DAIKIN

DAIKIN VRV AHU SYSTEM

Standard Series AHURS-DBV
Outdoor Air Series AHURS-DBL

Improve Indoor Air Quality

Easy Installation

Wide Range of Add-on Options

PCVAHUSG1801

BENEFITS

OF USING DAIKIN EC SOLUTION

TECHNOLOGY FEATURES

- Unrivalled Compactness
- High Efficiency
- Robust Design
- Economical Operation
- Low Noise Emissions
- Low Vibration Level
- Long Service Life
- Reliable Operation

SAVINGS

- Save on Space – Smaller AHU Size
- Save on Components - Inverter, Sine Filter, Premium Motor, Shielded Cable, Motor Protection
- Save on Cost - Installation & Maintenance Cost

Fan Array Air Flow Range	
NO. OF FAN	AIR FLOW RANGE (m^3/s)
1-FAN	0.67-4.1
2-FAN ARRAY	1.34 -8.2
4-FAN ARRAY	2.68 - 16.4
6-FAN ARRAY	4.02 - 24.6
8-FAN ARRAY	5.36 - 32.8
* RATED AT TOTAL PRESSURE 800Pa	

VRV AHU Applications

Features of VRV AHU

- **Harnessing VRV VRT technology**
- **Inverter controlled system**
- **Can be easily controlled via standard wired remote control (BRC1E62) (only for standard model)**
- **Comes in double skin panel model (Single skin option available)**
- **Easily managed using intelligent Touch Manager central control system**
  - Communication protocol using DIII-Net to communicate with all existing Daikin communication devices. (option to connect directly to BACnet® BMS)
- **Can be placed indoor or outdoor*1**

6 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*2 (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 combined with other types of indoor units to operate concurrently.**

Options

Wide range of options to meet design requirements. Please contact Daikin's Sales Office on options below:

- **Fan Type**
  - Backward Curve Aerofoil
  - Plug Fan
  - Electronically Commutated Fan (EC Fan)
- **Fan Motor control**
  - VSD
  - Fixed Speed
- **AHU Coil Material Type**
  - Copper Fin
  - Blue Fin
  - Epoxy Coated Fin and Coil
- **AHU Drain Pan Type**
  - Acrylic Enamel with Steel Coating
  - Galvanized Steel
- **AHU Air Filter Type**
  - Medium Filter
  - Extra Filter
  - Synthetic
  - Bag
  - HEPA
  - Aluminum
  - Cartridge
  - ULPA
- **Special Option**
  - Electric Heater
  - Mixing Box
  - Outdoor Roof
  - Heat Pipes
  - Motor Starter Box
- **Customisation**
  - Airflow
  - Capacity
  - ESP
  - Discharge Direction
  - Heat Recovery Wheel
  - Piping Outlet
- **Controller for Outdoor Air Series**
  - MicroTech III*3 (DDC)

Notes:
*1 Optional items required
*2 For ESP more than 500Pz, please contact Daikin's Sales Office
*3 BACnet interface

VRV AHU Introduction

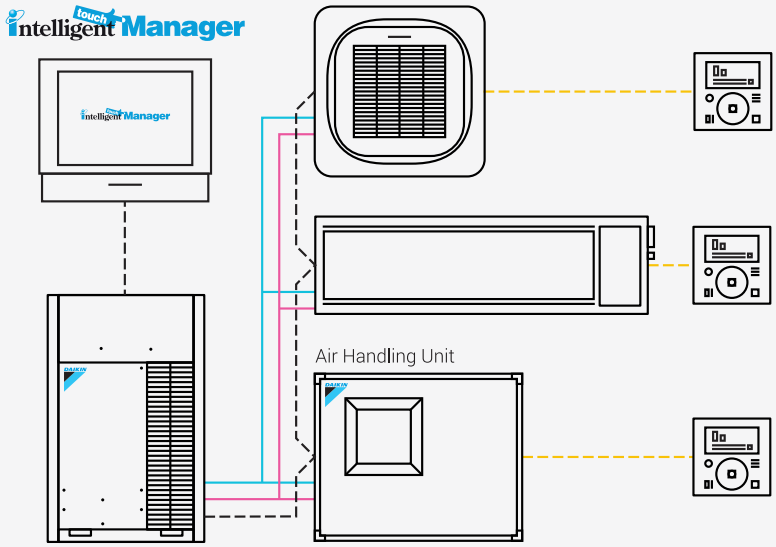
Daikin released 2 series of VRV AHU, standard series model AHURS-DBV and outdoor air series model AHURS-DBL. It is a DX AHU that is specially designed to operate with VRV outdoor unit. This enabled the users to reduce maintenance costs and enjoy more space savings.

Daikin VRV AHU improves the indoor air quality caused by haze, pollutants, etc with options of pre-filers and primary filters. This is the only total AHU solutions provided and manufactured completely by Daikin.

Total Daikin Solutions

(All products manufactured by Daikin Factory)

--- Control Wiring
--- Remote Control Wiring (P_1P_2)
— Liquid
— Gas



VRV AHU System Schematic

VRV AHU Application

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

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).

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).

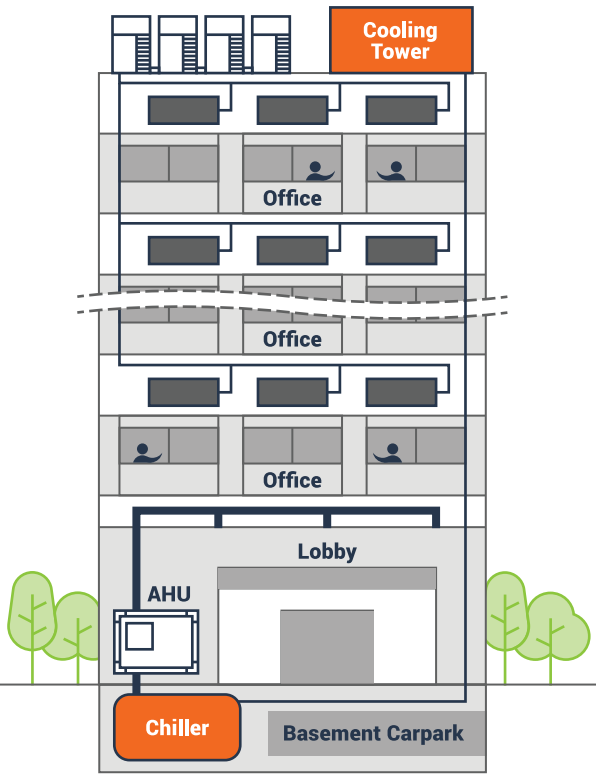
Nomenclature

AHURS 06 DB V

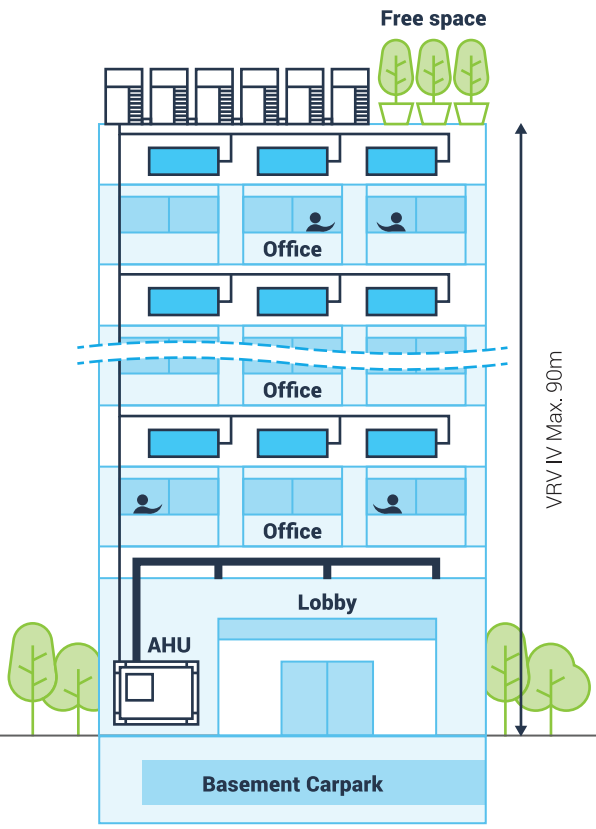
- **AHURS** — DX Air Handling Unit Horizontal Mount
- **06** — Cooling Capacity: 06 = 6HP
- **DB** — Double skin 50mm thickness
- **V** — V: Standard | L: Outdoor Air

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, Coolong Tower)	Require Small Installation Space (AHU, VRV)
Complex System (HVAC Ducting, Chiller and Water Piping)	Simple System (HVAC Ducting)
Complex Control (Variable Frequency Device, Variable Air Volume Control)	Simple Control (Remote Control / Intelligent Touch Manager / MicroTech III Controller)



Conventional AHU System

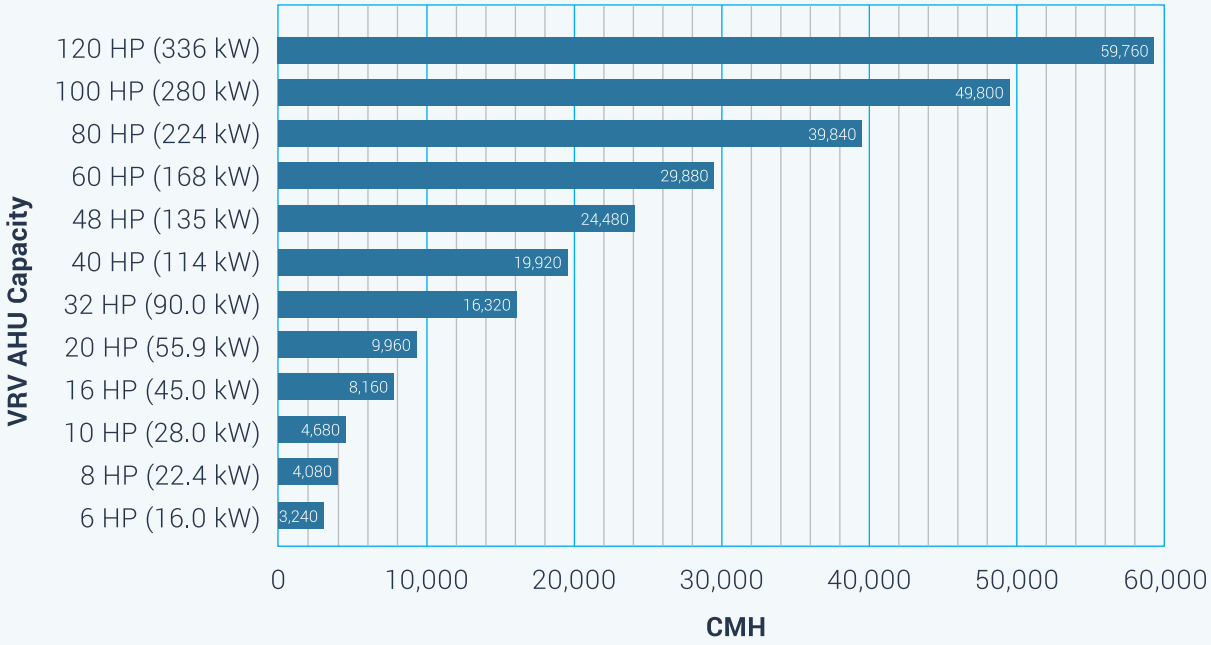


VRV AHU System

Standard Series AHURS-DBV

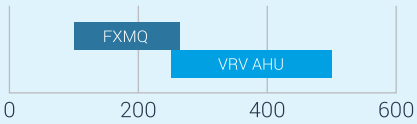
VRV AHU Introduction Standard Series

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



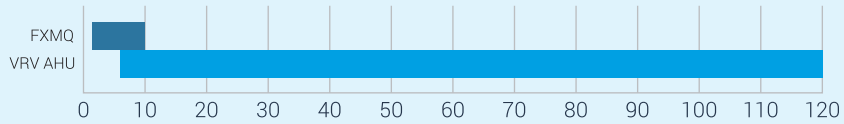
Expanded Line Up for Daikin VRV Indoor Series

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 type fan coil unit.



FXMQ: From *100 Pa* to *270 Pa*
VRV AHU: *250 Pa* to *500 Pa*

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

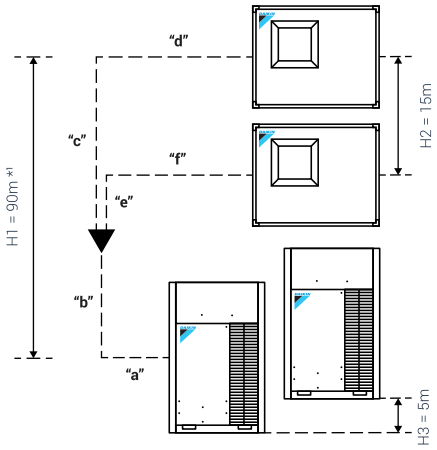


FXMQ: From *2 HP* to *10 HP*
VRV AHU: *6 HP* to *120 HP*

		Temperature Range
		Cooling
Entering Air Temperature to VRV AHU	Minimum	14°C WB
	Maximum	35°C DB / 25°C WB
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

VRV AHU Operation Range

VRV AHU AHURS-DBV operation is similar as other VRV indoor unit. Following table is the list of operation range for AHU.



VRV AHU System Structure (Maximum Allowable Piping Length and Height)

AHURS-DBV (Standard Series)

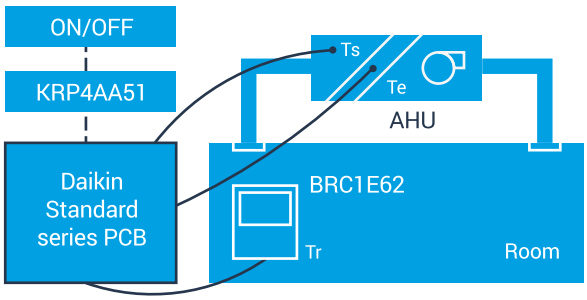
1. Longest Pipe Length = a + b + c + d = 165m
2. Longest Pipe Length after First Refnet = c + d = 40m
3. Total Pipe Length = a + b + c + d + e + f = 1,000m

* 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.

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

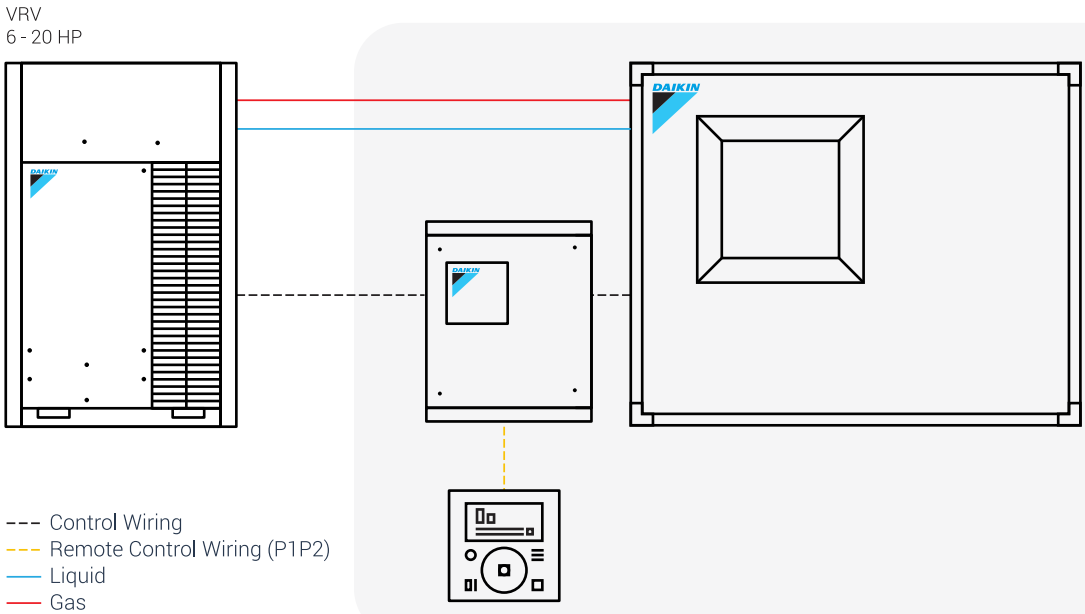
AHURS-DBV standard series model use DX coil. Each DX coil will be connected to an expansion valve and controlled by one standard series PCB.

VRV AHU Standard Series Evaporator Coils

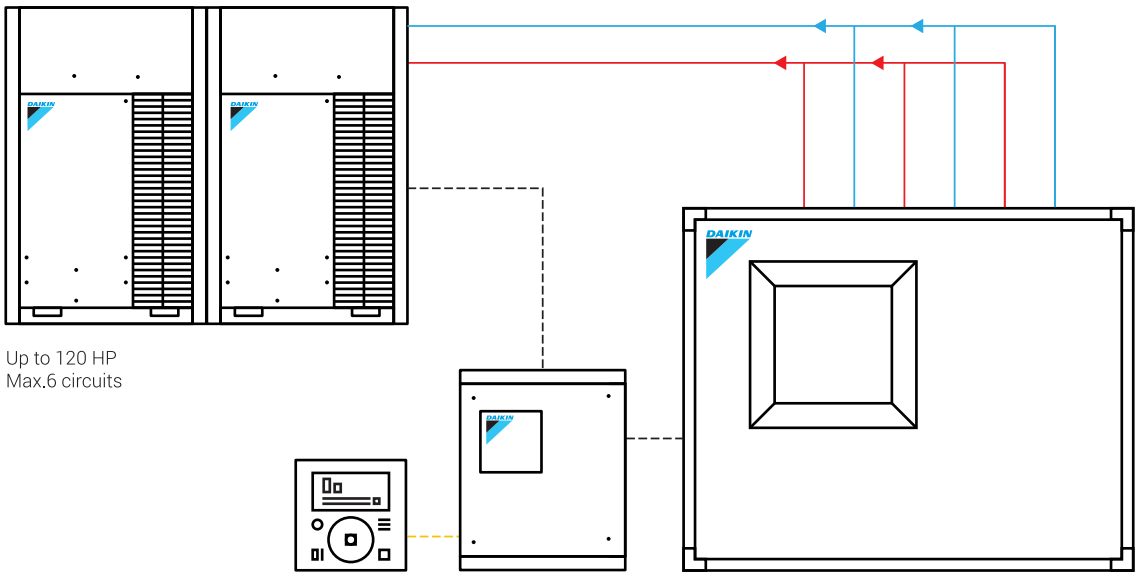
• 5 capacities of Evaporator Coils

- 6HP **used on 6HP AHU unit**
- 8HP **used on 8HP AHU unit**
- 10HP **used on 10HP AHU unit**
- 16HP **used on 16HP, 32HP, 48HP AHU unit**
- 20HP **used on 20HP, 40HP, 60HP, 80HP, 100HP, 120HP AHU unit**

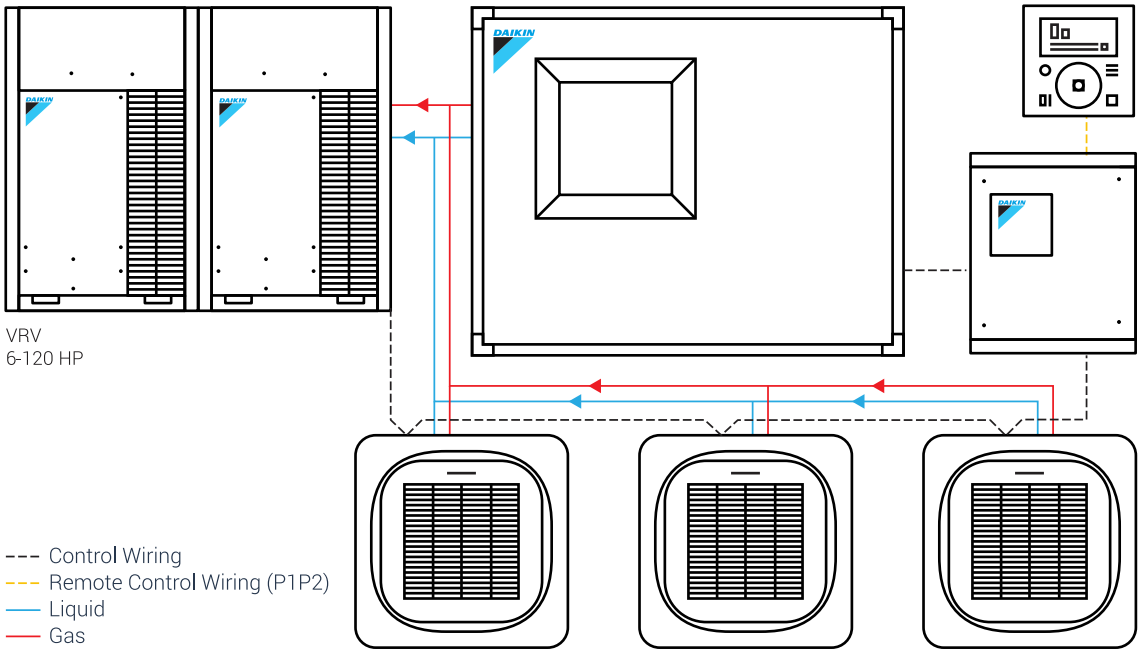
VRV Connection to AHU Configuration



Single VRV System Configuration

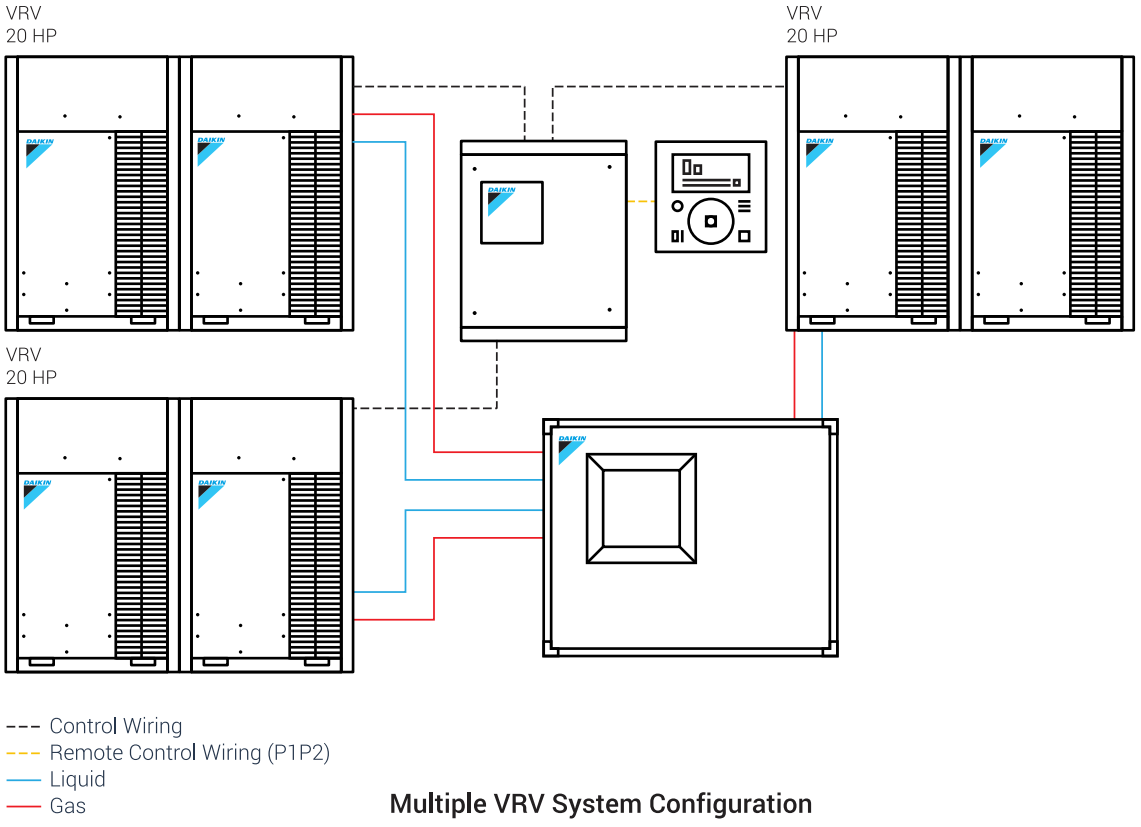


Each coil up to 20 HP
(Max combination of 6) = 120 HP



Multiple Indoor Units with AHU Configuration

*In case of more than 60 HP system, connection is Multiple VRV system



Multiple VRV System Configuration

AHURS-DBV (Standard Series)

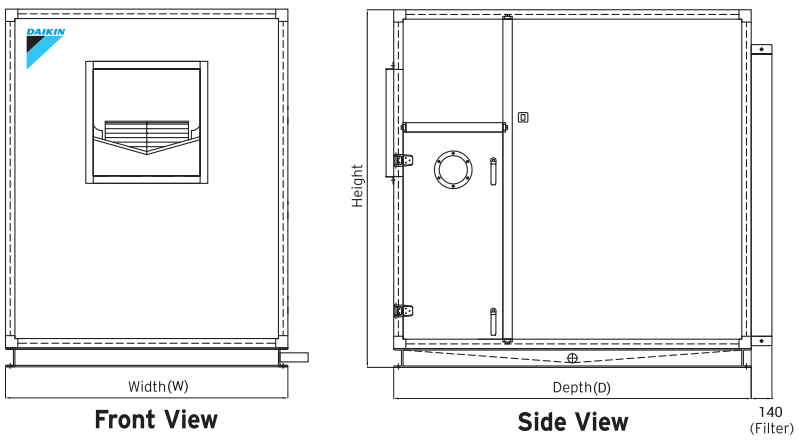
AHU Specification AHURS-DBV

1	CASING / INSULATION (DB SERIES)	50mm Thickness Double Skinned Polyurethane Insulated Sandwich Panel 0.5mm thick Pre-Painted (white) Galvanised Steel Thermal Break System, Ozone friendly Polyurethane Foam 45±2kg/m3
2	CASING-FRAME (DBL SERIES)	Extruded Aluminium Pentapost Profile
3	COIL	DX Coil
	TUBE	Copper Tube
	FIN	Aluminium 0.2mmt, Corrugated Fin Pattern c/w Ripple Edge
	HEADER	Copper Tube
	FRAME	Galvanised Steel
	WORKING PRESSURE	10Kg/cm²
4	FAN	(Brand = Kruger)
	TYPE	Double Width Double Inlet Forward Curved Cetrifugal Belt Drive Fan
	WHEEL	Galvanised Steel
	HOUSING	Galvanised Steel
	FRAME	Steel With Polyester Powder Coating
5	MOTOR	(Brand = Elektrim) Three-Phase Induction Motor Totally Enclosed Fan-Cooled Type Protection = IP55 Insulation Class = F Efficiency class IE3
6	VIBRATION ISOLATOR	Spring Isolator
7	DRAIN PAIN (DBL SERIES)	1.2mm (SUS 304) Beneath the Drain Pan is Covered with PU Insulation 40Kg/m³ Density
8	AIR FILTER	(Brand = AAF) Type = R29 Class = G3 (AFI = 80-85%) Synthetic Washable Size = Full (24" x 24" x 2") Half (12" x 24" x 2")

AHM Model and Dimensions

Model	Dimensions W x D x H (MM)
AHURS06DBV	1300 x 1400 x 1200
AHURS08DBV	1300 x 1400 x 1200
AHURS10DBV	1500 x 1400 x 1200
AHURS16DBV	1800 x 1500 x 1200
AHURS20DBV	2100 x 1600 x 1200
AHURS32DBV	1800 x 1800 x 1600
AHURS40DBV	2100 x 1800 x 1600
AHURS48DBV	1800 x 1950 x 2300
AHURS60DBV	2100 x 1950 x 2300
AHURS80DBV	4000 x 1800 x 1600
AHURS100DBV	4000 x 1950 x 2300
AHURS120DBV	4000 x 1950 x 2350

Drawing



AHURS-DBV Specifications (AC Motor)

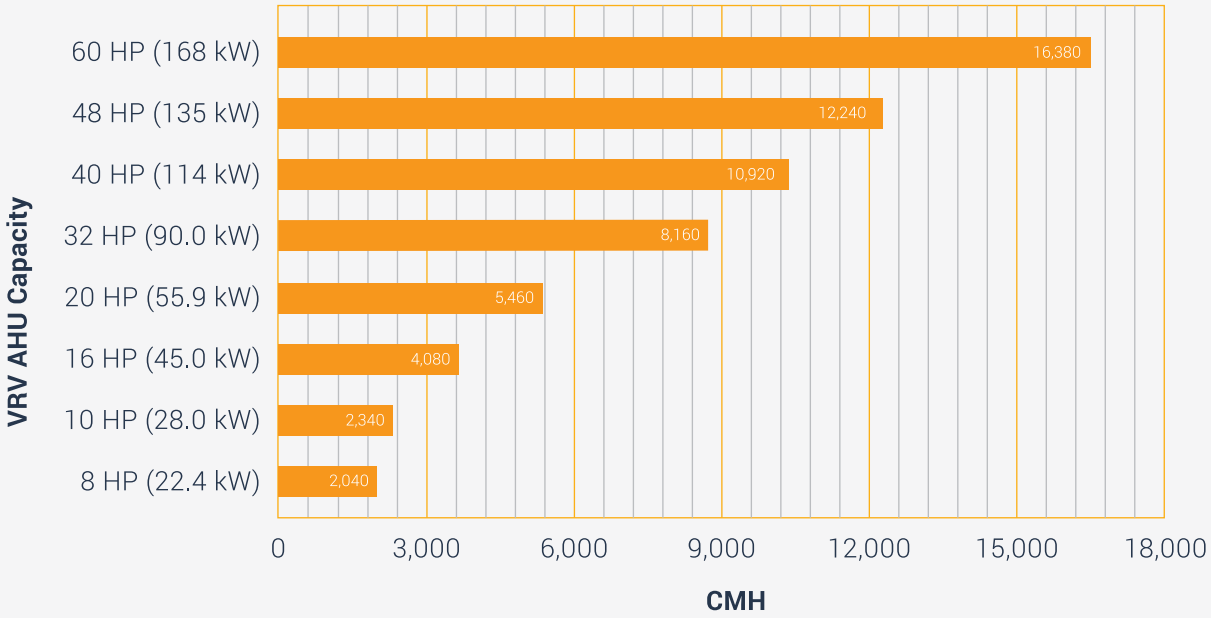
Model Dimension (WxDxH)mm		AHURS 06 DBV 1300 x 1400 x 1200						AHURS 08 DBV 1300 x 1400 x 1200						AHURS 10 DBV 1500 x 1400 x 1200						AHURS 16 DBV 1800 x 1500 x 1200						AHURS 20 DBV 2100 x 1600 x 1200						AHURS 32 DBV 1800 x 1800 x 1600					
Total Cooling Capacity	NETT (KW)	16.2	16.1	16.0	15.9	15.8	15.7	22.9	22.8	22.7	22.6	22.4	22.3	28.4	28.3	28.1	28.0	27.9	27.8	45.9	45.7	45.5	45.3	45.1	44.8	56.6	56.4	56.2	55.9	55.7	55.5	91.1	90.8	90.5	90.2	89.9	89.5
Total Sensible Cooling Capacity		11.1	11.0	10.9	10.8	10.7	10.6	15.9	15.8	15.7	15.6	15.5	15.3	19.4	19.3	19.2	19.0	18.9	18.8	31.2	31.0	30.8	30.6	30.4	30.2	37.9	37.7	37.5	37.3	37.0	36.8	62.5	62.2	61.9	61.6	61.2	60.9
Total Cooling Capacity	GROSS (KW)	17.4						24.1						29.8						48.3						59.3						95.7					
Total Sensible Cooling Capacity		12.2						17.1						20.8						33.9						40.7						67.1					
Air Flow	CMH	3,240						4,080						4,680						8,160						9,960						16,320					
Ent. Temp.	°CDB/°CWB	27.00/19.00						27.00/19.00						27.00/19.00						27.00/19.00						27.00/19.00						27.00/19.00					
Lev. Temp.	°CDB/°CWB	14.79/13.48						14.51/12.84						13.54/12.06						14.67/12.8						14.89/12.8						14.74/12.88					
Coil Material		CU TUBE/AL FIN																																			
Cooling Medium		R410A																																			
Face Area Per Coil	m^2	0.41						0.47						0.63						0.79						1.01						0.79					
Face Velocity	m/s	2.19						2.38						2.08						2.86						2.75						2.85					
Air Pressure Drop In Coil	Pa	108						149						125						186						178						186					
Suction Pipe	mm	9.5						9.5						9.5						12.7						15.9						12.7 x 2					
Liquid Pipe	mm	19.1						19.1						22.2						28.6						28.6						28.6 x 2					
Air Filter Size 12"x24"x2"	PCS.	1						1						1						1						-						2					
Air Filter Size 24"x24"x2"	PCS.	1						1						1						2						3						4					
Air Pressure Drop In Filter	Pa	80						80						80						80						80						80					
Fan Type		FORWARD CURVE																																			
Fan Model		FDA 200 CM						FDA 250 TM						FDA 250 TM						FDA 315 TM						FDA 355 TM						FDA 450 TM					
External Static Pressure	Pa	250	300	350	400	450	500	250	300	350	400	450	500	250	300	350	400	450	500	250	300	350	400	450	500	250	300	350	400	450	500	250	300	350	400	450	500
Total Static Pressure	Pa	438	488	538	588	638	688	479	529	579	629	679	729	455	505	555	605	655	705	518	568	616	666	716	766	508	558	608	658	708	758	516	568	616	686	716	768
Motor Rated	KW	1.5		2.2				2.2				3.0		2.2			3.0			4.0			5.5			4.0			5.5			7.5					
Full Load Current	Amp	3.63		4.52				4.42				6.33		4.42			6.33			7.95			10.67			7.95			10.67			14.09					
Motor Type		(IE3)																																			
Power Supply		415V/3PH/50Hz																																			
Power Input	KW	1.44	1.53	1.64	1.76	1.89	1.99	1.44	1.57	1.67	1.81	1.96	2.12	1.69	1.83	1.94	2.09	2.21	2.36	3.22	3.45	3.68	3.92	4.14	4.38	3.31	3.63	3.87	4.13	4.28	4.57	5.38	5.72	6.09	6.46	6.85	7.24
WATT/CMH	W	0.45	0.47	0.51	0.54	0.58	0.61	0.35	0.38	0.41	0.44	0.48	0.52	0.36	0.39	0.42	0.45	0.47	0.51	0.39	0.42	0.45	0.48	0.51	0.54	0.33	0.36	0.39	0.41	0.43	0.46	0.33	0.35	0.37	0.40	0.42	0.44
KW/RT	KW	0.29	0.31	0.33	0.36	0.38	0.40	0.21	0.23	0.24	0.26	0.29	0.31	0.20	0.22	0.23	0.25	0.26	0.28	0.23	0.25	0.27	0.28	0.30	0.32	0.20	0.22	0.23	0.24	0.25	0.27	0.20	0.21	0.22	0.24	0.25	0.27
Equipment Weight	kg	455		460				460				465		510			520			620			630			700			720			850					

Model Dimension (WxDxH)mm		AHURS 40 DBV 2100 x 1800 x 1600						AHURS 48 DBV 1800 x 1950 x 2300						AHURS 60 DBV 2100 x 1950 x 2200						AHURS 80 DBV 4000 x 1800 x 1600						AHURS 100 DBV 4000 x 1950 x 2300						AHURS 120 DBV 4000 x 1950 x 2350					
Total Cooling Capacity	NETT (KW)	113.1	112.7	112.3	111.9	111.5	111.1	136.9	136.4	136.0	135.5	135.0	134.5	170.0	169.4	168.8	168.1	167.5	166.7	227.3	226.5	225.6	224.8	223.9	223.0	283.8	282.8	281.8	280.8	27.8	278.8	341.3	340.0	338.8	377.4	336.0	334.6
Total Sensible Cooling Capacity		75.8	75.4	75.0	74.6	74.2	73.7	98.1	97.7	97.2	96.7	96.3	95.8	113.9	113.3	112.7	112.1	111.5	110.7	151.7	150.9	150.0	149.2	148.3	147.4	198.5	197.5	196.5	195.5	194.5	193.5	227.7	226.4	225.2	223.8	222.4	221.0
Total Cooling Capacity	GROSS (KW)	118.7						143.4						178.0						239.2						297.1						358.5					
Total Sensible Cooling Capacity		81.3						104.6						122.0						163.6						211.8						224.9					
Air Flow	CMH	19,920						24,480						29,880						39,840						49,800						59,760					
Ent. Temp.	°CDB/°CWB	27.00/19.00						27.00/19.00						27.00/19.00						27.00/19.00						27.00/19.00						27.00/19.00					
Lev. Temp.	°CDB/°CWB	14.89/12.8						14.32/12.91						14.89/12.8						14.81/12.73						14.38/12.78						14.82/12.74					
Coil Material		CU TUBE/AL FIN																																			
Cooling Medium		R410A																																			
Face Area Per Coil	m^2	1.01						0.79						1.01						2.04						1.26						2.04					
Face Velocity	m/s	2.77						2.88						2.77						2.70						2.20						2.70					
Air Pressure Drop In Coil	Pa	178						188						178						174						135						174					
Suction Pipe	mm	15.9 x 2						12.7 x 3						159 x 3						15.9 x 4						15.9 x 5						15.9 x 6					
Liquid Pipe	mm	28.36 x 2						28.6 x 3						28.6 x 3						28.6 x 4						28.6 x 5						28.6 x 6					
Air Filter Size 12"x24"x2"	PCS.	-						3						-						-						-						-					
Air Filter Size 24"x24"x2"	PCS.	6						6						9						12						18						18					
Air Pressure Drop In Filter	Pa	80						80						80						80						80						80					
Fan Type		FORWARD CURVE																																			
Fan Model		FDA500 TM						FDA560 TM						FDA630 TM						FDA500 T2M						FDA560 T2M						FDA630 T2M					
External Static Pressure	Pa	250	300	350	400	450	500	250	300	350	400	450	500	250	300	350	400	450	500	250	300	350	400	450	500	250	300	350	400	450	500	250	300	350	400	450	500
Total Static Pressure	Pa	50.8	558	608	658	708	758	518	588	618	668	718	768	508	558	608	658	708	758	504	554	604	654	704	754	465	515	565	615	665	715	504	554	604	654	704	754
Motor Rated	KW	7.5		11.0				11.0						11.0		15.0				15.0		18.5			22.0	18.5		22.0				22.0		30.0			
Full Load Current	Amp	14.1		20.7				20.7						20.7		27.3				27.3		33.5			39.2	33.5		39.2				39.2		57.1			
Motor Type		(IE3)																																			
Power Supply		415V/3PH/50Hz																																			
Power Input	KW	6.47	6.93	7.31	7.77	8.25	8.73	7.49	8.02	8.52	9.08	9.60	10.17	1.69	1.83	1.94	2.09	2.21	2.36	13.60	14.44	15.46	16.37	17.39	18.34	15.12	16.26	17.39	18.53	19.58	20.71	19.47	20.94	22.15	23.73	25.30	26.88
WATT/CMH	W	0.33	0.35	0.37	0.39	0.41	0.44	0.31	0.33	0.35	0.37	0.39	0.42	0.36	0.39	0.42	0.45	0.47	0.51	0.34	0.36	0.39	0.41	0.44	0.46	0.30	0.35	0.35	0.37	0.39	0.39	0.33	0.35	0.37	0.40	0.42	0.45
KW/RT	KW	0.19	0.21	0.22	0.23	0.24	0.26	0.16	0.20	0.21	0.22	0.24	0.25	0.20	0.22	0.23	0.25	0.26	0.28	0.20	0.21	0.23	0.24	0.26	0.27	0.18	0.19	0.21	0.22	0.23	0.23	0.19	0.21	0.22	0.23	0.25	0.26
Equipment Weight	kg	960		1000				1230						510		520				620			630			2165			2200			850					

Outdoor Air Series AHURS-DBL

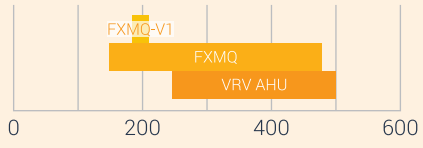
VRV AHU Outdoor Air Series

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 - 16,280 CMH.



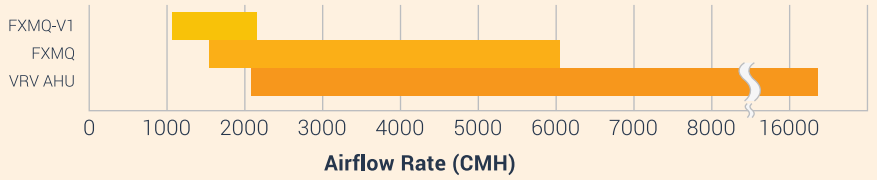
Comparison for ESP and Capacity between VRV AHU, Ceiling Mounted Duct Type and Floor Standing Duct Type.

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



FXMQ-V1: From *185 Pa* to *205 Pa*
FXMQ: From *150 Pa* to *480 Pa*
VRV AHU: *250 Pa* to *500 Pa*

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

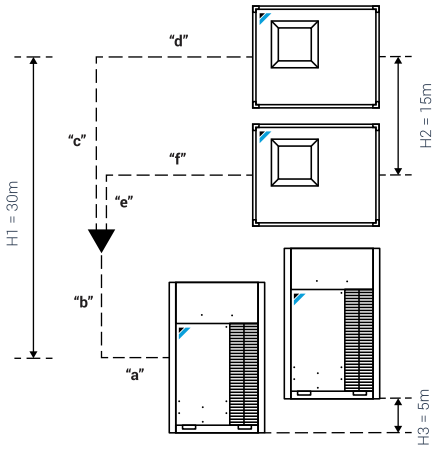


FXMQ-V1: From *1,080 CMH* to *2,100 CMH*
FXMQ: From *1,518 CMH* to *6,072 CMH*
VRV AHU: *2,040 CMH* to *16,380 CMH*

			Temperature Range
			Cooling
Entering Air Temperature to VRV AHU		Minimum	14°C WB
		Maximum	35°C DB
Outdoor Unit	VRV IV	Minimum	-5°C DB
		Maximum	49°C DB
Expansion Valve		Minimum	-5°C DB
		Maximum	46°C DB
Outdoor air series PCB		Minimum	-10°C DB
		Maximum	40°C DB

VRV AHU Operation Range

VRV AHU AHURS-DBL operation is similar as other VRV indoor unit. Following table is the list of operation range for AHU.



VRV AHU System Structure (Maximum Allowable Piping Length and Height)

AHURS-DBL (Outdoor Air Series)

1. Longest Pipe Length = a + b + c + d = 50m

2. Longest Pipe Length after First Refnet = c + d = 40m

* 1 When pipe length exceed 50m, please contact Daikin's Sale Office for more information.

VRV AHU Outdoor Air Series Evaporator Coil, Expansion Valve and Outdoor Air Series PCB

AHURS-DBL Outdoor air series use DX coil. Each DX coil will be connected to expansion valve and controlled by one Outdoor air series PCB. VRV AHU Outdoor air Series Evaporator Coils

• 4 capacities of Evaporator Coils

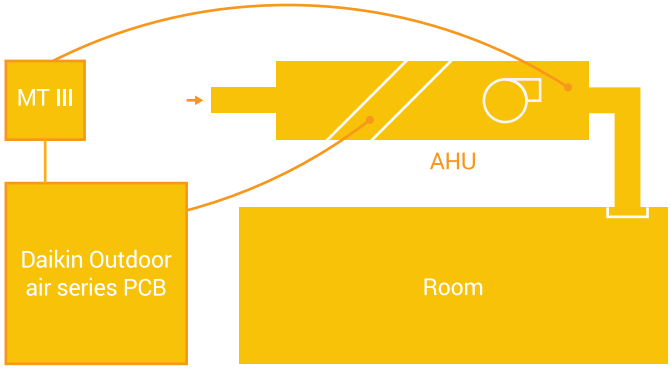
- 8HP **used on 8HP AHU unit**
- 10HP **used on 10HP AHU unit**
- 16HP **used on 16HP, 32HP, 48HP AHU unit**
- 20HP **used on 20HP, 40HP, 60HP AHU unit**

Possibility X (Td/Tr control):

Precise air temperature control via MicroTech III (MT III) controller (option)

Room temperature is controlled as a function of the air handling unit suction or discharge air (customer selection). The MT 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.

This Reference voltage will be used as the main input value for the compressor frequency control.



Td = Air discharge temperature
Temperature
(13°C ~ 28°C)

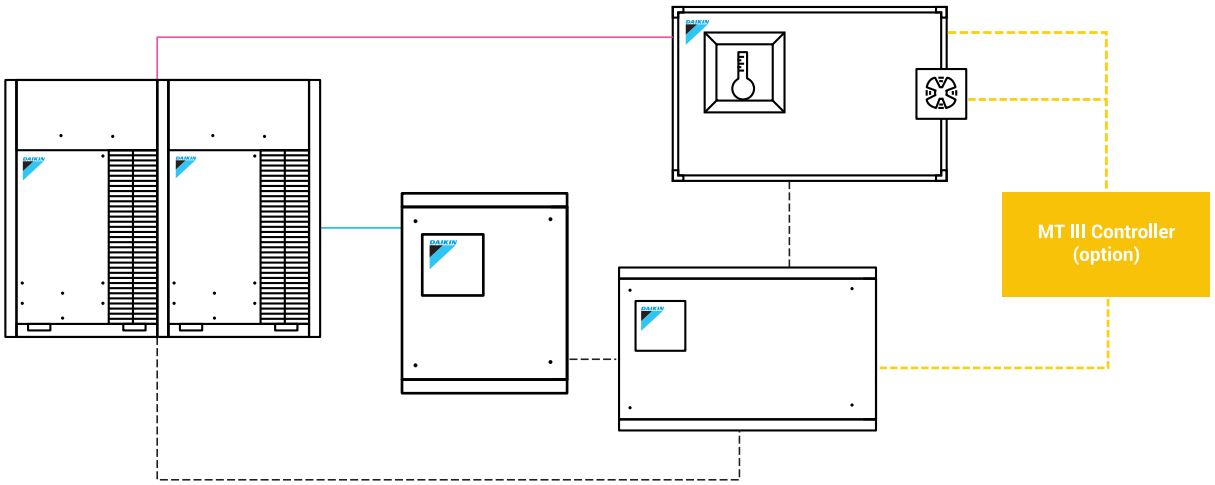
Te = Evaporating

AHU = Air Handling Unit

MicroTech III controller (option)

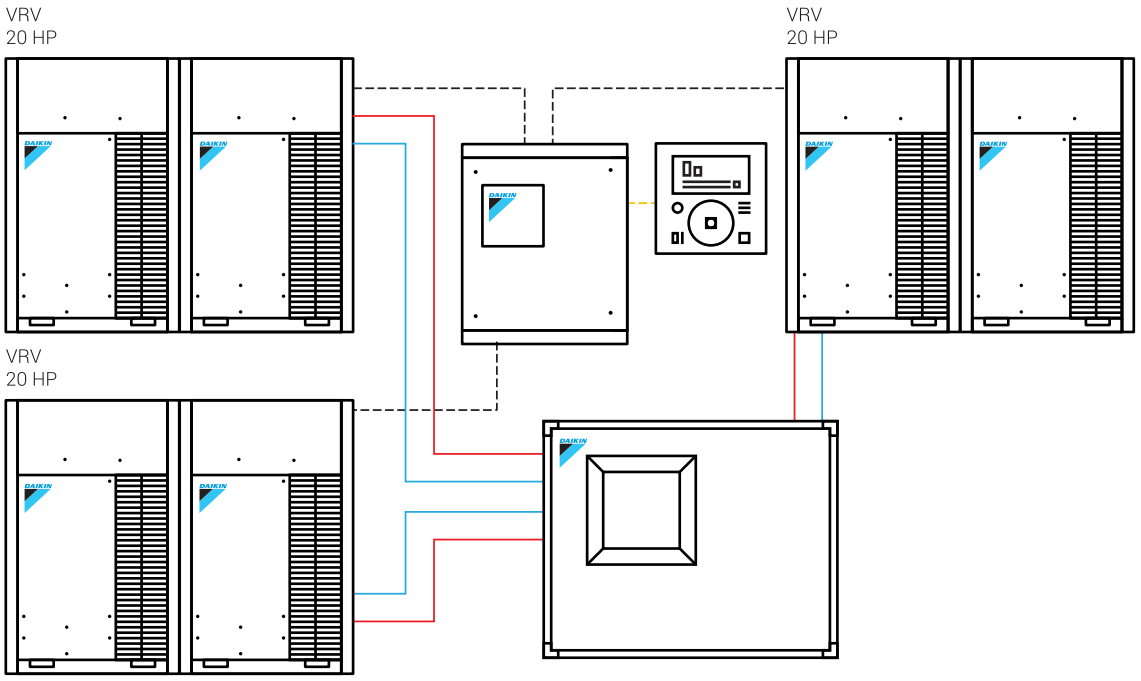
MT III controller is recommended for Outdoor air series AHU controlling, switching and monitoring functions. This controller is programmed to optimize the performance and efficiency of VRV AHU automatically. It can also communicate with Daikin's intelligent Touch Manager via BACnet protocol easily.

VRV AHU Configuration



--- Control Wiring
--- MT III Control Wiring
— Liquid
— Gas

Combined VRV System Configuration



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

Multiple VRV System Configuration

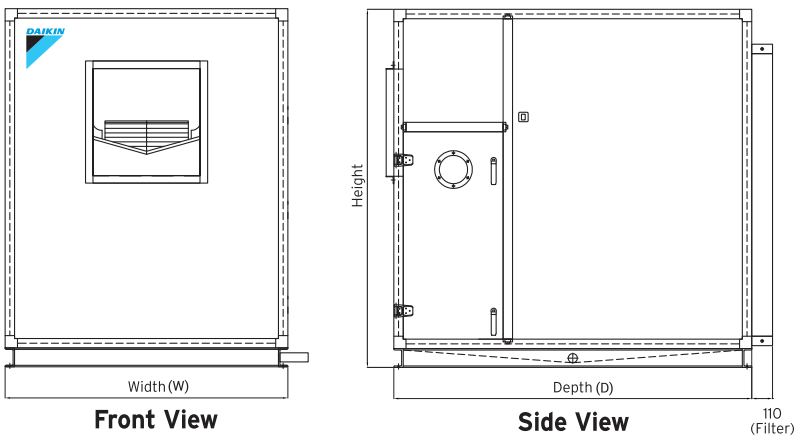
VRV AHU Configuration

1	CASING / INSULATION (DBL SERIES)	50mm Thickness Double Skin Polyurethane Insulated Sandwich Panel 0.5mm thick Pre-Painted (white) Galvanised Steel Thermal Break System, Ozone friendly Polyurethane Foam 45±2kg/m3
	WEATHER PROOF ROOF	SUS 304
2	CASING-FRAME (DBL SERIES)	Extruded Aluminium Profile
3	COIL	DX Coil
	TUBE	Copper Tube
	FIN	Aluminium Fin, 0.2mm, Corrugated Fin Pattern c/w Ripple Edge
	HEADER	Copper Tube-Connect
	FRAME	Galvanised Steel
	WORKING PRESSURE	10Kg/cm²
4	FAN	(Brand = Kruger)
	TYPE	Double Width Double Inlet Forward Curved Cetrifugal Belt Drive Fan
	WHEEL	Galvanised Steel Sheet
	HOUSING	Galvanised Steel Sheet
	FRAME	Steel With Polyester Powder Coating
5	MOTOR	(Brand = Elektrim) Three-Phase Induction Motor Totally Enclosed Fan-Cooled Type Protection = IP55 Insulation Class = F Efficiency class IE3
6	VIBRATION ISOLATOR	Spring Isolator
7	DRAIN PAIN (DBL SERIES)	1.2mm (SUS 304) The Drain Pan is Covered with PU Insulation 40Kg/m³ Density
8	AIR FILTER	(Brand = AAF) Type = R29 Class = G3 (AFI = 80-85%) Synthetic Washable Size = Full (24" x 24" x 2") Half (12" x 24" x 2")

AHM Model and Dimensions

Model	Dimensions W x D x H (MM)
AHURS08DBL	1300 x 1400 x 1200
AHURS10DBL	1500 x 1400 x 1200
AHURS16DBL	1800 x 1400 x 1200
AHURS20DBL	2100 x 1600 x 1200
AHURS32DBL	1800 x 1800 x 1600
AHURS40DBL	2100 x 1800 x 1600
AHURS48DBL	1800 x 1950 x 2300
AHURS60DBL	2100 x 1950 x 2300

Drawing



AHURS-DBL Specifications (AC Motor)

Model Dimension (WxDxH)mm		AHURS 08 DBL 1300 x 1400 x 1200						AHURS 10 DBL 1500 x 1400 x 1200						AHURS 16 DBL 1800 x 1500 x 1200						AHURS 20 DBL 2100 x 1600 x 1200					
Total Cooling Capacity	NETT (KW)	23.0	22.9	22.8	22.8	22.7	23.5	27.9	27.8	27.8	27.7	27.6	28.6	45.0	44.9	44.8	44.7	44.6	46.0	56.9	56.8	56.7	56.5	56.4	58.5
Total Sensible Cooling Capacity		9.2	9.2	9.1	9.1	9.0	8.9	11.2	11.2	11.1	11.0	11.0	10.9	18.2	18.2	18.1	18.0	17.9	17.7	22.8	22.7	22.5	22.4	22.3	22.2
Total Cooling Capacity	GROSS (KW)	23.5						28.6						46.0						58.5					
Sensible Cooling Capacity		9.8						11.9						19.2						24.4					
Air Flow	CMH	2,040						2,340						4,080						5,460					
Ent. Temp.	°CDB/°CWB	33/27						33/27						33/27						33/27					
Lev. Temp.	°CDB/°CWB	18.81/17.89						17.89/17.17						18.96/18.01						19.75/18.62					
Coil Material		CU TUBE/AL FIN																							
Cooling Medium		R410A																							
Face Area Per Coil	m^2	0.46						0.65						0.79						0.96					
Face Velocity	m/s	1.23						1.20						1.43						1.58					
Air Pressure Drop In Coil	Pa	36						26						46						54					
Suction Pipe	mm	9.5						9.5						12.7						15.9					
Liquid Pipe	mm	19.1						22.2						28.6						28.6					
Air Filter Size 12"x24"x2"	PCS.	1						-						1						-					
Air Filter Size 24"x24"x2"	PCS.	1						2						2						3					
Air Pressure Drop In Filter	Pa	80						80						80						80					
Fan Type		FORWARD CURVE																							
Fan Model		FDA180 CM						FDA180 CM						FDA250 TM						FDA250 TM					
External Static Pressure	Pa	250	300	350	400	450	500	250	300	350	400	450	500	250	300	350	400	450	500	250	300	350	400	450	500
Total Static Pressure	Pa	366	416	466	516	566	616	356	406	456	506	556	606	376	426	476	526	576	626	384	434	484	534	584	634
Motor Rated	KW	0.75			1.1			1.1			1.5			1.5			2.2			2.2		3.0			
Full Load Current	Amp	1.90			2.62			2.62			3.63			3.63			4.52			4.52		6.33			
Motor Type		(IE3)																							
Power Supply		415V/3PH/50Hz																							
Power Input	KW	0.70	0.94	0.84	0.92	1.00	1.07	0.86	0.94	1.02	1.08	1.16	1.25	1.21	1.33	1.46	1.55	1.68	1.82	1.97	2.09	2.24	2.40	2.54	2.70
WATT/CMH	W	0.34	0.40	0.41	0.45	0.49	0.53	0.37	0.40	0.43	0.46	0.50	0.53	0.30	0.33	0.36	0.38	0.41	0.45	0.36	0.38	0.41	0.44	0.47	0.49
KW/RT	KW	0.10	0.12	0.13	0.14	0.15	0.16	0.11	0.12	0.13	0.13	0.14	0.15	0.09	0.10	0.11	0.12	0.13	0.14	0.12	0.13	0.13	0.14	0.15	0.16
Equipment Weight	kg	415			420			475			480			550			570			645		650			

Model Dimension (WxDxH)mm		AHURS 32 DBL 1800 x 1800 x 1600						AHURS 40 DBL 2100 x 1800 x 1600						AHURS 48 DBL 1800 x 1950 x 2300						AHURS 60 DBL 2100 x 1950 x 2300					
Total Cooling Capacity	NETT (KW)	90.0	89.9	89.7	89.5	89.3	92.3	114.3	114.1	113.9	113.7	113.5	116.6	135.5	135.2	135.0	134.8	134.5	138.2	171.6	171.3	170.9	170.6	170.2	175.0
Total Sensible Cooling Capacity		36.4	36.2	36.0	35.9	35.7	35.5	46.3	46.1	45.9	45.7	45.5	45.2	54.8	54.6	54.4	54.1	53.9	53.7	69.6	69.3	68.9	68.6	68.2	67.9
Total Cooling Capacity	GROSS (KW)	92.3						116.6						138.2						175.0					
Sensible Cooling Capacity		38.6						48.6						57.6						73.0					
Air Flow	CMH	8,160						10,920						12,240						16,380					
Ent. Temp.	°CDB/°CWB	33/27						33/27						33/27						33/27					
Lev. Temp.	°CDB/°CWB	18.96/18.01						19.79/18.66						18.98/18.03						19.79/18.66					
Coil Material		CU TUBE/AL FIN																							
Cooling Medium		R410A																							
Face Area Per Coil	m^2	0.79						0.96						0.79						0.96					
Face Velocity	m/s	1.43						1.58						1.43						1.58					
Air Pressure Drop In Coil	Pa	46						54						46						54					
Suction Pipe	mm	12.7 x 2						15.9 x 2						12.7 x 3						15.9 x 3					
Liquid Pipe	mm	28.6 x 2						28.6 x 2						28.6 x 3						28.6 x 3					
Air Filter Size 12"x24"x2"	PCS.	2						-						3						-					
Air Filter Size 24"x24"x2"	PCS.	4						6						6						9					
Air Pressure Drop In Filter	Pa	80						80						80						80					
Fan Type		FORWARD CURVE																							
Fan Model		FDA315 TM						FDA400 TM						FDA400 TM						FDA500 TM					
External Static Pressure	Pa	250	300	350	400	450	500	250	300	350	400	450	500	250	300	350	400	450	500	250	300	350	400	450	500
Total Static Pressure	Pa	376	426	476	526	576	626	384	434	484	534	584	634	376	426	476	526	576	626	384	434	484	534	584	634
Motor Rated	KW	3.0			4.0			3.0		4.0			5.5	4.0			5.5			4.0		5.5			7.5
Full Load Current	Amp	6.33			7.95			6.33		7.95			10.67	7.95			10.67			7.95		10.67			14.09
Motor Type		(IE3)																							
Power Supply		415V/3PH/50Hz																							
Power Input	KW	2.65	2.86	3.04	3.27	3.48	3.73	2.76	3.01	3.23	3.52	3.79	4.15	3.27	3.54	3.81	4.08	4.37	4.65	3.98	4.37	4.78	5.18	5.61	6.02
WATT/CMH	W	0.33	0.35	0.37	0.40	0.43	0.46	0.25	0.28	0.30	0.32	0.35	0.38	0.27	0.29	0.31	0.33	0.36	0.38	0.24	0.27	0.29	0.32	0.34	0.37
KW/RT	KW	0.10	0.11	0.12	0.12	0.13	0.14	0.08	0.09	0.10	0.11	0.11	0.13	0.08	0.09	0.10	0.10	0.11	0.12	0.08	0.09	0.10	0.10	0.11	0.12
Equipment Weight	kg	770			790			860		880			900	1080			1100			1265				1300	

MicroTech III Controller (Option)

MicroTech III consists of 4 components in a fixed configuration

BACnet IP Module POL908 | Principal Module POL 638 | Extension Module POL 955 | Extension Module POL 955

Features

1. 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.

2. Principal Module POL 638 and Extension ModulePOL 955 have selected analog and digital I/O contacts programmed for control and monitoring of sensors and other related devicesin a VRV Outdoor Air Series AHU.

3. HMI screen on the Principal Module POL 638 allows easy testing and commissioning and even without a centralised controller or 3rd party BMS.

Functions

1. Supply air control using the supply air sensor
   - Used for temperature control.

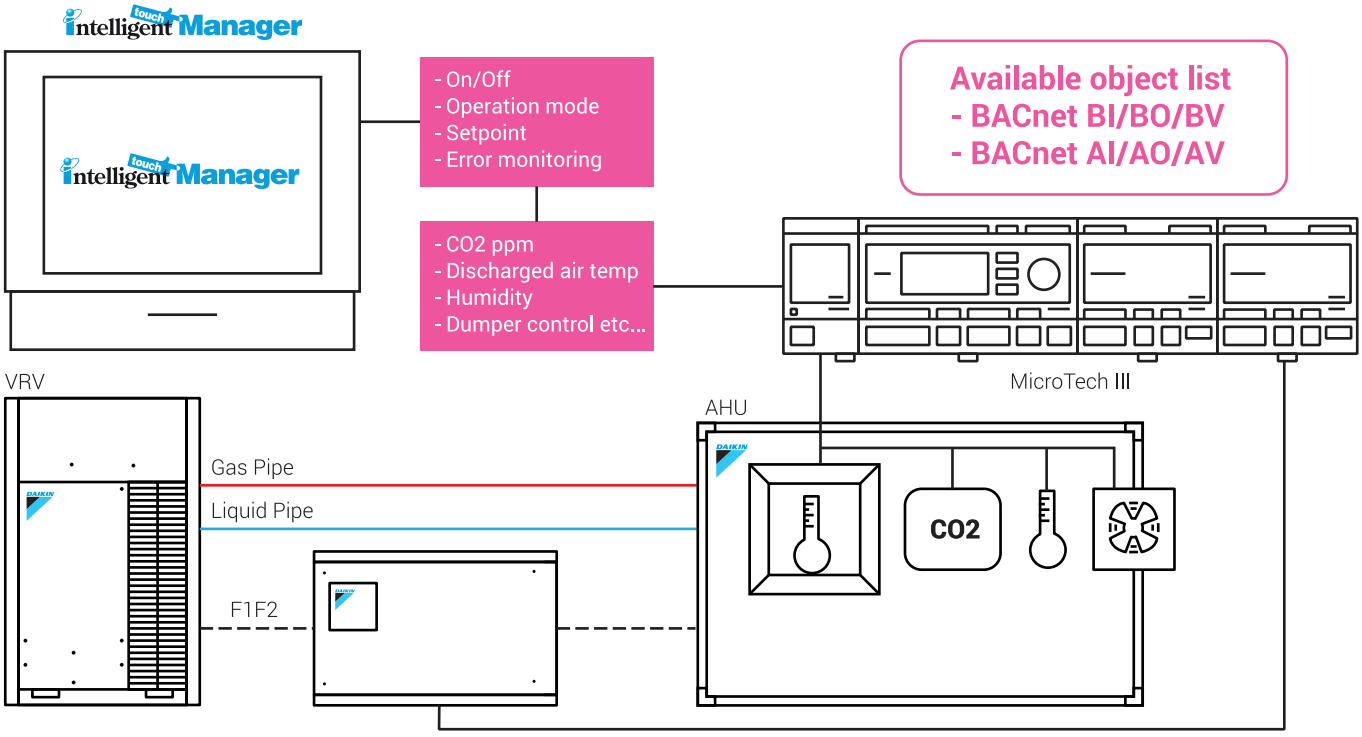
2. Air quality control –CO2 Levels
   - The controls of the mixing damper can be dependent on the CO2 set point.
   - User can define the CO2 set point.
   - The fresh air damper will be difference between 100% and the percentage opening of the mixing damper.

3. Fan airflow control
   - The fan speed control can be done 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. (iTM Controller)

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



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 unauthorised parts and accessories or improper installation of parts and accessories can result in water or refrigerant leakage, electrical shock, fire or explosion.

- Read th 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 or alkaline gas are produced.
2. If the outdoor unit is to be installed close to the sea shore, direct exposure to the sea breeze should be avoided. If you need to install the outdoor unit close to the sea shore, contact your local distributor.

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Website: www.daikin.com.sg

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