



# Versatility is the mark of Perfection



**High Static Series** 



**Rooftop Series** 



Water Source Heat Pump Series



**Floor Standing Series** 

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Daikin customizes packaged line-up of airconditioning products for Indian market.

Daikin believes in being close to its customers. As a result we have developed a new range of packaged products tailor-made for Indian conditions. This new line-up of products produced in Daikin India's manufacturing facility at Neemrana, Rajasthan ensures reduced lead time and greater array of features for Indian consumers. Advanced features include cooling at high-ambient temperature, Under voltage & over voltage protection as well as phase imbalance voltage &

Phase reversal protection. We have also introduced aesthetically appealing new wired LCD remote controller, with glossy finish, for ease of usage of our packaged air-conditioner. The new line-up of packaged air conditioners gives you cutting-edge technology in air conditioners with industry-leading energy efficiency for lower power bills. These locally produced high-static pressure duct type are available up to 20 HP (16.7 TR).



# **Product Line-up**

#### HIGH STATIC PRESSURE DUCT TYPE (Cooling only)

R-41114	R	-4	1	N	1
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CAPACITY	Btu/h	66,000	1,02,000	1,32,000	1,32,000	2,00,000
CAPA	TR	5.5	8.5	11	11	16.7
	DOOR JNIT					
		FDR65ERV16	FDR100ERV16	FDR130ERV16	FDR130ERV162	FDR200ERY16
	rdoor Jnit	6	C	60	B. B.	e e
		RR65ERY16	RR100ERY16	RR130ERY16	RR65ERY16 (Nos. 2)	RR100ERY16 (Nos. 2)

#### HIGH STATIC PRESSURE DUCT TYPE (Cooling only)



Btu/h   66,000   1,02,000   1,32,000   2,00,000     TR   5.5   8.5   11   16.7     INDOOR UNIT   FD65DSV16   FD100DSV16   FD130DSV16   FD200DSV16     OUTDOOR UNIT   FD65DSV16   FD100DSV16   FD200DSV16   FD200DSV						
INDOOR UNIT  FD65DSV16  FD100DSV16  FD130DSV16  FD200DSY16  OUTDOOR UNIT	Bto	tu/h	66,000	1,02,000	1,32,000	2,00,000
UNIT  FD65DSV16  FD100DSV16  FD130DSV16  FD200DSY16  OUTDOOR UNIT	CAPA	3	5.5	8.5	11	16.7
OUTDOOR UNIT						
UNIT			FD65DSV16	FD100DSV16	FD130DSV16	FD200DSY16
			R65DSY16	R100DSY16	R130DSY16	R100DSY16 (Nos. 2)

## **Product Line-up**

#### **R-410A** FLOOR STANDING TYPE (Cooling only) CAPACITY Btu/h 50,000 60,000 80,000 1,00,00 1,20,000 1,60,000 1,80,000 2,00,000 5.0 10.0 13.3 15.0 16.7 DIRECT AIR BLOW TYPE INDOOR UNIT FVGR05NV1 FVGR06NV1 FVGR08NV1 FVGR10NV1 OUTDOOR RUR05NY1 RUR06NY1 RUR08NY1 RUR10NY1 **DUCT CONNECTION TYPE INDOOR** FVPGR10NY1 FVPGR13NY1 FVPGR15NY1 FVPGR18NY1 OUTDOOR UNIT RUR10NY1 RUR13NY1 RUR15NY1 RUR18NY1 RUR20NY1 R-410A AIR-COOLED ROOFTOP UNITS (Cooling only) CAPACITY Btu/h 62.500 93,400 1,24,500 1.54.400 1.89.000 2,48,600 TR 5.0 8.0 10.0 13 16.0 21.0 1 ROOFTOP SERIESUATQ-C UATQ120CGXY1 UATQ150CGXY1 UATQ60CGXY1 UATQ90CGXY1 UATQ180CGXY1 UATQ240CGXY1 R-410A AIR-COOLED ROOFTOP UNITS (Heat Pump) CAPACITY Btu/h 93,300 1,21,400 1,52,600 1,90,000 2,28,000 2,47,700 7.8 12.7 15.8 19.0 20.6 10.1 ROOFTOP SERIESUATYQ-C UATYQ250MCY19 UATYQ450MCY1 UATYQ550MCY1 UATYQ600MCY1 UATYQ700MCY1 UATYQ350MCY1

#### R-410A HORIZONTAL WATER SOURCE HEAT PUMP Btu/h (Cooling) 9380 22682 29913 34791 42636 Btu/h (Heating) 11153 20806 24217 34961 44341 30868 TR (Cooling) 0.78 1.49 1.89 2.49 2.90 3.55 TR (Heating) 0.93 1.73 2.02 3.70 UNIT MWH010DRP MWH020DRP MWH025DRP MWH030DRP MWH040DRP MWH050DRP Btu/h (Cooling) 54574 64806 83736 100620 113922 127907 87086 Btu/h (Heating) 56757 67398 104645 118479 133023 TR (Cooling) 4.55 5.40 6.98 8.39 9.49 10.66 TR (Heating) 4.73 5.62 7.26 8.72 9.87 11.09 UNIT MWH150DRP MWH060DRP MWH070DRP MWH080DRP MWH100DRP MWH125DRP

Daikin's Packaged Air-conditioners are engineered to meet high static and large airflow for wider coverage requirements.



### Air-Cooled (Ductable)

#### AIR CONDITIONERS

High static pressure duct type\*\*













▶ FDR65ERV16

▶ FDR100ERV16

▶ FDR130ERV162\*

FDR200ERY16

#### **Improved Features**



#### New wired LCD remote controller

New LCD based wired type remote handset with alphabetic error display like HP, LP, SPPR, indoor fan current sensor etc. In-built energy saver dedicated button and glossy finish.



#### High performance even at high ambient temperature

Always keeping your comfort in mind, Daikin ducted air conditioners work at high ambient temperature (48°C) without tripping. Get the best out of Daikin ducted air conditioners even in hot weather conditions.



#### Under voltage and over voltage protection

Given the erratic electricity supply it becomes important that your air conditioners are guarded against under voltage and over voltage. Daikin ducted air conditioners offer protection against voltage fluctuation thus enhancing the operating life of your air conditioners.



#### Phase imbalance voltage

It is vital that your air conditioner is protected against imbalance and Daikin duct air conditioners offer this protection to ensure reliable operation of the air conditioner.

Electrical equipment especially motors and their controllers will not operate reliably on unbalanced voltages. Greater imbalances may cause overheating of components and damage the air conditioners.



#### Phase Loss Protection

In case of any phase loss Daikin machine will display error on its controller.



#### Phase reverse protection

Phase reversal could cause serious problems therefore much care is required to protect the motor from such type of fault. Daikin duct air conditioners offer protection from phase reversal thus enhancing the life of the air conditioners.



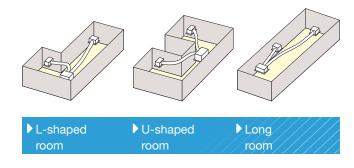
#### Pre-charged refrigerant

Daikin India's FDR65, FDR100, FDR130 and FDR200 models are available with pre-charged refrigerant for 7.5 meter piping length. No need for additional refrigerant charge on-site if piping length is upto 7.5 meters.

#### Comfortable

#### Superior air distribution for comfortable living

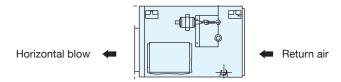
The conditioned air can be effectively distributed to every corner of the room through the ducting and this ensures a pleasant environment for comfortable living.



- \*Available in twin circuit also
  \*\* Models available in R-22 also (5.5 ~16.7 TR)

#### Air discharge orientation

FDR65-200 models come with standard horizontal air discharge.



#### Flexibility of air supply

Air flow can be adjusted by using Fan speed button on LCD Remote controller.

#### Versatility

Multiple rooms can be cooled together at the same time by using just one unit of fan coil unit.

#### Fresh air intake for healthy living

Fresh air can be introduced into the building through the design of fresh air intakes. This will help to improve the indoor air quality.

#### **Compact**

### Compact design of built-in type helps blend with interior decor

Indoor models are compact in size and designed with twin coil structure. This design effectively saves space during installation.



#### Compact size

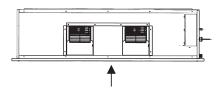
To fit in tight ceiling spaces, few models are available with 450 mm height only



#### **Work & Servicing**

#### Easy maintenance

The simple design concept has provided the ease of maintenance and servicing. Access to the internal part of the unit can be from the service panel or other side of the unit by loosening a few screws.



#### **Remote Controller**



#### **Others**

#### Air Filter as standard

Washable Air Filter is equipped as standard.

#### **Outdoor Unit**

#### Scroll compressor

All outdoor units are using scroll compressor which has better energy efficiency and quiet in operation.

#### Anti-corrosion of heat exchanger fin

The heat exchanger fin of outdoor units are anti-corrosion treated.



## Air-Cooled (Packaged)

AIR CONDITIONERS - Flexible design and great reliability.

#### Floor standing type





RUR10NY1

Direct air blow type





Nice, cool air in the factory or in the cafeteria







▶ Duct connection type

#### **Enhanced Varieties of Factory Modification and Optional Accessories**

Standard model Factory modification

Contact sales for more information

		Floor Star	nding Type
		Direct Air Blow	Duct Connection Type
	Auto restart		
	Modify wiring for central control adapter kit (DAT107A55) installation	•	•
	Change fan motor and pulley	-	
	Discharge grill plenum chamber		
NO	Side discharge grill on discharge plenum chamber	•	•
¥	Lower drain pan	-	
문	Front suction high efficiency filter chamber	-	
MODI	Front suction base flange for front suction high efficiency filter chamber	-	
FACTORY MODIFICATION	Suction grill for front suction high efficiency filter chamber	-	•
\chi_c	Fresh air inlet	-	
Œ	Rear suction		
	Drain pump		
	Remote sensor (Thermistor for suction air)		
	All fresh air application		
	Low outdoor temp.15°C application and long pipe 70m application		
	Central control adaptor kit(external terminal for ON/OFF, abnormal) <sup>1</sup>	DTA10	07A55
	LCD remote controller <sup>2</sup>	BRC	1C62
N	Intelligent touch controller <sup>2</sup>	DCS6	01C51
OPTION	Central remote controller <sup>2</sup>	DCS30	2CA61
9	Unified ON/OFF controller <sup>3</sup>	DCS3	01B61
	Schedule timer <sup>3</sup>	DST30	1BA61
	Remote sensor (Thermistor for suction air) <sup>3</sup>	KRCS	301-1
	Remote controller	BRC1	NU64

- Notes: 1. Wiring modification is needed on floor stand model to connect with central control ADP kit.
  - 2. Need to use central control adapter kit for option connection.
  - 3. Central control adapter kit and LCD remote controller is necessary for option connection.

#### **Quiet Operation**

#### Equipped with scroll compressor for quiet operation Smooth running, low vibration, low operating sound.

Outdoor unit	Sound level				
	0.92	1.76			
RUR05NY1	59 dB	60 dB			
RUR06NY1	59 dB	60 dB			

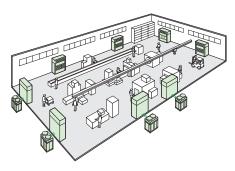


#### **Direct Air Blow from Indoor Unit** with Plenum

Comfortable factory airconditioning, using multiple indoor units installed in accordance with the space.

Installation is next to walls, so units will not affect the factory layout even if some changes are made.

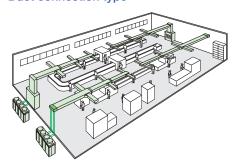
#### Direct air blow type



#### **Air Blow via Connected Ducts**

Comfortable airconditioning of the entire factory by connecting ablow duct at the top of the indoor unit.

#### **Duct connection type**



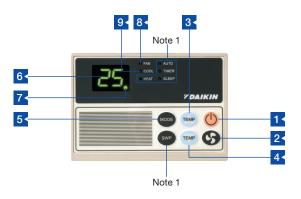
Note: Ducts to be procured locally.

#### **Easy Operation**

#### Digital remote control comes standard with indoor unit

Temperature setting is possible by button operation. The set temperature is conveniently displayed on the LED.

#### Floor standing type (Standard accessory)



- On/Off button
- 6 LED display
- Fan button
- Temp. setting up
- 7 Compressor operation lamp
- Temp. setting down
- Fan operation lamp
- Mode button
- 9 Cool operation lamp

Note 1: It cannot be used for FVPGR10-20NY1

#### Duct type (Optional accessory)



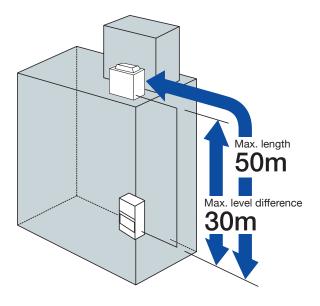
- Power
- 6 Fan indicator lamp
- Temperature scale
- 7 Cool indicator lamp
- Temperature setting
- Compressor 2 indicator lamp
- 4 Mode setting
- 9 Compressor 1 indicator
- 5 Next setting
- 10 Temperature sensor

#### **Design Flexibility**

#### Designed for long refrigerant piping

50m maximum length and 30m maximum level difference to cover medium and large-scale building needs.

### Outdoor unit roof installation possible for plenty of leeway



#### Refrigerant pre-charged for upto 7.5 metres

Allowable refrigerant pipe length and level difference

	Pre- charged <sup>1</sup>	Max. length	Max. level difference	
RUR05NY1-20NY1	7.5 m	50 m (Equivalent length 70 m)	30 m	

Note 1: Additional refrigerant charging is required if the refrigerant pipe is longer than the indicated length.

### 4-direction piping affords more freedom of layout (Applies to RUR05N/06N)

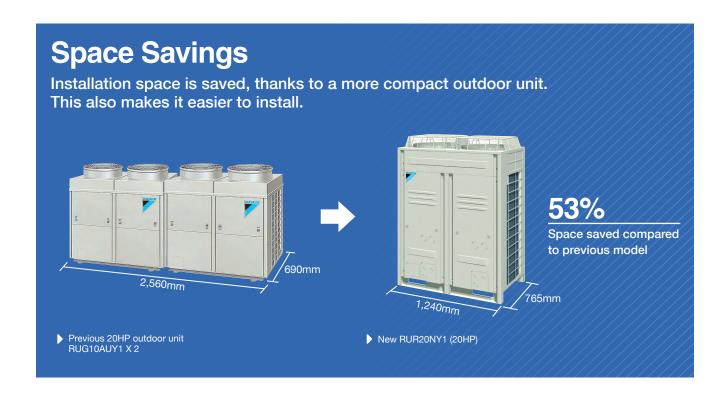
Piping can be run from the front, bottom, right or rear surface according to how the unit is installed.

In case of RUR08–20N, piping can be drawn out in two directions - front and under side.

#### **Durability**

### Heat exchange fins provided with anti-corrosion treatment (Applies to all outdoor units)

To achieve increased durability by improved resistance to salt corrosion and atmospheric pollution, coated PE fins (with special acryl pretreatment) are used for the heat exchanger of the outdoor unit.



### Air-Cooled (Rooftop)

AIR CONDITIONERS - The Comfort with Higher Efficiency.

#### Rooftop









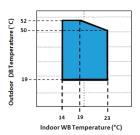
► UATQ60/90/120/150/300 180/240CGXY1 (Cooling Only) ► UATYQ250/350/450/550/ 600/700MCY1 (Heat Pump) ▶ With optional economiser kit\*

#### **Package Unit**

Daikin's new range of rooftop packaged units has been developed specifically to suit commercial applications and are designed to be easy to install, requiring only ducting (and associated fittings), power/control wiring and drain piping. Along with the light grey colour, the flat top and compact design gives an aesthetic and neat appearance when installed in line of sight. The unit cabinet is made of powder coated sheet metal especially suitable for outdoor use. All parts of the structure are fastened with corrosion resistant screws and bolts.

#### **High Operating Range**

Designed for high ambient application. Continuous operation at an outdoor ambient temperature up to 52°C.





### Flexible Air Supply utilising Variable Pitch Pulley

Utilising the Variable Pitch Pulley (VPP) driven supply fan, VPP can be adjusted on site to meet a wide range of required air flow and ESP without the need to change the pulley and belt.



#### Convertible Return and Supply Air\*

Unit can be easily converted from horizontal to vertical (downward) supply and return air duct configuration by relocating the panels and supply air fan mounting.

#### **Scroll Compressor**

Units are equipped with high efficiency and reliable scroll compressors. Each compressor is mounted on rubber vibration isolators in order to reduce the noise level and vibration transmissions.

#### Powder Coated Condensate Drain Pan

The sheet metal condensate drain pan is powder coated to resist corrosion.

#### Slots for 2 Inch Return Air Filters

A 2 inch rail is provided as standard in instances where a field supplied filter casement needs to be installed.

#### **Higher Energy Efficiency Rating**

The UATQ-C series is designed to achieve high energy savings. Its performance is claimed to be among the best in the market.

#### \*Selected models (Refer data book)

#### Standard Handset

User friendly wired remote controller for UATQ-C series with following functions:

- 7 days programmable timer (on/off)
- Compressor running display
- Real time clock
- Key lock function
- Energy saving mode
- Error code display



Rooftop Panel for UATYQ - MCY1 series comprises all starting, operating and safety controls setting.

- 7 days programmable timer with 3 set of ON/ OFF, timer/day
- Dirty filter indication
- Alarm & Warning diagnostic
- Password protection for advanced setting



### **Component Features**

#### 1 Condenser Fan and Motor

Fans are of propeller type, direct driven by weatherproof electrical induction motors. Condenser fan motor has class F insulation and splash-proof enclosure of up to IP55\*.

- UATQ60/90/120/150/180/210/240/300CGXY1: IP55
- UATYQ600/700MCY1: IP55
- UATYQ250/350/450/550MCY1: IP44

#### 2 Condenser

Condenser coils are manufactured from seamless inner grooved copper tubes mechanically bonded to Aluminium fins to ensure optimum heat transfer. All coils are tested against by Nitrogen holding at 609psig and highly precise Helium leak test at 235psig. All standard coils are up to 3 rows/14-16 FPI, 3/8" (9.52mm) O.D. tubes.

UltraGold Fin is offered as standard (1000hrs Salt Spray Tested), which has longer life span under corrosive environment.



#### 3 Casing / Structure

The unit casing used in UATQ-C & UATYQ-MCY1 series is made of zinc coated galvanized steel sheets. It is further coated with an electrostatic powder coat and then oven-baked for a tough and lasting weather resistant finish. Zinc plated screws are used throughout to further reduce possibility of unit rusting.

#### 4 Evaporator

Evaporator coils are manufactured from seamless inner grooved copper tubes mechanically bonded to aluminium fins to ensure optimum heat transfer. All coils are tested against by Nitrogen holding at 609psig and highly precise Helium leak test at 235psig. All standard coils are 3-4 rows/14-16 FPI, 3/8" (9.52mm) O.D. tubes.

UltraGold Fin is offered as standard (1000hrs Salt Spray Tested), which has longer life span under corrosive environment.

#### 54 Insulation

All possible areas of condensation are insulated by PE, Polythelene. Panel insulation is 10mm thick while drain pan insulation is 5mm thick.

#### 6 Evaporator Fan and Drive

Blower is DWDI centrifugal, forward curved type. It is mechanically and dynamically balanced and mounted on a rigid shaft in a self aligned bearing

block. The motor is fitted with an adjustable V-belt drive as standard. It has class B insulation and dripping water proof, IP22.

#### 7 Expansion Device

Electronic Expansion Valve is used to ensure accurate control of refrigerant flow.

#### 8 Compressor

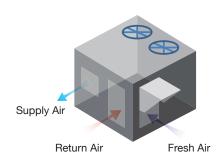
Compressor used in UATQ-C & UATYQ-MCY1
Series Packaged Units are hermetically sealed scroll type. All the compressors are provided with an internal overload protection.

#### 9 Refrigerant Circuit

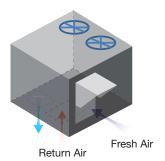
Each refrigerant circuit have independent electronic expansion devices, HP/LP switch and refrigerant line service pressure ports as standard factory HP/LP switch and refrigerant line service pressure ports as standard factory installed.

#### Economiser\*

Economiser is available as an option to cater for horizontal or vertical air discharge/return.



#### ▶ Horizontal Discharge / Return



#### ▶ Vertical Discharge / Return

#### Optional Features

#### 3rd Party Thermostat\*

For application that requires uniform thermostat outlook with other electrical appliances. 3rd Party thermostat can be connected to the factory supplied module via the contact point available on the PCB board.

#### **Basic BMS Connection**

Unit's standard PCB board provides dry contact for basic BMS connection. Input signal will go to dry contact ON/ OFF, COOL/HEAT and 4 to 20 mA temperature adjuster while output signal will come from ON/OFF, COOL/HEAT, ALARM and DEFROST dry contact.

#### CO, Sensor\*

Field specified CO<sub>2</sub> sensor can be easily plugged on the control board's dry contact, which is available on the economiser extension board.

#### **Auxiliary Heater\***

Auxiliary heater connection point is available on the standard PCB for field supplied heater connection.

## Horizontal Water Source Heat Pump







#### ▶ MWH-D

### Energy saving and environmental protection

#### Pioneer of Environmental Protection

Water source heat pump MWH-D series use environmental refrigerant R410A. R410A is higher volumetric capacity, w/o element of CI, improving the efficiency, not destroying the ozone layer.

Refrigerant	ODP	Temperature slip	Volumetric capacity	Efficiency
R410A	0	0.5	141	100
R407C	0	4.4	95	98
R22	0.05	0	100	100

Notes: ■ ODP is a relative value of R11

Volumetric capacity and efficiency are relative value of R22

#### High Efficiency and Energy Saving

At present, McQuay measures ACOP instead of COP to identify water source heat pump efficiency. ACOP is Integrated cooling and heating Coefficient of Performance for the whole year. The highest ACOP is 4.94, for MWH060DRP, which is higher beyond national standard (GB) 4.55.

ACOP = 0.56\*EER + 0.44\*COP

EER = cooling capacity/cooling input power,

COP = heating capacity/heating input power.

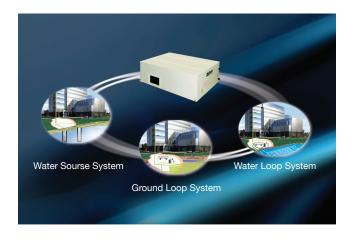


▶ This test room is Nationally Recognized Testing Laboratory

#### Reproducible Energy Sources

The MWH-D series take use of ground water, surface water, ground and other resource which include low-quality energy which is renewable energy sources.

The unit can be applied to water loop system, water source system, ground water system or other water system due to wide-range working condition.



#### Flexible application

#### Flexibility in Static Pressure Selection

McQuay MWH-D series (1HP-7HP) take use of highperformance fan motor. For 8HP-15HP units , 4 types of ESP option is provided to meet air supply requirement.



▶ 1HP~7HP

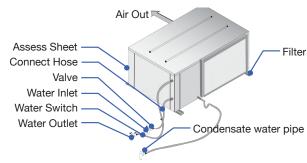
#### Easy Maintenance

MWH-D series are designed with assess doors and knobs in three directions, which is easier for service engineers to change parts on site.



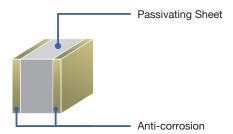
#### Convenient Installation

MWH-D series have charged refrigerant R410A before shipment. Customers only need to wiring, install water pipes and air ducts on job site. So installation cost is highly reduced.



#### With full accessories

Standard MWH-D series come along with accessories including: wired controller, 8m communication cable, moldproof air filter and waterpipe joint and rubber isolator make installtion more convenient and easier.



#### Safety & Reliability

#### **Multiple Protections**

MWH-D series are designed with multiple protections: the high and low pressure protection, water leakage protection and circulating water temperature protection. The wired controller is installed with sound, light and code alarm, which feedback fault information fastly to make sure formal operation.



#### No Refrigerant Liquid Attack

MWH-D series are designed with liquid accumulator which can store redundant refrigerant when operation condition changes so that to prevent compressor from liquid attack.



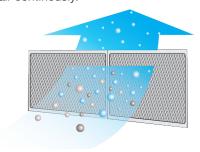


Scroll

Liquid Accumulator

#### Superior IAQ

MWH-D series standard filters are washable to ensure the coil clean and run efficiently, to provide clean indoor air continously.



#### **Intelligent Control System**

#### Intelligent Control System

MWH-D series adapt various ways of control, including standard wired controller(MC322) and other options, for example: wireless remote card controller, central controller (max to 64 units), Smart Commander and supporting BMS system under Modbus.







► Wired Controller (MC322+8m wiring) (Standard)









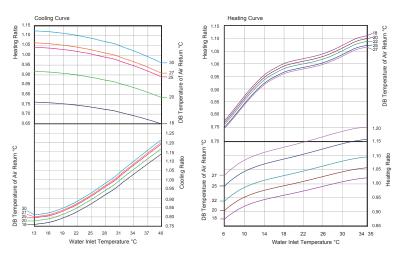


Smart Commander Software (Optional)

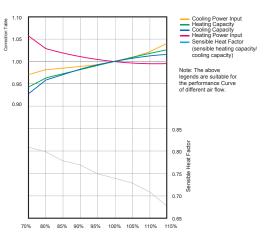
Note: For above option, please contact factory in advance

#### **Performance Curve**

#### **Different Conditions**



#### Different Air Flow



Note: The performance curve of different conditions is tested on norminal water flow.

#### Correction Table of Water Temperature Difference

Water Inlet/Outlet Temperature Difference	10	9	8	7	6	5	4
Water Flow	0.500	0.560	0.620	0.720	0.840	1.000	1.130
Cooling Capacity	0.986	0.990	0.994	0.997	0.999	1.000	1.001
Heating Capacity	0.978	0.984	0.990	0.997	1.001	1.000	0.994
Cooling Power Input	1.043	1.034	1.025	1.016	1.008	1.000	0.989
Heating Power Input	0.989	0.992	0.994	0.996	0.998	1.000	1.004

Note: specification is based on 30  $^{\circ}\text{C}$  water inlet temperature, 27  $^{\circ}\text{C}$  (DB) air return temperature.

#### **Operating Range**

Operating Range	Cooling	Heating
Indoor Air DB Temperature	16-35°C	10-30°C
Cooling Capacity	13-40°C	6-35°C

Note: If the units run beyond above operating limit, it may cause damage to the units.

# **Specifications**

#### HIGH STATIC DUCT TYPE (Cooling only)

**R-410A** 

					5.5 TR	8.5TR	11.0 TR	11.0 TR	16.7 TR
Model		Indoor	Unit		FDR65ERV16	FDR100ERV16	FDR130ERV16	FDR130ERV162	FDR200ERY16
Outdoor Unit				RR65ERY16	RR100ERY16	RR130ERY16	RR65ERY16(2NO)	RR100ERY16(2NO)	
		Btu/H	66000	102000	132000	132000	200000		
INOITI	Nominal Cooling Capacity			KW	19.3	29.9	38.7	38.7	58.6
Nominal Total Input Power (Cooling) W				6500	9000	12400	12900	18500	
Runr	ning Current			Α	10	14.5	20	22	32
Powe	er Source			V/Ph/ Hz			415/3/50		
Refri	gerant Type						R410A		
	Control	Operat	ion				Wired Control		
		High		cfm	2200	3400	4400	4400	6600
	Mediu		Medium		2045	3100	3850	3850	5800
l ⊨		Low		cfm	1890	2800	3330	3330	5000
INDOOR UNIT		High	High		50	50	60	60	80
000	Sound Pressure Level (H)		dBA	51	52	54	54	59	
_ ≤	Unit Dimension	Dimension Height X Width X Depth		mm	450 X 1170 X 700	450 x 1560 x 700	470 x 1700 x 940	470 x 1700 x 940	590 x 1885 x 1145
	Packing Dimer	nsion	Height X Width X Depth	mm	465 X 1370 X 720	585 X 1780 X 740	620 X 1930 X990	620 X 1930 X990	755 X 2130 X 1250
	Unit Weight			kg	60	88	123	128	175
	Condensate D	rain Size	1	mm			40.5		
	Unit Dimension	n	Height X Width X Depth	mm	930 X 1025 X 410	930 X 1200 X 550	930 X 1650 X 620	930 X 1025 X 410	930 X 1200 X 550
	Packing Dimer	nsion	Height X Width X Depth	mm	1080 X 1170 X 470	1080 X 1350 X 620	1088 X 1846 X 720	1080 X 1170 X 470	1080 X 1350 X 620
	Unit Weight	Unit Weight		kg	95	132	148	95	132
		Type				Liqui	id (Flared) & Gas (B	razed)	
	Pipe Connection	Size	Liquid	mm	12.7	12.7	15.9	12.7	12.7
			Gas	mm	22.2	28.6	28.6	22.2	28.6
	Refrigerant Pre	-Charge	d (At 7.5m Pipe Length)	kg	3.7	5.1	7	3.7	5.1

Note: ■ All specifications are subject to change by the manufacturer without prior notice. ■ Cooling capacity is based on the conditions below:

Cooling - 27°C DB / 19°C WB indoor and 35°C DB outdoor.

■ Refrigerant (R-410) is pre-charged at factory shipment (Outdoor Unit).

# **Specifications**

#### HIGH STATIC DUCT TYPE (Cooling only)

**R-22** 

					5.5 TR	8.5 TR	11.0 TR	16.7 TR
Mod	lel	Indoor unit			FD65DSV16	FD100DSV16	FD130DSV16	FD200DSY16
		Outdoor un	it		R65DSY16	R100DSY16	R130DSY16	R100DSY16 x 2
Capacity					66000	102000	132000	200000
Capacity				kW	19.34	29.9	38.7	58.6
Total Input Power				W	6450	9500	13000	19510
Runi	ning Current			Α	11	17	22	33
Pow	rer Source			V/Ph/Hz		415 /	3 / 50	
Refr	igerant Type					R	22	
	Control		Operation			LCD Wired	l Controller	
	Air Flow		Super High	cfm			-	
			High	cfm	2200	3400	4400	6600
			Medium	cfm	2045	3100	3850	5800
			Low	cfm	1890	2800	3330	5000
E		High	Pa	50	50	60	80	
S	Sound Pressure Level			dBA	53	53	57	59
INDOOR UNIT	Unit Dimension Height Width Depth		Height	mm	450	450	470	590
9			Width	mm	1170	1560	1700	1885
=			Depth	mm	700	700	940	1145
	Packing Dimension		Height	mm	465	585	620	755
			Width	mm	1370	1780	1930	2130
			Depth	mm	720	740	990	1250
	Unit Weight	·			60	90	128	175
	Condensate Drain Size			mm	40.5			
	Unit Dimension		Height	mm		9:	30	
			Width	mm	1025	1200	1650	1200
			Depth	mm	410	550	620	550
	Packing Dimension		Height	mm	1080	1080	1088	1080
			Width	mm	1170	1350	1846	1350
			Depth	mm	470	620	720	620
	Unit Weight			kg	95	144	160	144
	Pipe Connection	Туре				Bra	ized	
		Size	Liquid	mm	12.7	12.7	15.8	12.7
			Gas	mm	22.4	28.58	34.92	28.58
	Refrigerant Pre-Charged (At 7.5m	Pipe Length)		kg	4.2	6	8.7	6.0 (x2)

Note: ■ All specifications are subject to change by the manufacturer without prior notice.

Cooling capacity is based on the conditions below:

Cooling - 27°C DB / 19°C WB indoor and 35°C DB outdoor.

■ Refrigerant (R-22) is pre-charged at factory shipment (Outdoor Unit).

#### FLOOR STANDING TYPE (Cooling only) - Direct Air Blow Type



				4.2 TR	5.0 TR	6.7 TR	8.3 TR			
Mode	el	ndoor unit		FVGR05NV1	FVGR06NV1	FVGR08NV1	FVGR10NV1 RUR10NY1			
	<del>-</del>	Outdoor unit		RUR05NY1	RUR06NY1	RUR08NY1				
Powe	r supply			380-415 V, 50 Hz, 3 Phase, 4 Wires						
Cooli	ng capacity 1,3		kW	14.7	17.6	23.5	29.3			
			Btu/h	50000	60000	80000	100000			
			kcal/h	12600	15100	20200	25200			
Powe	r consumption 1		kW	5.5	6.4	8.6	11.2			
Runn	ing current		А	9	10.4	14.4	18.9			
Starti	ng current		А	72.7	80.9	118.2	135			
Powe	er factor		%	88.2	88.8	85.9	85.5			
	Colour				lvory	White				
	Air flow rate (H)		m3/min	42	42	54	80			
불			cfm	1480	1480	1910	2830			
٦	Fan	Drive			Direct Drive 3 Speed					
INDOOR UNIT	Sound level (H/M/L) 2		dBA	59/54/50	59/54/50	60/56/51	61/57/52			
	Dimensions (HxWxD)		mm	1,870x750x510	1,870x750x510	1,870x950x510	1,870x1,170x510			
	Machine weight		kg	90	90	107	143			
	Operation range °CWB			14 to 25						
	Colour			Ivory White						
	Compressor	Туре		Hermetically sealed scroll type						
		Motor output	kW	4.5	4.5	6.7	9			
I≒	Refrigerant oil	Model			plate of compressor					
5		Charge	L	1.4	1.8	3.3	3.3			
OO P	Refrigerant charge (R-4	10A)	kg	2.5 (Charged for 7.5 m)	3.5 (Charged for 7.5 m)	4.5 (Charged for 7.5 m)	6.0 (Charged for 7.5 m)			
OUTDOOR UNIT	Sound level 2	380V	dBA	59	59	60	61			
ಠ		415V	dBA	60	60	61	62			
	Dimensions (HxWxD)		mm	1,345x9	000x320	1,680x9	930x765			
	Machine weight		kg	92	105	203	206			
	Operation range		°CDB		21 t	o 46				
	Indoor Unit	Liquid	mm	Ø9.5 (Brazing)	Ø9.5 (Brazing)	Ø12.7 (Brazing)	Ø12.7 (Brazing)			
Į,		Gas	mm	Ø19.1 (Brazing) Ø19.1 (Brazing)		Ø22.2 (Brazing)	Ø28.6 (Brazing)			
REFRIGERANT PIPING		Drain	mm		PS 1B Inte	rnal thread				
BH: H	Outdoor Unit	Liquid	mm	Ø9.5 (Flare)	9.5 (Flare) Ø9.5 (Flare) Ø		Ø12.7 (Flare)			
Ë		Gas	mm	Ø19.1 (Flare)	Ø19.1 (Flare)	Ø22.2 (Brazing)	Ø28.6 (Brazing)			
		Drain	mm	Ø26.0 (Hole)	Ø26.0 (Hole)	-	-			
Max. interunit piping length			m	50 (equivalent length 70 m)						
Max.	installation level differe	nce	m	30						

Note: 1. Rated cooling capacities are based on the following conditions: Return air temp., 27°CDB, 19.5°CWB; outdoor temp. 35°CDB. Equiv. refrigeration piping, 5 m (horizontal).

3. Capacity includes indoor fan motor heat.

<sup>2.</sup> Anechoic chamber conversion value, measured according to JIS parameters and criteria. During operation these values are somewhat higher owing to ambient conditions.

# **Specifications**

#### FLOOR STANDING TYPE (Cooling only) - Duct Connection Type

R-410A

				8.3 TR	10 TR	13.3 TR	15.0 TR	16.7 TR		
Mode	ıl	Indoor unit		FVPGR10NY1	FVPGR13NY1	FVPGR15NY1	FVPGR18NY1	FVPGR20NY1		
		Outdoor unit		RUR10NY1	RUR13NY1	RUR15NY1	RUR18NY1	RUR20NY1		
Powe	r supply			380-415 V, 50 Hz, 3 Phase, 4 Wires						
Coolir	ng capacity 1,3		kW	29.3	35.2	46.9	52.8	58.6		
			Btu/h	100000	120000	160000	180000	200000		
				25200	30200	40300	45400	50400		
Runni	ng current		А	19.2	24.3	29	34.6	40.4		
Powe	r consumption 1		kW	11.4	14.9	17.8	21.2	24.8		
Startin	ng current		Α	129.5	118	130.3	143.4	146.3		
Powe	r factor		%	85.7	88.5	88.6	88.4	88.6		
	Colour					Ivory White				
	Air flow rate (H)		m3/min	80	120	120	162	162		
L			cfm	2830	4240	4240	5720	5720		
INDOOR UNIT	Fan	Drive				Belt Drive				
O <sub>R</sub>		Ext. Static Pressure	(mmH2O)			15				
00	Sound level 2		dBA	61	62	62	63	63		
=	Dimensions (HxWxI	0)	mm	1,740x1,170x510	1,870x1,170x720	1,870x1,170x720	1,870x1,470x720	1,870x1,470x720		
	Machine weight		kg	150 180 180 240 240						
	Operation range		°CWB	14 to 25						
	Colour			Ivory White						
	Compressor Type			Hermetically sealed scroll type						
		Motor output	kW	9	5.0+5.0	6.7+6.7	7.5+7.5	9.0+9.0		
	Refrigerant oil	Model		Refer to the name plate of compressor						
₽	Charge		L	3.3	5	6.5	6.5	6.5		
OUTDOOR UNIT	Refrigerant charge (R-410A)		kg	6.0 (Charged for 7.5 m)	4.5 (Charged for 7.5 m)	8.0 (Charged for 7.5 m)	8.0 (Charged for 7.5 m)	8.0 (Charged for 7.5 m)		
0	Sound level 2	380V	dBA	61	61	62	63	63		
		415V	dBA	62	62	63	64	64		
	Dimensions (HxWxE	0)	mm	1,680x930x765	1,680x1,240x765	1,680x1,240x765	1,680x1,240x765	1,680x1,240x765		
	Machine weight		kg	206	243	319	322	329		
	Operation range		°CDB		21 to 46					
	Indoor Unit	Liquid	mm	Ø12.7 (Brazing)	Ø12.7 (Brazing)	15.9 (Brazing)	15.9 (Brazing)	15.9 (Brazing)		
ANT (		Gas	mm	Ø28.6 (Brazing)	Ø28.6 (Brazing)	34.9 (Brazing)	34.9 (Brazing)	34.9 (Brazing)		
NG EB		Drain	mm		PS	S 1B Internal thread	i			
REFRIGERA PIPING	Outdoor Unit	Liquid	mm	Ø12.7 (Flare)	Ø12.7 (Flare)	Ø15.9 (Flare)	Ø15.9 (Flare)	Ø15.9 (Flare)		
HH.		Gas	mm	Ø28.6 (Brazing)	Ø28.6 (Brazing)	Ø34.9 (Brazing)	Ø34.9 (Brazing)	Ø34.9 (Brazing)		
		Drain	mm			-				
Max.	Max. interunit piping length m			50 (equivalent length 70 m)						
Max.	installation level differ	rence	m	30						

Note: 1. Rated cooling capacities are based on the following conditions: Return air temp., 27°CDB, 19.5°CWB; outdoor temp. 35°CDB. Equiv. refrigeration piping, 5 m (horizontal).

3. Capacity includes indoor fan motor heat.

<sup>2.</sup> Anechoic chamber conversion value, measured according to JIS parameters and criteria. During operation these values are somewhat higher owing to ambient conditions.

#### ROOFTOP SERIES (Cooling only)

**R-410A** 

Model		5.2 TR	7.8 TR	10.4 TR	12.9 TR	15.8	18.3	20.7	26.0
		UATQ60C	UATQ90C	UATQ1 20C	UATQ150C	UATQ1 80C	UATQ240C	UATQ240C	UATQ300C
Data di Occasili	Btu	62,500	93,400	1,24,500	1,54,400	1,89,000	2,20,000	2,48,600	3,12,200
Rated Capacity	kW	18.32	27.37	36.49	45.25	55.39	64.48	72.86	91.5
Total Power Input	kW	4.52	7.20	9.45	12.00	14.72	16.90	19.29	24.52
Total Running Current	Α	8.20	13.50	17.00	24.10	27.20	33.90	38.70	46.00
COP	W/W	4.05	3.80	3.86	3.77	3.76	3.82	3.78	3.73
Power Source	V/Ph/Hz	380-415V/3/50							
Control Operation		Wired Control							
Air Flow	cfm	2000	2800	4400	5000	7000	7600	8000	9000
External Static Pressure	Pa	50-500(100)	50-500(100)	50-500(100)	50-500(150)	50-500(150)	50-500(200)	50-500(200)	50-500(250)
(Factory Setting)"									
Fan Drive		Belt Driven							
Air Ouglity/Filtor	Type	Saranet							
Air Quality(Filter)	Qty	1	1	2	2	2	2	2	2
Unit Dimension (HxWxD)	mm	1150 x 1280 x 1520	1350 x 1280 x 1520	1390 x 1965 x 1630	1390 x 1965 x 1630	1690 x 1965 x 1905	1650 x 2410 x 2030	1650 x 2410 x 2030	1950 x 2410 x 2030
Packing Dimension (HxWxD)	mm	1270 x 1320 x 1710	1410 x 1320 x 1710	1440 x 2020 x 1840	1440 x 2020 x 1840	1730 x 2120 x 2020	1740 x 2570 x 2290	1740 x 2570 x 2290	2040 x 2570 x 2290
Unit Weight	Kg	350	380	590	650	840	930	940	1090
Gross Weight	Kg	370	400	620	680	870	970	980	1130
0	Type	Scroll							
Compressor	Qty	1	1	2	2	2	2	2	2
Refrigerant (PreCharged)	Kg	9.5	11.5	5.2 + 5.2	8.5 + 8.5	8.5 + 8.5	12.0 + 12.0	10.8 + 10.8	14.0 + 14.0
Operating Range	CDB	up to 52 C	up to 52 C	up to 52 C	up to 52□C				

Note: 1. Gross Cooling Capacity Based on 27°C DB / 19°C WB Indoor and 35°C DB outdoor
2. All Units are being tested and Comply to ISO 5151 (Non-Ducted Unit) or ISO 13253 (Ducted Unit)
3. All specifications are Subjected to Change by the manufacturer without prior notice

#### **ROOFTOP SERIES (Heat Pump)**

R-410A

Mar	1-1			7.8 TR	10.1 TR	12.7 TR	15.8 TR	19.0 TR	20.6 TR			
Mod	lei			UATYQ250MCY19	UATYQ350MCY1	UATYQ450MCY1	UATYQ550MCY1	UATYQ600MCY1	UATYQ700MCY1			
Nominal Cooling Capacity (Gross) Btu/h			93300	121400	152600	190000	228000	247700				
W				27340	35580	44720	55690	66820	72600			
Nominal Heating Capacity (Nett)			Btu/h	85000	118700	142600	184000	210500	237500			
			W	24910	34790	41790	53930	61690	69610			
Pow	er Source		V/Ph/Hz	380 -41	5 /3 /50	380 -41	15/3 /50	380 -41	5/3 /50			
Refri	igerant Type / Co	ntrol		R410A	/ EXV	R410A	A / EXV	R410A	/ EXV			
EER	(Gross)		W/W	3.36	3.3	3.43	3.33	3.4	3.36			
COP	(Net)		W/W	3.4	3.21	3.25	3.47	3.32	3.25			
	Sound Power Level @ 100 ESP		dBA	68	72	75	82	84	87			
œ	Sound Power Level @ Std ESP		dBA	73	76	80	84	84	90			
EVAPORATOR			Air Discharge	Ducted								
<u> </u>	Operat		Operation	Wired								
I ≸	Air Flow		l/s/cfm	1560 / 3300	2030 / 4300	2670 / 5650	3160/6700	34457300	39178300			
	External Static Pressure		Pa/in.wg.	147 / 0.6	147 / 0.6	147 / 0.6	206 / 0.8	196 / 0.8	206 / 0.8			
	Condensate Drain Size		mm/in	25.4 / 1	25.4 / 1.0	25.4 / 1	25.4 / 1.0	25.4 / 1.0	25.4 / 1.0			
	Air Flow		l/s/cfm	3884 / 8230	5664 / 12000	5710 / 12100	6090 / 12900	9534 / 20200	10006 / 21200			
	Sound Power Le	evel	dBA	82	83	83	87	90	90			
	Unit Dimension	Height	mm/in	1150 / 45.3	1028 / 40.5	1130 / 44.5	1048 / 41.3	1302 / 51.3	1454 / 57.3			
H H		Width	mm/in	1638 / 64.5	2209 / 87.0	2209 / 87.0	2209 / 87.0	2209 / 87.0	2209 / 87.0			
CONDENSER		Depth	mm/in	2063 / 81.2	2113 / 83.2	2113 / 83.2	2670 / 105.1	2670 / 105.1	2670 / 105.1			
	Packing	Height	mm/in	1370 / 54	1200 / 47.3	1290 / 50.8	1270 / 50.0	1520 / 59.9	1670 / 65.8			
Ó	Dimension	Width	mm/in	1730 / 68.2	2280 / 89.8	2280 / 89.8	2280 / 89.8	2280 / 89.8	2280 / 89.8			
		Depth	mm/in	2300 / 90.6	2350 / 92.6	2350 / 92.6	2900 / 114.2	2900 / 114.2	2900 / 114.2			
	Unit Weight (Ne	Unit Weight (Net) kg/l		445 / 981	580 / 1278	610 / 1344	780 / 1720	830 / 1830	970 / 2139			
	Refrigerant Pre-charged			6.1 / 13.4	(2 X 5.8) / (2 X 12.8)	(2 X 7.2) / (2 X 15.9)	(2 X 8.7) / (2 X 19.2)	(2 X 10.4) / (2 X 22.9)	(2 X 11.6) / (2 X 25.6)			

Note: All units are being tested and comply to ISO 5151 (Non-Ducted Unit) or ISO 13253 (Ducted Unit). Cooling indoor: 27°C dB / 19°C WB, outdoor: 35°C dB / 24°C WB; Heating-indoor: 20°C dB, outdoor: 8°C dB / 6°C WB

<sup>\*</sup> Also available in R-407 C

# **Specifications**

#### HORIZONTAL WATER SOURCE HEAT PUMP

**R-410A** 

Model			0.78 TR	1.49 TR	1.89 TR	2.48 TR	2.90 TR	3.55 TR		
			MWH010DRP	MWH020DRP	MWH025DRP	MWH030DRP	MWH040DRP	MWH050DRP		
Nominal Cooling Capacity		W	2750	5250	6650	8770	10200	12500		
Nominal Heating	Capacity	W	3270	6100	7100	9050	10250	13000		
Air Flow Rate		m³/h	580	1050	1250	1700	1900	w2300		
Power Supply					220V~	/50Hz				
ESP		Pa	20	30	30	30	50	50		
Dimension (Lengt	h×Width×Height)	mm	895×520×375	1265×655×435	1265×705×435	1390×745×435	1450×795×460	1450×795×510		
Condenser	Туре		Tube in Tube Heat Exchanger							
	Water Flow Rate	m³/h	0.61	1.12	1.42	1.94	2.14	2.67		
	Water Pressure Drop	kPa	13	34	60	40	40	60		
	Water Pipe Connection		R3/4	R3/4	R3/4	R3/4	R3/4	R3/4		
Compressor			Rotary							
Rated Power	Cooling	W	700	1220	1520	2230	2250	2850		
	Heating	W	740	1280	1540	2050	2300	2780		
Rated Current	Cooling	Α	3.38	5.93	7.46	11.03	10.57	13.76		
	Heating	Α	3.45	5.95	7.54	10.17	10.77	13.43		
Condensate Drain Pipe		mm	Ф20							
Refrigerant	Туре				R41	0A				
	Charge	kg	0.74	1.35	1.46	0.95×2	1.3×2	1.55×2		
Sound Pressure Level		dB(A)	34	40	45	48	44	47		
Weight		kg	56	101	103	125	155	161		

**R-410A** 

						<del>///////</del>	<del>////////</del>	<del>//////</del>	
Model			4.55 TR	5.40 TR	6.98 TR	8.39 TR	9.48 TR	10.66 TR	
Model			MWH060DRP	MWH070DRP	MWH080DRP	MWH100DRP	MWH125DRP	MWH150DRP	
Nominal Cooling Capacity		W	16000	19000	25000	29500	33500	37500	
Nominal Heating Capacit	у	W	16200	21500	25000	31500	35500	45000	
Air Flow Rate		m³/h	2800	3400	5000	6000	7000	8000	
Power Supply					380V/	3N/50Hz			
ESP		Pa	80	80	80(50/100/150)	100(80/150/200)	100(80/150/200)	150(100/200/250)	
Dimension (Length×Width	n×Height)	mm	1580×850×520	1670×855×520	1756×1000×660	1970×1150×708	1970×1150×708	2226×1200×736	
Condenser	Туре		Tube in Tube Heat Exchanger						
	Water Flow Rate	m³/h	3.3	4.22	5.23	6.12	7.11	7.78	
	Water Pressure Drop	kPa	60	61	73	45	55	65	
	Water Pipe Connection		R3/4	R1	R1-1/4	R1-1/4	R1-1/4	Rc1-1/4	
Compressor			Scroll						
Rated Power	Cooling	W	3300	4900	5600	6300	8500	9450	
	Heating	W	3200	4800	5400	6400	8100	10300	
Rated Current	Cooling	А	5.91	8.63	11.45	13.68	15.89	17.78	
	Heating	Α	5.83	8.41	11.11	13.87	14.46	18.89	
Condensate Drain Pipe		mm	Φ2	20		Φ	34		
Refrigerant	Туре				R	410A			
	Charge	kg	3.5	2.8	3.5	3.2×2	3.0×2	3.7×2	
Sound Pressure Level		dB(A)	49	54	55	59	59	60	
Weight		kg	198	208	245	365	375	450	

Notes: Specifications will be subjected to change by manufacturer without prior notice.

- Cooling capacity is based on 27°C (DB), 19°C (WB) air inlet temperature and 30°C water inlet temperature, 35°C water outlet temperature.
- Heating capacity is based on 20°C (DB), 15°C (WB) air inlet temperature and 20°C water inlet temperature.





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