



PCXAU1601

# VRV AHU System

**STANDARD SERIES AHUR-CAVJ/DAVJ/DABVJ**  
**OUTDOOR AIR SERIES AHUR-CALJ/DALJ/DABLJ**



Heat Pump  
50/60 Hz

**R-410A**



Airport



Lobby



Hospital



Factory

## VRV AHU Applications



Shopping Mall



Sports Hall



Showroom



Warehouse

### VRV AHU

An industry first, the VRV air handling unit has been designed and engineered by Daikin to create new opportunities for applying VRV into retail, offices, cinemas and commercial applications with large open spaces.

- Available in two types, Standard Series or Outdoor Air Series from 6HP to 60HP
- Daikin's VRV AHU are paired with VRV IV Heat Pump outdoor units for superior EER & COP performance
- Harnesses all features of VRV IV Heat Pump including Variable Refrigerant Technology (VRT)\*, Daikin's Inverter Technology and connection to building management systems.
- ESP of up to 500Pa enables flexible ductwork design
- Ultimate installation flexibility
  - Double skin with either 25mm or 50mm thick PU insulated panels with thermal break options.
  - Long pipe runs of up to 165m\*\*
  - Custom configurations are also available to suit site constraints

\*Only applies to Standard Series models

\*\*Only applies to Standard Series models, Outdoor Air Series models allow only up to 50m pipe runs



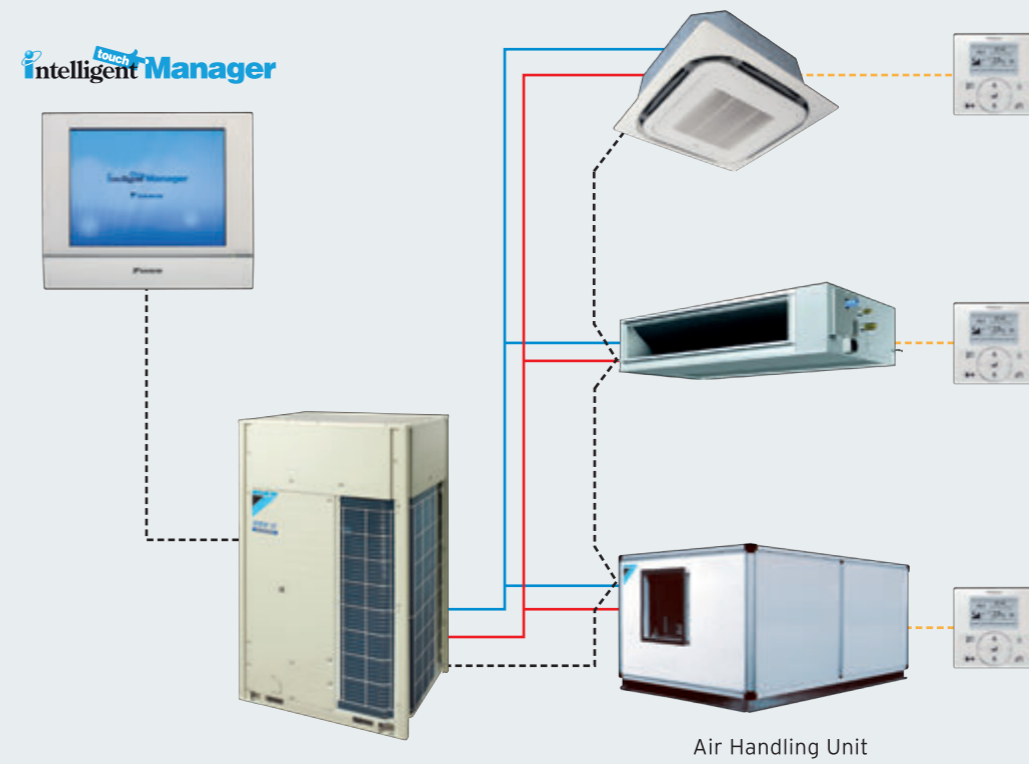
### STANDARD SERIES

Airflow Range: 900-7,800 L/s  
Capacity Range: 15.4-167.6 kW

### OUTDOOR AIR SERIES

Airflow Range: 566-4,550 L/s  
Capacity Range: 25.7-202.6 kW

### VRV AHU System Connection Overview



**Total Daikin Solution**



### Features of VRV AHU - Inlet Temperature control

- Harnessing VRV IV current and latest technology of VRT
- Inverter controlled system
- Can be easily controlled via standard wired remote control (BRC1E62)
- Comes in double skin panel model
- Easily manage using intelligent Touch Manager central control system
  - ✓ Communication protocol using DIII-Net to communicate with all existing Dakin communication devices and even BMS.
- Can be placed indoor or outdoor\*

\* Optional items required

### Benefits of using VRV AHU

- Quality assured
  - ✓ VRV AHU are manufactured by Daikin factory.
- Ease of installation
  - ✓ No additional system such as cooling tower, chiller, and long water piping system are required. This also reduces the total system maintenance costs.
  - ✓ Flexible design of the ducting system.
- Cover large area with different ducting configuration.
- VRV AHU can provide ESP up to 500Pa\* (Standard Model)
- Total solution concept
  - ✓ Integrating an AHU into the total building climate system enables both design and installation procedures to be based on a single common technology. This simplifies project follow-up, installation, commissioning and maintenance since only one party is involved.
- VRV AHU system can be coupled and mixed with other type indoor unit to work together concurrently. (Connection ratio 50% - 110%)

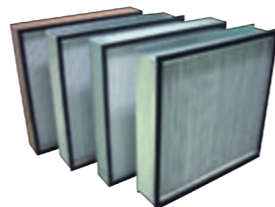
\* For ESP more than 500Pa, please contact Daikin's Sales Office

### Options

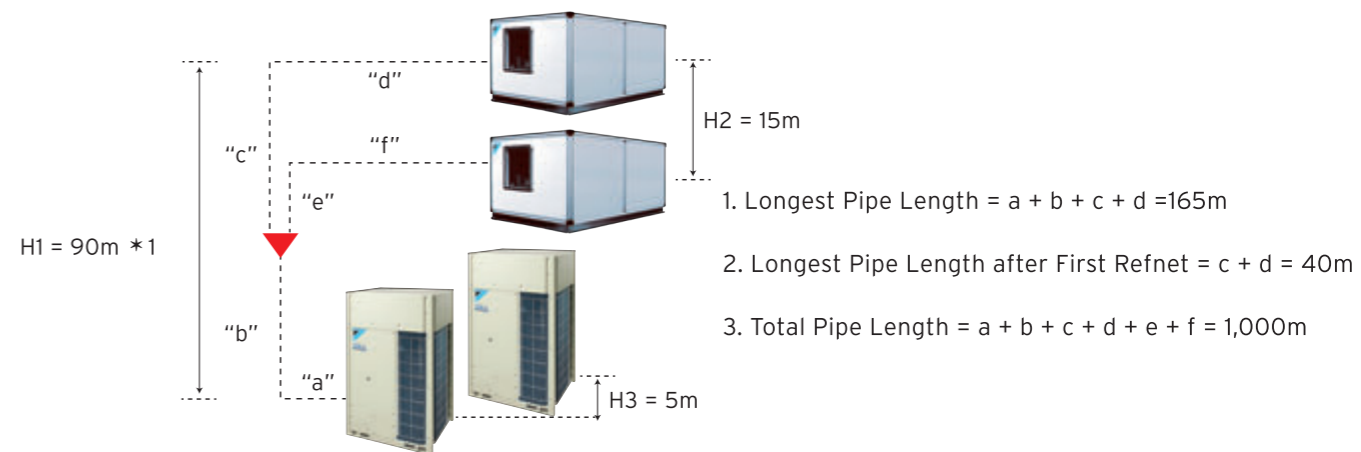
Wide ranges of options are available to meet your design requirement.

Please contact Daikin's sales office regarding below mentioned options:

- Fan type
  - ✓ Backward curved
  - ✓ Airfoil curved
  - ✓ Plug fan - AC/EC Type
- Motor
  - ✓ IE2
  - ✓ IE3
  - ✓ Explosion Proof
  - ✓ Flame Proof
- AHU fin material
  - ✓ Copper
  - ✓ Blue fin
  - ✓ Heresite coating
- AHU coil frame
  - ✓ Stainless steel
- AHU drain pan type (G2-HI4)
  - ✓ Powder coated galvanised iron (GI)
- AHU air filter type
  - ✓ Extra filter
  - ✓ Synthetic
  - ✓ Bag
  - ✓ HEPA
  - ✓ Carbon
  - ✓ Cartridge
- Special option
  - ✓ Mixing box
  - ✓ Outdoor roof
  - ✓ Aluminium, stainless steel or GI panels
  - ✓ Heat Pipe
  - ✓ Heat recovery component
  - ✓ Custom paint options on the casing panels
  - ✓ VFD for motor
- Customization
  - ✓ Air flow
  - ✓ Capacity
  - ✓ ESP
  - ✓ Discharge direction
  - ✓ Piping outlet
  - ✓ Dimension



### VRV AHU System Structure

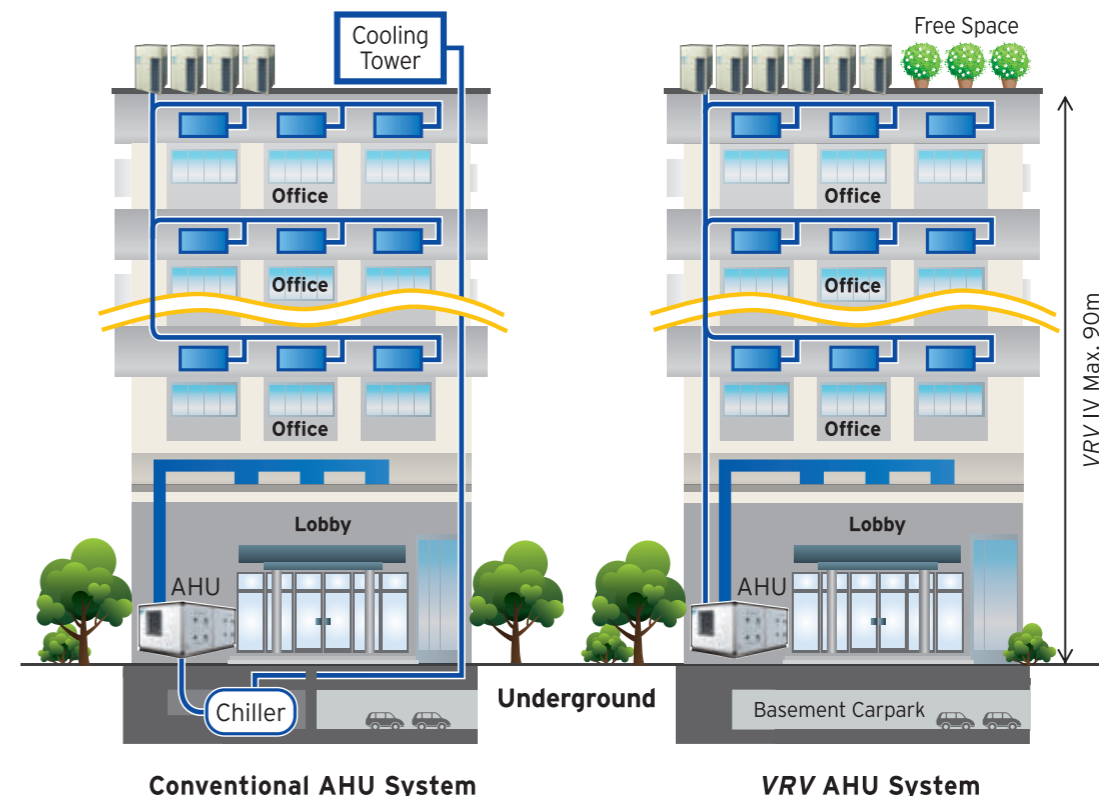


\*1 When level differences are 50m or more, the diameter of the main liquid piping size must be increased. If the outdoor unit is above the indoor unit, a dedicated setting on the outdoor unit is required. Please contact Daikin's Sale Office for more information.

Note: For Outdoor Air Series models, H1 = 30m & Longest Pipe Length = a + b + c + d = 50m

### Comparison Table and Diagram for Conventional AHU System and VRV AHU System

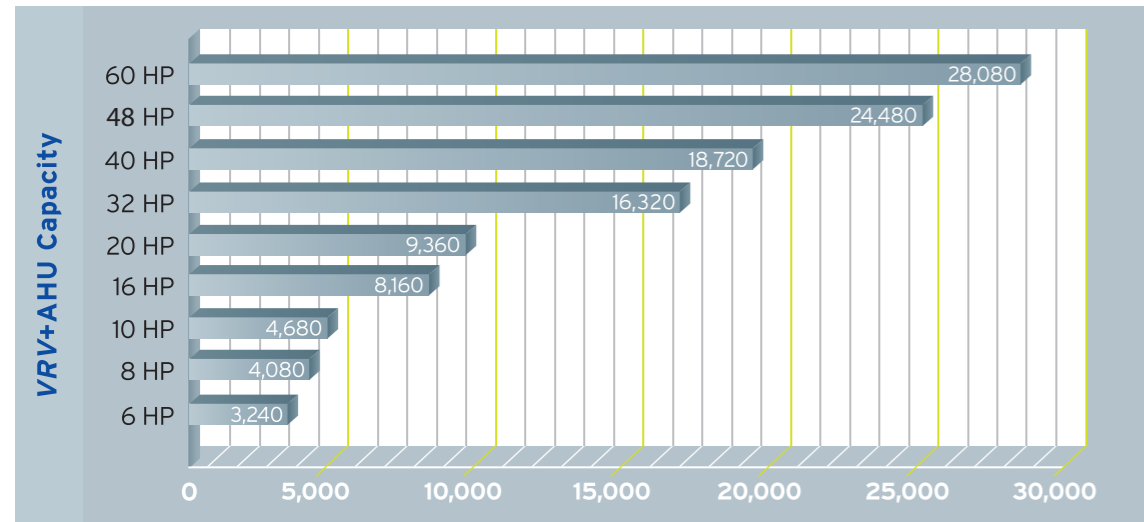
Conventional AHU System	VRV AHU System
Require Frequent Maintenance (Cooling Tower + Chiller)	Easy Maintenance (same as common A/C System)
Higher Cost Due to Frequent Maintenance	No Additional Maintenance Cost
Require Larger Installation Space (AHU, Chiller, Cooling Tower)	Require Small Installation Space (AHU, VRV)
Complex System (HVAC Ducting, Chiller and Water Piping)	Simple System (HVAC Ducting)
Extensive Control (Variable Frequency Device, Variable Air Volume Control)	Simple Control (Remote Control / intelligent Touch Manager)



## Standard Series AHUR-CAVJ/DAVJ/DABVJ

### VRV AHU Standard Series Range

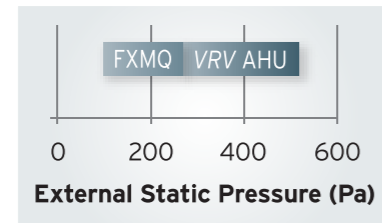
The VRV AHU standard series are available from the capacity range of 6HP to 60HP, also with airflow ranging from 3,240 CMH - 28,080 CMH.



### Expanded Line Up for Daikin VRV Indoor Series

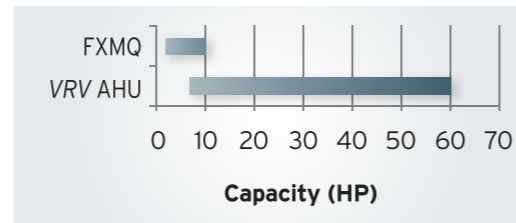
#### Comparison for External Static Pressure and Capacity between VRV AHU and Duct Typed Unit

VRV AHU offers higher ESP and Capacity as compared to duct typed unit.



	From	To
FXMQ	100 Pa	270 Pa
VRV AHU	250 Pa	500 Pa

\*For ESP more than 500Pa, please contact Daikin's Sales Office



	From	To
FXMQ	2 HP	10 HP
VRV AHU	6 HP	60 HP

### VRV AHU Operation Range

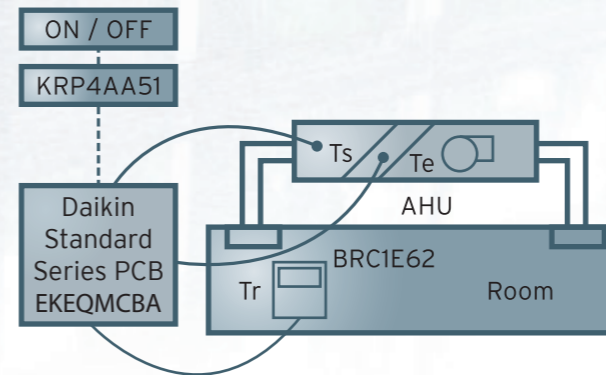
VRV AHU AHUR-CAVJ/DAVJ/DABVJ operation is similar as other VRV indoor unit. Following table is the list of operation range limit for AHU unit.

		Ambient Temperature	
		Cooling	Heating
Entering Air Temperature On Heat Exchanger AHU	Minimum	20°C DB / 14°C WB	14°C DB
	Maximum	32°C DB / 24°C WB	24°C DB
Outdoor Unit	VRV IV	Minimum	-5°C DB
		Maximum	49°C DB
Standard Series PCB		Minimum	-10°C WB
		Maximum	40°C DB

### Possibility Z (Ts/Tr control):

Using Daikin wired remote controller (BRC1E62 - optional) Set point can be fixed via standard Daikin wired remote controller. Remote ON/OFF can be achieved by an optional adapter KRP4AA51.

No additional external controller is required. The cooling load is determined from the air suction temperature and set point on the Daikin remote controller.



Ts = Air suction temperature  
Tr = Room temperature  
Te = Evaporating temperature  
AHU = Air Handling Unit

### VRV AHU Standard Series Evaporator Coil, Expansion Valve and PCB

AHUR-CAVJ/DAVJ/DABVJ standard series model use DX coil. Each DX coil will be connected to one external expansion valve (EKEXV) and controlled by one Standard Series PCB (EKEQMCBA).

VRV AHU Expansion Valve (EKEXV)

- 5 Types of AHU Expansion Valve
  - EKEXV140 for 6HP Coil
  - EKEXV200 for 8HP Coil
  - EKEXV250 for 10HP Coil
  - EKEXV400 for 16HP Coil
  - EKEXV500 for 20HP Coil

VRV AHU Standard Series PCB (EKEQMCBA)

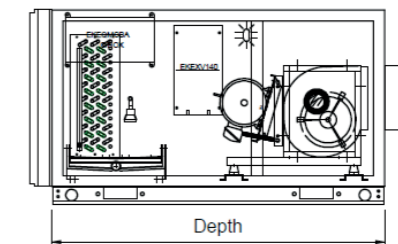


### VRV AHU Expansion Valve

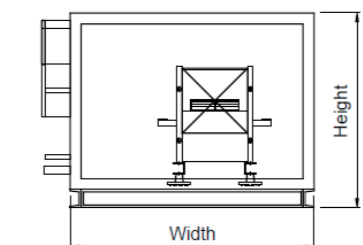
		EKEXV140	EKEXV200	EKEXV250	EKEXV400	EKEXV500
Casing	Colour	Ivory white				
	Material	Metal				
Dimensions	Unit	H x W x D mm		401 x 215 x 78		
Weight	Unit	Kg		2.9		
Operation Range	Cooling	Min. ~ Max. °CDB		-5.0 ~ 46.0		
	Refrigerant	Type		R-410A		
Piping connections	Liquid	Type	Braze connection			
		OD mm	9.52	12.7	15.9	
	Gas	Type	Braze connection			
		OD mm	9.52			
Heat Insulation	Both inlet and outlet					

### VRV AHU Standard Series PCB

		EKEQMCBA
Application		Multi
Outdoor Unit		VRV IV
Casing	Colour	White grey
	Material	Resin
Dimensions	Unit	H x W x D mm
Weight	Unit	Kg
Operation Range	Cooling	Min. ~ Max. °CDB
	Phase	1
Power Supply	Frequency Hz	50/60
	Voltage V	230/220



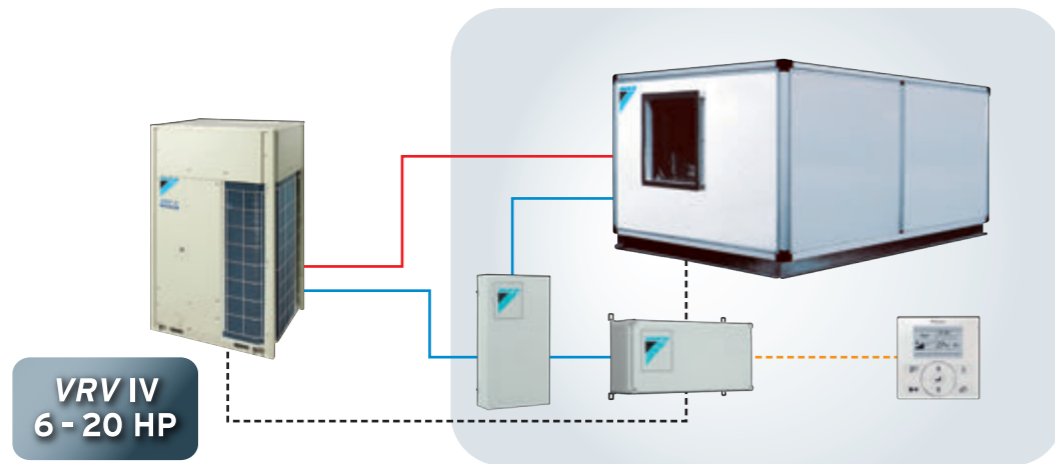
Right View



Front View

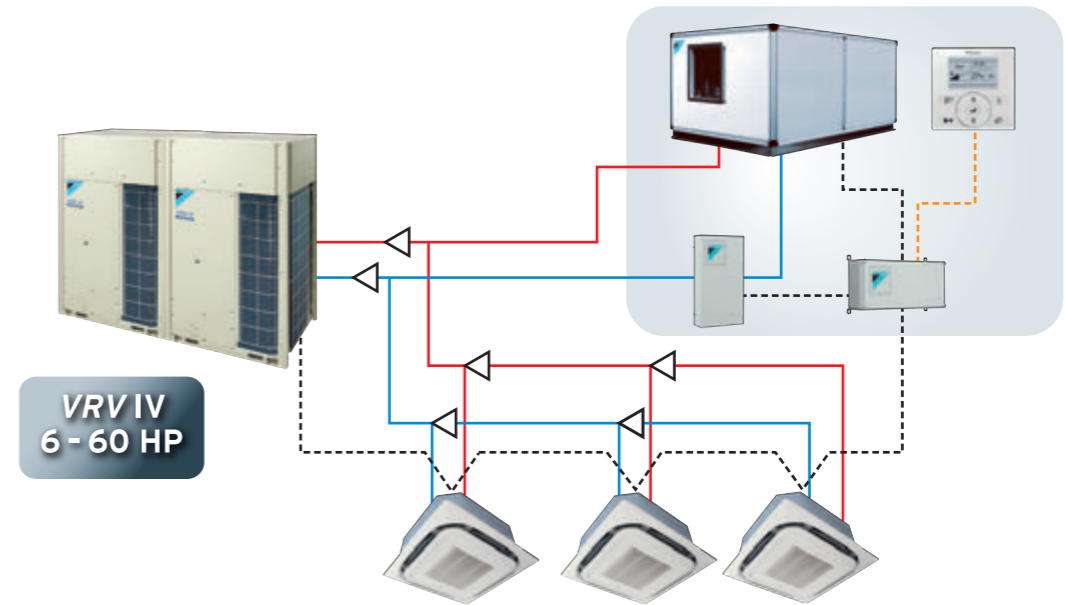
Standard Series AHUR-CAVJ/DAVJ/DABVJ

VRV Connection to AHU Configuration

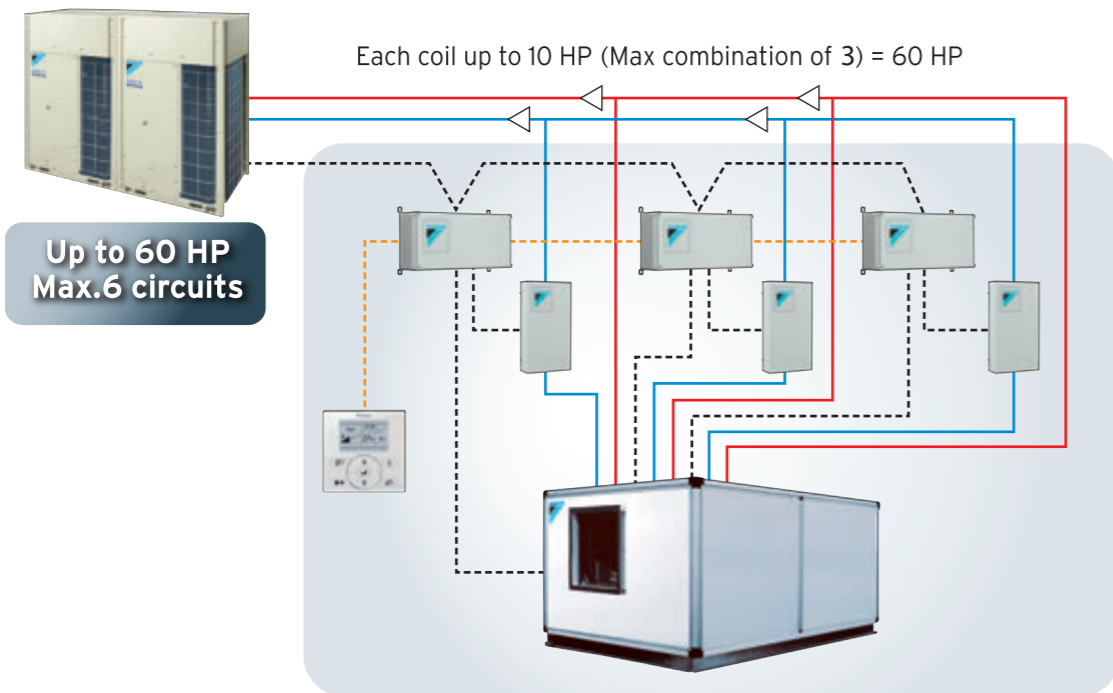


Single VRV System Connection Configuration

Standard Series AHUR-CAVJ/DAVJ/DABVJ



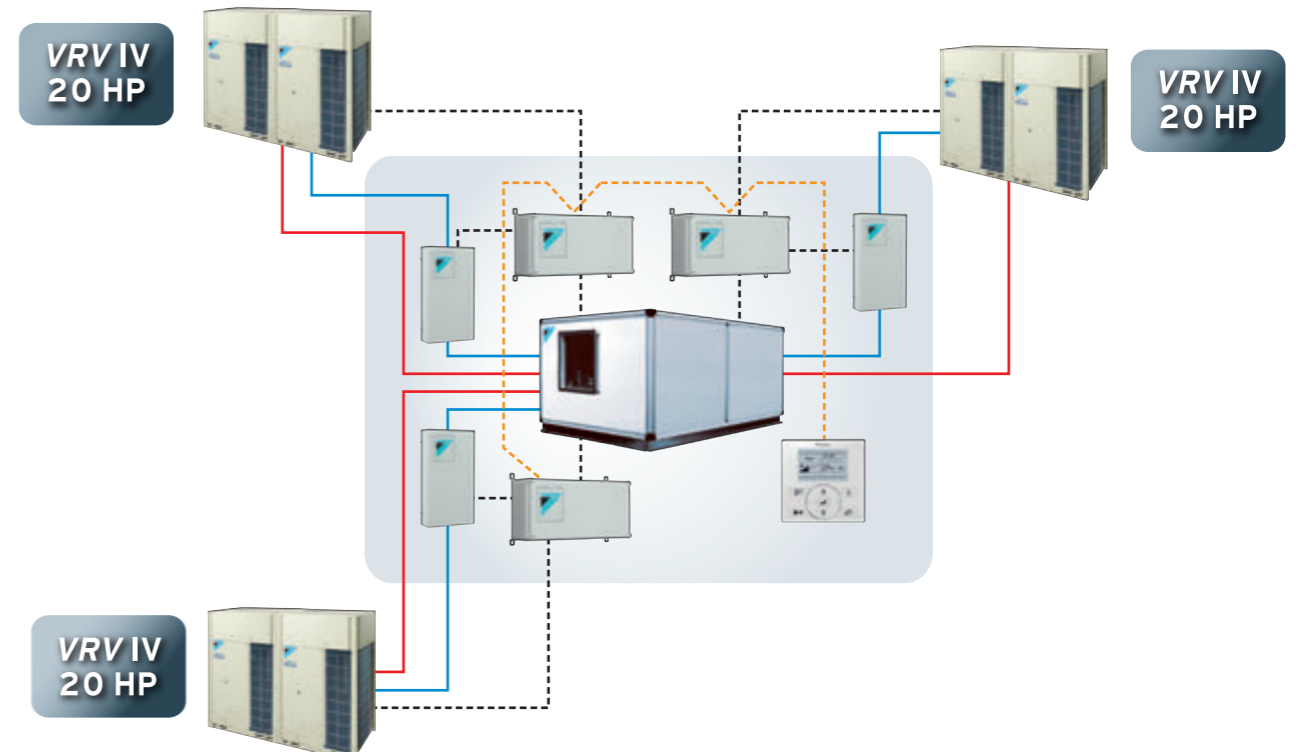
Multiple Connections with Other Indoor Unit Configuration  
\* For AHU more than 60 HP capacity, alternative option is available.



VRV Combined System Connection Configuration

\* In case of more than 60 HP system, connection is multiple VRV system.

..... Control Wiring    - - - - Remote Control Wiring (P<sub>1</sub>P<sub>2</sub>)    — Liquid    — Gas



Multiple VRV Systems Connection Configuration

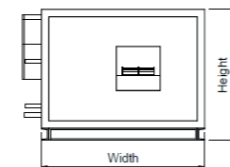
## Standard Series AHUR-CAVJ/DAVJ/DABVJ

MODEL NAME:	AHUR_CAVJ / AHUR_DAVJ / AHUR_DABVJ	
1 CASING	CAVJ	AHUR_CAVJ : 25mm Thickness Double Skinned Panel
	DAVJ	AHUR_DAVJ : 50mm Thickness Double Skinned Panel
	DABVJ	AHUR_DABVJ : 50mm Thickness Double Skinned Panel (Thermal Break)
Metal		0.5mm Thickness White Color Bond Galvanized Steel Sheet
	Insulation	25mm / 50mm Thickness Polyurethane Foam 40kg/m <sup>3</sup> Density
2 CASING FRAME		Aluminum Profile Frame (25mm and 50mm) / Aluminium Profile Frame with Nylon (50mm thermal break)
3 COIL		DX Coil
	Tube	Copper Tube
	Fin	Aluminum
	Header	Copper Tube Connect
	Frame	Galvanized Steel
	Working Pressure	
4 FAN	Type	Double Inlet Forward Curved Centrifugal Belt Driven Fan
	Wheel	Galvanized Steel Sheet
	Housing	Galvanized Steel Sheet
	Frame	Galvanized Angular Bars
5 MOTOR		Three-Phase Induction Motor Totally Enclosed Fan-Cooled Type Protection = IP55, Insulation Class = F, Efficiency: IE3
6 VIBRATION ISOLATOR		For fan size 355 and below, rubber mounting
		For fan size 400 and above, spring isolator
7 DRAIN PAN		1.0mm Stainless Steel 304, external cover with 10mm PE foam
8 AIR FILTER		
	Pre Filter	Type = R29, Class = G3, Synthetic washable
	Size	24"x24"x2", 12"x24"x2"
9 STANDARD SERIES PCB		EKEQMCBAV3 & Motor Starter Panel
10 EXPANSION VALVE		EKEXV140, EKEXV200, EKEXV250, EKEXV400, EKEXV500

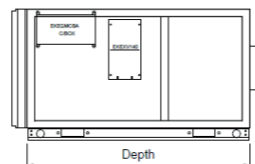
\* For unit to be installed outdoor, roof option (epoxy powder coated) is available, please contact Daikin's Sales Office.

## Drawings and Dimension of AHU

Model	Dimension W x D x H (mm)	Model	Dimension W x D x H (mm)
AHUR06-CAVJ	1100 X 1500 x 880	AHUR06-DAVJ/DABVJ	1150 X 1550 x 930
AHUR08-CAVJ	1400 X 1500 x 880	AHUR08-DAVJ/DABVJ	1450 X 1550 x 930
AHUR10-CAVJ	1400 X 1500 x 880	AHUR10-DAVJ/DABVJ	1450 X 1550 x 930
AHUR16-CAVJ	1400 X 1600 x 1180	AHUR16-DAVJ/DABVJ	1450 X 1650 x 1230
AHUR20-CAVJ	1400 X 1600 x 1480	AHUR20-DAVJ/DABVJ	1450 X 1650 x 1530
AHUR32-CAVJ	1900 X 1900 x 1480	AHUR32-DAVJ/DABVJ	1950 X 1950 x 1530
AHUR40-CAVJ	1900 X 2000 x 1780	AHUR40-DAVJ/DABVJ	1950 X 2050 x 1830
AHUR48-CAVJ	2300 X 2000 x 1780	AHUR48-DAVJ/DABVJ	2350 X 2050 x 1830
AHUR60-CAVJ	2500 X 2000 x 1980	AHUR60-DAVJ/DABVJ	2550 X 2050 x 2030



Front View



Right View

\* Dimension does not include Standard Series PCB, expansion Valve and Pre-filter.

## Standard Series AHUR-CAVJ/DAVJ/DABVJ

### AHUR-CAVJ/DAVJ/DABVJ SPECIFICATIONS

Model		AHUR06CAVJ/DAVJ/DABVJ					AHUR08CAVJ/DAVJ/DABVJ					AHUR10CAVJ/DAVJ/DABVJ					AHUR16CAVJ/DAVJ/DABVJ					AHUR20CAVJ/DAVJ/DABVJ				
Total Cooling Capacity	*1 Net	kW					kW					kW					kW					kW				
Total Sensible Cooling Capacity	*1 Net	kW					kW					kW					kW					kW				
Total Cooling Capacity	*2 Gross	kW					kW					kW					kW					kW				
Total Sensible Cooling Capacity	*2 Gross	kW					kW					kW					kW					kW				
Total Heating Capacity	*1 Net	kW					kW					kW					kW					kW				
Total Heating Capacity	*2 Gross	kW					kW					kW					kW					kW				
Air Flow		cmh/m <sup>3</sup> /min					cmh/m <sup>3</sup> /min					cmh/m <sup>3</sup> /min					cmh/m <sup>3</sup> /min					cmh/m <sup>3</sup> /min				
On Coil (Rated)	Cooling	°CDB/°CWB					°CDB/°CWB					°CDB/°CWB					°CDB/°CWB					°CDB/°CWB				
On Coil (Rated)	Heating	°CDB					°CDB					°CDB					°CDB					°CDB				
Coil Type		DX.Coil (R410A) φ9.52 mm. Wave surface					DX.Coil (R410A) φ9.52 mm. Wave surface					DX.Coil (R410A) φ9.52 mm. Wave surface					DX.Coil (R410A) φ9.52 mm. Wave surface									
Coil Face Area		m <sup>2</sup>					m <sup>2</sup>					m <sup>2</sup>					m <sup>2</sup>					m <sup>2</sup>				
Coil Face Velocity		m/s					m/s					m/s					m/s					m/s				
Air PD. In Coil		Pa					Pa					Pa					Pa					Pa				
*3 Air PD. Pre		Pa					Pa					Pa					Pa					Pa				
*3 Air Filter Size 12"x24"x2"		pcs					pcs					pcs					pcs					pcs				
*3 Air Filter Size 24"x24"x2"		pcs					pcs					pcs					pcs					pcs				
ESP. Initial		Pa					Pa					Pa					Pa					Pa				
Total Static Pressure		Pa					Pa					Pa					Pa					Pa				
Fan Type		Forward Curved					Forward Curved					Forward Curved					Forward Curved									
Model		FDA225CM					FDA250TM					FDA250TM					FDA315TM					FDA355TM				
*4 Fan Motor		kW					kW					kW					kW					kW				
		Pole					Pole					Pole					Pole					Pole				
Power Supply		V/Ph/Hz					V/Ph/Hz					V/Ph/Hz					V/Ph/Hz					V/Ph/Hz				
FLA		Amp.					Amp.					Amp.					Amp.					Amp.				
Machine Weight (25mm / 50mm panel)		kg					kg					kg					kg					kg				
Outlet Sound Level Pressure (25mm / 50mm)		dB(A)					dB(A)					dB(A)					dB(A)					dB(A)				
Standard Series PCB		Model/pcs					Model/pcs					Model/pcs					Model/pcs					Model/pcs				
Expansion Valve		Model/pcs					Model/pcs					Model/pcs					Model/pcs					Model/pcs				
Dimension (WxDxH)		m					m					m					m					m				
Panel Type		Sandwich Panel Thickness 25mm / 50mm / 50mm					Sandwich Panel Thickness 25mm / 50mm / 50mm					Sandwich Panel Thickness 25mm / 50mm / 50mm					Sandwich Panel Thickness 25mm / 50mm / 50mm									
Piping Connections	Liq. pipe	mm					mm					mm					mm					mm				
	Gas pipe	mm					mm					mm					mm					mm				
	Drain pipe	mm					mm					mm					mm					mm				
Refrigerant Control		Electronic Expansion Valve					Electronic Expansion Valve					Electronic Expansion Valve					Electronic Expansion Valve									
Capacity Index		140					200					250					400					500				

Model		AHUR32CAVJ/DAVJ/DABVJ					AHUR40CAVJ/DAVJ/DABVJ					AHUR48CAVJ/DAVJ/DABVJ					AHUR60CAVJ/DAVJ/DABVJ				
Total Cooling Capacity	*1 Net	kW					kW					kW					kW				
Total Sensible Cooling Capacity	*1 Net	kW					kW					kW					kW				
Total Cooling Capacity	*2 Gross	kW					kW					kW					kW				
Total Sensible Cooling Capacity	*2 Gross	kW					kW					kW					kW				
Total Heating Capacity	*1 Net	kW					kW					kW					kW				
Total Heating Capacity	*2 Gross	kW					kW					kW					kW				
Air Flow		cmh/m <sup>3</sup> /min					cmh/m <sup>3</sup> /min					cmh/m <sup>3</sup> /min					cmh/m <sup>3</sup> /min				
On Coil (Rated)	Cooling	°CDB/°CWB					°CDB/°CWB					°CDB/°CWB					°CDB/°CWB				
On Coil (Rated)	Heating	°CDB					°CDB					°CDB					°CDB				
Coil Type		DX.Coil (R410A) φ9.52 mm. Wave surface					DX.Coil (R410A) φ 9.52mm. Wave surface					DX.Coil (R410A) φ9.52 mm. Wave surface									
Coil Face Area		m <sup>2</sup>					m <sup>2</sup>					m <sup>2</sup>					m <sup>2</sup>				
Coil Face Velocity		m/s					m/s					m/s					m/s				
Air PD. In Coil		Pa					Pa					Pa					Pa				
*3 Air PD. Pre		Pa					Pa					Pa					Pa				
*3 Air Filter Size 12"x24"x2"		pcs					pcs					pcs					pcs				
*3 Air Filter Size 24"x24"x2"		pcs					pcs					pcs					pcs				
ESP. Initial		Pa					Pa					Pa					Pa				
Total Static Pressure		Pa					Pa					Pa					Pa				
Fan Type		Forward Curved					Forward Curved					Forward Curved					Forward Curved				
Model		FDA500TM					FDA500TM					FDA630TM					FDA630TM				
*4 Fan Motor		kW					kW					kW					kW				
		Pole					Pole					Pole					Pole				
Power Supply		V/Ph/Hz					V/Ph/Hz					V/Ph/Hz					V/Ph/Hz				
FLA		Amp.					Amp.					Amp.					Amp.				
Machine Weight (25mm / 50mm panel)		kg					kg					kg					kg				
Outlet Sound Level Pressure (25mm / 50mm)		dB(A)					dB(A)					dB(A)					dB(A)				
Standard Series PCB		Model/pcs					Model/pcs					Model/pcs					Model/pcs				
Expansion Valve		Model/pcs					Model/pcs					Model/pcs					Model/pcs				
Dimension (WxDxH)		m					m					m					m				
Panel Type		Sandwich Panel Thickness 25mm / 50mm / 50mm					Sandwich Panel Thickness 25mm / 50mm / 50mm					Sandwich Panel Thickness 25mm / 50mm / 50mm									
Piping Connections	Liq. pipe	mm					mm					mm					mm				
	Gas pipe	mm					mm					mm					mm				
	Drain pipe	mm					mm					mm					mm				
Refrigerant Control		Electronic Expansion Valve					Electronic Expansion Valve					Electronic Expansion Valve					Electronic Expansion Valve				
Capacity Index		800					1000					1200					1500				

#### Notes:

- \*1. Net capacity includes indoor fan heat
- \*2. Gross capacity does not include indoor fan heat
- \*3. With pre filter, synthetic R29 class G3 (washable)
- \*4. Motor is induction motor class F, IP55
- \*5. Table suitable of VRV AHU in Heat pump operation.

#### Connection ratio (Heating & Cooling):

System Pattern	Total CR	VRV Indoor	AHU
VRV DX Indoor unit(s) + AHU	50-110%	0-110% (Cooling) 50-110% (Heating)	0-60%
Only AHU (pair AHU & Multi AHU)	90-110%		90-110%

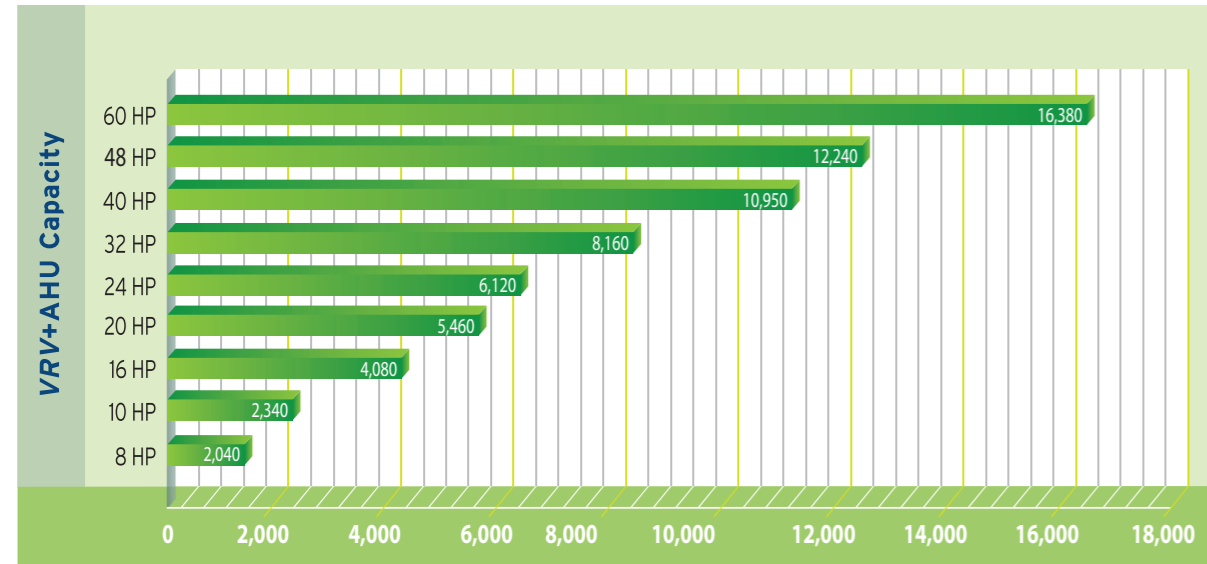
#### Conversion formular

kcal/h=kWx860  
Btu/h=kWx3412  
cfm=m<sup>3</sup>/minx35.3

## Outdoor Air Series AHUR-CALJ/DALJ/DABLJ

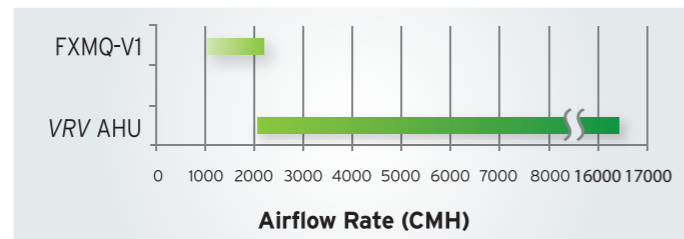
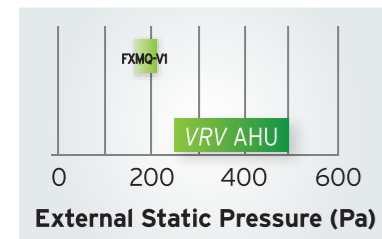
### VRV AHU Outdoor Air Series Range

The VRV AHU outdoor air series are available from the capacity range of 8 HP to 60 HP, also with airflow ranging from 2,040 CMH - 16,380 CMH.



### Comparison for ESP and Capacity between VRV AHU and Ceiling Mounted Duct Type.

VRV AHU offers higher ESP and airflow rate as compared to duct type units.



	From	To
FXMQ-V1	185 Pa	205 Pa
VRV AHU	250 Pa	500 Pa

	From (CMH)	To (CMH)
FXMQ-V1	1,080	2,100
VRV AHU	2,040	16,380

\*For ESP more than 500Pa, please contact Daikin's Sales Office

### VRV AHU Operation Range

VRV AHU AHUR CALJ/DALJ/DABLJ operation is similar as other VRV indoor unit. Following table is the list of operation range limit for AHU unit.

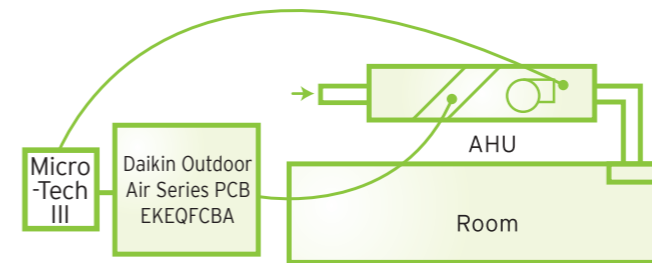
		Ambient Temperature	
		Cooling	Heating
Entering Air Temperature On Heat Exchanger AHU	Minimum	19°C DB	-5°C DB
	Maximum	43°C DB	15°C DB
Outdoor Unit	Minimum	-5°C DB	-20°C WB
	Maximum	49°C DB	15.5°C WB
Outdoor Air Series PCB	Minimum	-10°C WB	
	Maximum	40°C DB	

## Outdoor Air Series AHUR-CALJ/DALJ/DABLJ

### Possibility X (Td control):

Precise air temperature control via MicroTech III controller. The MicroTech III controller translates the temperature difference between set point and air suction temperature into a reference voltage (0-10V) which is transferred to the Daikin Outdoor Air Series PCB (EKEQFCBA).

This reference voltage is used as the main input valve for capacity control through automatic adjustment of Td (Cooling) or Tc (Heating).



Td = Air discharge temperature (13°C ~ 28°C)  
Te = Evaporating temperature  
AHU = Air Handling Unit

### Outdoor Air Series Evaporator Coil, Expansion Valve and PCB

AHUR CALJ/DALJ/DABLJ outdoor air series are using DX coil. Each DX coil will be connected to one external expansion valve (EKEXV) and controlled by one Outdoor Air Series PCB (EKEQFCBA).

VRV AHU Expansion Valve (EKEXV)

- 4 Type AHU Expansion Valve
- EKEXV200 for 8HP Coil
- EKEXV250 for 10HP Coil
- EKEXV400 for 16HP Coil
- EKEXV500 for 20HP Coil

VRV AHU Outdoor Air Series PCB (EKEQFCBA)



Installation of AHU Outdoor Air Series PCB should be positioned under a shaded area. Alternatively, a panel should be provided at the Outdoor Air Series PCB to block off direct sunlight.

Direct sunlight will increase the temperature inside the Outdoor Air Series PCB and may reduce its lifetime and influence its operation.

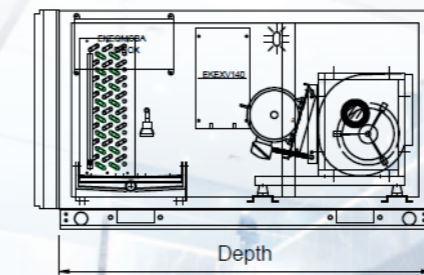
Operating temperature of the Outdoor Air Series PCB is between -10°C and 40°C.

### VRV AHU Expansion Valve

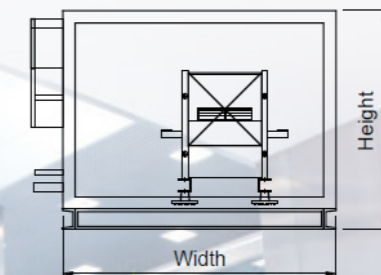
		EKEXV200	EKEXV250	EKEXV400	EKEXV500
Casing	Colour	Ivory white			
	Material	Metal			
Dimensions	Unit	H x W x D mm			
Weight	Unit	Kg			
		2.9			
Operation Range	Cooling	Min. ~ Max. °CDB			
		-5.0 ~ 46.0			
Refrigerant	Type	R-410A			
		Brze connection			
Piping connections	Liquid	Type	Brze connection		
		OD mm	9.52	12.7	15.9
	Gas	Type	Brze connection		
		OD mm	9.52		
Heat Insulation		Both inlet and outlet			

### VRV AHU Outdoor Air Series PCB

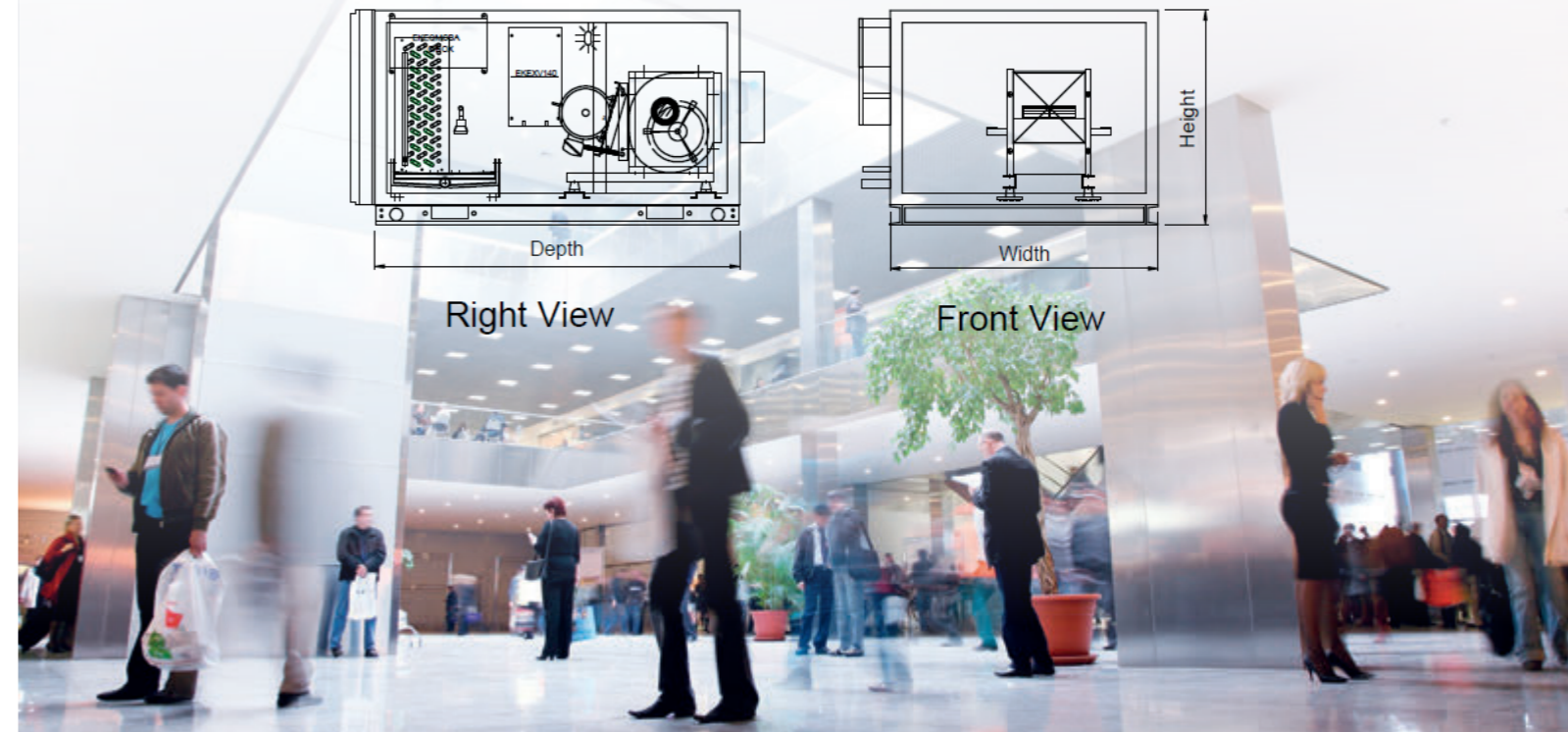
		EKEQFCBA
Application		Multi
Outdoor Unit		VRV IV
Casing	Colour	White grey
	Material	Resin
Dimensions	Unit	H x W x D mm
Weight	Unit	Kg
		3.9
Operation Range	Cooling	Min. ~ Max. °CDB
		-10.0 ~ 40.0
Power Supply	Phase	1
	Frequency	Hz
	Voltage	V
		50/60
		230/220



Right View

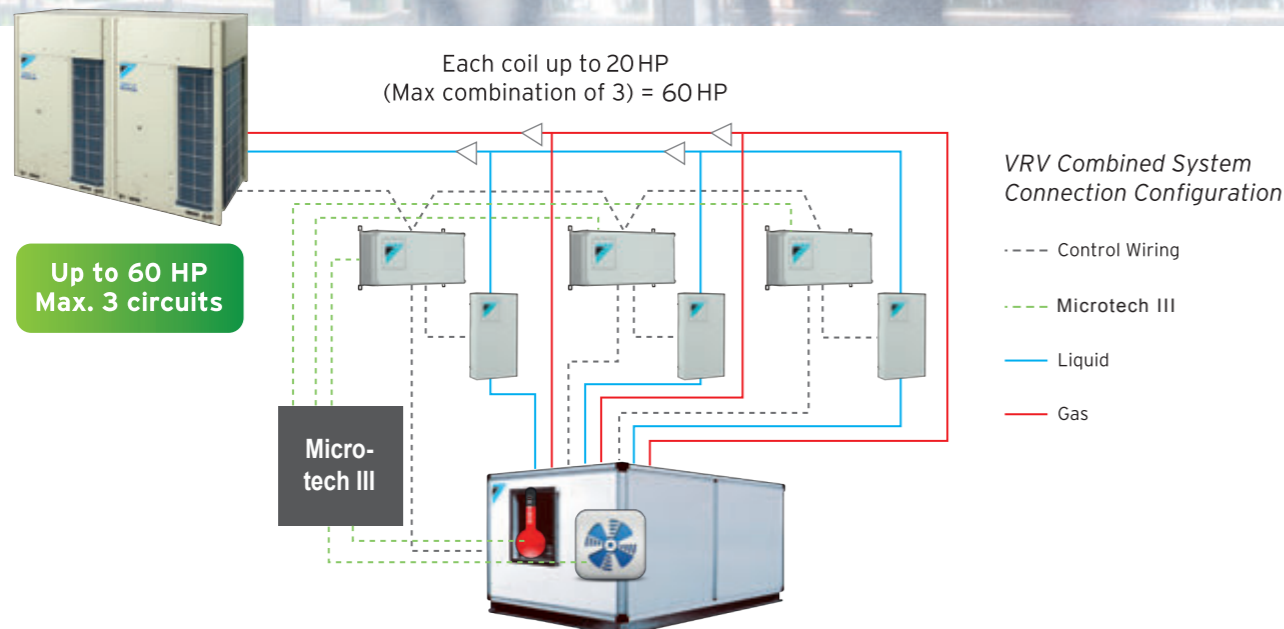
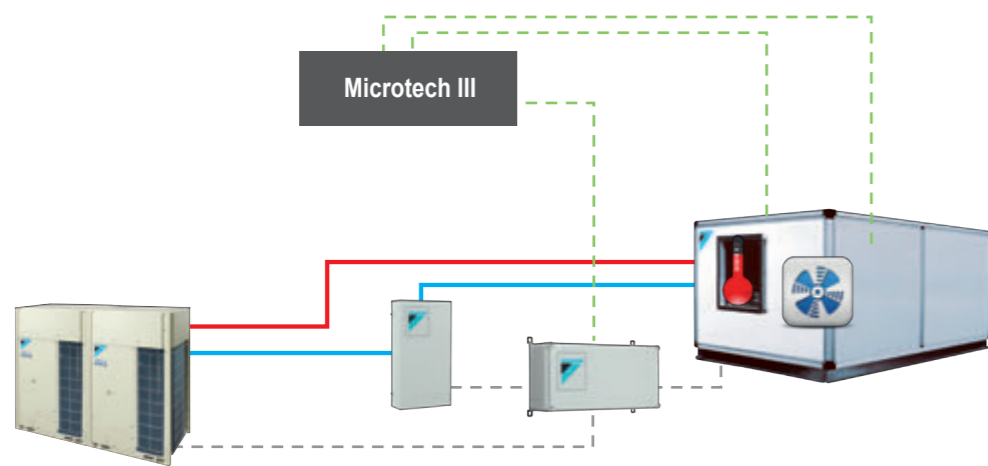


Front View



## Outdoor Air Series AHUR-CALJ/DALJ/DABLJ

### VRV Connection to AHU Configuration



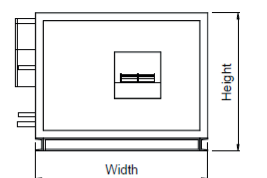
## Outdoor Air Series AHUR-CALJ/DALJ/DABLJ

MODEL NAME:	AHUR_CALJ / AHUR_DALJ / AHUR_DABLJ
<b>1 CASING</b>	AHUR_CALJ : 25mm Thickness Double Skinned Panel AHUR_DALJ : 50mm Thickness Double Skinned Panel AHUR_DABLJ : 50mm Thickness Double Skinned Panel (Thermal Break)
Metal	0.5mm Thickness White Color Bond Galvanized Steel Sheet
Insulation	25mm / 50mm Thickness Polyurethane Foam 40kg/m <sup>3</sup> Density
<b>2 CASING FRAME</b>	Aluminum Profile Frame (25mm and 50mm) / Aluminium Profile Frame with Nylon (50mm thermal break)
<b>3 COIL</b>	DX Coil
Tube	Copper Tube
Fin	Aluminum
Header	Copper Tube Connect
Frame	Galvanized Steel
Working Pressure	41 kg/cm <sup>2</sup> G or below
<b>4 FAN</b>	
Type	Double Inlet Forward Curved Centrifugal Belt Driven Fan
Wheel	Galvanized Steel Sheet
Housing	Galvanized Steel Sheet
Frame	Galvanized Angular Bars
<b>5 MOTOR</b>	Three-Phase Induction Motor Totally Enclosed Fan-Cooled Type Protection = IP55, Insulation Class = F, efficiency: IE3
<b>6 VIBRATION ISOLATOR</b>	For fan size 355 and below, rubber mounting For fan size 400 and above, spring isolator
<b>7 DRAIN PAN</b>	1.0mm Stainless Steel 304, external cover with 10mm PE foam
<b>8 AIR FILTER</b>	
Pre Filter	Type = R29, Class = G3, Synthetic washable
Size	24"x24"x2", 12"x24"x2"
<b>9 WEATHER PROOF ROOF</b>	Epoxy Powder Coated Steel
<b>10 OUTDOOR AIR SERIES PCB</b>	EKEQFCBAV3 & Motor Starter Panel
<b>11 EXPANSION VALVE</b>	EKEXV200, EKEXV250, EKEXV400, EKEXV500

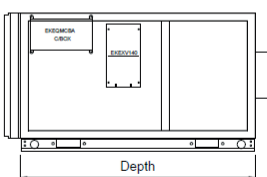
### Drawings and Dimension of AHU

Model	Dimension W x D x H (mm)	Model	Dimension W x D x H (mm)
AHUR08-CALJ	1100 X 2000 x 880	AHUR08-DALJ/DABLJ	1150 X 2050 x 930
AHUR10-CALJ	1400 X 2000 x 880	AHUR10-DALJ/DABLJ	1450 X 2050 x 930
AHUR16-CALJ	1400 X 1900 x 1180	AHUR16-DALJ/DABLJ	1450 X 1950 x 1230
AHUR20-CALJ	1700 X 1900 x 1180	AHUR20-DALJ/DABLJ	1750 X 1950 x 1230
AHUR24-CALJ	1700 X 2800 x 1180	AHUR24-DALJ/DABLJ	1750 X 2850 x 1230
AHUR32-CALJ	1900 X 2400 x 1480	AHUR32-DALJ/DABLJ	1950 X 2450 x 1530
AHUR40-CALJ	1900 X 2000 x 1780	AHUR40-DALJ/DABLJ	1950 X 2050 x 1830
AHUR48-CALJ	1900 X 2400 x 1780	AHUR48-DALJ/DABLJ	1950 X 2450 x 1830
AHUR60-CALJ	2300 X 2000 x 1980	AHUR60-DALJ/DABLJ	2350 X 2050 x 2030

\* Dimension does not include Outdoor Air Series PCB, expansion Valve and Pre-filter.



Front View



Right View



# Outdoor Air Series AHUR-CALJ/DALJ/DABLJ

## AHUR-CALJ/DALJ/DABLJ

Model	AHUR08CALJ/DALJ/DABLJ					AHUR10CALJ/DALJ/DABLJ					AHUR16CALJ/DALJ/DABLJ					AHUR20CALJ/DALJ/DABLJ					AHUR24CALJ/DALJ/DABLJ																																																						
Total Cooling Capacity	*1 Net		kW					kW					kW					kW					kW																																																				
Total Sensible Cooling Capacity	*1 Net		kW					kW					kW					kW					kW																																																				
Total Cooling Capacity	*2 Gross		kW					kW					kW					kW					kW																																																				
Total Sensible Cooling Capacity	*2 Gross		kW					kW					kW					kW					kW																																																				
Total Heating Capacity	*1 Net		kW					kW					kW					kW					kW																																																				
Total Heating Capacity	*2 Gross		kW					kW					kW					kW					kW																																																				
Air Flow			cmh/m <sup>3</sup> /min					cmh/m <sup>3</sup> /min					cmh/m <sup>3</sup> /min					cmh/m <sup>3</sup> /min					cmh/m <sup>3</sup> /min																																																				
On Coil (Rated)	Cooling		°CDB/CWB					°CDB/CWB					°CDB/CWB					°CDB/CWB					°CDB/CWB																																																				
On Coil (Rated)	Heating		°CDB					°CDB					°CDB					°CDB					°CDB																																																				
Coil Type	DX.Coil (R410A) φ9.52 mm. Wave surface															DX.Coil (R410A) φ9.52 mm. Wave surface															DX.Coil (R410A) φ9.52 mm. Wave surface																																												
Coil Face Area	0.41					0.56					0.92					1.16					1.16					1.16																																																	
Coil Face Velocity	1.38					1.15					1.24					1.30					1.46					1.46																																																	
Air PD. In Coil	Pa					Pa					Pa					Pa					Pa					Pa																																																	
*3 Air PD. Pre	Pa					Pa					Pa					Pa					Pa					Pa																																																	
*3 Air Filter Size 12"x24"x2"	pcs					pcs					pcs					pcs					pcs					pcs																																																	
*3 Air Filter Size 24"x24"x2"	pcs					pcs					pcs					pcs					pcs					pcs																																																	
ESP. Initial	Pa		Pa					Pa					Pa					Pa					Pa					Pa																																															
Total Static Pressure	Pa		Pa					Pa					Pa					Pa					Pa					Pa																																															
Fan Type	Forward Curved															Forward Curved															Forward Curved																																												
Model	FDA180CM					FDA180CM					FDA250TM					FDA250TM					FDA280TM																																																						
*4 Fan Motor	kW		kW					kW					kW					kW					kW																																																				
Power Supply	V/Ph/Hz															V/Ph/Hz															V/Ph/Hz																																												
FLA	Amp.					Amp.					Amp.					Amp.					Amp.																																																						
Machine Weight (25mm / 50mm panel)	kg					kg					kg					kg					kg																																																						
Outlet Sound Level Pressure (25mm / 50mm)	dB(A)					dB(A)					dB(A)					dB(A)					dB(A)																																																						
Outdoor Air Series PCB	Model/pcs					Model/pcs					Model/pcs					Model/pcs					Model/pcs																																																						
Expansion Valve	Model/pcs					Model/pcs					Model/pcs					Model/pcs					Model/pcs																																																						
Dimension (WxDxH)	m					m					m					m					m																																																						
Panel Type	Sandwich Panel Thickness 25mm / 50mm / 50mm															Sandwich Panel Thickness 25mm / 50mm / 50mm															Sandwich Panel Thickness 25mm / 50mm / 50mm																																												
Piping Connections	Liq. pipe		mm					mm					mm					mm					mm																																																				
Piping Connections	Gas pipe		mm					mm					mm					mm					mm																																																				
Piping Connections	Drain pipe		mm					mm					mm					mm					mm																																																				
Refrigerant Control	Electronic Expansion Valve															Electronic Expansion Valve															Electronic Expansion Valve																																												
Capacity Index	200															250															400															500															600														

Model	AHUR32CALJ/DALJ/DABLJ					AHUR40CALJ/DALJ/DABLJ					AHUR48CALJ/DALJ/DABLJ					AHUR60CALJ/DALJ/DABLJ																																												
Total Cooling Capacity	*1 Net		kW					kW					kW					kW																																										
Total Sensible Cooling Capacity	*1 Net		kW					kW					kW					kW																																										
Total Cooling Capacity	*2 Gross		kW					kW					kW					kW																																										
Total Sensible Cooling Capacity	*2 Gross		kW					kW					kW					kW																																										
Total Heating Capacity	*1 Net		kW					kW					kW					kW																																										
Total Heating Capacity	*2 Gross		kW					kW					kW					kW																																										
Air Flow			cmh/m <sup>3</sup> /min					cmh/m <sup>3</sup> /min					cmh/m <sup>3</sup> /min					cmh/m <sup>3</sup> /min																																										
On Coil (Rated)	Cooling		°CDB/CWB					°CDB/CWB					°CDB/CWB					°CDB/CWB																																										
On Coil (Rated)	Heating		°CDB					°CDB					°CDB					°CDB																																										
Coil Type	DX.Coil (R410A) φ9.52 mm. Wave surface															DX.Coil (R410A) φ9.52 mm. Wave surface															DX.Coil (R410A) φ9.52 mm. Wave surface																													
Coil Face Area	1.61					2.25					2.25					3.06																																												
Coil Face Velocity	1.41					1.35					1.51					1.49																																												
Air PD. In Coil	Pa					Pa					Pa					Pa																																												
*3 Air PD. Pre	Pa					Pa					Pa					Pa																																												
*3 Air Filter Size 12"x24"x2"	pcs					pcs					pcs					pcs																																												
*3 Air Filter Size 24"x24"x2"	pcs					pcs					pcs					pcs																																												
ESP. Initial	Pa		Pa					Pa					Pa					Pa																																										
Total Static Pressure	Pa		Pa					Pa					Pa					Pa																																										
Fan Type	Forward Curved															Forward Curved																																												
Model	FDA315TM					FDA400TM					FDA400TM					FDA500TM																																												
*4 Fan Motor	kW		kW					kW					kW					kW																																										
Power Supply	V/Ph/Hz															V/Ph/Hz															V/Ph/Hz																													
FLA	Amp.					Amp.					Amp.					Amp.																																												
Machine Weight (25mm / 50mm panel)	kg					kg					kg					kg																																												
Outlet Sound Level Pressure (25mm / 50mm)	dB(A)					dB(A)					dB(A)					dB(A)																																												
Outdoor Air Series PCB	Model/pcs					Model/pcs					Model/pcs					Model/pcs																																												
Expansion Valve	Model/pcs					Model/pcs					Model/pcs					Model/pcs																																												
Dimension (WxDxH)	m					m					m					m																																												
Panel Type	Sandwich Panel Thickness 25mm / 50mm / 50mm															Sandwich Panel Thickness 25mm / 50mm / 50mm															Sandwich Panel Thickness 25mm / 50mm / 50mm																													
Piping Connections	Liq. pipe		mm					mm					mm					mm																																										
Piping Connections	Gas pipe		mm					mm					mm					mm																																										
Piping Connections	Drain pipe		mm					mm					mm					mm																																										
Refrigerant Control	Electronic Expansion Valve															Electronic Expansion Valve															Electronic Expansion Valve																													
Capacity Index	800															1000															1200															1500														

### Notes:

- \*1. Net capacity includes indoor fan heat
- \*2. Gross capacity does not include indoor fan heat
- \*3. With pre filter, synthetic R29 class G3 (washable)
- \*4. Motor is induction motor class F, IP55
5. Air Temperature control via Microtech III Controller
6. Table suitable for VRV AHU in Heat pump operation
7. Above Net capacities are based on the conditions below:  
 Discharge temperature: 19°CDB (Cooling), 25°CDB (Heating)  
 Rated condition (On Coil): 33°CDB/28°CWB (Cooling), 0°CDB (Heating)  
 Note: Discharge temperature for AHUR16, 20 & 60 is expected to be higher than 19°CDB, refer to engineering data book for further details

### Connection ratio (Heating & Cooling):

System Pattern	Total CR	VRV indoor	AHU
Only AHU (Pair AHU & Multi AHU)	90-110%	-	90-110%

### Conversion formular

$$\text{kcal/h} = \text{kW} \times 860$$

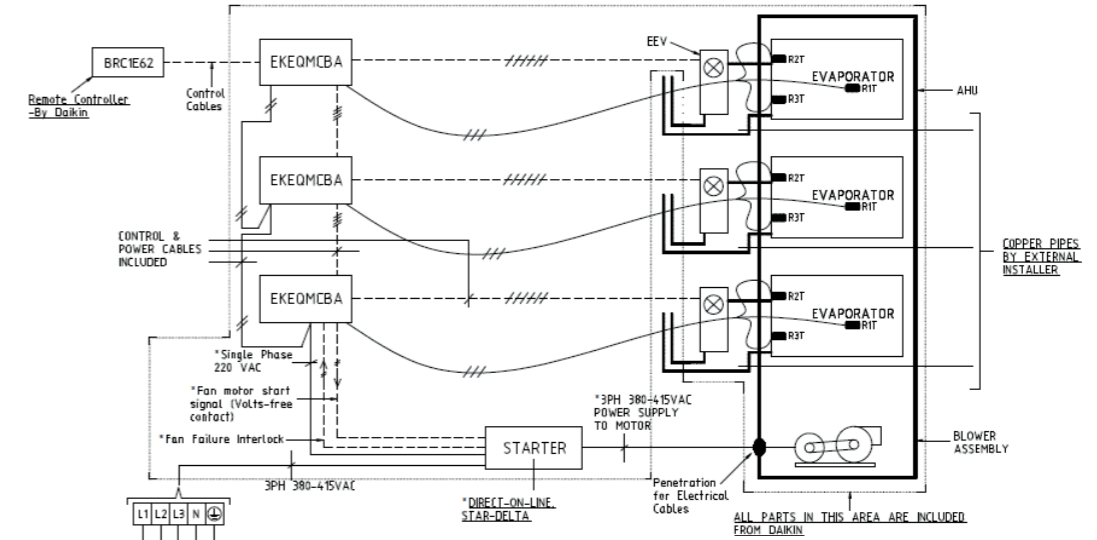
$$\text{Btu/h} = \text{kW} \times 3412$$

$$\text{cfm} = \text{m}^3 / \text{min} \times 35.3$$

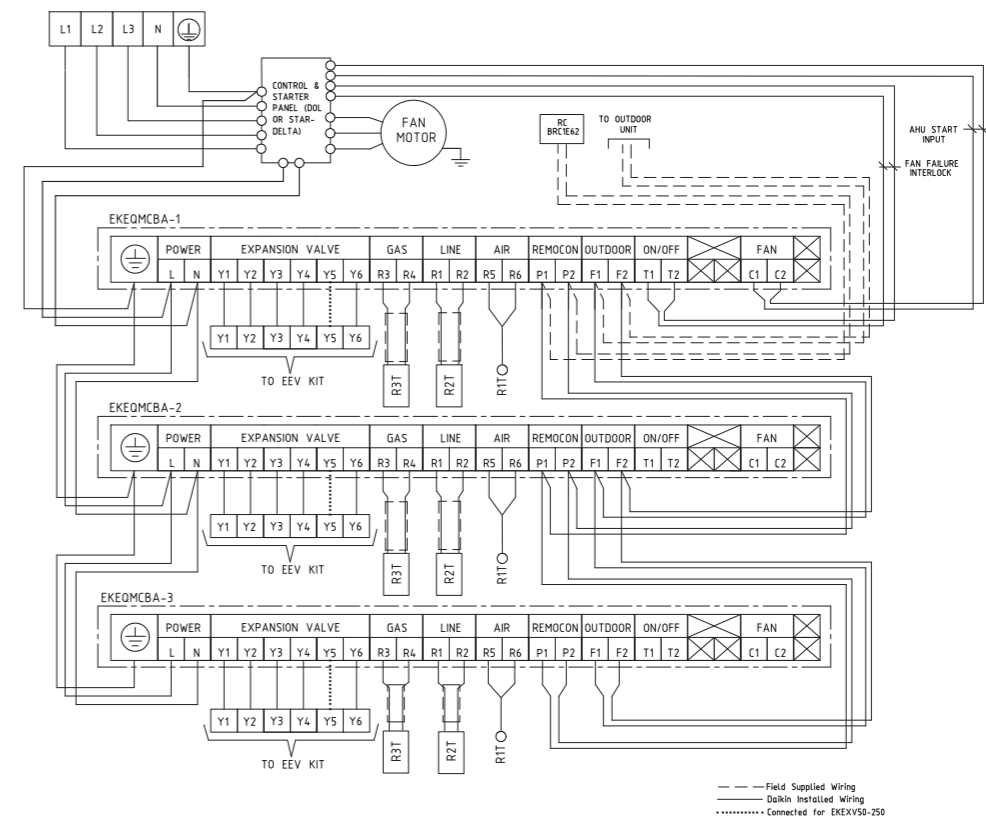
# Technical Information

## VRV AHU Standard Series Schematic Diagram

Schematic Diagram of Standard Series to Show Line of Responsibility of Daikin & External Installer

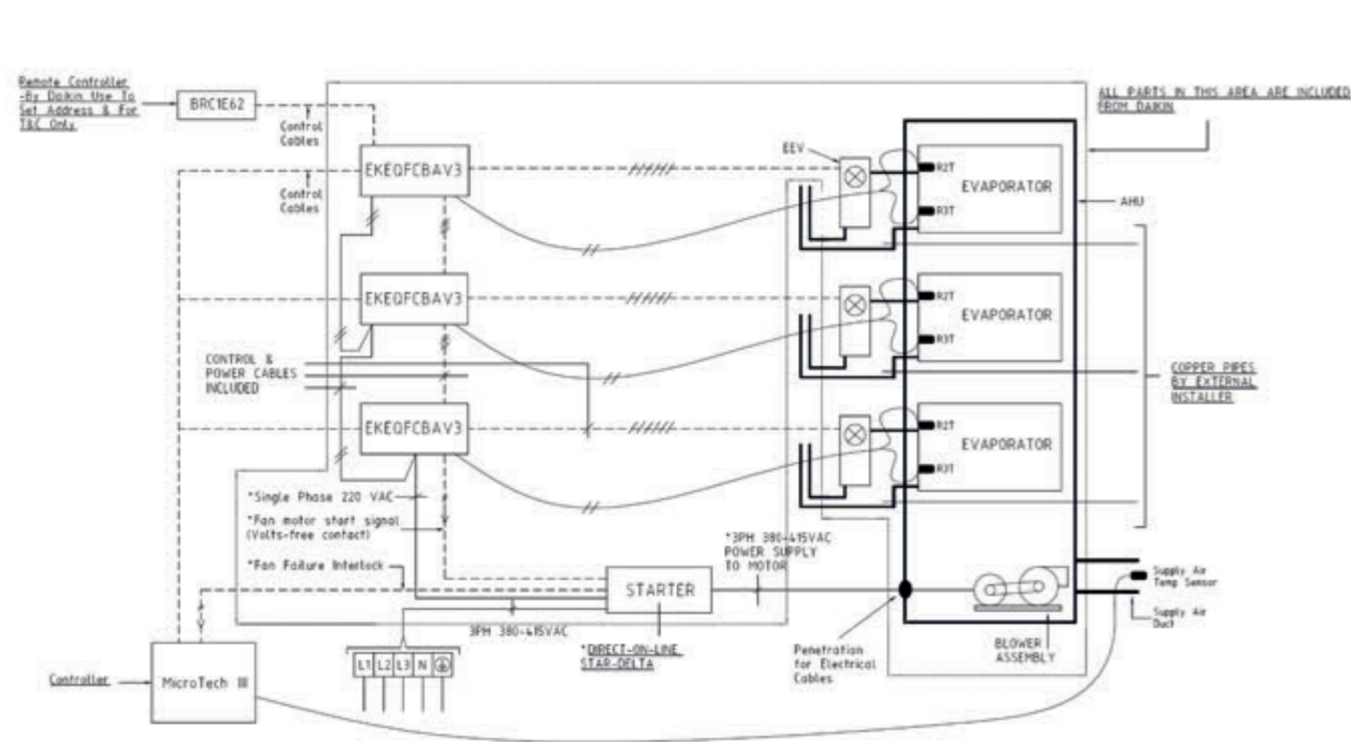


## VRV AHU Standard Series Wiring Diagram (AHUR60CAVJ/DAVJ/DABVJ)

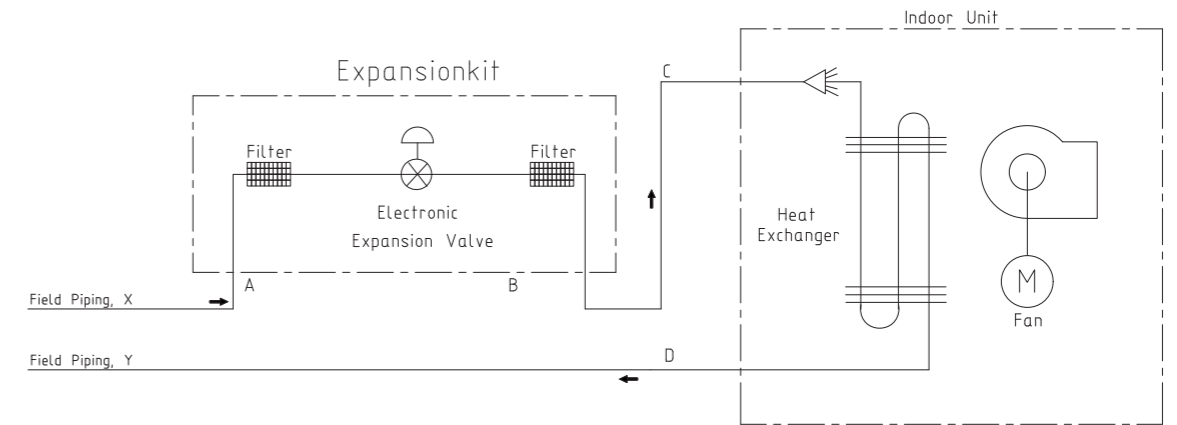


### VRV AHU Outdoor Air Series Schematic Diagram

Schematic Diagram of Outdoor Air Series to Show Line of Responsibility of Daikin & External Installer

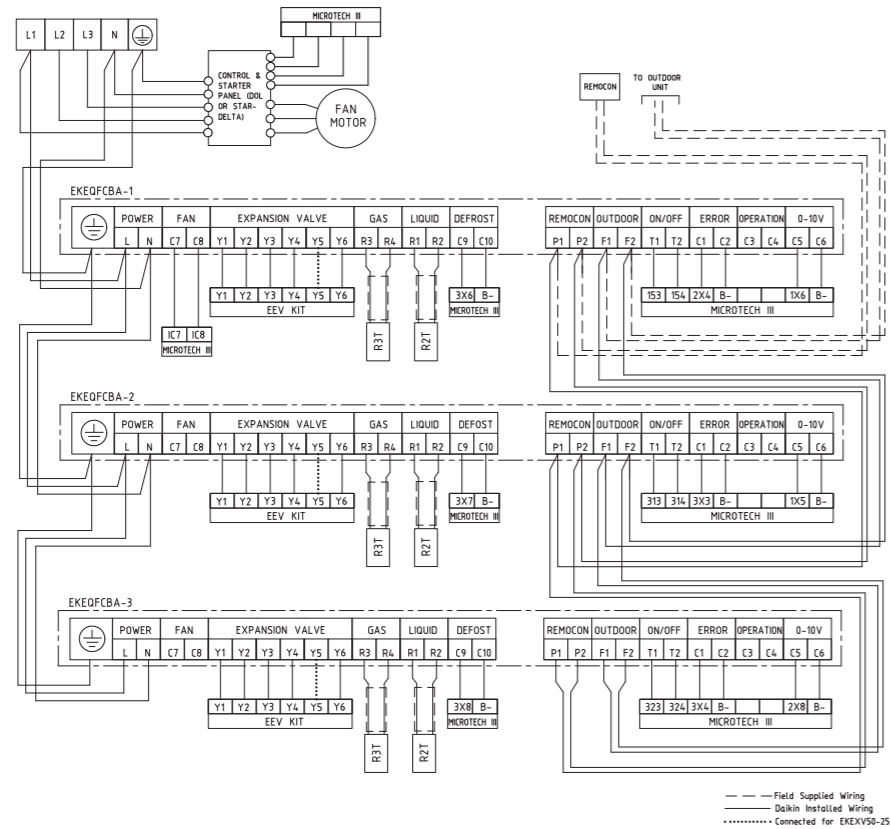


### Refrigerant Pipe Diameter for VRV AHU



**VRV AHU Series**  
 AHUR xx CAVJY1/ DAVJY1/ DABVJY1 ( Standard, 380-415V/ 3Ø/ 50Hz )  
 AHUR xx CALJY1/ DALJY1/ DABLJY1 ( OA, 380-415V/ 3Ø/ 50Hz )

### VRV AHU Outdoor Air Series Wiring Diagram (CALJ/DALJ/DABLJ)



VRV AHU HP	Standard Series	Outdoor Air Series	Field Pipe	Daikin Supplied		Connection by Daikin		Daikin Supplied		Field Pipe
			X	A	B	C	D	Y		
6	●		9.5	9.5	9.5	9.5	19.1	19.1		
8	●	●	9.5	9.5	9.5	9.5	19.1	19.1		
10	●	●	9.5	9.5	9.5	9.5	22.2	22.2		
16	●	●	12.7	12.7	12.7	12.7	28.6	28.6		
20	●	●	15.9	15.9	15.9	15.9	28.6	28.6		
24	●	●	9.5	9.5	9.5	9.5	19.1	19.1		
32	●	●	12.7	12.7	12.7	12.7	28.6	28.6		
40	●	●	15.9	15.9	15.9	15.9	28.6	28.6		
48	●	●	12.7	12.7	12.7	12.7	28.6	28.6		
60	●	●	15.9	15.9	15.9	15.9	28.6	28.6		

**Warning**

- Ask a qualified installer or contractor to install this product. Do not try to install the product yourself. Improper installation can result in water or refrigerant leakage, electrical shock, fire or explosion.
- Use only those parts and accessories supplied or specified by Daikin. Ask a qualified installer or contractor to install those parts and accessories. Use of unauthorized parts and accessories or improper installation of parts and accessories can result in water or refrigerant leakage, electrical shock, fire or explosion.
- Read the user's manual carefully before using this product. The user's manual provides important safety instructions and warnings. Be sure to follow these instructions and warnings.

If you have any enquiries, please contact your local importer, distributor and/or retailer.

**Cautions on product corrosion**

1. Air conditioners should not be installed in areas where corrosive gases, such as acid gas or alkaline gas, are produced.
2. If the outdoor unit is to be installed close to the seashore, direct exposure to the sea breeze should be avoided. If you need to install the outdoor unit close to the seashore, contact your local distributor.