

## TECHNICAL MANUAL

### Collection data

## PACKAGED AIR-CONDITIONER

(Split system, Air to air heat pump type)

### CEILING RECESSED COMPACT TYPE

FDTCA402HESP2R FDTCA602HEST2R

### CEILING SUSPENDED TYPE

FDENVA402HES2R FDENVA402HESP2R  
502HES2R 502HESP2R  
602HES2R 602HESP2R  
FDENVA602HEST2R

### CEILING RECESSED TYPE

FDTVA402HES2R FDTVA402HESP2R  
502HES2R 502HESP2R  
602HES2R 602HESP2R  
FDTVA602HEST2R

### SATELLITE DUCTED TYPE

FDUMVA402HES2R FDUMVA402HESP2R  
502HES2R 502HESP2R  
602HES2R 602HESP2R  
FDUMVA602HEST2R

### WALL MOUNTED TYPE

FDKNVA402HESP2R  
502HESP2R  
FDKNVA602HEST2R

## MULTI-TYPE (V-MULTI)

## PACKAGED AIR-CONDITIONER

### (OUTDOOR UNIT)

FDCVA402HESAR  
502HESAR  
602HESAR

### (INDOOR UNIT)

FDTCA201R	FDTA201R	FDEN201R	FDKNA201R	FDUMA202R
	251R	251R	251R	252R
	301R	301R		302R



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## **2. MULTI-TYPE (V MULTI) PACKAGED AIR-CONDITIONER**

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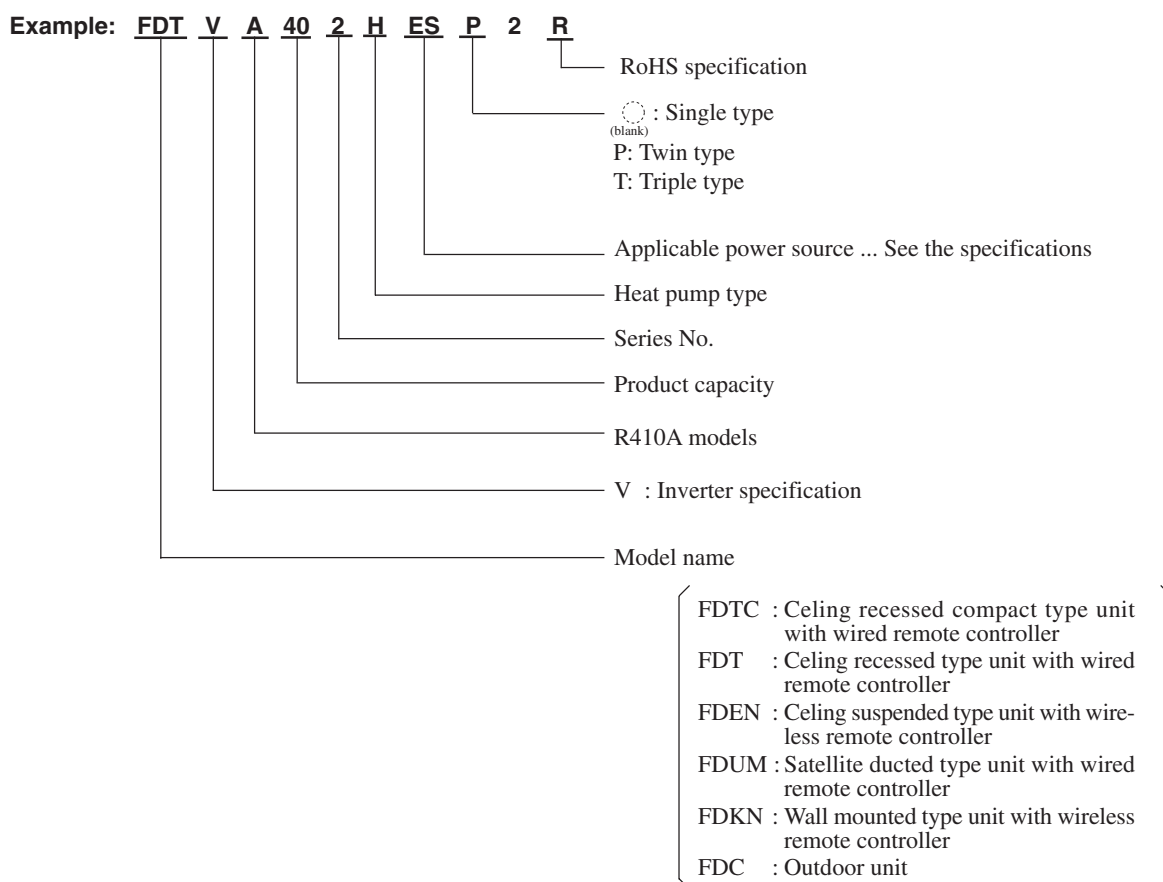
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# 1.1 GENERAL INFORMATION

## 1.1.1 Specific features

- (1) A new refrigerant, R410A, which causes no damage to the earth's ozone layer, is used. R410A is a pseudoazeotropic refrigerant, so there is little formation of separate vapor and liquid layers, and it is possible to add refrigerant on-site.
- (2) Less refrigerant charge amount due to use of double phase refrigerant flow system. The total refrigerant charge amount has been reduced by more than 50%.
- (3) The microcomputer chip is installed in the indoor unit and outdoor unit. There is no need for the unit to communicate between the outdoor and indoor units so the unit is more resistant to electromagnetic noise thus the incidence of microcomputer malfunction has been reduced. The compressor in the outdoor unit has its own self protection function, that reacts according to anomalous high pressure and excessive high temperature.
- (4) There are only three power lines between the outdoor and indoor unit. One cable with 3 wires encased in one sheath is enough for conducting the wiring work between the outdoor unit and the indoor unit. This contributes to simpler wiring work in the field.
- (5) All air supply ports have auto swing louvers. (Only case of FDTC, FDT, FDEN and FDKN models). The indoor fan motor has three speeds of high, medium and low.
- (6) All models have service valves protruding from the outdoor unit for faster flare connection work in the field.
- (7) Compared to the previous models, a single fan is used in the FDCVA402 ~ 602 outdoor unit models, resulting in markedly reduced weight and greater compactness. In addition, use of an inverter makes these units much more economical compared to the previous fixed speed units.

## 1.1.2 How to read the model name



## 1.2 SELECTION DATA

### 1.2.1 Specifications

#### (1) Ceiling recessed compact type (FDTC)

##### (a) Twin type

Model FDTCVA402HESP2R (Indoor unit: 2 units, Outdoor unit: 1 unit)

Item		Model	FDTCVA402HESP2R	
			FDTCVA201R	FDCVA402HESAR
Nominal cooling capacity <sup>(1)</sup>		kW	10.0 [6.1~11.2]	
Nominal heating capacity <sup>(1)</sup>		kW	11.2 [5.6~12.5]	
Power source			3 Phase, 380-415V 50Hz/380V 60Hz	
Operation data <sup>(3)</sup>	Cooling power consumption	kW	2.84/2.84	
	Running current (Cooling)	A	4.2/4.4	
	Power factor (Cooling)	%	98/98	
	Heating power consumption	kW	3.08/3.08	
	Running current (Heating)	A	4.5/4.8	
	Power factor (Heating)	%	99/97	
	Inrush current (L.R.A)	A	5	
Noise level		dB(A)	Powerful mode Hi:46 Me:42 Lo:38 Mild mode Hi:42 Me:38 Lo:35	50
Exterior dimensions		mm	Unit 248 × 570 × 570	845 × 970 × 370
Height × Width × Depth			Panel 35 × 700 × 700	
Net weight		kg	19.5 (Unit:16 Panel:3.5)	74
Refrigerant equipment			—	RM-B5125MDE31
Compressor type & Q'ty				
Starting method			—	Direct line start
Heat exchanger			Louver fin & inner grooved tubing	Straight fin & inner grooved tubing
Refrigerant control			—	Electronic expansion valve
Refrigerant			R410A	
Quantity		kg	—	3.8 [Pre-charged up to the piping length of 30m]
Refrigerant oil		ℓ	—	0.7 (M-MA68)
Defrost control			Microcomputer controlled de-icer	
Air handling equipment				
Fan type & Q'ty			Turbo fan × 1	Propeller fan × 1
Motor		W	50 × 1	120 × 1
Starting method			Direct line start	Direct line start
Air flow		CMM	Powerful mode Hi:13.5 Me:11.5 Lo:10 Mild mode Hi:11.5 Me:10 Lo:8	Cooling: 75, Heating: 73
Outside air intake			Available	—
Air filter, Q'ty			Long life filter ×1(washable)	—
Shock & vibration absorber			Rubber sleeve (for fan motor)	Rubber mount (for compressor)
Electric heater		W	—	20 (Crank case heater)
Operation control			Wired remote control switch (Optional : RC-E1R)	— (Indoor unit side)
Operation switch			Wireless kit (Optional:RCND-KIT-HER)	
Room temperature control			Thermostat by electronics	—
Safety equipment			Internal thermostat for fan motor. Frost protection thermostat.	Internal thermostat for fan motor. Anomalous discharge temperature protection.
Installation data		mm (in)	Indoor branch pipe, Outdoor main pipe: ϕ9.52 (3/8")	
Refrigerant piping size			Indoor branch pipe: ϕ12.7 (1/2"), Outdoor main pipe: ϕ15.88 (5/8")	
Connecting method			Flare piping	
Drain hose			Connectable with VP25 (I.D.25mm, O.D.32mm)	—
Insulation for piping			Necessary (both Liquid & Gas lines)	
Accessories			Mounting kit. Drain hose	
Optional parts			Decorative Panel	

Notes (1) The data are measured at the following conditions.

Operation	Item	Indoor air temperature		Outdoor air temperature		Standards
		DB	WB	DB	WB	
Cooling		27°C	19°C	35°C	24°C	ISO-T1
Heating		20°C	–	7°C	6°C	

(2) This packaged air-conditioner is manufactured and tested in conformity with the following standard. ISO-T1 "UNITARY AIR-CONDITIONERS"

(3) The operation data indicate when the air-conditioner is operated at 400V 50Hz or 380V 60Hz.

(4) Values in [ ~ ] show the minimum to maximum range.

(5) Indoor unit specifications show the specifications for one unit. Capacity and running characteristics values are shown for the case where two indoor units are combined and run together.

(b) Triple type

Model FDTCA602HEST2R (Indoor unit: 3 units, Outdoor unit: 1 unit)

Item		Model	FDTCA602HEST2R	
			FDTCA201R	FDCVA602HESAR
Nominal cooling capacity <sup>(1)</sup>		kW	14.0 [6.7~14.8]	
Nominal heating capacity <sup>(1)</sup>		kW	16.0 [6.3~16.8]	
Power source			3 Phase, 380-415V 50Hz/380V 60Hz	
Operation data <sup>(3)</sup>	Cooling power consumption	kW	4.64/4.64	
	Running current (Cooling)	A	6.8/7.1	
	Power factor (Cooling)	%	98/99	
	Heating power consumption	kW	4.52/4.52	
	Running current (Heating)	A	6.6/7.0	
	Power factor (Heating)	%	99/98	
	Inrush current (L.R.A)	A	5	
Noise level		dB(A)	Powerful mode Hi:46 Me:42 Lo:38 Mild mode Hi:42 Me:38 Lo:39	53
Exterior dimensions			Unit 248 × 570 × 570 Panel 35 × 700 × 700	
Height × Width × Depth		mm	845 × 970 × 370	
Net weight		kg	19.5 (Unit:16 Panel:3.5)	
Refrigerant equipment			-	
Compressor type & Q'ty			RM-B5125MDE31	
Starting method			Direct line start	
Heat exchanger			Louver fin & inner grooved tubing	Straight fin & inner grooved tubing
Refrigerant control			-	Electronic expansion valve
Refrigerant			R410A	
Quantity		kg	-	3.8 [Pre-charged up to the piping length of 30m]
Refrigerant oil		ℓ	-	0.7 (M-MA68)
Defrost control			Microcomputer controlled de-icer	
Air handling equipment			Turbo fan × 1	
Fan type & Q'ty			Propeller fan × 1	
Motor		W	50 × 1	120 × 1
Starting method			Direct line start	
Air flow		CMM	Powerful mode Hi:13.5 Me:11.5 Lo:10 Mild mode Hi:11.5 Me:10 Lo:8	Cooling: 75, Heating: 73
Outside air intake			Available	
Air filter, Q'ty			Long life filter ×1 (washable)	
Shock & vibration absorber			Rubber sleeve (for fan motor)	
Electric heater		W	20 (Crank case heater)	
Operation control			Wired remote control switch (Optional : RC-E1R) Wireless kit (Optional:RCND-KIT-HER)	
Operation switch			- (Indoor unit side)	
Room temperature control			Thermostat by electronics	
Safety equipment			Internal thermostat for fan motor. Frost protection thermostat.	
Installation data			Indoor branch pipe, Outdoor main pipe: φ9.52 (3/8")	
Refrigerant piping size			Indoor branch pipe: φ12.7 (1/2"), Outdoor main pipe: φ15.88 (5/8")	
Connecting method			Flare piping	
Drain hose			Connectable with VP25 (I.D.25mm, O.D.32mm)	
Insulation for piping			Necessary (both Liquid & Gas lines)	
Accessories			Mounting kit, Drain hose	
Optional parts			Decorative Panel	

Notes (1) The data are measured at the following conditions.

Operation	Item	Indoor air temperature		Outdoor air temperature		Standards
		DB	WB	DB	WB	
Cooling		27°C	19°C	35°C	24°C	ISO-T1
Heating		20°C	-	7°C	6°C	

(2) This packaged air-conditioner is manufactured and tested in conformity with the following standard. ISO-T1 "UNITARY AIR-CONDITIONERS"

(3) The operation data indicate when the air-conditioner is operated at 400V 50Hz or 380V 60Hz.

(4) Values in [ ~ ] show the minimum to maximum range.

(5) Indoor unit specifications show the specifications for one unit. Capacity and running characteristics values are shown for the case where three indoor units are combined and run together.

## (2) Ceiling recessed type (FDT)

### (a) Single type

#### Model FDTVA402HES2R

Item		Model	FDTVA402HES2R	
			FDTA401R	FDCVA402HESAR
<b>Nominal cooling capacity<sup>(1)</sup></b>		kW	<b>10.0 [6.1~11.2]</b>	
<b>Nominal heating capacity<sup>(1)</sup></b>		kW	<b>11.2 [5.6~12.5]</b>	
<b>Power source</b>			<b>3 Phase, 380-415V 50Hz/380V 60Hz</b>	
<b>Operation data<sup>(3)</sup></b>	Cooling power consumption	kW	<b>2.97</b>	
	Running current (Cooling)	A	<b>4.7</b>	
	Power factor (Cooling)	%	<b>9.1</b>	
	Heating power consumption	kW	<b>2.92</b>	
	Running current (Heating)	A	<b>4.6</b>	
	Power factor (Heating)	%	<b>92</b>	
	Inrush current (L.R.A)	A	<b>5</b>	
	Noise level	dB(A)	Powerful mode Hi:46 Me:43 Lo:41 Mild mode Hi:43 Me:41 Lo:38	50
<b>Exterior dimensions</b>		<b>mm</b>	<b>Unit 248 × 840 × 840</b>	<b>845 × 970 × 370</b>
<b>Height × Width × Depth</b>			<b>Panel 35 × 950 × 950</b>	
<b>Net weight</b>		<b>kg</b>	<b>19.5 (Unit:16 Panel:3.5)</b>	<b>74</b>
<b>Refrigerant equipment</b>			–	<b>RM-B5125MDE31</b>
<b>Compressor type &amp; Q'ty</b>			–	Direct line start
<b>Starting method</b>			–	–
<b>Heat exchanger</b>			Louver fin & inner grooved tubing	Straight fin & inner grooved tubing
<b>Refrigerant control</b>			–	Electronic expansion valve
<b>Refrigerant</b>			<b>R410A</b>	
<b>Quantity</b>		<b>kg</b>	–	<b>3.8 [Pre-charged up to the piping length of 30m]</b>
<b>Refrigerant oil</b>		<b>ℓ</b>	–	<b>0.7 (M-MA68)</b>
<b>Defrost control</b>			Microcomputer controlled de-icer	
<b>Air handling equipment</b>			Turbo fan × 1	Propeller fan × 1
<b>Fan type &amp; Q'ty</b>			–	–
<b>Motor</b>		<b>W</b>	<b>40 × 1</b>	<b>120 × 1</b>
<b>Starting method</b>			Direct line start	Direct line start
<b>Air flow</b>		<b>CMM</b>	<b>Powerful mode Hi:25 Me:22 Lo:20</b> <b>Mild mode Hi:22 Me:20 Lo:18</b>	<b>Cooling: 75, Heating: 73</b>
<b>Outside air intake</b>			Available	–
<b>Air filter, Q'ty</b>			Long life filter ×1(washable)	–
<b>Shock &amp; vibration absorber</b>			Rubber sleeve (for fan motor)	Rubber mount (for compressor)
<b>Electric heater</b>		<b>W</b>	–	20 (Crank case heater)
<b>Operation control</b>			Wired remote control switch (Optional : RC-E1R)	– (Indoor unit side)
<b>Operation switch</b>			Wireless kit (Optional:RCN-T-35W-ER)	–
<b>Room temperature control</b>			Thermostat by electronics	–
<b>Safety equipment</b>			Internal thermostat for fan motor. Frost protection thermostat.	Internal thermostat for fan motor. Anomalous discharge temperature protection.
<b>Installation data</b>		<b>mm</b>	<b>Liquid line: φ9.52 (3/8") Gas line: φ15.88 (5/8")</b>	
<b>Refrigerant piping size</b>		<b>(in)</b>		
<b>Connecting method</b>			<b>Flare piping</b>	
<b>Drain hose</b>			Connectable with VP25 (I.D.25mm, O.D.32mm)	–
<b>Insulation for piping</b>			Necessary (both Liquid & Gas lines)	
<b>Accessories</b>			Mounting kit, Drain hose	
<b>Optional parts</b>			Decorative Panel	

Notes (1) The data are measured at the following conditions.

Item	Indoor air temperature		Outdoor air temperature		Standards
	DB	WB	DB	WB	
Cooling	27°C	19°C	35°C	24°C	ISO-T1
Heating	20°C	–	7°C	6°C	

(2) This packaged air-conditioner is manufactured and tested in conformity with the following standard. ISO-T1 "UNITARY AIR-CONDITIONERS"

(3) The operation data indicate when the air-conditioner is operated at 400V 50Hz.

(4) Values in [ ~ ] show the minimum to maximum range.

# Model FDTAV502HES2R

Item		Model	FDTVA502HES2R	
			FDTA501R	FDCVA502HESAR
<b>Nominal cooling capacity<sup>(1)</sup></b>		kW	<b>12.5 [6.5~14.0]</b>	
<b>Nominal heating capacity<sup>(1)</sup></b>		kW	<b>14.0 [6.2~16.0]</b>	
<b>Power source</b>			<b>3 Phase, 380-415V 50Hz/380V 60Hz</b>	
<b>Operation data<sup>(3)</sup></b>	Cooling power consumption	kW	<b>4.05/4.05</b>	
	Running current (Cooling)	A	<b>5.9/6.3</b>	
	Power factor (Cooling)	%	<b>99/98</b>	
	Heating power consumption	kW	<b>3.97/3.97</b>	
	Running current (Heating)	A	<b>5.8/6.3</b>	
	Power factor (Heating)	%	<b>99/96</b>	
	Inrush current (L.R.A)	A	<b>5</b>	
Noise level		dB(A)	Powerful mode Hi:48 Me:45 Lo:43 Mild mode Hi:45 Me:43 Lo:40	52
<b>Exterior dimensions</b>			<b>Unit 365 × 840 × 840</b>	
<b>Height × Width × Depth</b>		<b>mm</b>	<b>Panel 35 × 950 × 950</b>	
<b>Net weight</b>		<b>kg</b>	<b>38 (Unit:31 Panel:7)</b>	
<b>Refrigerant equipment</b>			<b>RM-B5125MDE31</b>	
<b>Compressor type &amp; Q'ty</b>			–	
Starting method			Direct line start	
<b>Heat exchanger</b>			Louver fin & inner grooved tubing	
Refrigerant control			Electronic expansion valve	
<b>Refrigerant</b>			<b>R410A</b>	
<b>Quantity</b>		<b>kg</b>	<b>3.8 [Pre-charged up to the piping length of 30m]</b>	
<b>Refrigerant oil</b>		<b>ℓ</b>	<b>0.7 (M-MA68)</b>	
Defrost control			Microcomputer controlled de-icer	
<b>Air handling equipment</b>			<b>Turbo fan × 1</b>	
Fan type & Q'ty			Propeller fan × 1	
Motor		W	<b>120 × 1</b>	
Starting method			Direct line start	
<b>Air flow</b>		<b>CMM</b>	<b>Powerful mode Hi:32 Me:29 Lo:26</b>	
<b>Outside air intake</b>			<b>Mild mode Hi:29 Me:26 Lo:23</b>	
<b>Outside air intake</b>			<b>Cooling: 75, Heating: 73</b>	
<b>Outside air intake</b>			Available	
Air filter, Q'ty			Long life filter ×1(washable)	
Shock & vibration absorber			Rubber sleeve (for fan motor)	
Electric heater		W	Rubber mount (for compressor)	
<b>Operation control</b>			20 (Crank case heater)	
Operation switch			Wired remote control switch (Optional : RC-E1R)	
Room temperature control			Wireless kit (Optional : RCN-T-35W-ER)	
<b>Safety equipment</b>			Thermostat by electronics	
Installation data		mm	Internal thermostat for fan motor.	
<b>Refrigerant piping size</b>		<b>(in)</b>	Frost protection thermostat.	
<b>Connecting method</b>			Liquid line: φ9.52 (3/8") Gas line: φ15.88 (5/8")	
<b>Drain hose</b>			Flare piping	
Insulation for piping			Connectable with VP25 (I.D.25mm, O.D.32mm)	
Accessories			Necessary (both Liquid & Gas lines)	
Optional parts			Mounting kit, Drain hose	
			Decorative Panel	

Notes (1) The data are measured at the following conditions.

Item	Indoor air temperature		Outdoor air temperature		Standards
	DB	WB	DB	WB	
Cooling	27°C	19°C	35°C	24°C	ISO-T1
Heating	20°C	–	7°C	6°C	

(2) This packaged air-conditioner is manufactured and tested in conformity with the following standard. ISO-T1 "UNITARY AIR-CONDITIONERS"

(3) The operation data indicate when the air-conditioner is operated at 400V 50Hz or 380V 60Hz.

(4) Values in [ ~ ] show the minimum to maximum range.

# Model FDTVA602HES2R

Item		Model	FDTVA601HES2R	
			FDTA601R	FDCVA602HESAR
<b>Nominal cooling capacity<sup>(1)</sup></b>		kW	<b>14.0 [6.7~14.5]</b>	
<b>Nominal heating capacity<sup>(1)</sup></b>		kW	<b>16.0 [6.3~16.5]</b>	
<b>Power source</b>			<b>3 Phase, 380-415V 50Hz/380V 60Hz</b>	
<b>Operation data<sup>(3)</sup></b>	Cooling power consumption	kW	<b>4.65/4.65</b>	
	Running current (Cooling)	A	<b>6.8/7.3</b>	
	Power factor (Cooling)	%	<b>99/97</b>	
	Heating power consumption	kW	<b>4.54/4.54</b>	
	Running current (Heating)	A	<b>6.7/7.4</b>	
	Power factor (Heating)	%	<b>98/93</b>	
	Inrush current (L.R.A)	A	<b>5</b>	
Noise level		dB(A)	Powerful mode Hi:48 Me:45 Lo:43 Mild mode Hi:45 Me:43 Lo:40	53
<b>Exterior dimensions</b>				
<b>Height × Width × Depth</b>		mm	<b>Unit 360 × 840 × 840</b> <b>Panel 35 × 950 × 950</b>	<b>845 × 970 × 370</b>
<b>Net weight</b>		kg	<b>38 (Unit:31, Panel:7)</b>	
<b>Refrigerant equipment</b>				
<b>Compressor type &amp; Q'ty</b>			–	<b>RM-B5125MDE31</b>
Starting method			–	Direct line start
<b>Heat exchanger</b>			Louver fin & inner grooved tubing	Straight fin & inner grooved tubing
Refrigerant control			–	Electronic expansion valve
<b>Refrigerant</b>			<b>R410A</b>	
<b>Quantity</b>		kg	–	<b>3.8 [Pre-charged up to the piping length of 30m]</b>
<b>Refrigerant oil</b>		ℓ	–	<b>0.7 (M-MA68)</b>
Defrost control			Microcomputer controlled de-icer	
<b>Air handling equipment</b>				
Fan type & Q'ty			Turbo fan × 4	Propeller fan × 1
Motor		W	<b>120 × 1</b>	<b>120 × 1</b>
Starting method			Direct line start	Direct line start
<b>Air flow</b>		<b>CMM</b>	<b>Powerful mode Hi:34 Me:30 Lo:26</b> <b>Mild mode Hi:30 Me:26 Lo:23</b>	<b>Cooling: 75, Heating: 73</b>
<b>Outside air intake</b>			Available	–
Air filter, Q'ty			Long life filter ×1(washable)	–
Shock & vibration absorber			Rubber sleeve (for fan motor)	Rubber mount (for compressor)
Electric heater		W	–	20 (Crank case heater)
<b>Operation control</b>			Wireless remote control switch (Optional: RCN-E1R)	– (Indoor unit side)
Operation switch			Wireless kit (Optional : RCN-T-35W-ER)	
Room temperature control			Thermostat by electronics	–
<b>Safety equipment</b>			Internal thermostat for fan motor. Frost protection thermostat.	Internal thermostat for fan motor. Anomalous discharge temperature protection.
<b>Installation data</b>		mm		
<b>Refrigerant piping size</b>		(in)	<b>Liquid line: φ9.52 (3/8") Gas line: φ15.88 (5/8")</b>	
<b>Connecting method</b>			<b>Flare piping</b>	
<b>Drain hose</b>			Connectable with VP25 (I.D.25mm, O.D.32mm)	–
Insulation for piping			Necessary (both Liquid & Gas lines)	
Accessories			Mounting kit. Drain hose	
Optional parts			–	

Notes (1) The data are measured at the following conditions.

Operation	Item	Indoor air temperature		Outdoor air temperature		Standards
		DB	WB	DB	WB	
Cooling		27°C	19°C	35°C	24°C	ISO-T1
Heating		20°C	–	7°C	6°C	

(2) This packaged air-conditioner is manufactured and tested in conformity with the following standard. ISO-T1 "UNITARY AIR-CONDITIONERS"

(3) The operation data indicate when the air-conditioner is operated at 400V 50Hz or 380V 60Hz.

(4) Values in [ ~ ] show the minimum to maximum range.

(b) Twin type

Model FDTVA402HESP2R (Indoor unit: 2 units, Outdoor unit: 1 unit)

Item		Model	FDTVA402HESP2R	
			FDTA201R	FDCVA402HESAR
<b>Nominal cooling capacity<sup>(1)</sup></b>		kW	10.0 [6.1~11.2]	
<b>Nominal heating capacity<sup>(1)</sup></b>		kW	11.2 [5.6~12.5]	
<b>Power source</b>			3 Phase, 380-415V 50Hz/380V 60Hz	
<b>Operation data<sup>(3)</sup></b>	Cooling power consumption	kW	2.94/2.96	
	Running current (Cooling)	A	4.3/4.6	
	Power factor (Cooling)	%	99/98	
	Heating power consumption	kW	3.09/3.09	
	Running current (Heating)	A	4.5/4.8	
	Power factor (Heating)	%	99/98	
	Inrush current (L.R.A)	A	5	
<b>Exterior dimensions</b>				
<b>Height × Width × Depth</b>		mm	Unit 270 × 840 × 840 Panel 35 × 950 × 950	845 × 970 × 370
<b>Net weight</b>		kg	31 (Unit:24 Panel:7)	
<b>Refrigerant equipment</b>				
<b>Compressor type &amp; Q'ty</b>			RM-B5125MDE31	
Starting method			Direct line start	
<b>Heat exchanger</b>			Straight fin & inner grooved tubing	
Refrigerant control			Electronic expansion valve	
<b>Refrigerant</b>			R410A	
<b>Quantity</b>		kg	3.8 [Pre-charged up to the piping length of 30m]	
<b>Refrigerant oil</b>		ℓ	0.7 (M-MA68)	
Defrost control			Microcomputer controlled de-icer	
<b>Air handling equipment</b>				
Fan type & Q'ty			Turbo fan × 1	Propeller fan × 1
Motor		W	14 × 1	120 × 1
Starting method			Direct line start	
<b>Air flow</b>		CMM	Powerful mode Hi:18 Me:15 Lo:14 Mild mode Hi:15 Me:14 Lo:13	Cooling: 75, Heating: 73
<b>Outside air intake</b>			Available	
Air filter, Q'ty			Long life filter ×1 (washable)	
Shock & vibration absorber			Rubber sleeve (for fan motor)	
Electric heater		W	20 (Crank case heater)	
<b>Operation control</b>			Wired remote control switch (Optional : RC-E1R)	
Operation switch			Wireless kit (Optional : RCN-T-35W-ER)	
Room temperature control			Thermostat by electronics	
<b>Safety equipment</b>			Internal thermostat for fan motor. Frost protection thermostat.	
<b>Installation data</b>			Indoor branch pipe, Outdoor main pipe: φ9.52 (3/8")	
<b>Refrigerant piping size</b>			Indoor branch pipe: φ12.7 (1/2"), Outdoor main pipe: φ15.88 (5/8")	
<b>Connecting method</b>			Flare piping	
<b>Drain hose</b>			Connectable with VP25 (I.D.25mm, O.D.32mm)	
Insulation for piping			Necessary (both Liquid & Gas lines)	
Accessories			Mounting kit, Drain hose	
Optional parts			Decorative Panel	

Notes (1) The data are measured at the following conditions.

Item	Indoor air temperature		Outdoor air temperature		Standards
	DB	WB	DB	WB	
Cooling	27°C	19°C	35°C	24°C	ISO-T1
Heating	20°C	—	7°C	6°C	

(2) This packaged air-conditioner is manufactured and tested in conformity with the following standard. ISO-T1 "UNITARY AIR-CONDITIONERS"

(3) The operation data indicate when the air-conditioner is operated at 400V 50Hz or 380V 60Hz.

(4) Values in [ ~ ] show the minimum to maximum range.

(5) Indoor unit specifications show the specifications for one unit. Capacity and running characteristics values are shown for the case where two indoor units are combined and run together.

**Model FDTVA502HESP2R (Indoor unit: 2 units, Outdoor unit: 1 unit)**

Item		Model	FDTVA502HESP2R	
			FDTA251R	FDCVA502HESAR
<b>Nominal cooling capacity<sup>(1)</sup></b>		kW	12.5 [6.5~14.0]	
<b>Nominal heating capacity<sup>(1)</sup></b>		kW	14.0 [6.2~16.0]	
<b>Power source</b>			3 Phase, 380-415V 50Hz/380V 60Hz	
<b>Operation data<sup>(3)</sup></b>	Cooling power consumption	kW	4.29/4.31	
	Running current (Cooling)	A	6.3/6.7	
	Power factor (Cooling)	%	98/98	
	Heating power consumption	kW	4.13/4.15	
	Running current (Heating)	A	6.1/6.4	
	Power factor (Heating)	%	98/99	
	Inrush current (L.R.A)	A	5	
<b>Exterior dimensions</b>				
<b>Height × Width × Depth</b>		mm	Unit 270 × 840 × 840 Panel 35 × 950 × 950	
<b>Net weight</b>		kg	31 (Unit:24 Panel:7)	
<b>Refrigerant equipment</b>				
<b>Compressor type &amp; Q'ty</b>			RM-B5125MDE31	
Starting method			Direct line start	
<b>Heat exchanger</b>			Louver fin & inner grooved tubing	
Refrigerant control			Electronic expansion valve	
<b>Refrigerant</b>			R410A	
<b>Quantity</b>		kg	3.8 [Pre-charged up to the piping length of 30m]	
<b>Refrigerant oil</b>		ℓ	0.7 (M-MA68)	
Defrost control			Microcomputer controlled de-icer	
<b>Air handling equipment</b>				
Fan type & Q'ty			Turbo fan × 1	
Motor		W	20 × 1	
Starting method			Direct line start	
<b>Air flow</b>		CMM	Powerful mode Hi:20 Me:17 Lo:15 Mild mode Hi:17 Me:15 Lo:13	
<b>Outside air intake</b>			Cooling: 75, Heating: 73	
Air filter, Q'ty			Available	
Shock & vibration absorber			Long life filter ×1(washable)	
Electric heater		W	Rubber sleeve (for fan motor)	
<b>Operation control</b>			Rubber mount (for compressor)	
Operation switch			20 (Crank case heater)	
Room temperature control			Wired remote control switch (Optional : RC-E1R) Wireless kit (Optional : RCN-T-35W-ER)	
<b>Safety equipment</b>			– (Indoor unit side)	
Internal thermostat for fan motor.			Thermostat by electronics	
Frost protection thermostat.			–	
<b>Installation data</b>			Internal thermostat for fan motor. Anomalous discharge temperature protection.	
<b>Refrigerant piping size</b>	Liquid line	mm	Indoor branch pipe, Outdoor main pipe: φ9.52 (3/8")	
	Gas line	(in)	Indoor branch pipe, Outdoor main pipe: φ15.88 (5/8")	
<b>Connecting method</b>			Flare piping	
<b>Drain hose</b>			Connectable with VP25 (I.D.25mm, O.D.32mm)	
Insulation for piping			–	
Accessories			Necessary (both Liquid & Gas lines)	
Optional parts			Mounting kit, Drain hose	
			Decorative Panel	

Notes (1) The data are measured at the following conditions.

Item	Indoor air temperature		Outdoor air temperature		Standards
	DB	WB	DB	WB	
Cooling	27°C	19°C	35°C	24°C	ISO-T1
Heating	20°C	–	7°C	6°C	

(2) This packaged air-conditioner is manufactured and tested in conformity with the following standard. ISO-T1 "UNITARY AIR-CONDITIONERS"

(3) The operation data indicate when the air-conditioner is operated at 400V 50Hz or 380V 60Hz.

(4) Values in [ ~ ] show the minimum to maximum range.

(5) Indoor unit specifications show the specifications for one unit. Capacity and running characteristics values are shown for the case where two indoor units are combined and run together.

**Model FDTVA602HESP2R (Indoor unit: 2 units, Outdoor unit: 1 unit)**

Item		Model	FDTVA602HESP2R	
			FDTA301R	FDCVA602HESAR
<b>Nominal cooling capacity<sup>(1)</sup></b>		kW	<b>14.0 [7.0~14.5]</b>	
<b>Nominal heating capacity<sup>(1)</sup></b>		kW	<b>16.0 [6.3~16.5]</b>	
<b>Power source</b>			<b>3 Phase, 380-415V 50Hz/380V 60Hz</b>	
<b>Operation data<sup>(3)</sup></b>	Cooling power consumption	kW	<b>4.69/4.71</b>	
	Running current (Cooling)	A	<b>6.9/7.2</b>	
	Power factor (Cooling)	%	<b>98/99</b>	
	Heating power consumption	kW	<b>4.58/4.60</b>	
	Running current (Heating)	A	<b>6.7/7.1</b>	
	Power factor (Heating)	%	<b>99/98</b>	
	Inrush current (L.R.A)	A	<b>5</b>	
<b>Noise level</b>		dB(A)	Powerful mode Hi:38 Me:35 Lo:33 Mild mode Hi:35 Me:33 Lo:31	53
<b>Exterior dimensions</b>				
<b>Height × Width × Depth</b>		mm	<b>Unit 270 × 840 × 840</b> <b>Panel 30 × 950 × 950</b>	<b>845 × 970 × 370</b>
<b>Net weight</b>		kg	<b>31 (Unit:24 Panel:7)</b>	<b>74</b>
<b>Refrigerant equipment</b>				
<b>Compressor type &amp; Q'ty</b>			–	<b>RM-B5125MDE31</b>
<b>Starting method</b>			–	Direct line start
<b>Heat exchanger</b>			Louver fin & inner grooved tubing	Straight fin & inner grooved tubing
<b>Refrigerant control</b>			–	Electronic expansion valve
<b>Refrigerant</b>			<b>R410A</b>	
<b>Quantity</b>		kg	–	<b>3.8 [Pre-charged up to the piping length of 30m]</b>
<b>Refrigerant oil</b>		ℓ	–	<b>0.7 (M-MA68)</b>
<b>Defrost control</b>			Microcomputer controlled de-icer	
<b>Air handling equipment</b>				
<b>Fan type &amp; Q'ty</b>			Turbo fan × 1	Propeller fan × 1
<b>Motor</b>		W	<b>20 × 1</b>	<b>120 × 1</b>
<b>Starting method</b>			Direct line start	Direct line start
<b>Air flow</b>		CMM	<b>Powerful mode Hi:20 Me:17 Lo:15</b> <b>Mild mode Hi:17 Me:15 Lo:13</b>	<b>Cooling: 75, Heating: 73</b>
<b>Outside air intake</b>			Available	–
<b>Air filter, Q'ty</b>			Long life filter ×1(washable)	–
<b>Shock &amp; vibration absorber</b>			Rubber sleeve (for fan motor)	Rubber mount (for compressor)
<b>Electric heater</b>		W	–	20 (Crank case heater)
<b>Operation control</b>			Wired remote control switch (Optional : RC-E1R) Wireless kit (Optional : RCN-T-35W-ER)	– (Indoor unit side)
<b>Operation switch</b>			Thermostat by electronics	–
<b>Room temperature control</b>			Internal thermostat for fan motor. Frost protection thermostat.	Internal thermostat for fan motor. Anomalous discharge temperature protection.
<b>Safety equipment</b>				
<b>Installation data</b>				
<b>Refrigerant piping size</b>	<b>Liquid line</b>	mm	<b>Indoor branch pipe, Outdoor main pipe: φ9.52 (3/8")</b>	
	<b>Gas line</b>	(in)	<b>Indoor branch pipe, Outdoor main pipe: φ15.88 (5/8")</b>	
<b>Connecting method</b>			<b>Flare piping</b>	
<b>Drain hose</b>			Connectable with VP25 (I.D.25mm, O.D.32mm)	–
<b>Insulation for piping</b>			Necessary (both Liquid & Gas lines)	
<b>Accessories</b>			Mounting kit, Drain hose	
<b>Optional parts</b>			Decorative Panel	

Notes (1) The data are measured at the following conditions.

Operation	Item	Indoor air temperature		Outdoor air temperature		Standards
		DB	WB	DB	WB	
Cooling		27°C	19°C	35°C	24°C	ISO-T1
Heating		20°C	–	7°C	6°C	

(2) This packaged air-conditioner is manufactured and tested in conformity with the following standard. ISO-T1 "UNITARY AIR-CONDITIONERS"

(3) The operation data indicate when the air-conditioner is operated at 400V 50Hz or 380V 60Hz.

(4) Values in [ ~ ] show the minimum to maximum range.

(5) Indoor unit specifications show the specifications for one unit. Capacity and running characteristics values are shown for the case where two indoor units are combined and run together.

## (c) Triple type

## Model FDTVA602HEST2R (Indoor unit: 3 units, Outdoor unit: 1 unit)

Item		Model	FDTVA602HEST2R	
			FDTA201R	FDCVA602HESAR
Nominal cooling capacity <sup>(1)</sup>		kW	14.0 [7.0~14.5]	
Nominal heating capacity <sup>(1)</sup>		kW	16.0 [6.3~16.5]	
Power source			3 Phase, 380-415V 50Hz/380V 60Hz	
Operation data <sup>(3)</sup>	Cooling power consumption	kW	4.74/4.77	
	Running current (Cooling)	A	6.9/7.4	
	Power factor (Cooling)	%	99/98	
	Heating power consumption	kW	4.63/4.63	
	Running current (Heating)	A	6.8/7.1	
	Power factor (Heating)	%	98/99	
	Inrush current (L.R.A)	A	5	
Noise level		dB(A)	Powerful mode Hi:36 Me:33 Lo:32 Mild mode Hi:33 Me:32 Lo:31	53
Exterior dimensions			Unit 270 × 840 × 840	
Height × Width × Depth		mm	Panel 35 × 950 × 950	
Net weight		kg	31 (Unit:24 Panel:7)	
Refrigerant equipment			-	
Compressor type & Q'ty			RM-B5125MDE31	
Starting method			Direct line start	
Heat exchanger			Louver fin & inner grooved tubing	
Refrigerant control			Electronic expansion valve	
Refrigerant			R410A	
Quantity		kg	-	3.8 [Pre-charged up to the piping length of 30m]
Refrigerant oil		ℓ	-	0.7 (M-MA68)
Defrost control			Microcomputer controlled de-icer	
Air handling equipment			Turbo fan × 1	
Fan type & Q'ty			Propeller fan × 1	
Motor		W	14 × 1	
Starting method			Direct line start	
Air flow		CMM	Powerful mode Hi:18 Me:15 Lo:14 Mild mode Hi:15 Me:14 Lo:13	Cooling: 75, Heating: 73
Outside air intake			Available	
Air filter, Q'ty			Long life filter ×1(washable)	
Shock & vibration absorber			Rubber sleeve (for fan motor)	
Electric heater		W	20 (Crank case heater)	
Operation control			Wired remote control switch (Optional : RC-E1R)	
Operation switch			Wireless kit (Optional : RCN-T-35W-ER)	
Room temperature control			Thermostat by electronics	
Safety equipment			Internal thermostat for fan motor.	
			Frost protection thermostat.	
Installation data			Indoor branch pipe, Outdoor main pipe: φ9.52 (3/8")	
Refrigerant piping size			Indoor branch pipe: φ12.7 (1/2"), Outdoor main pipe: φ15.88 (5/8")	
Connecting method			Flare piping	
Drain hose			Connectable with VP25 (I.D.25mm, O.D.32mm)	
Insulation for piping			Necessary (both Liquid & Gas lines)	
Accessories			Mounting kit. Drain hose	
Optional parts			Decorative Panel	

Notes (1) The data are measured at the following conditions.

Item	Indoor air temperature		Outdoor air temperature		Standards
	DB	WB	DB	WB	
Cooling	27°C	19°C	35°C	24°C	ISO-T1
Heating	20°C	-	7°C	6°C	

(2) This packaged air-conditioner is manufactured and tested in conformity with the following standard. ISO-T1 "UNITARY AIR-CONDITIONERS"

(3) The operation data indicate when the air-conditioner is operated at 400V 50Hz or 380V 60Hz.

(4) Values in [ ~ ] show the minimum to maximum range.

(5) Indoor unit specifications show the specifications for one unit. Capacity and running characteristics values are shown for the case where three indoor units are combined and run together.

### (3) Ceiling suspended type (FDEN)

#### (a) Single type

##### Model FDENVA402HES2R

Item		Model	FDENVA402HES2R	
			FDENA401R	FDCVA402HESAR
<b>Nominal cooling capacity<sup>(1)</sup></b>		kW	<b>10.0 [6.1~11.2]</b>	
<b>Nominal heating capacity<sup>(1)</sup></b>		kW	<b>11.2 [5.9~12.5]</b>	
<b>Power source</b>			<b>3 Phase, 380-415V 50Hz/380V 60Hz</b>	
<b>Operation data<sup>(3)</sup></b>	Cooling power consumption	kW	<b>2.85/2.85</b>	
	Running current (Cooling)	A	<b>4.2/4.4</b>	
	Power factor (Cooling)	%	<b>98/98</b>	
	Heating power consumption	kW	<b>2.97/2.97</b>	
	Running current (Heating)	A	<b>4.3/4.6</b>	
	Power factor (Heating)	%	<b>99/98</b>	
	Inrush current (L.R.A)	A	<b>5</b>	
	Noise level	dB(A)	Powerful mode Hi:46 Me:44 Lo:41 Mild mode Hi:44 Me:41 Lo:39	50
<b>Exterior dimensions</b>				
<b>Height × Width × Depth</b>		mm	<b>250 × 1620 × 690</b>	<b>845 × 970 × 370</b>
<b>Net weight</b>		kg	<b>46</b>	<b>74</b>
<b>Refrigerant equipment</b>				
<b>Compressor type &amp; Q'ty</b>			–	<b>RM-B5125MDE31</b>
Starting method			–	Direct line start
<b>Heat exchanger</b>			Louver fin & inner grooved tubing	Straight fin & inner grooved tubing
Refrigerant control			–	Electronic expansion valve
<b>Refrigerant</b>			<b>R410A</b>	
<b>Quantity</b>		kg	–	<b>3.8 [Pre-charged up to the piping length of 30m]</b>
<b>Refrigerant oil</b>		ℓ	–	<b>0.7 (M-MA68)</b>
Defrost control			Microcomputer controlled de-icer	
<b>Air handling equipment</b>				
Fan type & Q'ty			Centrifugal fan × 4	Propeller fan × 1
Motor		W	<b>40 × 2</b>	<b>120 × 1</b>
Starting method			Direct line start	Direct line start
<b>Air flow</b>		CMM	<b>Powerful mode Hi:29 Me:26 Lo:23</b> <b>Mild mode Hi:26 Me:23 Lo:21</b>	<b>Cooling: 75, Heating: 73</b>
<b>Outside air intake</b>			Unavailable	–
Air filter, Q'ty			Polypropylene net ×2(washable)	–
Shock & vibration absorber			Rubber sleeve (for fan motor)	Rubber mount (for compressor)
Electric heater		W	–	20 (Crank case heater)
<b>Operation control</b>			Wireless remote control switch (Optional: RCN-E1R)	– (Indoor unit side)
Operation switch			Wired remote control switch (Optional: RC-E1R)	–
Room temperature control			Thermostat by electronics	–
<b>Safety equipment</b>			Internal thermostat for fan motor. Frost protection thermostat.	Internal thermostat for fan motor. Anomalous discharge temperature protection.
<b>Installation data</b>				
<b>Refrigerant piping size</b>		mm (in)	<b>Liquid line: φ9.52 (3/8") Gas line: φ15.88 (5/8")</b>	
<b>Connecting method</b>			<b>Flare piping</b>	
<b>Drain hose</b>			Connectable with VP20 (I.D.20mm, O.D.26mm)	–
Insulation for piping			Necessary (both Liquid & Gas lines)	
Accessories			Mounting kit. Drain hose	
Optional parts			–	

Notes (1) The data are measured at the following conditions.

Item	Indoor air temperature		Outdoor air temperature		Standards
	DB	WB	DB	WB	
Cooling	27°C	19°C	35°C	24°C	ISO-T1
Heating	20°C	–	7°C	6°C	

(2) This packaged air-conditioner is manufactured and tested in conformity with the following standard. ISO-T1 "UNITARY AIR-CONDITIONERS"

(3) The operation data indicate when the air-conditioner is operated at 400V 50Hz or 380V 60Hz.

(4) Values in [ ~ ] show the minimum to maximum range.

## Model FDENVA502HES2R

Item		Model	FDENVA502HES2R	
			FDENA501R	FDCVA502HESAR
<b>Nominal cooling capacity<sup>(1)</sup></b>		kW	<b>12.5 [6.5~14.0]</b>	
<b>Nominal heating capacity<sup>(1)</sup></b>		kW	<b>14.0 [6.2~16.0]</b>	
<b>Power source</b>			<b>3 Phase, 380-415V 50Hz/380V 60Hz</b>	
<b>Operation data<sup>(3)</sup></b>	Cooling power consumption	kW	<b>4.35/4.35</b>	
	Running current (Cooling)	A	<b>6.4/6.7</b>	
	Power factor (Cooling)	%	<b>98/99</b>	
	Heating power consumption	kW	<b>3.95/3.95</b>	
	Running current (Heating)	A	<b>5.8/6.1</b>	
	Power factor (Heating)	%	<b>98/98</b>	
	Inrush current (L.R.A)	A	<b>5</b>	
Noise level		dB(A)	Powerful mode Hi:48 Me:46 Lo:44 Mild mode Hi:46 Me:44 Lo:43	52
<b>Exterior dimensions</b>				
<b>Height × Width × Depth</b>		mm	<b>250 × 1620 × 690</b>	<b>845 × 970 × 370</b>
<b>Net weight</b>		kg	<b>46</b>	<b>74</b>
<b>Refrigerant equipment</b>				
<b>Compressor type &amp; Q'ty</b>			–	<b>RM-B5125MDE31</b>
Starting method			–	Direct line start
<b>Heat exchanger</b>			Louver fin & inner grooved tubing	Straight fin & inner grooved tubing
Refrigerant control			–	Electronic expansion valve
<b>Refrigerant</b>			<b>R410A</b>	
<b>Quantity</b>		kg	–	<b>3.8 [Pre-charged up to the piping length of 30m]</b>
<b>Refrigerant oil</b>		ℓ	–	<b>0.7 (M-MA68)</b>
Defrost control			Microcomputer controlled de-icer	
<b>Air handling equipment</b>				
Fan type & Q'ty			Centrifugal fan × 4	Propeller fan × 1
Motor		W	<b>45 × 2</b>	<b>120 × 1</b>
Starting method			Direct line start	Direct line start
<b>Air flow</b>		<b>CMM</b>	<b>Powerful mode Hi:31 Me:29 Lo:26 Mild mode Hi:29 Me:26 Lo:23</b>	<b>Cooling: 75, Heating: 73</b>
<b>Outside air intake</b>			Unavailable	–
Air filter, Q'ty			Polypropylene net ×2(washable)	–
Shock & vibration absorber			Rubber sleeve (for fan motor)	Rubber mount (for compressor)
Electric heater		W	–	20 (Crank case heater)
<b>Operation control</b>			Wireless remote control switch (Optional: RCN-E1R) Wired remote control switch (Optional: RC-E1R)	– (Indoor unit side)
Operation switch				
Room temperature control			Thermostat by electronics	–
<b>Safety equipment</b>			Internal thermostat for fan motor. Frost protection thermostat.	Internal thermostat for fan motor. Anomalous discharge temperature protection.
<b>Installation data</b>				
<b>Refrigerant piping size</b>		mm (in)	<b>Liquid line: φ9.52 (3/8") Gas line: φ15.88 (5/8")</b>	
<b>Connecting method</b>			<b>Flare piping</b>	
<b>Drain hose</b>			Connectable with VP20 (I.D.20mm, O.D.26mm)	–
Insulation for piping			Necessary (both Liquid & Gas lines)	
Accessories			Mounting kit. Drain hose	
Optional parts			–	

Notes (1) The data are measured at the following conditions.

Item	Indoor air temperature		Outdoor air temperature		Standards
	DB	WB	DB	WB	
Cooling	27°C	19°C	35°C	24°C	ISO-T1
Heating	20°C	–	7°C	6°C	

(2) This packaged air-conditioner is manufactured and tested in conformity with the following standard. ISO-T1 "UNITARY AIR-CONDITIONERS"

(3) The operation data indicate when the air-conditioner is operated at 400V 50Hz or 380V 60Hz.

(4) Values in [ ~ ] show the minimum to maximum range.

# Model FDENVA602HES2R

Item		Model	FDENVA602HES2R	
			FDENA601R	FDCVA602HESRR
<b>Nominal cooling capacity<sup>(1)</sup></b>		kW	<b>14.0 [6.7~14.5]</b>	
<b>Nominal heating capacity<sup>(1)</sup></b>		kW	<b>16.0 [6.3~16.5]</b>	
<b>Power source</b>			<b>3 Phase, 380-415V 50Hz/380V 60Hz</b>	
<b>Operation data<sup>(3)</sup></b>	Cooling power consumption	kW	<b>4.95/4.95</b>	
	Running current (Cooling)	A	<b>7.2/7.6</b>	
	Power factor (Cooling)	%	<b>99/99</b>	
	Heating power consumption	kW	<b>4.69/4.69</b>	
	Running current (Heating)	A	<b>6.8/7.2</b>	
	Power factor (Heating)	%	<b>99/99</b>	
	Inrush current (L.R.A)	A	<b>5</b>	
Noise level		dB(A)	Powerful mode Hi:48 Me:46 Lo:44 Mild mode Hi:46 Me:44 Lo:43	53
<b>Exterior dimensions</b>				
<b>Height × Width × Depth</b>		mm	<b>250 × 1620 × 690</b>	<b>845 × 970 × 370</b>
<b>Net weight</b>		kg	<b>46</b>	<b>74</b>
<b>Refrigerant equipment</b>				
<b>Compressor type &amp; Q'ty</b>			–	<b>RM-B5125MDE31</b>
Starting method			–	Direct line start
<b>Heat exchanger</b>			Louver fin & inner grooved tubing	Straight fin & inner grooved tubing
Refrigerant control			–	Electronic expansion valve
<b>Refrigerant</b>			<b>R410A</b>	
<b>Quantity</b>		kg	–	<b>3.8 [Pre-charged up to the piping length of 30m]</b>
<b>Refrigerant oil</b>		ℓ	–	<b>0.7 (M-MA68)</b>
Defrost control			Microcomputer controlled de-icer	
<b>Air handling equipment</b>				
Fan type & Q'ty			Centrifugal fan × 4	Propeller fan × 1
Motor		W	<b>45 × 2</b>	<b>120 × 1</b>
Starting method			Direct line start	Direct line start
<b>Air flow</b>		CMM	<b>Powerful mode Hi:31 Me:29 Lo:26 Mild mode Hi:29 Me:26 Lo:23</b>	<b>Cooling: 75, Heating: 73</b>
<b>Outside air intake</b>			Unavailable	–
Air filter, Q'ty			Polypropylene net ×2(washable)	–
Shock & vibration absorber			Rubber sleeve (for fan motor)	Rubber mount (for compressor)
Electric heater		W	–	20 (Crank case heater)
<b>Operation control</b>			Wireless remote control switch (Optional: RCN-E1R) Wired remote control switch (Optional: RC-E1R)	– (Indoor unit side)
Operation switch				
Room temperature control			Thermostat by electronics	–
<b>Safety equipment</b>			Internal thermostat for fan motor. Frost protection thermostat.	Internal thermostat for fan motor. Anomalous discharge temperature protection.
<b>Installation data</b>		mm	<b>Liquid line: φ9.52 (3/8") Gas line: φ15.88 (5/8")</b>	
<b>Refrigerant piping size</b>		(in)		
<b>Connecting method</b>			<b>Flare piping</b>	
<b>Drain hose</b>			Connectable with VP20 (I.D.20mm, O.D.26mm)	–
Insulation for piping			Necessary (both Liquid & Gas lines)	
Accessories			Mounting kit. Drain hose	
Optional parts			–	

Notes (1) The data are measured at the following conditions.

Item	Indoor air temperature		Outdoor air temperature		Standards
	DB	WB	DB	WB	
Cooling	27°C	19°C	35°C	24°C	ISO-T1
Heating	20°C	–	7°C	6°C	

(2) This packaged air-conditioner is manufactured and tested in conformity with the following standard. ISO-T1 "UNITARY AIR-CONDITIONERS"

(3) The operation data indicate when the air-conditioner is operated at 400V 50Hz or 380V 60Hz.

(4) Values in [ ~ ] show the minimum to maximum range.

## (b) Twin type

## Model FDENVA402HESP2R (Indoor unit: 2 units, Outdoor unit: 1 unit)

Item		Model	FDENVA402HESP2R	
			FDENA201R	FDCVA402HESAR
Nominal cooling capacity <sup>(1)</sup>		kW	10.0 [6.1~11.2]	
Nominal heating capacity <sup>(1)</sup>		kW	11.2 [5.9~12.5]	
Power source			3 Phase, 380-415V 50Hz/380V 60Hz	
Operation data <sup>(3)</sup>	Cooling power consumption	kW	2.78/2.78	
	Running current (Cooling)	A	4.1/4.3	
	Power factor (Cooling)	%	98/98	
	Heating power consumption	kW	2.94/2.94	
	Running current (Heating)	A	4.3/4.5	
	Power factor (Heating)	%	99/99	
	Inrush current (L.R.A)	A	5	
	Noise level	dB(A)	Powerful mode Hi:42 Me:39 Lo:38 Mild mode Hi:39 Me:38 Lo:37	50
Exterior dimensions				
Height × Width × Depth		mm	210 × 1070 × 690	845 × 970 × 370
Net weight		kg	30	74
Refrigerant equipment				
Compressor type & Q'ty			–	RM-B5125MDE31
Starting method			–	Direct line start
Heat exchanger			Louver fin & inner grooved tubing	Straight fin & inner grooved tubing
Refrigerant control			–	Electronic expansion valve
Refrigerant			R410A	
Quantity		kg	–	3.8 [Pre-charged up to the piping length of 30m]
Refrigerant oil		ℓ	–	0.7 (M-MA68)
Defrost control			Microcomputer controlled de-icer	
Air handling equipment				
Fan type & Q'ty			Centrifugal fan × 2	Propeller fan × 1
Motor		W	30 × 1	120 × 1
Starting method			Direct line start	Direct line start
Air flow		CMM	Powerful mode Hi:12 Me:11 Lo:9 Mild mode Hi:11 Me:9 Lo:7	Cooling: 75, Heating: 73
Outside air intake			Unavailable	–
Air filter, Q'ty			Polypropylene net ×2(washable)	–
Shock & vibration absorber			Rubber sleeve (for fan motor)	Rubber mount (for compressor)
Electric heater		W	–	20 (Crank case heater)
Operation control			Wireless remote control switch (Optional: RCN-E1R)	– (Indoor unit side)
Operation switch			Wired remote control switch (Optional: RC-E1R)	
Room temperature control			Thermostat by electronics	–
Safety equipment			Internal thermostat for fan motor. Frost protection thermostat.	Internal thermostat for fan motor. Anomalous discharge temperature protection.
Installation data			Indoor branch pipe, Outdoor main pipe: φ9.52 (3/8")	
Refrigerant piping size			Indoor branch pipe: φ12.7 (1/2"), Outdoor main pipe: φ15.88 (5/8")	
Connecting method			Flare piping	
Drain hose			Connectable with VP20 (I.D.20mm, O.D.26mm)	–
Insulation for piping			Necessary (both Liquid & Gas lines)	
Accessories			Mounting kit. Drain hose	
Optional parts			–	

Notes (1) The data are measured at the following conditions.

Operation	Indoor air temperature		Outdoor air temperature		Standards
	DB	WB	DB	WB	
Cooling	27°C	19°C	35°C	24°C	ISO-T1
Heating	20°C	–	7°C	6°C	

(2) This packaged air-conditioner is manufactured and tested in conformity with the following standard. ISO-T1 "UNITARY AIR-CONDITIONERS"

(3) The operation data indicate when the air-conditioner is operated at 400V 50Hz or 380V 60Hz.

(4) Values in [ ~ ] show the minimum to maximum range.

(5) Indoor unit specifications show the specifications for one unit. Capacity and running characteristics values are shown for the case where two indoor units are combined and run together.

(6) If wireless specifications are used, use 1 wireless indoor unit in combination with wired indoor units.

**Model FDENVA502HESP2R (Indoor unit: 2 units, Outdoor unit: 1 unit)**

Item		Model	FDENVA502HESP2R	
			FDENA251R	FDCVA502HESAR
<b>Nominal cooling capacity<sup>(1)</sup></b>		kW	12.5 [6.5~14.0]	
<b>Nominal heating capacity<sup>(1)</sup></b>		kW	14.0 [6.2~16.0]	
<b>Power source</b>			3 Phase, 380-415V 50Hz/380V 60Hz	
<b>Operation data<sup>(3)</sup></b>	Cooling power consumption	kW	4.23/4.23	
	Running current (Cooling)	A	6.2/6.5	
	Power factor (Cooling)	%	98/99	
	Heating power consumption	kW	3.83/3.83	
	Running current (Heating)	A	5.6/9.9	
	Power factor (Heating)	%	99/99	
	Inrush current (L.R.A)	A	5	
<b>Exterior dimensions</b>				
<b>Height × Width × Depth</b>		mm	210 × 1320 × 690	
<b>Net weight</b>		kg	36	
<b>Refrigerant equipment</b>				
<b>Compressor type &amp; Q'ty</b>			RM-B5125MDE31	
Starting method			Direct line start	
<b>Heat exchanger</b>			Louver fin & inner grooved tubing	
Refrigerant control			Electronic expansion valve	
<b>Refrigerant</b>			R410A	
<b>Quantity</b>		kg	3.8 [Pre-charged up to the piping length of 30m]	
<b>Refrigerant oil</b>		ℓ	0.7 (M-MA68)	
Defrost control			Microcomputer controlled de-icer	
<b>Air handling equipment</b>				
Fan type & Q'ty			Centrifugal fan × 4	
Motor		W	20 × 2	
Starting method			Direct line start	
<b>Air flow</b>		CMM	Powerful mode Hi:20 Me:18 Lo:14 Mild mode Hi:18 Me:14 Lo:12	
<b>Outside air intake</b>			Unavailable	
Air filter, Q'ty			Polypropylene net ×2(washable)	
Shock & vibration absorber			Rubber sleeve (for fan motor)	
Electric heater		W	20 (Crank case heater)	
<b>Operation control</b>			Wireless remote control switch (Optional: RCN-EIR)	
Operation switch			Wired remote control switch (Optional: RC-EIR)	
Room temperature control			Thermostat by electronics	
<b>Safety equipment</b>			Internal thermostat for fan motor. Frost protection thermostat.	
<b>Installation data</b>			Indoor branch pipe, Outdoor main pipe: φ9.52 (3/8")	
<b>Refrigerant piping size</b>			Indoor branch pipe, Outdoor main pipe: φ15.88 (5/8")	
<b>Connecting method</b>			Flare piping	
<b>Drain hose</b>			Connectable with VP20 (I.D.20mm, O.D.26mm)	
Insulation for piping			Necessary (both Liquid & Gas lines)	
Accessories			Mounting kit. Drain hose	
Optional parts			-	

Notes (1) The data are measured at the following conditions.

Operation	Item	Indoor air temperature		Outdoor air temperature		Standards
		DB	WB	DB	WB	
Cooling		27°C	19°C	35°C	24°C	ISO-T1
Heating		20°C	-	7°C	6°C	

(2) This packaged air-conditioner is manufactured and tested in conformity with the following standard. ISO-T1 "UNITARY AIR-CONDITIONERS"

(3) The operation data indicate when the air-conditioner is operated at 400V 50Hz or 380V 60Hz.

(4) Values in [ ~ ] show the minimum to maximum range.

(5) Indoor unit specifications show the specifications for one unit. Capacity and running characteristics values are shown for the case where two indoor units are combined and run together.

(6) If wireless specifications are used, use 1 wireless indoor unit in combination with wired indoor units.

**Model FDENVA602HESP2R (Indoor unit: 2 units, Outdoor unit: 1 unit)**

Item		Model	FDENVA602HESP2R	
			FDENA301R	FDCVA602HESAR
<b>Nominal cooling capacity<sup>(1)</sup></b>		kW	14.0 [6.7~14.5]	
<b>Nominal heating capacity<sup>(1)</sup></b>		kW	16.0 [6.3~16.5]	
<b>Power source</b>			3 Phase, 380-415V 50Hz/380V 60Hz	
<b>Operation data<sup>(3)</sup></b>	Cooling power consumption	kW	4.84/4.84	
	Running current (Cooling)	A	7.1/7.4	
	Power factor (Cooling)	%	98/99	
	Heating power consumption	kW	4.59/4.59	
	Running current (Heating)	A	6.7/7.1	
	Power factor (Heating)	%	99/98	
	Inrush current (L.R.A)	A	5	
<b>Exterior dimensions</b>				
<b>Height × Width × Depth</b>		mm	210 × 1320 × 690	
<b>Net weight</b>		kg	36	
<b>Refrigerant equipment</b>				
<b>Compressor type &amp; Q'ty</b>			RM-B5125MDE31	
Starting method			Direct line start	
<b>Heat exchanger</b>			Louver fin & inner grooved tubing	
Refrigerant control			Electronic expansion valve	
<b>Refrigerant</b>			R410A	
<b>Quantity</b>		kg	3.8 [Pre-charged up to the piping length of 30m]	
<b>Refrigerant oil</b>		ℓ	0.7 (M-MA68)	
Defrost control			Microcomputer controlled de-icer	
<b>Air handling equipment</b>				
Fan type & Q'ty			Centrifugal fan × 4	
Motor		W	20 × 2	
Starting method			Direct line start	
<b>Air flow</b>		CMM	Powerful mode Hi:20 Me:18 Lo:14 Mild mode Hi:18 Me:14 Lo:12	
<b>Outside air intake</b>			Cooling: 75, Heating: 73	
Air filter, Q'ty			Unavailable	
Shock & vibration absorber			Polypropylene net ×2(washable)	
Electric heater		W	Rubber sleeve (for fan motor)	
<b>Operation control</b>			Rubber mount (for compressor)	
Operation switch			20 (Crank case heater)	
Room temperature control			Wireless remote control switch (Optional: RCN-EIR)	
<b>Safety equipment</b>			Wired remote control switch (Optional: RC-EIR)	
Operation switch			Thermostat by electronics	
Room temperature control			Internal thermostat for fan motor.	
<b>Installation data</b>			Frost protection thermostat.	
Operation switch			Internal thermostat for fan motor.	
<b>Refrigerant piping size</b>			Anomalous discharge temperature protection.	
<b>Connecting method</b>				
<b>Drain hose</b>			Indoor branch pipe, Outdoor main pipe: φ9.52 (3/8")	
Insulation for piping			Indoor branch pipe, Outdoor main pipe: φ15.88 (5/8")	
<b>Accessories</b>			Flare piping	
<b>Optional parts</b>			Connectable with VP20 (I.D.20mm, O.D.26mm)	
			Necessary (both Liquid & Gas lines)	
			Mounting kit. Drain hose	
			-	

Notes (1) The data are measured at the following conditions.

Item	Indoor air temperature		Outdoor air temperature		Standards
	DB	WB	DB	WB	
Cooling	27°C	19°C	35°C	24°C	ISO-T1
Heating	20°C	-	7°C	6°C	

(2) This packaged air-conditioner is manufactured and tested in conformity with the following standard. ISO-T1 "UNITARY AIR-CONDITIONERS"

(3) The operation data indicate when the air-conditioner is operated at 400V 50Hz or 380V 60Hz.

(4) Values in [ ~ ] show the minimum to maximum range.

(5) Indoor unit specifications show the specifications for one unit. Capacity and running characteristics values are shown for the case where two indoor units are combined and run together.

(6) If wireless specifications are used, use 1 wireless indoor unit in combination with wired indoor units.

(c) Triple type

Model FDENVA602HEST2R (Indoor unit: 3 units, Outdoor unit: 1 unit)

Item		Model	FDENVA602HEST2R	
			FDENA201R	FDCVA602HESAR
Nominal cooling capacity <sup>(1)</sup>		kW	14.0 [6.7~14.5]	
Nominal heating capacity <sup>(1)</sup>		kW	16.0 [6.3~16.5]	
Power source			3 Phase, 380-415V 50Hz/380V 60Hz	
Operation data <sup>(3)</sup>	Cooling power consumption	kW	4.85/4.85	
	Running current (Cooling)	A	7.1/7.5	
	Power factor (Cooling)	%	99/98	
	Heating power consumption	kW	4.58/4.58	
	Running current (Heating)	A	6.7/7.0	
	Power factor (Heating)	%	99/99	
	Inrush current (L.R.A)	A	5	
	Noise level	dB(A)	Powerful mode Hi:42 Me:39 Lo:38 Mild mode Hi:39 Me:38 Lo:37	53
Exterior dimensions		mm	210 × 1070 × 690	
Height × Width × Depth			845 × 970 × 370	
Net weight		kg	30	
Refrigerant equipment			RM-B5125MDE31	
Compressor type & Q'ty			—	
Starting method			Direct line start	
Heat exchanger			Louver fin & inner grooved tubing	
Refrigerant control			Electronic expansion valve	
Refrigerant			R410A	
Quantity		kg	3.8 [Pre-charged up to the piping length of 30m]	
Refrigerant oil		ℓ	0.7 (M-MA68)	
Defrost control			Microcomputer controlled de-icer	
Air handling equipment			Centrifugal fan × 2	
Fan type & Q'ty			Propeller fan × 1	
Motor		W	30 × 1	
Starting method			Direct line start	
Air flow		CMM	Powerful mode Hi:12 Me:11 Lo:9 Mild mode Hi:11 Me:9 Lo:7	Cooling: 75, Heating: 73
Outside air intake			Unavailable	
Air filter, Q'ty			Polypropylene net ×2(washable)	
Shock & vibration absorber			Rubber sleeve (for fan motor)	
Electric heater		W	20 (Crank case heater)	
Operation control			Wireless remote control switch (Optional: RCN-E1R)	
Operation switch			Wired remote control switch (Optional: RC-E1R)	
Room temperature control			Thermostat by electronics	
Safety equipment			Internal thermostat for fan motor. Frost protection thermostat.	
Installation data			Indoor branch pipe, Outdoor main pipe: φ9.52 (3/8")	
Refrigerant piping size			Indoor branch pipe: φ12.7 (1/2"), Outdoor main pipe: φ15.88 (5/8")	
Connecting method			Flare piping	
Drain hose			Connectable with VP20 (I.D.20mm, O.D.26mm)	
Insulation for piping			Necessary (both Liquid & Gas lines)	
Accessories			Mounting kit, Drain hose	
Optional parts			—	

Notes (1) The data are measured at the following conditions.

Item	Indoor air temperature		Outdoor air temperature		Standards
	DB	WB	DB	WB	
Cooling	27°C	19°C	35°C	24°C	ISO-T1
Heating	20°C	—	7°C	6°C	

(2) This packaged air-conditioner is manufactured and tested in conformity with the following standard. ISO-T1 "UNITARY AIR-CONDITIONERS"

(3) The operation data indicate when the air-conditioner is operated at 400V 50Hz or 380V 60Hz.

(4) Values in [ ~ ] show the minimum to maximum range.

(5) Indoor unit specifications show the specifications for one unit. Capacity and running characteristics values are shown for the case where three indoor units are combined and run together.

(6) If wireless specifications are used, use 1 wireless indoor unit in combination with wired indoor units.

#### (4) Satellite ducted type (FDUM)

##### (a) Single type

##### Model FDUMVA402HES2R

Item		Model		FDUMVA402HES2R	
				FDUMA402R	FDCVA402HESAR
<b>Nominal cooling capacity<sup>(1)</sup></b>		kW		10.0 [6.1~11.2]	
<b>Nominal heating capacity<sup>(1)</sup></b>		kW		11.2 [6.0~12.5]	
<b>Power source</b>				3 Phase, 380-415V 50Hz/380V 60Hz	
Operation data <sup>(3)</sup>	Cooling power consumption	kW		2.80/2.80	
	Running current (Cooling)	A		4.2/4.4	
	Power factor (Cooling)	%		96/97	
	Heating power consumption	kW		2.77/2.80	
	Running current (Heating)	A		4.1/4.3	
	Power factor (Heating)	%		98/99	
	Inrush current (L.R.A)	A		5	
	Noise level	dB(A)		Hi:37 Me:35 Lo:32	50
<b>Exterior dimensions</b>					
<b>Height × Width × Depth</b>		mm		350 × 1370 × 635	845 × 970 × 370
<b>Net weight</b>		kg		59	74
<b>Refrigerant equipment</b>					
<b>Compressor type &amp; Q'ty</b>				–	RM-B5125MDE31
Starting method				–	Direct line start
<b>Heat exchanger</b>				Louver fin & inner grooved tubing	Straight fin & inner grooved tubing
Refrigerant control				–	Electronic expansion valve
<b>Refrigerant</b>				R410A	
<b>Quantity</b>		kg		–	3.8 [Pre-charged up to the piping length of 30m]
<b>Refrigerant oil</b>		ℓ		–	0.7 (M-MA68)
Defrost control				Microcomputer controlled de-icer	
<b>Air handling equipment</b>					
Fan type & Q'ty				Centrifugal fan × 3	Propeller fan × 1
Motor		W		45 × 1, 90 × 1	120 × 1
Starting method				Direct line start	Direct line start
<b>Air flow (Standard)</b>		CMM		Hi: 28 Me: 25 Lo: 22	Cooling type: 75, Heating type: 73
<b>Available static pressure</b>		Pa		Standard: 60, Max 90	–
Outside air intake				–	–
Air filter, Q'ty				–	–
Shock & vibration absorber				Rubber sleeve (for fan motor)	Rubber mount (for compressor)
Electric heater		W		–	20 (Crank case heater)
<b>Operation control</b>				Wired remote control switch (Optional: RC-E1R)	– (Indoor unit side)
Operation switch				Wireless kit (Optional: RCND-KIT-HER)	
Room temperature control				Thermostat by electronics	–
<b>Safety equipment</b>				Internal thermostat for fan motor. Frost protection thermostat.	Internal thermostat for fan motor. Anomalous discharge temperature protection.
<b>Installation data</b>		mm		Liquid line: φ9.52 (3/8") Gas line: φ15.88 (5/8")	
<b>Refrigerant piping size</b>		(in)			
<b>Connecting method</b>				Flare piping	
<b>Drain hose</b>				Connectable with VP25 (I.D.25mm, O.D.32mm)	–
Insulation for piping				Necessary (both Liquid & Gas lines)	
Accessories				Mounting kit, Drain hose	
Optional parts				Filter kit (UM-FL3E)	

Notes (1) The data are measured at the following conditions.

Item	Indoor air temperature		Outdoor air temperature		Standards
	DB	WB	DB	WB	
Cooling	27°C	19°C	35°C	24°C	ISO-T1
Heating	20°C	–	7°C	6°C	

(2) This packaged air-conditioner is manufactured and tested in conformity with the following standard.

ISO-T1 "UNITARY AIR-CONDITIONERS"

(3) The operation data indicate when the air-conditioner is operated at 400V 50Hz or 380V 60Hz.

(4) Values in [ ~ ] show the minimum to maximum range.

**Model FDUMVA502HES2R**

Item		Model	FDUMVA502HES2R	
			FDUMA502SR	FDCVA502HESAR
<b>Nominal cooling capacity<sup>(1)</sup></b>		kW	<b>12.5 [6.7~14.0]</b>	
<b>Nominal heating capacity<sup>(1)</sup></b>		kW	<b>14.0 [6.2~16.0]</b>	
<b>Power source</b>			<b>3 Phase, 380-415V 50Hz/380V 60Hz</b>	
<b>Operation data<sup>(3)</sup></b>	Cooling power consumption	kW	<b>4.03/4.03</b>	
	Running current (Cooling)	A	<b>6.1/6.4</b>	
	Power factor (Cooling)	%	<b>95/96</b>	
	Heating power consumption	kW	<b>3.80/3.85</b>	
	Running current (Heating)	A	<b>5.7/6.0</b>	
	Power factor (Heating)	%	<b>96/97</b>	
	Inrush current (L.R.A)	A	<b>5</b>	
Noise level		dB(A)	Hi:38 Me:36 Lo:33	52
<b>Exterior dimensions</b>				
<b>Height × Width × Depth</b>		mm	<b>350 × 1370 × 635</b>	<b>845 × 970 × 370</b>
<b>Net weight</b>		kg	<b>59</b>	<b>74</b>
<b>Refrigerant equipment</b>				
<b>Compressor type &amp; Q'ty</b>			–	<b>RM-B5125MDE31</b>
Starting method			–	Direct line start
<b>Heat exchanger</b>			Louver fin & inner grooved tubing	Straight fin & inner grooved tubing
Refrigerant control			–	Electronic expansion valve
<b>Refrigerant</b>			<b>R410A</b>	
<b>Quantity</b>		kg	–	<b>3.8 [Pre-charged up to the piping length of 30m]</b>
<b>Refrigerant oil</b>		ℓ	–	<b>0.7 (M-MA68)</b>
Defrost control			Microcomputer controlled de-icer	
<b>Air handling equipment</b>				
Fan type & Q'ty			Centrifugal fan × 3	Propeller fan × 1
Motor		W	<b>50 × 1, 100 × 1</b>	<b>120 × 1</b>
Starting method			Direct line start	Direct line start
<b>Air flow (Standard)</b>		<b>CMM</b>	<b>Hi: 34 Me: 31 Lo: 27</b>	<b>Cooling: 75, Heating: 73</b>
<b>Available static pressure</b>		Pa	<b>Standard: 60, Max 85</b>	–
Outside air intake			–	–
Air filter, Q'ty			–	–
Shock & vibration absorber			Rubber sleeve (for fan motor)	Rubber mount (for compressor)
Electric heater		W	–	20 (Crank case heater)
<b>Operation control</b>			Wired remote control switch (Optional: RC-E1R)	– (Indoor unit side)
Operation switch			Wireless kit (Optional: RCND-KIT-HER)	
Room temperature control			Thermostat by electronics	–
<b>Safety equipment</b>			Internal thermostat for fan motor. Frost protection thermostat.	Internal thermostat for fan motor. Anomalous discharge temperature protection.
<b>Installation data</b>		mm	<b>Liquid line: φ9.52 (3/8") Gas line: φ15.88 (5/8")</b>	
<b>Refrigerant piping size</b>		(in)		
<b>Connecting method</b>			<b>Flare piping</b>	
<b>Drain hose</b>			Connectable with VP25 (I.D.25mm, O.D.32mm)	–
Insulation for piping			Necessary (both Liquid & Gas lines)	
Accessories			Mounting kit. Drain hose	
Optional parts			Filter kit (UM-FL3E)	

Notes (1) The data are measured at the following conditions.

Item	Indoor air temperature		Outdoor air temperature		Standards
	DB	WB	DB	WB	
Cooling	27°C	19°C	35°C	24°C	ISO-T1
Heating	20°C	–	7°C	6°C	

(2) This packaged air-conditioner is manufactured and tested in conformity with the following standard.

ISO-T1 "UNITARY AIR-CONDITIONERS"

(3) The operation data indicate when the air-conditioner is operated at 400V 50Hz or 380V 60Hz.

(4) Values in [ ~ ] show the minimum to maximum range.

**Model FDUMVA602HES2R**

Item		Model	FDUMVA602HES2R	
			FDUMA602R	FDCVA602HESAR
<b>Nominal cooling capacity<sup>(1)</sup></b>		kW	<b>14.0 [6.7~14.5]</b>	
<b>Nominal heating capacity<sup>(1)</sup></b>		kW	<b>16.0 [6.3~16.5]</b>	
<b>Power source</b>			<b>3 Phase, 380-415V 50Hz/380V 60Hz</b>	
<b>Operation data<sup>(3)</sup></b>	Cooling power consumption	kW	<b>4.95/4.95</b>	
	Running current (Cooling)	A	<b>7.4/7.7</b>	
	Power factor (Cooling)	%	<b>97/98</b>	
	Heating power consumption	kW	<b>4.75/4.91</b>	
	Running current (Heating)	A	<b>7.2/7.6</b>	
	Power factor (Heating)	%	<b>95/98</b>	
	Inrush current (L.R.A)	A	<b>5</b>	
Noise level		dB(A)	Hi:38 Me:36 Lo:33	53
<b>Exterior dimensions</b>				
<b>Height × Width × Depth</b>		mm	<b>350 × 1370 × 635</b>	<b>845 × 970 × 370</b>
<b>Net weight</b>		kg	<b>59</b>	<b>74</b>
<b>Refrigerant equipment</b>				
<b>Compressor type &amp; Q'ty</b>			–	<b>RM-B5125MDE31</b>
Starting method			–	Direct line start
<b>Heat exchanger</b>			Louver fin & inner grooved tubing	Straight fin & inner grooved tubing
Refrigerant control			–	Electronic expansion valve
<b>Refrigerant</b>			<b>R410A</b>	
<b>Quantity</b>		kg	–	<b>3.8 [Pre-charged up to the piping length of 30m]</b>
<b>Refrigerant oil</b>		ℓ	–	<b>0.7 (M-MA68)</b>
Defrost control			Microcomputer controlled de-icer	
<b>Air handling equipment</b>				
Fan type & Q'ty			Centrifugal fan × 3	Propeller fan × 1
Motor		W	<b>50 × 1, 100 × 1</b>	<b>120 × 1</b>
Starting method			Direct line start	Direct line start
<b>Air flow (Standard)</b>		<b>CMM</b>	<b>Hi: 34 Me: 31 Lo: 27</b>	<b>Cooling: 75, Heating: 73</b>
<b>Available static pressure</b>		Pa	<b>Standard: 60, Max 85</b>	–
Outside air intake			–	–
Air filter, Q'ty			–	–
Shock & vibration absorber			Rubber sleeve (for fan motor)	Rubber mount (for compressor)
Electric heater		W	–	20 (Crank case heater)
<b>Operation control</b>			Wired remote control switch (Optional: RC-E1R)	– (Indoor unit side)
Operation switch			Wireless kit (Optional: RCND-KIT-HER)	
Room temperature control			Thermostat by electronics	–
<b>Safety equipment</b>			Internal thermostat for fan motor.	Internal thermostat for fan motor.
			Frost protection thermostat.	Anomalous discharge temperature protection.
<b>Installation data</b>				
<b>Refrigerant piping size</b>		mm (in)	<b>Liquid line: φ9.52 (3/8") Gas line: φ15.88 (5/8")</b>	
<b>Connecting method</b>			<b>Flare piping</b>	
<b>Drain hose</b>			Connectable with VP25 (I.D.25mm, O.D.32mm)	–
Insulation for piping			Necessary (both Liquid & Gas lines)	
Accessories			Mounting kit, Drain hose	
Optional parts			Filter kit (UM-FL3E)	

Notes (1) The data are measured at the following conditions.

Item	Indoor air temperature		Outdoor air temperature		Standards
	DB	WB	DB	WB	
Cooling	27°C	19°C	35°C	24°C	ISO-T1
Heating	20°C	–	7°C	6°C	

(2) This packaged air-conditioner is manufactured and tested in conformity with the following standard.

ISO-T1 "UNITARY AIR-CONDITIONERS"

(3) The operation data indicate when the air-conditioner is operated at 400V 50Hz or 380V 60Hz.

(4) Values in [ ~ ] show the minimum to maximum range.

(b) Twin type

Model FDUMVA402HESP2R (Indoor unit: 2 Units, Outdoor unit: 1 unit)

Item		Model	FDUMVA402HESP2R	
			FDUMA202R	FDCVA402HESAR
Nominal cooling capacity <sup>(1)</sup>		kW	10.0 [6.1~11.2]	
Nominal heating capacity <sup>(1)</sup>		kW	11.2 [6.0~12.5]	
Power source			3 Phase, 380-415V 50Hz/380V 60Hz	
Operation data <sup>(3)</sup>	Cooling power consumption	kW	3.12/3.12	
	Running current (Cooling)	A	4.6/4.8	
	Power factor (Cooling)	%	98/99	
	Heating power consumption	kW	3.27/3.27	
	Running current (Heating)	A	4.8/5.0	
	Power factor (Heating)	%	98/99	
	Inrush current (L.R.A)	A	5	
	Noise level	dB(A)	Hi:34 Me:31 Lo:28	50
Exterior dimensions				
Height × Width × Depth		mm	299 × 750 × 635	845 × 970 × 370
Net weight		kg	34	74
Refrigerant equipment				
Compressor type & Q'ty			—	RM-B5125MDE31
Starting method			—	Direct line start
Heat exchanger			Louver fin & inner grooved tubing	Straight fin & inner grooved tubing
Refrigerant control			—	Electronic expansion valve
Refrigerant			R410A	
Quantity		kg	—	3.8 [Pre-charged up to the piping length of 30m]
Refrigerant oil		ℓ	—	0.7 (M-MA68)
Defrost control			Microcomputer controlled de-icer	
Air handling equipment				
Fan type & Q'ty			Centrifugal fan × 2	Propeller fan × 1
Motor		W	55 × 1	120 × 1
Starting method			Direct line start	Direct line start
Air flow (Standard)		CMM	Hi: 14 Me: 14 Lo: 11	Cooling type: 75, Heating type: 73
Available static pressure		Pa	Standard: 50, Max 85	—
Outside air intake			—	—
Air filter, Q'ty			—	—
Shock & vibration absorber			Rubber sleeve (for fan motor)	Rubber mount (for compressor)
Electric heater		W	—	20 (Crank case heater)
Operation control			Wired remote control switch (Optional: RC-E1R)	— (Indoor unit side)
Operation switch			Wireless kit (Optional: RCND-KIT-HER)	
Room temperature control			Thermostat by electronics	—
Safety equipment			Internal thermostat for fan motor. Frost protection thermostat.	Internal thermostat for fan motor. Anomalous discharge temperature protection.
Installation data				
Refrigerant piping size	Liquid line	mm	Indoor branch pipe, Outdoor main pipe: φ9.52 (3/8")	
	Gas line	(in)	Indoor branch pipe: φ12.7 (1/2"), Outdoor main pipe: φ15.88 (5/8")	
Connecting method			Flare piping	
Drain hose			Connectable with VP25 (I.D.25mm, O.D.32mm)	—
Insulation for piping			Necessary (both Liquid & Gas lines)	
Accessories			Mounting kit, Drain hose	
Optional parts			Filter kit (UM-FL3E)	

Notes (1) The data are measured at the following conditions.

Operation	Item	Indoor air temperature		Outdoor air temperature		Standards
		DB	WB	DB	WB	
Cooling		27°C	19°C	35°C	24°C	ISO-T1
Heating		20°C	—	7°C	6°C	

(2) This packaged air-conditioner is manufactured and tested in conformity with the following standard.

ISO-T1 "UNITARY AIR-CONDITIONERS"

(3) The operation data indicate when the air-conditioner is operated at 400V 50Hz or 380V 60Hz.

(4) Values in [ ~ ] show the minimum to maximum range.

**Model FDUMVA502HESP2R (Indoor unit: 2 Units, Outdoor unit: 1 unit)**

Item		Model	FDUMVA502HESP2R	
			FDUMA252R	FDCVA502HESAR
<b>Nominal cooling capacity<sup>(1)</sup></b>		kW	<b>12.5 [6.7~14.0]</b>	
<b>Nominal heating capacity<sup>(1)</sup></b>		kW	<b>14.0 [6.2~16.0]</b>	
<b>Power source</b>			<b>3 Phase, 380-415V 50Hz/380V 60Hz</b>	
<b>Operation data<sup>(3)</sup></b>	Cooling power consumption	kW	<b>4.47/4.47</b>	
	Running current (Cooling)	A	<b>6.6/6.9</b>	
	Power factor (Cooling)	%	<b>98/98</b>	
	Heating power consumption	kW	<b>4.51/4.51</b>	
	Running current (Heating)	A	<b>6.6/6.9</b>	
	Power factor (Heating)	%	<b>99/99</b>	
	Inrush current (L.R.A)	A	<b>5</b>	
Noise level		dB(A)	Hi:34 Me:31 Lo:28	52
<b>Exterior dimensions</b>				
<b>Height × Width × Depth</b>		mm	<b>299 × 950 × 635</b>	<b>845 × 970 × 370</b>
<b>Net weight</b>		kg	<b>40</b>	<b>74</b>
<b>Refrigerant equipment</b>				
<b>Compressor type &amp; Q'ty</b>			–	<b>RM-B5125MDE31</b>
Starting method			–	Direct line start
<b>Heat exchanger</b>			Louver fin & inner grooved tubing	Straight fin & inner grooved tubing
Refrigerant control			–	Electronic expansion valve
<b>Refrigerant</b>			<b>R410A</b>	
<b>Quantity</b>		kg	–	<b>3.8 [Pre-charged up to the piping length of 30m]</b>
<b>Refrigerant oil</b>		ℓ	–	<b>0.7 (M-MA68)</b>
Defrost control			Microcomputer controlled de-icer	
<b>Air handling equipment</b>				
Fan type & Q'ty			Centrifugal fan × 2	Propeller fan × 1
Motor		W	<b>90 × 1</b>	<b>120 × 1</b>
Starting method			Direct line start	Direct line start
<b>Air flow (Standard)</b>		<b>CMM</b>	<b>Hi: 18 Me: 16 Lo: 14</b>	<b>Cooling: 75, Heating: 73</b>
<b>Available static pressure</b>		Pa	<b>Standard: 50, Max 85</b>	–
Outside air intake			–	–
Air filter, Q'ty			–	–
Shock & vibration absorber			Rubber sleeve (for fan motor)	Rubber mount (for compressor)
Electric heater		W	–	20 (Crank case heater)
<b>Operation control</b>			Wired remote control switch (Optional: RC-E1R)	– (Indoor unit side)
Operation switch			Wireless kit (Optional: RCND-KIT-HER)	
Room temperature control			Thermostat by electronics	–
<b>Safety equipment</b>			Internal thermostat for fan motor. Frost protection thermostat.	Internal thermostat for fan motor. Anomalous discharge temperature protection.
<b>Installation data</b>			<b>Indoor branch pipe, Outdoor main pipe: φ9.52 (3/8")</b>	
<b>Refrigerant piping size</b>			<b>Indoor branch pipe: φ12.7 (1/2"), Outdoor main pipe: φ15.88 (5/8")</b>	
<b>Connecting method</b>			<b>Flare piping</b>	
<b>Drain hose</b>			Connectable with VP25 (I.D.25mm, O.D.32mm)	–
Insulation for piping			Necessary (both Liquid & Gas lines)	
Accessories			Mounting kit. Drain hose	
Optional parts			Filter kit (UM-FL3E)	

Notes (1) The data are measured at the following conditions.

Item	Indoor air temperature		Outdoor air temperature		Standards
	DB	WB	DB	WB	
Cooling	27°C	19°C	35°C	24°C	ISO-T1
Heating	20°C	–	7°C	6°C	

(2) This packaged air-conditioner is manufactured and tested in conformity with the following standard.

ISO-T1 "UNITARY AIR-CONDITIONERS"

(3) The operation data indicate when the air-conditioner is operated at 400V 50Hz or 380V 60Hz.

(4) Values in [ ~ ] show the minimum to maximum range.

**Model FDUMVA602HESP2R (Indoor unit: 2 Units, Outdoor unit: 1 unit)**

Item		Model	FDUMVA602HESP2R	
			FDUMA302R	FDCVA602HESAR
<b>Nominal cooling capacity<sup>(1)</sup></b>		kW	14.0 [6.7~14.5]	
<b>Nominal heating capacity<sup>(1)</sup></b>		kW	16.0 [6.3~16.5]	
<b>Power source</b>			3 Phase, 380-415V 50Hz/380V 60Hz	
<b>Operation data<sup>(3)</sup></b>	Cooling power consumption	kW	5.00/5.00	
	Running current (Cooling)	A	7.3/7.7	
	Power factor (Cooling)	%	99/99	
	Heating power consumption	kW	4.80/4.80	
	Running current (Heating)	A	7.0/7.4	
	Power factor (Heating)	%	99/99	
	Inrush current (L.R.A)	A	5	
Noise level		dB(A)	Hi:35 Me:32 Lo:29	53
<b>Exterior dimensions</b>				
<b>Height × Width × Depth</b>		mm	299 × 950 × 635	845 × 970 × 370
<b>Net weight</b>		kg	40	74
<b>Refrigerant equipment</b>				
<b>Compressor type &amp; Q'ty</b>			–	RM-B5125MDE31
Starting method			–	Direct line start
<b>Heat exchanger</b>			Louver fin & inner grooved tubing	Straight fin & inner grooved tubing
Refrigerant control			–	Electronic expansion valve
<b>Refrigerant</b>			R410A	
<b>Quantity</b>		kg	–	3.8 [Pre-charged up to the piping length of 30m]
<b>Refrigerant oil</b>		ℓ	–	0.7 (M-MA68)
Defrost control			Microcomputer controlled de-icer	
<b>Air handling equipment</b>				
Fan type & Q'ty			Centrifugal fan × 2	Propeller fan × 1
Motor		W	100 × 1	120 × 1
Starting method			Direct line start	Direct line start
<b>Air flow (Standard)</b>		CMM	Hi: 20 Me: 18 Lo: 15	Cooling: 75, Heating: 73
<b>Available static pressure</b>		Pa	Standard: 50, Max 85	–
Outside air intake			–	–
Air filter, Q'ty			–	–
Shock & vibration absorber			Rubber sleeve (for fan motor)	Rubber mount (for compressor)
Electric heater		W	–	20 (Crank case heater)
<b>Operation control</b>			Wired remote control switch (Optional: RC-E1R)	– (Indoor unit side)
Operation switch			Wireless kit (Optional: RCND-KIT-HER)	
Room temperature control			Thermostat by electronics	–
<b>Safety equipment</b>			Internal thermostat for fan motor.	Internal thermostat for fan motor.
			Frost protection thermostat.	Anomalous discharge temperature protection.
<b>Installation data</b>				
<b>Refrigerant piping size</b>	Liquid line	mm	Indoor branch pipe, Outdoor main pipe: φ9.52 (3/8")	
	Gas line	(in)	Indoor branch pipe, Outdoor main pipe: φ15.88 (5/8")	
<b>Connecting method</b>			Flare piping	
<b>Drain hose</b>			Connectable with VP25 (I.D.25mm, O.D.32mm)	–
Insulation for piping			Necessary (both Liquid & Gas lines)	
Accessories			Mounting kit, Drain hose	
Optional parts			Filter kit (UM-FL3E)	

Notes (1) The data are measured at the following conditions.

Item	Indoor air temperature		Outdoor air temperature		Standards
	DB	WB	DB	WB	
Cooling	27°C	19°C	35°C	24°C	ISO-T1
Heating	20°C	–	7°C	6°C	

(2) This packaged air-conditioner is manufactured and tested in conformity with the following standard.

ISO-T1 "UNITARY AIR-CONDITIONERS"

(3) The operation data indicate when the air-conditioner is operated at 400V 50Hz or 380V 60Hz.

(4) Values in [ ~ ] show the minimum to maximum range.

(c) Triple type

Model FDUMVA602HEST2R (Indoor unit: 3 Units, Outdoor unit: 1 unit)

Item		Model	FDUMVA602HEST2R	
			FDUMA202R	FDCVA602HESAR
Nominal cooling capacity <sup>(1)</sup>		kW	14.0 [6.7~14.5]	
Nominal heating capacity <sup>(1)</sup>		kW	16.0 [6.3~16.5]	
Power source			3 Phase, 380-415V 50Hz/380V 60Hz	
Operation data <sup>(3)</sup>	Cooling power consumption	kW	5.09/5.09	
	Running current (Cooling)	A	7.4/7.8	
	Power factor (Cooling)	%	99/99	
	Heating power consumption	kW	4.89/4.89	
	Running current (Heating)	A	7.1/7.5	
	Power factor (Heating)	%	99/99	
	Inrush current (L.R.A)	A	5	
	Noise level	dB(A)	Hi:34 Me:31 Lo:28	53
Exterior dimensions				
Height × Width × Depth		mm	299 × 750 × 635	845 × 970 × 370
Net weight		kg	34	74
Refrigerant equipment				
Compressor type & Q'ty			–	RM-B5125MDE31
Starting method			–	Direct line start
Heat exchanger			Louver fin & inner grooved tubing	Straight fin & inner grooved tubing
Refrigerant control			–	Electronic expansion valve
Refrigerant			R410A	
Quantity		kg	–	3.8 [Pre-charged up to the piping length of 30m]
Refrigerant oil		ℓ	–	0.7 (M-MA68)
Defrost control			Microcomputer controlled de-icer	
Air handling equipment				
Fan type & Q'ty			Centrifugal fan × 2	Propeller fan × 1
Motor		W	55 × 1	120 × 1
Starting method			Direct line start	Direct line start
Air flow (Standard)		CMM	Hi: 14 Me: 12 Lo: 11	Cooling: 75, Heating: 73
Available static pressure		Pa	Standard: 50, Max 85	–
Outside air intake			–	–
Air filter, Q'ty			–	–
Shock & vibration absorber			Rubber sleeve (for fan motor)	Rubber mount (for compressor)
Electric heater		W	–	20 (Crank case heater)
Operation control			Wired remote control switch (Optional: RC-E1R)	– (Indoor unit side)
Operation switch			Wireless kit (Optional: RCND-KIT-HER)	
Room temperature control			Thermostat by electronics	–
Safety equipment			Internal thermostat for fan motor. Frost protection thermostat.	Internal thermostat for fan motor. Anomalous discharge temperature protection.
Installation data			Indoor branch pipe, Outdoor main pipe: φ9.52 (3/8")	
Refrigerant piping size			Indoor branch pipe: φ12.7 (1/2"), Outdoor main pipe: φ15.88 (5/8")	
Connecting method			Flare piping	
Drain hose			Connectable with VP25 (I.D.25mm, O.D.32mm)	–
Insulation for piping			Necessary (both Liquid & Gas lines)	
Accessories			Mounting kit, Drain hose	
Optional parts			Filter kit (UM-FL3E)	

Notes (1) The data are measured at the following conditions.

Item	Indoor air temperature		Outdoor air temperature		Standards
	DB	WB	DB	WB	
Cooling	27°C	19°C	35°C	24°C	ISO-T1
Heating	20°C	–	7°C	6°C	

(2) This packaged air-conditioner is manufactured and tested in conformity with the following standard.

ISO-T1 "UNITARY AIR-CONDITIONERS"

(3) The operation data indicate when the air-conditioner is operated at 400V 50Hz or 380V 60Hz.

(4) Values in [ ~ ] show the minimum to maximum range.

(5) Indoor unit specifications show the specifications for one unit. Capacity and running characteristics values are shown for the case where three indoor units are combined and run together.

(5) Wall mounted type (FDKN)

(a) Twin type

Model FDKNVA402HESP2R (Indoor unit: 2 units, Outdoor unit: 1 unit)

Item		Model	FDKNVA402HESP2R	
			FDKNA201R	FDCVA402HESAR
Nominal cooling capacity <sup>(1)</sup>		kW	10.0 [6.1~11.2]	
Nominal heating capacity <sup>(1)</sup>		kW	11.2 [5.6~12.5]	
Power source			3 Phase, 380-415V 50Hz/380V 60Hz	
Operation data <sup>(3)</sup>	Cooling power consumption	kW	2.90/2.90	
	Running current (Cooling)	A	4.3/4.5	
	Power factor (Cooling)	%	97/98	
	Heating power consumption	kW	3.24/3.24	
	Running current (Heating)	A	4.7/5.0	
	Power factor (Heating)	%	99/98	
	Inrush current (L.R.A)	A	5	
Noise level		dB(A)	Powerful mode Hi:47 Me:44 Lo:41 Mild mode Hi:44 Me:41 Lo:38	50
Exterior dimensions				
Height × Width × Depth		mm	298 × 840 × 240	845 × 970 × 370
Net weight		kg	12	74
Refrigerant equipment				
Compressor type & Q'ty			—	RM-B5125MDE31
Starting method			—	Direct line start
Heat exchanger			Slitted fin & inner grooved tubing	Straight fin & inner grooved tubing
Refrigerant control			—	Electronic expansion valve
Refrigerant			R410A	
Quantity		kg	—	3.8 [Pre-charged up to the piping length of 30m]
Refrigerant oil		ℓ	—	0.7 (M-MA68)
Defrost control			Microcomputer controlled de-icer	
Air handling equipment				
Fan type & Q'ty			Tangential fan × 1	Propeller fan × 1
Motor		W	33 × 1	120 × 1
Starting method			Direct line start	Direct line start
Air flow		CMM	Powerful mode Hi:13 Me:12 Lo:11 Mild mode Hi:12 Me:11 Lo:9	Cooling: 75, Heating: 73
Outside air intake			Unavailable	—
Air filter, Q'ty			Long life filter ×2(washable)	—
Shock & vibration absorber			Rubber sleeve (for fan motor)	Rubber mount (for compressor)
Electric heater		W	—	20 (Crank case heater)
Operation control			Wireless remote control switch (Optional: RCN-E1R) Wired remote control switch (Optional: RC-E1R)	— (Indoor unit side)
Operation switch			Thermostat by electronics	—
Room temperature control			Internal thermostat for fan motor. Frost protection thermostat.	Internal thermostat for fan motor. Anomalous discharge temperature protection.
Safety equipment				
Installation data				
Refrigerant piping size	Liquid line	mm	Indoor branch pipe, Outdoor main pipe: φ9.52 (3/8")	
	Gas line	(in)	Indoor branch pipe: φ12.7 (1/2"), Outdoor main pipe: φ15.88 (5/8")	
Connecting method			Flare piping	
Drain hose			Connectable with VP16 (I.D.16mm, O.D.22mm)	—
Insulation for piping			Necessary (both Liquid & Gas lines)	
Accessories			Mounting kit. Drain hose	
Optional parts			—	

Notes (1) The data are measured at the following conditions.

Operation	Item	Indoor air temperature		Outdoor air temperature		Standards
		DB	WB	DB	WB	
Cooling		27°C	19°C	35°C	24°C	ISO-T1
Heating		20°C	—	7°C	6°C	

(2) This packaged air-conditioner is manufactured and tested in conformity with the following standard. ISO-T1 "UNITARY AIR-CONDITIONERS"

(3) The operation data indicate when the air-conditioner is operated at 400V 50Hz or 380V 60Hz.

(4) Values in [ ~ ] show the minimum to maximum range.

(5) Indoor unit specifications show the specifications for one unit. Capacity and running characteristics values are shown for the case where two indoor units are combined and run together.

(6) If wireless specifications are used, use 1 wireless indoor unit in combination with wired indoor units.

**Model FDKNVA502HESP2R (Indoor unit: 2 units, Outdoor unit: 1 unit)**

Item		Model	FDKNVA502HESP2R	
			FDKNA251R	FDCVA502HESAR
<b>Nominal cooling capacity<sup>(1)</sup></b>		kW	12.5 [6.5~14.0]	
<b>Nominal heating capacity<sup>(1)</sup></b>		kW	14.0 [6.2~16.0]	
<b>Power source</b>			3 Phase, 380-415V 50Hz/380V 60Hz	
<b>Operation data<sup>(3)</sup></b>	Cooling power consumption	kW	4.14/4.14	
	Running current (Cooling)	A	6.1/6.4	
	Power factor (Cooling)	%	98/98	
	Heating power consumption	kW	4.39/4.39	
	Running current (Heating)	A	6.4/6.8	
	Power factor (Heating)	%	99/98	
	Inrush current (L.R.A)	A	5	
<b>Noise level</b>		dB(A)	Powerful mode Hi:48 Me:45 Lo:42 Mild mode Hi:45 Me:42 Lo:39	52
<b>Exterior dimensions</b>				
<b>Height × Width × Depth</b>		mm	298 × 840 × 240	845 × 970 × 370
<b>Net weight</b>		kg	12	74
<b>Refrigerant equipment</b>				
<b>Compressor type &amp; Q'ty</b>			—	RM-B5125MDE31
Starting method			—	Direct line start
<b>Heat exchanger</b>			Slitted fin & inner grooved tubing	Straight fin & inner grooved tubing
Refrigerant control			—	Electronic expansion valve
<b>Refrigerant</b>			R410A	
<b>Quantity</b>		kg	—	3.8 [Pre-charged up to the piping length of 30m]
<b>Refrigerant oil</b>		ℓ	—	0.7 (M-MA68)
Defrost control			Microcomputer controlled de-icer	
<b>Air handling equipment</b>				
Fan type & Q'ty			Tangential fan × 1	Propeller fan × 1
Motor		W	33 × 1	120 × 1
Starting method			Direct line start	Direct line start
<b>Air flow</b>		CMM	Powerful mode Hi:14 Me:13 Lo:11 Mild mode Hi:13 Me:11 Lo:10	Cooling: 75, Heating: 73
<b>Outside air intake</b>			Unavailable	—
Air filter, Q'ty			Long life filter ×2(washable)	—
Shock & vibration absorber			Rubber sleeve (for fan motor)	Rubber mount (for compressor)
Electric heater		W	—	20 (Crank case heater)
<b>Operation control</b>			Wireless remote control switch (Optional: RCN-E1R) Wired remote control switch (Optional: RC-E1R)	— (Indoor unit side)
Operation switch			Thermostat by electronics	—
Room temperature control			Internal thermostat for fan motor. Frost protection thermostat.	Internal thermostat for fan motor. Anomalous discharge temperature protection.
<b>Safety equipment</b>				
<b>Installation data</b>			Indoor branch pipe, Outdoor main pipe: φ9.52 (3/8")	
<b>Refrigerant piping size</b>			Indoor branch pipe, Outdoor main pipe: φ15.88 (5/8")	
<b>Connecting method</b>			Flare piping	
<b>Drain hose</b>			Connectable with VP16 (I.D.16mm, O.D.22mm)	—
Insulation for piping			Necessary (both Liquid & Gas lines)	
Accessories			Mounting kit, Drain hose	
Optional parts			—	

Notes (1) The data are measured at the following conditions.

Item	Indoor air temperature		Outdoor air temperature		Standards
	DB	WB	DB	WB	
Cooling	27°C	19°C	35°C	24°C	ISO-T1
Heating	20°C	—	7°C	6°C	

(2) This packaged air-conditioner is manufactured and tested in conformity with the following standard. ISO-T1 "UNITARY AIR-CONDITIONERS"

(3) The operation data indicate when the air-conditioner is operated at 400V 50Hz or 380V 60Hz.

(4) Values in [ ~ ] show the minimum to maximum range

(5) Indoor unit specifications show the specifications for one unit. Capacity and running characteristics values are shown for the case where two indoor units are combined and run together.

(6) If wireless specifications are used, use 1 wireless indoor unit in combination with wired indoor units.

**(b) Triple type****Model FDKNVA602HEST2R (Indoor unit: 3 units, Outdoor unit: 1 unit)**

Item		Model	FDKNVA602HEST2R	
			FDKNA201R	FDCVA602HESAR
<b>Nominal cooling capacity<sup>(1)</sup></b>		kW	14.0 [6.7~14.5]	
<b>Nominal heating capacity<sup>(1)</sup></b>		kW	16.0 [6.3~16.5]	
<b>Power source</b>			3 Phase, 380-415V 50Hz/380V 60Hz	
<b>Operation data<sup>(3)</sup></b>	Cooling power consumption	kW	4.82/4.82	
	Running current (Cooling)	A	7.0/7.4	
	Power factor (Cooling)	%	99/99	
	Heating power consumption	kW	4.79/4.79	
	Running current (Heating)	A	7.0/7.4	
	Power factor (Heating)	%	99/98	
	Inrush current (L.R.A)	A	5	
	Noise level	dB(A)	Powerful mode Hi:47 Me:44 Lo:41 Mild mode Hi:44 Me:41 Lo:38	53
<b>Exterior dimensions</b>				
<b>Height × Width × Depth</b>		mm	298 × 840 × 240	845 × 970 × 370
<b>Net weight</b>		kg	12	74
<b>Refrigerant equipment</b>				
<b>Compressor type &amp; Q'ty</b>			—	RM-B5125MDE31
Starting method			—	Direct line start
<b>Heat exchanger</b>			Slitted fin & inner grooved tubing	Straight fin & inner grooved tubing
Refrigerant control			—	Electronic expansion valve
<b>Refrigerant</b>			R410A	
<b>Quantity</b>		kg	—	3.8 [Pre-charged up to the piping length of 30m]
<b>Refrigerant oil</b>		ℓ	—	0.7 (M-MA68)
Defrost control			Microcomputer controlled de-icer	
<b>Air handling equipment</b>				
Fan type & Q'ty			Tangential × 1	Propeller fan × 1
Motor		W	33 × 1	120 × 1
Starting method			Direct line start	Direct line start
<b>Air flow</b>		CMM	Powerful mode Hi:13 Me:12 Lo:11 Mild mode Hi:12 Me:11 Lo:9	Cooling: 75, Heating: 73
<b>Outside air intake</b>			Unavailable	—
Air filter, Q'ty			Long life filter ×2(washable)	—
Shock & vibration absorber			Rubber sleeve (for fan motor)	Rubber mount (for compressor)
Electric heater		W	—	20 (Crank case heater)
<b>Operation control</b>			Wireless remote control switch (Optional: RCN-E1R)	— (Indoor unit side)
Operation switch			Wired remote control switch (Optional: RC-E1R)	
Room temperature control			Thermostat by electronics	—
<b>Safety equipment</b>			Internal thermostat for fan motor. Frost protection thermostat.	Internal thermostat for fan motor. Anomalous discharge temperature protection.
<b>Installation data</b>			Indoor branch pipe, Outdoor main pipe: φ9.52 (3/8")	
<b>Refrigerant piping size</b>			Indoor branch pipe: φ12.7 (1/2"), Outdoor main pipe: φ15.88 (5/8")	
<b>Connecting method</b>			Flare piping	
<b>Drain hose</b>			Connectable with VP20 (I.D.20mm, O.D.26mm)	—
Insulation for piping			Necessary (both Liquid & Gas lines)	
Accessories			Mounting kit, Drain hose	
Optional parts			—	

Notes (1) The data are measured at the following conditions.

Operation	Indoor air temperature		Outdoor air temperature		Standards
	DB	WB	DB	WB	
Cooling	27°C	19°C	35°C	24°C	ISO-T1
Heating	20°C	—	7°C	6°C	

(2) This packaged air-conditioner is manufactured and tested in conformity with the following standard. ISO-T1 "UNITARY AIR-CONDITIONERS"

(3) The operation data indicate when the air-conditioner is operated at 400V 50Hz or 380V 60Hz.

(4) Values in [ ~ ] show the minimum to maximum range.

(5) Indoor unit specifications show the specifications for one unit. Capacity and running characteristics values are shown for the case where three indoor units are combined and run together.

(6) If wireless specifications are used, use 1 wireless indoor unit in combination with wired indoor units.

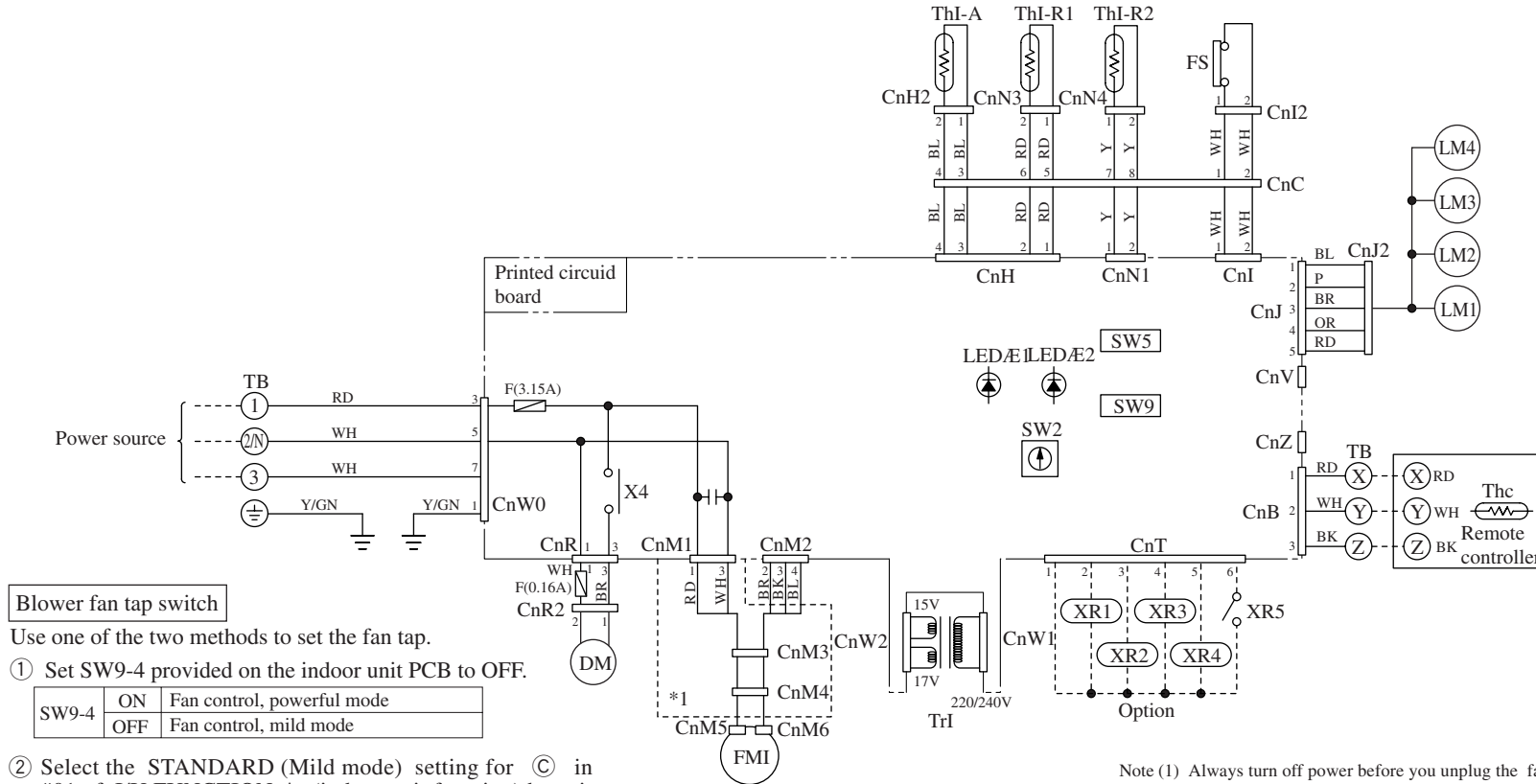
# 1.3 ELECTRICAL DATA

## 1.3.1 Electrical wiring

(1) Indoor unit

(a) Ceiling recessed compact type (FDTC)

Models All models



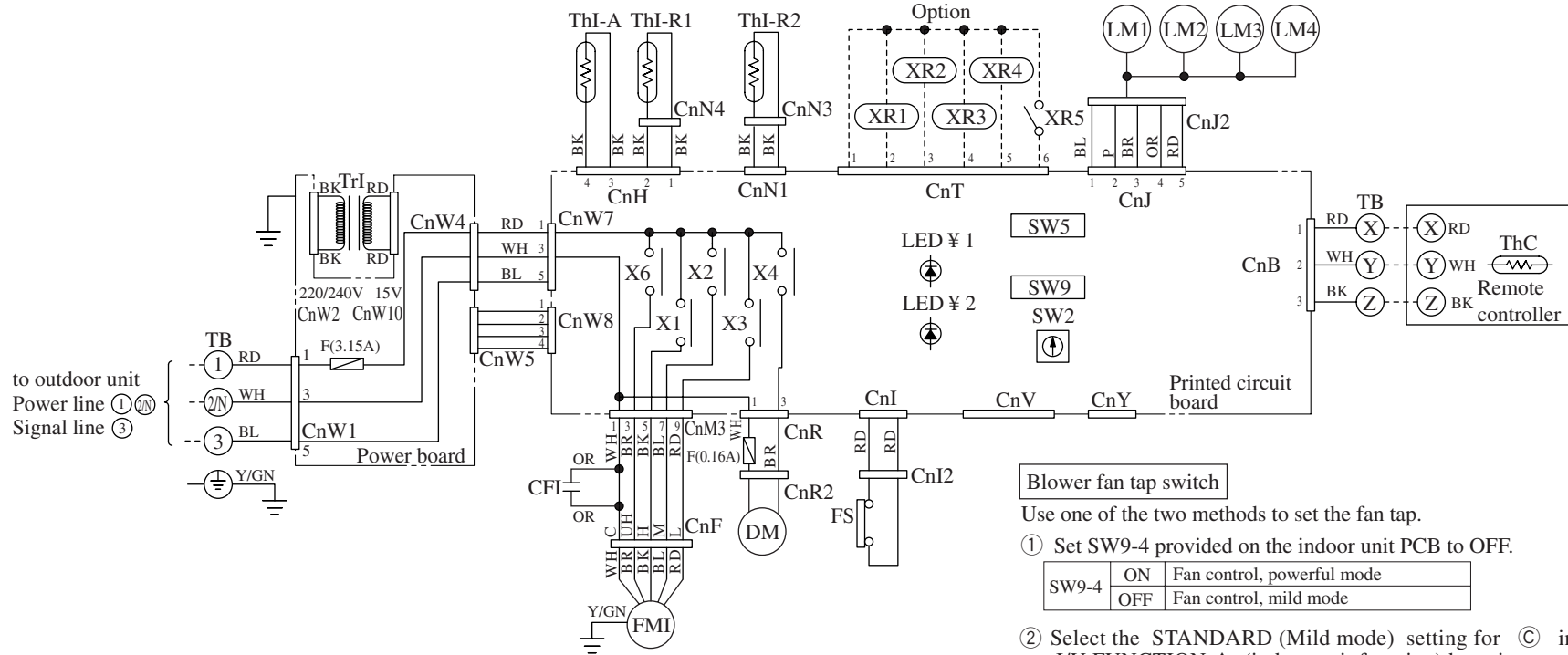
### Meaning of marks

Mark	Parts name	Mark	Parts name	Mark	Parts name
<b>FMI</b>	Fan motor	<b>SW2</b>	Remote controller communications address setting	<b>XR3</b>	Thermo ON output(DC12V output)
<b>DM</b>	Drain motor	<b>SW9-3</b>	Emergency operation	<b>XR4</b>	Inspection output(DC12V output)
<b>FS</b>	Float switch	<b>TrI</b>	Transformer	<b>XR5</b>	Remote operation input(volt-free contact)
<b>LM1~4</b>	Louver motor	<b>F</b>	Fuse	<b>X4</b>	Auxiliary relay(For DM)
<b>ThI-A</b>	Thermistor	<b>LED1</b>	Indication lamp(Red)	<b>TB</b>	Terminal block(○ mark)
<b>ThI-R1</b>	Thermistor	<b>LED2</b>	Indication lamp(Green)	<b>CnA~Z</b>	Connector(□ mark)
<b>ThI-R2</b>	Thermistor	<b>XR1</b>	Operation output(DC12V output)	<b>■mark</b>	Closed-end connector
<b>Thc</b>	Thermistor	<b>XR2</b>	Heating output(DC12V output)		

### Color marks

Mark	Color	Mark	Color
<b>BK</b>	Black	<b>WH</b>	White
<b>BL</b>	Blue	<b>Y</b>	Yellow
<b>BR</b>	Brown	<b>P</b>	Pink
<b>OR</b>	Orange	<b>Y/GN</b>	Yellow/Green
<b>RD</b>	Red		

(b) Ceiling recessed type (FDT)  
Models FDTA201R, 251R, 301R, 401R

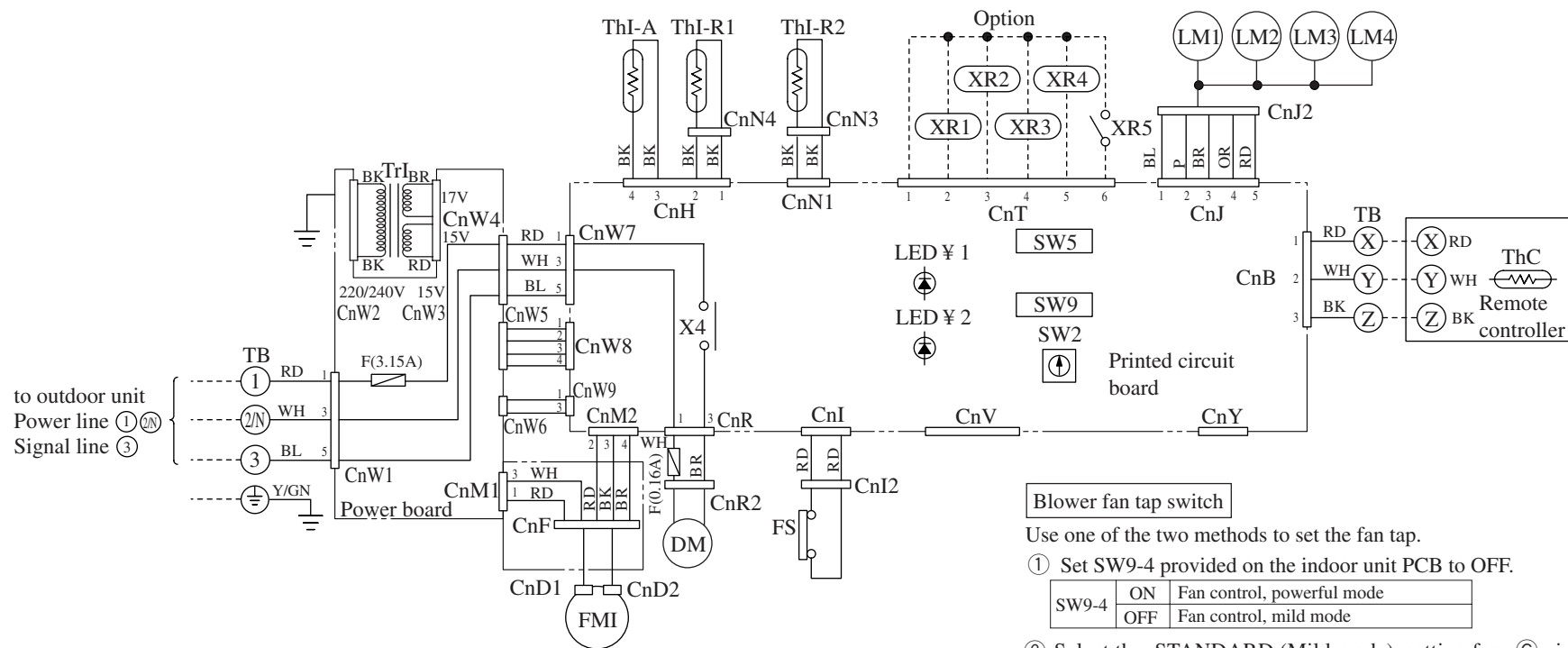


Meaning of marks

Mark	Parts name	Mark	Parts name	Mark	Parts name
FMI	Fan motor	SW5-3,4	Filter sign	XR5	Remote operation input(volt-free contact)
CFI	Capacitor for FMI	SW9-3	Emergency operation	X1,2,3,6	Auxiliary relay(For FM)
DM	Drain motor	TrI	Transformer	X4	Auxiliary relay(For DM)
FS	Float switch	F	Fuse	TB	Terminal block(○ mark)
LM1~4	Louver motor	LED1	Indication lamp(Red)	CnB~Z	Connector(□ mark)
ThI-A	Thermistor	LED2	Indication lamp(Green)	■mark	Closed-end connector
ThI-R1	Thermistor	XR1	Operation output(DC12V output)		
ThI-R2	Thermistor	XR2	Heating output(DC12V output)		
ThC	Thermistor	XR3	Thermo ON output(DC12V output)		
SW2	Remote controller communication address	XR4	Inspection output(DC12V output)		

Color marks

Mark	Color
BK	Black
BL	Blue
BR	Brown
OR	Orange
P	Pink
RD	Red
WH	White
Y	Yellow
Y/GN	Yellow/Green



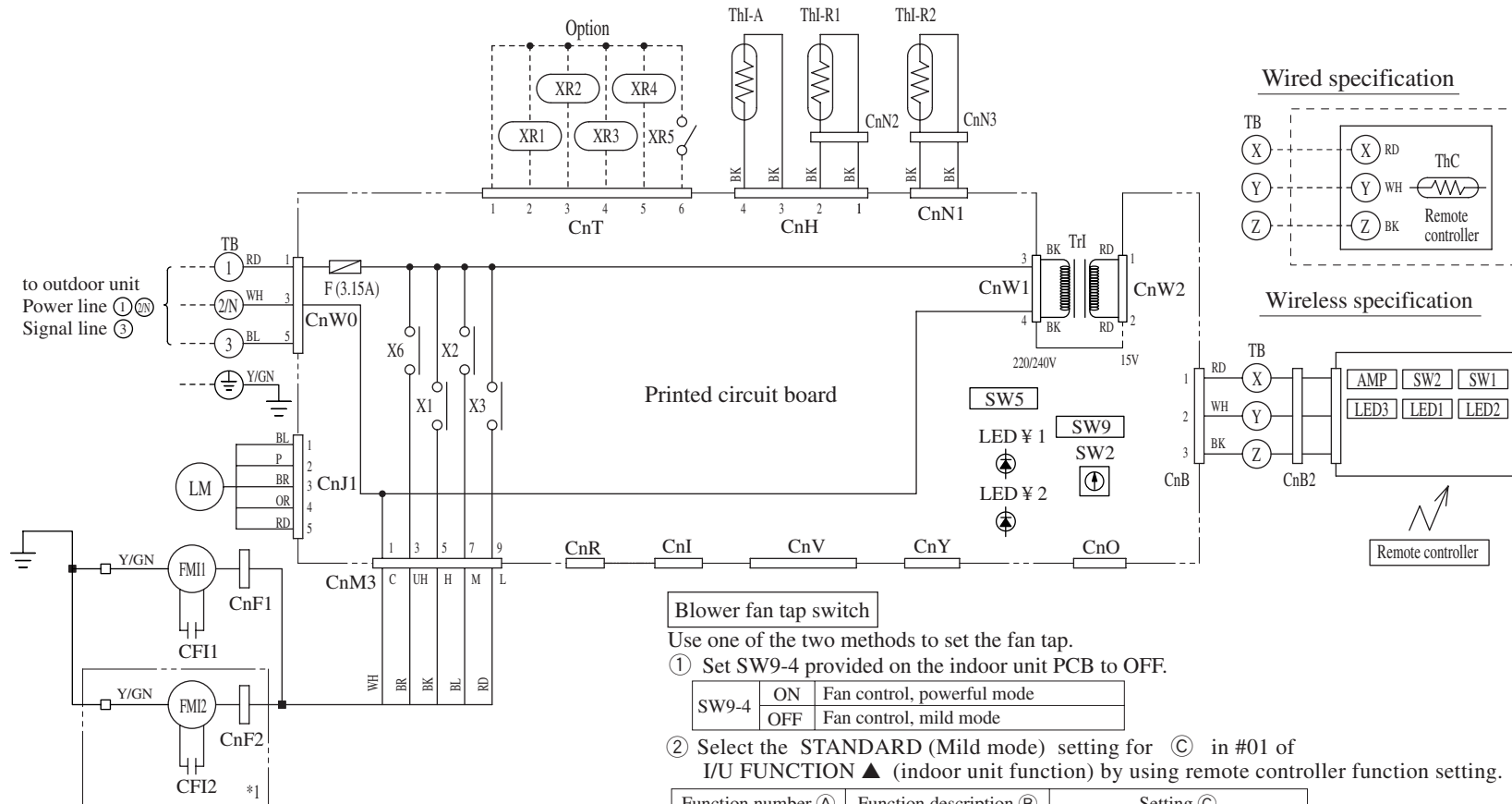
## Meaning of marks

Mark	Parts name	Mark	Parts name
<b>FMI</b>	Fan motor	<b>SW9-3</b>	Emergency operation
<b>DM</b>	Drain motor	<b>TrI</b>	Transformer
<b>FS</b>	Float switch	<b>F</b>	Fuse
<b>LM1~4</b>	Louver motor	<b>LED1</b>	Indication lamp(Red)
<b>ThI-A</b>	Thermistor	<b>LED2</b>	Indication lamp(Green)
<b>ThI-R1</b>	Thermistor	<b>XR1</b>	Operation output(DC12V output)
<b>ThI-R2</b>	Thermistor	<b>XR2</b>	Heating output(DC12V output)
<b>ThC</b>	Thermistor	<b>XR3</b>	Thermo ON output(DC12V output)
<b>SW2</b>	Remote controller communication address	<b>XR4</b>	Inspection output(DC12V output)
<b>SW5-3,4</b>	Filter sign	<b>XR5</b>	Remote operation input(volt-free contact)

Mark	Parts name
<b>X4</b>	Auxiliary relay(For DM)
<b>TB</b>	Terminal block(○ mark)
<b>CnB~Z</b>	Connector(□ mark)
<b>■mark</b>	Closed-end connector

## Color marks

Mark	Color
<b>BK</b>	Black
<b>BL</b>	Blue
<b>BR</b>	Brown
<b>OR</b>	Orange
<b>P</b>	Pink
<b>RD</b>	Red
<b>WH</b>	White
<b>Y</b>	Yellow
<b>Y/GN</b>	Yellow/Green



Note(1) \*1. FMI2 is equipped only for 251,301,401,501,601.

#### Meaning of marks

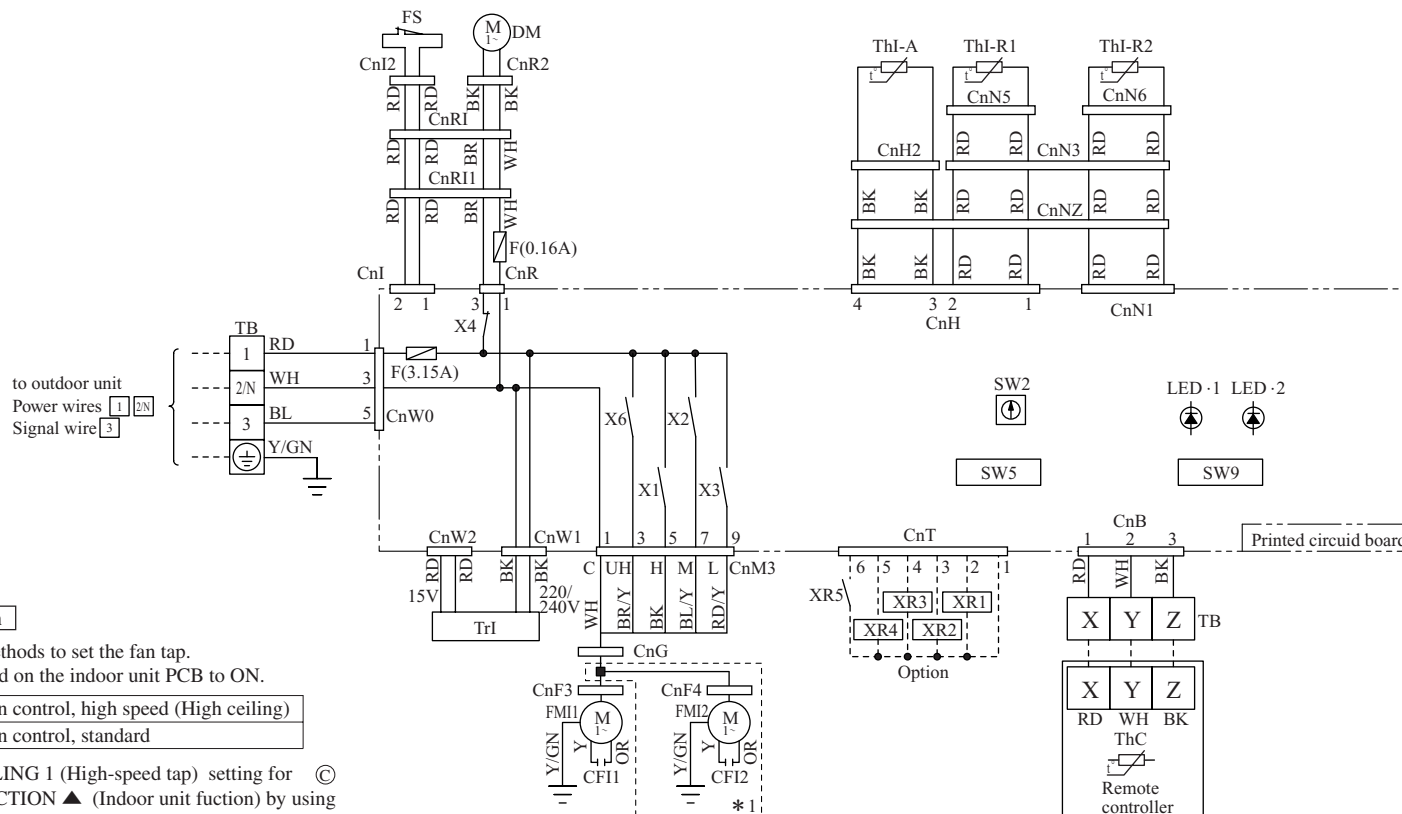
Mark	Parts name	Mark	Parts name	Mark	Parts name
<b>FMI1,2</b>	Fan motor	<b>F</b>	Fuse	<b>mark</b>	Closed-end connector
<b>CFI1,2</b>	Capacitor for FMI	<b>LED1</b>	Indication lamp(Red)	<b>LED•1</b>	Indication lamp(Green-Operation)
<b>LM</b>	Louver motor	<b>LED2</b>	Indication lamp(Green)	<b>LED•2</b>	Indication lamp(Yellow-Timer/Check)
<b>ThI-A</b>	Thermistor	<b>XR1</b>	Operation output(DC12V output)	<b>LED•3</b>	7-segement indicator(For check)
<b>ThI-R1</b>	Thermistor	<b>XR2</b>	Heating output(DC12V output)	<b>SW1</b>	Switch(For setting)
<b>ThI-R2</b>	Thermistor	<b>XR3</b>	Thermo ON output(DC12V output)	<b>SW2</b>	Backup switch(Operation/Stop)
<b>ThC</b>	Thermistor	<b>XR4</b>	Inspection output(DC12V output)		
<b>SW2</b>	Remote controller communication address	<b>XR5</b>	Remote operation input(volt-free contact)		
<b>SW5-3,4</b>	Filter sign	<b>X1,2,3,6</b>	Auxiliary relay(For FM)		
<b>SW9-3</b>	Emergency operation	<b>TB</b>	Terminal block(○ mark)		
<b>TrI</b>	Transformer	<b>CnB~Z</b>	Connector(□ mark)		

#### Color marks

Mark	Color
<b>BK</b>	Black
<b>BL</b>	Blue
<b>BR</b>	Brown
<b>OR</b>	Orange
<b>P</b>	Pink
<b>RD</b>	Red
<b>WH</b>	White
<b>Y</b>	Yellow
<b>Y/GN</b>	Yellow/Green

(c) Ceiling suspended type (FDEN)  
Models All models

(d) Satellite ducted type (FDUM)  
Model All models



Blower fan tap switch

Use one of the two methods to set the fan tap.

① Set SW9-4 provided on the indoor unit PCB to ON.

SW9-4	ON	Fan control, high speed (High ceiling)
	OFF	Fan control, standard

② Select the Hi CEILING 1 (High-speed tap) setting for ③ in #01 of I/U FUNCTION ▲ (Indoor unit function) by using remote controller function setting.

Function number ①	Function description ②	Setting ③
01	Hi CEILING SET	Hi CEILING 1

Note(1) \* 1 FMI2 is equipped only for FDUMA402,502,602R.

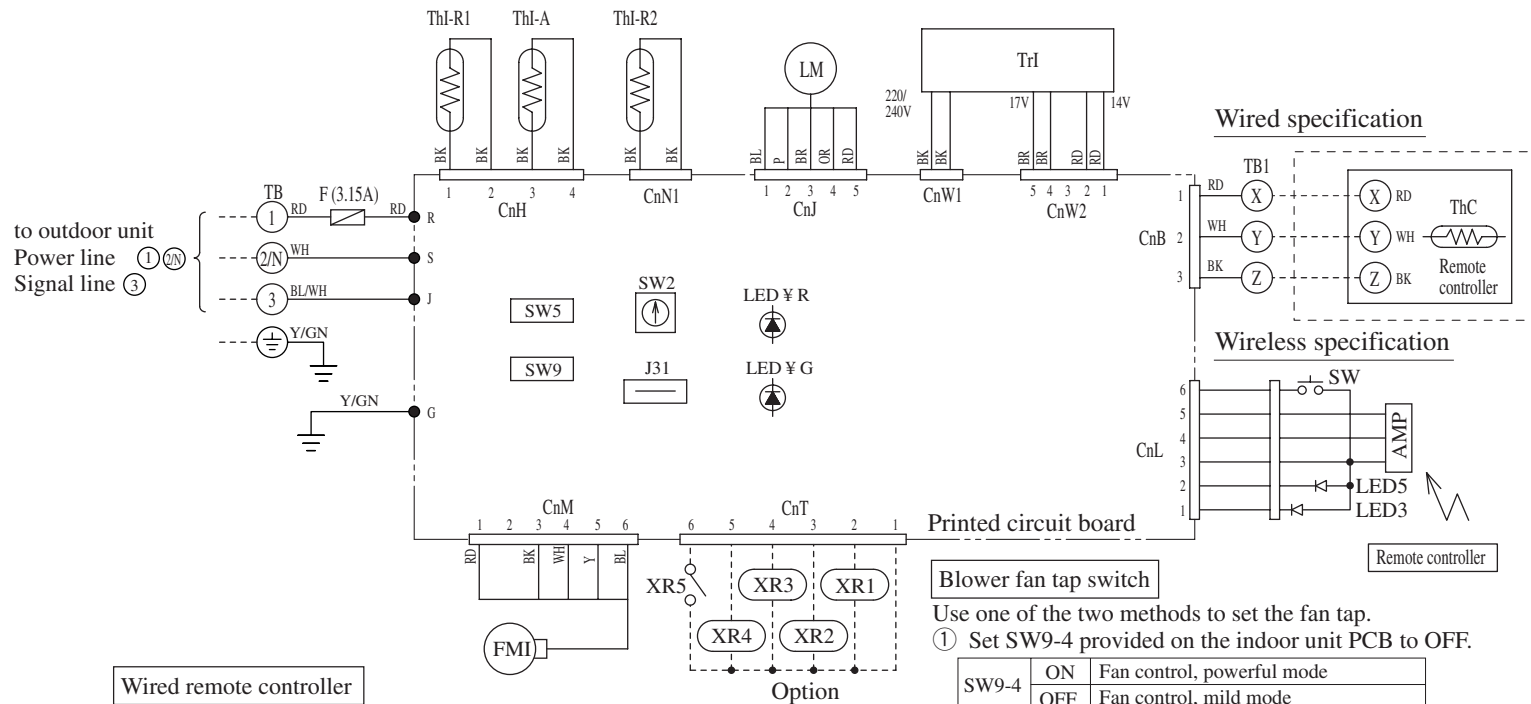
Meaning of marks

Mark	Parts name	Mark	Parts name	Mark	Parts name
FMI1,2	Fan motor	SW5-3,4	Filter sign	XR4	Inspection output (DC12V output)
CFI1,2	Capacitor for FMI	SW9-3	Emergency operation	XR5	Remote operation input (volt-free contact)
DM	Drain motor	TrI	Transformer	X1,2,3,6	Auxiliary relay (For FM)
FS	Float switch	F	Fuse	X4	Auxiliary relay (For DM)
ThI-A	Thermistor	LED-1	Indication lamp (Red:inspection)	TB	Terminal block (○ mark)
ThI-R1	Thermistor	LED-2	Indication lamp (Green:normal operation)	CnA~Z	Connector (□ mark)
ThI-R2	Thermistor	XR1	Operation output (DC12V output)	■mark	Closed-end connector
ThC	Thermistor	XR2	Heating output (DC12V output)		
SW2	Remote control communications address	XR3	Thermo ON output (DC12V output)		

Color marks

Mark	Color	Mark	Color
BK	Black	RD	Red
BL	Blue	RD/Y	Red/Yellow
BL/Y	Blue/Yellow	WH	White
BR	Brown	Y	Yellow
BR/Y	Brown/Yellow	Y/GN	Yellow/Green
OR	Orange		

(e) Wall mounted type (F/DPN)  
Models All models



Meaning of marks

Mark	Parts name	Mark	Parts name	Mark	Parts name
<b>FMI</b>	Fan motor	<b>SW9-3</b>	Emergency operation	<b>XR3</b>	Thermo ON output(DC12V output)
<b>LM</b>	Louver motor	<b>LED3</b>	Indication lamp(Green-Run)	<b>XR4</b>	Inspection output(DC12V output)
<b>ThI-A</b>	Thermistor	<b>LED5</b>	Indication lamp(Yellow-Inspection alert)	<b>XR5</b>	Remote operation input(volt-free contact)
<b>ThI-R1</b>	Thermistor	<b>TrI</b>	Transformer	<b>TB</b>	Terminal block(○ mark)
<b>ThI-R2</b>	Thermistor	<b>F</b>	Fuse	<b>CnA~Z</b>	Connector(□ mark)
<b>ThC</b>	Thermistor	<b>LED • R</b>	Indication lamp(Red)	<b>AMP</b>	Wireless receiver
<b>SW</b>	Backup switch(ON/OFF)	<b>LED • G</b>	Indication lamp(Green)		
<b>SW2</b>	Remote controller communication address	<b>XR1</b>	Operation output(DC12V output)		
<b>SW5-3,4</b>	Filter sign	<b>XR2</b>	Heating output(DC12V output)		

Color marks

Mark	Color
<b>BK</b>	Black
<b>BL</b>	Blue
<b>BR</b>	Brown
<b>OR</b>	Orange
<b>RD</b>	Red
<b>WH</b>	White
<b>Y</b>	Yellow
<b>P</b>	Pink
<b>BL/WH</b>	Blue/White
<b>Y/GN</b>	Yellow/Green



## 2. MULTI-TYPE (V MULTI) PACKAGED AIR-CONDITIONER

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## 2.1 GENERAL INFORMATION

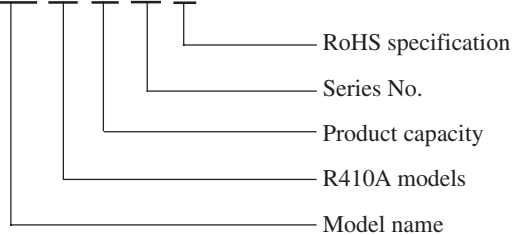
### 2.1.1 Specific features

Ideal for the installation conditions characteristic of larger rooms and L-shaped or other non-standard-shaped rooms, the Multi-Type V series allows an extensive degree of flexibility in the selection of indoor units. Specifically, the selection of indoor units with differing capacities and differing or similar types is supported, as is the selection of indoor units with similar capacities and differing types. Furthermore, a maximum of up to four individual indoor units can be operated in synchrony with a single outdoor unit.

- (1) A new refrigerant, R410A, which causes no damage to the earth's ozone layer, is used. R410A is a pseudoazeotropic refrigerant, so there is little formation of separate vapor and liquid layers, and it is possible to add refrigerant on-site.
- (2) Less refrigerant charge amount due to use of double phase refrigerant flow system. The total refrigerant charge amount has been reduced by more than 50%.
- (3) The microcomputer chip is installed in the indoor unit and outdoor unit. There is no need for the unit to communicate between the outdoor and indoor units so the unit is more resistant to electromagnetic noise thus the incidence of microcomputer malfunction has been reduced. The compressor in the outdoor unit has its own self protection function, that reacts according to anomalous high pressure and excessive high temperature.
- (4) There are only three power lines between the outdoor and indoor unit. One cable with 3 wires encased in one sheath is enough for conducting the wiring work between the outdoor unit and the indoor unit. This contributes to simpler wiring work in the field.
- (5) All air supply ports have auto swing louvers. (Only case of FDTC, FDT, FDEN and FDKN models). The indoor fan motor has three speeds of high, medium and low.
- (6) All models have service valves protruding from the outdoor unit for faster flare connection work in the field.
- (7) Compared to the previous models, a single fan is used in the FDCVA402 ~ 602 outdoor unit models, resulting in markedly reduced weight and greater compactness. In addition, use of an inverter makes these units much more economical compared to the previous fixed speed units.

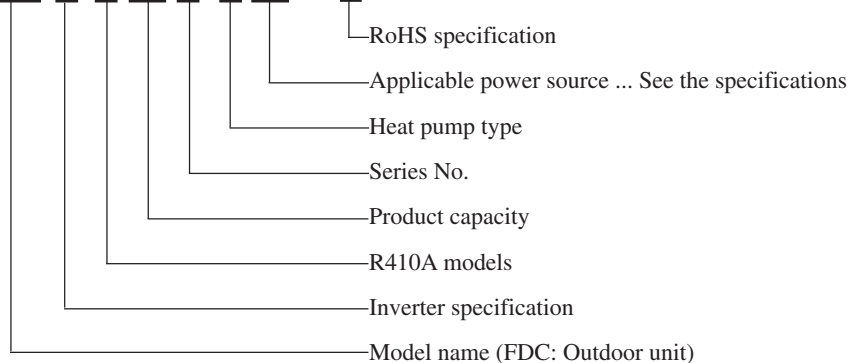
### 2.1.2 How to read the model name

Example: **FDT A 25 1 R**



FDTC : Ceiling recessed compact type unit with wired remote controller  
 FDT : Ceiling recessed type unit with wired remote controller  
 FDEN : Ceiling suspended type unit with wireless remote controller  
 FDKN : Wall mounted type unit with wireless remote controller  
 FDUM : Satellite ducted type unit with wired remote controller

Example: **FDC V A 40 2 H ES A R**



### 2.1.3 Table of models

Model \ Capacity	20	25	30
Ceiling recessed compact type (FDTC)	○		
Ceiling recessed type (FDT)	○	○	○
Ceiling suspended type (FDEN)	○	○	○
Wall mounted type (FDKN)	○	○	
Satallite ducted type (FDUM)	○	○	○
Outdoor unit to be combined (FDC)	FDCVA402HESAR (4 Horse Power)	FDCVA502HESAR (5 Horse Power)	FDCVA602HESAR (6 Horse Power)

### 2.1.4 Table of system combinations

Outdoor unit	Type	Indoor unit assembly capacity	Branch pipe set (Optional)
FDCVA402HESAR	Twin	20+20	DIS-WA1
FDCVA502HESAR		25+25 20+30	
FDCVA602HESAR	Twin	30+30	
	Triple	20+20+20	DIS-TA1

- Notes
- (1) It is possible to used different models (FDTC, FDT, FDUM, FDEN) when combining indoor units.
  - (2) Always use the branch piping set (optional) at branches in the refrigerant piping.
  - (3) If wireless specifications are used, use 1 wireless indoor unit in combination with wired indoor units.

## 2.2 SELECTION DATA

### 2.2.1 Specifications

#### (1) Indoor unit

##### (a) Ceiling recessed compact type (FDTC)

Model FDTCA201R

Item	Model	FDTCA201R
Nominal cooling capacity <sup>(1)</sup>	kW	5.0
Nominal heating capacity <sup>(1)</sup>	kW	5.6
Power source		1 Phase, 220-240 50Hz/220V 60Hz
Noise level	dB(A)	Powerful mode Hi: 46 Me : 42 Lo: 38 Mild mode Hi: 46 Me : 38 Lo: 35
Exterior dimensions Height × Width × Depth	mm	Unit: 248 × 570 × 570 Panel: 35 × 700 × 700
Net weight	kg	19.5 (Unit: 16 Panel: 3.5)
Refrigerant equipment Heat exchanger		Louver fin & inner grooved tubing
Refrigerant control		—
Air handling equipment Fan type & Q'ty		Turbo fan × 1
Motor	W	50 × 1
Starting method		Direct line start
Air flow(Standard)	CMM	Powerful mode Hi: 13.5 Me : 11.5 Lo: 10 Mild mode Hi: 11.5 Me : 10 Lo: 8
Outside air intake		Impossibility
Air filter, Q'ty		Long life filter × 1 (Washable)
Shock & vibration absorber		Rubber sleeve (for fan motor)
Operation control Operation switch		Wired remote control switch (Optional: RC-E1R) Wireless kit (Optional: RCD-KIT HER)
Room temperature control		Thermostat by electronics
Safety equipment		Internal thermostat for fan motor. Frost protection thermostat.
Installation data Refrigerant piping size	mm(in)	Liquid line: φ6.35 (1/4") Gas line: φ12.7 (1/2")
Connecting method		Flare piping
Drain hose		Connectable with VP25 (I.D.25 mm, O.D.32 mm)
Insulation for piping		Necessary (both Liquid & Gas lines)
Accessories		Mounting kit. Drain hose
Optional parts		Decorative Panel

Notes (1) The data are measured at the following conditions.

Operation	Indoor air temperature		Outdoor air temperature		Standards
	DB	WB	DB	WB	
Cooling	27℃	19℃	35℃	24℃	ISO-T1
Heating	20℃	—	7℃	6℃	

(2) This packaged air-conditioner is manufactured and tested in conformity with the following standard.  
ISO-T1 "UNITARY AIR-CONDITIONERS"

- Decorative Panel model (Optional)

Model	Item	Panel Part No.
FDTA201R		TC-PSA-24W-ER

**(b) Ceiling recessed type (FDT)**

**Models FDTA201R, 251R**

Item		Model	FDTA201R	FDTA251R
Nominal cooling capacity <sup>(1)</sup>		kW	5.0	5.6
Nominal heating capacity <sup>(1)</sup>		kW	5.6	6.3
Power source			1 Phase, 220-240 50Hz/220V 60Hz	
Noise level		dB(A)	Powerful mode Hi: 36 Me : 33 Lo: 32 Mild mode Hi: 33 Me : 32 Lo: 31	Powerful mode Hi: 38 Me : 35 Lo: 33 Mild mode Hi: 35 Me : 33 Lo: 31
Exterior dimensions Height × Width × Depth		mm	Unit: 270 × 840 × 840 Panel: 35 × 950 × 950	
Net weight		kg	31 (Unit: 24 Panel: 7)	
Refrigerant equipment Heat exchanger			Louver fin & inner grooved tubing	
Refrigerant control			—	
Air handling equipment Fan type & Q'ty			Turbo fan × 1	
Motor		W	14 × 1	20 × 1
Starting method			Direct line start	
Air flow(Standard)		CMM	Powerful mode Hi: 18 Me : 15 Lo: 14 Mild mode Hi: 15 Me : 14 Lo: 13	Powerful mode Hi: 20 Me : 17 Lo: 15 Mild mode Hi: 17 Me : 15 Lo: 13
Outside air intake			Available	
Air filter, Q'ty			Long life filter × 1 (Washable)	
Shock & vibration absorber			Rubber sleeve (for fan motor)	
Operation control Operation switch			Wired remote control switch (Optional: RC-E1R) Wireless kit (Optional: RCN-T-35W-ER)	
Room temperature control			Thermostat by electronics	
Safety equipment			Internal thermostat for fan motor. Frost protection thermostat.	
Installation data Refrigerant piping size		mm(in)	Liquid line: φ6.35 (1/4") Gas line: φ12.7 (1/2")	Liquid line: φ6.35 (1/4") Gas line: φ15.88 (5/8")
Connecting method			Flare piping	
Drain hose			Connectable with VP25 (I.D.25 mm, O.D.32 mm)	
Insulation for piping			Necessary (both Liquid & Gas lines)	
Accessories			Mounting kit. Drain hose	
Optional parts			Decorative Panel	

Notes (1) The data are measured at the following conditions.

Item	Indoor air temperature		Outdoor air temperature		Standards
	DB	WB	DB	WB	
Operation					
Cooling	27℃	19℃	35℃	24℃	ISO-T1
Heating	20℃	—	7℃	6℃	

- (2) This packaged air-conditioner is manufactured and tested in conformity with the following standard.  
ISO-T1 "UNITARY AIR-CONDITIONERS"

- Decorative Panel model (Optional)

Model	Item	Panel Part No.
FDTA201R, 251R		T-PSA-35W-ER

# Model FDTA301R

Model		FDTA301R
Item		
Nominal cooling capacity <sup>(1)</sup>	kW	7.1
Nominal heating capacity <sup>(1)</sup>	kW	8.0
Power source		1 Phase, 220-240V 50Hz/220V 60Hz
Noise level	dB(A)	Powerful mode Hi: 38 Me: 35 Lo: 33 Mild mode Hi: 35 Me: 33 Lo: 31
Exterior dimensions Height × Width × Depth	mm	Unit: 295 × 840 × 840 Panel: 35 × 950 × 950
Net weight	kg	31 (Unit: 24 Panel: 7)
Refrigerant equipment Heat exchanger		Louver fin & inner grooved tubing
Refrigerant control		—
Air handling equipment Fan type & Q'ty		Turbo fan × 1
Motor	W	20 × 1
Starting method		Direct line start
Air flow(Standard)	CMM	Powerful mode Hi: 20 Me: 17 Lo: 15 Mild mode Hi: 17 Me: 15 Lo: 13
Outside air intake		Available
Air filter, Q'ty		Long life filter × 1 (Washable)
Shock & vibration absorber		Rubber sleeve (for fan motor)
Operation control Operation switch		Wired remote control switch (Optional: RC-E1R) Wireless kit (Optional: RCN-T-35W-ER)
Room temperature control		Thermostat by electronics
Safety equipment		Internal thermostat for fan motor. Frost protection thermostat.
Installation data Refrigerant piping size	mm(in)	Liquid line: φ9.52 (3/8") Gas line: φ15.88 (5/8")
Connecting method		Flare piping
Drain hose		Connectable with VP25 (I.D. 25 mm, O.D. 32 mm)
Insulation for piping		Necessary (both Liquid & Gas lines)
Accessories		Mounting kit. Drain hose
Optional parts		Decorative Panel

Notes (1) The data are measured at the following conditions.

Item	Indoor air temperature		Outdoor air temperature		Standards
	DB	WB	DB	WB	
Operation					
Cooling	27℃	19℃	35℃	24℃	ISO-T1
Heating	20℃	—	7℃	6℃	

- (2) This packaged air-conditioner is manufactured and tested in conformity with the following standard.  
ISO-T1 "UNITARY AIR-CONDITIONERS"

- Decorative Panel model (Optional)

Model	Item	Panel Part No.
FDTA301R		T-PSA-35W-ER

(c) Ceiling suspended type (FDEN)

Models FDENA201R, 251R

Item		Model	FDENA201R	FDENA251R
Nominal cooling capacity <sup>(1)</sup>		kW	5.0	5.6
Nominal heating capacity <sup>(1)</sup>		kW	5.6	6.3
Power source			1 Phase, 220-240V 50Hz/220V 60Hz	
Noise level		dB(A)	Powerful mode Hi: 42 Me : 39 Lo: 38 Mild mode Hi: 39 Me : 38 Lo: 37	Powerful mode Hi: 44 Me : 41 Lo: 39 Mild mode Hi: 41 Me : 39 Lo: 38
Exterior dimensions Height × Width × Depth		mm	210 × 1070 × 690	210 × 1320 × 690
Net weight		kg	30	36
Refrigerant equipment Heat exchanger			Louver fin & inner grooved tubing	
Refrigerant control			—	
Air handling equipment Fan type & Q'ty			Centrifugal fan × 2	Centrifugal fan × 4
Motor		W	30 × 1	20 × 2
Starting method			Direct line start	
Air flow(Standard)		CMM	Powerful mode Hi: 12 Me : 11 Lo: 9 Mild mode Hi: 11 Me : 9 Lo: 7	Powerful mode Hi: 20 Me : 18 Lo: 14 Mild mode Hi: 18 Me : 14 Lo: 12
Outside air intake			Unavailable	
Air filter, Q'ty			Polypropylene net × 2 (Washable)	
Shock & vibration absorber			Rubber sleeve (for fan motor)	
Operation control Operation switch			Wireless remote control switch (Optional: RCN-E1R) Wired remote control switch (Optional: RC-E1R)	
Room temperature control			Thermostat by electronics	
Safety equipment			Internal thermostat for fan motor. Frost protection thermostat.	
Installation data Refrigerant piping size		mm(in)	Liquid line: φ6.35 (1/4") Gas line: φ12.7 (1/2")	Liquid line: φ6.35 (1/4") Gas line: φ15.88 (5/8")
Connecting method			Flare piping	
Drain hose			Connectable with VP20 (I.D.20 mm, O.D.26 mm)	
Insulation for piping			Necessary (both Liquid & Gas line)	
Accessories			Mounting kit. Drain hose	
Optional parts			—	

Notes (1) The data are measured at the following conditions.

Item	Indoor air temperature		Outdoor air temperature		Standards
	DB	WB	DB	WB	
Operation					
Cooling	27℃	19℃	35℃	24℃	ISO-T1
Heating	20℃	—	7℃	6℃	

(2) This packaged air-conditioner is manufactured and tested in conformity with the following standard.  
ISO-T1 "UNITARY AIR-CONDITIONERS"

# Model FDENA301R

Model		FDENA301R
Item		
Nominal cooling capacity <sup>(1)</sup>	kW	7.1
Nominal heating capacity <sup>(1)</sup>	kW	8.0
Power source		1 Phase, 220-240V 50Hz/220V 60Hz
Noise level	dB(A)	Powerful mode Hi: 44 Me: 41 Lo: 39 Mild mode Hi: 41 Me: 39 Lo: 38
Exterior dimensions Height × Width × Depth	mm	210 × 1320 × 690
Net weight	kg	36
Refrigerant equipment Heat exchanger		Louver fin & inner grooved tubing
Refrigerant control		—
Air handling equipment Fan type & Q'ty		Centrifugal fan × 4
Motor	W	20×2
Starting method		Direct line start
Air flow(Standard)	CMM	Powerful mode Hi: 20 Me: 18 Lo: 14 Mild mode Hi: 18 Me: 14 Lo: 12
Outside air intake		Unavailable
Air filter, Q'ty		Polypropylene net × 2 (Washable)
Shock & vibration absorber		Rubber sleeve (for fan motor)
Operation control Operation switch		Wireless remote control switch (Optional: RCN-E1R) Wired remote control switch (Optional: RC-E1R)
Room temperature control		Thermostat by electronics
Safety equipment		Internal thermostat for fan motor. Frost protection thermostat
Installation data Refrigerant piping size	mm(in)	Liquid line: φ9.52 (3/8") Gas line: φ15.88 (5/8")
Connecting method		Flare piping
Drain hose		Connectable with VP20 (I.D.20 mm, O.D.26 mm)
Insulation for piping		Necessary (both Liquid & Gas lines)
Accessories		Mounting kit. Drain hose
Optional parts		—

Notes (1) The data are measured at the following conditions.

Item	Indoor air temperature		Outdoor air temperature		Standards
	DB	WB	DB	WB	
Operation					
Cooling	27℃	19℃	35℃	24℃	ISO-T1
Heating	20℃	—	7℃	6℃	

(2) This packaged air-conditioner is manufactured and tested in conformity with the following standard.  
ISO-T1 "UNITARY AIR-CONDITIONERS"

**(d) Wall mounted type (FDKN)****Model FDKNA201R**

Item		Model	FDKNA201R
Nominal cooling capacity <sup>(1)</sup>		kW	5.0
Nominal heating capacity <sup>(1)</sup>		kW	5.6
Power source			1 Phase, 220-240V 50Hz/220V 60Hz
Noise level		dB(A)	Powerful mode Hi: 47 Me: 44 Lo: 41 Mild mode Hi: 44 Me: 41 Lo: 38
Exterior dimensions Height × Width × Depth		mm	298 × 840 × 240
Net weight		kg	12
Refrigerant equipment Heat exchanger			Slitted fin & inner grooved tubing
Refrigerant control			—
Air handling equipment Fan type & Q'ty			Tangential fan × 1
Motor		W	33 × 1
Starting method			Direct line start
Air flow(Standard)		CMM	Powerful mode Hi: 13 Me: 12 Lo: 11 Mild mode Hi: 12 Me: 11 Lo: 9
Outside air intake			Unavailable
Air filter, Q'ty			Long life filter × 2 (Washable)
Shock & vibration absorber			Rubber sleeve (for fan motor)
Operation control Operation switch			Wireless remote control switch (Optional: RCN-E1R) Wired remote control switch (Optional: RC-E1R)
Room temperature control			Thermostat by electronics
Safety equipment			Internal thermostat for fan motor. Frost protection thermostat.
Installation data Refrigerant piping size		mm(in)	Liquid line: φ6.35 (1/4") Gas line: φ12.7 (1/2")
Connecting method			Flare piping
Drain hose			Connectable with VP16 (I.D.16 mm, O.D.22 mm)
Insulation for piping			Necessary (both Liquid & Gas lines)
Accessories			Mounting kit. Drain hose
Optional parts			—

Notes (1) The data are measured at the following conditions.

Item	Indoor air temperature		Outdoor air temperature		Standards
	DB	WB	DB	WB	
Operation					
Cooling	27℃	19℃	35℃	24℃	ISO-T1
Heating	20℃	—	7℃	6℃	

- (2) This packaged air-conditioner is manufactured and tested in conformity with the following standard.  
ISO-T1 "UNITARY AIR-CONDITIONERS"

# Model FDKNA251R

Model		FDKNA251R
Item		
Nominal cooling capacity <sup>(1)</sup>	kW	5.6
Nominal heating capacity <sup>(1)</sup>	kW	6.3
Power source		1 Phase, 220-240V 50Hz/220V 60Hz
Noise level	dB(A)	Powerful mode Hi: 48 Me: 45 Lo: 42 Mild mode Hi: 45 Me: 42 Lo: 39
Exterior dimensions Height × Width × Depth	mm	298 × 840 × 240
Net weight	kg	12
Refrigerant equipment Heat exchanger		Slitted fin & inner grooved tubing
Refrigerant control		
Air handling equipment Fan type & Q'ty		Tangential fan × 1
Motor	W	33×1
Starting method		Direct line start
Air flow(Standard)	CMM	Powerful mode Hi: 14 Me: 13 Lo: 11 Mild mode Hi: 13 Me: 11 Lo: 10
Outside air intake		Unavailable
Air filter, Q'ty		Long life filter × 2 (Washable)
Shock & vibration absorber		Rubber sleeve (for fan motor)
Operation control Operation switch		Wireless remote control switch (Optional: RCN-E1R) Wired remote control switch (Optional: RC-E1R)
Room temperature control		Thermostat by electronics
Safety equipment		Internal thermostat for fan motor. Frost protection thermostat.
Installation data Refrigerant piping size	mm(in)	Liquid line: φ6.35 (1/4") Gas line: φ15.88 (5/8")
Connecting method		Flare piping
Drain hose		Connectable with VP16 (I.D.16 mm, O.D.22 mm)
Insulation for piping		Necessary (both Liquid & Gas lines)
Accessories		Mounting kit. Drain hose
Optional parts		—

Notes (1) The data are measured at the following conditions.

Item	Indoor air temperature		Outdoor air temperature		Standards
	DB	WB	DB	WB	
Operation					
Cooling	27℃	19℃	35℃	24℃	ISO-T1
Heating	20℃	—	7℃	6℃	

(2) This packaged air-conditioner is manufactured and tested in conformity with the following standard.  
ISO-T1 "UNITARY AIR-CONDITIONERS"

(e) Satellite ducted type (FDUM)

Models FDUMA202R, 252R, 302R

Item		Models	FDUMA202R	FDUMA252R	FDUMA302R
Nominal cooling capacity* <sup>1</sup>	kW	5.0	5.6	7.1	
Nominal heating capacity* <sup>2</sup>	kW	5.4	6.4	8.0	
Power source		1 Phase 220-240V 50Hz/220V 60Hz			
Noise level	dB(A)	Hi: 34 Me: 31 Lo: 28			Hi: 35 Me: 32 Lo: 29
Exterior dimensions Height × Width × Depth	mm	299 × 750 × 635	299 × 950 × 635		
Net weight	kg	34	40		
Refrigerant equipment Heat exchanger		Louver fin & inner grooved tubing			
Refrigerant control		Electronic expansion valve			
Air handling equipment Fan type & Q'ty		Centrifugal fan × 2			
Motor	W	55×1	90×1	100×1	
Starting method		Direct line start			
Air flow(Standard)	CMM	Hi: 14 Me: 12 Lo: 11	Hi: 18 Me: 16 Lo: 14	Hi: 20 Me: 18 Lo: 15	
Available static pressure ( at Hi)	Pa	Standard:50, Hi speed:85			
Outside air intake		-			
Air filter, Q'ty		-			
Shock & vibration absorber		Rubber sleeve(for fan motor)			
Insulation (noise & heat)		Polyurethane foam			
Operation control Operation switch		Wired remote control switch (Optional:RC-E1R) Wireless kit (Optional:RCND-KIT-HER)			
Room temperature control		Thermostat by electronics			
Safety equipment		Internal thermostat for fan motor. Frost protection thermostat			
Installation data Refrigerant piping size	mm(in)	Liquid line:φ6.35(1/4") Gas line:φ12.7(1/2")	Liquid line:φ6.35(1/4") Gas line:φ15.88(5/8")	Liquid line:φ9.52(3/8") Gas line:φ15.88(5/8")	
Connecting method		Flare piping			
Drain hose		Connectable with VP25(I.D.25mm, O.D.32mm )			
Insulation for piping		Necessary (both Liquid & Gas lines)			
Accessories		Mounting kit, Drain hose			
Optional parts		Filter kit			

Notes (1) The data are measured at the following conditions.

Item	Indoor air temperature		Outdoor air temperature		Standards
	DB	WB	DB	WB	
Operation					
Cooling*1	27℃	19℃	35℃	24℃	ISO-T1
Heating*2	20℃	—	7℃	6℃	

(2) This packaged air-conditioner is manufactured and tested in conformity with the following standard.  
ISO-T1 "UNITARY AIR-CONDITIONERS"

●Filter kit

Model	Item	Filter kit No.
FDUMA202R		UM-FL1E
FDUMA252R,302R		UM-FL2E

## (2) Outdoor unit

### Model FDCVA402HESAR

Item	Model	FDCVA402HESAR
Power source		3 Phase, 380-450V 50Hz/380V 60Hz
Nominal cooling capacity <sup>(1)</sup>	kW	10.0 [6.1~11.2]
Nominal heating capacity <sup>(1)</sup>	kW	11.2 [5.6~12.5]
Noise level	dB(A)	50
Exterior dimensions Height × Width × Depth	mm	845 × 970 × 370
Net weight	kg	74
Refrigerant equipment compressor type & Q'ty		RM-B5I25MDE3I
Starting method		Direct line start
Crankcase heater	W	20
Heat exchanger		Straight fin & inner grooved tubing
Refrigerant control		Electronic expansion valve
Refrigerant		R410A
Quantity	kg	3.8 (Pre-charged up to the piping length of 30m)
Refrigerant oil	ℓ	0.7 (M-MA68)
Defrost control		Microcomputer controlled de-icer
Air handling equipment Fan type & Q'ty		Propeller fan × 1
Motor	W	120 × 1
Starting method		Direct line start
Air flow(Standard)	CMM	Cooling: 75, Heating: 73
Shock & vibration absorber		Rubber mount (for compressor)
Safety equipment		Internal thermostat for fan motor. Anomalous discharge temperature protection.
Installation data Refrigerant piping size	mm(in)	Liquid line: φ9.52 (3/8") Gas line: φ15.88 (5/8")
Connecting method		Flare piping
Drain		Hole for drain (φ20 × 3pcs.)
Insulation for piping		Necessary (both Liquid & Gas lines)
Accessories		Edging

Notes (1) The cooling and heating capabilities imply the values when the indoor unit of rated capacity is connected under the condition specified in ISO-T1.

(2) The refrigerant quantity in the connecting pipe is not included. Charge it additionally at the site.

(3) Values in [ ~ ] show the minimum and maximum capacities.

# Models FDCVA502HESAR, 602HESAR

Model		FDCVA502HESAR	FDCVA602HESAR
Power source		3 Phase, 380-415V 50Hz/380V 60Hz	
Nominal cooling capacity <sup>(1)</sup>	kW	12.5 [6.5~14.0]	14.0 [6.7~14.8]
Nominal heating capacity <sup>(1)</sup>	kW	14.0 [6.2~16.0]	16.0 [6.3~16.8]
Noise level	dB(A)	52	53
Exterior dimensions Height × Width × Depth	mm	845 × 970 × 370	
Net weight	kg	74	
Refrigerant equipment compressor type & Q'ty		RM-B5125MDE31	
Motor	kW	2.5	2.6
Starting method		Direct line start	
Crankcase heater	W	20	
Heat exchanger		Straight fin & inner grooved tubing	
Refrigerant control		Electronic expansion valve	
Refrigerant		R410A	
Quantity	kg	3.8 (Pre-charged up to the piping length of 30m)	
Refrigerant oil	ℓ	0.7 (M-MA68)	
Defrost control		Microcomputer controlled de-icer	
Air handling equipment Fan type & Q'ty		Propeller fan × 1	
Motor	W	120 × 1	
Starting method		Direct line start	
Air flow(Standard)	CMM	Cooling: 75, Heating: 73	
Shock & vibration absorber		Rubber mount (for compressor)	
Safety equipment		Internal thermostat for fan motor. Anomalous discharge temperature protection.	
Installation data Refrigerant piping size	mm(in)	Liquid line: φ 9.52 (3/8") Gas line: φ 15.88 (5/8")	
Connecting method		Flare piping	
Drain		Hole for drain (φ20 × 3pcs.)	
Insulation for piping		Necessary (both Liquid & Gas lines)	
Accessories		Edging	

Notes (1) The cooling and heating capabilities imply the values when the indoor unit of rated capacity is connected under the condition specified in ISO-T1.

(2) The refrigerant quantity in the connecting pipe is not included. Charge it additionally at the site.

(3) Values in [ ~ ] show the minimum and maximum capacities.

### (3) Operation chart

The Multi-Type V series is a system that allows for different models and capacities of indoor units to be connected so the individual operating characteristics of the indoor and outdoor are provided. Use the procedure shown in Item (c) to calculate the combined operating characteristics.

#### (a) Operating characteristic of outdoor unit

(380-415V 50Hz/380V 60Hz)

Model		FDCVA402HESAR	FDCVA502HESAR	FDCVA602HESAR
Item				
Cooling power consumption	kW	2.82/2.82	4.15/4.15	4.64/4.64
Heating power consumption		2.97/2.97	4.19/4.19	4.44/4.44
Cooling running current	A	4.1/4.3	6.1/6.4	6.8/7.2
Heating running current		4.3/4.5	6.1/6.4	6.5/6.8
Inrush current (L.R.A)	A	5		

Note (1) This packaged air-conditioner is manufactured and tested in conformity with the following standard.  
ISO-T1 "UNITARY AIR-CONDITIONERS"

#### (b) Operating characteristic of indoor unit

##### FDTC Series

(220-240V 50Hz/220V 60Hz)

Model		FDTC A201R
Item		
Cooling power consumption	kW	0.046-0.046/0.046
Heating power consumption		0.046-0.046/0.046
Cooling running current	A	0.15-0.14/0.15
Heating running current		0.15-0.14/0.15

##### FDT Series

(220-240V 50Hz/220V 60Hz)

Model		FDT A201R	FDT A251R	FDT A301R
Item				
Cooling power consumption	kW	0.064-0.075/0.079	0.072-0.081/0.090	
Heating power consumption		0.061-0.071/0.076	0.068-0.078/0.086	
Cooling running current	A	0.32-0.34/0.42	0.37-0.41/0.42	
Heating running current		0.30-0.33/0.40	0.36-0.39/0.40	

##### FDEN Series

(220-240V 50Hz/220V 60Hz)

Model		FDEN A201R	FDEN A251R	FDEN A301R
Item				
Cooling power consumption	kW	0.054-0.061/0.061	0.100-0.110/0.110	
Heating power consumption		0.054-0.056/0.056	0.091-0.101/0.101	
Cooling running current	A	0.25-0.26/0.29	0.46-0.48/0.50	
Heating running current		0.23-0.24/0.26	0.42-0.44/0.46	

##### FDUM Series

(220-240V 50Hz/220V 60Hz)

Model		FDUM A202R	FDUM A252R	FDUM A302R
Item				
Cooling power consumption	kW	0.14-0.16/0.14	0.15-0.17/0.15	0.16-0.19/0.16
Heating power consumption		0.14-0.16/0.14	0.15-0.17/0.15	0.16-0.19/0.16
Cooling running current	A	0.63-0.67/0.63	0.68-0.71/0.68	0.73-0.79/0.73
Heating running current		0.63-0.67/0.63	0.68-0.71/0.68	0.73-0.79/0.73

##### FDKN Series

(220-240V 50Hz/220V 60Hz)

Model		FDKN A201R	FDKN A251R
Item			
Cooling power consumption	kW	0.05-0.05/0.05	
Heating power consumption		0.05-0.05/0.05	
Cooling running current	A	0.23-0.21/0.23	
Heating running current		0.23-0.21/0.23	

Notes (1) This packaged air-conditioner is manufactured and tested in conformity with the following standard.  
ISO-T1 "UNITARY AIR-CONDITIONERS"

(2) The values shown in the above table are common to both cooling and heating operations.



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## **PACKAGED AIR-CONDITIONER**

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**MITSUBISHI HEAVY INDUSTRIES, LTD.**

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Air-Conditioning & Refrigeration Systems Headquarters

16-5, 2-chome, Kounan, Minato-ku, Tokyo, 108-8215, Japan

Fax : (03) 6716-5926