000	4000	8000	Total
VAM800FB	U-H	58.0	58.0	52.5	49.5	48.5	41.5	33.5	26.0	53
	H	58.5	57.0	51.5	49.5	47.0	40.5	31.0	27.5	52
	L	54.5	54.5	47.5	44.5	43.0	35.5	24.5	23.5	47

NOTES

1. dBA = A-weighted sound power level (A-scale according to IEC).
2. Reference acoustic intensity $0\text{dB} = 10\text{E-}6\mu\text{W/m}^2$
3. Measured according to ISO 3744.
4. The operating sound level may become higher than this value depending on the operating conditions, reflected sound and peripheral noise.
5. The power levels have been calculated in the assumption that the measuring point is immediately under the source of operating sound.

4D082467

VAM1000FB

Power level data (in case of Total Heat Exchange mode)

Unit model name	Fan speed	(dB) (dBA)								
		63	125	250	500	1000	2000	4000	8000	Total
VAM1000FB	U-H	62.0	58.5	54.0	50.5	49.0	42.0	36.5	28.0	53
	H	61.0	57.0	52.0	50.0	48.0	38.5	31.0	25.5	52
	L	58.0	55.0	49.0	45.5	43.5	36.5	27.5	24.0	48

NOTES

1. dBA = A-weighted sound power level (A-scale according to IEC).
2. Reference acoustic intensity $0\text{dB} = 10\text{E-}6\mu\text{W/m}^2$
3. Measured according to ISO 3744.
4. The operating sound level may become higher than this value depending on the operating conditions, reflected sound and peripheral noise.
5. The power levels have been calculated in the assumption that the measuring point is immediately under the source of operating sound.

4D082468

VAM1500FB

Power level data (in case of Total Heat Exchange mode)

Unit model name	Fan speed	(dB) (dBA)								
		63	125	250	500	1000	2000	4000	8000	Total
VAM1500FB	U-H	60.5	61.0	55.5	52.5	50.5	46.0	39.5	29.5	55
	H	60.5	60.0	53.5	51.5	49.5	44.5	37.0	31.0	54
	L	58.5	58.0	51.0	49.0	47.0	39.5	30.5	31.0	51

NOTES

1. dBA = A-weighted sound power level (A-scale according to IEC).
2. Reference acoustic intensity $0\text{dB} = 10\text{E-}6\mu\text{W/m}^2$
3. Measured according to ISO 3744.
4. The operating sound level may become higher than this value depending on the operating conditions, reflected sound and peripheral noise.
5. The power levels have been calculated in the assumption that the measuring point is immediately under the source of operating sound.

4D082469

9 Sound data

9 - 1 Sound Power Spectrum

VAM2000FB

Power level data (in case of Total Heat Exchange mode)

Unit model name	Fan speed	(dB) (dBA)								
		63	125	250	500	1000	2000	4000	8000	Total
VAM2000FB	U-H	65.0	61.5	57.0	54.0	53.0	45.0	39.5	32.5	57
	H	64.0	60.0	55.0	53.0	51.0	41.5	34.5	30.5	55
	L	62.0	58.0	51.5	50.0	48.5	40.5	32.5	30.5	53

NOTES

1. dBA = A-weighted sound power level (A-scale according to IEC).
2. Reference acoustic intensity 0dB = 10E-6μW/m²
3. Measured according to ISO 3744.
4. The operating sound level may become higher than this value depending on the operating conditions, reflected sound and peripheral noise.
5. The power levels have been calculated in the assumption that the measuring point is immediately under the source of operating sound.

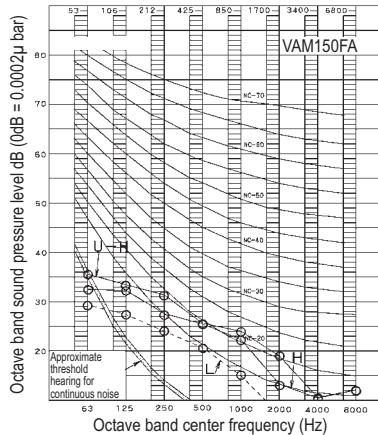
4D082470

9 Sound data

9 - 2 Sound Pressure Spectrum

9

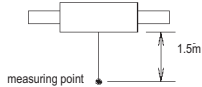
VAM150FA



4D036868

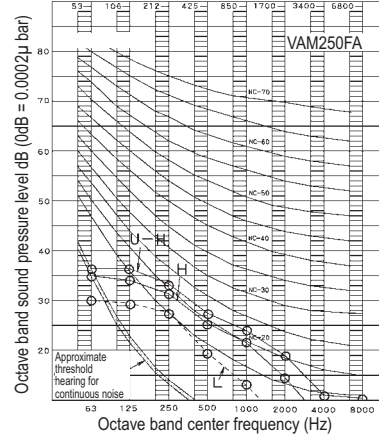
NOTES

- Over All (dB):
(B,G,N is already rectified)
- Operating conditions:
 - Power source:
Model: VAM150FA
 - Ventilation mode: Total heat exchange
- Measuring place:
 - Operation noise is measured in an anechoic chamber.
 - The operation noise level becomes greater than this value depending on the operation conditions, reflected sound and peripheral noise.
 - Operation noise differs with operation and ambient conditions.
 - U-H: ultra-high, H: high, L: low
- Operation noise differs with operation and ambient conditions
- Location of microphone.



Scale	Air flow rate		
	U-H	H	L
A	27	26	20.5
C			

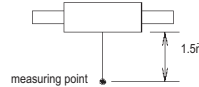
VAM250FA



4D036870

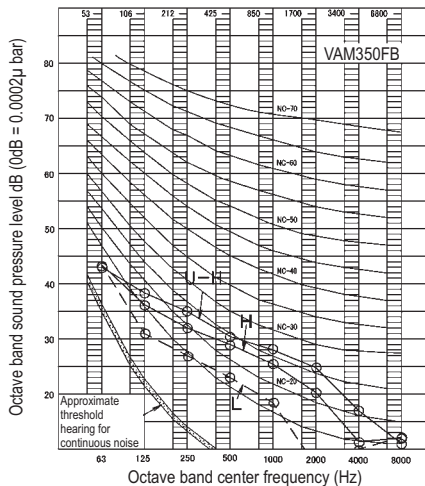
NOTES

- Over All (dB):
(B,G,N is already rectified)
- Operating conditions:
 - Power source:
Model: VAM250FA
 - Ventilation mode: Total heat exchange
- Measuring place:
 - Operation noise is measured in an anechoic chamber.
 - The operation noise level becomes greater than this value depending on the operation conditions, reflected sound and peripheral noise.
 - Operation noise differs with operation and ambient conditions.
 - U-H: ultra-high, H: high, L: low
- Operation noise differs with operation and ambient conditions
- Location of microphone.



Scale	Air flow rate		
	U-H	H	L
A	28	26	21
C			

VAM350FB

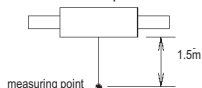


4D082471

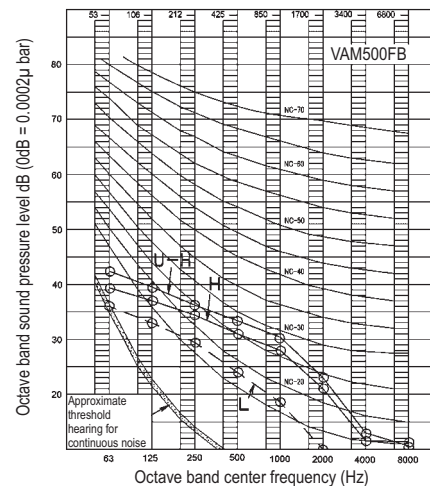
Air flow rate (dB)			
U-H	H	L	
32	31.5	23.5	

NOTES

- Ventilation mode: total heat exchange.
- Operation noise is measured in an anechoic chamber.
- The operation noise level may become higher than this value depending on the operation conditions, reflected sound and peripheral noise.
- Operation noise differs with operation and ambient conditions.
- U-H: ultra-high, H: high, L: low
- Location of microphone.



VAM500FB

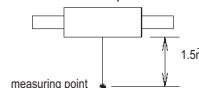


4D082472

Air flow rate (dB)			
U-H	H	L	
33	31.5	24.5	

NOTES

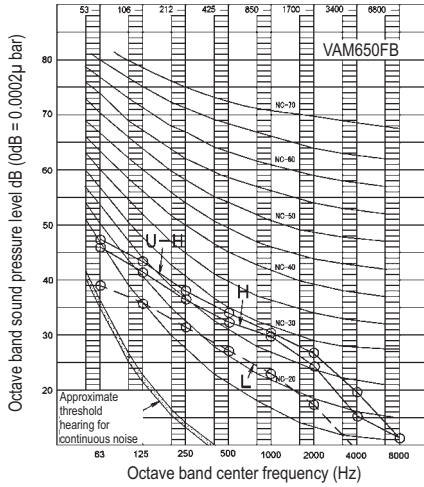
- Ventilation mode: total heat exchange.
- Operation noise is measured in an anechoic chamber.
- The operation noise level may become higher than this value depending on the operation conditions, reflected sound and peripheral noise.
- Operation noise differs with operation and ambient conditions.
- U-H: ultra-high, H: high, L: low
- Location of microphone.



9 Sound data

9 - 2 Sound Pressure Spectrum

VAM650FB

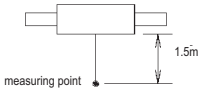


4D082473

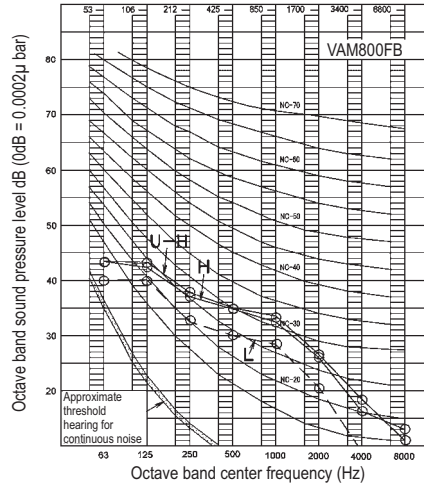
Air flow rate (dB)		
U-H	H	L
34.5	33	27

NOTES

1. Ventilation mode: total heat exchange.
2. Operation noise is measured in an anechoic chamber.
3. The operation noise level may become higher than this value depending on the operation conditions, reflected sound and peripheral noise.
4. Operation noise differs with operation and ambient conditions.
5. U-H: ultra-high, H: high, L: low
6. Location of microphone.



VAM800FB

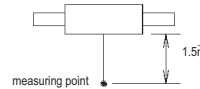


4D082474

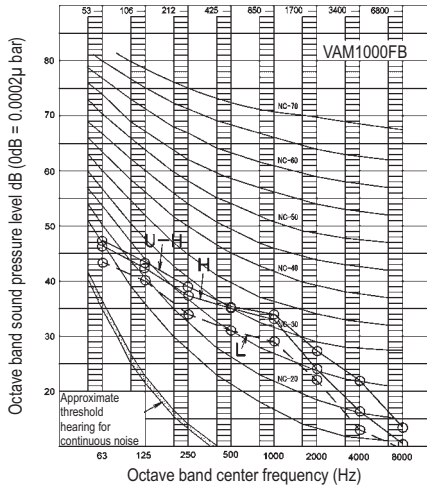
Air flow rate (dB)		
U-H	H	L
35.5	34.5	31

NOTES

1. Ventilation mode: total heat exchange.
2. Operation noise is measured in an anechoic chamber.
3. The operation noise level may become higher than this value depending on the operation conditions, reflected sound and peripheral noise.
4. Operation noise differs with operation and ambient conditions.
5. U-H: ultra-high, H: high, L: low
6. Location of microphone.



VAM1000FB

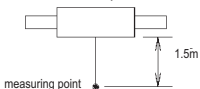


4D082475

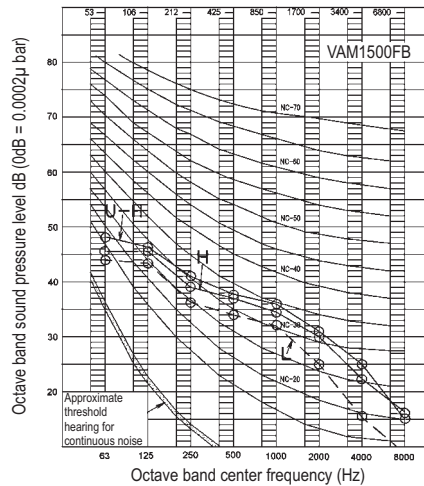
Air flow rate (dB)		
U-H	H	L
36	35	31.5

NOTES

1. Ventilation mode: total heat exchange.
2. Operation noise is measured in an anechoic chamber.
3. The operation noise level may become higher than this value depending on the operation conditions, reflected sound and peripheral noise.
4. Operation noise differs with operation and ambient conditions.
5. U-H: ultra-high, H: high, L: low
6. Location of microphone.



VAM1500FB

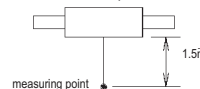


4D082476

Air flow rate (dB)		
U-H	H	L
39.5	38	34

NOTES

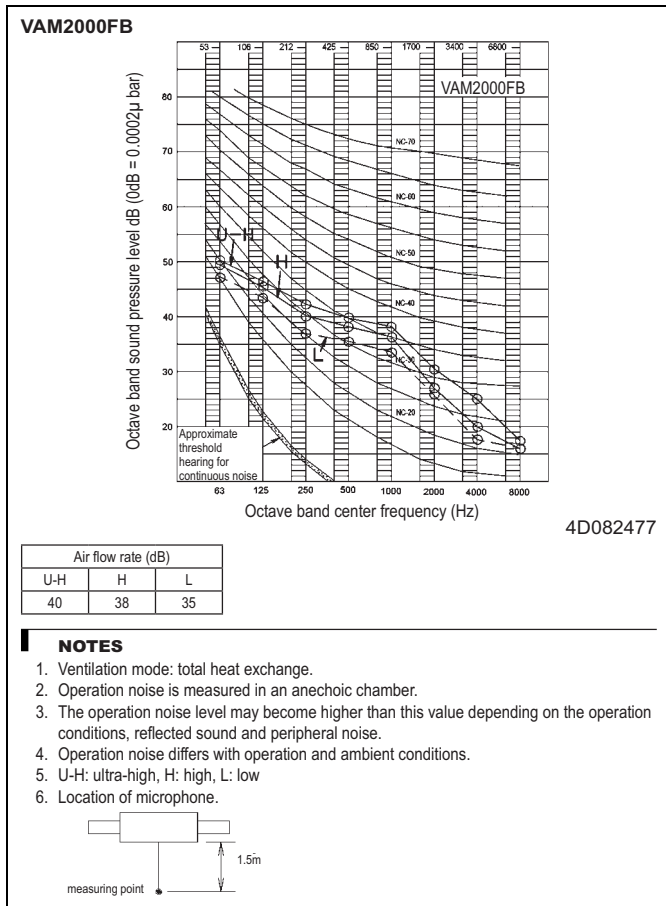
1. Ventilation mode: total heat exchange.
2. Operation noise is measured in an anechoic chamber.
3. The operation noise level may become higher than this value depending on the operation conditions, reflected sound and peripheral noise.
4. Operation noise differs with operation and ambient conditions.
5. U-H: ultra-high, H: high, L: low
6. Location of microphone.



9 Sound data

9 - 2 Sound Pressure Spectrum

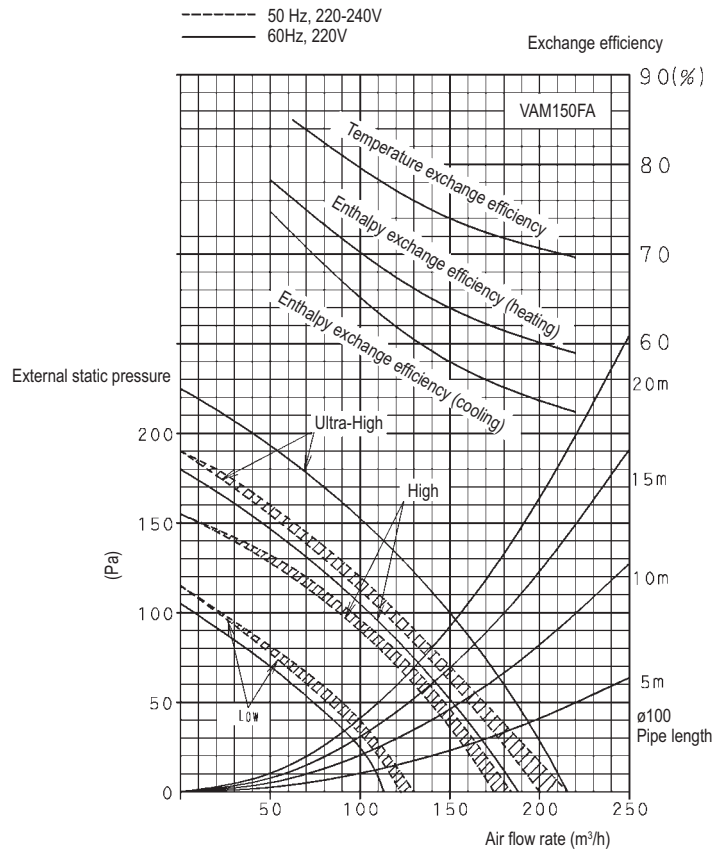
9



10 Fan characteristics

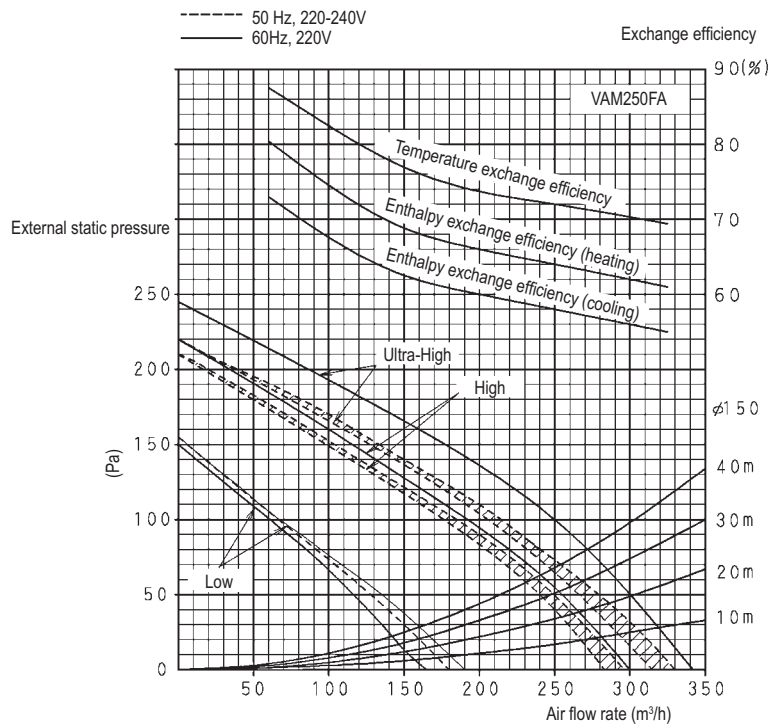
10 - 1 Fan Characteristics

VAM150FA



4D036773

VAM250FA



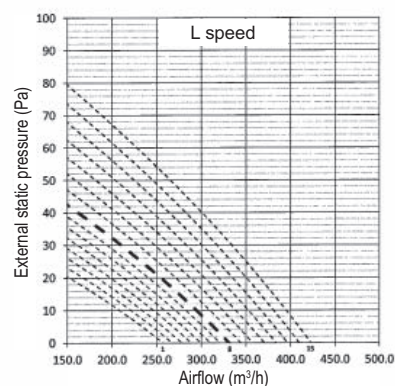
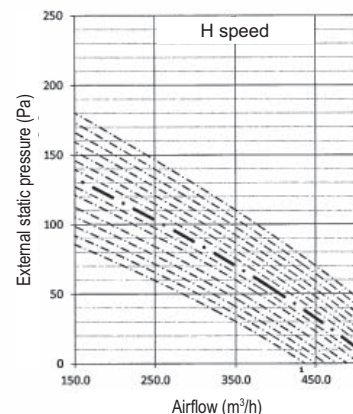
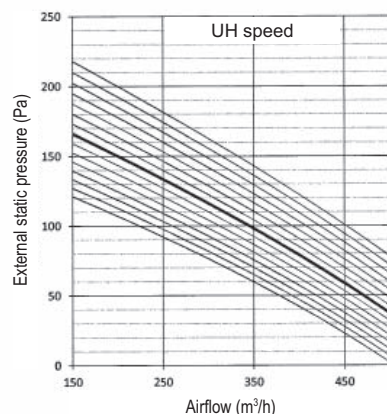
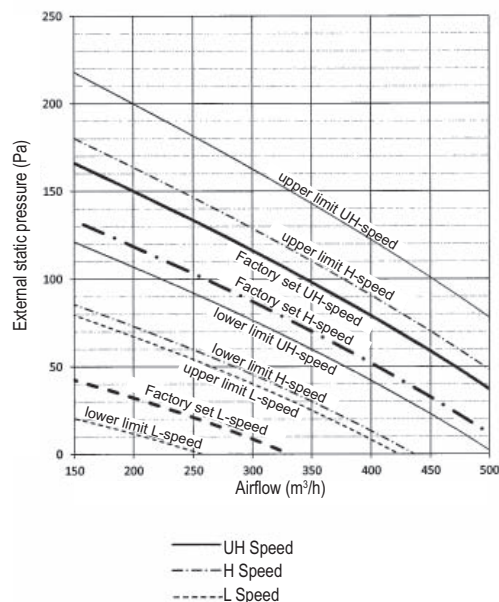
4D036774

10 Fan characteristics

10 - 1 Fan Characteristics

10

VAM350FB

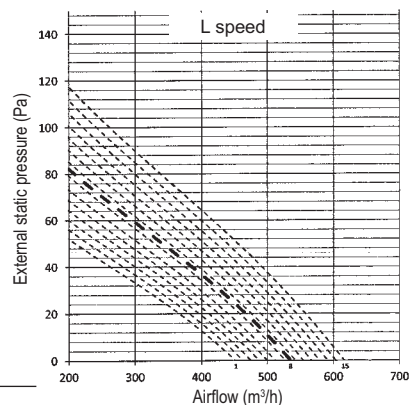
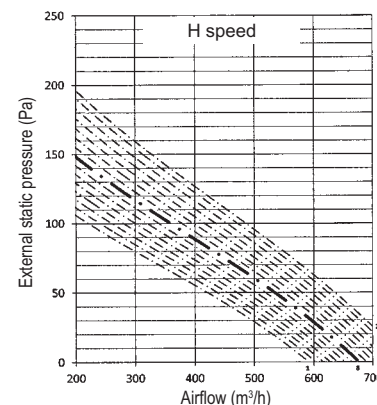
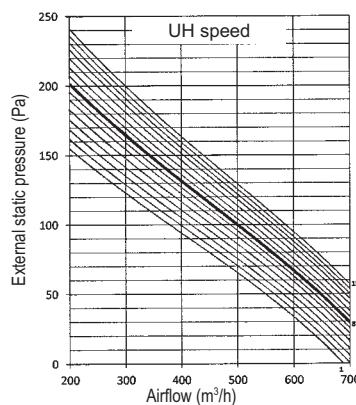
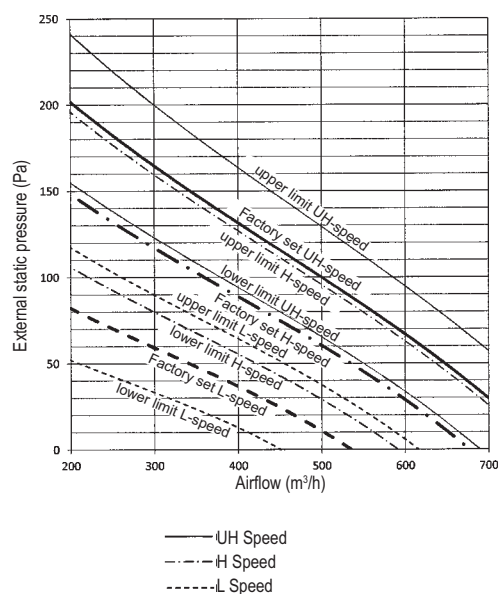


NOTES

1. The fan speeds are valid for 230V 50Hz power supply

3D082177

VAM500FB



NOTES

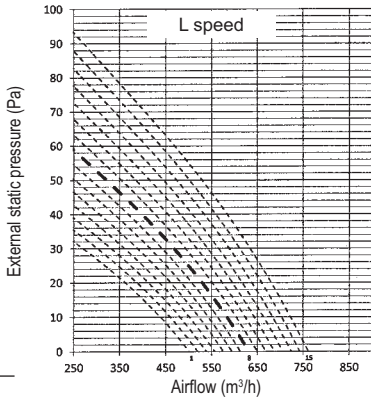
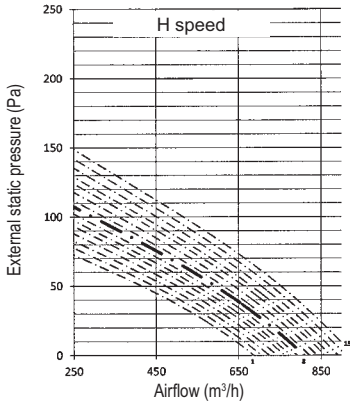
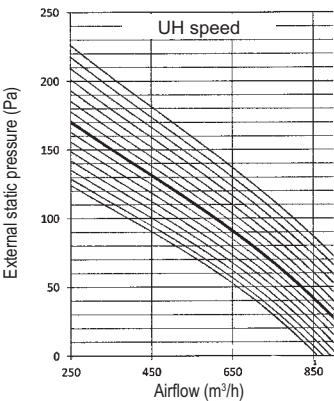
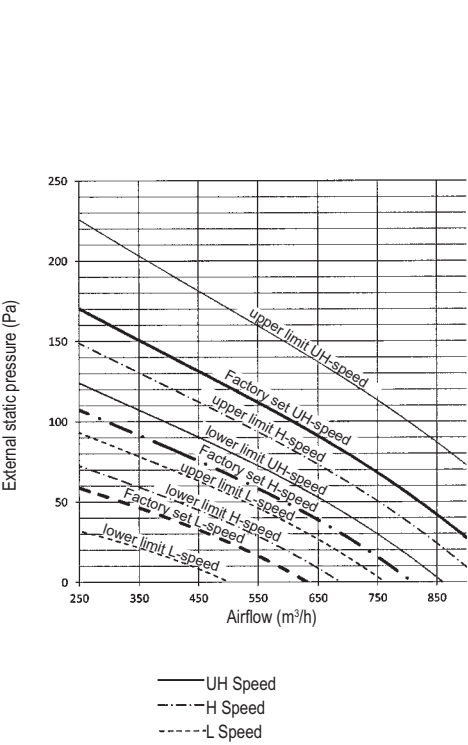
1. The fan speeds are valid for 230V 50Hz power supply

3D082178

10 Fan characteristics

10 - 1 Fan Characteristics

VAM650FB

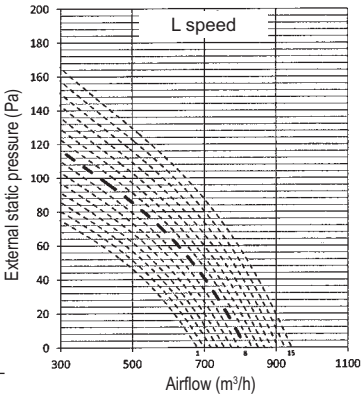
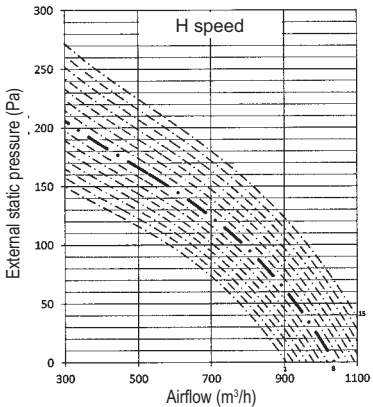
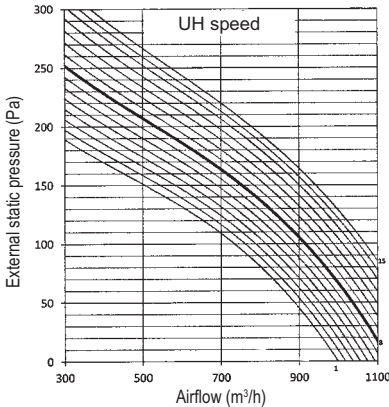
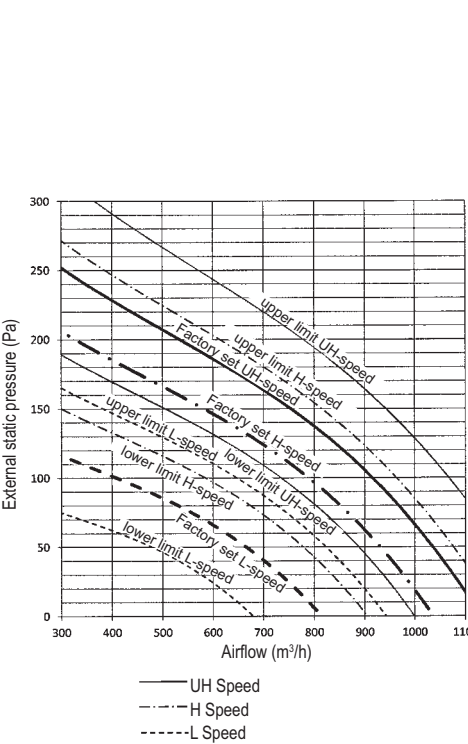


NOTES

1. The fan speeds are valid for 230V 50Hz power supply

3D082179

VAM800FB



NOTES

1. The fan speeds are valid for 230V 50Hz power supply

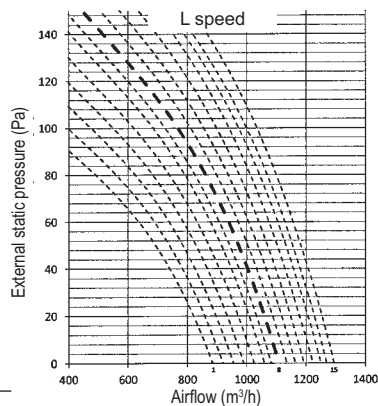
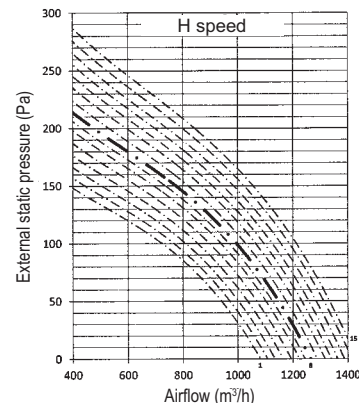
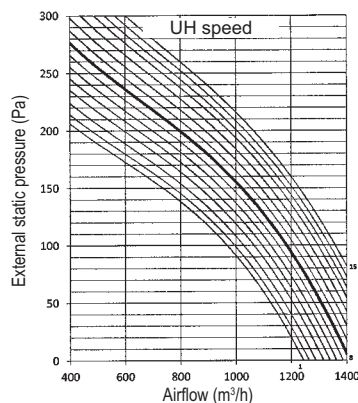
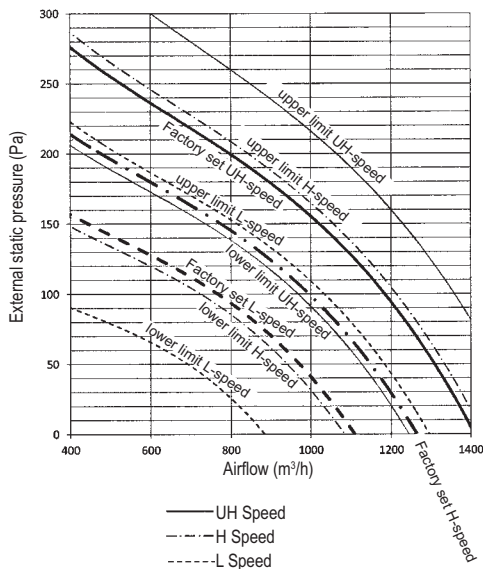
3D082180

Fan characteristics

10 - 1 Fan Characteristics

10

VAM1000FB

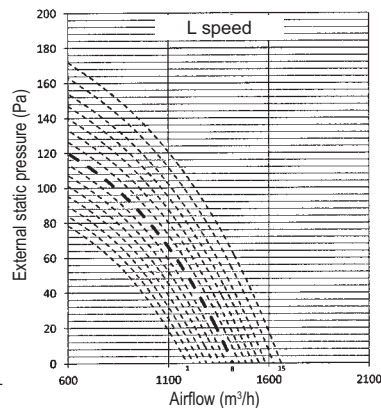
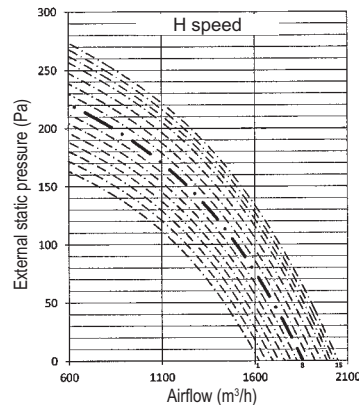
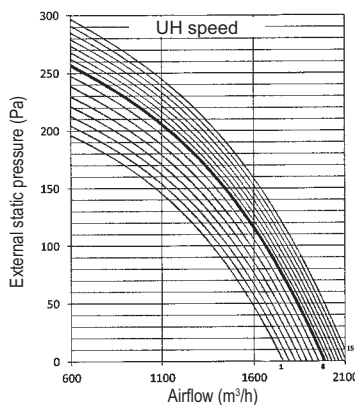
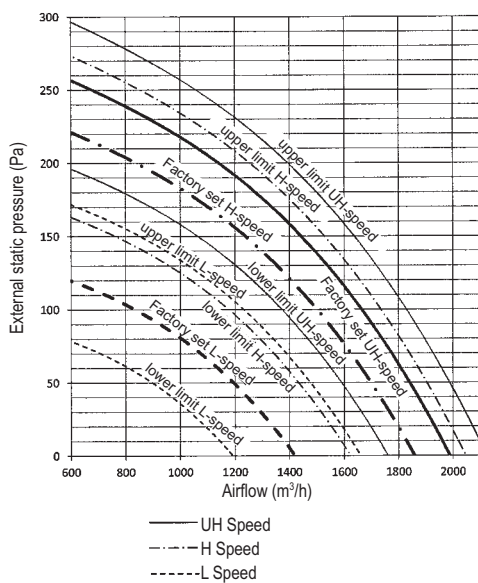


NOTES

- The fan speeds are valid for 230V 50Hz power supply

3D082181

VAM1500FB



NOTES

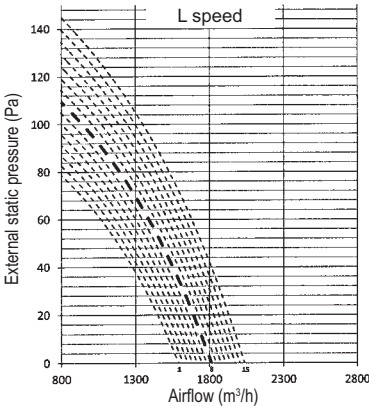
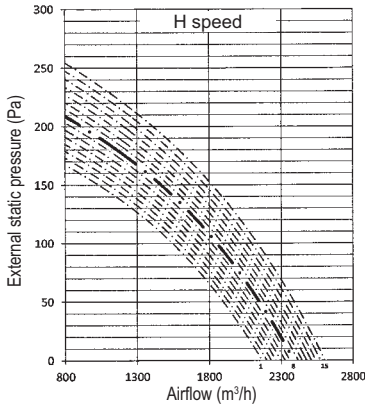
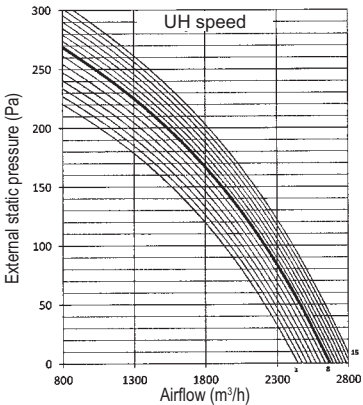
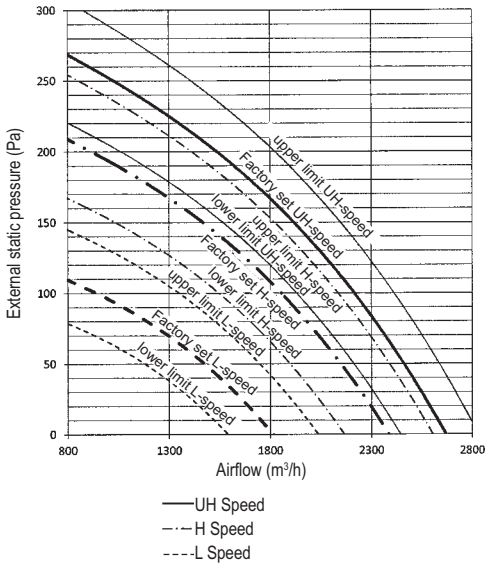
- The fan speeds are valid for 230V 50Hz power supply

3D082182

10 Fan characteristics

10 - 1 Fan Characteristics

VAM2000FB



NOTES

1. The fan speeds are valid for 230V 50Hz power supply

3D082183

11 Air filter characteristics

11 - 1 High efficiency filter / dust filter for VAM350-2000FB

11 - 1 - 1 Information for filter selection

- 1 Choose required airflow
- 2 Choose the filters
- 3 Add up all the pressure drops of the duct system on the installation site and the filters
[For filter characteristics, refer to D-drawings]
- 4 Compare this with the unit performance characteristics to see resulting airflow & ESP

Download the VAM selection software on the Daikin extranet for easy selection

11 - 1 - 1 - 1 Choose required airflow

Choose the required airflow based upon the application/information

11 - 1 - 1 - 2 Choose the filters

Depending on the application prefilters and/or dust filters will be needed.

Filter requirements according to EN779: 2012

Table: Recommended dust filter classes per filter section (definition of filter classes according to EN 779)

Outdoor Air Quality	Indoor Air Quality			
	IDA 1 (High)	IDA 2 (Medium)	IDA 3 (Moderate)	IDA 4 (Low)
ODA 1 (pure air)	N/A	F8	F7	F5
ODA 2 (dust)	N/A	F6+F8	F5+F7	F5+F6
ODA 3 (very high concentrations of dust of gases)	N/A	N/A	F5+F7	F5+F6

*) GF = Gas filter (carbon filter) and/or chemical filter

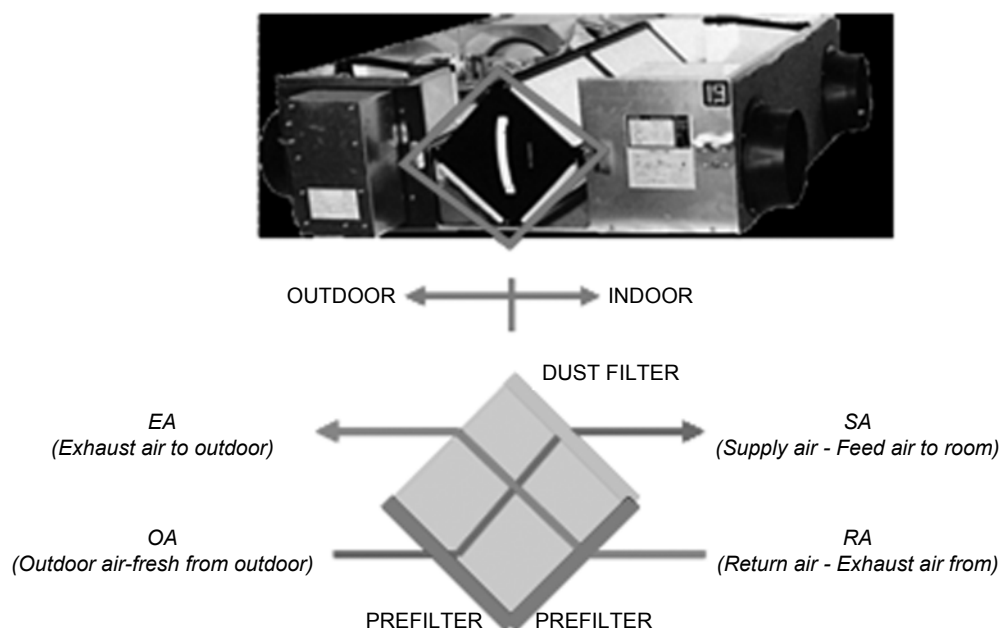
Outdoor air Quality:

- ODA 1 - Pure air
- ODA 2 - High concentration particles air
- ODA 3 - High concentration gas pollution
- ODA 4 - High concentration gas pollution and particles
- ODA 5 - Very high concentration gas pollution and particles

Indoor air Quality:

- IDA 1 - Optimum quality air (hospitals, laboratories, nursery)
- IDA 2 - Good quality air (offices, residences, museum,...)
- IDA 3 - Medium quality air (commercial buildings, cinema, theatre, room hotels, restaurants, bars, gym, computer room)

On the image below it is indicated where the standard prefilters and optional dust filters are installed. If 2 optional dust filters are used, the second one replaces the standard filter.



NOTE

- 1 Prefilters are factory mounted, M6, F7 and F8 dust filters are options

11 Air filter characteristics

11 - 1 High efficiency filter / dust filter for VAM350-2000FB

11 - 1 - 1 - 3 Add up all the pressure drops of the duct system on the installation site and the filters

[For filter characteristics, refer to D-drawings]

unit	airflow (m³/h)	filter pressure drop		
		M6	F7	F8
VAM350F	350	39	52	88
VAM500F	500	65	87	148
VAM650F	650	61	83	140
VAM800F	800	89	121	206
VAM1000F	1000	80	109	185
VAM1500F	1500	79	106	181
VAM2000F	2000	80	109	185

NOTES

- 1 Table shows values at nominal level, refer to drawings for detailed information
- 2 Filters according to EN779:2012
- 3 For more information refer to VAM installation, operation manual or filter manual

To adjust static pressure after filter placement:

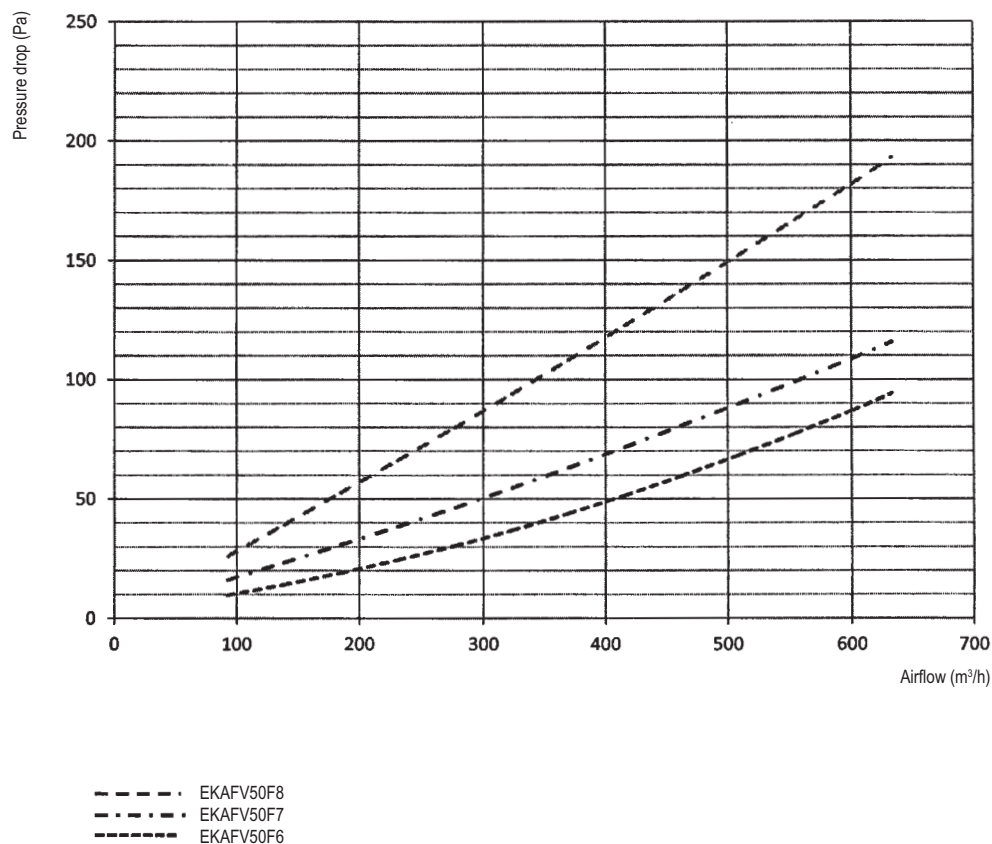
Setting mode	Setting switch No.	Description of setting
19 (29)	2	SA fan speed setting
	3	EA fan speed setting

11 Air filter characteristics

11 - 2 Air filter characteristics

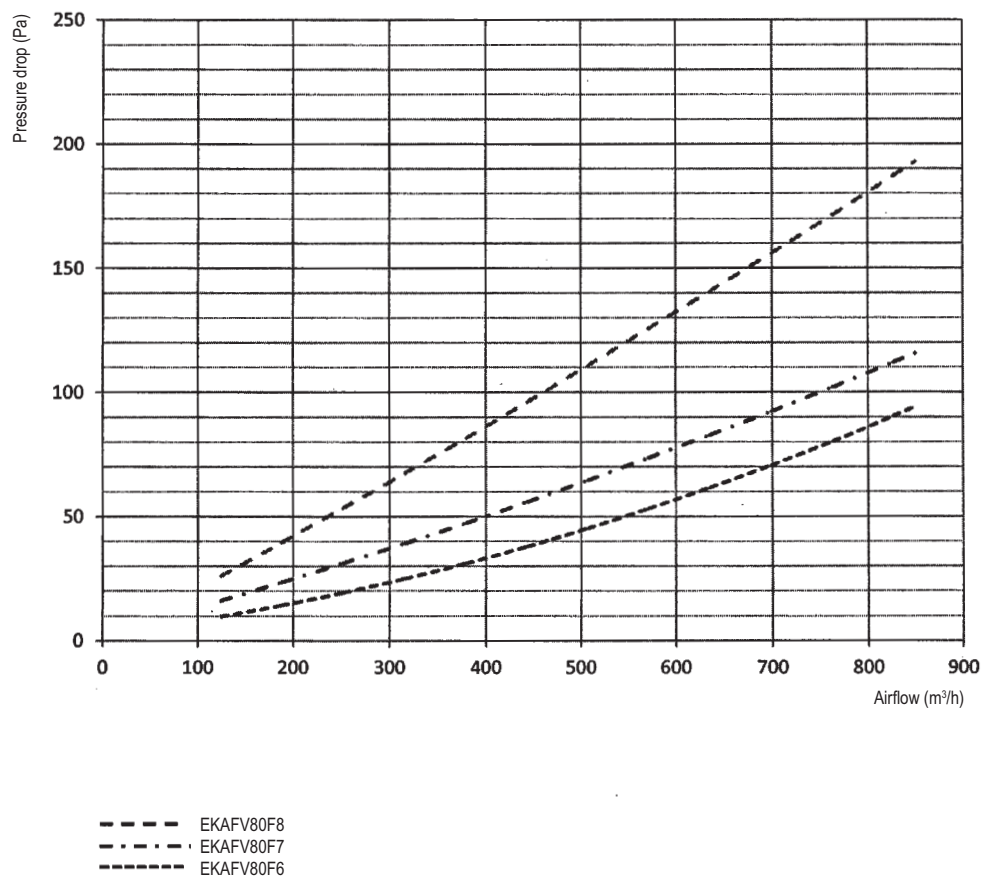
11

VAM350FB
VAM500FB



4D082449

VAM650FB
VAM800FB

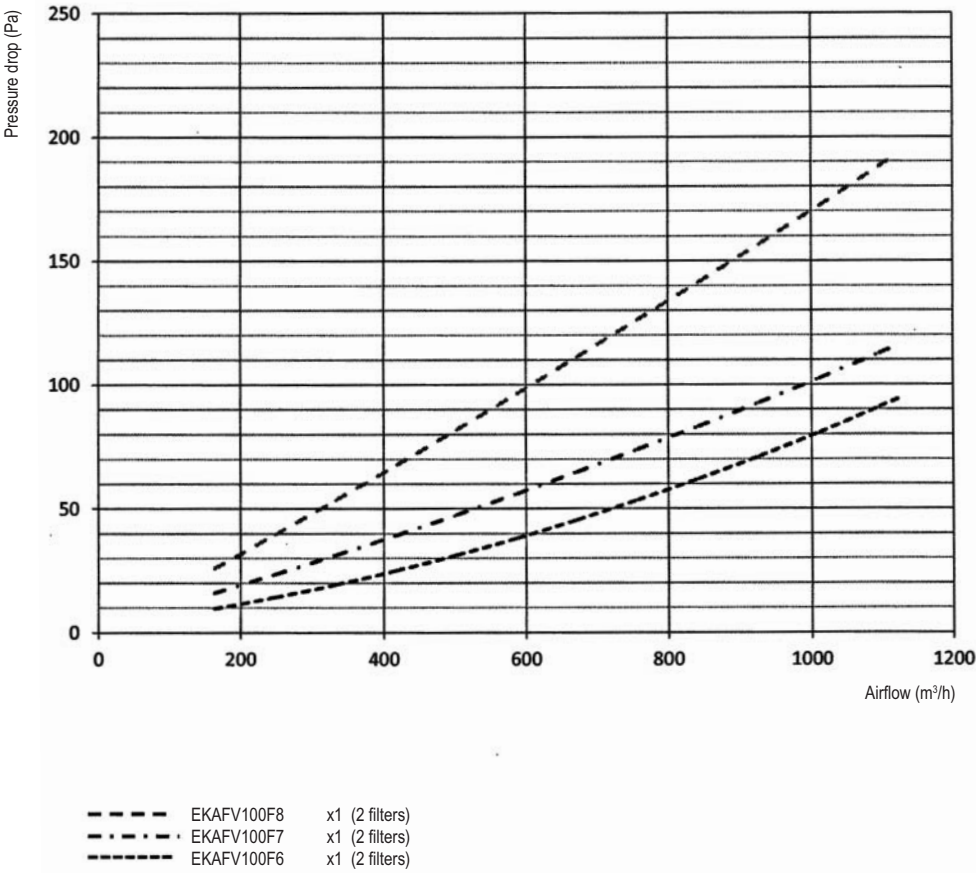


4D082450

11 Air filter characteristics

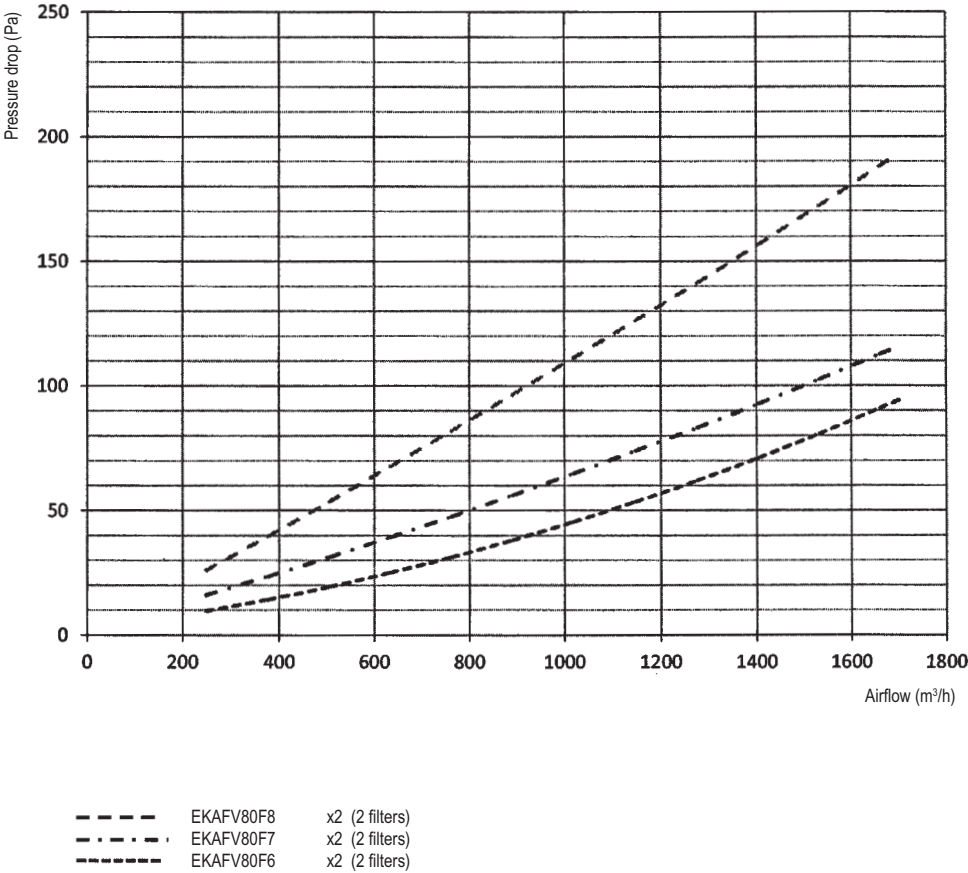
11 - 2 Air filter characteristics

VAM1000FB



4D082451

VAM1500FB

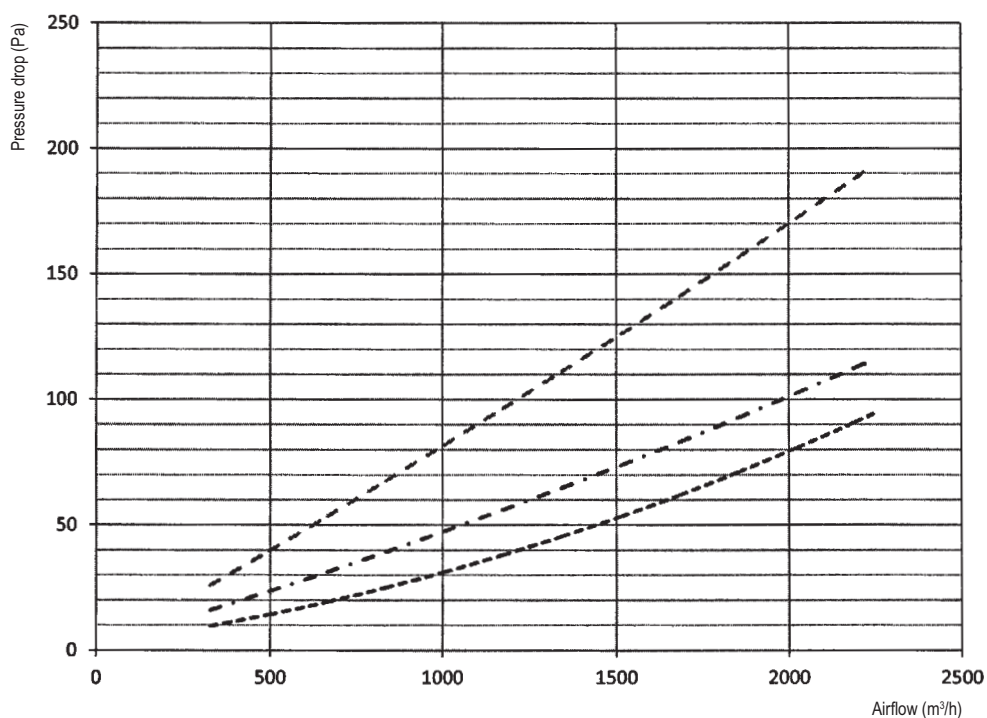


4D082452

11 Air filter characteristics

11 - 2 Air filter characteristics

VAM2000FB



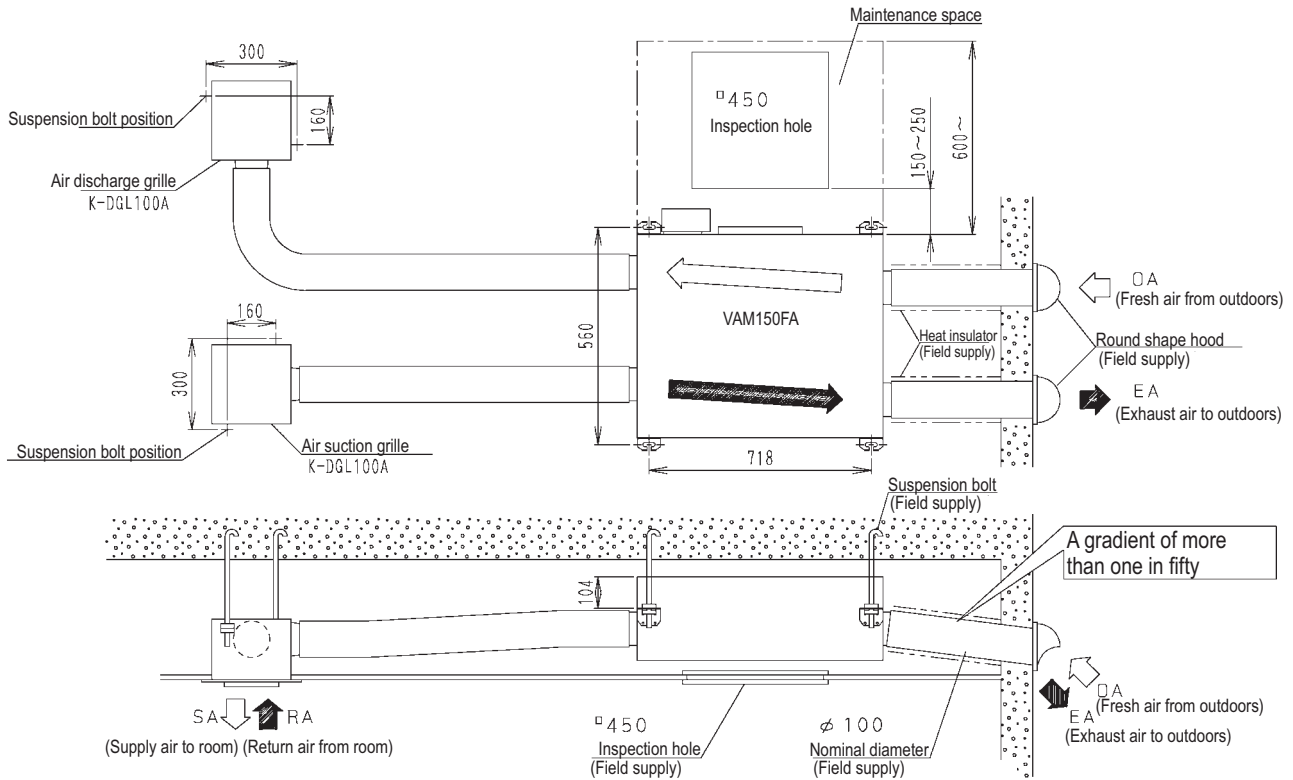
- - - EKAHV100F8 x2 (4 filters)
 - . - EKAHV100F7 x2 (4 filters)
 . . . EKAHV100F6 x2 (4 filters)

4D082453

12 Installation

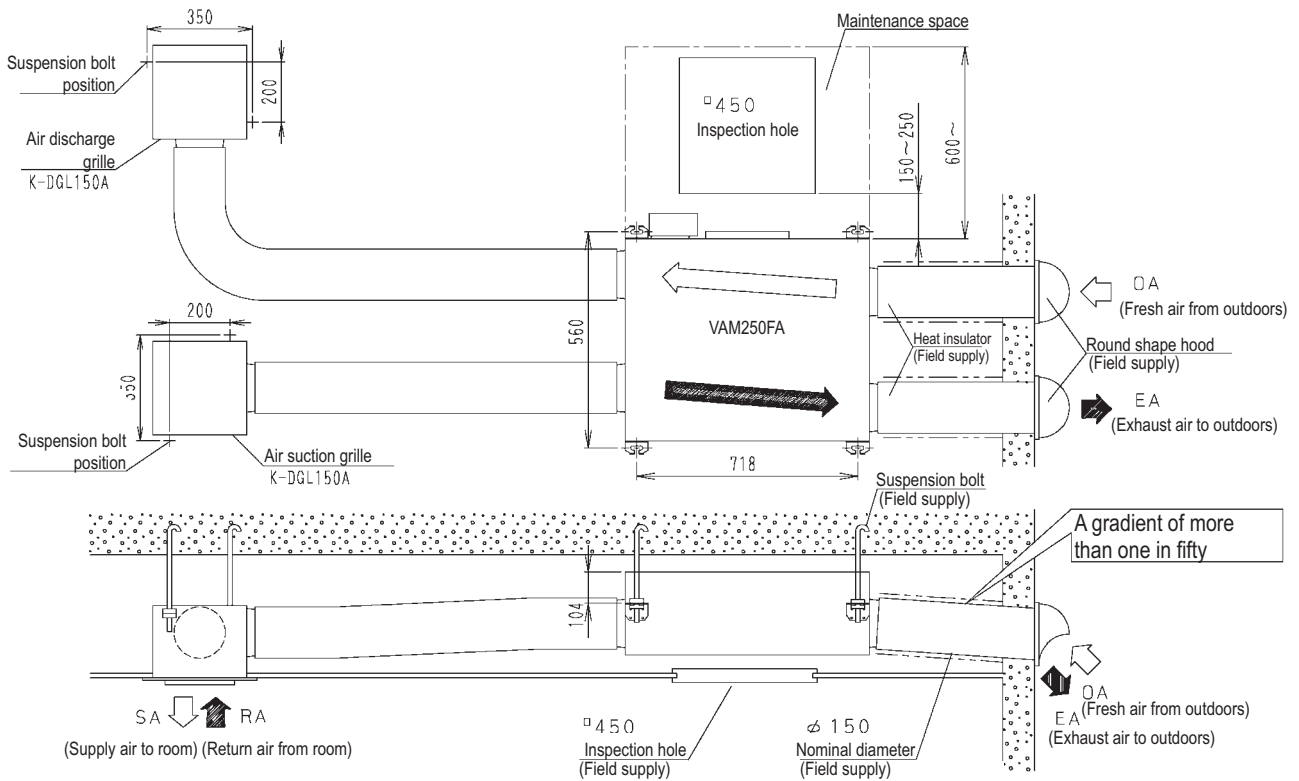
12 - 1 Installation Method

VAM150FA



3D036781

VAM250FA



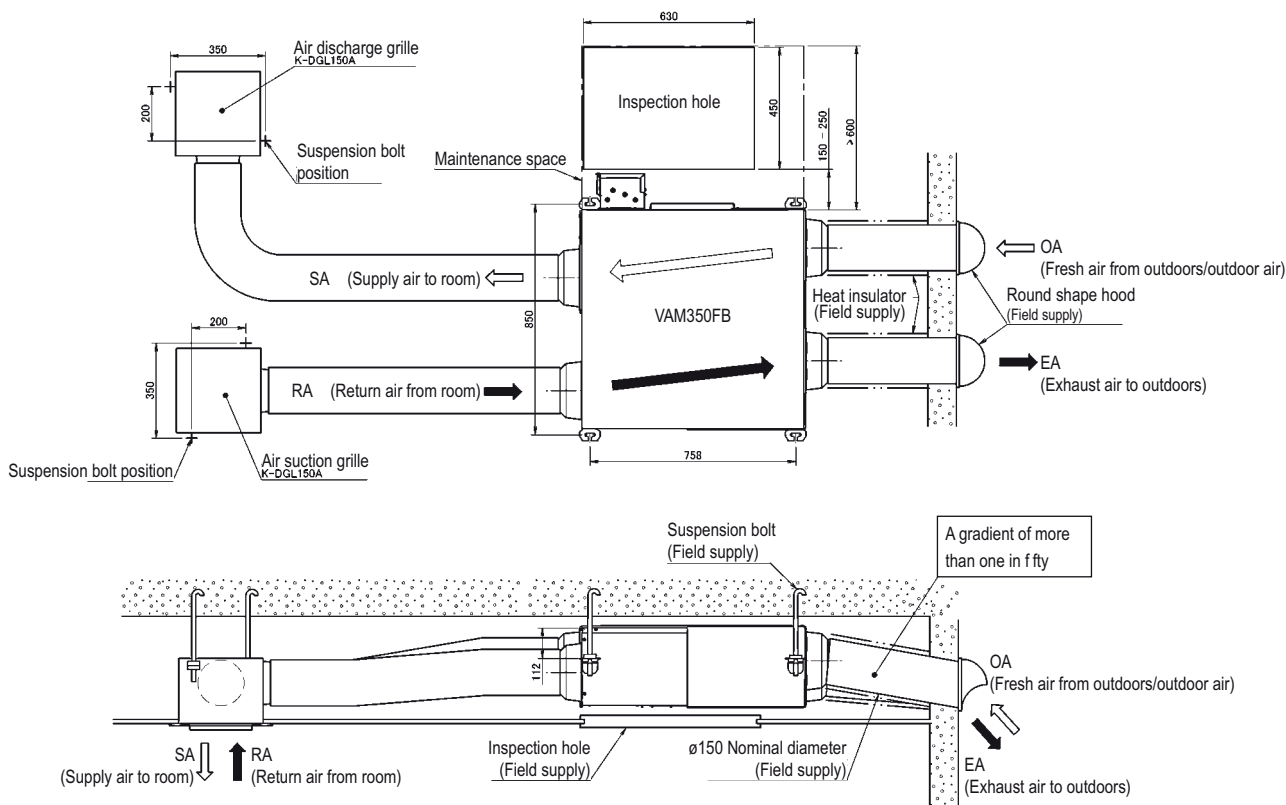
3D036782

12 Installation

12 - 1 Installation Method

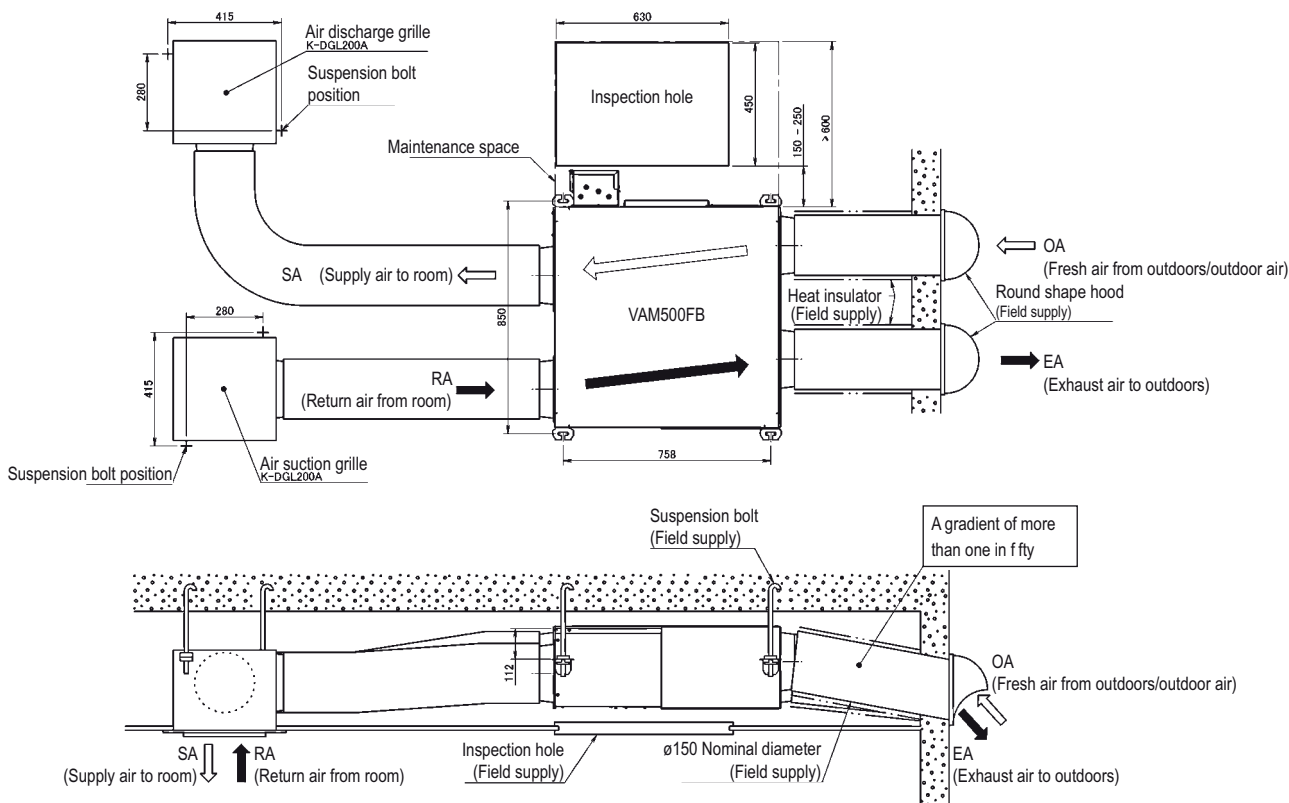
12

VAM350FB



3D081267

VAM500FB

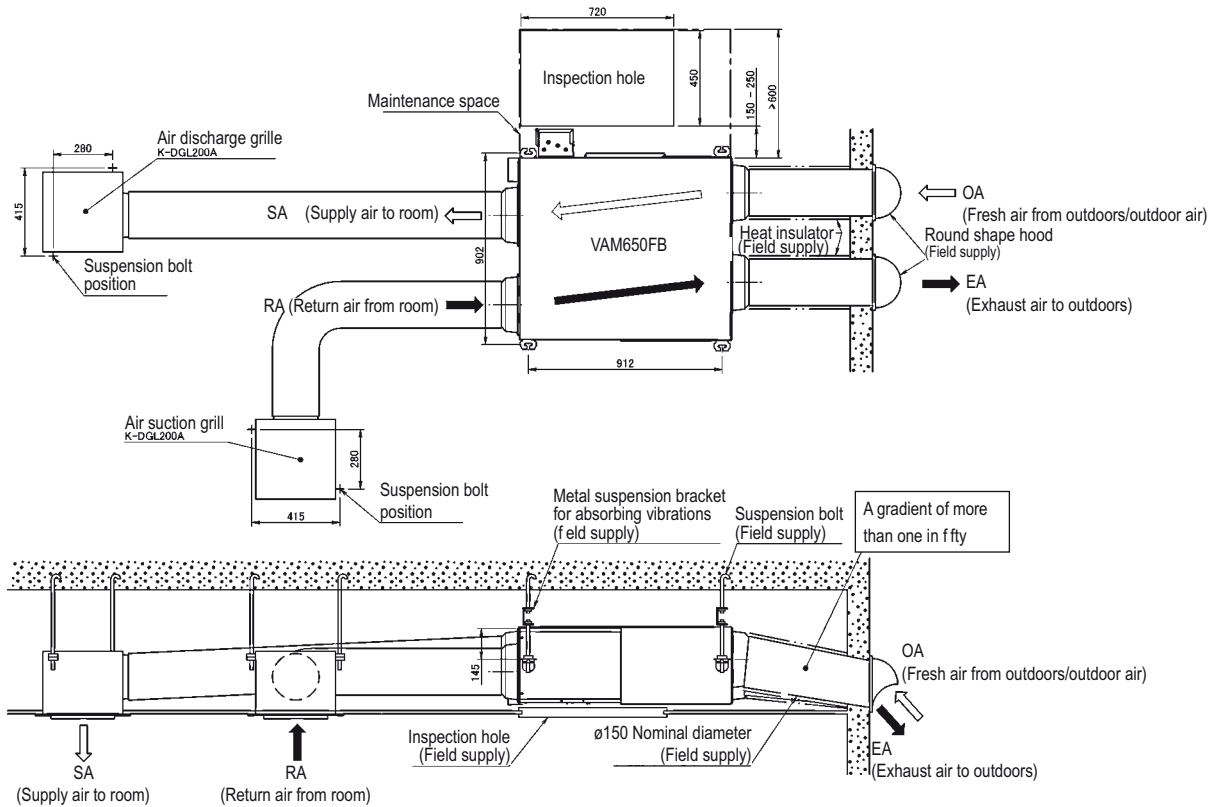


3D081268

12 Installation

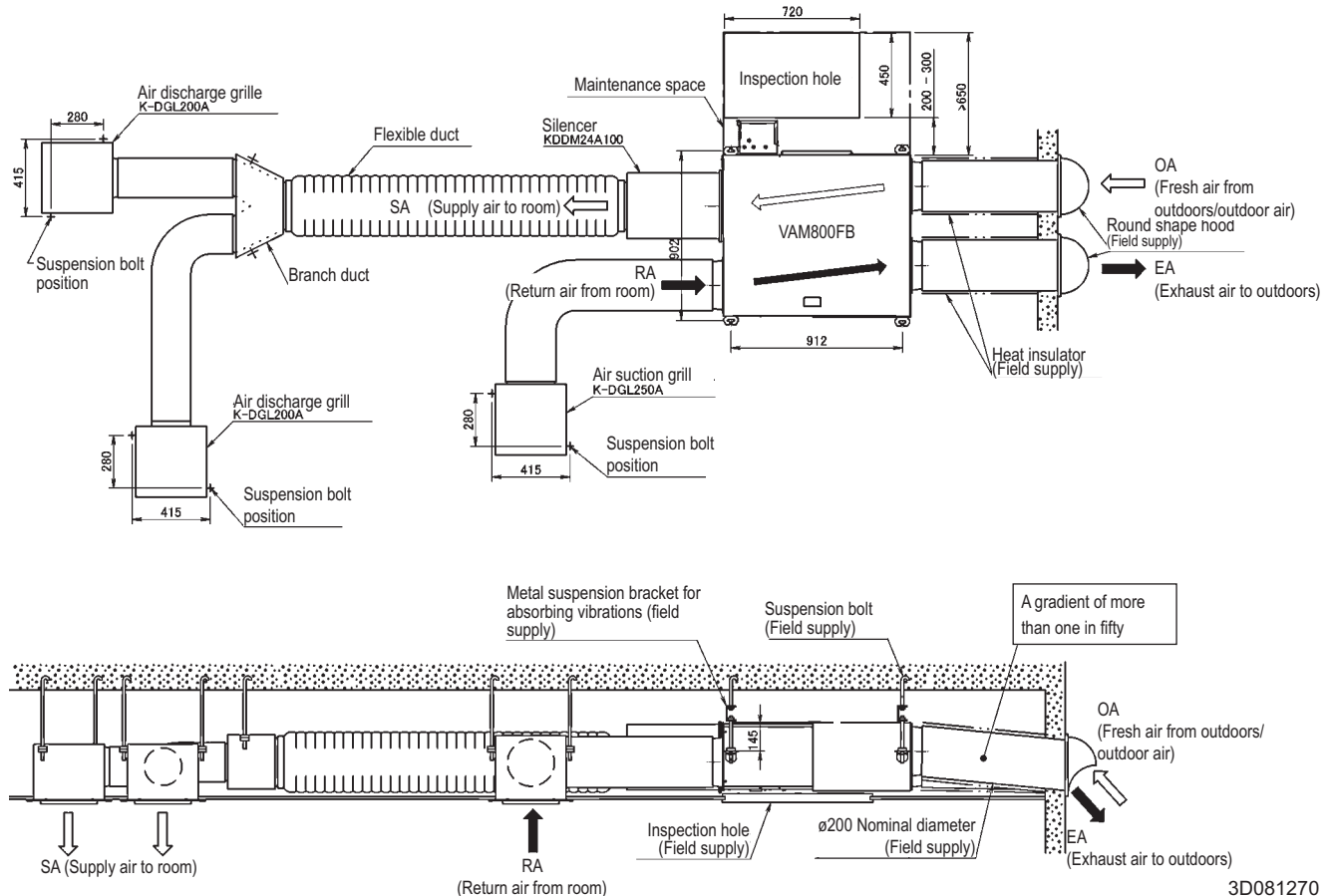
12 - 1 Installation Method

VAM650FB



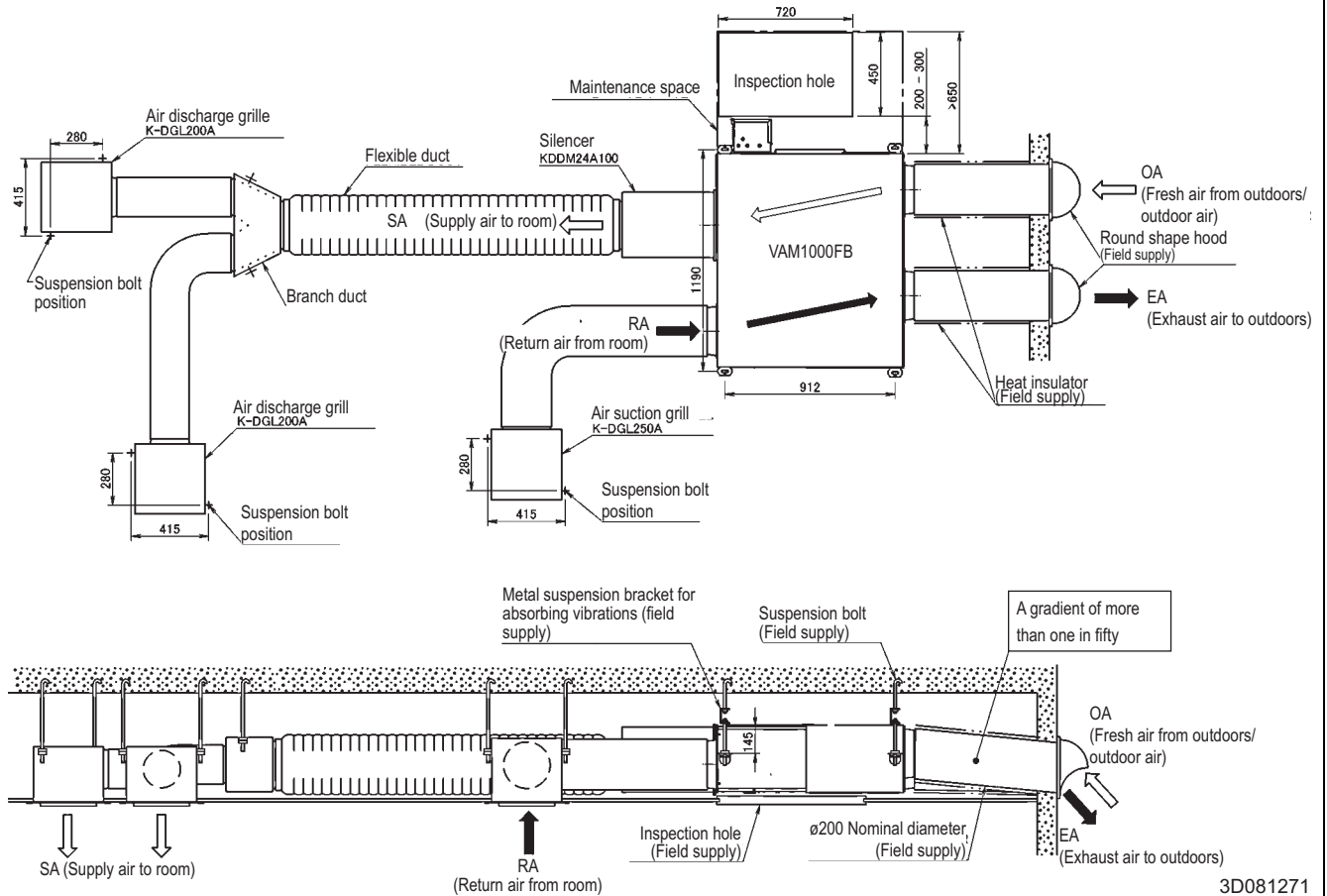
3D081269

VAM800FB



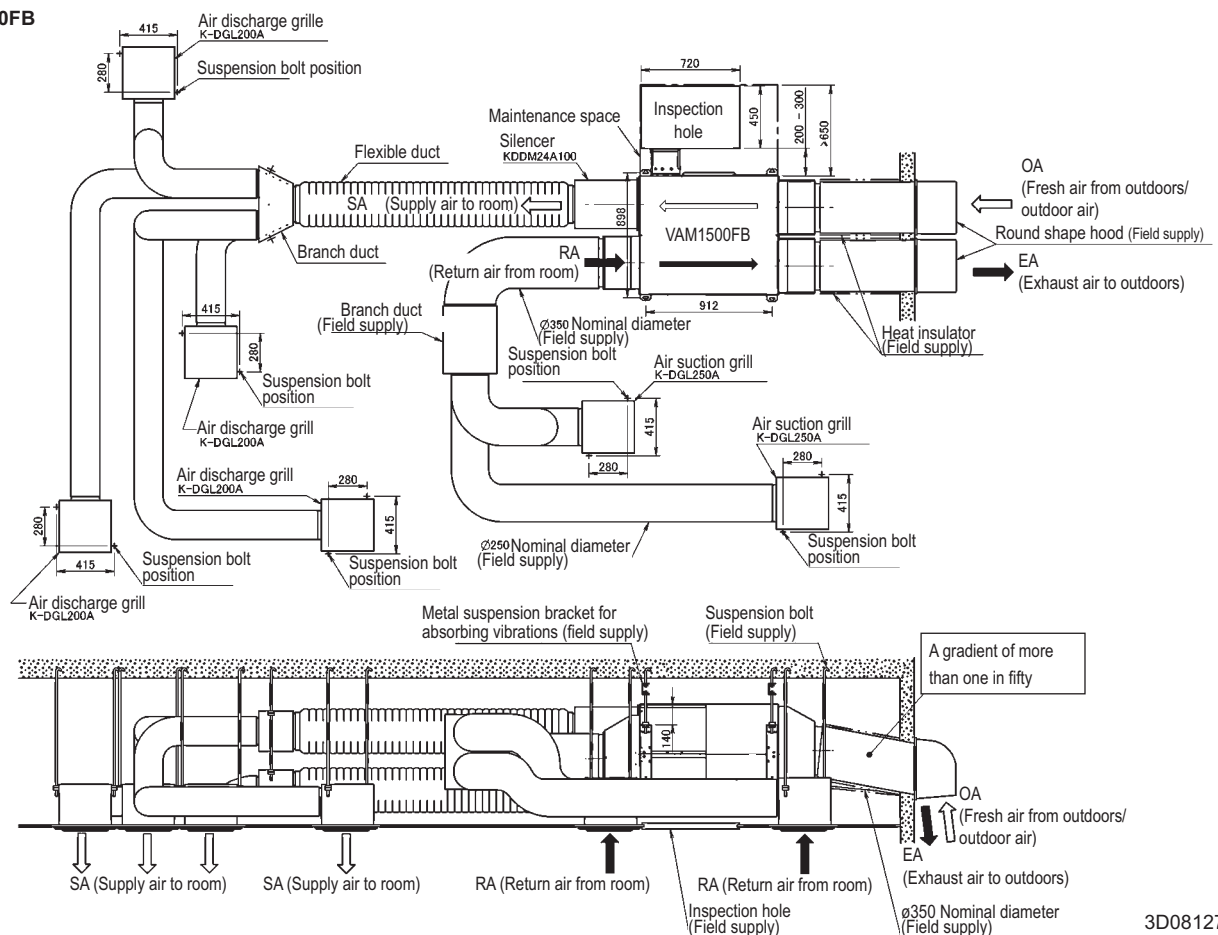
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VAM1000FB

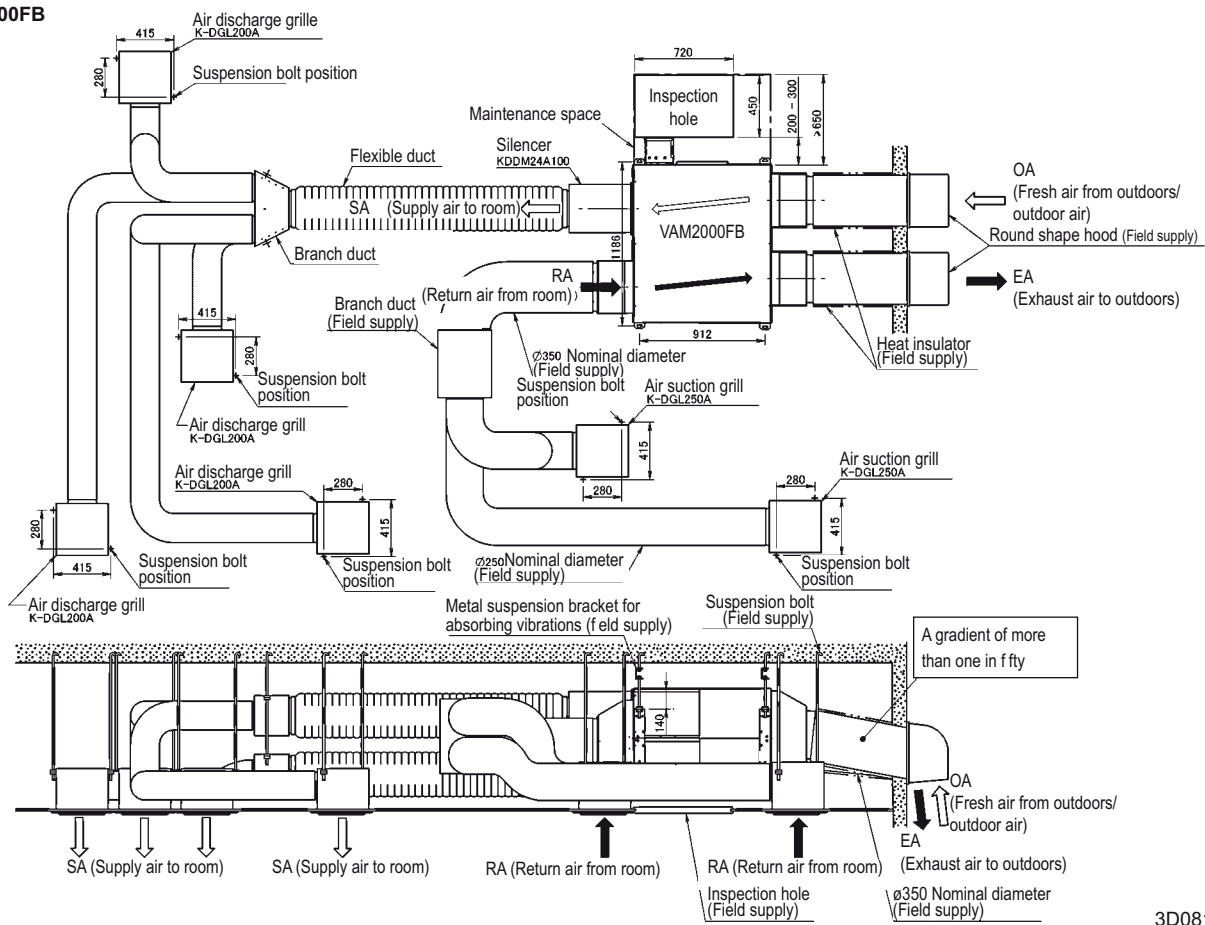


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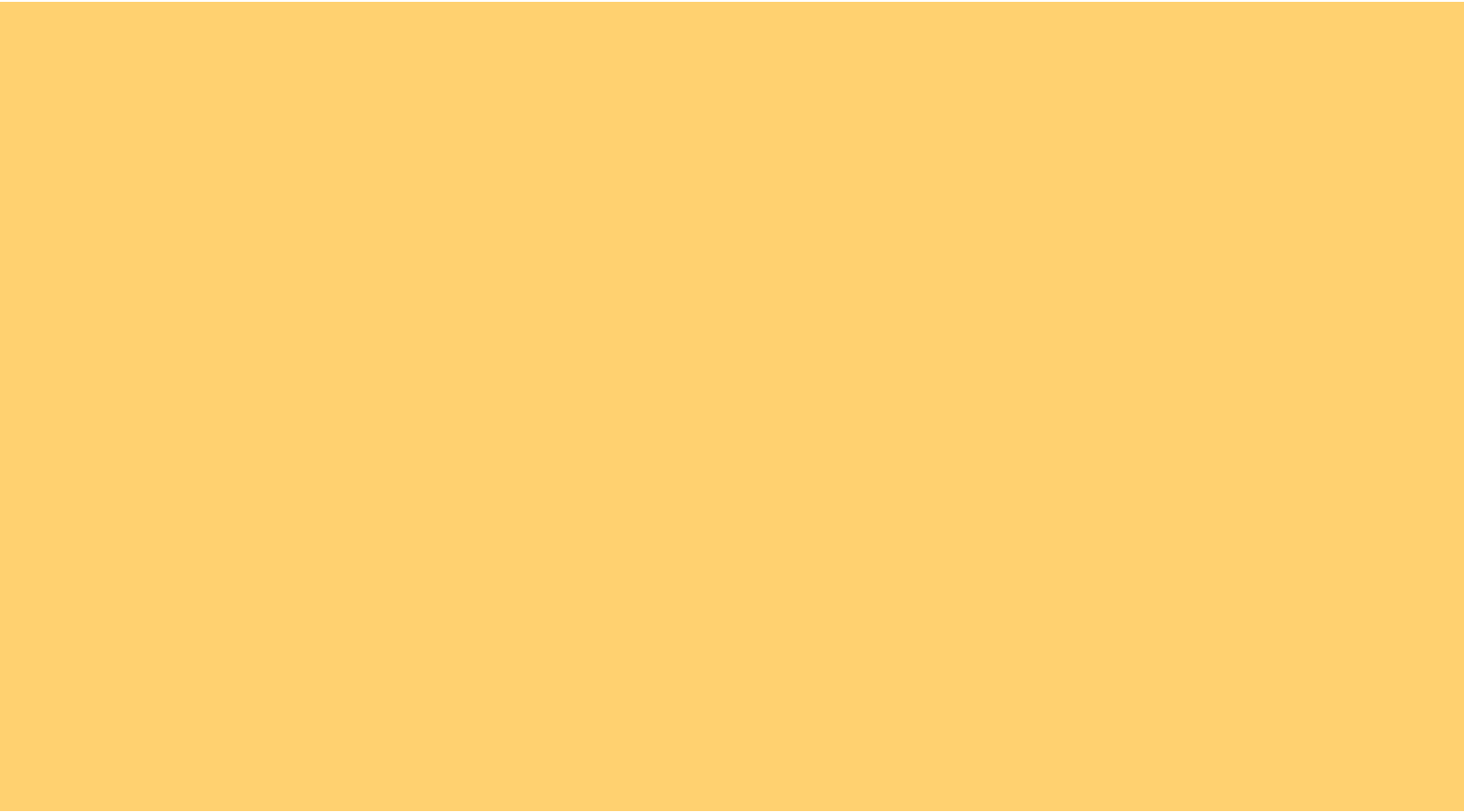
VAM1500FB



3D081272

VAM2000FB

3D081273



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