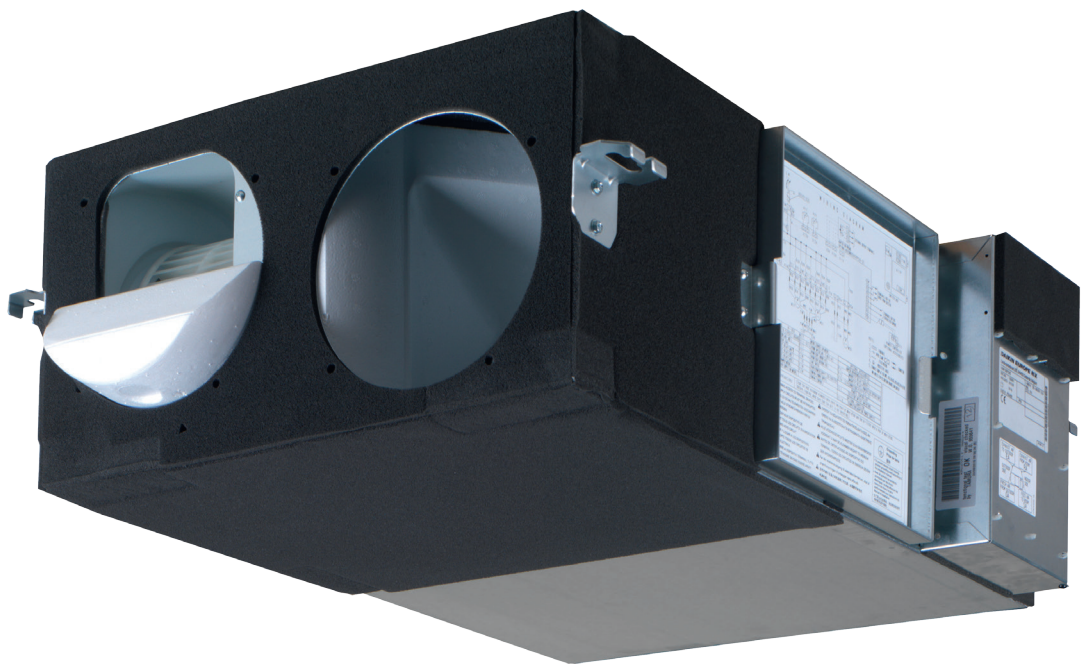


Heat reclaim ventilation Air Conditioning Technical Data VAM-FC9



VAM150FCVE9
VAM250FCVE9

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VAM-FC9

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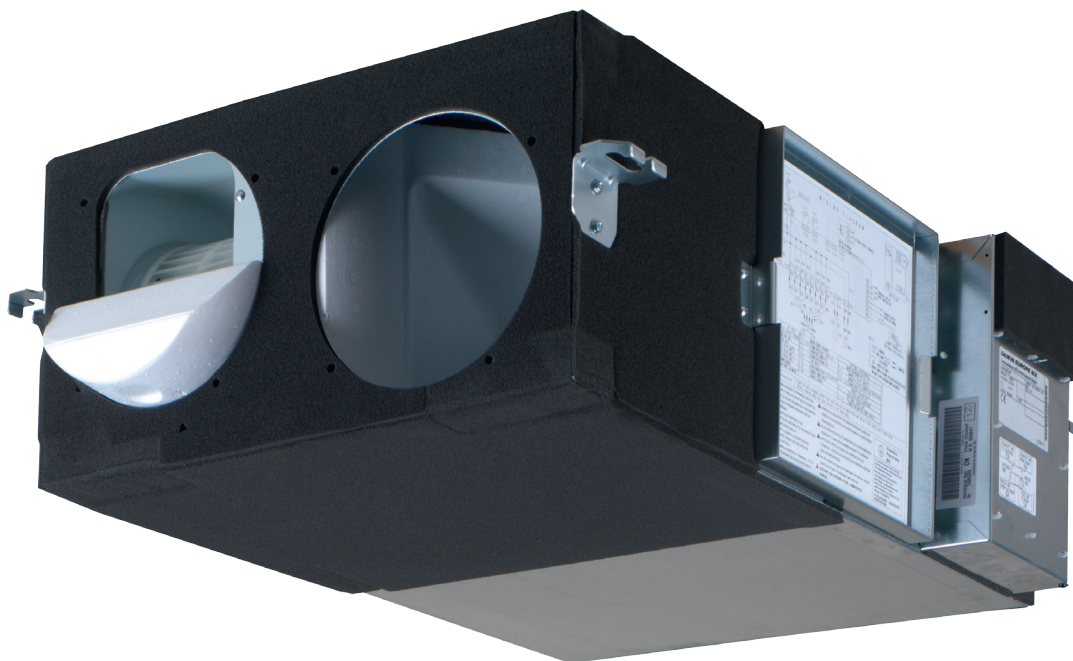
1 Features

1 - 1 VAM-FC9

Ventilation with heat recovery as standard

1

- › 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)
- › Reduced energy consumption thanks to specially developed DC fan motor
- › Can be used as stand alone or integrated in the Sky Air or VRV system
- › Wide range of units: air flow rate from 150 up to 2,000 m³/h
- › Optional medium and fine dust filters ePM10 70% (M6), ePM1 55% (F7), ePM1 70% (F8) to meet customer request or legislation
- › Shorter installation time thanks to easy adjustment of nominal air flow rate, so less need for dampers compared with traditional installation.
- › Specially developed heat exchange element with High Efficiency Paper (HEP)
- › No drain piping needed
- › Can operate in over- and under pressure
- › Total fresh air solution with optional electrical heater



2 Specifications

1 - 1 VAM-FC9

Technical specifications					VAM150FC9		VAM250FC9		
Power input - 50Hz	Heat exchange mode	Nom.	Ultra high	kW	0.132		0.161		
			High	kW	0.111		0.079		
			Low	kW	0.058		0.064		
	Bypass mode	Nom.	Ultra high	kW	0.132		0.161		
			High	kW	0.111		0.079		
			Low	kW	0.058		0.064		
Casing	Material				Galvanised steel plate				
Insulation material					Self-extinguishable urethane foam				
Dimensions	Unit	Height	mm		285				
		Width	mm		776				
		Depth	mm		525				
Weight	Unit	kg			23.0				
Fan	Type				Sirocco fan				
	Air flow rate - 50Hz	Heat exchange mode	Ultra high	m³/h	150		250		
			High	m³/h	140		230		
			Low	m³/h	105		155		
		Bypass mode	Ultra high	m³/h	150		250		
			High	m³/h	140		230		
			Low	m³/h	105		155		
		External static pressure - 50Hz	Ultra high	Pa	90.0		70.0		
	High		Pa	87.0		63.0			
	Low		Pa	40.0		25.0			
	Fan motor	Quantity				2			
		Output	50 Hz	W		30			
Temperature ex- change efficiency - 50Hz	Ultra high			%	77.0 (1) / 72.0 (2)		74.9 (1) / 69.5 (2)		
	High			%	78.3 (1) / 72.3 (2)		76.0 (1) / 70.0 (2)		
	Low			%	82.8 (1) / 73.2 (2)		80.1 (1) / 72.0 (2)		
Enthalpy exchange efficiency - 50Hz	Cooling	Ultra high		%	60.3 (1)				
		High	%	61.9 (1)		61.2 (1)			
		Low	%	67.3 (1)		64.5 (1)			
	Heating	Ultra high		%	66.6 (1)				
		High	%	67.9 (1)		67.4 (1)			
		Low	%	72.4 (1)		70.7 (1)			
Operation range	Min.			°CDB	-15				
	Max.			°CDB	50				
	Relative humidity			%	80 or less				
Sound pressure level - 50Hz	Heat exchange mode	Ultra high		dBA	27.0		28.0		
		High	dBA	26.0					
	Bypass mode	Low		dBA	20.5		21.0		
		Ultra high		dBA	27.0		28.0		
		High		dBA	26.5		27.0		
		Low		dBA	20.5		21.0		
Heat exchange system					Air to air cross flow total heat (sensible + latent heat) exchange				
Heat exchange element					Specially processed non-flammable paper				
Air filter	Type				Multidirectional fibrous fleeces				
Connection duct diameter				mm	100		150		
Operation mode					Heat exchange mode, bypass mode, fresh-up mode				
General	Supplier/	Name or trademark			Daikin Europe N.V.				
	Manu- facturer details								
	Product descrip- tion	Model identifier			VAM150FCVE		VAM250FCVE		
Specific energy consumption (SEC)	Cold climate			kWh/ (m².a)	-65.4 (3)		-65.1 (3)		
	Average climate			kWh/ (m².a)	-27.1 (3)		-29.2 (3)		
	Warm climate			kWh/ (m².a)	-2.51 (3)		-6.10 (3)		
SEC class					B / See note 4				
Type of product					Bidirectional RVU / See note 5				
Type of drive					Multi-speed drive				
Heat recovery system					recuperative				
Thermal efficiency				%	89.1 (2)		80.4 (2)		
Maximum flow rate				m³/h	130		207		
at 100 Pa ESP	Electric power input			W	129		160		
Sound power level (Lwa)				dB	40		43		
Reference flow rate				m³/s	0.025		0.035		
Reference pressure difference				Pa	50.0				
Specific power input				W/ (m³/h)	0.616 (4)		0.454 (4)		

2 Specifications

1 - 1 VAM-FC9

2

Technical specifications		VAM150FC9	VAM250FC9
Ventilation control	Type	Clock control	
	Factor	0.950 (3)	
Maximum external leakage	%	7.42	4.66
Maximum internal leakage	%	4.50	
Filter service warning		Displayed on controller / See note 7	
Instructions for pre-/disassembly		https://www.daikin.eu/en_us/about/daikin-innovations/seasonal-efficiency.html	
Annual electricity consumption	kWh/a	18.6 (3)	13.8 (3)
Annual heating saved	Cold climate	45.7 (3)	43.1 (3)
	Average climate	89.4 (3)	84.3 (3)
	Warm climate	20.7 (3)	19.5 (3)

Electrical specifications		VAM150FC9	VAM250FC9
Power supply	Name	VE	
	Phase	1~	
	Frequency	50/60	
	Voltage	220-240/220	
Voltage range	Min.	-10	
	Max.	10	
Current	Minimum circuit amps (MCA)	0.900	
	Maximum fuse amps (MFA)	15.0	
	Fan motor rated output	0.03x2	
	Full load Fan motor	0.400	
	amps Fan motor 2 (FLA)	0.400	

(1) Measured according to JIS B 8628 |

(2) Measured at reference flow rate according to EN13141-7 |

(3) In accordance with commission regulation (EU) No 1254/2014 |

(4) At reference flow rate in accordance with commission regulation (EU) No 1254/2014 |

Measured on fan curve 15. Refer to fan curves. |

In accordance with commission regulation (EU) No 1253/2014 |

Clean the filter when the filter icon appears on the controller screen. Regular filter cleaning is important for delivered air quality and for the unit's energy efficiency.

3 Options

3 - 1 Options

VAM-FC9

Type Ceiling-mounted
Installation with duct

Item		Model	
		VAM150FCVE9	VAM250FCVE9
Control systems	Remote control	BRC301B61	
		BRC1D52	
	Remote control Wired type	BRC1E53A7 *	
		BRC1E53B7 *	
		BRC1E53C7 *	
		DCS302C51	
		General · DCS301B61 · or · DCS301B51 · For EU market	
	Centralised control systems	DST301B51	
		DCM601A51	
		DCS601C51	
		DCC601A51	
		EKMBDXA7V1	
		KRP2A51	
		EKMP25VAM	
	Adaptor PCB	KRP1BA101	
		BRP4A50A	
		YAFF323F15	
	Miscellaneous	YAFF323F25	
		YAFM323F15	
	High-efficiency filter	YAFF323F25	
		YAFM323F25	

Notes

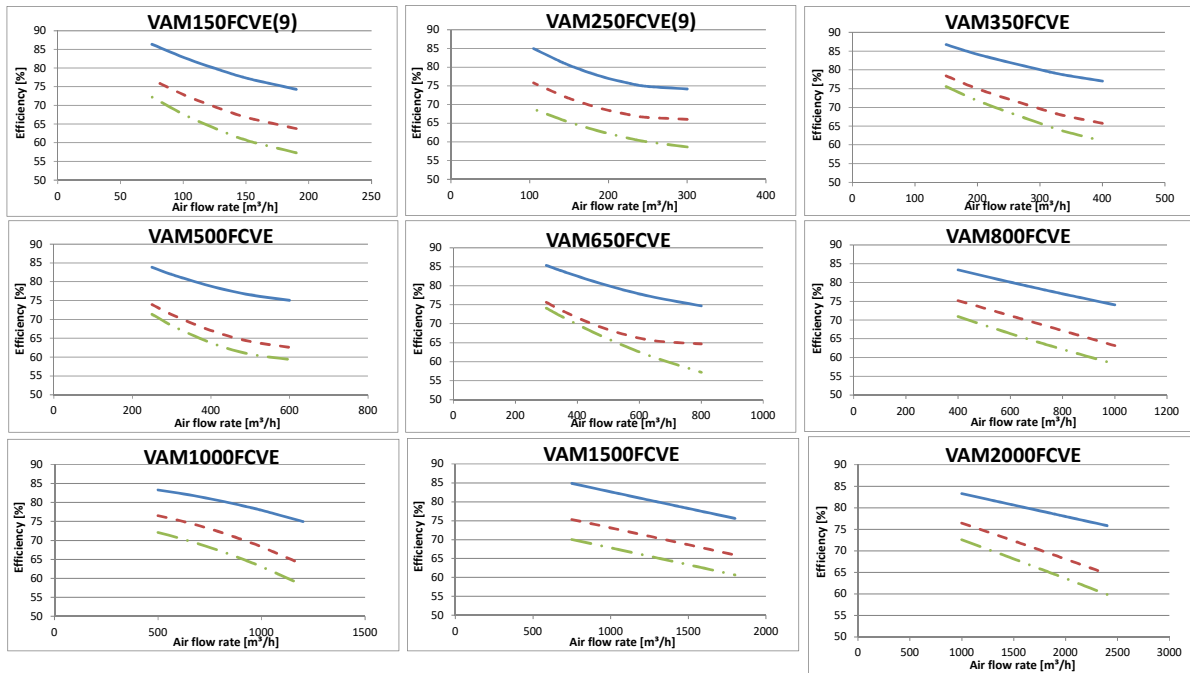
- * BRC1E53A7 Included languages are: English, German, French, Italian, Spanish, Portuguese, and Dutch.
* BRC1E53B7 Included languages are: English, Czech, Croatian, Hungarian, Slovenian, Romanian, and Bulgarian.
* BRC1E53C7 Included languages are: English, Russian, Greek, Turkish, Polish, Albanian, and Slovak.
- ** To install adaptor PCBs ·KRP2A51·, installation box ·KRP1BA101· is required.
These options require mounting plate ·EKMP25VAM·.
- ** Because both adaptor PCBs have the same installation location, it is only possible to install either ·KRP2A51· or ·BRP4A50A·.

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4 Exchange efficiency

4 - 1 Exchange efficiency

VAM-FC9

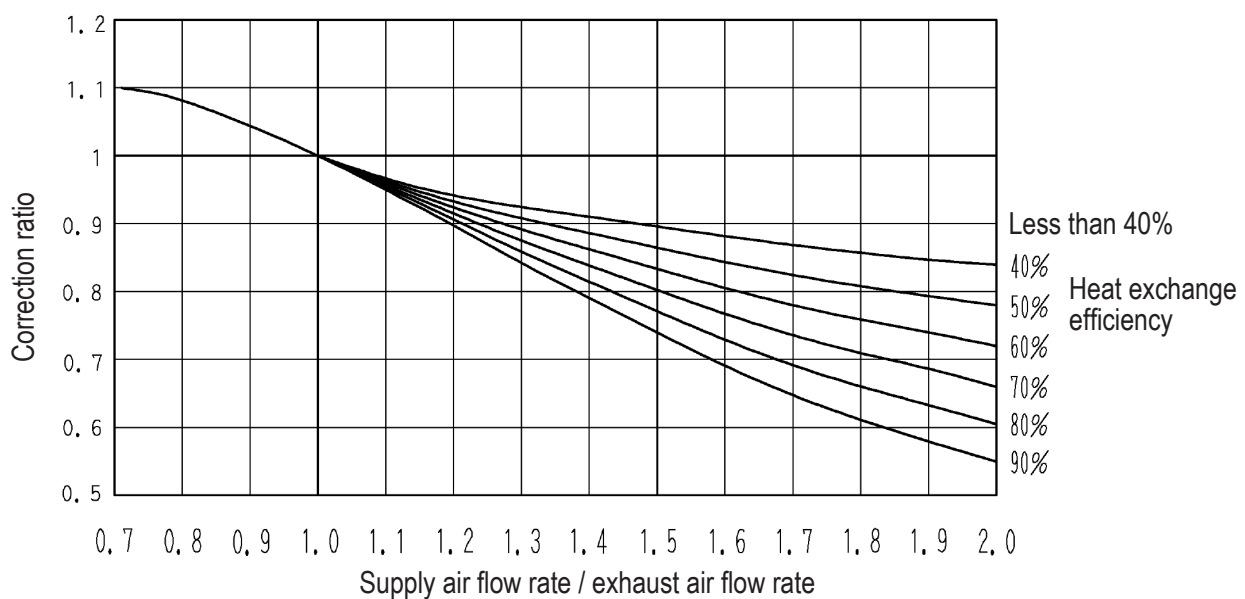


Notes

1. Efficiency according to JIS B 8628.

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VAM-FC9

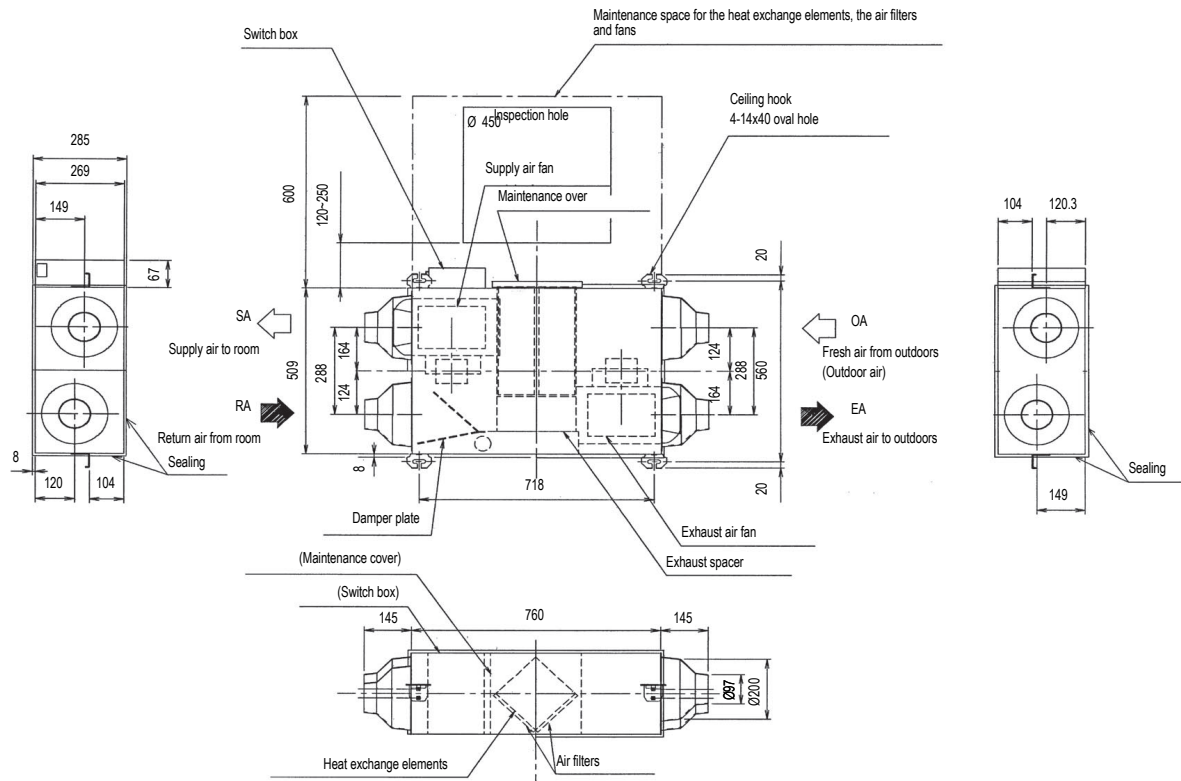


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5 Dimensional drawings

5 - 1 Dimensional Drawings

VAM150FC9

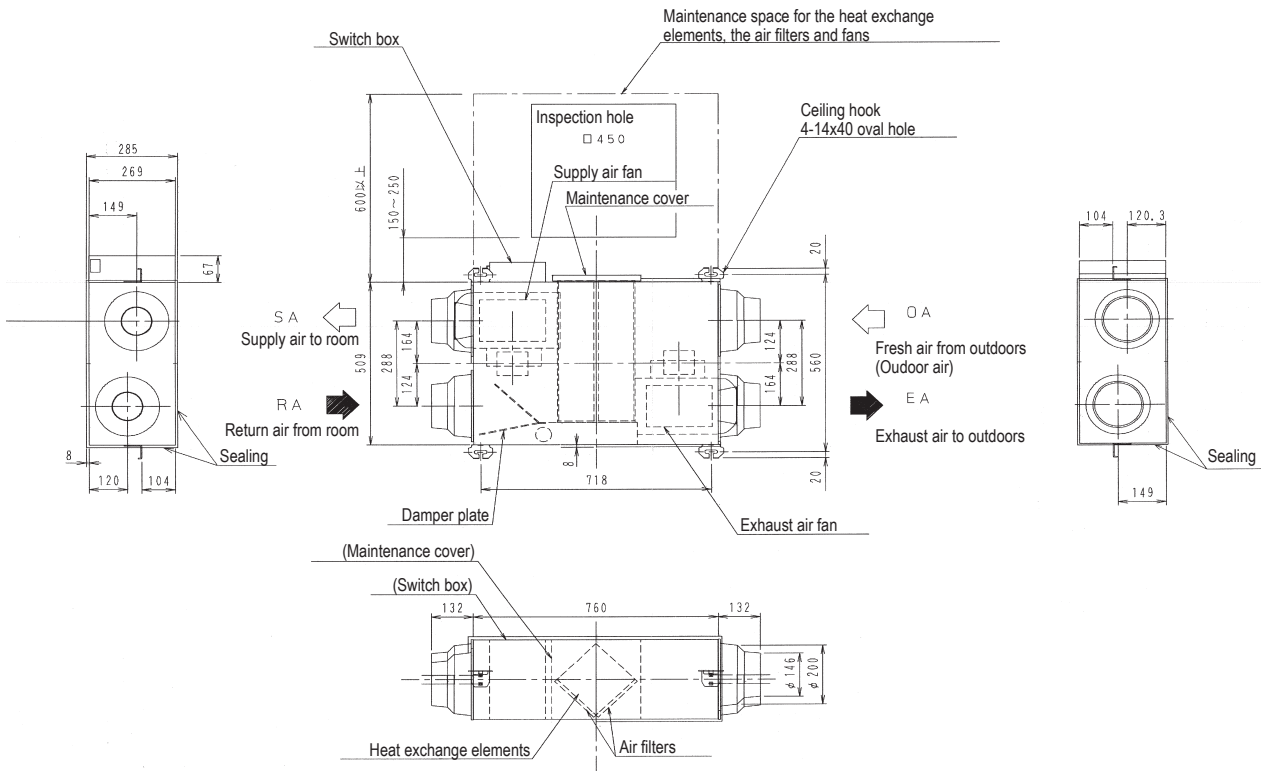


NOTE

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

3TW27874-1

VAM250FC9



REMARK

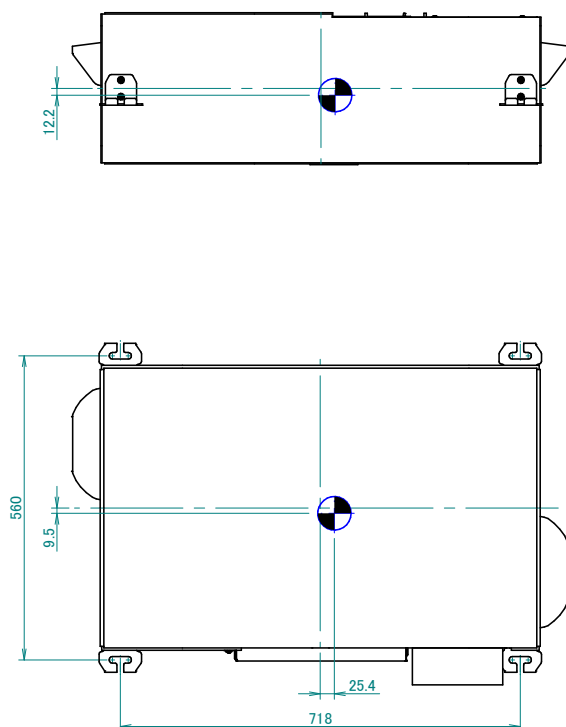
- Be sure to provide the inspection hole (450x450mm) to inspect the air filters, the exchange elements and fans.

3TW27884-1

6 Centre of gravity

6 - 1 Centre of Gravity

VAM-FC9

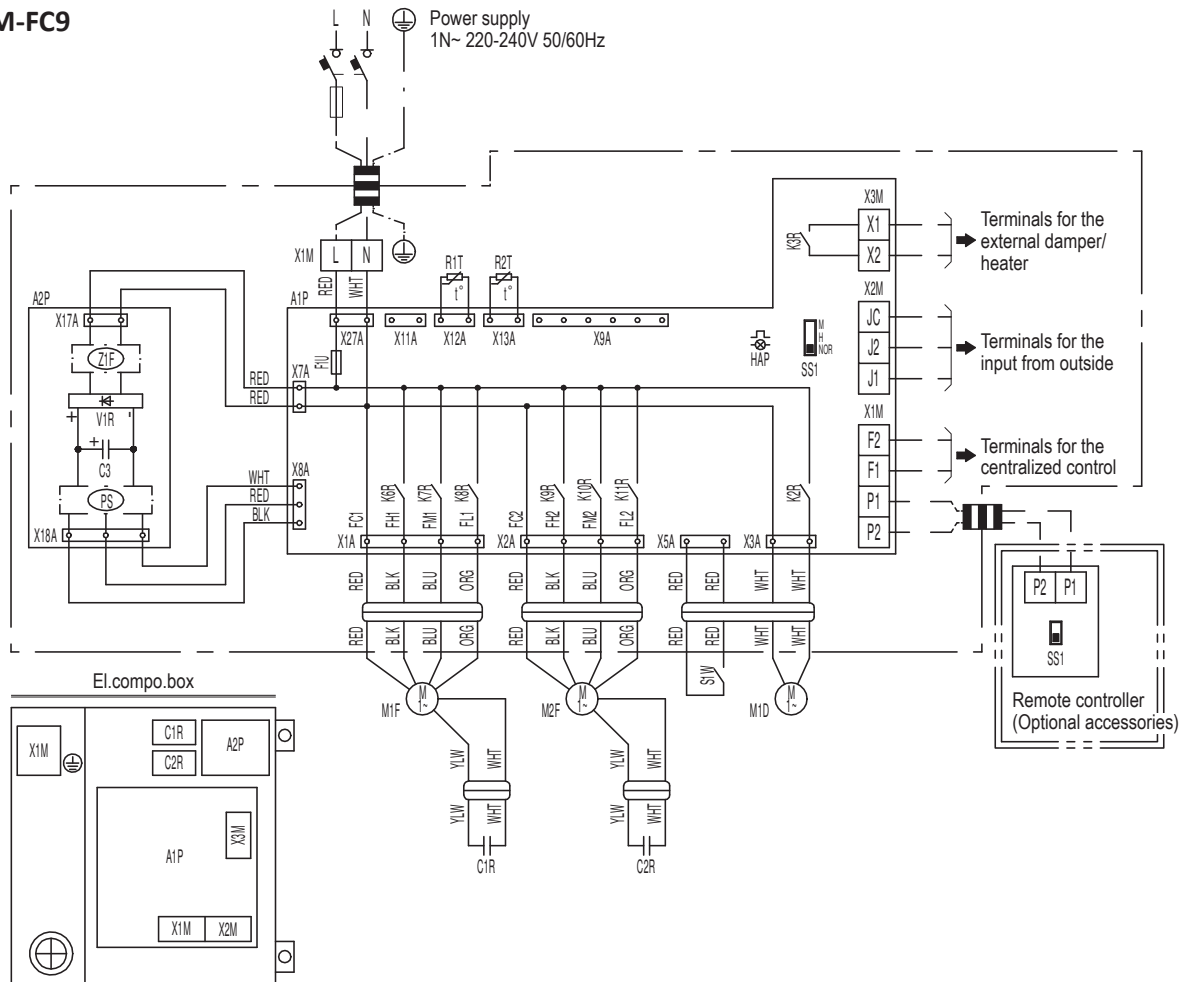


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7 Wiring diagrams

7 - 1 Wiring Diagrams - Single Phase

VAM-FC9



A1P	Printed circuit board (main)	PS (A2P)	Switching power supply
A2P	Printed circuit board (power supply)	R1T	Thermistor (indoor air)
C1R,C2R	Capacitor (M1F,M2F)	R2T	Thermistor (outdoor air)
C3 (A2P)	Capacitor	S1W	Limit switch
F1U (A1P)	Fuse (10A,250V)	SS1 (A1P)	Dip switch
HAP (A1P)	Pilotlamp (service monitor-green)	V1R (A2P)	Power module
K2R (A1P)	Magnetic relay (M1D)	X1M	Terminal block (power supply)
K3R (A1P)	Magnetic relay (external damper/heater)	X1M~X3M (A1P)	Terminal block (control)
K6R~K8R (A1P)	Magnetic relay (M1F)	X*A	Connector
K9R~K11R (A1P)	Magnetic relay (M2F)	Z1F (A2P)	Noise filter (with surge absorber)
M1D	Motor (damper)	Connector for optional accessories	
M1F	Motor (air supply)	X9A (A1P)	Connector (adapter pcb)
M2F	Motor (air exhaust)	X11A (A1P)	Connector (adapter power supply)

NOTES

- This wiring diagram applies only to the outdoor unit.
- Field wiring, terminal block, connector,
 - ⊕ : Protective earth(screw), ⚡ : functional earth,
 - : Earth wiring, - - - : field supply,
 - PCB, switch box, option
- When using the optional accessory, refer to the installation manual of the optional accessory.
- Colors: BLK: black, RED: red, BLU: blue, YLW: yellow, ORG: orange, WHT: white, GRN: green.

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8 Sound data

8 - 1 Sound Power Spectrum

VAM150FC9

Sound power

Model	Fan speed	Hz								Total
		63	125	250	500	1000	2000	4000	8000 [dB]	
VAM150FCVE(9)	U-H	57	55	48	44	41	33	27	22	46
	H	56	54	47	43	40	32	26	22	45
	L	55	49	43	37	33	25	22	23	40

Notes

1. dBA = A-weighted sound power level (A scale according to IEC).
2. Reference acoustic intensity 0dB = $\cdot 10E-6\mu W/m^2$.
3. Measured according to ISO 3744
4. Depending on the operating conditions, reflected sound, and peripheral noise, the operating sound may become higher than this value.

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VAM250FC9

Sound power

Model	Fan speed	Hz								Total
		63	125	250	500	1000	2000	4000	8000 [dB]	
VAM250FCVE(9)	U-H	61	59	52	47	44	37	31	26	50
	H	60	58	51	46	43	36	29	26	49
	L	57	51	45	40	35	27	25	26	42

Notes

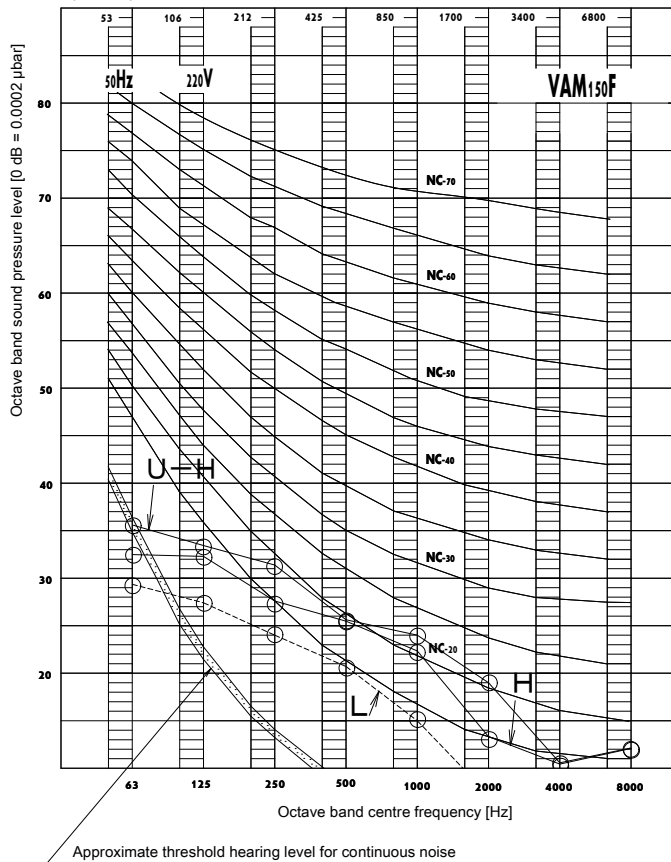
1. dBA = A-weighted sound power level (A scale according to IEC).
2. Reference acoustic intensity 0dB = $\cdot 10E-6\mu W/m^2$.
3. Measured according to ISO 3744
4. Depending on the operating conditions, reflected sound, and peripheral noise, the operating sound may become higher than this value.

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8 Sound data

8 - 2 Sound Pressure Spectrum

VAM150FC9 (220V)



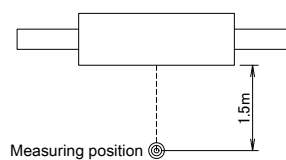
Notes

- Data is valid at nominal operation condition.
- dBA = A-weighted sound pressure level (A scale according to IEC).
- Operating noise varies depending on operation, installation, and ambient conditions.
- Measuring location: anechoic chamber

Total dBA

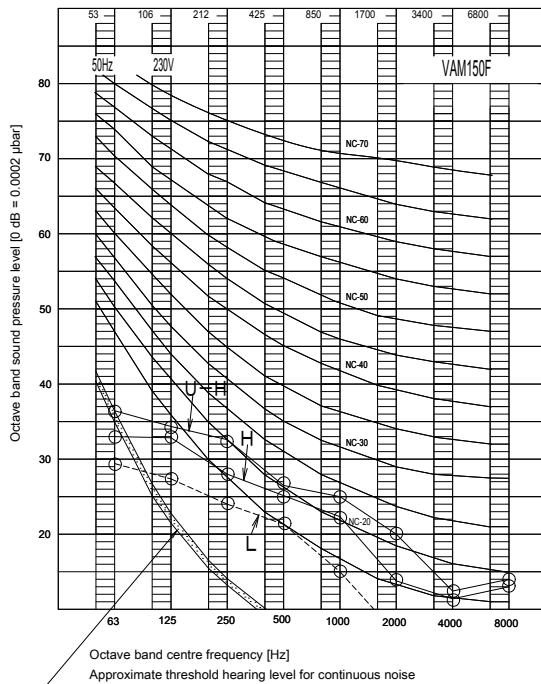
Scale	Air flow rate		
	U-H	H	L
A	27	26	20, 5

Location of microphone



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VAM150FC9 (230V)



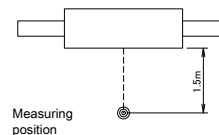
Notes

- Data is valid at nominal operation condition.
- dBA = A-weighted sound pressure level (A scale according to IEC).
- Operating noise varies depending on operation, installation, and ambient conditions.
- Measuring location: anechoic chamber

Total dBA

Scale	Air flow rate		
	U-H	H	L
A	28	27	21

Location of microphone

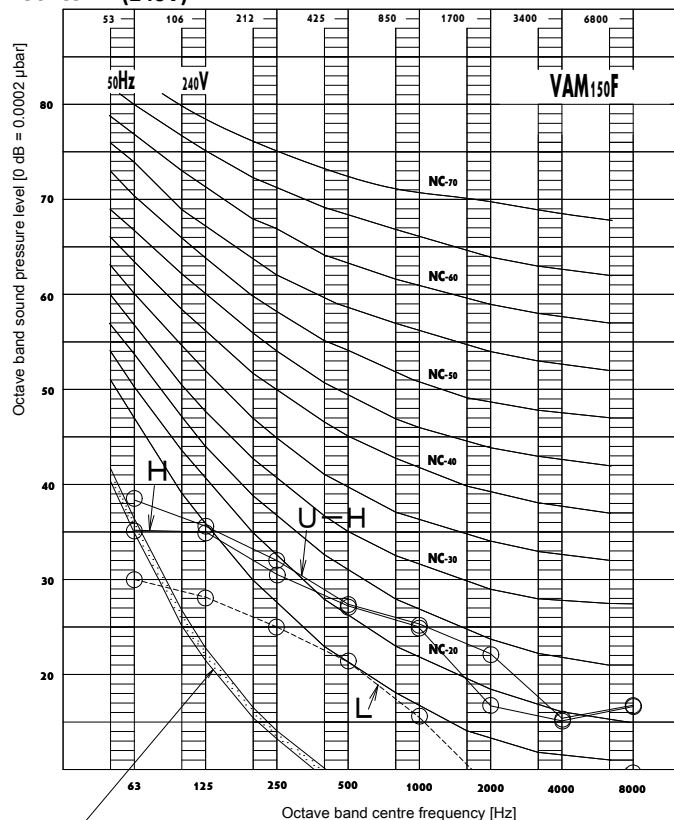


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8 Sound data

8 - 2 Sound Pressure Spectrum

VAM150FC9 (240V)



Approximate threshold hearing level for continuous noise

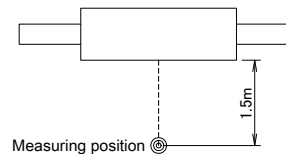
Notes

- Data is valid at nominal operation condition.
- dBA = A-weighted sound pressure level (A scale according to IEC).
- Operating noise varies depending on operation, installation, and ambient conditions.
- Measuring location: anechoic chamber

Total dB

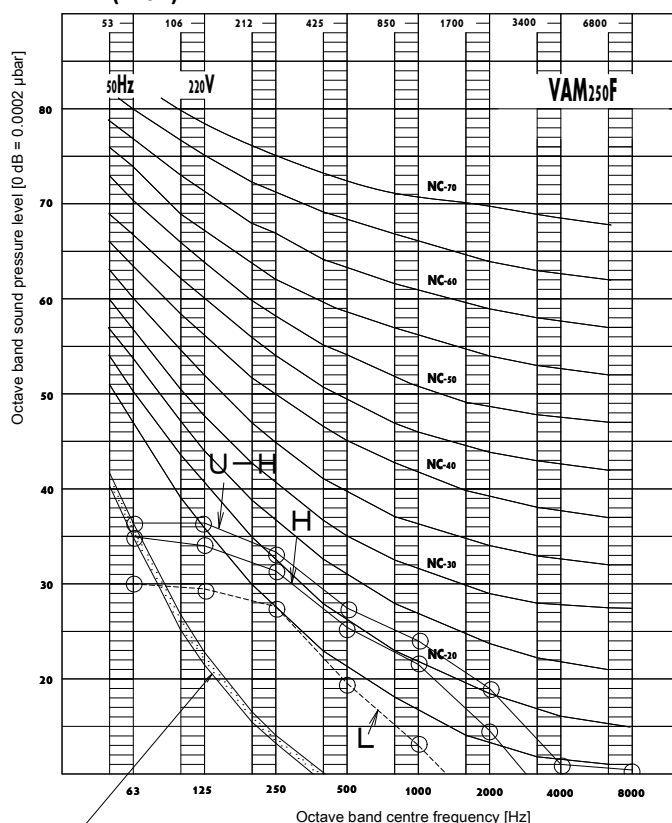
Scale	Air flow rate		
	U-H	H	L
A	28.5	27.5	21.5

Location of microphone



3D099271

VAM250FC9 (220V)



Approximate threshold hearing level for continuous noise

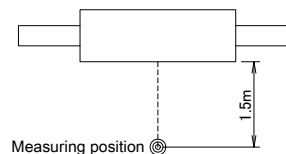
Notes

- Data is valid at nominal operation condition.
- dBA = A-weighted sound pressure level (A scale according to IEC).
- Operating noise varies depending on operation, installation, and ambient conditions.
- Measuring location: anechoic chamber

Total dB

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

Location of microphone

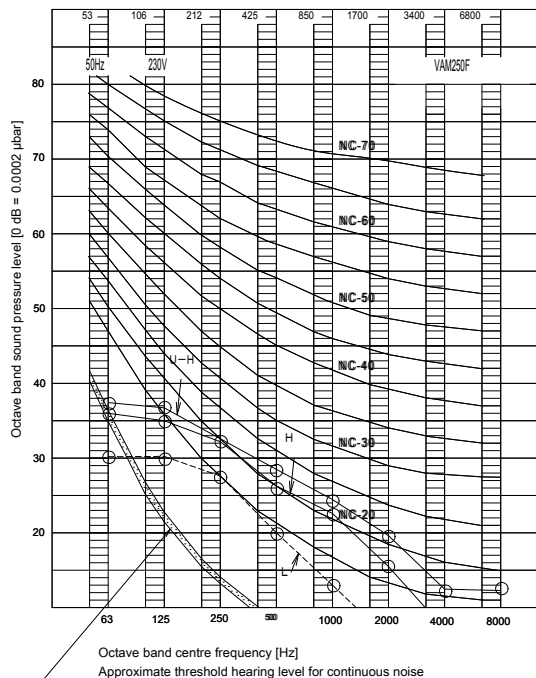


3D099268

8 Sound data

8 - 2 Sound Pressure Spectrum

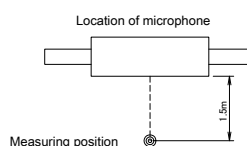
VAM250FC9 (230V)



Notes

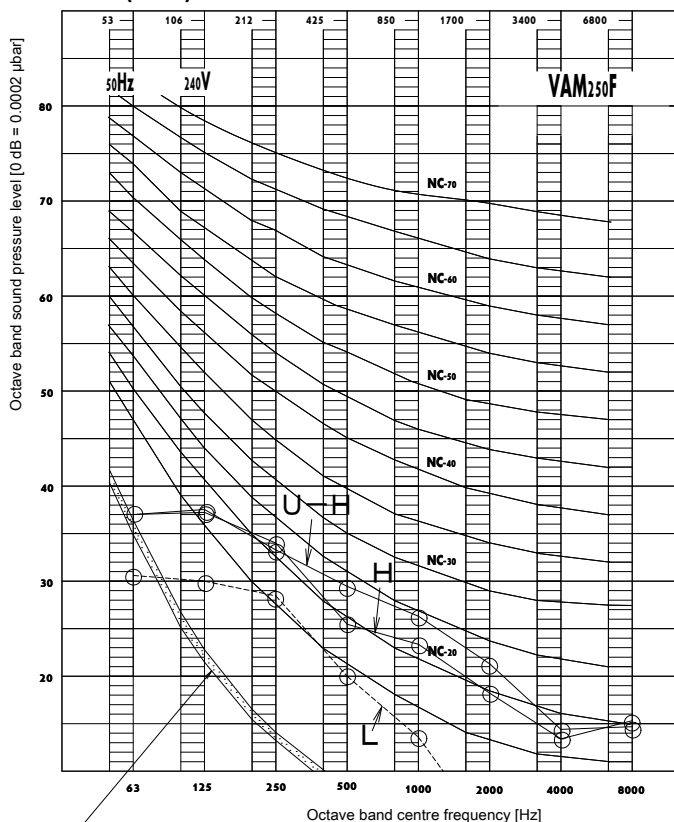
- Data is valid at nominal operation condition. –
- dBA = A-weighted sound pressure level (A scale according to IEC).
- Operating noise varies depending on operation, installation, and ambient conditions. –
- Measuring location: anechoic chamber

Scale	Air flow rate		
	U-H	H	L
A	28.5	26.5	21.5



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VAM250FC9 (240V)

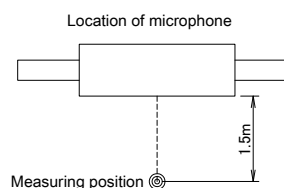


Notes

- Data is valid at nominal operation condition.
- dBA = A-weighted sound pressure level (A scale according to IEC).
- Operating noise varies depending on operation, installation, and ambient conditions.
- Measuring location: anechoic chamber

Total dB

Scale	Air flow rate		
	U-H	H	L
A	29	27	22

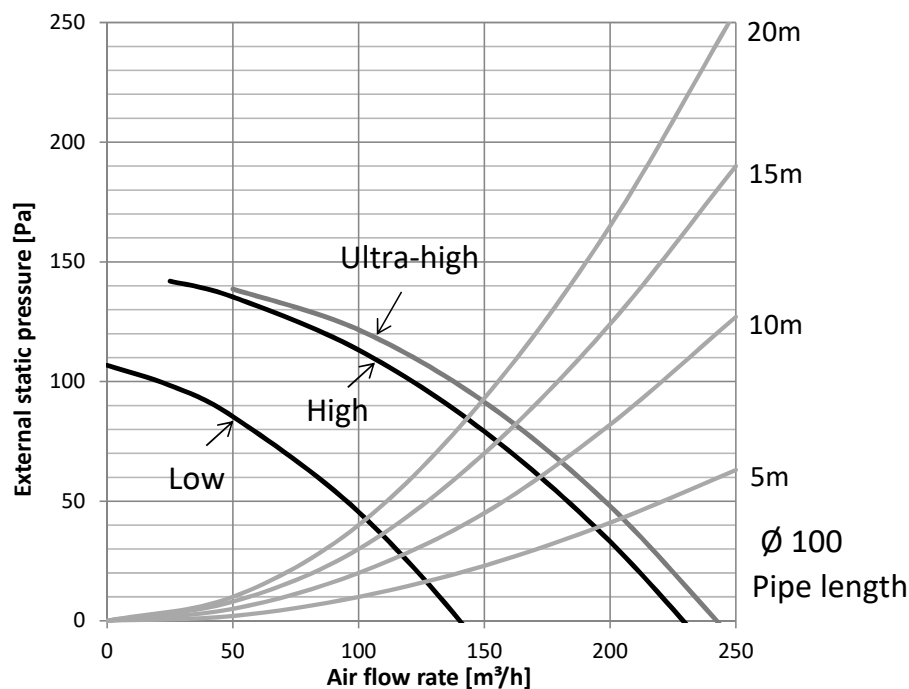


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9 Fan characteristics

9 - 1 Fan Characteristics

VAM150FC9

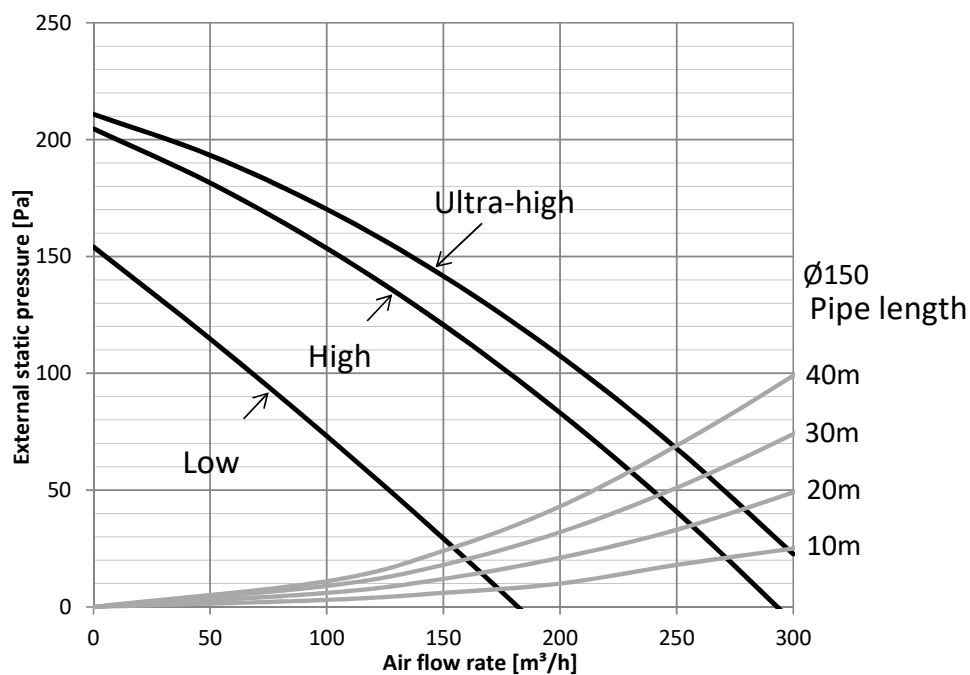


Notes

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

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VAM250FC9



Notes

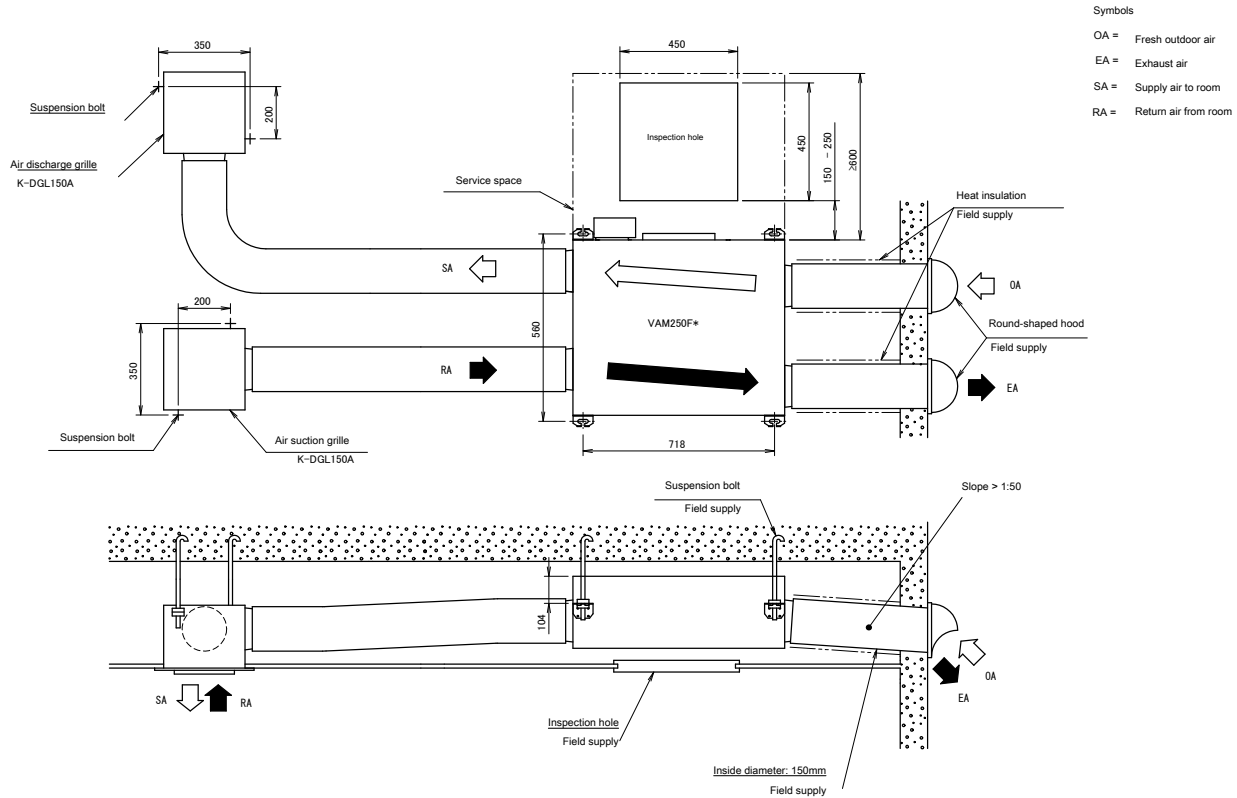
1. The fan speeds are valid for ·230·V, ·50·Hz power supply.

4D100380A

10 Installation

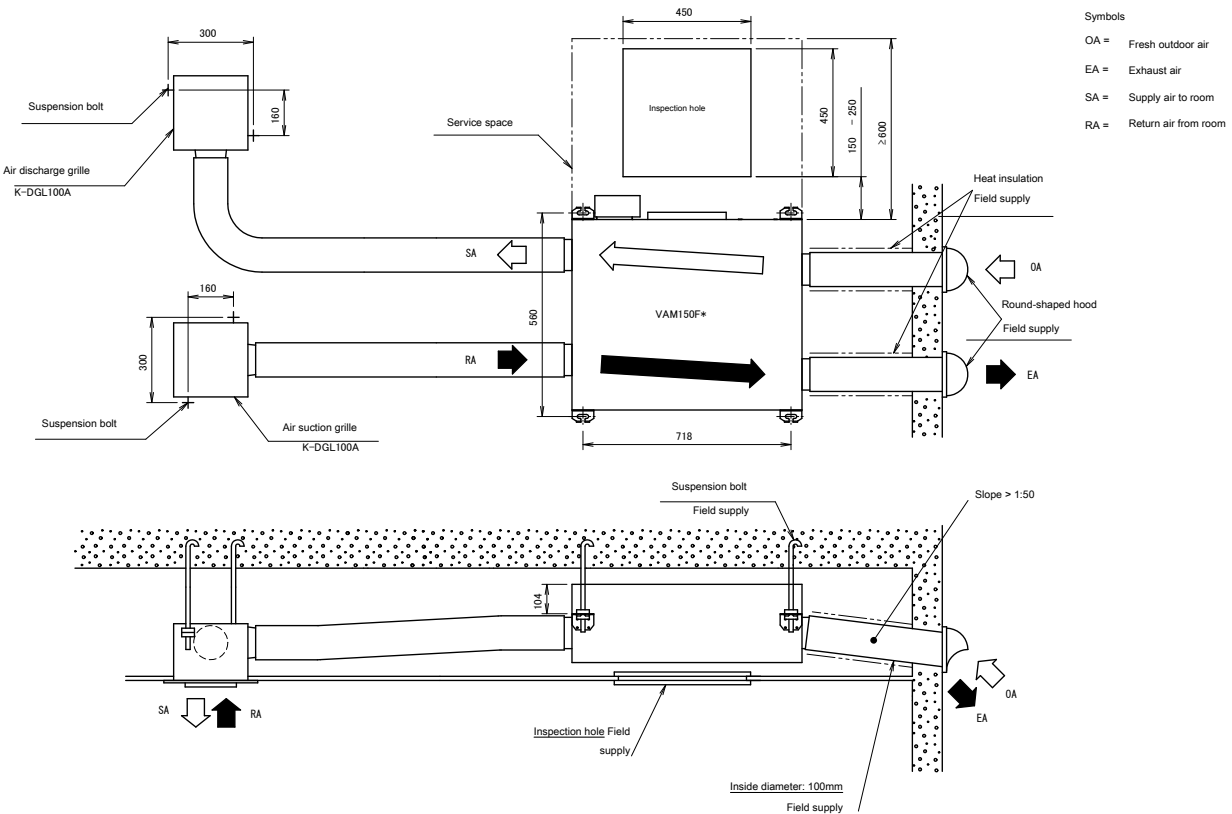
10 - 1 Installation Method

VAM250FC9

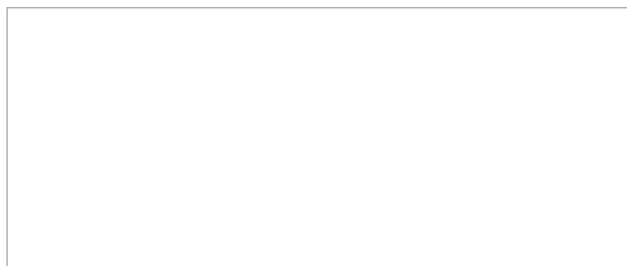


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VAM150FC9



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