

**DAIKIN**



APCVD1509E

**Daikin VRV AHU System**  
STANDARD AIR SERIES AHUR-DCV/CCV/SCV &  
OUTDOOR AIR SERIES AHUR-DCL/CCL/SCL

# VRV AHU Applications



\* New line-up : Single skin panel

Airport



Lobby



Hospital



Factory



Shopping Mall



Sports Hall



Showroom



Warehouse



## VRV AHU Introduction

The new VRV AHU series released by Daikin, standard air series model AHUR-DCV/CCV/SCV with its outdoor air series AHUR-DCL/CCL/SCL. It is a DX AHU that is specially designed to operate with VRV outdoor unit.

This enabled the users to

- reduce maintenance costs
- enjoy more space savings

Daikin VRV AHU improves the indoor air quality caused by haze, pollutants, etc with options of pre-filters 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)

## 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 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).





## Features of VRV AHU

- Harnessing VRV VRT technology
- Inverter controlled system
- Can be easily controlled via standard wired remote control (BRC1E62)
- Double skin panel is available for DCV/DCL/CCV/CCL models
- Single skin panel is available for SCV/SCL models
- 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

## 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.

### Notes:

\*1 Optional items required

\*2 For ESP more than 500Pa, please contact Daikin's Sales Office

\*3 BACnet interface

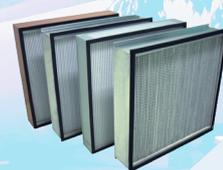
\*4 MicroTech III is not recommended to use for 24 hours application.

For 24 hours operation, please source for external 3rd party DDC locally or contact Daikin sales office.

## Options

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

- Fan type
  - ✓ Centrifugal fan backward curve
  - ✓ Plug fan
  - ✓ EC fan
  - ✓ Explosion proof
- Fan motor
  - ✓ IE2, IE3 motor
  - ✓ Explosion proof
  - ✓ PTC thermistor
- Drain pan type
  - ✓ Stainless steel
- Air filter type
  - ✓ Pre filter class G2 & 4
  - ✓ Medium filter class F6, 7, 8 & 9
  - ✓ Hepa filter class H12, 13 & 14
  - ✓ Grease filter
  - ✓ Carbon filter
- Coil material type
  - ✓ Cooling tube OD3/8"
  - ✓ Special coil size design
  - ✓ Blue fin
  - ✓ Copper fin
- Panel type
  - ✓ Double skin stainless steel
  - ✓ Rock wool insulation
  - ✓ Glass wool insulation
- Special option
  - ✓ Electric heater
  - ✓ Mixing box
  - ✓ Outdoor accessories
  - ✓ Heat pipe
  - ✓ DDC controller
  - ✓ Ext. motor terminal box
  - ✓ Starter box
  - ✓ Heat recovery
  - ✓ Heating coil
  - ✓ Humidifier
  - ✓ External motor
  - ✓ Volume damper
  - ✓ UVC Lamp
- Customization
  - ✓ Airflow
  - ✓ Capacity
  - ✓ ESP
  - ✓ Air direction
  - ✓ Piping direction
- Controller
  - ✓ MicroTech III\*3, 4 (DDC)



## \*Heating Operation with Special Coil

In heating operation, please observe the following conditions:

1. Use Heat Pump models for outdoor units.
2. For connection ratio, please follow the instruction below.

### ■ Connection ratio for Standard Series

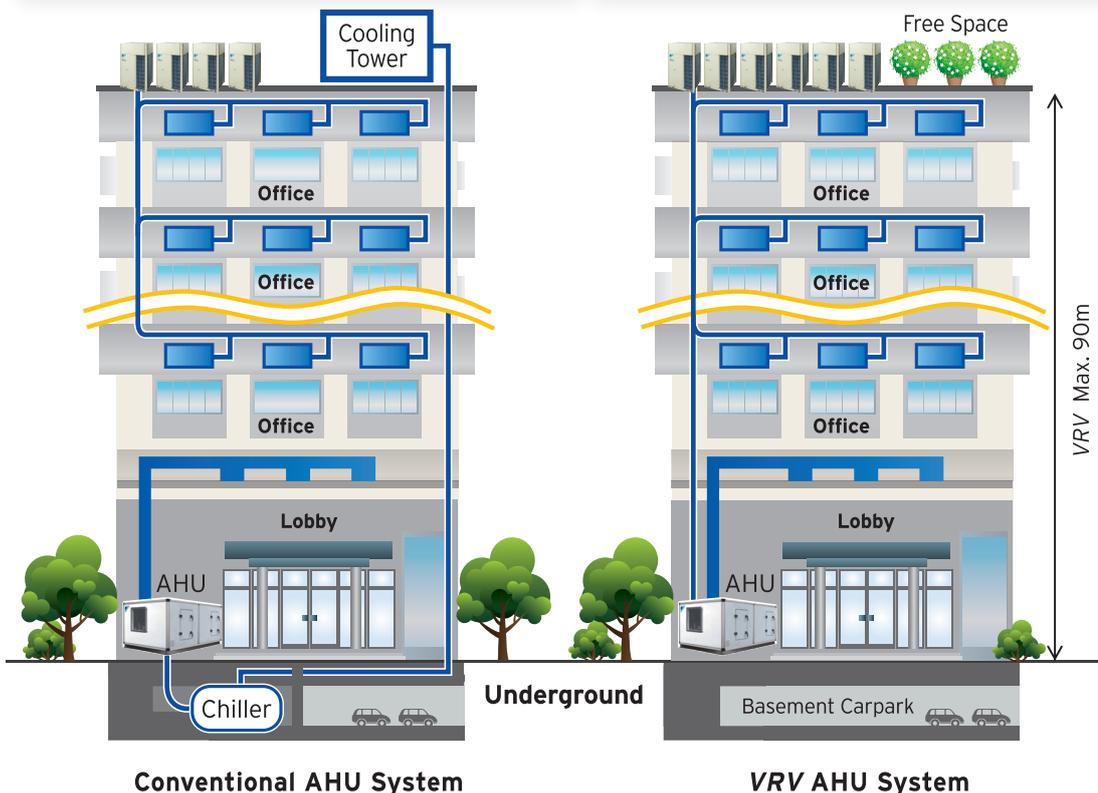
System Pattern	Total CR	VRV Indoor	AHU
VRV DX Indoor unit(s) + AHU	50-110%	50-110%	0-60%
Only AHU (Pair AHU & Multi AHU)	90-110%	-	90-110%

### ■ Connection ratio for Outdoor Air Series

System Pattern	Total CR	VRV Indoor	AHU
Only AHU (Pair AHU)	90-110%	-	90-110%

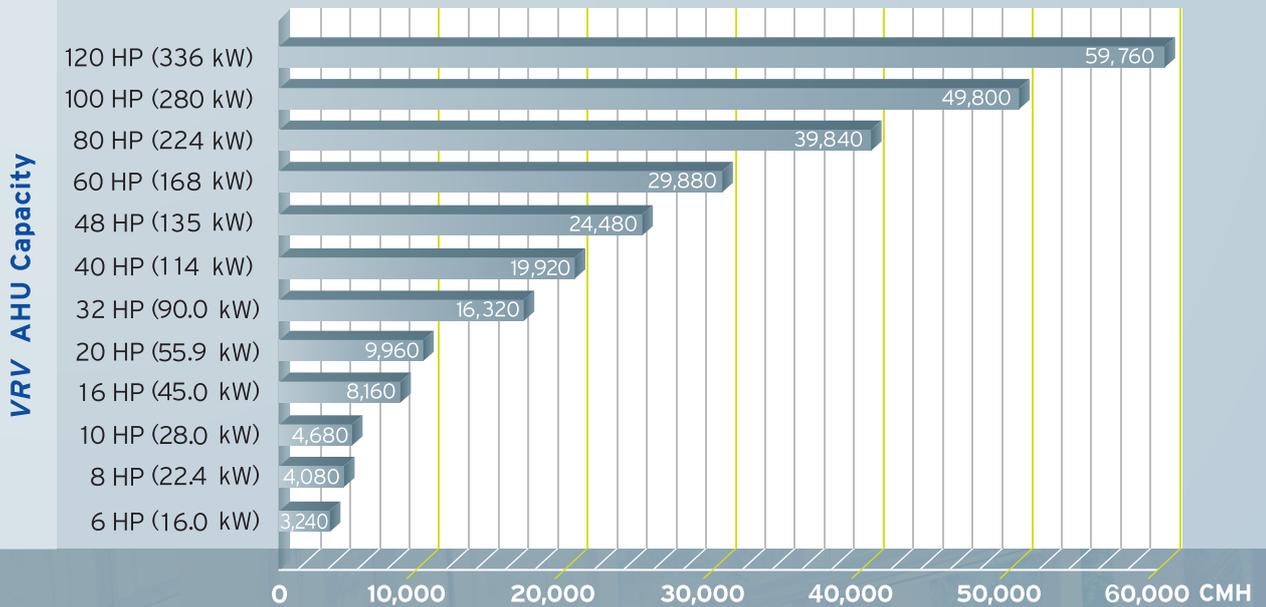
## Comparison Table and Diagram for Conventional AHU System and VRV AHU System

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)
Complex Control (Variable Frequency Device, Variable Air Volume Control)	Simple Control (Remote Control / intelligent Touch Manager / MicroTech III <sup>*4</sup> Controller)



## VRV AHU Standard Air Series

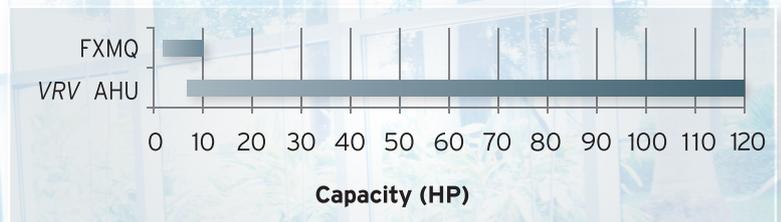
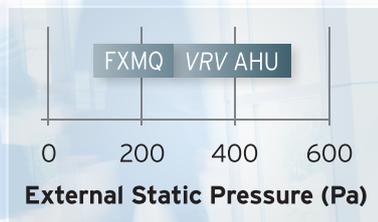
The VRV AHU standard air series are available from the capacity range of 6 HP to 120 HP, also with airflow ranging from 3,240 CMH - 59,760 CMH.



## 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.



	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

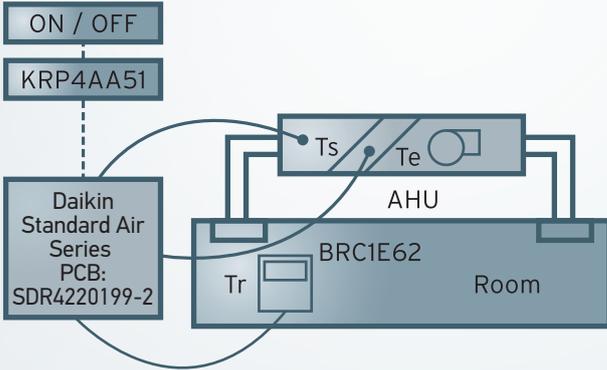
VRV AHU AHUR-DCV/CCV/SCV operation is similar as other VRV indoor unit. Following table is the list of operation range for AHU unit.

		Temperature Range	
		Cooling	
Entering Air Temperature to VRV AHU	Minimum	14°C WB	
	Maximum	35°C DB / 25°C WB	
Outdoor Unit	Minimum	-5°C DB	
	Maximum	49°C DB	
Expansion Valve	Minimum	-5°C DB	
	Maximum	46°C DB	
Standard Air 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      Te = Evaporating temperature  
Tr = Room temperature            AHU = Air Handling Unit

**VRV AHU Standard Air Series Evaporator Coil, Expansion Valve and Standard air series PCB**

AHUR-DCV/CCV/SCV Standard Air Series model use DX coil.

Each DX coil will be connected to the internal expansion valve and controlled by Standard Air Series PCB (SDR4220199-2)

**VRV AHU Standard Air 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 AHU Expansion Valve (Built-In Coil)**

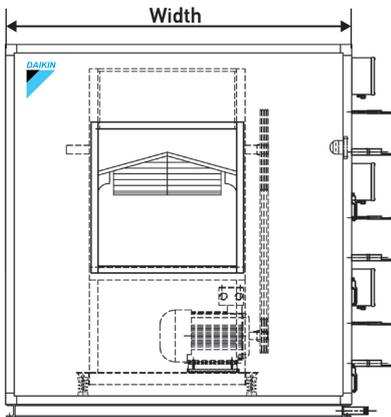
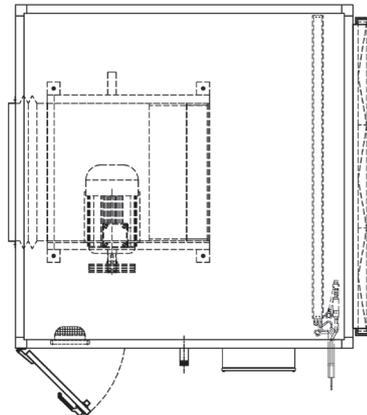
- 5 capacities of AHU Expansion Valve
  - Heat Exchanger 6HP
  - Heat Exchanger 8HP
  - Heat Exchanger 10HP
  - Heat Exchanger 16HP
  - Heat Exchanger 20HP

**VRV AHU Standard Air Series PCB (SDR4220199-2)**

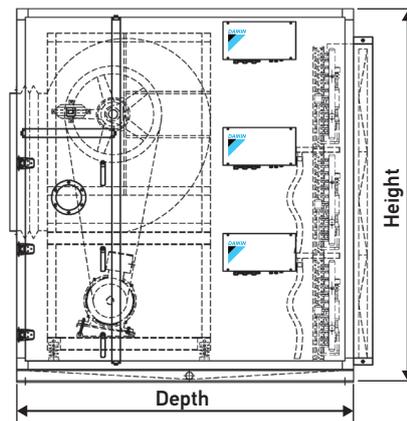


**VRV AHU Standard Air Series PCB**

			SDR4220199-2
<b>Application</b>			Multi
<b>Outdoor Unit</b>			VRV
<b>Casing</b>	Colour		White grey
	Material		Resin
<b>Dimensions</b>	Unit	H x W x D mm	248x421x149
	Weight	Kg	3.6
<b>Operation Range</b>	Cooling	Min. ~ Max. °CDB	-10.0 ~ 40.0
	Phase		1
<b>Power Supply</b>	Frequency	Hz	50/60
	Voltage	V	230/220

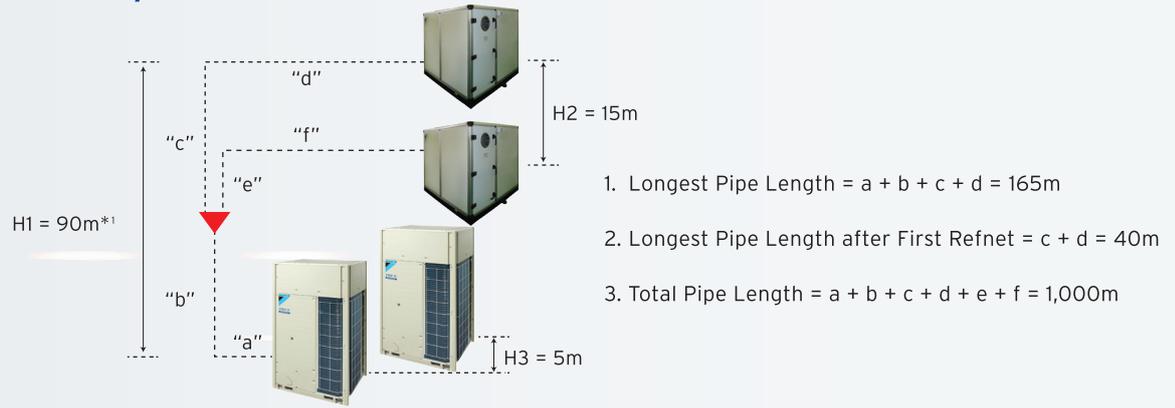


Front View



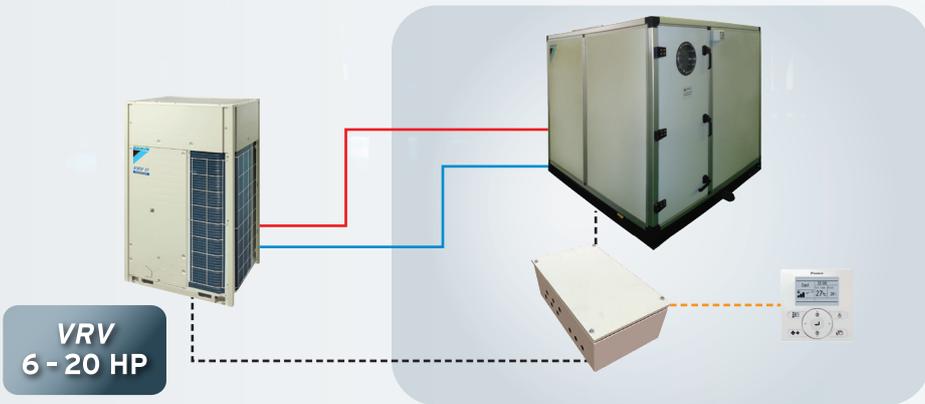
Side View

### VRV AHU System Structure

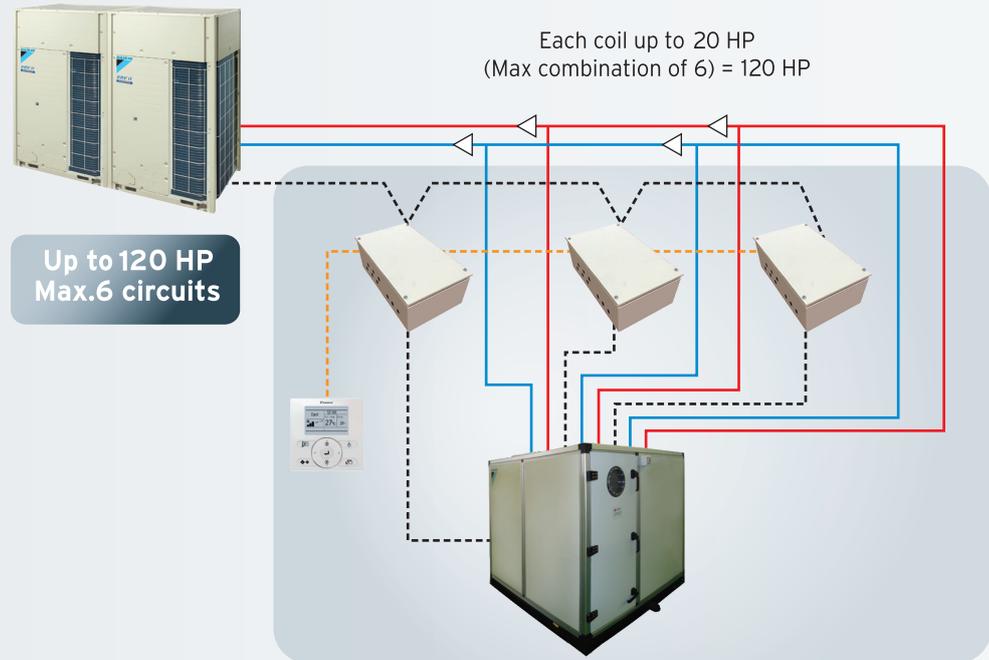


\*1 When level differences are 50m or more, the diameter of the main liquid piping size must be increased.  
If the outdoor unit is above the indoor unit, a dedicated setting on the outdoor unit is required. Please contact Daikin's Sale Office for more information.

### VRV Connection to AHU Configuration

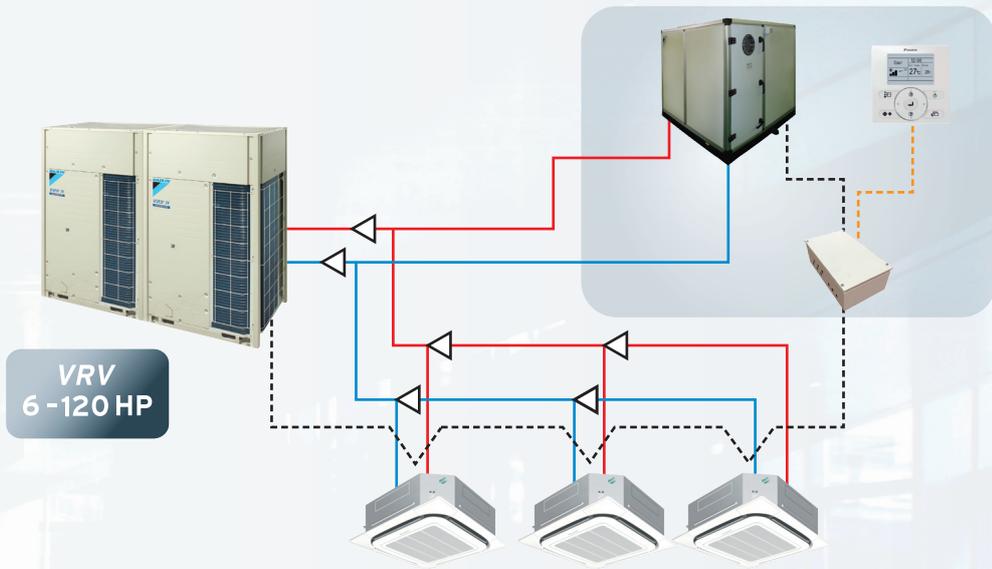


Single VRV System Configuration



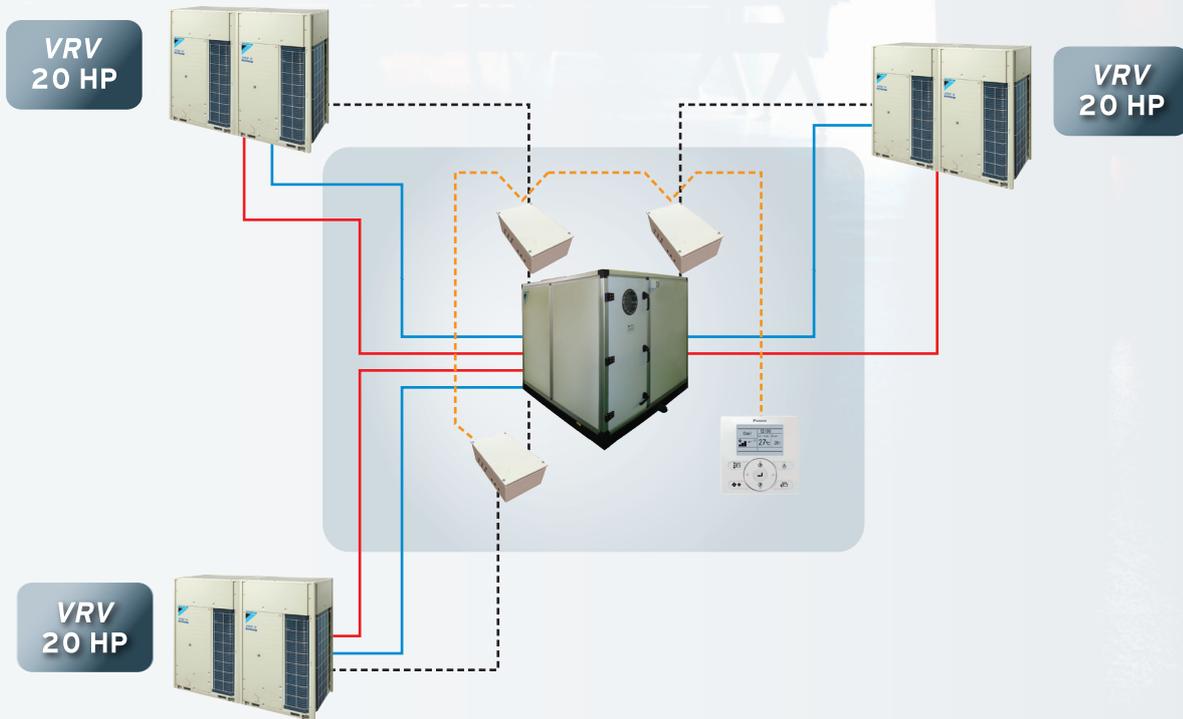
Combined VRV System Configuration

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



Multiple Indoor Units with AHU Configuration

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



Multiple VRV Systems Configuration

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

AHU SPECIFICATION (AHUR-DCV/CCV/SCV)

1	CASING/INSULATION (DC SERIES)	50 mm Thickness Double Skin Panel Outer Skin : 0.5 mm Thickness White Color Steel Sheet Inner Skin : 0.5 mm Thickness White Color Steel Sheet Insulation : Polyurethane Foam (PU) Density 40 kg/m <sup>3</sup>
	CASING/INSULATION (CC SERIES)	25 mm Thickness Double Skin Panel Outer Skin : 0.5 mm Thickness White Color Steel Sheet Inner Skin : 0.5 mm Thickness Galvanized Steel Sheet Insulation : Polyurethane Foam (PU) Density 40 kg/m <sup>3</sup>
	CASING/INSULATION (SC SERIES)	13 mm Thickness Single Skin Panel Outer Skin : 1.0 mm Thickness White Color Coated Steel Sheet 13 mm Thickness Polyethylene Foam (PE)
2	CASING-FRAME (DC SERIES)	Angle Steel With Black Epoxy Coated
	CASING-FRAME (CC/SC SERIES)	Extruded Aluminium
3	COIL	DX.Coil (Included EV.Valve)
	TUBE	Copper Tube
	FIN	Aluminium White Fined
	FRAME	Galvanized Steel
4	FAN	(Brand = Kruger)
	TYPE	Forward Curved Centrifugal Fan (Belt Drive)
	WHEEL	Galvanized Steel
	HOUSING	Galvanized Steel
5	MOTOR	(Brand = Teco) Three-Phase Induction Motor Totally Enclosed Fan-Cooled Type Protection = IP55 Insulation Class = F
6	VIBRATION ISOLATOR (FAN)	Spring Vibration Isolator
7	DRAIN PAN (DC SERIES)	1.2 mm Thickness Stainless Steel
	DRAIN PAN (CC/SC SERIES)	1.6 mm Thickness Steel Sheet With Black Epoxy Coated
8	AIR FILTER	(Brand = AAF) Type = R29 Class = G3 (AFI = 80-85%) Synthetic Washable
9	CONTROL BOX	Standards Air Series PCB (SDR4220199-2)

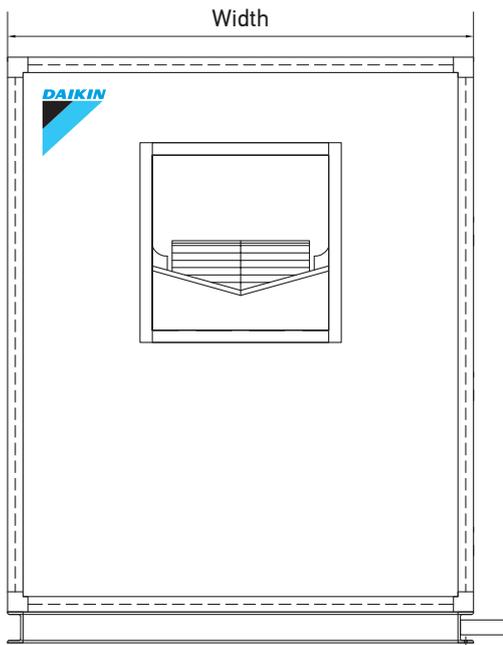


Drawing and Dimension of AHU

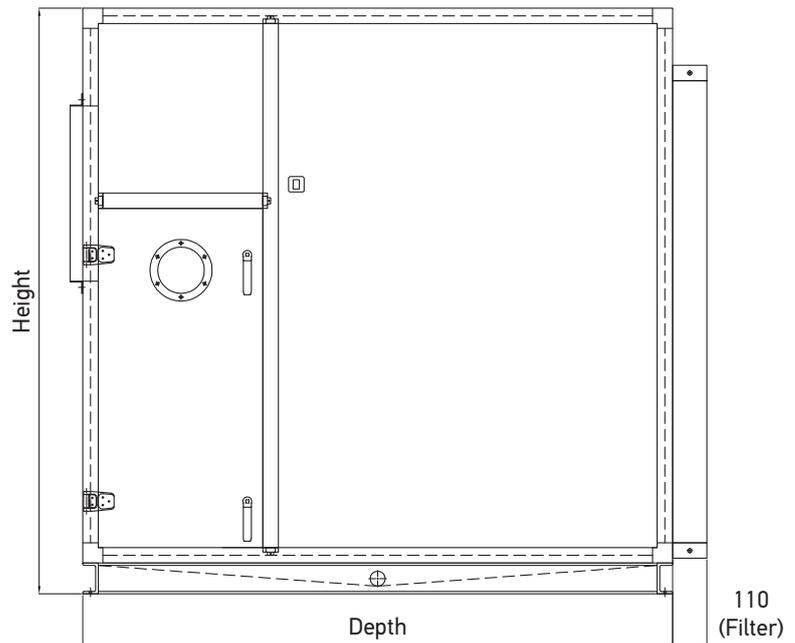
Model	Dimension W x D x H (mm)
AHUR06DCV	1,300x1,200x1,175
AHUR08DCV	1,300x1,400x1,175
AHUR10DCV	1,500x1,400x1,175
AHUR16DCV	1,800x1,500x1,175
AHUR20DCV	2,100x1,600x1,175
AHUR32DCV	1,800x1,800x1,575
AHUR40DCV	2,100x1,800x1,575
AHUR48DCV	1,800x1,950x2,275
AHUR60DCV	2,100x1,950x2,275
AHUR80DCV	4,000x1,800x1,600
AHUR100DCV	4,000x1,950x2,300
AHUR120DCV	4,000x1,950x2,300

Model	Dimension W x D x H (mm)
AHUR06CCV/SCV	1,200x1,100x825
AHUR08CCV/SCV	1,300x1,200x1,075
AHUR10CCV/SCV	1,500x1,200x1,075
AHUR16CCV/SCV	1,700x1,400x1,075
AHUR20CCV/SCV	2,000x1,500x1,075
AHUR32CCV/SCV	1,700x1,700x1,475
AHUR40CCV/SCV	2,000x1,700x1,475
AHUR48CCV/SCV	1,700x1,850x2,075
AHUR60CCV/SCV	2,000x1,950x2,175
AHUR80CCV/SCV	3,900x1,700x1,500
AHUR100CCV/SCV	3,900x1,850x2,200
AHUR120CCV/SCV	3,900x2,000x2,200

\* Dimension does not include Standard air series PCB, Expansion Valve and Pre-filter



Front View



Side View

# Standard Air Series AHUR-DCV/CCV/SCV

## AHUR-DCV/CCV SPECIFICATIONS

Model		AHUR06DCV AHUR06CCV					AHUR08DCV AHUR08CCV					AHUR10DCV AHUR10CCV					AHUR16DCV AHUR16CCV					AHUR20DCV AHUR20CCV					AHUR32DCV AHUR32CCV																																		
Total Cooling Capacity	NET (KW) **	16.4	16.3	16.2	16.0	15.9	22.9	22.8	22.7	22.4	22.3	28.4	28.3	28.2	28.0	27.8	45.7	45.5	45.3	45.0	44.6	56.8	56.6	56.3	56.0	55.7	91.4	91.0	90.6	90.0	89.2																														
Total Sensible Cooling Capacity		11.9	11.8	11.7	11.5	11.4	16.8	16.7	16.6	16.3	16.2	20.9	20.8	20.7	20.5	20.3	33.5	33.3	33.1	32.6	32.4	41.8	41.6	41.3	40.9	40.7	67.0	66.6	66.2	65.3	64.8																														
Total Cooling Capacity	Gross (KW) **	17.6					24.0					29.8					48.3					59.4					96.6																																		
Sensible Cooling Capacity		13.1					17.9					22.3					36.2					46.3					72.4																																		
Air Flow	cmh / m³/min	3,240/54					4,080/68					4,680/78					8,160/136					9,960/166					16,320/272																																		
Ent. Temp.	°CDB/°CWB	27/19					27/19					27/19					27/19					27/19					27/19																																		
Lea. Temp.	°CDB/°CWB	14.7/13.3					13.6/12.7					12.5/12.4					13.5/12.7					13.4/12.6					13.5/12.7																																		
Coil Type		DX-Coil (R410A) ø8 mm. Wave slit surface & Straight edge																																																											
Coil Face Area	m²	0.491					0.443					0.54					0.78					0.99					1.57																																		
Coil Face Vel.	m/s	1.83					2.56					2.41					2.89					2.79					2.89																																		
Air PD.In Coil	Pa	100					100					100					100					100					100																																		
Air PD.In Pre Filter **	Pa	80					80					80					80					80					80																																		
Air Filter Size 12" x 24" x 2" **	PCS.	1					1					-					1					-					2																																		
Air Filter Size 24" x 24" x 2" **	PCS.	1					1					2					2					3					4																																		
Air PD.In Casing	Pa	30					30					30					30					30					30																																		
ESP/Initial	Pa	250	300	350	450	500	250	300	350	450	500	250	300	350	450	500	250	300	350	450	500	250	300	350	450	500	250	300	350	450	500																														
Total Statics Pressure	Pa	460	510	560	660	710	460	510	560	660	710	460	510	560	660	710	460	510	560	660	710	460	510	560	660	710	460	510	560	660	710																														
Fan Type		Forward Curved Centrifugal Fan (Belt Drive)																																																											
Model		FDA200CM					FDA250TM					FDA250TM					FDA315TM					FDA355TM					FDA450TM																																		
Fan Motor **	KW	1.5					2.2					2.2					3.0					3.0					4.0					5.5					7.5																								
	POLE	4					4					4					4					4					4					4																													
Power Supply	Volt/Ph./Hz.	380-415/3/50																																																											
FLA	amp.	3.53					4.96					4.96					6.59					6.59					8.67					8.67					11.5					11.5					15.3														
Machine Weight (DCV)	kg	545					550					550					600					610					765					775					890					900					920					1,090					1,110				
Machine Weight (CCV)	kg	480					485					480					530					540					740					750					850					880					990					1,010									
Sound Pressure Level (SPL)	dB(A)	60	61	62	63	64	54	56	57	59	60	54	56	57	59	60	62	63	64	66	67	61	61	62	64	65	62	62	63	64	65	62	63	64	65	66																									
Standard Air Series PCB	Model/PCS.	SDR4220199-2 / 1 pc.					SDR4220199-2 / 1 pc.					SDR4220199-2 / 1 pc.					SDR4220199-2 / 1 pc.					SDR4220199-2 / 1 pc.					SDR4220199-2 / 2 pcs.																																		
Expansion Valve (Built-in Coil)	PCS.	1					1					1					1					1					2																																		
Piping Connections	Liquid pipes	mm					mm					mm					mm					mm					mm																																		
	Gas pipes	mm					mm					mm					mm					mm					mm																																		
	Drain pipes	inch					inch					inch					inch					inch					inch																																		
Refrigerant Control		Electronic expansion valve					Electronic expansion valve					Electronic expansion valve					Electronic expansion valve					Electronic expansion valve					Electronic expansion valve																																		
Panel		Double Skin																																																											
Capacity Index		140					200					250					400					500					800																																		

Model		AHUR40DCV AHUR40CCV					AHUR48DCV AHUR48CCV					AHUR60DCV AHUR60CCV					AHUR80DCV AHUR80CCV					AHUR100DCV AHUR100CCV					AHUR120DCV AHUR120CCV																																												
Total Cooling Capacity	NET (KW) **	113.6	113.2	112.7	112.0	111.3	137.1	136.6	136.0	135.0	133.7	170.4	169.7	169.0	168.0	167.0	227.2	226.3	225.4	224.0	222.6	284.0	282.9	281.7	280.0	278.3	340.8	339.5	338.0	336.0	334.0																																								
Total Sensible Cooling Capacity		83.6	83.2	82.7	81.8	81.3	100.5	100.0	99.4	97.9	97.1	125.4	124.7	124.0	122.7	122.0	167.2	166.3	165.4	163.6	162.6	209.0	207.9	206.7	204.5	203.3	250.8	249.5	248.0	245.4	244.0																																								
Total Cooling Capacity	Gross (KW) **	118.8					164.9					178.2					237.6					297.0					356.4																																												
Sensible Cooling Capacity		88.6					108.6					132.9					177.2					221.5					265.8																																												
Air Flow	cmh / m³/min	19,920/332					24,480/408					29,880/498					39,840/664					49,800/830					59,760/996																																												
Ent. Temp.	°CDB/°CWB	27/19					27/19					27/19					27/19					27/19					27/19																																												
Lea. Temp.	°CDB/°CWB	13.4/12.6					13.5/12.7					13.4/12.6					13.4/12.6					13.4/12.6					13.4/12.6																																												
Coil Type		DX-Coil (R410A) ø8 mm. Wave slit surface & Straight edge																																																																					
Coil Face Area	m²	1.98					2.35					2.97					3.96					4.95					5.94																																												
Coil Face Vel.	m/s	2.79					2.89					2.79					2.79					2.79					2.79																																												
Air PD.In Coil	Pa	100					100					100					100					100					100																																												
Air PD.In Pre Filter **	Pa	80					80					80					80					80					80																																												
Air Filter Size 12" x 24" x 2" **	PCS.	-					3					-					-					-					-																																												
Air Filter Size 24" x 24" x 2" **	PCS.	6					6					9					12					18					18																																												
Air PD.In Casing	Pa	30					30					30					30					30					30																																												
ESP/Initial	Pa	250	300	350	450	500	250	300	350	450	500	250	300	350	450	500	250	300	350	450	500	250	300	350	450	500	250	300	350	450	500																																								
Total Statics Pressure	Pa	460	510	560	660	710	460	510	560	660	710	460	510	560	660	710	460	510	560	660	710	460	510	560	660	710	460	510	560	660	710																																								
Fan Type		Forward Curved Centrifugal Fan (Belt Drive)																																																																					
Model		FDA500TM					FDA560TM					FDA630TM					FDA500TM					FDA560TM					FDA630TM																																												
Fan Motor **	KW	7.5					11.0					11.0					15.0					15.0					18.5					18.5					22.0					18.5					22.0					30.0																			
	POLE	4					4					4					4					4					4					4					4					4																													
Power Supply	Volt/Ph./Hz.	380-415/3/50																																																																					
FLA	amp.	15.3					22.2					22.2					29.6					29.6					35.8					29.6					35.8					42.4					35.8					42.4					57.4														
Machine Weight (DCV)	kg	1,260					1,300					1,400					1,460					1,640					1,885					2,160					2,195					2,580					2,615					2,630					2,830					2,845					2,945				
Machine Weight (CCV)	kg	1,120					1,160					1,250					1,290					1,480					1,885					1,920					2,280					2,315					2,330					2,470					2,485					2,565									
Sound Pressure Level (SPL)	dB(A)	61	62	63	65	65	64	65	65	66	67	62	63	64	65	66	67	67	68	70	71	68	69	70	71	72	69	69	70	71	72	69	69	70	71	73																																			
Standard Air Series PCB	Model/PCS.	SDR4220199-2 / 2 pcs.					SDR4220199-2 / 3 pcs.					SDR4220199-2 / 3 pcs.					SDR4220199-2 / 4 pcs.					SDR4220199-2 / 5 pcs.					SDR4220199-2 / 6 pcs.																																												
Expansion Valve (Built-in Coil)	PCS.	2					3					3					4					5					6																																												
Piping Connections	Liquid pipes	mm					mm					mm					mm					mm					mm																																												
	Gas pipes	mm					mm					mm					mm					mm					mm																																												
	Drain pipes	inch					inch					inch					inch					inch					inch																																												
Refrigerant Control		Electronic expansion valve					Electronic expansion valve					Electronic expansion valve					Electronic expansion valve					Electronic expansion valve					Electronic expansion valve																																												
Panel		Double Skin																																																																					
Capacity Index		1,000					1,200					1,500					2,000					2,500					3,000																																												

### Notes:

1. Net capacity includes indoor fan heat.
2. Gross capacity do not includes indoor fan heat.
3. With pre filter, AAF synthetic R29 & class G3 (Washable) eff 80-85%
4. Motor is induction motor class F, IP 55.

### Connection ratio

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 formula

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

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

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

AHUR-SCV SPECIFICATIONS

Model		AHUR06SCV					AHUR08SCV					AHUR10SCV					AHUR16SCV					AHUR20SCV					AHUR32SCV							
Total Cooling Capacity	NET (KW) **	16.4	16.3	16.2	16.0	15.9	22.9	22.8	22.7	22.4	22.3	28.4	28.3	28.2	28.0	27.8	45.7	45.5	45.3	45.0	44.6	56.8	56.6	56.3	56.0	55.7	91.4	91.0	90.6	90.0	89.2			
Total Sensible Cooling Capacity		11.9	11.8	11.7	11.5	11.4	16.8	16.7	16.6	16.3	16.2	20.9	20.8	20.7	20.5	20.3	33.5	33.3	33.1	32.6	32.4	41.8	41.6	41.3	40.9	40.7	67.0	66.6	66.2	65.3	64.8			
Total Cooling Capacity	Gross (KW) **	17.6					24.0					29.8					48.3					59.4					96.6							
Sensible Cooling Capacity		13.1					17.9					22.3					36.2					44.3					72.4							
Air Flow	cmh / m³/min	3,240/54					4,080/68					4,680/78					8,160/136					9,960/166					16,320/272							
Ent. Temp.	*CDB/*CWB	27/19					27/19					27/19					27/19					27/19												
Lea. Temp.	*CDB/*CWB	14.7/13.3					13.6/12.7					12.5/12.4					13.5/12.7					13.4/12.6					13.5/12.7							
Coil Type		DX.Coil (R410A) Ø8 mm. Wave slit surface & Straight edge																																
Coil Face Area	m²	0.491					0.443					0.54					0.78					0.99					1.57							
Coil Face Vel.	m/s	1.83					2.56					2.41					2.89					2.79					2.89							
Air PD.In Coil	Pa	100					100					100					100					100					100							
Air PD.In Pre Filter **	Pa	80					80					80					80					80					80							
Air Filter Size 12' x 24' x 2" **	PCS.	1					1					-					1					-					2							
Air Filter Size 24' x 24' x 2" **	PCS.	1					1					2					2					3					4							
Air PD.In Casing	Pa	30					30					30					30					30					30							
ESP/Initial	Pa	250	300	350	450	500	250	300	350	450	500	250	300	350	450	500	250	300	350	450	500	250	300	350	450	500	250	300	350	450	500			
Total Statics Pressure	Pa	460	510	560	660	710	460	510	560	660	710	460	510	560	660	710	460	510	560	660	710	460	510	560	660	710	460	510	560	660	710			
Fan Type		Forward curved centrifugal fan (Belt drive)																																
Model		FDA200CM					FDA250CM					FDA350CM					FDA355CM					FDA450CM												
Fan Motor **	KW	1.5		2.2			1.5		2.2			2.2			3.0		3.0			4.0		3.0			4.0		5.5			5.5		7.5		
	POLE	4					4					4					4					4					4							
Power Supply	Volt/Ph./Hz.	380-415/3/50																																
FLA	amp.	3.53		4.96			3.53		4.96			4.96			6.59		6.59		8.67		8.67		11.5			11.5		15.3						
Machine Weight (SCV)	kg	480		485			480		485			530			540		740		750		850			860		880			990		1,010			
Sound Pressure Level (SPL)	dB(A)	68	69	70	71	72	61	63	64	66	67	61	63	64	66	67	71	71	72	73	74	72	72	73	74	74	70	71	72	73	74			
Standard Air Series PCB	Model/PCS.	SDR4220199-2 / 1 pc.					SDR4220199-2 / 1 pc.					SDR4220199-2 / 1 pc.					SDR4220199-2 / 1 pc.					SDR4220199-2 / 1 pc.					SDR4220199-2 / 2 pcs.							
Expansion Valve (Built-in Coil)	PCS.	1					1					1					1					1					2							
Piping Connections	Liquid pipes	mm Ø9.5 (Braze connection)					mm Ø9.5 (Braze connection)					mm Ø9.5 (Braze connection)					mm Ø12.7 (Braze connection)					mm Ø15.9 (Braze connection)					mm Ø12.7 (Braze connection) x 2							
	Gas pipes	mm Ø15.9 (Braze connection)					mm Ø19.1 (Braze connection)					mm Ø22.2 (Braze connection)					mm Ø28.6 (Braze connection)					mm Ø28.6 (Braze connection)					mm Ø28.6 (Braze connection) x 2							
	Drain pipes	inch Ø1" (male)					inch Ø1" (male)					inch Ø1" (male)					inch Ø1" (male)					inch Ø1" (male)					inch Ø1-1/4" (male)							
Refrigerant Control		Electronic expansion valve																																
Panel		Single Skin																																
Capacity Index		140					200					250					400					500					800							

Model		AHUR40SCV					AHUR48SCV					AHUR60SCV					AHUR80SCV					AHUR100SCV					AHUR120SCV										
Total Cooling Capacity	NET (KW) **	113.6	113.2	112.7	112.0	111.3	137.1	136.6	136.0	135.0	133.7	170.4	169.7	169.0	168.0	167.0	227.2	226.3	225.4	224.0	222.6	284.0	282.9	281.7	280.0	278.3	340.8	339.5	338.0	336.0	334.0						
Total Sensible Cooling Capacity		83.6	83.2	82.7	81.8	81.3	100.5	100.0	99.4	97.9	97.1	125.4	124.7	124.0	122.7	122.0	167.2	166.3	165.4	163.6	162.6	209.0	207.9	206.7	204.5	203.3	250.8	249.5	248.0	245.4	244.0						
Total Cooling Capacity	Gross (KW) **	118.8					144.9					178.2					237.6					297.0					356.4										
Sensible Cooling Capacity		88.6					108.6					132.9					177.2					221.5					265.8										
Air Flow	cmh / m³/min	19,920/ 332					24,480/ 408					29,880/ 498					39,840/ 664					49,800/ 830					59,760/ 996										
Ent. Temp.	*CDB/*CWB	27/ 19					27/ 19					27/ 19					27/ 19					27/ 19															
Lea. Temp.	*CDB/*CWB	13.4/ 12.6					13.5/ 12.7					13.4/ 12.6					13.4/ 12.6					13.4/ 12.6															
Coil Type		DX.Coil (R410A) Ø8 mm. Wave slit surface & Straight edge																																			
Coil Face Area	m²	1.98					2.35					2.97					3.96					4.95					5.94										
Coil Face Vel.	m/s	2.79					2.89					2.79					2.79					2.79					2.79										
Air PD.In Coil	Pa	100					100					100					100					100					100										
Air PD.In Pre Filter **	Pa	80					80					80					80					80					80										
Air Filter Size 12' x 24' x 2" **	PCS.	-					3					-					-					-					-										
Air Filter Size 24' x 24' x 2" **	PCS.	6					6					9					12					18					18										
Air PD.In Casing	Pa	30					30					30					30					30					30										
ESP/Initial	Pa	250	300	350	450	500	250	300	350	450	500	250	300	350	450	500	250	300	350	450	500	250	300	350	450	500	250	300	350	450	500						
Total Statics Pressure	Pa	460	510	560	660	710	460	510	560	660	710	460	510	560	660	710	460	510	560	660	710	460	510	560	660	710	460	510	560	660	710						
Fan Type		Forward curved centrifugal fan (Belt drive)																																			
Model		FDA500CM					FDA560CM					FDA630CM					FDA500T2M					FDA560T2M					FDA630T2M										
Fan Motor **	KW	7.5		11.0			7.5		11.0			11.0			15.0		15.0			18.5		15.0			18.5		22.0			18.5		22.0			30.0		
	POLE	4					4					4					4					4					4										
Power Supply	Volt/Ph./Hz.	380-415/3/50																																			
FLA	amp.	15.3		22.2			15.3		22.2			22.2			29.6		29.6		35.8		29.6		35.8			42.4		35.8			42.4		57.4				
Machine Weight (SCV)	kg	1,120		1,160			1,250		1,290			1,480			1,885		1,920		2,280		2,315			2,330		2,470			2,485		2,565						
Sound Pressure Level (SPL)	dB(A)	70	70	71	73	73	70	72	72	73	74	69	70	71	72	73	75	76	76	78	79	75	76	77	78	79	75	76	77	78	79						
Standard Air Series PCB	Model/PCS.	SDR4220199-2 / 2 pcs.					SDR4220199-2 / 3 pcs.					SDR4220199-2 / 3 pcs.					SDR4220199-2 / 4 pcs.					SDR4220199-2 / 5 pcs.					SDR4220199-2 / 6 pcs.										
Expansion Valve (Built-in Coil)	PCS.	2					3					3					4					5					6										
Piping Connections	Liquid pipes	mm Ø15.9 (Braze connection) x 2					mm Ø12.7 (Braze connection) x 3					mm Ø15.9 (Braze connection) x 3					mm Ø15.9 (Braze connection) x 4					mm Ø15.9 (Braze connection) x 5					mm Ø15.9 (Braze connection) x 6										
	Gas pipes	mm Ø28.6 (Braze connection) x 2					mm Ø28.6 (Braze connection) x 3					mm Ø28.6 (Braze connection) x 3					mm Ø28.6 (Braze connection) x 4					mm Ø28.6 (Braze connection) x 5					mm Ø28.6 (Braze connection) x 6										
	Drain pipes	inch Ø1-1/4" (male)					inch Ø1-1/4" (male)					inch Ø1-1/4" (male)					inch Ø1-1/2" (male)					inch Ø1-1/2" (male)					inch Ø1-1/2" (male)										
Refrigerant Control		Electronic expansion valve																																			
Panel		Single Skin																																			
Capacity Index		1,000					1,200					1,500					2,000					2,500					3,000										

Notes:

1. Net capacity includes indoor fan heat.
2. Gross capacity do not includes indoor fan heat.
3. With pre filter, AAF synthetic R29 & class G3 (Washable) eff 80-85%
4. Motor is induction motor class F, IP 55.

Connection ratio

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 formula

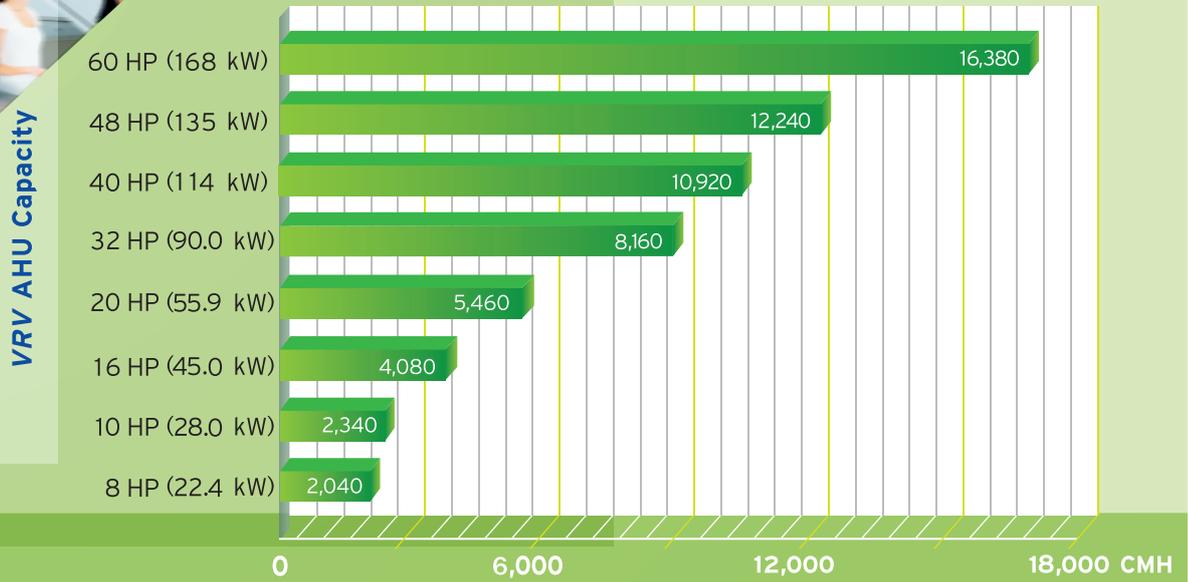
$$\text{kcal/h} = \text{kW} \times 860$$

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

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

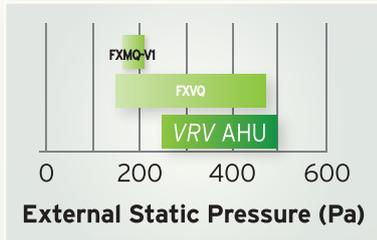
## VRV AHU Outdoor Air Series

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 - 16,380 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-DCL/CCL/SCL operation is similar as other VRV indoor unit. Following table is the list of operation range for AHU unit.

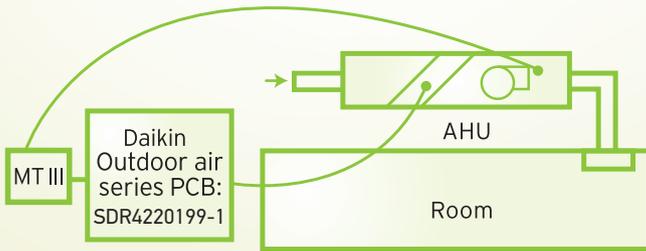
		Temperature Range	
		Cooling	
Entering Air Temperature to VRV AHU	Minimum	14°C WB	
	Maximum	32°C WB	
Outdoor Unit	Minimum	-5°C DB	
	Maximum	49°C DB	
Expansion Valve	Minimum	-5°C DB	
	Maximum	46°C DB	
Outdoor Air Series PCB	Minimum	-10°C DB	
	Maximum	40°C DB	

## 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 (SDR4220199-1)

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



Td = Air discharge temperature (13°C ~ 28°C)      Te = Evaporating temperature  
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.

\*MicroTech III is not recommended to use for 24 hours application.  
For 24 hours operation, please source for external 3rd party DDC locally or contact Daikin sales office.

## VRV AHU Outdoor Air Series PCB

		SDR4220199-1
<b>Application</b>		Multi
<b>Outdoor Unit</b>		VRV
<b>Casing</b>	Colour	White grey
	Material	Resin
<b>Dimensions</b>	Unit H x W x D mm	248x421x149
	Unit Kg	3.9
<b>Operation Range</b>	Cooling Min. ~ Max. °CDB	-10.0 ~ 40.0
	Phase	1
<b>Power Supply</b>	Frequency Hz	50/60
	Voltage V	230/220

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

AHUR-DCL/CCL/SCL Outdoor air series use DX coil.

Each DX coil will be connected to the internal expansion valve and controlled by Outdoor air series PCB (SDR4220199-1).

VRV AHU Outdoor air Series Evaporator Coil

- 4 capacities of Evaporator Coil
  - 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**

VRV AHU Expansion Valve (Built-In Coil)

- 4 capacities of AHU Expansion Valve
  - Heat Exchanger 8HP
  - Heat Exchanger 10HP
  - Heat Exchanger 16HP
  - Heat Exchanger 20HP

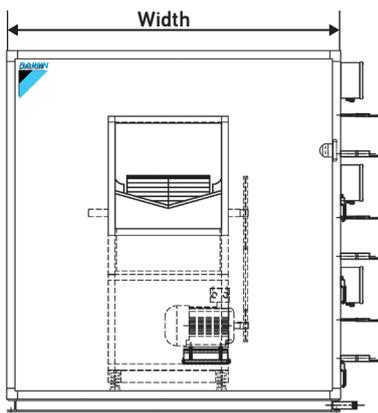
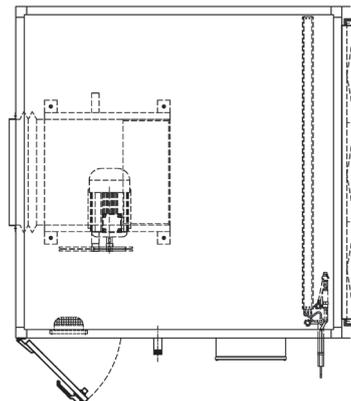
VRV AHU Outdoor air series PCB (SDR4220199-1)



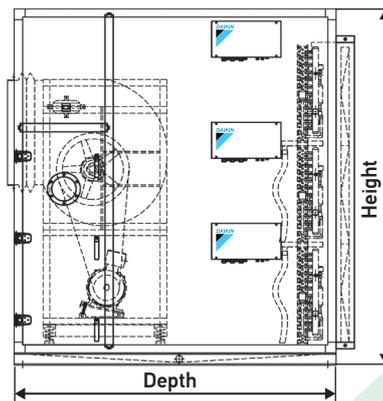
Installation of AHU Outdoor air series PCB should be positioned under a shaded area. Alternatively, a panel should be provided at the Outdoor air series PCB to block off direct sunlight.

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.



Front View

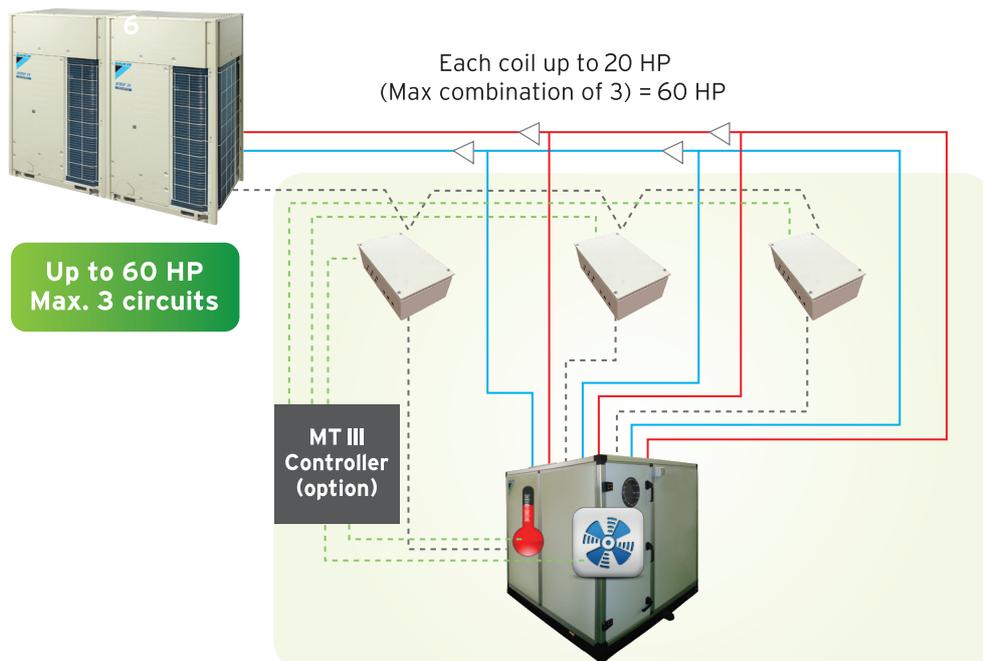
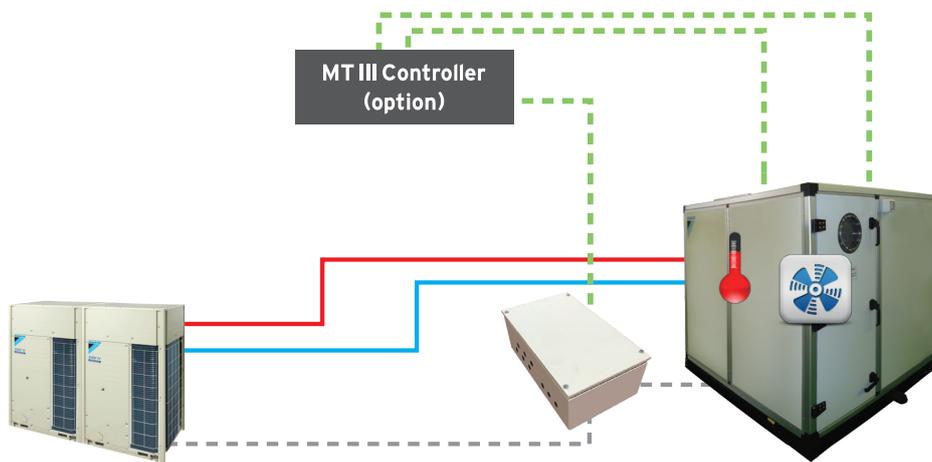


Side View

### VRV AHU System Structure



### VRV AHU Configuration



Combined VRV System Configuration

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

*\*MicroTech III is not recommended to use for 24 hours application.*

*For 24 hours operation, please source for external 3rd party DDC locally or contact Daikin sales office.*

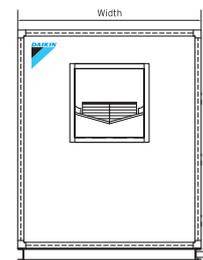
**AHU SPECIFICATION (AHUR-DCL/CCL/SCL)**

1	<b>CASING/INSULATION (DC SERIES)</b>	Double Skin Panel Thickness 50 mm. Outer Skin : 0.5 mm Thickness White Color Steel Sheet Inner Skin : 0.5 mm Thickness White Color Steel Sheet Insulation : Polyurethane Foam (PU) Density 40 kg/m <sup>3</sup>
	<b>CASING/INSULATION (CC SERIES)</b>	Double Skin Panel Thickness 25 mm. Outer Skin : 0.5 mm Thickness White Color Steel Sheet Inner Skin : 0.5 mm Thickness Galvanized Steel Sheet Insulation : Polyurethane Foam (PU) Density 40 kg/m <sup>3</sup>
	<b>CASING/INSULATION (SC SERIES)</b>	Single Skin Panel Thickness 13 mm. Outer Skin : Steel Sheet With White Color Coated Insulation : Polyethylene Foam (PE) Thickness 13 mm.
2	<b>CASING-FRAME (DC SERIES)</b>	Angle Steel With Black Epoxy Coated
	<b>CASING-FRAME (CC/SC SERIES)</b>	Extruded Aluminium
3	<b>COIL</b>	DX.Coil (included EV.Valve)
	<b>TUBE</b>	Copper Tube
	<b>FIN</b>	Aluminium White Fined
	<b>FRAME</b>	Galvanized Steel
4	<b>FAN</b>	(Brand = Kruger)
	<b>TYPE</b>	Forward Curved Centrifugal Fan (Belt Drive)
	<b>WHEEL HOUSING</b>	Galvanized Steel
5	<b>MOTOR</b>	(Brand = Teco) Three-Phase Induction Motor Totally Enclosed Fan-Cooled Type Protection = IP55 Insulation Class = F
6	<b>VIBRATION ISOLATOR (FAN)</b>	Spring Vibration Isolator
7	<b>DRAIN PAN (DC SERIES)</b>	Stainless Steel Thickness 1.2 mm.
	<b>DRAIN PAN (CC/SC SERIES)</b>	Steel Thickness 1.6 mm. With Black Epoxy Coated
8	<b>AIR FILTER</b>	(Brand = AAF) Type = R29 Class = G3 (AFI = 80-85%) Synthetic Washable
9	<b>CONTROL BOX</b>	Standards Air Series PCB (EKEQMCAV3)

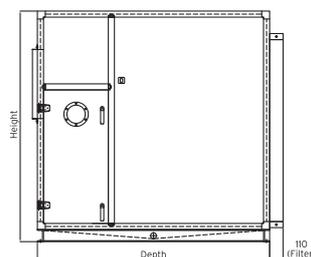
**Drawings and Dimension of AHU**

Model	Dimension W x D x H (mm)
AHUR08DCL	1,300x1,400x1,175
AHUR10DCL	1,500x1,400x1,175
AHUR16DCL	1,800x1,500x1,175
AHUR20DCL	2,100x1,600x1,175
AHUR32DCL	1,800x1,800x1,575
AHUR40DCL	2,100x1,800x1,575
AHUR48DCL	1,800x1,950x2,175
AHUR60DCL	2,100x1,950x2,175

Model	Dimension W x D x H (mm)
AHUR08CCL/SCL	1,300x1,200x1,075
AHUR10CCL/SCL	1,500x1,200x1,075
AHUR16CCL/SCL	1,700x1,400x1,075
AHUR20CCL/SCL	2,000x1,500x1,075
AHUR32CCL/SCL	1,700x1,700x1,475
AHUR40CCL/SCL	2,000x1,700x1,475
AHUR48CCL/SCL	1,700x1,850x2,075
AHUR60CCL/SCL	2,000x1,950x2,175



Front View



Side View

\* Dimension does not include Outdoor air series PCB, Expansion Valve and Pre-filter

# Outdoor Air Series AHUR-DCL/CCL/SCL

## AHUR-DCL/CCL SPECIFICATIONS

Model		AHUR08DCL AHUR08CCL					AHUR10DCL AHUR10CCL					AHUR16DCL AHUR16CCL					AHUR20DCL AHUR20CCL				
Total Cooling Capacity	NET (KW) **	22.8	22.8	22.7	22.6	22.5	28.3	28.3	28.2	28.1	28.0	45.3	45.2	45.1	44.9	44.7	56.7	56.6	56.5	56.2	56.1
Total Sensible Cooling Capacity		10.9	10.9	10.8	10.7	10.6	13.2	13.2	13.1	13.0	12.9	17.0	16.9	16.8	16.6	16.4	21.3	21.2	21.1	20.8	20.7
Total Cooling Capacity	Gross (KW) **	23.3					28.9					46.3					58.4				
Sensible Cooling Capacity		11.4					13.8					18.0					23.0				
Air Flow	cmh / m³/min	4,080/ 68					4,680/ 78					8,160/ 136					9,960/ 166				
Ent. Temp.	*CDB/*CWB	33/ 28					33/ 28					33/ 28					33/ 28				
Lea. Temp.	*CDB/*CWB	19.4/ 18.9					18.4/ 18					19.3/ 19.0					19.9/ 19.6				
Coil Type		DX Coil (R410A) Ø8 mm. Wave slit surface & Straight edge																			
Coil Face Area	m²	0.443					0.54					0.784					0.99				
Coil Face Vel.	m/s	1.28					1.20					1.45					1.53				
Air PD.In Coil	Pa	50					50					50					50				
Air PD.In Pre Filter **	Pa	80					80					80					80				
Air Filter Size 12' x 24' x 2' **	PCS.	1					-					1					-				
Air Filter Size 24' x 24' x 2' **	PCS.	1					2					2					3				
Air PD.In Casing	Pa	30					30					30					30				
ESP/Initial	Pa	250	300	350	450	500	250	300	350	450	500	250	300	350	450	500	250	300	350	450	500
Total Statics Pressure	Pa	410	460	510	610	660	410	460	510	610	660	410	460	510	610	660	410	460	510	610	660
Fan Type		Forward curved centrifugal fan (Belt drive)																			
Model		FSA280CM					FSA280CM					FDA250TM					FDA250TM				
Fan Motor **	KW	0.75		1.1			0.75		1.1			1.5		2.2			2.2		3.0		
	POLE	4					4					4					4				
Power Supply	Volt/Ph./Hz.	380-415/3/50																			
FLA	amp.	1.89		2.67			1.89		2.67			3.53		4.96			4.96		6.59		
Machine Weight (DCL)	kg	545		550			605		610			700		710			815		825		
Machine Weight (CCL)	kg	475		480			520		525			670		680			775		785		
Sound Pressure Level (SPL)	dB(A)	56	58	60	62	63	56	57	58	60	62	55	56	57	58	59	55	56	57	58	59
Standard Air Series PCB	Model/PCS.	SDR4220199-1 / 1pc.					SDR4220199-1 / 1pc.					SDR4220199-1 / 1pc.					SDR4220199-1 / 1pc.				
Expansion Valve (Built-in Coil)	PCS.	1					1					1					1				
Piping Connections	Liquid pipes	Ø9.5 (Brazing connection)					Ø9.5 (Brazing connection)					Ø12.7 (Brazing connection)					Ø15.9 (Brazing connection)				
	Gas pipes	Ø19.1 (Brazing connection)					Ø22.2 (Brazing connection)					Ø28.6 (Brazing connection)					Ø28.6 (Brazing connection)				
	Drain pipes	1" (male)					1" (male)					1" (male)					1" (male)				
Refrigerant Control		Electronic expansion valve					Electronic expansion valve					Electronic expansion valve					Electronic expansion valve				
Panel		Double Skin																			
Capacity Index		200					250					400					500				

Model		AHUR32DCL AHUR32CCL					AHUR40DCL AHUR40CCL					AHUR48DCL AHUR48CCL					AHUR60DCL AHUR60CCL									
Total Cooling Capacity	NET (KW) **	90.5	90.3	90.1	89.7	89.4	113.4	113.2	112.9	112.4	112.2	135.8	135.5	135.2	134.6	134.2	170.2	169.8	169.4	168.7	168.3					
Total Sensible Cooling Capacity		33.9	33.7	33.5	33.1	32.8	42.6	42.4	42.1	41.6	41.4	50.9	50.6	50.3	49.7	49.3	64.0	63.6	63.2	62.5	62.1					
Total Cooling Capacity	Gross (KW) **	92.6					116.8					138.9					175.2									
Sensible Cooling Capacity		36.0					46.0					54.0					69.0									
Air Flow	cmh / m³/min	8,160/ 136					10,920/ 182					12,240/ 204					16,380/ 273									
Ent. Temp.	*CDB/*CWB	33/ 28					33/ 28					33/ 28					33/ 28									
Lea. Temp.	*CDB/*CWB	19.3/ 19.0					19.9/ 19.6					19.3/ 19.0					19.9/ 19.6									
Coil Type		DX Coil (R410A) Ø8 mm. Wave slit surface & Straight edge																								
Coil Face Area	m²	1.568					1.98					2.35					2.97									
Coil Face Vel.	m/s	1.45					1.53					1.45					1.53									
Air PD.In Coil	Pa	50					50					50					50									
Air PD.In Pre Filter **	Pa	80					80					80					80									
Air Filter Size 12' x 24' x 2' **	PCS.	2					-					3					-									
Air Filter Size 24' x 24' x 2' **	PCS.	4					6					6					9									
Air PD.In Casing	Pa	30					30					30					30									
ESP/Initial	Pa	250	300	350	450	500	250	300	350	450	500	250	300	350	450	500	250	300	350	450	500					
Total Statics Pressure	Pa	410	460	510	610	660	410	460	510	610	660	410	460	510	610	660	410	460	510	610	660					
Fan Type		Forward curved centrifugal fan (Belt drive)																								
Model		FDA315TM					FDA400TM					FDA400TM					FDA500TM									
Fan Motor **	KW	3.0		4.0			3.0		4.0			5.5		4.0			5.5			4.0		5.5			7.5	
	POLE	4					4					4					4									
Power Supply	Volt/Ph./Hz.	380-415/3/50																								
FLA	amp.	6.59		8.67			6.59		8.67			11.5		8.67			11.5			8.67		11.5			15.3	
Machine Weight (DCL)	kg	985		1,005			1,175		1,180			1,185		1,280			1,285			1,615		1,625			1,645	
Machine Weight (CCL)	kg	870		890			975		980			985		1,075			1,080			1,265		1,275			1,295	
Sound Pressure Level (SPL)	dB(A)	63	64	65	66	67	60	61	62	63	64	60	61	62	63	64	61	62	63	64	61	62	63	64	65	
Standard Air Series PCB	Model/PCS.	SDR4220199-1 / 2pcs.					SDR4220199-1 / 2pcs.					SDR4220199-1 / 3pcs.					SDR4220199-1 / 3pcs.									
Expansion Valve (Built-in Coil)	PCS.	2					2					3					3									
Piping Connections	Liquid pipes	Ø12.7 (Brazing connection) x 2					Ø15.9 (Brazing connection) x 2					Ø12.7 (Brazing connection) x 3					Ø15.9 (Brazing connection) x 3									
	Gas pipes	Ø28.6 (Brazing connection) x 2					Ø28.6 (Brazing connection) x 2					Ø28.6 (Brazing connection) x 3					Ø28.6 (Brazing connection) x 3									
	Drain pipes	1-1/4" (male)					1-1/4" (male)					1-1/4" (male)					1-1/4" (male)									
Refrigerant Control		Electronic expansion valve					Electronic expansion valve					Electronic expansion valve					Electronic expansion valve									
Panel		Double Skin																								
Capacity Index		800					1,000					1,200					1,500									

### Notes:

- Net capacity includes indoor fan heat.
  - Gross capacity do not includes indoor fan heat.
  - With pre filter, AAF synthetic R29 & class G3 (Washable) eff 80-85%
  - Motor is induction motor class F, IP 55.1
  - Air temperature control via an external MT III controller (option)
  - MicroTech III is not recommended to use for 24 hours application.
- For 24 hours operation, please source for external 3rd party DDC locally or contact Daikin sales office.

### Connection ratio

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

### Conversion formula

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

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

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

AHUR-SCL SPECIFICATIONS

Model		AHUR08SCL					AHUR10SCL					AHUR16SCL					AHUR20SCL				
Total Cooling Capacity	NET (KW) **	22.8	22.8	22.7	22.6	22.5	28.3	28.3	28.2	28.1	28.0	45.3	45.2	45.1	44.9	44.7	56.7	56.6	56.5	56.2	56.1
Total Sensible Cooling Capacity		10.9	10.9	10.8	10.7	10.6	13.2	13.2	13.1	13.0	12.9	17.0	16.9	16.8	16.6	16.4	21.3	21.2	21.1	20.8	20.7
Total Cooling Capacity	Gross (KW) **	23.3					28.9					44.3					58.4				
Sensible Cooling Capacity		11.4					13.8					18.0					23.0				
Air Flow	cmh / m <sup>3</sup> /min	2,040/34					2,340/39					4,080/68					5,460/91				
Ent. Temp.	*CDB/*CWB	33/ 28					33/ 28					33/ 28					33/ 28				
Lea. Temp.	*CDB/*CWB	19.4/ 18.9					18.4/ 18					19.3/ 19.0					19.9/ 19.6				
Coil Type	DX.Coil (R410A) Ø8 mm. Wave slit surface & Straight edge																				
Coil Face Area	m <sup>2</sup>	0.443					0.54					0.784					0.99				
Coil Face Vel.	m/s	1.28					1.20					1.45					1.53				
Air PD.In Coil	Pa	50					50					50					50				
Air PD.In Pre Filter **	Pa	80					80					80					80				
Air Filter Size 12' x 24' x 2' **	PCS.	1					-					1					-				
Air Filter Size 24' x 24' x 2' **	PCS.	1					2					2					3				
Air PD.In Casing	Pa	30					30					30					30				
ESP Initial	Pa	250	300	350	450	500	250	300	350	450	500	250	300	350	450	500	250	300	350	450	500
Total Statics Pressure	Pa	410	460	510	610	660	410	460	510	610	660	410	460	510	610	660	410	460	510	610	660
Fan Type	Forward curved centrifugal fan (Belt drive)																				
Model	FSA280CM					FSA280CM					FDA250CM					FDA250CM					
Fan Motor **	KW	0.75		1.1			0.75		1.1			1.5		2.2			2.2		3.0		
	POLE	4					4					4					4				
Power Supply	Volt/Ph./Hz.	380-415/3/50																			
FLA	amp.	1.89		2.67			1.89		2.67			3.53		4.96			4.96		6.59		
Machine Weight (SCL)	kg	475		480			520		525			670		680			775		785		
Sound Pressure Level (SPL)	dB(A)	61	63	65	67	68	63	64	65	67	69	60	61	62	63	64	61	62	63	64	65
Standard Air Series PCB	Model/PCS.	SDR4220199-1 / 1 pc.					SDR4220199-1 / 1 pc.					SDR4220199-1 / 1 pc.					SDR4220199-1 / 1 pc.				
Expansion Valve (Built-in Coil)	PCS.	1					1					1					1				
Piping Connections	Liquid pipes	mm φ9.5 (Brazing connection)					mm φ9.5 (Brazing connection)					mm φ12.7 (Brazing connection)					mm φ15.9 (Brazing connection)				
	Gas pipes	mm φ19.1 (Brazing connection)					mm φ22.2 (Brazing connection)					mm φ28.6 (Brazing connection)					mm φ28.6 (Brazing connection)				
	Drain pipes	inch φ1" (male)					inch φ1" (male)					inch φ1" (male)					inch φ1" (male)				
Refrigerant Control	Electronic expansion valve																				
Panel	Single Skin																				
Capacity Index	200					250					400					500					

Model		AHUR32SCL					AHUR40SCL					AHUR48SCL					AHUR60SCL									
Total Cooling Capacity	NET (KW) **	90.5	90.3	90.1	89.7	89.4	113.4	113.2	112.9	112.4	112.2	135.8	135.5	135.2	134.6	134.2	170.2	169.8	169.4	168.7	168.3					
Total Sensible Cooling Capacity		33.9	33.7	33.5	33.1	32.8	42.6	42.4	42.1	41.6	41.4	50.9	50.6	50.3	49.7	49.3	64.0	63.6	63.2	62.5	62.1					
Total Cooling Capacity	Gross (KW) **	92.6					116.8					138.9					175.2									
Sensible Cooling Capacity		36.0					46.0					54.0					69.0									
Air Flow	cmh / m <sup>3</sup> /min	8,160/ 136					10,920/ 182					12,240/ 204					16,380/ 273									
Ent. Temp.	*CDB/*CWB	33/ 28					33/ 28					33/ 28					33/ 28									
Lea. Temp.	*CDB/*CWB	19.3/ 19.0					19.9/ 19.6					19.3/ 19.0					19.9/ 19.6									
Coil Type	DX.Coil (R410A) Ø8 mm. Wave slit surface & Straight edge																									
Coil Face Area	m <sup>2</sup>	1.568					1.98					2.35					2.97									
Coil Face Vel.	m/s	1.45					1.53					1.45					1.53									
Air PD.In Coil	Pa	50					50					50					50									
Air PD.In Pre Filter **	Pa	80					80					80					80									
Air Filter Size 12' x 24' x 2' **	PCS.	2					-					3					-									
Air Filter Size 24' x 24' x 2' **	PCS.	4					6					6					9									
Air PD.In Casing	Pa	30					30					30					30									
ESP Initial	Pa	250	300	350	450	500	250	300	350	450	500	250	300	350	450	500	250	300	350	450	500					
Total Statics Pressure	Pa	410	460	510	610	660	410	460	510	610	660	410	460	510	610	660	410	460	510	610	660					
Fan Type	Forward curved centrifugal fan (Belt drive)																									
Model	FDA315CM					FDA400CM					FDA600CM					FDA500CM										
Fan Motor **	KW	3.0		4.0			3.0		4.0			5.5		4.0			5.5			4.0		5.5			7.5	
	POLE	4					4					4					4									
Power Supply	Volt/Ph./Hz.	380-415/3/50																								
FLA	amp.	6.59		8.67			6.59		8.67			11.5		8.67			11.5			8.67		11.5			15.3	
Machine Weight (SCL)	kg	870		890			975		980			985		1,075			1,080			1,265		1,275			1,295	
Sound Pressure Level (SPL)	dB(A)	70	71	72	73	74	67	68	69	70	71	68	69	70	71	72	68	69	70	71	72					
Standard Air Series PCB	Model/PCS.	SDR4220199-1 / 2 pcs.					SDR4220199-1 / 2 pcs.					SDR4220199-1 / 3 pcs.					SDR4220199-1 / 3 pcs.									
Expansion Valve (Built-in Coil)	PCS.	2					2					3					3									
Piping Connections	Liquid pipes	mm φ12.7 (Brazing connection) x 2					mm φ15.9 (Brazing connection) x 2					mm φ12.7 (Brazing connection) x 3					mm φ15.9 (Brazing connection) x 3									
	Gas pipes	mm φ28.6 (Brazing connection) x 2					mm φ28.6 (Brazing connection) x 2					mm φ28.6 (Brazing connection) x 3					mm φ28.6 (Brazing connection) x 3									
	Drain pipes	inch φ1-1/4" (male)					inch φ1-1/4" (male)					inch φ1-1/4" (male)					inch φ1-1/4" (male)									
Refrigerant Control	Electronic expansion valve																									
Panel	Single Skin																									
Capacity Index	800					1,000					1,200					1,500										

Notes:

1. Net capacity includes indoor fan heat.
  2. Gross capacity do not includes indoor fan heat.
  3. With pre filter, AAF synthetic R29 & class G3 (Washable) eff 80-85%
  4. Motor is induction motor class F, IP 55.1
  5. Air temperature control via an external MT III controller (option)
  6. MicroTech III is not recommended to use for 24 hours application.
- For 24 hours operation, please source for external 3rd party DDC locally or contact Daikin sales office.

Connection ratio

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

Conversion formula

$$kcal/h = kW \times 860$$

$$Btu/h = kW \times 3412$$

$$cfm = m^3/min \times 35.3$$

## MicroTech III Controller (Option)

MicroTech III consists of 4 components in a fixed configuration



### Features of MicroTech III

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 3<sup>rd</sup> party BMS.
2. 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**.
3. HMI screen on the Principal Module POL 638 allows easy testing and commissioning and even without a centralised controller or 3<sup>rd</sup> party BMS.

### Functions of MicroTech III

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 Monitor and control devices related to AHU such as Fan, sensor

Available object list  
 - BACnet BI/BO/BV  
 - BACnet AI/AO/AV

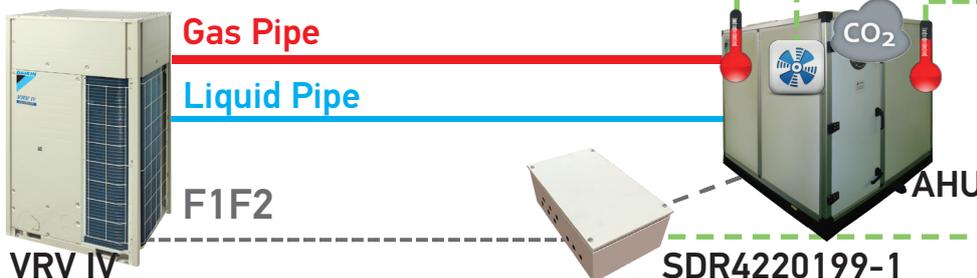


- On/Off
- Operation mode
- Setpoint
- Error monitoring
- CO2 ppm
- Discharged air temp
- Humidity
- Dumper control etc...

### BACnet IP



### MicroTech III



\*MicroTech III is not recommended to use for 24 hours application. For 24 hours operation, please source for external 3<sup>rd</sup> party DDC locally or contact Daikin sales office.

## Flexible customization of AHU

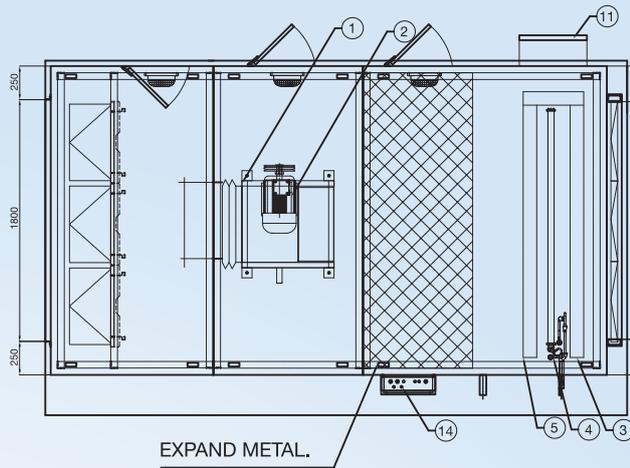
Daikin's AHU can be customized to meet your requirements

### Case 1

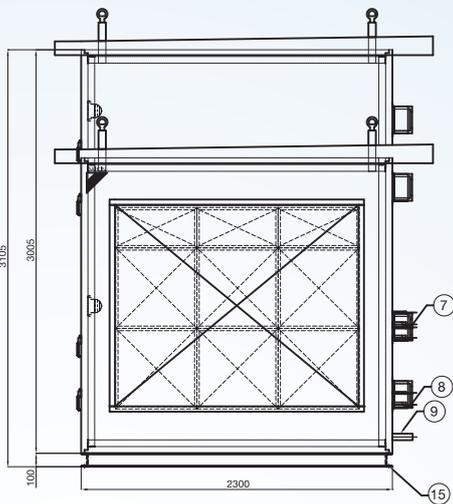
#### ■ Specification

SA FLOW	14,000	CMH.	PRECOIL CAPACITY	23,960	Kcal/Hr.
BYPASS FLOW	-	CMH.	MAINCOIL CAPACITY	224,598	Kcal/Hr.
RA FLOW	14,000	CMH.	REHEATCOIL CAPACITY	23,960	Kcal/Hr.
OA FLOW	-	CMH.	ESP.	800	Pa
			TSP.	1,400	Pa

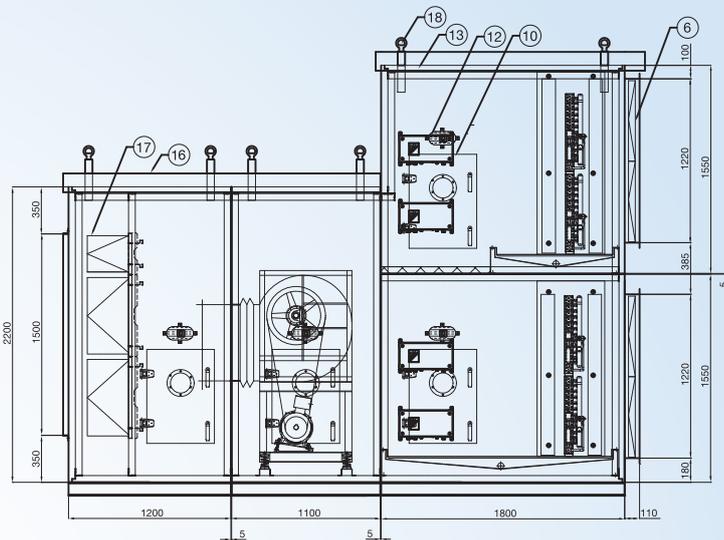
#### ■ Drawing



Top View



Front View



Side View

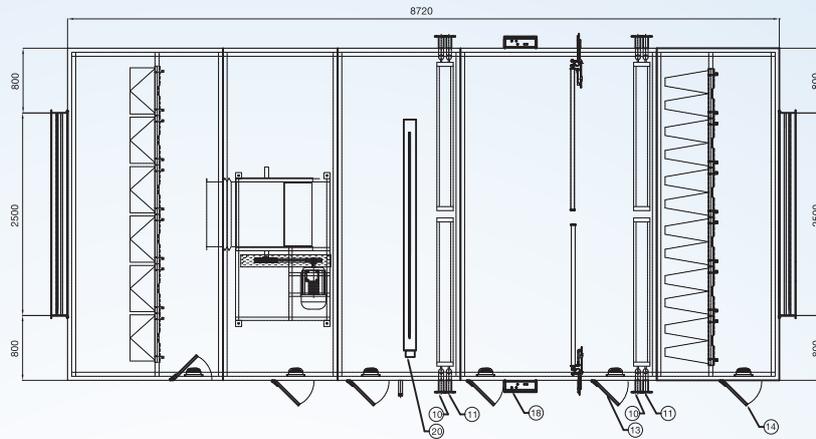
NO.	Parts name	NO.	Parts name	NO.	Parts name
1	FAN	8	GAS PIPE = 2 PCS.	15	ANCHOR HOLE Ø18-ALL
2	MOTOR	9	DRAIN PIPE = 1 PC.	16	ROOF (SUS)
3	PRE COIL = 2 PCS.	10	ACCESS DOOR = 4 PCS.	17	MED FILTER = 9 PCS.
4	MAIN COIL (included EV valve) = 4 PCS.	11	SERVICE PANEL = 2 PCS.	18	EYE BOLTS B-1130-20 = 12 PCS.
5	HEATING COIL = 2 PCS.	12	MARINE LAMP 11W+SWITCH = 4 PCS.		
6	PRE FILTER = 12 PCS.	13	SANDWICH PANEL		
7	LIQUID PIPE = 2 PCS.	14	OUTDOOR AIR SERIES PCB (SDR4220199-1) = 4 PCS.		

## Case 2

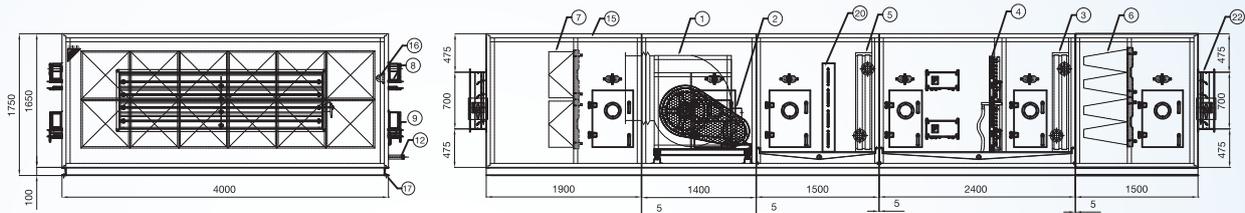
### ■ Specification

SA FLOW	31,794	CMH.	PRE COOLING CAPACITY	12,383	Kcal/hr.
BYPASS FLOW	-	CMH.	MAIN COOLING CAPACITY	190,318	Kcal/hr.
RA FLOW	31,794	CMH.	RE-HEAT CAPACITY	12,383	Kcal/hr.
OA FLOW	-	CMH.	ESP.	750	Pa
			TSP.	1,460	Pa

### ■ Drawing



Top View



Front View

Side View

NO.	Parts name	NO.	Parts name	NO.	Parts name
1	FAN BDB630TM	8	LIQUID PIPE = 4 PCS.	16	MARINE LAMP 11W+SWITCH = 2 PCS.
2	MOTOR22KW.4P (380/3PH/60HZ)	9	GAS PIPE = 4 PCS.	17	ANCHOR HOLE Ø18-ALL
3	PRE WC. 3/8"-2Rx13FPIx455Tx1730 = 2PCS.	10	INLET PIPE (PRE,RE-HEAT) 2B = 4PCS.	18	STANDARD AIR SERIES PCB (SDR4220199-2) = 4 PCS.
4	MAIN DC. 3/8"-4Rx14FPIx225Tx1730 = 4PCS. (included EV valve)	11	OUTLET PIPE (PRE,RE-HEAT) 2B = 4PCS.	19	E/H 3PH/380V/50HZ/30KW
5	RH WC. 3/8"-2Rx13FPIx455Tx1730 = 2PCS.	12	DRAIN PIPE 2B = 2 PCS.	20	TERMINAL BOX
6	BAG FILTER 24"X24"X21" = 12 PCS.	13	ACCESS DOOR 400X700MM = 2 PCS.	21	VOLUME DAMPER
7	MED FILTER 24"X24"X12" = 12 PCS.	14	ACCESS DOOR 500X700MM = 4 PCS.		
		15	SANDWICH PANEL 50 MM.		

\*Please contact to Daikin sales office for more information.

# MEMO

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 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 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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### Đại lý phân phối

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\*Specifications, designs and other content appearing in this brochure are current as of November 2020 but subject to change without notice.