

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.

Dealer

PT. DAIKIN AIRCONDITIONING INDONESIA

HEAD OFFICE:

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Management System
 ISO 9001:2015
 www.tuv.com
 ID 9105084313

- **SERVICE CENTER** : Jakarta Selatan, Telp. : 021-2782 5545 | Samarinda, Telp. : 0541-252 2889
- **WORKSHOP** : Cirebon, Telp. : 0231-8817 512 | Banjarmasin, Telp. : 0511-6776 838 | Aceh, Telp. : 0651-7318 036
- Lombok, Telp. : 0370-7843 231 | Jambi, Telp. : 0741-3066 790 | Padang, Telp. : 0751-896 2684
- **TRAINING CENTER** : Sunter, Telp. : 021-650 5030 • **BRANCH** : Bekasi, Telp. : 021-2945 0585
- Tangerang, Telp. : 021-5314 1195 | Bandung, Telp. : 022-522 5150 | Semarang, Telp. : 024-7660 3221
- Yogyakarta, Telp. : 0274-551 321 | Surabaya, Telp. : 031-503 1138 | Denpasar, Telp. : 0361-900 5514
- Makassar, Telp. : 0411-805 2691 | Palembang, Telp. : 0711-573 2282 | Pekanbaru, Telp. : 0761-561 139
- Medan, Telp. : 061-4200 8866 | Manado, Telp. : 0431-719 1199 | Batam, Telp. : 0778-4171 445

Daikin Contact Center : 0800 1 081 081 (Toll Free)

DAIKIN CONTACT CENTER
 0800 1 081 081
 BEBAS PULSA
 365 hari/tahun
 Jam Beroperasi :
 Senin - Jumat :
 07.00 - 19.00 WIB
 Sabtu - Minggu & Libur Nasional :
 08.00 - 17.00 WIB



PCXDMT2212

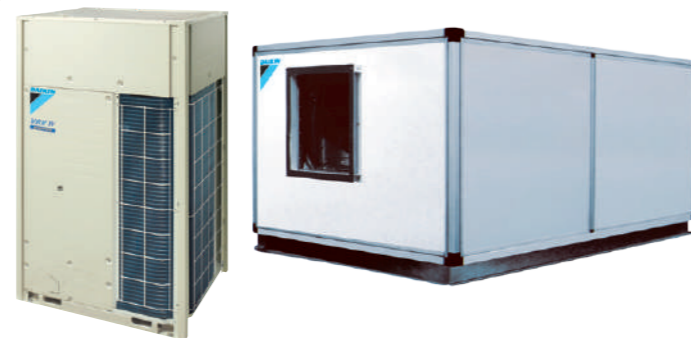
VRV AHU System



R-410A



VRV AHU Applications

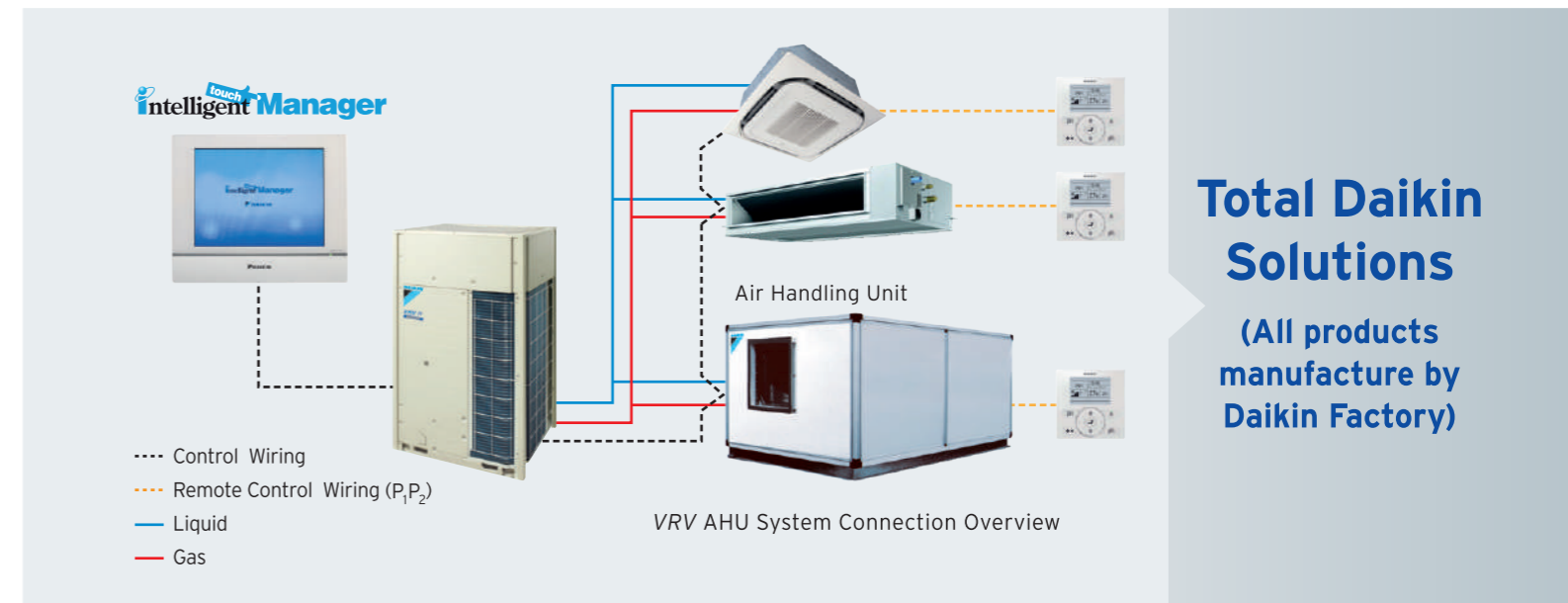


VRV AHU Introduction

Daikin releases 2 series of VRV AHU unit namely, standard series model AHUR-CAVJ/DAVJ/DABVJ and outdoor air series model AHUR-CALJ/DALJ/DABLJ. It is a DX AHU system that is specially designed to work with the VRV IV outdoor unit. This new model release is an inlet temperature control type AHU. This enabled the users to reduce maintenance costs and enjoy more space savings.

Daikin VRV AHU improves the indoor air quality caused by haze, pollutants, etc with options of coarse, fine filter & HEPA filter.

This is the only total AHU solutions provided and manufactured completely by Daikin.



What is VRV?

Daikin VRV system is a multi-split type air conditioner for commercial buildings that uses variable refrigerant flow control invented by Daikin.



It enables long piping length up to 165m and maximum level difference (between outdoor and indoor units) of 90m to provide more design flexibility which can match even large-sized buildings.

It allows one touch selection control using intelligent Touch Manager and includes options to link with BACnet® to enhance the Building Management System (BMS).

VRV AHU Application

From small to large commercial spaces, Daikin offers a range of R-410A inverter condensing units for use in conjunction with Air Handling Units (AHU) from 6HP to 120HP."

AHU provides large air volumes and high ESP (External Static Pressure) enabling the use of extensive ductworks. The refrigerant flows through the copper pipes using R-410A and operates like a large VRV fan coil unit.

Daikin AHU represents the ideal solution for large storage places, atrium, lobby, banquet halls, showrooms, exhibition halls, shopping malls, etc.

It also has the options to customize the specifications such as the filtration type, direction of air in-take and discharge, service access door and blower type (backward or forward curves and plug fan).

The model DABVJ/DABLJ is with high quality thermal break aluminum profile which design to meet BS EN1886 , Class TB2 thermal bridging factor. The benefit of Thermal Break Profile are :

- i) Increase energy efficiency - lower heat loss,
- ii) Minimized unit body condensation,
- iii) Improve sound insulation
- iv) Increase AHU life span





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 and warranty 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%)

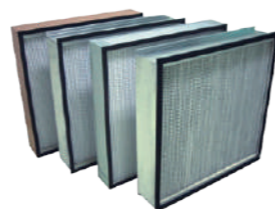
* For ESP more than 500Pa, please contact Daikin's Sales Office

Options

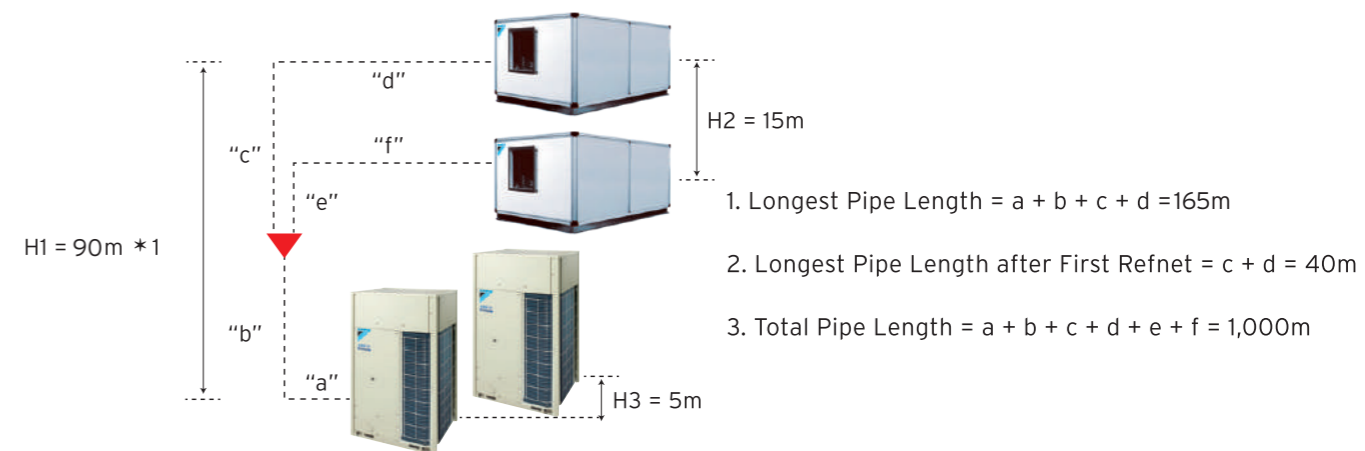
Wide ranges of options are available to meet your design requirement.

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
 - ✓ Steel with powder coating
- AHU air filter type
 - ✓ Synthetic Panel Filter
 - ✓ Bag Filter
 - ✓ Cartridge
 - ✓ HEPA
 - ✓ Carbon
- Special option
 - ✓ Electric heater
 - ✓ Mixing box
 - ✓ Outdoor roof
 - ✓ Special panel skin option
 - ✓ Heat Pipe
 - ✓ Heat recovery component
 - ✓ Paint / unpainted
 - ✓ VFD for motor
- Customization
 - ✓ Air flow
 - ✓ Capacity
 - ✓ ESP
 - ✓ Discharge direction
 - ✓ Piping outlet
 - ✓ Dimension



VRV AHU System Structure



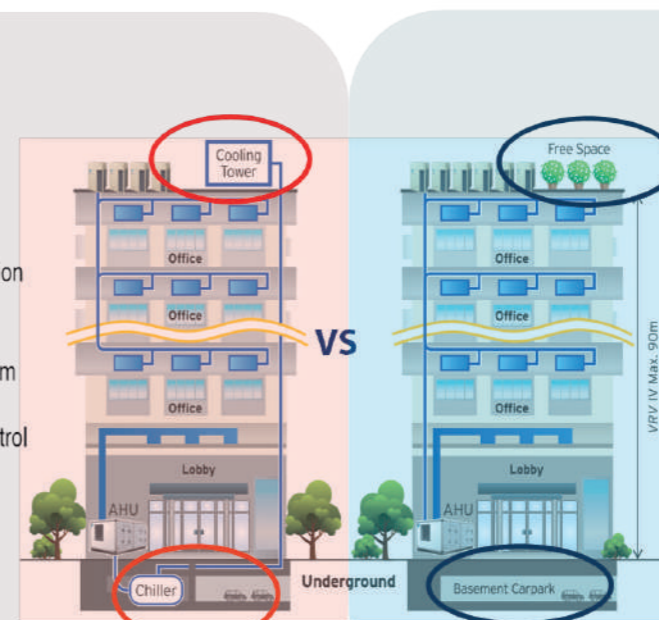
*1 When level differences are 50m or more, the diameter of the main liquid piping size must be increased. If the outdoor unit is above the indoor unit, a dedicated setting on the outdoor unit is required. Please contact Daikin's Sale Office for more information.
 * Applicable for standard air series

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)

CONVENTIONAL

1. Frequent Maintenance
2. Higher Cost
3. Larger Installation Space
4. Complex System
5. Extensive Control



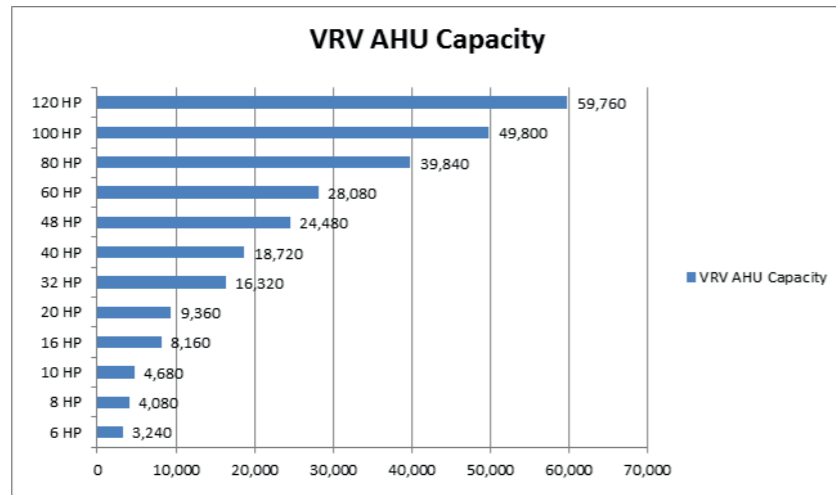
VRV AHU

1. Easy Maintenance
2. Free Space
3. Simple System
4. ALL-IN-ONE Control: iTM

Standard Series AHUR-CAVJ/DAVJ/DABVJ

VRV AHU Inlet Temperature Standard Series Range

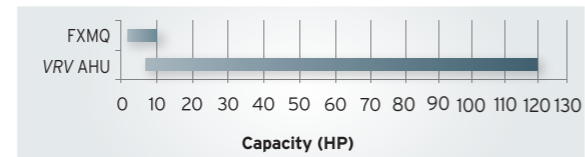
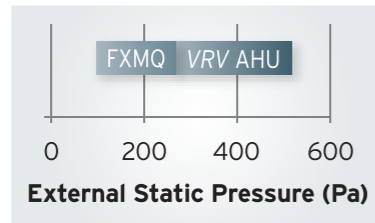
The VRV AHU standard series are available from the capacity range of 6HP to 120HP, also with airflow ranging from 3,240 CMH - 59,760 CMH.



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

	From	To
FXMQ	2 HP	10 HP
VRV AHU	6 HP	120 HP

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

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.

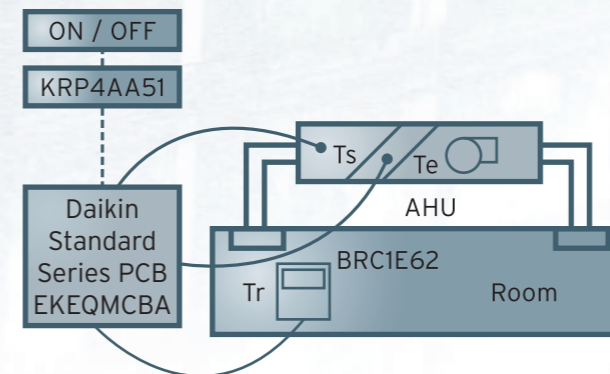
		Ambient Temperature	
		Cooling	Heating
Entering Air Temperature On Heat Exchanger AHU	Minimum	14°C WB	10°C DB
	Maximum	35°C DB / 25°C WB	27°C DB
Outdoor Unit	VRV IV	Minimum	-5°C DB
		Maximum	49°C DB
Expansion Valve	Minimum	-5°C DB	
	Maximum	46°C DB	
Standard Series PCB	Minimum	-10°C DB	
	Maximum	40°C 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)

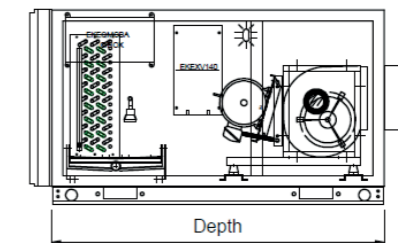


VRV AHU Expansion Valve

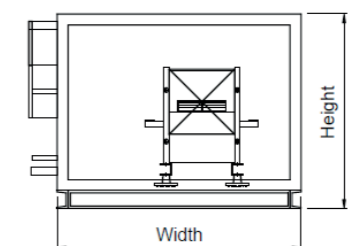
		EKEXV140	EKEXV200	EKEXV250	EKEXV400	EKEXV500
Casing	Colour	Ivory white				
	Material	Metal				
Dimensions	Unit	H x W x D mm		401 x 215 x 78		
Weight	Unit	Kg		2.9		
Operation Range	Cooling	Min. ~ Max. °CDB		-5.0 ~ 46.0		
	Refrigerant	Type	R-410A			
Piping connections	Liquid	Type	Braze connection			
	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

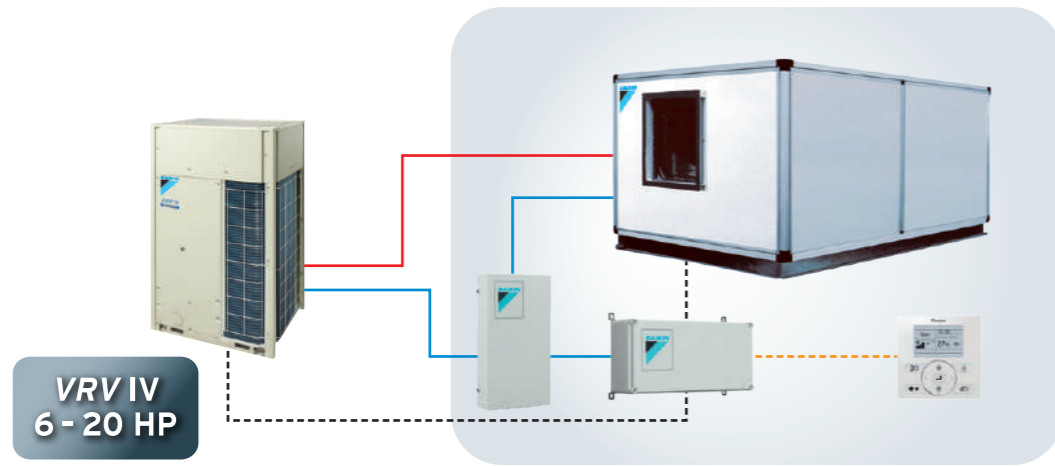


Right View

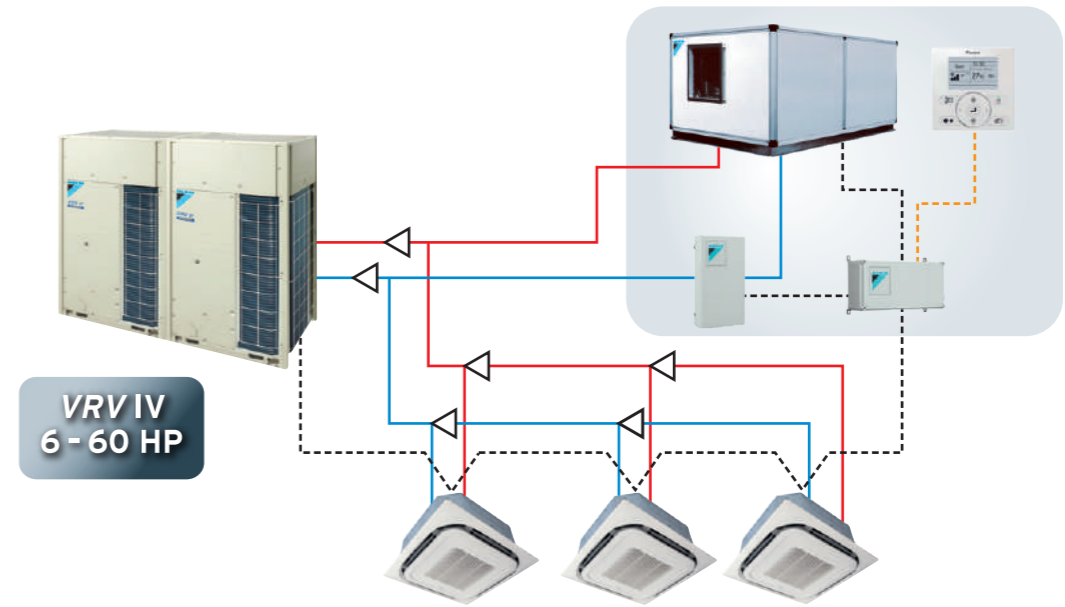


Front View

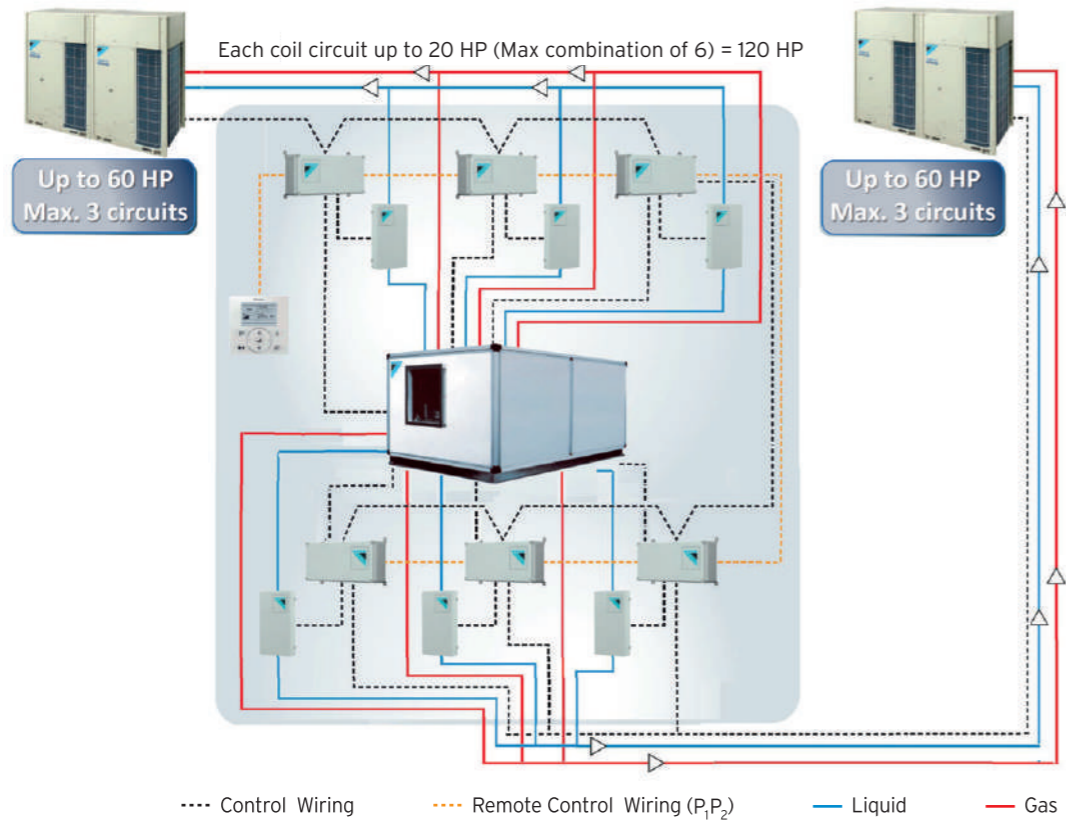
VRV Connection to AHU Configuration



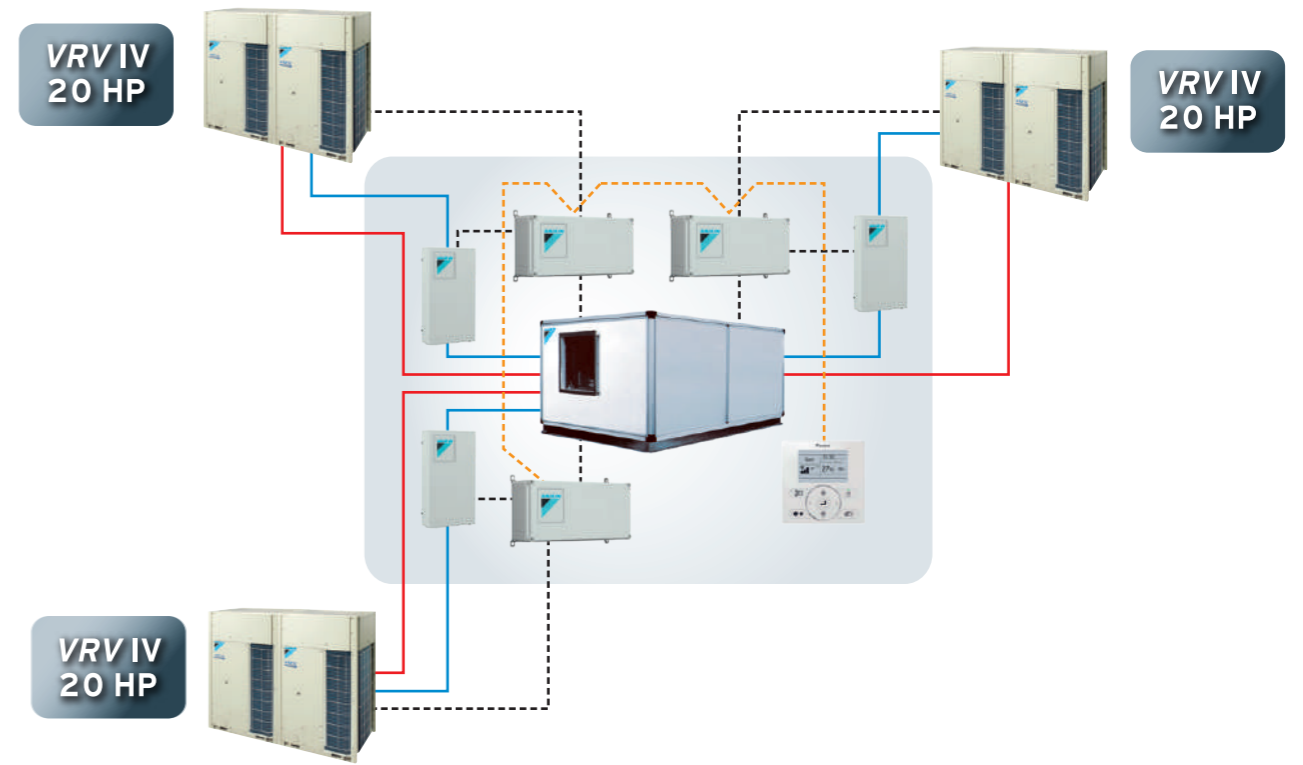
Single VRV System Connection Configuration



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



..... Control Wiring - - - - Remote Control Wiring (P₁P₂) — Liquid — Gas



Multiple VRV Systems Connection Configuration

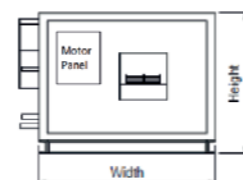
Standard Series AHUR-CAVJ/DAVJ/DABVJ

MODEL NAME:	AHUR_CAVJ / AHUR_DAVJ / AHUR_DABVJ
1 CASING	AHUR_CAVJ : 25mm Thickness Double Skinned Panel AHUR_DAVJ : 50mm Thickness Double Skinned Panel 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 ³ 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	41 kg/cm ² G or below
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: IE1
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	EKEQMCBA & Motor Starter Panel
10 EXPANSION VALVE	EKEXV140, EKEXV200, EKEXV250, EKEXV400, EKEXV500

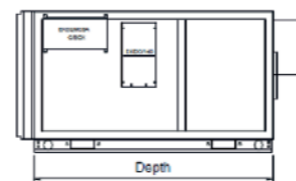
* For unit to be installed outdoor, roof option (epoxy powder coated) is available, please contact Daikin's Sales Office.

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
AHUR80-CAVJ	3400 X 1900 x 1900	AHUR80-DAVJ/DABVJ	3450 X 1950 x 1950
AHUR100-CAVJ	4200 X 2000 x 1900	AHUR100-DAVJ/DABVJ	4250 X 2050 x 1950
AHUR120-CAVJ	4200 X 2000 x 2200	AHUR120-DAVJ/DABVJ	4250 X 2050 x 2250



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											
Total Cooling Capacity	*1 Net		kW		15.9	15.8	15.7	15.4	15.2	22.5	22.4	22.3	22.1	22.0	26.7	26.6	26.5	26.3	26.1	44.8	44.6	44.4	43.9	43.7
Total Sensible Cooling Capacity			kW		14.8	14.7	14.6	14.3	14.1	21.3	21.2	21.1	20.8	20.7	25.1	25.0	24.9	24.6	24.5	41.8	41.6	41.4	41.0	40.8
Total Cooling Capacity	*2 Gross		kW		16.9				23.7				28.2											
Total Sensible Cooling Capacity			kW		11.6				16.3				19.7											
Air Flow			cmh/m ³ /min		3240 / 54				4080 / 68				4680/78											
On Coil			°CDB/°CWB		27 / 19				27 / 19				27 / 19											
Off Coil			°CDB/°CWB		16.0 / 13.5				14.7 / 12.7				14.1 / 12.5											
Coil Face Area			m ²		0.41				0.56				0.56											
Coil Face Velocity			m/s		2.19				2.01				2.31											
Air PD. In Coil			Pa		126				109				138											
*3 Air PD. Pre			Pa		115				114				116											
*3 Air Filter Size 12"x24"x2"			pcs		1				0				0											
*3 Air Filter Size 24"x24"x2"			pcs		1				2				2											
ESP. Initial			Pa		250	300	350	450	500	250	300	350	450	500	250	300	350	450	500	250	300	350	450	500
Total Static Pressure			Pa		490	540	590	690	740	472	522	572	672	722	504	554	604	704	754	581	631	681	781	831
Fan Type					Forward Curved				Forward Curved				Forward Curved											
Model					FDA225CM				FDA250TM				FDA250TM											
*4 Fan Motor					kW				1.5				2.2											
					Pole				4				4											
Power Supply					V/Ph/Hz				380-415/3/50				380-415/3/50											
FLA					Amp.				3.46				5.01											
Machine Weight					CA		kg		248	253	282	290	292		297		361		377					
					DA,DAB		kg		258	266	297	305	307		312		379		395					
Outlet Sound Level (Pressure)					CA		dB(A)		67	68	69	72	73	64	65	66	68	69	64	66	67	69	70	
					DA,DAB		dB(A)		62	64	65	68	69	59	60	61	63	64	59	61	62	64	65	
Standard Series PCB					Model/pcs				EKEQMCBAV3 / 1pc				EKEQMCBAV3 / 1pc											
Expansion Valve					Model/pcs				EKEXV140 / 1pc				EKEXV200 / 1pc											
Dimension (WxDxH)					m				1.1 x 1.5 x 0.9				1.4 x 1.5 x 0.9											
Panel Type									Sandwich Panel Thickness 25mm / 50mm / 50mm				Sandwich Panel Thickness 25mm / 50mm / 50mm											
Piping Connections					Liq. pipe		mm		Ø9.5 (Brazeing Connection)				Ø9.5 (Brazeing Connection)											
					Gas pipe		mm		Ø19.1 (Brazeing Connection)				Ø19.1 (Brazeing Connection)											
					Drain pipe		mm		Ø42 (DN32)				Ø42 (DN32)											
Refrigerant Control									Electronic Expansion Valve				Electronic Expansion Valve											
Capacity Index									140				200											

Model	AHUR20CAVJ/DAVJ/DABVJ				AHUR32CAVJ/DAVJ/DABVJ				AHUR40CAVJ/DAVJ/DABVJ				AHUR48CAVJ/DAVJ/DABVJ											
Total Cooling Capacity	*1 Net		kW		56.6	56.4	56.2	55.8	55.5	90.7	90.4	90.0	89.3	88.9	105.2	104.8	104.4	103.6	103.2	133.9	133.4	132.8	131.7	131.1
Total Sensible Cooling Capacity			kW		54.0	53.8	53.6	53.1	52.9	86.1	85.8	85.4	84.6	84.2	99.7	99.3	99.0	98.2	97.8	127.0	126.5	126.0	124.9	124.3
Total Cooling Capacity	*2 Gross		kW		59.0				95.1				110.2											
Total Sensible Cooling Capacity			kW		39.8				66.4				77.6											
Air Flow			cmh/m ³ /min		9360/156				16320/272				18720/312											
On Coil			°CDB/°CWB		27 / 19				27 / 19				27 / 19											
Off Coil			°CDB/°CWB		13.9/12.1				14.5/12.7				14.3/12.7											
Coil Type					DX.Coil (R410A) Ø9.52 mm. Wave surface				DX.Coil (R410A) Ø9.52 mm. Wave surface															
Coil Face Area			m ²		1.24				1.8				2.21											
Coil Face Velocity			m/s		2.1				2.52				2.36											
Air PD. In Coil			Pa		117				161				143											
*3 Air PD. Pre			Pa		116				120				118											
*3 Air Filter Size 12"x24"x2"			pcs		0				0				3											
*3 Air Filter Size 24"x24"x2"			pcs		4				6				6											
ESP. Initial			Pa		250	300	350	450	500	250	300	350	450	500	250	300	350	450	500	250	300	350	450	500
Total Static Pressure			Pa		483	533	583	683	733	531	581	631	731	781	511	561	611	711	761	527	577	627	727	777
Fan Type					Forward Curved				Forward Curved				Forward Curved											
Model					FDA355TM				FDA500TM				FDA500TM											
*4 Fan Motor					kW				4				5.5											
					Pole				4				4											
Power Supply					V/Ph/Hz				380-415/3/50				380-415/3/50											
FLA					Amp.				8.47				11.4											
Machine Weight					CA		kg		414	435	435	609	784		811		1025							
					DA,DAB		kg		434	455	455	635	820		841		1058							
Outlet Sound Level (Pressure)					CA		dB(A)		69	70	71	73	74	71	72	73	75	76	72	72	73	75	76	
					DA,DAB		dB(A)		64	65	66	68	69	67	68	69	70	71	66	67	68	70	72	
Standard Series PCB					Model/pcs				EKEQMCBAV3 / 1pc				EKEQMCBAV3 / 2pc											
Expansion Valve					Model/pcs				EKEX500 / 1pc				EKEXV400 / 2pc											
Dimension (WxDxH)					m				1.4 x 1.6 x 1.5				1.9 x 1.9 x 1.5											
Panel Type									Sandwich Panel Thickness 25mm / 50mm / 50mm				Sandwich Panel Thickness 25mm / 50mm / 50mm											
Piping Connections					Liq. pipe		mm		Ø15.9 (Brazeing Connection)				Ø12.7 (Brazeing Connection) x2											
					Gas pipe		mm		Ø28.6 (Brazeing Connection)				Ø28.6 (Brazeing Connection) x2											
					Drain pipe		mm		Ø42 (DN32)				Ø42 (DN32)											
Refrigerant Control									Electronic Expansion Valve				Electronic Expansion Valve											
Capacity Index									500				800											

AHUR-CAVJ/DAVJ/DABVJ SPECIFICATIONS

Model		AHUR60CAVJ/DAVJ/DABVJ					AHUR80CAVJ/DAVJ/DABVJ					AHUR100CAVJ/DAVJ/DABVJ					AHUR120CAVJ/DAVJ/DABVJ						
Total Cooling Capacity	*1 Net	kW		169.9	169.4	168.8	167.6	167.0	223.9	223.1	222.2	220.5	219.6	278.1	277.1	276.1	274.1	273.1	333.7	332.6	331.5	329.2	328.2
Total Sensible Cooling Capacity		kW		161.9	161.3	160.7	159.5	158.9	210.9	210.0	209.2	207.4	206.5	262.7	261.8	260.8	258.8	257.7	313.8	312.7	311.6	309.3	308.3
Total Cooling Capacity	*2 Gross	kW		177.4					236.1					292.5									
Total Sensible Cooling Capacity		kW		118.9					162.1					206.2									
Air Flow		cmh/m ³ /min		28080/468					39840/664					49800/830									
On Coil	Cooling	°CDB/°CWB		27/19					27/19					27/19									
Off Coil		°CDB/°CWB		14.0/12.1					14.5/12.6					14.3/12.7									
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	m ²		3.21					4.56					5.80										
Coil Face Velocity	m/s		2.43					2.41					2.38										
Air PD. In Coil	Pa		150					149					146										
*3 Air PD. Pre	Pa		122					127					126										
*3 Air Filter Size 12"x24"x2"	pcs		4					5					8										
*3 Air Filter Size 24"x24"x2"	pcs		8					10					12										
ESP. Initial	Pa		250	300	350	450	500	250	300	350	450	500	250	300	350	450	500	250	300	350	450	500	
Total Static Pressure	Pa		522	572	622	722	772	526	576	626	726	776	522	572	622	722	772	534	584	634	734	784	
Fan Type			Forward Curved					Forward Curved					Forward Curved										
Model			FDA630TM					FDA500T2M					FDA560T2M										
*4 Fan Motor	kW		11					15					18.5										
	Pole		4					4					4										
Power Supply	V/Ph/Hz		380-415/3/50					380-415/3/50					380-415/3/50										
FLA	Amp.		21.0					28.4					34.8										
Machine Weight	CA	kg	1133					1158					1549										
	DA,DAB	kg	1170					1195					1603										
Outlet Sound Level (Pressure)	CA	dB(A)	72	72	73	75	76	77	78	79	80	81	78	78	79	80	81	79	79	80	81	82	
	DA,DAB	dB(A)	67	68	69	70	72	73	74	75	76	76	73	74	75	76	77	74	75	75	76	77	
Standard Series PCB	Model/pcs		EKEQMCBAV3 / 3pcs					EKEQMCBAV3 / 4pcs					EKEQMCBAV3 / 5pcs										
Expansion Valve	Model/pcs		EKEX500 / 3pcs					EKEX500 / 4pcs					EKEX500 / 5pcs										
Dimension (WxDxH)	m		2.5 x 2.0 x 2.0					3.4 x 1.9 x 2.0					4.2 x 2.0 x 2.0										
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	φ15.9 (Brazeing Connection) x3					φ15.9 (Brazeing Connection) x4					φ15.9 (Brazeing Connection) x5										
	Gas pipe	mm	φ28.6 (Brazeing Connection) x3					φ28.6 (Brazeing Connection) x4					φ28.6 (Brazeing Connection) x5										
	Drain pipe	mm	φ42 (DN32)					φ42 (DN32)					φ42 (DN32)										
Refrigerant Control			Electronic Expansion Valve					Electronic Expansion Valve					Electronic Expansion Valve										
Capacity Index			1500					2000					2500										

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. It is necessary to reduce piping size by reducer when connection (19.1 -> 15.9, 22.2 -> 19.1, 28.6 -> 22.2, 34.9 -> 28.6)
- 5. Connection Ratio:

Connection ratio (Cooling Only):

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

Conversion formular

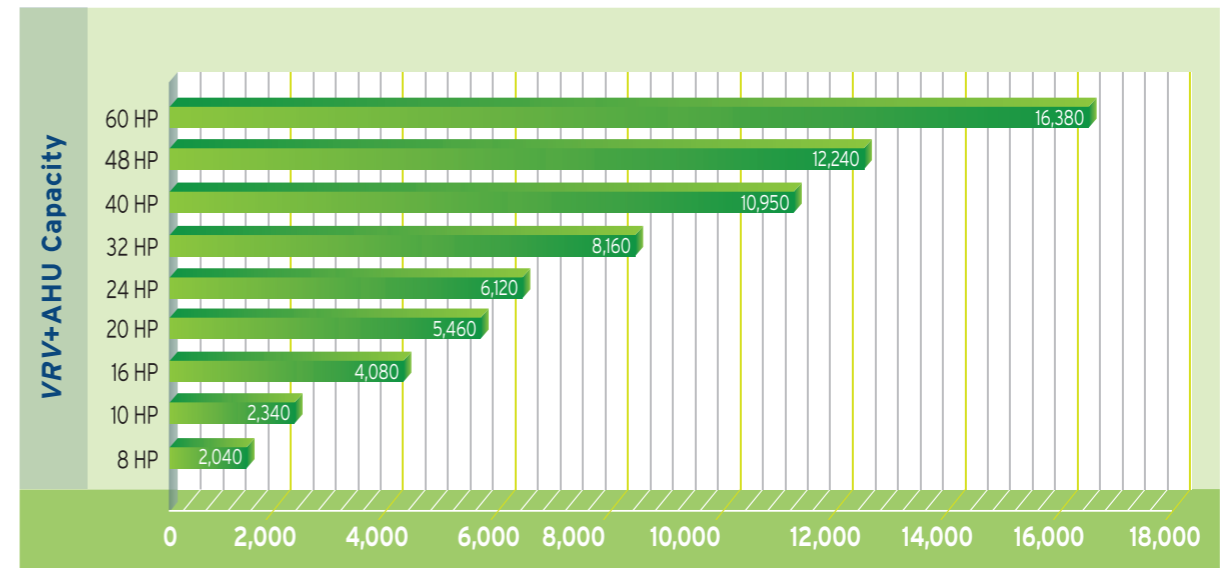
$kcal/h = kW \times 860$
 $Btu/h = kW \times 3412$
 $cfm = m^3/min \times 35.3$

Piping Length

Model Name	Series	Piping Length	Level Difference
AHUR-CAV AHUR-DAV AHUR-CBV AHUR-DBV	Standard Series	165m	90m

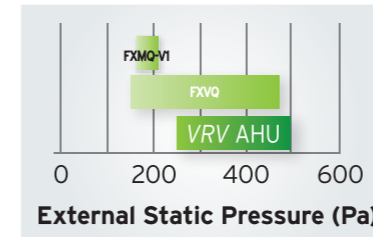
VRV AHU Inlet Temperature Outdoor Air Series Range

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.

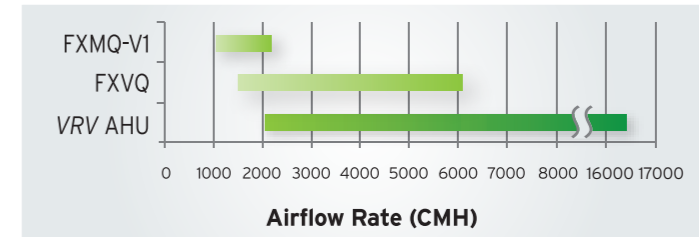


Comparison for ESP and Capacity between VRV AHU, Ceiling Mounted Duct Type and Floor Standing Duct Type.

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



	From	To
FXMQ-V1	185 Pa	205 Pa
FXVQ	150 Pa	480 Pa
VRV AHU	250 Pa	500 Pa



	From (CMH)	To (CMH)
FXMQ-V1	1,080	2,100
FXVQ	1,518	6,072
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.

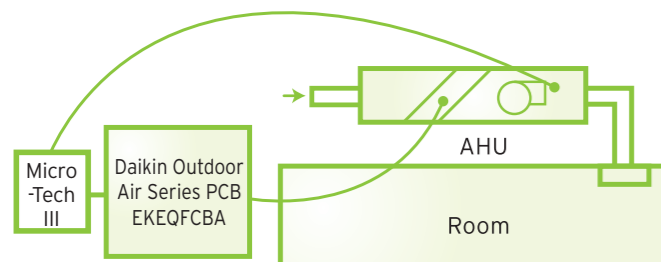
		Ambient Temperature	
		Cooling	Heating
Entering Air Temperature On Heat Exchanger AHU	Minimum	14°C WB	-5°C DB
	Maximum	32°C WB	27°C DB
Outdoor Unit	Minimum	-5°C DB	-20°C DB
	Maximum	49°C DB	15.5°C DB
Expansion Valve	Minimum	-5°C DB	
	Maximum	46°C DB	
Outdoor Air Series PCB	Minimum	-10°C DB	
	Maximum	40°C DB	

Outdoor Air Series AHUR-CALJ/DALJ/DABLJ

Possibility X (Td/Tr control):

Precise air temperature control via MicroTech III controller. Room temperature is controlled as a function of the air handling unit suction or discharge air (customer selection). The MicroTech III controller translates the temperature difference between set point and air suction temperature (or air discharge temperature or room 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 Te (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			
		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	Brazed connection		
		OD mm	9.52	12.7	15.9
	Gas	Type	Brazed 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
		132 x 400 x 200
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



Outdoor Air Series AHUR-CALJ/DALJ/DABLJ

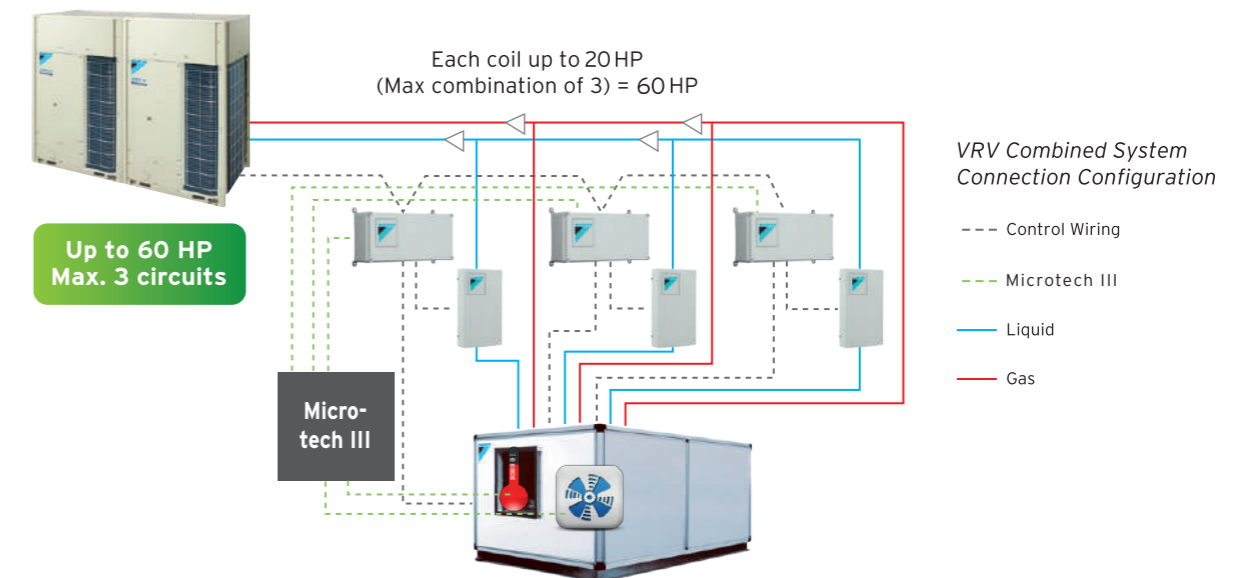
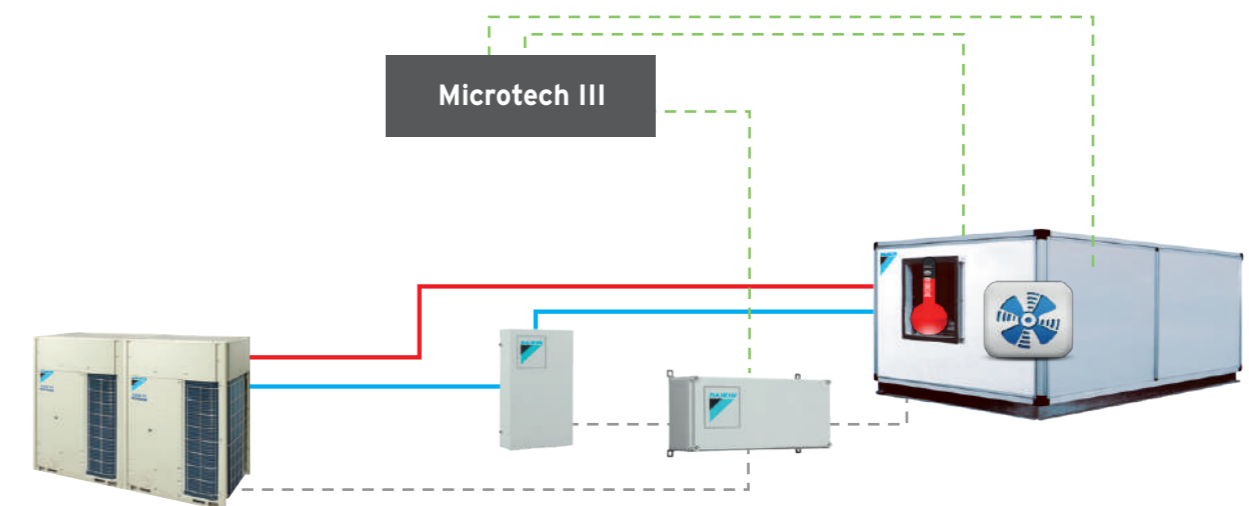
MicroTech III Controller (Option)



- MT III controller is recommended for Outdoor air series AHU controlling, switching and monitoring functions.
- This controller is programmed to optimize the performance and efficiency of VRV AHU automatically.
- It can also communicate with Daikin's intelligent Touch Manager via BACnet protocol easily.

VRV AHU System Structure

VRV Connection to AHU Configuration

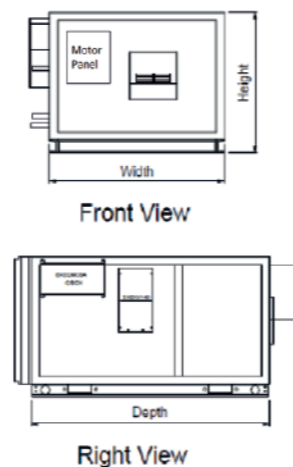


Outdoor Air Series AHUR-CALJ/DALJ/DABLJ

MODEL NAME:	AHUR_CALJ / AHUR_DALJ / AHUR_DABLJ
1 CASING	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 ³ 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	41 kg/cm ² G or below
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: IE1
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 WEATHER PROOF ROOF	Epoxy powder coated steel
10 OUTDOOR AIR SERIES PCB	EKEQFCBA & motor starter panel MicroTech III
11 EXPANSION VALVE	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.

Outdoor Air Series AHUR-CBLJ/DBLJ/DBBLJ

AHUR-CBLJ/DBLJ/DBBLJ SPECIFICATIONS

Model	AHUR08CBLJ/DBLJ/DBBLJ					AHUR10CBLJ/DBLJ/DBBLJ					AHUR16CBLJ/DBLJ/DBBLJ					AHUR20CBLJ/DBLJ/DBBLJ					AHUR24CBLJ/DBLJ/DBBLJ				
Total Cooling Capacity	*1 Net					*2 Gross					*1 Net					*2 Gross									
Total Sensible Cooling Capacity	kW					kW					kW					kW									
Total Cooling Capacity	kW					kW					kW					kW									
Total Heating Capacity	kW					kW					kW					kW									
Air Flow	cmh/m ³ /min					cmh/m ³ /min					cmh/m ³ /min					cmh/m ³ /min									
On Coil	*CDB/CWB					*CDB/CWB					*CDB/CWB					*CDB/CWB									
Off Coil	*CDB					*CDB					*CDB					*CDB									
On Coil	*CDB					*CDB					*CDB					*CDB									
Off Coil	*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 ²					m ²					m ²					m ²									
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	FDA180CM					FDA180CM					FDA250TM					FDA250TM									
*4 Fan Motor	kW					kW					kW					kW									
Power Supply	V/Ph/Hz					V/Ph/Hz					V/Ph/Hz					V/Ph/Hz									
FLA	Amp.					Amp.					Amp.					Amp.									
Machine Weight	kg					kg					kg					kg									
Outlet Sound Level (Pressure)	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					Sandwich Panel Thickness 25mm / 50mm / 50mm									
Piping Connections	Liq. pipe mm					Liq. pipe mm					Liq. pipe mm					Liq. pipe mm									
	Gas pipe mm					Gas pipe mm					Gas pipe mm					Gas pipe mm									
	Drain pipe mm					Drain pipe mm					Drain pipe mm					Drain pipe mm									
Refrigerant Control	Electronic Expansion Valve					Electronic Expansion Valve					Electronic Expansion Valve					Electronic Expansion Valve									
Capacity Index	200					250					400					500									

Model	AHUR32CBLJ/DBLJ/DBBLJ					AHUR40CBLJ/DBLJ/DBBLJ					AHUR48CBLJ/DBLJ/DBBLJ					AHUR60CBLJ/DBLJ/DBBLJ				
Total Cooling Capacity	*1 Net					*2 Gross					*1 Net					*2 Gross				
Total Sensible Cooling Capacity	kW					kW					kW					kW				
Total Cooling Capacity	kW					kW					kW					kW				
Total Heating Capacity	kW					kW					kW					kW				
Air Flow	cmh/m ³ /min					cmh/m ³ /min					cmh/m ³ /min					cmh/m ³ /min				
On Coil	*CDB/CWB					*CDB/CWB					*CDB/CWB					*CDB/CWB				
Off Coil	*CDB					*CDB					*CDB					*CDB				
On Coil	*CDB					*CDB					*CDB					*CDB				
Off Coil	*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 ²					m ²					m ²					m ²				
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	FDA315TM					FDA400TM					FDA400TM					FDA500TM				
*4 Fan Motor	kW					kW					kW					kW				
Power Supply	V/Ph/Hz					V/Ph/Hz					V/Ph/Hz					V/Ph/Hz				
FLA	Amp.					Amp.					Amp.					Amp.				
Machine Weight	kg					kg					kg					kg				
Outlet Sound Level (Pressure)	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					Sandwich Panel Thickness 25mm / 50mm / 50mm				
Piping Connections	Liq. pipe mm					Liq. pipe mm					Liq. pipe mm					Liq. pipe mm				
	Gas pipe mm					Gas pipe mm					Gas pipe mm					Gas pipe mm				
	Drain pipe mm					Drain pipe mm					Drain pipe mm					Drain pipe mm				
Refrigerant Control	Electronic Expansion Valve					Electronic Expansion Valve					Electronic Expansion Valve					Electronic Expansion Valve				
Capacity Index	800					1000					1200					1500				

Notes:

- Net capacity includes indoor fan heat
- Gross capacity does not include indoor fan heat
- With pre filter, synthetic R29 class G3 (washable)
- It is necessary to reduce piping size by reducer when connection (19.1 -> 15.9, 22.2 -> 19.1, 28.6 -> 22.2, 34.9 -> 28.6)
- Air temperature control via an external MicroTech III controller
- Connection Ratio:

Connection ratio (Heating & Cooling):

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

Connection ratio (Cooling Only):

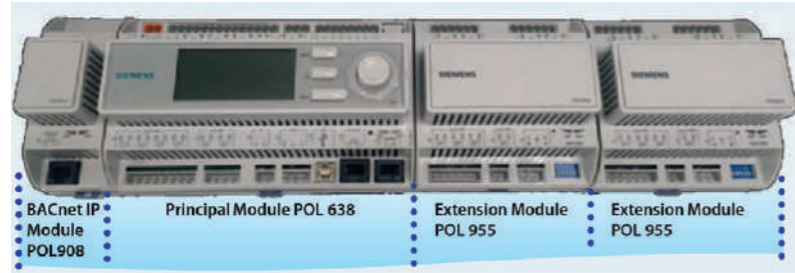
System Pattern	Total CR	VRV indoor	AHU
Only AHU (Pair AHU)	50-110%	-	50-110%

Conversion formulur

kcal/h=kWx860
Btu/h=kWx3412
cfm=m³/minx35.3

MicroTech III information

MicroTech III Controller (Option)



Features of MicroTech III

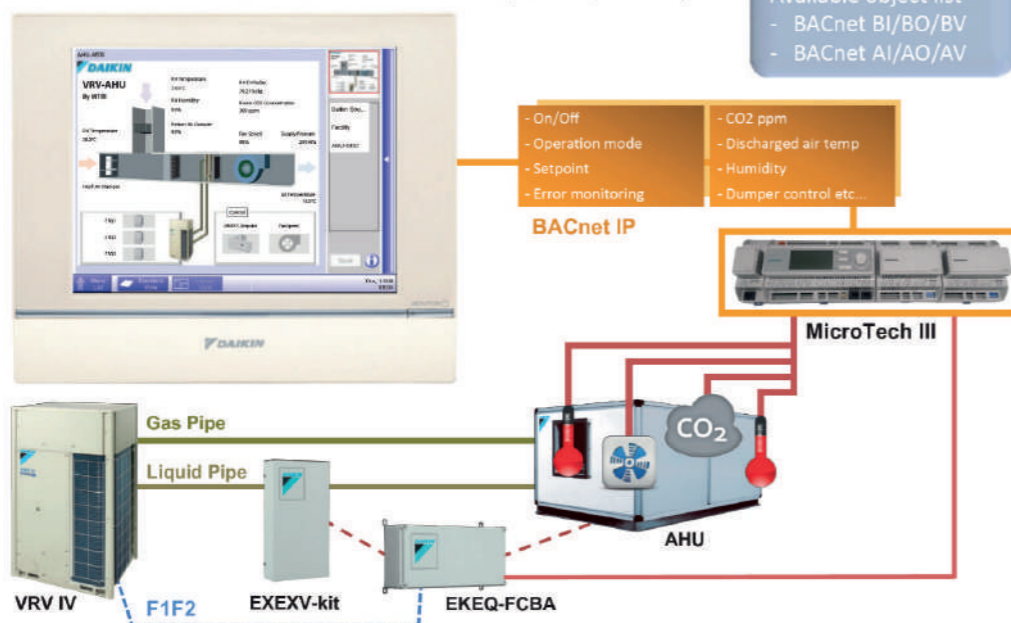
- BACnet IP Module for integration of MicroTech III AHU Controller in networks featuring the BACnet Protocol. Compatible with Daikin intelligent Touch Manager (iTM) or 3rd party BMS.
- Principal Module POL 638 and Extension Module POL 955 have selected analog and digital I/O contacts programmed for control and monitoring of sensors and other related devices in a VRV Outdoor Air Series AHU.
- HMI screen on the Principal Module POL 638 allows easy testing and commissioning and even without a centralised controller or 3rd party BMS.

Functions of MicroTech III

1. Leaving temperature control using supply air sensor
2. Air quality control (CO2 Levels) by controlling mixing damper depending on CO2 set point that defined by user.
3. Fan airflow control by controlling fan speed through
 - i. Direct (w/o inverters).
 - ii. DirectVar (with inverters).
 - iii. Analog controlled variable speed drive with digital release.
 - iv. Pressure control to meet the pressure set points in the duct.
4. Monitoring points for other features
 - i. Room humidity
 - ii. Electric heating coil
 - iii. Outside, room and return temperature
 - iv. VRV alarm

MicroTech III can connect to intelligent Touch Manager.

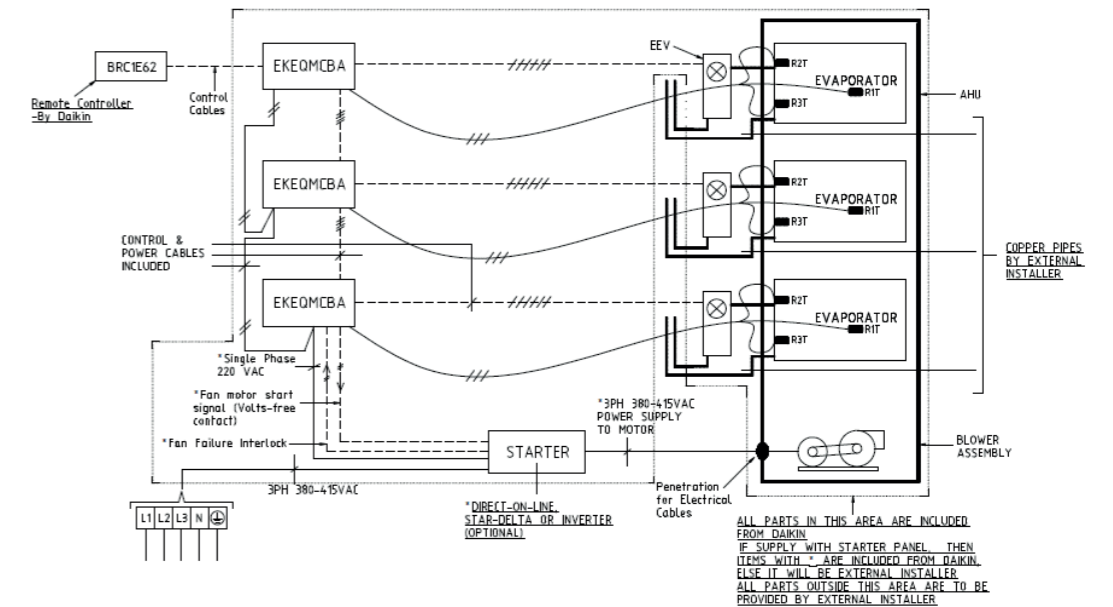
Monitor and control devices related to AHU such as Fan, sensors, and damper



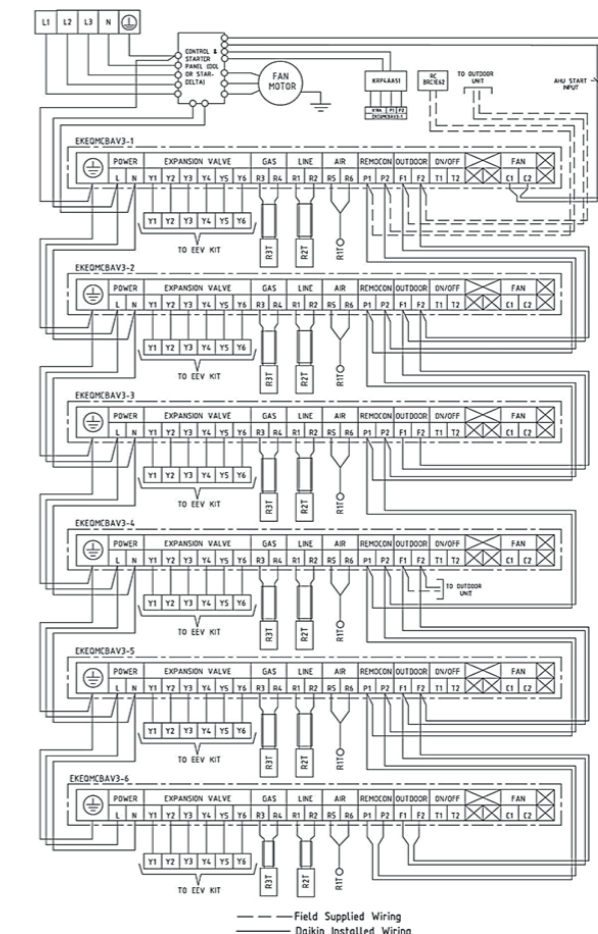
Technical Information

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 (AHUR120CAVJ/DAVJ/DABVJ)

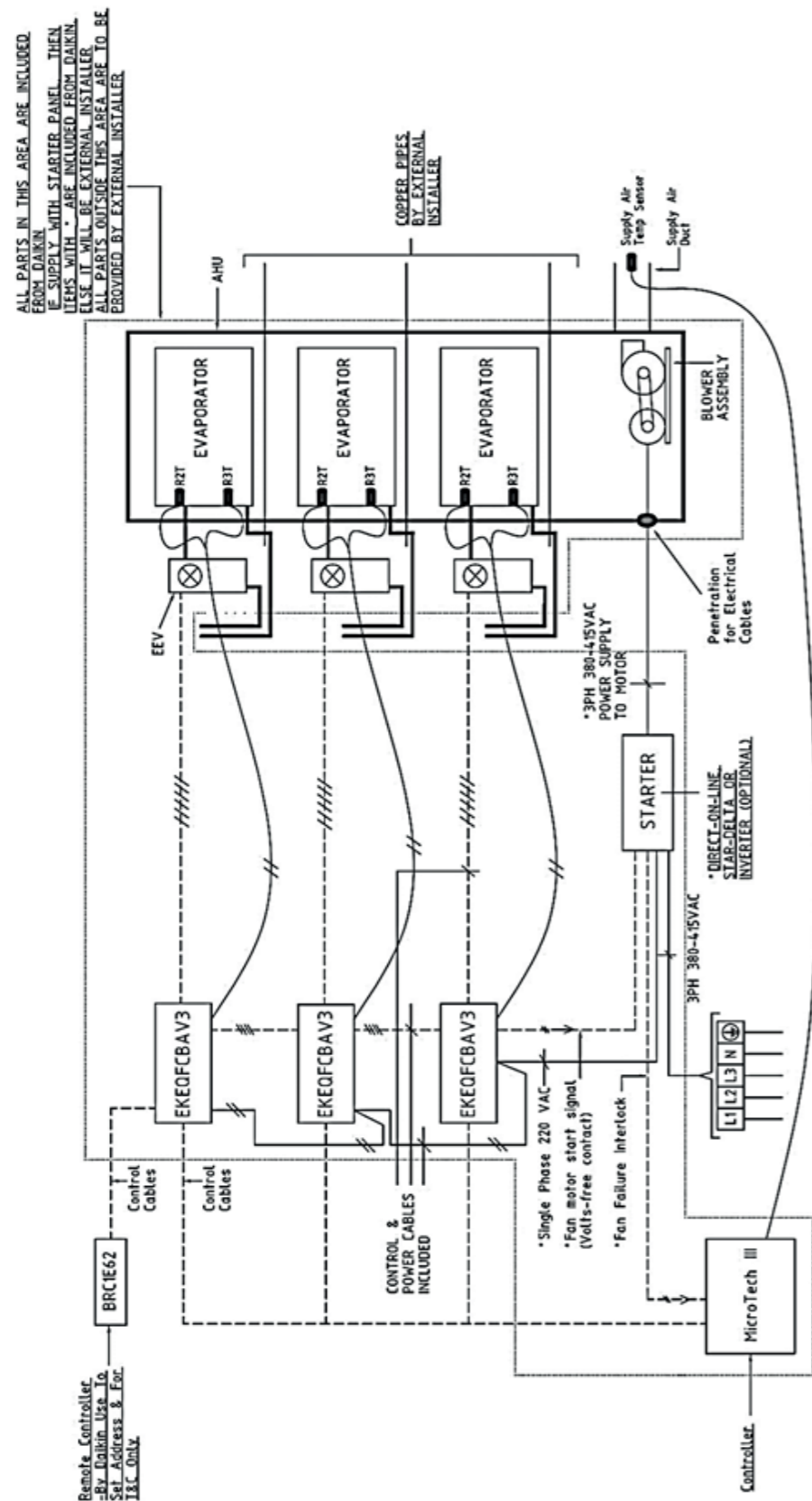


Note:
For unit without starter panel/kits, the connected wiring to the part will not be supplied respectively

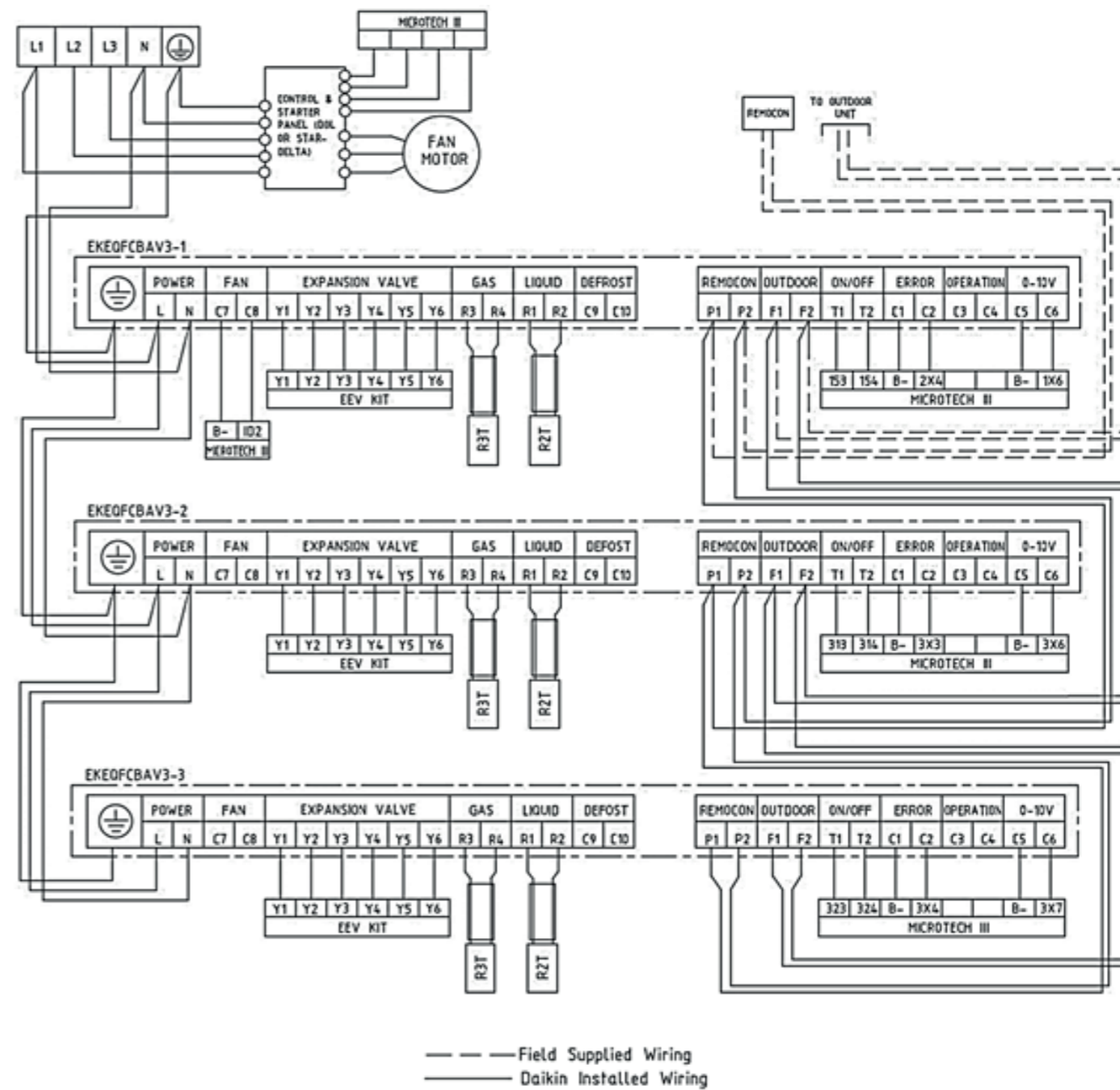
VRV AHU Outdoor Air Series Schematic Diagram

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

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

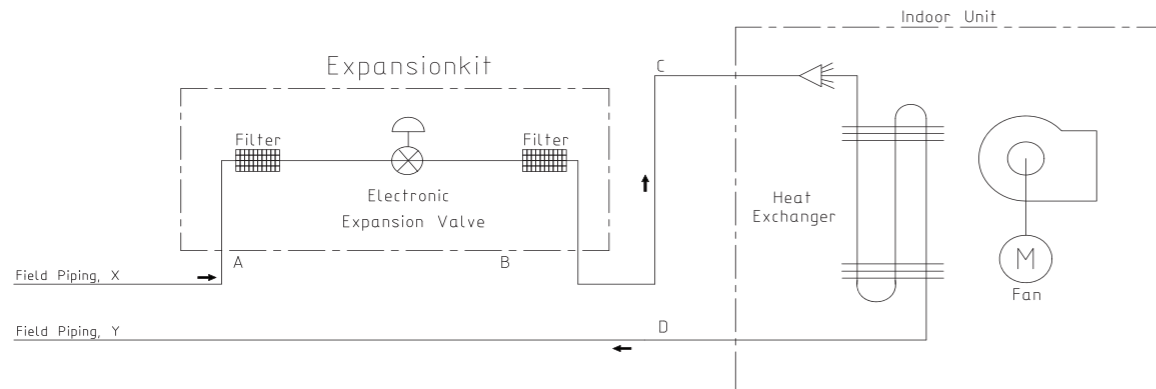


VRV AHU Outdoor Air Series Wiring Diagram (CALJ/DALJ/DABLJ)



Note :
For unit without starter panel/kits/ MicroTech III control panel, the connected wiring to the part will not be supplied respectively

Refrigerant Pipe Diameter for VRV AHU



VRV AHU Series

- AHUR xx CBVJY1/ DBVJY1/ DBBVJY1 (Standard, 380-415V/ 3Φ/ 50Hz)
- AHUR xx CBLJY1/ DBLJY1/ DBBLJY1 (OA, 380-415V/ 3Φ/ 50Hz)
- AHUR xx CBVJY2/ DBVJY2/ DBBVJY2 (Standard, 380V/ 3Φ/ 60Hz)
- AHUR xx CBLJY2/ DBLJY2/ DBBLJY2 (OA, 380V/ 3Φ/ 60Hz)
- AHUR xx CBVJY3/ DBVJY3/ DBBVJY3 (Standard, 460V/ 3Φ/ 60Hz)
- AHUR xx CBLJY3/ DBLJY3/ DBBLJY3 (OA, 460V/ 3Φ/ 60Hz)
- AHUR xx CBVJY4/ DBVJY4/ DBBVJY4 (Standard, 230V/ 3Φ/ 60Hz)
- AHUR xx CBLJY4/ DBLJY4/ DBBLJY4 (OA, 230V/ 3Φ/ 60Hz)

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
80	●		15.9	15.9	15.9	15.9	28.6	28.6
100	●		15.9	15.9	15.9	15.9	28.6	28.6
120	●		15.9	15.9	15.9	15.9	28.6	28.6

NOTES

