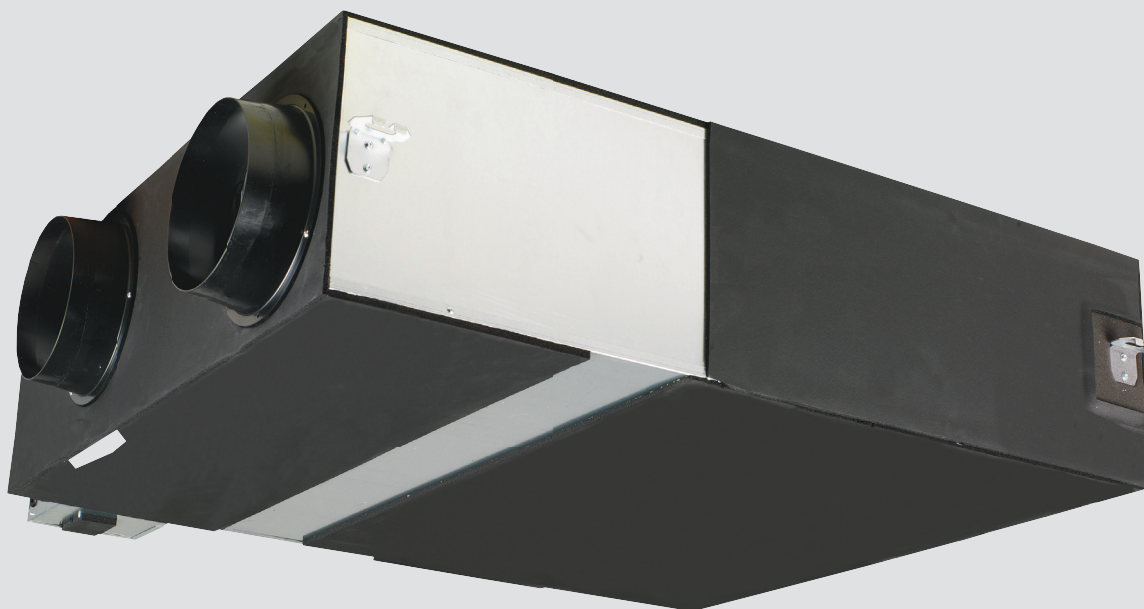


## Ventilation Technical Data

# VAM-J



- > VAM350J7VEB
- > VAM500J7VEB
- > VAM650J7VEB
- > VAM800J7VEB
- > VAM1500J7VEB
- > VAM1000J7VEB

- > VAM2000J7VEB



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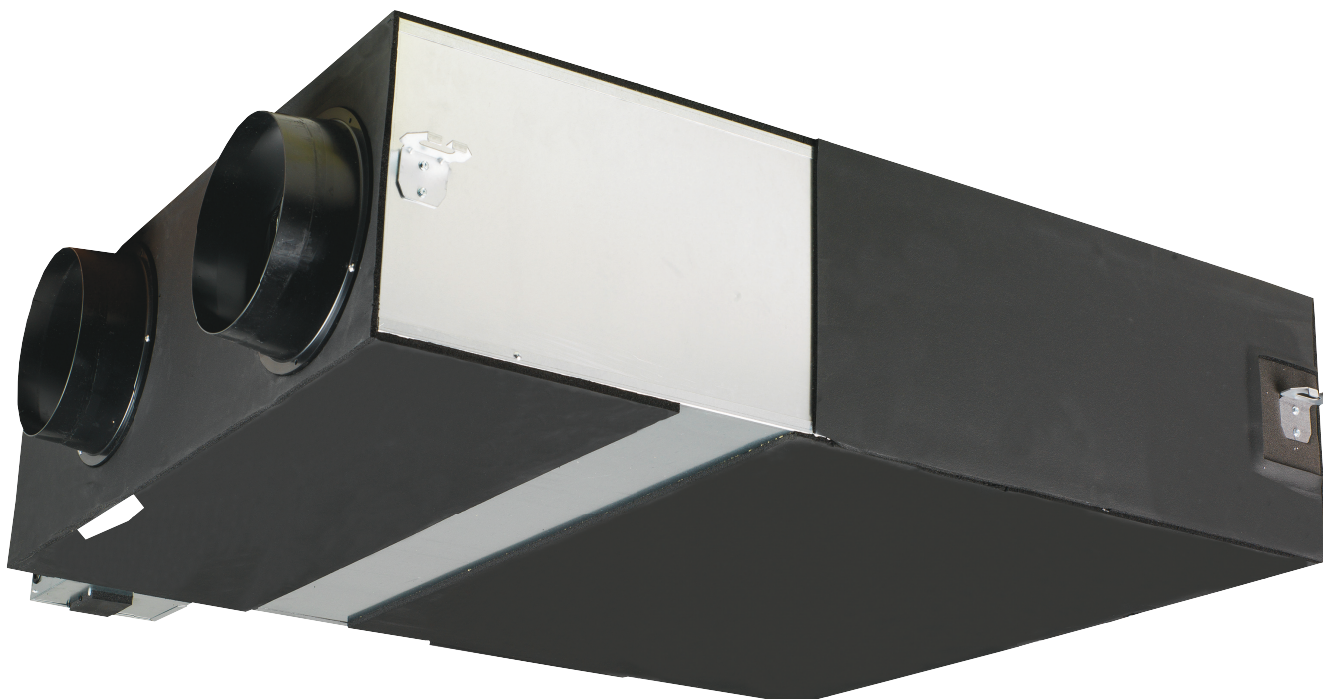
## VAM-J

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# 1 Features

Ventilation with heat recovery as standard

- Wide range of units: air flow rate from 350 up to 2,000 m³/h
- 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
- Prevent energy losses from over-ventilation while improving indoor air quality with optional CO2 sensor
- Can be used as stand alone or integrated in the Sky Air or VRV system
- Optional medium and fine dust filters M6, F7, 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 solution for fresh air with Daikin supply of both VAM / VKM and electrical heaters



## 2 Specifications

| 2-1 Technical Specifications           |                                 |                        |            |      | VAM350J                                                            | VAM500J   | VAM650J   | VAM800J   | VAM1500J  | VAM1000J  | VAM2000J  |
|----------------------------------------|---------------------------------|------------------------|------------|------|--------------------------------------------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|
| Power input - 50Hz                     | Heat exchange mode              | Nom.                   | Ultra high | kW   | 0.097 (1)                                                          | 0.164 (1) | 0.247 (1) | 0.303 (1) | 0.548 (1) | 0.416 (1) | 0.833 (1) |
|                                        |                                 |                        | High       | kW   | 0.070 (1)                                                          | 0.113 (1) | 0.173 (1) | 0.212 (1) | 0.384 (1) | 0.307 (1) | 0.614 (1) |
|                                        |                                 |                        | Low        | kW   | 0.039 (1)                                                          | 0.054 (1) | 0.081 (1) | 0.103 (1) | 0.191 (1) | 0.137 (1) | 0.273 (1) |
|                                        | Bypass mode                     | Nom.                   | Ultra high | kW   | 0.085 (1)                                                          | 0.148 (1) | 0.195 (1) | 0.289 (1) | 0.525 (1) | 0.417 (1) | 0.835 (1) |
|                                        |                                 |                        | High       | kW   | 0.061 (1)                                                          | 0.100 (1) | 0.131 (1) | 0.194 (1) | 0.350 (1) | 0.300 (1) | 0.600 (1) |
|                                        |                                 |                        | Low        | kW   | 0.031 (1)                                                          | 0.045 (1) | 0.059 (1) | 0.086 (1) | 0.156 (1) | 0.119 (1) | 0.239 (1) |
| Temperature exchange efficiency - 50Hz | Ultra high                      |                        |            | %    | 85.1 (1)                                                           | 80.0 (1)  | 84.3 (1)  | 82.5 (1)  | 83.2 (1)  | 79.6 (1)  |           |
|                                        | High                            |                        |            | %    | 86.7 (1)                                                           | 82.5 (1)  | 86.4 (1)  | 84.2 (1)  | 84.8 (1)  | 81.8 (1)  |           |
|                                        | Low                             |                        |            | %    | 90.1 (1)                                                           | 87.6 (1)  | 90.5 (1)  | 87.7 (1)  | 88.1 (1)  | 86.1 (1)  |           |
| Enthalpy exchange efficiency - 50Hz    | Cooling                         | Ultra high             |            | %    | 65.2 (1)                                                           | 59.2 (1)  |           | 67.7 (1)  | 68.9 (1)  | 62.6 (1)  |           |
|                                        |                                 | High                   |            | %    | 67.9 (1)                                                           | 61.8 (1)  | 63.8 (1)  | 70.7 (1)  | 71.8 (1)  | 66.4 (1)  |           |
|                                        |                                 | Low                    |            | %    | 74.6 (1)                                                           | 69.5 (1)  | 73.1 (1)  | 76.8 (1)  | 77.5 (1)  | 74.0 (1)  |           |
|                                        | Heating                         | Ultra high             |            | %    | 75.5 (1)                                                           | 69.0 (1)  | 73.1 (1)  | 72.8 (1)  | 73.8 (1)  | 68.6 (1)  |           |
|                                        |                                 | High                   |            | %    | 77.6 (1)                                                           | 72.2 (1)  | 76.3 (1)  | 75.3 (1)  | 76.1 (1)  | 71.7 (1)  |           |
|                                        |                                 | Low                    |            | %    | 82.0 (1)                                                           | 78.7 (1)  | 82.7 (1)  | 80.2 (1)  | 80.8 (1)  | 77.9 (1)  |           |
| 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                            |           |           |           |           |           |           |
| Dimensions                             | Unit                            | Height                 |            | mm   | 301                                                                |           | 368       |           | 731       | 368       | 731       |
|                                        |                                 | Width                  |            | mm   | 1,120                                                              |           | 1,350     |           |           |           |           |
|                                        |                                 | Depth                  |            | mm   | 868                                                                |           | 917       | 1,170     |           |           |           |
| Weight                                 | Unit                            |                        |            | kg   | 46.5                                                               |           | 61.5      | 79.0      | 157       | 79.0      | 157       |
| Casing                                 | Material                        |                        |            |      | Galvanised steel plate                                             |           |           |           |           |           |           |
| Fan                                    | Type                            |                        |            |      | Sirocco fan                                                        |           |           |           |           |           |           |
|                                        | Air flow rate - 50Hz            | Heat exchan<br>ge mode | Ultra high | m³/h | 350 (1)                                                            | 500 (1)   | 650 (1)   | 800 (1)   | 1,500 (1) | 1,000 (1) | 2,000 (1) |
|                                        |                                 |                        | High       | m³/h | 300 (1)                                                            | 425 (1)   | 550 (1)   | 680 (1)   | 1,275 (1) | 850 (1)   | 1,700 (1) |
|                                        |                                 |                        | Low        | m³/h | 200 (1)                                                            | 275 (1)   | 350 (1)   | 440 (1)   | 825 (1)   | 550 (1)   | 1,100 (1) |
|                                        |                                 | Bypass mode            | Ultra high | m³/h | 350 (1)                                                            | 500 (1)   | 650 (1)   | 800 (1)   | 1,500 (1) | 1,000 (1) | 2,000 (1) |
|                                        |                                 |                        | High       | m³/h | 300 (1)                                                            | 425 (1)   | 550 (1)   | 680 (1)   | 1,275 (1) | 850 (1)   | 1,700 (1) |
|                                        |                                 |                        | Low        | m³/h | 200 (1)                                                            | 275 (1)   | 350 (1)   | 440 (1)   | 825 (1)   | 550 (1)   | 1,100 (1) |
|                                        | External static pressure - 50Hz | Ultra high             |            | Pa   | 90 (1)                                                             |           |           |           |           |           |           |
|                                        |                                 | High                   |            | Pa   | 70.0 (1)                                                           |           |           |           |           |           |           |
|                                        |                                 | Low                    |            | Pa   | 50.0 (1)                                                           |           |           |           |           |           |           |
| Fan motor                              | Quantity                        |                        |            |      | 2                                                                  |           |           |           | 4         | 2         | 4         |
| Air filter                             | Type                            |                        |            |      | Multidirectional fibrous fleeces (G3)                              |           |           |           |           |           |           |
| Sound power level (Lwa)                |                                 |                        |            | dB   | 51                                                                 | 54        | 58        |           | 62        | 61        | 65        |
| Sound pressure level - 50Hz            | Heat exchange mode              | Ultra high             |            | dBA  | 34.5 (1)                                                           | 37.5 (1)  | 39.0 (1)  |           | 42.0 (1)  |           | 45.0 (1)  |
|                                        |                                 | High                   |            | dBA  | 32.0 (1)                                                           | 35.0 (1)  | 36.0 (1)  |           | 39.0 (1)  | 38.5 (1)  | 41.5 (1)  |
|                                        |                                 | Low                    |            | dBA  | 29.0 (1)                                                           | 30.5 (1)  | 31.0 (1)  | 30.5 (1)  | 33.5 (1)  | 32.5 (1)  | 36.0 (1)  |
|                                        | Bypass mode                     | Ultra high             |            | dBA  | 34.5 (1)                                                           | 38.0 (1)  |           | 40.0 (1)  | 42.0 (1)  | 42.5 (1)  | 45.0 (1)  |
|                                        |                                 | High                   |            | dBA  | 32.0 (1)                                                           | 35.0 (1)  | 34.5 (1)  | 36.5 (1)  | 39.0 (1)  | 40.0 (1)  | 41.0 (1)  |
|                                        |                                 | Low                    |            | dBA  | 28.0 (1)                                                           | 29.5 (1)  | 30.5 (1)  |           | 32.5 (1)  |           | 35.0 (1)  |
| Operation range                        | Min.                            |                        |            | °CDB | -10                                                                |           |           |           |           |           |           |
|                                        | Max.                            |                        |            | °CDB | 46                                                                 |           |           |           |           |           |           |
|                                        | Relative humidity               |                        |            | %    | 80% or less                                                        |           |           |           |           |           |           |
|                                        | Around unit                     |                        |            | °CDB | 0°C~40°CDB, 80% RH or less                                         |           |           |           |           |           |           |
|                                        | On coil temperature             | Cooling                | Max.       | °CDB | -                                                                  |           |           |           |           |           |           |
| Heating                                |                                 | Min.                   | °CDB       | -    |                                                                    |           |           |           |           |           |           |
| Connection duct diameter               |                                 |                        |            | mm   | 200                                                                |           | 250       |           | 2x250     | 250       | 2x250     |
| Insulation material                    |                                 |                        |            |      | Closed cell                                                        |           |           |           |           |           |           |
| Safety devices                         | Item                            | 02                     |            |      | Fan motor overcurrent protector                                    |           |           | -         |           |           |           |
|                                        |                                 | 03                     |            |      | Fan motor driver overload protector                                |           |           | -         |           |           |           |
|                                        |                                 | 01                     |            |      | Fuse                                                               |           |           |           |           |           |           |

## 2 Specifications

| 2-1 Technical Specifications      |                                                        |                   | VAM350J                                                                                                                                                                   | VAM500J         | VAM650J         | VAM800J         | VAM1500J         | VAM1000J         | VAM2000J         |
|-----------------------------------|--------------------------------------------------------|-------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|-----------------|-----------------|------------------|------------------|------------------|
| Control systems                   | Wired remote control                                   |                   | BRC1D52 / BRC1E53A7 / BRC1E53B7 / BRC1E53C7                                                                                                                               |                 |                 |                 |                  |                  |                  |
|                                   | Simplified wired remote control for hotel applications |                   | BRC2E52C (heat recovery type) / BRC3E52C (heat pump type)                                                                                                                 |                 |                 |                 |                  |                  |                  |
|                                   | VAM wired remote control                               |                   | BRC301B61                                                                                                                                                                 |                 |                 |                 |                  |                  |                  |
| General                           | Supplier/<br>Manufacturer details                      | Name or trademark | Daikin Europe N.V.                                                                                                                                                        |                 |                 |                 |                  |                  |                  |
|                                   | Product description                                    | Model identifier  | VAM350J7V<br>EB                                                                                                                                                           | VAM500J7V<br>EB | VAM650J7V<br>EB | VAM800J7V<br>EB | VAM1500J7<br>VEB | VAM1000J7<br>VEB | VAM2000J7<br>VEB |
| Type of product                   |                                                        |                   | Bidirectional NRVU / (2)                                                                                                                                                  |                 |                 |                 |                  |                  |                  |
| Type of drive                     |                                                        |                   | variable speed drive                                                                                                                                                      |                 |                 |                 |                  |                  |                  |
| Heat recovery system              |                                                        |                   | recuperative                                                                                                                                                              |                 |                 |                 |                  |                  |                  |
| Thermal efficiency                |                                                        | %                 | 77 (3)                                                                                                                                                                    | 73 (3)          | 74 (3)          | 76 (3)          | 77 (3)           | 73 (3)           |                  |
| Nominal flow rate                 |                                                        | m³/s              | 0.097                                                                                                                                                                     | 0.139           | 0.181           | 0.222           | 0.417            | 0.278            | 0.556            |
| Effective electric power input    |                                                        | kW                | 0.096                                                                                                                                                                     | 0.171           | 0.203           | 0.272           | 0.475            | 0.409            | 0.817            |
| Internal specific fan power       |                                                        | W/(m³/s)          | 465 (2)                                                                                                                                                                   | 663 (2)         | 836 (2)         | 757 (2)         | 721 (2)          | 972 (2)          |                  |
| Maximum external leakage          |                                                        | %                 | ≤9                                                                                                                                                                        | ≤8              |                 |                 |                  |                  |                  |
| Maximum internal leakage          |                                                        | %                 | ≤8                                                                                                                                                                        |                 |                 |                 |                  |                  |                  |
| Filter service warning            |                                                        |                   | Displayed on controller / (4)                                                                                                                                             |                 |                 |                 |                  |                  |                  |
| Instructions for pre-/disassembly |                                                        |                   | <a href="https://www.daikin.eu/en_us/about/daikin-innovations/seasonal-efficiency.html">https://www.daikin.eu/en_us/about/daikin-innovations/seasonal-efficiency.html</a> |                 |                 |                 |                  |                  |                  |
| Face velocity                     |                                                        | m/s               | 0.520                                                                                                                                                                     | 0.740           | 0.720           | 0.670           | 0.620            | 0.830            |                  |
| External pressure                 |                                                        | Pa                | 90.0                                                                                                                                                                      |                 |                 |                 |                  |                  |                  |
| Internal pressure drop            |                                                        | Pa                | 106 (2)                                                                                                                                                                   | 155 (2)         | 196 (2)         | 166 (2)         | 158 (2)          | 216 (2)          |                  |
| Fan efficiency                    |                                                        | %                 | 43.0 (5)                                                                                                                                                                  |                 | 41.9 (5)        | 41.1 (5)        |                  |                  |                  |

| 2-2 Electrical Specifications |                            |             | VAM350J     | VAM500J | VAM650J | VAM800J | VAM1500J | VAM1000J | VAM2000J |
|-------------------------------|----------------------------|-------------|-------------|---------|---------|---------|----------|----------|----------|
| Power supply                  | Name                       |             | VE          |         |         |         |          |          |          |
|                               | Phase                      |             | 1~          |         |         |         |          |          |          |
|                               | Frequency                  | Hz          | 50/60       |         |         |         |          |          |          |
|                               | Voltage                    | V           | 220-240/220 |         |         |         |          |          |          |
| Voltage range                 | Min.                       | %           | -10         |         |         |         |          |          |          |
|                               | Max.                       | %           | 10          |         |         |         |          |          |          |
| Current                       | Minimum circuit amps (MCA) |             | 1.56        | 2.08    | 2.80    | 4.39    | 8.78     | 4.90     | 9.80     |
|                               | Maximum fuse amps (MFA)    |             | 16.0        |         |         |         |          |          |          |
|                               | Fan motor rated output     |             | 0.08x2      |         | 0.106x2 | 0.210x2 | 0.210x4  | 0.210x2  | 0.210x4  |
|                               | Full load amps (FLA)       | Fan motor   | 0.620       | 0.830   | 1.12    | 1.76    |          | 1.96     |          |
|                               |                            | Fan motor 2 | 0.620       | 0.830   | 1.12    | 1.76    |          | 1.96     |          |
|                               |                            | Fan motor 3 | -           |         |         |         | 1.76     | -        | 1.96     |
|                               |                            | Fan motor 4 | -           |         |         |         | 1.76     | -        | 1.96     |

### Notes

(1) Measured according to JIS B 8628 - 2003

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

(3) Measured according to EN308 : 1997

(4) 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.

(5) In accordance with regulation (EU) No 327/2011

Voltage range: units are suitable for use on electrical systems where voltage supplied to unit terminal is not below or above listed range limits.

$MCA = 1.25 \times (FLA(FM1) + FLA(FM2) + FLA(FM3) + FLA(FM4))$

MCA represents maximum input current.

$MFA \leq 4 \times (FLA(FM1) + FLA(FM2) + \dots)$

Select wire size based on the value of MCA

Fan step 8 is nominal specs.

The unit complies for "Code du travail" and "ERP 5e catégorie" applications according to French legislation.

"Code du travail" applications are non-public buildings (example offices).

"ERP (Etablissement Recevant du Public) de 5e catégorie" are smaller shops, hotels etc

# 3 Options

## 3 - 1 Options

VAM-J

Type Ceiling-mounted  
Installation with duct

| Item            |                             |                                          | Model                                |             |             |                 |               |              |
|-----------------|-----------------------------|------------------------------------------|--------------------------------------|-------------|-------------|-----------------|---------------|--------------|
|                 |                             |                                          | VAM350J7VEB                          | VAM500J7VEB | VAM650J7VEB | VAM800J7VEB     | VAM1000J7VEB  | VAM1500J7VEB |
| Control systems | Remote control              |                                          | BRC301B61                            |             |             |                 |               |              |
|                 | Remote control   Wired type |                                          | BRC1D52                              |             |             |                 |               |              |
|                 |                             |                                          | BRC1E53A7 / BRC1E53B7 / BRC1E53C7 *  |             |             |                 |               |              |
|                 | Centralised control systems | Central remote control                   | DCS302CS1                            |             |             |                 |               |              |
|                 |                             | Unified ON/OFF controller                | DCS301B51                            |             |             |                 |               |              |
|                 |                             | Schedule timer                           | DST301B51                            |             |             |                 |               |              |
|                 |                             | iTouch Manager                           | DCM601A51                            |             |             |                 |               |              |
|                 |                             | iTouch Controller                        | DCS601CS1                            |             |             |                 |               |              |
|                 |                             | iTab Controller                          | DCC601A51                            |             |             |                 |               |              |
|                 |                             | Modbus DIII adaptor                      | EKMBDXA7V1                           |             |             |                 |               |              |
|                 | Adaptor PCB                 | Wiring adaptor for electrical appendices | KRP2A51 + Installation box KRP1BA101 |             |             |                 |               |              |
|                 |                             | For heaters                              | BRP4A50A                             |             |             |                 |               |              |
|                 |                             | Mounting plate                           | ----                                 | EKMP65VAM** |             | ----            |               | EKMPVAM **   |
| Miscellaneous   | Plenum chamber              | Model                                    | ---                                  |             |             |                 | EKPLEN200**** |              |
|                 |                             | Outside diameter [mm]                    | ø350                                 |             |             |                 |               |              |
|                 | High-efficiency filter      | EN779 M6                                 | EKAFVJ50F6                           | EKAFVJ65F6  | EKAFVJ100F6 | EKAFVJ100F6 x 2 |               |              |
|                 |                             | EN779 F7                                 | EKAFVJ50F7                           | EKAFVJ65F7  | EKAFVJ100F7 | EKAFVJ100F7 x 2 |               |              |
|                 |                             | EN779 F8                                 | EKAFVJ50F8                           | EKAFVJ65F8  | EKAFVJ100F8 | EKAFVJ100F8 x 2 |               |              |
| CO2 Sensor      |                             | BRYMA65                                  |                                      | BRYMA100    |             | BRYMA200        |               |              |

### Notes

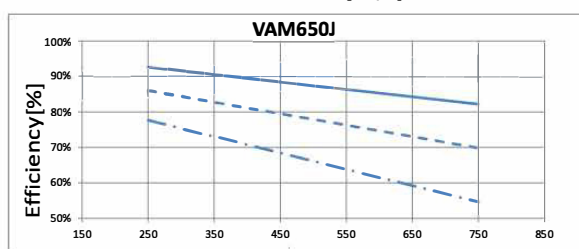
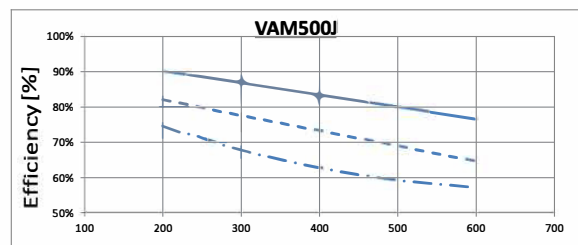
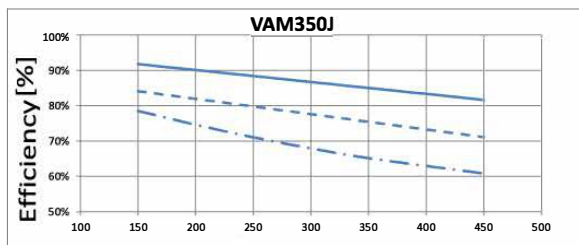
- \* BRC1E53A7 Included languages are: English, German, French, Italian, Spanish, Portuguese, and Dutch.
- \* BRC1E53B7 Included languages are: English, Czech, Croatian, Hungarian, Slovenian, Romanian, and Bulgarian.
- \* BRC1E53C7 Included languages are: English, Russian, Greek, Turkish, Polish, Albanian, and Slovak.
- \*\* To install an adaptor PCB on VAM1500J/VAM2000J units, mounting plate EKMPVAM is required.
- \*\*\* To install an adaptor PCB on VAM650J units, mounting plate EKMP65VAM is required.
- \*\*\*\* Plenum chamber to merge either 2 air inlets or 2 air outlets. Up to 4 plenum chambers can be connected.
7. If you order 1 filter set, you can use it for either supply side or exhaust side. To provide both sides with filters, 2 filter sets are required.

3D112829

## 4 Exchange efficiency

### 4 - 1 Exchange efficiency

#### VAM350-650J



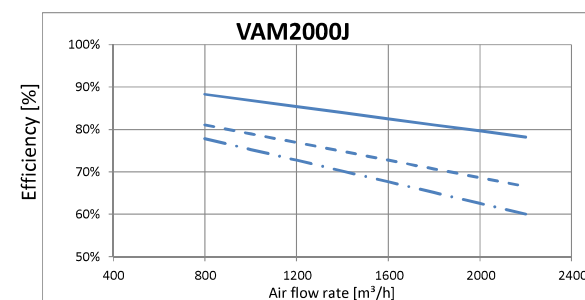
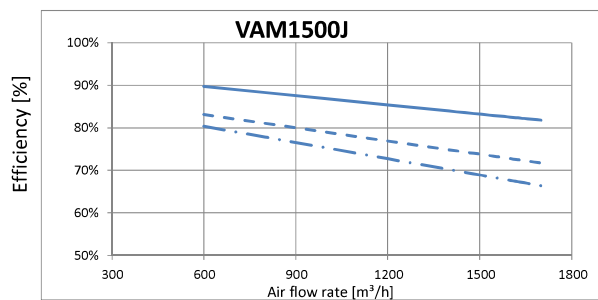
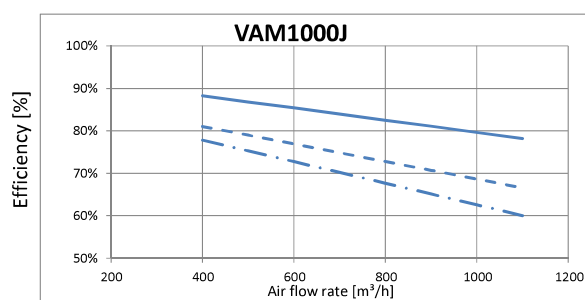
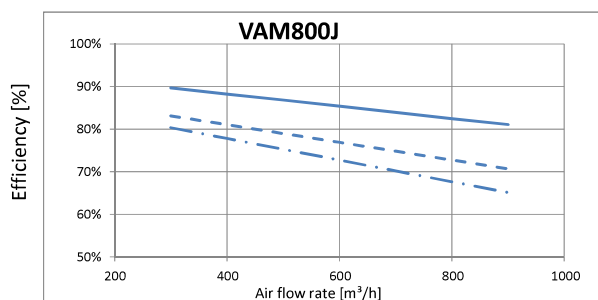
— Temperature exchange efficiency (heating)  
- - - Enthalpy exchange efficiency (heating)  
- · - Enthalpy exchange efficiency (cooling)

#### Notes

1. Efficiency according to JIS B 8628-2003.

3D113504

#### VAM800-2000J



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

#### Notes

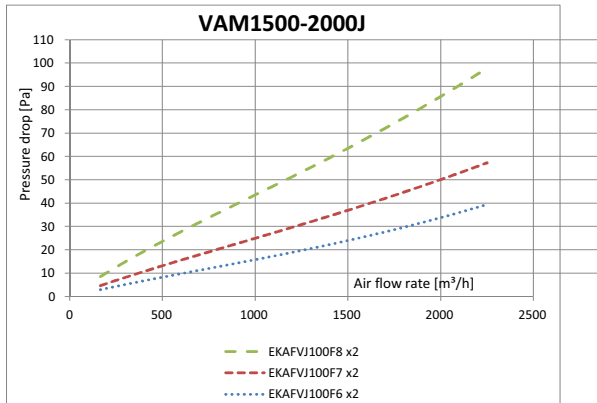
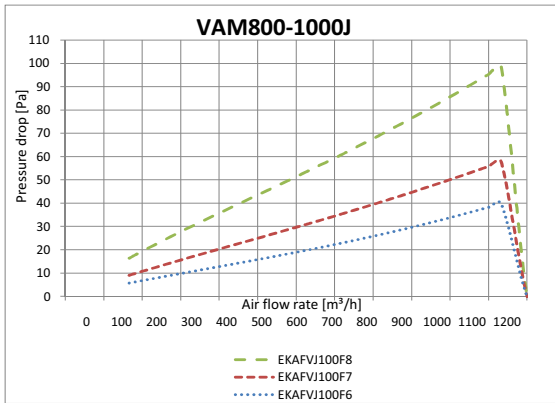
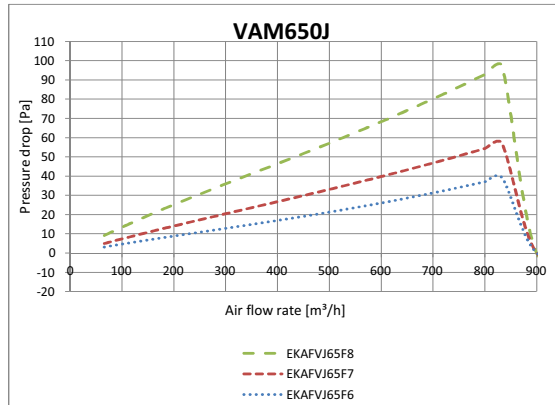
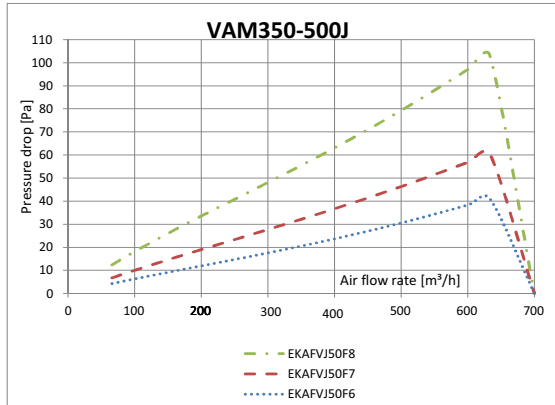
1. Efficiency according to JIS B 8628-2003.

3D112834

# 4 Air filter characteristics

## 4 - 2 Air filter characteristics

VAM-J

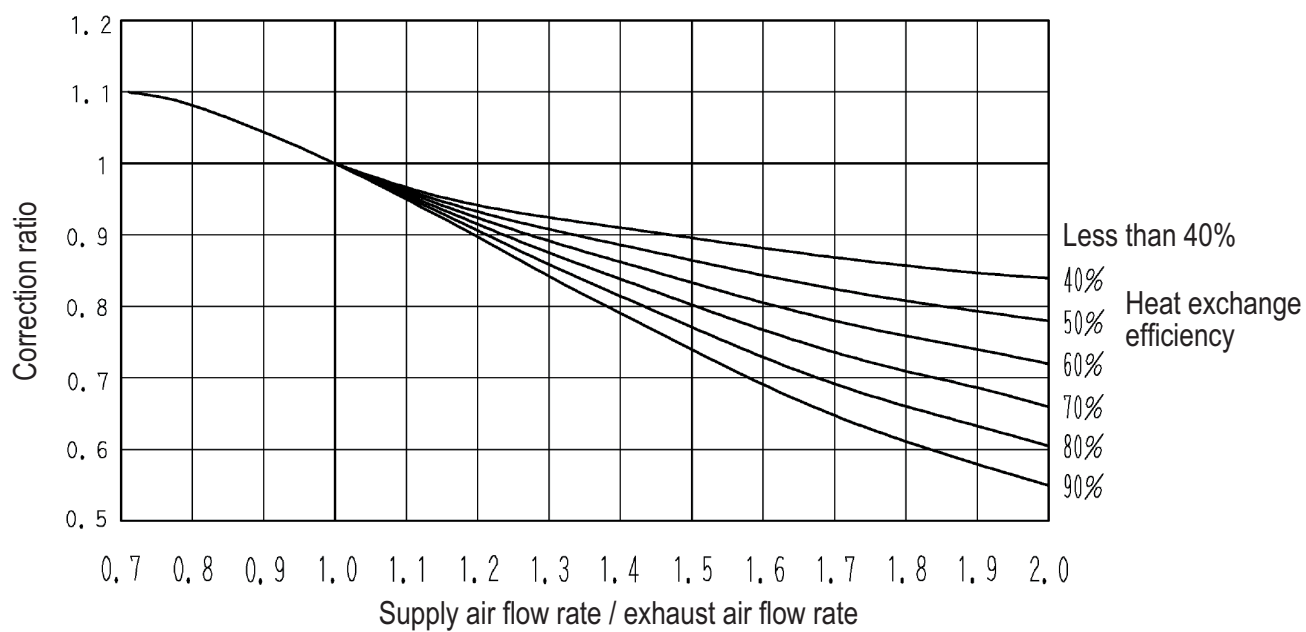


3D112840

## 4 Exchange efficiency

### 4 - 1 Exchange efficiency

VAM800-2000J

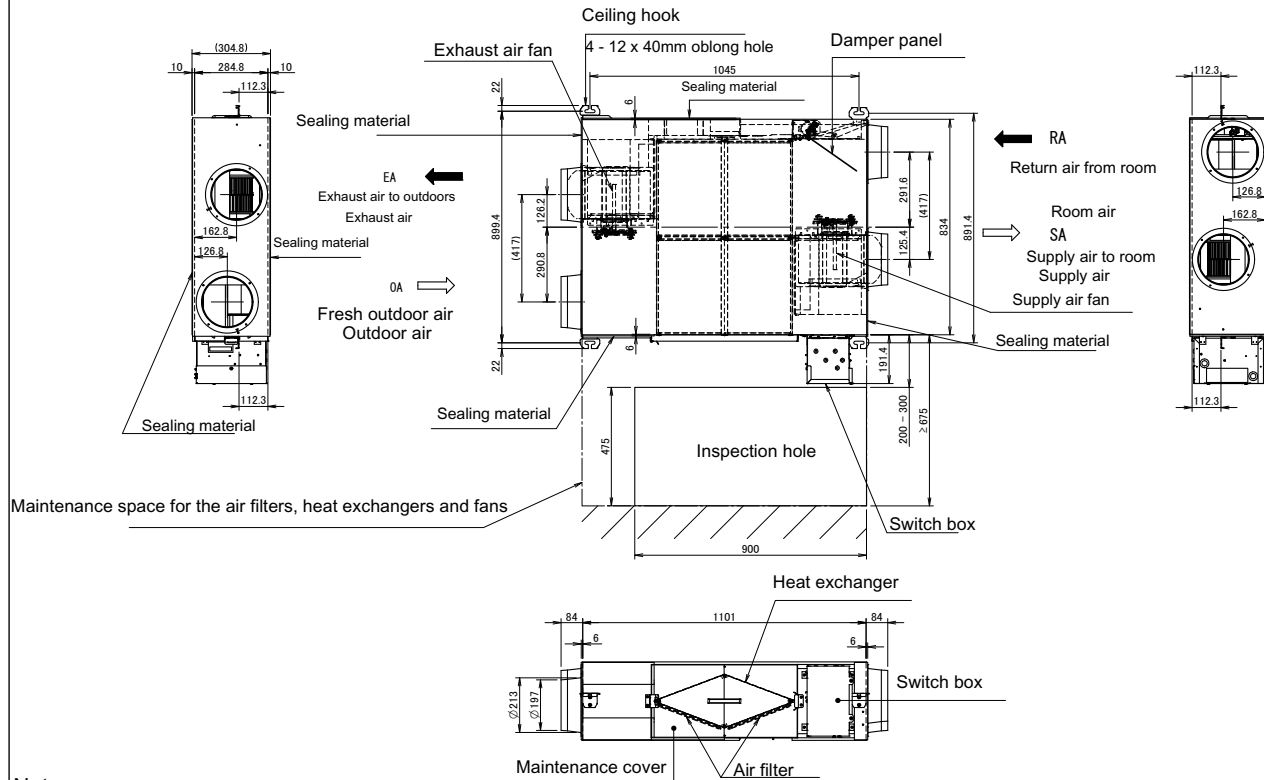


4D023764A

## 5 Dimensional drawings

### 5 - 1 Dimensional Drawings

#### VAM350-500J

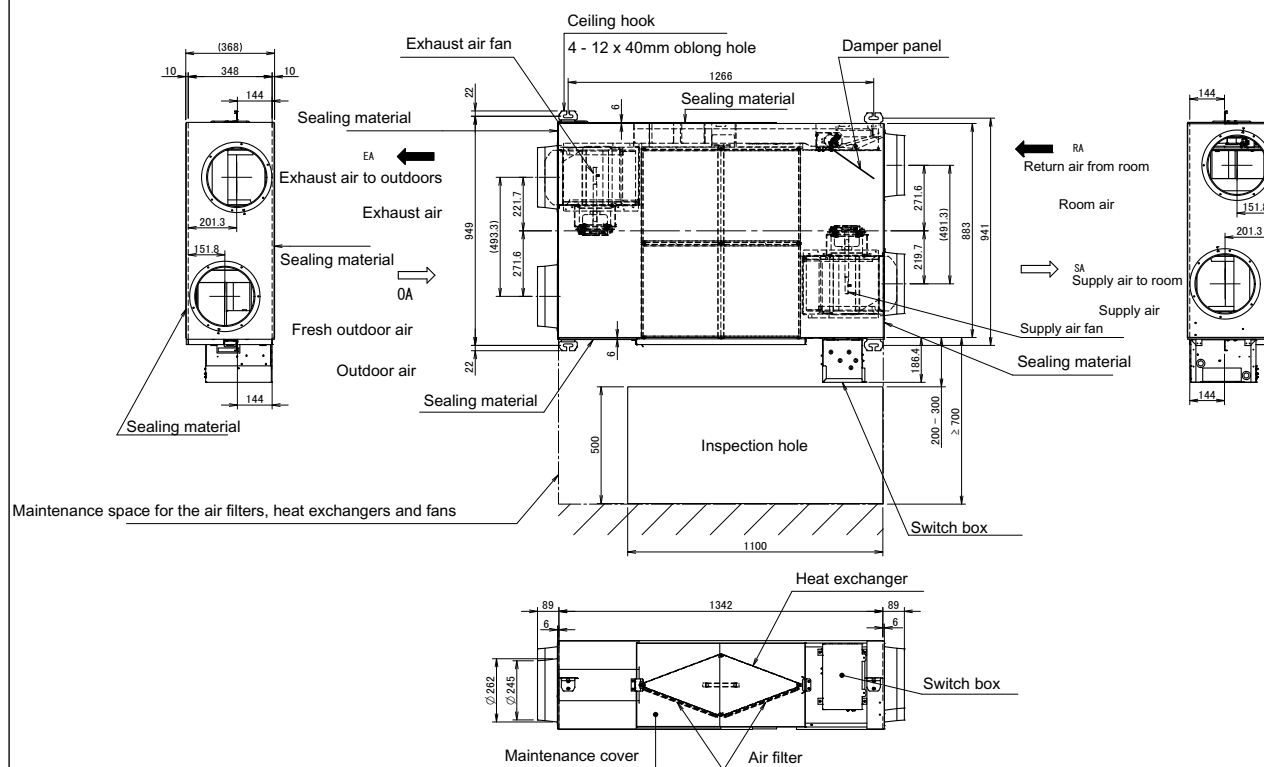


#### Notes

- To allow for the inspection of the air filters, heat exchangers, and fans, be sure to provide the inspection hole.

3D112815A

#### VAM650J



#### Notes

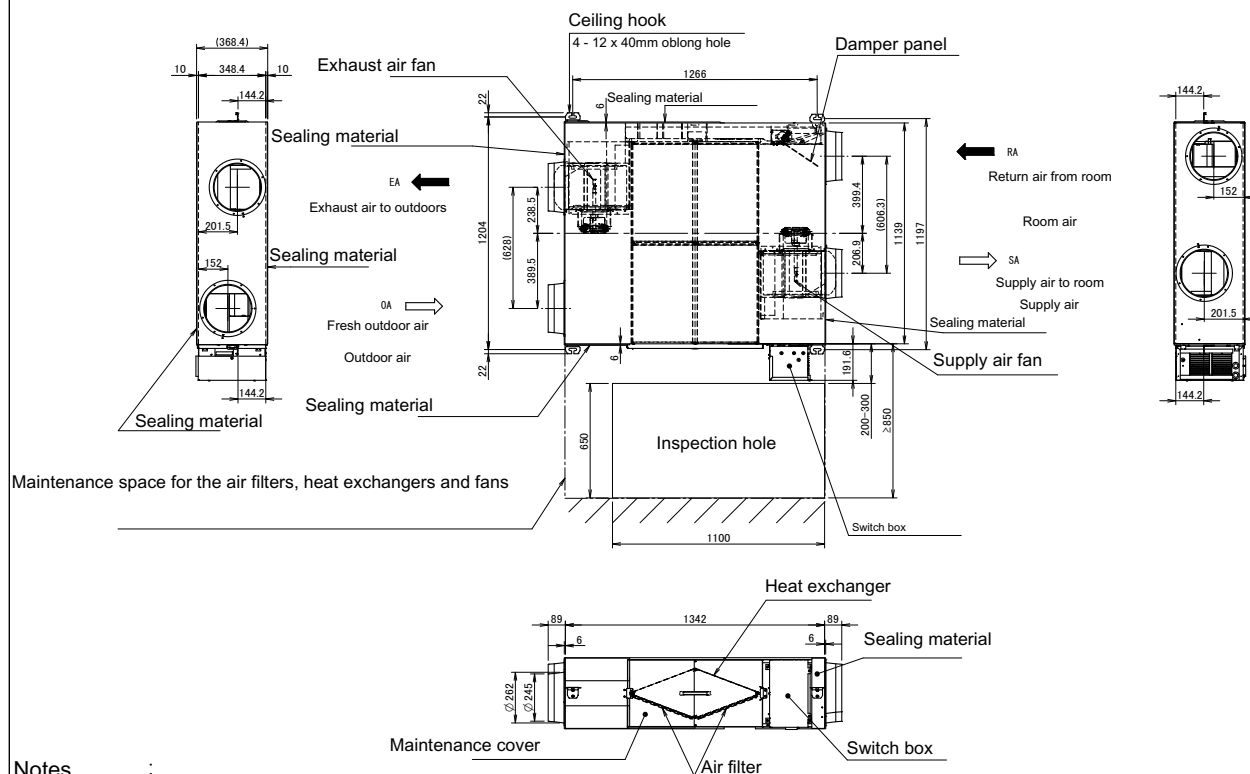
- To allow for the inspection of the air filters, heat exchangers, and fans, be sure to provide the inspection hole.

3D112816A

## 5 Dimensional drawings

### 5 - 1 Dimensional Drawings

#### VAM800-1000J

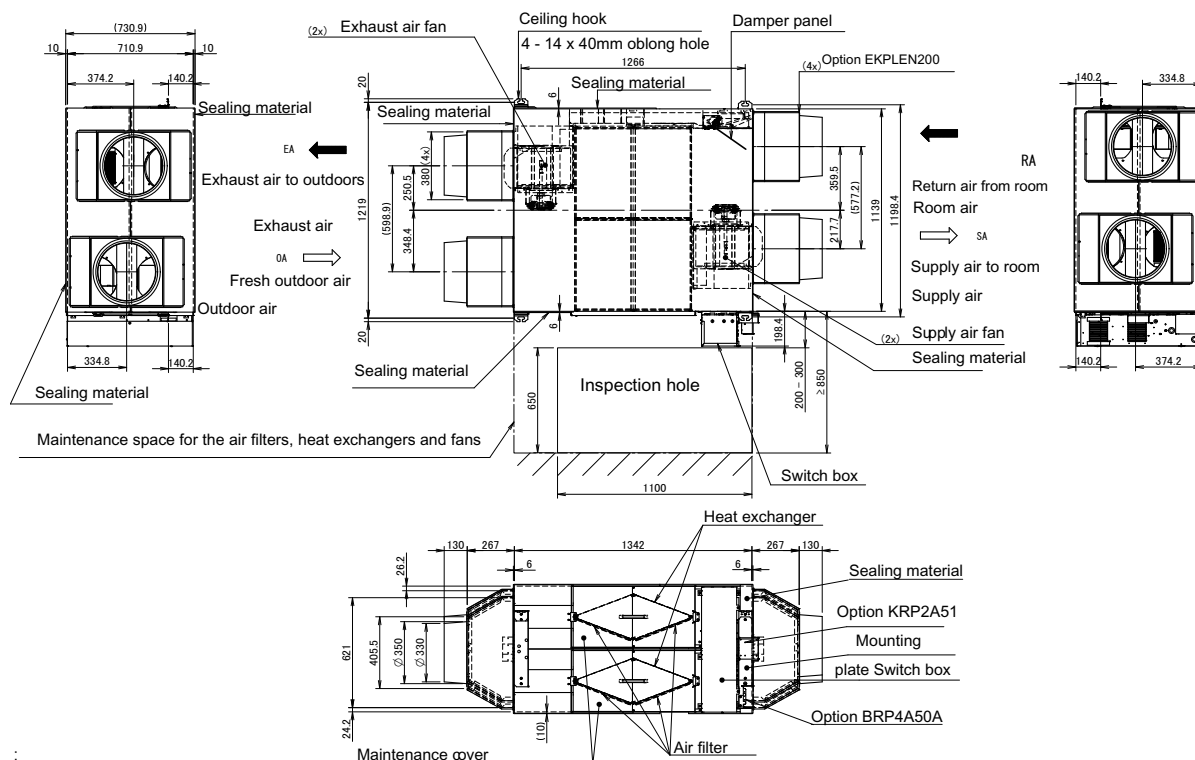


Notes :

1. To perform maintenance on the air filter, it is required to provide a service access panel.

3D112817B

#### VAM1500-2000J



Notes :

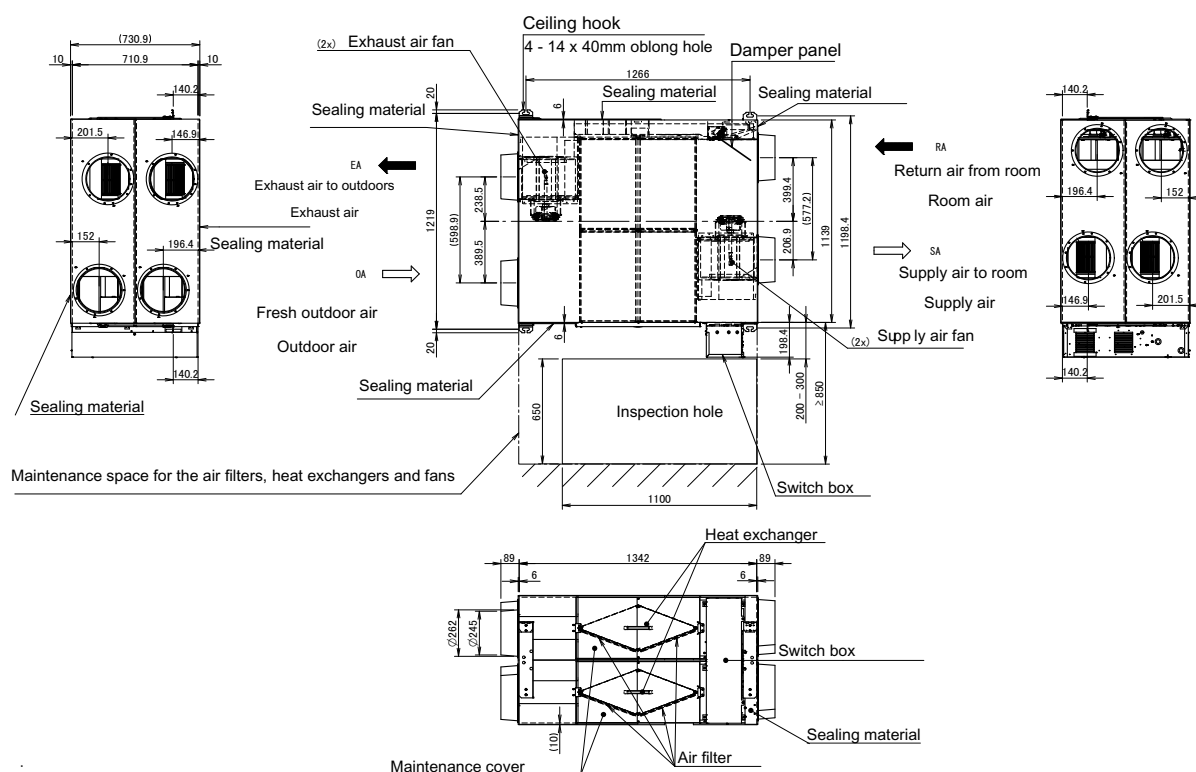
1. To allow for the inspection of the air filters, heat exchangers, and fans, be sure to provide the inspection hole.

3D112818A

## 5 Dimensional drawings

### 5 - 1 Dimensional Drawings

#### VAM1500-2000J



#### Notes

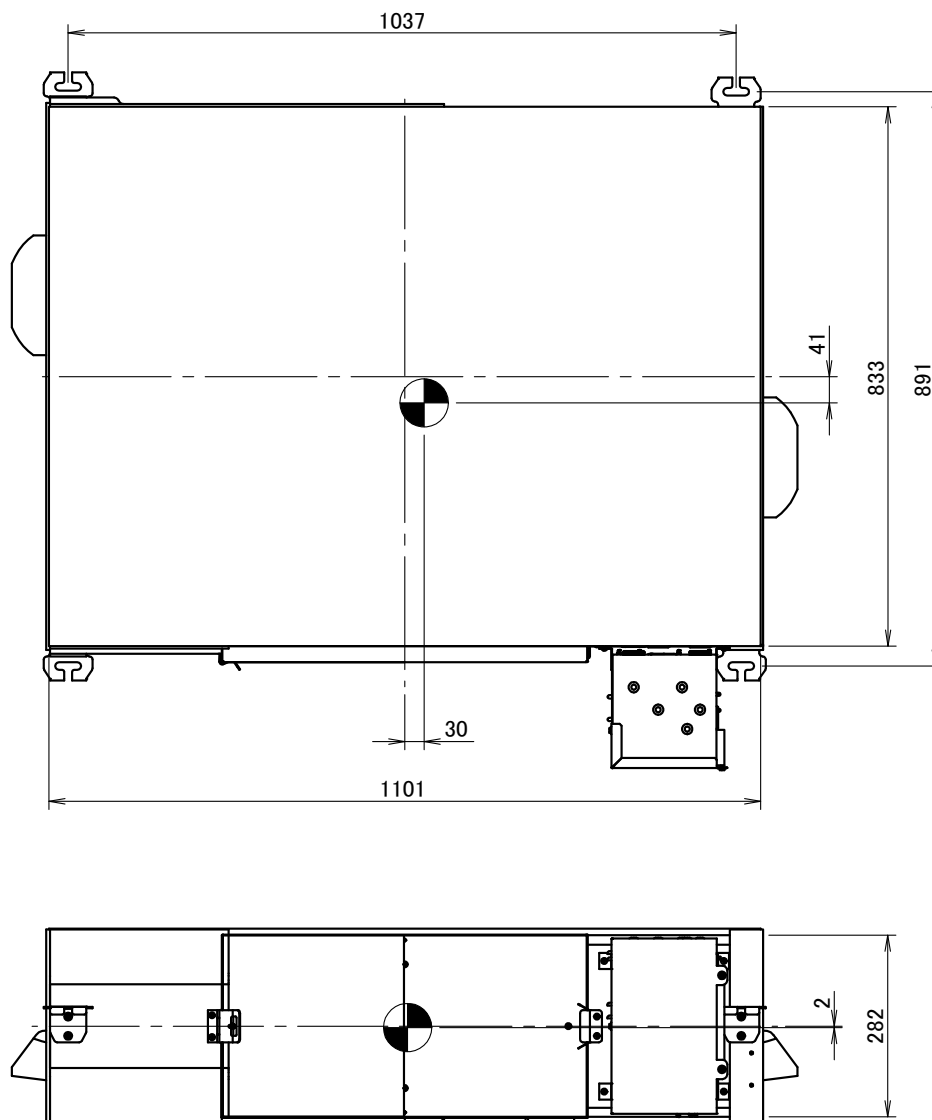
1. To perform maintenance on the air filter, it is required to provide a service access panel.

3D112828A

## 6 Centre of gravity

### 6 - 1 Centre of Gravity

VAM350-500J

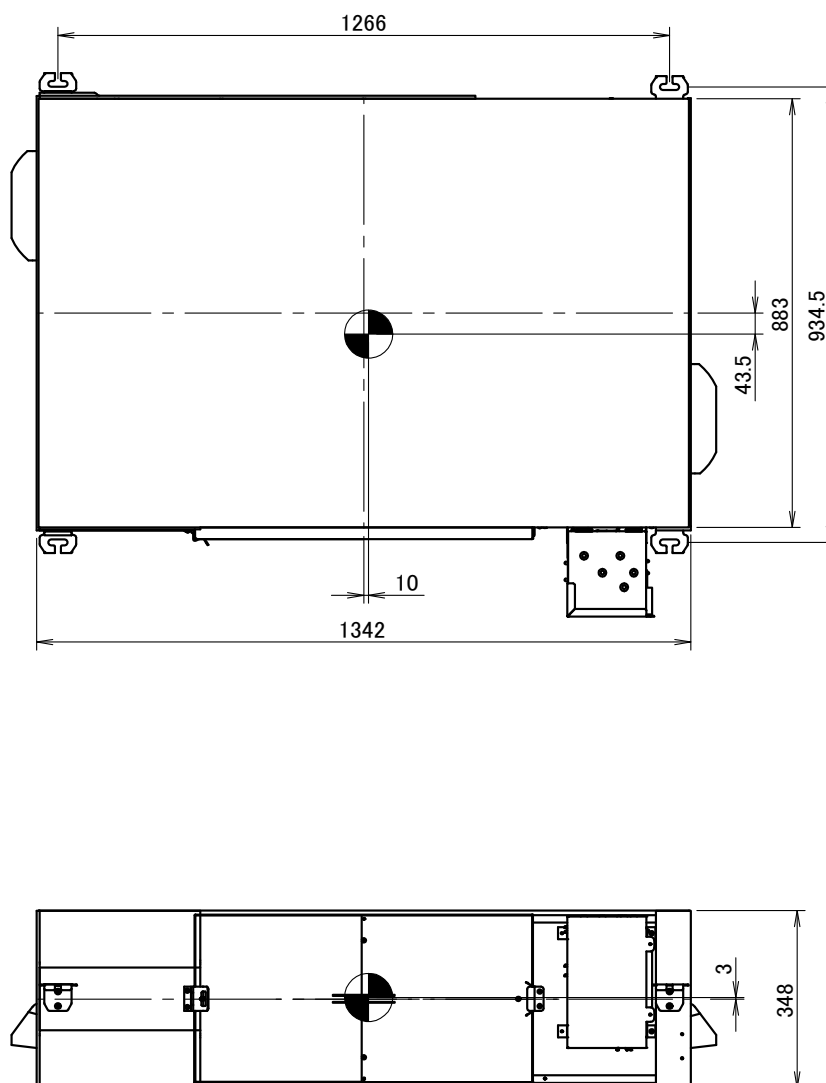


4D112821

## 6 Centre of gravity

### 6 - 1 Centre of Gravity

#### VAM650J

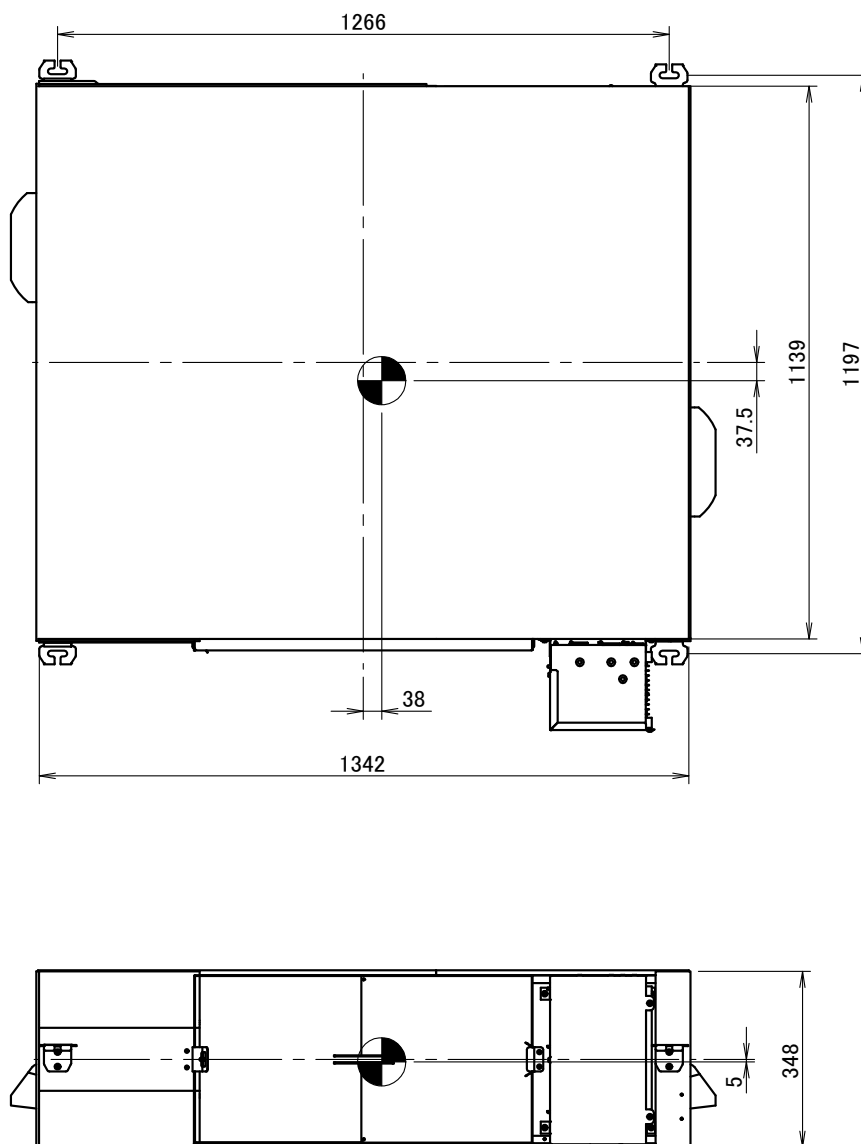


4D113503

## 6 Centre of gravity

### 6 - 1 Centre of Gravity

VAM800-1000J

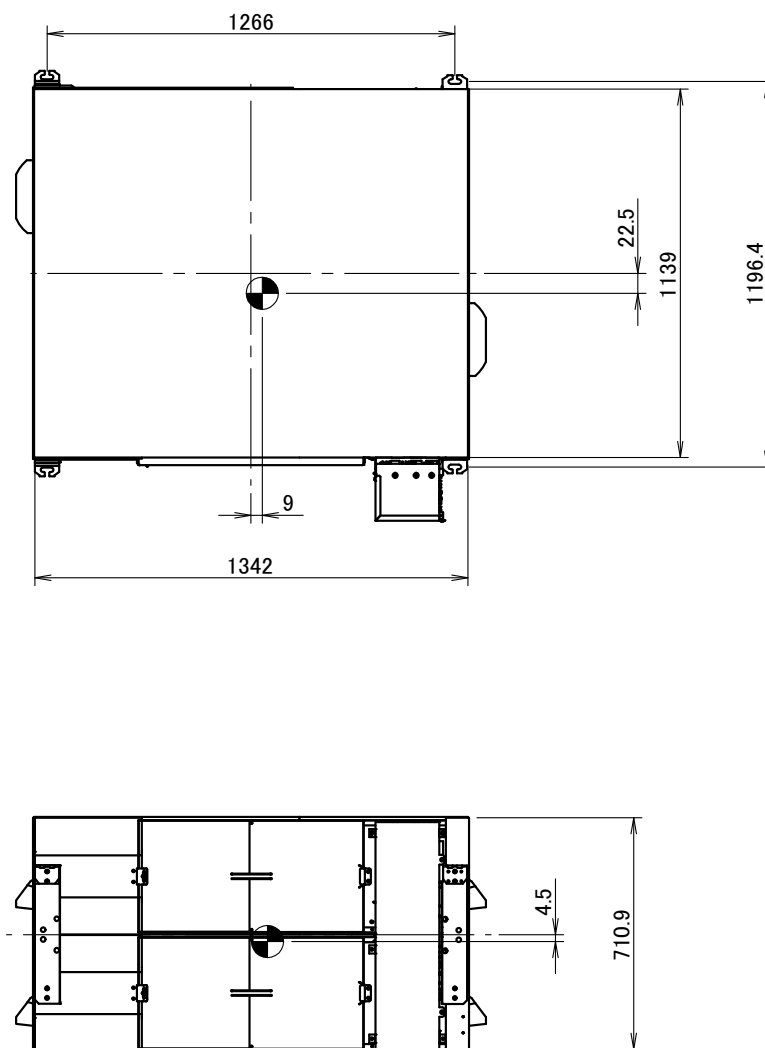


4D112820A

## 6 Centre of gravity

### 6 - 1 Centre of Gravity

#### VAM1500-2000J



4D112822

# 7 Wiring diagrams

## 7 - 1 Wiring Diagrams - Single Phase

### VAM350-650J

#### NOTES to go through before starting the unit

1. Symbols:

— : Earth wiring

15 : Wire number 15

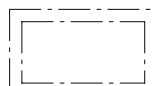
- - - : Field wire

 : Field cable

→ \*\*/12.2 : Connection \*\* continues on page 12 column 2

①

: Several wiring possibilities



: Option



: Wiring depending on model



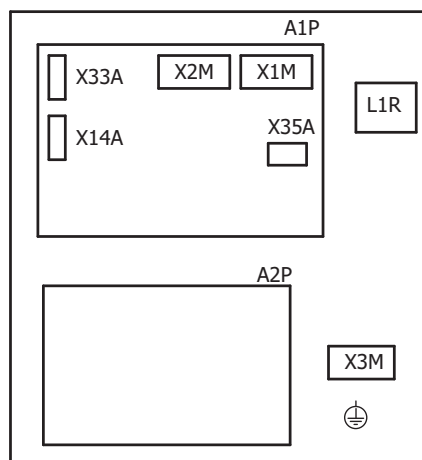
: Not mounted in switch box



: PCB

- In case you use the central remote control, connect it to the unit in accordance with the attached manual.
- When connecting the input wires from outside, fresh-up or on/off control operation can be selected. (Contact with a minimum applicable load of 12 DC, 1mA)
- For details of connection see the attached manual of the option kit.
- SS1 has already been set to 'NOR.' at the factoryset. The unit will not run if the setting is changed.

#### POSITION IN SWITCH BOX



4D112850

### VAM350-650J

#### LEGEND

| Part n°   | Description                                  | Part n°                            | Description                  |
|-----------|----------------------------------------------|------------------------------------|------------------------------|
| A1P       | main PCB                                     | R2T                                | thermistor outdoor air       |
| A2P       | fan PCB                                      | R3T (A1P)                          | thermistor PTC               |
| C* (A*P)  | capacitor                                    | S1C                                | limit switch damper motor    |
| F1U (A1P) | fuse T 6.3 A 250 V                           | V1R (A*P)                          | diode module                 |
| F2U (A2P) | fuse T 5 A 250 V                             | X1M (A1P)                          | terminal                     |
| F4U (A2P) | fuse T 6.3 A 250 V                           | X2M (A1P)                          | terminal (outside input)     |
| HAP (A*P) | running LED (service monitor-green)          | X3M                                | main terminal (power supply) |
| K*R (A*P) | magnetic relay                               | Z1F (A*P)                          | noise filter                 |
| L1R       | reactor                                      | Z*C                                | ferrit core                  |
| M1D       | motor (damper)                               | REMOTE CONTROL                     |                              |
| M1F       | supply air fan                               | SS1                                | selector switch              |
| M2F       | exhaust air fan                              | CONNECTORS FOR OPTION (see note 4) |                              |
| PS (A*P)  | switching power supply                       | X14A                               | connector (CO2 sensor)       |
| Q1DI      | # earth leakage circuit breaker (max. 300mA) | X24A                               | connector (outside damper)   |
| R* (A2P)  | resistance                                   | X33A                               | connector (contact PCB)      |
| R1T       | thermistor indoor air                        | X35A                               | connector (appendices PCB)   |

\* : optional  
# : field supply

4D112850

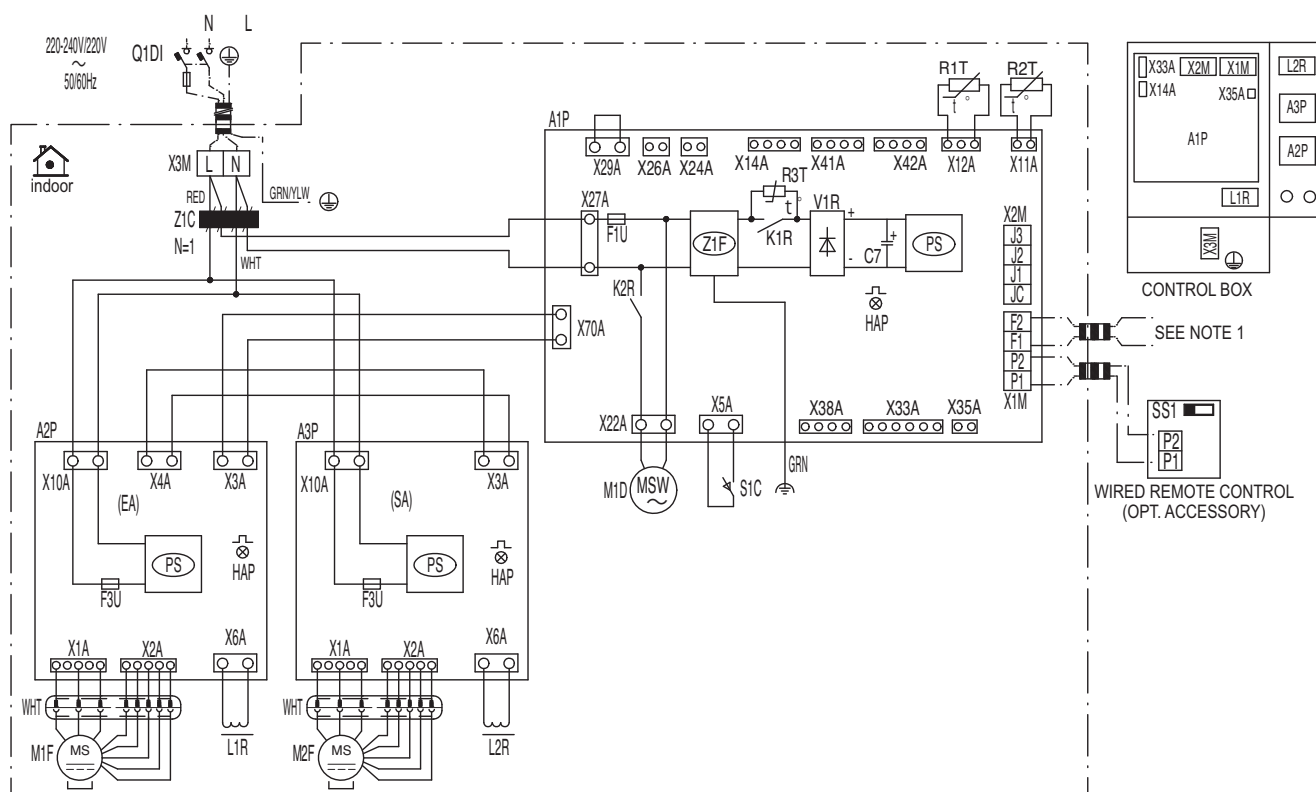
## 7 - 1 Wiring Diagrams - Single Phase



## 7 Wiring diagrams

### 7 - 1 Wiring Diagrams - Single Phase

#### VAM800-1000J



|      |                                        |
|------|----------------------------------------|
| A1P  | Printed circuit board                  |
| A2P  | Printed circuit board ASSY (Fan)       |
| A3P  | Printed circuit board ASSY (Fan)       |
| C7   | Capacitor (M1F)                        |
| F1U  | Fuse T, 6.3A, 250V (A1P)               |
| F3U  | Fuse T, 6.3A, 250V (A2P, A3P)          |
| HAP  | Pilot lamp (service monitor: green)    |
| K1R  | Magnetic relay                         |
| K2R  | Magnetic relay                         |
| L1R  | Reactor                                |
| L2R  | Reactor                                |
| M1F  | Motor (exhaust air fan)                |
| M2F  | Motor (supply air fan)                 |
| M1D  | Motor (damper)                         |
| PS   | Switching power supply                 |
| Q1DI | Field earth leak detector (max. 300mA) |
| R1T  | Thermistor (indoor air)                |
| R2T  | Thermistor (outdoor air)               |

|                                   |                               |
|-----------------------------------|-------------------------------|
| R3T                               | Thermistor (PTC)              |
| S1C                               | Limit switch damper motor     |
| X1M                               | Terminal (A1P)                |
| X2M                               | Terminal (outside input) (AP) |
| X3M                               | Terminal (power supply)       |
| V1R                               | Diode bridge                  |
| Z1F                               | Noise filter                  |
| Z1C                               | Noise filter (ferrit core)    |
| REMOTE CONTROL                    |                               |
| SS1                               | SELECTOR SWITCH               |
| CONNECTOR FOR OPTION (SEE NOTE 3) |                               |
| X14A                              | Connector (CO2 sensor)        |
| X24A                              | Connector (Outside damper)    |
| X26A                              | Connector (Filter sign)       |
| X33A                              | Connector (Contact PCB)       |
| X35A                              | Connector (Appendices PCB)    |
| X41A                              | Connector (Humidity Sensor 1) |
| X42A                              | Connector (Humidity Sensor 2) |

#### NOTES

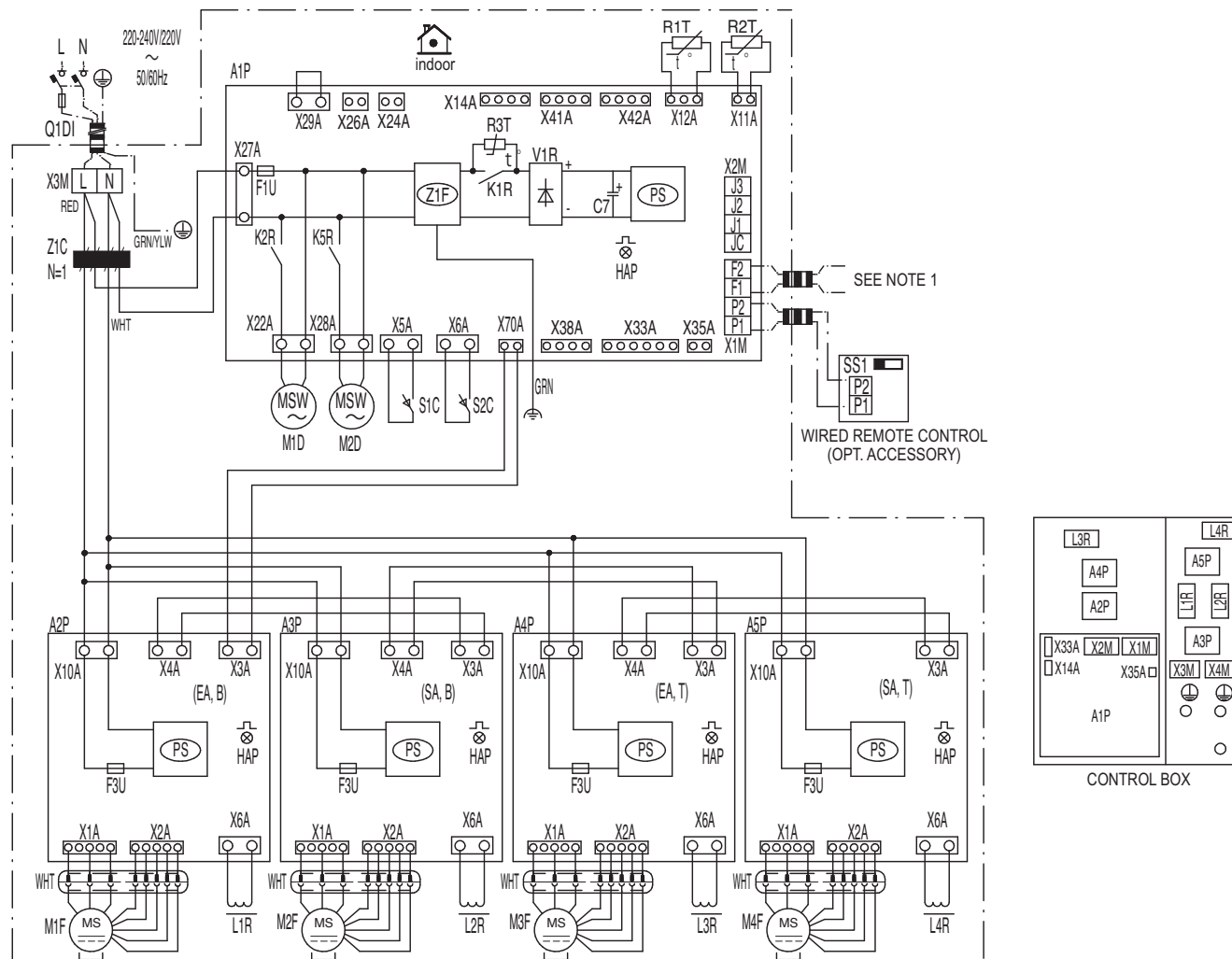
- In case you use the central remote control, connect it to the unit in accordance with the attached manual.
- When connecting the input wires from outside, fresh-up or ON/OFF control operation can be selected. (Contact with a minimum applicable load of 12V DC, 1mA).
- For details of connection see the attached manual of the option kit.
- SS1(A1P) has already been set to 'NOR.' at factory set. The unit will not run if the setting is changed.
- L: live; N: neutral; : field wiring
- : terminal strip, : connector, : connection, : relay connector, : protective earth (screw), : noiseless earth
- Colors: BLK: Black, BLU: Blue, ORG: Orange, RED: Red, WHT: White, YLW: Yellow, GRN: Green.

2D112819A

## 7 Wiring diagrams

### 7 - 1 Wiring Diagrams - Single Phase

#### VAM1500-2000J



|          |                                         |
|----------|-----------------------------------------|
| A1P      | Printed circuit board                   |
| A2P~A4P  | Printed circuit board ASSY (Fan)        |
| A5P      | Printed circuit board ASSY (Fan)        |
| C7       | Capacitor (M1F)                         |
| F1U      | Fuse T, 6.3A, 250V (A1P)                |
| F3U      | Fuse T, 6.3A, 250V (A2P, A3P, A4P, A5P) |
| HAP      | Pilot lamp (service monitor: green)     |
| K1R      | Magnetic relay                          |
| K2R, K5R | Magnetic relay                          |
| L1R~L4R  | Reactor                                 |
| M1F      | Motor (exhaust air fan) (bottom)        |
| M2F      | Motor (supply air fan) (bottom)         |
| M3F      | Motor (exhaust air fan) (top)           |
| M4F      | Motor (supply air fan) (top)            |
| M1D, M2D | Motor (damper)                          |
| PS       | Switching power supply                  |
| Q1DI     | Field earth leak detector (max. 300mA)  |
| R1T      | Thermistor (indoor air)                 |
| R2T      | Thermistor (outdoor air)                |

|                                   |                               |
|-----------------------------------|-------------------------------|
| R3T                               | Thermistor (PTC)              |
| S1C, S2C                          | Limit switch damper motor     |
| X1M                               | Terminal (A1P)                |
| X2M                               | Terminal (outside input) (AP) |
| X3M                               | Terminal (power supply)       |
| V1R                               | Diode bridge                  |
| Z1F                               | Noise filter                  |
| Z1C                               | Noise filter (ferrit core)    |
| REMOTE CONTROL                    |                               |
| SS1                               | SELECTOR SWITCH               |
| CONNECTOR FOR OPTION (SEE NOTE 3) |                               |
| X14A                              | Connector (CO2 sensor)        |
| X24A                              | Connector (Outside damper)    |
| X26A                              | Connector (Filter sign)       |
| X33A                              | Connector (Contact PCB)       |
| X35A                              | Connector (Appendices PCB)    |
| X41A                              | Connector (Humidity Sensor 1) |
| X42A                              | Connector (Humidity Sensor 2) |

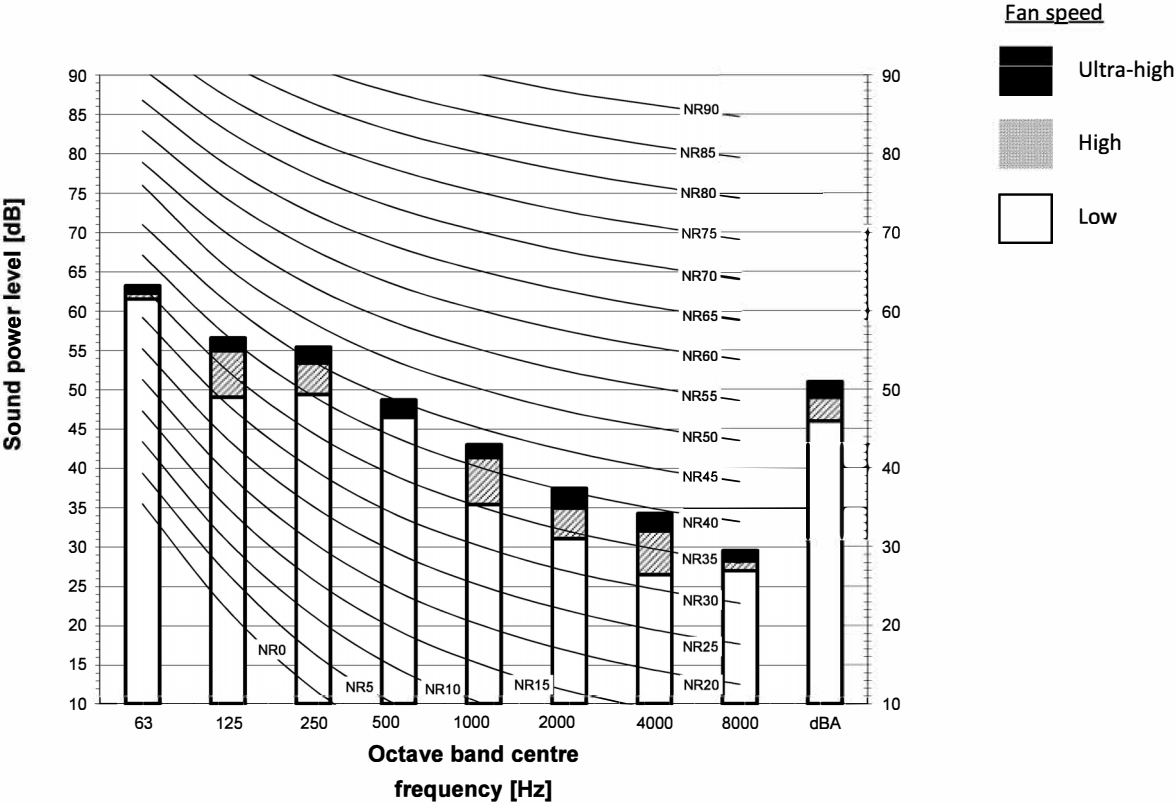
#### NOTES

- In case you use the central remote control, connect it to the unit in accordance with the attached manual.
- When connecting the input wires from outside, fresh-up or ON/OFF control operation can be selected. (Contact with a minimum applicable load of 12V DC, 1mA).
- For details of connection see the attached manual of the option kit.
- SS1(A1P) has already been set to 'NOR.' at factory set. The unit will not run if the setting is changed.
- L: live; N: neutral; : field wiring
- : terminal strip, : connector, : connection, : relay connector, : protective earth (screw), : noiseless earth
- Colors: BLK: Black, BLU: Blue, ORG: Orange, RED: Red, WHT: White, YLW: Yellow, GRN: Green.

2D112506B

8 Sound data  
8 - 1 Sound Power Spectrum

VAM350J

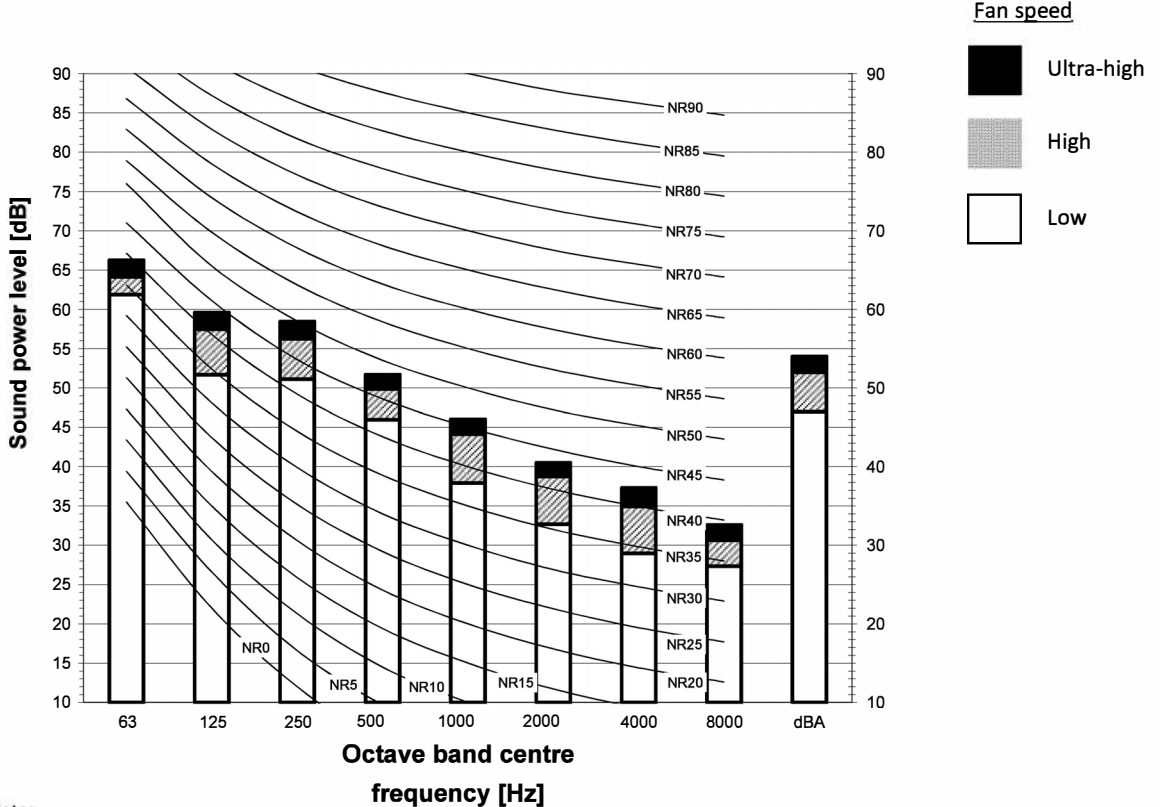


**Notes**

- dBA = A-weighted sound power level (A scale according to IEC).
- Reference acoustic intensity 0dB =  $10^{-6}$  W/m<sup>2</sup>
- Measured according to ISO 3744

3D113496

VAM500J



**Notes**

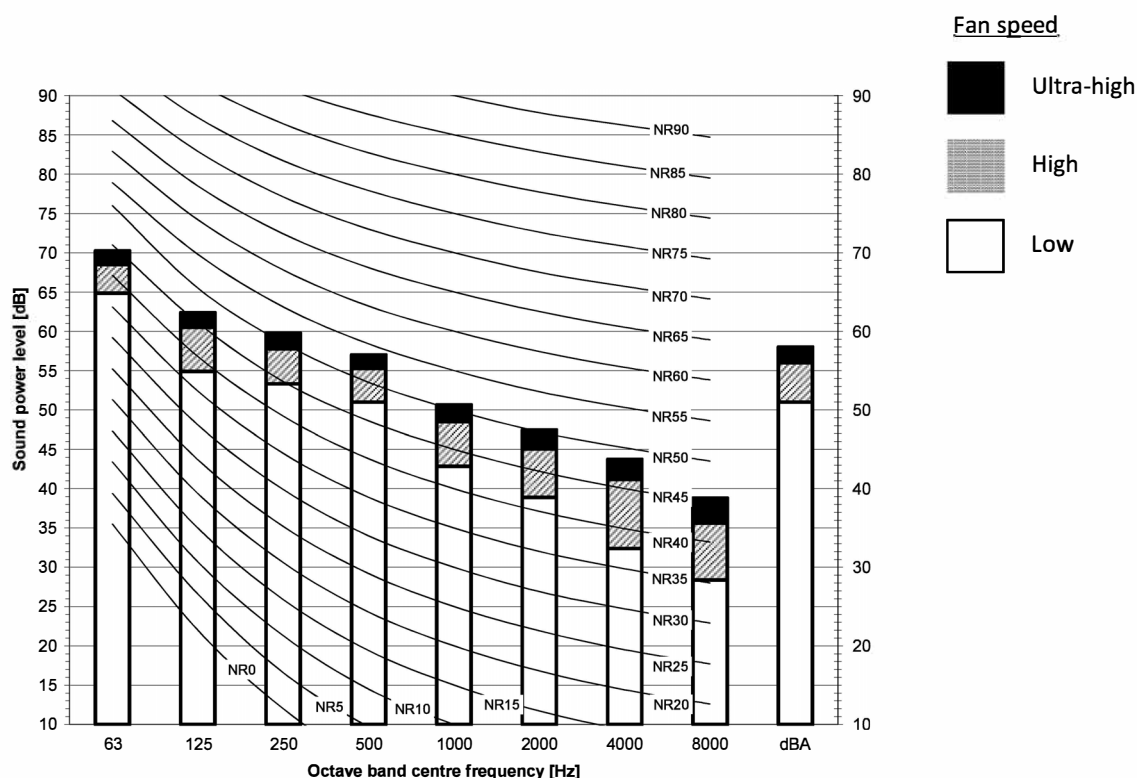
- dBA = A-weighted sound power level (A scale according to IEC).
- Reference acoustic intensity 0dB =  $10^{-6}$  W/m<sup>2</sup>
- Measured according to ISO 3744

3D113497

## 8 Sound data

### 8 - 1 Sound Power Spectrum

#### VAM650J

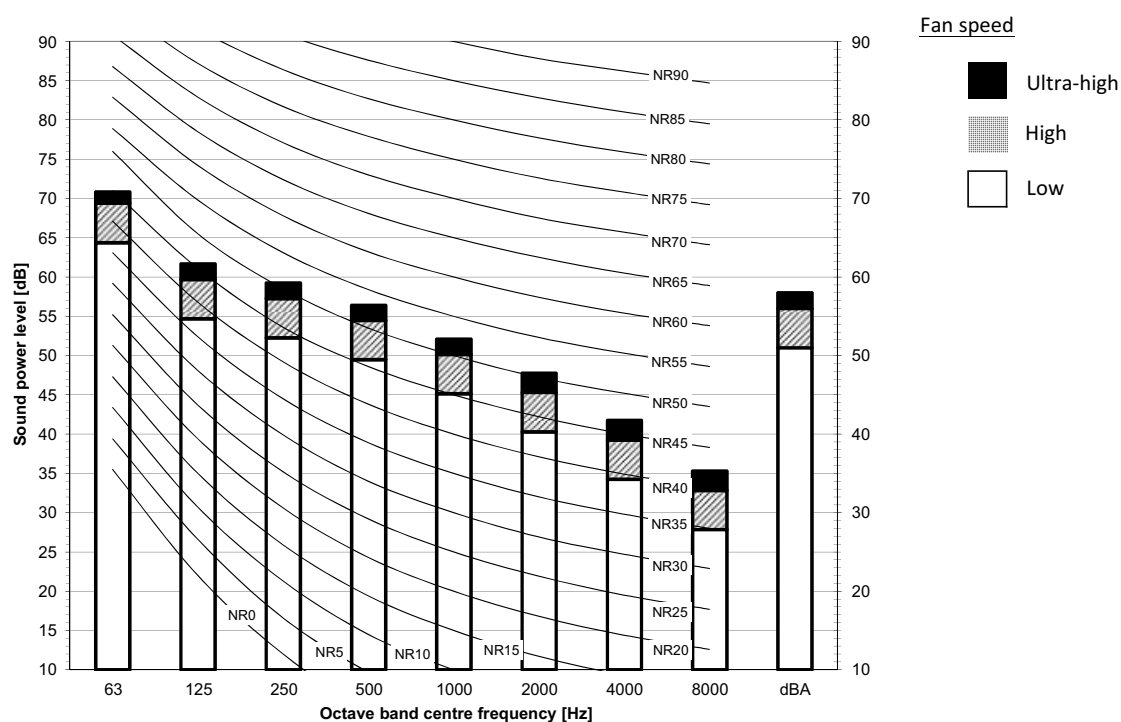


#### Notes

- dBA = A-weighted sound power level (A scale according to IEC).
- Reference acoustic intensity  $0\text{ dB} = 10^{-6} \text{ W/m}^2$
- Measured according to ISO 3744

3D113498

#### VAM800J



#### Notes

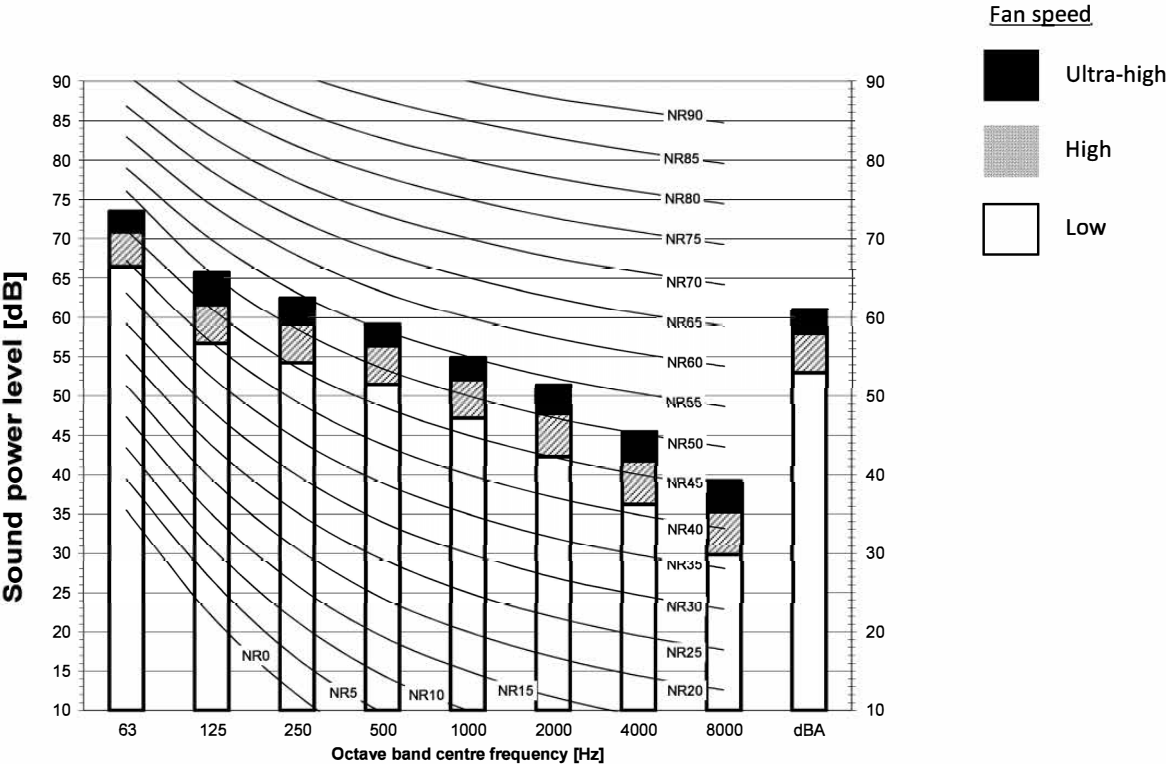
- dBA = A-weighted sound power level (A scale according to IEC).
- Reference acoustic intensity  $0\text{ dB} = 10^{-6} \text{ W/m}^2$
- Measured according to ISO 3744

3D112841

# 8 Sound data

## 8 - 1 Sound Power Spectrum

### VAM1000J

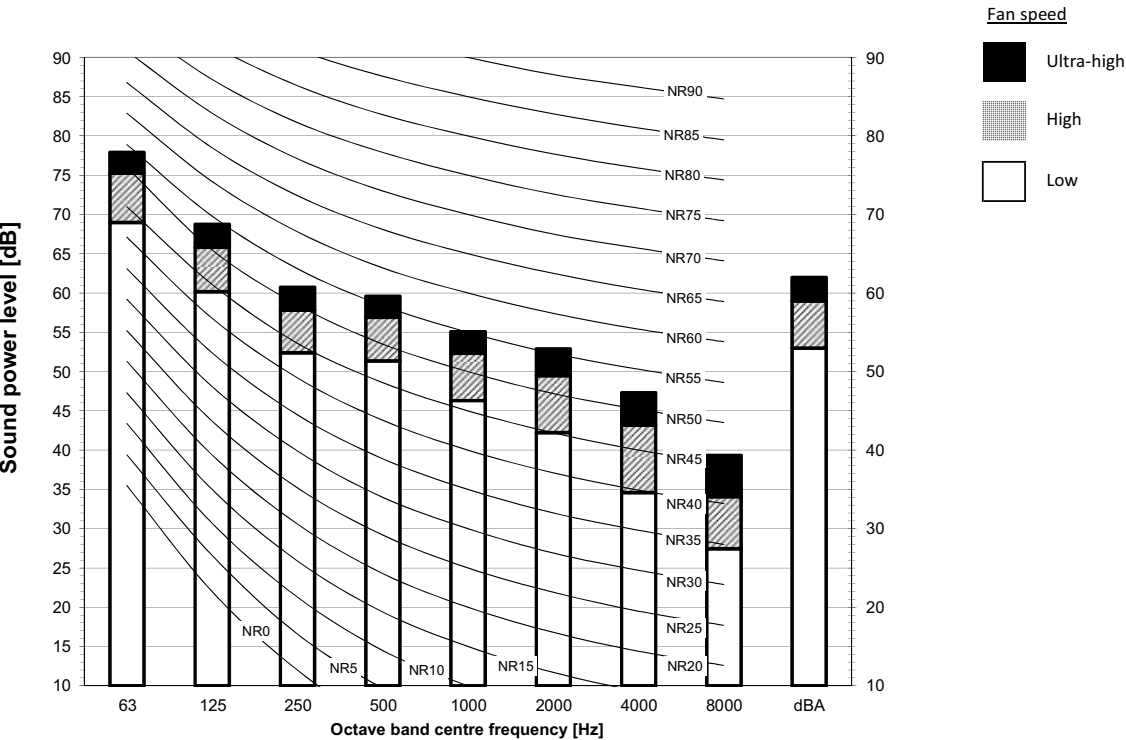


**Notes**

- dBA = A-weighted sound power level (A scale according to IEC).
- Reference acoustic intensity 0dB =  $\cdot 10E-6\mu W/m^2$
- Measured according to ISO 3744

3D112842

### VAM1500J



**Notes**

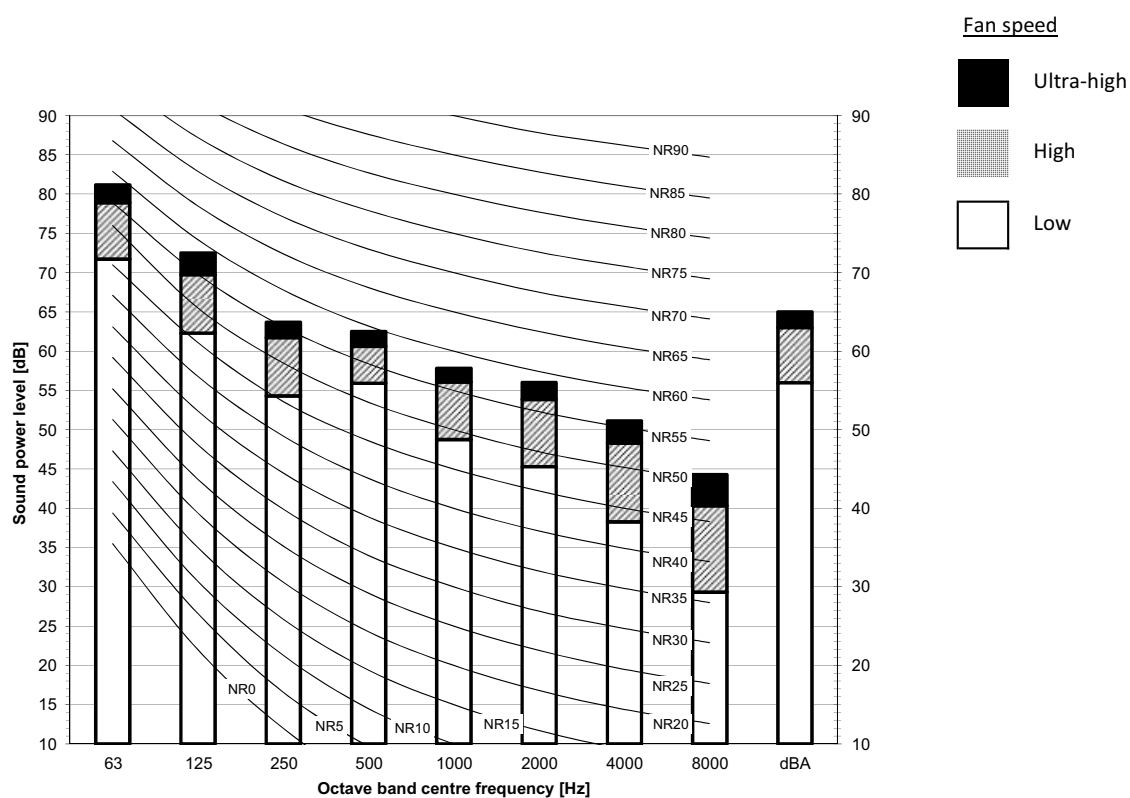
- dBA = A-weighted sound power level (A scale according to IEC).
- Reference acoustic intensity 0dB =  $\cdot 10E-6\mu W/m^2$
- Measured according to ISO 3744

3D112843

## 8 Sound data

### 8 - 1 Sound Power Spectrum

VAM2000J



#### Notes

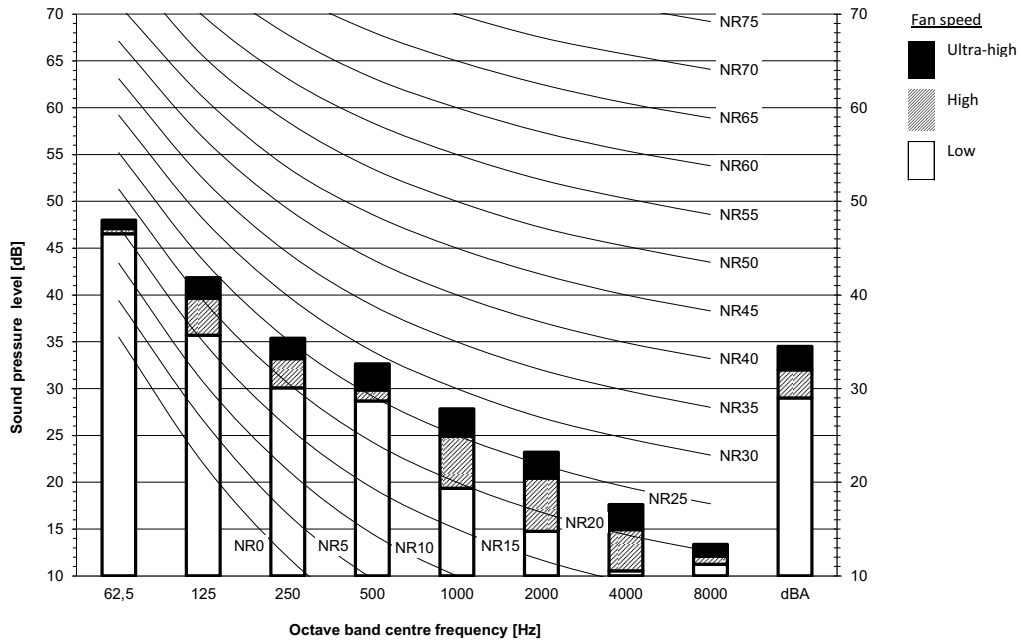
- dBA = A-weighted sound power level (A scale according to IEC).
- Reference acoustic intensity  $0\text{ dB} = 10^{-12} \text{ W/m}^2$ .
- Measured according to ISO 3744

3D112848

## 8 Sound data

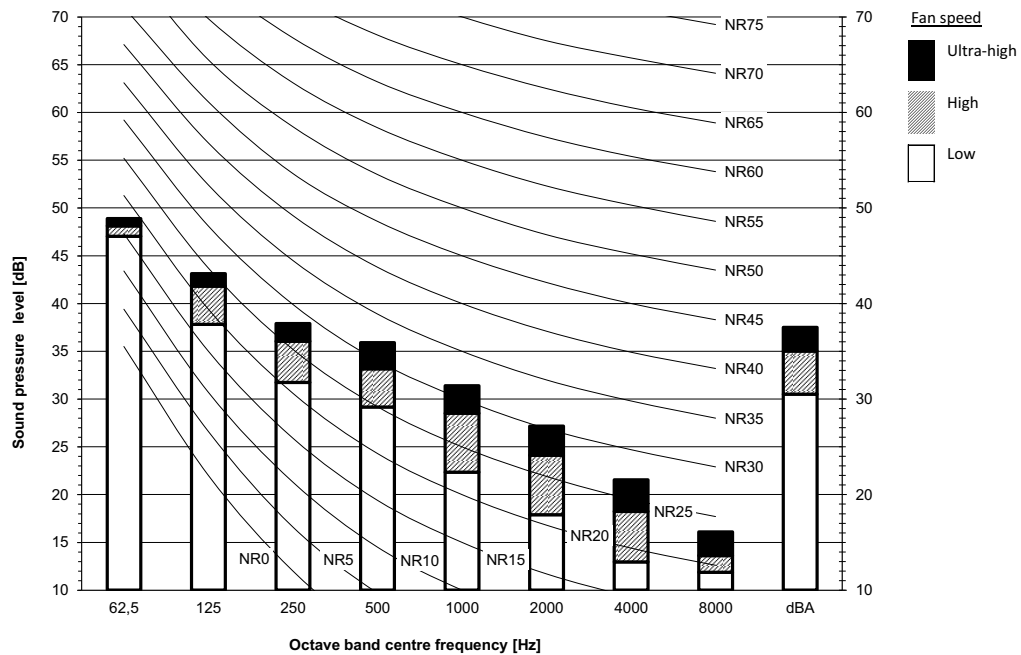
### 8 - 2 Sound Pressure Spectrum

#### VAM350J



3D113499

#### VAM500J

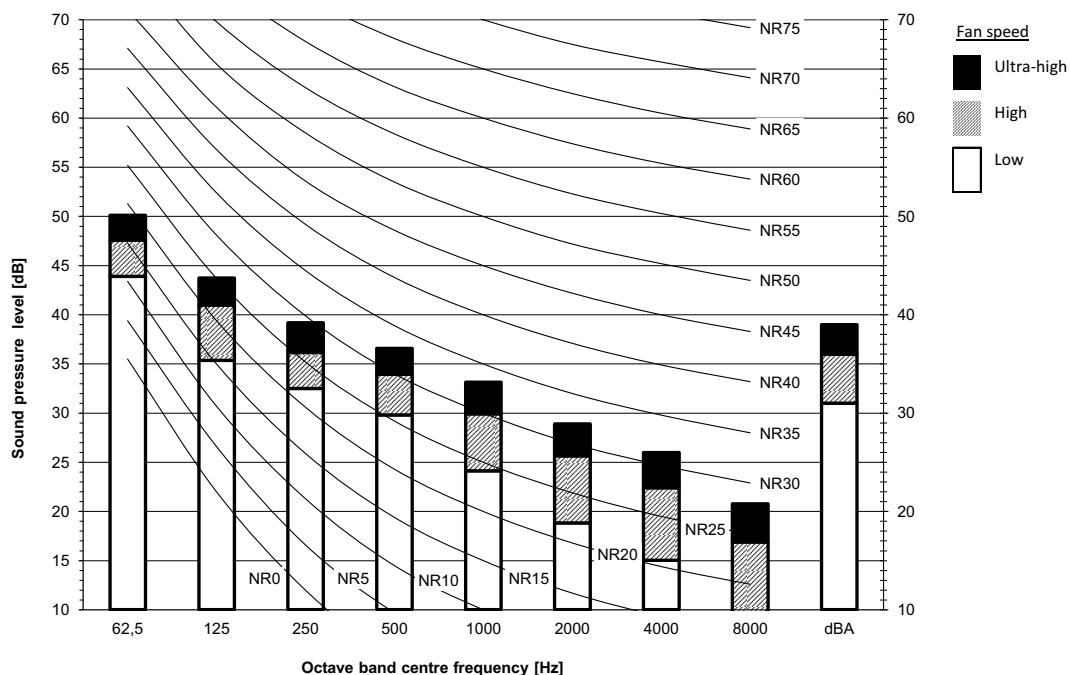


3D113500

## 8 Sound data

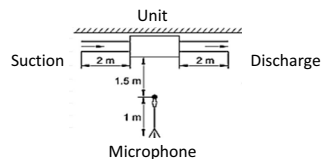
### 8 - 2 Sound Pressure Spectrum

#### VAM650J



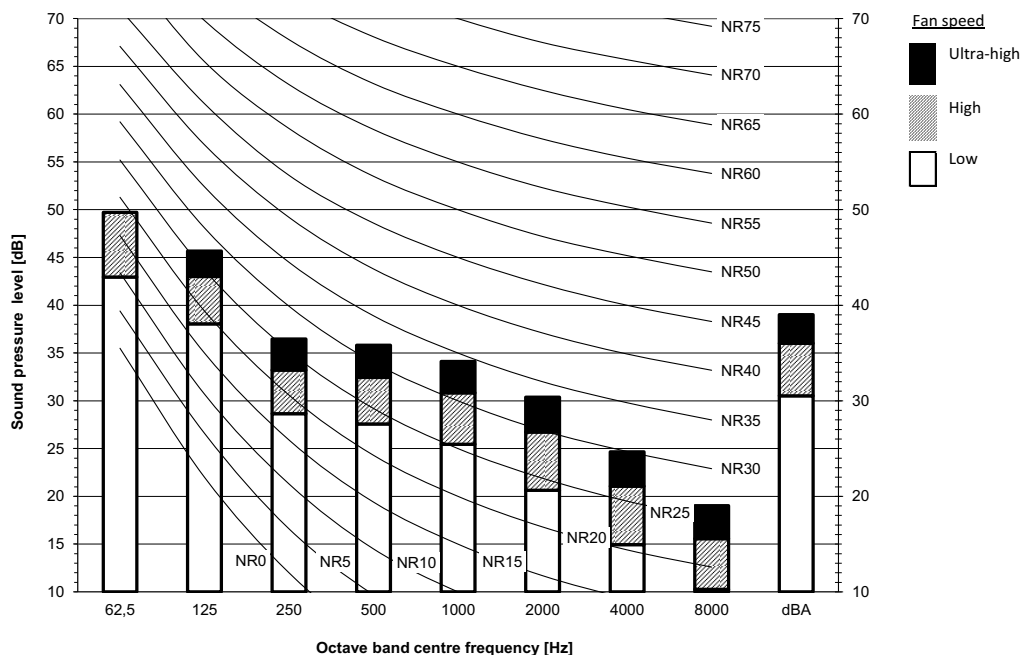
#### Notes

- Data is valid at free field condition.
- Data is valid at nominal operation condition.
- dBA = A-weighted sound pressure level (A scale according to IEC).
- Reference acoustic pressure 0 dB = 20  $\mu$ Pa



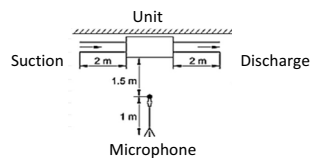
3D113501

#### VAM800J



#### Notes

- Data is valid at free field condition.
- Data is valid at nominal operation condition.
- dBA = A-weighted sound pressure level (A scale according to IEC).
- Reference acoustic pressure 0 dB = 20  $\mu$ Pa

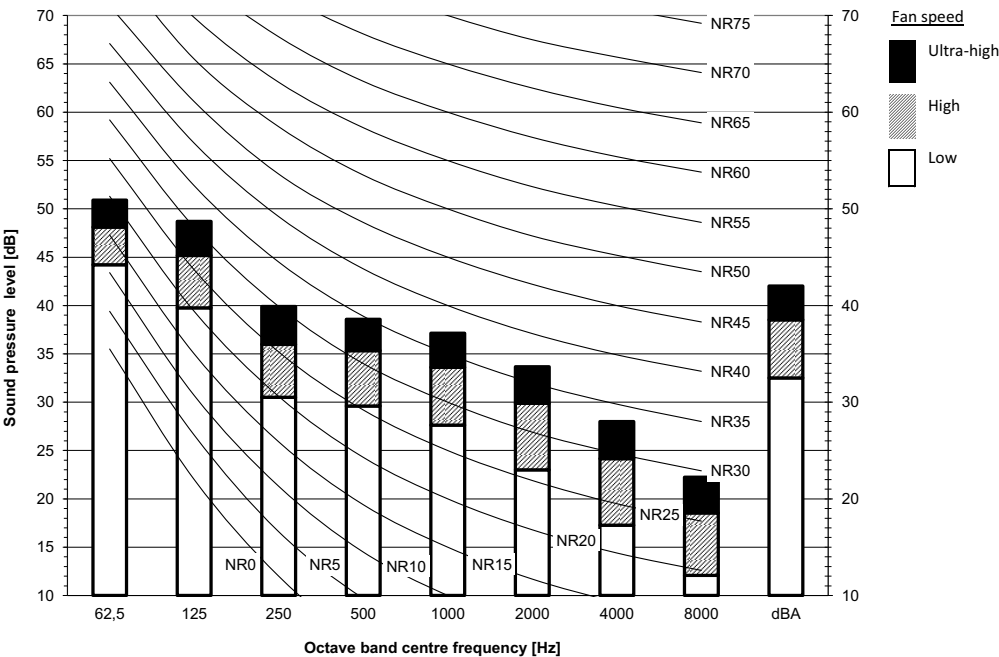


3D112844

# 8 Sound data

## 8 - 2 Sound Pressure Spectrum

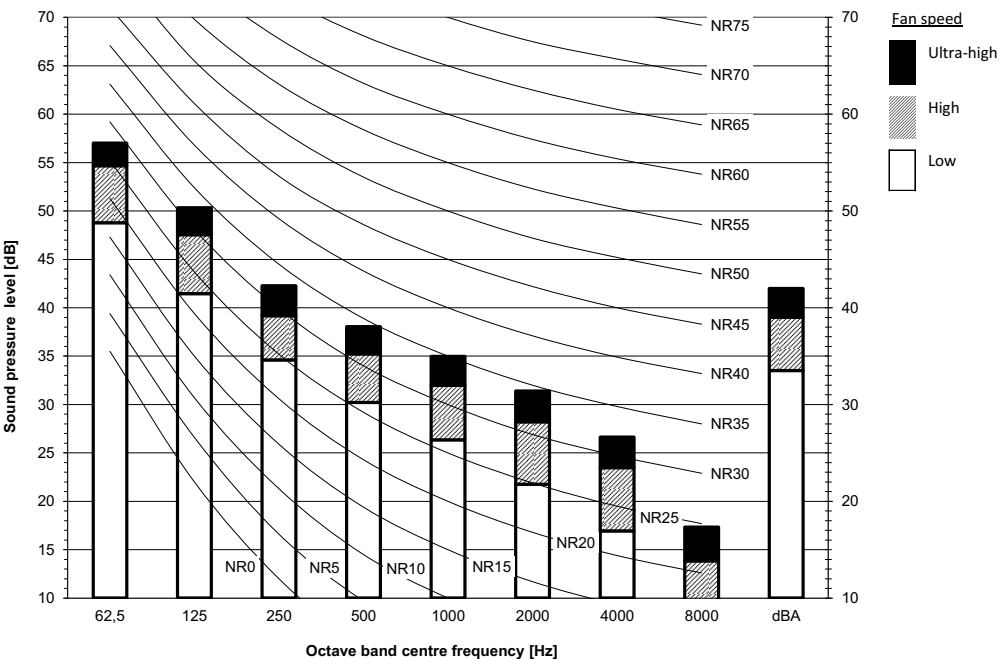
### VAM1000J



- Notes**
- Data is valid at free field condition.
  - Data is valid at nominal operation condition.
  - dBA = A-weighted sound pressure level (A scale according to IEC).
  - Reference acoustic pressure 0 dB = 20 µPa

3D112845

### VAM1500J



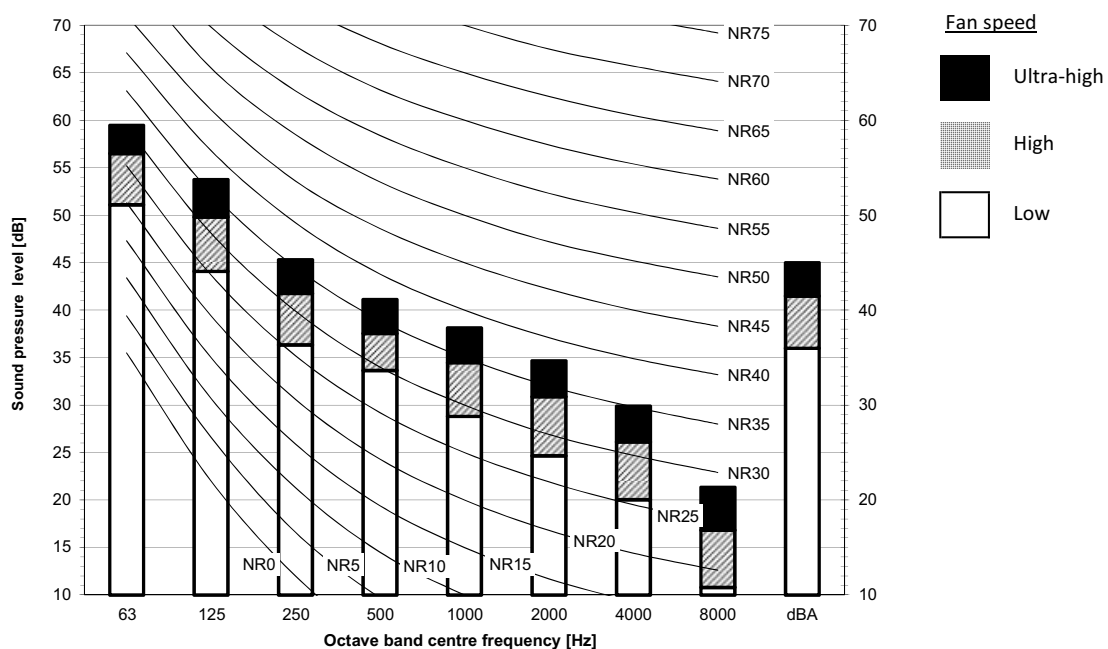
- Notes**
- Data is valid at free field condition.
  - Data is valid at nominal operation condition.
  - dBA = A-weighted sound pressure level (A scale according to IEC).
  - Reference acoustic pressure 0 dB = 20 µPa

3D112846

## 8 Sound data

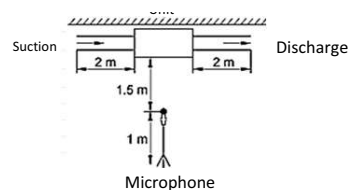
### 8 - 2 Sound Pressure Spectrum

VAM2000J



#### Notes:

- Data is valid at free field condition.
- Data is valid at nominal operation condition.
- dBA = A-weighted sound pressure level (A scale according to IEC).
- Reference acoustic pressure 0 dB = 20  $\mu$ Pa

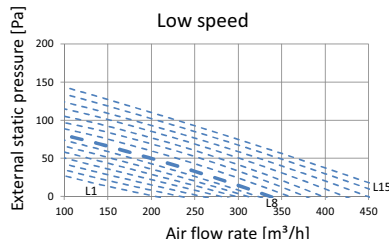
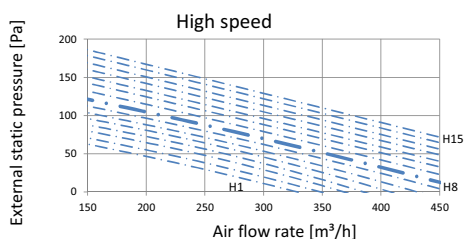
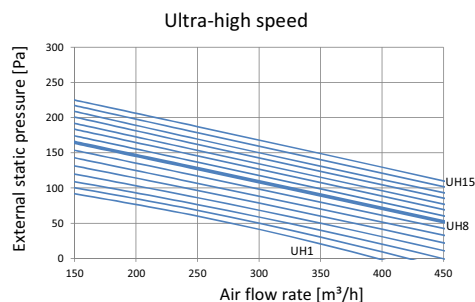
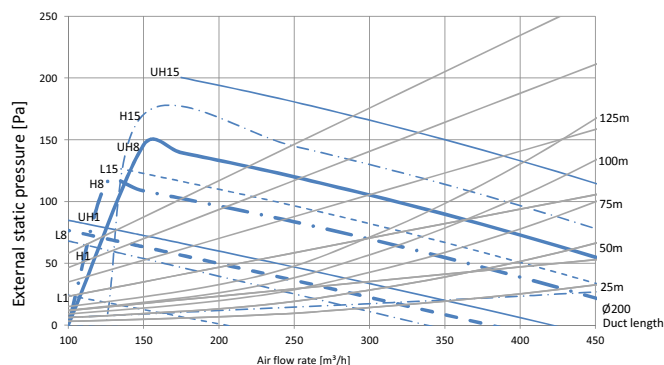


3D112847

# 9 Fan characteristics

## 9 - 1 Fan Characteristics

### VAM350J

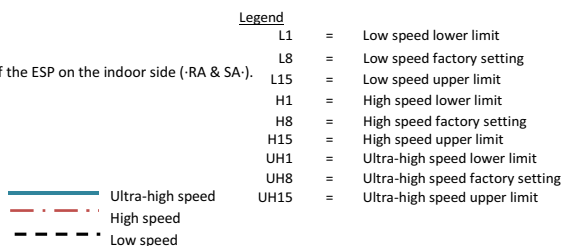


#### Notes

- The fan curves are determined with  $\cdot 1/3 \cdot$  of the ESP on the outdoor side (-EA & OA-), and  $\cdot 2/3 \cdot$  of the ESP on the indoor side (-RA & SA-).

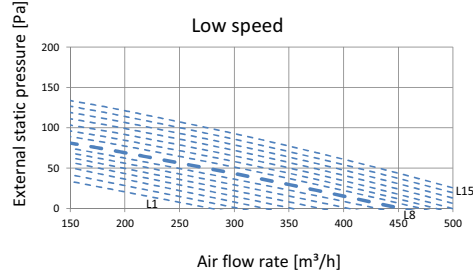
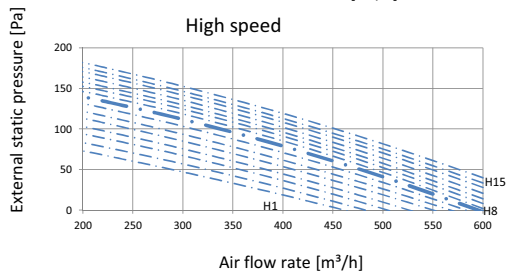
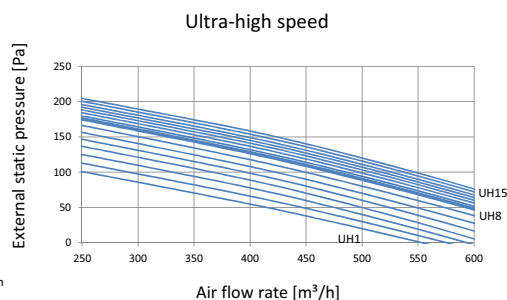
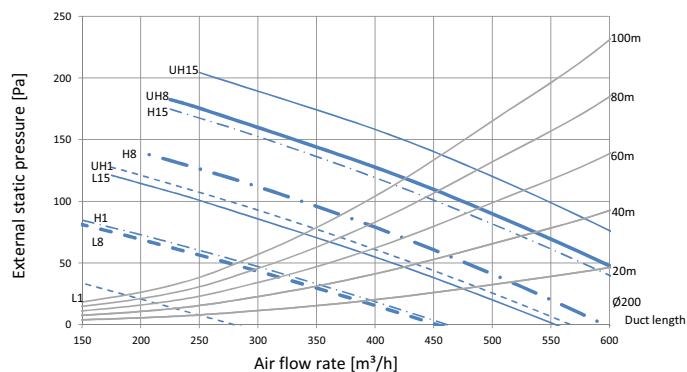
EA = Exhaust air  
OA = Outdoor air  
RA = Room air  
SA = Supply air

- Measured according to JIS B 8628 - 2003.



3D113493

### VAM500J

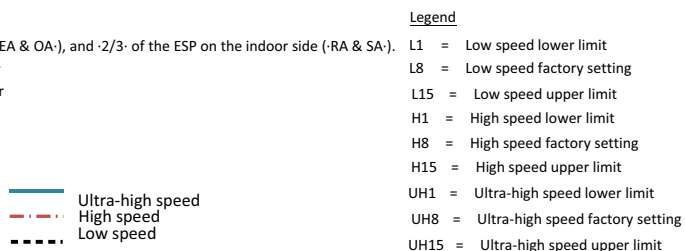


#### Notes

- The fan curves are determined with  $\cdot 1/3 \cdot$  of the ESP on the outdoor side (-EA & OA-), and  $\cdot 2/3 \cdot$  of the ESP on the indoor side (-RA & SA-).

EA = Exhaust air  
OA = Outdoor air  
RA = Room air  
SA = Supply air

- Measured according to JIS B 8628 - 2003.

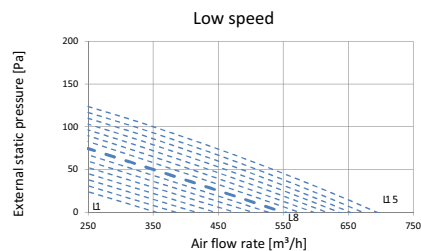
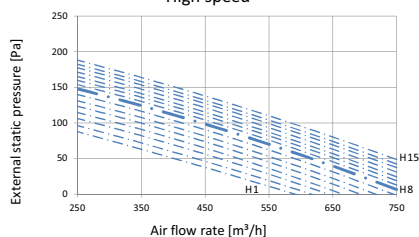
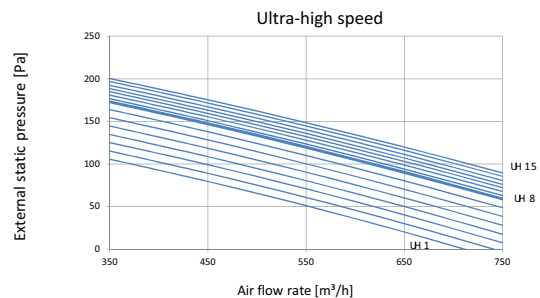
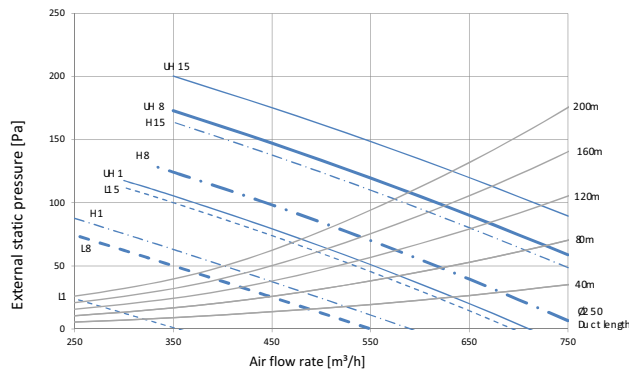


3D113494

# 9 Fan characteristics

## 9 - 1 Fan Characteristics

### VAM650J



#### Notes

1. The fan curves are determined with 1/3 of the ESP on the outdoor side (EA & OA), and 2/3 of the ESP on the indoor side (RA & SA).

EA = Exhaust air  
OA = Outdoor air  
RA = Room air  
SA = Supply air

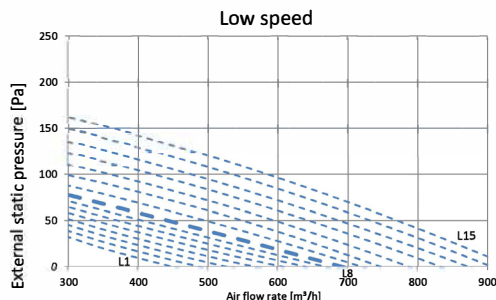
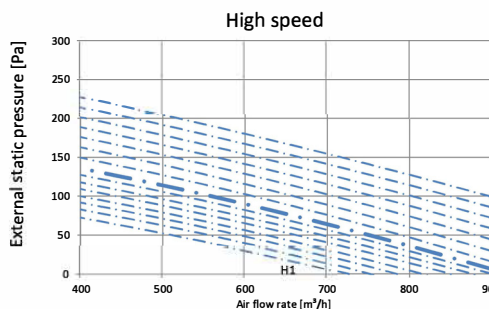
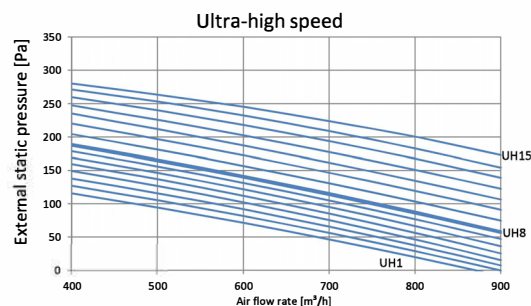
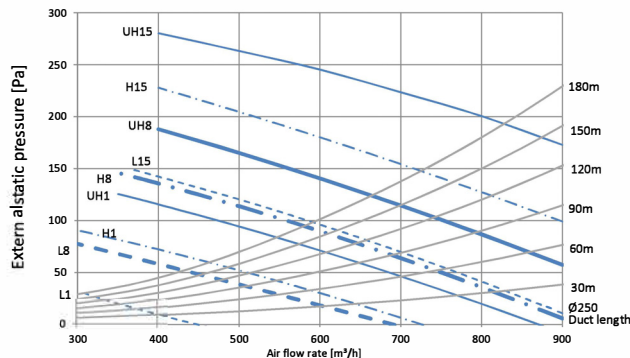
2 Measured according to JIS B 8628 - 2003

#### Legend

L1 = Low speed lower limit  
L8 = Low speed factory setting  
L15 = Low speed upper limit  
H1 = High speed lower limit  
H8 = High speed factory setting  
H15 = High speed upper limit  
UH1 = Ultra-high speed lower limit  
UH8 = Ultra-high speed factory setting  
UH15 = Ultra-high speed upper limit

3D113495A

### VAM800J



#### Notes

1. The fan curves are determined with 1/3 of the ESP on the outdoor side (EA & OA), and 2/3 of the ESP on the indoor side (RA & SA).

EA = Exhaust air  
OA = Outdoor air  
RA = Room air  
SA = Supply air

2 Measured according to JIS B 8628 - 2003

#### Legend

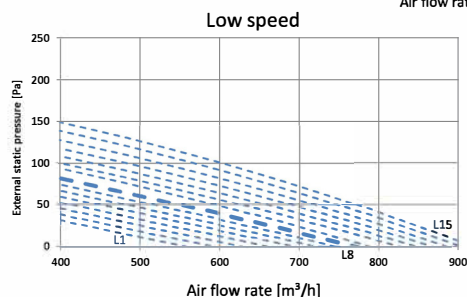
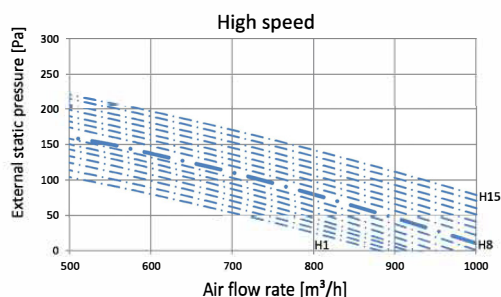
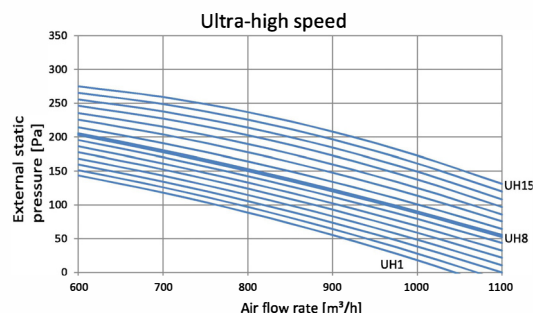
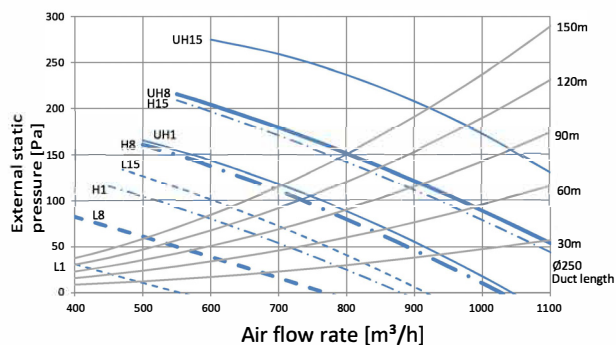
L1 = Low speed lower limit  
L8 = Low speed factory setting  
L15 = Low speed upper limit  
H1 = High speed lower limit  
H8 = High speed factory setting  
H15 = High speed upper limit  
UH1 = Ultra-high speed lower limit  
UH8 = Ultra-high speed factory setting  
UH15 = Ultra-high speed upper limit

3D112837

# 9 Fan characteristics

## 9 - 1 Fan Characteristics

### VAM1000J



#### Notes

1. The fan curves are determined with 1/3 of the ESP on the outdoor side (-EA & OA-), and 2/3 of the ESP on the indoor side (-RA & SA-).

EA = Exhaust air

OA = Outdoor air

RA = Room air

SA = Supply air

2. Measured according to JIS B 8628 - 2003.

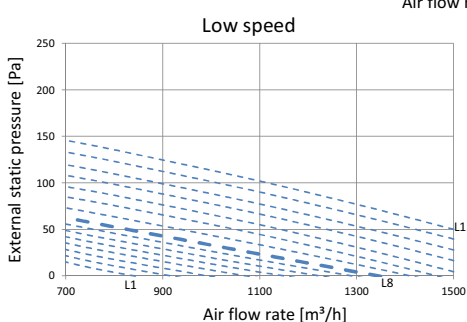
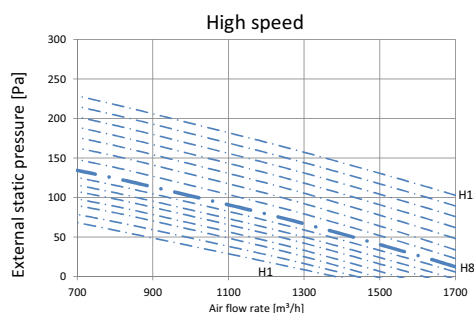
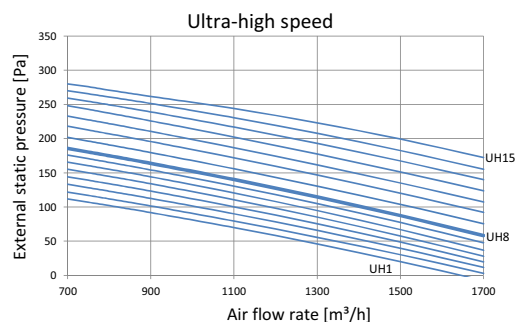
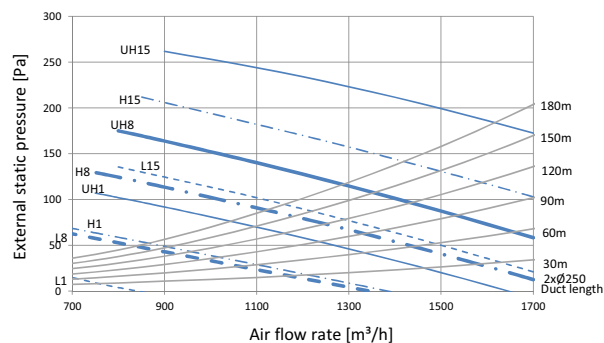
#### Legend

- L1 = Low speed lower limit
- L8 = Low speed factory setting
- L15 = Low speed upper limit
- H1 = High speed lower limit
- H8 = High speed factory setting
- H15 = High speed upper limit
- UH1 = Ultra-high speed lower limit
- UH8 = Ultra-high speed factory setting
- UH15 = Ultra-high speed upper limit

— Ultra-high speed  
- - - High speed  
- - - Low speed

3D112832

### VAM1500J



#### Notes

1. The fan curves are determined with 1/3 of the ESP on the outdoor side (-EA & OA-), and 2/3 of the ESP on the indoor side (-RA & SA-).

EA = Exhaust air

OA = Outdoor air

RA = Room air

SA = Supply air

2. Measured according to JIS B 8628 - 2003.

#### Legend

- L1 = Low speed lower limit
- L8 = Low speed factory setting
- L15 = Low speed upper limit
- H1 = High speed lower limit
- H8 = High speed factory setting
- H15 = High speed upper limit
- UH1 = Ultra-high speed lower limit
- UH8 = Ultra-high speed factory setting
- UH15 = Ultra-high speed upper limit

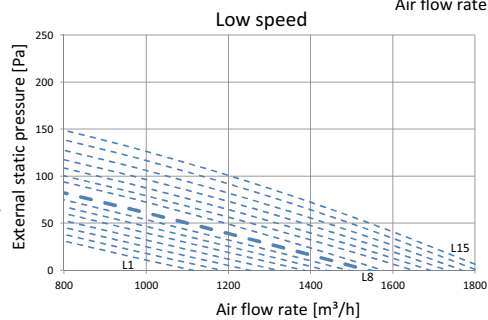
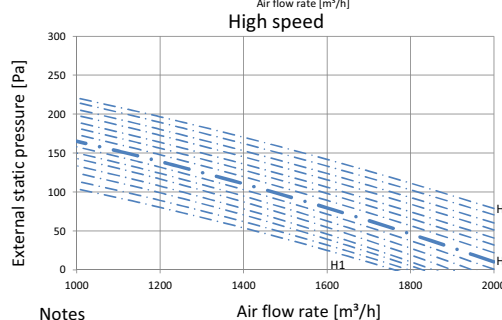
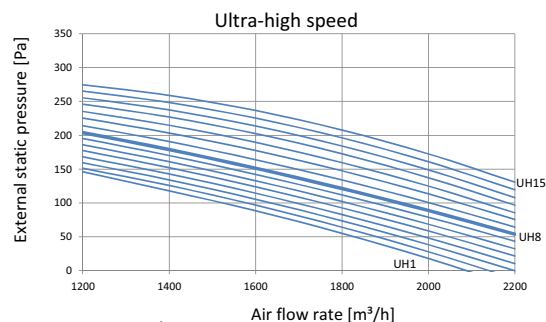
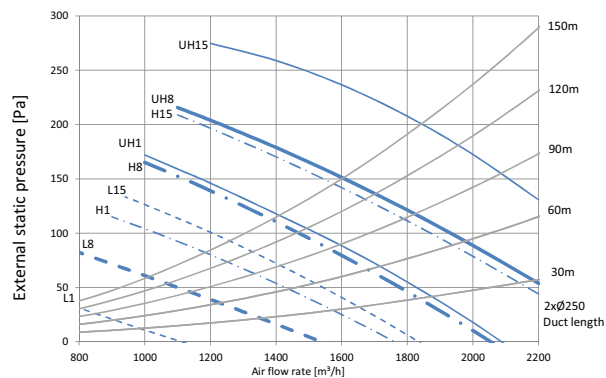
— Ultra-high speed  
- - - High speed  
- - - Low speed

3D112838

## 9 Fan characteristics

### 9 - 1 Fan Characteristics

#### VAM2000J



#### Notes

- The fan curves are determined with  $\frac{1}{3}$  of the ESP on the outdoor side (-EA & OA-), and  $\frac{2}{3}$  of the ESP on the indoor side (-RA & SA-).  
EA = Exhaust air  
OA = Outdoor air  
RA = Room air  
SA = Supply air
- Measured according to JIS B 8628 - 2003.

#### Legend

- L1 = Low speed lower limit
- L8 = Low speed factory setting
- L15 = Low speed upper limit
- H1 = High speed lower limit
- H8 = High speed factory setting
- H15 = High speed upper limit
- UH1 = Ultra-high speed lower limit
- UH8 = Ultra-high speed factory setting
- UH15 = Ultra-high speed upper limit

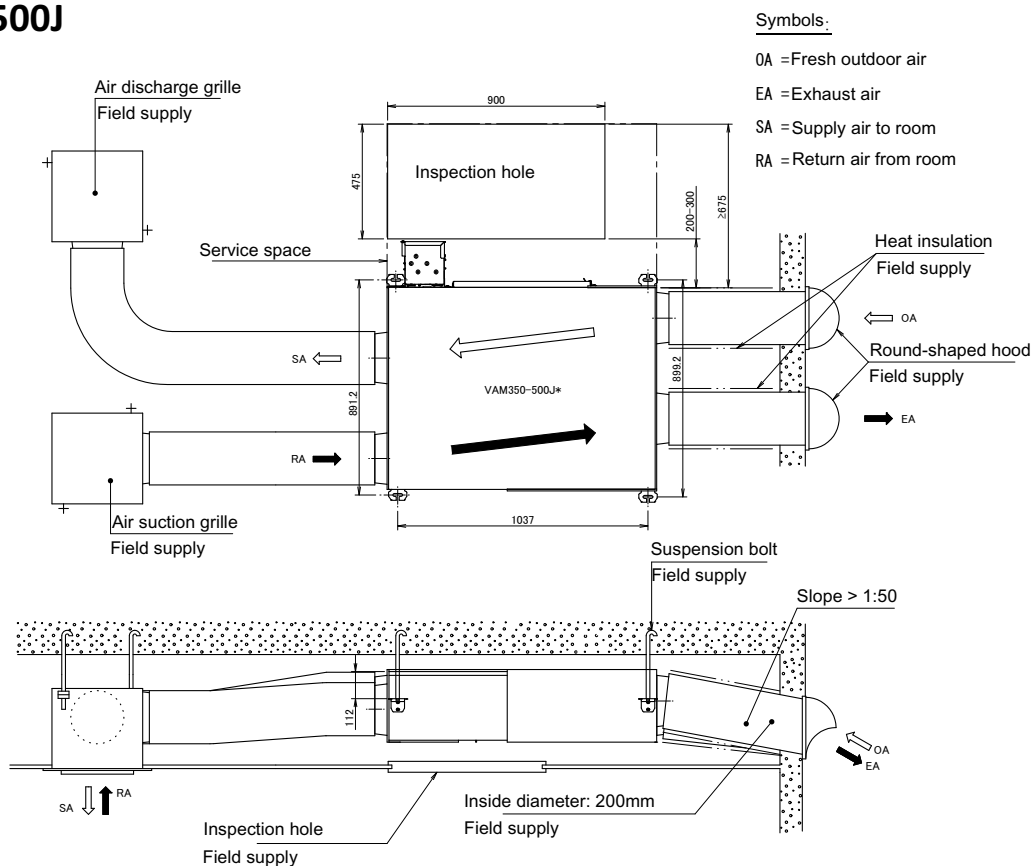
- Ultra-high speed
- - - High speed
- Low speed

3D112839

# 10 Installation

## 10 - 1 Installation Method

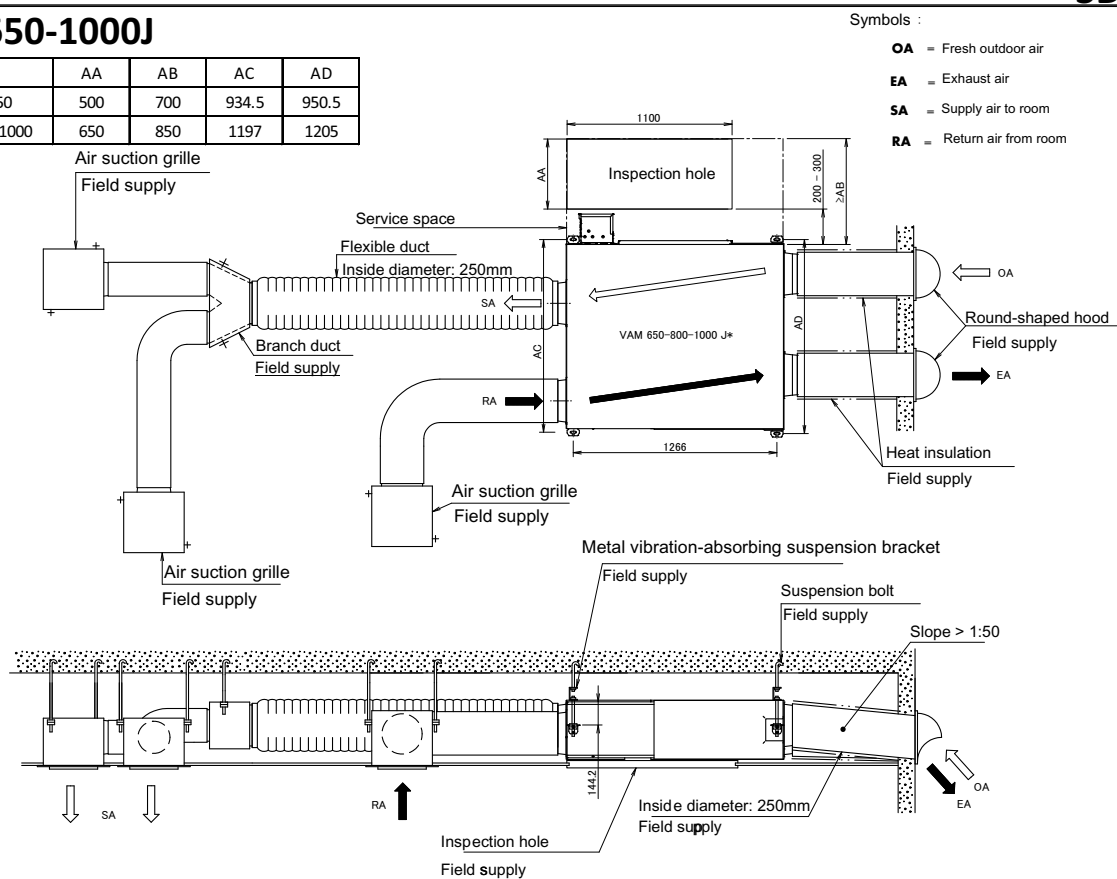
### VAM350-500J



3D112823

### VAM650-1000J

| Model        | AA  | AB  | AC    | AD    |
|--------------|-----|-----|-------|-------|
| VAM 650      | 500 | 700 | 934.5 | 950.5 |
| VAM 800-1000 | 650 | 850 | 1197  | 1205  |

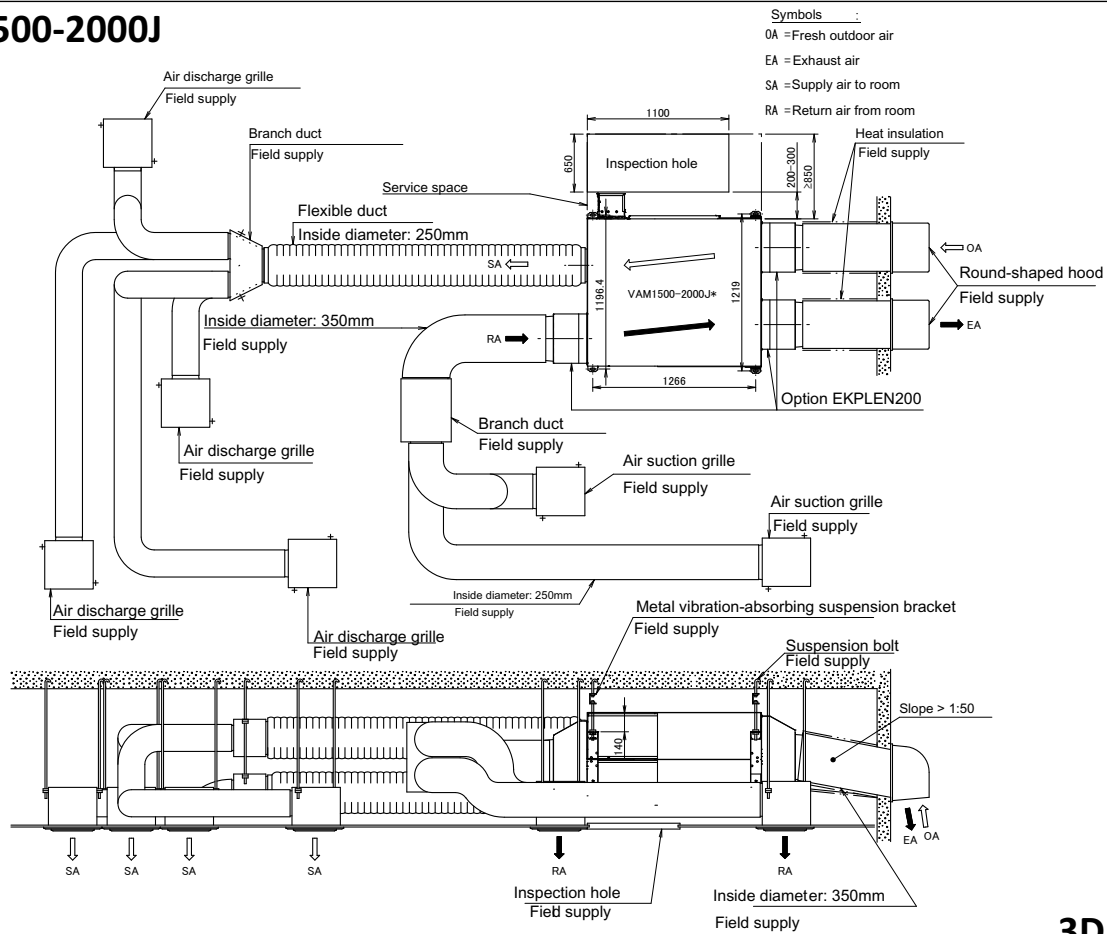


3D112824

# 10 Installation

## 10 - 1 Installation Method

### VAM1500-2000J



3D112825





Daikin Europe N.V. Naamloze Vennootschap - Zandvoordestraat 300, B-8400 Oostende - Belgium - [www.daikin.eu](http://www.daikin.eu) - BE 0412 120 336 - RPR Oostende



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